Appendix A

Notice of Preparation and
Comments Received

Notice of Preparation

REVISED NOTICE OF PREPARATION
OF A DRAFT ENVIRONMENTAL IMPACT REPORT

Date: February 25, 2025

To: Agencies and Interested Parties

From: Cameron Welch, Senior Planner, County of El Dorado

Subject: **Revised Notice of Preparation of Draft Environmental Impact Report and Notice of Public Scoping Meeting for the EDH Costco (Application Nos. Planned Development Permit PD15-0001, Conditional Use Permit CUP23-0012, and Variance Application V22-0001), SCH #2021080402**

Review Period: February 28, 2025, to March 31, 2025

The County of El Dorado (acting as the Lead Agency) previously released a Notice of Preparation on August 23, 2021 (2021 NOP) for the preparation of an Environmental Impact Report (EIR) for the proposed EDH-52 Commercial Center located in unincorporated El Dorado County (County). Since release of the 2021 NOP, the project has been revised and now includes a new Costco Wholesale Member Warehouse retail store, Costco Wholesale fuel facility, and associated site improvements on Silva Valley Parkway (collectively referred to as the Costco Wholesale project), just north of US Route 50 (US 50) in El Dorado County. Additionally, the project name has been changed from "EDH-52" to "EDH Costco." As a result, the County of El Dorado is releasing this Revised NOP to re-initiate the environmental scoping process in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code Section 21080.4) and CEQA Guidelines (14 California Code of Regulations [CCR] Section 15082). The purpose of an NOP is to provide sufficient information about the proposed project and its potential environmental effects to allow public agencies, organizations, tribes, and interested members of the public the opportunity to provide a meaningful response related to the scope and content of the EIR, including feasible mitigation measures and project alternatives that should be considered in the EIR (CEQA Guidelines, 14 CCR Section 15082[b]). The proposed project and location are briefly described below.

PROVIDING COMMENTS

El Dorado County is soliciting written comments from public agencies, organizations, tribes, and individuals regarding the scope and content of the environmental document. Because of time limits mandated by State law, comments should be provided at the earliest possible date, but no later than 5:00 p.m. on, March 31, 2025. Please send all comments to:

Cameron Welch, Senior Planner
County of El Dorado Planning and Building Department
2850 Fairlane Court, Building C
Placerville, CA 95667
Email: EDHCostco@edcgov.us

Agencies that are responsible agencies or trustee agencies will need to use the EIR when considering permits or other approvals for the project. Such agencies should provide the name of a contact person, phone number, and email address in their comment. Comments provided by email should **include "EDH Costco NOP Comment"** in the subject line, and the name and physical address of the commenter in the body of the email.

PROJECT SITE AND LOCATION

The project site is in an unincorporated area of El Dorado County, in the El Dorado Hills area (Figure 1). As shown in the aerial photo of the project site (Figure 2), the project site is north of U.S. Highway 50 (U.S. 50) and is bisected by Silva Valley Parkway, resulting in a North Project Site area (North Site) and a South Project Site area (South Site). The project site encompasses 43.26 acres, including Assessor's Parcel Numbers (APNs) 122-720-002, -003, -018, -019, -020, and -021, and is undeveloped/vacant. APN 122-720-21 (6.57 of 7.75 acres) is primarily reserved for the future extension of County Club Drive to Silva Valley Parkway, which is not part of the project. Existing land uses near the project site include undeveloped/vacant land, single-family residences, an elementary school (Oak Meadow Elementary) to the north; U.S. 50 to the south; a church (Capital Korean Presbyterian), single-family residential, undeveloped/vacant land, and Tong Road to the east; and Clarksville Crossing and open space area to the west.

The North Site comprises 24.83 acres and the South Site is 18.42 acres; and the General Plan Land Use Designation for both areas is Commercial (C). The North Site is currently zoned Commercial Regional – Planned Development (CR-PD). The South Site is predominantly zoned CR-PD and includes two small parcels zoned Commercial Limited (CL) and Transportation Corridor (TC), respectively.

UPDATED PROJECT DESCRIPTION

The revised project includes a new Costco Wholesale Member Warehouse retail store (warehouse retail store), Costco Wholesale fuel facility (fuel facility), and associated site improvements. The warehouse retail store is proposed for the South Site and the fuel facility and Costco employee parking is proposed on the North Site. The remainder of the North Site would include a 13.79-acre outparcel that is not planned for development at this time. The following are the anticipated requested entitlements:

- Planned Development Permit (PD15-0001) for a Costco Wholesale Member Warehouse retail store and Costco Wholesale fuel facility.
- Conditional Use Permit (CUP23-0012) for a tire center, outdoor vehicle display, and recurring outdoor Christmas Tree sales.
- Variance (V22-0001) to allow building-attached signage square footage area beyond the current allowance in the El Dorado County Zoning Ordinance.

Additionally, a few pre-construction activities include: Tree permit for selective removal of on-site trees within the development envelope and authorization for the payment of in lieu fees to compensate for tree removal; Lot Line Adjustment to be submitted to the County Surveyor for the adjustment of property lines, and an applicant-led annexation of the site into the El Dorado Irrigation District (EID) and El Dorado Hills Fire Department (formally known as the El Dorado Hills County Water District) service boundaries to be considered by the El Dorado Local Agency Formation Commission.

The revised site plan for the project (Figure 3), shows development currently proposed on the South Site and a portion of the North Site. The remainder of the North Site is not proposed for any development in connection with the project and would remain vacant. Any future development of the North Site beyond the fuel facility would require further applications filed with, and approvals by, the County, as well as associated review of potential environmental impacts under CEQA.

North Site

Approximately 3.29 acres (143,261 square feet) of the North Site would include a members-only Costco Wholesale fuel facility and Costco employee parking. The fuel facility would include an approximate 11,668 square-foot open canopy and an approximate 125 square-foot controller enclosure. There would be four covered fueling bays, each with four two-sided fuel dispensers to provide fueling for up to eight cars at each island for a total of 32 fuel positions. The Costco employee parking area would include approximately 70 spaces. The remainder of the North Site is not proposed for development in connection with the project.

Two access points to the fuel facility would be provided: A restricted right-in and right-out access from Silva Valley Parkway and a new four-way signalized intersection at Silva Valley Parkway and the driveways into the fuel facility and Costco Warehouse retail store parking lot. At a date yet to be determined, future access would also be provided to the planned extension of Country Club Drive. The extension of Country Club Drive, which is not a part of this proposed project, is a County Capital Improvement Project (No. 36105008) and would be constructed by the County at a future date.

South Site

The South Site would include up to approximately 165,000 square feet of building area planned to be constructed as a Costco Wholesale Member Warehouse retail store. Within the warehouse retail store, Costco would offer optical exams and optical sales, hearing aid testing and sales, food service preparation and sales, meat preparation and sales, bakery and sales of baked goods, alcohol sales, and tire sales and installation. Temporary outdoor sales may occur within the parking field adjacent to the warehouse for seasonal Christmas tree sales during the months of November and December. The warehouse is proposed to include one customer entrance to the main Costco store, which would be located at the northwest corner of the building. The tire center would have bay doors accessible from outside of the warehouse, though the tire center sales area would be accessible through the warehouse retail building. A promotional vehicle may be on display near the customer entrance to the building. This vehicle would be used to promote online or offsite vehicle sales; no vehicles are proposed to be sold on site. The South Site would also include a parking structure and surface parking, which are further described below. Development on the South Site would exclude the 1.38-acre area located west of Clarksville Crossing where no development is proposed.

The South Site has been designed to accommodate the existing slope of the site by locating the Costco warehouse retail building in the southeast corner of the site, where the elevation of existing streets adjacent to the site are the highest. Parking would be provided in two at-grade parking lots and one subterranean (below-grade) parking lot structure beneath one of the at-grade lots. Vehicle access to this lower-level parking structure would be provided by a ramp on the north side of the structure from Clarksville Crossing and a ramp on the south side of the structure from the above at-grade parking lot. The below-grade parking structure would include approximately 200 to 230 spaces. A pedestrian ramp would provide pedestrian access from the below-grade level up to the at-grade parking and entry to the warehouse retail building. The below-grade parking structure and at grade parking lots together would include approximately 760 spaces in total parking to serve the South Site.

It is anticipated that the warehouse retail store and fuel facility would employ approximately 250 to 300 employees. The warehouse retail store hours are anticipated to be 9:00 a.m. to 8:30 p.m. Monday through Friday and 9:00 a.m. to 7:00 p.m. Saturday and Sunday. The fuel facility hours have yet to be determined.

The primary customer vehicle entrance to the South Site would be from a signalized intersection via the main driveway at Silva Valley Parkway. There would also be an intersection at Silva Valley Parkway and Clarksville Crossing that would provide a left-hand turn pocket for vehicles traveling northbound on Silva Valley Parkway to make a left turn onto Clarksville Crossing. From Clarksville Crossing, there would be three driveways providing access to the parking areas of the South Site. The intersection set-up of Silva Valley Parkway and Clarksville Crossing would remain in place until the County constructs the Country Club Drive extension. After completion of the Country Club Drive extension, Clarksville Crossing's existing connection to Silva Valley Parkway would be eliminated.

Delivery Truck Ingress/Egress

Delivery truck access would be allowed at all driveway locations depending on the size of the delivery truck and direction of travel for both the North Site and South Site. Most trucks delivering to the warehouse retail building would access the site at the southwest driveway on Clarksville Crossing near the receiving docks. Fuel trucks accessing the North Site would enter at the northern right-in/right-out driveway on Silva Valley Parkway and exit at the proposed signalized main driveway on Silva Valley Parkway.

Loading

The receiving dock of the warehouse retail building would be located at the southwest corner of the building. The bay doors would be equipped with sealed gaskets to limit noise impacts. A smaller on-grade door would also be located on the south side of the building. This on-grade door is to receive bread deliveries and single-unit or box shipping and delivery trucks. A transformer and two trash compactors would also be located along the south edge of the warehouse building. Dense landscape material would screen this area.

Signage

The project also proposes signage to include approximately 1,300 square feet of combined building-attached signage for the warehouse retail store on the South Site and the fuel facility on the North Site.

Lighting

The warehouse and employee parking lot would be illuminated with standard downward LED fixtures affixed to a 36-6" light pole. Parking lot light standards are designed to provide even light distribution for vehicle and pedestrian safety, with lighting fixtures of a "shoe-box" style. The parking lot lights would be timer controlled to limit lighting after the warehouse has closed and most employees are gone from the warehouse. Parking lot lighting would then only remain on to provide security and emergency lighting. Lighting fixtures would also be located on the exterior of the building approximately every 40 feet to provide safety and security. Parking and site lighting would incorporate the use of cutoff lenses to keep light from overflowing beyond the South Site boundaries. Lights on the fuel facility would be recessed into the canopy to provide both lighting during operating hours and lower-level security lighting after hours. No direct light from any light source on either site may fall outside the property line or into the public right-of-way

Utilities/Services

Both the North Site and the South Site would need to be annexed into EID to acquire sanitary sewer and water service. EID stated in its September 14, 2023, Facilities Improvement Letter (FIL) that there should be adequate water supply and sewer capacity available to serve a similar type of project. The project will tie into the existing 18-inch potable water main and the 21-inch gravity sewer line in Clarksville Crossing. An updated Facilities Improvement Letter will be requested through EID at the appropriate time.

Sanitary service and potable water for the North Site would be provided by EID sanitary sewer and water lines that cross the South Site. Reclaimed water is available for non-potable irrigation use and would be provided by extending an existing reclaimed line in Silva Valley Parkway north of the project site.

The on-site drainage system will connect to El Dorado County's storm drain infrastructure in Clarksville Crossing. The project proposes bioretention planters for LID treatment of stormwater runoff.

The property would also need to be annexed into the El Dorado Hills Fire Protection District prior to building permit issuance.

Dry utilities (electric, gas, telephone, and cable TV) will be provided from existing infrastructure located to the north of the project site in Silva Valley Parkway. Dry utilities will need to be extended along the frontage of both the North Site and the South Site.

Additional project information can be accessed via the following web link:
https://edc-trk.aspgov.com/etrakit/

POTENTIAL ENVIRONMENTAL IMPACTS

Pursuant to the CEQA Guidelines, 14 CCR Section 15063(a), the County has determined that an EIR is required for the project and has elected to not prepare an initial study. The County anticipates that the EIR will address the following topic areas:

- Aesthetics
- Air Quality
- Archaeological and Historic Resources
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards, and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population and Housing
- Public Services and Recreation
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

Based on a preliminary analysis, the County has determined that impacts to the following topics would not be significant. Therefore, these topics will not be analyzed further in the EIR.

- Agricultural and Forestry Resources - no agricultural or forestry resources would be affected because these resources do not exist on the project site.
- Mineral Resources - no mineral resources would be affected because these resources do not exist on the project site.

Unless specific comments are received during the revised NOP public comment period that indicate a potential for the project to result in significant impacts, these topics will not be analyzed further in the EIR.

SCOPING MEETING

The County of El Dorado will hold a scoping meeting to receive comments regarding the scope and content of the environmental document and answer general questions regarding the environmental process. The meeting will be on March 10, 2025 from 6:00 p.m. to 8:00 p.m. at the El Dorado Hills Fire Station, Station 85, located at 1050 Wilson Boulevard, El Dorado Hills, CA 95762.

Written comments regarding the scope and content of the environmental document may be submitted throughout the scoping period, which closes at 5:00 p.m. on March 31, 2025.

The County of El Dorado is committed to ensuring that persons with disabilities are provided the resources to participate in its public meetings. If you require accommodation, please contact Planning Services at 530-621-5355 or via e-mail, planning@edcgov.us.



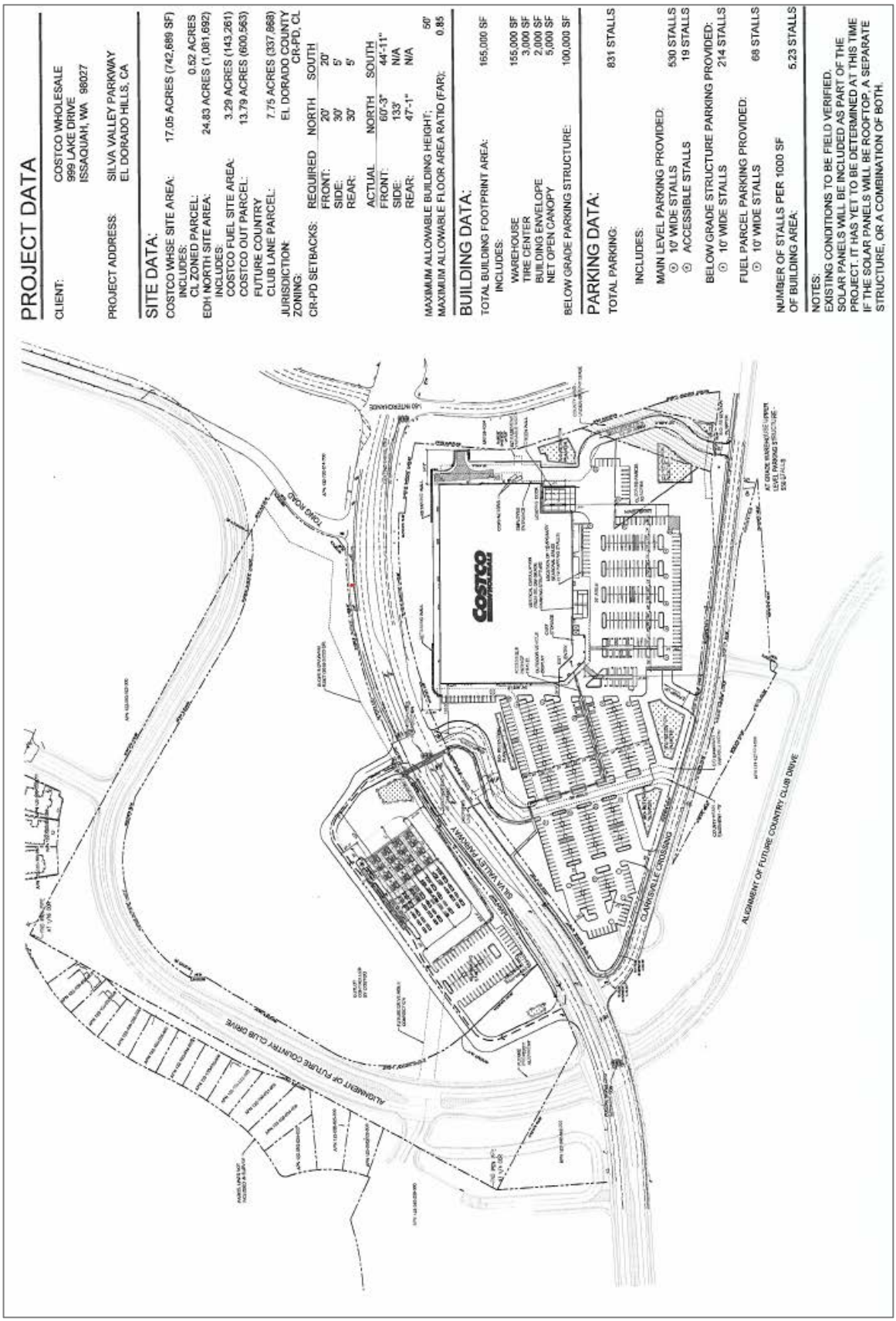
Source: adapted by Ascent in 2021

Figure 1 Regional Location



Source: adapted by Ascent in 2021

Figure 2 Project Site



Source: Image produced and provided MG2 in January, 2025

Figure 3 Project Site Plan

Comments Received

March 10, 2025 NOP Scoping Meeting Comments

Speaker	Comment
John Richard	▪ EIR must address asbestos. ▪ For the fuel station, the EIR analysis should analyze diesel separate from gas.
Bill Benzley	▪ Exhaust from buses at Oak Meadow Elementary was previously identified negatively impacting children. Costco would result in similar impacts and this should be looked at in the EIR.
Tim White	▪ The EIR review period should be set at 60 days, not 45 days. ▪ Is a member of APAC and based on his experience reviewing EIRs in the past, 45 days is not enough time for residents as they do not have expertise in planning, traffic analysis, etc. ▪ Has concerns about traffic. One lane will not work on Clarksville. Will need a third (middle lane). Also traffic concerns with White Rock Road continuing to Hwy 50. Traffic is going to be a disaster and will back up. What are the plans to widen these roads?
Leticia Ramirez	▪ Attorney representing several gas stations throughout the County. ▪ EIR must evaluate the impacts of the physical environment and should also consider urban decay. Costco can run other businesses out of town. Local small businesses cannot compete with a gas wholesaler such as Costco. Will result in boarded up businesses that cannot be inexpensively turned over. ▪ The size of the Costco fuel station would be equivalent to at least 3 local gas stations. ▪ AQ, GHG, and transportation concerns – long lines of cars with long waits, cars idling. This will result in AQ impacts and will negatively affect quality of life. ▪ EIR must identify and thoroughly evaluate all mitigation measures to lessen impacts. ▪ EIR must consider alternatives that would avoid impacts. She suggests including an alternative with only the Costco warehouse and no fueling station.
Neils Bower	▪ Concerned about the “major 3: noise, light, traffic.” ▪ Asked if the proposal was for a new pickleball courts, what rules would apply. Suggests that those same rules should apply to the Costco project. o Noise – dawn to dusk. As with Pickleball, Costco should be limited to those times as well. Dawn to dusk would also eliminate the need for lighting. o Lighting – Limited to certain times of day, suggests use of motion detectors. Lights don’t need to be on constantly after dark. o Delivery truck noise – During business travels, has stayed near a Costco and was woken up around midnight or

	predawn. Pickleball rules should apply to Costco for loading and unloading too. ▪ Other traffic concerns - delivery drivers don't always have the information they need and should they turn right instead of left, they might get stuck in the parking lot and/or have to make an unprotected left-hand turn onto Clarksville Crossing.
Kelly Mellaviya	▪ First PTA president of Oak Meadow Elementary in 2007-2008. ▪ Surrounding land uses were very important to the PTA. They realize it's zoned commercial, but the types of commercial uses should be campus centered (sandwich shops, dry cleaning, etc.) – places kids can enjoy and walk to from school. ▪ Challenged everyone to spend the day in Costco parking lot. ▪ Suggests residents educate themselves on the General Plan. The General Plan should be read and followed. ▪ Is the necessary infrastructure in place for this development? What will be the developer's responsibility? ▪ Residents paid for the interchange and there is no option to accommodate Costco corridor. ▪ CARB requirement that fueling stations not be within 300 feet of a school. ▪ This is not NIMBY opposition. Cares about the community. ▪ Identified experiences dealing with the Horizon proposed project.
Karen Leahy	▪ Resident of 7 years. ▪ Daughter attends Oak Meadow Elementary, and is in 4th grade. ▪ Concerned about what would be built nearby and how the TK-5th grade students would be impacted. ▪ Her daughter's favorite thing is playing outside. A gas station with fumes, idling cars, etc. would make recesses less safe/fun. Same with after school care – kids spend time outdoors. ▪ Traffic associated with the school is already bad. Having Costco next door would make it more difficult.
Amanda Hansen	▪ Lives behind Oak Meadow Elementary. ▪ Concerned about AQ, public health, GHG, traffic, pedestrian safety, light pollution, wildlife, water quality and supply. ▪ Asked if it is feasible under CEQA to look at weighing environmental impacts vs. economic benefits. ▪ Under the impression that one site might require a zoning change. This doesn't seem like a location for a mega store. Would a feasible alternative be to have more local commercial (consistent with zoning)? ▪ Curious about choice of developing a gas station given CA stance on zero emission vehicles.
Dr. Pete Kusivey	▪ Previous LA resident for last 15 years. ▪ Both kids attend Oak Meadow Elementary.

	▪ Against the inclusion of a gas station in close proximity to the elementary school associated with health concerns. o CARB standards recommend several hundred feet separation between a school and pumping station. However, research done by John Hopkins and Columbia indicates that these measurements are off. They recommend that these setbacks should be over 3,000 feet.
Laura Patoni	▪ Has children that attend Oak Meadow Elementary. ▪ Biggest concern is traffic impacts to Oak Meadow community – encourages everyone to show up on first day of school at 2:07 on 8/6/25. Kids will be running across Silva Valley and there is not enough parking ▪ Extension of Country Club Dr. is not approved but a light is there. ▪ Why is a traffic light not being put in front of Oak Meadow? ▪ As proposed, the gas station is facing the kindergarten playground. Why is it not situated as far away from the school as possible?
Amy Frith	▪ Lives close to the site. ▪ Has two children that attend Oak Meadow, a girl scout leader, cross country coach. Concerned about AQ impacts to cross country team – breathing heavily outdoors during practice. ▪ This is the 3rd iteration of NOP, and she has submitted comments in the past. ▪ Traffic concerns need to be addressed. ▪ The addition of the gas station needs to be addressed. ▪ Concerned about gas station and health effects associated with airborne benzene exposure, especially on the large population of seniors. Her dad passed away from leukemia due to benzine exposure. ▪ Believes that the exclusion of gas station is key.
Laura Leigh McCuster	▪ Works at Oak Meadow Elementary and lives in the area. ▪ What consideration was given to putting a gas station next to an elementary school?
Lake Tonya	▪ 20+ year resident. Not in favor of the project. ▪ Parcel A was originally proposed for apartments ▪ Is Costco going to sell the remainder area to an apartment developer? ▪ Wants Costco to leave the remainder as open space, dedicated in perpetuity to the County. ▪ Move gas station close to Tong Road
Roger Bailey	▪ Asked if Costco owns both parcels. ▪ Did Costco buy a parcel to put in a gas station? ▪ Gas station should be moved closer to the highway offramp and further away from the school.

Chin	▪ Oak Meadow Elementary parent and local resident. ▪ Concerned about AQ and idling vehicles. ▪ EIR should address naturally occurring asbestos during construction.
Chang	▪ Oak Meadow Elementary parent. ▪ Never asked for a Costco. ▪ Biggest concern is AQ. ▪ Also concerns about traffic – there are kids everywhere after school on Silva Valley Parkway. There is nowhere to turn around and a wrong turn can be problematic. ▪ Worried about people that will be going to the business – how will kids be kept safe? Not just environmental, but physical too. ▪ This proposal is inconceivable – no care for kids and residents. Why would the County even consider? ▪ Noise concerns as well. ▪ Asked for decisionmakers to have morals and consideration for kids.
Linda Campbell	▪ No signal on Tong road – in and out directly, challenging. ▪ Concerns regarding access to Clarksville Road. ▪ Impacts to evacuation ▪ Concerns on storm drainage runoff ▪ Project needs fire safety plan ▪ Traffic impacts on level of service and vehicle miles traveled ▪ General Plan consistency ▪ County budget concerns and reliance on the project ▪ Address economic impacts on businesses
Mike Q.	▪ Bad site for Costco ▪ Project is poorly planned ▪ Concerns regarding health and safety of residents and students ▪ Address long-term impacts of project and remainder area of North Site ▪ Impacts to White Rock Road ▪ Traffic and safety concerns
Name not provided (resident of Village A)	▪ Recommend everyone to submit comments to Cameron Welch and Board of Supervisors. ▪ This project is like trying to put 10 lbs. of potatoes in a 5 lb. bag. Having to construct a 2 story parking garage indicates a lack of necessary space for required parking. ▪ The proposal has changed – the gas station was in, then out, now its back in. It's obvious that they were pressured to get rid of it. ▪ Not enough parking for employees as evidenced by the parking area added to the north site to accommodate. ▪ Traffic concerns – cars will be backing up and it's only a 2-lane road.

	▪ Country Club Drive – too many traffic lights; owned by County. Hoping the County will do maintenance including landscaping and wildfire prevention. Mentions use of sound wall. ▪ Referenced the words of Bill Parker related to the project area being called the "Gateway to Serrano." Costco would now be the Gateway.
Resident of Village A	▪ 20-year resident of Village A. ▪ Surprised by traffic and noise when he moved here. ▪ Silva Valley Parkway is more like a freeway now. Noise has gone up substantially since the interchange went in. ▪ School drop off/pick up is chaotic. ▪ Concerned about noise and traffic safety. He was a previous commercial truck driver and has made wrong turns and ended up in tough situations. Felt bad when he ended up in neighborhoods. ▪ Having noise and a fueling station next to an elementary school is a bad idea. If it is approved, it should be as far away from the neighborhood and school as possible. ▪ The project is a bad idea due to traffic chaos (roads can't be widened), fumes, and noise.
Brian	▪ Just moved back from D.C. While there, he would go to Costco, and it had multistory parking lot. It was the worst Costco ever – recommends studying it. Even if required to meet stall count, no one used the lower parking. The upper level was always chaotic – accidents, etc. ▪ His child will be in pre k at Oak Meadow next year. ▪ Disappointed that Costco would even think that they could put a gas station near the school.
Tara Webber	▪ 4 kids at Oak Meadow Elementary ▪ This project is wrong for the kids, the village, and wrong for village above it. ▪ She walks kids to school – shouldn't be breathing in fumes and emissions. ▪ Terrified that a child will get hurt or killed. ▪ Traffic is horrific – suggests visiting the school in the morning and afternoon. Traffic is crazy and concerning. Lots of rushing vehicles and the additional traffic will be problematic. ▪ Also concerned about kids on scooters and bikes going to Rolling Hills Middle School. ▪ Noise will interfere with kids playing outside on beautiful land. ▪ Suggests developing a Trader Joes, lunch spot, florist, or other types of business people can walk to. No one will walk to a Costco. ▪ Safety concerns related to the types of people that this development might attract. ▪ Urges keeping everything as far away from kids as possible.

James Whoset	▪ Space concerns – very small thoroughfare with lots of traffic. Keeps getting worse over the past 5 years he's lived here. ▪ Lots of existing noise with people getting back and forth to their homes. ▪ Is there enough space to accommodate this type of store in this type of area? ▪ Double parking structure – not enough space for parking – will the roads be doubled to accommodate? ▪ Doesn't see environmental benefit of having it next to elementary school. ▪ There is already a Costco within throwing distance – do we really need another so close? ▪ Competition with local businesses -they might not be able to compete. Community doesn't stand for increasing profit.
Marty Abel	▪ Lives on Village Green, backs up to North Site. ▪ AQ concerns o How many gallons of gas w/ 32 pumps? 10 million gallons (38 tons of fossil fuel) would be pumped in a year. o Cumulative impacts must be assessed o Natural environment impacts – the open space with wildlife, wetlands, wildlife, heritage trees, and habitat and foraging areas. What will happen to the birds? o AQ: Look at quality of soil – grading, dust, stirred up from sites, asbestos, air born soil contaminants. o NOP didn't mention that the warehouse is identical to what was previously proposed. The previous NOP had 122 extra spaces – not mentioned this time. Do we really need those? Could employee parking be on south site? Could space be made for preservation on north site?
Oak Meadow Elementary Student	▪ Digging up grass for development would hurt wildlife. ▪ Doesn't want gas station next to school because of concerns about AQ and traffic.
Name not provided	▪ Mentions migratory bird population and nearby trail. ▪ Concerned about water pollution and traffic. ▪ Drainage into watershed – concerns related to contamination and impacts to migratory birds. ▪ Hours of operation of fuel station – 6-10. Would be awful – will greatly increase emissions next to a school. ▪ Cumulative pollution from highway already there – EIR should take all of these factors into account ▪
Tony	▪ Moved from bay area, 15-year resident.

	▪ Remind everyone why they live here – it's a beautiful place with open space. Mentioned stream by the school. ▪ Photographs wildlife by creek. ▪ Has nothing against commerce – he gets it. But thinks the County can be wiser about this – right next to school; he has kids there too. He has kids with health issues. ▪ Developing this site would be a mistake.

From:	jons van dooren
To:	PL-EDH Costco Project
Cc:	Cameron W. Welch; Bob Williams; David Spaur; Jeff Hansen; Rafael Martinez; BOS-District I; BOS-District II; BOS-District III; BOS-District IV; BOS-District V; John Davey; tjwhitejd@gmail.com; John Raslear; droth@buckeyeusd.org; washburn_bew@yahoo.com; Amy Frith; Claudia Vidovic; marty abell; Amanda Hansen; nstack@mtdemocrat.net; Ben van der Meer
Subject:	68 Parking Stalls on EDH-Costco North
Date:	Saturday, March 22, 2025 3:48:36 PM

This Message Is From an External Sender
This message came from outside your organization.

Report Suspicious

Bob, David and Jeff, Team Planning Commissioners,

Good afternoon ALL,

Bob, you mentioned to us at the last recorded APAC meeting that the 165,000 Sq. Foot warehouse is in need of those extra 68 parking stalls on the EDH-North site, bringing the total to 831 parking stalls, due to the size of this 165,000 Sq. F. Costco Warehouse building!

So please Bob, take this walk with me:
We are going to the proposed Costco Warehouse at EDH-South site and the parking stalls are FULL, so we drive across to the North Side, and take one of the 68 open parking stalls.

We start walking over the sidewalk, past the cars waiting in line to get gas, past the gas pumps towards the traffic light, ready to cross Silva Valley Parkway, a 4-lane road, with a middle divider, towards the Costco Warehouse on the South side.
Here we are picking up our shopping cart, doing our shopping in the warehouse, self-check-out, NO alcohol this time, paying our bill and start pushing our shopping cart back, (slightly up hill), hopefully I did not lose you, I could use the help, through the traffic light, crossing Silva Valley Parkway, past the fuel site, past the cars waiting in line for the pumps and finally making it back to the car, emptying the cart and as a good citizen bringing my cart back..... Guess I can cancel my gym membership, saving money again!

Well at the recent APAC meeting we talked about several other locations that Costco had a 2 story parking garage, as in metropolitan cities, such as New York, San Francisco, San Diego. BUT how many Costco's are there in the USA, that have an additional parking lot across a VERY BUSY 4 lane road, because the Costco Warehouse does not have enough space for parking stalls at the proposed Warehouse site! Would like to find that out that statistic!

Transportation / Traffic / The quality of air / Noise / Land use & Planning, are all effected by this little exercise!

Serrano Resident
Jons van Dooren

March 25, 2025

El Dorado County Development Services Department – Planning Services
Attention: Cameron Welch
2850 Fairlane Court
Placerville, CA 95667

Subject: Opposition to Proposed Costco Development – Request for Alternative Site Consideration

Dear Planning Commission Members,

I am writing as a 23-year homeowner residing within half a mile of the proposed Costco project. I strongly urge the Planning Commission to reconsider the location of this development, as its scale and impact are incompatible with the surrounding residential community. Costco's 165,000-square-foot footprint, along with a high-traffic gas station, is wholly inappropriate adjacent to detached single-family homes and an elementary school. The Serrano development was carefully designed to provide a semi-rural atmosphere with minimal artificial lighting and a preserved natural setting—an environment that will be entirely disrupted by this project. Homeowners, including myself, chose to live in Serrano for its peaceful, community-centered character, and placing a Costco in the middle of it fundamentally undermines this vision.

Beyond the aesthetic and environmental concerns, the logistical impact on traffic and safety cannot be ignored. The significant increase in congestion, particularly near Oak Meadow Elementary School, raises serious concerns for child safety and pedestrian access. While I understand the County's interest in the potential tax revenue, the long-term negative effects on home values, traffic flow, and overall quality of life for residents must be given equal consideration.

Additionally, the anticipated noise and light pollution will be significant. The prospect of delivery trucks operating between midnight and 6:00 AM and the glare of a 24-hour parking lot will drastically alter the nighttime environment for local residents. These disruptions are not minor inconveniences—they are fundamental changes that will negatively impact our community's well-being.

I am also deeply concerned about the environmental and health risks posed by this development. The Draft Environmental Impact Report (DEIR) should thoroughly assess the increased emissions from both the heavy traffic and the gas station, particularly in relation to vulnerable populations, including children, seniors, and individuals with health conditions. As a woman who has recovered from Stage IV cancer, I am acutely aware of how air quality affects long-term health. Those with compromised immune systems, including many in our community, could face serious risks due to increased pollution from this project.

The Planning Commission has a responsibility to prioritize the well-being of residents over corporate interests. I urge you to take a closer look at the negative impacts this project will have on our neighborhood and explore alternative sites that do not threaten the character, safety, and health of our community.

Thank you for your time and consideration. I hope you will make a decision that reflects the best interests of Serrano residents.

Sincerely,

Christina Buenzli

Christina Buenzli
746 Anna Place
El Dorado Hills, California 95762
TBuenzli@comcast.net

To : Cameron Welch , Senior Planner

County of El Dorado Planning and building Development
2850 Fairlane Ct. Building # C
Placerville, Ca 95667
EDHCostco@edcgov.us

Dear Mr . Welch ,

I would like to express my gravest concerns about the impact of the proposed use of the properties identified in this study.These parcels are located at the bottom of the Valley surrounded by many existing resedential homes that are located higher up on both sides of the valley overlooking the subject property.The proposed development is not suitable for this location for the following reasons:

1) The silva valley road traffic noise level is magnified by the echo chamber created by the hills on both sides of the roadway.The roadway is not suitable to support high volume traffic for a buissness such as Costco or Drive - Thru's.The noise level for the residents located on both sides of silva valleyhas already increased significantly since development of the intersection with Hwy 50 and can now be heard indoorsdaytime and night.The proposed developments can further increase the noise level by many levels.

2) Any traffic on Silva Valley road Negativly impacts the Oak Meadows Elementary School drop off zone where cars already line up during the week.It would increase the risks for the children during school hours.

3) The proposed properties and buildings, Signs , as well as parking lots with in the properties willbe in the direct line of sight of hundreds of existing homes.Due to properties being overlooked from the hills , These veiws wouldnt be covered from trees and landscape.Therefore, Such as gas stations or Costco Warehouse would be in plain sight for hundreds of residential homes, Creating an Unsightly environment that will negativly impact the value of all these residential properties.

4) The proposed properties can also impact the nighttime environment by generating to much reflective light that would be a nuisence to many homes in the area.The Serrano subdivision that borders this project was developed with no street lights so that the residents could enjoy there beutiful night sky.The devolopment is a direct contradiction to the neighboring subdivision light pollution mitigation plans.

5) The nature of the proposed Costco architectural plan that is inconsistant with the surrounding residential buildings and subdivisions.

In general , Big box stores need to be in predominintly commercial areas , not neighboring areas being overlooked by residents and schools.I would appreciate a development that adds value to the community . I personally dont see a value , since there is a Costco Five minutes away. As for revenue , since EDH is incorperated , the revenue will flow to the county. So as long as there is a costco anywhere in the county , the benifit will produce the same.It shouldnt be adjacent to the single family development and schools.Target at EDH is a good example more appropriate placement, that is a reasonable buffer.

Therefore I personally request you kindly to "NOT APPROVE" the proposed plans given in this matter.

Best Regards,
Roy Templet
1340 Souza dr.
El Dorado Hills, Ca 95762
916-941-6950
r.templet@comcast.net



EDH Costco Project Environmental Impact Report

NOP SCOPING COMMENTS

El Dorado County invites you to provide comments on the scope of the EDH Costco Project and the environmental impact report (EIR) analysis. You can use this form to write your comments and drop in the box for written comments, or you may write your comments on this form, in a letter, or an e-mail and submit to the following physical address and/or e-mail address:

Cameron Welch, Senior Planner
County of El Dorado Planning and Building Department
2850 Fairlane Court, Building C
Placerville, CA 95667

Email: EDHCostco@edcgov.us

Written comments must be submitted no later than March 31, 2025, by 5:00 p.m. Thank you!

Name: Ken Wan

Organization (if any):

Address (optional):

City, State, Zip: El Dorado Hills, CA 95762

Email (optional): kennethwan_7@hotmail.com

Comments Move gas station closer to freeway (50).
Far away from the school!

More space on back

31 March 2025

Cameron Welch
El Dorado County
2850 Fairlane Court, Building C
Placerville, CA 95667
EDHCostco@edcgov.us

COMMENTS TO REQUEST FOR REVIEW FOR THE NOTICE OF PREPARATION FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT, EDH COSTCO PROJECT, SCH#2021080402, EL DORADO COUNTY

Pursuant to the State Clearinghouse's 27 February 2025 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Notice of Preparation for the Draft Environmental Impact Report* for the EDH Costco Project, located in El Dorado County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

I. Regulatory Setting

Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by

the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases, the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues. For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:
http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/

Antidegradation Considerations

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Implementation Policy is available on page 74 at:
https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf

In part it states:

Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.

This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

II. Permitting Requirements

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), Construction General Permit Order No. 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). For more information on the Construction General Permit, visit the State Water Resources Control Board website at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

Clean Water Act Section 404 Permit

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACE). If a Section 404 permit is required by the USACE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements. If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACE at (916) 557-5250.

Clean Water Act Section 401 Permit – Water Quality Certification

If an USACE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications. For more information on the Water Quality Certification, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/

Waste Discharge Requirements – Discharges to Waters of the State

If USACE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation. For more information on the Waste Discharges to Surface Water NPDES Program and WDR processes, visit the Central Valley Water Board website at:https://www.waterboards.ca.gov/centralvalley/water_issues/waste_to_surface_water/

Projects involving excavation or fill activities impacting less than 0.2 acre or 400 linear feet of non-jurisdictional waters of the state and projects involving dredging activities impacting less than 50 cubic yards of non-jurisdictional waters of the state may be eligible for coverage under the State Water Resources Control Board Water Quality Order No. 2004-0004-DWQ (General Order 2004-0004). For more information on the General Order 2004-0004, visit the State Water Resources Control Board website at:

https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2004/wqo/wqo2004-0004.pdf

Dewatering Permit

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Threat General Order) 2003-0003 or the Central Valley Water Board's Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Threat Waiver) R5-2018-0085. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at: http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf

For more information regarding the Low Threat Waiver and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2018-0085.pdf

Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Limited Threat Discharges to Surface Water* (Limited Threat General Order). A complete Notice of Intent must be submitted to the Central Valley Water Board to obtain coverage under the Limited Threat General Order. For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2016-0076-01.pdf

NPDES Permit

If the proposed project discharges waste that could affect the quality of surface waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit. For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/help/permit/

If you have questions regarding these comments, please contact me at (916) 464-4684 or Peter.Minkel2@waterboards.ca.gov.

Peter G. Minkel
Engineering Geologist

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento

Pat Angell
Ascent
Pat.Angell@ascent.inc

Mike Okuma
Costco Wholesale
mokuma@costco.com

From: Rita Haggerty
To: EDHCostco@edcgov.us
Subject: A yes vote for Edh Costco
Date: Thursday, March 20, 2025 8:28:24 AM

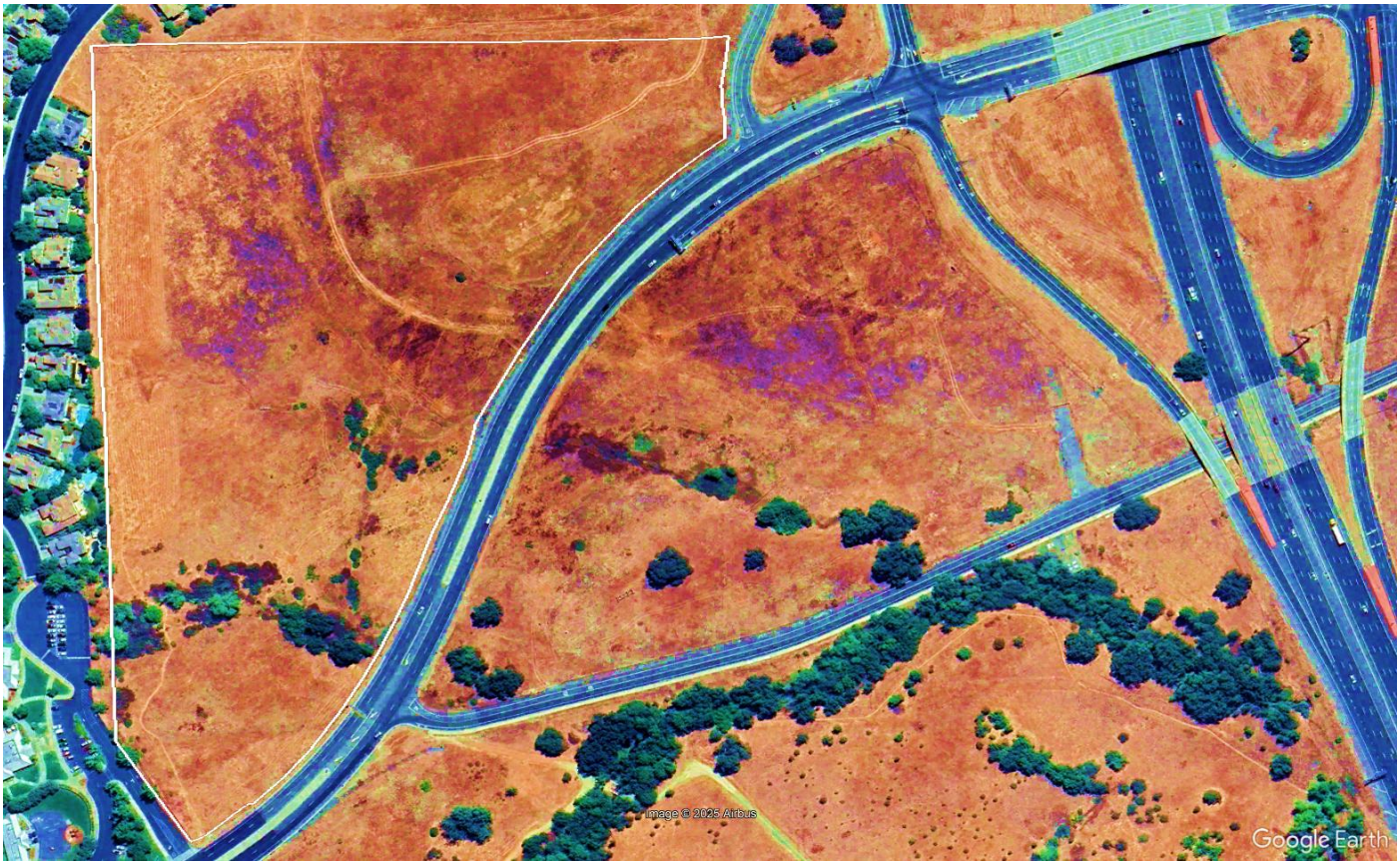
This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

If the gas portion isn't acceptable, use
an electric option and go forward. We can never please all the people all the time.

Sent from my iPhone

COSTCO DEVELOPMENT PLAN - APPENDICES









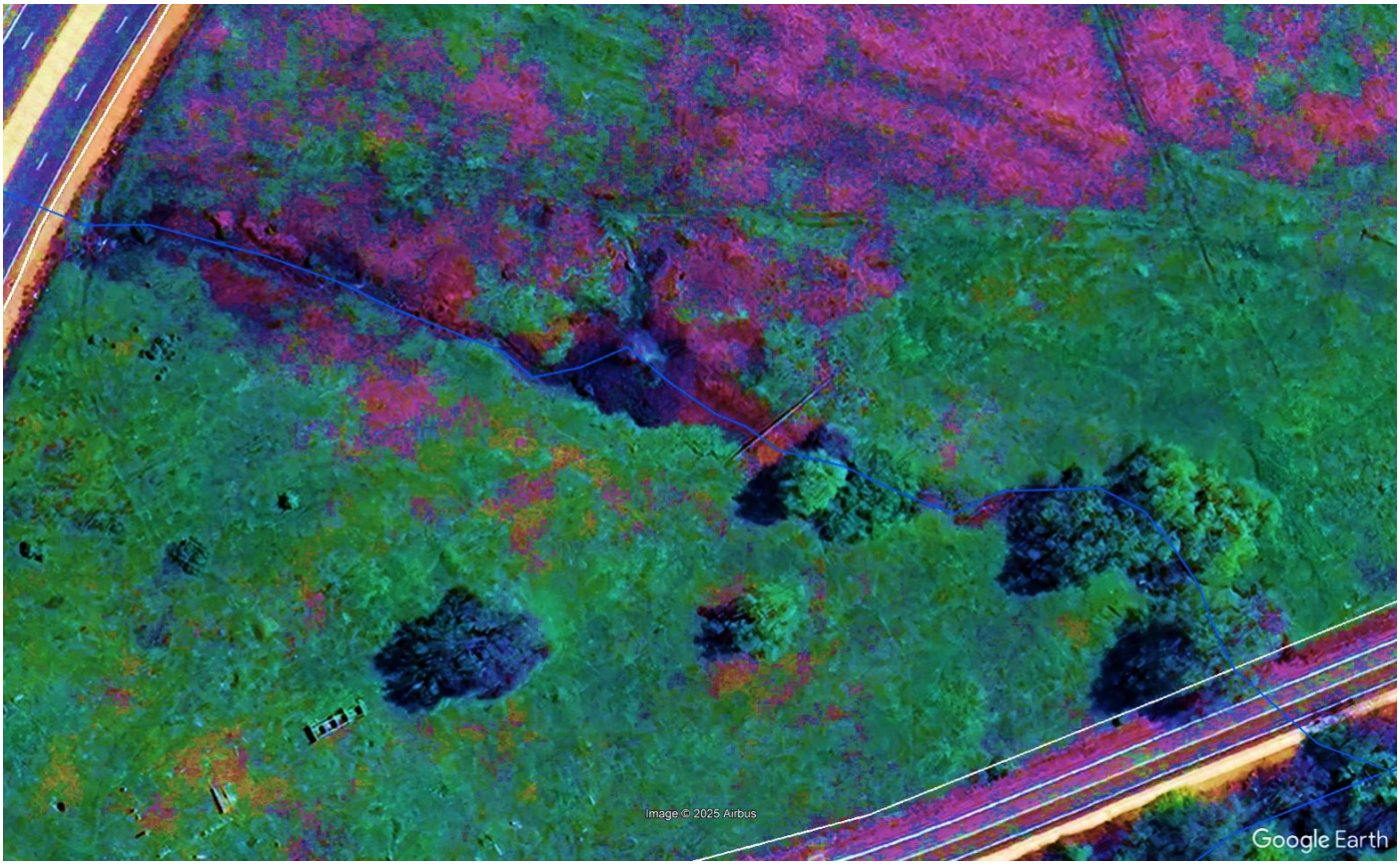
February 2021

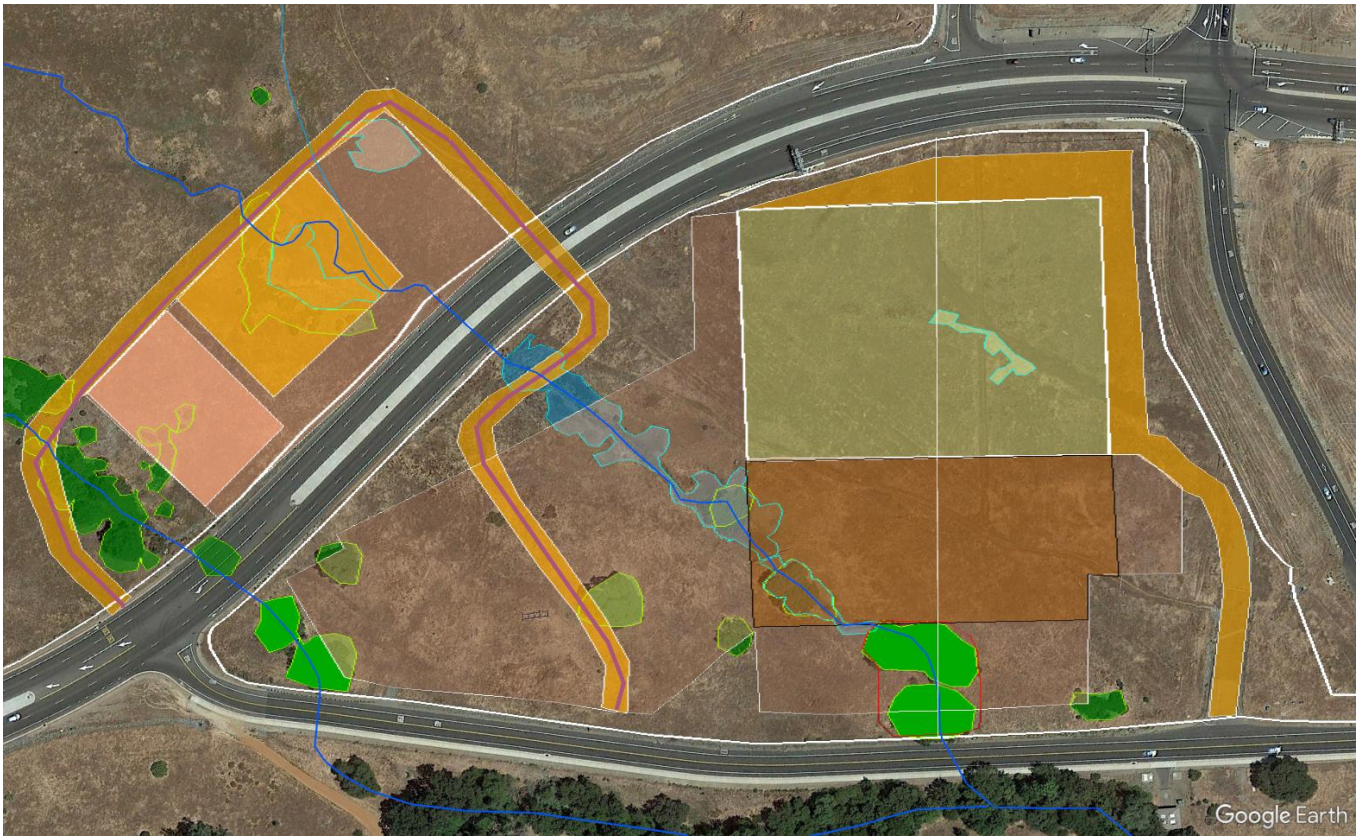


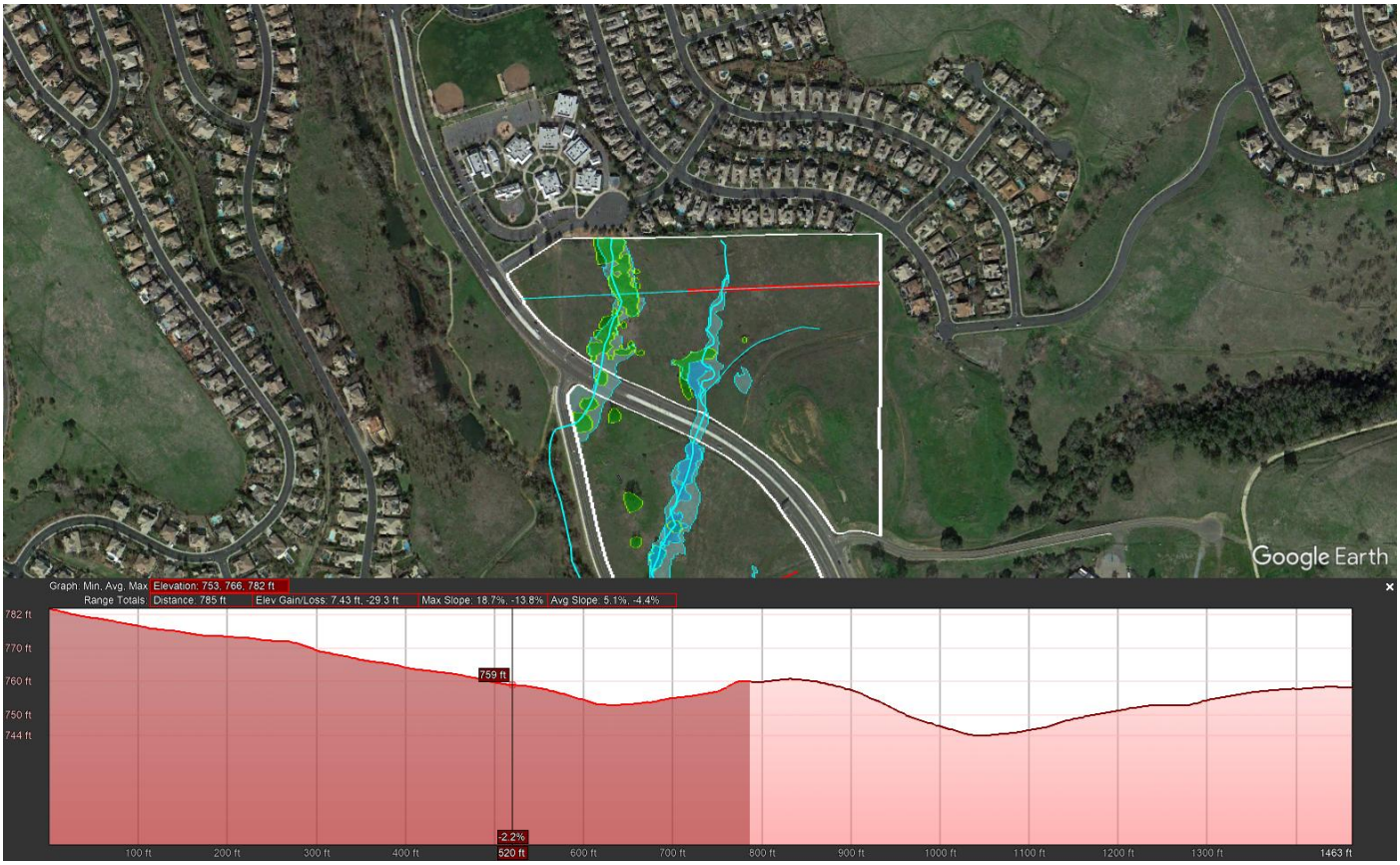
March 2023

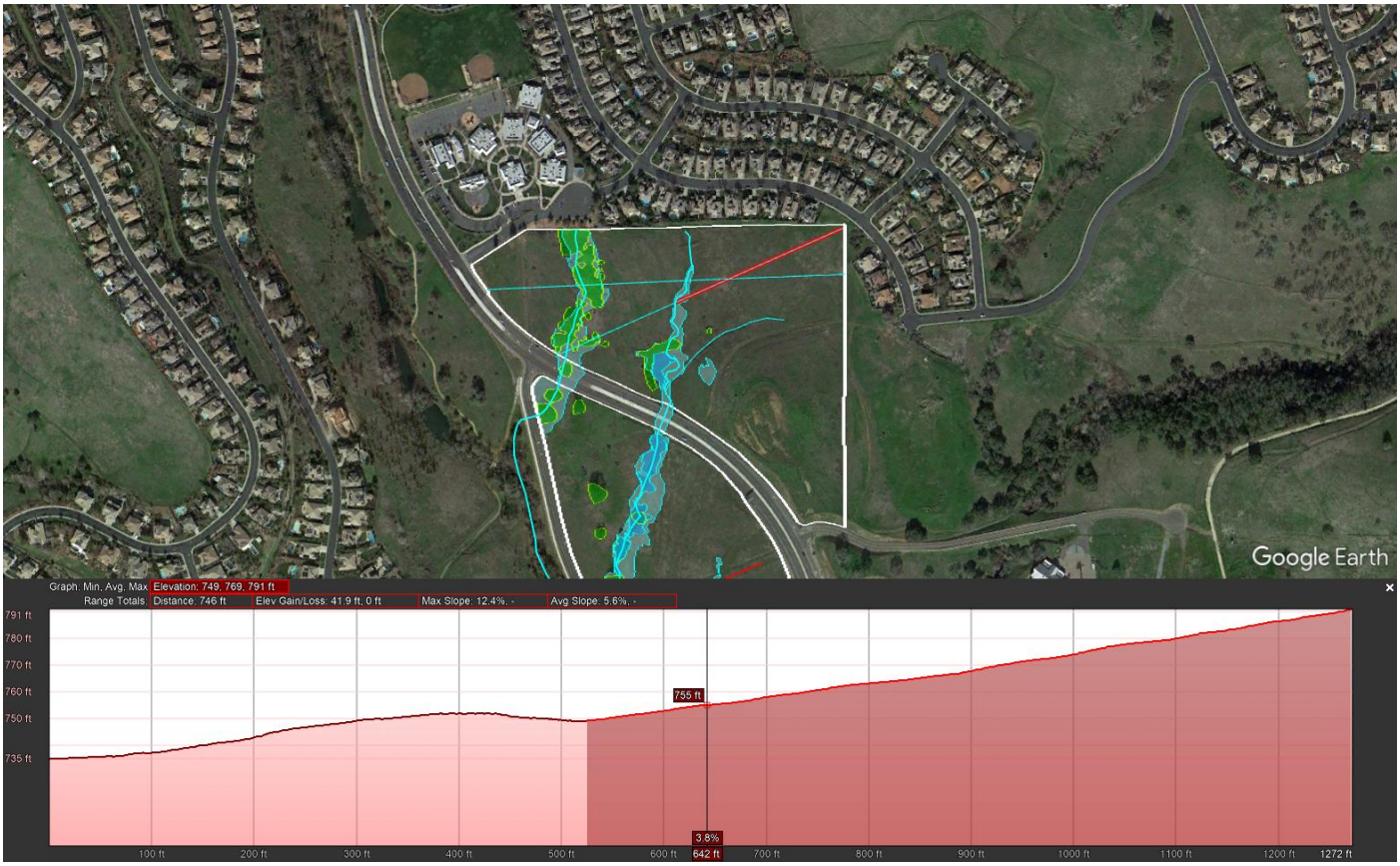


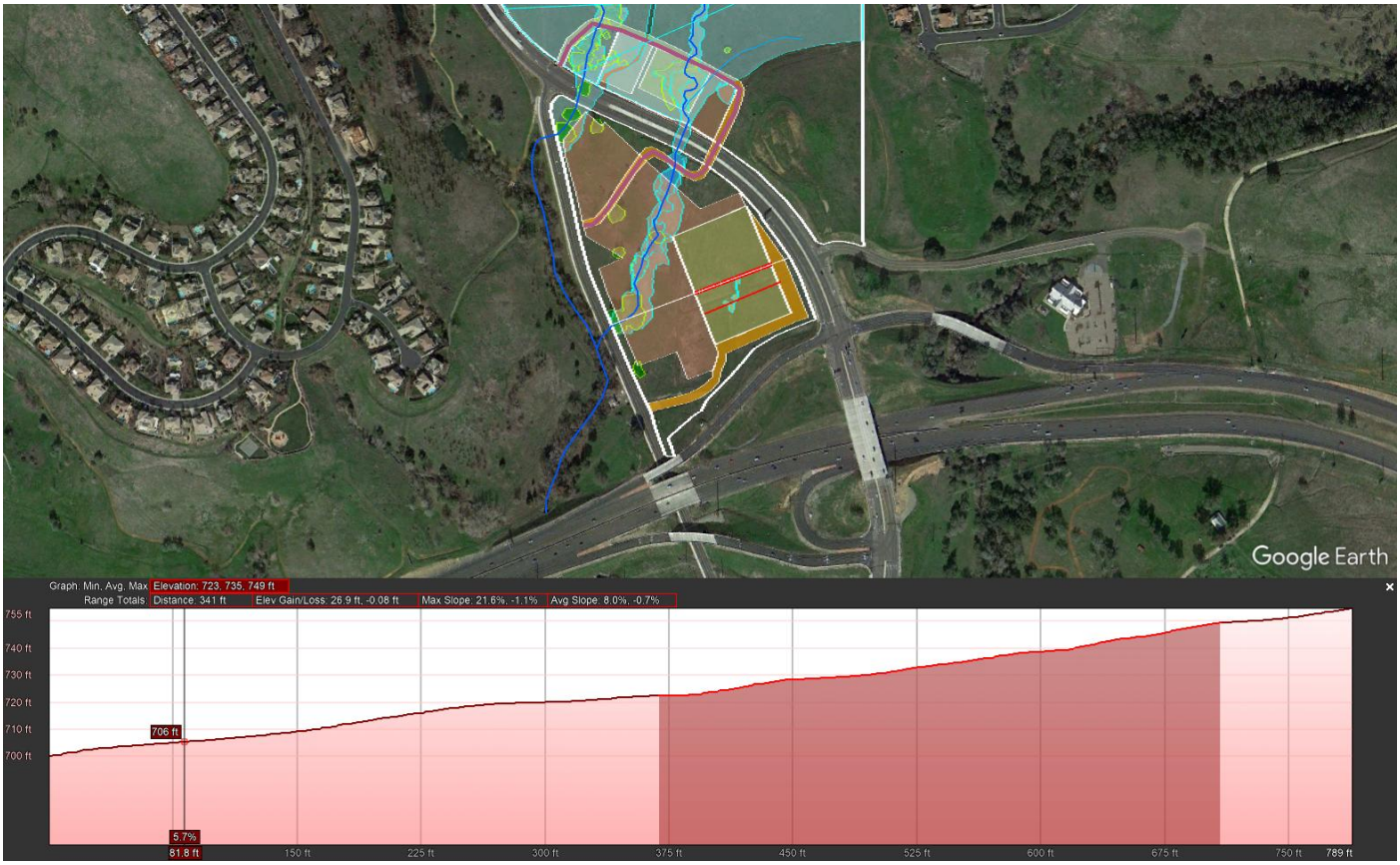
March 2023 - enhanced

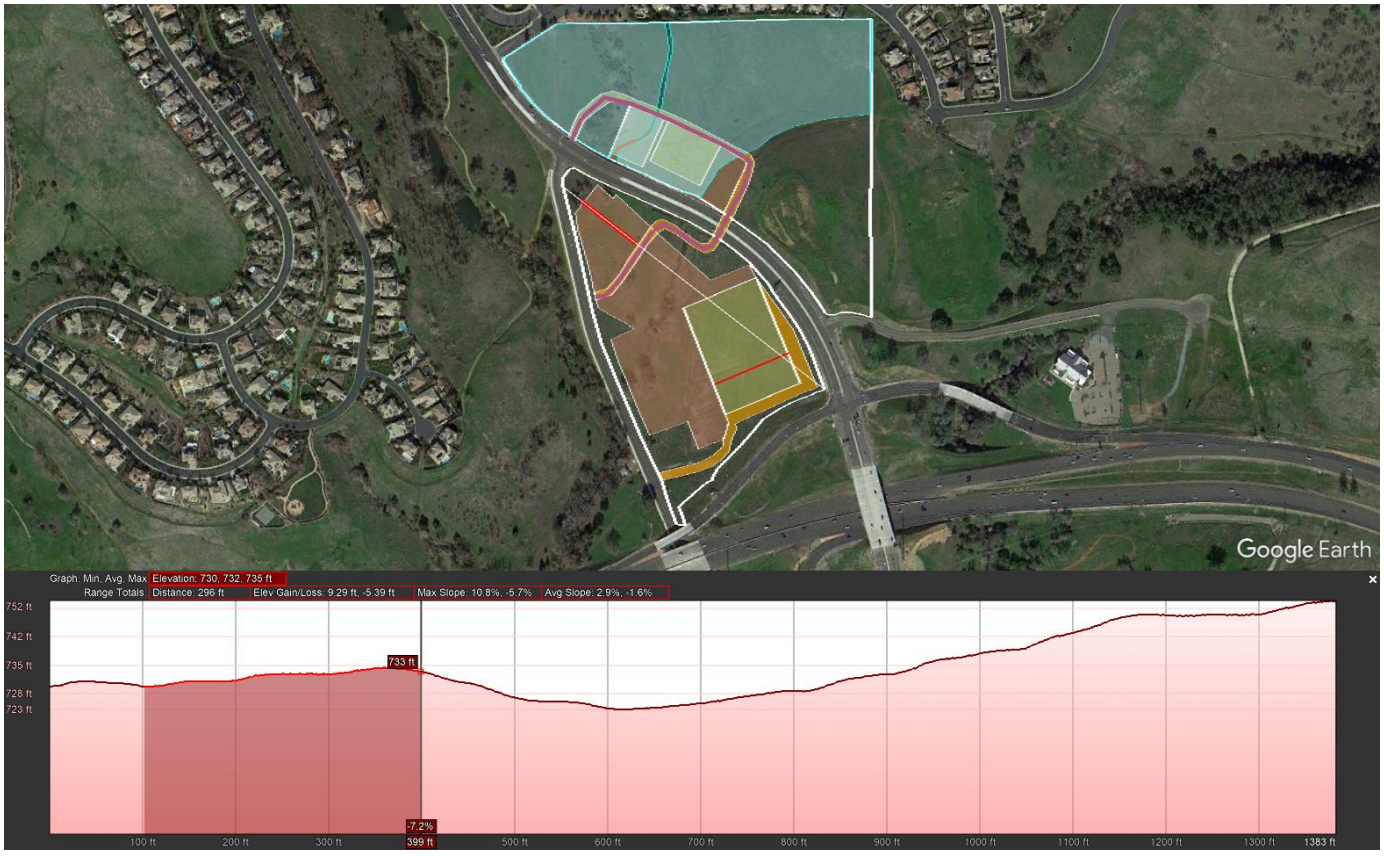

Image © 2025 Airbus
Google Earth

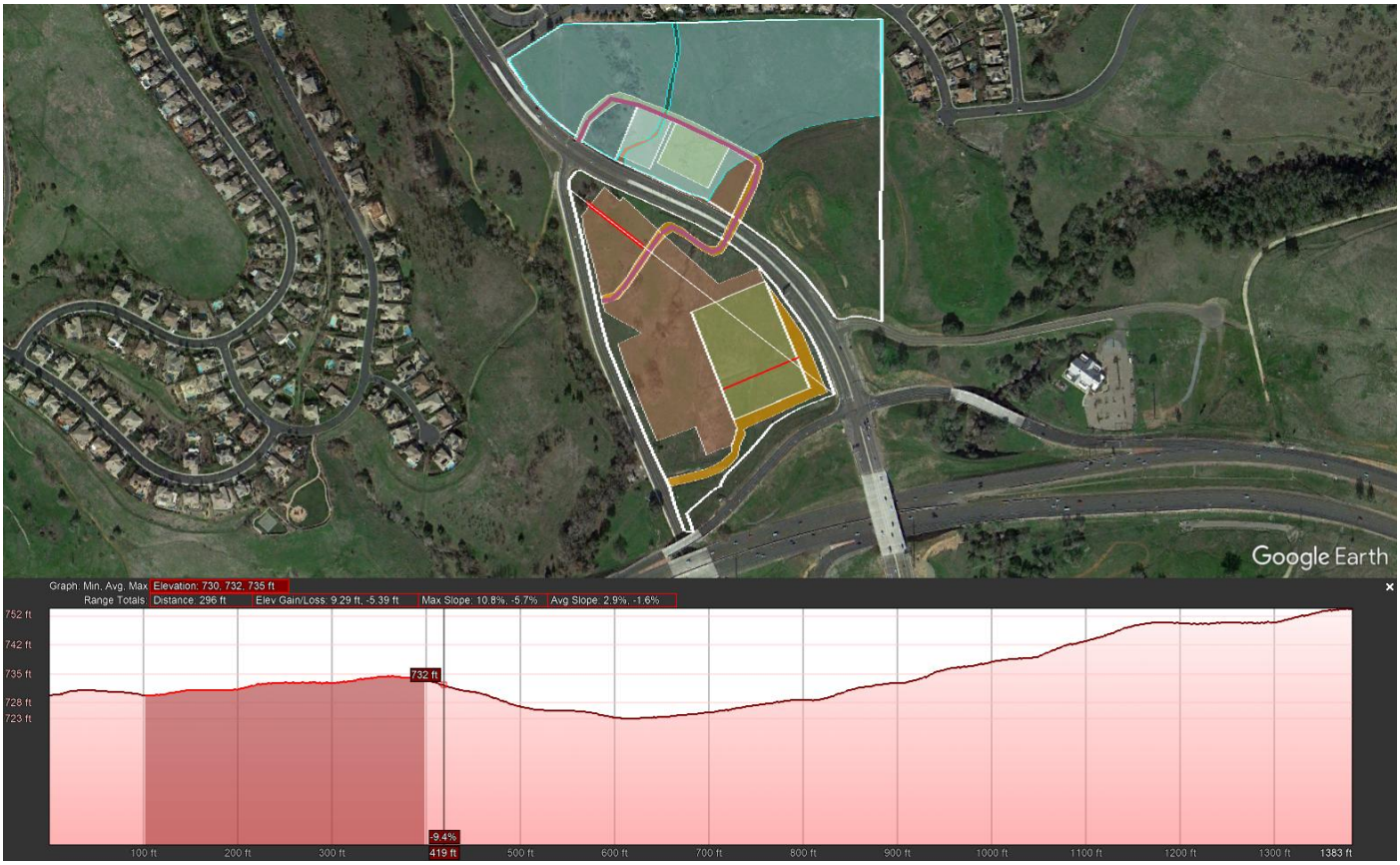

Google Earth

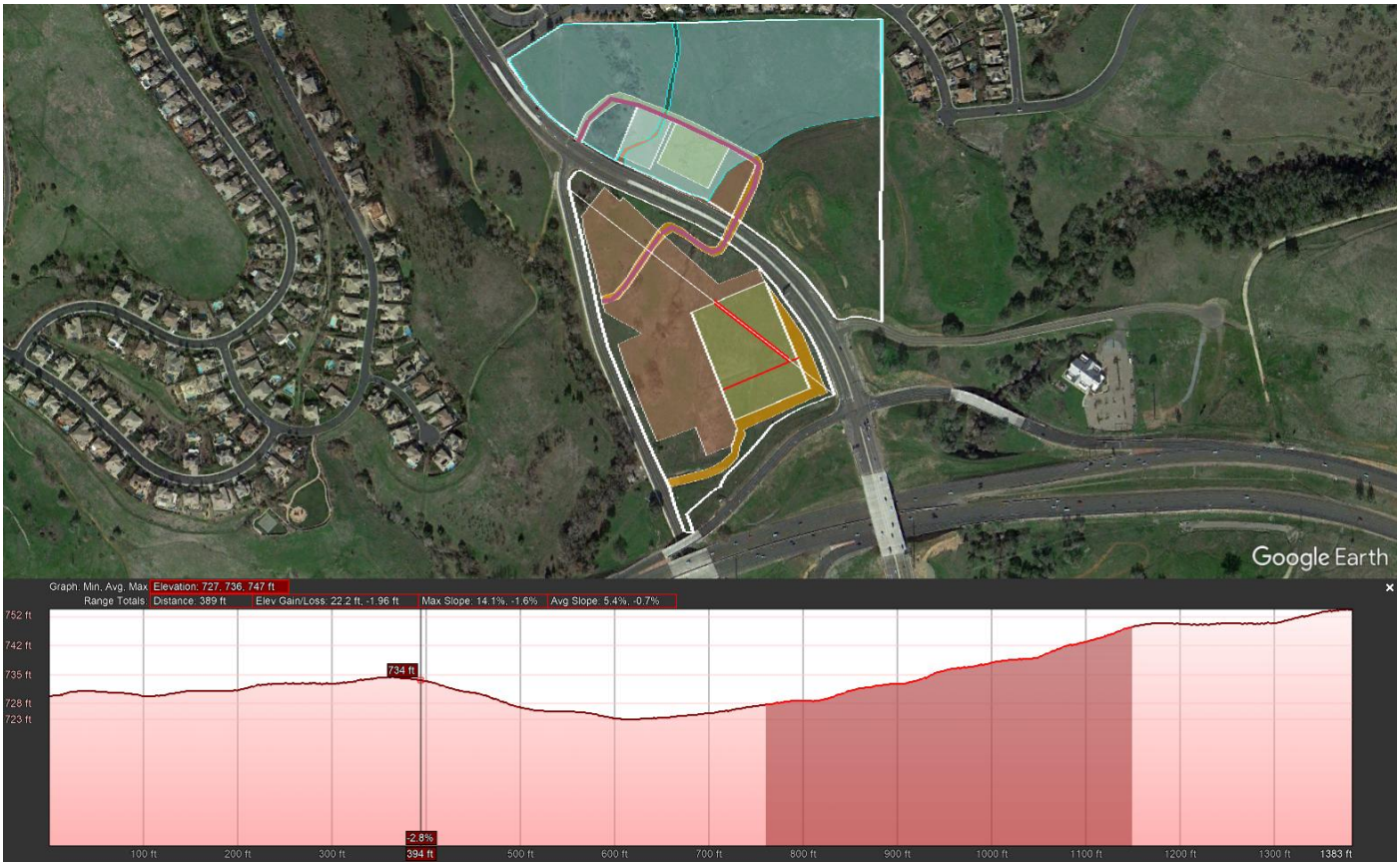

Google Earth
Graph: Min, Avg, Max Elevation: 753, 766, 782 ft
Range Totals: Distance: 785 ft Elev Gain/Loss: 7.43 ft, -29.3 ft Max Slope: 18.7%, -13.8% Avg Slope: 5.1%, -4.4%
782 ft
770 ft
760 ft
750 ft
744 ft
759 ft
-2.2%
100 ft
200 ft
300 ft
400 ft
520 ft
600 ft
700 ft
800 ft
900 ft
1000 ft
1100 ft
1200 ft
1300 ft
1463 ft

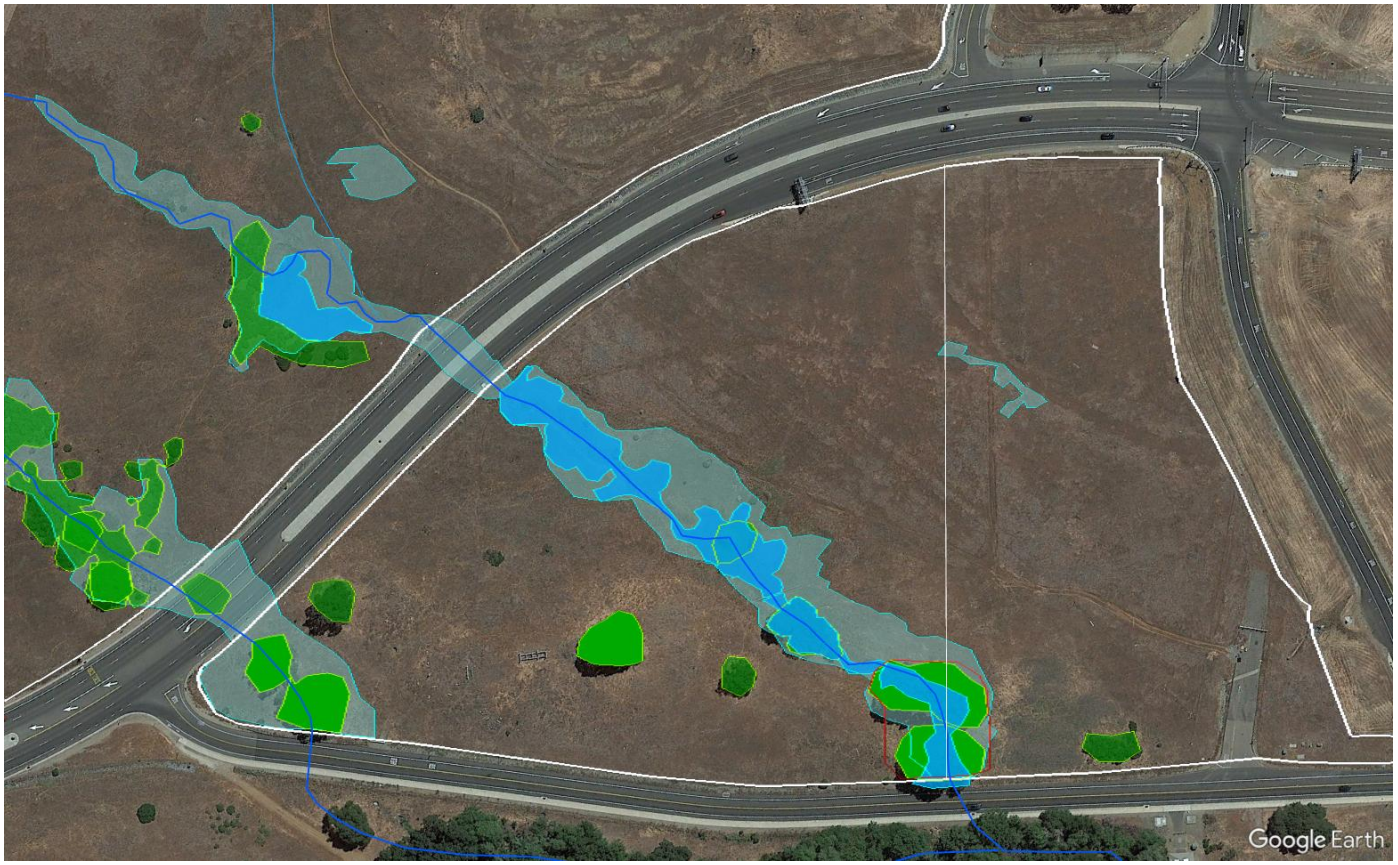

Google Earth
Graph: Min, Avg, Max Elevation: 749, 769, 791 ft
Range Totals: Distance: 746 ft Elev Gain/Loss: 41.9 ft, 0 ft Max Slope: 12.4%, - Avg Slope: 5.6%, -
791 ft
780 ft
770 ft
760 ft
750 ft
735 ft
755 ft
3.8%
100 ft
200 ft
300 ft
400 ft
500 ft
600 ft
642 ft
700 ft
800 ft
900 ft
1000 ft
1100 ft
1200 ft
1272 ft

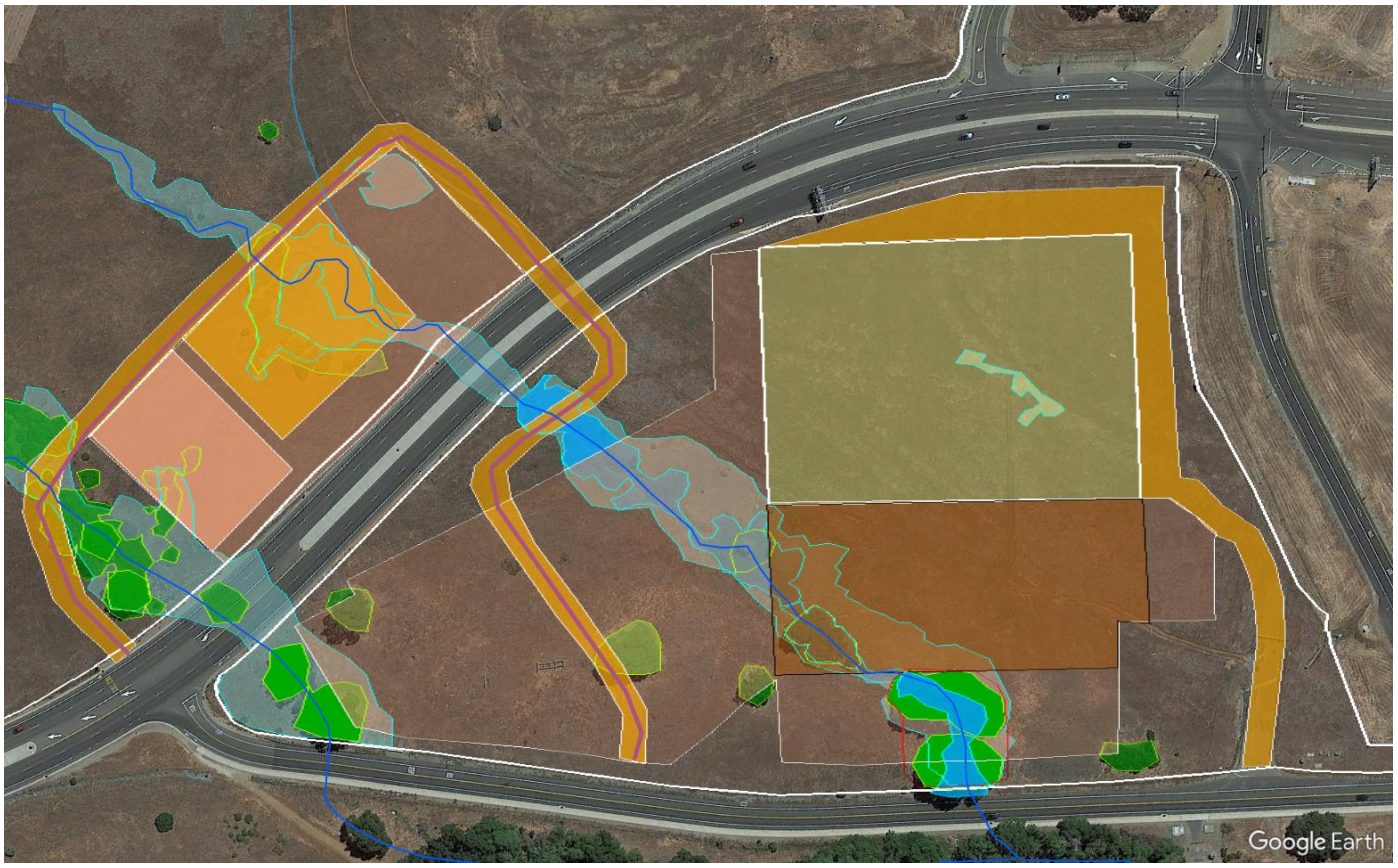

Google Earth
Graph: Min, Avg, Max Elevation: 723, 735, 749 ft
Range Totals: Distance: 341 ft Elev Gain/Loss: 26.9 ft, -0.08 ft Max Slope: 21.6%, -1.1% Avg Slope: 8.0%, -0.7%
755 ft
740 ft
730 ft
720 ft
710 ft
706 ft
700 ft
5.7%
81.8 ft
150 ft
225 ft
300 ft
375 ft
450 ft
525 ft
600 ft
675 ft
750 ft
789 ft


Google Earth
Graph: Min, Avg, Max Elevation: 730, 732, 735 ft
Range Totals: Distance: 296 ft Elev Gain/Loss: 9.29 ft, -5.39 ft Max Slope: 10.8%, -5.7% Avg Slope: 2.9%, -1.6%
752 ft
742 ft
735 ft
733 ft
728 ft
723 ft
-7.2%
100 ft
200 ft
300 ft
399 ft
500 ft
600 ft
700 ft
800 ft
900 ft
1000 ft
1100 ft
1200 ft
1300 ft
1383 ft


Google Earth
Graph: Min, Avg, Max Elevation: 730, 732, 735 ft
Range Totals Distance: 296 ft Elev Gain/Loss: 9.29 ft, -5.39 ft Max Slope: 10.8%, -5.7% Avg Slope: 2.9%, -1.6%
752 ft
742 ft
735 ft
728 ft
723 ft
732 ft
-9.4%
100 ft
200 ft
300 ft
419 ft
500 ft
600 ft
700 ft
800 ft
900 ft
1000 ft
1100 ft
1200 ft
1300 ft
1383 ft


Google Earth
Graph: Min, Avg, Max Elevation: 727, 736, 747 ft
Range Totals Distance: 389 ft Elev Gain/Loss: 22.2 ft, -1.96 ft Max Slope: 14.1%, -1.6% Avg Slope: 5.4%, -0.7%
752 ft
742 ft
735 ft
728 ft
723 ft
734 ft
-2.8%
100 ft
200 ft
300 ft
394 ft
500 ft
600 ft
700 ft
800 ft
900 ft
1000 ft
1100 ft
1200 ft
1300 ft
1383 ft


Google Earth


Google Earth

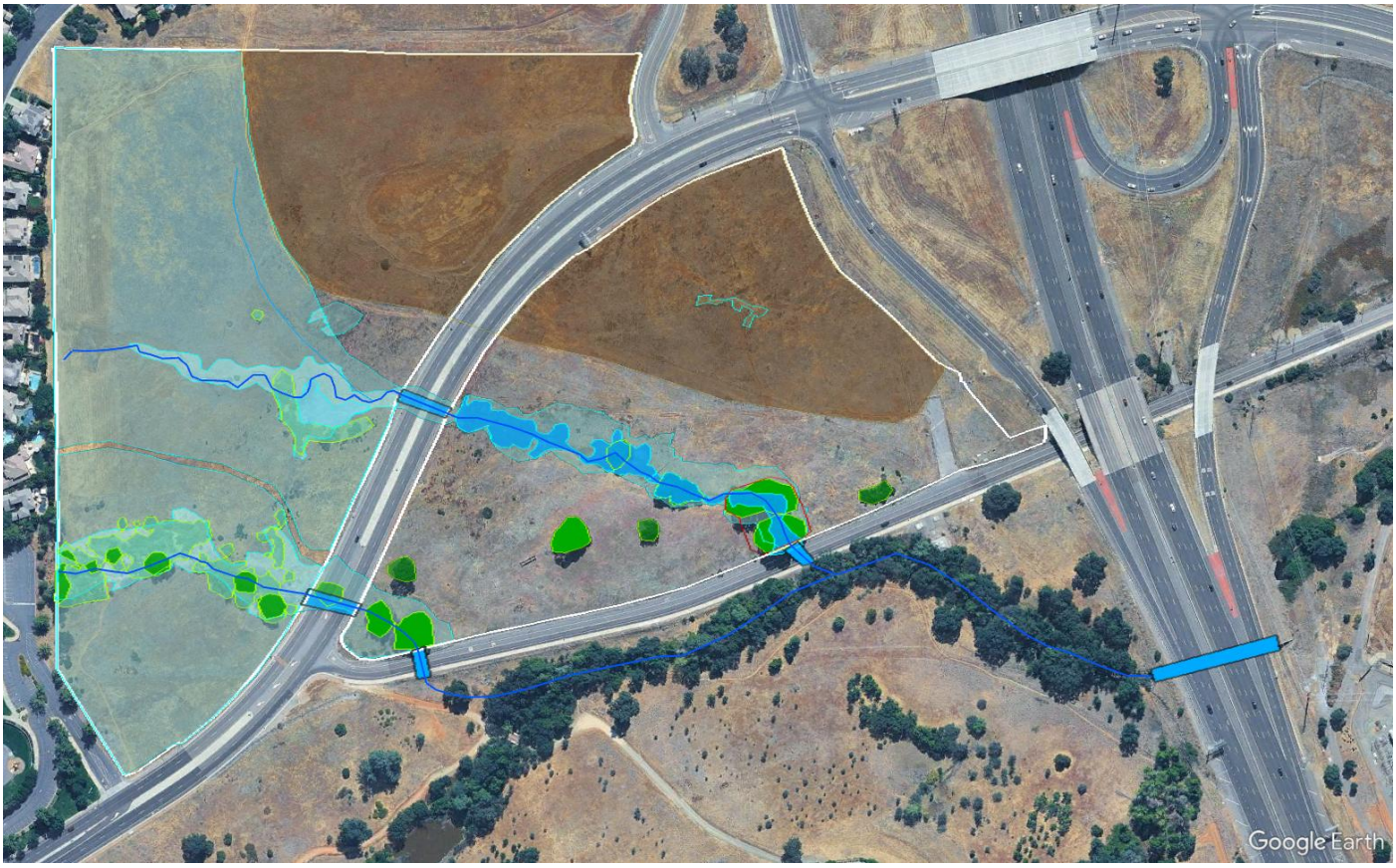

Google Earth


Image © 2025 Airbus
Google Earth


Image © 2025 Airbus
Google Earth


Image © 2025 Airbus
Google Earth


Image © 2025 Airbus
Google Earth


Image © 2025 Airbus
Google Earth


Image © 2025 Airbus
Google Earth

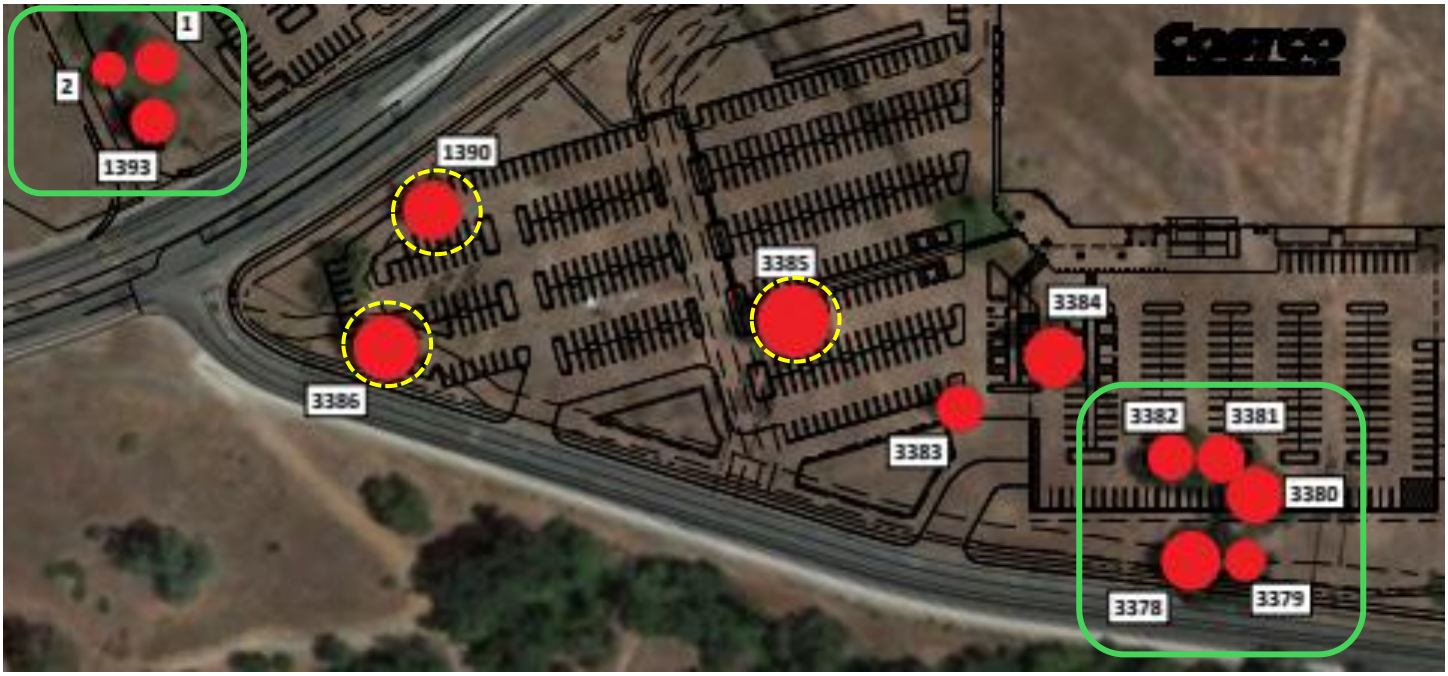
16th. March 2025
El Dorado County Development Services Department-Planning Services,
Attention: Cameron Welch,
2850 Fairlane Court, Placerville, CA 95667
EDHCostco@edcgov.us.

The following are my comments regarding EDH 52 Costco PROJ21-0003 CUP-R21-0024 Z17-0004 P17-0007 S17-0017 PD15-0001 CUP23-0012 V22-0001Project 20278 Development Plan, i.e. COSTCO EDH DEVELOPMENT PLAN

Foreword
Google Earth satellite images from 2002-2023 were used to measure all areas and subject to my aerial photo interpretation. All site photos were taken by me on 12th & 15th. March 2025.

HELIX ENVIRONMENTAL OAK RESOUCES TECHNICAL REPORT

The applicant says: *"Tree permit for **selective removal** of on-site trees within the development envelope and authorization for the payment of in lieu fees to compensate for tree removal" and* provided the following exhibits.



Source: https://edhapac.org/wp-content/uploads/2021/07/Oak-Resources-Technical-Report-Dated-November-2020.pdf
HELIX Environmental Planning, Inc. 1677 Eureka Road, Suite 100 Roseville, CA 95661
916.435.1202 Tel 619.462.0552 fax www.helixepi.com November 10, 2020, Project # AKT-20

	Tree #	Species	DBH (inches)	DLR (feet)	Height (feet)	Health	Structure	Comment
	1	Valley Oak	9, 8	15	40	Fair	Fair	No tag, heavy blackberry, codominant
	2	Interior Live Oak	9, 8, 8	16	27	Fair-Good	Fair	No tag, heavy blackberry, codominant
*	**1390**	Valley Oak	47	21	60	Poor-Fair	Poor	Deadwood, limb failure, acorn woodpecker granary tree
	1393	Valley Oak	21	20	50	Fair-Good	Fair-Good	Existing tag, minor dieback
	3378	Valley Oak	35	30	40	Good	Fair-Good	Deadwood
	3379	Valley Oak	18	24	40	Good	Fair-Good	Asymmetrical canopy, suppressed growing environment
	3380	Valley Oak	33	38	40	Good	Good	
	3381	Valley Oak	27	30	40	Good	Good	
	3382	Valley Oak	27	25	40	Good	Fair	Codominant
	3383	Valley Oak	26	23	40	Fair-Good	Fair	Asymmetrical canopy
	3384	Valley Oak	10	13	15	Fair	Fair	Codominant, small leaves
*	**3385**	Blue Oak	48	40	60	Fair-Good	Fair	Asymmetrical canopy, pruning wound, 1 trunk removed
*	**3386**	Valley Oak	42	38	60	Fair-Good	Fair	Deadwood, dieback

* Heritage tree

OAK TREE PRESERVATION

Clarksville Crossing

The following photographs provide visual proof that their description of "selective removal" is indeed anything but selective, it is total removal.





There really is no good reason why these trees could not all be saved with some judicious mass grading





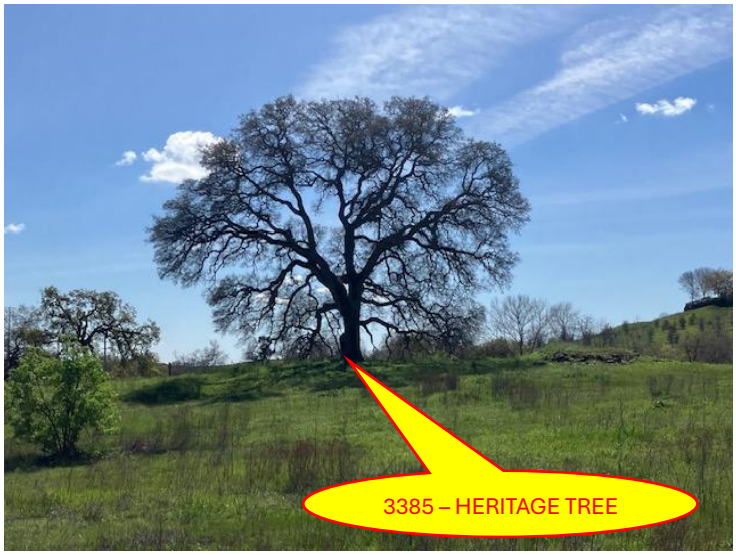
Please see cross section diagrams under grading for a possible solution





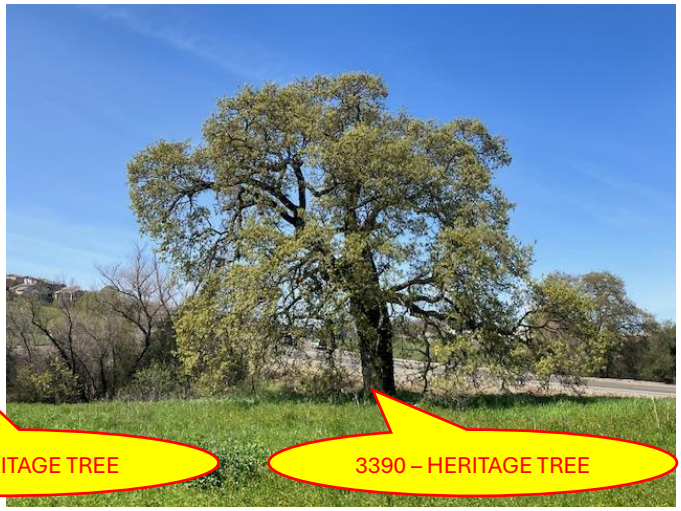






This tree can be saved since it is “at grade” on the parking lot. Please see the section on drainage and grading.



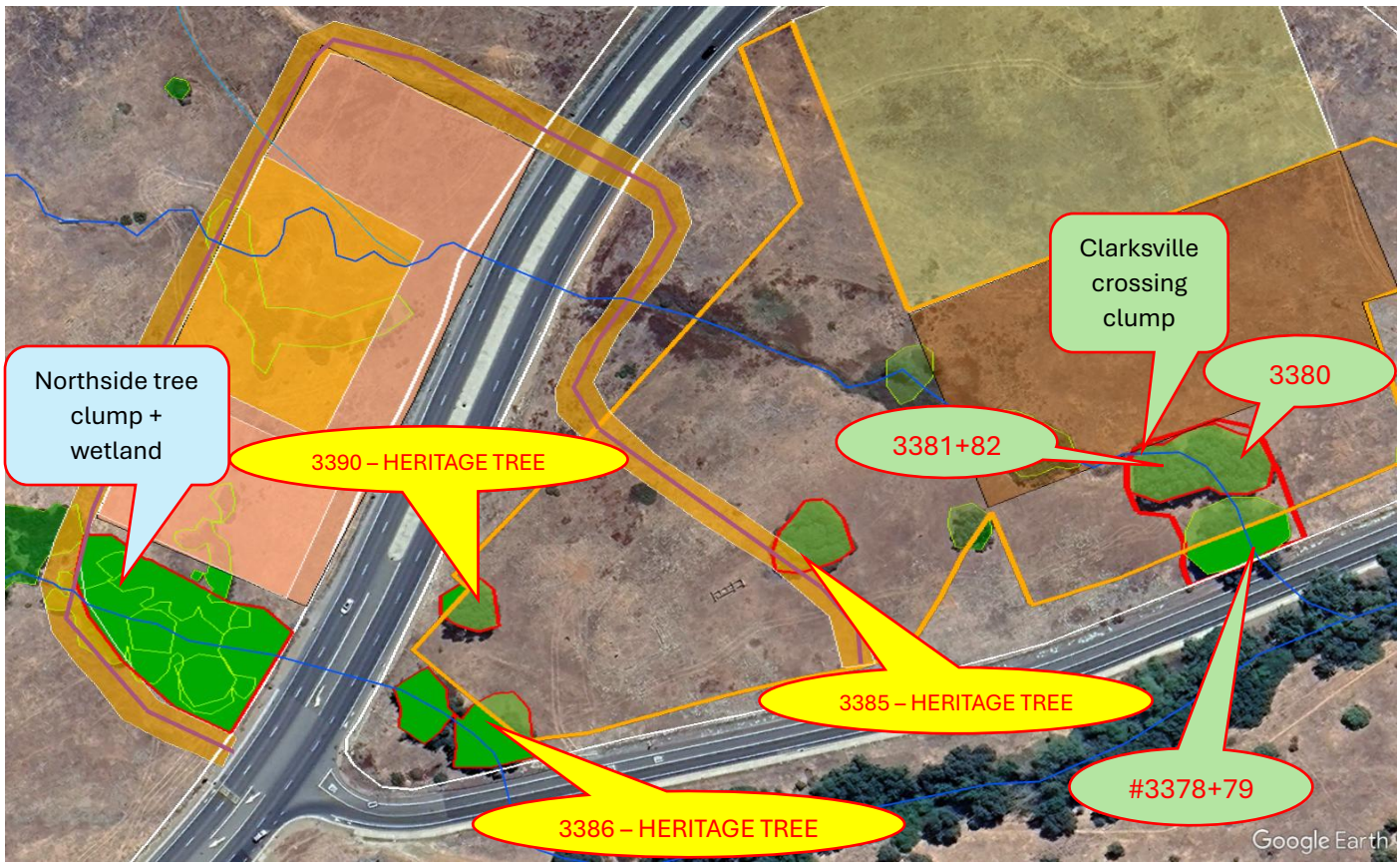


These trees can be saved since they are on the periphery of the parking lot.



This tree is slated to be removed because there is significant grading to be done around it. I am sure a good engineer can save it with some judicious grading. The tree is already in a retention pond, why then remove it?

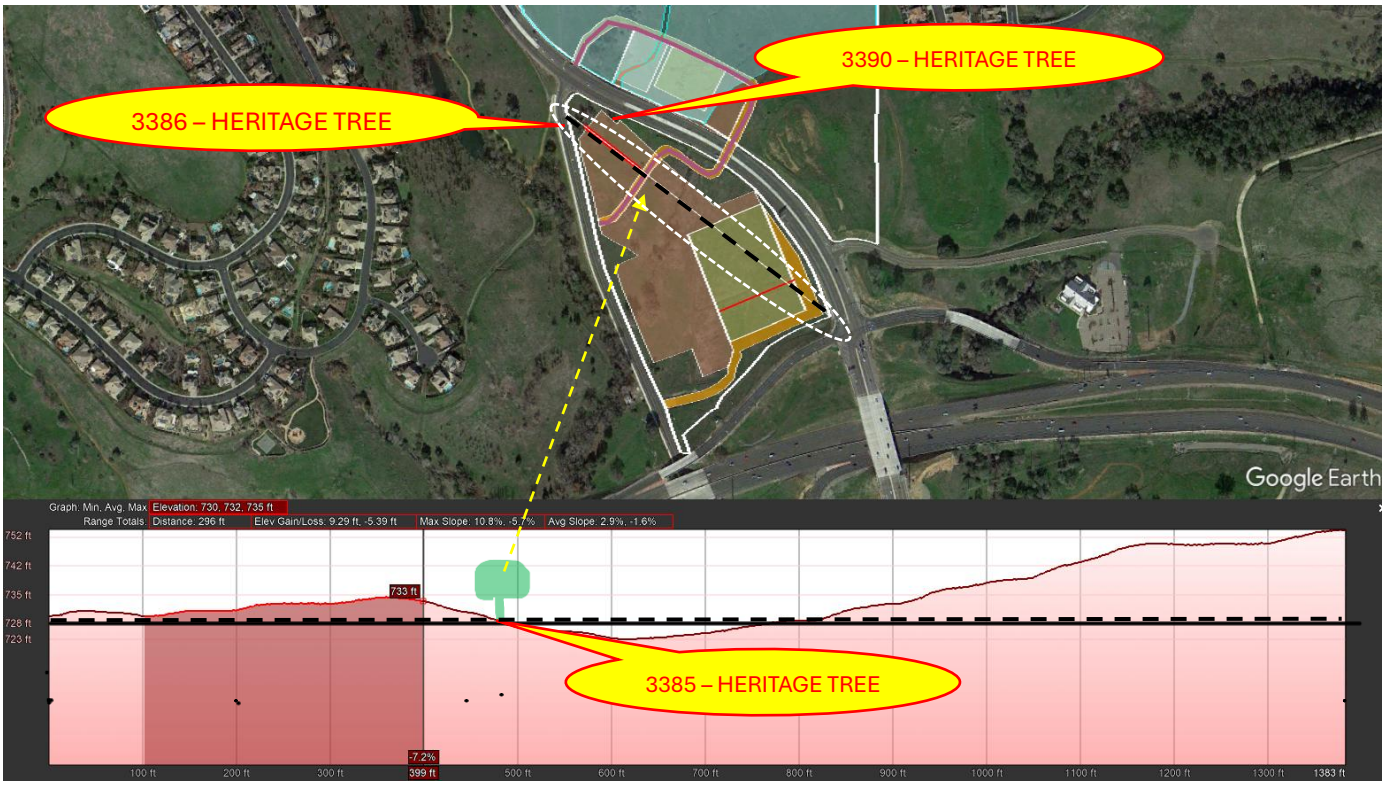
Applicant's tree removal program

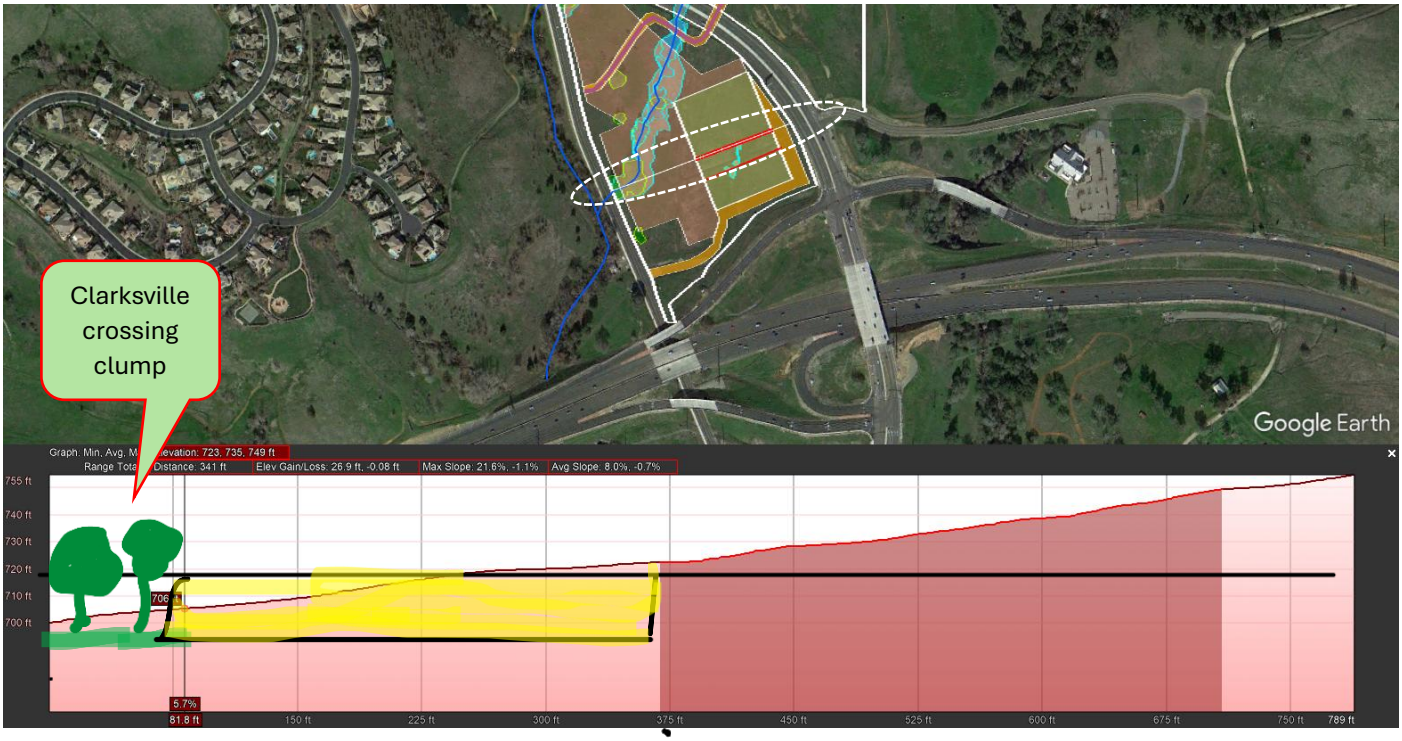


I see - although not clearly given the highly reduced contour and site grading map- that virtually the entire site is to be graded to a 728-foot base with the surface parking declining slightly from there. The analysis shows that the placement of the heritage oaks is such that they can all be avoided – albeit with a dose of skillful grading – along with other oak trees at the periphery of the main parking lot and those adjacent to Clarkesville Crossing.

The concept of mitigating with "In lieu fees" is available to a developer for trees that cannot be avoided and thus removed. "Avoidance" is the key word here. Apparently, the applicant makes no effort to avoid removal of all oak

trees but cites the Hellix Environmental's report as a basis for paying in lieu fees totaling $101,884 … a cheap way out!





<u>Oak Tree Mitigation</u>:

As in Helix Environmental Planning's November 10th letter states: "*Currently, mitigation is expected to be fulfilled through the payment of in-lieu fees. Since more than 50% of the existing oak woodland will be removed, impacts to oak woodland must be mitigated at a ratio of 1.5:1. Table 3 summarizes the mitigation fees based on the ORMP. Table 3 MITIGATION FEES Oak Resource Impact Mitigation Ratio Fee (per trunk inch) Total Fee Oak Woodland 0.35*

acres 2:1 $8,285 $5,800 Individual Oak Tree 99 cumulative inches 1:1 $153 $15,147 Individual Oak Tree Stockpile 55 cumulative inches 1:1 $153 $8,415 Heritage Tree 48 cumulative inches 3:1 $459 $22,032 Heritage Tree Stockpile 110 cumulative inches 3:1 $459 $50,490= ***TOTAL $101,884."***

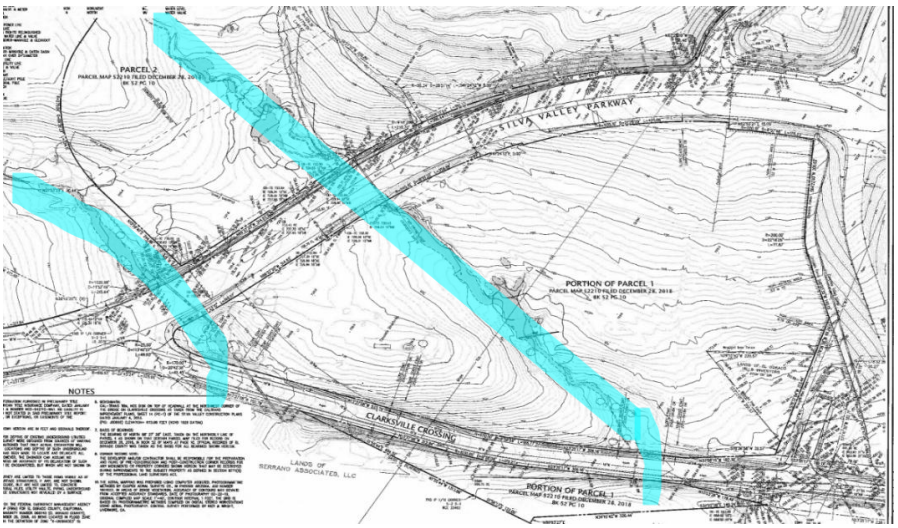
In short, the applicant never even tries to mitigate "on site" as I have suggested - all be it in sketch format - thus saving most of the oak trees by incorporating the them into the parking lot and landscaping easements. With a bit of clever engineering and grading – and desire – COSTCO can avoid removing all heritage oak trees and save a handsome clump of slightly smaller oak trees immediately adjacent to the drainage culvert at the Clarksville Crossing Road.

Concluding comment: The applicant should be required to present an on-site oak tree avoidance plan to avoid the removal of oak trees # 1390, 3386/85/84/82/81/80/79/78. The Helix Environmental Report should not be considered a "plan" but a mere in lieu fee calculation, no more.

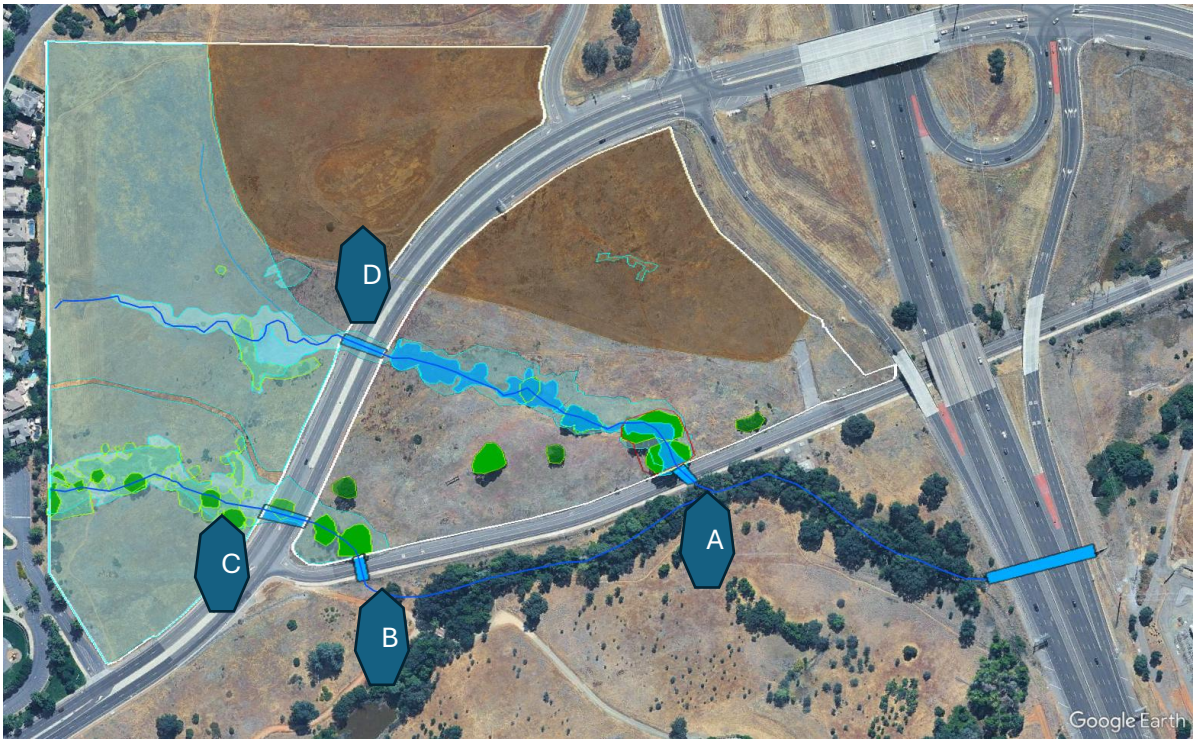


DRAINAGE

As a foreword to this section, my comments are based on experience on a large project impacting the development runoff to the Auburn Ravine in Lincoln. Below, the two main drainage areas (colored blue)



Drainage areas and culverts.



Project Buildout

My contention is that a drainage plan should focus on both north and south parcels because they are inextricably linked. I respectfully suggest that, because the runoff at buildout from the northern tract, in addition to the southern site's runoff as proposed, both peak flows will probably overwhelm the culvert at point "A" notwithstanding the retention sites incorporated in the actual development plan.





Culvert "D" in very bad shape and about **3 feet in diameter**.

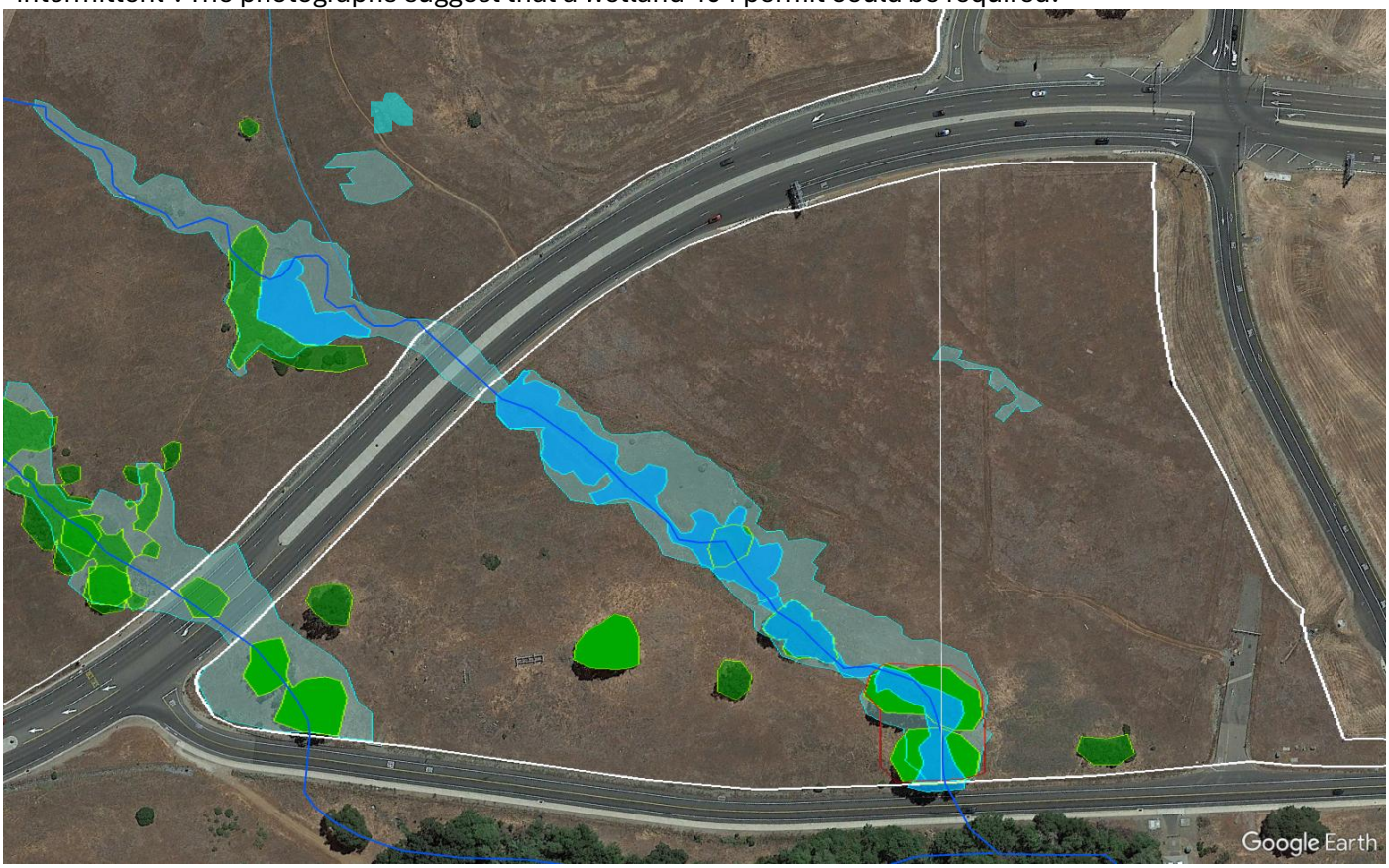
Observation: The engineers placed three "storm water treatment planter(s)" – ponds – to retain the project's storm water runoff on the south tract. The northern tract has a 500.000 square feet drainage area at present that currently

drains to culvert "D" that when one adds the runoff from the developed project (i.e. paved surface) to the south culvert "A" might well fail, particularly if the entire COSTCO tract were developed as shown above (as an example).

DEIR Comment: A comprehensive drainage plan of the North and South tracts should be required to mitigate the drainage impact at buildout because the two drainage areas are inextricably linked. The current drainage plan for the proposed project could be insufficient*. (*Note: This was the conclusion regarding the Aburn Ravine).

WETLAND AREA

If the Corps. of Engineers proverbial "*toothpick theory*" holds – i.e. if it floats - then the water way is classified as "waters of the United States", falls within the Corp's jurisdiction and Section 404 of the clean water act. It was observed that a toothpick could float in several parts of both drainage ways although both could be considered as "intermittent". The photographs suggest that a wetland 404 permit could be required.



The above map was photo interpreted by me from Google Earth aerials shown in the Appendix.

The delineations are judgmental on my behalf, but again, not without experience in dealing with "wetland impacts". The lighter blue indicates the extent of wetland area, the darker blue shows areas of greater intensity of wetland.

I shall refrain from giving square feet measurements for the areas shown because this is not a wetlands delineation, but a mere suggestion that the County determine if a Corps. Engineers 404 permit might be required.

DEIR Comment: The County require a wetland delineation map to be provided by the Applicant.

I present a visual assessment to support my comment.

Current conditions of the intermittent stream at Clarksville Crossing





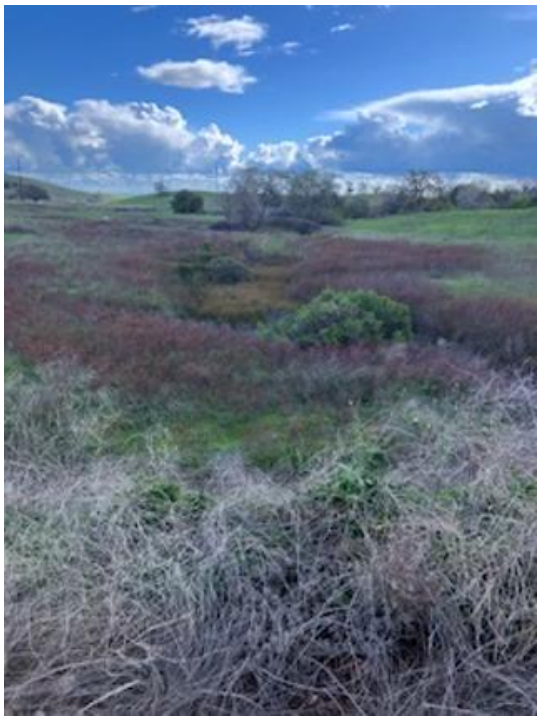
Waters of the United States according to the Corps of Engineers?



South tract: swale looking north










Above; springs in the swale area




Swale grasses























Wetland views of the northern tract (gas station site)

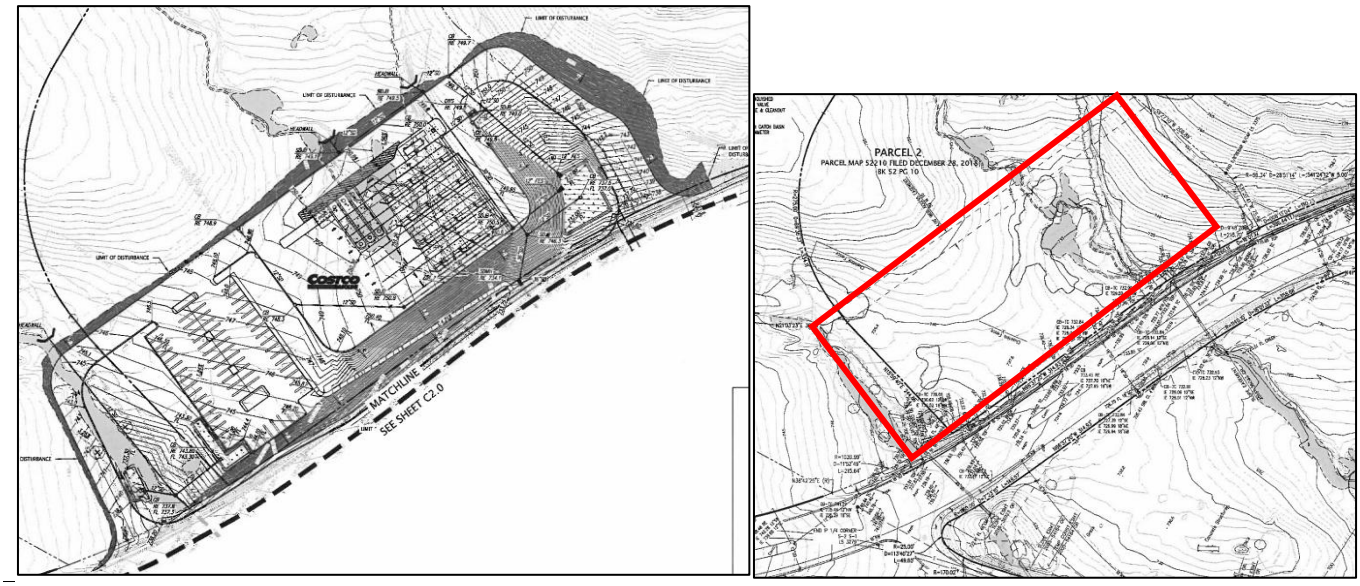


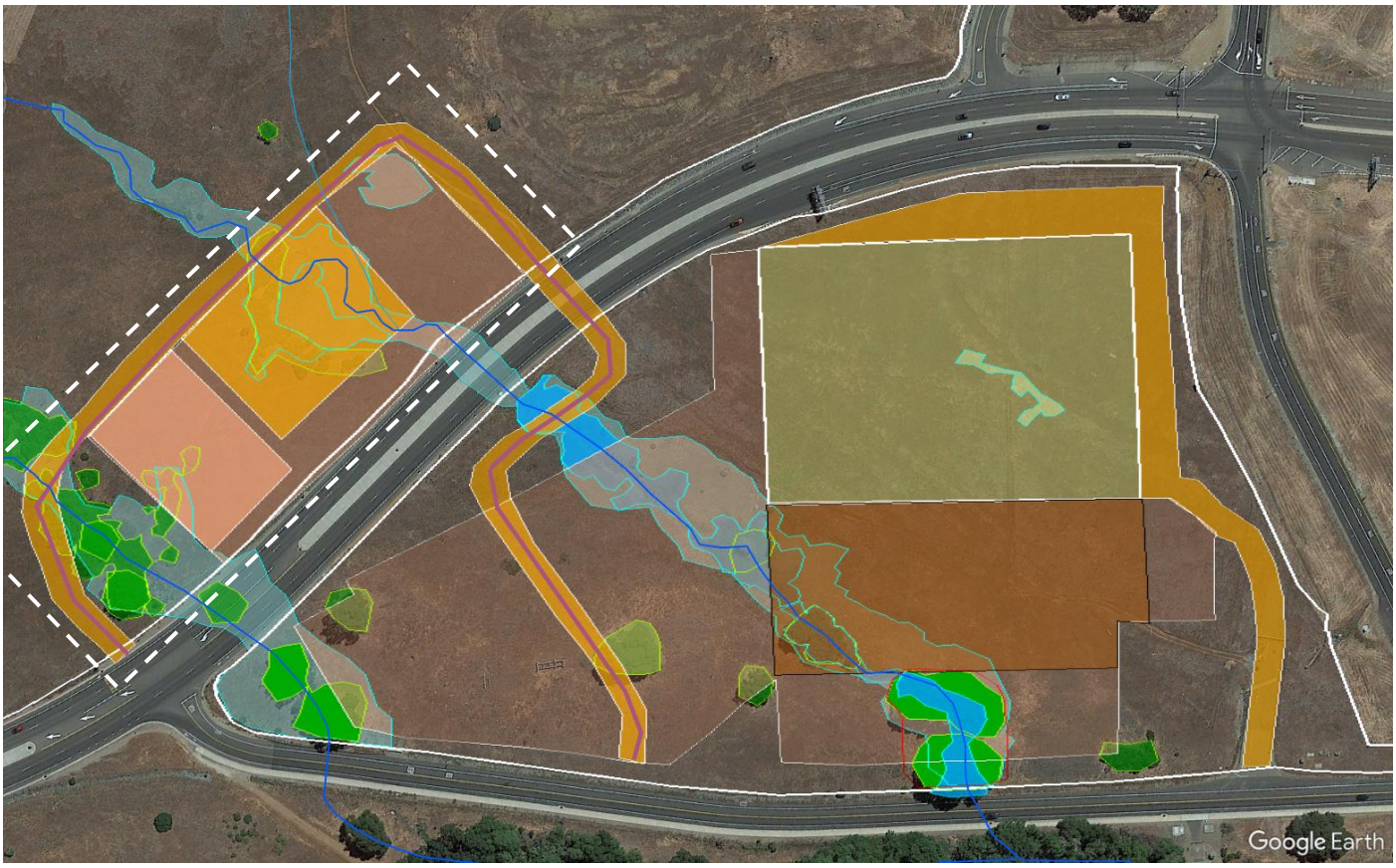






GAS STATION



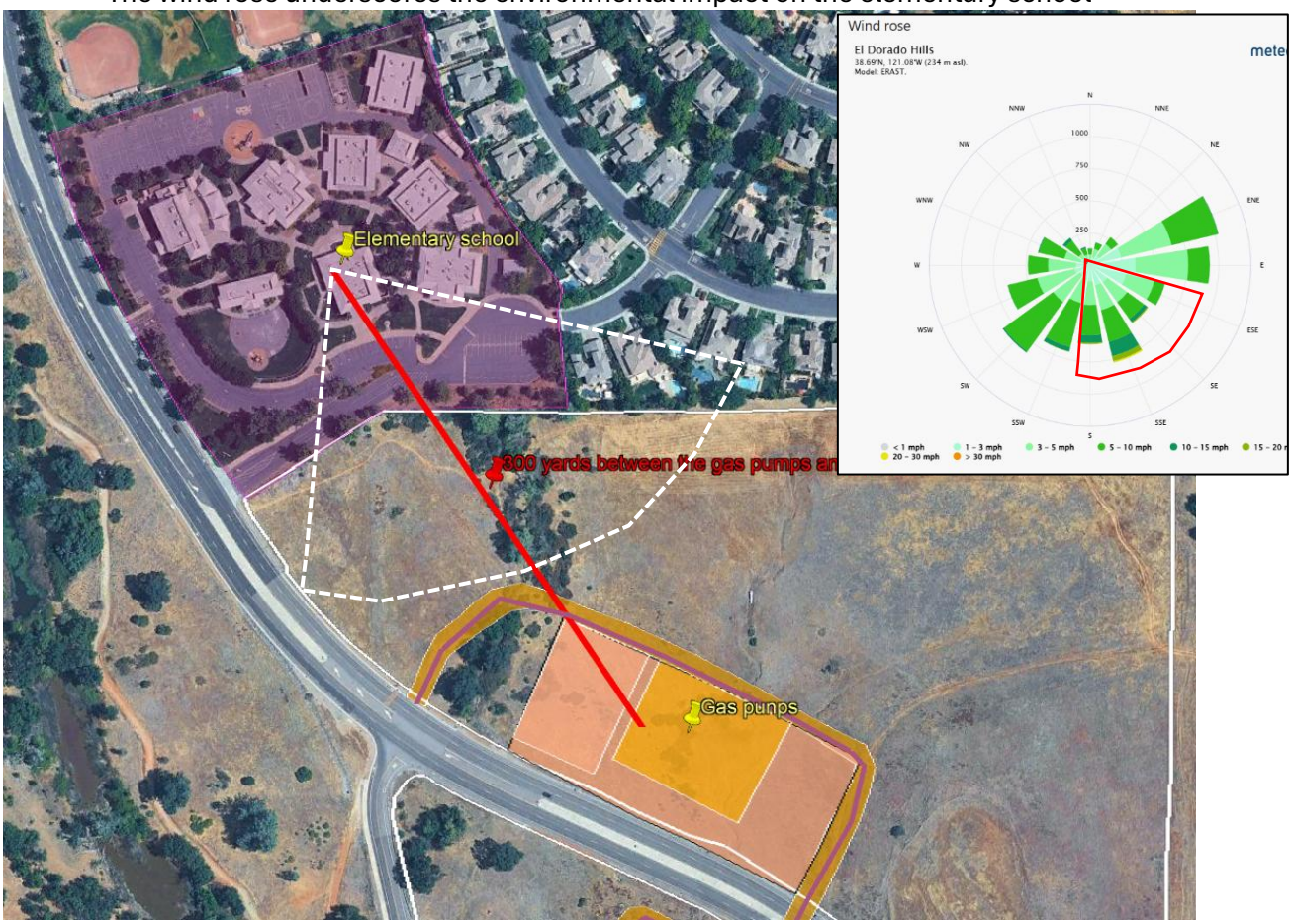


A very big site, with a big environmental impact.



Approximately 4.5 acres shown

The wind rose underscores the environmental impact on the elementary school



Observation: the elementary school is impacted by the COSTCO gas station.

Site Comparison:

The purpose of comparing local COSTCO sites is to gauge the importance of a gas station in their development.

EDH COSTCO / FOLSOM COSTCO / MISSOURI FLAT COSTCO

	EDH	Folsom	Missouri Flat
Gross acreage (Acres)	22.00	17.40	19.70
Warehouse (sq.ft.)	155,429	151,544	134,916
Parking area (surface)	**366,971**	**329,047**	**274,166**
Underground parking (s.f.)	**106,000**		
Gas station (sq.ft.)	**195,992**	**35,596**	**16,507***
Note: (*) Fast Food site			
Ratio: Parking sf / Warehouse sf	3.04	2.17	2.03

All measurements were taken with Google Earth algorithms.
EDH site includes 4.5 acres of the gas station. Southern tract is 17.1 acres

Comparison between EDH, Folsom & Missouri Flat COSTCO sites:

- All sites are virtually the same in size both in gross acreage and warehouse size. (Missouri flat has large areas in open space).
- EDH COSTCO has 41% mor parking area than Folsom. Missouri Flat would appear significantly under parked …. or EDH would be significantly over parked. Which?
- Parking area ratio compared to warehouse surface area at 3.04 is significantly more in EDH than in the other two sites

EDH COSTCO



FOLSOM COSTCO

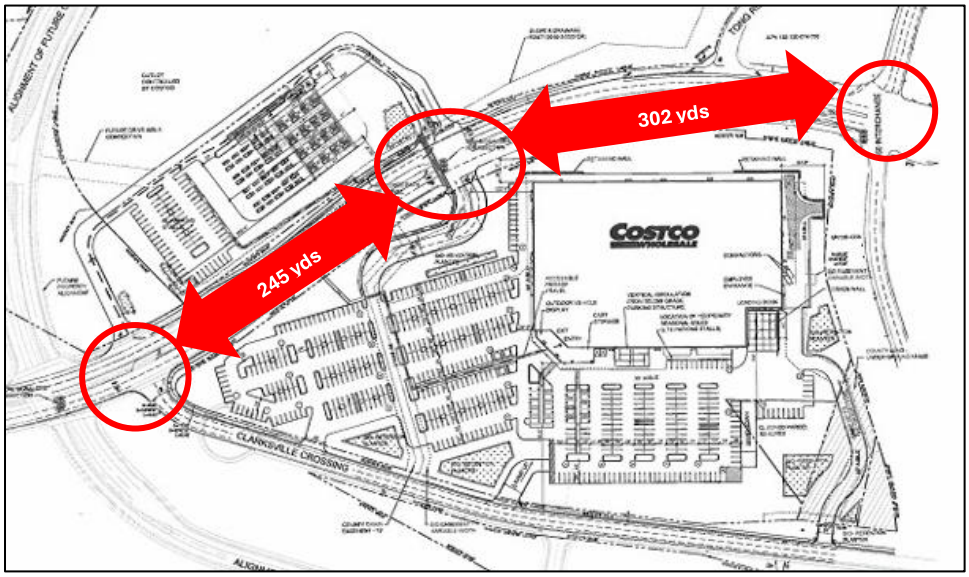


MISSOURI FLAT COSTCO



Observations regarding the EDH-COSTCO gas station.

- Are gas stations indispensable to a fully functioning COSTCO site? Is it part of COSTCO's core business?
- The EDH gas station site occupies 160,396 sq. ft. (4.5 acres) compared to Folsom's at +/- 36,000 sq. ft. That is, EDH gas station would be 5.5 times greater than Folsom COSTCO. Missouri flat has no gas station although the site has significantly more area in which to accommodate one.
- Observation: Obviously in the Missouri Flat area a COSTCO gas station is not critical and in Folsom a small one appears to be adequate.
- According to Web, Costco has 692 stations countrywide and pumps 17 million gallons / day. Therefore, on average, one could expect EDH site to pump nearly 25000 gallons per day. Therefore, on average the EDH gas station shall have a considerable impact of noxious gases on the elementary school less than 300 yards away.
- As an alternative, there are no less than three gas stations less than a mile away (Hy.50 and EDH Blvd); does the EDH community need another?
- From a traffic circulation viewpoint, the main entrance / exit from the COSTCO warehouse on to Silva Valley Parkway will have to be signalized. A signal already exists approximately 302 yards away at the Silva Valley Parkway and Hy. 50 interchange and another 245 yards to Clarksville Crossing another might be necessary. No doubt the required traffic study for this site will determine the level of signalization. A back of the envelope estimate of the average traffic generated by the EDH-Costco gas station could be about 1700 cars per day (25,000 / 15 gal/ car= 1666 cars / day). This suggests that the main crossing will likely be overwhelmed by backups and wait-time. Silva Valley Parkway is already heavily trafficked.



Conflict areas: traffic and wetland



DEIR Comment:

- From an environmental standpoint it appears that EDH-COSTCO gas station shall have considerable impact of noxious fumes wafting over to the elementary school endangering student body health.
- From a circulation viewpoint, cross traffic from the warehouse to the gas station on Silva Valley Parkway could heavily impact the signalization at the main entrance.
- The site itself is on a wetland in two places.
- If EDH Costco is slated to have a higher proportion of parking area in comparison to other COSTCO sites, this suggests that if a gas station is required, a much smaller one – as Folsom's – could be accommodated on the southern parcel site in lieu of surface parking.
- Alternative gas stations: There are three other gas stations less than a mile away.
- This gas station is redundant from a community standpoint.

Conclusion: The proposed gas station on the northern tract poses considerable avoidable impacts. It should not be where it is situated. Or, if COSTCO requires one, a smaller station could be incorporated in the southern tract.

From: Katherine Pechetti
To: EDHCostco@edcgov.us
Subject: Application Nos.Planned Development Permit PD15-0001
Date: Thursday, March 6, 2025 10:51:52 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

To whom it concerns:

This plan as presented should absolutely be denied. My family and I are new residence to the Serrano Community after spending the last 49 years in the same home and community. Moving to the area was was not an easy decision for us. A development such as this does not belong in the backyards of the residence who live here. No one should even consider such a development in the backyard of an elementary school!!! This project will only hurt the value of the beautiful homes and community El Dorado Hills Serrano offers.

Our family were unlikely candidates for this neighborhood; as a matter of fact we were not even considering the area feeling it was not the kind of area we were looking for. Fortunately for us after months looking we found the perfect fit for our needs.There is no question this project would affect the environment of this neighborhood and the quality of lives of those of us who live here.

I understand "progress and development"" one reason we wanted to relocate here but this is NOT the project to develop this site. It is time for El Dorado County and Costco to look in a different area closer to commercial business.

This permit should be denied and scratched for good

From: Carrie McGann
To: EDHCostco@edcgov.us
Subject: ATTN: Cameron Welch / Senior Planner El Dorado County / EDH Costco
Date: Monday, March 31, 2025 11:46:10 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear Cameron,

I am writing to let you know that I very strongly ***oppose*** having a new Costco built in the proposed space on Silva Valley Parkway for several reasons. For one, traffic on East Bidwell and El Dorado Hills Blvd can get very congested and this is a problem. I would not like to see Silva Valley Parkway turn into a traffic nightmare for people trying to get to and from their homes in the nearby residential areas of Serrano.

Also the proposed site is just too close to Oak Meadow Elementary school. With kids riding their bikes and e-bikes around the area, I have concerns for their safety with the increased traffic that a new Costco would bring.

It seems that a Costco in this area would draw many people from outside our area, which could have a risk of increased crime impacting the nearby residential areas. Even though those residential areas are gated, access is easy to obtain if someone just follows a resident through the gates.

With the fueling station, there will be lines of cars, truck and RV's many from outside our area as they travel along Highway 50. This is another contributor to increased traffic that would congest Silva Valley Parkway.

Increased noise is also a factor as it would affect peaceful living in the nearby residential areas of Serrano.

As a Serrano resident, I hope you will consider other alternatives for places to build a new Costco that are not so close to a major residential area.

Thank you,
Carolyn McGann

From: Kinnison, Michael
To: EDHCostco@edcgov.us
Subject: BAN the proposed new EDH Costco
Date: Wednesday, March 19, 2025 3:09:44 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

We do not need an EDH Costco. It will bring too many non-residents to EDH that will cause too many transients, along with, too much transient and unwanted vehicle traffic.

Thank you,

Michael Kinnison
916-705-3835 Cell
818-587-5940 Fax
mkinnison@thezenith.com

********** NOTICE: This e-mail, including attachments, contains information that may be confidential, protected by the attorney/client or other privileges, or exempt from disclosure under applicable law. Further, this e-mail may contain information that is proprietary and/or constitutes a trade secret. This e-mail, including attachments, constitutes non-public information intended to be conveyed only to the designated recipient of this communication, please be advised that any disclosure, dissemination, distribution, copying, or other use of this communication or any attached document is strictly prohibited. If you have received this communication in error, please notify the sender immediately by reply e-mail and promptly destroy all electronic and printed copies of this communication and attached documents.
****

March 29, 2025

El Dorado County Development Services Department – Planning Services
Attention: Cameron Welch
2850 Fairlane Court
Placerville, CA 95667

Subject: Opposition to Proposed Costco Development – Request for Alternative Site Consideration

To The Planning Commission Members:

I am writing as a 7-year homeowner residing in Serrano regarding the proposed Costco project. I strongly urge the Planning Commission to reconsider the location of this development, as its scale and impact are incompatible with the surrounding residential and elementary school community. Costco's 165,000-square-foot footprint, along with a high-traffic gas station, is inappropriate being adjacent to detached single-family homes and an elementary school. The Serrano development was carefully designed to provide a semi-rural atmosphere with minimal artificial lighting and a preserved natural setting—an environment that will be entirely disrupted by this project. Homeowners, including myself, chose to live in Serrano for its peaceful, community-centered character, and placing a Costco in the middle of it fundamentally undermines this vision.

Beyond the aesthetic and environmental concerns, the logistical impact on traffic and safety cannot be ignored. The significant increase in congestion, particularly near Oak Meadow Elementary School, raises serious concerns for child safety and pedestrian access. While I understand the County's interest in the potential tax revenue, the long-term negative effects on home values, traffic flow, and overall quality of life for residents must be given equal consideration.

Additionally, the anticipated noise and light pollution will be significant. The prospect of delivery trucks operating between midnight and 6:00 AM and the glare of a 24-hour parking lot will drastically alter the nighttime environment for local residents and wildlife. These disruptions are not minor inconveniences—they are fundamental changes that will negatively impact on our community's well-being.

I am also deeply concerned about the environmental and health risks posed by this development. The Draft Environmental Impact Report (DEIR) should thoroughly assess the increased emissions from both the heavy traffic and the gas station, particularly in relation to vulnerable populations, including children, seniors, and individuals with health conditions. As a 76-year-old senior with multiple health challenges, I am acutely aware of how air quality affects both short and long-term health. Those with compromised immune systems, including many in our community, could face serious risks due to increased pollution from this project.

The Planning Commission has a responsibility to prioritize the well-being of residents over corporate interests, specifically profits and greed. I strongly urge you to take a closer look at the negative impacts this project will have on our neighborhood and explore alternative sites that do not threaten the character, safety, and health of our community.

Thank you for your time and consideration. I trust you will make a decision that reflects the best interests of Serrano residents.

Sincerely,

Charlotte Anderson

Charlotte Anderson
4018 Reni Ct.
El Dorado Hills, California 95762
ctaknits@yahoo.com

From: Jacob Anderson
To: EDHCostco@edcgov.us
Subject: Citizen FOR Costco coming to El Dorado County
Date: Monday, March 17, 2025 7:42:50 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Quick note expressing my support for Costco coming to El Dorado County in El Dorado Hills.

Costco has proven itself a wonderful retail partner with reasonable operating hours, an exemplary employer, and tax revenue juggernaut. I am honestly confused why this is a controversial topic.

Please know the negative noise surrounding this issue is a very vocal, but minority group of the citizens of the community and county. The majority of the community welcomes a business like Costco…

As elected officials your charge is to do what is beneficial to the community under the law. Do what is right and approve Costco for the best for El Dorado county. Please do not let yourselves be intimidated by the vocal minority…

Jacob Anderson
1783 Lakehills Dr
El Dorado Hills, Ca 95762

916 704-4793

From: Elise Blaha Cripe
To: EDHCostco@edcgov.us
Subject: comment on Costco
Date: Saturday, March 22, 2025 7:17:50 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

hi there,

I am an El Dorado Hills resident and parent of two girls (11 and 9). I drive on Silvia Valley Parkway every weekday morning to take my older daughter to Rolling Hills Middle School. The traffic each morning is already backed up. I can only imagine what a Costco store and gas station will do to the situation.

I understand growth! I understand needing to meet the needs of a community. What we need is housing and honestly a chance for more small businesses. I am not against development of the area but if it has to be a Costco there should not be a gas station attached. There is a consistently empty gas station one exit later at El Dorado Hills Blvd. Adding a gas station right next to Oak Meadow feels like a noise and air pollution nightmare for the kids at that school.

Please consider a development project that adds something (housing! small shops! restaurants!) to our community.

thank you,
Elise Cripe

From:	Andrew Wong
To:	EDHCostco@edcgov.us
Cc:	bosone@edcgov.us; bostwo@edcgov.us; bosthree@edcgov.us; bosfour@edcgov.us; bosfive@edcgov.us; edc.cob@edcgov.us; hoa@serranoeldorado.com
Subject:	Comment submission regarding EDH 52 Costco PROJ21-0003 CUP-R21-0024 Z17-0004 P17-0007 S17-0017 PD15-0001 CUP23-0012 V22-0001 Project 20278 Development Plan
Date:	Sunday, March 16, 2025 10:59:45 AM

This Message Is From an External Sender
This message came from outside your organization.

Report Suspicious

Andrew Wong
1103 Terracina Dr.
El Dorado Hills, CA, 95762
andrewcw@umich.edu
(734) 657-1397
March 16, 2025

Cameron Welch
Senior Planner
EDHCostco@edcgov.us

Dear Mr. Welch,

I am writing to you as a concerned resident of El Dorado Hills, a devoted Costco shopper, a UC Davis Health Emergency Physician, and most importantly, a father of two young children. My 10-year-old daughter currently attends Oak Meadow Elementary School, where the proposed Costco gas station is planned to be built adjacent to the school grounds. I am deeply troubled by the significant health, environmental, and quality-of-life concerns this project raises.

After speaking with a friend who is an environmental engineer, we have confirmed that the prevailing wind patterns in El Dorado Hills blow from south to north for 11 out of 12 months of the year. This means that benzene and other harmful pollutants from the gas station would be directly blown onto the children's school. Benzene is a well-known carcinogen, and prolonged exposure can lead to severe health complications such as aplastic anemia, leukemia, and other blood-related cancers. Our children, teachers, and school staff, who spend a significant amount of time outdoors due to the school's open-campus nature, would be at constant risk.

Moreover, the groundwater in our area is only 10 feet below the surface. Even a minor fuel leak could potentially contaminate our water supply, posing a significant threat to our community's health. The cost of cleanup would be very significant. The risks involved are too great, and the potential consequences too severe.

In addition, the planned double-level parking lot raises further concerns. Residents in Germantown, MD, have reported disastrous congestion caused by a similar structure at their local Costco. This has led to increased traffic and pollution in the area. The infrastructure

around Oak Meadow is not equipped to handle such increased traffic flow, exacerbating already challenging school drop-off and pick-up conditions.

Beyond health and traffic concerns, there is a significant ecosystem at the proposed site with frequent wildlife sightings. The construction would disrupt this habitat, affecting local biodiversity. Additionally, the construction would increase noise and disruption for students and teachers during school hours and potentially release naturally occurring asbestos during excavation.

Furthermore, the proposed gas station threatens the long-term desirability and quality of life in El Dorado Hills. It is reasonable to assume that families would be less likely to settle in a community where schools are situated next to industrial developments. Oak Meadow Elementary School is a high-quality school, recognized with numerous State and National awards, and also hosts a charter Mandarin Immersion School that attracts families nationwide. Having a gas station next to this school would tarnish its reputation and desirability for people to attend. The argument that Costco will increase property values does not hold when considering its proximity to residential areas and a school.

Costco has always been a brand that supports local communities, as evidenced by the Folsom branch's efforts to raise money for Children's Miracle Network and UC Davis Health Children's Hospital. However, constructing a gas station next to an elementary school contradicts Costco's commitment to community health.

While I appreciate the years of planning that led to the arrival of Costco in El Dorado Hills, I kindly request a reconsideration of the location, particularly the placement of the gas station. A Costco store without a gas station would still be a valuable addition to our community. However, prioritizing the health and safety of our children should be our top priority.

Thank you for taking the time to consider this appeal. I am confident that your decision will align with Costco's mission to support and protect the communities it serves. Please do not hesitate to contact me if you have any questions or require further information.

Sincerely,

Andrew Wong
Professor
Department of Emergency Medicine
UC Davis Health

Cc:
Greg Ferrero
George Turnboo
Brian Veerkamp
Lori Parlin
Brooke Laine
Serrano El Dorado Owners' Association HOA Board of Directors
El Dorado County Board of Supervisors Clerk of the Board

From: James Doucette
To: EDHCostco@edcgov.us
Cc: Lupita Doucette; rewindo@yahoo.com
Subject: Comments on the Draft Environmental Impact Review for the EDH 52 - Costco Project (PROJ21-0003)
Date: Thursday, March 27, 2025 9:22:04 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

James & Edith Doucette
3726 Aliso Drive
El Dorado Hills, CA, 95762
james.doucette@outlook.com
805-234-0208

3/26/2025

Cameron Welch, Senior Planner
County of El Dorado Planning and Building Department
2850 Fairlane Court, Building C
Placerville, CA 95667
(530) 621-5355
EDHCostco@edcgov.us

Subject: Comments on the Draft Environmental Impact Review for the EDH 52 - Costco Project

Dear Mr. Welch,

We are writing to provide comments on the Draft Environmental Impact Review (EIR) for the EDH-52 - Costco Project (PROJ21-0003 CUP-R21-0024 Z17-0004 P17-0007 S17-0017 PD15-0001 CUP23-0012 V22-0001 Project 20278) to develop a bulk mega store with a double-decker parking lot and a 32-pump fueling station, located directly adjacent to Oak Meadows Elementary School in our neighborhood.

As a concerned resident, I would like to highlight several significant issues related to traffic, noise, and light pollution that this development could bring to our community, particularly its proximity to a school and residential areas.

1. Traffic Impact:
The development of a Costco mega store with extensive parking and fueling facilities is likely to result in an overwhelming increase in traffic. The current road infrastructure and number of lanes in this area are inadequate to support the anticipated volume of vehicles. Specifically:

- The influx of shoppers, delivery trucks, and vehicles using the fueling station will significantly clog local streets.

- The bottleneck created by the lack of additional lanes could lead to dangerous congestion, particularly during peak hours when parents and children are arriving and leaving the nearby school.

- Increased traffic will likely exacerbate the already challenging conditions around the school during the start and end of school hours, jeopardizing the safety of pedestrians and young students.

2. Noise Pollution:
Extended operating hours for the proposed store and fueling station will result in disruptive noise levels, violating existing light and noise ordinances in the area. Specifically:

- The noise from a 32-pump fueling station, with frequent vehicle arrivals and departures, will contribute to ongoing disturbances during late-night and early-morning hours, affecting residents' quality of life.

- Trucks arriving for deliveries, particularly early in the morning or late at night, could create significant noise pollution as they unload goods.

- The operation of the double-decker parking structure, with the constant movement of vehicles, will add to the overall noise in the neighborhood.

3. Oversized Signage:
In addition to the traffic and noise concerns, the applicant has submitted a proposal for a Signage Variance to provide for an oversized sign for the mega store. This sign will contribute to the overall visual impact and exacerbate the light pollution problem, particularly in the evening and early morning hours. An oversized sign, especially one illuminated for extended hours, will further disrupt the residential atmosphere of the neighborhood and likely violate existing local ordinances on signage and light pollution.

4. Impact on the School:
The proposed location of this development, adjacent to an elementary school, raises serious concerns regarding the safety and well-being of children:

- Increased traffic flow around the school during peak times could pose a significant risk to student safety, especially for those walking or biking to school.

- The noise generated by the store's operations, particularly in the early hours, could disrupt the learning environment and affect students' concentration and overall health.

5. Light Pollution:

While not directly addressed in the review, the presence of extended operating hours and outdoor lighting for the fueling station and parking structure will likely lead to significant light pollution, affecting the residential areas and possibly violating local ordinances. The lighting could interfere with residents' ability to enjoy their homes and negatively affect their well-being.

6. Lack of Need for Another Costco Location:
Furthermore, the proposed Costco location is only approximately 2 miles away (straight-line distance) from the nearest existing Costco. This proximity raises the question of necessity for such a large-scale development in an already well-served area. Given the existence of an established Costco close by, this new location seems redundant and will only exacerbate the issues outlined above, including unnecessary traffic congestion and further strain on local resources.

Conclusion:
In conclusion, the proposed Costco mega store and fueling station present substantial concerns related to traffic congestion, noise pollution, light violations, the oversized signage, and the lack of need for another Costco in the area. I respectfully urge the Planning Advisory Committee to reconsider this development or propose modifications to mitigate these issues, such as:

- Expanding traffic infrastructure to accommodate the expected volume of vehicles.
- Implementing stricter noise and light control measures, especially during off-peak hours.
- Ensuring additional safety measures around the school to protect students and residents.
- Reevaluating the Signage Variance for the oversized sign proposal to minimize its impact on the surrounding community.
- Reassessing the necessity of a second Costco in such close proximity to the existing location.

Thank you for your time and attention to this important matter. I look forward to hearing back from the advisory committee regarding potential actions to address these concerns.

Sincerely,

James & Edith Doucette
El Dorado Hills Residents, 5 years

From:	Minkel, Peter G.@Waterboards
To:	EDHCostco@edcgov.us
Cc:	Yang, Houa@Waterboards; WB-RB5S-chron; state.clearinghouse@opr.ca.gov; Pat.Angell@ascent.inc; mokuma@costco.com
Subject:	COMMENTS TO REQUEST FOR REVIEW FOR THE NOTICE OF PREPARATION FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT, EDH COSTCO PROJECT, SCH#2021080402, EL DORADO COUNTY
Date:	Monday, March 31, 2025 12:20:55 PM
Attachments:	2021080402 (2024)_EDH_Costco.pdf

This Message Is From an External Sender
This message came from outside your organization.

Report Suspicious

Cameron,

Enclosed are our comments for your Project. We want the permits required in the record for planning purposes. Please email if you have any questions.

Pete

Peter Minkel
401 Water Quality Certification and Dredging Unit
Central Valley Regional Water Quality Control Board

From: Danny Loera
To: PL-EDH Costco Project
Subject: Comments regarding Costco on Silva Valley Parkway, EDH
Date: Monday, March 31, 2025 11:55:54 AM
Attachments: image.png

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

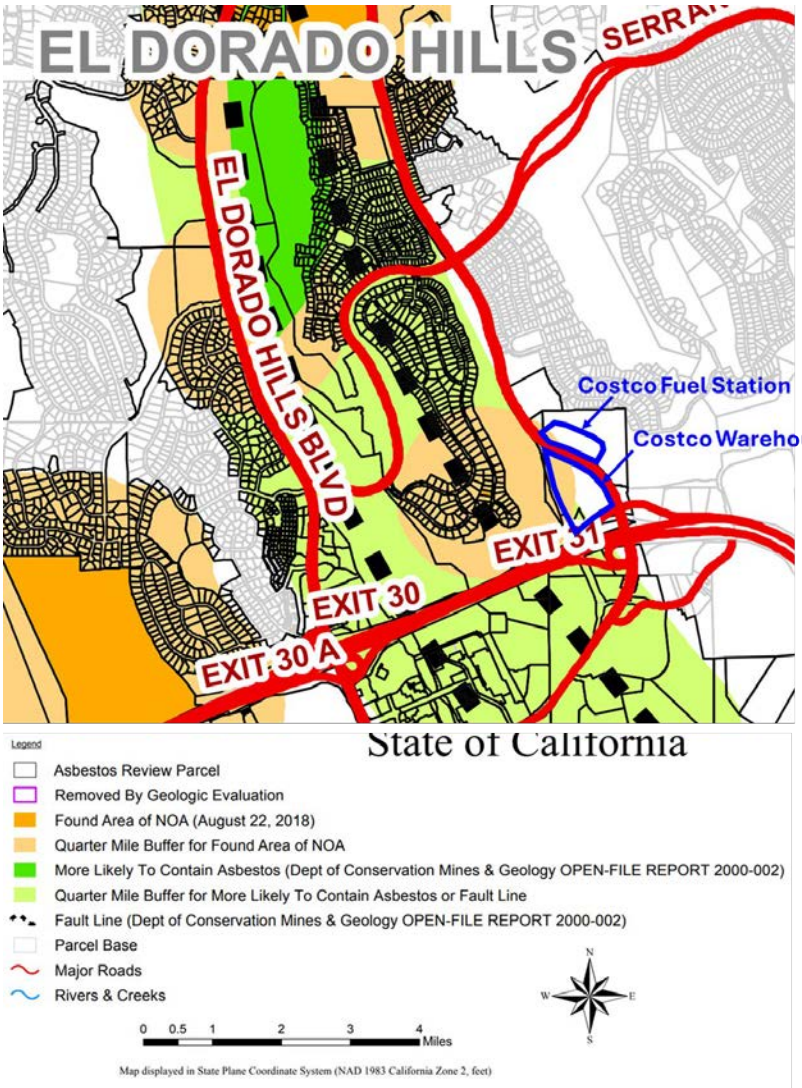
Good morning Mr. Welch,

I am writing to let the Planning Commission know that I oppose plans for the construction of a Costco warehouse and fuel station on Silva Valley Parkway (south of Oak Meadow Elementary School and north of Highway 50). I am a current resident of Serrano and my family and I live in the neighborhood just NE of the planned Costco sites. My children attend Oak Meadow Elementary School. **My wife and I are both geologists and will be petitioning the U.S. EPA to conduct a follow-up assessment of naturally occurring asbestos (NOA) that includes Costco's sites and the area surrounding Oak Meadow Elementary school. We will also be coordinating with community members to gather signatures in support of this petition to the EPA.**

I have the following concerns and comments regarding the planned construction of a Costco warehouse and fuel station on Silva Valley Parkway:

- I am particularly concerned with the proximity of the planned warehouse and fuel station relative to Oak Meadow Elementary School. The addition of the warehouse and fuel station will bring a significant increase in traffic (both vehicles and people) to the general area. Silva Valley Parkway already experiences congestion during drop-off and pick-up windows associated with school hours. Traffic is typically heavy and backed up in the right lane beginning at the driveway entrance into Oak Meadow and extending for several hundred feet south, essentially disrupting the flow of northbound traffic on Silva Valley Parkway. The plans for Costco's fuel station indicate that the entrance and exit will be a right in and a right out, which will further compound the congestion around Oak Meadow. The extra traffic associated with Costco's facilities will essentially be directed northbound on Silva Valley Parkway and in order for those vehicles to head back in a southbound direction, they will need to either make a u-turn at Serrano's gated entry to Entrada Drive (a dangerous maneuver) or proceed up to the intersection at Serrano Parkway.
- The addition of a Costco warehouse and fuel station would present an increased safety/security risk for the students and staff of Oak Meadow. The school does not have a fence surrounding the campus. More people in the general area means an increased probability of unauthorized individuals entering school grounds when children and staff are present. Protecting the children of our community should be our number one priority.
- Portions of the proposed sites for Costco's warehouse and fuel station lie within a quarter mile radius of found naturally occurring asbestos (NOA). Additionally, a portion of Costco's proposed warehouse site lies within a quarter mile buffer of a fault line and is therefore more likely to contain NOA. As the county is well aware, in 2004, the U.S.

EPA conducted an investigation of several sensitive locations (schools, park) in El Dorado Hills to "assess the potential for exposure from naturally occurring asbestos present in soils that have been disturbed". As provided in the EPA's summary of their findings, the EPA stated, "Activity-based sampling through disturbing soils at schools and recreation areas within El Dorado Hills shows the presence of asbestos at elevated levels in air at breathing heights for children and adults." My wife and I are both geologists and are familiar with the risks associated with NOA. Even if there are no rocks/outcrops that contain NOA located within Costco's sites, it is still possible for NOA fibers to be present in the soil at Costco's sites. These NOA fibers would be sourced from hundreds of thousands of years of erosion of NOA-containing rocks in El Dorado Hills. The fibers would have been transported/distributed by wind and flowing water where they would eventually settle out and be incorporated into the soil in this area. **My wife and I will be petitioning the EPA to conduct a follow-up assessment of NOA that includes Costco's sites and the area surrounding Oak Meadow Elementary school. We will also be coordinating with community members to gather signatures in support of this petition to the EPA.**



Sincerely,

Danny Loera

From:	jons van dooren
To:	Joni
Cc:	bostwo@edcgov.us; bosthree@edcgov.us; BOS Four; bosfive@edcgov.us; david.spaur@edcgov.us; bob.williams@edcgov.us; jeff.hansen@edcgov.us; Cameron W. Welch; PL-EDH Costco Project; Karen.L.Garner@edcgov.us; rafael.martinez@edcgov.us; John Davey; tjwhitejd@gmail.com; washburn_bew@yahoo.com; John Raslear; debbie@eldoradohillschamber.org; tommyrae1234@gmail.com; Kathryn Henricksen; nstack@mtdemocrat.net; linneah@eldoradohillschamber.org; lramirez@thatchlaw.com; peakinc@sbcglobal.net; amfrith@gmail.com; Claudia Vidovic; marty abell; greatkazoo@aol.com; pkhoosh@berkeley.edu; Amanda Hansen; Erika & Robin Whitmore; Joe Gleichenhaus; jons van dooren; daphneyhewitt@gmail.com; gigiandgino@gmail.com
Subject:	My personal RECAP of last night APAC meeting whn it relates to Costco Concept Site Plan
Date:	Thursday, March 13, 2025 12:43:45 PM
Attachments:	Silva Valley Prkwy death bobcat.jpg

This Message Is From an External Sender
This message came from outside your organization.

Report Suspicious

Good afternoon ALL,

Well last night APAC meeting was loud and clear, ZOOM and audio worked as usual, so people could hear us! Personally I learned a lot again!

As BOS-One, Greg Ferrero, said in the beginning "Costco is Coming" and he shared with us that MANY El Dorado Hills residents are in favor of Costco, while that might be true, there is a comma to be placed behind that statement and that is, "NOT AT THAT LOCATION" and as time goes on more and more people are getting familiar, educated and talk about the project, bringing their concerns forward!

Well about last night: the word TRANSPARENCY came to the fore front many times, my question was "how about Costco's transparency?

Costco gas station was in at first, then was removed and now back in again, what is different know after it was removed last time? So what are they not telling us?

Then 68 parking stalls next to the proposed gas station "employee parking" well the employee entrance is on the far South side of the warehouse next to the loading dock and trash compacter, LONG WALK, why do we need these parking space, so what are they not telling us?

Costco Warehouse is 165.000 Sq.F. My findings online is that for Costco warehouse/retail, for every 250 Sq.F. You need 1 parking stall = 660 stalls, the current Costco Concept Site plans shows with their 2 story parking garage a total of 763 stalls, so what are they not telling us?

At EDHCOSTCO-North the supposed gas station, there might be more than 13 Acres of open land available, what are their intentions with that open land, so what are they not telling us?

Under notes: Solar panels will be included: but nobody knows were they go, on rooftops, separate construction or many be both, so why are they not telling us this, try to put on solar panels in Serrano with the HOA, not easy!

Then there is the traffic lights situation, one before Tong Road, one from the proposed gas station to the warehouse and back and eventually one at Country Club Drive, three is a charm! Come on! I taught those things are expensive!

Greg Ferrero mentioned they are talking for widening the road from Highway 50 behind Target (Town center), might as well go all the way to Scott Road to bring in people from the Folsom South project,! Well, I do not think that this will be ANY shorter drive for them, probably even much longer then going to their Folsom Costco.

On Monday's scoping meeting, unfortunately for the community NOT on Zoom and no audio in a packed room, a little 8 year girl spoke out who is attending Oak Meadow Elementary school, her concern was **air pollution and wildlife**, the little girl did not want the gas station next to the playground from the kindergarten nor the "Big CEMENT Box" now if every parent who has kids in that school and parents who had kids in that school and those who care about our future of the kids, they would tear up after hearing her talk, i know that several in the room did!
The young girl and other students will be in Oak Meadows for 4 years, the teachers even longer with lot's of outdoor activities, all next to a gas station!

I have attached a picture of a death BOBCAT that was found on Monday on Silva Valley Parkway, somebody was as kind to put it on the curve, this BOBCAT and several others are crossing Silva Valley Parkway on regular bases going to through and from the South to the North side, just a bad day for that Bobcat! Indicating some of the wildlife we are having here, besides the coyotes, countless birds, turkeys, frogs in the wetlands etc. etc.
Have video of the bobcat as well, but could not download it, sorry!

This Friday Greg Ferrero has his first meet and greet with the Costco people, wish him lots of strength and wisdom it that meeting!

Thank you all for your time ! Make yourself heard and share the message, because this is the community we call HOME!

Jons van Dooren

From: jons van dooren
To: Cameron W. Welch
Cc: PL-EDH Costco Project; Joni; bostwo@edcgov.us; bosthree@edcgov.us; BOS Four; bosfive@edcgov.us; rafael.martinez@edcgov.us; Karen.L.Garner@edcgov.us; John Davey; tjwhitejd@gmail.com; washburn_bew@yahoo.com; jjrazzpub@sbcglobal.net; debbie@eldoradohillschamber.org; linneah@eldoradohillschamber.org; lana@eldoradohillschamber.org; tommyrae1234@gmail.com; kathryn.henricksen@fsresidential.com; nstack@mtdemocrat.net; rsidentservices@edhcsd.org; lramirez@thatchlaw.com; Amy Frith; Claudia Vidovic; marty abell; greatkazoo; pkhoosh@berkeley.edu; Amanda Hansen; daphneyhewitt@gmail.com; gigiandgino@gmail.com; Erika & Robin Whitmore
Subject: My RECAP from last night Costco Scoping meeting or revised NoP of a DEIR
Date: Tuesday, March 11, 2025 11:48:01 AM

This Message Is From an External Sender
This message came from outside your organization.

Report Suspicious

Good morning Mr. Welch,

Thank you for putting together and inviting 1.000+ local residents, by mail, to attend the Costco Revised NOP of a DEIR, I think I can say that we had a vocal crowd of 120+ people, standing room only, who I felt where pretty much ALL against and concerned about the Costco Warehouse and the Costco Gas Station!
You and your panel hopefully took lot's of notes!

You might remember me from the person asking "***how can you put 10 Lbs. of potatoes in a 5 Lbs. Bag, it does NOT work"***?

First I like to point out the following:
I felt that we had a "Behind Closed Doors Meeting" do not know if that was intentional? No live microphone, so everyone in the packed room could barely hear the public comments and NO video feed, so for those who did NOT attend the meeting in person they could not watch it by Zoom and or re-wind to get themselves more familiar with the concerns and the process!
First Costco Scoping meeting this was ALL in place!
Personal I attended several meetings by Zoom on a live feed from the fire station!
Your letter was dated February 25. 2025 and the meeting was on March 10. 2025, plenty of time!

If ALL the parents of the Oak Meadow school kids, close by neighborhoods and non-neighborhood families could have heard the comments from the retired school principle, teachers, moms and to top it ALL off the 8 year young girl who is attending Oak Meadow who made the comment that she, ***"Did not want the gas station nor the Big CEMENT Box",*** those people who would care would tear up, I know some in the room did!

Pretty much each speaker was applauded for there comments, to frustration of one of your panel members, who asked the group many times to be silent after comments, "the room

should not be influenced", well that did not work very well!

Of the many take aways from this meeting, one stood out particular to me and that was from the attorney representing the gas stations in the area, With the Costco Gas station coming to town, that will be pretty much the end of all other gas stations in the area due to Costco gas prices.
Current Costco Regular $ 4.28 vs. average in EDH $ 4.95 about a 17 % savings, on a full tank of gas that is a lot. So Gas Station owners Buckle Up!
But is does not stop there!

- Tire shops Buckle Up
- Bakeries, Buckle Up
- Pharmacies Buckle Up
- Flower departments Buckle Up
- Optometrist Buckle Up
- Lunch restaurants Buckle Up, have you seen the crowd at the food court at Costco?
- Pizza and Pizzaria's Buckle Up, sporting fields with getting their pizza's from Costco, instead of local pizza restaurants etc.

All in your backyard! Why do we need to ruin current hardworking retail?
Btw. It was mentioned that opening hours of the gas station would be from 6:00 AM to 10:00 PM, even BOS-One took note of this!

Next, EDH might will turn into a ghost town, like so many other national cities where people such as Walmart came to town, NO retail left, while all retailers are already struggling in EDH to make rent on monthly bases!

The people who spoke at the scoping meeting spoke loud and clear, personally I wished that many more people could have seen or could have listened to the comments online at their leisure!

The responses would have been much more intense than Blackstone vs. Amazon on Latrobe Road, because this is affecting young children at play and at school, local businesses besides the infrastructure that is NOT in place!
As we heard from a retired truck driver, better do not miss that turn into Clarksville Crossing, for your Costco delivery in your 18-wheeler, would NOT know where to make a U-turn on Silva Valley Parkway! How many people have seen a 18-wheeler / container diesel truck driving on Silva Valley Parkway thus far? May be None?

For those people who know a book author, I have come up with the perfect title for that book

How Costco ruined a little unincorporated foothill community called EDH

Thank you ALL for reading, make yourself heard and tell others, because this is the community we call home!

Please attend the APAC meeting this Wednesday, March 12th same location, in the evening for a re-visit of this meeting, will see if microphones and video will be working?

Regards,

Jons van Dooren
Serrano resident

From:	jons van dooren
To:	PL-EDH Costco Project
Cc:	Cameron W. Welch; rafael.martinez@edcgov.us; Joni; bob.williams@edcgov.us; david.spaur@edcgov.us; jeff.hansen@edcgov.us; John Davey; tjwhitejd@gmail.com; washburn_bew@yahoo.com; John Raslear; bostwo@edcgov.us
Subject:	Clarksville Crossing Northbound exit going north or South on Silva Valley Prkwy DANGEROUS
Date:	Thursday, March 20, 2025 3:32:28 PM

This Message Is From an External Sender
This message came from outside your organization.

Report Suspicious

Good afternoon,

As I went looking for the death BOBCAT, I turned South onto Clarksville Crossing from Silva Valley Parkway, to make a U-turn!

I never been on Clarksville Crossing going north, always the other way towards Town Center, do not wane wait for the traffic lights!

But, when I wanted to turn back on to Silva Valley Northbound, I saw for the first time the elevation in traffic that is coming down from higher ground, many times with greater speeds then necessary or called for, I had to wait several times and then went for it!

I can see Costco delivery trucks, trash compacter trucks, passenger vehicles etc. who are taking Clarksville Crossing northbound to make a right turn or left turn onto Silva Valley Pkwy to have BIG issues, they will have a to look out for FAST approaching vehicles. After all, this will be Concept Site Road to go into the Costco Parking Garage!

Therefore I see this ALSO as a BIG traffic concern!

Do not know if you have studied this intersection, (I am sure you have), it will be a busy one!
But maybe you should try it for yourself!
I am sure that Greg will NOT dare to take it on his bike and if so let me know how it went!

Regards,

Jons van Dooren

From: Susan Mann
To: EDHCostco@edcgov.us
Subject: Comments - Proposed EDH Costco Project
Date: Monday, March 31, 2025 12:39:27 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

PLEASE CONFIRM RECEIPT OF THIS EMAIL

Cameron Welch, Senior Planner
County of El Dorado Planning & Building Department
Placerville, CA 95667

Dear Cameron,

As a homeowner in the Serrano community, a grandparent of three grandchildren who attend Oak Meadow Elementary School, and a concerned citizen of El Dorado Hills, I am writing to you to share my concerns for the proposed Costco Project on Silva Valley Parkway.

The Costco Project threatens our neighborhood health, safety and tranquility by the very nature of the scope of this project. My concerns are the following:

TRAFFIC: There is already heavy traffic on Silva Valley Parkway for residents of the community, as well as students and families who attend Oak Meadow Elementary School, Silva Valley Elementary School, Rolling Hills Middle School and Oakridge High School. There are four schools on either side of Silva Valley Parkway within a 1-mile radius of the proposed Costco Project.
Families dropping off and picking up children from Oak Meadow Elementary School are already backed up on both sides of Silva Valley Parkway trying to get into the school parking lot. *I have attached photos of just some of the backup that occurs on a daily basis for vehicles trying to enter and leave the school. I took these photos while I was waiting at the left-hand turn lane to enter Oak Meadow, and the line up on that side is at least 6+ cars long. I was unable to capture a photo of this backup because I needed to remain in my car).* Adding a Costco fuel facility butting right up against Oak Meadow Elementary School, as well as the warehouse across the street would drastically impact this high traffic area in a very negative way, and potentially cause accidents and injuries over time due to the hundreds of added cars that would be coming onto this area of Silva Valley Parkway for gas or to shop at the Costco warehouse. Also, having 70 parking stalls for Costco employees on the North Site would also add to traffic in this very narrow corridor.
On average, Costco has 3,600 people shopping at a single warehouse each day. Even with stop lights added to this area of Silva Valley Parkway, the amount of traffic on a daily basis would create gridlock, as well as potential accidents and possible injuries. The size of these streets were not meant to accommodate this many vehicles on a daily basis.

AIR QUALITY (POLLUTION/HEALTH CONCERNS): Having a fuel facility butting up to Oak Meadow Elementary School will create gas fumes from idling cars that will be on-going throughout the school day with Costoo's fuel station hours from 6:00 am - 10:00 pm each day. No gas station of this size is located this close to a school, much less an elementary school! This exposure will have long lasting health issues that are impossible to access through this environment impact study!
Also, excavating of the land on both the North and South sites for the fuel facility and underground parking will expose asbestos to children, families, faculty and staff at Oak Meadow, as well as homeowners located close to this project. The effects from this exposure may increase the risk of several serious diseases, including asbestosis, mesothelioma and lung cancer. Asbestos exposure may increase the risk for cancers of the digestive system, including colon cancer. These effects will not be evident until 10-50 years after exposure. We should not be willing to expose our community to these potential health risks which will happen if this Costco Project is allowed to move forward.

NOISE: Excessive noise caused from the construction of the fuel facility and warehouse will impact school activities at Oak Meadow both inside and outside of the classroom, and will extend for months. Oak Meadow is an open campus with no protection from external elements once children and staff are outside their classroom or other building structure (Administration Office, Library or Multi-purpose Hall) which include recess (twice per day), lunch breaks, physical education classes, fire drills, etc. Even once the fuel facility and warehouse are completed, there will continue to be excessive noise from the traffic, fuel facility, parking areas, customers, tire center, and deliveries being made throughout the day and night operations of Costco (as well as fuel and merchandise deliveries that will be made to both locations during and after business hours through multiple entrances).

I have highlighted my major concerns in this email, but the above list does not address all of my issues. I am also concerned about how this large business will impact our public resources (water, utilities, waste management, etc.) which are already stretched to the limit. Although this land was zoned for commercial use, I do not believe it was meant for such a large business like Costco; especially with another Costco only two exits away on E. Bidwell. I know the other Costco is in another county, and we may be looking for ways to increase revenue within El Dorado County, but this project should NOT move forward in the proposed location on Silva Valley Parkway.

Susan Mann
4261 Rimini Way
El Dorado Hills
Email: susanmann913@gmail.con

CHERYL SHIELDS

1093 Souza Dr. | El Dorado Hills | California 95762-7550 | cheryl@back2cda.com | 208.691.6007

2025 MAR 10 AM 10:58
RECEIVED
PLANNING DEPARTMENT

March 5, 2025

Cameron Welch, Senior Planner
County of El Dorado
Planning and Building Department
2850 Fairlane Ct, Building C
Placerville, CA 95667

RE: Comments Concerning Revised NOP of Draft EIR for EDH Costco, SCH #2021080402

To El Dorado County Planning and Building Department:

I live in Serrano Village D2 which overlooks the property proposed for the new El Dorado Hills Costco (EDH Costco). I am not in favor of this project at this location. I find it odd that Costco Wholesale Corporation would propose to site a second wholesale retail facility, fueling station and tire store when there is already one located almost exactly 5 miles away on Bidwell St, immediately off of Highway 50. The company has not historically located facilities so close to one another. That said, I recognize that we have no say in whether or not we get a new Costco. One will be built there so my comments will focus on my concerns with several perceived environmental impacts that I think the Environmental Impact Report should address.

1. Traffic Impacts. 2024 population estimates for El Dorado County are over 54,000 residents, of which over 45,000 are estimated to live in Serrano, which is adjacent to the project site. Virtually everyone from Serrano and surrounding El Dorado Hills will be accessing the project site either via Highway 50 from the Bass Lake Interchange to the White Rock Rd /Silva Valley Parkway Interchange or they will be driving down Silva Valley Parkway to the project site. The speed limit is currently 45 miles per hour, although most people drive at 60 miles per hour. There's the Oak Meadow Elementary School located on Silva Valley Parkway between Serrano Parkway and Clarksville Road. Children frequently ride their electric scooters and E-bikes to school, usually crossing at Serrano Parkway. The EIR should address traffic impacts to the school. At

the end of the school day, parents already line up along Silva Valley Parkway to wait for their children. Given the additional traffic this project would generate, there should be some consideration for buffer zones between bike lanes where kids use their scooters and bikes and waiting zones for parents.

2. This project will result in significant light pollution for residents of Serrano Village D2 and for those villages to the east of Silva Valley Parkway. Serrano is a Dark Sky Community and there need to be mitigation measures put in place to keep the area consistent with Serrano and surrounding neighborhoods that have implemented Dark Sky guidelines. We all know that the Sacramento Region is a major stopping point along the Pacific Flyway, a major reason for local Dark Sky ordinances.
3. Proximity to Other Costco locations. This new proposed location is only 5 miles from another established Costco Warehouse just off of the Highway 50 and Bidwell Street Interchange. It would seem to me that there are other more suitable locations for a Costco in Cameron Park, Shingle Springs, Placerville or Diamond Springs, rather than adjacent to Serrano and less than a mile from an elementary school. It's my personal opinion we don't need another Costco Warehouse so close to one another. While the retail store hours would begin at 9:00 am, truck deliveries to the project site would begin many hours earlier, disrupting nearby homes with noise and light pollution during early morning hours.

Thank you for the opportunity to comment. I look forward to reading the environmental impact report.

Warm Regards,

Cheryl Shields

From: NIELS BAUER
To: EDHCostco@edcgov.us
Subject: Comments of EDH Costco project
Date: Wednesday, March 12, 2025 2:49:16 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear Mr. Welch,

I am submitting additional comments regarding the “EDH Costco” project. I also attended the recent meeting held on March 10th at the EDH fire station, where I heard a number of concerns from citizens.

First, I don’t think any concerns the community voices will prevent a new Costco from being built on the proposed site and, frankly, I look forward to the arrival of a Costco in El Dorado Hills. That said, we are a small neighborhood, not a large retail tract such as found along most parts of East Bidwell in Folsom. We do expect new neighbors to be, well, neighborly. That means keeping the noise down, the lights off at night, keeping the area clean and well maintained, and all the other conduct that goes with being a good neighbor.

Second, I would also expect that similar restraints on retail would be at least as stringent as constraints on alternative options. To put things in perspective my favorite alternative is if instead of building a Costco at that site we instead built a massive pickleball park. That would likely be even less popular than a Costco! But if we did, what restrictions would be in place? Clearly, just like car noise, semi trucks loading and unloading, forklifts backing up, and trash dumpster lids closing, noise would be an issue. No doubt pickle ball hours would be limited too. Currently, Heritage Park is only open from sunrise to sunset, and pickleball is prohibited before 7:00am. Thus, quiet time is essentially from sunset to 7:00am. I’m sure similar restrictions would be placed upon our imaginary pickleball park too. So, if we replace our pickleball park with Costco, should those quiet hours change? No, of course not. So, for Costco, no truck deliveries should be permitted between the hours of sunset and 7:00am.

Sticking with our pickleball example, what about court lighting? Despite spending a lot of money on sophisticated lighting for the pickleball courts at Heritage Park, they remain unused. They were deemed too intrusive to the community and have remained off since the day they were installed. Again, if Costco was instead a massive pickleball park, any lighting would have strict and limited hours. Should the hours when Costco can be lit any different from the hours pickleball courts could be lit? No, of course not. So, Costco must abide by reasonable hours for all outdoor lighting and outside of those hours it should be completely off.

Again, I look forward to having Costco as a new neighbor. But only if they are willing to show the same consideration as my current neighbors and I already do for one another.

Regards,
Niels Bauer
1127 Terracina Dr.
El Dorado Hills, CA. 95762

1. **Aesthetics – Impact on Scenic Views and Visual Character**

The EIR should analyze how the proposed Costco development would impact scenic views from nearby neighborhoods—particularly those on the hillsides overlooking the project site. Many residents, including myself, currently have open views of the area that include mature oak trees and natural open space. These views are calming and visually significant to the character of Silva Valley and El Dorado Hills as a whole.

The visual change from a tree-covered area to a large commercial development—particularly with box-style architecture and substantial nighttime lighting—will significantly alter the experience of these views, both by day and at night. The EIR should include photo simulations or renderings from key public and residential viewpoints, including from nearby hillside neighborhoods, to fully assess the impact on scenic vistas and neighborhood character.

2. **Aesthetics – Nighttime Light and Skyglow Impacts**

The EIR should thoroughly analyze the increase in nighttime lighting caused by the proposed Costco project. The surrounding area—including Silva Valley Parkway, Oak Meadow Elementary, and nearby hillside neighborhoods—currently experiences relatively low levels of artificial light at night. This allows for natural darkness, views of the night sky, and a calm atmosphere typical of a semi-rural residential area.

The project's lighting—especially from parking lots, gas station canopies, store signage, and 24-hour infrastructure—will introduce major levels of ambient light and glare. The EIR should evaluate the project's impact on night sky visibility, residential light intrusion, and neighborhood character. It should also evaluate whether proposed lighting complies with **El Dorado County's dark-sky standards** and include mitigations such as directional shielding, automatic dimming, and limited operating hours for exterior lighting.

3. **Aesthetics – Visual Impact of Gas Station Adjacent to Elementary School**

The EIR should evaluate the visual impact of placing a 32-pump gas station directly adjacent to Oak Meadow Elementary School. This scale of fueling infrastructure is unprecedented in this part of El Dorado Hills, and introduces a highly industrial visual element—gas canopies, pump structures, signage, and vehicle activity—into an area that is otherwise residential, school-oriented, and family-centered.

The presence of a gas station in such proximity to a school poses significant concerns regarding visual appropriateness, scale, and long-term land use compatibility. The EIR should evaluate whether this use is consistent with the **intended visual character of a school zone**, and assess

its potential to degrade the scenic quality of the area as experienced by children, families, and school staff.

4. **Aesthetics – Loss of Tree Canopy and Natural Landscape Character**

The EIR should analyze how the proposed Costco development would affect the visual and scenic character of Silva Valley and surrounding neighborhoods through the removal of mature oak trees and natural open space. This corridor currently features long stretches of tree-lined roadways, undeveloped natural land, and a semi-rural visual identity that is a defining feature of this part of El Dorado Hills.

Replacing these features with expansive surface parking, a large retail building, and fueling infrastructure will result in a significant shift in how the area looks and feels—particularly for pedestrians, drivers, schoolchildren, and nearby residents. The EIR should assess not only the number and type of trees to be removed, but also the **visual consequences** of this removal and the **adequacy of any proposed replacement landscaping** in preserving community character.

5. **Aesthetics – Scale and Massing Incompatibility**

The EIR should evaluate the scale and massing of the proposed Costco building in relation to the surrounding built environment. The project site is adjacent to schools, single-family residential neighborhoods, and low-rise community-serving development. Introducing a massive, warehouse-style structure—especially with its flat roofline, unbroken wall surfaces, and height—represents a sharp and potentially disruptive contrast with the area's existing scale.

The EIR should include **visual simulations and elevations** showing how the proposed building will appear from various public vantage points, including from schools, Silva Valley Parkway, and nearby neighborhoods. It should also analyze whether the project design respects the **visual rhythm and human scale** of the surrounding community, and assess potential design alternatives that better align with El Dorado Hills' character.

6. **Aesthetics – Signage, Branding, and Visual Clutter**

The EIR should analyze the visual impacts of proposed signage associated with the Costco building and fueling station. This includes building-mounted signs, monument signs, directional and wayfinding signage, promotional banners, and lighting associated with brand identity.

The project site is located in a corridor currently free of large-scale commercial signage. The proposed branding elements would introduce **visual clutter** and a level of commercial visibility inconsistent with the surrounding area's character—especially near school zones, residential neighborhoods, and roadways that currently feature minimal signage.

The EIR should include sign plans and simulations of how the proposed signage will appear from Silva Valley Parkway, Oak Meadow Elementary, and nearby neighborhoods. It should assess compliance with County signage ordinances and the degree to which signage would **visually dominate** or detract from the community aesthetic.

7. **Aesthetics – Visual Impact of Surface Parking Lots**

The EIR should assess the visual impacts associated with the project's extensive surface parking areas. Surface lots of this scale—paved, open, and largely unshaded—are not typical in this part of El Dorado Hills and will significantly change the visual character of Silva Valley.

The current visual environment includes natural topography, vegetation, and views of undeveloped land. Replacing that with a flat expanse of asphalt and vehicle storage creates a harsh and utilitarian appearance that is **incompatible with nearby residential and school zones**.

The EIR should analyze how the parking lot will appear from public vantage points—including schools, sidewalks, and nearby homes—and evaluate whether design features such as **tree canopy cover, landscaped buffers, grading, and screening** can mitigate visual degradation.

8. **Aesthetics – Alteration of Semi-Rural Visual Character**

The EIR should assess how the proposed Costco development will alter the established visual identity of the Silva Valley corridor and surrounding areas. The current setting is defined by semi-rural characteristics: mature oak trees, rolling hills, modestly scaled residential and educational buildings, and relatively quiet streetscapes.

The project introduces urban-style, high-intensity development into this environment—bringing a large warehouse building, extensive surface parking, a high-capacity gas station, and associated commercial infrastructure. These changes have the potential to dramatically alter the **visual harmony** of the area and permanently shift its character from community-centered and nature-adjacent to commercially dominated and industrial in appearance.

The EIR should evaluate whether this project is visually compatible with the area's existing character and any adopted community design guidelines or planning policies related to scenic quality, land use transitions, or view protection.

9. **Aesthetics & Biological Resources – Loss of Visual and Environmental Presence of Wildlife**

The EIR should assess how the proposed project would affect the visible presence of wildlife in the Silva Valley corridor. Many residents, including myself, frequently see deer, bobcats, different species of hawks, California quail, different species of woodpecker, hundreds of different bird species and other wildlife in and around the proposed project area. The sight of these animals is

not only an environmental asset—it contributes directly to the **natural and calming visual character** of this part of El Dorado Hills.

Paving over open space and removing mature trees for a large-scale commercial development will fragment local habitat and eliminate the conditions that allow this wildlife to be present. The EIR should analyze this impact both as a **biological issue** (habitat loss, movement corridors) and as an **aesthetic issue**, recognizing the visual and emotional role wildlife plays in the lived experience of Silva Valley residents and students.

From: Yinping Li
To: EDHCostco@edcgov.us
Subject: Comments on Costco and gas station
Date: Monday, March 17, 2025 1:41:17 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear officer,

This is Yinping Li. My son is in BUMI kindergarten. I think that the Costco can make the traffic more complicated during school days and the gas station can make more polluted air, which is not good for students health development. Please reconsider the plan. Or only Costco not gas station may be built to help students health. Thanks.

Best Regards,

Yinping Li

From: Andie Martinez Watrous
To: EDHCostco@edcgov.us
Subject: Comments on EDH 52 plan
Date: Sunday, March 30, 2025 10:24:22 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Hello,

My name is Andie Martinez Watrous a resident of the serrano community in El dorado hills.

I am writing to express my deep concern over the anticipated Costco project at Silva valley road. Overall, I am deeply saddened that this once open space will be used for unnecessary commercial use. Wildlife habitat will be lost forever and the dark skies we work hard to protect will be diminished.

I think this location is absolutely absurd as there is a Costco less than 5 minutes away which offers all the services this Costco would. I think a location in El dorado county closer to placerville would make much more sense due to the lack of similar services between EDH and South lake Tahoe. Traffic will be a nightmare for school pick ups in the afternoon, putting children's lives unnecessarily in danger. The proposed traffic pattern just doesn't make sense with existing street lights and lack of protected turn lanes.

Second, the re-addition of a proposed fueling station again compromises air quality for children and residents nearby due to increase in idiling vehicles waiting for access to a pump. There is absolutely no need to include a fuel station in this project and it's reintroduction to the project makes clear that Costco has greater interest in selling cheap gas than protecting the health of their neighbors.

Third, the existing design proposal is different than initially submitted to the county. The exterior design was to be in the Mediterranean style which would fit more closely with existing commercial buildings that butt up against the serrano community (e.g. borgata shopping area). We have committed to maintaining a beautiful community with a curated design aesthetic which unites and elevates the community. The existing modern Costco exterior design makes a mockery of the efforts we put on a daily basis. The design should be reconsidered to more closely resemble existing buildings which are in the IMMEDIATE viscinity of the proposed location. Please see photos of these existing buildings which have more of an organic design to integrate into the existing landscape.

I understand that this project will likely move forward, but it must be reconfigured to not negatively impact the existing community that it is hoping to serve. Please insist that the fuel station be removed and design be changed to more closely align with the immediate neighborhood.

Sincerely,
Andie Martinez Watrous

818-355-2774

From: NIELS BAUER
To: EDHCostco@edcgov.us
Subject: Comments on EDH Costco project
Date: Tuesday, March 4, 2025 1:20:03 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear Mr. Welch,

I am writing in regards to the "EDH Costco" project as recently described in the "Revised Notice of Preparation of a Draft Environmental Impact Report" (revised NOP) recently sent to local residents. First, I am not anti-Costso; I can hardly wait for a new Costco to open in El Dorado Hills! However, there are several issues that I feel need to be considered as stipulations for building such a facility at this proposed location. My comments are as follows.

Costco employee parking
The current design dangerously ignores human behavior. Employees who park on the North Site will have two options for crossing Silva Valley in order to reach the main entrance.

Path #1 requires them to take a walkway south (though it's difficult to see if there's even a walkway included in the plan), along Silva Valley, to the stop light at the new intersection between the North and South sites. After waiting for the pedestrian signal and crossing the street, they will then backtrack to the north along the entrance to the incoming traffic. Once they have reached the safety of the parking lot, they will then resume their trek south to the main entrance. It is unlikely that employees will actually follow this contorted route.

Path #2 simply involves jay walking across two lanes of traffic to a nice median along Silva Valley, then skipping across two more lanes of traffic, cutting through a small open space, then darting across the lanes of incoming/exiting traffic. Realistically, this is the most likely route that employees will take.

Failure to recognize and accept human behavior for what it is, rather than attempt to design around it, is simply a recipe for disaster.

Delivery Truck Ingress/Egress
It stands to reason that the majority of deliveries will be heading eastbound on highway 50 and exiting at the Silva Valley Parkway/White Rock Road off ramp. Will drivers turn left onto Silva Valley or will they turn right onto White Rock?

If they turn left onto Silva Valley, they have two more choices: turn into the main entrance at the new light (surprise, they are now stuck in a parking lot with no where to go!); or continue to Clarksville Crossing where they will have to make an unprotected left turn (sitting there idling their big diesel rigs while waiting for an opening to cross).

If they turn right onto White Rock, then they face a narrow right-hand turn onto Clarksville Crossing. Though not ideal either, this is probably the better option.

Who knows which way Google maps will direct traffic, but until Country Club Drive is extended the better option is clearly the latter. Can any signage be put in place to direct trucks to make the less invasive right-hand turn onto White Rock, then right onto Clarksville Crossing?

Loading
I believe that the Folsom Costco prohibits loading between the hours of midnight and 4:00am. This is completely too generous. Despite loading docks with sealed gaskets the noise made by trucks backing into place, unloading, and various warehouse doors opening and closing is extremely disruptive. In past business travels to Austin I often stayed in a hotel not far from a Costco. Noise from Costco would keep my up late at night, then would wake me up

in the early pre-dawn hours. At a minimum, loading and delivery hours must be restricted to between the hours of 7:00am to 10:00pm.

Lighting
It is stated that parking lot lights will be on a timer in conjunction with warehouse closing. But then it goes on to say they would remain on to provide security and emergency lighting. Which is it? Outside of business hours (plus time for employees to close up), I see absolutely no need for any outside lighting to remain on, period. First, what is the actual evidence that all-night lighting at a Costco parking lots actually reduces crime? I was unable to find any published studies to support such a claim. Second, motion sensor lighting exists! This provides equivalent protection against possible break-ins, but also provides much desired darkness to the neighborhood when no such threat exsists.

Same for the fuel facility which is described as using low-level security lighting after hours. One person's low-level is another person's laser beam if their bedroom is facing the light. Again, there's plenty of alternative security technology to offset the need for continous artificial light during non-business hours.

Thank you for your time and patience in reading and considering my comments.

Regards,
Niels Bauer
1127 Terracina Dr
El Dorado Hills, CA 95762
(916) 712-6967

From: Amanda Hansen
To: EDHCostco@edcgov.us
Subject: Comments on Proposed Costco Project
Date: Monday, March 31, 2025 4:57:56 PM
Attachments: image002.png

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Hi Mr. Welch,

Thank you for hosting the March 10 public comment on the proposed Costco project in El Dorado Hills. I raised a few points in person and am following up in greater detail in writing.

My name is Amanda Hansen, and I live in Village A just behind Oak Meadow Elementary School with my husband, 12-year old son and 10-year old daughter. This project will have profound environmental impacts – increasing pollution (air, noise and water); encouraging GHG emissions; reducing habitat for wildlife; and endangering public safety. Worst of all, this location puts the children in our community at the most risk given proximity (1.5 miles or less) to two elementary schools, our middle school and our high school. It is shocking that Costco believes a warehouse store and fueling facility in the proposed location is appropriate - a single-family residential community, adjacent to an elementary school, less than 1.5 miles from another elementary school, middle school and high school, and only 4.4 miles via Highway 50 from its existing store and fueling facility in Folsom.

These are the issues I would like the County to address through the EIR process:

1. **Traffic -** Silva Valley Parkway is not fit to support the increase in cars and trucks associated with a Costco. Both because we already have major traffic during the day given the schools identified above, and afterschool activities held on those school campuses. Clarksville Crossing and Silva Valley Pkwy are not large enough to support the increased traffic that a Costco warehouse and 32-pump gas station will bring. There will likely be increased traffic on Serrano Parkway as well, where many children cross going between Serrano Villages A and C and Rolling Hills Middle School, Oak Ridge High School, and the El Dorado Hills Library. Oak Meadow Elementary is of particular concern due to its proximity to the project and existing traffic and parking issues. School pick-up and drop off times will be impacted the most, so the traffic analysis must assess impacts during those time frames for all four schools – not just Oak Meadow. The DEIR needs to evaluate whether our roads are capable of serving this massive retailer and community members. The EDH Costco DEIR should also present the results of an LOS analysis prepared by a qualified traffic engineer. The DEIR should show how vehicles waiting to fuel at the fueling station would be prevented from queueing onto Silva Valley Parkway. What is the maximum length of queue, and number of vehicles that

will be able to queue, before backing up onto the parkway?

2. **Safety –** Many children walk, bike, and scooter up and down Silva Valley Pkwy every day to get to school and afterschool activities. According to the California Department of Public Health, "unintentional injuries are the leading cause of child death. Many of these injuries are caused by motor vehicle crashes…" Increasing the traffic on residential streets children traverse to get to school is a recipe for a terrible tragedy. In addition to pedestrian safety concerns, the proposed Costco project raises other safety concerns for children traveling to and from school alone. The DEIR needs to evaluate all elements of public safety, including increased accident risk for bicycles, pedestrians and other vehicles. The DEIR should describe how the eastern edge of the North Site will be secured to prevent trespass into the adjacent gated Serrano Village A.

3. **Air Pollution –** I would like an analysis of the project's impact (during construction and operation) on levels of ozone (ROGs and NOx), Carbon Monoxide, Particulate Matter (DPM, PM 10, PM 2.5), and other toxic air contaminants and their potential negative health effects on sensitive receptors, especially the approx. 700 Transitional Kindergarten through 5th grade students (ages 4 through 11) at Oak Meadow Elementary School. Please include an analysis of cumulative health risks from exposure to pollution from US 50, increased traffic on Silva Valley Pkwy and Clarksville Crossing, the Costco warehouse (including diesel delivery trucks), the 32-pump gas station (sales volume should be used as a continuous variable to accurately estimate the impacts from a gas station of this size), and other future development on this parcel, including the future development of Country Club Drive.

A study conducted by Columbia University Mailman School of Public Health and Johns Hopkins Bloomberg School of Public Health shows that vent pipe emissions are over 10 times greater than estimates used to determine setback distances for gas stations in CA. California's enhanced VR technology cannot control breathing losses, only working losses. The DEIR should address the public health impact on the children and staff at Oak Meadow and surrounding residents of breathing losses including benzene emissions from vent pipes caused by temperature & barometric pressure changes or when fuel in the tank evaporates. In addition, this analysis should include losses caused by drips and spills, as well as short term bursts of emissions (1 Hr Reference Exposure Level) as a result of human error while hooking up the stage 1 VR during bulk fuel drops or uncontrolled emissions due to equipment failures or defects. Human error is not something you can mitigate. All of these impacts should include cancer and non-cancer health impacts.

In addition, taking into consideration local meteorology and atmospheric conditions, I would like to know the health impact of construction activity on the nearby communities and students at Oak Meadow Elementary that are in very close proximity to the project. I am very concerned about the presence of Serpentine rock in the area and the potential for asbestos release into the air during digging, grading, etc. The soil studies should cover this asbestos risk comprehensively. Because it is impossible to completely mitigate this risk, there will be families that choose to disenroll their children from Oak Meadow Elementary should this project breaks ground as a result, which could have significant impacts on the school district. All the above-mentioned air quality impacts should

be analyzed at the higher elevation of surrounding neighborhoods as well.

- The DEIR should quantify the existing and average increase in auto travel time on Silva Valley Parkway between the traffic signal at the top of the eastbound Highway 50 offramp at Silva Valley Parkway/Whiterock Road and Serrano Parkway as a result of project-related traffic and operation of the project's proposed signal light(s). What will be the increase in travel time during the pm peak commute traffic period, and during Costco's peak weekday and weekend hours of operation at both the warehouse store and fueling facility? Address increases in travel time along other relevant local street segments.

- The DEIR should provide an analysis of the increase in vehicle miles travelled (VMT) as a result of the project that complies with SB743 and County Resolution No. 241-2020. These regulations prohibit an EIR from considering deterioration of traffic level of service (LOS) as a criterion for determining the significance of a project's traffic impacts (as it was for the first 45 years of CEQA's existence). However, the regulations do not prohibit a county lead agency from using the policies of its General Plan as impact criteria. The DEIR should conduct an LOS analysis, and if the effect of the project on LOS would be inconsistent with General Plan policy, that inconsistency should be found to be a significant effect of the project, irrespective of the deterioration of the LOS itself. The DEIR should analyze the project's effects on LOS, and if the effects are found to be inconsistent with the General Plan, the DEIR should find that inconsistency to be a significant impact.

- The calculation of VMT impacts should address net project-related travel by Costco customers, employees, and suppliers, as well as all VMT enabled by the project's sales of fuel and tires (that's going to be a LOT of VMT...).

- The DEIR should examine the project's impacts on pedestrian, vehicle, and bicycle safety, particularly for children going to and from Oak Meadow School. Would the project include crosswalks at signalized intersections, or elsewhere? Would the signals include pedestrian controls? Would the project include sidewalk segments or bicycle lane segments? Would the project provide any particular measures specifically to provide, protect, or enhance pedestrian and bicycle safety, particularly as it relates to Oak Meadow School? How will pedestrians, including Costco employees, be able to cross safely between the North and South sites?

- Would project-related increases in traffic volumes warrant traffic signals, or other roadway improvements, in addition to those proposed as part of the project?

- Would road or lane closures be required during project grading, site preparation, or construction? If so, at what times of day, for how long, and how often? What would be the effect on normal traffic flows? How would emergency access be maintained during any closures?

- The DEIR cumulative impact analyses should examine the project's contributions to the combined impacts of all past, present, and reasonably foreseeable future projects to which the proposed project would also contribute, including, but not limited to, the already approved but unbuilt Serrano Village A14, the eventual commercial development of the project "outparcel" on the North Site, and the eventual construction of the full Country Club Drive Extension, and all the growth the full extension would induce in its corridor.

- CEQA Guidelines Section 15355 define "cumulative impacts" as two or more individual effects which, when considered together, are considerable, or which compound or increase other environmental impacts. "The individual effects may be changes resulting from a single project (emphasis added) or a number of separate projects." In other words, the DEIR must consider whether the cumulative collective effects of the totality of this single Costco project's topically diverse, adverse but less-than-significant individual effects, taken together as a whole, constitutes a cumulatively significant impact. The significance criterion should be something like this: "A single project's cumulative impact is significant if the combined effect of its topically diverse, individually less-than-significant effects, together with its individually significant effects, collectively results in a substantial adverse change in the environment. This includes, but is not limited to, the totality of all impacts of the single project related to traffic, noise, air quality, public safety, biological resources, cultural resources, aesthetics, soils and geology, soil, water, and groundwater contamination, archaeological and historic resources, hydrology and water quality, hazards and hazardous resources, greenhouse gas emissions, energy, public services and recreation, public services and utilities, land use and planning, tribal cultural resources, hydrology and water quality, fire hazard, and population and housing." The question for the Costco DEIR should be whether the combined individual impacts of this single Costco project, taken together as a whole, constitute a single cumulatively significant effect? If so, the mitigation would be to reduce, further reduce, or avoid each of the project's individual impacts to the maximum extent "feasible" (CEQA Guidelines, Section 15126.4 (a)(1). The DEIR's discussion of cumulative effect must not be "siloed," or compartmentalized, topic-by-topic, but must be presented as a whole, in one place, in the EIR, to evaluate the overall synergistic, and interactive effect of all of these individual impacts to determine if, when considered collectively, they constitute a significant cumulative impact under CEQA Guidelines, Section 15355. Application of this criterion will result in a comprehensive, cumulative "omnibus" impact evaluation of all the project's diverse impacts to determine their combined overall cumulative effect on the environment. It underscores the importance of considering how the totality of a single project's diverse individual impacts can collectively combine to constitute a significant cumulative impact on the environment, irrespective of the significance of its individual impacts and the impacts of any other past, present, or future projects.

- The DEIR should quantify and assess the air quality impacts of the annual project-related emissions of criteria pollutants and greenhouse gases based on estimates of annual VMT, normal project operation, and combustion of the approximately 10 million gallons (38,000 tons) of fossil fuel to be sold at the proposed 32-pump gas station. The DEIR should quantify projected emissions of Clean Air Act "criteria pollutants" (Carbon Monoxide, Lead, Nitrogen Dioxide, Ozone, Particulate Matter, and Sulphur Dioxide) and the hazardous air pollutants (HAPs) identified by the U.S. EPA, including, but not limited to, benzene. The air quality analysis should include consideration of prevailing wind patterns and their effect on distribution and concentration of airborne pollutants, particularly from the proposed fueling station to Oak Meadow School. The air quality analysis should also consider the results of a traffic level-of-service (LOS) analysis to take into account any reduced fuel efficiencies resulting from project-related reductions in LOS. Reduced fuel efficiencies result in increased pollutant emissions per vehicle mile travelled.

- The DEIR should identify any project-related health effects of these emissions on sensitive receptors, including but not limited to, children and personnel at Oak Meadow School, and neighboring residents, including seniors, like me.

- The DEIR should identify any potential project-related air quality violations of applicable national, state and local air quality standards, including those of the El Dorado County Air Quality Management District. Would the project conflict with, or obstruct implementation of, any applicable air quality regulation or management plan? Would the project contribute to an existing or projected air quality violation? Would it result in a cumulatively considerable increase in any criteria pollutant or greenhouse gas emissions for which the region is designated nonattainment under an applicable federal or state ambient air quality standard? Would it release emissions which would exceed applicable thresholds for ozone precursors?

4. The DEIR should quantify the amount of **water**, if any, that is currently supplied to the project site by the El Dorado Irrigation District. How much would the District supply annually to the North and South sites after project completion? Would the District be able to meet this demand in drought years?

46. Would the project include backup electrical generators in the event of a PG&E blackout? If so, where would they be located on each site, and what would be their visual and noise impacts? Would the increased electrical demand attributable to the project contribute considerably to the likelihood of future localized PG&E **blackouts**?

5. **Noise pollution** is another significant concern for residents, students, school staff, and community members who spend time in the afternoon and evenings at Oak Meadow and other school sites for activities like sports, scouts, and clubs. Or just to go outside and enjoy the outdoors on a walk or a trip to the park. Or to tuck your young kids into bed before 8pm, or to sleep through the night despite late night/early morning delivery trucks. The noise will interfere with normal activities of residents – sleeping, having conversations, outdoor learning, etc. According to the U.S. Environmental Protection Agency, "studies have shown that there are direct links between noise and health. Problems related to noise include stress related illnesses, high blood pressure, speech interference, hearing loss, sleep disruption, and lost productivity." The DEIR needs to evaluate the increased engine, tire, brakes, and horn noise.

The children at Oak Meadow Elementary are already disproportionately impacted by air and noise pollution from the US 50 and Silva Valley Parkway traffic. This school happens to also serve our community's low-income residents living in White Rock Village. This proposed project will exacerbate health impacts on young children and staff at Oak Meadow. The gas station fumes must be examined through the DEIR process to understand how idling cars will impact the health of these students and any other impacted community members (ex. particularly vulnerable populations such as those with existing health problems, seniors, etc.). The cumulative health impacts of all these factors must be carefully evaluated.

6. **Light Pollution –** The DEIR needs to evaluate the impact of Costco signage and lighting on wildlife and impacted residences. Also include an estimation of the path of delivery truck headlights and any impacts to homes.

7. **Carbon Pollution –** This project will increase greenhouse gas emissions in El Dorado Hills and California. The DEIR must evaluate the impacts to consumption of non-renewable fossil fuels, and explore as an alternative the impact of a smaller retail option that better aligns with our General Plan.

8. **Impacts to Wildlife –** the area we live in has abundant wildlife that we all enjoy living with. Coyotes, snakes, squirrels, rabbits, mountain lions, foxes and so many beautiful birds, including raptors. The DEIR should go into significant detail on how the proposed project will impact wildlife, as well as our natural resources. This includes wetlands, riparian areas, springs, heritage trees, tree groupings, woodlands, landforms, wildlife habitats, and cultural resources.

9. **Broader Development** - The Costco DEIR should assess the cumulative impacts of the

potential growth induced by the full Country Club Drive Extension. Specifically, the Costco EIR Impact analyses should assess the potential for the full Country Club Drive Extension to open undeveloped and underdeveloped areas in its corridor to urban-scale growth, and it should evaluate the environmental consequences of that growth.

To ensure compliance with CEQA, the Costco DEIR must avoid segmentation, or "piecemealing," of environmental review by addressing the relationship between the Costco project and the full Country Club Drive Extension project. If the segment within the North Site is integral to the full extension, the Costco DEIR should make clear how and when the "whole of the action" that is the entire Country Club Drive extension will undergo its own CEQA review.

The Costco DEIR should clarify the sequencing of environmental review and provide assurances that the full extension's impacts will be appropriately addressed in its own EIR. The Costco DEIR should include an analysis of whether the growth induced by the full Country Club Drive Extension would be consistent with the County General Plan, and the Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) of the Sacramento Area Council of Governments (SACOG), and any other applicable regional plans. If the growth induced by the full Country Club Drive Extension is found to conflict with these regional plans, the DEIR should identify and discuss the implications of these conflicts.

10. **Whole of the Action** - The Costco DEIR Project Description should describe the "whole of the action" [CEQA Guidelines, Section 15003(h)], including the following project components, which are not fully described in the EDH Costco NOP:

    - The Project Description should disclose Costco's intentions, if any, for the future use and development of the 13.79-acre "outparcel" on the North Site. Costco's long-term plans for development of the outparcel should be included in the Project Description, and its impacts should be addressed as a future phase of the project. Does Costco intend to eventually develop the property itself, sell it to another developer, or convey it to the county as permanent open space? The outparcel is on the project site and is part of the project, and Costco's intentions for it should be included in the Project Description.

    - The Project Description should disclose Costco's, and the county's, conveyance plan for the transfer of the 7.75-acre "reserve" for the Country Club Drive Extension from Costco to the county. When and how will the conveyance occur? What is the schedule for construction of the on-site portion of the extension, and how does it relate to the schedule for construction of the entire extension, and to the schedule for the Costco project itself?

The Project Description should include the project schedule for "pre-construction activities," grading and site preparation, construction, and commencement of operations.

- The Project Description should describe Costco's complete signage plan. On-building, off-building, and off-site signage is part of the "whole of the action," and its description is necessary for the DEIR's assessment of the project's visual and aesthetic effects.

- The Project Description should include the proposed operating days and hours of the proposed store as well as the proposed fueling facility, in order for the DEIR to evaluate the impact of a 32-pump gas station that operates 8 or10 hours a day vs 16 hours a day. The Project Description should also indicate whether diesel fuel will be sold at the fueling station, and the expected annual quantities of fuel sales for both diesel and gasoline.

- The Project Description should include a description and schedule for any future sanitary sewer connection across the project site necessary to connect the already approved but unbuilt 51-unit Serrano Village A14 to the sewage collection pipeline in Clarksville Crossing. A sewer easement across the North and South sites is necessary for the buildout of Village A14 to proceed. The Costco DEIR should address the growth-inducing impact of the sewage easement, or any other easements, across the project site.

- The Project Description should describe and map all proposed off-site facilities, particularly transportation improvements, including, but not limited to, turning lanes, lane widenings, traffic signs, traffic lights, crosswalks, roadway segments, bicycle lane segments, and sidewalk segments. Decision-makers would also benefit from understanding how these improvements would be funded – by Costco, the county general fund, or by county Transportation Impact Fees, etc.

- The Project Description should describe the project's degree of compliance, or non-compliance, with the county's requirements and regulations related to the physical design of the project, including, but not limited to, building height, building horizontal dimensions, floor area, floor area ratio, setbacks, parking spaces, signage, outdoor lighting, design features, and landscaping.

- The Project description should provide graphics that show the existing and proposed parcelization of the North and South sites.

11. **DEIR Clarity** - To the extent feasible, the DEIR should express impact criteria in objective, quantitative terms, and be as graphic as possible, using clear, readable color illustrations, maps, photos, plans, tables, and photo simulations (i.e., selected "before" and "after" views of the project site and project). The approaches, findings, and conclusions of the technical and engineering reports and studies that are prepared in support of the Costco EIR should be summarized, and presented in the body of the DEIR. The full reports themselves should be presented in DEIR appendices, or incorporated by reference into the DEIR and published at the same time and in the same manner as the DEIR itself. The DEIR should ***help residents understand*** the impacts of this proposed project.

12. **DEIR Policy Table** - The DEIR should contain a policy table that summarizes the applicable policies of the county, including those of the County General Plan, and the relationship of the project to those policies.

13. **DEIR Summary** - should include an impact summary table that summarizes each impact of the project, its level of significance, mitigation measures included in the project, mitigation measures not included in the project but identified in the DEIR, state whether those measures are accepted or rejected by the applicant, and identify the levels of impact significance after implementation of all proposed and accepted measures.

14. **DEIR Project Description** - should fully describe Costco's project objectives, including its objectives for profitability, and any objectives for preserving and protecting on-site natural features and resources (including wetlands, riparian areas, springs, heritage trees, tree groupings, woodlands, landforms, wildlife habitats, and cultural resources).

It should explain its long-term objectives for the fuel facility, given future expected reductions in fossil-fueled vehicles in California, its goals for annual tons of sales of fossil fuels, and its objectives, if any, for reducing or minimizing greenhouse gas emissions.

It should explain why Costco believes another warehouse store and fueling facility is appropriate in a single-family residential community, next to an elementary school, and only 4.4 miles via Highway 50 from its existing store and fueling facility in Folsom. It should describe its objectives for protecting kindergartners from benzene emissions.

The Project Description should describe any Costco responsibilities for maintaining the portions of the project site that are not proposed for development at this time (i.e.,the 1.38-acre remainder parcel west of Clarksville Crossing, the 13.79-acre "outparcel" on the North Site, the 7.75-acre "reserve" parcel for the Country Club Drive Extension, and any remainder of the North Site that extends to its

outer boundaries. Will Costco be responsible for ongoing maintenance, mowing, fire prevention, and litter cleanup (which will no doubt become more important once the project becomes operational) of these undeveloped portions of the site? Will Costco install landscaping outside the right-of-way of the future Country Club Drive Extension to provide a visual buffer between the project and Oak Meadow School and neighboring residences?

The Project Description should include graphic and technical descriptions of the proposed locations and appearance of any proposed ancillary facilities, including, but not limited to, solar arrays, rooftop mechanical equipment, outdoor lighting, emergency electrical generators, electric vehicle charging stations, off-site and on-site signage, and trash, recycling, and compacting facilities. The descriptions should be sufficient to permit analyses of the noise, visual, energy, air quality, and other impacts of these facilities.

The Project Description should include grading and drainage plans for both sites. The grading plans should graphically show areas to be cut and depths of cut, areas to be filled and depths of fill, and areas to be undisturbed. What would be the maximum and average depths of both cut and fill? Would cut and fill be balanced on site? If not, what will be the volume of import/export?

The Project Setting should describe existing physical conditions from both local and regional perspectives, at the time of the NOP publication date, February 25, 2025. If different setting dates are used, particularly older setting dates, they must be supported by substantial evidence (see CEQA Guidelines, Section 15125).

15. **Geotechnical Report -** The DEIR should present the results of a geotechnical report prepared by a licensed geotechnical engineer that addresses the soil, groundwater, surface water, bearing, and contaminant characteristics of each the site. The report should identify any project constraints, including the potential for asbestos or other soil contaminants, and any groundwater constraints at the location of proposed fuel storage tanks on the North Site. The DEIR should identify the health and other impacts of any soil, groundwater, or surface water contaminants identified, any violations of applicable contaminant standards, and mitigation measures to mitigate impacts to less than significant levels.

The grading and drainage plans should describe how runoff and erosion would be controlled during and after grading, and how runoff would be collected, treated, and discharged during and after grading and project construction, and during project operation. Where will treatment facilities, if any, be located? What will be the water quality of discharge? Will it meet applicable water quality standards? Will the project still have "bioretention areas" and "underground water quality vaults"? If so, where? Will all treated water be used on site for irrigation or other purposes?

16. **Sign Variance** - The NOP Project Description includes a Conditional Use Permit for the proposed tire center, vehicle display, and Christmas tree sales, and a sign variance to exceed

allowable signage provisions of the County Sign Code (County Zoning Code Section 130.36). The DEIR must fully describe and assess these project components in order to address "the whole of the action." In particular, omission of the project's signage plan from the project's description and impact analyses would render the EIR incomplete and inadequate. The county's actions on the proposed conditional use permits and variance must not be piecemealed after the fact.

17. **Wetland and Riparian Areas -** The DEIR should quantify, and show in photos and on a map, the wetland and riparian areas on each site. Are the delineations current as of the date of the NOP, February 2025? If not, when were they prepared? If not, provide substantial evidence in support of the actual setting date (see comment 14, above). Show how many acres of each would be filled on each site, and how many acres of each would remain unfilled? Identify any springs on either site, and characterize their flows by quantity and quality. Are they permanent? How will any springs affect the project, particularly the installation of fuel storage tanks? Are springs the source of the water in the wetland and riparian areas? What would be the project's impacts on the wetlands, riparian areas, and springs? What is the status of the Corps of Engineers Clean Water Act Section 404 review of the project application to fill? If the Corps has already approved the application, what is its stated basis? If the Corps has not approved the fill, what is the basis stated in the applicant's fill application?

18. **Trees -** The DEIR should quantify, and show in photos and on a map, all trees on each site, and identify the species, diameter at breast height, approximate height, age, and Heritage status of each tree. Identify which trees, oak and non-oak, are proposed to be removed and which are proposed to remain. Identify which trees are "protected" by applicable preservation policies, including County Ordinance 5061 and and General Plan Policy 7.4.4.4., and the degree of protection.

The DEIR should identify the location, and show photos, of the “in-lieu forest", so we can all see how well in-lieu mitigation fees actually work to mitigate tree removals from county development sites (please, no pictures of Giant Sequoias).

19. **Parking -** The DEIR should explain why the project proposes 121 more parking spaces on the South Site than county regulations require.

20. **Visual Quality** - the DEIR should describe the visual quality of the project sites as a community scenic resource. Describe how the scenic character of each site would be altered by the removal of natural trees, other vegetation, wetlands, riparian areas, and natural landforms, and whether these alterations would constitute significant and substantial degradation of the sites' visual character. CEQA Guidelines, Appendix G, clearly indicate that a project that would "substantially degrade the existing visual character or quality of public views of a site and its surroundings may have a significant effect on the environment" without regard to any "official" scenic designation of those views or locations.

The project site is publicly viewable from Highway 50, Silva Valley Parkway, and Clarksville Crossing. Appendix G also provides that scenic resources may include, but are not necessarily limited to, "trees, rock outcroppings, and historic buildings," and may also be reasonably inferred to include Heritage trees, oak woodlands, wetlands, grasslands, waterways, and water bodies. While the language of Appendix G appears to express primary concern for these resources where they are present in a designated scenic area, Appendix G in no way precludes these resources from being considered to have substantial and significant value in other locations.

21. **Visual Simulations -** the aesthetics analyses in the DEIR should include visual simulations (i.e., "before" and "after" views) of the site and proposed project, including project signage, from selected viewpoints on Highway 50, Silva Valley Parkway, Clarksville Crossing, and neighboring residential areas. The images should include before and after views of wetland and riparian areas, Heritage trees, tree groupings, and landforms. Visual simulations are the only way to successfully depict the actual visual impacts of a project in an EIR.

22. **Animal Species** - the DEIR should identify all animal species that inhabit, forage, and traverse each site. Map habitats and migration corridors. Identify which species are classified as candidate, sensitive, endangered, or otherwise special status in any local or regional plans or policies, or by the California Department of Fish and Wildlife, or by The U.S. Fish and Wildlife Service? Identify the status of each species, the impacts to each species, and mitigation for any impacts.

Similarly, the DEIR should identify all **plant species** on the project site. Map and quantify the presence of each, and identify any special status, Heritage, or other species classifications. Assess the impacts to each species and mitigation measures for any impacts.

Assess the natural synergies between and among the animal and plant species, and the overall impacts of the project on the **entire natural ecosystem** of the site and its surroundings. Identify any impacts, their significance, and appropriate mitigation measures.

47. Would the project violate any applicable county or other **noise** standard during site grading, site preparation, construction, or operation? Would project noise levels from project grading, construction, or operation activities contribute considerably to existing and projected noise levels, including roadway noise from Highway 50, Silva Valley Parkway, and Clarksville Crossing? What would be the increase in future cumulative ambient noise levels attributable to projected increases in traffic on these roadways and other local roadways? Would project-related construction or other noise interfere with instruction or other activities at Oak Meadow School? What would be the nighttime and early-morning noise impacts on sleep patterns of local residents from project delivery trucks, including the incredibly annoying **backup beeping** of trucks in reverse gear? What noise mitigation measures are proposed by the project, particularly for nighttime and early morning noise?

48. Would the project impact any tribal, or other historical, archaeological, paleontological, or other historic or prehistoric cultural resource? Would it disturb the site of any buried human remains? How would the project protect the existing historical marker? Describe and assess the significance of any impacts.

49. Pursuant to CEQA Guidelines, Section 15126.6, the DEIR must identify and evaluate a "**range of reasonable alternatives** to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." The DEIR "must" explain the **rationale for selecting** the alternatives selected (CEQA Guidelines, Section 15126.6(a), and should also identify any alternatives that were considered but not addressed, and identify the **reasons for their rejection** (CEQA Guidelines, Section 15126.6(c). "The DEIR should contain sufficient information about each alternative to allow meaningful evaluation, analysis and comparison with the proposed project." The Alternatives should include, but not necessarily be limited to the following:

49.1. "N**o Project Alternative**,"as required by CEQA Guidelines, Section 15126.6(e). This alternative would leave the site undeveloped to serve as community open space, as it does now, eventually available for future unspecified development consistent with the County General Plan.

49.2. "**No-fueling Facility Alternative**," that would exclude the North Site, eliminate the proposed fueling facility, and consist only of the proposed warehouse and parking facilities on the South Site. This alternative would involve no development or lot line adjustments on the North Site, would be consistent with the Costco project identified in the 2021 EDH52 NOP, which proposed no fueling facility, and apparently satisfied Costco's project objectives at the time. This alternative would essentially constitute a No-project Alternative for the North Site.

49.3 "**Reduced Fueling Facility Alternative,**" that would reduce the number of North Site fueling stations from 32 to a smaller number (most typically 16 for Costco). It would reduce North Site parking to only the number of spaces necessary to serve the reduced fueling facility's employee parking requirement, would allocate all warehouse-employee parking to some of the excess spaces proposed for the South Site, and would adjust the fueling facility's footprint to permit preservation of on-site wetland, Heritage trees, woodland habitat, and landforms.

49.4. "**Reduced Parking Alternative**" that would eliminate the proposed 121 parking spaces on the North Site that would be in excess of the county's parking requirement. This alternative could reduce the South Site parking footprint to permit preservation of on-site wetland Heritage trees, woodland, wildlife habitat, landforms, and historic architectural resources. (Costco proposes to forego substantial parking for the sale of Christmas trees during the busy holiday season anyway, so why not just do it for the rest of the year? We can all still get our Christmas trees at Green Acres).

49.5. "**Combined Reduced Fueling Facility and Reduced Parking Alternative**" that would

combine the two alternatives discussed in Comments 48.3. and 48.4.

49.6. "**Plan Consistent Alternative**" that, except for the required Planned Development Permit, would require no exceptions, conditional use permits, or variances, from the County General Plan, or Zoning Ordinance, including the county sign code (Zoning Ordinance Chapter 130.36), and would require no parking in excess of the county's requirements. This alternative would simply comply with all standing applicable county plans, regulations, policies, rules, regulations, and requirements, no more, no less.

49.7. "**Natural Resource Alternative**," that would preserve, to the maximum extent feasible, the natural features of the site, including existing landforms, riparian areas, springs, wetlands, trees and tree clusters, wildlife habitats, migration routes, and foraging areas on the project site.

49.8. "**Off-site Alternative**," on a different site, or sites, that would reduce or avoid any of the proposed project's significant individual and cumulative effects, and that would not be immediately adjacent to a school or residential uses.

49.9. other alternatives that may be identified as necessary to avoid or reduce the project's significant individual and cumulative effects identified under any of the 18 environmental topics listed in the project NOP, CEQA Appendix G, and comments on the NOP.

50. CEQA does not normally require an EIR to address the economic effects of a project, but if the economic effects of the project cause a significant physical effect, the physical effect must be addressed (CEQA Guidelines, Section 15131 and Section 15064(e). So, for example, if among the effects of the Costco project would be an economic effect, such as one that caused local businesses to fail and close, and those failures caused the physical effect of urban decay, the physical effect would need to be examined in the DEIR (See **Bakersfield Citizens for Local Control v. City of Bakersfield** at 124Cal.4th 1184). An economic study should be conducted to determine whether the Costco project would have such an indirect physical impact, and, if it does, the physical effect must be evaluated and mitigation identified in the DEIR.

51.. Although CEQA does not normally require an EIR to address economic effects, it does not prohibit it from doing so.(CEQA Guidelines, Section 15131). Because the project's economic effects will undoubtedly be critical to the public perception of it, and to the county's ultimate decision whether and how to approve or deny it, a cost-revenue analysis should be prepared, either as part of the EIR, or as a free-standing report. The cost-revenue analysis should examine the project's direct and indirect fiscal and economic impacts, including the effects of the project on the economies and treasuries of El Dorado County and other economically affected public agencies and private entities, and any economic effects that would lead to urban decay or other adverse physical effect. The report should include an examination of the project's effects on local residential property values, and the resulting effects on county property tax revenues. The report should be made publicly available and subject to public review at the time of, or before, the publication of the DEIR, with ample time for

public review and comment, and for county response to comments, on each. The report should be adequate to determine whether the project's economic effects would cause physical impacts that need to be addressed in the Costco DEIR (see Comment 49, above).

1. It does not seem credible that Costco has no plan for the 13.79-acre outparcel **"black hole"** that covers more than half of its 24.83-acre North Site. If Costco does have a plan, it should be included in the Project Description as a future phase of the project, and a new NOP should be issued. If Costco does not have a plan for the future development of this "outparcel," future development, by Costco, or others, of the outparcel, consistent with the commercial designation for the site in the General Plan, should be addressed in the DEIR's cumulative impact analyses as a reasonably foreseeable future project. Either way, the DEIR must address the future development of the outparcel.

2. And what about Costco's and the county's intentions for the 7.75-acre **"reserve"** for the future Country Club Drive Extension, which has been in the county's CIP since forever? Is the county's and Costco's plan that Costco will someday dedicate that to the county, or is the plan that the county will someday purchase it?

3. And when are we actually going to see an NOP on the **DEIR for the whole Country Club Drive Extension**, from Bass Lake Road, to the Tong Road cul du sac, around the project North Site, to Silva Valley Parkway, and beyond? We believe we know roughly how it will get from Bass Lake Road, to Tong Road, and around the North Site to Silva Valley Parkway, but the Costco NOP graphic only shows it wandering off from there somewhere to the west. Where is it supposed to end (Raley's loading dock?)? And why is it even proposed, parallel to Highway 50? What's it supposed to do that Highway 50 doesn't already do, except induce more growth in its own corridor? Is the extension and the growth it would induce already covered by the magnificent and timeless 2004 County General Plan EIR? But, if not, please let us know when we might see an NOP on "the whole of the action" for the entire Country Club Drive Extension.

Amanda Hansen

Deputy Secretary for Climate Change

California Natural Resources Agency

916-397-2313 | amanda.hansen@resources.ca.gov



From: Thomas Sanford
To: EDHCostco@edcgov.us
Subject: Comments on Proposed EDH Costco
Date: Tuesday, March 4, 2025 9:39:30 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Greetings: My name is Thomas Sanford and I reside at 2675 Carnelian Circle, EDH. My comments in support of the proposal are as follows:

1. The proposed location is about as good a location as we might hope for. The close proximity to Highway 50 minimizes the circulation impacts for the remainder of EDH but makes it very convenient for the EDC residents living east of EDH.
2. EDC needs the sales tax to stay in the County. It seems absurd to tear up our roads and streets hauling our sales tax to Sacramento County. In case anyone is looking, our roads are in awful shape.

Thank you, Tom Sanford

From: Dennis McGillivray
To: EDHCostco@edcgov.us
Subject: Comments on the NOP
Date: Sunday, March 30, 2025 4:31:02 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Mr. Welch,
We strongly support the construction of the Costco warehouse and fuel station at the proposed locations. It appears that the Folsom Costco is nearing capacity already. The EDH Costco will provide a much-needed shopping resource for El Dorado County residents and our tax dollars will benefit our County instead of Sacramento County.

Dennis & Judith McGillivray
4392 Gresham Drive
El Dorado Hills, CA 95762
Res: 916.294.7947
Cell: 916.955.3508
Email: edhrook@gmail.com

Public Comments on Transportation Impacts – EDH Costco Draft EIR (SCH #2021080402)

1. **Transportation – Impact on Critical Local Intersections and Bikeway Corridor Circulation**

The EIR should evaluate how the proposed Costco development will affect traffic safety, congestion, and circulation at key intersections throughout the Silva Valley Parkway and White Rock Road corridors. These corridors include multiple sensitive nodes that serve schools, residential neighborhoods, community facilities, and recreational users.

Key intersections and crossings include:

- **Silva Valley Parkway** at: Harvard Way, Netherdale Way, Darwin Way, Charter Way, Apian Way, Fairchild Drive, West Glenmore Way, Timberline Ridge Drive, Highland Hills Drive, Green Valley Road, Gold Eagle Lane, Walker Drive, Serrano Parkway, Entrada Drive, and both entrances to the public library.

- **School-specific access points**: entrances and exits for Oak Meadow Elementary School and Rolling Hills Middle School.

- A **pedestrian and bikeway crossing** located approximately ¼ mile north of Darwin Way, heavily used by families, walkers, and cyclists as part of the community's active transportation network.

- **White Rock Road** intersections at: Valley View Parkway, Kegels Lane, Monte Verde Drive, Post Street, the Siena Restaurant entrance and Latrobe.

These locations currently support a delicate balance of student traffic, neighborhood circulation, recreational use, and through-traffic. The proposed Costco project—including increased private vehicles, delivery trucks, and fueling station traffic—risks overwhelming this infrastructure and creating serious congestion and safety hazards.

The EIR should:

- Model traffic impacts at each of these intersections during peak and non-peak hours.

- Evaluate effects on bikeway and pedestrian routes, especially where these intersect with vehicle-heavy zones.

- Assess implications for school access, emergency services, and neighborhood connectivity.

- Consider cumulative traffic impacts from existing and proposed developments.

- Recommend mitigations such as traffic calming, signal timing updates, intersection redesigns, enhanced bikeway protections, or safe crossing improvements.

The County must ensure that neighborhood infrastructure, particularly routes used by families, schoolchildren, and active transportation users, is not compromised by regional commercial traffic generated by the project.

2. **Transportation – Corridor-Wide Mobility, Travel Time, and Local Access Impacts**

The EIR should assess how the proposed Costco development will alter overall mobility and travel times along the full length of **Silva Valley Parkway** and **White Rock Road**, particularly between **Green Valley Road and Latrobe Road**. These corridors serve as key arteries for local school commutes, residential traffic, library access, and regional travel.

The Costco project is expected to introduce a **large volume of daily vehicle trips**, including:

- Personal vehicles accessing the warehouse and gas station
- Delivery trucks
- Fuel tankers
- Ride-hailing services
- Weekend surge traffic

This added traffic will lead to slower travel times, longer delays at signalized and unsignalized intersections, and restricted access for residents trying to enter or exit side streets and neighborhoods.

In particular, **Silva Valley Parkway functions as the only north-south connector** through a densely residential part of El Dorado Hills. The influx of regional retail traffic will degrade the ability of local residents—many of whom rely on Silva Valley for school, errands, or work—to move reliably and safely within their own community.

The EIR should analyze:

- Baseline and projected Level of Service (LOS) at key intersections and along major segments
- Changes in average and peak-hour travel times
- Decreased access to homes, schools, and public amenities
- The potential for driver frustration and risk-taking due to congestion

The analysis should also consider the **cumulative effect** of increased traffic on community quality of life, including noise, pollution, and reduced time for families, students, and workers trying to move across town.

3. **Transportation – Existing Congestion and Limited Capacity on White Rock Road South of Highway 50 Overpass**

The EIR should evaluate how the proposed Costco development will impact traffic flow and safety on White Rock Road, particularly just south of the Highway 50 overpass. This section of White Rock Road is currently a two-lane roadway that already experiences significant congestion during peak hours, with limited room for expansion and few alternative routes available.

The addition of a high-traffic commercial development like Costco—along with its 32 fuel positions and regional draw—will increase vehicle volumes on an already burdened road. The EIR must analyze existing traffic data, model future conditions with project-induced traffic, and assess potential delays, queuing, and collision risks in this corridor. Mitigation should be proposed to prevent further deterioration of traffic flow and ensure safe access for local residents, commuters, and emergency services.

4. **Transportation – Impacts on Bicycle Safety and Connectivity Along Silva Valley Parkway**

The EIR should evaluate how increased traffic volumes, turning movements, and congestion caused by the proposed Costco development will impact the safety and usability of existing bicycle infrastructure along Silva Valley Parkway and White Rock Road. This corridor currently supports regular bicycle use by students, families, and commuters—many of whom use it as part of an informal or partially established bikeway network.

The project is expected to introduce hundreds of new vehicle trips daily, including larger delivery trucks and fuel tankers, increasing the risk of conflicts at intersections, driveways, and bike lane crossings.

The EIR must assess the cumulative effect of added vehicle volume on bicycle safety, especially for school-aged cyclists. This includes evaluating whether the project will increase near-miss events, reduce comfort or perceived safety, or lead to a decline in biking due to dangerous conditions.

Mitigation measures should include protected bike lane upgrades, intersection design improvements, signage and striping enhancements, and safe routes to school planning coordination.

5. **Transportation – Pedestrian Safety Impacts Along Silva Valley Parkway and School Zones**

The EIR should evaluate how the proposed Costco development will affect pedestrian safety along Silva Valley Parkway and adjacent school zones. This corridor serves hundreds of pedestrians daily, including students walking to and from Oak Ridge High School, Rolling Hills Middle School, Silva Valley Elementary, and Oak Meadow Elementary, as well as families, joggers, and residents accessing community facilities.

The increase in vehicle trips—including personal vehicles, delivery trucks, and fuel tankers—will elevate conflict risk at crosswalks, intersections, and midblock crossings. These risks are especially serious during morning and afternoon school commute hours, when students cross Silva Valley Parkway near Oak Ridge, Silva Valley Elementary, Rolling Hills Middle, and Oak Meadow Elementary.

The EIR should assess how added traffic, turning movements, and driver distraction may increase pedestrian injury risk and reduce the safety of walking routes to school. Particular attention should be paid to crossings without signals or protective features, areas with long wait times, and locations near driveways or gas station access points.

Mitigation strategies should include signal timing adjustments, high-visibility crosswalks, refuge islands, school zone signage, curb extensions, and traffic-calming measures to preserve pedestrian safety and comfort.

6. **Transportation – School Commute Congestion and Vehicle Queuing Impacts**

The EIR should evaluate how the proposed Costco development will impact traffic congestion during school commute hours along Silva Valley Parkway and surrounding access roads. This corridor serves four major schools—Oak Ridge High School, Rolling Hills Middle School, Silva Valley Elementary, and Oak Meadow Elementary—with thousands of students arriving and departing within narrow time windows each weekday.

Morning drop-off and afternoon pick-up periods already result in vehicle queuing, circulation delays, and long wait times at intersections such as Silva Valley Parkway at Harvard Way, Golden Eagle Lane, Serrano Parkway and the school driveways themselves. The addition of Costco-related traffic—including shoppers, delivery vehicles, and fuel customers—will intensify this congestion, leading to longer queues, increased travel time, and higher safety risks for students, parents, and school staff.

The EIR should model traffic conditions specifically during peak school commute periods and assess how increased demand will affect school access, pedestrian crossings, and emergency response times. If the project causes intersection failure or unacceptable delays, the County must require mitigation such as restricted delivery hours, signal timing changes, additional turn lanes, or dedicated school access lanes to prevent unsafe backups.

7. **Transportation – Emergency Response and School Bus Circulation Impacts**

The EIR should evaluate how traffic increases caused by the proposed Costco development will affect emergency vehicle response times and school bus operations along Silva Valley Parkway and surrounding roads. This corridor includes multiple key intersections and narrow segments—such as those near Oak Meadow Elementary and Rolling Hills Middle School—where congestion is already a concern during peak hours.

Increased traffic volumes, longer signal cycles, and added turning movements into and out of the Costco site may delay emergency vehicles attempting to reach schools, homes, or incidents along the corridor. These delays can have serious consequences for public safety.

Additionally, school buses must navigate these same routes during highly synchronized pick-up and drop-off schedules. Added congestion or blocked intersections could interfere with school transportation reliability, increase route times, and create additional risks for children boarding or exiting buses in high-traffic areas.

The EIR should include modeling of emergency access under both average and peak conditions, as well as detailed circulation analysis for school buses. If degradation of service or safety is found, the County should require traffic mitigation, signal preemption for emergency vehicles, and coordination with local schools and first responders to preserve safe and timely access.

8. **Transportation – Vehicular Conflict Zones at School Entrances and Exits**

The EIR should evaluate how increased traffic from the proposed Costco will exacerbate vehicular conflict zones at key school entrances and exits—particularly at Oak Meadow Elementary, Rolling Hills Middle School, and Oak Ridge High School. These locations already experience high volumes of turning vehicles, queuing, and student crossings during drop-off and pick-up hours.

Additional traffic entering and exiting Silva Valley Parkway will create more opportunities for dangerous conflicts between through-traffic, turning vehicles, and vehicles queued at school driveways. These conflict zones not only increase the risk of collisions but also reduce visibility for pedestrians and cyclists—particularly children—who are attempting to cross streets or navigate sidewalks.

The EIR should include a detailed traffic conflict analysis for all intersections near school access points, taking into account peak school commute periods, signal timing, turning movements, and queue spillback. If the project introduces or worsens conflict conditions, the County should

require infrastructure or operational mitigation—such as extended school zone markings, signal adjustments, turn-lane redesign, or crossing guard funding—to protect vulnerable road users and maintain orderly circulation near schools.

9. **Transportation – Student Crossing Safety Near Silva Valley Elementary School**

The EIR should evaluate the traffic safety implications of increased vehicle volumes at the student crossing zone near Silva Valley Elementary School. This crossing, located along Silva Valley Parkway, serves as a critical route for dozens—if not hundreds—of students each school day. It is one of the most active pedestrian crossings in the area, especially during morning drop-off and afternoon pick-up times.

The proposed Costco development will add significant traffic to Silva Valley Parkway, including turning vehicles and peak-hour congestion. Increased traffic flow through this zone heightens the risk of collisions involving young children, reduces driver visibility and reaction times, and increases the likelihood of illegal passing or speeding to bypass queues.

The EIR must include a site-specific pedestrian safety analysis at this crossing, including vehicle and pedestrian volume counts, sightline evaluations, and driver compliance with crossing laws. Mitigation measures should be considered to reduce risk—such as raised crosswalks, pedestrian refuge islands, school crossing signal enhancements, extended school zone signage, and protected crossing periods during high-traffic hours.

Failing to address this crossing exposes young students to increased daily risk due to a project they had no say in and that will permanently alter the character and safety of their neighborhood.

From: Paula Isham
To: EDHCostco@edcgov.us
Subject: Comments re: EDH Costco
Date: Wednesday, March 26, 2025 7:17:58 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Good evening -

As a resident of Serrano, I do not want the Costco built on Silva Valley Road. There are many reasons why this is a bad idea.

The Silva Valley exit already serves many community residents, as well as 4 SCHOOLS along this road - Oak Meadow Elementary, Silva Valley Elementary, Rolling Hills Middle, and Oak Ridge High School.

This two lane road/exit cannot accommodate the influx of traffic that a Costco would bring. It is already very congested with traffic, especially during high peak hours (7-9am) and (2-4pm). This is a very busy road already. This community was not built to have a large commercial business at its front doors.

Many students who reside in the area commute to school via foot and bicycle. The addition of a Costco next to the elementary school would be unsafe for our community because it would bring additional vehicle and truck traffic to an already congested area. The safety of our students is AT RISK.

Also, adding this commercial business would be devastating to the overall community feel of Serrano. This is a residential area designed to be warm and inviting - places to hike, observe nature, and be in a community. Adding a Costco would be an eyesore, drawing attention away from our beautiful trees, rolling hills, and parks. We decided to live in Serrano because it was nested AWAY from larger commercial infrastructure.

If Costco is added, it will make Serrano a less desirable place to live. Our home values could fall and it would be a very bad situation for current residents.

Finally, there is already a Costco off East Bidwell in Folsom, less than 2 miles down the freeway. It makes no sense to have one Costco so close to the other.

If El Dorado County wants to benefit from the tax revenue generated from Costco, my suggestion is to put it up the hill closer to Placerville. Tahoe and Placerville residents could enjoy the benefits of having one in north El Dorado County.

As a resident of Serrano, I am in opposition of building a Costco in EDH.

Please stop this project from moving forward.

Paula Isham
Serrano resident

From: Don D Amico
To: EDHCostco@edcgov.us
Subject: Comments Regarding Proposed EDH Costco
Date: Saturday, March 29, 2025 8:40:14 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

I wasn't able to make the meeting a few weeks ago at the fire station but was curious if there will be additional forums regarding community outreach on this project?

Although, I would support a new Costco store here in El Dorado County, the proposed location of this store and overall size of the project isn't practical. I have concerns as well about the store being built adjacent to the middle school as I travel through this area daily and even during school release hours. It poses significant safety concerns. In addition, the proposed gas station location will completely change the intersection at Clarksville Road and Silva Valley. Based on only one access point onto a busy roadway will also create traffic congestion at this location, especially since there are no plans to widen Clarksville Road. This will completely change the flow of traffic as well for those accessing Highway 50. I don't want to see another traffic nightmare that we have at the intersection of Hwy 50 and Bidwell.

The proposed store location is also in an area of mapped natural occurring asbestos (NOA) which I would hope the county has addressed and also communicating this to the adjoining residential community and school district since these are both sensitive receptors which will require preparation of an asbestos dust mitigation plan and air monitoring during grading activities.

I would like to be able to continue being informed as to status of this project, but assume all future communication will through written documentation to the local community?

Regards,
Don D'Amico

Sent from my iPhone

31 March 2025

Cameron Welch
El Dorado County
2850 Fairlane Court, Building C
Placerville, CA 95667
EDHCostco@edcgov.us

COMMENTS TO REQUEST FOR REVIEW FOR THE NOTICE OF PREPARATION FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT, EDH COSTCO PROJECT, SCH#2021080402, EL DORADO COUNTY

Pursuant to the State Clearinghouse's 27 February 2025 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Notice of Preparation for the Draft Environmental Impact Report* for the EDH Costco Project, located in El Dorado County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

I. Regulatory Setting

Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by

the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases, the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues. For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:
http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/

Antidegradation Considerations

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Implementation Policy is available on page 74 at:
https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf

In part it states:

Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.

This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

II. Permitting Requirements

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), Construction General Permit Order No. 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). For more information on the Construction General Permit, visit the State Water Resources Control Board website at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

Clean Water Act Section 404 Permit

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACE). If a Section 404 permit is required by the USACE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements. If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACE at (916) 557-5250.

Clean Water Act Section 401 Permit – Water Quality Certification

If an USACE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications. For more information on the Water Quality Certification, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/

Waste Discharge Requirements – Discharges to Waters of the State

If USACE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation. For more information on the Waste Discharges to Surface Water NPDES Program and WDR processes, visit the Central Valley Water Board website at:https://www.waterboards.ca.gov/centralvalley/water_issues/waste_to_surface_water/

Projects involving excavation or fill activities impacting less than 0.2 acre or 400 linear feet of non-jurisdictional waters of the state and projects involving dredging activities impacting less than 50 cubic yards of non-jurisdictional waters of the state may be eligible for coverage under the State Water Resources Control Board Water Quality Order No. 2004-0004-DWQ (General Order 2004-0004). For more information on the General Order 2004-0004, visit the State Water Resources Control Board website at:

https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2004/wqo/wqo2004-0004.pdf

Dewatering Permit

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Threat General Order) 2003-0003 or the Central Valley Water Board's Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Threat Waiver) R5-2018-0085. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at: http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf

For more information regarding the Low Threat Waiver and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2018-0085.pdf

Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Limited Threat Discharges to Surface Water* (Limited Threat General Order). A complete Notice of Intent must be submitted to the Central Valley Water Board to obtain coverage under the Limited Threat General Order. For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2016-0076-01.pdf

NPDES Permit

If the proposed project discharges waste that could affect the quality of surface waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit. For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/help/permit/

If you have questions regarding these comments, please contact me at (916) 464-4684 or Peter.Minkel2@waterboards.ca.gov.

Peter G. Minkel
Engineering Geologist

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento

Pat Angell
Ascent
Pat.Angell@ascent.inc

Mike Okuma
Costco Wholesale
mokuma@costco.com

From:	Charlotte Anderson
To:	EDHCostco@edcgov.us
Cc:	Charlotte Anderson
Subject:	Comments: Costco Project in El Dorado Hills
Date:	Saturday, March 29, 2025 2:09:23 PM
Attachments:	C_Anderson Final Costco Serrano Project Sent 3-29-2025.pdf

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

To the El Dorado County Development Services Department -
Attn: Cameron Welch 2850 Fairlane Court, Placerville, CA 95667

Attached is my written comments regarding the Costco Project.

Regards,
Charlotte Anderson

From: Becky De La Torre
To: EDHCostco@edcgov.us
Subject: Community Concern letter
Date: Wednesday, March 26, 2025 11:19:34 AM
Attachments: Costco gas letter.pdf

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Mr. Welch,
Attached please find a letter regarding the current planned Costco gas station on Silva Valley Parkway.

Thank you,
Becky De La Torre

From: DEBORAH CARDIN
To: EDHCostco@edcgov.us
Subject: Concern
Date: Saturday, March 29, 2025 12:41:44 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

I'm concerned about the planned location for the proposed Costco in El Dorado Hills. It is not an ideal location due to the already difficult traffic situation and it is very close to two elementary schools. In addition, it is very close to the Folsom Costco.
It would be better to have the new location further up 50 in the Placerville area where it can serve Amador county and El Dorado county residents. This would draw more traffic away from the existing crunch at East Bidwell and Silva Valley areas.
Please consider an alternative location.
Thank you,

Dr. Deborah Cardin
St. Dominic Dalmatians
951 479-6282
Dream, Believe, Dare, Achieve
Sent from my iPhone

From: Lina Wang
To: EDHCostco@edcgov.us
Subject: Concern about gas station near oak meadow elementary
Date: Tuesday, March 11, 2025 9:31:47 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear ,

I am writing to express my profound concern and strong opposition to the county's plan to construct a gas station and Costco in close proximity to Oak Meadow Elementary School. As you are aware, this school serves young children, some as young as four years old. The proposed development presents significant safety and traffic risks that cannot be overlooked.

The presence of a large gas station near an elementary school is inherently dangerous. The potential for gas fires and explosions poses a grave threat to the safety of the students, staff, and surrounding community. Additionally, the increased traffic associated with such a development will create a hazardous environment for children walking to and from school, compromising their safety and well-being. The constant noise and congestion will disrupt the educational environment, making it difficult for students to focus and learn.

It is inconceivable that any responsible party would endorse a plan that jeopardizes the safety and education of young children. I implore the county to reconsider this proposal and prioritize the welfare of our community's most vulnerable members. I urge you to listen to our concerns and halt the plan to build a gas station and Costco near Oak Meadow Elementary School.

Thank you for your attention to this urgent matter.

Sincerely,

Lina

From: Li Qian
To: EDHCostco@edcgov.us
Subject: Concerns Regarding Proposed Costco Gas Station Near Oak Meadow Elementary School
Date: Monday, March 10, 2025 9:57:17 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Hi there,
I am writing to express my concerns regarding the proposed construction of a Costco warehouse and gas station near Oak Meadow Elementary School, as discussed in today's public hearing. While I understand the potential economic benefits of having a new Costco in our community, I am deeply concerned about the placement of the gas station in close proximity to the school and the overall impact on traffic and safety in the area.

One of my primary concerns is the environmental and health impact that a gas station could have on the young students attending Oak Meadow Elementary School. Gasoline stations emit hazardous air pollutants, which have been linked to respiratory issues and other health risks, particularly for children. The close proximity of the gas station to the school raises concerns about the long-term exposure of students and staff to these harmful emissions.

Additionally, the increased traffic congestion that would result from both the Costco and the school’s daily operations is a significant safety issue. Looking at Folsom Costco's current traffic situation, it will be even worse with a school next to the proposed Costco location. Adding Costco traffic, including delivery trucks and customers, could exacerbate this problem and pose risks to school teachers, parents, especially students.

I urge the planning authorities to reconsider a new location of Costco and its gas station. There's plenty of open spaces in EDH, there must be better options which can have a new Costco in EDH and avoid the impact to school and students.

I appreciate your attention to this important matter and request that the concerns of local residents, parents, and school staff be taken into account. I look forward to your response and any updates on how these concerns will be addressed.

Sincerely,
Li

From: maggie liu
To: EDHCostco@edcgov.us
Subject: Concerns Regarding Costco Gas Station Proposal Near Oak Meadow Elementary School
Date: Monday, March 10, 2025 11:50:06 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

To Whom It May Concern,

It is clear that building a gas station near a school is not a sensible decision.

The California Air Resources Board (CARB) advises against placing sensitive land uses, such as schools, within 300 feet of large gasoline dispensing facilities (those dispensing 3.6 million gallons per year or more). Additionally, the EPA's School Siting Guidelines recommend assessing potential health risks when schools are located within 1,000 feet of large gas stations.

Has Costco obtained the necessary approvals?

We urge El Dorado Hills County to disclose the evaluation results to ensure the safety of our children. If no supporting documentation exists for this decision, we request that the project be halted and reconsidered.

Sincerely,
Maggie - Serrano resident

From: Lauren Gould
To: EDHCostco@edcgov.us
Subject: Concerns - Site Flipped
Date: Monday, March 17, 2025 7:09:01 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

I live in Serrano Village A. I realize this project is going to happen but to me flipping the site plan so the gas station is in the island area southwest of Silva Valley Parkway (farther away from school closer to freeway) with one way egresses and putting the Costco store nearer to the school with loading docks closest to freeway would help immensely. Keep the fumes and traffic exhaust as far away from the school as possible.

Also the building skin should be in alignment with Serrano's styling.

A huge sound wall barrier should be built around the perimeter to buffer the neighborhood and hide the lighting.
Sent from my iPhone

From: Lorilei McCusker
To: EDHCostco@edcgov.us
Subject: Concerns Regarding the Construction of Costco
Date: Monday, March 24, 2025 8:24:17 AM

This Message Is From an External Sender
This message came from outside your organization.

Report Suspicious

Dear Cameron Welch, Senior Planner,

I hope this message finds you well. I am writing to express my concerns regarding the proposed construction of Costco, particularly the inclusion of a fueling station, near Oak Meadow Elementary School. While Costco provides valuable services to the community, the location raises significant health and environmental concerns that must be thoroughly addressed before any development proceeds.

Health Concerns, Particularly for Children:

Studies have shown that fueling stations, especially those located near schools, pose serious health risks due to the emissions from fuel vapors, including volatile organic compounds (VOCs), nitrogen oxides (NOx), and particulate matter (PM2.5). These pollutants are linked to a range of respiratory issues, such as asthma and bronchitis, and can exacerbate pre-existing conditions. A study published in the *Environmental Health Perspectives* found that children are particularly vulnerable to air pollutants due to their developing respiratory systems and higher rates of exposure to outdoor air.

In particular, research has shown that children living in proximity to fueling stations have an increased risk of developing asthma and other long-term health issues. One study by the *California Air Resources Board* found that children who attend schools within a 1,000-foot radius of gas stations are more likely to experience respiratory distress and hospitalizations. The close proximity of such a fueling station to a school could significantly undermine the health and well-being of the students, staff, and the community at large.

Environmental Concerns:

In addition to health risks, there are critical environmental concerns associated with building Costco in this location, particularly with the potential disturbance of land that may contain asbestos. Asbestos is a hazardous material that, when disturbed, can release microscopic fibers into the air, which pose serious long-term health risks, including lung cancer and mesothelioma. A number of studies have linked asbestos exposure to respiratory diseases, especially among children, who may be more susceptible to the harmful effects of such exposure.

If the proposed site contains asbestos, digging and construction activities could release these fibers, posing a direct risk to anyone in the area, particularly to the students and staff at Oak Meadow Elementary School. Given the proximity of the school, any disturbance of this material would endanger the health of hundreds of children and could lead to significant environmental contamination that would be difficult to remediate.

Conclusion:

While Costco is a reputable business, I urge you to carefully consider the potential health and environmental impacts of placing this store, particularly with a fueling station, next to a school. The health risks to children, the environmental concerns surrounding asbestos, and the broader implications for the surrounding community cannot be ignored. I respectfully ask that you reconsider this location and explore alternative sites that would not put vulnerable populations at risk.

Thank you for your time and attention to these pressing concerns.

Sincerely,

Lorilei McCusker
Oak Meadow Elementary & Buckeye Union Mandarin Immersion School
Administrative Assistant
916-933-9746 ext. 2101

From: Anuj Kanish
To: EDHCostco@edcgov.us
Subject: Coscto Project - Voting NO
Date: Wednesday, March 26, 2025 4:05:47 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Hi Cameron, Pleased to e-meet you! My wife and I are residents of Serrano and have been working and living in the area for over 25 years.

We are voting NO on this project proposal unless we see a major dollar commitment to improve the traffic infrastructure and safety provision for the residents and daily commuters to and from Highway 50. Our biggest concerns are around two things:

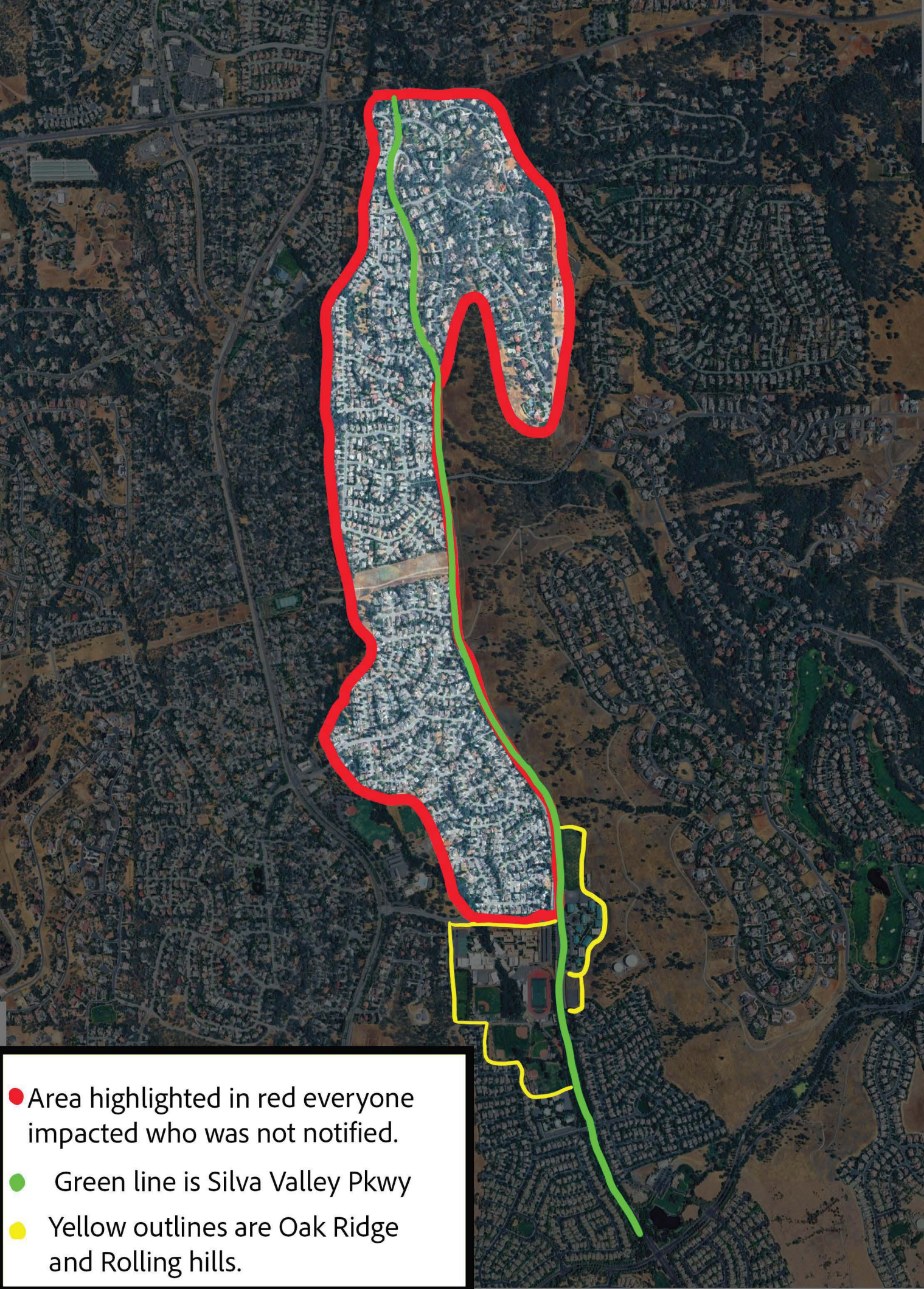
a) **Congestion on White Rock Rd** - Unless the Whiterock Rd from the Highway 50 Exit to Latrobe Rd is widened and made four lane it is going to create a chaos and safety risk for all the residents who regularly go to Town Center (Shopping) or Business park (Work/School). If this can't be done then we are just making things worse.

b) **Vicinity to School and residential** - The proposed site is too close to school and residential area and can pose safety risk for students/parents and residents. Especially in the afternoon when the school is closing and people are coming from work, this area is going to be very congested.

The current Costco in Folsom is not too far for most of the people who live in El Dorado Hills so we are also not convinced why another one is just the next exit. It can go further east to Cameron Park.

Hope our views will be given due consideration.

Best,
Anuj Kanish


Area highlighted in red everyone impacted who was not notified.
Green line is Silva Valley Pkwy
Yellow outlines are Oak Ridge and Rolling hills.

From: Carrie Jo Mc Gehee
To: EDHCostco@edcgov.us
Subject: Costco
Date: Sunday, March 23, 2025 8:56:31 AM

This Message Is From an Untrusted Sender

You have not previously corresponded with this sender.

Report Suspicious

We need the tax dollars going to EDC bring it on i’m for the new Costco!
Sent from my iPhone

From: Chris Blake
To: EDHCostco@edcgov.us
Subject: Costco
Date: Tuesday, March 18, 2025 8:18:32 PM

This Message Is From an Untrusted Sender

You have not previously corresponded with this sender.

Report Suspicious

Sent from my iPhoneBuild it. We need it. Dont listen to the noise

Dennis and Barbara Angelini
1075 Bevinger Drive
El Dorado Hills, CA 95762

2025 MAR 27 AM 11:02
RECEIVED
PLANNING DEPARTMENT

March 19, 2025

Cameron Welch, Senior Planner
County of El Dorado Planning and Building Department
2850 Fairlane Court, Building C
Placerville, CA 95667

Re: Costco – Revised Notice of Preparation

Mr/Ms Welch:

We are in receipt of the Revised Notice of Preparation regarding Costco. We are strongly opposed to this plan, especially the proposed fuel station. Nothing like this belongs in a neighborhood nor right next to an elementary school. The potential for lawsuits is strong. The odor and fumes of fuel and idling cars is extremely unhealthy for our neighbors directly behind the proposed fuel station as well as the school. It also eliminates the right for peaceful and quiet enjoyment of one's own back yard.

Traffic today is bad enough. With 250-300 potential employees, school drop offs and pick ups, cars lining up for fuel, and visiting the warehouse itself is going to make Silva Valley Parkway and the interchange gridlock. In addition, our property values will decline. We will have million dollar homes looking down at Costco's AC units and gas station.

What happens to our entrance/exit gate at Entrada Drive just off Silva Valley Parkway? It is already a challenge for residents during the day to exit.

We are strongly opposed to Costco and its fuel station invading our peaceful neighborhood!

Sincerely,
Dennis + Barb Angelini
Dennis and Barbara Angelini

cc: EDHCostco@edcgov.us

From:	Dennis Angelini
To:	edhcostco@edcgov.us
Cc:	barbaraangelini@yahoo.com
Subject:	Costco
Date:	Wednesday, March 19, 2025 1:01:03 PM
Attachments:	Costco Letter.pdf

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Please see attached.

Dennis Angelini
Fabrication Dynamics
(916) 673-9042 Office
(408) 390-3075 Mobile
dennis@fabdynamics.com
fabdynamics.com

This electronic message and attachments contains information from Fabrication Dynamics which is confidential or privileged. The information is intended to be sent to the individual or entity named above. If you are not the intended recipient, be aware that any disclosure, copying or distribution or use of the contents of this information is prohibited under applicable law. If you have received this electronic transmission in error, please notify the sender or by telephone at 916.673.9042.

Please help conserve and consider if this email needs to be printed.

From: Diana Douglas
To: edhcostco@edcgov.us
Subject: Costco
Date: Friday, March 14, 2025 10:35:44 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

I'm writing in regards to the proposed Costco on Silva Valley in El Dorado Hills. I have 4 children who attend Oak Meadow. I'm writing as a concerned mom who is worried about how this monstrosity will affect the safety of the area where these kids are learning. Firstly, building a Costco there will attract thousands of people making the school that more vulnerable. It's already an open campus where anyone can just walk on without notice. Secondly, the construction will no doubt be a major distraction to the students and teachers. Third, traffic is already backed up on Silva Valley during school pick ups, can't imagine adding Costco traffic to that. I would like to add my voice to every other parent and neighbor: we do not need or want a Costco in that neighborhood especially since there is a Costco two freeway exists away.

From: George Triano
To: EDHCostco@edcgov.us
Subject: Costco
Date: Friday, March 28, 2025 2:05:05 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

March 28, 2025

Cameron Welch, Senior Planner
County of El Dorado Planning and Building Department
2850 Fairlane Court, Building C

Mr. Welch,

I have been a resident of Serrano for almost 11 years. While I do not live in the Serrano Villages close to the Costco site, I do have concerns about the effect it will have on El Dorado Hills, particularly the increased traffic on Silva Valley and Serrano Parkways.

Silva Valley Parkway

As you know, the Folsom Costco has a six lane road from Bidwell delivering shoppers to the site. While the majority of Costco shoppers will use 50 to get to the store, there will be a large amount of traffic that will access Costco via Silva, a four lane road. In addition to El Dorado County residents coming from Green Valley, it's more than likely that Folsom residents who reside near Folsom Lake will shop at the new Costco rather than fight Blue Ravine and Bidwell traffic to get to the Folsom Costco.

These shoppers will drive by four schools to get to Costco. Some supporters of the project have argued that Costco hours will not have a negative impact on these schools. That is not the case. With the inclusion of the gas station in the project, there will be more cars in the area before the schools open, creating problems for parents trying to drop their children off at any of the four schools but it will be particularly challenging for parents and teachers at Oak Meadow.

Once the Costco store opens, there will be a continuous stream of traffic all day past the schools, with much of the traffic more than likely exceeding the speed limit on Silva as parents go to the schools for the afternoon pick-up. What traffic measures will the Fire Marshall, the Sheriff, and the County employ to slow traffic and make the area safe? The elementary school may need to bring the drop-off and pick-up sites into the school parking lot since the increased traffic on Silva will create a serious safety concern. What assistance will the County offer the school regarding the design and implementation of the relocation?

It is more than likely that the opening of the new Costco store will result in the termination of any left turn traffic by cars exiting the Entrada gate on to Silva. Residents will have to turn right and go to the Serrano/Silva intersection to get to the store or to get on Highway 50. The left turn/U-turn lane on northbound Silva is too short to accommodate the increase in

traffic trying to make a left turn or U-turn. Traffic could possibly be backed up to the Entrada gate if there are no modifications to the intersection.

Delivery hours for Costco should be limited with no deliveries from 9 PM to 8 AM and the gas station should be moved as close as possible to Highway 50.

Country Club Road

There is a long term plan to bring Country Club Road from Bass Lake Road to Silva. It's unlikely that this will be done before Costco opens but the County should construct Country Club Road from Silva at least up to the church. I think it is necessary to have a turn lane from Country Club to Oak Meadow so that parents who pick up or drop off will have access to the school without coming into Serrano. Serrano residents could also benefit from Country Club construction with an exit at the south side of Village A where Russi Ranch Road will have an exit gate to Country Club Road. Today there are limited hours when a left turn is permitted at the Entrada Gate. If the County is not going to put a four way stop or a light at the Entrada exit on to Silva, residents will be forced to use the Village Green gate to exit the community. Construction of the west part of Country Club would be beneficial as an effort to alleviate traffic problems caused by this project.

Noise

Residents of Village A and Village D2, along with other parts of El Dorado Hills, will be subjected to increased noise levels, especially during construction but also following completion with the increase in traffic. Will construction hours be limited to daytime only? What plans does the County have to reduce sound levels in the area during construction and upon completion? Will the County require more landscaping than would be typical for a project of this size in an effort to improve the appearance of the site and to possibly reduce noise?

If the project is approved, construction will be an on-going problem for several years and possibly longer if the County does make improvements/changes to the roads in the area. What mitigation efforts will the County employ to minimize disruption for parents dropping off or picking children at any of the schools on Silva as well as for all drivers on Silva and Serrano Parkways?

Summary

My feeling is that Silva needs to be widened and Country Club Road constructed if this project is approved. Since the Silva/50 interchange was completed, traffic past the Entrada Gate has tripled and noise complaints from residents have increased proportionately. In addition it is not unusual to see six to ten cars backed up on Silva at the Entrada Gate when someone who doesn't have the gate entry code tries to enter. There are also many cars parked on Silva in front of Oak Meadow when school ends for the day because parents want to avoid the problems and delays of picking up their children in the school parking lot. Both of these situations will become more dangerous if Silva is not widened.

Placing Costco on that site without significant changes to the roads in that area will result in dangerous situations and a traffic nightmare that will be worse than the problems that resulted from a lack of planning at El Dorado Hills Boulevard and Saratoga. If the County

does not commit to significant road improvements, I think the development should be denied.

I recognize that there are significant financial benefits to the County with Costco coming to El Dorado Hills; however, financial considerations should not be the sole driving force when considering approval of this project. Progress is inevitable but to allow this project to proceed without proper planning and implementation will result in the obliteration of the quality of life that many residents anticipated and enjoyed when they moved to El Dorado Hills.

Sincerely,

George Triano
5207 Degas Way
El Dorado Hills, CA 95762

georgetriano@gmail.com

916.358.9443

From: JEFF STRAND
To: EDHCostco@edcgov.us
Subject: Costco
Date: Wednesday, March 26, 2025 3:46:09 PM

This Message Is From an Untrusted Sender

You have not previously corresponded with this sender.

Report Suspicious

We are absolutely thrilled to have a Costco on Silva Valley. It will be a welcome addition to our community and provide us a method to purchase merchandise in our county - thus the much needed revenue!
Thank you for the opportunity to comment on this topic!

From: Jonathan Van Loo
To: EDHCostco@edcgov.us
Subject: Costco
Date: Thursday, March 20, 2025 10:42:20 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Hi Cameron,

I live in EDH not far from the planned Costco site, at 2121 Lamego Way, El Dorado Hills, CA 95762. I know there are many residents opposed to development in our area, wanting to keep the area in its natural state. I understand their opposition to development and change. However, I view Costco as a great addition to EDH that will bring in jobs and sales tax revenue and is generally a good steward and neighbor. It will make shopping trips shorter and the location right next to 50 will, presumably, minimize traffic. Because my child used to attend Oak Meadow, I don't know about the impact on school time traffic but the left turn lane into Oak Meadow gets very backed up and so there would need to be some accommodations so that Costco traffic doesn't impact the Oak Meadow traffic flow. But overall I'm in support of this development and I believe many others in the area, though not as vocal, support a Costco in EDH.

Best regards,

Jonathan Van Loo

Jon Van Loo

Partner

BSV LLP | **www.bsvlaw.com**

jon@bsvlaw.com
347.388.0300

From: Mark A. Rodriguez
To: PL-EDH Costco Project
Subject: Costco
Date: Wednesday, March 26, 2025 3:56:30 PM
Attachments: 3271239d-04c6-4d9a-a444-1a4c4e6b75ce-large16x9_5bc68ca8689c1.image.png

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear Mr. Welch,

As a resident of Serrano in El Dorado Hills since 1998, I am generally OPPOSED to building the Costco warehouse store and fuel station at the proposed locations.

I don't believe the Costco will be a good fit aesthetically for this largely residential community adjacent to Serrano. I also have safety concerns about how traffic and potential crime may increase as a result of the project, and impact surrounding neighborhoods and schools.

For me to support this project, this would literally have to be the nicest Costco ever built! I doubt the developer would be able to cost-effectively design and build an aesthetically acceptable Costco building and fuel station.

Here's an article about a Costco project in Idaho that may offer some guidance for the architectural design for this project should it move forward. However, it looks like even the finished product for this project wouldn't be nice enough for me.





Council approves design of Meridian Costco
idahonews.com

All the best,

Mark Rodriguez
6007 Sundale Ct.
El Dorado Hills, CA 95762
Mobile: 916-939-7171

From: Marshall Armstrong
To: EDHCostco@edcgov.us
Subject: Costco
Date: Thursday, March 27, 2025 8:29:52 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

The Armstrong family at 4065 Borders Dr believes:

The proximity of Costco retail building and gas station are severely close to the Grammar school and surrounding homes. In our opinion, they will create a potentially dangerous traffic problem, environmental hazard, and disruptive noise level.

Thank you,

Marshall & Elaine Armstrong

From: Max Castro
To: EDHCostco@edcgov.us
Subject: Costco
Date: Sunday, March 30, 2025 6:59:07 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear Mr Cameron Welsh,

My name is Max Castro, and I am a 5th grader at Oak Meadow Elementary. My sister also goes there and is in 3rd grade. I am writing to ask you not to build a Costco and gas station next to our school. I think it would be a bad idea, and I hope you will listen to my reasons.

First, it will make traffic really bad. There are already a lot of cars when parents drop off and pick up kids. If you build a Costco, there will be even more cars and big trucks coming in and out. It will be dangerous for kids trying to cross the street, and it might take longer for parents to pick us up.

Second, gas stations have a lot of pollution. The air might not be as clean because of all the cars and gas fumes. We play outside every day at recess, and we don't want to breathe in bad air while we run and have fun. It could even make some kids sick.

Last, a Costco would make the area really noisy. Right now, our school is pretty quiet except for kids playing. If you build a Costco, we will hear cars, trucks, and people all the time. It might be hard to concentrate in class with all that noise.

I hope you think about what I said. I love my school, and I want it to stay safe and a good place to learn. Please don't build a Costco and gas station so close to us.

Thank you for reading my letter.

Sincerely,
Max and Camila Castro
5th Grade Student at Oak Meadow

From: Melinda Zak
To: EDHCostco@edcgov.us
Subject: Costco
Date: Sunday, March 30, 2025 9:00:30 AM

This Message May Be Unsafe
Please verify with the sender offline and avoid replying with sensitive information, clicking links, or downloading attachments.

Report Suspicious

This is no place for a gas station it's too close to Oak Meadow Elementary. Silva Valley is no place for a huge business like Costco. There are four schools on or near Silva Valley all Costco would cause is huge traffic jams and dangerous conditions for children.
Melinda Zak

From: Patricia Andrews
To: EDHCostco@edcgov.us
Subject: Costco
Date: Monday, March 31, 2025 7:21:37 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

To Whom it May Concern

I am looking forward to a new Costco in EDH. Convenient, great location, and tax revenue for our county are all benefits to the community.
As a senior citizen, this would make our lives easier and safer than driving to the current location in Folsom.
Please approve the application!

Sincerely,
Patricia Andrews

From: Raj c
To: EDHCostco@edcgov.us
Subject: Costco
Date: Wednesday, March 26, 2025 3:30:04 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Hello,

My name is Raj Chopra MD and I live in El Dorado Hills In the community of Serrano. I am one road up from the proposed Costco which I think is a horrible idea. The traffic and noise will be unbearable. It is a small piece of land that should not have a store of that size placed on it. This should be moved one exit up to Bass Lake where there is more land and less homes built near it. We already have tremendous traffic because of the school. This will only make it worse. This is a poorly planned money grab and should not go in. I implore you to have common sense and move the costco away from one exit of another costco. Find more land away from schools and residential. Trucks coming in all night long and traffic will destroy our property values.

Thanks for listening

Raj Chopra MD

From: Sue Vlautin
To: EDHCostco@edcgov.us
Subject: Costco
Date: Wednesday, March 26, 2025 8:16:32 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

The Costco should not be built in a residential neighborhood mind you there is an elementary school located across the street Every pervert known to man could easily cause problems In addition most people in El Dorado Hills do not stock up on BULK Foods rather they frequent and support local restaurants and the Country Club It would make so much more sense to move it up a couple of freeway exists do it could service the foothill communities and the Tahoe Area The traffic situation will also be affected and the freeway system is not set up to accommodate extra cars As for underground gas tanks they are very dangerous and unacceptable across from an Elementary School they pollute the air and the ground I am just appalled that this concept is even being considered I am hopeful that this will not take place Thank you for your consideration Sue Vlautin
Sent from my iPhone

From: T.Keuning
To: EDHCostco@edcgov.us
Subject: Costco
Date: Friday, March 21, 2025 1:21:27 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Good afternoon,

As a 29 year resident of El Dorado Hills, I am against the location of the Costco. I've observed several civil engineering and traffic issues in this region, including three schools in close proximity to each other, business park traffic during rush hour, and apartment traffic in town center etc.

I'm concerned that it will be another traffic nightmare--not thought out properly and then mitigated later with only marginal corrections. In regards to the location, I am against high levels of consumer traffic that close to the Oak Meadow elementary school. Though I don't have a child attending that school, as a parent, it would trouble me.

I believe this whole operation should have been proposed in the Shingle Springs or Cameron Park area. It would have been more centrally located for Placerville, Camino and Pollock Pines residents up the slope. I am aware however, that road construction and infrastructure would have been added to the cost.

All the best,

Theresa Keuning

To Whom It May Concern:

My name is Tracey Harmon and I live at 8015 Murcia Way in El Dorado Hills. My children attended Silva Valley Elementary, one currently attends Rolling Hills Middle School and the other attends Oak Ridge High School. As a parent who has dealt with the drop off and pick up traffic along Silva Valley Parkway I cannot express how appalled I am that the Costco Project had been given the go ahead in its proposed location.

I understand the county is asking for public input to voice our concerns before an EIR is completed. Having worked for a land developing company in the past I am well aware of how these reports can be manipulated to the developers favor. I can't believe that the county is allowing a Costco gas station to be built directly across the street from an elementary school. El Dorado Hills prides itself on its lack of artificial light and yet a mega box store is going in directly next to houses that were built 25 years ago, and again, right next to an elementary school! The soil in the area is known to have serpentine rock, how will the soil be handled to keep the children at the elementary school safe as well as the homeowners who have lived here for 25 years. Student pickup at Oak Meadow is already arduous, so now parents will also have to deal with shoppers who could travel two more exits on the freeway.

I am aware that this property has always been slated as commercial, and while I don't understand why this hasn't been rezoned I never thought that a project the size of Costco would be approved. We left Roseville to come to El Dorado Hills for the aesthetics as well as the schools. To be able to live in a quasi rural town while still being close to civilization. Imagine paying a special tax for your child's school to be built to then have a giant Costco right next to it and a gas station directly across the street.

Thank you.

Tracey Harmon

March 27, 2025

To: Cameron Welch, Senior Planner

Subject: Costco Comments

While we have never been in favor of additional Costco being located off Silva Valley Rd. we realize it's enevitable. We are totally opposed to the Fuel Station addition.

We feel this will bring much unwanted traffic into our area, also opposed to it being so Close to the Elementary School nearby.

Cordially,

William & Carol Estee

From: Wendi Lynn
To: EDHCostco@edcgov.us
Subject: Costco and Gas Stations Proposed
Date: Saturday, March 29, 2025 4:00:13 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Hello Cameron,

I am very concerned about locating Costco and Costco gas station facilities off of Silva Valley interchange.

We live in El Dorado Hills for a reason - to live amongst a country style of living.

The increased traffic on Hwy 50 and Silva Valley
could very well render Hwy 50 and Silva Valley
unusable as a viable access to our homes located past this proposed location.

I appreciate you allowing me to express my
concerns.

Wendi-Lynn Hechtman

From: Cindy Hunter
To: EDHCostco@edcgov.us
Subject: Costco and Oak Meadow School
Date: Monday, March 17, 2025 6:49:08 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

I work at Oak Meadow, the school that will be located next to the Costco development.

I ask that you please come by at pick up time at 205pm and 110pm on Wednesdays and notice the right hand lane of Silva Valley Parkway blocked from standing still vehicles waiting to pick up their students.

I would ask that an added right hand turn lane into the school be considered. It's worth mentioning as the proposed gas station will be located very close and on the same side of the street as the entrance and exit to the school. I do believe that a stop light would further create a problem if no dedicated right hand turn lane was also considered into the school.

Thanks for your time,

Cindy Hunter
Staff member at Oak Meadow
Home owner in Serrano EDH

From: Peter Evenhuis
To: EDHCostco@edcgov.us
Subject: Costco at Silva Valley
Date: Monday, March 24, 2025 11:30:50 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear reader

I read that many folks are concerned with the Gasoline Station and a large Costco Warehouse currently in the planning phase. I do NOT concur with those concerns, rather I welcome a retailer like Costco to this site. I am totally aware, (as is everyone else) that SOMETHING is going to happen at this site. Costco opens and closes at reasonable times, they are good employers, they handle security issues swiftly and frankly I see no downside to having them as neighbors.

As it relates to a Gas Station, fumes and kids being outdoors ... that sounds like what parents have to do, protect their kids. My question is: from what? There are strict gasoline emission standards, controlling the dispensing of Gasoline, especially in California. In my humble opinion, the kids suffer more when coming and going to school with hundreds of parents idling their cars in front and around the school. If these parents were to walk their kids to school, accompany them on bicycles etc. I'd see a point, but to single out this project as harming their kids, is baseless and without merit.
I would welcome Costco into my neighborhood.

Peter E

Villagio Drive

El Dorado Hills, CA 95762

916-XXX-6863 (Home)

650-XXX-5327 (Cell)

From: m. bucko
To: EDHCostco@edcgov.us
Cc: aquatahoe@sbcglobal.net; Greg Peterson
Subject: Costco at Silva Valley & US 50 comments
Date: Saturday, March 29, 2025 8:01:40 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

To Cameron Welch, Senior Planner
County of El Dorado Planning and Building Department
2850 Fairlane Court, Building C
Placerville, CA 95667

As a resident of Serrano, I have many concerns about a new Costco store and gas station due to traffic safety, neighborhood safety, and children's health concerns.

Traffic safety: This project would likely bring hundreds of additional cars and trucks of all sizes into this area daily. Unless careful planning of intersections for Costco ingress and egress, I fear that traffic collisions and injuries are going to increase. The California Highway Patrol, with its small Placerville office being responsible for this area, is already stretched to its limits, rendering them to be reactionary rather than proactive--unless they can convince me otherwise.

Neighborhood safety: The development of this new Costco and gas station will bring in hundreds of shoppers, contractors, distributors, construction workers, Costco employees, and other personnel into the community, bringing in more vehicle exhaust, traffic, noise, and crime. Serrano villages along the Parkway currently have security gates; and Serrano residents pay for the maintenance and operations of these gates to provide additional security to the neighborhood. My fear is that with a new Costco nearby, there will be an increase in attempts to sneak in the gates, ignore speed limits, and bring in a new crime element.

Children's health concerns: It is rather unbelievable that a gas station will be built so close to houses in the adjacent area as well as an Elementary School. We ALL know that Costco gas stations are very busy and often attract so many customers that they have to wait for a pump for several minutes or more during peak periods. This increases emissions, as gas-powered vehicles get worse gas mileage when idling, and the exhaust fumes will permeate the local area. Children are more prone to airborne pollution because of their narrower airways and because they generally breathe more air per pound than adults, increasing their exposure to air pollutants.1 Children DO NOT have a voice, so someone needs to let these children know that their health could be at risk!!!!

In conclusion, please reconsider this Costco project. It is bad for the surrounding areas for the above reasons, as well as other concerns such as increased noise and other environmental factors I have not yet evaluated. Thank you.

Megan Bucko

1 Motor Vehicle Air Pollution and Asthma in Children: a Meta-Analysis, Janvier Gasana et al. Environ Res. 2012 Aug.

From: Mike Dalisay
To: edhcostco@edcgov.us
Cc: Kara Dalisay; bosone@edcgov.us
Subject: COSTCO BOONDOGGLE
Date: Sunday, March 2, 2025 11:21:30 AM

This Message Is From an External Sender
This message came from outside your organization.

Report Suspicious

Hello Mr. Welch,

I'm writing this letter to express the Dalisay family's opposition to another Costco in our region. The proposed construction of a Costco retail warehouse and gas station on this open land represents a poor use of our valuable natural spaces and poses significant risks to our community. El Dorado Hills' roadways—primarily consisting of two-lane roads—are already stretched thin and simply cannot accommodate the surge of traffic this development would bring. With another Costco warehouse already operating less than 5 miles away, this project is redundant and threatens the safety, character, and quality of life in our town.

The increased vehicular traffic would create serious public safety issues, particularly for the bicyclists and pedestrians who frequently use this area. As a retired law enforcement officer with executive experience from a large Bay Area agency, I can attest this will also jeopardize the safety and security of our EDH residents. As has been demonstrated in every scenario akin to this, retail centers attract not only honest consumers, but this also serves as a beacon for those looking to exploit the trust and confidence in perceived security. The associated criminal activity creates strain for our first responders, and it adversely challenges the safety EDH residents and visitors have come to expect.

Additionally, these roads were not designed for the volume of cars a Costco would attract, putting vulnerable roadway users at heightened risk of accidents. Roadway surveys would likely indicate additional roads need to be constructed to support the population influx. Beyond the steady flow of shoppers, the gas station across the roadway would exacerbate congestion, with vehicles queuing and crossing lanes, further endangering those on foot or bike.

Moreover, this development would lead to exponential population spikes throughout the day as shoppers flood the area, overwhelming our infrastructure. Emergency response times could suffer as police, fire, and medical services navigate clogged streets, compromising public safety on a broader scale. El Dorado Hills residents chose this community for its strong commitment to nature, stunning views, and vast landscapes—not for sprawling commercial sprawl that erodes what makes this place special.

In closing, my wife and I chose to move our family consisting of our four young children to EDH three years ago because of the health and safety implications associated with this Town. I share this sentiment with many others when I say we feel hoodwinked into believing the natural beauty of our new hometown would persist. Approving this Costco is against the public's best interest because it sacrifices our town's identity and safety for an unnecessary retail giant. We don't need more concrete and traffic; we need to preserve the open land that defines El Dorado Hills and protect the well-being of those who call it home. Let's prioritize

our community over corporate excess. I look forward to the support of our County Supervisors, their resources, and other constituents like myself.

Thank You,

Mike Dalisay
(925) 785-7381

March 26, 2025

Cameron Welch, Senior Planner
County of El Dorado Planning and Building Department
2850 Fairlane Court, Building C
Placerville, CA 95667

RE: Proposed Costco Wholesale Store and Gas Station
El Dorado Hills, CA

Dear Mr. Welch,

I write this letter to you in response to a notice received requesting the submittal of our comments to you no later than 5:00 p.m. on March 31, 2025.

Being in the development business for over 40 years, I understand community and neighborhood concerns for growth and know their voices and suggestions need to be heard and considered. However, I also understand development and the need for growth and providing the right public amenities for the community, as long as it is done in harmony and keeping with the design and feel of the community. El Dorado Hills is a very special place.

With that being said, I strongly support a Costco Wholesale facility on Silva Valley Parkway, taking into consideration adjacent property owners privacy and views. I support an underground parking structure as well as at grade parking. The warehouse facility and parking should be landscaped with frontage trees along Silva Parkway as well as in the back of the warehouse.

The need for a Costco on Silva Valley Parkway is very important for El Dorado Hills, not only as an income generator, but also providing a service that is extremely overcrowded and congested in Folsom off Bidwell. The Folsom Area Specific Plan will generate over 11,000 homes, creating more congestion for the existing Costco. That site cannot accommodate an influx of that many users.

I do not support the Gas Station. Yes, it provides convenience, however, it also will provide a lot of quick active usage by travelers who would not generally have a need to get off in El Dorado Hills. I think having a gas station provides safety and security issues for the community with it being so close to homes and the freeway access.

Has the County ever thought of putting in a fabulous gourmet food market, like Oxbow in Napa, which provides an experience for the community. The sites being discussed could become a new food / wine destination and gathering place with imports and locally sourced products and would not compete with Costco.

Thank you for listening to my comments.

Respectfully,
Heide Antonescu
Serrano Homeowner

From: Brandon Munk
To: EDHCostco@edcgov.us
Subject: Costco comments
Date: Thursday, March 27, 2025 6:33:56 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Thank you for the additional opportunity to comment, I could not make it to the in-person meeting. My main concerns about the proposed location is its proximity to Oak Meadow elementary school. its effect on traffic at the Silva Valley exit, and potential effects on Serrano values. Especially considering the asbestos and proximity to the elementary school.
Because of those concerns I am opposed to the proposed location. It seems like there are other location options that would still benefit Costco and not affect local schools and HOAs. For example, south of 50 off of Silva Valley exit or the Bass Lake exit. Neither are adjacent to an elementary school, one is close to already established retail centers and would probably have the least amount of impact on the community.

Sincerely,
Brandon Munk

From: Greg
To: EDHCostco@edcgov.us
Subject: Costco comments
Date: Wednesday, March 26, 2025 5:36:01 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

EDHCostco is a great idea. We own 2136 Beckett Dr. and having a Costco of our own in EDH will build commerce and help our community with jobs and services. It would help with the shopping experience at Costco be more enjoyable with less people and not having to drive to the overcrowded Folsom location. It’s a thumbs up for our household!
Sent from my iPhone

From: Katherine Omand
To: PL-EDH Costco Project
Subject: Costco comments
Date: Sunday, March 30, 2025 10:36:00 AM
Attachments: costco 325.pages

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.
Report Suspicious

Attached are our comments **against** the proposed Costco warehouse and gas station.

Jim and Kathy Omand
1248 Terracina Dr. EDH

From: Kenneth Wan
To: edhcostco@edcgov.us
Subject: Costco comments
Date: Monday, March 31, 2025 4:36:12 PM
Attachments: 2025-03-31 16-32.pdf

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Attached
--
Sent with Genius Scan for iOS.
https://tglapp.com/e/scan

Sent from my iPhone

From: Biz
To: EDHCostco@edcgov.us
Subject: Costco comments from public.
Date: Monday, March 10, 2025 5:10:54 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

I'm happy with the location you have chosen to install the Costco in El Dorado hills. I visit Costco at least once a week. It is getting very crowded. I have heard some people have concern regarding its vicinity to the grade school. However, I believe most of the traffic will be coming off of 50 and get back on Highway 50 and never affect the school. Hoping that this project goes through asap. Signed, Brian Fuller, Serrano.

Sent from my T-Mobile 5G Device
Get Outlook for Android

From: philrichardson@comcast.net
To: EDHCostco@edcgov.us
Subject: Costco comments from Serrano resident
Date: Saturday, March 29, 2025 7:29:08 AM

This Message Is From an External Sender
This message came from outside your organization.

Report Suspicious

I am supportive of the new Costco to be located in EDH off of Silva Valley Parkway. Presently when I go to Costco Folsom I drive by this Silva Valley location where it will be located. However instead of getting on the freeway I will be able to stay in EDH and drive a shorter distance. It is my expectation that this Costco will be less crowded and keep tax dollars and jobs in EDH.

My specific request for this new Costco is that the appearance be more attractive than is usually seen at Costco's. I would like to ask for additional tree and landscape to soften the appearance from both the street and neighboring Serrano villages. I would also like to see additional landscape or architectural changes to further enhance the appearance of the Costco structure. Please plan traffic and operations noise to minimize impact to nearby Serrano villages.

Regards,
Phil Richardson
4015 Errante Dr, El Dorado Hills

From: gerald.j.berg@gmail.com
To: EDHCostco@edcgov.us
Subject: Costco Debacle
Date: Saturday, March 29, 2025 11:13:55 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear Cameron Welch,

As a senior planner, I am sure you comprehend the irreparable damage that the Costco project by Serrano Village would cause to the neighborhood and the school safety on Silva Valley Blvd.
The area was erected many years ago in a place that promised serenity and green space.
Allowing a mega project such as this brings far more than the usual complaints of noise and congestion. This project will ruin views, home values, and the desirability that El Dorado Hills is known for.
Obviously, many homes will be devalued, neighborhoods will be less safe, and light pollution will reign supreme despite any light pollution mitigation efforts.
The elementary school will be a very dangerous place for children to access and increased traffic will make egress and surrounding park activities untenable.
Such a business so close to already existing neighborhoods and schools is simply a bad idea and unacceptable to us as a resident. Child safety will be compromised.
Pedophiles
Will find new opportunities.
This is not a location where a Costco is built first and then followed by homes. That is a buying choice.
But to add such an inappropriate use of the land after homes and a school have been built is a travesty and not to be tolerated.
Finally may I add that this is the kind of development I am used to seeing in Fresno. One where after the fact, folks look and scratch their heads at how our representatives could have made such a grievous error with such long term and damaging affects.
El Dorado hills is a premier and highly sought after area.
Approving this project, which is visible from many many homes and backyards will bring permanent damage that will allow further proliferation of poor choices for growth.
This location is not needed and not necessary as there is another Costco location just off Bidwell.

There is ample space for such growth south of Highway 50 off of Latrobe. Not in a desirable neighborhood.
We beg you to strongly consider the affects of this decision and the long term ramifications by rejecting a Costco at this location

Sincerely,
Gerald J and Heidi A Berg

From: Julie Sherman
To: edhcostco@edcgov.us
Cc: David Roth
Subject: Costco Development
Date: Wednesday, March 19, 2025 11:18:35 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear Members of El Dorado County Board of Supervisors,

I hope this email finds you well. I am writing to you as a deeply concerned parent of two students at Oak Meadow Elementary School. I have recently learned that a large Costco, along with a gas station, is being built directly next to the school, and I am deeply alarmed and troubled by the risks this development poses to our children's safety and well-being.

The scale of this development, bringing thousands of outsiders into our small community daily and placing them steps from our children, makes our kids incredibly vulnerable. A high-traffic retail complex so close to the school isn't just an inconvenience—it's a serious threat. Many children walk, bike, or are dropped off by parents, and the influx of traffic and strangers creates a dangerous environment, raising the risk of accidents and exposing our children to potential criminal activity and other dangers.

The inclusion of a gas station in this development is deeply concerning for air quality. Children are highly vulnerable to pollution, and the proximity of vehicle emissions and toxic fumes from the gas station—especially near our kindergarten playground—poses a severe risk to their developing lungs. This exposure is particularly dangerous for children with asthma or other respiratory conditions, and cannot be ignored.

While I understand that development can bring economic benefits to our area, the health and safety of our children must come first. I urge Oak Meadow and the board to collaborate with local officials, the developers, and environmental experts to find ways to mitigate these risks.

The well-being of our children cannot and should not be compromised for the sake of convenience or financial gain. I trust the school and the board will take this issue seriously and hold the developer accountable to ensure a safe environment for our students.

Thank you for your time and consideration.

Best regards,
Julie Sherman
(916) 337-3754

From: Heather Siefkes
To: EDHCostco@edcgov.us
Subject: Costco Development letter submission
Date: Tuesday, March 25, 2025 12:59:18 PM
Attachments: Costco statement_senior planning committee_March 2025.pdf

---

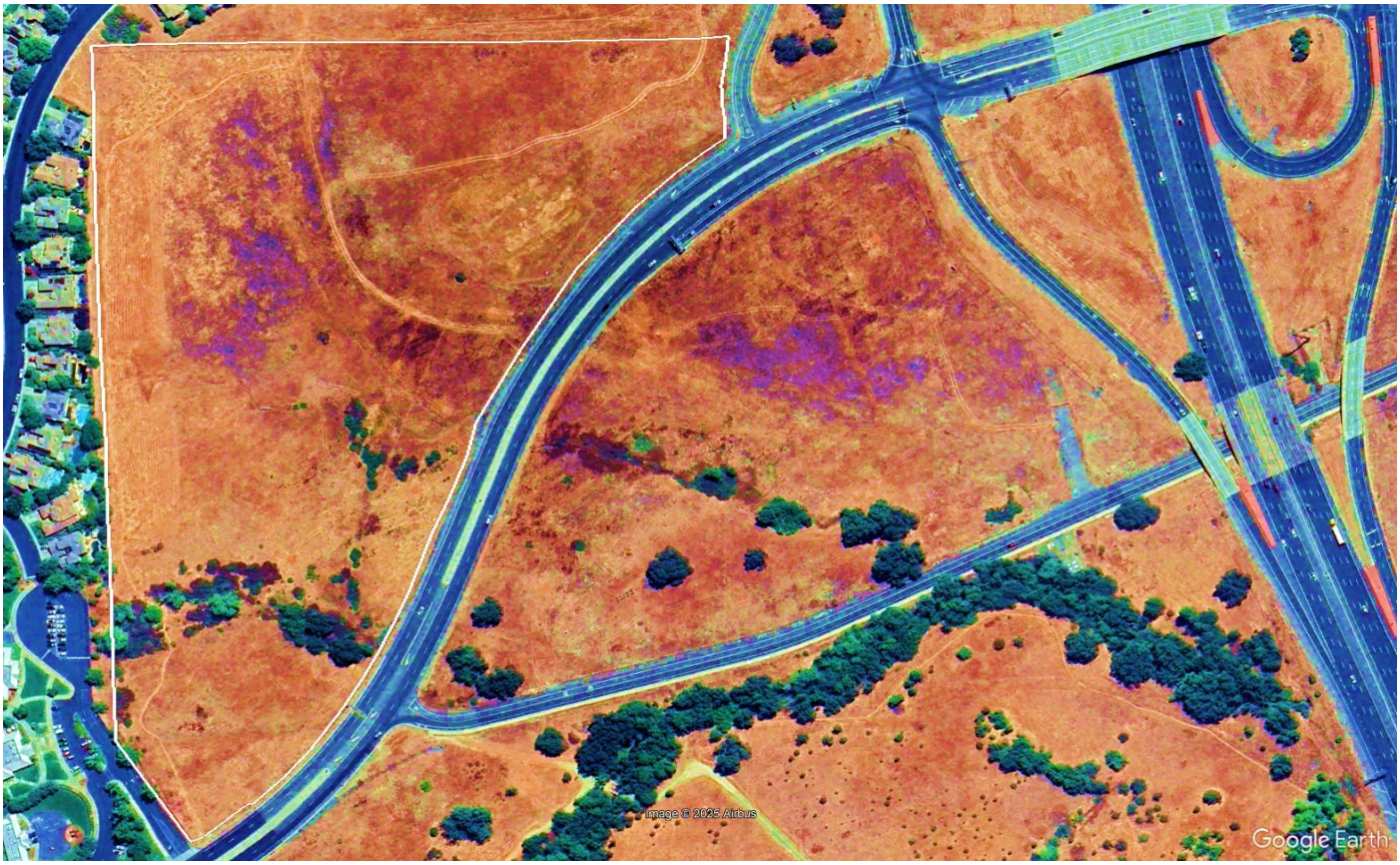
This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Hello Mr. Welch,
Please find my attached letter regarding the proposed Costco Development.

Thank you,
Heather Siefkes

COSTCO DEVELOPMENT PLAN - APPENDICES









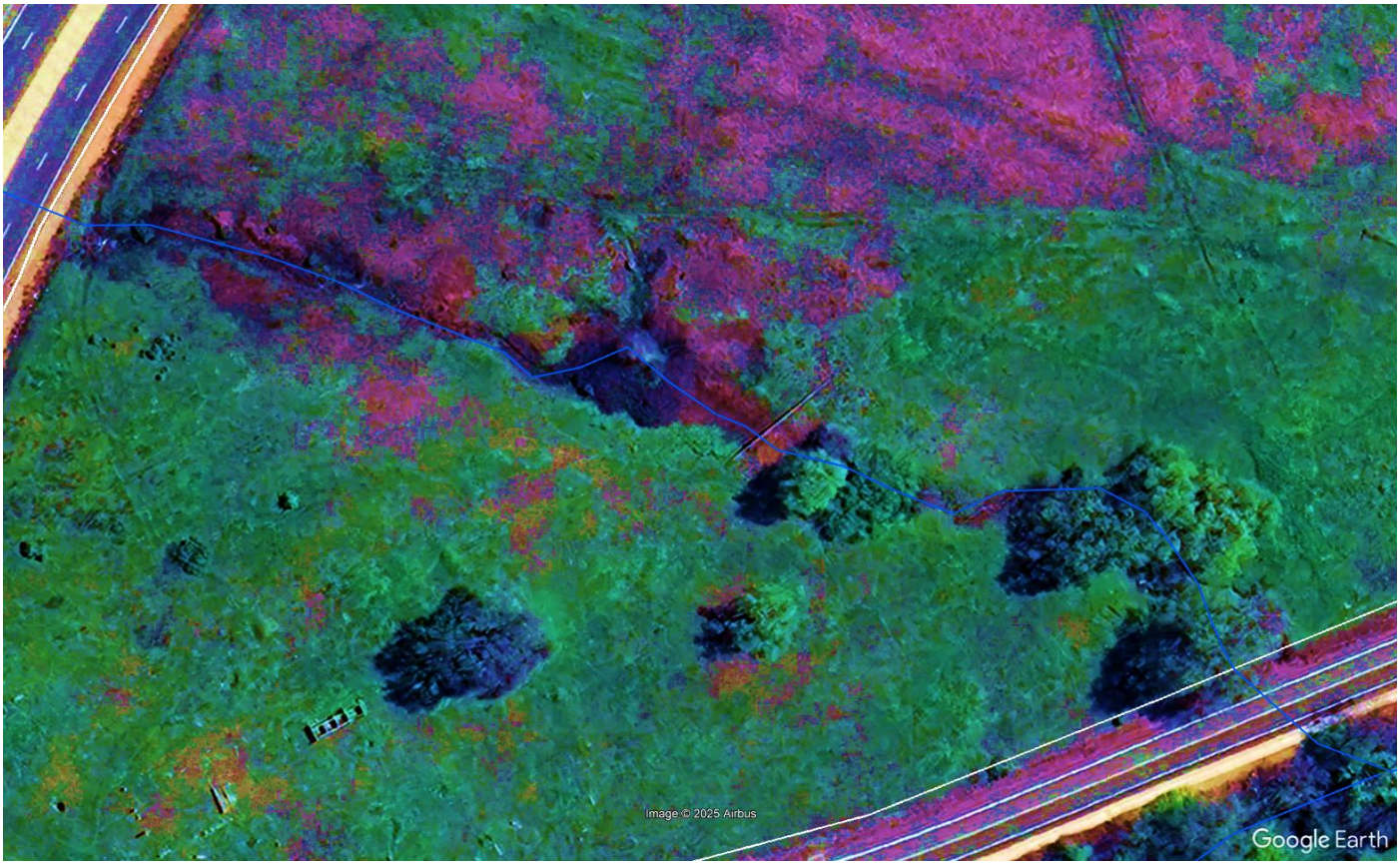
February 2021

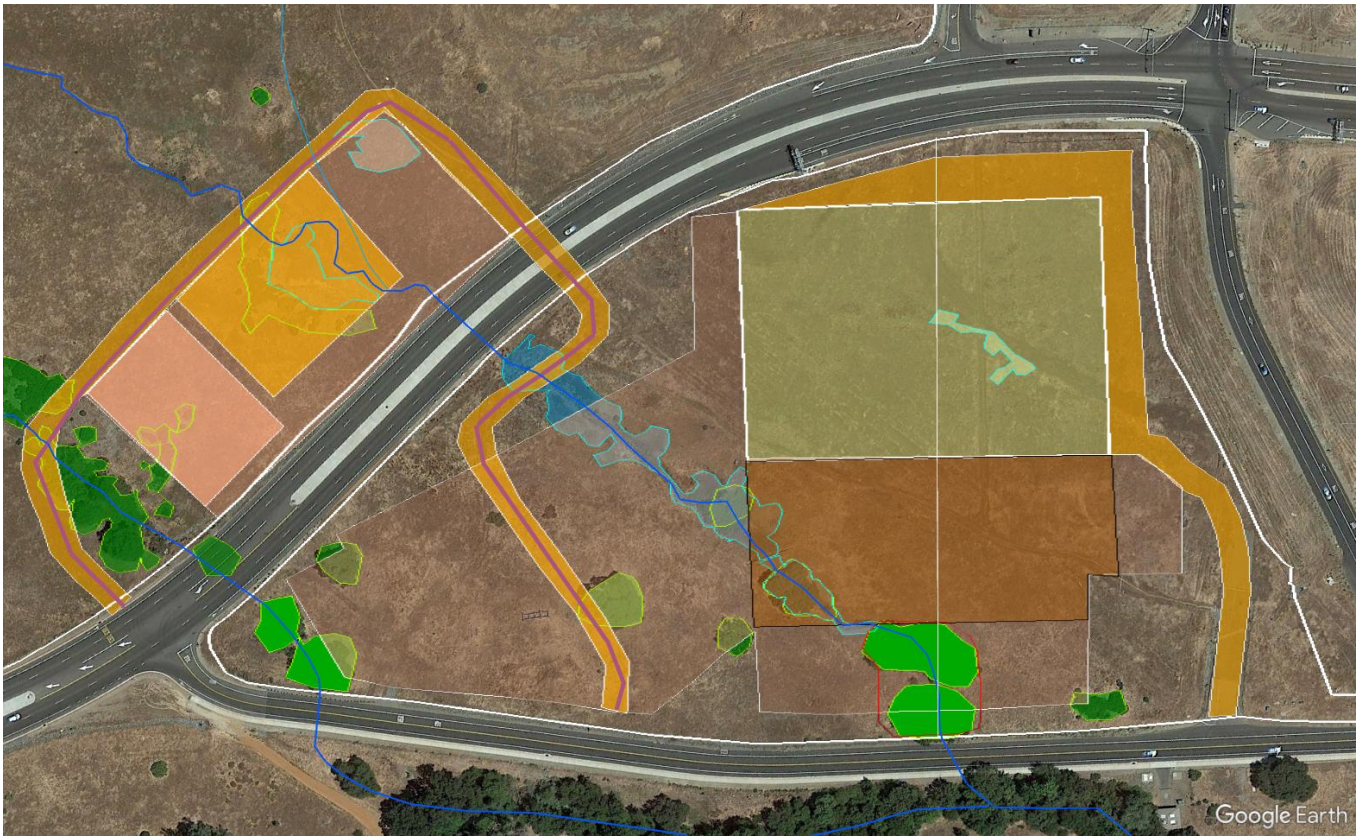


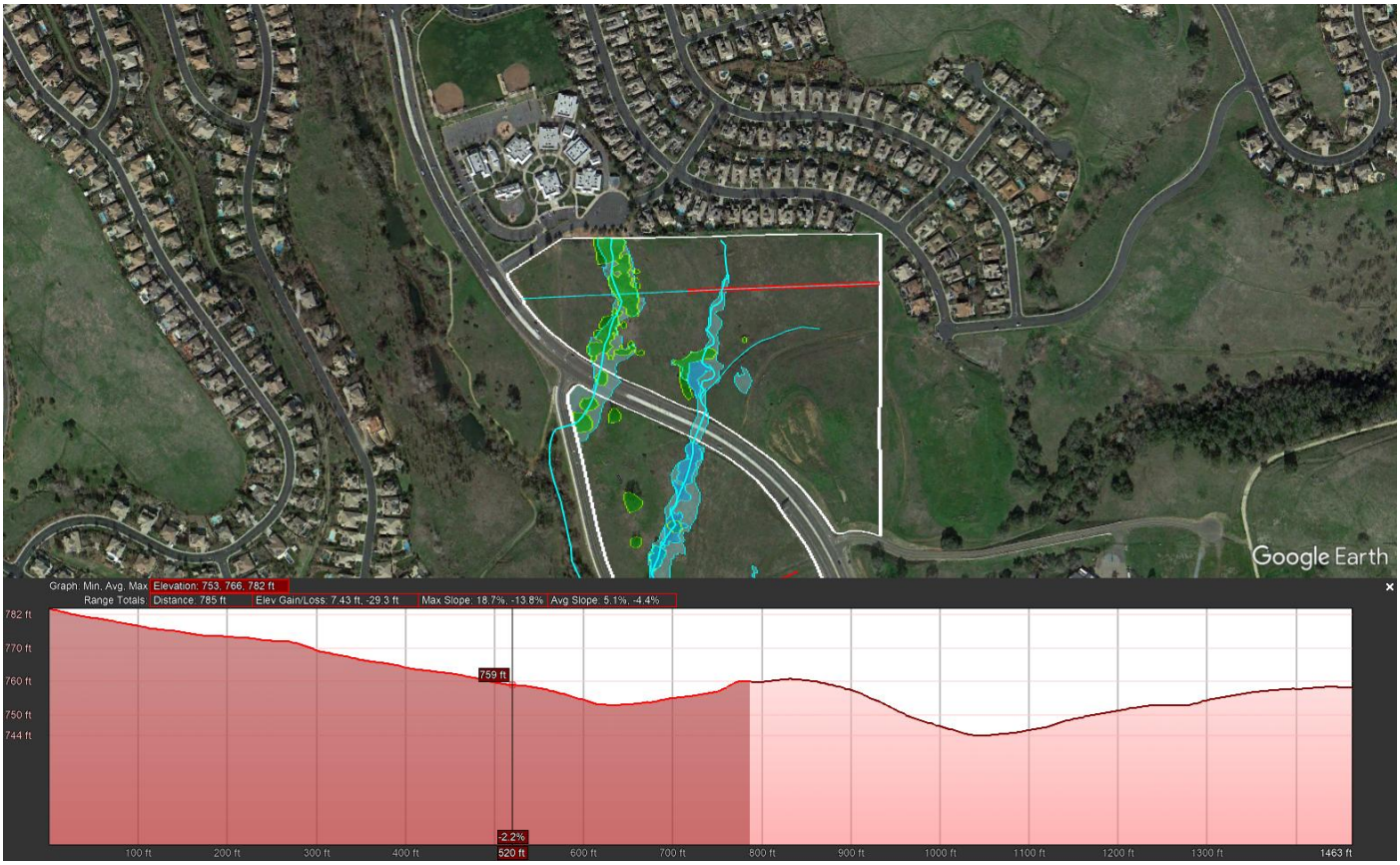
March 2023

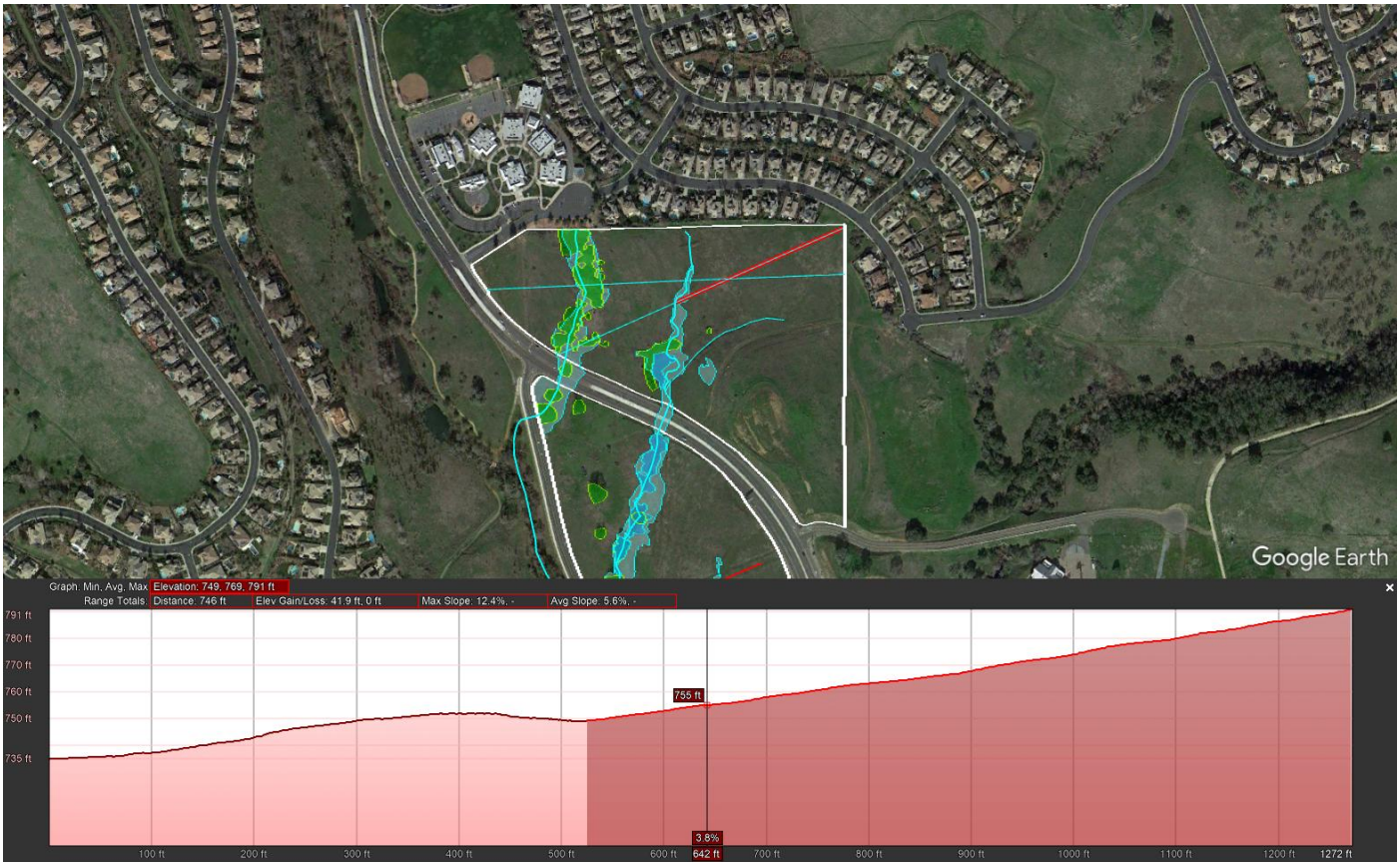


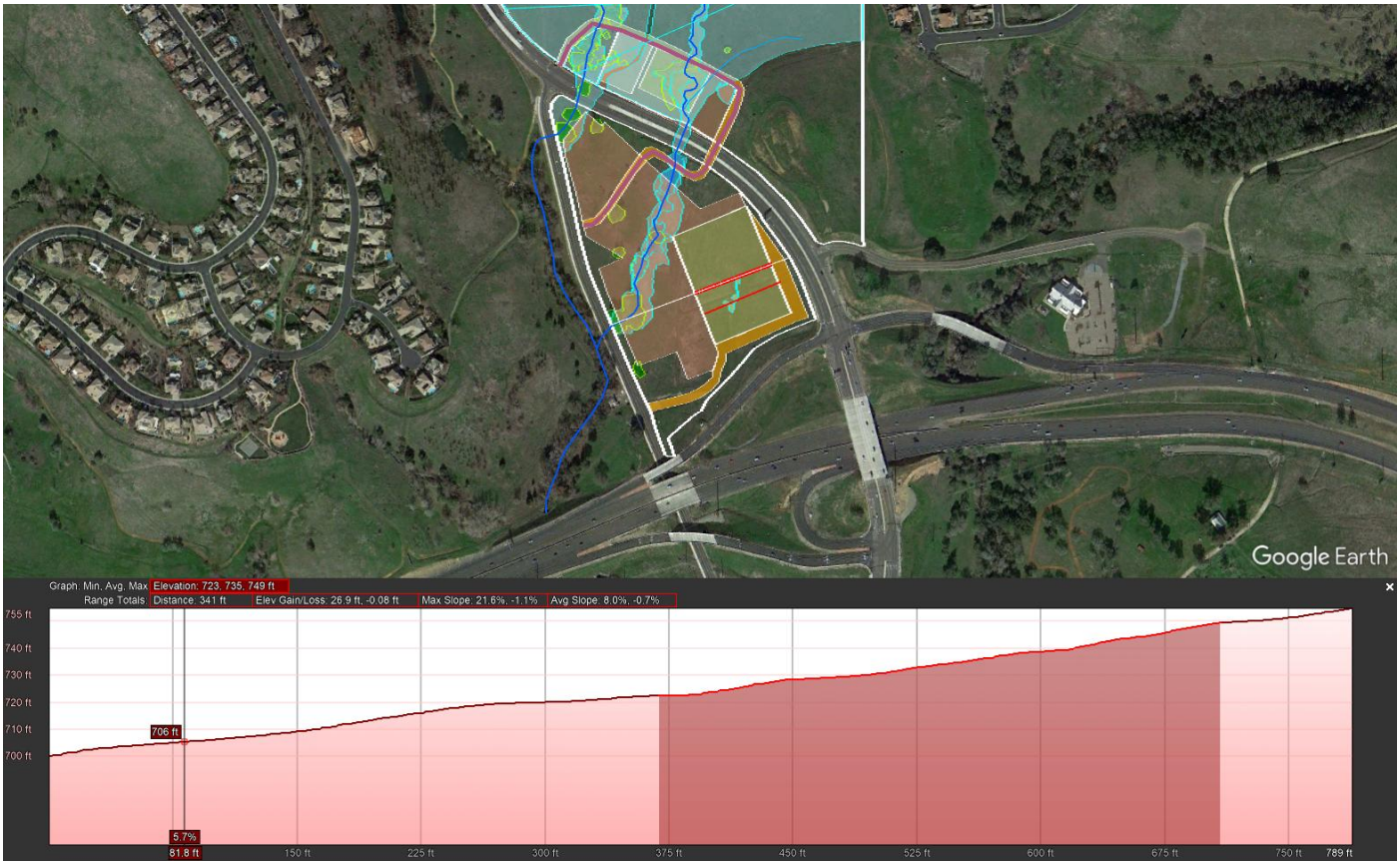
March 2023 - enhanced

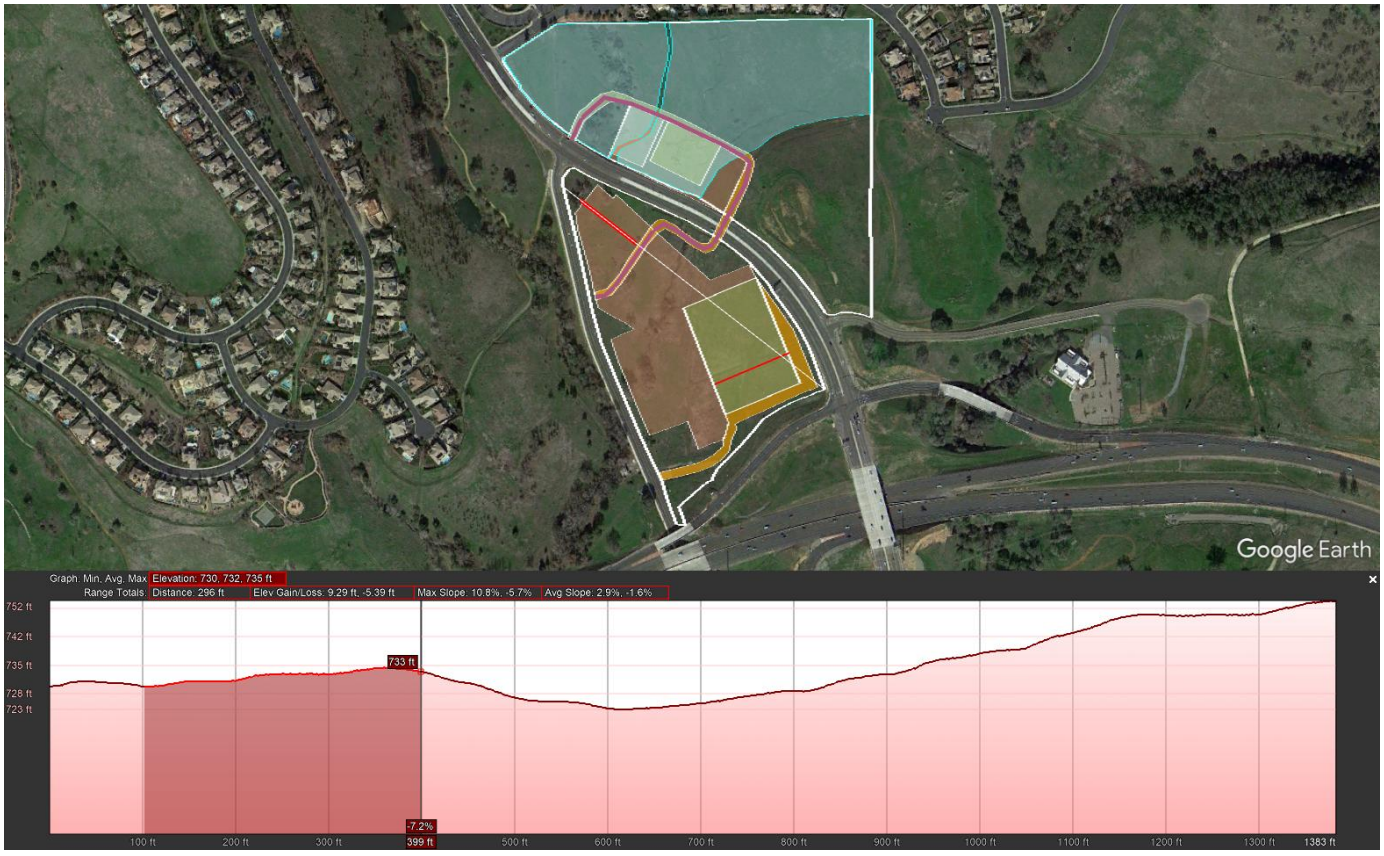

Image © 2025 Airbus
Google Earth

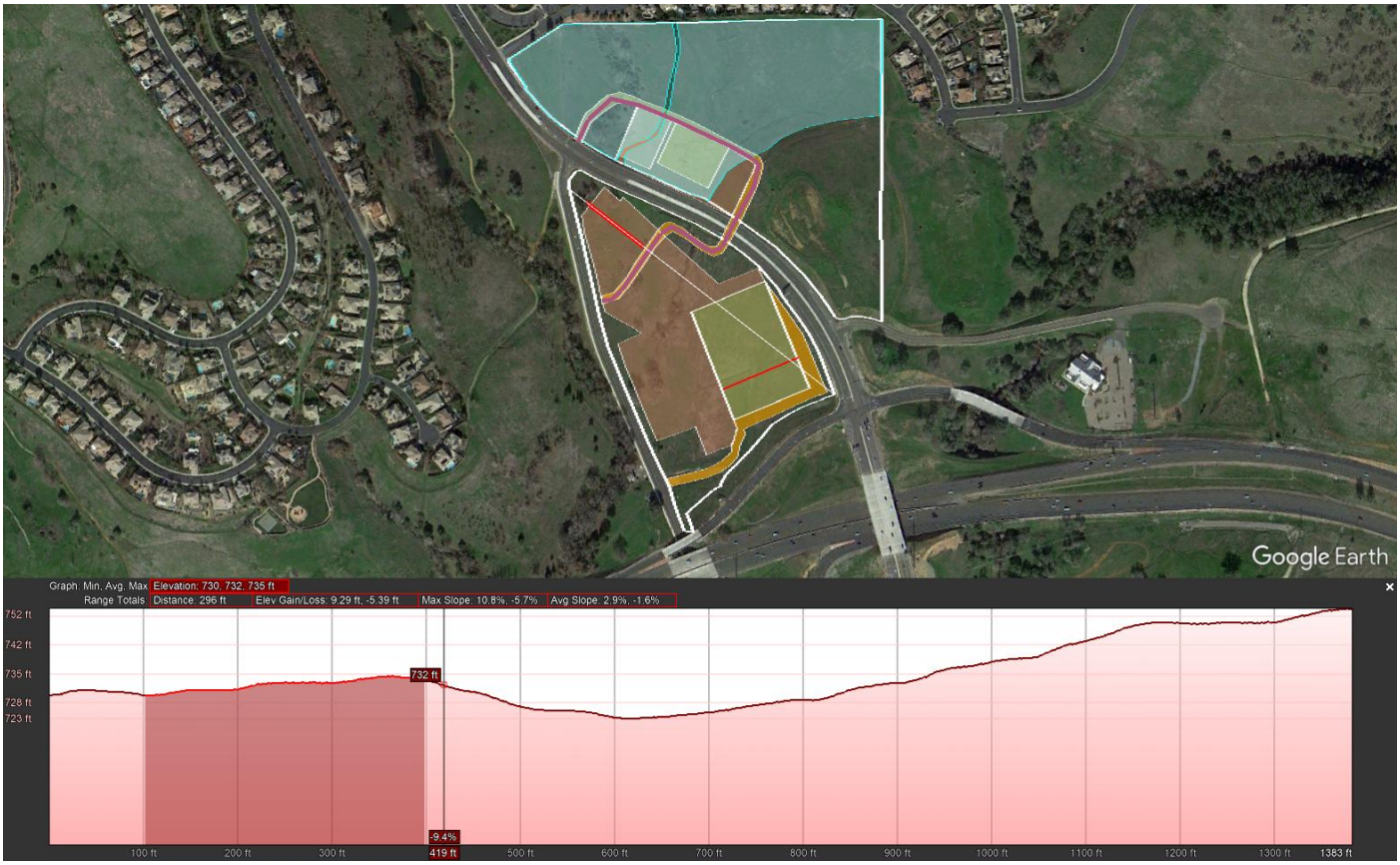

Google Earth

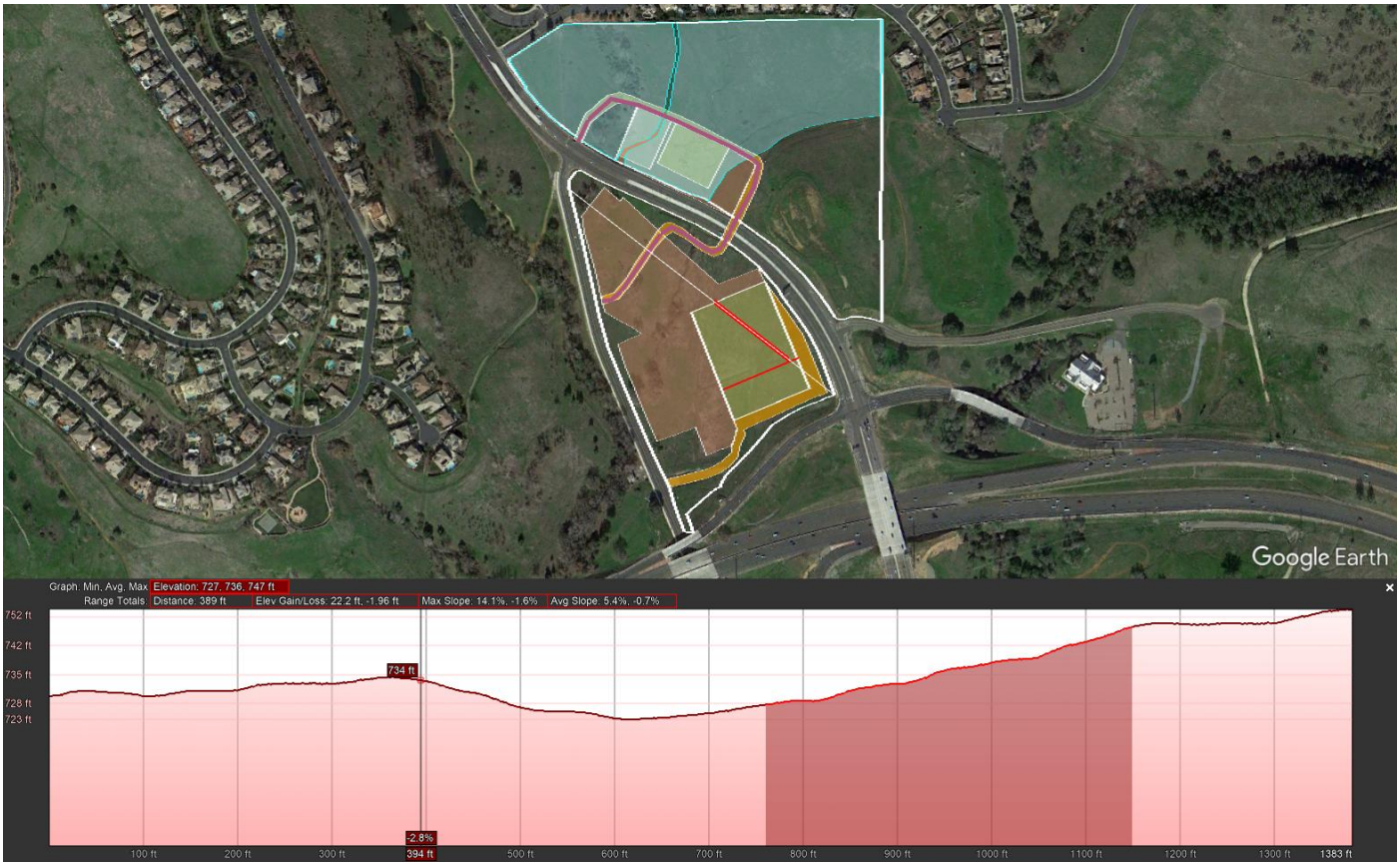

Google Earth
Graph: Min, Avg, Max Elevation: 753, 766, 782 ft
Range Totals: Distance: 785 ft Elev Gain/Loss: 7.43 ft, -29.3 ft Max Slope: 18.7%, -13.8% Avg Slope: 5.1%, -4.4%
782 ft
770 ft
760 ft
750 ft
744 ft
759 ft
-2.2%
100 ft
200 ft
300 ft
400 ft
520 ft
600 ft
700 ft
800 ft
900 ft
1000 ft
1100 ft
1200 ft
1300 ft
1463 ft

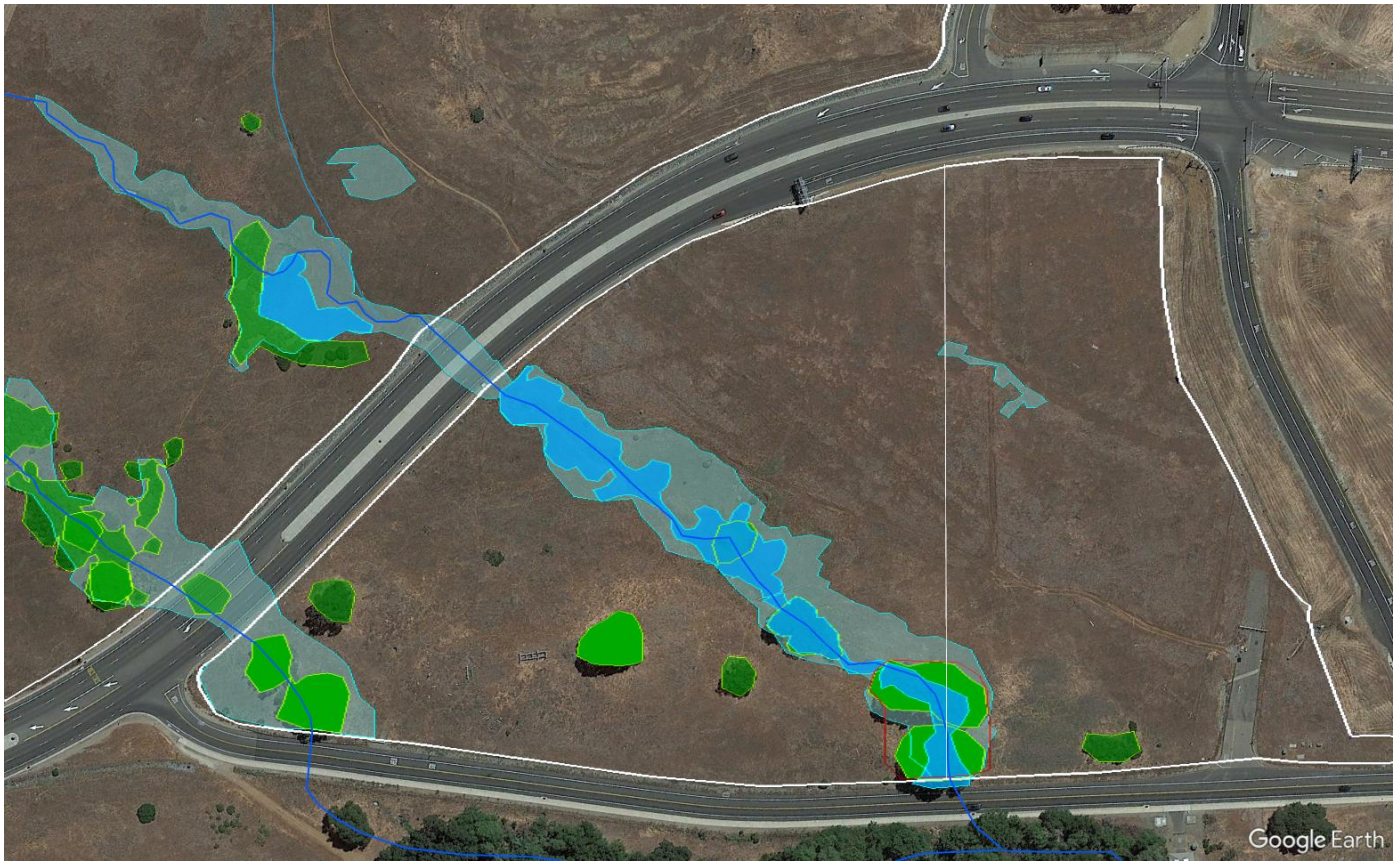

Google Earth
Graph: Min, Avg, Max Elevation: 749, 769, 791 ft
Range Totals: Distance: 746 ft Elev Gain/Loss: 41.9 ft, 0 ft Max Slope: 12.4%, - Avg Slope: 5.6%, -
791 ft
780 ft
770 ft
760 ft
750 ft
735 ft
755 ft
3.8%
100 ft
200 ft
300 ft
400 ft
500 ft
600 ft
642 ft
700 ft
800 ft
900 ft
1000 ft
1100 ft
1200 ft
1272 ft

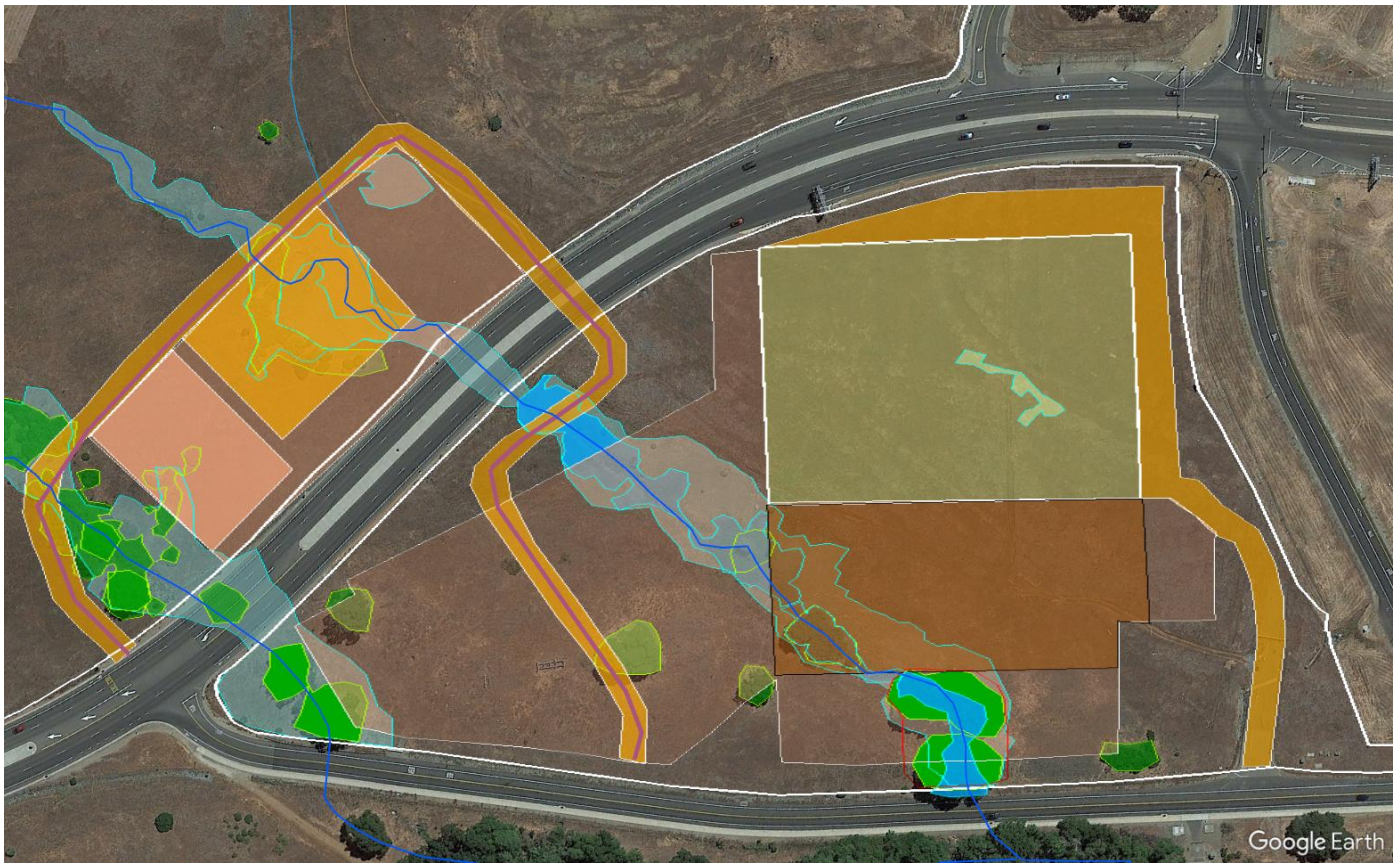

Google Earth
Graph: Min, Avg, Max Elevation: 723, 735, 749 ft
Range Totals: Distance: 341 ft Elev Gain/Loss: 26.9 ft, -0.08 ft Max Slope: 21.6%, -1.1% Avg Slope: 8.0%, -0.7%
755 ft
740 ft
730 ft
720 ft
710 ft
706 ft
700 ft
5.7%
81.8 ft
150 ft
225 ft
300 ft
375 ft
450 ft
525 ft
600 ft
675 ft
750 ft
789 ft


Google Earth
Graph: Min, Avg, Max Elevation: 730, 732, 735 ft
Range Totals: Distance: 296 ft Elev Gain/Loss: 9.29 ft, -5.39 ft Max Slope: 10.8%, -5.7% Avg Slope: 2.9%, -1.6%
752 ft
742 ft
735 ft
733 ft
728 ft
723 ft
-7.2%
100 ft
200 ft
300 ft
399 ft
500 ft
600 ft
700 ft
800 ft
900 ft
1000 ft
1100 ft
1200 ft
1300 ft
1383 ft


Google Earth
Graph: Min, Avg, Max Elevation: 730, 732, 735 ft
Range Totals Distance: 296 ft Elev Gain/Loss: 9.29 ft, -5.39 ft Max Slope: 10.8%, -5.7% Avg Slope: 2.9%, -1.6%
752 ft
742 ft
735 ft
728 ft
723 ft
732 ft
-9.4%
100 ft
200 ft
300 ft
419 ft
500 ft
600 ft
700 ft
800 ft
900 ft
1000 ft
1100 ft
1200 ft
1300 ft
1383 ft


Google Earth
Graph: Min, Avg, Max Elevation: 727, 736, 747 ft
Range Totals Distance: 389 ft Elev Gain/Loss: 22.2 ft, -1.96 ft Max Slope: 14.1%, -1.6% Avg Slope: 5.4%, -0.7%
752 ft
742 ft
735 ft
728 ft
723 ft
734 ft
-2.8%
100 ft
200 ft
300 ft
394 ft
500 ft
600 ft
700 ft
800 ft
900 ft
1000 ft
1100 ft
1200 ft
1300 ft
1383 ft


Google Earth


Google Earth

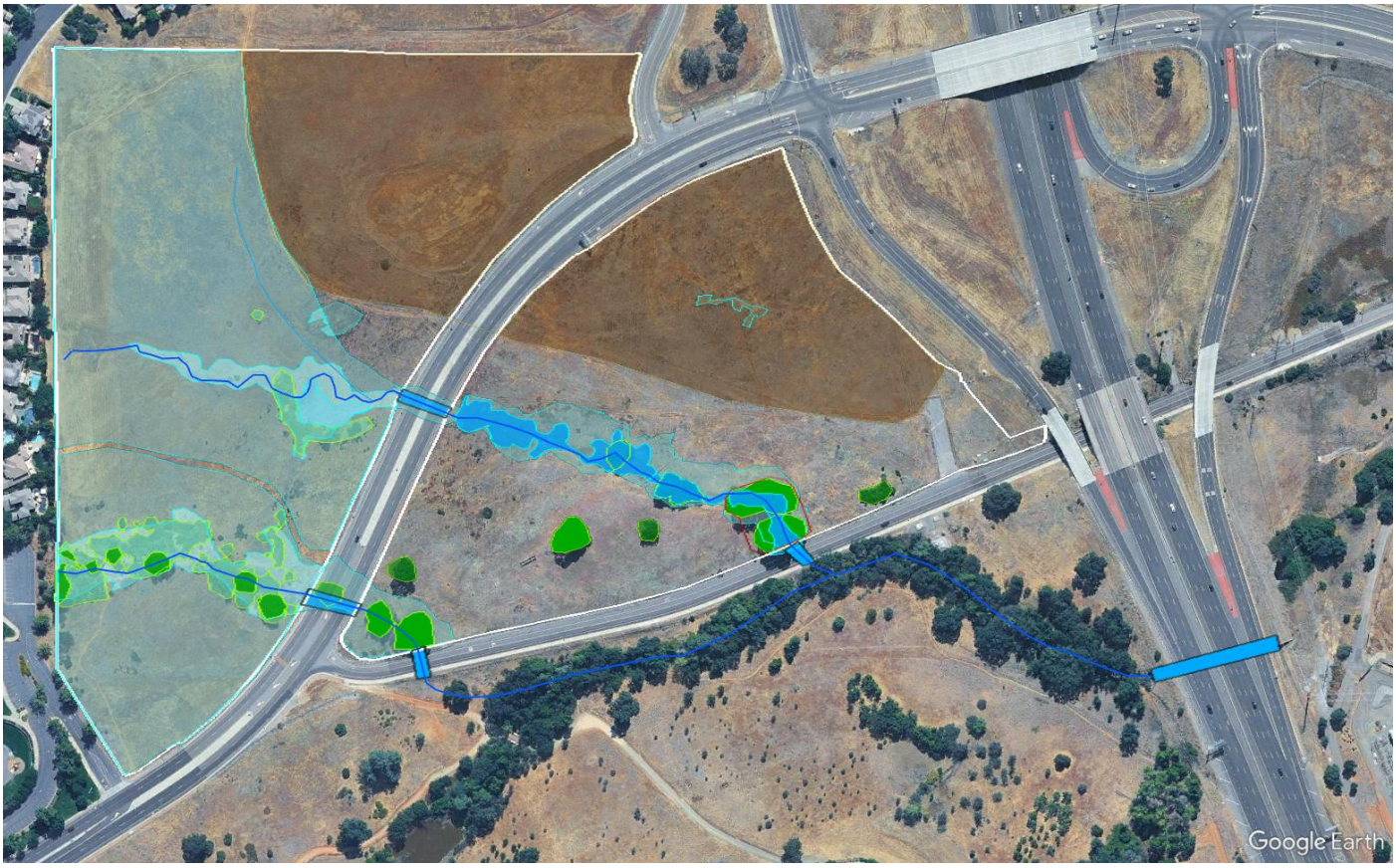

Google Earth


Image © 2025 Airbus
Google Earth


Image © 2025 Airbus
Google Earth


Image © 2025 Airbus
Google Earth


Image © 2025 Airbus
Google Earth


Image © 2025 Airbus
Google Earth


Image © 2025 Airbus
Google Earth

From: Terri Sanne
To: EDHCostco@edcgov.us
Subject: Costco draft EIR
Date: Friday, February 28, 2025 7:48:31 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Hi Cameron,

I would like to express my support for this project. I have lived in El Dorado Hills for 25 years, and I feel the addition of a Costco would be beneficial to our town. It would alleviate traffic on Saratoga and EDH Blvd at Saratoga and Park, which is very congested now. It would reduce the load on the Folsom Costco, which since Folsom has overdeveloped south of 50 as well as north of 50, Folsom's Costco has experienced a massive overloading from consumers in the area. El Dorado Hills needs its own Costco and its own tax revenue!

Thank you,

Terri Sanne

From: Bridgette Rist
To: EDHCostco@edcgov.us
Subject: Costco EDH
Date: Thursday, March 27, 2025 9:45:14 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Hi,
I live in Serrano and I am excited for Costco to come to El Dorado County. It might not be the perfect location but it will be an asset to the community. I hope the plans continue to move forward.

Thank you,
Bridgette Rist
916-743-7479
Sent from my iPhone

From: Craig Silva
To: EDHCostco@edcgov.us
Subject: Costco EDH
Date: Thursday, March 20, 2025 9:55:07 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

We support a new Costco store to be built in El Dorado Hills for the two primary reasons below.
1) It will keep tax dollars in this county.
2) it will shorten the drive to a Costco, thus reducing auto emissions.
Thank you,
CP Silva
Placerville
Sent from my iPhone

From: Michelle McCollough
To: EDHCostco@edcgov.us
Subject: Costco EDH
Date: Wednesday, March 26, 2025 5:19:42 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

This is NOT the place for Costco! Too close to an elementary school, too much traffic there and nice homes with a view will now have their view destroyed, residential traffic noise etc, and why do you need to be so very close to the Folsom one?! Too many residents really don't want this here! Instead of stuffing it into this EDH location, there has to be much better locations on Highway 50! Go to Shingle Springs, Cameron Park etc.. You will still pull customers from EDH and the foothills on up to Tahoe! AND, Amador county residents can access better there too. Please find another location!!
Sent from my iPhone

From: RYAN COMA
To: EDHCostco@edcgov.us
Subject: Costco Edh 52
Date: Thursday, March 20, 2025 8:13:53 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Please let this pass and build it already. I bet there's 1000 people that want this built that are staying silent to the 1 complainer that is trying to stop it. I myself couldn't be happier and look over at the land every time I drive by to see if they are breaking ground. When they do, I will be celebrating.
Thanks so much,
Ryan

From:	Alastair Dunn
To:	EDHCostco@edcgov.us
Cc:	John Davey Davey
Subject:	COSTCO EDH DEVELOPMENT PLAN: Cameron Welch, 2850 Fairlane Court, Placerville, CA 95667 El Dorado County Development Services Department-Planning Services,
Date:	Friday, March 21, 2025 3:27:49 PM
Attachments:	EL DORADO HILLS - COSTO DEVELOPMENT PLAN.pdf Costco Development Plan - DEIR Comments - APPENDICES.pdf

This Message Is From an Untrusted Sender

You have not previously corresponded with this sender.

Report Suspicious

Cameron Welsh:
Attached are my comments regarding the COSTCO EDH DEVELOPMENT PLAN.
Should you have any questions please call me at 1-916-839-7455.
Sincerely yours
Alastair Dunn

From:	Claudia Vidovic
To:	EDHCostco@edcgov.us; cameron.welch@edcgov.us
Cc:	Karen Garner; bosone@edcgov.us; bostwo@edcgov.us; bosthree@edcgov.us; bosfour@edcgov.us; bosfive@edcgov.us; david.spaur@edcgov.us; bob.williams@edcgov.us; jeff.hansen@edcgov.us; Kellee Sellwood
Subject:	Costco EDH Notice of Preparation Comments
Date:	Saturday, March 29, 2025 7:16:10 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

To: Cameron Welch, Senior Planner
County of El Dorado Planning Division

CC: EDC Board of Supervisors, EDC Planning Department, Buckeye Union School District

I have many serious concerns about this project. The most alarming concern is the proposed 32-pump gas station next to Oak Meadow Elementary - the health and safety of our community's young children should not be sacrificed for this project! My concerns include the air quality impact on sensitive receptors during construction and operation of the gas station and large regional warehouse, the traffic & safety impact – especially the impact on the four schools on Silva Valley Parkway, degradation of wetlands, and the impact of noise, light pollution, and disrupted views on property values for the surrounding community. As a resident of El Dorado Hills, I would like the following concerns addressed in the DEIR for the Costco EDH project.

Air quality

I would like the DEIR to include an analysis of the project's impact (during construction and operation) on levels of ozone (ROGs and NOx), Carbon Monoxide, Particulate Matter (DPM, PM 10, PM 2.5), Benzene, Toluene, and any other toxic air contaminants and their potential negative health effects on sensitive receptors, especially the approx. 700 Transitional Kindergarten through 5th grade students (ages 4 through 11) at Oak Meadow Elementary School. Please include an analysis of the cumulative health risks from exposure to toxic air contaminants from US 50, increased traffic on Silva Valley Pkwy and Clarksville Crossing, the Costco warehouse (including diesel delivery trucks - there is no safe level of diesel exposure, especially for young children whose lungs are still developing), the massive 32-pump gas station (sales volume should be used as a continuous variable to accurately estimate the impacts from a gas station of this size), idling cars waiting for gas, and other future unspecified development on this parcel, including the future development of Country Club Drive.

A study conducted by Columbia University Mailman School of Public Health and Johns Hopkins Bloomberg School of Public Health shows that vent pipe emissions are over 10 times greater than estimates used to determine setback distances for gas stations in CA. California's enhanced VR technology cannot control breathing losses, only working losses. In addition, the California Air Resources Board only considers cancer risk in their setback regulation calculations, not non-cancer negative health effects, and there are many. The DEIR should address the public health impact on the children and staff at Oak Meadow and surrounding residents of breathing losses, including benzene emissions from vent pipes caused by temperature & barometric pressure changes or when fuel in the tank evaporates. In addition, this analysis should include losses caused by drips and spills, as well as short term bursts of emissions (1 Hr Reference Exposure Level) as a result of human error while hooking up the stage 1 VR during bulk fuel drops or uncontrolled emissions due to equipment failures or

defects. Human error and equipment failures are not something you can mitigate. The air quality analyses should include cancer and non-cancer health impacts.

The children at Oak Meadow Elementary already struggle with respiratory problems aggravated by air pollution from the US 50 and Silva Valley Parkway traffic. This project will exacerbate the existing air quality issues for these young children. The cumulative air quality impact of all these factors must be carefully evaluated.

In addition, taking into consideration local meteorological data and atmospheric conditions, I would like to know the health impact of construction activity on the students at Oak Meadow Elementary who are in very close proximity to the project. I am very concerned about the presence of Serpentine rock in the area and the potential for asbestos release into the air during digging, grading, etc. The soil studies should cover this asbestos risk comprehensively. It is impossible to completely mitigate this risk, and I know of families that will be disenrolling their children from Oak Meadow Elementary when this project breaks ground as a result.

All the above-mentioned air quality impacts should be analyzed at the higher elevation of surrounding neighborhoods as well (up to 1,000 feet elevation).

Traffic & Safety

It is unfortunate that there are four schools on Silva Valley Pkwy, and we already have a serious traffic and safety issue here. This project, with its regional draw, will bring vehicles from all over El Dorado and Sacramento counties, including residents on the north end of El Dorado Hills and Folsom. For these residents, the most direct route will be to come all the way down Silva Valley Pkwy past all four schools. Large numbers of children walk, bike, and scooter up and down Silva Valley Pkwy every day. Increased traffic on this road will make a bad situation much worse. There will likely be increased traffic on Serrano Parkway as well, where many children cross going between Serrano Villages A and C and Rolling Hills Middle School, Oak Ridge High School, and the El Dorado Hills Library.

Clarksville Crossing and Silva Valley Pkwy are not large enough to support the increased traffic that a Costco warehouse and 32-pump gas station will bring. Oak Meadow Elementary is of particular concern due to its proximity to the project and existing traffic and parking issues. This is a serious safety issue, and it must be addressed in the EIR. School pick up time will be impacted the most, so the traffic analysis needs to include that time frame.

Light Pollution

Please include the impact of the Costco signage and 24-hour lighting on nearby residences. Also include an estimation of the path of delivery truck headlights and any impacts to homes.

Thank you for this opportunity to comment on the scope of this project and to express some of my serious concerns.

Sincerely,

Claudia Vidovic

From: annlubeck@aol.com
To: EDHCostco@edcgov.us
Subject: Costco EDH Olan Serrano Blvd. EDH Comment
Date: Friday, March 28, 2025 7:09:05 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Attn: Cameron Welch, Senior Planner

County of El Dorado Planning and Building Department

2850 Fairlane Court, Building C

Placerville, CA 95667

As a resident of El Dorado Hills and more specifically, the development of Serrano, I am concerned regarding the following with no resources to address my concerns:

1. The proposed site with Costco Retail on the north side of Silva Valley Blvd and gas station on the opposing side of the street is within close proximity to Oak Meadow Elementary School. I do not see any reference to infrastructure to the road to accommodate increased traffic both retail and commercial.
2. It is noted that Silva Valley has a total of four schools the road which services both parents and high school drivers. Now you will be adding Costco customers to the load creating additional congestion.
3. I do not see traffic signals to help with the flow of traffic both of the retail side as well as the aforementioned parents and high school aged drivers which will have significant impact on traffic, traffic flow and traffic safety.
4. Lighting of both areas could potentially be problematic and intrusive to residents on both the North and South sides of the project.
5. Delivery trucks for both gasoline and retail could be intrusive and noisy.

I appreciate the opportunity to express my concerns and trust that careful consideration will be made in addressing all our concerns.

Sincerely,

Ann Lubeck-Brown

From: Heidi Michelson Hogan
To: EDHCostco@edcgov.us
Subject: Costco EDH project concerns
Date: Monday, March 31, 2025 2:52:54 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear Cameron Welch, Senior Planner at County of El Dorado Planning and Building Department,

This email is to express my concerns about the proposed Costco Wholesale warehouse and gas station at Silva Valley Parkway/Clarksville Crossing. Below are immediate concerns which I believe require further consideration and investigation:

1. **Traffic**: Not only around the proposed Costco site, but also the impact on other streets throughout EDH, as people try to avoid the Costco area and it's traffic.
2. **Safety**: Impact on community safety with the drastic influx of more cars and more people in the area; especially so closely located to multiple schools with an already problematic traffic control issue on Silva Valley Parkway.
3. **Environmental Impact**: Gas emissions from increased traffic in the area, including shoppers and large semitrucks making deliveries to Costco; gas emissions from the proposed 32 pump gas station located DIRECTLY across the street from an elementary school & playground.
4. **Noise and Light pollution**: Nosie from drastic increase in traffic; light pollution from a huge box store, parking lot, street lights and influx of car traffic
5. **Indigenous land protection**: Investigation of the potential that the land is sacred Miwok (native) land/burial grounds.
6. **Wildlife impact**: How disrupting this land destroys the natural habitat of native wildlife (animals and plants, such as veteran trees).

Thank you,
Heidi Hogan
3904 Ironwood Drive
El Dorado Hills, CA
408-250-4181

From: Chris Blake
To: EDHCostco@edcgov.us
Subject: Costco El Dorado Hills
Date: Tuesday, March 18, 2025 7:54:33 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Sent from my iPhonePlease dont listen to the vocal minority. This store is badly needed. The folsom store is already maxed out and with the continued growth of folsom ranch it is only going to get worse. Any concerns can either be mitigated or are wildly exaggerated. Many stores are near schools or residential areas with no problems. Seems like just NIMBY people just like the ones that stopped that huge project off grant line road

From: JAMES C ENGELHARDT
To: EDHCostco@edcgov.us
Subject: Costco El Dorado Hills
Date: Wednesday, March 5, 2025 2:02:31 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

I just want to say I am all for a Costco (with gas station) being built in ElDorado Hills. There are so many new homes going up in the neighborhood it would greatly benefit the community. I live in Placerville and our town would also benefit from a Costco in El Dorado Hills.
Sincerely Lana Engelhardt
Sent from my iPhone

Cameron Welch
Senior Planner, County of El Dorado Planning and Building Development
2850 Fairlane Court, Building C
Placerville, CA 95667
EDHCostco@edcgov.us

Mr. Welch,
I am writing to express my concerns regarding the El Dorado Hills Costco gas station that is currently in development planning for the site next to Oak Meadow Elementary School. I have one child who graduated from Oak Meadow, and I have two others in attendance currently - one of which is in kindergarten and as such will be at the school for many years to come.

I am not here to argue against the Costco, however I would like my concerns about the gas station next to the school to be known. In doing my research about this I have learned a few things that I would like to bring to your attention which include air pollution, noise pollution and fire danger.

Firstly, in Title 5 of the California Code of Regulations, Division 1, Chapter 13, Subchapter 1 has the following sections:

> School Facilities Construction, Article 2. School Sites
>
> **§ 14010. Standards for School Site Selection.**
>
> e. The site shall not be adjacent to a road or freeway that any site-related traffic and sound level studies have determined will have safety problems or sound levels which adversely affect the educational program.
>
> q. The district shall consider environmental factors of light, wind, noise, aesthetics, and air pollution in its site selection process.

My question is this; if the gas station were existing the state would likely not approve a school site where Oak Meadow is currently located due to the traffic noise and air pollution from idling cars as well as air pollution due to the offgasing of chemicals from the gas station itself. So one could reasonably follow this logic that if it wouldn't be approved the other way around, a gas station of this magnitude should not be approved next to an existing elementary school.

Secondly the EPA has school site guidelines for air pollution and noise pollution, (https://www.epa.gov/sites/default/files/2015-06/documents/environmental_siting_criteria_considerations.pdf), in which they recommend adopting an area-wide approach to address air pollution issues, maximizing distance from transportation or other pollution sources, creating vegetation buffers, having anti-idling policies, limiting bus or personal car use on and near campus, enhanced indoor filtration/air cleaning, locating sensitive activities and outside air intakes away from sources (e.g., locate playgrounds and classrooms away from source), adjust timing of HVAC system operations or industry operating periods, limiting outdoor activities during high exposure periods. This same document from the EPA also recommends installing or preserving

noise barriers for minimizing noise pollution. With such a large piece of land, why is the gas station being proposed right next to the school? While there are additional costs to moving the station toward the south side of the property due to increased land development costs for grading that should not be the problem of my children - Costco bought the land knowing full well what the land looked like.

My third largest concern is fire danger. We already live in a fire danger area with less than adequate routes for evacuations and that is just a concern for wildfire. Having a gas station of this size next to the school brings about concerns for gas station fires as well as the safety of evacuating children if an accident were to happen at the gas station. According to a 2020 National Fire Protection Association report “From 2014 through 2018, local fire departments responded to an estimated average of 4,150 fires in or on service or gas station properties per year. These fires caused an average of three civilian deaths, 43 civilian fire injuries, and $30.0 million in direct property damage annually”. While this statistic might seem small compared to the US as a whole the Census Bureau records show 107,500 gas stations in the US (as of latest data from 2014-2018) so that statistic now becomes one fire per year for every 26 gas stations. I do not like those odds next to my children's school.

In addition to the above research from the NFPA, EPA, and California Code, there are studies that show gas stations the size of a Costco gas station can easily sell an average of 1 million gallons of gas a day. That sheer quantity of gas greatly increases all the above concerns. Additionally to keep up with this quantity of gas a station of this size could regularly expect 3 to 4 tucks of gas a day. That is a lot of additional noise for delivery via semi-truck in addition to the potentials for leaks and things to go wrong.

As a parent of multiple students at this school as well as others on the Silva Valley corridor I would like to make sure that as the feasibility and environmental review is done you look at what potential changes to the environment would happen that could negatively affect my children and so many others.

I would also request that if the gas station is approved the following should be done to help mitigate the noise and air pollution:

- Block wall between the properties to reduce noise pollution; should also include landscaping around the wall to help create a better atmosphere for the kids (they are losing views of green hills and I want them to still see nature)
- If the gas station is approved a CUP should be that Costco pay to upgrade the HVAC system of the school to filter out as many particulates that would be in the air as possible
- Ensure enhanced vapor recovery measures are used to capture pollutants from the gas not just Stage I and Stage II controls
- Ensure installation of a remote monitoring system for underground storage tanks and vapor recovery systems to ensure real-time data and quickly alert of any abnormalities

Thank you for reading and for your consideration.
Becky De La Torre, concerned citizen

From: Jillian Saenz
To: EDHCostco@edcgov.us
Subject: Costco in EDH
Date: Monday, March 17, 2025 5:33:58 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Hello, my husband and I and 3 kids live here in this beautiful county. My husband and I meant in high school at Oak Ridge that's in EDH. We both graduated and moved to Folsom in Empire Ranch area right near the Folsom Costco. We we the first owners of our home. After 16 years we decided Folsom was growing to fast, the traffic right near that Costco became unbearable, the crime became unsafe, and the pollution became unhealthy. So we decided to move back to EDH know with 3 young kids.
If a Costco goes in right near the freeway and school then eventually what we didn't t like about the Folsom Costco will happen to the EDH Costco and it will force us to move again. Keep these beautiful golden hill alive, keep our creeks full and our wildlife around PLEASE!!!

Thank you!
Jillian S. Saenz
NTP, HTMA, Hairstylists

From: Margaret Braile
To: EDHCostco@edcgov.us
Subject: Costco in EDH
Date: Wednesday, March 26, 2025 8:41:58 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

We fully support the building of Costco in EDH

William and Margaret Braile
6074 Southerness Dr.
El Dorado Hills, CA 95762

From: LORRENE BAUM-DAVIS
To: PL-EDH Costco Project
Subject: Costco in EDH vs Placerville, CA
Date: Friday, March 21, 2025 12:50:08 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

This site in EDH makes NO sense. That community is only a hop, skip and a jump from the Folsom site.
WHY?
Placerville would be best. Not only would the company benefit from the eastern end of Highway 50 (South Lake Tahoe), the communities west (Shingle Springs-Cameron Park) would be closer to the Placerville location. AND, do not forget highway 49. You could get customers south from (Sutter Creek) north to Cool and northward and beyond.
Just my 2 cents.
Lorrene Baum-Davis - member since the Price Club days. (Philip E. Davis)



From: jons van dooren
To: cameronplanning@edcgov.us
Cc: rafael.martinez@edcgov.us; Joni; bostwo@edcgov.us; bosthree@edcgov.us; BOS Four; bosfive@edcgov.us; Karen.L.Garner@edcgov.us; PL-EDH Costco Project; Cameron W. Welch; John Davey
Subject: Costco in EDH-52 Site
Date: Monday, March 10, 2025 10:46:19 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Mr. Welch, and who else might be concerned,

I would like to start off with the comment "putting 10 Lbs. of potatoes in a 5 Lbs. bag does NOT work"!

This project I believe started around the end of 2018 / 2019 announced by John Hidahl at a rotary meeting, that he received a letter of intend from Costco.

Do NOT understand that a population of 50.000+ qualifies for a Costco, while the nearest is less than 4 miles away and or 2 exits?
Buying the land for over 8 million dollars, one of the highest land purchases ever made by Costco.

So, here are some of the points and concerns:

Building a 2 story parking garage, since there is NOT enough space at the Costco warehouse to built a regular parking lot, back to the bag of potatoes, not enough space?

Costco putting initially a gas station in, then taking it out (pressure from whomever), now putting it back in with MANY pumps with additional parking for employees on EDH-COSTCO North, again back to my bag of potatoes. Not enough parking for their own employees at their warehouse?

How about emissions, automobiles lights, gas fumes (sure there are EPA rules and regulations) being close to a elementary school etc.?

Putting a traffic light to cross Silva Valley Parkway to get to or from Costco warehouse to Costco gas station, what a backup that will that create at the traffic signal?

On top of the fact that most likely another traffic light being installed north of the "planned" Costco crossing traffic light crossing when Country Club Drive connects to Silva Valley Parkway,

beginning to sound like another 50 Freeway x EDH Blvd. nightmare! Again running out of space in that bag of potatoes!

Anybody thinking about back up traffic at the left lane turn into Clarksville Crossing for delivery trucks and automobiles, etc. to enter the Costco warehouse and parking garage from Silva Valley Parkway?

Current average speed of an automobile on Silva Parkway going noth or south, would be VERY interested to be studying, it became in Formula One terms a DRS-Zone!

During school pick up, the traffic backs up "in the future" probably to the Costco supposed traffic light, we have submitted video of the backed-up traffic for school pick up in the past, to show how long that line of cars is EVERY Day, more than happy to re-submit or re-film!

The elementary school is NOT only busy during the school days, but also during MANY sporting events, baseball season is starting, the school parking lot is packed on the weekends and practice during the week!

But also please tell me while Costco purchased both EDH-52 South and North, what has Costco planned for the additional 17 Acres on the North side, that will be undeveloped for now with "no plans" for it, will we be going through the whole motion 8 - 10 years from now again?

Is Costco maintaining the "vacant land like AKT did in the past, twice or more a year? Last thing we need is a fire to break out in front of our back doorsteps, while many have been canceled for their home insurance properties already and had to sign up with different carriers! Btw. that is probably the area that Country Club Drive will go on, is that now owned by Costco or the County?

- Cross walk for Costco warehouse employees to cross Silva Valley Parkway or are they just gone run for it?
- Country Club Drive??
- Side walks??
- Street lights??
- Sound wall for Village A residents who's fence is backed up to EDH-52 Nort / EDH-Costco North??
- Future value of Serrano houses study?
- What about "Gateway to Serrano" (quote Bill Parker), in the future this might be going through Costco?

Not going into the technical issues what should be in a DEIR report, these are some of the

points that I would like to bring forward, but the list easily can go on and on!

Regards,

Village A concerned and confused resident!
Jons van Dooren

From: John Petersen
To: edhcostco@edcgov.us; John Petersen
Subject: Costco In El Dorado Hills at 50 and Silva Valley
Date: Monday, March 31, 2025 3:46:29 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

To:
Cameron Welch, Senior Planner
County of El Dorado Planning and Building Department
2850 Fairlane Court, Building C
Placerville, CA 95667

Mr. Welch,
Thank you for allowing residents to comment and provide feedback on the Costco project in El Dorado Hills.

In general, I do not support the location of the El Dorado Hills Costco Project.
It will bring a lot of traffic, congestion, noise and light pollution to an area that has traditionally mainly been residential and school areas. It would seem more housing / apartments would better suit the area.

The layout of the parking lot looks like there would be numerous issues of navigating the parking lot as well as having traffic back up onto Silva Valley. It also looks like the entrance to costco goes from multi-lane entry to a reduced number of lanes at the edge of the parking lot yielding an increased probability of back ups and potential accidents. I'm also concerned about the amount of pedestrian traffic causing backups at the additional traffic light.

For the gas station, usually we don't see gas stations very close to schools, particularly lots of cars idling right next to the schools waiting to re-fuel (vs a regular gas station with no idling).

Additionally I'm concerned about large trucks entering and exiting the area. At a minimum, I ask that no trucks come in outside of the regular costco operating hours.

As for lighting, most of Serrano/El Dorado HIlls has a low number of street lights / artificial lighting outside of residential lighting. I'd ask that if we put in a costco, we minimize the number of lights in the parking lot and reduce the height and number of lights on the perimeter building. Also I'd appreciate it if the costco signs face away from the residential areas.

Ultimately, I believe this project is too close to high end residential homes and doesn't fit with the area and community.

Can this project be located south of highway 50, closer to Town Center on White/Rock/Silva Valley? That would align better with Target and a number of businesses in Town Center.
Or can it be moved to Bass Lake or up the hill to better serve the other communities?

I'd appreciate if the county can remedy the aforementioned concerns or relocate the project.

Thank You,

John Petersen
1209 Souza Drive
El Dorado Hills, CA 95762

916-390-6798

Dennis and Barbara Angelini
1075 Bevinger Drive
El Dorado Hills, CA 95762

March 19, 2025

Cameron Welch, Senior Planner
County of El Dorado Planning and Building Department
2850 Fairlane Court, Building C
Placerville, CA 95667

Re: Costco – Revised Notice of Preparation

Mr/Ms Welch:

We are in receipt of the Revised Notice of Preparation regarding Costco. We are strongly opposed to this plan, especially the proposed fuel station. Nothing like this belongs in a neighborhood nor right next to an elementary school. The potential for lawsuits is strong. The odor and fumes of fuel and idling cars is extremely unhealthy for our neighbors directly behind the proposed fuel station as well as the school. It also eliminates the right for peaceful and quiet enjoyment of one's own back yard.

Traffic today is bad enough. With 250-300 potential employees, school drop offs and pick ups, cars lining up for fuel, and visiting the warehouse itself is going to make Silva Valley Parkway and the interchange gridlock. In addition, our property values will decline. We will have million dollar homes looking down at Costco's AC units and gas station.

What happens to our entrance/exit gate at Entrada Drive just off Silva Valley Parkway? It is already a challenge for residents during the day to exit.

We are strongly opposed to Costco and its fuel station invading our peaceful neighborhood!

Sincerely,
Dennis & Barb Angelini
Dennis and Barbara Angelini

cc: EDHCostco@edcgov.us

From: ALAN LIBERATORE
To: EDHCostco@edcgov.us
Subject: Costco location
Date: Thursday, March 27, 2025 9:35:31 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Hello Cameron,

Regarding the planned Costco and gas station next to Oak Meadow Elementary School. The planned store and gas station are environmental and safety concerns in this location along side an established elementary school I am not supportive of this project. As the traffic flow during drop off and pick up times thru out tge day at the school are a big concern now adding this store with 32 gas pumps is a big threat to the safety of the children. Find a better solution.

As it is, the road in front of the school is congested and difficult for us parents picking up and dropping off at the school multiple times each day. This store will make it worse and law enforcement can barely keep up with traffic violations on Silva Valley.

I do not support the building of a Cost Co with a gas station along side a public school. Pop

Thanks Alan

Sent from my iPad

From: Rachel Harlan
To: EDHCostco@edcgov.us
Subject: Costco next to Oak Meadow Elementary School
Date: Monday, March 17, 2025 6:44:42 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear Cameron,

I am writing to you with my concerns regarding the planned Costco and gas station next to Oak Meadow Elementary School. The planned store and gas station both raise health and safety concerns for our community and I am not supportive of this project. Of all the land in the county, building this massive store and gas station on top of the elementary school is unacceptable.

As it is, the road in front of the school is congested and difficult for us parents picking up and dropping off at the school multiple times each day. This store will make it worse and law enforcement can barely keep up with traffic violations on Silva Valley.

My biggest concern is the health hazard this project creates for our children and staff in the school, as well as the residents in the surrounding area. I'm an El Dorado Hills resident and mother of a kindergartener that plays in the front playground in direct view of the planned gas station. It makes me concerned and disappointed to think that we specifically moved to this community to go to this school and now she will breath gas station fumes during her years there. I have another child that is not school age yet that I have to worry about about as well.

To reiterate, I am not supportive of building this Costco and absolutely not supportive of building a gas station next to our community's elementary school.

Thank you,
Rachel Harlan

From: Erica Schmidt Jabali
To: EDHCostco@edcgov.us
Subject: Costco Next to OM Elementary
Date: Monday, March 24, 2025 11:54:39 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear Mr. Welch,

Honestly, I can't think of a worse place to put a Costco store and fueling station than next to an elementary school. Whether this directly impacts your children or not, now is the time to put the well-being and safety of our local children over profits.

In full disclosure, Oak Meadow does happen to be the school my own children attend. But, as a former teacher and child advocate, I would still feel strongly about this Costco placement. In fact, I feel so strongly about this, I will move my children if this project goes through, and I know I am not alone.

Here's my reasons why:

First, any construction in our area has the potential of stirring up asbestos. It's well-known that asbestos has been found in several places in EDH and remediation efforts have been made to reduce it. However, doing this next to an elementary school could have catastrophic long-term effects on the health of our children and their families who are there everyday, potentially breathing in airborne asbestos.

Second, construction is noisy. There is a road being built a few blocks from my house and I can hear the loud clanging from construction vehicles and the beeping from trucks all the way through the walls of my home while I try to work. I feel the vibrations of blasts to the rock in areas where they can't break ground. I can't imagine how much louder this would be if it were happening 50 feet from my walls. It would be impossible to focus. This will deeply impact the ability for our students, particularly those with special needs and learning disabilities, to be successful at school.

Third, the traffic caused by these construction vehicles will further congest an impacted area. Pickup and drop-off times are already challenging, with cars parked in lines up and down the street in all directions. Adding shoppers, construction vehicles, and people seeking discounted gas will create even more of an issue. We only need to look down the hill to see how busy these gas stations are. The Folsom location has lines at all times of day and night as people rush and wait for their turn at the pump. Having this amount of traffic on and off the freeway, directly adjacent to a school, is going to congest the area, slowing down the ability for parents, staff, and first responders to reach the school quickly.

Fourth, this presents multiple serious safety hazards. First, should there be an emergency, such as a fire, or a school shooting, the traffic from these trucks, or from the future customers at the store or gas station, will absolutely delay the ability for first responders to get to the school.

In addition, there will be no way to keep unsafe individuals from accessing the school. Now that the area is a field, any random person walking through and over to the school would be considered suspicious. With hundreds of people coming and going, it will be impossible to tell who is a parent and who is a wandering customer who shouldn't be on campus. Oak Meadow is an open school, with more than one entrance and exit point. Adding hundreds of strangers will create even more of an impossible situation for keeping our children safe.

Sadly, I have little faith in the right thing being done here. Far too often, dollar bills have been put ahead of the needs and safety of our most vulnerable community members. If the project is going to go through despite widespread objections, **there needs to be considerable improvements to the area made at Costco's expense**, such as a large, tall wall with soundproofing to absorb noise separating Costco from the school, as well as improvements made to the road to allow for the volume of vehicles. Also, the road should ensure that vehicles can turn back to the freeway from the exit of Costco, **without having to go past the school and deeper into the neighborhood to turn around,** as well as security cameras and a full-time security vehicle and guard to ensure that nobody crosses over onto the school campus.

If this project goes through, I will have to move my kids to another school. In today's world, with the many fears that parents have just sending their kids to school, I can't imagine many parents willing to subject their children to even more risks. This would endanger a school that is already experiencing declining enrollment, as all our schools in EDH currently are.

When a school in a tight-knit community like ours suffers, it deeply impacts every other area of our community as well, **including local real estate markets**. Oak Meadow is known for attracting homebuyers willing to pay a premium to have access to the private gate to the school. This has assisted in Serrano's meteoric rise in real estate growth. But, if we sacrifice the quality of Oak Meadow for the profits of a Costco, we will see that change exponentially.

Allowing a Costco to damage the environment and reputation of one of our respected local schools should be an immediate no for anyone who cares about our community, now and for the future.

You are welcome to reach out to me with any questions.

Regards,

Erica Jabali

From: Steven Frith
To: PL-EDH Costco Project; Cameron W. Welch
Cc: Karen L. Garner; BOS-District I; BOS-District II; BOS-District III; BOS-District IV; BOS-District V; Amy Frith; David Spaur; Bob Williams; Jeff Hansen
Subject: Costco Notice of Preparation Comment Letter
Date: Wednesday, March 26, 2025 8:00:42 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

To: Cameron Welch
CC: The El Dorado County Planning Department and Board of District Supervisors

RE: Costco Notice of Preparation Comment Letter

As concerned residents of El Dorado Hills, and as parents of children who attend Oak Meadow Elementary School, we would like to share our list of concerns regarding the proposed Costco and, especially, Costco Fuel Station project that should be reviewed and included in the Environmental Impact Report. We would like to submit the following formal comments for the Notice of Preparation:

1. The proposed fuel station is extremely large. With 32 pumps, this is 10 pumps more than the Folsom Costco fuel station, nearly a 50% increase. Putting a fuel station of this size directly next to an elementary school and between two neighborhoods - flanked by two hillsides - is unconscionable.

    a. The site proposal does not include a set back measurement with distance measurements to the Elementary School or surrounding homes. This measurement is absolutely necessary and must be publicly released.

    b. There are no available studies on how communities have been impacted by a Costco fuel station, or any fuel station of this size. This needs to be studied in order to determine the environmental and health impacts. Studies that are available show a significant increased risk of childhood leukemia and respiratory diseases from even a typical sized fuel station. These risks should be linearly projected to be more extensive with a gas station of this size. Current set back regulations should not be applicable to a fuel station of this size and set back expansion, at a minimum, needs to be considered.

    c. The EIR should address how the airborne toxins and pollution will sit, trapped, between two hillsides as the wind, which travels northward toward Oak Meadow Elementary school, will push those toxins created by the fuel station, idling cars and diesel trucks directly toward our community's young children.

d. The kindergarten playground is located outside in the front of Oak Meadow School, directly adjacent to where the proposed gas station sits. Children also spend an extended amount of time on the school's blacktop during recess, P.E. and cross-country practice. Little league games and other youth sports are also played on the athletic fields at the school nearly year-round. All of these outdoor locations need to be studied to measure the impact that a fuel station of this size will have on children who are exposed for an extended period of time with intensive physical activity and heavy breathing.

e. There is also a portable building located southeast end of the Oak Meadow campus, also directly adjacent to the proposed fueling station, where children attend the Charter Extended Day for after-school care. Many children attend the after-school care program from the time that the morning Kindergarten is released at 11:10 am on weekdays (earlier, 10:25 am, on Wednesdays) until as late as 5:30 pm, when it closes. The children play on the concrete yard in front of this building for much of this time. That is up to 7 hours where children as young as 5 years old will be exposed to toxins from a fuel station both outside and in a portable building that does not have equivalent ventilation to the permanent school buildings. The environmental impact on a portable building should be included in the EIR. The funding to build a permanent building for Charter Extended Day should be provided by Costco if the fuel station is not eliminated from the site plans.

f. Costco should also review the fuel station size and provide detail on why 32 pumps are necessary for this particular location, where the clientele are already visiting the Folsom location and significant membership growth is not expected.

g. The cumulative impact of the existing pollution from the freeway, the addition of diesel truck deliveries, cars entering and exiting the Costco warehouse site, cars entering/exiting and idling while waiting for gas at the fuel station site, and cancerous benzene emissions from the fuel tank fillings and accidental pumping leakage should be reviewed.

2. The Costco and fuel station site plan has significant traffic safety issues that need to be addressed:

a. The fuel station appears to have a one-way entrance and exit, with the entrance on the side of the property that is closest to the school. During school pickup times, cars sit idle waiting to turn into the school parking lot and back up alongside Silva Valley, near the fuel station entrance. The traffic flow in this area needs to be observed, especially during school pickup, but also during drop off times, to determine how this additional traffic will compound the existing problem.

b. The Oak Meadow Elementary School entrance does not have a stop sign

or traffic light. Cars turning into the school site have to wait for oncoming traffic to subside, which can take a considerable amount of time if there is already a line of cars waiting to turn right from the opposing side. Additional traffic created from the proposed Costco location(s) on Silva Valley Parkway will exacerbate this existing problem, creating a dangerous situation for families and students. As it is, when school buses are turning out of the school driveway, they have a difficult time seeing the oncoming traffic and are at an increased risk of a vehicle collision. The developer should be funding the addition of a stop sign, stop light, roundabout or other proposed solution to help mitigate the traffic risks.

c. There are no crosswalks proposed in the site plan to cross Silva Valley Parkway from Clarksville Crossing to the proposed driveway entrance of the fuel station. Individuals who park on the fuel station side and walk over to Costco will be at risk of being struck by a vehicle. This also includes children who might be taking this path to cross the street and walk home along Buck's Creek Trail. The leading cause for school aged deaths is accidental trauma traffic accidents, of which the leading cause is car accidents.

d. There is no proposed widening of Clarksville Crossing or White Rock Road. These are two lane roads that are not positioned to handle this increased volume of traffic. These road improvements should be funded by the developer.

e. There is no traffic light to turn left from Clarksville Crossing onto Silva Valley Parkway. This area is already a safety hazard that will be exacerbated by the additional traffic that the Costco proposal will bring. These road improvements should be funded by the developer.

3. There are other environmental and economic impacts that should be included in the Environmental Impact Report.

a. The proposed Costco warehouse is roughly 20,000 square feet larger than the existing Folsom location. This is significantly larger and it should be determined whether a building of this size is necessary for existing clientele in this area when there is already another warehouse 3 miles away. Reducing the size of the warehouse may also help to reduce the parking burden and eliminate the need for an underground parking garage.

b. There is naturally occurring asbestos in the land on both sides of the proposed site. Leveling this land to add a fuel station and blasting into the ground to create underground parking for the warehouse will create a significant environmental hazard for nearby residents, students and staff of the school.

c. Many residents in El Dorado Hills have lost their homeowners insurance

due to fire risk. The impact of flammable materials from a gas station at this location could cause more homeowners to lose their insurance and exacerbate the statewide crisis.

d. The location of the gas station and warehouse will be a disruption to natural hillside views that El Dorado Hills is known for. This will have a damaging effect on home values, making it challenging for homeowners who wish to relocate to be able to do so.

e. The geological positioning of this site between two hillsides creates a noise echo effect. The cumulative noise pollution from the existing freeway, the overhead flight path to Mather and Sacramento airports, the existing traffic on Silva Valley Road in addition to the new traffic noise from the visiting vehicles and diesel trucks should be taken into consideration. Neighboring communities behind the Costco warehouse and the fuel station should be compensated for replacing windows in order to provide sound proofing.

f. The Serrano villages in El Dorado Hills do not currently include streetlights other than those along Serrano Parkway. The addition of streetlights in the proposed parking lots will cause light pollution. This will have a negative effect on the neighboring residents and also on the wildlife that inhabits the area.

g. There should be a study on the impacts of urban decay and how this will impact the smaller fuel station businesses that already exist at the two Safeway locations, the Raley's shopping center and in Town Center. If an existing gas station were to be closed/abandoned, there will be a significant environmental cleanup that would need to be funded by this particular, proposed, fuel station. Other small businesses including the local grocery stores, Safeway, Raley's and Nugget Market may also lose business and lead to further urban decay.

h. There is an abundance of wildlife that lives along the greenbelt in this area. Many animals including beavers, coyotes, bobcats, turkeys and several species of birds are likely to be disrupted and lose their habitat. The environmental impact to wildlife should be reviewed. The water runoff from both the gas station and warehouse locations could feed into the nearby creek and natural ponds along Buck's Creek Trail, eliminating a food and hydration source for these animals.

i. The age of the trees on both sides of the project site should be identified to determine if they should be protected. These trees are also home for the observed wildlife.

j. Any existing tribal cultural resources should be identified and protected on the proposed site.

k. The Costco site plan states that solar panels may be added as a separate structure, rather than the warehouse rooftop. On the warehouse side of the project, there is no room for an additional solar panel structure. If this is proposed to be added to the fuel station side of the project, then this should be included in the project proposal and included in the analysis for impact to wildlife and aesthetics for the surrounding neighborhoods.

Thank you for your attention to these extremely important issues that impact the health and safety of our community's children and residents.

Sincerely,

Amy and Steven Frith

From: Steven Frith
To: EDHCostco@edcgov.us; cameron.welch@edcgov.us
Cc: karen.L.Garner@edcgov.us; bosone@edcgov.us; bostwo@edcgov.us; bosthree@edcgov.us; bosfour@edcgov.us; bosfive@edcgov.us; Amy Frith; david.spaur@edcgov.us; bob.williams@edcgov.us; jeff.hansen@edcgov.us
Subject: Costco Notice of Preparation Comment Letter
Date: Wednesday, March 26, 2025 8:00:42 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

To: Cameron Welch
CC: The El Dorado County Planning Department and Board of District Supervisors

RE: Costco Notice of Preparation Comment Letter

As concerned residents of El Dorado Hills, and as parents of children who attend Oak Meadow Elementary School, we would like to share our list of concerns regarding the proposed Costco and, especially, Costco Fuel Station project that should be reviewed and included in the Environmental Impact Report. We would like to submit the following formal comments for the Notice of Preparation:

1. The proposed fuel station is extremely large. With 32 pumps, this is 10 pumps more than the Folsom Costco fuel station, nearly a 50% increase. Putting a fuel station of this size directly next to an elementary school and between two neighborhoods - flanked by two hillsides - is unconscionable.

    a. The site proposal does not include a set back measurement with distance measurements to the Elementary School or surrounding homes. This measurement is absolutely necessary and must be publicly released.

    b. There are no available studies on how communities have been impacted by a Costco fuel station, or any fuel station of this size. This needs to be studied in order to determine the environmental and health impacts. Studies that are available show a significant increased risk of childhood leukemia and respiratory diseases from even a typical sized fuel station. These risks should be linearly projected to be more extensive with a gas station of this size. Current set back regulations should not be applicable to a fuel station of this size and set back expansion, at a minimum, needs to be considered.

    c. The EIR should address how the airborne toxins and pollution will sit, trapped, between two hillsides as the wind, which travels northward toward Oak Meadow Elementary school, will push those toxins created by the fuel station, idling cars and diesel trucks directly toward our community's young children.

d. The kindergarten playground is located outside in the front of Oak Meadow School, directly adjacent to where the proposed gas station sits. Children also spend an extended amount of time on the school's blacktop during recess, P.E. and cross-country practice. Little league games and other youth sports are also played on the athletic fields at the school nearly year-round. All of these outdoor locations need to be studied to measure the impact that a fuel station of this size will have on children who are exposed for an extended period of time with intensive physical activity and heavy breathing.

e. There is also a portable building located southeast end of the Oak Meadow campus, also directly adjacent to the proposed fueling station, where children attend the Charter Extended Day for after-school care. Many children attend the after-school care program from the time that the morning Kindergarten is released at 11:10 am on weekdays (earlier, 10:25 am, on Wednesdays) until as late as 5:30 pm, when it closes. The children play on the concrete yard in front of this building for much of this time. That is up to 7 hours where children as young as 5 years old will be exposed to toxins from a fuel station both outside and in a portable building that does not have equivalent ventilation to the permanent school buildings. The environmental impact on a portable building should be included in the EIR. The funding to build a permanent building for Charter Extended Day should be provided by Costco if the fuel station is not eliminated from the site plans.

f. Costco should also review the fuel station size and provide detail on why 32 pumps are necessary for this particular location, where the clientele are already visiting the Folsom location and significant membership growth is not expected.

g. The cumulative impact of the existing pollution from the freeway, the addition of diesel truck deliveries, cars entering and exiting the Costco warehouse site, cars entering/exiting and idling while waiting for gas at the fuel station site, and cancerous benzene emissions from the fuel tank fillings and accidental pumping leakage should be reviewed.

2. The Costco and fuel station site plan has significant traffic safety issues that need to be addressed:

a. The fuel station appears to have a one-way entrance and exit, with the entrance on the side of the property that is closest to the school. During school pickup times, cars sit idle waiting to turn into the school parking lot and back up alongside Silva Valley, near the fuel station entrance. The traffic flow in this area needs to be observed, especially during school pickup, but also during drop off times, to determine how this additional traffic will compound the existing problem.

b. The Oak Meadow Elementary School entrance does not have a stop sign

or traffic light. Cars turning into the school site have to wait for oncoming traffic to subside, which can take a considerable amount of time if there is already a line of cars waiting to turn right from the opposing side. Additional traffic created from the proposed Costco location(s) on Silva Valley Parkway will exacerbate this existing problem, creating a dangerous situation for families and students. As it is, when school buses are turning out of the school driveway, they have a difficult time seeing the oncoming traffic and are at an increased risk of a vehicle collision. The developer should be funding the addition of a stop sign, stop light, roundabout or other proposed solution to help mitigate the traffic risks.

c. There are no crosswalks proposed in the site plan to cross Silva Valley Parkway from Clarksville Crossing to the proposed driveway entrance of the fuel station. Individuals who park on the fuel station side and walk over to Costco will be at risk of being struck by a vehicle. This also includes children who might be taking this path to cross the street and walk home along Buck's Creek Trail. The leading cause for school aged deaths is accidental trauma traffic accidents, of which the leading cause is car accidents.

d. There is no proposed widening of Clarksville Crossing or White Rock Road. These are two lane roads that are not positioned to handle this increased volume of traffic. These road improvements should be funded by the developer.

e. There is no traffic light to turn left from Clarksville Crossing onto Silva Valley Parkway. This area is already a safety hazard that will be exacerbated by the additional traffic that the Costco proposal will bring. These road improvements should be funded by the developer.

3. There are other environmental and economic impacts that should be included in the Environmental Impact Report.

a. The proposed Costco warehouse is roughly 20,000 square feet larger than the existing Folsom location. This is significantly larger and it should be determined whether a building of this size is necessary for existing clientele in this area when there is already another warehouse 3 miles away. Reducing the size of the warehouse may also help to reduce the parking burden and eliminate the need for an underground parking garage.

b. There is naturally occurring asbestos in the land on both sides of the proposed site. Leveling this land to add a fuel station and blasting into the ground to create underground parking for the warehouse will create a significant environmental hazard for nearby residents, students and staff of the school.

c. Many residents in El Dorado Hills have lost their homeowners insurance

due to fire risk. The impact of flammable materials from a gas station at this location could cause more homeowners to lose their insurance and exacerbate the statewide crisis.

d. The location of the gas station and warehouse will be a disruption to natural hillside views that El Dorado Hills is known for. This will have a damaging effect on home values, making it challenging for homeowners who wish to relocate to be able to do so.

e. The geological positioning of this site between two hillsides creates a noise echo effect. The cumulative noise pollution from the existing freeway, the overhead flight path to Mather and Sacramento airports, the existing traffic on Silva Valley Road in addition to the new traffic noise from the visiting vehicles and diesel trucks should be taken into consideration. Neighboring communities behind the Costco warehouse and the fuel station should be compensated for replacing windows in order to provide sound proofing.

f. The Serrano villages in El Dorado Hills do not currently include streetlights other than those along Serrano Parkway. The addition of streetlights in the proposed parking lots will cause light pollution. This will have a negative effect on the neighboring residents and also on the wildlife that inhabits the area.

g. There should be a study on the impacts of urban decay and how this will impact the smaller fuel station businesses that already exist at the two Safeway locations, the Raley's shopping center and in Town Center. If an existing gas station were to be closed/abandoned, there will be a significant environmental cleanup that would need to be funded by this particular, proposed, fuel station. Other small businesses including the local grocery stores, Safeway, Raley's and Nugget Market may also lose business and lead to further urban decay.

h. There is an abundance of wildlife that lives along the greenbelt in this area. Many animals including beavers, coyotes, bobcats, turkeys and several species of birds are likely to be disrupted and lose their habitat. The environmental impact to wildlife should be reviewed. The water runoff from both the gas station and warehouse locations could feed into the nearby creek and natural ponds along Buck's Creek Trail, eliminating a food and hydration source for these animals.

i. The age of the trees on both sides of the project site should be identified to determine if they should be protected. These trees are also home for the observed wildlife.

j. Any existing tribal cultural resources should be identified and protected on the proposed site.

k. The Costco site plan states that solar panels may be added as a separate structure, rather than the warehouse rooftop. On the warehouse side of the project, there is no room for an additional solar panel structure. If this is proposed to be added to the fuel station side of the project, then this should be included in the project proposal and included in the analysis for impact to wildlife and aesthetics for the surrounding neighborhoods.

Thank you for your attention to these extremely important issues that impact the health and safety of our community's children and residents.

Sincerely,

Amy and Steven Frith

From: Richard Maxwell
To: EDHCostco@edcgov.us
Subject: Costco on Silva Valley Pkwy
Date: Thursday, March 27, 2025 11:35:27 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

To whom it may concern.
The Costco planned for Silva Valley Parkway is a danger, not an asset to our community. This road has four schools in a short distance of each other. Two of which are Elementary Schools. Also, one Elementary School would be right next door. This is extremely poor planning by the community, apparently for financial gain over safety of our families and schools. The increase in traffic and the number of people coming and going jeopardizes safety and quality of life. These days our children's safety on their own school grounds is a major concern, and having such a busy business next door opens up many more opportunities for harm.
The increase in traffic due to this business along this Parkway, where our High School students need to park, would be irresponsible. It will also increase the traffic along Harvard Way. Many of Oakridge High School's students park along this road as well. One miss-step by them or their passengers on these roads will result in death. Our children need our protection. The Parkway is also used yearly in honor and recognition to the graduating seniors of Oakridge. How can anyone feel adding as large and hugely visited business such as Costco, using this Parkway as access, is a safe or helpful addition to our community.
The safety of our community should be the most important issue while planning its growth. Anything other than residential growth along Silva Valley Parkway will create a significant danger.
Sincerely,
Richard Maxwell
3276 Stonehurst Dr
El Dorado Hills, CA 95762

From: Scott Johnson
To: EDHCostco@edcgov.us
Subject: Costco Project
Date: Sunday, March 30, 2025 1:44:17 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

I wanted to share my concerns regarding the proposed Costco Project. I am a resident of Serrano in EDH. Several community members have voiced their concerns over the Costco Wholesale Fuel Facility - namely the proximity of it to the elementary school. The emissions from cars would be a health risk to the students and staff at the school as they spend a significant amount of time outdoors (e.g. recesses, P.E., etc.) Also, it is important to note that the fields are in use in the afternoons and on weekends by community sports leagues. So it's not just the students and staff at the school but also the local community. If you have observed other Costco Fuel Facilities you would have noticed that there are many cars that are queuing up (in line). These cars have their engines running as they wait for available gas pumps. The amount of emissions would be from several cars (not just a few like most gas stations).

I respectfully request that the Costco Project be relocated to a more appropriate site that does not present health hazards to the EDH community (as noted above).

Scott R. Johnson
Retired Public Elementary School Principal
EDH Resident

From: Bryan Lasecke
To: EDHCostco@edcgov.us
Cc: Lori Lasecke
Subject: Costco project concern
Date: Thursday, March 27, 2025 8:35:00 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Thank you for the notification regarding the proposed Costco project.

As owners of two properties in Serrano, we are deeply concerned about the potential impact of a large warehouse store in our community. We are especially concerned about the amount of traffic, the noise and light pollution and congestion a Costco Store would generate for the surrounding residents. Another big concern is the competition it will create for the survival of smaller local businesses. We would appreciate being kept informed about future developments and opportunities for community input.

Best regards,

Bryan and Lori Lasecke

From: Mostafa Ahady
To: EDHCostco@edcgov.us
Subject: costco project el dorado hills
Date: Wednesday, March 26, 2025 4:15:55 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

To Whom It May Concern,

I am writing to express my strong opposition to the proposed Costco development in our residential community. While I understand the potential economic benefits such a project may bring, the placement of a large commercial warehouse in a family-oriented neighborhood raises serious concerns.

Increased traffic, noise pollution, and environmental impact will disrupt the peace and safety that residents currently enjoy. Our community is not designed to handle the high volume of vehicles and commercial activity that a Costco would inevitably bring. Additionally, the development threatens to decrease property values and alter the character of our neighborhood.

I urge you to reconsider this development and explore alternative locations that are better suited for large-scale commercial use, without compromising the integrity of residential areas.

I find the Folsom Costco location to be one of the best I have been to and believe that the new location would only decrease the quality of your brand given the close proximity and competition for resources.

Sincerely,

Mostafa Ahady

From: Barbara Hammond
To: EDHCostco@edcgov.us
Subject: Costco Project for El Dorado Hills
Date: Wednesday, March 26, 2025 4:09:35 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

I am a Serrano resident; I would love to hav a Costco here. The local Costco is overcrowded it does not matter what time of the day there it is overcrowded it very difficult to shop there without being run over by a shopping cart, and long lines at the gas sbtion. I have not shopped at the Folsom Costco since October 2024.
Please hurry and get the store approved and built.
Thank you,
Barbara

From: Silvia Martinez-Roberts
To: EDHCostco@edcgov.us
Subject: Costco proposal in EDH
Date: Thursday, March 27, 2025 9:20:36 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

all I can say is that I've been here in EDH for almost 30 years and with all of the growth in Folsom I never shop at that Costco anymore because it is so crowded. Also just trying to get there is a nightmare with so much traffic at that intersection.

I would love to have Costco just down the street and it would also benefit El Dorado County but having the taxes stay here.
Bottom line I am all for Costco in EDH!!

Silvia Roberts

Get Outlook for iOS

From: NANCY MAXWELL
To: EDHCostco@edcgov.us
Subject: Costco, Silva Valley
Date: Thursday, March 27, 2025 11:00:24 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

To Planning Department;
I am a resident of the Serrano community along Silva Valley Parkway, El Dorado Hills. I am extremly concerned with the increase of traffic along this stretch of road. There are two Elementary Schools, a Junior High School, and a High School in close proximity to each other and the proposed Costco. The traffic along this roadway is already challenging and dangerous around the schools, meaning number of cars and speed of cars. In no way is the plan for a Costco store and fuel station in the best interest, or any interest of safety for our community or children.
Silva Parkway is a residential street with MANY schools. Transportation to and from these schools by family vehicles, as well as the children walking along the Parkway, will all be in increased danger. Increase in traffic will also increase frustration of drivers, causing poor choices in the safety of many drivers. Please consider the community's safety as the number one priorty! There are plenty of other options for growth of the community that do not cause this level of endangerment its residents.
Sincerely,
Nancy Maxwell
3276 Stonehurst Dr.
El Dorado Hills, CA 95762

From: Jeff Yurtin
To: EDHCostco@edcgov.us; Jeff Yurtin
Subject: Costco site
Date: Thursday, March 20, 2025 5:23:31 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

We live at 4926 Moreau Ct, close by. It would seem the two parcels use plus Clarksville being one lane and the gas are all major issues. I agree we all need another Costco. Costco needs find a better lot off of Bass Lake or even up towards Cameron park. They obviously need more land and putting a gas station right next to kids can’t be done or hope and pray it won’t be done.

Regards,

Jeff Yurtin

To: Cameron Welch,
Senior Planner County of El Dorado Planning and Building Department
EDHCostco@edcgov.us

From: Heather Siefkes
5209 Mertola Drive
El Dorado Hills, CA 95762

Dear Mr. Welch,

I am submitting this letter noting my concerns regarding the Costco Warehouse and Gas Station Development in El Dorado Hills on Silva Valley Parkway. I live in Serrano on the westside of Mertola Drive (my backyard is directly across the west lot in which the gas station is proposed). My two children also attend Oak Meadow Elementary (currently Kindergarten and 3rd grade). I am active parent on the school campus as a PTO board member. I am also a Pediatric Critical Care Physician. It is from these perspectives that I have several concerns regarding this development.

Traffic safety: The leading cause of death for school age children is accidental trauma, of which the leading the cause is car accidents. Silva Valley Parkway and the Oak Meadow parking lot are currently inadequate to manage the current traffic associated with school pick up and drop off. These times will also overlap with hours the Gas Station and Warehouse are open. As described above, my backyard has a full view of Oak Meadow and Silva Valley Parkway. We regularly see cars backed up all the way to the proposed country club intersection during pick up time. It is surprising to me that a significant accident involving Oak Meadow children has not occurred in our few years living in El Dorado. The addition of the traffic that will come with the proposed Costco and gas station development, will make such an accident inevitable. This is not just from increased cars and congestion but also due to potential increased pedestrians on Silva Valley Parkway. I worry about the nearby parking lot at the Gas Station would entice parents to park there for drop off and then not have safe passage to Oak Meadow.

Air quality/Pollution: Another common condition I care for in the hospital are respiratory illnesses like asthma and more. In fact, respiratory conditions are the leading cause of hospitalizations for young children. Toxic chemicals and fumes associated with gas stations are known triggers for respiratory illnesses like asthma. Costco gas stations have some of the longest lines for gas that I have ever seen! This gas station is also proposed to

be built essentially in a canyon, with hillsides on either side that will trap those fumes in and limit their dispersion and unfortunately then wafting over into lungs of Oak Meadow children and staff. The students at Oak Meadow spend a lot of time outside – they eat outside, they move from class to class outside due to the open (no hallways) structure. Even if the distance proposed between the gas station and Oak Meadow meets any current minimum recommendations, it's still too close when considering our children's health. Our children's health deserves better than the minimum standard.

Noise: As I mentioned, Silva Valley Parkway is essentially a canyon. That means all road noise echoes up that canyon into nearby homes like mine. Nearly nightly we hear cars revving engines in the area. The addition of a light for the Costco intersection will significantly add to this note as cars stop/go at the light. Costco semitrucks will likely be doing delivers at night with noise from their diesel trucks and louder breaks disrupting nearby residents nightly.

Ideally, I'd prefer the Costco development doesn't go any further. If it does go forward, at a minimum I want to see the gas station removed, Silva Valley Parkway and Oak Meadow Elementary parking lot significantly enhanced to improve and ensure safe access for Oak Meadow students and families, and efforts to ensure minimal additional night noise associated with the development.

Thank you,

Heather Siefkes

From: Adam Spoor
To: EDHCostco@edcgov.us
Subject: Costco Support
Date: Saturday, March 22, 2025 3:30:54 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Hi,

I've lived in el dorado hills for 10 years now. I fully support the Costco project at Silva and Highway 50.

I believe any complaints from the community are not valid enough for the stoppage of this location.

-noise/pollution:
The site is directly next to Silva Valley and Highway 50. Both streets are already providing a lot of traffic and noise. Pollution from Highway 50 is likely more than a Costco would provide.

-traffic:
There are plans already to extend Country Club Boulevard at some point. This will be near the school and Silva. This project will bring traffic lights which will make the school area safer by slowing traffic and adding stop lights. Residents use that section of Silva as a 55+ mph zone. This project will significantly slow traffic which is a good thing.

-Not in my backyard crowd:
Buying a home next to an empty lot is an incredible risk. Not one I would be willing to make. But if you make that risk, there is the potential that a commercial building will pop up there. I'd rather a Costco in my backyard than anything else. They are clean and well maintained. Would you rather a Home Depot or Amazon fulfillment center?

-Folsom:
The current Costco is overcrowded. This will be a blessing for both locations. I'd like to keep my tax dollars in the county I live in rather than Sacramento County.

Thank you for your consideration:
Adam Spoor

-Adam

Sent from my iPhone

From: Mike Dalisay
To: edhcostco@edcgov.us
Subject: Costco Warehouse
Date: Saturday, March 29, 2025 12:57:41 PM
Attachments: Mar2025 Opposition Letter #2 _DALISAY.docx

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Hello again,

I hope this message finds you well. After further consideration, I've authored another letter expressing cautionary concerns for our Town. Pls see the attached.

--
Thank You,

Mike
(925) 785-7381

From: Jan Edwards
To: EDHCostco@edcgov.us
Subject: Costco Warehouse in EDH
Date: Wednesday, March 26, 2025 5:38:25 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Hi ..

I am opposed to the Costco Warehouse in EDH . I think the location under consideration is not appropriate for a big Warehouse store. There are too many homes nearby and it's far too close to local schools.

A better choice would be up Hwy 50, closer to Cameron Park or Shingle Springs … since it would be more evenly spaced between the Folsom store.

Sincerely,

Jan Edwards

From: Pierre Henry
To: EDHCostco@edcgov.us
Subject: Costco warehouse on silva valley
Date: Wednesday, March 26, 2025 4:32:19 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

As a resident of el dorado hills living at the cross roads of Serrano parkway and Silva Valley parkway, I am concerned of the added car traffic and congestion in the area when the new Costco warehouse and new Costco fuel facility will be built.
Already at the time of the school drop off and pick up, the traffic is already heavy.
I believe added lanes are required all the way around as well as freeway access.

From: bob billa
To: EDHCostco@edcgov.us; hoa@serranohoa.org
Subject: Costco Wholesale Member Warehouse retail store and Costco Wholesale fuel facility on Silva Valley Parkway north of US 50.
Date: Sunday, March 30, 2025 8:25:27 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

03.30.25

Cameron Welch, Senior Planner

County of El Dorado Planning and Building Department

2850 Fairlane Court, Building C

Placerville, CA 95667

Email: EDHCostco@edcgov.us

Dear Sir,

Subject: Concerns Regarding Propose Costco Wholesale Member Warehouse retail store and Costco Wholesale fuel Facility on Silva Valley Parkway north of US 50.

We neighbors of Serrano Village B hope this letter finds you well. We are writing on behalf of the residents of Serrano Home Association and other concerned members of the community regarding the proposed construction of a new Costco warehouse and gas station on Silva Valley Parkway in El Dorado Hills. This development is situated directly next to our residential complex and across the street from Oak Meadow Elementary School.

As residents who chose this area specifically for its seclusion, safety, and family-friendly environment, we are deeply concerned about the impact this project would have on our community, particularly on the safety of our children. Many of us have paid premium prices for our homes to live in a peaceful area where our children can thrive, but this proposed commercial development threatens that ideal in several significant ways.

1. **Children's Safety:** The most pressing concern is the safety of the children in our community. The proximity of a Costco warehouse and gas station to our homes and the elementary school presents a serious risk to our kids. The increased traffic, including large trucks and customers at the gas station, poses a danger to pedestrians, especially children walking to and from school. Our primary focus should always be to safeguard the most vulnerable members of our community, and this development would do the opposite by introducing substantial risks to their safety.
2. **Quality of Life and Community Integrity:** Many families moved to this area because of its tranquility and low density of commercial development. The addition of a large-scale business so close to our homes will not only negatively impact safety but also compromise the integrity of the community. The presence of a large corporation, particularly a gas station, in such close proximity to residential homes and an

elementary school would degrade the peaceful nature of our neighborhood and the safety we've worked hard to maintain.

3. **Lack of Recreational Space for Children:** Another critical issue is the severe lack of sports fields and recreational spaces for children in our community. As our population continues to grow, our future generations need safe, open spaces where they can play, exercise, and develop their physical and social skills. Rather than investing in the well-being of our children by providing sports fields or other recreational facilities, the city is considering the construction of a commercial business that will disrupt the neighborhood, increase traffic, and create a less safe environment for families. This shift away from prioritizing our children's future and well-being in favor of corporate development will only contribute to the decline of the peaceful, family-oriented atmosphere that makes our community special.

We urge the city to reconsider this development proposal and instead focus on initiatives that would enhance the lives of residents, particularly our children. We strongly believe that creating more recreational spaces—such as sports fields or parks—should be a priority to provide a safe environment where our children can grow, play, and succeed, instead of allowing commercial development that could have the opposite effect.

We kindly request a public meeting or community consultation to discuss these concerns in greater detail. We trust that the city will prioritize the safety and well-being of its residents and future generations over corporate interests.

Thank you for your attention to this critical matter. We look forward to your response and appreciate your understanding and consideration.

Sincerely,
Neighbors of Village B. of Serrano El Dorado Owners association

From: Mehran Sabbaghian
To: EDHCostco@edcgov.us
Cc: hoa@serranohoa.org
Subject: Costco Wholesale retail store and fuel facility on Silva Valley Parkway
Date: Thursday, March 27, 2025 9:49:41 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Subject: Opposition to Proposed Costco Project on Silva Valley Parkway

Dear El Dorado County Planning Department,

I am writing to express my **strong opposition** to the proposed development of a Costco Wholesale retail store and fuel facility on **Silva Valley Parkway**, north of US 50.

This project raises several serious concerns for the surrounding community, particularly in regard to **traffic, safety, and neighborhood impact**:

1. **Proximity to a School**
   The proposed site is directly adjacent to an existing school, which raises **significant safety concerns**. The dramatic increase in traffic from shoppers and fuel customers—many of whom will be unfamiliar with the area—will create a dangerous environment for students, families, and school staff during drop-off, pick-up, and school hours.
2. **Traffic Congestion & Infrastructure Strain**
   The already limited road infrastructure in this area is not designed to handle the **high volume of traffic** associated with a Costco location. The addition of a large-scale retail and fuel center would cause **unprecedented congestion**, increasing commute times and emergency response delays.
3. **Existing Costco Nearby**
   There is already a well-established Costco at the next exit on Highway 50, which is easily accessible and sufficiently serves the community. A second location in such close proximity is **unnecessary and redundant**, especially considering the significant negative impact on local quality of life.
4. **Impact on Residential Neighborhood**
   The area surrounding the proposed site is a **densely populated, upper-class residential neighborhood**. The introduction of a commercial development of this magnitude would significantly disrupt the **character and tranquility** of the community, lowering property values and degrading residents' quality of life.

For these reasons, I respectfully urge the County to reconsider the suitability of this location and **explore alternative sites** better suited to accommodate such a project—

preferably in areas already zoned for heavy commercial use and not directly adjacent to schools or residential zones.
Sincerely,

Mehran Sabbaghian
916-337-8156
[Serrano Resident / El Dorado County Resident]

From: Dhananjay Saxena
To: EDHCostco@edcgov.us
Subject: Costco Wholesale
Date: Thursday, March 27, 2025 1:32:01 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

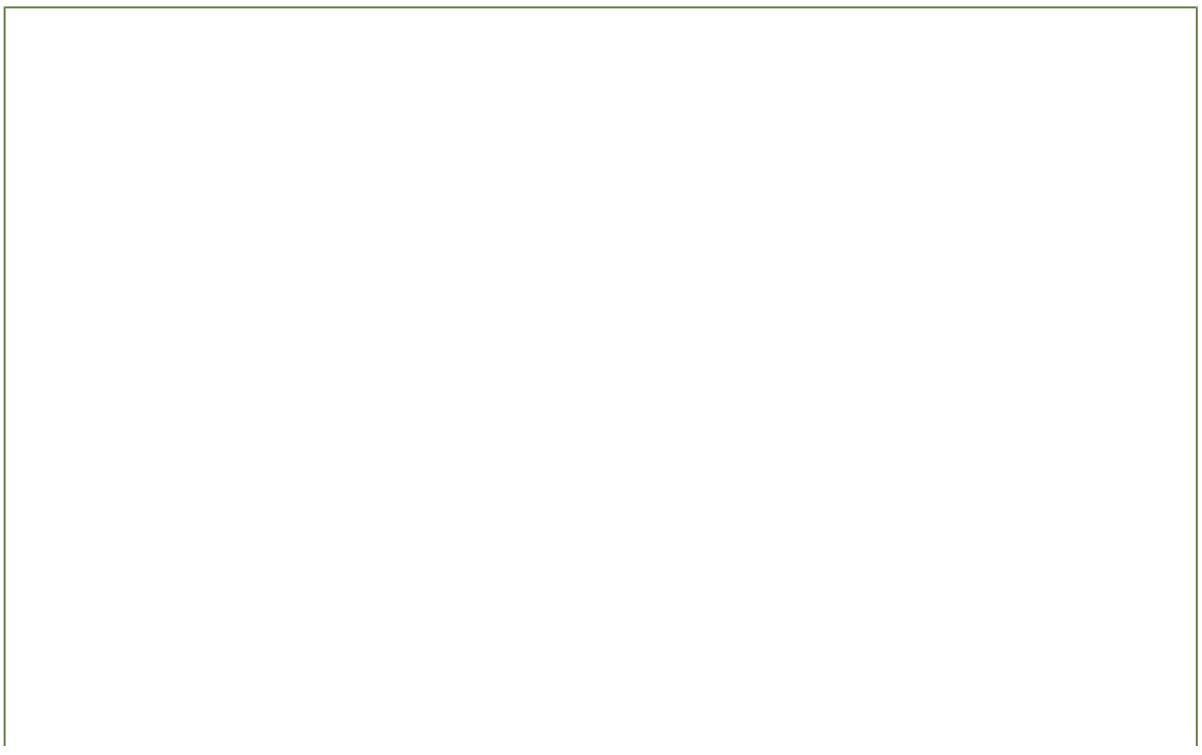
Report Suspicious

1. I don't see a need or a reason to open up another one just 5-6 miles apart; nor I find the Folsom costco ever so crowded, barring a few days such as thanksgiving, which would warrant opening another one. Ppl should visit ANY costco in the bay area to gain a perspective. Or, even the one in Roseville will do!
2. The proposed area is so close to the school and the residential. I worry it would cause more issues down the road.

IMHO, no need to fix something that is not broken!

Thanks,
DJ Saxena
7009 Hearst Dr,

----- Forwarded Message -----
From: Serrano El Dorado Owners' Association <hoa@serranohoa.org>
To: "djsaxena@yahoo.com" <djsaxena@yahoo.com>
Sent: Wednesday, March 26, 2025 at 03:04:59 PM PDT
Subject: Community Information - Costco Wholesale



Community Information - Costco Wholesale

Following the March 25, 2025, Board meeting, the Serrano Board directed Management to send an additional notification to the community regarding the proposed Costco project. The County of El Dorado is currently soliciting written comments from individuals regarding the scope and content of a new Costco Wholesale Member Warehouse retail store and Costco Wholesale fuel facility on Silva Valley Parkway north of US 50. Serrano residents who wish to submit their comments should do so as soon as possible but no later than 5:00 pm on March 31, 2025.

Please send all comments to:

Cameron Welch, Senior Planner
County of El Dorado Planning and Building Department
2850 Fairlane Court, Building C
Placerville, CA 95667
Email: EDHCostco@edcgov.us

A copy of the county's Revised Notice of Preparation of a Draft Environmental Impact Report from February 25, 2025, can be found **here**.



Serrano El Dorado Owners' Association | 4525 Serrano Parkway | El Dorado Hills, CA 95762 US

Unsubscribe | Constant Contact Data Notice

From: kelly urata
To: EDHCostco@edcgov.us
Cc: kelly urata
Subject: Costco Wholesale Facility on Silva Valley Parkway
Date: Wednesday, March 26, 2025 3:35:24 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

To whom it may concern,

I am writing to express my concerns regarding the proposed Costco in El Dorado Hills on Silva Valley Parkway near Oak Meadow Elementary School. While I understand the economic benefits to the community, I firmly believe that the potential drawbacks, particularly in relation to the safety and well-being of our children and our community far outweigh the advantages.

First and foremost, traffic congestion is a significant concern. Costco locations are known to attract large volumes of shoppers, especially during peak hours. This influx of vehicles could lead to increased traffic around the school creating hazardous conditions for elementary students. The safety of our children should be our top priority, and the risk of accidents in a congested area cannot be understated.

Moreover, the presence of a large retail facility could lead to an increase in noise pollution. The sounds of delivery trucks, shopping carts and crowds can create a disruptive environment that is not conducive to the surrounding neighborhoods and elementary school.

Additionally, the proximity of a Costco to an elementary school may inadvertently expose young children to an environment that is not age appropriate. With the availability of alcohol, cigarettes, and other adult-oriented products, the risk of children being exposed to inappropriate things increases. We must protect our children from influences that could detract from their development and well-being.

Lastly, the potential for increased crime rates is a huge concern. Large retail establishments can attract not only legitimate shoppers but also individuals looking to engage in illicit activities.

I urge you to consider the long-term implications it will have on our children's safety, health, and congestion driving into our neighborhoods. I believe it is essential that we prioritize the well-being of our students and community over short-term economic gain.

Thank you for taking the time to consider my concerns. I hope that you will advocate for a solution that ensures the safety and well-being of our community and our children and reconsider any development decisions.

Kelly Urata
General Partner | SFC Leasing, L.P.
11390 White Rock Road, Suite 200 | Rancho Cordova, CA 95742
t. 916.316-3399
kelly@urataproperties.com

From: Y S
To: edhcostco@edcgov.us
Subject: Costco Wholesale project
Date: Tuesday, March 11, 2025 9:11:57 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear Mr. Cameron Welch,

My name is Yuhang Shi. My family and I moved to El Dorado Hills three and half years ago and we are living in the Serano community. Our home is on the hill behind the location for proposed Costco gas station.

I attended the scoping meeting yesterday and found that my concerns about this project are shared by every attendee, including safety for children at Cox Meadow Elementary School and residents in the Serano community, traffic congestion on Silva Valley Parkway and nearby streets, noise and air pollution in the area, among many others. There is no need for me to repeat those comments here. I am writing to express my strong opposition to this project. But more than that, I call for common sense for those who are responsible for zoning and planning for our city and county officials who make the decision on this project. Why do we allow a gas station to be built in a place so close to school and homes? Why do we allow a major commercial facility to be built in an area that has already seen rising traffic flow and sometimes congestion? I talked to my neighbors and no one liked this project. This project should be rejected outright. We did not do that four years ago, We should reject it now -- out of common sense. The land and space can be devoted to other uses that have less negative impacts on our community.

Sincerely,
Yuhang Shi
109 Longford Place
El Dorado Hills, CA 95762
530-383-7023

To whom it may concern,

I am a 20 year El Dorado County resident that transplanted from the Bay Area. I would like to share my thoughts on why I believe a Costco Wholesale Warehouse does not belong in our County. I believe that El Dorado County is a spectacular place that is diverse in communities, people, nature and landscape. Coming from the Bay Area - I lived in San Leandro for 25 years, I saw our small community rapidly grow until I couldn't recognize it. Things became crowded, dirty, and overall unrecognizable. However, it was home. The reason for our departure was a random shooting of our neighbor who was managing our local grocery store. At the time it was scary and we researched areas so we could relocate and raise our family in a safe and family oriented community. We were looking for a slower pace, open spaces, nature, beauty and community. All of these things we found in El Dorado County. Our family lived in Cameron Park for 15 years and for the past 5 years we have lived in the community of Laurel Oaks in El Dorado Hills.

I am a Costco member. I actually worked for Costco when I was 18 years old for a short time. My husband worked in management for Costco for many years and we are very familiar with many of their warehouses and locations. The first reason that I do not believe Costco is a fit for El Dorado County is, it is a warehouse. The majority of Costco locations are located in densely populated, industrial or largely commercial, highly urban areas. This is how they draw the large membership bases that gives them the ability to undercut margins to provide low cost, yet high quality goods. This sounds like a positive thing for the member but for our county, a large warehouse building below one of the most prestigious neighborhoods in El Dorado Hills - Serrano, it would inadvertently impact home values. The warehouses receive their inventory in the middle of the night with big rigs rumbling and beeping that will not only impact the wildlife that is still seeking refuge but also the homeowners that pay a great deal in property taxes year after year. Not to mention, the large warehouse is an eyesore and not something that lends to the beauty of our area. I would gladly continue to drive farther and wait in a 3 minute line to preserve this. If the Costco location negatively impacts the housing economy, which is already fragile at present, the potential loss in property values would be counterproductive and harmful to the residents of our community.

The second reason that I do not believe that Costco is a fit for El Dorado County is Costco is a big box store and our community has many thriving small businesses that make our community unique and special. Costco’s major goal is low prices, period. There are no frills, no personal touch, no sense of community. Get in, get your groceries, get out. The small businesses in our community truly cater to the charm and personality of our community. Yes, everyone wants a great deal. But, the local businesses that I frequent in my community give me so much more than low cost goods. When I am at my local grocery or hardware store I see my neighbors shopping and working. This builds a sense of belonging and also a sense of community pride. I truly believe that some of our local small businesses are counting on higher margins so they can provide a different type of service and make the shopping experience special. Many of our local businesses are already competing with online stores and the presence of a Costco so near may be too difficult to compete with. Any loss of a small business

in our community impacts jobs and can greatly impact the already sensitive commercial property market.

The third reason that I do not believe that Costco is a fit for El Dorado County is that our infrastructure is linear and will not be able to safely handle the influx in traffic. The placement of the Costco warehouse so near schools and our county library would be unsafe and problematic. In my awareness of Costco locations, I am not aware of any of them being so near 3 neighborhood schools. Costco is a business that draws crowds and traffic. I believe that would be very problematic for any of our quaint local communities. Our infrastructure and roads weren't designed for big city or urban commercial planning. This is why the residents chose to live here. I would recommend visiting Dublin, California and Alamo, California in reviewing your plans for growth and development and decide what overgrowth versus preservation can look like. Folsom, California is looking more like Dublin, California every day. El Dorado County has a choice to either protect itself and grow responsibly or it may change into a completely new place altogether.

The fourth reason that I do not believe that Costco is a fit for El Dorado County is that it is highly redundant to have another Costco 2 exits away. It seems that the Bay Area locations are able to space their locations in a more gradual fashion. The Folsom Costco is nowhere near being overpopulated and the lines are manageable. Even with the new homes being built, the Bay Area buildings have a higher and more dense population and do not require such redundancy in locations. This would mean that the potential El Dorado Hills location would be a slower building. Is this a sign that our planning department has promised Costco a more rapid growth rate than our community is aware of? Or, is Costco expecting to draw members from every direction resulting in the greater amounts of traffic that our community can't really handle? Either way, the redundancy is not a necessity for our community.

These main points are why I feel that Costco Wholesale Warehouse is not a fit for El Dorado County. I appreciate your time and consideration in reviewing my concerns.

Best regards,

Rachel Peterson
5133 Whistlers Bend Way
El Dorado Hills, CA 95762
916-817-7342
petersons3mail@yahoo.com

From: Rachel Peterson
To: edhapac@gmail.com; edhcostco@edcgov.us
Subject: Costco Wholesale Warehouse is not for El Dorado County
Date: Wednesday, March 5, 2025 6:37:41 PM
Attachments: Costco Wholesale Warehouse is not for El Dorado County.pdf

---

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

To whom it may concern,

Attached please find a letter with my feedback regarding the plan for Costco Wholesale Warehouse in El Dorado County. I appreciate your time and consideration.

Best regards,

Rachel Peterson

From: Paulette Lewis
To: EDHCostco@edcgov.us
Subject: Costco, Silva valley CHILDREN's safety
Date: Friday, March 28, 2025 8:52:16 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

A huge no, to this hideous decision to place a Costco next to a school!

How did it fair, that one of the notices was only mailed to those within a one mile radius?

You know that there are many other places to place a Costco store/gas station, because of health and safety issues.

Please do not allow this to happen.

P Lewis

From: Kenneth Mahar
To: EDHCostco@edcgov.us
Subject: Costco's placement
Date: Friday, March 28, 2025 7:43:37 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

I am all in favor of having a new Costco in it's designated location. I do know that it will add traffic to our community, but most of the congestion will be at the Silva Valley/hwy50 interchange.
What I do think is there should be a designated lane, or two lanes deep adjacent to the grammar school for children pick up. This area gets backed up now, I would hate to see the congestion once Costco is in place.
I also believe that Whiterock Rd should be widened from hwy 50 to Latrobe. This section on road is getting out of control now, and getting worse daily due to the surrounding growth.
I would like to see Costco be built which will bring in money for our county funding in stead of going to Placer county and for the convenience of not having to drive to Folsom.
Kenneth Mahar

Sent from my iPhone
Ken Mahar
Ken-Mahar-Photos.com

From: Kevin Filipich
To: edhcostco@edcgov.us
Subject: Disappointed
Date: Monday, March 17, 2025 9:20:29 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear El Dorado County Planning Division,

I can't understand why the county is agreeing to put a Costco at this location. There is so much space in the business park area where this could have gone off you were so adamant to get the additional sales tax.

At this location, there is a school with young kids that will now have deal with the fumes from the additional vehicles and the gas station. The home around the area will now have to deal with the additional traffic, noise pollution, air pollution, and probably light pollution too.

Homeowners purchased property there when they were under the impression that the land was zoned residential next to the school. But with the money grab, the county chose to rezone the area in search of more tax revenue.

El Dorado Hills will be looking to become a city, and with the disconnect we have from the county, my choice is going to support this move.

Very disappointed with our local government regarding this move. Unfortunately, it seems as though we have no say in what occurs in our neighborhoods.

Kevin Filipich
Concerned Serrano Resident of 20 years.

From: Jefferson Hampton
To: EDHCostco@edcgov.us
Subject: Do Not Build Costco in El Dorado Hills
Date: Tuesday, March 18, 2025 3:56:08 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Hi,

I live in el dorado hills, so do my parents and grandparents. All of us are extremely against building the Costco on Silva Valley Parkway. All of my friends are as well.

If this goes through, it will completely change the look and feel of our town in the worst ways possible. We live out here because we enjoy the suburban feel out in nature. We like the sprawling hills and wildlife, not huge department stores with gas stations. The kids who go to school right there at Oak Meadow will be subject to so much air pollution from cars driving in and out and from the gas station, and it's completely unfair.
Absolutely DO NOT build a Costco here!

Thanks,
Jefferson

From: Argelia Flores
To: edhcostco@edcgov.us
Subject: EDH Costco
Date: Monday, March 17, 2025 3:51:01 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Hello Cameron,

I am a resident of Serrano in EDH and am completely opposed to the Costco project. We moved to this area as we liked the peaceful and quiet environment it offered and if Costco is built next door then this will completely change. In addition, traffic on Silva Valley Rd will be a nightmare. The Costco would bring an increase in traffic, noise, pollution and people and this is not something we want. There is a Costco 2 exists south and I don't understand why the need to add a Costco so close.

The gas station next to Oak Meadow is a terrible idea as it will affect the air quality and fumes emitting from that location.

Is the planning committee taking into account the 4 schools that are located on Silva Valley Rd? Traffic is bad enough as it is and a Costo would just increase the issue.

I am completely opposed to building the Costco in EDH.

Argelia Castro

Yahoo Mail - Email Simplified

From: Brett Sherman
To: EDHCostco@edcgov.us
Subject: EDH Costco
Date: Monday, March 31, 2025 10:27:43 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Cameron Welch, Senior Planner
County of El Dorado Planning and Building Department
2850 Fairlane Court, Building C
Placerville, CA 95667
Email: EDHCostco@edcgov.us

I hope this email finds you well. I am writing to you as a deeply concerned parent of two students at Oak Meadow Elementary School. I have learned that a large Costco, along with a gas station, is potentially being built directly next to the school, and I am deeply alarmed and troubled by the risks this development poses to our children's safety and well-being.

The scale of this development, bringing thousands of people into our small community daily and placing them steps from our children, makes our kids incredibly vulnerable. A high-traffic retail complex so close to the school isn't just an inconvenience—it's a serious threat. Many children walk, bike, or are dropped off by parents, and the influx of traffic and strangers creates a dangerous environment, raising the risk of accidents and exposing our children to potential criminal activity and other dangers.

The inclusion of a gas station in this development is deeply concerning for air quality. Children are highly vulnerable to pollution, and the proximity of vehicle emissions and toxic fumes from the gas station—especially near our kindergarten playground—poses a severe risk to their developing lungs. This exposure is particularly dangerous for children with asthma or other respiratory conditions, and cannot be ignored.

While I understand that development can bring economic benefits to our area, the health and safety of our children must come first. The well-being of our children cannot and should not be compromised for the sake of convenience or financial gain.

Further, I routinely visit the Costco in Folsom just 10 minutes and two freeway exits from the proposed EDH Costco. Throughout my countless visits there, I have yet to have a time where I couldn't find a parking spot, or a time where my shopping was extended due to the amount of other people shopping. My shopping times have been consistent with the other area Costcos I have visited, including Rancho Cordova, Sacramento, Citrus Heights, and Roseville. I do also note the varying distances between the Costco centers referenced above. It seems to me that should Costco want to build an additional center along the Highway 50 corridor, a build site further East would be more appropriate.

Thank you for your time and consideration.

Best Regards,

Brett Sherman
(916) 761-2345

From: dale race
To: EDHCostco@edcgov.us
Subject: EDH Costco
Date: Tuesday, March 18, 2025 10:16:33 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear Planning Commission,
NOBODY.. let me be clear… NOBODY wants the EDH Costco.
You know that already.
How can you even seriously consider it?
The residents here moved to EDH suburbs bc they insist on & were promised:
“a quiet, congestion-free, neighborly neighborhood, less polluted, less crime, less graffiti, less night-time noises & lights, less garbage blowing around, fewer vagabonds”… neighborhood.
A neighborhood to treat delicately, carefully, lovingly with respect.
Can you imagine the traffic w/Costco?
Can you imagine the crime?
Can you imagine the panhandling?
Can you imagine the awful smell of Costco “hotdogs” floating around our neighborhood?
Can you imagine the graffiti in our neighborhood?
Can you imagine the trash left behind by Costco shoppers who aren’t from EDH, thus don’t care about the neighborhood?
Can you imagine the traffic accidents in our neighborhood? Oops some Costco shopper in a hurry just drove over an elementary school student… oh well par for the course.
Can you imagine ALL OF THE BAD KARMA if this EDH Costco is allowed?
Bad KARMA for Costco.
Bad KARMA for EDH.
And bad KARMA for the Planning Commission.
Karma is real.. you reap what you sow.
Just watch the movie Poltergeist.. you will get the gist.
You must live with this important decision.
Please make the right decision.
There is ONLY ONE CORRECT DECISION in this case.
Why agree to make millions of extra dollars for some CEO & for shareholders who don’t even live here? They don’t care about us. They don’t care about you.
If this EDH Costco is allowed by the Planning Commission.. you will be known as the people who “ruined for everyone”..
Come on..
We beg you to do the right thing.
Please don’t ruin it for everyone.
Once EDH is ruined…

there’s no going back.
The genie will be out of the bottle.
Dale Race
EDH resident
Sent from my iPhone

From: Frank Horwath
To: edhcostco@edcgov.us
Cc: Letha Horwath
Subject: EDH Costco
Date: Monday, March 31, 2025 12:59:29 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

To whom it concerns and county planners:

Upon continuous review of the ongoing EDH parcel 52/Costco plans, I'm again concerned and confused by how this plan is being carried out.
1. Costco requires great freeway access hence only Silva Valley location is acceptable to them.
2. The constant flow of gas station traffic is about as far away from hwy 50 as possible given proposed station location? Reasoning for this decision?
3. Additional traffic lights on Silva Valley at gas entrance and egress on top of existing (2)signals on SVP overpass, south of hwy 50 at Carson Crossing , not to mention Oak Meadow School's self described carmageddon front and back entrances will turn SVP into a parking lot.
4. With all the parcel 52 north side space -how can planners in clear conscious place this giant gas station as close as legally possible to Oak Meadow School and surrounding residential? This seems completely counter to hwy 50 access requirement and customer convenience as well as minimizing school and resident impacts…. not to mention year round prevailing breezes carrying gas station air directly over the school.
5. Add in actual store traffic with the added traffic signals planned-see area surrounding Folsom store and Rocklin location just off hwy 65-a mess throughout the day and on weekends (with gas "on site" at those locations) coupled with gas station ACROSS SVP from the store and I couldn't imagine creating a bigger traffic mess; not to mention safety concern for Costco employees who must cross SVP twice daily on foot. Anyone shopping at store and getting gas will also need to cross SVP waiting at multiple traffic signals to enter and exit store, cross SVP for gas. This plan maximizes idling exhaust for school and residents!
6. Supporters state "minimal traffic impact". Then why does only the SVP hwy access meet needs for volume of traffic? Smacks of talking out of both sides of mouth:Traffic impact will be minimal, but need extra large gas station and class A freeway access. Must be close to freeway, but put gas station as far from freeway as possible. Not seeing the logic!

This all sounds like, "what Costco wants, Costco gets" regardless of environmental, schoolchildren, local resident safety concerns and negative quality of life impacts.

Respectfully,

Frank Horwath
4854 Village Green Drive. EDH.
916-804-3513
Fhorwath@ymail.com

From: Inez Lauerman
To: EDHCostco@edcgov.us
Subject: EDH Costco
Date: Monday, March 31, 2025 9:43:59 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Greetings
I'm writing in support of the proposed Costco planned for EDH. It's time my sales tax dollars stay in this county. Thanks for adding the gas station back into the proposal. Any chance we can get a car wash? It may pull more customers from Folsom across the county line.

From: sabalj
To: EDHCostco@edcgov.us
Subject: EDH Costco
Date: Friday, March 28, 2025 9:58:16 AM

This Message Is From an Untrusted Sender

You have not previously corresponded with this sender.

Report Suspicious

Good Morning,
I live at 6101 Western Sierra Way, EDH. I fully support the addition of a Costco store and gas station in my home town. The influx of tax dollars from the gas station alone adds a great potential windfall for our county. Regards, Julie Sabal

From: Michael Hogan
To: EDHcostco@edcgov.us
Subject: EDH Costco
Date: Monday, March 31, 2025 4:59:46 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear Cameron Welch, Senior Planner at County of El Dorado Planning and Building Department,

This email is to express my concerns about the proposed Costco Wholesale warehouse and gas station at Silva Valley Parkway/Clarksville Crossing. Below are immediate concerns which I believe require further consideration and investigation:

1. **Traffic**: Not only around the proposed Costco site, but also the impact on other streets throughout EDH, as people try to avoid the Costco area and it's traffic. The traffic created will deprive the community feel and aesthetics of an area that is free from constant traffic congestion. I'm sure I other residents of the area would agree that one of the aspects of living in El Dorado Hills is/was to move away from congestion and traffic headaches.
2. **Safety**: Impact on community safety with the drastic influx of more cars and more people in the area; especially so closely located to multiple schools with an already problematic traffic control issue on Silva Valley Parkway.
3. **Environmental Impact**: Gas emissions from increased traffic in the area, including shoppers and large semitrucks making deliveries to Costco; gas emissions from the proposed 32 pump gas station located DIRECTLY across the street from an elementary school & playground.
4. **Noise and Light pollution**: Nosie from drastic increase in traffic; light pollution from a huge box store, parking lot, street lights and influx of car traffic
5. **Indigenous land protection**: Investigation of the potential that the land is sacred Miwok (native) land/burial grounds.
6. **Wildlife impact**: How disrupting this land destroys the natural habitat of native wildlife (animals and plants, such as veteran trees).
7. **Duplicity** – There are currently two big box warehouse stores within 5 miles of the proposed Costco location. One on them being another Costco! The other is Sam's Club Warehouse Store. The supposed gain for Costco in a housing and elementary school does not seem like a prudent location. It does not make any sense to "cram" another shopping store so close to other like stores…exactly the same store!
8. **Geographic location** – If the idea is to serve communities further up highway 50, what's two exits going to do?? Such as my comments in #7, the location does not help the residents in towns/cities further east on highway 50. I realize this is probably 99% about money $$, but if you want to serve a greater population of El Dorado county, look for a location closer to Placerville.

In summary, I am 100% opposed to the addition of a Costco Warehouse shopping

facility. There seems to be other locations more suitable for a monstrosity of a building in a quiet neighborhood. It’s just simply a BAD IDEA!

Sincerely,
Michael Hogan

From: Michael Hogan
To: EDHCostco@edcgov.us
Subject: EDH Costco
Date: Monday, March 31, 2025 4:59:59 PM

This Message Is From an External Sender
This message came from outside your organization.

Report Suspicious

Dear Cameron Welch, Senior Planner at County of El Dorado Planning and Building Department,

This email is to express my concerns about the proposed Costco Wholesale warehouse and gas station at Silva Valley Parkway/Clarksville Crossing. Below are immediate concerns which I believe require further consideration and investigation:

1. **Traffic**: Not only around the proposed Costco site, but also the impact on other streets throughout EDH, as people try to avoid the Costco area and it's traffic. The traffic created will deprive the community feel and aesthetics of an area that is free from constant traffic congestion. I'm sure I other residents of the area would agree that one of the aspects of living in El Dorado Hills is/was to move away from congestion and traffic headaches.
2. **Safety**: Impact on community safety with the drastic influx of more cars and more people in the area; especially so closely located to multiple schools with an already problematic traffic control issue on Silva Valley Parkway.
3. **Environmental Impact**: Gas emissions from increased traffic in the area, including shoppers and large semitrucks making deliveries to Costco; gas emissions from the proposed 32 pump gas station located DIRECTLY across the street from an elementary school & playground.
4. **Noise and Light pollution**: Nosie from drastic increase in traffic; light pollution from a huge box store, parking lot, street lights and influx of car traffic
5. **Indigenous land protection**: Investigation of the potential that the land is sacred Miwok (native) land/burial grounds.
6. **Wildlife impact**: How disrupting this land destroys the natural habitat of native wildlife (animals and plants, such as veteran trees).
7. **Duplicity** – There are currently two big box warehouse stores within 5 miles of the proposed Costco location. One on them being another Costco! The other is Sam's Club Warehouse Store. The supposed gain for Costco in a housing and elementary school does not seem like a prudent location. It does not make any sense to "cram" another shopping store so close to other like stores…exactly the same store!
8. **Geographic location** – If the idea is to serve communities further up highway 50, what's two exits going to do?? Such as my comments in #7, the location does not help the residents in towns/cities further east on highway 50. I realize this is probably 99% about money $$, but if you want to serve a greater population of El Dorado county, look for a location closer to Placerville.

In summary, I am 100% opposed to the addition of a Costco Warehouse shopping facility. There seems to be other locations more suitable for a monstrosity of a building in a quiet neighborhood. It’s just simply a BAD IDEA!

Sincerely,
Michael Hogan

From: Michael Hogan
To: EDHCostco@edcgov.us
Subject: EDH Costco
Date: Monday, March 31, 2025 5:00:13 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear Cameron Welch, Senior Planner at County of El Dorado Planning and Building Department,

This email is to express my concerns about the proposed Costco Wholesale warehouse and gas station at Silva Valley Parkway/Clarksville Crossing. Below are immediate concerns which I believe require further consideration and investigation:

1. **Traffic**: Not only around the proposed Costco site, but also the impact on other streets throughout EDH, as people try to avoid the Costco area and it's traffic. The traffic created will deprive the community feel and aesthetics of an area that is free from constant traffic congestion. I'm sure I other residents of the area would agree that one of the aspects of living in El Dorado Hills is/was to move away from congestion and traffic headaches.
2. **Safety**: Impact on community safety with the drastic influx of more cars and more people in the area; especially so closely located to multiple schools with an already problematic traffic control issue on Silva Valley Parkway.
3. **Environmental Impact**: Gas emissions from increased traffic in the area, including shoppers and large semitrucks making deliveries to Costco; gas emissions from the proposed 32 pump gas station located DIRECTLY across the street from an elementary school & playground.
4. **Noise and Light pollution**: Nosie from drastic increase in traffic; light pollution from a huge box store, parking lot, street lights and influx of car traffic
5. **Indigenous land protection**: Investigation of the potential that the land is sacred Miwok (native) land/burial grounds.
6. **Wildlife impact**: How disrupting this land destroys the natural habitat of native wildlife (animals and plants, such as veteran trees).
7. **Duplicity** – There are currently two big box warehouse stores within 5 miles of the proposed Costco location. One on them being another Costco! The other is Sam's Club Warehouse Store. The supposed gain for Costco in a housing and elementary school does not seem like a prudent location. It does not make any sense to "cram" another shopping store so close to other like stores…exactly the same store!
8. **Geographic location** – If the idea is to serve communities further up highway 50, what's two exits going to do?? Such as my comments in #7, the location does not help the residents in towns/cities further east on highway 50. I realize this is probably 99% about money $$, but if you want to serve a greater population of El Dorado county, look for a location closer to Placerville.

In summary, I am 100% opposed to the addition of a Costco Warehouse shopping facility. There seems to be other locations more suitable for a monstrosity of a building in a quiet neighborhood. It’s just simply a BAD IDEA!

Sincerely,
Michael Hogan

From: Michelle Thompson
To: EDHCostco@edcgov.us
Subject: EDH Costco
Date: Wednesday, March 19, 2025 8:18:50 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

I am disappointed a Costco is approved to go in on Silva Valley. I moved to Serrano because I don't have to drive by a Costco. Now we will have traffic, noise, and pollution just like Folsom. Why couldn't they put something else there like a Trader Joe's and a neighborhood gym, dental offices, etc. A Costco is not good for our.quiet peaceful community. It's poor planning. It's not all about the sales Tax. We all have to live here and enjoy where we're living. Totally ridiculous.

Sincerely,

Michelle Thompson
Retired Realtor
3062 Borgata Way
Serrano

From: nick giannini
To: EDHCostco@edcgov.us
Subject: EDH Costco
Date: Wednesday, March 26, 2025 4:10:07 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

I have a lot of concern over the increased traffic on Silva Valley Pkwy this development will cause. In addition, for those of us that live on Ridge overlooking Silva Valley Pkwy, it will be even noisier. We get an amplification effect so the noise becomes more concentrated and louder as it travels uphill to the ridge.
This Costco should be in the business district off Latrobe not squeezed onto this parcel to the point where underground parking must be designed to meet parking requirements.
This is a bad idea and just another example of El Dorado County exploiting El Dorado Hills for every extra tax dollar it can garner while destroying our community..

Nick Giannini
5103 Mertola Dr, El Dorado Hills, CA 95762

From: Teresa Abney
To: EDHCostco@edcgov.us
Subject: EDH Costco - Project Concers
Date: Monday, March 31, 2025 4:03:03 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear Cameron Welch,

I am writing this email to communicate my concerns about the proposed Costco Wholesale warehouse and gas station at Silva Valley Parkway/Clarksville Crossing. Below are my concerns with the project:

- **Traffic**: Not only around the proposed Costco site, but also the impact on other streets throughout EDH...my biggest concern is how it will make traffic around all the schools around Silva Valley PKWY even worse.
- **Safety**: Impact on community safety with the drastic inflow of more cars and more people in the area; especially so closely located to multiple schools with an already troublesome traffic control issue on Silva Valley Parkway.
- **Environmental Impact**: Gas emissions from all the traffic that will come to the the area, including shoppers and large semi trucks making deliveries to Costco; gas emissions from the proposed 32 pump gas station located DIRECTLY across the street from an elementary school & playground.
- **Noise and Light pollution**: Noise from drastic increase in traffic; light pollution from a huge store, parking lot, street lights and inflow of car traffic

Thank you,
Teresa Abney
teresa.abney8@gmail.com

Public Comments on Energy (Including Heat and Climate Impacts) – EDH Costco Draft EIR

Please include the following comments as part of the scoping for the Environmental Impact Report (EIR) on the proposed EDH Costco project (SCH #2021080402). While these comments are organized under the 'Energy' topic as listed in the NOP, they also address overlapping issues related to heat impacts, cooling energy demand, and long-term consistency with greenhouse gas reduction goals.

1. **Energy & Climate – Urban Heat Island Effect from Unshaded Asphalt**

The EIR should analyze how the proposed project will contribute to the **urban heat island effect** through the introduction of large unshaded surfaces such as parking lots, driveways, and loading zones. These paved areas—especially dark-colored asphalt—absorb solar heat during the day and radiate it into the surrounding area throughout the evening and night, raising ambient temperatures across the site and surrounding community.

El Dorado Hills already experiences extreme summer heat, with temperatures often exceeding 100°F. The project will intensify localized heating in a corridor where schoolchildren, pedestrians, and cyclists are regularly present. The EIR should model these thermal impacts and evaluate how they may increase cooling energy demand, exacerbate climate-related health risks, and contribute to long-term environmental degradation. The project should be required to incorporate **heat mitigation measures**, including light-colored or cool pavements, high tree canopy coverage, and shaded pedestrian pathways.

2. **Energy & Climate – Loss of Natural Cooling from Open Space and Vegetated Terrain**

The EIR should evaluate how the removal of **natural green space**, grasslands, and a small creek from the project site will contribute to increased local temperatures and higher cooling energy demand. Although the area does not feature a dense tree canopy, it includes **open vegetated fields** and water-adjacent habitat that currently moderate heat through moisture retention, ground-level evapotranspiration, and unobstructed airflow.

Replacing this open space with paved surfaces, buildings, and fueling infrastructure eliminates these natural cooling systems and will significantly alter the local microclimate—especially in a community already facing extreme summer heat. This is especially impactful in a school zone, where children walk or play outdoors. The EIR should consider this loss not only as an energy and GHG issue, but also in relation to **climate adaptation, pedestrian safety, and long-term livability**.

The EIR should analyze this shift and propose meaningful design mitigations to offset the loss of passive cooling.

3. **Energy & Climate – Heat Exposure Risks to Students and Pedestrians**

The EIR should evaluate how the urban heat island effect caused by the project will increase heat exposure risks for **schoolchildren, pedestrians, and cyclists** using Silva Valley Parkway. The project site sits in close proximity to multiple schools, including Oak Ridge High School, Rolling Hills Middle School, Silva Valley Elementary, and especially Oak Meadow Elementary. Each school day, hundreds of students walk, bike, or wait outdoors along sidewalks and crosswalks near the site—often during the hottest parts of the day. Children at Oak Meadow Elementary will be particularly impacted.

The addition of expansive paved surfaces, reduced natural groundcover, vehicle heat, and lost open space will create **hot zones** that are unsafe and uncomfortable for vulnerable populations, particularly children. The EIR should model this risk and evaluate mitigation strategies such as shaded pathways, vegetated buffers, and schedule-sensitive operational practices. The analysis should also consider cumulative effects on school wellness, transportation equity, and safe routes to school.

4. **Energy & Climate – Cumulative Heat from Idling Vehicles**

The EIR should evaluate how the project's design—including the high-capacity gas station, surface parking, and circulation lanes—will contribute to **increased localized heating through idling vehicles and vehicle emissions**. The proposed 32-fuel-position station and large parking lot are expected to host hundreds of cars at a time, many of which will be stationary with engines running for several minutes. This introduces a significant source of surface-level heat, exhaust, and ground-level temperature elevation.

The EIR should analyze how this cumulative heat source will interact with pavement heat retention, loss of green space, and climate trends in El Dorado Hills. These effects should be considered not just in terms of climate impact, but also for **public health risks to children, seniors, and vulnerable pedestrians** who may be waiting, walking, or biking nearby—especially during the hottest months of the year.

5. **Energy & Climate – Reflected Heat and Glare Impacts**

The EIR should analyze whether the materials used in the project—such as roofing, gas station canopies, parking lot surfaces, or glass—will generate **reflected heat and visual glare** that affect nearby sidewalks, roadways, and residential properties. These materials can increase surface-level temperatures, contribute to the urban heat island effect, and cause discomfort or even safety issues for pedestrians, drivers, and students.

The project is located in an area where many people walk, bike, or drive during high sun and heat exposure times—particularly along Silva Valley Parkway and Clarksville Road. The EIR should

include **reflectivity and albedo assessments** of proposed surfaces and recommend design mitigations, such as cool roofs, matte finishes, or additional shading elements.

6. **Energy & Climate – Increased Cooling Demand in Nearby Homes and Schools**

The EIR should assess whether the heat island effect created by the project will result in **higher cooling energy usage** for adjacent residential neighborhoods, schools, and community facilities. With the removal of cooling open space and the addition of dark pavement, vehicle heat, and building massing, the local microclimate will be warmer—especially during peak daylight hours.

This can force homes and schools to run air conditioning more frequently and at higher intensity, increasing **electrical demand**, energy costs for families, and overall greenhouse gas emissions. The EIR should model this effect as an **indirect energy impact** and propose mitigation through **cool-site design, tree planting, and climate-sensitive layout**.

7. **Energy & Climate – Absence of Heat-Mitigation Features in Site Design**

The EIR should evaluate whether the project's design includes adequate measures to **mitigate the heat island effect**. Based on publicly available information, the project does not appear to incorporate key heat-reducing strategies such as:

- Cool or reflective paving materials
- Photovoltaic canopies in the parking lot
- Extensive tree planting or shaded pedestrian pathways
- Permeable surfaces to reduce heat-retaining runoff
- Green roofs or light-colored roofing materials

The absence of these elements will **amplify localized heating, increase energy use, and reduce quality of life** for surrounding residents and school communities. The EIR should evaluate these gaps and require the project to incorporate heat-mitigation infrastructure as a condition of approval.

8. **Energy & Climate – Heat Undermining Walkability**

The EIR should assess how the increase in local surface temperatures caused by the project will reduce walkability in the Silva Valley Parkway corridor. In particular, higher heat levels on sidewalks, crossings, and bike routes may make walking or biking **uncomfortable or unsafe**, especially for students at nearby schools and older residents. This impact affects the area's accessibility, health, and sustainability, and should be analyzed with pedestrian heat exposure data and design-based mitigation.

The EIR should require design strategies to preserve walkability and comfort in heat-affected areas. These should include **tree-shaded pathways**, vegetated buffers between sidewalks and pavement, covered waiting areas near crossings, and materials that reduce surface heat. Ensuring walkable infrastructure near schools and community routes is a matter of both climate resilience and public safety.

9. **Energy & Climate – Shift Away from Active Transportation**

The EIR should analyze how increased heat may lead to a **behavioral shift away from walking and biking**, resulting in greater vehicle use. This change contributes to **higher greenhouse gas emissions, localized traffic congestion, and air pollution**, especially during school commute hours. The loss of a safe and comfortable walking environment undermines community goals for sustainability and public health.

10. Energy & Climate – Cumulative Contribution to Climate Stress

The EIR should evaluate how this project will contribute to **cumulative regional climate impacts**, particularly when combined with other development and land-use changes in El Dorado Hills. The heat island effect, removal of open space, added vehicle emissions, and loss of passive cooling from green space all represent small-scale contributions that, over time and across projects, significantly **undermine the County's ability to meet climate mitigation goals.**

CEQA requires an evaluation of cumulative effects, not just isolated ones. This analysis should reference the County's adopted climate action goals, General Plan policies on sustainability, and regional Greenhouse Gas targets. The EIR should assess whether this project aligns with those frameworks—or contradicts them—and propose design modifications that reduce the project's long-term climate footprint.

11. Energy & Climate – Long-Term Energy Demand of Big-Box Commercial Use

The EIR should evaluate the **operational energy demands** of the proposed Costco development over time. Big-box commercial buildings require **high-intensity energy use** for refrigeration, lighting, HVAC, security systems, electronic signage, and extended operating hours. These loads are persistent and significantly greater than those of surrounding residential and community-serving land uses.

The County should require modeling of **annual and peak-hour energy usage**, including scenarios based on increased cooling demand due to regional climate warming. The EIR should also assess whether the project's anticipated energy use is consistent with local and state energy efficiency policies and climate action targets, and whether it increases demand on local electrical infrastructure.

12. Energy & Climate – Lack of On-Site Renewable Energy Generation

The EIR should assess whether the proposed project incorporates **on-site renewable energy systems**, such as solar photovoltaic panels on the building roof or parking lot canopies. These systems would significantly offset the project's long-term energy demand and help reduce greenhouse gas emissions associated with commercial operations.

If no such systems are proposed, the County should evaluate this omission as a **climate mitigation gap**, especially given the large surface area available for solar installation and the state's energy transition goals. The EIR should also assess whether the project can feasibly integrate **battery storage, EV charging infrastructure**, and other renewable-ready systems to meet future energy resilience needs.

13. Energy & Climate – Thermal Impact on Stormwater and Downstream Water Quality

The EIR should assess how heat retained in new paved surfaces, rooftops, and vehicles will **raise the temperature of stormwater runoff**, particularly during hot summer months. When rain falls on hot asphalt or concrete, the resulting runoff can be significantly warmer than natural drainage, especially if it flows quickly over large impervious surfaces.

This **thermal pollution** can harm downstream ecosystems, increase stress on aquatic life, and degrade overall water quality—especially if the runoff enters or passes near existing creeks or drainages. The EIR should include stormwater temperature modeling and propose **green infrastructure or stormwater cooling measures**, such as vegetated swales, bioswales, or shaded detention basins.

14. Energy & Climate – Disproportionate Impacts on Vulnerable Populations

The EIR should evaluate whether the heat and energy impacts of the proposed development will **disproportionately affect vulnerable populations**—including students, seniors, and lower-income residents—especially those without access to reliable cooling, shade, or transportation.

Children walking to and from school, families without cars, and households lacking air conditioning are more exposed to high surface temperatures, reflected heat, and heat-related health risks. The EIR should assess these risks through a **climate equity lens**, and propose mitigation strategies that ensure safe, accessible, and comfortable conditions for **all members of the community**, not just those able to avoid outdoor exposure or afford higher energy bills.

15. Energy & Climate – Absence of Electrification for Fueling and Site Infrastructure

The EIR should evaluate whether the proposed development—particularly the gas station component—includes provisions for **electrification, decarbonization, and future energy transition compatibility**. The inclusion of a fueling station with 32 fuel positions represents a long-term investment in fossil fuel infrastructure that may soon be inconsistent with **state-level climate mandates** and vehicle electrification goals.

The EIR should assess whether the project incorporates **EV charging infrastructure**, renewable energy support systems, and the ability to **phase out gasoline operations** in future decades. If it does not, the County should consider this a **climate policy conflict** and require mitigations that align the project with California's GHG reduction commitments and energy transition pathways.

16. Energy & Climate – Construction-Phase Emissions and Energy Consumption

The EIR should evaluate the **greenhouse gas emissions, criteria air pollutants, and energy consumption** associated with construction activities for the proposed Costco development. This includes emissions from **diesel-powered equipment**, material hauling, earth-moving, site grading, asphalt paving, and other energy-intensive construction phases.

The analysis should quantify the estimated **fuel usage and GHG output** during each major phase and evaluate whether the project is incorporating any **low-emission construction practices**, such as Tier 4 equipment, idle-reduction strategies, or electric machinery. The County should also evaluate construction impacts on **nearby sensitive receptors**, including school campuses and residential areas, given the prolonged exposure to pollutants and noise over the construction period.

17. Energy & Climate – Lifecycle Emissions from Car-Oriented Development

The EIR should analyze the long-term **greenhouse gas emissions and energy impacts** associated with the **land use pattern** reinforced by the proposed Costco development. By prioritizing large parking lots, 32 fuel positions, and vehicle access from all directions, the project locks in **auto-dependent behavior** that contributes to sustained, high levels of personal vehicle use over decades.

Unlike more compact, mixed-use development, big-box commercial projects generate high **per-capita vehicle miles traveled (VMT)** and limit the feasibility of transit or active transportation. CEQA requires an evaluation of **project-level and cumulative GHG impacts**, which should include a **lifecycle emissions analysis** accounting for long-term traffic growth, energy demand, and fossil fuel reliance tied to the development's structure.

18. Energy & Climate – Missed Opportunity for Zero-Emission Commercial Operations

The EIR should evaluate whether the proposed Costco development is designed to accommodate **zero-emission delivery options**, including **electric freight vehicles**, **off-peak delivery staging**, or **last-mile clean delivery infrastructure** (e.g., e-cargo bikes or neighborhood drop lockers).

Given the scale of the development and its regional draw, the site will likely attract a high volume of deliveries and supply chain activity. The absence of dedicated infrastructure or planning for **non-polluting, energy-efficient delivery systems** represents a **missed opportunity** to reduce transportation emissions, reduce local air pollution, and future-proof the development against California's clean transportation mandates.

The EIR should propose mitigation measures to ensure commercial operations align with the State's energy transition goals and the County's climate action plan.

19. Energy & Climate – Absence of Climate Adaptation for Extreme Heat

The EIR should evaluate whether the proposed development incorporates adequate measures to **adapt to increasingly frequent and severe heatwaves**, which are expected to worsen in the region due to climate change. The site will introduce expansive paved areas, heavy vehicle activity, and large retail infrastructure—conditions that will **magnify local temperatures and heat retention**.

The EIR should assess whether the project includes features that support **climate resilience**, such as:

- Shaded pedestrian areas and seating
- Emergency heat refuge areas for the public
- Grid-resilient cooling infrastructure
- Backup energy systems for schools and surrounding community services

Failure to design for climate extremes puts **children, elderly residents, and outdoor workers at risk**. These omissions should be considered a significant environmental and public health impact under CEQA.

20. Energy & Climate – Fossil Fuel Lock-In and Risk of Stranded Infrastructure

In addition to evaluating electrification readiness (as addressed elsewhere), the EIR should assess whether the inclusion of a large-scale gasoline fueling facility—with 32 fuel positions—represents a long-term fossil fuel lock-in that conflicts with California's climate trajectory and zero-emission transportation mandates.

This infrastructure will be difficult to repurpose or retrofit and could become economically stranded within the project's lifetime as consumer demand shifts and regulatory pressures increase. The EIR should consider the risk that the gas station may no longer be viable or desirable long before the site reaches the end of its built lifespan.

CEQA requires a consideration of long-term consistency with state policy, and this analysis should include whether the project creates an inflexible, emissions-intensive land use that burdens the County and community for decades to come.

21. Energy & Climate – Absence of Cool Site Certification or Climate-Resilient Design Standards

The EIR should evaluate whether the proposed project complies with any recognized **"cool site" or "climate-resilient" commercial development standards**, including but not limited to

CALGreen Tier 2, **LEED for Neighborhood Development**, or other third-party environmental design frameworks.

These programs outline best practices for limiting heat island effect, reducing energy consumption, enhancing pedestrian comfort, and aligning new development with long-term sustainability goals.

If the project does not meet these standards—or does not attempt to—the County should disclose this gap and assess whether **feasible improvements** exist. CEQA requires disclosure and mitigation of significant environmental impacts, and failure to incorporate widely available climate-smart design tools should be treated as an avoidable deficiency rather than a given.

From: Radek Peliks
To: EDHCostco@edcgov.us
Subject: EDH Costco
Date: Sunday, March 30, 2025 10:44:15 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Originally El Dorado Hills Business Park was set to attract different companies. That is were business like Costco suppose to be located. In my personal view location next to CVS is still a good choice.
El Dorado County Planning Department is changing land designation to please developers, now allowing residential in the business park and Costco next to residential and school.

Please reconsider Costco location.

Radoslaw Peliks

From: Reid Linney
To: edhcostco@edcgov.us
Subject: EDH Costco
Date: Saturday, March 1, 2025 7:40:15 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

To Cameron Welch
County of El Dorado Planning & Building Department

Hi Cameron,

Thanks for the opportunity to comment on the proposed Costco development project on Silva Valley Parkway, north of Highway 50. As residents of the area, my wife and I have concerns that we're certain are shared by many. For ease of review and summary, I've put the biggest concerns in **boldface**.

Let me start by noting that **the character of Silva Valley Parkway, from Highway 50 to Green Valley Road is non-retail and non-industrial.** It's a wonderful residential area with parks, walkways, schools and a public library. **There are six schools for which Silva Valley Parkway is the primary roadway:**

- Oak Meadow Elementary
- Buckeye Union Mandarin Immersion
- Bergamo Montessori
- Silva Valley Elementary
- Rolling Hills Middle School
- Oak Ridge High

All of these schools, and the public library, are within just two miles of the proposed development site. Oak Meadow Elementary is within a mere 1,000 feet!

The auto and pedestrian traffic along this corridor is particularly complicated during the hours when schools are opening and closing for classes and other school-related events. **At times, the traffic getting into the Oak Meadow Elementary parking lot backs up onto the Parkway itself. The Students at Oak Ridge High are forced to park all along the Parkway, as far south as Silva Valley Elementary** because the high school parking lot is too small. (The school already hosts double the number of students it was designed for.)

In addition, **there's a long-standing and much-cherished tradition of an annual parade along the Parkway on a Friday evening to honor graduating seniors from Oak Ridge High**. It's one of the things that makes the community along Silva Valley Parkway so special.

Now, let's turn to the Costco project. One thing we know is the negative impact of the traffic from the retail shopping and gasoline operations at the Costco site off East Bidwell in Folsom. That's particularly worrisome given the high level of school-related traffic already plaguing Silva Valley Parkway.

It's shocking to me, and my wife, that we would allow two Costco sites less than three miles apart. We recognize they would be in two different counties but it's only two exits and a handful of minutes apart. That sounds more like small Starbucks sites than Giant retail operations for a single company.

Thank you for your time and consideration. Feel free to reach me anytime at (925) 413-9168.

With great respect,
Reid Linney
207 St. Francis Ct.
El Dorado Hills, CA

From: Ted Duley
To: EDHCostco@edcgov.us
Subject: EDH Costco
Date: Wednesday, March 26, 2025 3:54:23 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

We are very supportive of the proposed Costco project. We shop the one in Folsom several times a month and purchase gas for two cars there.

The one in EDH will be much more convenient and best of all will keep those tax dollars in El Dorado County.

I sincerely believe Costco will be a good neighbor.

Enthusiasm is contagious. Not having enthusiasm is also contagious.

Ted Duley
Chief Fun Officer
Life is Fun

612-249-4072

From: David Rhyoo
To: EDHCostco@edcgov.us
Cc: Chananid Laikijrung (Sun)
Subject: EDH Costco comment
Date: Wednesday, March 26, 2025 9:50:55 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Hi Cameron,

My wife and I are residents of the Serrano Village E and would like to comment that we are both very thrilled and welcome Costco Wholesale being built in our community. Although having the gas station is also convenient, we are both pharmacists and acknowledge the potential harmful effects of volatile pollutants from gasoline and the concentrated number of cars may have on the developing children of Oak Meadow Elementary School. Although we could do without the gas station (or propose to build the gas station on the furthest side away from the elementary school), we strongly support the Costco Wholesale warehouse being built on the South Side. We believe that having a Costco warehouse being built would attract more people to our EDH community and also have a positive effect on our local economy. Thank you.

Cheers,
David & Sun

From: Heather Banack
To: EDHCostco@edcgov.us
Subject: EDH Costco Comments
Date: Tuesday, March 11, 2025 10:18:51 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Name: Heather Liu
Address (optional): 8131 Ryland Dr, El Dorado Hills, CA 95762
Email (optional): heather.banack@gmail.com

Comments: I am so livid that you are still considering putting the Costco gas station so close to Oak Meadow Elementary School! I have two children who attend this school, they are 4 and 7 years old. I know originally you took it off the table partially because of the proximity to the school. Now it is back on the table and I think it is down right irresponsible to put it so close to the school. There will be 32 gas pumps putting out fumes into the air that will drift towards the elementary school where kids as young as 4 years old will be outside playing and breathing in every day causing possible health side effects like asthma. Plus the chance that there is a gasoline fire directly putting their lives in danger is way too high to even consider putting it so close. In the US, there was "one fire per year per 26 gas stations" as sited in this article: https://ceds.org/gasstation/?fbclid=IwY2xjawI99nRleHRuA2FlbQIxMQABHYHaunRg7khAFIS7LKw8yhCIdIXQ5rFYU9J_ApDOBCYEib0mZZUNBcj7PA_aem_wDSFRpLWxfPUckDT5BF2QQ How can you even fathom putting that so close to an elementary school?

Plus Costco just announced that they will be opening gas stations as early as 6am! This will create traffic right by the school right when parents are trying to get their kids to school. We were promised that the traffic wouldn't affect the school because Costco wouldn't be open during drop off time, but clearly it will be heavily affected but only for pick up around lunch time but also in the morning by the gas station.

Please, I'm begging you on behalf of my kids and the other children at Oak Meadow, don't put a giant gas station so close to the school!!

Thank you for considering the serious potential effects of the current proposed Costco plans and their impact on the children and parents at Oak Meadow!

Heather Liu

From: Megan
To: PL-EDH Costco Project
Subject: EDH Costco Concerns
Date: Monday, March 10, 2025 9:55:18 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear Cameron Welch,

I'm emailing you today regarding the Notice of preparation for the EDH Costco. We received a notice at our house because we live within a half mile radius of the planned site. We also have children in the Buckeye School District, specifically one at Oak Meadow Elementary that is directly adjacent to the proposed Costco gas station.

My main concern and just plain outrage regarding this project lies specifically with the proposed gas station. The plan for this is absolutely, unequivocally irresponsible to the children and families in our community. There are multiple studies readily available to your department in order to understand the devastating impact this environmental hazardous site would have on our local children. I can't imagine anyone being able to sleep at night knowing that this project would be putting our most vulnerable citizens, our kids, at risk for tax revenue purposes. It's mind blowing and so very disappointing. Our kids deserve better.

This study has looked at the impacts of children being near environmental hazardous sites (gas stations being a main one) and the relation it has to childhood leukemia. " Risk of childhood cancer was examined in relation to residential proximity to other sources of contaminants, including industries reporting under the US Toxic Release Inventory, petrochemical plants, gas stations, repair garages, nuclear power plants, and landfill sites and hazardous waste sites. Increased risk of childhood leukemia was found with residential addresses near gas stations,[44,60,63] repair garages,[60] and nuclear power plants.[46,59] Children whose mothers lived near industries covered under the Toxic Release Inventory during pregnancy were more likely to have brain cancer, especially if the mother lived within 1 mile of a facility with carcinogen emissions.[42]"





I understand that this site is zoned for a big boxed store and I'm willing (even though I'm not excited about it) to accept Costco at this exit; however, it must be built WITHOUT A GAS STATION. This is the only responsible way to move forward. There was a plan for Costco at this site previously that DID NOT include a gas station. What happened to that plan? Parents and families fought hard to get Costco to understand the impact at that time and Costco agreed to build without a gas station. What has changed? Why are we pretending that this never happened? Why are families being put through this hassle for a second time? The only reasonable explanation is that this department cares more about tax revenue than our children's lives. It's unacceptable.

Additionally, from the start of this project we have begged for help regarding the infrastructure of off Silva Valley. Specifically, since this street houses 4 schools, which already heavily impact this road. It can take upwards of 15 minutes to go 1 mile of this road at certain times a day. Something has to be addressed regarding how we will mitigate additional issues with Costco opening a store here…and especially if Costco is requesting a gas station be opened at 6am, which will greatly impact traffic even further.

We need your help in making safe, community-centric growth in EDH. This project does not represent that.

A reply is very much appreciated.

Kind regards,
Megan Brancamp
4790 Village Green Dr.
916-879-5623

EDH Costco Project Environmental Impact Report

NOP SCOPING COMMENTS

El Dorado County invites you to provide comments on the scope of the EDH Costco Project and the environmental impact report (EIR) analysis. You can use this form to write your comments and drop in the box for written comments, or you may write your comments on this form, in a letter, or an e-mail and submit to the following physical address and/or e-mail address:

Cameron Welch, Senior Planner
County of El Dorado Planning and Building Department
2850 Fairlane Court, Building C
Placerville, CA 95667

Email: EDHCostco@edcgov.us

Written comments must be submitted no later than March 31, 2025, by 5:00 p.m. Thank you!

Name: Mike Blondino

Organization (if any):

Address (optional): 519 Mybus Ct

City, State, Zip: EDH, CA 95762

Email (optional): mdino22@yahoo.com

Comments Please see attached

More space on back

EDH Costco Project EIR Comments:

To begin, I want to clarify that I am not opposed to Costco, and I understand the potential for increased tax revenue for the County. However, I believe the proposed location for this new Costco, particularly next to an elementary school, is poorly planned and could have detrimental effects on the surrounding community.

I moved to El Dorado Hills five years ago to be closer to my parents, pursue an employment opportunity, and escape the congestion of the Bay Area. During my time in Redwood City, I witnessed the negative impact of poor planning firsthand, particularly with a Costco located next to an elementary school. The traffic congestion at that Costco was overwhelming, and the promises made to the community were not kept. Originally, Costco built a reasonably sized gas station to address neighborhood concerns, but later expanded it, exacerbating the traffic issues. I fear we may see the same pattern repeat here.

The priority should always be the health and safety of schoolchildren, teachers, staff, and the surrounding neighbors—including my wife and me. Does anyone believe that placing a Costco warehouse with a 32-pump mega gas station next to a school is a good idea? Traffic is already problematic during drop-off and pick-up times, and the presence of a gas station will only add to the danger. Who will be held accountable if a child is injured—or worse, killed?

In addition to the immediate traffic and safety concerns, there are the long-term environmental impacts of situating a gas station so close to a school. Idling cars and venting toxins from the gas pumps pose significant health risks. With California moving toward the discontinuation of gas vehicles by 2035, what will happen to this mega gas station and its underground tanks in 20 years when it's no longer needed? Will we be left with an abandoned gas station at the entrance to our community? And who will bear the responsibility of cleaning up any environmental contamination left behind?

I also have concerns about the future development of the surrounding area, particularly the rest of the land next to the school. What are the plans for that property, and how will it integrate with the existing Costco development? The growth of this area must be carefully managed to avoid further traffic and congestion.

Another critical issue is the two-lane stretch of road from the Silva Valley Parkway off-ramp onto White Rock Road, which passes by the backside of the Target. This section is already a bottleneck, and as more residents from the south side of Highway 50 head to Costco, the problem will only get worse. This road desperately needs to be widened to accommodate the growing traffic.

In closing, I want to make it clear that I am not against growth. With my background in public service, I recognize both the benefits and challenges that come with development. However, growth must be thoughtfully planned to avoid long-term issues for residents, especially when it comes to traffic and safety. I urge you to take these concerns seriously as you consider this project.

Thank you for your time and attention.
Mike Blondino

From:	Mike Blondino
To:	EDHCostco@edcgov.us
Subject:	EDH Costco EIR Comments
Date:	Thursday, March 13, 2025 8:42:10 AM
Attachments:	EDH Costco EIR Comments.pdf

This Message Is From an External Sender
This message came from outside your organization.

Report Suspicious

Hello

Attached is my Costco EIR form and comments.

Thank you.
Mike Blondino

From: Erika Whitmore
To: EDHCostco@edcgov.us
Subject: EDH Costco Issues and Concerns
Date: Saturday, March 29, 2025 4:28:10 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

March 29, 2025
Cameron Welch, Senior Planner
County of El Dorado Planning and Building Department
2850 Fairlane Court, Building C
Placerville, CA 95667
Dear Cameron:
Please confirm receipt of this email.
Total Development Acres for EHD Costco (prior name EDH 52): 43.26 total acres
North Site: 24.83 or 25 acres rounded (Approximately 3.29 acres (143 square feet) - (4) covered fueling bays, each with four two-sided fuel dispensers to provide fueling up to eight cars at each island for a total of 32 fuels positions. Also, 70 employee parking spaces. No mention of charging stations in plans (picture indicates otherwise)
South Site: 18.42 or 18 acres rounded *165,000 square feet of Warehouse (Far SE corner of lot) including two at-grade parking lots and one sub-terrain (below grade) parking lot or 760 parking spaces
As homeowners since 2010 (Home is on Village Green Drive and our backyard adjoins to the North Site of EDH Costco), we have seen the EDH52 parcel transition from large open space to Costco owning both parcels separated by the Silva Valley Interchange and trying to move ahead with one EIR for the Costco Warehouse and a Costco 32 fuel position station on both lots. I'm going to address prior issues, and the current concerns we have with this specific EDH Costco project, to hopefully help prevent this solo EIR draft from getting approved without implementing proper procedures and mitigation relief before moving forward with the project as it stands today. These concerns are beyond those issues being addressed by surrounding El Dorado Hills Residents and Parents of Neighboring Schools:

- S. 50/Silva Valley Interchange

1. El Dorado County Transportation Department failed to use water trucks required legally for dust control and all of Serrano Village A residents and beyond were possibly exposed to asbestos on the first night of the project back over a decade ago. They took 20k cubic yards of dirt collected from the expansion of the highway 50 from Bass Lake to Cameron Park (right through an area of high levels of natural asbestos), did some random testing and then dumped it in the back field to save $200k on this Silva Valley Interchange project. When we contacted the Deputy Director, Engineering @ the EDC Community Development Agency/Transportation Division, he told us "The dirt" was now

owned by EDH52 (who owned both lots in back) and no further testing was going to be done and suggested that we just close our windows (he made sure that water trucks were on-site to control dust within the week and till the end of construction of the Interchange). Took it a step further and all our concerns about asbestos exposure on Day 1 weren't appropriately addressed by a previous District 1 Supervisor at any public meetings held by the El Dorado Hills Area Planning Advisory Committee (APAC). Please address my concerns below for current EHD Costco:

1. What extensive testing is going to be done, and safety procedures put in place, prior to excavating these two sites to ensure residents won't be exposed to natural asbestos?
2. To avoid costly civil lawsuits in the future, what financial measures are going to be put into place to aid any residents who might suffer significant health risks including an increased risk of developing lung cancer, mesothelioma from inhaling natural asbestos dust during the excavation of these two sites?

- Costco Warehouse and Gas Station

1. Costco 52 Development Concerns:
    1. What fiscal responsibility is Costco going to put into place for residents who incur personal property damage from this development especially since most CA homeowners' insurance policies exclude covering these kinds of damages? In 2017, a Jacksonville FL resident incurred soil washing out into his backyard when the new Costco store was being built and the Costco Manager never addressed (a local new station, News4Jax, also got no response) so the resident had to pay out of pocket expenses to resolve since he didn't have the funds to legally fight Costco for reimbursement (homeowners insurance policy refused to cover so out-of-pocket expenses)
    2. On a larger scale and with the potential use of dynamite so close to our homes, what financial liability insurance, without a maximum fiscal cap, will be put into place so that Costco will be legally responsible for repairing and paying for any kind of major damage incurred to local property during and after this development? If a homeowner's foundation is cracked during the excavation, how do we avoid Costco negating the damage by saying it was preexisting and not their fiscal responsibility.
    3. To avoid costly lawsuits at El Dorado County's taxpayers' expense, what financial obligation is going to be put into place by EDH Costco for disrupting unknown natural sack springs and not having proper water routing systems in place for water intrusion and destruction of properties beyond Costco's sites (before and after the Costco development is completed to ensure future fiscal protection for El Dorado County taxpayers)? There have been examples shared at a recent EDH APAC meeting of local cemeteries, at two different locations, being flooded due to lack of water transportation from two separate developments in this area. Allegedly, the developers and the Inspectors claimed it was vandalism to get out of their fiscal obligation to fix the extensive flood

damage caused to the gravesites during the rainy season. Since nothing was put into place for future flood damage outside the development, the taxpayers now must pick up the tab to resolve, and family members whose burial sites were damaged at these locations are left emotionally and financially distraught with no aid in sight which is morally incomprehensible.

4. What Security measures is the ED County team and Costco going to secure for both sites during and after their development, especially with the <21 acres being vacant behind our homes on Village Green Drive (Serrano Village A) with no vehicle access until Old Country Club Road Extension goes in (no concrete plans on when this extension will be built)? What responsibility is Costco going to take for any night riffraff and people squatting in the area during and after the development? 24-hour armed security?
5. It seems to be a common pattern that noise, traffic and obtrusive lighting is an issue with other new store locations during the Costco construction process and that the surrounding neighborhoods have had to put up with these nuances until the project is done. What regulations are going to be put into place to avoid these problems and who is going to be responsible for resolving these issues within a reasonable amount of time if unforeseen situations arise?
6. How will the El Dorado County Commissioners or Supervisors get Costco to legally commit to not developing the <21 vacant acres on the North site near the proposed Costco gas station and behind our homes since their proposed project or even a preferred scaled down version of the development already exceeds the original General Plan? Revised Notice of Preparation of the EIR states <22 acres vacant land plans not disclosed at this time and new application process needed is unacceptable (not even specifically defining what kind of application would be required). Leaving an open window for future development on the <21 acres will be catastrophic for local homeowners. We need ED County's ultimate decision-makers to fight back and require a mandate that no future development is allowed on the remaining +/-21 acres of vacant land prior to approving EHD Costco's EIR. We need to avert an obscene Costco Phase 2 development plan in the future (a second Costco Warehouse, Thrive Living Affordable Housing, expanding the parking lot, storage units/condos or four-story apartments behind our homes), intentionally kept under the radar for now, to get this humongous EDH Costco Phase 1 passed in 2025/26.
7. What measures are going to be put into place to make sure that ALL (not MOST) of Costco's trucks' delivery point of entrance will be off Clarksville Crossing (only exception would be Costco's' fuel trucks that would be limited to right in/left out on one main entry point on Silva)? Has to be ALL of Costco delivery trucks must turn Left/South at Silva/use one Clarksville Crossing entry point for all deliveries or most will opt to barrel down South towards Oak Meadow Elementary School on Silva which is unacceptable and dangerous...especially true if Costco is going to eventually eliminate Clarksville Crossing connection to Silva, near the school, once the

Country Club Extension is up and running.

8. Will the hours of operation of the Warehouse and Fueling Station be defined and not listed as TBD before the EIR is approved? Will the community's input impact those hours of operation due to the continuous flow of traffic and noise that Costco creates?
   Desired Hours of Warehouse Operation EHD
   Monday-Friday 9am-8:30pm
   Saturday 9am-7:00pm
   Sunday 9am-7:00pm
   Desired Hours of Operation for Fuel EDH
   Monday-Friday 6am-10pm * no Country Club access 8:30pm to 6am
   Saturday 6am-8:00pm * no Country Club access 7pm to 9am
   Sunday 6am-8:00pm * no Country Club access 7pm to 9am
   *Absolutely cannot allow a 24 hour a day window

- Future County Club Extension

1. Will Future Provisions be included in this EIR to ensure NO TRUCKS, including Costco fuel or delivery trucks, be allowed to drive on County Club Extension from Cameron Park to Silva Parkway (forced to use 50 freeway entrance for all deliveries) to avoid dangerous traffic intrusion into the surrounding neighborhoods (especially residents living near Oak Meadow Elementary School and next to the planned Country Club Road)?
2. Will Future Provisions be included in this EIR to mandate all of Costco's fuel and delivery trucks must solely use main fuel station entrance on Silva and not include the future Country Club entrance as an entry point to prevent idling fuel or delivery trucks behind our homes and school which is unhealthy, dangerous and loud? No additional Costco fuel or delivery truck access on Country Club Road REQUIRED with this EIR draft.

There are so many environmental, traffic and health concerns beyond what I spelled out in the email but just wanted to touch on some subjects that need to be addressed during the process. Anything spelled out by my fellow neighbors and friends are our concerns as well.
We understand development and growth and just want it done right and not pay the price later with fiscal liability and health issues. It seems to me that all the various development plans presented to the community since 2010, with different approved zoning revisions to the General Plan, are grandiose in nature to help leverage El Dorado County Supervisors into approving a huge Costco Warehouse with 16 Costco fuel stations of this magnitude literally in our backyards. A 165,000 square Costco Warehouse with 32 fuel position gas station is a different beast and needs to be scaled back to what was planned for this location in the original General Plan. Also, we need legal provisions put into place that Costco will commit to maintaining but not selling or developing the remaining <21 vacant land on the North Site in the future. A scaled back Costco Warehouse (<145 square feet) and smaller gas station (<than 12 Costco fuel stations) plus the proposed Country Club Road Extension already far exceeds the capacity of what was originally planned for this location.
Thank you for addressing my concerns so we can make sure that any development in

El Dorado Hills and El Dorado County is a win, win for all parties involved.
Sincerely,
Erika Whitmore-Fujimura

From:	Ivan Ruiz
To:	EDHCostco@edcgov.us; edhapac.comment@gmail.com
Subject:	EDH Costco NOP Comment - Public Comments on Biological Resources – EDH Costco Draft EIR (SCH #2021080402)
Date:	Monday, March 31, 2025 4:48:40 PM
Attachments:	Public Comments on Biological Resources – EDH Costco Draft EIR (SCH #2021080402).pdf

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear El Dorado County Planning Team,

Attached are public comments on the Biological Resource**s** topic for inclusion in the scoping process of the Environmental Impact Report (EIR) for the proposed El Dorado Hills Costco project (SCH #2021080402).

Thank you for your consideration and inclusion of these comments.

Ivan Ruiz
5217 Mertola Dr, El Dorado Hills, CA 95762

From: Ivan Ruiz
To: EDHCostco@edcgov.us; edhapac.comment@gmail.com
Subject: EDH Costco NOP Comment - Aesthetics
Date: Monday, March 31, 2025 4:51:04 PM
Attachments: comments on Aesthetics.pdf

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Attached are public comments regarding Aesthetics.

Thank you for your time and for including them.
May you be well.

Ivan Ruiz
5217 Mertola Dr, El Dorado Hills, CA 95762

From: Angela Callan
To: EDHCostco@edcgov.us
Cc: Ang Home Email; Jeffy
Subject: EDH Costco NOP Comment
Date: Saturday, March 29, 2025 1:05:43 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Attn: Cameron Welch, Senior Planner
County of El Dorado Planning and Building Department
2850 Fairlane Court, Building C
Placerville, CA 95667

My name is Angela Callan and my husband is Jeff Molloy. We live at 4789 Village Green Drive, El Dorado Hills, CA 95762.

We are emailing to provide our comments and concerns for the proposed Costco and gas station on Silva Valley. Having lived in EDH for 22 year, and 17 years at the Village Green residence, we have seen a steady increase in speeding and running of stop signs in our area. We are very concerned with the Costco and gas station going in next to Oak Meadow elementary school. People already speed through the school zone during school time, there is no parking for the parents so they back up onto Silva Valley to pick up kids, making the speeding on Silva Valleythrough the School Zone a huge concern. My son went to Oak Meadow elementary school, and I was worried when they opened Silva Valley up to connect to Town Center. I would be horrified if my son went to Oak Meadow today with a parking lot, gas station, and Costco going in next door/across the street. Not only will it be a dangerous for the children because of the increase in traffic/speeding cars, but also the random people who will be able to walk freely through the parking lot just feet away from the elementary school. With so many predators out there, this is a serious issue that should not be ignored. Having a gas station so close to the kids is another concern - fumes, potential hazards, etc. There is a Costco a couple of miles away and I strongly disagree with a Costco going in right next to the school. Question, is it normal to put a gas station and a huge store within a 25mph school zone? Will All of the delivery trucks, customers, employees be going 25 mph at all times - because that is the law in a school zone. You don't know when children will be present, so you should always go 25 in a school zone. Please consider my comments for the safety of the children.

Angela Callan
916-284-6991
angcallan@sbcglobal.net
4789 Village Green Dr
El Dorado Hills, CA 95762

Sent from my iPhone

From: Cortnie Hines
To: EDHCostco@edcgov.us
Subject: EDH Costco NOP Comment
Date: Monday, March 31, 2025 2:26:39 PM

This Message Is From an Untrusted Sender

You have not previously corresponded with this sender.

Report Suspicious

Good afternoon,

Thank you for the opportunity to comment on the project.

A Costco and its facilities on Silva Valley Parkway should be avoided. This location still ignores the eastern side of El Dorado County, placing a Costco on Missouri Flat north of US 50 or in Pollock Pines would better serve the County. If a Costco must go in the EDH area, the Latrobe Rd south of White Rock Rd area would be closer to other businesses and a wider roadway.

Other development ideas for the Silva Valley Pkwy north of US 50 could include luxury (low rise no more than 3 stories - garage first floor, with 2 story living above) town home apartments. And a small boutique strip mall for beauty, cleaners, and wellness type shops along with a gas station. Or even luxury auto dealerships like: Porsche, Lexus, and BMW.

Development will happen, hopefully it will increase land value, not detract.

Thanks,

CH

From:	El Dorado Hills Area Planning Advisory Committee
To:	PL-EDH Costco Project; Cameron W. Welch; Planning Department
Cc:	Bob Williams; David Spaur; Patrick Frega; Jeff Hansen; BOS-District I; BOS-District II; BOS-District III; BOS-District IV; BOS-District V; Andy Nevis
Subject:	EDH Costco NOP Comment - EDH APAC Comment Letter
Date:	Sunday, March 30, 2025 9:08:22 PM
Attachments:	EDH APAC_ NOP - Scoping Meeting EDH Costco Comment Letter March 30 2025.pdf A_Dunn EL DORADO HILLS - COSTO DEVELOPMENT PLAN.pdf A_Dunn Costco Development Plan - DEIR Comments - APPENDICES.pdf

This Message Is From an External Sender
This message came from outside your organization.

Report Suspicious

Hello,

The El Dorado Hills Area Planning Advisory Committee (EDH APAC) would like to submit the attached comment letter and supporting documents regarding the Notice of Preparation of a DRAFT EIR and the public scoping meeting held on March 10, 2025 for the proposed EDH Costco project - PD15-0001, Conditional Use Permit CUP23-0012, Variance Application V22-0001), SCH #2021080402.

We appreciate the opportunity to provide public comments about projects proposed in the El Dorado Hills community.

Respectfully,

John Davey
Chair

El Dorado Hills Area Planning Advisory Committee
1021 Harvard Way
El Dorado Hills CA 95762
https://edhapac.org
info@edhapac.org
916 936-3824

From: Ivan Ruiz
To: EDHCostco@edcgov.us; edhapac.comment@gmail.com
Subject: EDH Costco NOP Comment - Energy
Date: Sunday, March 30, 2025 11:55:56 PM
Attachments: EDH Costco - Public Comments on Energy (Heat & Climate Impacts).pdf

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Hello,

Attached are public comments on the Energy (as well as green house gas) topic for inclusion in the scoping process of the proposed EDH Costco project (SCH #2021080402).”
Thank you for considering these comments.

Ivan Ruiz
5217 Mertola Drive, El Dorado Hills, CA 95762

From: Indradev Kadidal
To: EDHCostco@edcgov.us
Cc: Indradev Kadidal
Subject: EDH Costco NOP Comment – Concerns Regarding Proposed Costco Development on Silva Valley Parkway
Date: Wednesday, March 26, 2025 7:31:05 PM
Attachments: EDH_Costco_NOP_Comment_Letter.pdf

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

To: Cameron Welch, Senior Planner
County of El Dorado Planning and Building Department
2850 Fairlane Court, Building C
Placerville, CA 95667
Email: EDHCostco@edcgov.us

Date: 3/26/2025

From: Mr. Indradev Kadidal
4795 Village Green Drive
El Dorado Hills, CA 95762

Dear Mr. Welch,

I am writing as a concerned resident and homeowner in El Dorado Hills regarding the Revised Notice of Preparation (NOP) of the Draft Environmental Impact Report (EIR) for the proposed EDH Costco project (SCH #2021080402). I appreciate the opportunity to provide input during the scoping period, and I urge the County to give full consideration to the very real impacts this project would have on our community.

While I recognize the County's interest in commercial development, placing a high-traffic, large-scale retail warehouse and fuel facility in the middle of a quiet, residential neighborhood—mere minutes from an existing Costco—raises serious concerns that cannot be ignored.

1. Unacceptable Traffic and Safety Burden

Silva Valley Parkway and Clarksville Crossing are already under strain during peak hours. Adding a 165,000-square-foot retail warehouse and a 32-pump fuel station will result in substantial increases in daily traffic volumes, including delivery trucks and fuel tankers. The project proposes multiple access points, including a new signalized intersection and right-in/right-out access, which will complicate traffic patterns and heighten the risk of accidents.

Moreover, the proximity to Oak Meadow Elementary School cannot be overlooked. Hundreds of children cross or travel near these roads daily. It is reckless to add this level of commercial intensity to such a sensitive area.

2. Noise, Air, and Light Pollution in a Residential Setting

The cumulative impacts of noise from vehicles, backup alarms, loading docks, and general operations—especially from 9 AM to 8:30 PM daily—will seriously degrade quality of life for residents. This is not a light retail store; it's a regional draw that will turn our neighborhood into a destination parking lot.

Despite proposed mitigations, the light spillover from parking lot fixtures, fuel canopies, and signage will disrupt the character of our residential streets, particularly in the evenings and winter months when it gets dark earlier.

Further, air pollution from idling cars at the fuel station and delivery vehicles raises valid health concerns, especially for children, the elderly, and anyone with respiratory conditions.

3. No Demonstrated Community Need

This community already has access to a Costco less than 10 minutes away, just one exit off the same highway. Introducing another Costco so close by is not serving unmet demand—it is commercial redundancy. This project fails to reflect smart growth principles and undermines thoughtful land use planning.

4. Environmental and Geological Concerns

The site is currently undeveloped and home to open space, trees, and natural features that contribute to our community's charm. The removal of mature trees and habitat, combined with development on a sloped site requiring a subterranean parking structure, poses geological and stormwater risks that must be independently and rigorously studied.

With our region's known wildfire risk and history of drought, any development must be held to the highest environmental standards—not just for compliance, but for resilience.

5. Uncertainty About Future Development

The presence of a 13.79-acre "outparcel" on the North Site with no defined use is alarming. If this project moves forward, what comes next? Piecemeal commercial expansion? More traffic-

generating uses? This uncertainty adds a layer of long-term risk to our community's livability and infrastructure.

Request for Consideration

Given these concerns, I respectfully request the County to:

- Fully evaluate the project's traffic, safety, air quality, noise, and lighting impacts in the Draft EIR.
- Consider alternative locations or a reduced-intensity use for the site that is more compatible with the surrounding residential context.
- Require independent geotechnical and hydrological assessments due to the site's slope and parking structure plans.
- Assess the cumulative impacts of this project along with future development potential on the North Site outparcel.

This is not a case of "not in my backyard," but a deeply held belief that this project is fundamentally incompatible with its proposed location. I trust the County will uphold its responsibility under CEQA to protect the character, safety, and health of our community.

Thank you for your consideration.

Sincerely,

--

Indradev Kadidal
Resident, El Dorado Hills, CA
kadidal@hotmail.com

From: Ivan Ruiz
To: EDHCostco@edcgov.us; edhapaca.comment@gmail.com
Subject: EDH Costco NOP Comment
Date: Sunday, March 30, 2025 10:47:54 PM
Attachments: Public Comment on Air Quality Concerns – EDH Costco Draft EIR.pdf

---

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Attached are air quality comments for inclusion in the scoping process of the Draft EIR for the EDH Costco project.

Thank you.
Ivan Ruiz
5217 Mertola Dr, El Dorado Hills, CA 95762

From: Jennifer Turco
To: EDHCostco@edcgov.us
Subject: EDH Costco NOP Comment
Date: Monday, March 31, 2025 11:26:57 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Subject: EDH Costco NOP Comment
From: Jennifer Turco
Address: 1541 Terracina Drive, El Dorado Hills, CA 95762
Email: jenn_turco@yahoo.com

Dear Cameron Welch,

I am writing as a deeply concerned resident of El Dorado Hills in response to the Revised Notice of Preparation for the proposed Costco Wholesale Member Warehouse and fuel facility on Silva Valley Parkway. I strongly oppose this project for several reasons, and I urge the County to take these issues seriously as it prepares the Environmental Impact Report (EIR).

1. Redundant Location

There is already an existing Costco 5 miles away, directly off U.S. 50. Constructing a second facility in such close proximity—essentially just further down the same highway corridor—appears excessive and unjustified. This redundancy raises serious questions about the necessity and long-term sustainability of the proposed development.

2. Traffic and Congestion

The proposed site sits adjacent to residential neighborhoods and near Oak Meadow Elementary School. This area already experiences significant congestion, particularly during school drop-off and pick-up hours. Adding a high-volume retail warehouse and fuel station will drastically increase traffic on Silva Valley Parkway, Clarksville Crossing, and surrounding feeder roads, compounding safety risks for children, families, and daily commuters.

3. Noise and Air Pollution

With frequent delivery trucks, idling vehicles at the fuel station, and extended business hours (potentially 7 days a week), noise and air pollution will inevitably increase. These environmental hazards are particularly concerning given the proximity to an elementary school and residential homes. The County must evaluate the cumulative impacts on public health and quality of life, especially for young children.

4. Loss of Property Values

The character of this area is largely residential, and the introduction of a major commercial facility is likely to negatively affect surrounding home values. Families who purchased homes in this community did so expecting it to remain peaceful and family-oriented. A massive retail development is incompatible with that expectation.

5. Environmental Impact and Land Use Compatibility

Although the land is zoned for commercial use, that designation should not override the need to assess compatibility with surrounding land uses—namely residential homes and a school. The EIR should carefully examine how this development could set a precedent for further commercial encroachment into residential zones, increasing risks of urban sprawl and reduced green space.

6. Inadequate Mitigation for Community Disruption

The proposed fuel station alone includes 32 fueling positions—far more than typical gas stations—indicating a large volume of vehicular traffic and associated risks. There is no amount of landscaping, signage, or traffic signal timing that can adequately mitigate the disruption this facility will bring to our neighborhood's daily life.

In summary, I ask the County to seriously consider **alternatives to this location** and to ensure that the EIR fully addresses the **traffic, pollution, noise, safety, property, and community compatibility issues**. This project will fundamentally and detrimentally alter the character of our neighborhood.

Thank you for the opportunity to provide input. I request to be kept informed of all further developments and opportunities for public participation in this matter.

Sincerely,
Jennifer Turco
1541 Terracina Drive
El Dorado Hills, CA 95762
408-375-9157

From: kkhosrav@aol.com
To: edhcostco@edcgov.us
Subject: EDH Costco NOP Comment
Date: Wednesday, March 26, 2025 11:04:32 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Subject: Opposition to Revised Notice of Preparation for EDH Costco Development

Dear Mr. Welch,

I am writing to express my strong opposition and deep concerns regarding the proposed development at the identified properties. These parcels sit at the bottom of a valley, surrounded by numerous residential homes positioned on the hillsides above, directly overlooking the site. The proposed Costco development is unsuitable for this location for several reasons:

1.a Building a **Costco and gas station near residential homes and an elementary school** poses a **serious public health risk** due to **gasoline fumes and vehicle exhaust emissions**. Gas stations emit **harmful volatile organic compounds (VOCs)** such as **benzene, toluene, and formaldehyde**, which are linked to **cancer, respiratory diseases, and neurological disorders**. These pollutants can drift into nearby homes and schoolyards, **exposing children to toxic air daily**. Additionally, the increased traffic congestion from Costco will lead to **higher levels of carbon monoxide (CO), nitrogen oxides (NOx), and fine particulate matter (PM2.5)**, all of which contribute to **asthma, lung disease, and cardiovascular issues**—especially in **young children whose lungs are still developing**. Schools should be **safe spaces for learning, not exposed to industrial-level pollution**. The long-term health risks to families and children **far outweigh any economic benefits**, making this location **entirely unsuitable for a Costco and gas station**. Does current Enviromental Impact Report cover this issue?

1.b Building a **Costco and gas station near residential homes and an elementary school** will not only disrupt the community but also **harm local small businesses**, especially given its **close proximity to an existing Costco**. Independent grocery stores, gas stations, and family-owned retailers that have served the community for years will **struggle to compete** with Costco’s bulk pricing and corporate backing. These small businesses provide **personalized service, unique products, and local jobs**—all of which will be at risk if a massive retailer moves in. Additionally, having **two Costcos so close together is unnecessary**, as the existing location already meets the area's demand. Instead of benefiting the local economy, this project would **concentrate revenue in a single corporate entity**, while forcing long-standing small businesses to **shut down, reducing consumer choice and weakening the local**

business landscape. A development of this scale should be placed in an area that **does not threaten the survival of existing businesses** and better aligns with community needs.

1. **c Excessive Noise Amplification** – Silva Valley Road already experiences significant noise levels, which are further magnified by the natural echo chamber effect created by the surrounding hills. The increased traffic from a high-volume commercial development, such as a Costco warehouse and drive-through businesses, will exponentially increase noise pollution, further impacting residents. Many homes along Silva Valley Road already experience indoor noise disturbances, which will worsen with this project. Does current Enviromental Impact Report cover this issue?

2. **Traffic Safety Concerns** – The proposed development will exacerbate congestion along Silva Valley Road, particularly during **Oak Meadow Elementary School** drop-off and pick-up hours. Increased traffic volume poses an additional safety risk to children and pedestrians in the neighborhood. Does current Enviromental Impact Report cover this issue?

3. **Negative Visual Impact** – The properties in question are in direct view of hundreds of existing homes. Due to the site's location at the valley bottom, screening the commercial structures, signage, and parking lots with landscaping is not feasible. A **Costco warehouse, gas station, and large commercial signage** will remain visible to surrounding residential properties **day and night**, diminishing the scenic and residential character of the area and **negatively impacting property values**. It is just too close to residential homes and natural and manmade landscape.

4. **Light Pollution Disruption** – The development will generate substantial reflective and artificial lighting, disrupting the night sky and negatively affecting the neighboring homes. The **Serrano subdivision**, which borders this project, was intentionally designed **without streetlights** to preserve natural night sky visibility. This development would directly contradict the established **light pollution mitigation plans** of the surrounding neighborhoods.

5. **Architectural Incompatibility** – The **design and scale of a Costco warehouse** are entirely inconsistent with the surrounding residential architecture. Unlike other commercial developments that complement nearby neighborhoods, this project would introduce an industrial-style structure that does not align with the existing community aesthetic.

Alternative Considerations

Large-scale, high-traffic **big-box stores belong in commercial districts**, not immediately adjacent to established **residential neighborhoods and schools**. A Costco in this location does not add significant value to the community, given that there is already one **just five minutes away**. Additionally, as **El Dorado Hills is**

unincorporated, any revenue generated will go to **El Dorado County** regardless of where within the county a Costco is built. A more suitable location, with appropriate buffers, would provide the same financial benefit **without disrupting a well-established residential area**. **The Target in EDH is an excellent example of a properly placed big-box store, with reasonable separation from residential homes.**

For these reasons, I strongly urge you to **reject the proposed development plans**.

Best regards,

Khosrow Khosravifard
Serrano Resident
P.E. Civil Engineer

From: mehrdad foroozesh
To: EDHCostco@edcgov.us
Subject: EDH Costco NOP Comment
Date: Tuesday, March 25, 2025 11:10:34 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Date: March 25, 2025

To: Cameron Welch, Senior Planner
County of El Dorado Planning and Building Department,
2850 Fairlane Court, Building C
Placerville, CA 95667
EDHCostco@edcgov.us

From: Mehrdad Foroozesh
1341 Souza Dr, El Dorado Hills, CA 95762
mforoozesh1@gmail.com
Phone: 504-782-5093

Subject: Comments in Opposition to Revised Notice of Preparation of Draft Environmental Impact Report and for the EDH Costco (Application Nos. Planned Development Permit PD15-0001, Conditional Use Permit CUP23-0012, and Variance Application V22-0001)

Dear Mr. Welch,

I would like to express **my gravest concerns** about the impact of the proposed use of the properties identified in this study. These parcels are located at the bottom of a valley surrounded by many existing residential homes that are located higher up on both sides of the valley, up and down the hills, overlooking the subject properties. The proposed development is not suitable for this location for the following reasons:

1. The Silva Valley Road **traffic noise** level is magnified by the echo chamber created by the hills on both sides of the roadway. This roadway is not suitable to support high volume traffic for businesses such as Costco or drive-throughs. The noise level for homes located on both sides of Silva Valley has already increased significantly since the development of the intersection with HW-50 and can now be heard indoors day and night. The proposed developments can further increase the noise level by many folds.

2. Any traffic on Silva Valley Road **negatively impacts the Oak Meadows Elementary School** drop-off and pickup hours when cars line up. It will further put the neighborhood children in additional risk of high-volume traffic during school hours.

3. The proposed properties and buildings, signs, and parking lots within the properties will be in the direct line of sight of hundreds of existing homes. Due to the properties being overlooked from the hills, these views cannot be screened with trees and landscaping. Therefore, use cases such as gas station, or Costco warehouse will be in full view of hundreds of residential properties day and night, **creating an unsightly environment** that will negatively impact the value of all these residential properties.

4. The proposed properties can also impact the nighttime environment by generating too much reflective light that will be a nuisance to many homes in the area. The Serrano

subdivision that borders this project was developed with no streetlights so that the residents could enjoy the beautiful night sky dotted with stars. **This development is in direct contradiction to the neighboring subdivisions light pollution mitigation plans**.

5. The nature of the proposed Costco **architectural plan that is inconsistent with the surrounding residential buildings and subdivisions**.

In general, big-box stores need to be in predominantly commercial areas not neighbored and overlooked by large existing residential developments or schools. I would appreciate a development that adds value to the community. I just don't see a value in Costco when there is one only 5 minutes away. As for revenue, since EDH is not incorporated, revenue will flow to the County. So as long as there is a Costco anywhere in the County, the benefit will be the same. It does not have to be right adjacent to a single-family development and elementary school. Target at EDH is a good example of more appropriate placement of big-box stores. There is a reasonable buffer.

I therefore request that you kindly NOT APPROVE the proposed plans.

Best Regards,

Mehrdad Foroozesh

From: Melanie Gee-Shihabi
To: EDHCostco@edcgov.us
Subject: EDH Costco NOP Comment
Date: Friday, March 28, 2025 3:35:45 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Hello. My family (husband, 10-year-old child, and I) lives in Serrano Village A, which is adjacent to the North Site of the EDH Costco project.

We are concerned about the potential negative impacts that this EDH Costco project brings.

In particular, the proposed 32-pump gas station at the North Site is in very close proximity not only to Serrano Village A homes, but also to Oak Meadow Elementary School (grades K thru 5). A 32-pump Costco gas station is guaranteed to encourage high-volume traffic with vehicles idling for extended periods -- raising concerns about air quality, congestion, noise, and overall health & safety. This will impact Serrano residents and Oak Meadow Elementary teachers/staff/students as young as 5 years of age/parents & caretakers of students who must navigate traffic to drop off and pick up their young ones.

We hope that the Environmental Impact Report will address these concerns.

Our personal opinion is that the North Site should not include a gas station of this size and magnitude, due to the potential harmful effects on health, safety, air quality, noise, and traffic.

Regards,
Melanie T Gee-Shihabi
1160 Bevinger Drive
El Dorado Hills, CA 95762

From: Heather LaMont
To: EDHCOSTCO@edcgov.us
Cc: Greatkazoo@aol.com; Mike LaMont
Subject: EDH Costco NOP Comment
Date: Saturday, March 29, 2025 2:02:37 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Hi Cameron and Planning Department,

This is Mike and Heather LaMont and we've lived in our home at 744 Anna Place, El Dorado Hills, CA for 25 years and cherish our community—the safe, quaint environment, the four schools along Silva Valley Parkway, and the tight-knit neighborhood we call home. However, the proposed gas station and Costco threaten to upend everything we value. This development would compromise our safe community by introducing severe air pollution, incessant noise, unrelenting traffic, the loss of green open space, and a decline in our home values. For most residents, uprooting and moving simply isn't an option. Our local schools, including Oak Meadow Elementary, are "outdoor" schools—students and staff walk between classes outside, eat outside, play outside, and have PE outside year-round, with lockers exposed to the elements. They don't have the protection of soundproof, air-filtered buildings to shield them from the impacts of this project.

Noise Concerns: How will you assess noise impacts? This includes noise from gas station and Costco operations, construction, and constant traffic—particularly during school hours. A thorough study is essential given the proximity to Oak Meadow Elementary and surrounding homes in Village A and Village D2. The site's location between two hillsides will amplify sound, creating an echo chamber that could become unbearable. Will you compensate residents by funding soundproof windows? Will you conduct noise studies in our neighborhoods? Have you analyzed noise patterns at existing Costco locations near residential areas?

Traffic Issues: Silva Valley Parkway already serves four schools—two elementary, one middle, and one high school—making it heavily congested. Speeding and accidents are common, and adding a 32-pump gas station (operating 6:00 AM–10:00 PM weekdays, until 8:30 PM Saturdays, and 7:30 PM Sundays) and a massive Costco will exacerbate the problem. Hundreds, if not thousands, of additional daily vehicles will overwhelm Clarksville Crossing, Silva Valley Parkway, and Serrano Parkway. How will you evaluate traffic patterns, including during school hours beyond just drop-off and pick-up times? Costco gas stations and stores are notoriously busy from open to close—have you studied traffic at other Costco locations near schools, especially elementary schools?

Air Quality and Gas Station Setback: Placing a 32-pump gas station next to an elementary school is unthinkable. What is the exact setback distance, and is it sufficient to protect children and staff from idling cars, honking, music, and yelling? What about diesel delivery trucks? There's no safe level of diesel exhaust exposure—how will this foster a safe, quiet learning environment? How do you assess air quality impacts from your gas stations and Costco facilities? I request a detailed analysis of this project's effects—during construction and operation—on benzene, ozone, and other toxic air contaminants, including their health impacts on the 700 TK-5th graders and staff at Oak Meadow Elementary, as well as residents in Village A and D2. Will you conduct air quality studies in our neighborhoods? I've found no studies on how Costco gas stations and stores affect nearby communities—this needs to be researched at an existing location. How will the EIR address how pollution will be trapped in the hillsides as both the gas station and Costco will be built into little

valleys and the wind will carry the toxins that are being released from the gas station, service station and idling cars and diesel trucks into our school and neighborhoods?

Light Pollution: How will you measure light pollution's impact on our neighborhoods? What effects will the massive Costco signage and 24-hour lighting have? How will delivery truck headlights affect our homes?

Asbestos: Naturally occurring asbestos is present in the proposed gas station and Costco sites. How will you mitigate this risk? Simply spraying water during excavation won't suffice with a school and dense residential area so close—dust will drift directly into schools and homes. How will you ensure our safety in this heavily populated area? This poses a significant environmental hazard.

Fire Risk: Many of us, including my family, are losing homeowners insurance due to rising fire risks. A gas station with service station and Costco in this location could cause even more cancellations. How will you prevent flammable materials from sparking brush fires in the surrounding area, especially given our intense summer heat? How will you mitigate fire risks? We've also seen accidents at other gas stations—like the two people struck by cars at the Folsom location that we've seen already. How will you prevent similar incidents here?

Traffic at Village A Entrada Gate: Our gate already faces issues with U-turns from Oak Meadow Elementary traffic and unauthorized drivers blocking access, creating dangerous backups onto Silva Valley Parkway. With only a stop sign inside the gate and no traffic light, left turns are restricted from 7:00 AM–9:00 AM and 1:00 PM–7:00 PM, but many ignore the signs. The increased traffic from this project demands a traffic light at the Entrada gate, a pedestrian crosswalk, and a reconfigured gate with separate one-way entry and exit lanes plus an island to prevent U-turns. This is critical to slow speeding traffic through our neighborhood.

Delivery for the Warehouses: After reading your Costco Connection magazine from September 2024, I have questions on how you keep the noise to zero when the article states: Per your article: "At 4 a.m. the morning crew convenes for a short meeting at the front of the warehouse with the rest of the managers…we go over how many trucks we got in last night, how many trucks we're going to get in this morning and what time they will arrive." "The merchandise manager unlocks the Tire Center and works with a team to get the Fuel Station ready for operation." "We try to get ahead of any potential problems that make opening on time difficult, because it's a lot easier to solve an issue at 6 a.m than 9 a.m." So it seems we will have some sort of noise from the facilities 24/7. We'll never get break. That is just not right.

Wildlife Protection: We have foxes, birds and other wildlife and a water source where the gas station is supposed to go. How do you protect these animals and their habitats?

Tribal Cultural Resources: How do you identify any tribal cultural resources on the proposed sites? If found, how do you protect them?

Solar Panels: We see that the Costco site plan states that solar panels might be added as a separate structure? Where exactly would that go? There is no existing room for this to happen. How do you study the effects on aesthetics for our community and wildlife? This has to be included project proposal as well.

Thank you for the opportunity to give input on what should be included on the EIR report.

Mike and Heather LaMont

From: Mina Geramian
To: EDHCostco@edcgov.us
Subject: EDH Costco NOP Comment
Date: Tuesday, March 25, 2025 11:39:18 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Date: March 25, 2025

To: Cameron Welch, Senior Planner
County of El Dorado Planning and Building

From: Mina Geramian
1341 Souza Dr
El Dorado Hills, CA 95762
(916) 710-1008
mina_geramian@yahoo.com

Subject: Comments in Opposition to Revised Notice of Preparation of Draft Environmental Impact Report and for the EDH Costco (Application Nos. Planned Development Permit PD15-0001, Conditional Use Permit CUP23-0012, and Variance Application V22-0001)

Dear Mr. Welch,

I would like to express **my gravest concerns** about the impact of the proposed use of the properties identified in this study. These parcels are located at the bottom of a valley surrounded by many existing residential homes that are located higher up on both sides of the valley, up and down the hills, overlooking the subject properties. The proposed development is not suitable for this location for the following reasons:

1. The Silva Valley Road **traffic noise** level is magnified by the echo chamber created by the hills on both sides of the roadway. This roadway is not suitable to support high volume traffic for businesses such as Costco or drive-throughs. The noise level for homes located on both sides of Silva Valley has already increased significantly since the development of the intersection with HW-50 and can now be heard indoors day and night. The proposed developments can further increase the noise level by many folds.
2. Any traffic on Silva Valley Road **negatively impacts the Oak Meadows Elementary School**drop-off and pickup hours when cars line up. It will further put the neighborhood children in additional risk of high-volume traffic during school hours.
3. The proposed properties and buildings, signs, and parking lots within the properties will be in the direct line of sight of hundreds of existing homes. Due to the properties being overlooked from the hills, these views cannot be screened with trees and landscaping. Therefore, use cases such as gas station, or Costco warehouse will be in full view of hundreds of residential properties day and night, **creating an unsightly environment** that will negatively impact the value of all these residential properties.
4. The proposed properties can also impact the nighttime environment by generating too much reflective light that will be a nuisance to many homes in the area. The Serrano subdivision that borders this project was developed with no streetlights so that the residents could enjoy the beautiful night sky dotted with stars. **This development is in direct contradiction to the neighboring subdivisions light pollution mitigation plans**.
5. The nature of the proposed Costco **architectural plan that is inconsistent with the surrounding residential buildings and subdivisions**.

In general, big-box stores need to be in predominantly commercial areas not neighbored and overlooked by large existing residential developments or schools. I would appreciate a development that adds value to the community. I just don't see a value in Costco when there is one only 5 minutes

away. As for revenue, since EDH is not incorporated, revenue will flow to the County. So as long as there is a Costco anywhere in the County, the benefit will be the same. It does not have to be right adjacent to a single-family development and elementary school. Target at EDH is a good example of more appropriate placement of big-box stores. There is a reasonable buffer.

I therefore request that you kindly NOT APPROVE the proposed plans.

Best Regards,

Mina Geramian

From: Roy Templet
To: PL-EDH Costco Project
Subject: EDH Costco NOP Comment
Date: Wednesday, March 26, 2025 2:25:39 PM
Attachments: 2025-03-26 14-21.pdf

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.
Report Suspicious

--
Sent with Genius Scan for iOS.
https://urldefense.com/v3/__https://tglapp.com/e/scan__;!!N_SQ17twK5M!t-d5YEy8OHVRN1AZvnHzksurYnYIDPS3e-UPs5r2ML4Ay2UB4ubxfNcZxQy-V3W8Cy9VLQPHUN-9-Zplenl8Qg$

Sent from my iPhone

From: Ivan Ruiz
To: EDHCostco@edcgov.us; edhapac.comment@gmail.com
Subject: EDH Costco NOP Comment - Sunset Estates air quality
Date: Monday, March 31, 2025 4:25:09 PM
Attachments: sunset estates air quality.pdf

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear El Dorado County Planning Department,

Please include the attached comment in the scoping for the Environmental Impact Report (EIR) for the proposed El Dorado Hills Costco project (SCH #2021080402). This comment focuses on air quality impacts affecting the Sunset Estates neighborhood due to increased vehicle traffic along White Rock Road.

Thank you for your time and consideration. As well as for including this feedback in the public record.

Ivan Ruiz
5217 Mertola Dr, El Dorado Hills, CA 95762

From: Ivan Ruiz
To: EDHCostco@edcgov.us; edhapac.comment@gmail.com
Subject: EDH Costco NOP Comment - Transportation Comments
Date: Monday, March 31, 2025 4:20:05 PM
Attachments: Comments on Transportation.pdf

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear El Dorado County Planning Department,

Please accept the attached comments regarding **transportation and traffic impacts** related to the proposed El Dorado Hills Costco project (SCH #2021080402), submitted as part of the scoping process for the Environmental Impact Report (EIR).

These comments reflect community concerns about student safety, school commute congestion, pedestrian and cyclist risks, emergency access, and key intersections and traffic nodes throughout the Silva Valley Parkway and White Rock Road corridors.

We ask that these transportation-related issues be thoroughly analyzed in the Draft EIR, and that appropriate mitigation measures be considered to protect public safety and mobility throughout this area.

Thank you for your time and consideration.

May you be well,

Ivan Ruiz
5217 Mertola Dr, El Dorado Hills, CA 95762

From: Curtis Cheney
To: edhcostco@edcgov.us
Cc: bosone@edcgov.us
Subject: EDH Costco Project
Date: Friday, February 28, 2025 10:05:48 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

As do many others, I have opposed the Costco Project since I learned of it. The adjacent school currently generates overflow automobiles on Silva Valley Parkway twice a day during school term. There are numerous residences immediately adjacent to the proposed site that will be negatively impacted due to increased traffic congestion, elimination of a view of open land and significant lowering of property values. There is an existing Costco three miles down the road. I am sure many have voiced other concerns.

Simply stated, this is an incredibly bad idea and to permit it would be an equally bad decision.

Curtis V. Cheney
1008 Terracina Drive
El Dorado Hills, CA 95762

From: David Pettigrew
To: EDHCostco@edcgov.us
Cc: David Pettigrew
Subject: EDH Costco Project attention Cameron Welch
Date: Friday, March 28, 2025 5:38:15 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Hello,

I am a resident of El Dorado Hills. My address is 330 Nattier Court.

After reviewing the preliminary proposal of the Costco project, my opinion is that this project is an extreme over reach on the part of Costo. My opinion is based on the reality that there is already a full Costo facility i.e. retail warehouse and fuel facility 12 minutes from my residence.

Why do we need another Costco in such close proximity to the existing Costco in Folsom?

If the available land must be developed, why not develop additional store fronts for local, non franchise, businesses, restaurants and perhaps a green space or park up against the existing housing. Such a space can act as a buffer to protect those who own homes above any development. This would protect their property values which will surely go down having a Costco warehouse that will obstruct existing views and will be clearly visible from their backyards.

So I vote no to Costco and yes to expanding sensible development that enhances the lifestyle that this unique city has worked so hard to establish and maintain.

Regards,
David Pettigrew
Resident, El Dorado Hills

From: Dave Johnston
To: EDHCostco@edcgov.us
Subject: EDH Costco Project Comment
Date: Monday, March 31, 2025 8:57:43 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

I strongly support the approval of the Costco project on Silva Valley Parkway. The economic, environmental, traffic and convenience benefits far outweigh the purported, exaggerated concerns expressed by those not wanting commercial development on commercial property near their homes. Siting a Costco, with a gas station, will improve air quality in the El Dorado Hills area. The amount of traffic in the area will be reduced. The sales tax revenue will help fund road maintenance, law enforcement and many other needed services for County residents. The cost and time savings for County residents will be significant. Please approve this project.

Thanks
Dave Johnston

From: Jennifer Guan
To: edhcostco@edcgov.us
Subject: EDH Costco Project Written Comments
Date: Friday, March 21, 2025 6:37:00 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Jennifer Guan
1561 Terracina Dr
El Dorado Hills, Ca 95762
(408) 307-5018
jennguan02@gmail.com

21st March 2025

Cameron Welch, Senior Planner
County of El Dorado Planning and Building Department
2850 Fairlane Court, Building C
Placerville, CA 95667

Dear Cameron Welch,

I am very concerned by the proposed Costco Wholesale project on Silva Valley Parkway in El Dorado Hills, in particular the addition of the gas station to the project.

1. Air pollution:

    a. The proximity of the proposed gas station to the elementary school is of great concern. Gas stations emit a variety of pollutants. Cars sitting in line idling emit exhaust, Gas stations emit high levels of ozone from gasoline fumes. Fuel pumps off-gas toxic and carcinogenic substances such as benzene into the air and groundwater. Despite best practices there are also always spills at gas stations. I am greatly concerned about the health risks to residents and school children in that area. **Residential proximity to petrol stations and risk of childhood leukemia** https://pmc.ncbi.nlm.nih.gov/articles/PMC10275799/

b. I am concerned that this project will greatly increase the air pollution of this area. The school is already near Hwy 50, a major highway that experiences high volumes of traffic. That traffic releases ultrafine particles (UFPs, nitrogen oxides, carbon monoxide, black carbon as a result of combustion engines). Also released into the air are brake, tire, road wear particles and volatile organic compounds. Adding a Costco which would greatly increase the amount of traffic in the area as well as greatly increase the number of diesel delivery trucks and fuel delivery trucks to the area which would greatly increase the pollution of the already polluted air. I would like to address the cumulative effects of placing even more pollution so close to a sensitive community of children at the elementary school as well as residents of the community. Not only is Oak Meadow of concern, on the same corridor is also Silva Valley Elementary School, Rolling Hills Middle School and Oak Ridge High School. These schools are all in a direct path of wind and air flow from this Costco project, so while air pollution may be somewhat diluted, it will still have an effect on these other schools.

c. I am concerned that Costco has extended it's gas station hours of operation. While this may mitigate the time some vehicles sit idling in line, the pure volume of fuel dispensed and the gasses released during fueling that increased volume of fuel will further contribute to air quality concerns especially during morning hours where winds are low.

d. While the plan for that lot does indicate a gas station, I'd like to understand the volume difference in pollution generated by a "mom & pops" gas station versus a Costco gas station the size of 3-4 regular gas stations.

2. Light pollution: A massive warehouse and gas station will have to have many lights for security purposes and delivery trucks will be entering and exiting at all hours. How will this affect the surrounding community that has policy in place to minimize light pollution in the area.

3. Noise pollution: Delivery trucks entering and exiting the area will create a lot of noise throughout the day and at night. The Landscape of the surrounding area will funnel the noise straight to the surrounding community.

4. Traffic issues: Employees will need to cross a busy roadway to travel to work. I am also concerned that busy moms and dads will tell their elementary and middle school

children to just meet them at Costco and children will be hit by speeding traffic. The elementary school dropoff is already overtaxed and increased traffic as well as increased speeds on Silva Valley will only make it worse. The speed limit is too high in this section of roadway right next to a school zone and I am concerned that adding additional vehicles jamming their way through to grab that last parking space at the Costco will only make that whole area more dangerous.

5. Soil contaminants: El Dorado Hills has an abundance of asbestos deposits. I am concerned that the construction of this project with extensive digging to place fuel tanks and the underground parking will expose children at the elementary school and community members to even more carcinogenic substances.

6. Temperature increase: The amount of paved surfaces is of concern. Whenever grassland is paved over the ambient temperature of that area increases. They will also need to remove a number of trees which will further contribute to a rise in temperature.

7. Watershed: The area has multiple natural springs. Will contaminants from the gas station leach into groundwater and where will rainwater from parking lots be directed?

8. Truck traffic flow: There is no good location for trucks to turn around if they miss the entrance to Costco.

9. Aesthetic pollution. Costco warehouses are not aesthetically pleasing at all and I would like to know if Costco has any plan to make this warehouse look more at home with and like it's surrounding area. A big box warehouse will be an eyesore at the entrance to an otherwise beautiful area.

10. Financial health of the Buckeye School District: I am concerned that putting a gas station adjacent to the elementary school would cause a further decrease of enrollment at Oak Meadow. Oak Meadow has seen a marked decrease in new enrollment to the point where they added a Charter school to the campus which takes in children from surrounding areas, not just the neighborhood. Many of these families will consider moving their children to other schools if Oak Meadow has a gas station built next to it because they are concerned about their child's long term health.

Thank you for carefully considering my concerns, especially around the addition of the gas station adjacent to the elementary school to the project.

Sincerely,

Jennifer Guan

From: MARIO ADELI
To: EDHCostco@edcgov.us
Subject: EDH Costco Wholesale
Date: Wednesday, March 26, 2025 3:58:10 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

To: Mr. Cameron Welch, Senior Planner. County of El Dorado Planning and Building Department;

I have leaved in Serrano since 2005 and have noticed the growth of this community over the years, most growth were resident projects, and this community is thriving on quiet and safe environment, since there is an existing Costco in Folsom few mile to the West, we do not see the need to build a new one in EDH, this action will impact the property value of the Serrano areas. I have discussed this with at least 20 neighbors and they are are against this proposal. Please do not allow the developers impact our property values by approving the new Costco in our community. Thanks!

Regards,
Mario Adeli

From: Emlay, Nicole
To: "EDHCostco@edcgov.us"
Cc: Kalvass, Patrick; Deason, Brian; Money, Jon
Subject: EID Correspondence - EDH Costco NOP Comment
Date: Friday, March 28, 2025 3:32:23 PM
Attachments: image001.png
EEO2025-0268 EID EDH Costco NOP Comment.pdf

This Message Is From an External Sender
This message came from outside your organization.

Report Suspicious

Good afternoon,
Please find attached correspondence from El Dorado Irrigation District with the following subject: Comments on the Revised Notice of Preparation of Draft Environmental Impact Report for the EDH Costco (Application Nos. Planned Development Permit PD15-0001, Conditional Use Permit CUP23-0012, and Variance Application V22-0001), SCH #2021080402

An email confirming receipt of this message and attachment is appreciated.
For any questions, please contact:

Patrick Kalvass, Engineering Manager
530-642-4054, email: pkalvass@eid.org

Brian Deason, Environmental Resources Supervisor
(530) 642-4064, email: bdeason@eid.org

Regards,

Nicole Emlay
Administrative Technician- Engineering
El Dorado Irrigation District
530-642-4410

Paul Penn, Director, Division 1
Pat Dwyer, Director, Division 2
Chuck Mansfield, Director, Division 3
Lori Anzini, Director, Division 4
Alan Day, Director, Division 5
Jim Abercrombie, General Manager
Brian Poulsen, General Counsel

Letter No.: EEO2025-0268

VIA E-MAIL

March 28, 2025

Cameron Welch
Senior Planner
County of El Dorado Planning and Building Department
2850 Fairlane Court,
Placerville, Ca 95667
Email: EDHCostco@edcgov.us

Subject: Comments on the Revised Notice of Preparation of Draft Environmental Impact Report for the EDH Costco (Application Nos. Planned Development Permit PD15-0001, Conditional Use Permit CUP23-0012, and Variance Application V22-0001), SCH #2021080402

Dear Mr. Welch:

The El Dorado Irrigation District (District) has reviewed the Notice of Preparation (NOP) of a Draft Environmental Impact Report for the EDH Costco Project (Project) and provides the following comments for El Dorado County's (County) consideration.

The revised Project includes a new Costco Wholesale Member Warehouse retail store (warehouse retail store), Costco Wholesale fuel facility (fuel facility), and associated site improvements. The warehouse retail store is proposed for the South Site and the fuel facility and Costco employee parking is proposed on the North Site.

As acknowledged in the NOP, the change in scope of the currently proposed Project will require application for a new Facility Improvement Letter (FIL) by the applicant and completed by the District. It is also acknowledged in the NOP that the Project area will need to be annexed into the District service area to acquire sanitary sewer and water service. As such, the District anticipates being a responsible agency for the Project as defined by the CEQA Guidelines (Sec. 15381). Therefore, please add the following District staff as points of contact for this project:

Patrick Kalvass, Engineering Manager
530-642-4054, email pkalvass@eid.org

Brian Deason, Environmental Resources Supervisor
(530) 642-4064, email bdeason@eid.org

The District looks forward to continue working with the County and applicant to ensure that any onsite and/or offsite water and sewer infrastructure associated with the proposed Project is accurately described

and any potentially significant impacts associated with the construction and ongoing operation and maintenance of those facilities are adequately mitigated.

Thank you for considering these comments. Please reach out to the contacts provided in this letter if you have any questions.

Sincerely,

Brian Deason
Environmental Resources Supervisor

BD:ne

cc:

El Dorado Irrigation District
Jon Money, P.E., Director of Engineering
Patrick Kalvass, P.E., Engineering Manager

From: Lisa P
To: EDHCostco@edcgov.us
Subject: EIR
Date: Monday, March 17, 2025 6:37:04 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

I wanted to express my opposition to the Costco going into the parcels adjacent to an elementary school, marshlands, and residential property. The gas station will bring air pollutants to the children who attend Oak Meadow. Air quality and emissions at gas stations are more bad for children than adults, particularly for those with asthma. It seems like there could have been other locations deeper into el dorado county that would have been preferable (or without a gas station). Please do a proper EIR that addresses not only air pollutants but increased crime and traffic. People from all over will be using other smaller streets throughout El Dorado Hills to shop here. This will worsen our tiny roads. We would also need more CHP and sheriff presence.

Thanks for your consideration.
Lisa Plummer, EHD resident

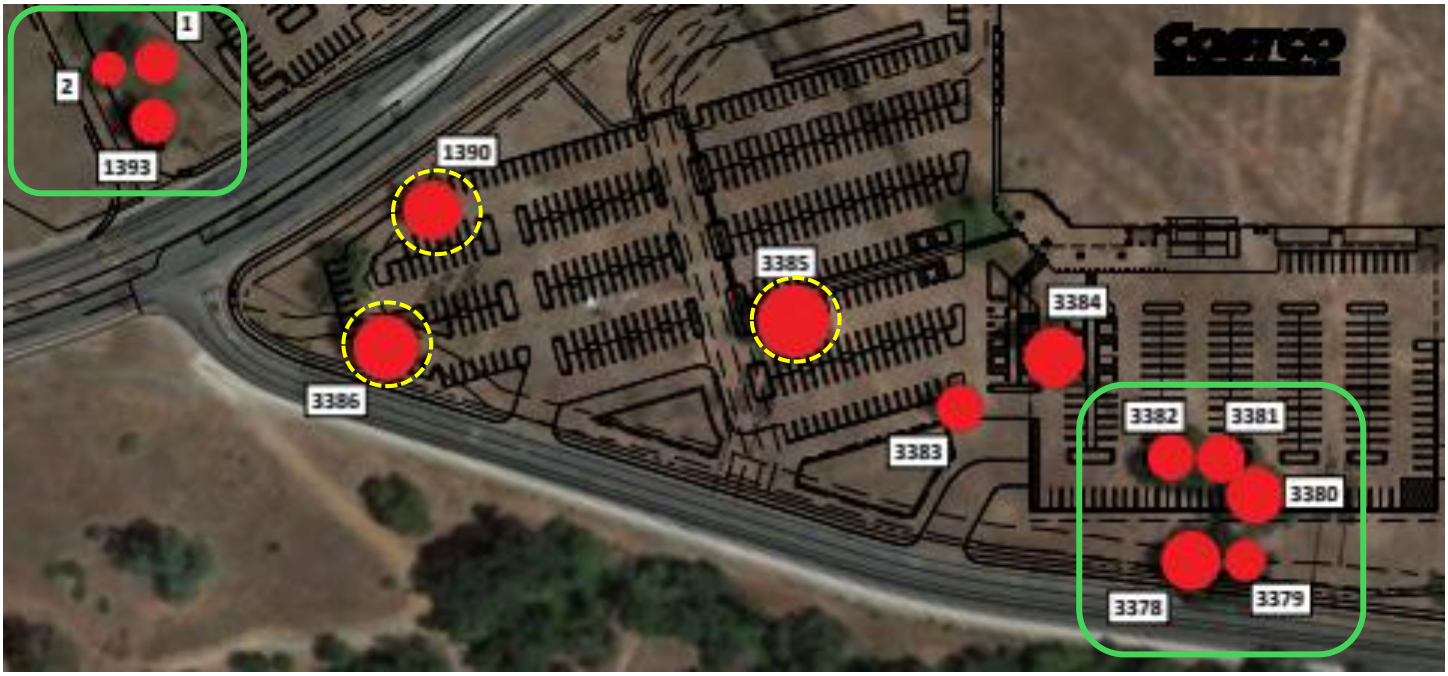
16th. March 2025
El Dorado County Development Services Department-Planning Services,
Attention: Cameron Welch,
2850 Fairlane Court, Placerville, CA 95667
EDHCostco@edcgov.us.

The following are my comments regarding EDH 52 Costco PROJ21-0003 CUP-R21-0024 Z17-0004 P17-0007 S17-0017 PD15-0001 CUP23-0012 V22-0001Project 20278 Development Plan, i.e. COSTCO EDH DEVELOPMENT PLAN

Foreword
Google Earth satellite images from 2002-2023 were used to measure all areas and subject to my aerial photo interpretation. All site photos were taken by me on 12th & 15th. March 2025.

HELIX ENVIRONMENTAL OAK RESOUCES TECHNICAL REPORT

The applicant says: *"Tree permit for **selective removal** of on-site trees within the development envelope and authorization for the payment of in lieu fees to compensate for tree removal" and* provided the following exhibits.



Source: https://edhapac.org/wp-content/uploads/2021/07/Oak-Resources-Technical-Report-Dated-November-2020.pdf
HELIX Environmental Planning, Inc. 1677 Eureka Road, Suite 100 Roseville, CA 95661
916.435.1202 Tel 619.462.0552 fax www.helixepi.com November 10, 2020, Project # AKT-20

	Tree #	Species	DBH (inches)	DLR (feet)	Height (feet)	Health	Structure	Comment
	1	Valley Oak	9, 8	15	40	Fair	Fair	No tag, heavy blackberry, codominant
	2	Interior Live Oak	9, 8, 8	16	27	Fair-Good	Fair	No tag, heavy blackberry, codominant
*	**1390**	Valley Oak	47	21	60	Poor-Fair	Poor	Deadwood, limb failure, acorn woodpecker granary tree
	1393	Valley Oak	21	20	50	Fair-Good	Fair-Good	Existing tag, minor dieback
	3378	Valley Oak	35	30	40	Good	Fair-Good	Deadwood
	3379	Valley Oak	18	24	40	Good	Fair-Good	Asymmetrical canopy, suppressed growing environment
	3380	Valley Oak	33	38	40	Good	Good	
	3381	Valley Oak	27	30	40	Good	Good	
	3382	Valley Oak	27	25	40	Good	Fair	Codominant
	3383	Valley Oak	26	23	40	Fair-Good	Fair	Asymmetrical canopy
	3384	Valley Oak	10	13	15	Fair	Fair	Codominant, small leaves
*	**3385**	Blue Oak	48	40	60	Fair-Good	Fair	Asymmetrical canopy, pruning wound, 1 trunk removed
*	**3386**	Valley Oak	42	38	60	Fair-Good	Fair	Deadwood, dieback

* Heritage tree

OAK TREE PRESERVATION

Clarksville Crossing

The following photographs provide visual proof that their description of "selective removal" is indeed anything but selective, it is total removal.





There really is no good reason why these trees could not all be saved with some judicious mass grading





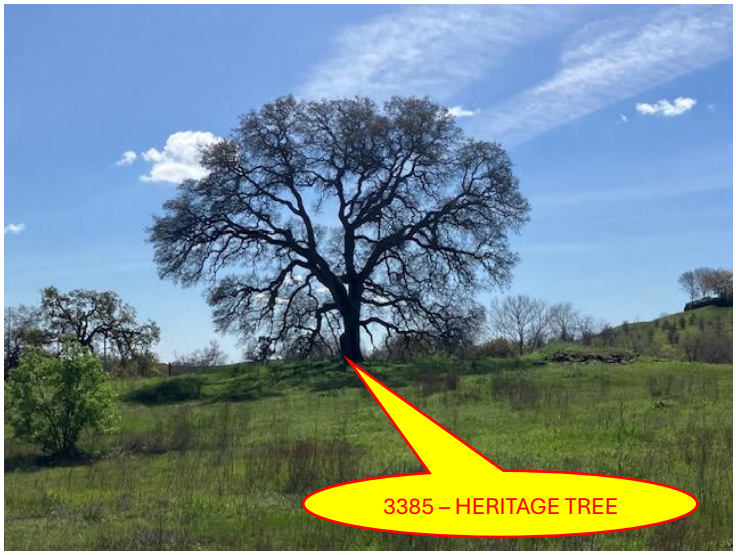
Please see cross section diagrams under grading for a possible solution





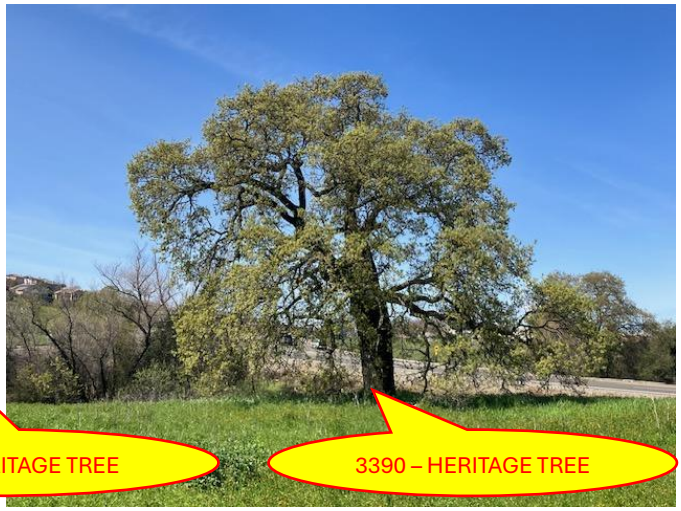






This tree can be saved since it is “at grade” on the parking lot. Please see the section on drainage and grading.



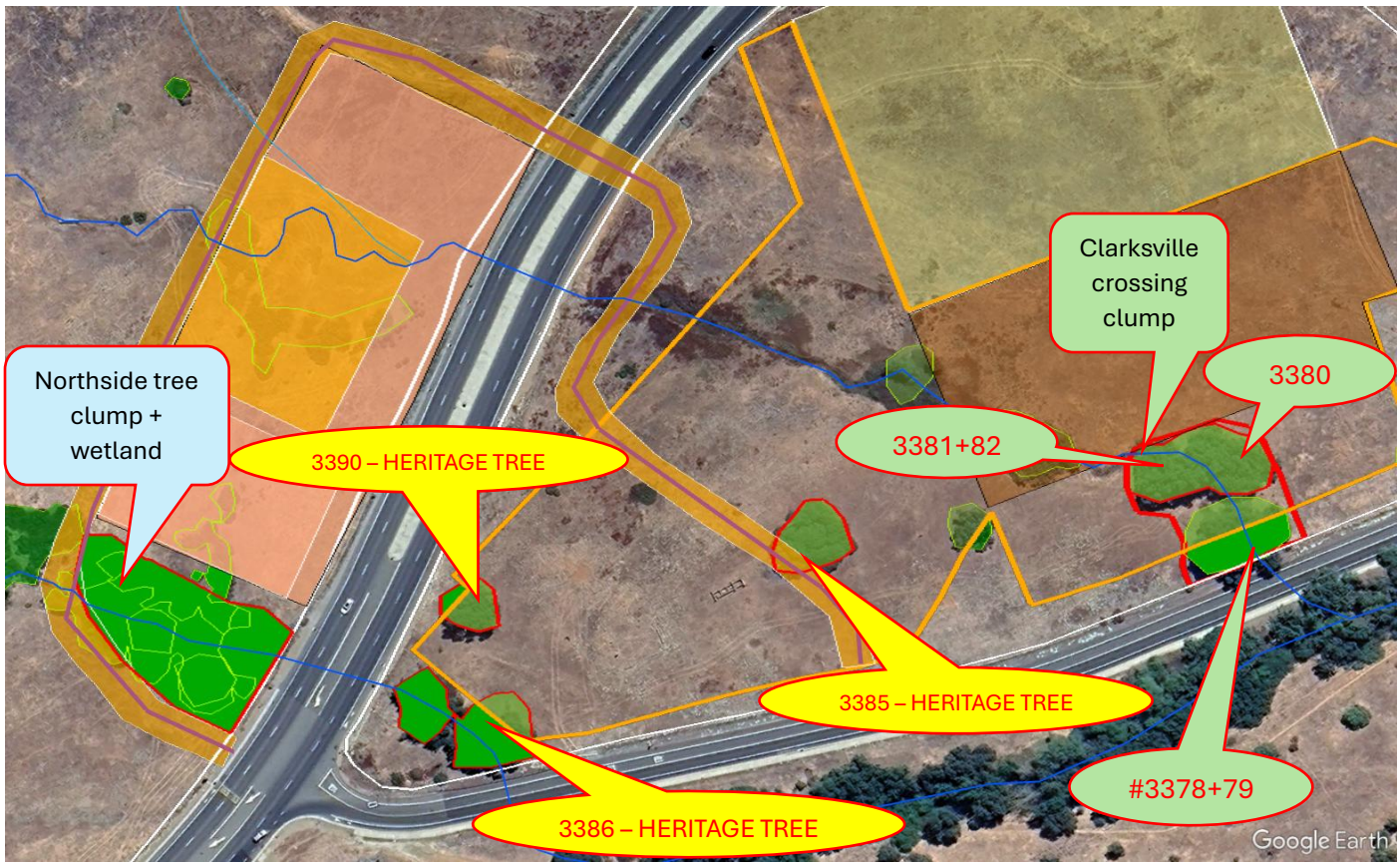


These trees can be saved since they are on the periphery of the parking lot.



This tree is slated to be removed because there is significant grading to be done around it. I am sure a good engineer can save it with some judicious grading. The tree is already in a retention pond, why then remove it?

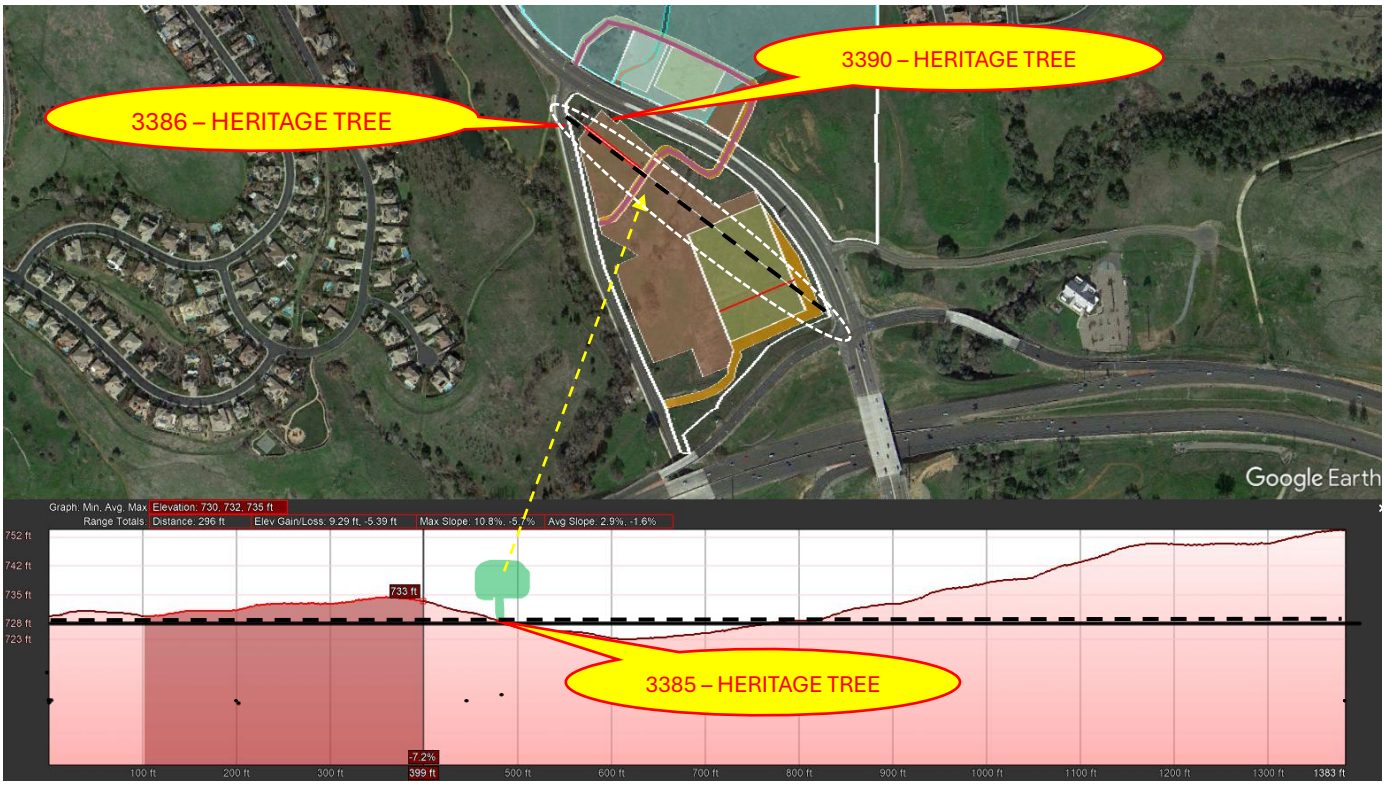
Applicant's tree removal program

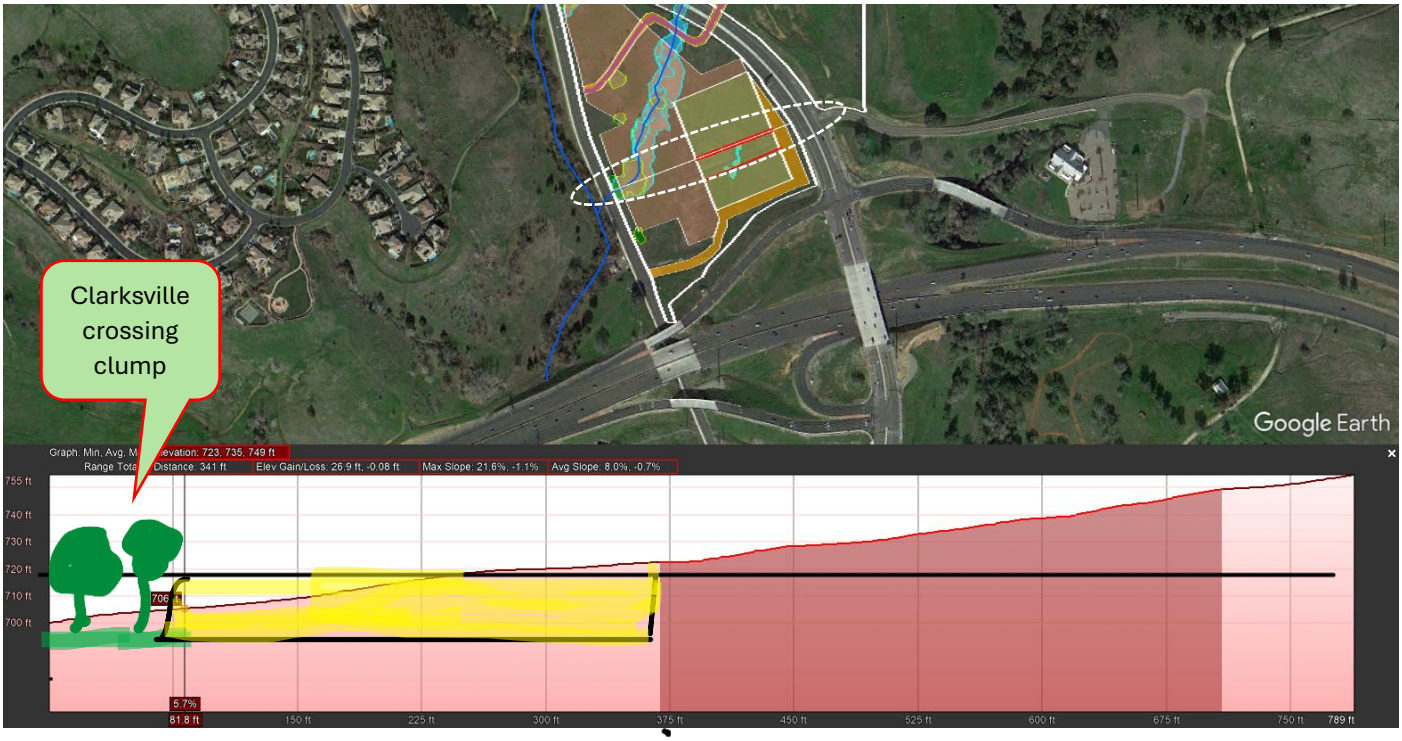


I see - although not clearly given the highly reduced contour and site grading map- that virtually the entire site is to be graded to a 728-foot base with the surface parking declining slightly from there. The analysis shows that the placement of the heritage oaks is such that they can all be avoided – albeit with a dose of skillful grading – along with other oak trees at the periphery of the main parking lot and those adjacent to Clarkesville Crossing.

The concept of mitigating with "In lieu fees" is available to a developer for trees that cannot be avoided and thus removed. "Avoidance" is the key word here. Apparently, the applicant makes no effort to avoid removal of all oak

trees but cites the Hellix Environmental's report as a basis for paying in lieu fees totaling $101,884 … a cheap way out!





<u>Oak Tree Mitigation</u>:

As in Helix Environmental Planning's November 10th letter states: "*Currently, mitigation is expected to be fulfilled through the payment of in-lieu fees. Since more than 50% of the existing oak woodland will be removed, impacts to oak woodland must be mitigated at a ratio of 1.5:1. Table 3 summarizes the mitigation fees based on the ORMP. Table 3 MITIGATION FEES Oak Resource Impact Mitigation Ratio Fee (per trunk inch) Total Fee Oak Woodland 0.35*

acres 2:1 $8,285 $5,800 Individual Oak Tree 99 cumulative inches 1:1 $153 $15,147 Individual Oak Tree Stockpile 55 cumulative inches 1:1 $153 $8,415 Heritage Tree 48 cumulative inches 3:1 $459 $22,032 Heritage Tree Stockpile 110 cumulative inches 3:1 $459 $50,490= ***TOTAL $101,884."***

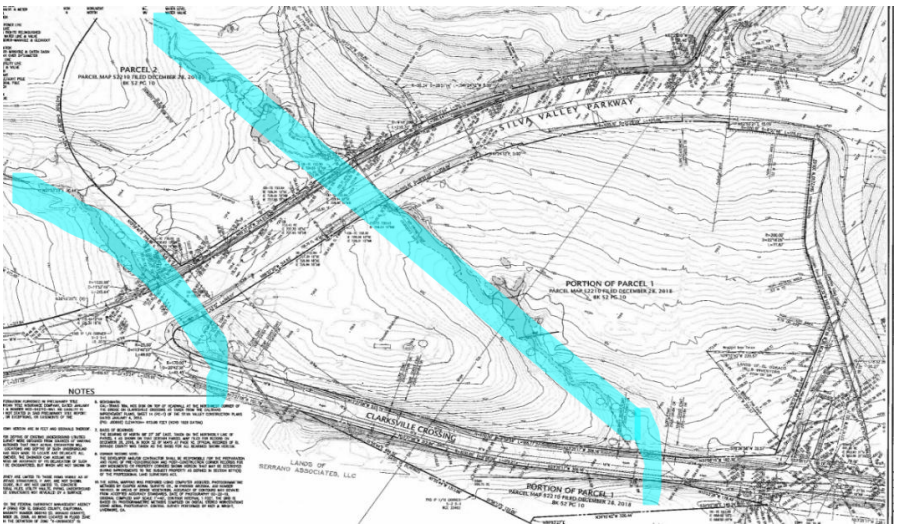
In short, the applicant never even tries to mitigate "on site" as I have suggested - all be it in sketch format - thus saving most of the oak trees by incorporating the them into the parking lot and landscaping easements. With a bit of clever engineering and grading – and desire – COSTCO can avoid removing all heritage oak trees and save a handsome clump of slightly smaller oak trees immediately adjacent to the drainage culvert at the Clarksville Crossing Road.

Concluding comment: The applicant should be required to present an on-site oak tree avoidance plan to avoid the removal of oak trees # 1390, 3386/85/84/82/81/80/79/78. The Helix Environmental Report should not be considered a "plan" but a mere in lieu fee calculation, no more.

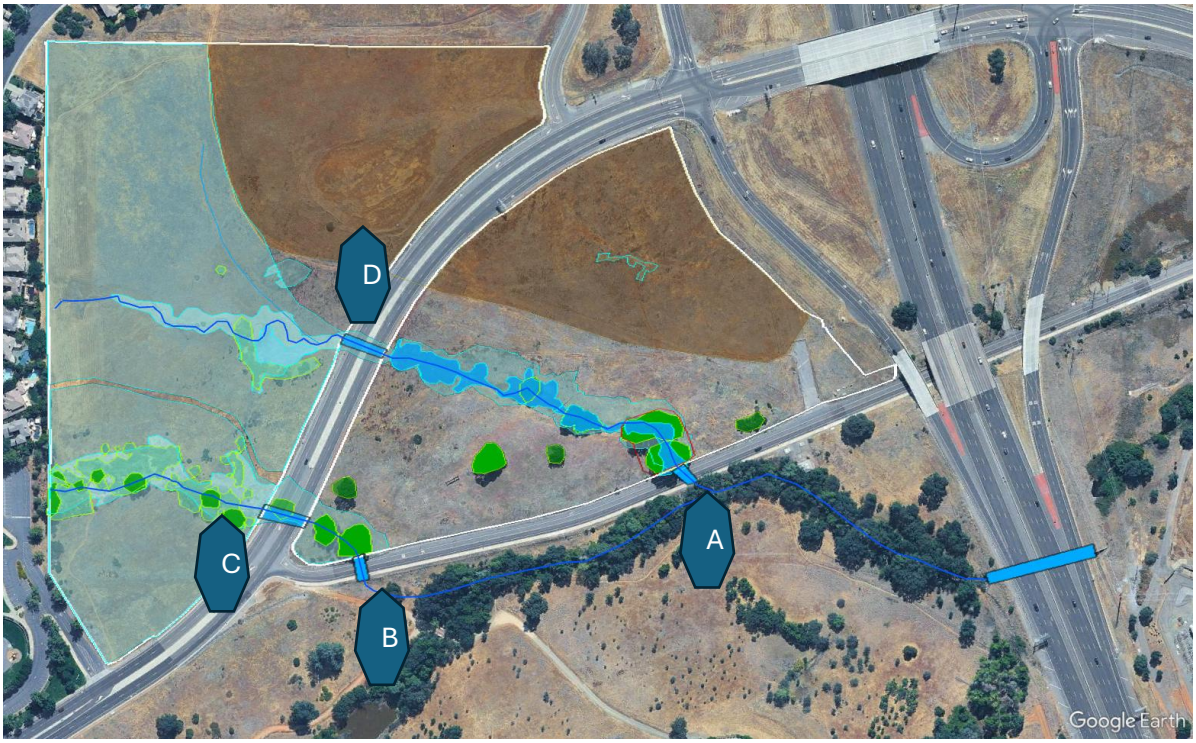


DRAINAGE

As a foreword to this section, my comments are based on experience on a large project impacting the development runoff to the Auburn Ravine in Lincoln. Below, the two main drainage areas (colored blue)



Drainage areas and culverts.



Project Buildout

My contention is that a drainage plan should focus on both north and south parcels because they are inextricably linked. I respectfully suggest that, because the runoff at buildout from the northern tract, in addition to the southern site's runoff as proposed, both peak flows will probably overwhelm the culvert at point "A" notwithstanding the retention sites incorporated in the actual development plan.





Culvert "D" in very bad shape and about **3 feet in diameter**.

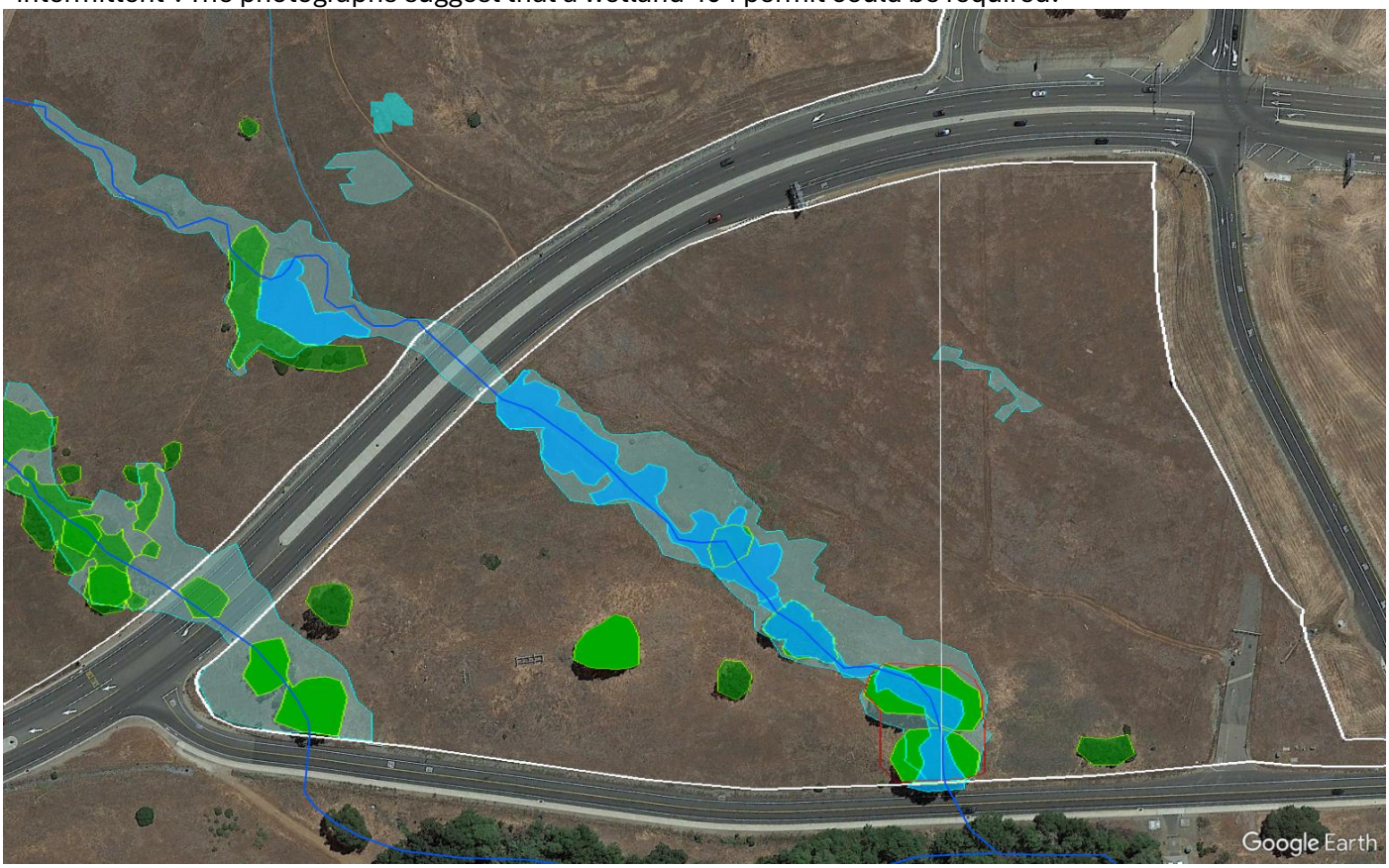
Observation: The engineers placed three "storm water treatment planter(s)" – ponds – to retain the project's storm water runoff on the south tract. The northern tract has a 500.000 square feet drainage area at present that currently

drains to culvert "D" that when one adds the runoff from the developed project (i.e. paved surface) to the south culvert "A" might well fail, particularly if the entire COSTCO tract were developed as shown above (as an example).

DEIR Comment: A comprehensive drainage plan of the North and South tracts should be required to mitigate the drainage impact at buildout because the two drainage areas are inextricably linked. The current drainage plan for the proposed project could be insufficient*. (*Note: This was the conclusion regarding the Aburn Ravine).

WETLAND AREA

If the Corps. of Engineers proverbial "*toothpick theory*" holds – i.e. if it floats - then the water way is classified as "waters of the United States", falls within the Corp's jurisdiction and Section 404 of the clean water act. It was observed that a toothpick could float in several parts of both drainage ways although both could be considered as "intermittent". The photographs suggest that a wetland 404 permit could be required.



The above map was photo interpreted by me from Google Earth aerials shown in the Appendix.

The delineations are judgmental on my behalf, but again, not without experience in dealing with "wetland impacts". The lighter blue indicates the extent of wetland area, the darker blue shows areas of greater intensity of wetland.

I shall refrain from giving square feet measurements for the areas shown because this is not a wetlands delineation, but a mere suggestion that the County determine if a Corps. Engineers 404 permit might be required.

DEIR Comment: The County require a wetland delineation map to be provided by the Applicant.

I present a visual assessment to support my comment.

Current conditions of the intermittent stream at Clarksville Crossing





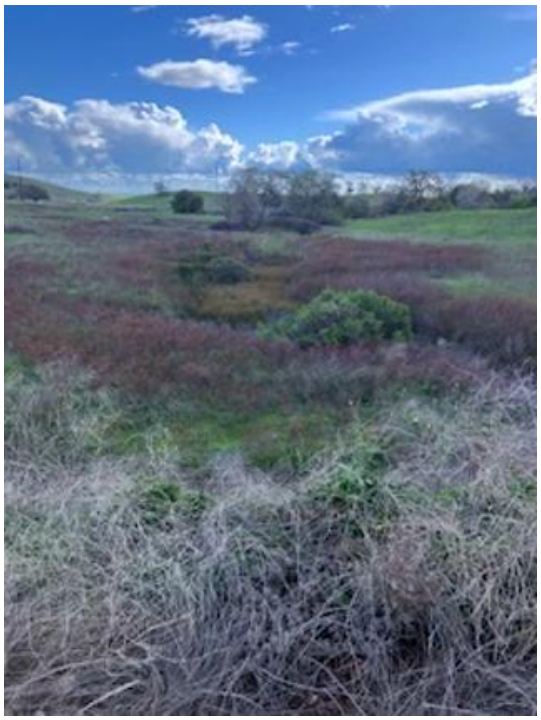
Waters of the United States according to the Corps of Engineers?



South tract: swale looking north










Above; springs in the swale area




Swale grasses























Wetland views of the northern tract (gas station site)

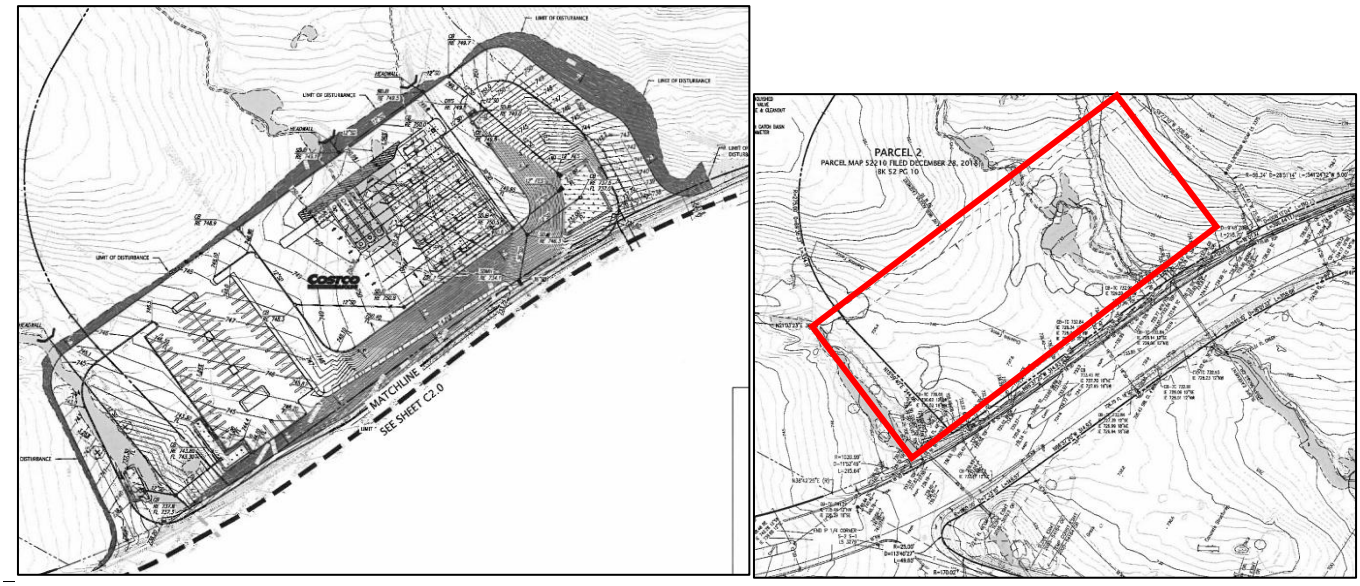


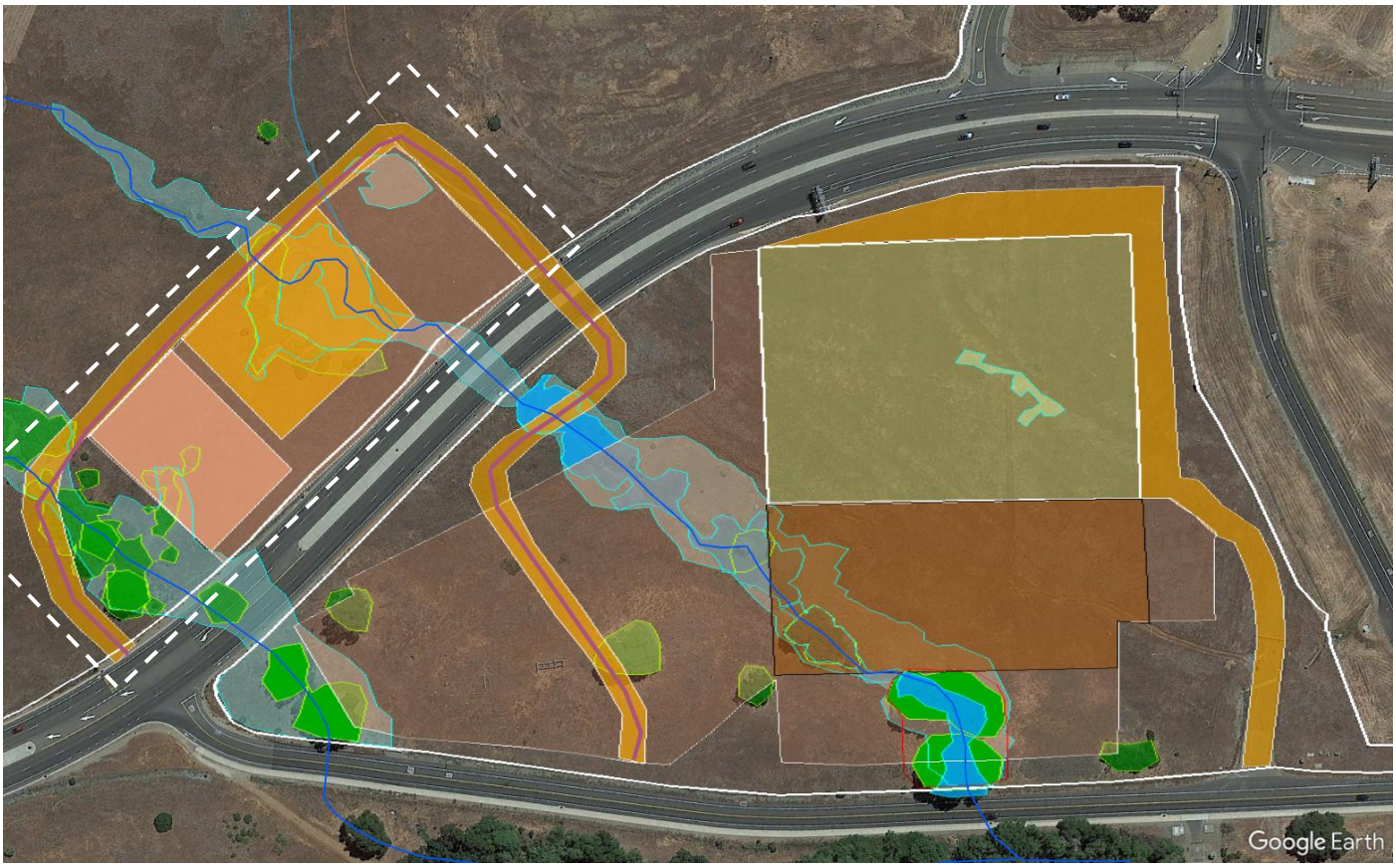






GAS STATION



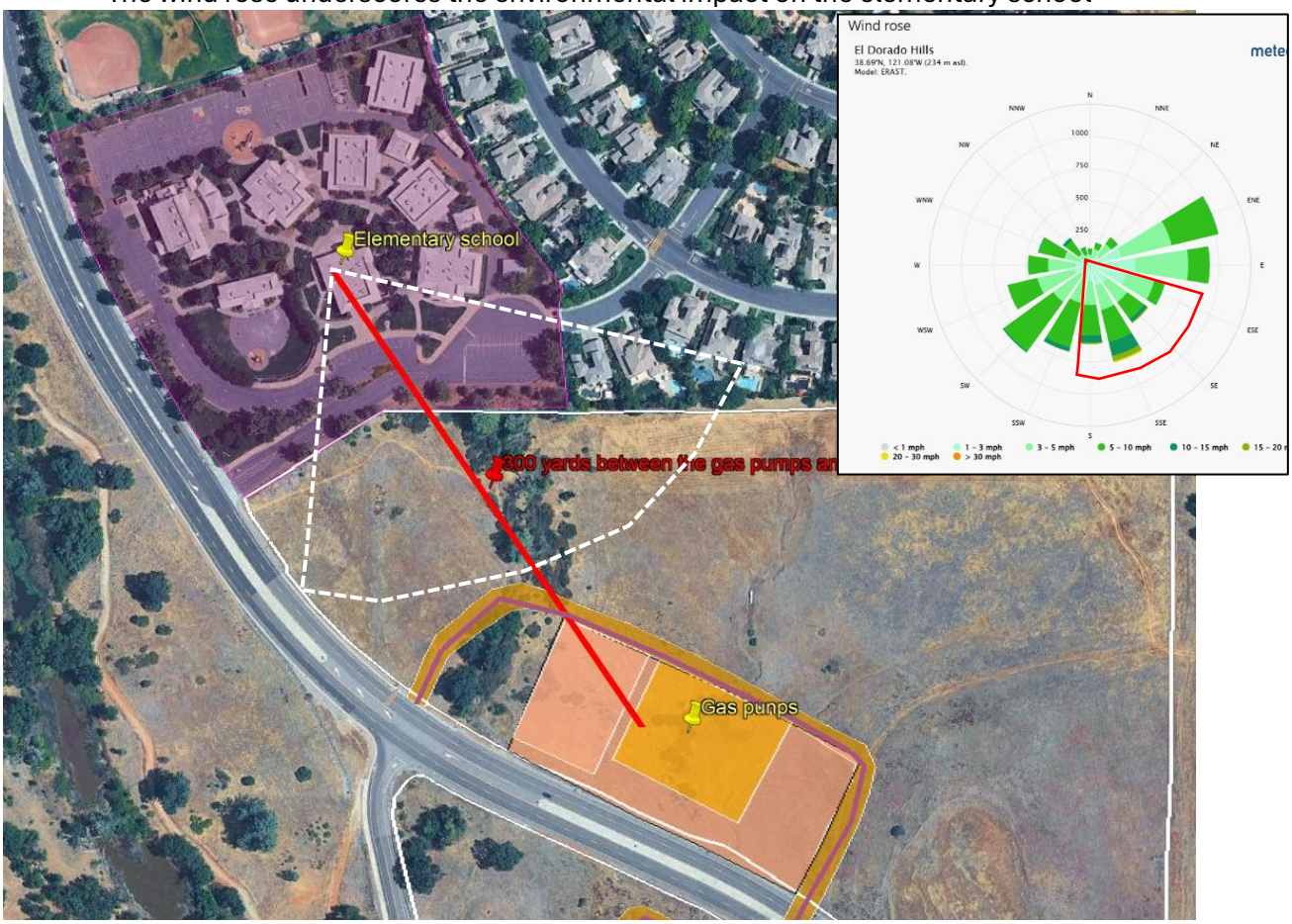


A very big site, with a big environmental impact.



Approximately 4.5 acres shown

The wind rose underscores the environmental impact on the elementary school



Observation: the elementary school is impacted by the COSTCO gas station.

Site Comparison:

The purpose of comparing local COSTCO sites is to gauge the importance of a gas station in their development.

EDH COSTCO / FOLSOM COSTCO / MISSOURI FLAT COSTCO

	EDH	Folsom	Missouri Flat
Gross acreage (Acres)	22.00	17.40	19.70
Warehouse (sq.ft.)	155,429	151,544	134,916
Parking area (surface)	**366,971**	**329,047**	**274,166**
Underground parking (s.f.)	**106,000**		
Gas station (sq.ft.)	**195,992**	**35,596**	**16,507***
Note: (*) Fast Food site			
Ratio: Parking sf / Warehouse sf	3.04	2.17	2.03

All measurements were taken with Google Earth algorithms.
EDH site includes 4.5 acres of the gas station. Southern tract is 17.1 acres

Comparison between EDH, Folsom & Missouri Flat COSTCO sites:

- All sites are virtually the same in size both in gross acreage and warehouse size. (Missouri flat has large areas in open space).
- EDH COSTCO has 41% mor parking area than Folsom. Missouri Flat would appear significantly under parked …. or EDH would be significantly over parked. Which?
- Parking area ratio compared to warehouse surface area at 3.04 is significantly more in EDH than in the other two sites

EDH COSTCO



FOLSOM COSTCO

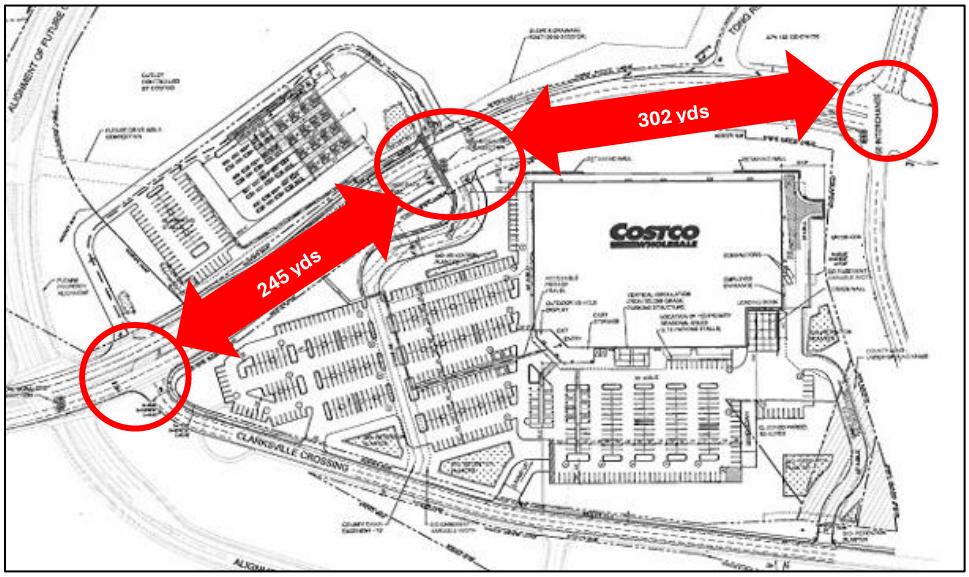


MISSOURI FLAT COSTCO



Observations regarding the EDH-COSTCO gas station.

- Are gas stations indispensable to a fully functioning COSTCO site? Is it part of COSTCO's core business?
- The EDH gas station site occupies 160,396 sq. ft. (4.5 acres) compared to Folsom's at +/- 36,000 sq. ft. That is, EDH gas station would be 5.5 times greater than Folsom COSTCO. Missouri flat has no gas station although the site has significantly more area in which to accommodate one.
- Observation: Obviously in the Missouri Flat area a COSTCO gas station is not critical and in Folsom a small one appears to be adequate.
- According to Web, Costco has 692 stations countrywide and pumps 17 million gallons / day. Therefore, on average, one could expect EDH site to pump nearly 25000 gallons per day. Therefore, on average the EDH gas station shall have a considerable impact of noxious gases on the elementary school less than 300 yards away.
- As an alternative, there are no less than three gas stations less than a mile away (Hy.50 and EDH Blvd); does the EDH community need another?
- From a traffic circulation viewpoint, the main entrance / exit from the COSTCO warehouse on to Silva Valley Parkway will have to be signalized. A signal already exists approximately 302 yards away at the Silva Valley Parkway and Hy. 50 interchange and another 245 yards to Clarksville Crossing another might be necessary. No doubt the required traffic study for this site will determine the level of signalization. A back of the envelope estimate of the average traffic generated by the EDH-Costco gas station could be about 1700 cars per day (25,000 / 15 gal/ car= 1666 cars / day). This suggests that the main crossing will likely be overwhelmed by backups and wait-time. Silva Valley Parkway is already heavily trafficked.



Conflict areas: traffic and wetland



DEIR Comment:

- From an environmental standpoint it appears that EDH-COSTCO gas station shall have considerable impact of noxious fumes wafting over to the elementary school endangering student body health.
- From a circulation viewpoint, cross traffic from the warehouse to the gas station on Silva Valley Parkway could heavily impact the signalization at the main entrance.
- The site itself is on a wetland in two places.
- If EDH Costco is slated to have a higher proportion of parking area in comparison to other COSTCO sites, this suggests that if a gas station is required, a much smaller one – as Folsom's – could be accommodated on the southern parcel site in lieu of surface parking.
- Alternative gas stations: There are three other gas stations less than a mile away.
- This gas station is redundant from a community standpoint.

Conclusion: The proposed gas station on the northern tract poses considerable avoidable impacts. It should not be where it is situated. Or, if COSTCO requires one, a smaller station could be incorporated in the southern tract.

From: gdiehl.design@sbcglobal.net
To: EDHCostco@edcgov.us
Subject: El Dorado Hills - No Costco!
Date: Friday, March 7, 2025 2:48:41 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Cameron Welch,

Voicing my opinion against Costco or any development on the North and South sites along Silva Valley Parkway in El Dorado Hills.

Development here destroys the rural nature of our area. In addition, the increased traffic, air pollution, and degradation of our environment is unacceptable. We appreciate the beauty of our trees and natural, open areas. Regarding trees, how sad to cut down the existing trees for a parking lot. El Dorado Hills has history that will be destroyed by development in this area.

We do not need a Costco here, there is one in Folsom, five miles away. We do not need another fuel station here, there are several at the next exit at El Dorado Hills and Latrobe Road. We do not need more cars, more traffic, more air pollution or more access to big box stores.

If you are looking for a spot, try Cameron Park or Shingle Springs so that residents in that area have better access.

Best regards,

Gail L. Diehl, resident of El Dorado Hills

From: Kathy
To: EDHCostco@edcgov.us
Subject: El Dorado Hills Costco
Date: Thursday, March 27, 2025 11:00:13 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Build the Costco. We really need it since Folsom is getting so busy. The traffic on Silva Valley Parkway is so awful already due to the schools since each child needs to be picked up and dropped off individually, this won't make it worse.

Sent from my iPhone

From: Justin Jabali
To: edhcostco@edcgov.us
Subject: El Dorado Hills Costco Location
Date: Monday, March 24, 2025 11:39:06 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear Mr. Welch,

I am writing to express my strong opposition to the proposed Costco store and gas station next to Oak Meadow Elementary School. As a parent, I believe this project poses significant risks to the safety and well-being of our children and our community.

My concerns include:

1. Safety Hazards: The increased foot traffic from strangers and customers could make it impossible to secure the school, endangering our children, particularly in the event of an emergency.

2. Health Risks: Construction near the school will release asbestos, a known hazard in the area, potentially exposing children and families to harmful airborne particles

3. Noise Disruption: The construction noise would severely impact students, especially those with special needs, making it difficult for them to concentrate and succeed in school.

4. Traffic Congestion: The additional traffic from construction vehicles, shoppers, and customers seeking discounted gas will further congest an already problematic area, making it harder for parents, staff, and emergency responders to navigate the area quickly.

If this project moves forward, I urge the city to require significant mitigation measures, such as soundproof barriers, road improvements, and increased security to protect the school.

This development would not only harm the health and safety of our children but also negatively impact local property values and the reputation of Oak Meadow, which plays a key role in the success of the surrounding community. I urge you to reconsider this plan and prioritize the safety and well-being of our children over corporate interests.

Thank you for your attention to this important matter.

Sincerely,

Justin Jabali

(916) 559-4925

From: Min Yao
To: EDHCostco@edcgov.us
Subject: El Dorado Hills Costco Project
Date: Wednesday, March 26, 2025 6:15:31 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear Sir/ Madam:

We're really concerned that a new Costco will be built by the Serrano El Dorado Hills community. This will end the peace and quiet days of the community that we all cherish about. It is especially nonsense that a large fuel station will be built next to the elementary school and behind the nice homes of Serrano. This is because that the gas fumes contain carcenegenic compounds, such as benzene, 1,3-butadiene, and a number of polycyclic aromatic hydrocarbons (PAHs) that would be harmful to our next generation, the teachers, and our neighbors. Please Stop Costco, at the minimum Stop the Gas Station in El Dorado Hills!

Sincerely,

Min Yao
Concerned Citizen

Yahoo Mail: Search, Organize, Conquer


STOP

From: karadalisay@yahoo.com
To: edhcostco@edcgov.us
Subject: Environmental Impact of Proposed Costco
Date: Saturday, March 29, 2025 10:04:33 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

To Whom it May Concern,

This letter is to express our grief and frustration in finding out a Costco Warehouse as well as fuel station would be potentially built .5 miles from our community here in El Dorado Hills (EDH). First, let me state that my family enjoys Costco and are customers, but we are not in favor of the plan for development on Silva Valley.

EDH is a quiet, peaceful escape from the pace of the city, which is why many of its residents have settled here. We enjoy outside space, hiking, and lake access. We appreciate the highly rated public school system and enjoy a shared community mentality of excellence, prioritizing education, work-life balance and safety. Opening a large public commercial enterprise, attracting some 40,000 local members, according to an estimate stated in a recent document from the County of El Dorado, will without a doubt threaten the livelihood of citizens. Aside from the environmental impact of the waste generated in production/construction, there is a potential for catastrophic hazards in having a gas station next to an elementary school. How is the county handling the potential for potable water contamination? What about the continued waste added to already-saturated local landfills from plastic packaging, food courts, etc.?

Furthermore, with the influx of visitors, one must think of the potential compromise to public safety. Unlike Folsom, where the nearest Costco is two freeway exits away, El Dorado Hills does not have their own police department. Any random person could sneak into the gated communities by following a resident, creating crimes of opportunity for vandalism or theft. Silva Valley is a two lane road already burdened with traffic congestion, especially in the morning and afternoon commutes (Costco would be open for business during the latter) from residents. Even with feeble attempts to widen roads, traffic incidents are inevitable - we are relying on CHP to manage that, where their jurisdiction covers EDH up to South Lake Tahoe? All this just to get the benefits of sales tax? We are simply not prepared for this - look at how ridiculous the traffic is during Apple Hill season, or the East Bidwell freeway exit on a Friday night. We have the potential to avoid that by thinking ahead and stopping harmful plans in their tracks.

Thanks for your time and attention to this matter,

Kara Dalisay

Sources:
https://eldoradohillschamber.org/images/documents/Fact_Sheet_FAQ_Costco_FINAL.pdf
https://www.forbes.com/sites/timabansal/2021/12/20/walmart-appears-to-be-greener-than-costco-but-is-it-really/

From: Doyle Souders
To: EDHCostco@edcgov.us
Subject: Excellent location for a Costco
Date: Friday, March 28, 2025 6:16:47 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

In my opinion this is really an excellent location for a Costco. Customers arriving from 50 will not increase traffic north of the Costco. They will exit on Silva, shop or gas and return to 50. EDH residents in Serrano will come down the hill to Silva turn left and go to Costco and return the same way. No impact on the 3 schools north of Serrano pkwy.
There will be some increased traffic from neighborhoods north of Serrano Pkwy, but Silva like EDH blvd is 2 lanes each direction and designed for that traffic. Would I go to the new Costco at 3 in the afternoon when the schools are getting out? NEVER! In summary, this Costco brings needed revenue to El Dorado County with minimal impact on the EDH community. I support it whole heartedly.
Doyle and Cynthia Souders
6047 Toscana Loop
95762
Sent from my iPad

From: Joseph Bresciani
To: EDHCostco@edcgov.us
Subject: Feedback in support of project
Date: Monday, March 17, 2025 4:54:45 PM

This Message Is From an External Sender
This message came from outside your organization.

Report Suspicious

I am in strong support of this project as presented with the gas station. EDH currently bleeds tax money to Folsom every day and there are many unnecessary vehicles trips down there which this store will alleviate. Furthermore, there are very few options in the EDH area for gasoline, especially cheaper gasoline. Every fuel station in EDH is a dollar a gallon more than anywhere else, which this project will also address.

Build as is!!!!

From: casey olooney
To: EDHCostco@edcgov.us
Subject: Feedback on Costco on Silva
Date: Wednesday, March 26, 2025 7:23:21 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

I am a resident of the Serrano neighborhood. I am not in support of the Costco in EDH. I am very concerned about traffic around the Oak Meadow Elementary school. Silva Valley Pkwy has 4 schools and is one of the main access points to hwy 50. The proposed Costco would add exponential traffic to an area directly next to a school where 5-12 year olds already have to deal with speeding traffic. I would prefer Costco to find another location in El Dorado Hills that will not add significant traffic next to schools.

Casey O'Looney

From: JC Kang
To: EDHCostco@edcgov.us
Cc: S. Church; Suk Paek; Nam Kim
Subject: Feedback on El Dorado Hills Costco Project - Traffic and Community Impact Concerns
Date: Monday, March 31, 2025 10:50:40 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear El Dorado County Planning Team,

I am writing on behalf of Capital Korean Presbyterian Church, located at 1441 Tong Rd, El Dorado Hills. We welcome the Costco project and recognize the potential benefits it could bring to our community, including increased retail options and sales tax revenue.

However, we would like to share our concerns and suggestions regarding the project's impact on our church operations and the surrounding area.

1. **Traffic Congestion Management**:
   Given that our church holds services and events on Sundays and Saturdays, and also hosts various community programs, we are concerned about potential traffic congestion during peak hours. We would appreciate it if the traffic plan for the Costco project could account for the heavy traffic in our area, especially during church events. Specifically, we would suggest exploring traffic signal improvements, additional turn lanes, and perhaps even considering a dedicated access route to minimize congestion.

2. **Impact on Day Care and Senior Programs**:
   We are planning to launch a **Day Care** program and **Senior Programs** in the future. It is critical that these programs operate in a safe and quiet environment, free from disruptions caused by heavy traffic or air pollution. We would appreciate assurances that the development plans will consider minimizing noise and air quality impacts, particularly if the gas station is built near our property.

3. **Environmental Impact**:
   We also encourage consideration of any environmental impact the project may have, particularly regarding the nearby wetland area. It would be beneficial for the development to incorporate sustainable building practices and to prioritize the protection of local wildlife and ecosystems.

In addition, we would like to request the following information to stay informed about the development process:

- Could you please provide the website or any online resources where we can track the current development process and upcoming stages of the project?

- Is there a way for our church to receive **email or written notifications** regarding important updates and deadlines related to the project?

Are there any **scheduled meetings** or **public hearings** that we or our community members can attend to stay informed and provide further feedback?

We are grateful for your attention to these concerns and would appreciate any measures taken to address them to ensure a positive outcome for both the Costco project and our church community.

Thank you for your time and consideration.

Sincerely,

Rev. Jeachul Kang

279.300.9114

Capital Korean Presbyterian Church (PCUSA)

From: Jay Jacobs
To: EDHCostco@edcgov.us
Subject: Future El Dorado Hills Costco
Date: Wednesday, March 19, 2025 12:34:09 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

To: Whom it may concern

I am very much in favor with the currently planned EDH Costco and it's proposed location. I believe the tax revenue produced by an El Dorado County business will benefit all county residents including those living in Serrano. I also believe the local businesses will benefit from locals staying in their community to shop rather than driving to Sacramento or Placer counties as the vast majority do now. As for the wild turkeys, they seem to have no problem with living in my EDH neighborhood and I'm sure they'll adapt.

Sincerely,
Jay Jacobs
2547 Campbell Ranch Drive,
El Dorado Hills, CA 95762

From: sandeeschlaak@comcast.net
To: EDHCostco@edcgov.us
Subject: FW: Community Information - Costco Wholesale
Date: Monday, March 31, 2025 7:35:50 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Comments to the Costco Wholesale fuel facility –

We should not have a fuel station so close to a school or residential area. There have been many studies that show it is hazardous to the health of those in close proximity. If there is a leak, small drops of gas on the concrete pads, the underground tanks leak and contaminate the water supply, Serrano will be effected and the elementary school, Oak Meadow. I believe many residents will feel that Serrano did not support the residents and will sue. Many residents will contemplate moving out of the area and Serrano's reputation will be tarnished.

Please see the articles below with studies that have been performed to explain these concerns.

Thank you,

Benzene and Gas Stations | The Aiken Chronicles

The negative health outcomes studied include adverse pregnancy outcomes, birth defects, infant deaths, childhood cancers (including leukemia, brain cancer, germ-cell tumors, non-Hodgkin's lymphoma, and Burkitt lymphoma), asthma and other chronic respiratory symptoms, stroke, renal disease, and diabetes. The evidence at this time is sufficient to justify the application of the precautionary principle to protect people from the deleterious effects of living near environmental hazards. (1)
One hazard of particular interest for nearby neighborhoods of any proposed gas station is the chemical, benzene, a gasoline additive. Benzene is a colorless or light yellow liquid at room temperature with a sweet odor. It is highly flammable.

Residential Proximity to Environmental Hazards and Adverse Health Outcomes - PMC

How living near environmental hazards contributes to poorer health and disproportionate health outcomes is an ongoing concern. We conducted a substantive review and critique of the literature regarding residential proximity to environmental hazards and adverse pregnancy outcomes, childhood cancer, cardiovascular and respiratory illnesses, end-stage renal disease, and diabetes.
Several studies have found that living near hazardous wastes sites, industrial sites, cropland with pesticide applications, highly trafficked roads, nuclear power plants, and gas stations or repair shops is related to an increased risk of adverse health outcomes.

We summarize the findings of studies, including limitations, that examined the relation between residential proximity to various environmental hazards and adverse pregnancy outcomes in a supplemental table

Is It Safe to Live Near a Gas Station? Scientists Point to Numerous Health Hazards - FossilFuel.com

Disconcerting Findings from Columbia University

A recent study conducted by a team of environmental health scientists from Columbia University's Mailman School of Public Health found that many of the nation's gas stations are leaking potentially hazardous vapors into the surrounding environment. Gas stations can have a significantly adverse impact on neighboring housing complexes, especially neighborhoods with young children. Despite the convoluted array of modern safety and health guidelines that gas stations must follow, these fossil fuel-selling businesses can emit high levels of ground-level ozone from gasoline fumes, impact groundwater systems from leaking fuel tanks, and expose nearby residents to a number of other hazards from other chemicals that might be used at a fuel station (Scientific American, 2009).

Study results from Columbia University's Mailman School of Public Health revealed that vapors from gas station vent pipes often emit ten times the amount of emissions that were originally used to determine setback regulations for playgrounds, public parks, and schools. The findings were published in the journal *Science of the Total Environment*. The researchers highlighted that toxic gasoline and diesel chemicals may have been unknowingly exposing nearby residents to harmful carcinogens for decades.

While gasoline vapors are known to contain harmful chemicals like benzene and volatile organic compounds, little is known about how long-term exposure to these chemicals may impact human health. Carbon monoxide, particulate matter, nitrogen oxides, and unburned hydrocarbons are emitted when gasoline evaporates or is burned. These contribute to air pollution and greenhouse gas emissions.

Most modern gas pumps are required to have government-regulated vapor-recovery units on their nozzles in order to limit the release of toxic gasoline and diesel vapors while a car is being refueled. When a tanker truck arrives to refuel the underground storage tanks at the gas station, a similar system of government-regulated vapor-recovery units are required to be used. However, these units often fail, while vent pipe emissions from the underground storage tanks frequently lack adequate air filters, as outlined by the study conducted by Columbia University. In addition to elevated levels of benzene, direct concerns related to gasoline fumes include the presence of ground-level ozone. Ozone pollution is known to be caused by a toxic mixture of volatile organic compounds which can be found in gasoline vapors. High levels of ozone are known to cause asthma and other respiratory problems. Furthermore, the National Institutes of Health says that volatile organic compounds can lead to certain types of cancers.

Groundwater Contamination

In addition to the concerns related to harmful vapors, leaks from gasoline storage tanks should also be a concern for homeowners that live near gas stations. According to data tracked by the U.S. Environmental Protection Agency, there are more than 660,000 underground gasoline storage tanks in the country. The vast majority of gas stations have underground fuel tanks that are made from uncoated steel, which are known to deteriorate over time. Once uncoated steel tanks start to rust, they are prone to fuel leaks. Many lawsuits have been filed over the years against gas stations with uncoated steel tanks for fossil fuel contamination that has leached into groundwater systems.

As gasoline enters the soil and begins to contaminate groundwater, it can be extremely challenging to

address. According to the U.S. Environmental Protection Agency, groundwater systems supply nearly a half of all American households with water. If a storage tank were to leak and contaminate a groundwater system with gasoline additives like methyl tertiary-butyl ether, the groundwater could potentially be rendered permanently undrinkable. While this chemical has been outlawed in a number of states, methyl tertiary-butyl ether is only one of nearly 150 harmful chemicals that can be found in gasoline (Scientific American, 2009). While the notion of permanently contaminated drinking water can be a difficult concept to grasp, lawmakers have been working to reduce the risk of fuel tank leaks. For example, a federal law enacted in the 1990s started to mandate a phased removal of older underground fuel storage tanks to be replaced with new doubled-lined tanks.

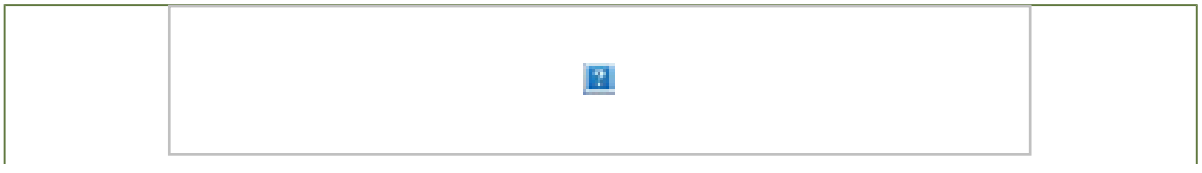
Small spills at gas stations could cause significant public health risks over time

new studies have considered the potential environmental impact of routine gasoline spills and instead have focused on problems associated with large-scale leaks. Researchers with the Johns Hopkins Bloomberg School of Public Health, publishing online Sept. 19 in the *Journal of Contaminant Hydrology*, developed a mathematical model and conducted experiments suggesting these small spills may be a larger issue than previously thought.

Over the lifespan of a gas station, Hilpert says, concrete pads underneath the pumps can accumulate significant amounts of gasoline, which can eventually penetrate the concrete and escape into underlying soil and groundwater, potentially impacting the health of those who use wells as a water source. Conservatively, the researchers estimate, roughly 1,500 liters of gasoline are spilled at a typical gas station each decade.
"Even if only a small percentage reaches the ground, this could be problematic because gasoline contains harmful chemicals including benzene, a known human carcinogen," Hilpert says.

The model demonstrates that spilled gasoline droplets remain on concrete surfaces for minutes or longer, and a significant fraction of spilled gasoline droplets infiltrate into the pavement, as concrete is not impervious.
"When gasoline spills onto concrete, the droplet will eventually disappear from the surface. If no stain is left behind, there has been a belief that no gasoline infiltrated the pavement, and all of it evaporated," Hilpert says. "According to our laboratory-based research and supported by our mathematical model, this assumption is incorrect. Our experiments suggest that even the smallest gasoline spills can have a lasting impact."

From: Serrano El Dorado Owners' Association <hoa@serranohoa.org>
Sent: Wednesday, March 26, 2025 3:05 PM
To: sandeeschlaak@comcast.net
Subject: Community Information - Costco Wholesale



Community Information - Costco Wholesale

Following the March 25, 2025, Board meeting, the Serrano Board directed Management to send an additional notification to the community regarding the proposed Costco project. The County of El Dorado is currently soliciting written comments from individuals regarding the scope and content of a new Costco Wholesale Member Warehouse retail store and Costco Wholesale fuel facility on Silva Valley Parkway north of US 50. Serrano residents who wish to submit their comments should do so as soon as possible but no later than 5:00 pm on March 31, 2025.

Please send all comments to:

Cameron Welch, Senior Planner

County of El Dorado Planning and Building Department

2850 Fairlane Court, Building C

Placerville, CA 95667

Email: EDHCostco@edcgov.us

A copy of the county's Revised Notice of Preparation of a Draft Environmental Impact Report from February 25, 2025, can be found **here**.



Serrano El Dorado Owners' Association | 4525 Serrano Parkway | El Dorado Hills, CA 95762 US

Unsubscribe | Constant Contact Data Notice

From:	jons van dooren
To:	PL-EDH Costco Project
Cc:	Cameron W. Welch; rafael.martinez@edcgov.us; Karen.L.Garner@edcgov.us; Joni; bostwo@edcgov.us; bosthree@edcgov.us; BOS Four; bosfive@edcgov.us; bob.williams@edcgov.us; david.spaur@edcgov.us; jeff.hansen@edcgov.us; John Davey; tjwhitejd@gmail.com; John Raslear; lramirez@thatchlaw.com; nstack@mtdemocrat.net; Ben van der Meer
Subject:	Fw: Costco NOP Comments, please explain? Additional parking stalls on EDH-Costco North so customer can cross Silva Valley Parkway?
Date:	Friday, March 21, 2025 1:47:46 PM
Attachments:	favicon.ico

This Message Is From an External Sender
This message came from outside your organization.

Report Suspicious

Good afternoon all, hopefully this email finds you well!

So I did the math!

Folsom 148.663 Sq. F. = 741 Stalls in place
EDH 165.000 Sq. F = 831 Stalls

On the gas station side, the Costco plan has DOUBLE the number of pumps and handles scheduled on the Concept Site plan, DOUBLE over the Folsom store, no wonder the attorney from Thatch & Hooper in Sacramento is representing the gas stations, talking about Urban Decay!

So Costco HAS to create those parking stalls across Silva Parkway otherwise, they **CANNOT** build a 165.000 Sq. F warehouse!
This is also what Bob Williams Planning Commissioner mentioned in the Scoping meeting!
They NEED to put that many stalls in (by law?).

The current Costco warehouse EDH-Costco South has enough stalls for 763 vehicles, this according to their Concept Plan, which would allow approx. a Folsom size building, OOPS!
Back to the drawing board for Costco!

So that's why these 68 parking stalls are all of a sudden created on the North side!
Question: how are these people getting **safely** across the 4 lanes of Silva Valley Parkway, and their divider, isn't the additional parking ALSO for the Costco Customer?
So now we will see shopping carts etc. being pushed across Silva Valley Parkway, because they are 60+ parking stalls short on the South side????????

Like I have been saying "putting 10 Lbs. of potatoes in a 5 Lbs. Bag does NOT work!

CRAZY, pieces of the puzzle coming together, SLOWLY ! Things are getting better with the minute!
Can not wait to hear from you how you are going figure this all out, with ALL the other stuff when it comes to this Concept plan! But I am sure you ALL have taught this ALL over!

Please see note below with attachment of Costco plans!

Regards,

Jons van Dooren.

Wow!! If you read the FAQ online it also says this proposed Costco will be ~20,000 square feet bigger than that one!

“ The new Costco Wholesale in El Dorado Hills is proposed to cover a site development area of 20.34 acres and would include an approximately 165,000 SF Member Warehouse store, a Member fuel facility with 16 pumps/32 handles, and 831 parking stalls. The Folsom Costco Wholesale project’s site development area is 18.6 acres with a 148,663 SF Member Warehouse store , 741 parking stalls and a Member fuel facility with 11 pumps/22 handles.”

FAQs | Costco/EDH 52 | Engage El Dorado
us.engagementhq.com

From: jons van dooren
To: PL-EDH Costco Project
Cc: tjwhitejd@gmail.com; John Raslear; washburn_bew@yahoo.com; Joni; bostwo@edcgov.us; bosthree@edcgov.us; BOS Four; bosfive@edcgov.us; david.spaur@edcgov.us; bob.williams@edcgov.us; jeff.hansen@edcgov.us; Cameron W. Welch; rafael.martinez@edcgov.us; Karen.L.Garner@edcgov.us; John Davey
Subject: Fw: https://www.villagelife.com/
Date: Wednesday, March 19, 2025 11:06:22 AM

This Message Is From an External Sender
This message came from outside your organization.

Report Suspicious

Good morning ALL, hopefully this email finds you well.

https://www.villagelife.com/

Just wane let you know that an article is published in and online at Village Life and Mountain Democrat, regarding the latest scoping meeting regarding the pared down Costco project! In case you missed it!

The writer made her findings: "there was not enough positive support for the project" despite bringing potential customers from Folsom to bring in sales tax!

List of the many concerns: road being too narrow, (Clarksville Crossing), was called disastrous, environmental impact, traffic, air quality, parking structure to accommodating the Costco Warehouse, with ADDING additional 60+ parking stalls across Silva Valley Parkway, to create the necessary stalls for such a project!

Again, "Putting 10 Lbs. Of potatoes in a 5 Lbs. bag does not work"

Jons van Dooren
Serrano resident

From:	Planning Department
To:	silvavalleyneighbors@gmail.com
Cc:	Cameron W. Welch; Rafael Martinez; Karen L. Garner; BOS-District I; BOS-District II; BOS-District III; BOS-District IV; Brooke Laine; Kim Dawson; Kyra Scharffenberg; David Spaur; Bob Williams; Jeff Hansen; Andy Nevis; Daniel Harkin; David A Livingston; Jeffrey A. Warren; Planning Department; EMD Info; mtdemo@mtdemocrat.net; Ande Flower; PL-EDH Costco Project
Subject:	Fw: Joint Letter: Residents Seek Fair Notification in Silva Valley Corridor
Date:	Friday, March 28, 2025 3:36:14 PM
Attachments:	PD15-0001, CUP23-0012,V22-0001 Notification Map NOP 02-25-25 (1 Mile) (1).png COSE UP MAP.png MapOfWhoWasNotified.png Joint Letter Request for Notifying Impa...pdf

Dear Silva Valley Neighbors,

Thank you for your comments related to the El Dorado Hills Costco project. Your comments have been forwarded to the County Planner Cameron Welsh for review.

Thank you,

County of El Dorado
Planning and Building Department (Planning Services)
2850 Fairlane Court
Placerville, CA 95667
(530) 621-5355

From: Silva Valley Neighbors <silvavalleyneighbors@gmail.com>
Sent: Friday, March 28, 2025 2:06 PM
To: Cameron W. Welch <Cameron.Welch@edcgov.us>; Rafael Martinez <Rafael.Martinez@edcgov.us>; Karen L. Garner <Karen.L.Garner@edcgov.us>; ando.flower@edcgov.us <ando.flower@edcgov.us>; BOS-District I <bosone@edcgov.us>; BOS-District II <bostwo@edcgov.us>; BOS-District III <bosthree@edcgov.us>; BOS-District IV <bosfour@edcgov.us>; Brooke Laine <Brooke.Laine@edcgov.us>; Kim Dawson <kim.dawson@edcgov.us>; Kyra Scharffenberg <Kyra.Scharffenberg@edcgov.us>; David Spaur <David.Spaur@edcgov.us>; Bob Williams <Bob.Williams@edcgov.us>; Jeff Hansen <Jeff.Hansen@edcgov.us>; Andy Nevis <Andy.Nevis@edcgov.us>; Daniel Harkin <Daniel.Harkin@edcgov.us>; David A Livingston <david.livingston@edcgov.us>; Jeffrey A. Warren <Jeffrey.Warren@edcgov.us>; Planning Department <planning@edcgov.us>; EMD Info <emd.info@edcgov.us>; mtdemo@mtdemocrat.net <mtdemo@mtdemocrat.net>
Subject: Joint Letter: Residents Seek Fair Notification in Silva Valley Corridor

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.
Report Suspicious

Dear El Dorado County
Planning and Building Department and Planning Advisory Committee,

I hope this message finds you and your loved ones well.

I'm writing to share a letter signed by parents, students, and residents of the Silva Valley Corridor and the greater El Dorado Hills community. The letter expresses our collective concern that many neighbors who will be directly affected by the proposed Costco development were not included in the public notification process -- and therefore have not had a fair opportunity to participate in the comment period.

We began circulating the letter on Wednesday, March 26, and it is continuing to gather signatures. A full list of signatories will be provided before the public comment deadline on Monday, March 31.

Thank you very much for your time and consideration.

Warmly,
Silva Valley Neighbors

You Can Read the Letter Here

From: Yolanda Gilbride
To: PL-EDH Costco Project
Subject: Fw: To Fish & Wildlife red-shouldered hawk
Date: Thursday, March 13, 2025 3:33:30 PM
Attachments: IMG_1038.PNG
IMG_1040.PNG
IMG_1042.PNG
IMG_1147.PNG
IMG_1037.PNG
IMG_1036.PNG
IMG_1026.PNG
IMG_1034.PNG
IMG_1030.PNG
IMG_1033.PNG
IMG_1043.PNG

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Hello Ms Welch,

El Dorado Hills California 95762

Originally I sent the email to CostCo concerning the development in El Dorado Hills, in such echo centered area where animals rely on very limited water source, nesting area and hunting grounds in open space. I don't believe people would be purposefully hurting two endangered species red-shouldered hawk & Red fox assuming no one has mentioned this to Costco or they have decided to ignore the environmental aspect of Our community they are not familiar with. I recently have had more issues walking due to my arthritis but below are photos of Next-door local wildlife & some that migrated here after the fires. I had my husband take photos as well. Please don't destroy this tiny bit of sanctuary that is left for these guys. I have seen the spot be cleared a bit, bushes and trees have slowly been removed to change the topography of the area. I have seen some animals be effected by the smallest changes. I can't imagine the footprint of this Cost Co will have on this community that prides it self to be within nature. Just driving up from Folsom it has slowly been cleared away.

Please let’s keep this space safe and water run open for everyone. It’s against the law to injure federally protected species and their habitat. Not sure why this is being completely ignored?

Kind regards,

Yolanda & Matt Gilbride
Serrano/ El Dorado Hills

Email to Costco- I sent Costco last year

Hello Costco

I am writing in opposition to the purposes EDH 52 Commercial center due to echo system destruction that would potentially harm two species that reside in the area that are Under Federal protection. The area of the purposed build is a Vidal hunting ground & food source.

The red-shouldered hawk is a federally protectedbird. Under federal and state law, it is illegal for anyone to injure, harass, kill or possess a bird of prey or any parts of a bird of prey. This includes harming or removing a nest and disturbing feeding grounds. I



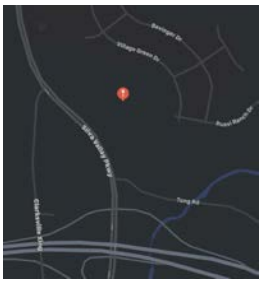




Also the

The Sierra Nevada red fox is now listed as an endangered species under the Endangered Species Act, the U.S. Fish and Wildlife Service announced.

I spotted red (white tailed) about three years ago in this spot.



There is a flowing water source we're animals go to drink & live in the area. With the fires & housing expansion off Bass lake this patch of land is a oasis & refuge to many creatures now & to come! Please protect what little is remaining.

Thank you,

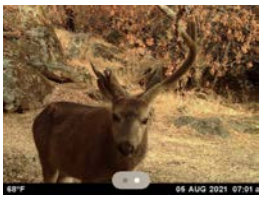
Yolanda Gilbride Serrano















Sent from Yahoo Mail for iPhone

From: Philipp Schwarzbart
To: EDHCostco@edcgov.us
Subject: Fwd: Community Information - Costco Wholesale
Date: Wednesday, March 26, 2025 4:23:54 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

My comment: 10 min to the existing Costco in Folsom, no need for one closer.

Thank you,

Philipp

Begin forwarded message:

From: Serrano El Dorado Owners' Association <hoa@serranohoa.org>
Date: March 26, 2025 at 3:04:54 PM PDT
To: philipp.schwarzbart@gmail.com
Subject: Community Information - Costco Wholesale
Reply-To: hoa@serranohoa.org

Community Information - Costco Wholesale

Following the March 25, 2025, Board meeting, the Serrano Board directed Management to send an additional notification to the community regarding the proposed Costco project. The County of El Dorado is currently soliciting written comments from individuals regarding the scope and content of a new Costco Wholesale Member Warehouse retail store and Costco Wholesale fuel facility on Silva Valley Parkway north of US 50. Serrano residents who wish to submit their comments should do so as soon as possible but no later than 5:00 pm on March 31, 2025.

Please send all comments to:

Cameron Welch, Senior Planner
County of El Dorado Planning and Building Department

2850 Fairlane Court, Building C
Placerville, CA 95667
Email: EDHCostco@edcgov.us

A copy of the county's Revised Notice of Preparation of a Draft Environmental Impact Report from February 25, 2025, can be found **here**.



Serrano El Dorado Owners' Association | 4525 Serrano Parkway | El Dorado Hills, CA 95762 US

Unsubscribe | Constant Contact Data Notice

From: marty abell
To: Cameron W. Welch
Subject: Fwd: Costco NOP Comments
Date: Friday, March 21, 2025 12:19:23 PM
Attachments: favicon.ico

This Message Is From an External Sender
This message came from outside your organization.

Report Suspicious

Hi Cameron, would you please verify or correct the terminology and math in the emails below? Thanks, Marty

---------- Forwarded message ---------
From: **marty abell** <abellmarty@gmail.com>
Date: Fri, Mar 21, 2025 at 12:13 PM
Subject: Re: Costco NOP Comments
To: Amy Frith <amfrith@gmail.com>

We can count the fueling stations on the proposed site plan on the last page of the NOP. 16 little rectangles with a "fueling station" on each side, and, presumably , a gasoline pump and a diesel pump at each station. So, using the terminology of the NOP, the overall "fueling facility" would have 2x16=32 "fueling stations" each with a gasoline pump and a diesel pump, for a total of 64 "fuel pumps".

On Fri, Mar 21, 2025 at 11:06 AM Amy Frith <amfrith@gmail.com> wrote:

> Wow!! If you read the FAQ online it also says this proposed Costco will be ~20,000 square feet bigger than that one!
>
> " The new Costco Wholesale in El Dorado Hills is proposed to cover a site development area of 20.34 acres and would include an approximately 165,000 SF Member Warehouse store, a Member fuel facility with 16 pumps/32 handles, and 831 parking stalls. The Folsom Costco Wholesale project's site development area is 18.6 acres with a 148,663 SF Member Warehouse store , 741 parking stalls and a Member fuel facility with 11 pumps/22 handles."
>
> FAQs | Costco/EDH 52 | Engage El Dorado
> us.engagementhq.com
>
> Sent from my iPhone
>
> On Mar 21, 2025, at 10:51 AM, marty abell <abellmarty@gmail.com> wrote:

FYI, I got gas at the Folsom Costco yesterday, and I counted 16 fueling stations, twice as many as proposed at Oak Meadow.

On Fri, Mar 21, 2025 at 10:46 AM Amy Frith <amfrith@gmail.com> wrote:

> I also think circulating a petition is something that can be done outside of the NOP period. It would be to try to get Costco to have a change of heart and make a change to their plan (gas station removal at minimum). Which they would not respond to as part of the NOP.
>
> So we can spend more time on getting signatures for that after we submit comments for this March 31 deadline.
>
> Sent from my iPhone
>
> > On Mar 21, 2025, at 8:58 AM, Claudia Vidovic <claudiavidovic@hotmail.com> wrote:
> >
> > Hi Ivan,
> >
> > Regarding extending the DEIR review period, John Davey said that APAC would be requesting an extension so I think that part is probably covered.
> >
> > I am hoping most parents of BUSD received the email from Dr. Roth regarding Costco and the BUSD Board meeting. At Oak Meadow, I have heard that the teachers and staff have been told to not discuss the project. I'm not sure where that comes from... I will be seeing Debbie Bowers (Rolling Hills principal) tonight and I will talk to her about it and let you know what she says.
> >
> > Claudia
> >
> > ---
> >
> > **From:** Ivan Ruiz <love2joypeace@gmail.com>
> > **Sent:** Thursday, March 20, 2025 2:54 PM
> > **To:** marty abell <abellmarty@gmail.com>
> > **Cc:** Amy Frith <amfrith@gmail.com>; amandaphansen@gmail.com <amandaphansen@gmail.com>; Claudia Vidovic <claudiavidovic@hotmail.com>; John Davey <jdavey@daveygroup.net>; jons van dooren <jvdusa@hotmail.com>
> > **Subject:** Re: Costco NOP Comments
> >
> > Hi All,

I'm thinking of raising awareness and pushing for a public comment extension. I wonder if the parents and future parents of Oak Ridge High School, Rolling Hills Middle School, and Silva Valley Elementary were properly informed. A month is a very short period for public input, and the community deserves more time to understand and voice their concerns. This Costco will have a huge impact on traffic and safety around these schools, and we need to ensure that everyone impacted has the opportunity to engage.

If you have any thoughts, resources, or strategies to help with this effort—or if you know how we can formally request an extension—please let me know.
Looking forward to your input

Best wishes,

Ivan Ruiz

On Wed, Mar 19, 2025 at 11:19 AM marty abell <abellmarty@gmail.com> wrote:

> All, I decided to submit my comments to the county early, and send them to you, too, so you can use them (or not) in preparing your own comments if you want. Please feel free to forward them to anybody I missed, too. Also, I would encourage any of you who are interested in checking out possible future EIR lawyers to visit Remy Moose Manley (rmmenvirolaw.com). I have worked with Jim Moose, and he's great.
> Marty

From: marty abell
To: EDHCostco@edcgov.us; Cameron W. Welch; Karen Garner; Rafael Martinez
Subject: Fwd: EDH Costco NOP Comments
Date: Wednesday, March 19, 2025 11:52:33 AM

This Message Is From an External Sender
This message came from outside your organization.

Report Suspicious

Hello Cameron, I have tried a couple of times without success to submit these NOP comments online to the address in the NOP, EDHCostco@edcgov.us. Karen and Rafael, my emailed copies of the comments to you seem to have succeeded, so would you please make sure Cameron gets them, in case this attempt to reach him also fails? I would appreciate acknowledgement from someone at the county that the comments have been successfully and officially received. Thank you, Marty Abell

Hello Cameron,

The following comments on the EDH Costco NOP address content that should be included in the EDH Costco project's Draft Environmental Impact Report (DEIR). My name is Marty Abell; my address is 4894 Village Green Drive, El Dorado Hills, CA 95762. My homesite is adjacent to the Costco North Site. Some of the terms in the following comments are **highlighted** for emphasis and easy reference.

1. It does not seem credible that Costco has no plan for the 13.79-acre outparcel **"black hole"** that covers more than half of its 24.83-acre North Site. If Costco does have a plan, it should be included in the Project Description as a future phase of the project, and a new NOP should be issued. If Costco does not have a plan for the future development of this "outparcel," future development, by Costco, or others, of the outparcel, consistent with the commercial designation for the site in the General Plan, should be addressed in the DEIR's cumulative impact analyses as a reasonably foreseeable future project. Either way, the DEIR must address the future development of the outparcel.

2. And what about Costco's and the county's intentions for the 7.75-acre **"reserve"** for the future Country Club Drive Extension, which has been in the county's CIP since forever? Is the county's and Costco's plan that Costco will someday dedicate that to the county, or is the plan that the county will someday purchase it?

3. And when are we actually going to see an NOP on the **DEIR for the whole Country Club Drive Extension**, from Bass Lake Road, to the Tong Road cul du sac, around the project North Site, to Silva Valley Parkway, and beyond? We believe we know roughly how it will get from Bass Lake Road, to Tong Road, and around the North Site to Silva Valley Parkway, but the Costco NOP graphic only shows it wandering off from there somewhere to the west. Where is it supposed to end (Raley's loading dock?)? And why is it even proposed,

parallel to Highway 50? What's it supposed to do that Highway 50 doesn't already do, except induce more growth in its own corridor? Is the extension and the growth it would induce already covered by the magnificent and timeless 2004 County General Plan EIR? But, if not, please let us know when we might see an NOP on "the whole of the action" for the entire Country Club Drive Extension.

4. As you know, a few years ago, the California State legislature, in its wisdom, decided to prohibit CEQA from considering level of service (**LOS**) as a criterion for determining a project's traffic impact, and instead substituted vehicle miles traveled (**VMT**) (SB743). Unfortunately, under SB 743, a vehicle mile traveled no longer actually has any CEQA impact on traffic. Instead, VMT impacts are actually on air quality (increased pollutant emissions), noise (increased engine and tire noise), public safety (increased accident risk for bicycles, pedestrians, and other vehicles), public facilities (roadway wear and tear and any new warranted physical improvements), and natural resources (consumption of non-renewable fossil fuels). These are all impactss that should be addressed in their own appropriate sections of the DEIR, not in the "traffic" section. The only actual impact VMT has on "traffic" is to increase motorists' travel delay, which is still measured by its degradation of LOS. While SB743 (and County Resolution 141-2020) now prohibit the EIR from using LOS to determine traffic impact, those regulations do not prohibit an EIR from including an LOS analysis for other purposes. In fact, an LOS analysis is still generally necessary to determine a project's consistency with the traffic policies of a General Plan, and as a factor in the EIR's analysis of air quality impacts. (a reduction of LOS results in lower vehicle fuel efficiency, which, in turn, increases emissions of air pollutants). The EDH Costco DEIR should therefore present the results of an LOS analysis prepared by a qualified traffic engineer.

5. The following comments concern the relationship of the proposed Costco project to the future Country Club Drive Extension, the elephant in the room for the Costco EIR:

5.1 The Costco NOP identifies a 7.75-acre Assessor's Parcel (APN122-720-21) on the North Site as a "reserve" for the "future extension of Country Club Drive to Silva Valley Parkway." The DEIR should describe when and how this "reserve" parcel was created, on private property, and how it came to fit so well with the planned future right-of-way for the future Country Club Drive Extension, and to be "reserved" for the extension. Who reserved it? What is the nature of Costco's's current obligation, if any, to keep the parcel in "reserve" for a future county roadway project? Was any sort of CEQA documentation prepared for the creation and "reservation" of the parcel at the time of its creation and reservation? If not, why not? After all, that parcelization and its "reservation" is part of the "whole of the action" that is the full extension of Country Club Drive from Bass Lake Road to Silva Valley Parkway, and beyond.

5.2. The Costco DEIR should include a full evaluation of the potential environmental impacts associated with the construction of the "reasonably foreseeable" segment of the Country Club Drive Extension located within the Costco project's North Site "reserve." Since the roadway segment would be part of the "whole of the action" that is the entire Country Club Drive Extension, the Costco DEIR should also address the impacts of the entire extension, and feasible mitigation measures to reduce or avoid any significant impacts.

5.3. The Costco DEIR should thoroughly analyze the **growth-inducing impacts of the full Country Club Drive Extension**. Costco is holding the "reserve" parcel in reserve for a future time, when it will transfer it to the county for the construction of the on-site portion of the full extension. Costco's plan for the holding of the reserve, and its future transfer to the county, is

therefore part of the "whole" of Costco's current proposed project, and its impacts must therefore be addressed in the Costco DEIR. The impacts of the future transfer would be that it would remove an obstacle to the construction of the whole of the entire Country Club Extension that would result in all the direct and indirect impacts of the full extension, including the growth the extension would induce in its own corriodor. The Costco EIR Impact analyses should therefore assess the potential for the full Country Club Drive Extension to open undeveloped and underdeveloped areas in its corridor to urban-scale growth, and it should evaluate the environmental consequences of that growth.

5.4 The Costco DEIR should assess the **cumulative impacts** of the potential growth induced by the full Country Club Drive Extension.

5.5. To ensure compliance with CEQA, the Costco DEIR must **avoid segmentation,** or "piecemealing," of environmental review by addressing the relationship between the Costco project and the full Country Club Drive Extension project. If the segment within the North Site is integral to the full extension, the Costco DEIR should make clear how and when the "whole of the action" that is the entire Country Club Drive extension will undergo its own CEQA review. The Costco DEIR should clarify the sequencing of environmental review and provide assurances that the full extension's impacts will be appropriately addressed in its own EIR.

5.6. The Costco DEIR should include an analysis of whether the growth induced by the full Country Club Drive Extension would be consistent with the County General Plan, and the Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) of the Sacramento Area Council of Governments (SACOG), and any other applicable regional plans. If the growth induced by the full Country Club Drive Extension is found to conflict with these regional plans, the DEIR should identify and discuss the implications of these conflicts.

6. The Costco DEIR Project Description should describe the **"whole of the action"** [CEQA Guidelines, Section 15003(h)], including the following project components, which are not fully described in the EDH Costco NOP:

6.1. The Project Description should disclose Costco's intentions, if any, for the future use and development of the 13.79-acre **"outparcel"** on the North Site. Costco's long-term plans for development of the outparcel should be included in the Project Description, and its impacts should be addressed as a future phase of the project. Does Costco intend to eventually develop the property itself, sell it to another developer, or convey it to the county as permanent open space? The outparcel is on the project site and is part of the project, and Costco's intentions for it should be included in the Project Description. "Transparency," remember?

6.2. The Project Description should disclose Costco's, and the county's, **conveyance plan** for the transfer of the 7.75-acre **"reserve"** for the Country Club Drive Extension from Costco to the county. When and how will the conveyance occur? What is the schedule for construction of the on-site portion of the extension, and how does it relate to the schedule for construction of the entire extension, and to the schedule for the Costco project itself?

6.3.The Project Description should include the **project schedule** for "pre-construction activities," grading and site preparation, construction, and commencement of operations. When is the Costco grand opening?

6.4.The Project Description should describe Costco's complete **signage plan.** On-building,

off-building, and off-site signage is part of the "whole of the action," and its description is necessary for the DEIR's assessment of the project's visual and aesthetic effects.

6.5 The Project Description should include the proposed operating days and **hours of the fueling facility**. There's a big difference between a 32-pump gas station that operates 8 or10 hours a day and one that operates 16 hours a day. If Costco can figure out the hours for its warehouse store, it should be able to figure out the hours for its gas station. The Project Description should also indicate whether diesel fuel will be sold at the fueling station, and the expected annual **quantities of fuel sales** for both diesel and gasoline.

6.6. The Project Description should include a description and schedule for any future sanitary sewer connection across the project site necessary to connect the already approved but unbuilt 51-unit Serrano Village A14 to the sewage collection pipeline in Clarksville Crossing. A **sewer easement** across the North and South sites is necessary for the buildout of Village A14 to proceed. The Costco DEIR should address the growth-inducing impact of the sewage easement, or any other easements, across the project site.

6.7. The Project Description should describe and map all **proposed off-site facilities**, particularly transportation improvements, including, but not limited to, turning lanes, lane widenings, traffic signs, traffic lights, crosswalks, roadway segments, bicycle lane segments, and sidewalk segments. Would these off-site facilities be funded directly by Costco, or by the county general fund, or by county Transportation Impact Fees (TIFs)?

6.8.The Project Description should describe the project's degree of **compliance**, or non-compliance, with the county's requirements and regulations related to the physical design of the project, including, but not limited to, building height, building horizontal dimensions, floor area, floor area ratio (FAR), setbacks, parking spaces, signage, outdoor lighting, design features, and landscaping.

6.9. The Project description should provide graphics that show the existing and **proposed parcelization** of the North and South sites.

7. To the extent feasible, the DEIR should express impact criteria in objective, quantitative terms (see CEQA Guidelines Appendix G). The DEIR should be as graphic as possible, using clear, readable color illustrations, maps, photos, plans, tables, and photo simulations (i.e., selected "before" and "after" views of the project site and project).

8. The DEIR should contain a **policy table** that summarizes the applicable policies of the county, including those of the County General Plan, and the relationship of the project to those policies.

9. The approaches, findings, and conclusions of the technical and engineering reports and studies that are prepared in support of the Costco EIR should be summarized, and presented in the body of the DEIR. The full reports themselves should be presented in DEIR appendices, or incorporated by reference into the DEIR and published at the same time and in the same manner as the DEIR itself. the DEIR should tell a story, not get lost in the weeds.

10. The DEIR **Summary** should include an **impact summary table** that summarizes each impact of the project, its level of significance, mitigation measures included in the project, mitigation measures not included in the project but identified in the DEIR, state whether those

measures are accepted or rejected by the applicant, and identify the levels of impact significance after implementation of all proposed and accepted measures.

11. The DEIR Project Description should fully describe Costco's **project objectives**, including its objectives for profitability, and any objectives for preserving and protecting on-site natural features and resources (including wetlands, riparian areas, springs, heritage trees, tree groupings, woodlands, landforms, wildlife habitats, and cultural resources). It should explain its long-term objectives for the fuel facility, given future expected reductions in fossil-fueled vehicles in California, its goals for annual tons of sales of fossil fuels, and its objectives, if any, for reducing or minimizing greenhouse gas emissions. It should explain why Costco believes another warehouse store and fueling facility is appropriate in a single-family residential community, next to an elementary school, and only 4.4 miles via Highway 50 from its existing store and fueling facility in Folsom. It should describe its objectives for protecting kindergartners from benzene emissions.

12. The Project Description should describe any Costco responsibilities for maintaining the portions of the project site that are not proposed for development at this time (i.e.,the 1.38-acre remainder parcel west of Clarksville Crossing, the 13.79-acre "outparcel" on the North Site, the 7.75-acre "reserve" parcel for the Country Club Drive Extension, and any remainder of the North Site that extends to its outer boundaries. Will Costco be responsible for ongoing maintenance, mowing, fire prevention, and litter cleanup (which will no doubt become more important once the project becomes operational) of these undeveloped portions of the site? Will Costco install landscaping outside the right-of-way of the future Country Club Drive Extension to provide a **visual buffer** between the project and Oak Meadow School and neighboring residences?

13. The Project Description should include graphic and technical descriptions of the proposed locations and appearance of any proposed **ancillary facilities**, including, but not limited to, solar arrays, rooftop mechanical equipment, outdoor lighting, emergency electrical generators, electric vehicle charging stations, off-site and on-site signage, and trash, recycling, and compacting facilities. The descriptions should be sufficient to permit analyses of the noise, visual, energy, air quality, and other impacts of these facilities.

14. The Project Description should include grading and drainage plans for both sites.The **grading plans** should graphically show areas to be cut and depths of cut, areas to be filled and depths of fill, and areas to be undisturbed. What would be the maximum and average depths of both cut and fill? Would cut and fill be balanced on site? If not, what will be the volume of import/export?

15. The Project Setting should describe existing physical conditions from both **local and regional perspectives**, at the time of the NOP publication date, February 25, 2025. If different setting dates are used, particularly older setting dates, they must be supported by substantial evidence (see CEQA Guidelines, Section 15125).

16. The DEIR should present the results of a geotechnical report prepared by a licensed geotechnical engineer that addresses the soil, groundwater, surface water, bearing, and contaminant characteristics of each the site. The report should identify any project constraints, including the potential for **asbestos** or other soil contaminants, and any **groundwater constraints** at the location of proposed fuel storage tanks on the North Site. The DEIR should identify the health and other impacts of any soil, groundwater, or surface

water contaminants identified, any violations of applicable contaminant standards, and mitigation measures to mitigate impacts to less than significant levels.

17. The grading and drainage plans should describe how **runoff and erosion** would be controlled during and after grading, and how runoff would be collected, treated, and discharged during and after grading and project construction, and during project operation. Where will treatment facilities, if any, be located? What will be the water quality of discharge? Will it meet applicable water quality standards? Will the project still have "bioretention areas" and "underground water quality vaults"? If so, where? Will all treated water be used on site for irrigation or other purposes?

18. The NOP Project Description includes a Conditional Use Permit for the proposed tire center, vehicle display, and Christmas tree sales, and a **sign variance** to exceed allowable signage provisions of the County Sign Code (County Zoning Code Section 130.36). The DEIR must fully describe and assess these project components in order to address "the whole of the action." In particular, omission of the project's signage plan from the project's description and impact analyses would render the EIR incomplete and inadequate. The county's actions on the proposed conditional use permits and variance must not be piecemealed after the fact. (Actually, of course, Costco won't need any signs at all. Everybody within 100 miles will know exactly where it is, and exactly how to get there, on opening day, especially if Costco brings back its lemon meringue cheesecake).

19. The DEIR should quantify, and show in photos and on a map, the **wetland and riparian** areas on each site. Are the delineations current as of the date of the NOP, February 2025? If not, when were they prepared? If not, provide substantial evidence in support of the actual setting date (see comment 14, above). Show how many acres of each would be filled on each site, and how many acres of each would remain unfilled? Identify any **springs** on either site, and characterize their flows by quantity and quality. Are they permanent? How will any springs affect the project, particularly the installation of fuel storage tanks? Are springs the source of the water in the wetland and riparian areas? What would be the project's impacts on the wetlands, riparian areas, and springs? What is the status of the Corps of Engineers Clean Water Act Section 404 review of the project application to fill? If the Corps has already approved the application, what is its stated basis? If the Corps has not approved the fill, what is the basis stated in the applicant's fill application?

20. The DEIR should quantify, and show in photos and on a map, all **trees** on each site, and identify the species, diameter at breast height, approximate height, age, and Heritage status of each tree. Identify which trees, oak and non-oak, are proposed to be removed and which are proposed to remain. Identify which trees are "protected" by applicable preservation policies, including County Ordinance 5061 and and General Plan Policy 7.4.4.4., and the degree of protection.

21. The DEIR should identify the location, and show photos, of the **"in-lieu forest"**, so we can all see how well in-lieu mitigation fees actually work to mitigate tree removals from county development sites (please, no pictures of Giant Sequoias).

22. The DEIR should describe how the eastern edge of the North Site will be secured to prevent **trespass** into the adjacent gated Serrano Village A. An unsecured gap of approximately 240 feet currently exists along Village Green Drive, between AP 122-100-038 and AP 122-580-001 (4894 Village Green Drive and 4924 Village Green Drive).

23. Since the project's "pre-construction activities" would include lot line adjustments, why not include a **new lot line** that would connect the opposite rear corners of 4894 and 4924 Village Green Drive? Costco could then offer to sell, or otherwise convey, to Serrano Partners, LLC, the resulting, otherwise commercially useless, quarter-acre northeastern corner of the North Site. The new triangular parcel could then be combined with a portion of the "Remainder Parcel D" of Serrano's Village A14, which could, in turn, be three-split into standard residential lots to fill in the existing gap, and to make constructive use of an otherwise permanently wasted, commercially useless, unimproved, quarter-acre fire hazard at the northeast corner of the North Site. Soil cut from other areas of the project site could be used in combination with a retaining wall to create three level single-family lots, which Serrano could then develop. This could all be done independently from the project, would seem to make sense, and would be categorically exempt from CEQA.

24. The proposed project's **"pre-construction activities"** are part of the "whole of the action," and may not be undertaken until after certification of the project's Final EIR (FEIR), and county approval of the project. Preconstruction activities must not be "piecemealed."

25. The DEIR should show existing and proposed **parcelization** of both the North and South sites

26. The DEIR should explain why the project proposes 121 more **parking** spaces on the South Site than county regulations require. Why not relocate the 66 proposed warehouse employee parking spaces from the North Site to the South Site, thereby preserving open space area that could protect North Site trees and wetland, and reducing warehouse employees' walking distance to work, and the pedestrian hazard of crossing Silva Valley Parkway?

27. The DEIR should describe the **visual quality** of the project sites as a community scenic resource. Describe how the scenic character of each site would be altered by the removal of natural trees, other vegetation, wetlands, riparian areas, and natural landforms, and whether these alterations would constitute significant and substantial degradation of the sites' visual character. Please note that CEQA Guidelines, Appendix G, clearly indicate that a project that would "substantially degrade the existing visual character or quality of public views of a site and its surroundings may have a significant effect on the environment" without regard to any "official" scenic designation of those views or locations. The project site is publicly viewable from Highway 50, Silva Valley Parkway, and Clarksville Crossing. Appendix G also provides that scenic resources may include, but are not necessarily limited to, "trees, rock outcroppings, and historic buildings," and may also be reasonably inferred to include Heritage trees, oak woodlands, wetlands, grasslands, waterways, and water bodies. While the language of Appendix G appears to express primary concern for these resources where they are present in a designated scenic area, Appendix G in no way precludes these resources from being considered to have substantial and significant value in other locations.

28. The aesthetics analyses in the DEIR should include **visual simulations** (i.e., "before" and "after" views) of the site and proposed project, including project signage, from selected viewpoints on Highway 50, Silva Valley Parkway, Clarksville Crossing, and neighboring residential areas. The images should include before and after views of wetland and riparian areas, Heritage trees, tree groupings, and landforms. Visual simulations are the only way to successfully depict the actual visual impacts of a project in an EIR. Environmental Vision of Berkeley (environmentalvision.com) is a qualified and reputable firm that prepares such simulations.

29. The DEIR should identify all **animal species** that inhabit, forage, and traverse each site. Map habitats and migration corridors. Identify which species are classified as candidate, sensitive, endangered, or otherwise special status in any local or regional plans or policies, or by the California Department of Fish and Wildlife, or by The U.S. Fish and Wildlife Service? Identify the status of each species, the impacts to each species, and mitigation for any impacts.

30. Similarly, the DEIR should identify all **plant species** on the project site. Map and quantify the presence of each, and identify any special status, Heritage, or other species classifications. Assess the impacts to each species and mitigation measures for any impacts.

31. Assess the natural synergies between and among the animal and plant species, and the overall impacts of the project on the **entire natural ecosystem** of the site and its surroundings. Identify any impacts, their significance, and appropriate mitigation measures.

32. The DEIR should quantify the existing and average **increase in auto travel time** on Silva Valley Parkway between the traffic signal at the top of the eastbound Highway 50 offramp at Silva Valley Parkway/Whiterock Road and Serrano Parkway as a result of project-related traffic and operation of the project's proposed signal light(s). What will be the increase in travel time during the pm peak commute traffic period, and during Costco's peak weekday and weekend hours of operation at both the warehouse store and fueling facility? Address increases in travel time along other relevant local street segments.

33. The DEIR should show how vehicles waiting to fuel at the fueling station would be prevented from **queueing** onto Silva Valley Parkway? What is the maximum length of queue, and number of vehicles that will be able to queue, before backing up onto the parkway?

34. The DEIR should provide an analysis of the increase in **vehicle miles travelled** (VMT) as a result of the project that complies with SB743 and County Resolution No. 241-2020. These regulations prohibit an EIR from considering deterioration of traffic **level of service** (LOS) as a criterion for determining the significance of a project's traffic impacts (as it was for the first 45 years of CEQA's existence). However, the regulations do not prohibit a county lead agency from using the policies of its General Plan as impact criteria. The DEIR should conduct an LOS analysis, and if the effect of the project on LOS would be inconsistent with General Plan policy, that inconsistency should be found to be a significant effect of the project, irrespective of the deterioration of the LOS itself. The DEIR should analyze the project's effects on LOS, and if the effects are found to be inconsistent with the General Plan, the DEIR should find that inconsistency to be a significant impact.

35. The calculation of VMT impacts should address net project-related travel by Costco customers, employees, and suppliers, as well as all **VMT enabled by the project's sales of fuel and tires** (that's going to be a LOT of VMT...).

36. The DEIR should examine the project's impacts on pedestrian, vehicle, and bicycle **safety,** particularly for children going to and from Oak Meadow School. Would the project include crosswalks at signalized intersections, or elsewhere? Would the signals include pedestrian controls? Would the project include sidewalk segments or bicycle lane segments? Would the project provide any particular measures specifically to provide, protect, or enhance pedestrian and bicycle safety, particularly as it relates to Oak Meadow School? How will pedestrians, including Costco employees, be able to cross safely between the North and South sites?

37. Would project-related increases in traffic volumes warrant traffic signals, or other roadway improvements, in addition to those proposed as part of the project?

38. Would road or lane closures be required during project grading, site preparation, or construction? If so, at what times of day, for how long, and how often? What would be the effect on normal traffic flows? How would **emergency access** be maintained during any closures?

39.The DEIR **cumulative impact** analyses should examine the project's contributions to the combined impacts of all past, present, and reasonably foreseeable future projects to which the proposed project would also contribute, including, but not limited to, the already approved but unbuilt Serrano Village A14, the eventual commercial development of the project "outparcel" on the North Site, and the eventual construction of the full Country Club Drive Extension, and all the growth the full extension would induce in its corridor.

40. CEQA Guidelines Section 15355 define **"cumulative impacts"** as two or more individual effects which, when considered together, are considerable, or which compound or increase other environmental impacts. "The individual effects may be changes resulting from a **single** project (emphasis added) or a number of separate projects." In other words, the DEIR must consider whether the cumulative collective effects of the totality of this single Costco project's topically diverse, adverse but less-than-significant individual effects, taken together as a whole, constitutes a cumulatively significant impact. The significance criterion should be something like this: "A single project's cumulative impact is significant if the combined effect of its topically diverse, individually less-than-significant effects, together with its individually significant effects, collectively results in a substantial adverse change in the environment. This includes, but is not limited to, the totality of all impacts of the single project related to traffic, noise, air quality, public safety, biological resources, cultural resources, aesthetics, soils and geology, soil, water, and groundwater contamination, archaeological and historic resources, hydrology and water quality, hazards and hazardous resources, greenhouse gas emissions, energy, public services and recreation, public services and utilities, land use and planning, tribal cultural resources, hydrology and water quality, fire hazard, and population and housing." The question for the Costco DEIR should be whether the combined individual impacts of this single Costco project, taken together as a whole, constitute a single cumulatively significant effect? If so, the mitigation would be to reduce, further reduce, or avoid each of the project's individual impacts to the maximum extent "feasible" (CEQA Guidelines, Section 15126.4 (a)(1). The DEIR's discussion of cumulative effect must not be "siloed," or compartmentalized, topic-by-topic, but must be presented as a whole, in one place, in the EIR, to evaluate the overall synergistic, and interactive effect of all of these individual impacts to determine if, when considered collectively, they constitute a significant cumulative impact under CEQA Guidelines, Section 15355. Application of this criterion will result in a comprehensive, cumulative **"omnibus"** impact evaluation of all the project's diverse impacts to determine their combined overall cumulative effect on the environment. It underscores the importance of considering how the totality of a single project's diverse individual impacts can collectively combine to constitute a significant cumulative impact on the environment, irrespective of the significance of its individual impacts and the impacts of any other past, present, or future projects.

41. The DEIR should quantify and assess the **air quality** impacts of the annual project-related emissions of criteria pollutants and greenhouse gases based on estimates of annual VMT, normal project operation, and combustion of the approximately 10 million gallons (**38,000**

tons) of fossil fuel to be sold at the proposed 32-pump gas station. The DEIR should quantify projected emissions of Clean Air Act **"criteria pollutants"** (Carbon Monoxide, Lead, Nitrogen Dioxide, Ozone, Particulate Matter, and Sulphur Dioxide) and the **hazardous air pollutants** (HAPs) identified by the U.S. EPA, including, but not limited to, **benzene.** The air quality analysis should include consideration of prevailing wind patterns and their effect on distribution and concentration of airborne pollutants, particularly from the proposed fueling station to Oak Meadow School. The air quality analysis should also consider the results of a traffic level-of-service (LOS) analysis to take into account any reduced fuel efficiencies resulting from project-related reductions in LOS. Reduced fuel efficiencies result in increased pollutant emissions per vehicle mile travelled.

42. The DEIR should identify any project-related health effects of these emissions on sensitive receptors, including but not limited to, children and personnel at Oak Meadow School, and neighboring residents, including seniors, like me.

43. The DEIR should identify any potential project-related air quality violations of applicable national, state and local air quality standards, including those of the El Dorado County Air Quality Management District. Would the project conflict with, or obstruct implementation of, any applicable air quality regulation or management plan? Would the project contribute to an existing or projected air quality violation? Would it result in a cumulatively considerable increase in any criteria pollutant or greenhouse gas emissions for which the region is designated nonattainment under an applicable federal or state ambient air quality standard? Would it release emissions which would exceed applicable thresholds for ozone precursors?

44. The DEIR should define "**greenhouse gas**" and analyze whether project-related greenhouse gas emissions, including those to be emitted from combustion of fossil fuel sold at the proposed fueling station, would contribute, either significantly or "considerably," to global climate change. Would the project conflict with any applicable official plan, policy, or regulation adopted by any regulatory agency for the purpose of reducing greenhouse gas emissions?

45. The DEIR should quantify the amount of **water**, if any, that is currently supplied to the project site by the El Dorado Irrigation District. How much would the District supply annually to the North and South sites after project completion? Would the District be able to meet this demand in drought years?

46. Would the project include backup electrical generators in the event of a PG&E blackout? If so, where would they be located on each site, and what would be their visual and noise impacts? Would the increased electrical demand attributable to the project contribute considerably to the likelihood of future localized PG&E **blackouts**?

47. Would the project violate any applicable county or other **noise** standard during site grading, site preparation, construction, or operation? Would project noise levels from project grading, construction, or operation activities contribute considerably to existing and projected noise levels, including roadway noise from Highway 50, Silva Valley Parkway, and Clarksville Crossing? What would be the increase in future cumulative ambient noise levels attributable to projected increases in traffic on these roadways and other local roadways? Would project-related construction or other noise interfere with instruction or other activities at Oak Meadow School? What would be the nighttime and early-morning noise impacts on

sleep patterns of local residents from project delivery trucks, including the incredibly annoying **backup beeping** of trucks in reverse gear? What noise mitigation measures are proposed by the project, particularly for nighttime and early morning noise?

48. Would the project impact any tribal, or other historical, archaeological, paleontological, or other historic or prehistoric cultural resource? Would it disturb the site of any buried human remains? How would the project protect the existing historical marker? Describe and assess the significance of any impacts.

49. Pursuant to CEQA Guidelines, Section 15126.6, the DEIR must identify and evaluate a "**range of reasonable alternatives** to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." The DEIR "must" explain the **rationale for selecting** the alternatives selected (CEQA Guidelines, Section 15126.6(a), and should also identify any alternatives that were considered but not addressed, and identify the **reasons for their rejection** (CEQA Guidelines, Section 15126.6(c). "The DEIR should contain sufficient information about each alternative to allow meaningful evaluation, analysis and comparison with the proposed project." The Alternatives should include, but not necessarily be limited to the following:

49.1. "N**o Project Alternative**,"as required by CEQA Guidelines, Section 15126.6(e). This alternative would leave the site undeveloped to serve as community open space, as it does now, eventually available for future unspecified development consistent with the County General Plan.

49.2. "**No-fueling Facility Alternative**," that would exclude the North Site, eliminate the proposed fueling facility, and consist only of the proposed warehouse and parking facilities on the South Site. This alternative would involve no development or lot line adjustments on the North Site, would be consistent with the Costco project identified in the 2021 EDH52 NOP, which proposed no fueling facility, and apparently satisfied Costco's project objectives at the time. This alternative would essentially constitute a No-project Alternative for the North Site.

49.3 "**Reduced Fueling Facility Alternative,**" that would reduce the number of North Site fueling stations from 32 to a smaller number (most typically 16 for Costco). It would reduce North Site parking to only the number of spaces necessary to serve the reduced fueling facility's employee parking requirement, would allocate all warehouse-employee parking to some of the excess spaces proposed for the South Site, and would adjust the fueling facility's footprint to permit preservation of on-site wetland, Heritage trees, woodland habitat, and landforms.

49.4. "**Reduced Parking Alternative**" that would eliminate the proposed 121 parking spaces on the North Site that would be in excess of the county's parking requirement. This alternative could reduce the South Site parking footprint to permit preservation of on-site wetland Heritage trees, woodland, wildlife habitat, landforms, and historic architectural resources. (Costco proposes to forego substantial parking for the sale of Christmas trees during the busy holiday season anyway, so why not just do it for the rest of the year? We can all still get our Christmas trees at Green Acres).

49.5. "**Combined Reduced Fueling Facility and Reduced Parking Alternative**" that would

combine the two alternatives discussed in Comments 48.3. and 48.4.

49.6. "**Plan Consistent Alternative**" that, except for the required Planned Development Permit, would require no exceptions, conditional use permits, or variances, from the County General Plan, or Zoning Ordinance, including the county sign code (Zoning Ordinance Chapter 130.36), and would require no parking in excess of the county's requirements. This alternative would simply comply with all standing applicable county plans, regulations, policies, rules, regulations, and requirements, no more, no less.

49.7. "**Natural Resource Alternative**," that would preserve, to the maximum extent feasible, the natural features of the site, including existing landforms, riparian areas, springs, wetlands, trees and tree clusters, wildlife habitats, migration routes, and foraging areas on the project site.

49.8. "**Off-site Alternative**," on a different site, or sites, that would reduce or avoid any of the proposed project's significant individual and cumulative effects, and that would not be immediately adjacent to a school or residential uses.

49.9. other alternatives that may be identified as necessary to avoid or reduce the project's significant individual and cumulative effects identified under any of the 18 environmental topics listed in the project NOP, CEQA Appendix G, and comments on the NOP.

50. CEQA does not normally require an EIR to address the economic effects of a project, but if the economic effects of the project cause a significant physical effect, the physical effect must be addressed (CEQA Guidelines, Section 15131 and Section 15064(e). So, for example, if among the effects of the Costco project would be an economic effect, such as one that caused local businesses to fail and close, and those failures caused the physical effect of urban decay, the physical effect would need to be examined in the DEIR (See **Bakersfield Citizens for Local Control v. City of Bakersfield** at 124Cal.4th 1184). An economic study should be conducted to determine whether the Costco project would have such an indirect physical impact, and, if it does, the physical effect must be evaluated and mitigation identified in the DEIR.

51.. Although CEQA does not normally require an EIR to address economic effects, it does not prohibit it from doing so.(CEQA Guidelines, Section 15131). Because the project's economic effects will undoubtedly be critical to the public perception of it, and to the county's ultimate decision whether and how to approve or deny it, a cost-revenue analysis should be prepared, either as part of the EIR, or as a free-standing report. The cost-revenue analysis should examine the project's direct and indirect fiscal and economic impacts, including the effects of the project on the economies and treasuries of El Dorado County and other economically affected public agencies and private entities, and any economic effects that would lead to urban decay or other adverse physical effect. The report should include an examination of the project's effects on local residential property values, and the resulting effects on county property tax revenues. The report should be made publicly available and subject to public review at the time of, or before, the publication of the DEIR, with ample time for public review and comment, and for county response to comments, on each. The report should be adequate to determine whether the project's economic effects would cause physical impacts that need to be addressed in the Costco DEIR (see Comment 49, above).

Respectfully submitted,

Marty Abell

From: wei lin
To: EDHCostco@edcgov.us
Subject: Great Idea!
Date: Thursday, March 27, 2025 11:02:23 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

I urge you to open EDH Costco with Gas station ASAP as the Folsom Costco becomes very crowded with long lines all the time!

Thank you!
Serrano Resident
Wei Lin

Sent from my iPhone

From: Naomi Lurey
To: EDH Cocstco
Subject: Hi
Date: Saturday, March 29, 2025 9:59:39 AM

This Message Is From an Untrusted Sender

You have not previously corresponded with this sender.

Report Suspicious

I am a resident of Serrano El Dorado Hills
and am opposed to the Costco being built
here. It is too close to the elementary school, will cause congestion on Silva Valley Parkway and be an environmental
disaster for the area besides being ugly.
I do not shop at Costco nor do I plan
on doing so. Find somewhere else!!!!
Naomi Lurey

Sent from my iPhone

From: sleeplessin95814@yahoo.com
To: EDHCostco@edcgov.us
Subject: I support COSTCO!
Date: Wednesday, March 19, 2025 11:47:48 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

As an EDH resident and EDC taxpayer, I support Costco and returning the sales tax revenue to El Dorado County!

From: serbu catalina
To: EDHCostco@edcgov.us
Subject: In favor of Costco EDH
Date: Monday, March 17, 2025 11:55:25 AM

This Message Is From an External Sender
This message came from outside your organization.

Report Suspicious

Hello,

My son attends Oak Meadow Elementary and I support the new Costco! It’s not right by it so I am not sure why is everyone complaining about. I also need gas and groceries close by so please build it!

Catalina Perry

To Whom It May Concern,

We, the undersigned residents of El Dorado Hills and surrounding areas, are deeply concerned about the proposed Costco development and the lack of sufficient outreach about its impacts—especially for the families, schools, and neighborhoods along Silva Valley Parkway.

The proposed development will significantly impact traffic patterns and safety on Silva Valley Parkway, particularly near Oak Ridge High School, Rolling Hills Middle School, Silva Valley Elementary, and Oak Meadow Elementary. These routes are used daily by thousands of students and families, many of whom walk or bike to school. Hundreds of students **cross** Silva Valley Parkway each school day, especially near Oak Ridge High, Rolling Hills Middle, and Silva Valley Elementary.

While some residents may have seen past media coverage about the proposed project, the County's official notification for the Notice of Preparation (NOP) of the Environmental Impact Report (EIR) did not adequately reach key neighborhoods and families along Silva Valley Parkway. As a result, many directly impacted residents were not properly notified and have had insufficient time to engage with the public comment process. **No one north of Harvard Way was notified—despite thousands of residents in that area who will be directly affected by increased Costco traffic.**

We have attached a map showing the County's NOP notification radius compared to the broader Silva Valley Parkway corridor. As it clearly illustrates, the official notice failed to reach the majority of families and schools most directly affected by this project.

CEQA demands that agencies ensure meaningful public participation and disclosure to affected parties. The current outreach does not meet that spirit—especially given the major traffic and safety impacts along **the entirety** of Silva Valley Parkway.

Based on these concerns, we respectfully request the following:

1. Notification to a broader portion of the community — including, and especially, the families, schools, and residents who rely on the Silva Valley Parkway corridor, as well as those living within at least one mile of it — to reflect the true scope of the impacted area.

2. An extension of the public comment period by 90 to 120 days so that families who were not properly notified can become informed and participate meaningfully in the review process. This request is rooted in **fairness** and reflects the real-life impact this project will have on thousands of students and their families.
Thank you for your time and consideration.

Sincerely,

Silva Valley Neighbors

On behalf of concerned parents, students, and residents in El Dorado Hills

Contact: silvavalleyneighbors@gmail.com

From: Karly Urata
To: edhcostco@edcgov.us
Date: Wednesday, March 26, 2025 4:20:26 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

To whom it may concern,

I am writing to express my concerns regarding the proposed Costco in El Dorado Hills on Silva Valley Parkway near Oak Meadow Elementary School. While I understand the economic benefits to the community, I firmly believe that the potential drawbacks, particularly in relation to the safety and well-being of our children and our community far outweigh the advantages.

First and foremost, traffic congestion is a significant concern. Costco locations are known to attract large volumes of shoppers, especially during peak hours. This influx of vehicles could lead to increased traffic around the school creating hazardous conditions for elementary students. The safety of our children should be our top priority, and the risk of accidents in a congested area cannot be understated.

Moreover, the presence of a large retail facility could lead to an increase in noise pollution. The sounds of delivery trucks, shopping carts and crowds can create a disruptive environment that is not conducive to the surrounding neighborhoods and elementary school.

Additionally, the proximity of a Costco to an elementary school may inadvertently expose young children to an environment that is not age appropriate. With the availability of alcohol, cigarettes, and other adult-oriented products, the risk of children being exposed to inappropriate things increases. We must protect our children from influences that could detract from their development and well-being.

Lastly, the potential for increased crime rates is a huge concern. Large retail establishments can attract not only legitimate shoppers but also individuals looking to engage in illicit activities.

I urge you to consider the long-term implications it will have on our children's safety, health, and congestion driving into our neighborhoods. I believe it is essential that we prioritize the well-being of our students and community over short-term economic gain.

Thank you for taking the time to consider my concerns. I hope that you will advocate for a solution that ensures the safety and well-being of our community and our children and reconsider any development decisions!!

Karly Urata

From: Kristi Liberatore
To: EDHCostco@edcgov.us
Subject: Letter of opposition
Date: Thursday, March 27, 2025 4:22:40 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear Cameron,

I'm opposed to this project as it poses many risks to the residential neighborhood and school nearby. It would seem that Costco doesn't care about its neighbors, why do they need to build on this site, there are so many other sites that are better suited. I live in this community and my grandchildren attend Oak Meadow Elementary. Why can't this store be constructed in a commercial or retail store area instead? This is what I googled about living near a gas station.

Living near a gas station can present potential problems, including
exposure to gasoline fumes and other chemicals, increased noise levels, and a higher risk of fires or accidents.

Here's a more detailed look at the potential issues:

Health Concerns:

- **Exposure to Gasoline Fumes and Chemicals:** Gas stations release various chemicals, including benzene, toluene, ethylbenzene, and xylene (BTEX), which can be harmful to human health.
    - **Benzene:** A known carcinogen, benzene can cause leukemia and other blood cancers, especially in children.
    - **Other Chemicals:** Exposure to gasoline vapors can lead to nose and throat irritation, headaches, dizziness, nausea, vomiting, confusion, and breathing difficulties.
    - **Groundwater Contamination:** Leaks from underground storage tanks can contaminate groundwater, posing a long-term health risk.
- **Increased Risk of Childhood Leukemia:** Studies suggest a link between residential proximity to gas stations and an increased risk of childhood leukemia.
- **Respiratory Problems and Asthma:** Higher ozone levels, partly caused by gasoline fumes, can lead to respiratory problems and asthma.
- **Potential for Fire and Accidents:** Gas stations are inherently risky due to the flammable nature of gasoline, increasing the likelihood of fires or accidents.

Other Potential Issues:

- **Increased Noise Levels:** Gas stations can generate higher noise levels due to traffic, vehicles, and people, which can be disruptive to residents.
- **Litter and Trash:** Gas stations can attract more litter and trash due to the increased foot traffic and activity.
- **Traffic Congestion:** Gas stations can contribute to traffic congestion, especially during peak hours.

- **Property Value:** Living near a gas station might negatively impact property values, as some potential buyers may be hesitant to live in such areas.
- **Insurance Rates:** Insurance rates for homes near gas stations might be higher due to the increased risk of fires.

Please do not let Costco build on this site,

Thank you,

Kristi Liberatore
Serrano Resident

From: bentama22@yahoo.com
To: EDHCostco@edcgov.us
Subject: Letter of Support for Costco Development in El Dorado Hills Neighborhood
Date: Tuesday, March 18, 2025 5:50:50 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

To Whom It May Concern,
I am writing to express my strong support for the proposed Costco development in our neighborhood. I believe that a Costco location would be a significant asset to our community, offering numerous benefits for residents and local businesses alike.
For residents, Costco provides access to a wide range of high-quality products at competitive prices. This includes groceries, household goods, electronics, and more, all under one roof. The bulk purchasing options offered by Costco can significantly reduce household expenses, especially for families. Furthermore, the availability of a pharmacy, optical center, and tire center within Costco offers convenient access to essential services.
Beyond the benefits for residents, a Costco location would also be a boon for local businesses. The increased traffic generated by Costco would create a ripple effect, bringing more customers to surrounding establishments. This could lead to increased revenue for existing businesses, as well as opportunities for new businesses to open in the area. Additionally, Costco's presence could lead to increased property values in the neighborhood, benefiting homeowners and local tax revenues.
Costco is also known for being a responsible corporate citizen. They typically offer competitive wages and benefits to their employees, creating valuable job opportunities for local residents. Their commitment to sustainability and community involvement further enhances their positive impact.
In summary, I believe that the proposed Costco development would be a valuable addition to our neighborhood. It would provide residents with access to affordable goods and services, stimulate local business growth, and contribute to the overall economic vitality of our community. I urge you to give this proposal your full consideration.

Sincerely,
Nobpadol Hongschaovalit
El Dorado Hills
Serrano Village F

Thatch & Hooper, LLP
Attorneys at Law

GREGORY D. THATCH
LARRY C. LARSEN, of Counsel
RYAN M. HOOPER
LETICIA M. RAMIREZ

1730 I Street, Suite 220
SACRAMENTO, CA 95811-3017
Telephone (916) 443-6956
Facsimile (916) 443-4632
www.thatchlaw.com

March 19, 2025

VIA ELECTRONIC MAIL ONLY

Cameron Welch, Senior Planner
County of El Dorado, Planning and Building Department
2850 Fairlane Court, Building C
Placerville, California 95667
Email: EDHCostco@edcgov.us

Re: NOP Comment Letter - EDH Costco (SCH #2021080402)

Dear Mr. Welch:

We submit this letter on behalf of our clients, Tooley Oil and Strauch & Company, as a formal response to the Revised Notice of Preparation ("NOP") of an Environmental Impact Report ("EIR"), dated February 25, 2025, for the EDH Costco Project ("EDH Costco" or "Project"; Application Nos. Planned Development Permit PD15-0001, Conditional Use Permit CUP23-0012, and Variance Application V22-0001). The following outlines the issues that must be addressed in the Draft EIR for the Project.

As long-standing local business owners operating gas stations in El Dorado County ("County"), our clients respectfully request that the Draft EIR for EDH Costco analyze the Project's impact on the environment related explicitly to the proposed Fueling Facility with 32 fueling positions (16 pumps) including the potential for urban decay, air quality, greenhouse gas emissions, traffic, and noise, as further explained below. In addition, the Draft EIR must identify feasible mitigation measures to lessen the Project's significant environmental impacts and consider the alternative of approving the Project without the Fueling Facility.

I. The Draft EIR Must Evaluate the Fueling Facility's Environmental Impacts Such as Urban Decay, Air Quality, Greenhouse Gas Emissions, Transportation, and Noise

The Project Site totals 43.26 acres and consists of two properties bisected by Silva Valley

Parkway: the North Site is 24.83 acres, and the South Site is 18.42 acres. The Project proposes only to develop 3.29 acres of the North Site to construct a 32-fueling position (16 pumps) Costco Fueling Facility and an employee parking area with 70 spaces. The average gas station has 12 fueling positions (6 pumps). The Fueling Facility will be located less than six miles from an existing Costco fuel facility in neighboring Folsom with 22 fueling positions (11 pumps). The proposed Fueling Facility is likely one of Northern California's largest Costco fueling facilities. The size of the proposed Fueling Facility is significant considering the number of existing nearby gas stations, including the Folsom Costco Fueling Facility, located less than a ten-minute drive from the Project, and the County's population, estimated to be 190,000 residents (Source: El Dorado County).

The unique nature of Costco's operations and the scale of the proposed Fueling Facility may lead to significant environmental impacts. Costco's purchasing power as a national retailer and its wholesale operations enable it to offer gas at lower prices than other retailers. This puts locally-owned and operated gas stations at a competitive disadvantage, which may lead to the shuttering of these businesses and indirectly result in urban decay or the physical degradation of the environment. Given the complexity of gas station remediation and challenges in redeveloping petroleum brownfields, the Project's potential to cause urban decay could alter the built environment by increasing the amount of vacant, boarded properties with limited re-use capacity or costly redevelopment potential. Furthermore, the establishment of a new gas retailer of this size and the projected decrease in gas vehicle usage due to regulatory and legislative changes, including the state ban on the sale of gas vehicles commencing in 2035 could lead to saturation in the gas retail industry in the County and make it financially infeasible for smaller gas retailers to continue operations, therefore resulting in increased blight in the community.

Along with urban decay, the Draft EIR should analyze the proposed Fueling Facility's impacts on air quality, greenhouse gas emissions, traffic, and noise to fully inform decision-makers and the public about the Project's environmental impacts. Such analysis should be based on the proposed hours of operation, expected queuing of idling cars, impacts on pedestrian, bike, and vehicle traffic, and demand/market trends for gas to ensure the Draft EIR fulfills its purpose under the California Environmental Quality Act (CEQA).

II. The Draft EIR Must Identify Adequate Mitigation Measures and Analyze the Mitigation Measures Impacts

While much of the content of a Draft EIR is dedicated to analyzing impacts, the document's analysis of mitigation measures and alternatives is most important for determining whether to approve the project as proposed. If the Draft EIR concludes that the proposed Fueling Facility will result in significant adverse impacts in urban decay, air quality, greenhouse gas emissions, traffic,

or noise, we urge the County to identify feasible mitigation measures that can be implemented as a condition of development of the proposed Fueling Facility. Such measures are feasible, if they are "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors." (CEQA Guidelines §15364).

III. The Draft EIR Must Consider the Alternative That Excludes the Fueling Facility

To provide the decision-makers with a feasible project alternative that would substantially lessen environmental impacts, the Draft EIR should analyze the Project proceeding without the Fueling Facility. This alternative is reasonable as it achieves the objective of the Project and is viable from an implementation standpoint since the Fueling Facility is a separate component of the larger Project. The environmental impacts of the Project without the Feuling Facility can be isolated and analyzed on their own to demonstrate how this alternative will have less environmental impact than proceeding with the Project as proposed with a Fueling Facility.

We appreciate the opportunity to comment on the Draft EIR to ensure a robust analysis of the proposed Fueling Facility. If you have any questions about this letter, please contact us via the information provided above.

Very Truly Yours,

THATCH & HOOPER, LLP

LETICIA M. RAMIREZ

LMR/sf

Cc: Michael Tooley, Tooley Oil
David Tooley, Tooley Oil
Marc Strauch, Strauch & Company

From: Barb Johnson
To: EDHCostco@edcgov.us
Date: Sunday, March 30, 2025 8:09:32 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

To Whom It May Concern,

I am writing to express my concerns regarding the Costco gas station planned to be located near Oak Meadow Elementary School, particularly in relation to the long wait times for fueling and the associated health risks posed to the students and residents in the area.

On many occasions, there is a significant wait time for drivers to fill their tanks. During this time, many vehicles are left running, resulting in high levels of exhaust emissions. As the gas station is in such close proximity to the school, students and faculty are exposed to these emissions while outside the building or during outdoor activities. This is particularly concerning given the known dangers associated with vehicle exhaust, which can contain harmful substances such as carbon monoxide, nitrogen oxides, and particulate matter.

Numerous studies, including those from the **Environmental Protection Agency (EPA)**, have demonstrated that exposure to these pollutants can have serious health consequences, particularly for children. Long-term exposure to vehicle exhaust is linked to respiratory issues, such as asthma and bronchitis, and can also impact cardiovascular health. According to the **American Lung Association**, children's respiratory systems are more susceptible to pollution, making them more vulnerable to the harmful effects of vehicle emissions.

Additionally, the school serves as a hub for community events, sports, and other activities that attract many local residents. This means the impact of the emissions extends beyond just the students, affecting many families and members of the **El Dorado Hills** community.

I urge the appropriate authorities to review this situation carefully. A reassessment of the gas station's location in relation to the school may be necessary, as well as exploring alternatives to mitigate the effects of exhaust emissions, such as introducing vehicle idling regulations or exploring more sustainable fueling options.

Thank you for considering these concerns. I look forward to hearing from you and learning about any actions that may be taken to address this issue.

Sincerely,
Barbara Johnson

5060 Tesoro Way, El Dorado Hills, CA 95762
barbjohnson117@gmail.com

From: sunflowerjoewu@gmail.com
To: EDHCostco@edcgov.us
Date: Tuesday, March 11, 2025 4:27:52 PM

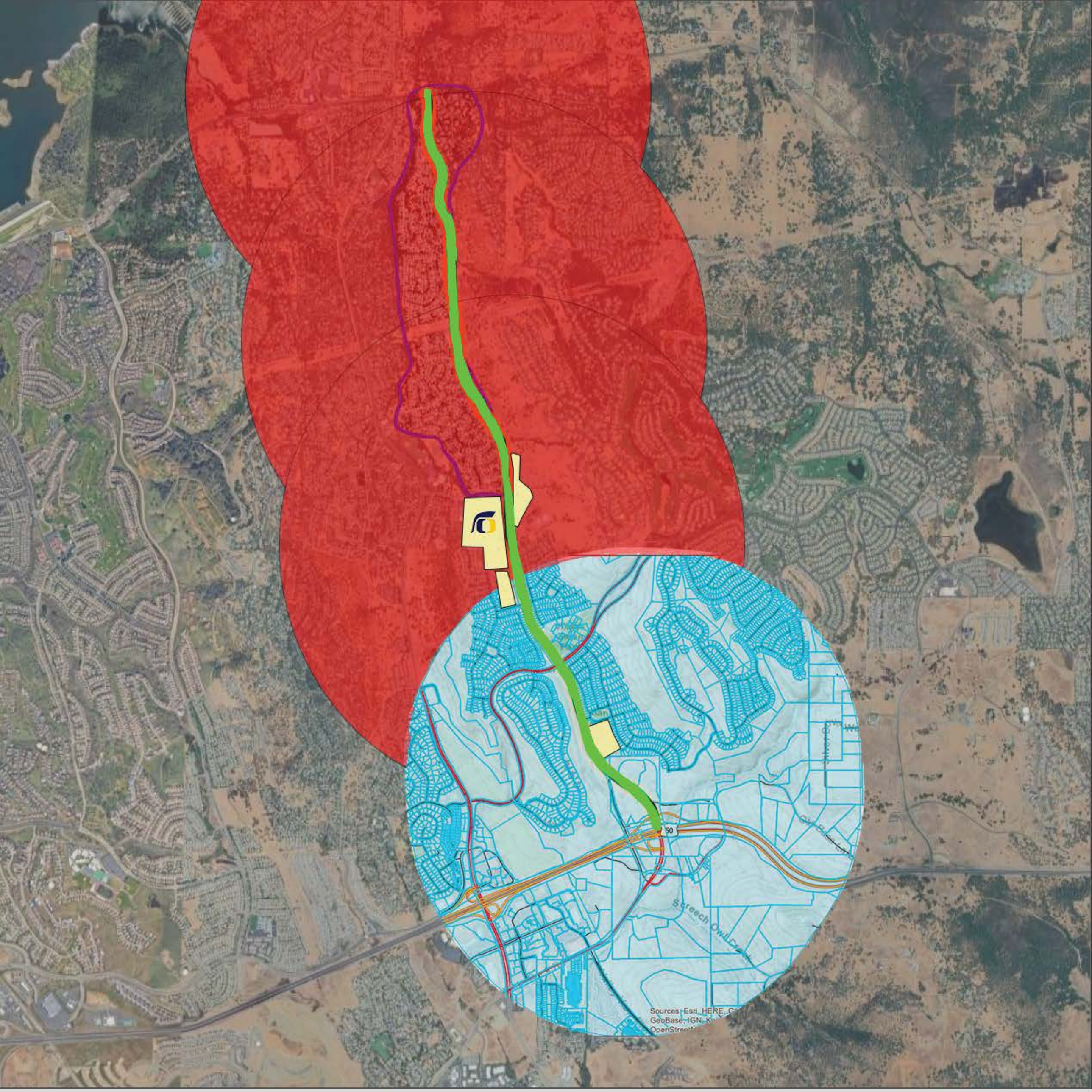
This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Building a gas station near a primary school can have several potential negative impacts, including:

1. Air Pollution – Gas stations release benzene, toluene, and other volatile organic compounds (VOCs) that can contribute to respiratory issues, headaches, and long-term health risks for children.
2. Fire and Explosion Hazards – Gas stations store large amounts of flammable fuel, posing a safety risk in case of leaks, fires, or explosions.
3. Traffic and Safety Concerns – Increased vehicle traffic can raise the risk of accidents, particularly in areas where young children are walking or biking.
4. Water and Soil Contamination – Fuel leaks or spills can seep into the soil and groundwater, potentially affecting local water supplies.
5. Noise Pollution – The constant flow of vehicles and fuel deliveries can create noise disruptions, affecting students' concentration and learning.
6. Odor and Discomfort – Gasoline fumes and emissions can cause discomfort, nausea, or dizziness, especially for children with sensitivities.

Many regulations and zoning laws restrict gas stations from being built near schools due to these concerns. Would you like to look into local regulations on this issue?
From Joe wu
Home owner On village green Dr



Silva Valley Pkwy

Not notified

Notified

Schools

From: Denise Clark
To: edhcostco@edcgov.us
Subject: New Costco Development
Date: Saturday, March 29, 2025 6:11:52 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Hello,
Our county supervisor is Greg Ferrero (bosone@edcgov.us)
We're writing this letter to express our opposition to another Costco in our region. The proposed construction of a Costco retail warehouse and gas station on this open land represents a poor use of our valuable natural spaces and poses significant risks to our community. El Dorado Hills' roadways—primarily consisting of two-lane roads—are already stretched thin and simply cannot accommodate the surge of traffic this development would bring. With another Costco warehouse already operating less than 5 miles away, this project is redundant and threatens the safety, character, and quality of life in our town.
The increased vehicular traffic would create serious public safety issues, particularly for the bicyclists and pedestrians who frequently use this area. As a retired Army officer with executive experience, I can attest this will also jeopardize the safety and security of our EDH residents. As has been demonstrated in every scenario akin to this, retail centers attract not only honest consumers, but this also serves as a beacon for those looking to exploit the trust and confidence in perceived security. The associated criminal activity creates strain for our first responders, and it adversely challenges the safety EDH residents and visitors have come to expect.
Additionally, these roads were not designed for the volume of cars a Costco would attract, putting vulnerable roadway users at heightened risk of accidents. Roadway surveys would likely indicate additional roads need to be constructed to support the population influx. Beyond the steady flow of shoppers, the gas station across the roadway would exacerbate congestion, with vehicles queuing and crossing lanes, further endangering those on foot or bike.
Moreover, this development would lead to exponential population spikes throughout the day as shoppers flood the area, overwhelming our infrastructure. Emergency response times could suffer as police, fire, and medical services navigate clogged streets, compromising public safety on a broader scale. El Dorado Hills residents chose this community for its strong commitment to nature, stunning views, and vast landscapes—not for sprawling commercial sprawl that erodes what makes this place special.
In closing, we chose to move to EDH four years ago because of the health and safety implications associated with this town. We share this sentiment with many others when I say we feel hoodwinked into believing the natural beauty of our new hometown would persist. Approving this Costco is against the public's best interest because it sacrifices our town's identity and safety for an unnecessary retail giant. We don't need more concrete and traffic; we need to preserve the open land that defines El Dorado Hills and protect the well-being of those who call it home. Let's prioritize

our community over corporate excess. We look forward to the support of our County Supervisors, their resources, and other constituents like us.
Thank You,
Larry and Denise Clark

From: Loretta Fillpot
To: EDHCostco@edcgov.us
Subject: new costco in the Serrano area
Date: Monday, March 31, 2025 11:16:39 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

3/31/2025

I live in Serrano Village K. I think it would be terrible to build a Costco and gas station right near the Elementary School on Silva Valley Road. The traffic would increase, making it very unsafe for students and drivers entering and exiting the parking lot and sidewalks. Besides, there is a Costco right down the hill in Folsom. Please don't bring all of this traffic to our peaceful residential community!

Loretta Fillpot
Homeowner in Serrano, El Dorado Hills

From: June Z
To: EDHCostco@edcgov.us
Subject: New Costco Plan in EDH
Date: Tuesday, March 11, 2025 12:30:21 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear Mr. Welch
My name is Jill Zhang and I am a resident of Serrano. I think the plan to build Costco in El Dorado Hills next to Oak Meadow Elementary School is totally wrong!
Just please ask yourself, do you want your kids smell gas and hear traffic noisy while they are in school studying?
Between the safety for kids and for the neighbors who live nearby and city revenue, which one is more important?
The Costco at Folsom is less 5 miles away from El Dorado Hills. I have not seen any two Costco so close in Northern California.
Common Sense! Common Sense!
The common sense is important to society! Do you agree?
Thanks for your time
Jill Zhang

From: Yang Sun
To: EDHCostco@edcgov.us
Subject: New Costco plan in EDH
Date: Wednesday, March 26, 2025 11:22:56 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

I would like to provide written comments on the Costco plan to add a warehouse store with gas station on Silva Valley Parkway. It is simply WRONG to approve a gas station right next to an elementary school in a residential neighborhood.

From: Thomas Cliche
To: EDHCostco@edcgov.us
Subject: New EDH Costco and Town Center access (walking or cycling)
Date: Friday, March 21, 2025 11:33:32 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Hi,

As a 13 years resident of El Dorado Hills and Serrano Village A (Village Green Dr) resident, I would like the project to manage, or improve two important aspects before it could move forward:

The first one is the dangerous and limited walking and biking access to the Town Center from the Silva Valley road. It is, in my view, completely unacceptable that there is no safe pedestrian and bicycle access to the Town center from Village A/Oak Meadow School. I have discouraged myself and my kids to go to Town Center using their bikes or scooters given how dangerous the bike path is, especially at the connection to White Rock. The relatively crazy, unsafe and overwhelmed drivers and trucks associated with a Costco gas station and warehouse will make this ride even more unsafe than it is today. A dedicated/separated sidewalk and bike path needs to be an inclusive part of the project. White paint on the pavement is not an adequate mitigation to the basic lack of safety of the current situation. I really think the city is currently negligent by having sidewalks and bike lanes from Sylva Valley leading to White Rock Rd, a single lane east-west road (blinding sun at sunrise/sunset) of 45MPH (which people are driving at 60MPH) with narrow shoulders and no safe or dedicated bike path or sidewalks. The EDH Costco project can correct this unsafe situation and make the ride/walk to Town Center a safe and enjoyable activity and add value to our houses and community.

The second one is the continuation of the walking nature creek trail all the way to White Rock. The trail is fantastic and should be protected (noise/visual) from the Sylva Valley and Costco warehouse project.. It should be extended all the way to white rock giving a nice possibility to walk/bike all the way to Town Center without having to deal with the hussing and bussing of the Costco Warehouse and gas station mayhem.

I really think those two improvements are essential to the acceptance of the EDH Costco project.

Do not hesitate to contact me if you need clarification or additional information.

Thank you

Thomas Cliche
4820 Village Green Dr. El Dorado Hills, CA, 95762
916-247-9256

Thomas Cliche
916-247-9256

From: Nicole Pruess
To: EDHCostco@edcgov.us
Subject: New Site
Date: Friday, March 14, 2025 2:48:58 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Hi There,

Was there a traffic study done for this project? We have a Costco one exit away that you could start with. I'm very concerned about traffic on Silva valley, because our roads are half the size of Bidwell. During school times we are already backed up on Silva.

We have 4 schools on this street, and lots of kid activities. The police also have had to come out multiple times for speeding during those times, so it's already a problem.

Retail is going to attract a ton of people and may bring in people that are criminals. We have a very safe neighborhood at the moment.

This is a terrible idea and it's too close to the other location.

I can't imagine my neighbors feeling any differently. All we would need to do is boycott as the other one is so close to us.

Thanks for your time.

~ Nicole Pruess

From: L R
To: edhcostco@edcgov.us
Subject: No Costco!!
Date: Wednesday, March 26, 2025 8:44:19 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

The residents of Serrano and El Dorado Hills do NOT need or want a Costco -- or any other type of warehouse or big box store.

We don't want trucks and constant deliveries in this residential neighborhood; we don't have the infrastructure to handle that kind of traffic; we don't want any of this activity on the same street as our schools; and we don't want the excessive light at night.

Everything about this proposed project is wrong for this area. The vast majority of voters do not want Costco or anything similar here. It offers no benefits -- only problems that will ruin our neighborhood.

The people who live here deserve to have the right to refuse anything that will destroy our area -- and this is a prime example.

NO COSTCO! NO COSTCO! NO COSTCO!

Please do not destroy this beautiful area.

Sincerely,

Anthony Ivancovich
7001 Gullane Way
El Dorado Hills, CA 95762

From: Gina Tobalina, MD
To: EDHCostco@edcgov.us
Subject: No Costco in EDH
Date: Thursday, March 27, 2025 10:54:13 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Mr. Welch,
I would like to add my comment that I do not want Costco in EDH. We have a massive Costco just a few miles down the road in Folsom. Adding a second Costco will bring too much traffic and noise, plus serve as a visual blight. The negatives of adding another Costco vastly outweigh the benefits. I know Costco says that so many EDH residents are members, and that it would give us a closer location. But that is not what I want. I am happy to drive the extra 5 minutes to keep mega-stores out of our community. It is my intention that if Costco does build in EDH, I will cancel my membership and move over to Sams Club. Keep our community local and peaceful and safe for our families. We don't want Folsom-level growth and congestion in our neighborhoods.
Gina Tobalina, MD

From: Naba Kadel
To: EDHCostco@edcgov.us; Naba Kadel
Subject: No Costco in El Dorado Hills please.
Date: Friday, March 14, 2025 11:41:11 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

To whom it may concern,

We do not approve and do not accept any commercial Chain stores like Costco in Residential Areas of El Dorado Hills especially in Silva Valley Road.

Thank you very much and consider this letter as my vote in opposing Costco construction in El Dorado Hills anywhere North side of Hwy 50.

Thank you very much.

Sincerely

Naba Kadel

From: Nancy Burns
To: EDHCostco@edcgov.us
Subject: No Gas Stations or Huge Parking Lots next to schools
Date: Friday, March 14, 2025 12:00:56 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Hello,

I am an employee at Oak Meadow Elementary School and I strongly object to having a gas station right next to a school due to the resultant air and noise pollution and how that may affect young growing children's health and learning and playing environment. I also object to a big parking lot just next to the school for the same reasons.

Thank you,
Nancy Burns

Sent from my iPhone

From: Rayelle Theeck
To: EDHCostco@edcgov.us
Subject: NO on Costco
Date: Thursday, March 27, 2025 7:41:47 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Hello,

I am writing to strongly express my opposition to Costco coming next to Serrano. The intersection is already crowded, and as someone who lives in Village A, the noise and inconvenience of construction will be terrible, not to mention the traffic and congestion that will come after the building is completed. The proximity to the schools is unsafe as well. I am HIGHLY CONCERNED about our home values decreasing because of this also. There is plenty of developable space up the 50 corridor; go build it in Cameron Park!!!! The choice of location is terrible and will cause irreparable damage with noise, traffic and congestion; all this can be easily avoided by moving a couple miles east.

Rayelle Theeck

From: Taylor Greene
To: EDHCostco@edcgov.us
Subject: NO on Costco
Date: Thursday, March 27, 2025 11:50:06 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Hello,

I'd like to formally note my objection to the Costco project in El Dorado Hills.

I moved my family to El Dorado Hills for the beautiful landscape, minimal traffic, family focus and away from the big box stores. Putting a Costco right up against my neighborhood and in such close proximity to an elementary school is bad for the families of Serrano. Such an obvious tax money grab at the expense of its local residents is disgusting by county officials.

NOT IN OUR BACKYARD!!

-Taylor Greene
Serrano resident

From: CRAIG COWIE
To: EDHCostco@edcgov.us
Subject: No to the proposed Costco on Silva Valley !
Date: Wednesday, March 5, 2025 9:35:08 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Mr. Welch and El Dorado planning Department,

I am disappointed in Costco and El Dorado County Officials.

Is there a DIRE need to place such an intrusive and immense Wherehouse and a massive gas station right next to a elementary school, neighborhood and nature path/area?

I am deeply concerned about the safety of our elementary school children.

Drop off and Pick up times at Oak Meadow Elementary is a big concern as it crowds Silva Valley Roadway significantly.
This roadway is not made to handle all the traffic that Costco will bring in.

What about the health of our children in the elementary school when the Asbestos is being kicked up?

I feel that is a dangerous and irresponsible decision. I am sure there is a better place in El Dorado County for this Costco.

Thank you,
Elaine Cowie
El Dorado Hills Resident

From: Leticia Ramirez
To: EDHCostco@edcgov.us
Cc: Michael Tooley; Marc Strauch; David Tooley; Ryan Hooper; Serenity Faith Your
Subject: NOP Comment Letter - EDH Costco (SCH #2021080402)
Date: Wednesday, March 19, 2025 5:14:44 PM
Attachments: LTR - NOP Costco EDH - Final.pdf

This Message Is From an External Sender
This message came from outside your organization.

Report Suspicious

Mr. Welch,

Please see the attached comment letter regarding the Costco EDH Notice of Preparation.

Thank you.

Leticia M. Ramirez
Attorney
THATCH & HOOPER, LLP
1730 I Street, Suite 220
Sacramento, CA 95811
Office: (916) 443-6956
E-Mail: LRamirez@thatchlaw.com

****** CONFIDENTIALITY NOTICE ******
This communication and any accompanying document(s) are confidential and privileged. They are intended for the sole use of the addressee. If you receive this transmission in error, you are advised that any disclosure, copying, distribution, or taking any action in reliance upon the communication is strictly prohibited. Moreover, any such inadvertent disclosure shall not compromise or waive the attorney-client privilege as to this communication or otherwise. If you have received this communication in error, please contact the sender at the internet address indicated by telephone. Thank you.

2025 MAR 12 AM 11:25
RECEIVED
PLANNING DEPARTMENT

March 8, 2025
3520 El Dorado Rd.
Placerville, CA 95667

Cameron Welch, Senior Planner
Planning and Building Dpt.
2860 Fairlane Ct. Bldg. C
Placerville, CA 95667

Re: EDH Costco

Dear Senior Planner,

We badly need another Costco and Silva Valley Parkway is an excellent place for it. I think it's been planned that way for years. On busy days, that Costco down the hill is a nightmare

You will get protests from people who think they've moved to the country, and at the expense of everyone else, want their silvan landscape unspoiled.

Public comments are useful because people get to vent but the sooner we get a Costco in there the better.

Sincerely,

Jon Vilhauer, DVM

El Dorado Hills Area Planning Advisory Committee https://edhapac.org

"Non-Partisan Volunteers Planning Our Future Since 1981" 1021 Harvard Way, El Dorado Hills, CA 95762

APAC 2025 Officers

John Davey, Chair jdavey@daveygroup.net
John Raslear, Vice Chair jjrazzpub@sbcglobal.net
Timothy White, Vice Chair tjwhitejd@gmail.com
Brooke Washburn, Vice Chair Washburn_bew@yahoo.com
Bill Jamaca, Secretary bjamaca@gmail.com

March 30, 2025
County of El Dorado Planning Department
ATTN: Cameron Welch

RE: EDH Costco NOP & Public Scoping Meeting

The El Dorado Hills Area Planning Advisory Committee (EDH APAC) would like to submit these public comments on the Notice of Preparation of a DRAFT EIR, and the Public Scoping Meeting for EDH Costco PD15-0001, CUP23-0012, V22-0001 held in El Dorado Hills on March 10, 2025.

Largely, the environmental concerns expressed at the March 10th Scoping meeting by residents are consistent with the concerns and questions raised by EDH APAC volunteers.

Fuel Station – Air quality impacts from idling vehicles as they wait in queue to access the fuel pumps.

Fuel Station – Impacts on Oak Meadow School Elementary School, students, staff, and parents. The same concern about idling vehicles along with issues centered on chemical fumes from the storage of fuels, and the operation of the fuel station

Fuel Station location – Many community members have asked if the fuel station could be moved further south, towards Tong Road, to further mitigate impacts on residences and Oak Meadow Elementary School.

Air Quality – EDH APAC members have concerns about the amount of Green House Gases and their impacts that will be generated by the project construction, and ongoing operation of the project following construction.

Noise Impacts – Noise impact concerns center on both the construction process, and the ongoing operation of the project following construction. Items mentioned included commercial truck delivery, fuel truck delivery, and forklift usage on site.

Water run off – EDH APAC volunteers expressed concerns regarding the impact of storm water run off both during construction and for the project operations following construction. A significant portion of the project is proposed for paved impervious parking areas. Water run off impacts for the adjacent Carson Creek drainage areas, as well as potential downstream impacts should be mitigated. Volunteers have asked if there will be additional water run off basin storage capacity on or off site of the project.

Wildlife Impacts – EDH APAC volunteers have expressed concerns about potential impacts on wildlife in the project area.

Naturally Occurring Asbestos – EDH APAC volunteers have cited the recent history of the Silva Valley Parkway Interchange project, and noted the significant amount of blasting required for grading. Concerns have been raised seeking clarification about the potential for Naturally Occurring Asbestos on the project site.

Circulation – Circulation impact questions centered on tractor trailers deliveries missing the turns into the project sites, forcing commercial traffic further north into the Serrano El Dorado Villages. The lack of infrastructure allowing commercial trucks with 48 and 53-foot trailers to turn around. Also cited was the potential impacts on the existing pedestrian, bicycle, school, and residential traffic patterns.

An additional concern is the opportunity missed on construction of a very small segment of one of the many CIP projects for the proposed County Club Drive extension to serve as the second access point for the proposed (North Side) Fuel Station facility. An alignment here for access to the Fuel Station would prevent any sort of “throw-away” circulation conveyances constructed prior to when the future Country Club Drive extension may be constructed. Using a small spur of Country Club Drive extension on the north side of the Fuel station to align with the future Country Club Drive project could prevent additional future construction time and traffic delays, as well as provide mitigation for what the public recognizes as one of the most significant impacts on the El Dorado Hills Community - vehicle, bicycle, and pedestrian safety impacts at Oak Meadow Elementary School.

Traffic Signals – impacts on interchange operation, as well as school pick up/drop off activities at Oak Meadow Elementary School.

VMT & LOS – Vehicle Miles Traveled (VMT) analysis is required under CEQA, but Level of Service metrics (LOS) compliance is required under County General Plan.

Parking & Parking Garage – Questions have been raised about the amount of parking required by the El Dorado County Zoning Ordinance, as well as the circulation, safety, and aesthetic impacts of the proposed two level parking structure. Questions have also been raised about the potential for the requirement of significant blasting operations to facilitate the below grade parking level.

Soundwalls – Volunteers have asked about the potential for soundwalls on the north sides of the project to mitigate potential sound impacts on the residential villages to the north, west, and the east, as well as sound impacts to Oak Meadow Elementary School.

Fire Safety – EDH APAC Volunteers have asked about potential fire safety impacts, and if the project would require additional fire apparatus acquisition by the El Dorado HIlls Fire Department based on the size of the warehouse store structure, and the proposed 32 fuel pumps at the Fuel Station facility.

Tree and plant impacts – As noted in EDH APAC member **Alastair Dunn's** observations regarding oak tree removal (see below), APAC Volunteers have questions about the intent, and applicant requirements of removing many of the existing trees on the project site.

EDH APAC specific Member concerns

EDH APAC Member George Steed

Noise – The nearest sensitive receptors are homes located from 500 to 800 up-slope from the improvements, with school classrooms and playgrounds located just a few hundred feet further away. There are no natural features of terrain present to attenuate noise from either of the sites, nor from the increased traffic on Silva Valley Rd. Studies must include baseline ambient noise measurements from those receptors including day, evening, and night hours, workdays, and weekend days. On-site noise estimates must include assessment of impulse noise generated by delivery trucks and trailers and notably the back-up warning sounds that are particularly irritating during evening and night hours. Serious consideration should be given to restricting delivery of goods to reduce these noises during evening and night hours.

Traffic Circulation – The omission of a signalized intersection at the alignment of the planned extension of Country Club Drive is particularly concerning. The applicant clearly

recognizes the need for two entrances to the employee parking and gas service station by including the unsignalized entrance/exit. Consideration should be given to improving the circulation of traffic and access by locating that second entrance north to the planned signalized intersection at Country Club Drive. This would reduce the cuing of south bound traffic in the left turn pocket at the southern intersection, This should also include realignment of ingress and egress from the Oak Meadow School and provide adequate queuing from parents picking up and dropping off students. As EDC DOT has previously identified, the current traffic models fail to adequately assess the impact of school hour traffic, this adjustment would significantly reduce the existing hazard for students, parents and teachers, and better distribution of the traffic entering and leaving the site between the two service station entrances.

EDH APAC Member Alastair Dunn

EDH APAC also seeks Incorporation by Reference to the independent analysis and comments submitted previously to El Dorado County on March 21, 2025 by EDH APAC member Alastair Dunn [A_Dunn EL DORADO HILLS - COSTO DEVELOPMENT PLAN and A_Dunn Costco Development Plan - DEIR Comments - APPENDICES - both attached]. Mr. Dunn's many years of experience in land acquisition and project entitlement processes continue to be a valuable component to the volunteers contributing to EDH APAC project reviews.

EDH APAC appreciates the opportunity to provide thoughtful comments and feedback regarding proposed development projects in the El Dorado Hills community.

We remain available for questions or discussion on any elements of the proposed EDH Costco Project as the applicants move forward through the review and entitlement process.

Sincerely,

John Davey
Chair
El Dorado Hills Area Planning Advisory Committee

EDH APAC EDH Costco Subcommittee
El Dorado Hills Area Planning Advisory Committee
"Non-Partisan Volunteers Planning Our Future Since 1981"

Date: March 20, 2025

Re: EDH Costco Project Environmental Impact Report

To Whom It May Concern:

I am a 23 year home owner living within a half mile of the new proposed Costco project. I find it very difficult to understand how a project as large as Costco at 165,000 square feet and gas station would be approved adjacent detached single family homes and an elementary school. The whole design and purpose of the Serrano development was to provide a semi-rural feel to the neighborhood and surrounding development. The Serrano development specifically tried to have minimal light impact and natural setting for homeowners.

The lack of conformity of adding a Costco coupled with the high levels of traffic it will have within a local neighborhood seems not well thought out. I understand the County interest in the tax revenue provided by the development but the negative impact on home values and traffic concerns seem to be over looked. Additionally, the noise and light pollution will be extensive. Delivery trucks operating from midnight to six AM, homes looking down at a lighted parking lots 24 hours. This does not seem to be a well thought out or designed. I am very concerned about the environmental impact of this project and safety of children at the school on the local neighborhood. Also, the DEIR should identify any potential health effects of these emissions on sensitive local receptors, including children and personnel at Oak Meadow School, and neighboring residents, including seniors. The Planning Commission should take another look at this project and the negative impacts it will have on the local community and children within the surrounding neighborhood.

William Buenzli, MAI
746 Anna Place
El Dorado Hills
Bill.buenzli@gmail.com

From: bill.buenzli@gmail.com
To: Cameron Welch
Subject: NOP Scoping Comments
Date: Friday, March 21, 2025 7:34:55 AM
Attachments: CostCo_NOP Scoping Comments.pdf

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Cameron,

Please find attached comments and concerns in response to the proposed Costco and Gas Station projects.

Thanks
Bill

EDH Costco Project Environmental Impact Report

NOP SCOPING COMMENTS

El Dorado County invites you to provide comments on the scope of the EDH Costco Project and the environmental impact report (EIR) analysis. You can use this form to write your comments and drop in the box for written comments, or you may write your comments on this form, in a letter, or an e-mail and submit to the following physical address and/or e-mail address:

Cameron Welch, Senior Planner
County of El Dorado Planning and Building Department
2850 Fairlane Court, Building C
Placerville, CA 95667

Email: EDHCostco@edcgov.us

Written comments must be submitted no later than March 31, 2025, by 5:00 p.m. Thank you!

Name: Juanita Brand

Organization (if any):

Address (optional):

City, State, Zip: El Dorado Hills, CA 95762

Email (optional): jbrand23@gmail.com

Comments

My husband and I have lived here 10 years. We enthusiastically support this new Costco and the gas station.

I'm sure California has strong emmission control laws for gas stations.

More space on back

From: Deanna Guthrie
To: EDHCostco@edcgov.us
Subject: Nope
Date: Wednesday, March 26, 2025 6:01:26 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

EDH,
Thanks for the consideration of Costco .
Perhaps an EDH Costco benefits Cameron park or Placerville. Personally Folsom is not too far to drive for Costco.
Not interested in the amount of congestion & traffic that will incur.
Would much rather see TRADER JOE’s added to the town of EDH.
Thank you
Deanna Guthrie
A Serrano resident
Sent from my iPhone

From: iris2018 xu
To: EDHCostco@edcgov.us
Subject: Objection to Proposed Costco Store & Gas Station Near Oak Meadow Elementary School
Date: Sunday, March 30, 2025 3:44:33 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear Cameron Welch,

I am writing to express my strong objection to the proposed construction of a Costco Wholesale store and gas station near Oak Meadow Elementary School at El Dorado Hill. As a parent, I am deeply concerned about the potential negative impacts of this development on the safety, health, and well-being of students, families, and the surrounding neighborhood.

My primary concerns include:

1. **Safety Risks for Children**
    - Increased **traffic congestion** from Costco shoppers and gas station visitors could create hazards for students walking or biking to school.
    - **Delivery trucks and large vehicles** near school zones raise the risk of accidents.
2. **Air Quality & Health Concerns**
    - Gas stations emit **benzene and other volatile organic compounds (VOCs)**, which are especially harmful to children's developing lungs.
    - **Idling cars** waiting for fuel could worsen air pollution near the school.
3. **Noise and Disruption**
    - Costco's **early-morning deliveries** and gas station operations (often 24/7) could disrupt school activities.
    - **Increased noise** from shoppers and traffic may affect the learning environment.
4. **Traffic Congestion**
    - El Dorado Hills already experiences **heavy traffic** during peak hours. Adding a Costco would likely worsen bottlenecks near school drop-off/pick-up times.
5. **Property Values & Community Character**
    - Some residents may oppose a large commercial development near a **residential and school area**, arguing it could lower property values or

change the neighborhood's feel.

There are Better Alternative Locations in El Dorado Hills

If Costco insists on building in the area, these locations might be **less disruptive** while still serving the community:

1. **Near Bass Lake Road & White Rock Road**
    - More **industrial/commercial zoning**, reducing conflicts with schools and homes.
    - Still accessible for shoppers without disrupting school traffic.
2. **Near the El Dorado Hills Town Center (EDH Promenade)**
    - Already a **commercial hub** with ample parking and highway access (US-50).
    - Farther from schools and residential zones, reducing safety concerns.
3. **Along Latrobe Road (near Highway 50)**
    - Close to major roads, minimizing neighborhood traffic impact.
    - Less direct proximity to schools.

I think building a **Costco + gas station right next to Oak Meadow Elementary is not ideal** due to **safety, health, and traffic risks**. A better solution would be to place it in a **more commercially zoned area** (like near Town Center or Latrobe Road) where it can serve shoppers without endangering children or disrupting the neighborhood.

Thank you for your time and consideration.

Sincerely,
Chunfeng Xu

Chunfeng Xu
M: 415 518 0108
E: irisxu201803@gmail.com

From: Simi Gosal
To: EDHCostco@edcgov.us
Subject: Objection
Date: Tuesday, March 4, 2025 6:18:28 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

To whom it may concern,

I'm not sure if this is the correct contact to express my concerns/ objections to the EDH Costco Plans. Unfortunately, I won't be able to attend the meeting on 3/10. Living in Serrano, Silva Valley has 4 grade schools, not to mention one right next to the proposed Costco. This will increase traffic and bring in outside traffic/ people into a neighborhood where most people value the quietness, privacy, and safety. The Costco gas station backs up to the elementary school, posing a small but possibly catastrophic risk to our kids. Costco will attract many outsiders into our neighborhoods, outsiders who may or may not be up to no good. We have a Costco just two exits down in Folsom. There's no need to a large business to open just two exits away. Costco will take away from our farmers markets and small businesses in our town. Honestly my concern is for the children at Oak Meadow Elementary. Who knows who could watch kids from the parking lot, who could snatch a kid/get on the freeway and be across the state in less than hour both ways. Who knows what kind of fumes the kids will be inhaling over the years attending that school. Who knows if there were to be a mishap causing an explosion. Protect our kids and small businesses. People who move to EDH, come here for a reason, and residents stay for the same reason: a quiet, peaceful, SAFE neighborhood.

Simi Gosal
916 7496328
Serrano Resident

Sent from my iPhone

From: Tana Golden
To: EDHCostco@edcgov.us
Cc: bosone@edcgov.us
Subject: Opinion on the proposed EDH Costco
Date: Sunday, March 16, 2025 1:21:54 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

This letter is to express my concerns and objection to the proposed EDH Costco. If built at the proposed site , it will have a significant impact upon traffic and the quality of life we currently enjoy .

I'm not against change or growth per se but I am when it has negative consequences as I believe this does.
The influx of vehicles (a constant flow day and night) will cause traffic congestion and gridlock that many of our roads cannot accommodate. Plus the warehouse and gas station being on opposite sides of the road will also cause traffic issues. I have a vision of Hwy 50 and Silva Valley Pkwy ending up like 50 and E. Bidwell in Folsom which is a real traffic nightmare !!! We also have an elementary school in close proximity that causes backup at certain times .

Additionally, our quality of life will be disturbed as open space will be gobbled up and urban sprawl will result.
Our sense of community will be threatened and I fear Costco will just be the start . This is not what I want to see.

I recognize that Costco is desirable to El Dorado County for it's tax revenue which is currently lost to Sacramento County . However, there are other locations better suited and would have less impact than the current site. An example would be Hwy 50 and Bass Lake Rd . There is much available land and other construction going on already. It's just one exit up the hill and two away from the Folsom location and would be more centralized for the existing and potential increase of residents.

There are those who would love a Costco "in their backyard " so they can make daily shopping runs and taste food samples !!! However, this is very short sighted . I feel what we lose is greater than what we gain at the current proposed site. A store this close to an existing Costco is unnecessary.

I have lived in Serrano since 2002 and like many, I'm a Bay Area transplant who sought to escape the congestion and don't want to see it repeated here. When I exit 50 and Silva Valley Parkway, I feel peace having left chaos behind and am welcomed by the open space and not a concrete jungle.

I hope you will listen and consider the comments of your constituents.

Sincerely yours

Tana Golden

From: Zach Presnall
To: EDHCostco@edcgov.us
Subject: Oppose cotsco
Date: Monday, March 17, 2025 6:24:53 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

I've been in El Dorado Hills resident for 12 years and vehemently oppose the Costco project. We moved from Folsom to enjoy the rural area with beautiful views and less congestion. If you've been anywhere near Costco in Folsom you'll know the traffic jams, noise and depletion of nature that are created with such a large project. You will see similar in Placerville near the Forni road shipping center. Those people will now be coming down to El Dorado Hills! A Costco will surely jeopardize school health and safety while reducing home values and increasing transit times to and from town center from the rest of El Dorado Hills. How many people need to voice concerns for you to honor the constituents of EDH? Please stop this nonsense that has been opposed by all residents for many years!

Thank you,
Zach Presnall

From: Rick Pimentel
To: EDHCostco@edcgov.us
Subject: Oppose EDH Costco
Date: Monday, March 31, 2025 3:19:22 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

As a resident of the Serrano neighborhood of El Dorado Hills, I vehemently oppose the proposed building of a Costco store adjacent to the neighborhood. There is already a Costco store in Folsom that is just 4.6 miles from the proposed site.

Costco cares more about its profits than the effect its proposal will have — ruining a safe, quiet neighborhood where residents appreciate living in a relatively undeveloped area with nature trails. The proposed Costco store would increase traffic and bring people into the neighborhood who would otherwise not be there, including those with ill intent.

Serrano is a gated neighborhood, but part of its security is its relatively isolated location. I moved to Serrano over 20 years ago to get away from the increasingly populated Sacramento. A Costco store would turn Serrano into another Folsom.

If Costco moves forward with the project, I will engage all my family and friends and ask that they engage their connections in boycotting Costco. That is how much I care about the sanctity of the neighborhood.

Sincerely,
Serrando resident

From: George Savariar
To: EDHCostco@edcgov.us
Subject: Opposing Costco next to Oak Medow Elementary
Date: Thursday, February 27, 2025 4:14:20 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear Mr. Welch

I am writing to formally express my strong opposition to the proposed Costco development near Oak Medow Elementary .

While I understand the economic benefits such a store may bring, I am deeply concerned about the negative impact it will have on the safety and well-being of our children and community.

First and foremost, the increase in traffic congestion poses a significant risk. The area surrounding the school already experiences heavy traffic during drop-off and pick-up times. Adding a high-traffic commercial development like Costco will lead to further congestion, making it more dangerous for children walking or biking to school. The potential for accidents will increase significantly, and emergency response times may also be affected.

One of the most pressing issues is the already severe traffic congestion in the area. There are currently four traffic signals within just half a mile, and adding another to accommodate Costco will only make matters worse. The increased volume of cars, delivery trucks, and customer traffic will create significant delays, making it even more difficult for families and school buses to navigate the area safely.

Additionally, the noise pollution generated by a large-scale retail store will be disruptive to students and teachers. A quiet and focused learning environment is crucial for young children, and the constant sounds of delivery trucks, customer vehicles, and overall commercial activity will create an ongoing distraction.

Another major concern is the influx of large delivery trucks in the area. Costco’s business model relies on frequent shipments from large trucks, which will pass through school zones at all hours of the day. This raises safety concerns, as these trucks have larger blind spots and require more stopping distance, posing a direct threat to children crossing streets or riding their bikes. The additional wear and tear on local roads is another factor that has not been adequately addressed.

Another critical issue is the large, deserted parking lot after business hours. These empty lots often attract loitering, illegal activities, and unwanted nighttime disturbances—especially when located near a large residential area. This raises concerns about increased crime, vandalism, and a decline in neighborhood security, putting local families at risk.

For these reasons, I urge you to reconsider the location of this Costco and seek alternative sites that do not pose a risk to schoolchildren and the surrounding residential community. The

safety and well-being of our children should be the top priority in any development decision.

Thank you for your time and consideration. I look forward to your response and hope that the concerns of local residents will be taken into serious account.

Sincerely,

George Savariar

From: Katharine Hampton
To: EDHCostco@edcgov.us
Subject: Opposition to Proposed Costco Development Near Serrano Gated Community
Date: Tuesday, March 18, 2025 10:57:48 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear Planning Committee,

I am writing to express my strong opposition to the proposed development of a Costco near the Serrano gated community. While I understand the need for economic development, this location is wholly inappropriate for a high-traffic commercial warehouse store.

A Costco in this area would significantly increase traffic congestion, creating safety concerns for residents, particularly families with children. The increased noise, pollution, and potential decline in property values also pose serious concerns. Additionally, the presence of a large retail store disrupts the character of the neighborhood, which was designed as a peaceful residential community.

There are far more suitable locations for a Costco that would not negatively impact a residential area. I urge the planning committee to reject this proposal and consider alternative sites that align better with community interests.

Thank you for your time and consideration.

Sincerely,

Katharine Hampton

Serrano and EDH resident

From: Robert Anderson
To: EDHCostco@edcgov.us
Subject: Opposition to Proposed Costco Development Due to Traffic and Safety Concerns
Date: Tuesday, March 18, 2025 7:16:12 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

I hope this message finds you well. I am writing to formally express my opposition to the proposed development of a Costco near our children's schools in our community. While I understand the potential economic benefits of this development, I have serious concerns regarding the impact it will have on traffic congestion and, most importantly, the safety of our children.

Traffic Concerns: The addition of a large retail store like Costco will undoubtedly increase traffic volume in the area, particularly during peak shopping hours. The nearby streets are already congested, and the proposed location of the store will likely exacerbate this issue. This increased traffic will not only create longer travel times but will also put additional strain on local infrastructure that is not designed to accommodate such a large-scale development.

Safety Risks Near Schools: What concerns me most is the safety of the children walking and riding to and from school. The proposed Costco is located in close proximity to several schools, and with increased traffic, the risk of accidents near school zones will rise significantly. Pedestrian safety will be compromised, especially during pick-up and drop-off times. I am deeply concerned about the well-being of our students as they walk or bike to and from school each day.

I urge you to reconsider the location of this development or explore alternative solutions that prioritize the safety of our community, particularly our children. It is crucial that we take every precaution to ensure that any development in this area does not compromise the safety and well-being of residents, especially students.

Thank you for your time and consideration. I hope that my concerns will be taken into account as you move forward with the planning process. Please do not hesitate to contact me should you require further information or wish to discuss this matter in more detail.

Sincerely,

Robert Anderson
1774 Darwin Way, El Dorado Hills, CA 95762
rwanderson300@gmail.com

From: Jormin Wu
To: EDHCostco@edcgov.us
Subject: Opposition to Proposed Costco and Gas Station Near Oak Meadow Elementary School
Date: Friday, March 28, 2025 8:55:50 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear Cameron Welch,

As a concerned parent and resident of El Dorado Hills, I strongly oppose the proposed construction of a Costco warehouse and gas station adjacent to Oak Meadow Elementary School. While I appreciate economic development, this project poses significant risks to our children's safety, health, and learning environment. I urge you and your team to reconsider the location for the following reasons:

1. Safety Hazards

- **Traffic congestion**: Costco's high-volume traffic (significantly during school drop-off/pick-up times) would increase accidents near the school. Large trucks and impatient drivers are incompatible with a zone where young children walk or bike.
- **Gas station dangers**: Fuel tanks and delivery trucks near a school create unnecessary fire/chemical risks. I don't see any gas stations just next to school in this country.

2. Health Impacts

- **Air pollution**: Idling vehicles and gas station emissions would expose children to harmful pollutants, worsening asthma and respiratory issues.
- **Noise disruption**: Constant construction noise, delivery trucks, and customer activity would disrupt classroom focus.

3. Quality of Life

- **Property values**: Noise, traffic, and pollution may reduce home values for nearby residents.

4. Alternatives

I encourage the Planning team to prioritize developments that align with our community's needs, such as parks, libraries, or small-scale retail in commercial zones—not next to schools.

As a parent of 2 children at Oak Meadow Elementary School, I am willing to collaborate with officials and neighbors to find a solution that supports growth without compromising our children's well-being. Thank you for your time and consideration.

Sincerely,
Zhuomin Wu

From: Bobbiejane
To: EDHCostco@edcgov.us
Subject: Opposition to EDH Costco
Date: Monday, March 17, 2025 11:13:41 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Hello,
I am an El Dorado Hills resident who is deeply involved in the community, in the school systems, sports programs, CSD, and work with many local businesses in EDH. One of the major draws for people to move to EDH, and quite frankly bring their families and money here, is because of the natural beauty of the area, including green space, and the community focus on families and children. The proposed building of Costco in EDH ruins the appeal of living here: you're taking away precious natural beauty, and seemingly have zero problem polluting the air right next to an elementary school. This goes against the values of most residents in EDH, and is a horrible, horrible place to put a Costco. Please consider moving it somewhere with more space like shingle springs, cameron park, or literally any other town. You have an entire county that could benefit from the taxes it raises and that all have more space to build than here in EDH.
Thanks for considering,
Jane

From: Sara Harris
To: EDHCostco@edcgov.us
Subject: Opposition to Proposed Costco on Silva Valley Parkway
Date: Wednesday, March 26, 2025 8:25:09 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear Cameron Welch,

I am writing as a concerned Serrano resident to express my strong opposition to the proposed Costco Wholesale project on Silva Valley Parkway, north of US 50.

While I understand the potential economic benefits of a new Costco location, I believe this particular site is not appropriate due to several serious concerns:

1. Proximity to Schools

The proposed site is in close proximity to local schools, including Oak Meadow and Silva Valley Elementary, Rolling Hills Middle and Oak Ridge High. Increased commercial traffic—especially from large delivery trucks and a higher volume of vehicles—poses a significant safety risk for children and families commuting to and from school. This raises concerns about pedestrian safety, traffic congestion during peak hours, and increased accident risk.

2. Freeway Access and Traffic Impact

The already congested US 50 corridor near Silva Valley Parkway cannot safely accommodate the substantial increase in traffic that a Costco and fuel station will bring. The added pressure on freeway on-ramps and off-ramps will likely result in more delays, more accidents, and reduced emergency access in the area.

3. Neighborhood Impact

The quiet, residential nature of this part of El Dorado Hills is what attracts many families to Serrano. Introducing a high-traffic commercial development so close to residential areas will dramatically alter the character of the neighborhood. Increased noise, light pollution, and late-night fuel station activity are additional quality-of-life concerns.

I respectfully request that you reconsider the suitability of this location and explore alternative sites that are better equipped to handle this type of development, without compromising residential safety, traffic flow, and environmental integrity.

Thank you for your time and for considering the voices of local residents in this matter.

Sara Harris

From: Stephanie Henning
To: Cameron.Welch@edcgov.us
Cc: EDHCostco@edcgov.us; bosone@edcgov.us; bostwo@edcgov.us; bosthree@edcgov.us; bosfour@edcgov.us; bosfive@edcgov.us
Subject: Opposition to the Proposed Costco Warehouse and Gas Station at Silva Valley Parkway, El Dorado Hills
Date: Thursday, March 13, 2025 5:20:04 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Stephanie Skaggs
4836 Village Green Drive
El Dorado Hills, CA 95762
Gigiandgino@gmail.com
209-406-9654

March 13, 2025

Dear Cameron,

I am writing to express my strong opposition to the proposed development of a Costco warehouse and gas station at the Silva Valley Parkway site in El Dorado Hills. As a resident of Village Green Drive, which is directly adjacent to the proposed gas station location, I have serious concerns regarding the negative impact this project will have on public health, traffic congestion, environmental risks, local wildlife, property values, and overall community safety.

Health and Environmental Hazards

The close proximity of a gas station to residential homes and Oak Meadow Elementary School poses significant health risks due to air pollution from gasoline fumes and vehicle emissions. Gasoline contains harmful hydrocarbons such as benzene, toluene, ethylbenzene, and xylenes (BTEX compounds), which are known to contribute to respiratory issues, neurological disorders, and cancer. Benzene, a recognized carcinogen, has been linked to an increased risk of leukemia, particularly in children who are more vulnerable to toxic exposure.

Moreover, research has shown that gas station emissions are much higher than previously estimated, leading to air quality concerns that could endanger the health of residents and schoolchildren. This project also introduces the risk of fuel spills, soil contamination, and groundwater pollution, further jeopardizing the well-being of the community.

Additionally, the construction phase of the development could disturb naturally occurring asbestos in the soil, releasing harmful fibers into the air. Exposure to airborne asbestos is a well-documented health hazard that can lead to severe lung diseases, including mesothelioma. These risks should not be overlooked when considering the safety of our neighborhood.

Traffic and Safety Concerns

Silva Valley Parkway is already experiencing significant congestion, particularly during school hours, as it serves as a major route for parents and school buses accessing Oak Meadow Elementary School. The addition of Costco's high-volume traffic—including thousands of daily customer vehicles, delivery trucks, and gas station users—will only worsen this problem.

Furthermore, Silva Valley Parkway has increasingly become a high-speed thoroughfare, with drivers treating it as an extension of the freeway. Adding a Costco at this location will further exacerbate speeding and dangerous driving conditions, creating a heightened risk for accidents involving pedestrians, cyclists, and schoolchildren. The increase in large commercial trucks delivering goods to Costco will also add to traffic congestion, noise pollution, and road wear, which could lead to costly infrastructure repairs for the county.

Zoning and Land Use Concerns

When we purchased our home 11 years ago, the Silva Valley Parkway location was not zoned for big-box retail development. The transition from a low-density business zoning to a large-scale retail warehouse was made without adequate community consultation. The character of our

neighborhood was never intended to support such a high-traffic, industrial-style operation, and this change does not align with the original vision of El Dorado Hills as a suburban residential community.

Impact on Wildlife and Natural Habitats

The area surrounding the proposed Costco site is home to diverse wildlife, including deer, bobcats, fox, coyotes, birds of prey, and other native species that rely on the remaining green spaces and oak woodlands for survival. The large-scale destruction of natural habitats due to this development will displace these animals and contribute to a loss of biodiversity in the region.

Gas stations, in particular, pose significant environmental risks. Fuel spills, stormwater runoff, and underground tank leaks can contaminate soil and water sources, endangering local ecosystems. Additionally, vehicle emissions and light pollution from the Costco parking lot will disrupt nocturnal wildlife behavior and further degrade the natural environment of El Dorado Hills.

Negative Impact on Home Values

A major concern for homeowners in the surrounding neighborhoods is the substantial decrease in property values that will result from the presence of a big-box retailer and gas station. Studies have consistently shown that large commercial developments—especially those involving gas stations—negatively affect nearby residential property values.

Potential buyers are often deterred by the increased noise, traffic, pollution, and crime associated with big-box retailers. The high-intensity lighting from Costco’s parking lot and gas station, along with extended hours of operation, will contribute to a decrease in the desirability of our neighborhood. Furthermore, the presence of heavy truck traffic and the potential for increased crime (such as theft, loitering, and vandalism) will make our community less attractive to prospective homeowners.

A decrease in property values will not only impact individual homeowners

but also reduce tax revenue for the county, ultimately affecting local funding for schools, infrastructure, and public services. It is unfair for long-time residents who purchased homes in what was supposed to be a quiet suburban area to now face financial losses due to a poorly planned commercial development.

Personal Experience and Community Impact

Having worked for Costco Wholesale for 15 years, I have firsthand knowledge of the operational realities of such facilities. The high volume of daily traffic, extended operating hours, frequent large truck deliveries, excessive noise, and increased crime rates are all aspects of Costco's business model that make it unsuitable for a location near homes and schools.

This development will permanently alter the character of our community, turning what was once a peaceful, family-friendly neighborhood into a high-traffic, high-noise commercial zone. The presence of a gas station further compounds these issues, adding air pollution and environmental hazards that will have long-term consequences for residents.

Conclusion

The proposed development of a Costco warehouse and gas station at Silva Valley Parkway presents numerous risks to public health, traffic safety, environmental quality, local wildlife, and home values. This project is fundamentally incompatible with the residential and school environment in which it is being proposed.

I strongly urge the planning committee to reject this proposal and seek alternative locations that are better suited for large-scale retail development. Our community's health, safety, and quality of life should take precedence over corporate expansion.

Thank you for your time and consideration. I hope that the voices of concerned residents will be given serious weight in this decision-making

process.

Sincerely,
Stephanie Skaggs

From: Tina Buenzli
To: PL-EDH Costco Project
Subject: Opposition to Proposed Costco Development
Date: Tuesday, March 25, 2025 11:49:21 PM
Attachments: 2025 3 25 Final Copy Sent Costco Serrano Project.docx

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.
Report Suspicious

Note: The letter is also attached to this email in document form.

March 25, 2025

El Dorado County Development Services Department – Planning Services
Attention: Cameron Welch
2850 Fairlane Court
Placerville, CA 95667

Subject: Opposition to Proposed Costco Development – Request for Alternative Site Consideration

Dear Planning Commission Members,

I am writing as a 23-year homeowner residing within half a mile of the proposed Costco project. I strongly urge the Planning Commission to reconsider the location of this development, as its scale and impact are incompatible with the surrounding residential community. Costco's 165,000-square-foot footprint, along with a high-traffic gas station, is wholly inappropriate adjacent to detached single-family homes and an elementary school. The Serrano development was carefully designed to provide a semi-rural atmosphere with minimal artificial lighting and a preserved natural setting—an environment that will be entirely disrupted by this project. Homeowners, including myself, chose to live in Serrano for its peaceful, community-centered character, and placing a Costco in the middle of it fundamentally undermines this vision.

Beyond the aesthetic and environmental concerns, the logistical impact on traffic and safety cannot be ignored. The significant increase in congestion, particularly near Oak Meadow Elementary School, raises serious concerns for child safety and pedestrian access. While I understand the County's interest in the potential tax revenue, the long-term negative effects on home values, traffic flow, and overall quality of life for residents must be given equal consideration.

Additionally, the anticipated noise and light pollution will be significant. The prospect of delivery trucks operating between midnight and 6:00 AM and the glare of a 24-hour parking lot will drastically alter the nighttime environment for local residents. These disruptions are not minor inconveniences—they are fundamental changes that will negatively impact our community's well-being.

I am also deeply concerned about the environmental and health risks posed by this development. The Draft Environmental Impact Report (DEIR) should thoroughly assess the increased emissions from both the heavy traffic and the gas station, particularly in relation to vulnerable populations, including children, seniors, and individuals with health conditions. As a woman who has recovered from Stage IV cancer, I am acutely aware of how air quality affects long-term health. Those with compromised immune systems, including many in our community, could face serious risks due to increased pollution from this project.

The Planning Commission has a responsibility to prioritize the well-being of residents over corporate interests. I urge you to take a closer look at the negative impacts this project will have on our neighborhood and explore alternative sites that do not threaten the character, safety, and health of our community.

Thank you for your time and consideration. I hope you will make a decision that reflects the best interests of Serrano residents.

Sincerely,

Christina Buenzli

Christina Buenzli
746 Anna Place
El Dorado Hills, California 95762
TBuenzli@comcast.net

From: W Qian
To: EDHCostco@edcgov.us
Subject: Opposition to the proposed Costco project
Date: Saturday, March 29, 2025 4:41:43 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Mr. Welch,

My name is Wenjun Qian. As a parent and a resident of Serrano, I am deeply alarmed by the proposed Costco gas station and warehouse so close to our children's school. Every day, our children breathe the air around Oak Meadow Elementary. Approving this project would expose them to toxic pollutants, increased traffic dangers, and unnecessary safety risks. I urge you to prioritize the health and well-being of our children and our community over corporate convenience.

Air Quality and Public Health

Imagine children playing outside during recess, breathing in toxic fumes from a massive gas station just down the street. Gas stations within residential and school proximity can increase cancer risk due to exposure to toxic air contaminants, such as benzene, a known carcinogen found in gasoline, particularly leukemia. Building a gas station near an elementary school in California is subject to various state and local regulations designed to protect public health and safety. The California Code of Regulations, Title 5, Section 14010(h), advises against locating schools near fuel storage tanks or within 1,500 feet of pipelines carrying hazardous substances. In addition, the California Air Resources Board (CARB) suggests maintaining a minimum distance of 300 feet between large gasoline stations and sensitive land uses, such as schools, to minimize exposure to toxic air contaminants. The gas station, as currently proposed, would violate these regulations and put our children at risk.

The EIR needs to fully analyze the air quality and public health impacts of the project to the school and our community. The emission sources that need to be evaluated include: the gas station, the idling vehicles, fuel trucks, vehicles to and from the warehouse, tire center (if there is any), etc. The EIR needs to consider feasible mitigation measures to minimize the impacts to the school, such as prohibiting refilling of the fuel tanks of the gas station and limiting the number of customers during school hours. The applicant should also be required to fund the school and local community to upgrade the air filtering system, so that the air quality and public health impacts

may be reduced.

In addition, El Dorado Hills is well-known for the presence of naturally occurring asbestos (NOA) in the soil, which is a carcinogen. According to the county's asbestos map: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/construction-dust-rules/asbestos-review-map-8-22-18.pdf, the project site is within quarter mile of found NOA. Therefore, it is very likely that NOA exists at the project site. I urge the county to require a comprehensive soil analysis to understand whether NOA exists at the project site. Construction of the project where NOA is present can pose serious health risks to workers, to our children at school and our community. The EIR needs to fully analyze the potential impacts of NOA and consider mitigation measures accordingly. To minimize the construction impacts to the school, the EIR should consider limiting construction hours to be outside normal school hours.

The air quality analysis of the project also needs to analyze the odor impacts of the fumes from the gas station and idling vehicles.

Traffic, Fire Hazard, Noise

The EIR also needs to analyze the project's impact on traffic congestion around the school. The EIR needs to identify mitigation measures to reduce traffic congestion as much as possible during school pickup and drop off hours.

I am also deeply concerned about the potential fire hazards associated with fuel storage and potential risks to the school and our community. The EIR needs to analyze the fire hazards and provide a detailed emergency response plan.

Noise from vehicle traffic entering and exiting the gas station would cause disruption of school activities and learning. The EIR needs to explore measures to reduce noise impacts to the school.

Safety

Finally, the presence of a gas station near the school will introduce safety concerns that undermine the educational environment and detract from the school's mission to provide a safe and healthy learning space. The EIR needs to require the applicant to fund the school to build a fence all around the school with a gate.

Alternatives

There are so many environmental concerns with the project, especially locating the gas station so close to the elementary school. The EIR should consider evaluating

alternatives that would reduce/eliminate the environmental impacts. A forward-thinking solution would be to replace the gas station with EV charging stations and solar panels, benefiting both the environment and the county's long-term economic growth in the green energy sector. Other alternatives could include using the northern parcel for parking only or moving the gas station to the south of 50 near the town center, etc.

Document Availability

I checked the county's webpage for this project. I only found some simple application forms with very brief questionnaires and check boxes. No detailed application files or analysis were found. I assume the applicant has provided more detailed information to the county.

The lack of publicly available project documents raises serious concerns about transparency. The county must release all relevant files immediately to ensure that residents have a fair opportunity to review and respond. Anything less undermines public trust in this process.

Because of my educational background and work experience, I'm very familiar with what CEQA requires for air quality/public health and greenhouse gas emissions impacts analysis in an EIR. I would like to review how the emissions were evaluated and how the impacts were modeled to determine whether the applicant or the county has followed CEQA guidelines established by the state, the local air district, and the county/city. The files should be made available to anyone who is interested under the Public Records Act. Please let me know the process for submitting a public records request.

In addition, the county should also publish all the comments received for this project so that the public can review what comments have been raised.

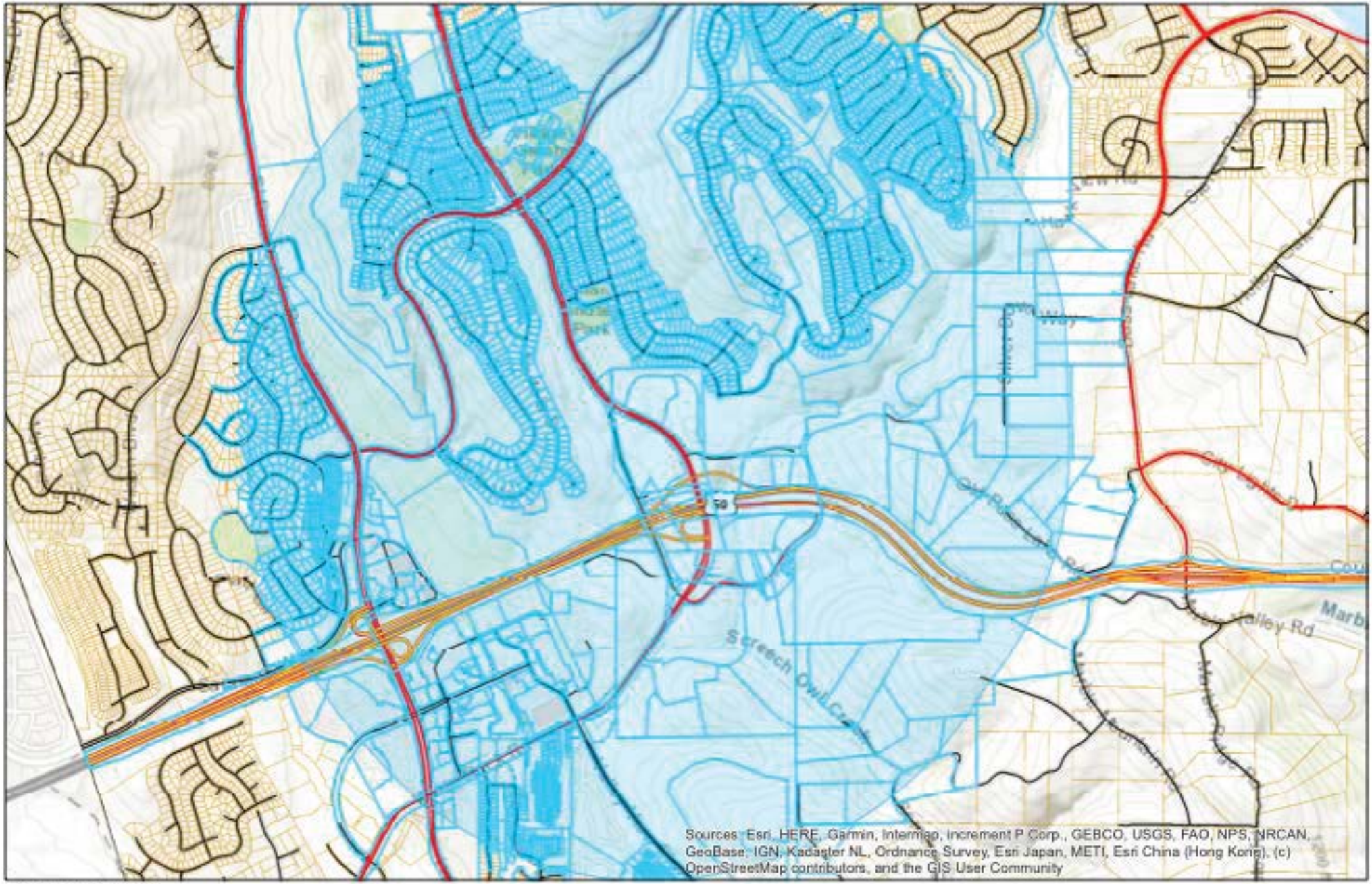
Public Noticing

The county should expand the public notice to include all parents with children attending Oak Meadow Elementary School, including those in the Buckeye Union Mandarin Immersion Charter School.

Finally, for the sake of our children's health, our community's safety, and our shared future, I urge the Planning Commission to reject this project proposal. Anything less would be a failure to uphold your duty to protect the residents of El Dorado Hills. We will continue to advocate for responsible development that does not compromise public health.

Thanks.

Wenjun Qian



February 19, 2025

EDH Costco Notification Map NOP 02-25-25 (1 Mile)

Search Results: Parcels
Override 1
County Outline
Highway Labels

Highways

Major Roads
Major Roads
Minor Roads

Disclaimer: Parcel boundaries in this map are illustrative only and not considered the legal boundary.

N
W
E
S

0 680 1,360 2,040 2,720 Feet

From: Ady Santos
To: EDHCostco@edcgov.us
Subject: PLANNED DEVELOPMENT PERMIT - COSTCO EDH
Date: Wednesday, March 12, 2025 3:39:35 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

To Whom It May Concern:

This comment is in response to the Revised Notice of Preparation of Draft Environmental Impact Report for the EDH Costco application. The Potential Environmental Impacts section states that Air Quality is one of the topic areas to be addressed in the EIR. The North Site improvement will include, among others, the members-only fueling facility, a minor stationary source of air emissions.

It is noted that the Oak Meadow Elementary School is located on the northwest corner of the North Site parcel. The separation distance between the proposed Costco gasoline dispensing facility and the school, a sensitive receptor, must be determined. A Health Risk Assessment will estimate potential cancer risk and other health impacts due to short- and long-term exposure to toxic air contaminants.

Thank you for the opportunity to comment.

Amado R. Santos, Jr.
5264 Mertola Drive
El Dorado Hills, CA 95762

adysantos46@gmail.com
916-595-0528

Virus-free.www.avast.com

From: Aaron Humphrey
To: EDHCostco@edcgov.us
Subject: Please build it
Date: Tuesday, March 18, 2025 9:59:01 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

I am in full support of building a costco in that location. Please do it!

Aaron Humphrey

From: Adam Book
To: EDHCostco@edcgov.us
Cc: Jayme Powers
Subject: Please do NOT proceed with plans to open a Costco on Silva Valley EDH
Date: Wednesday, March 26, 2025 3:13:29 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

This quiet, safe and special community littered with schools and school children along Silva Valley does noyt in any way need a Costco on this street/this Hwy 50 exit. PLEASE VOTE NO!
Folsom Costco is literally a few minutes down the road. Keep that traffic, and congestion in Folsom!

Adam Book
VP Director Trade Development California
Maisons Marques & Domaines
AdamBook@SGWS.com

Confidentiality Notice: This e-mail message, including any attachments, is for the sole use of the intended recipient(s) to which it is addressed and may contain information that is confidential, privileged or exempt from disclosure under applicable law. Any unauthorized review, use, disclosure, printing, storing, copying or distribution is prohibited. If you are not the intended recipient, or if you have received this email in error, please contact the sender by reply e-mail and delete all copies of the original message. Unless specifically stated otherwise, nothing in this email is intended to serve as an electronic or digital signature.

From: letha fair
To: EDHCostco@edcgov.us
Subject: Please move gas station
Date: Saturday, March 15, 2025 6:18:30 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear Cameron-

I am writing to please ask that there is no Costco due to extensive traffic, poor air quality, loss of EDH rural charm , and general disgust but I understand that is not a possibility. However, I would like to address the location of the gas station. I live at 4854 Village Green, so I am 1 of the 10 houses(unlike the entire rest of EDH community) that are immediately affected by Costco , particularly the gas station.

I am confused how it is even possible to place the gas station so close to Oak Meadow school and our homes. My concerns :

1) Significant air , noise and light pollution.
2) Traffic to get into gas station, cars idling constantly - all spewing gas fumes and known carcinogens. (And Costco states more gas pumps and longer available hours to add more insult)
3) The gas fumes and carcinogens blow west to east , hence DIRECTLY over Oak Meadow school , kids playing after school sports, our backyards/ homes and up into Serrano neighborhoods. We have a strong Delta Breeze every evening late spring to fall.
4)Ugly and unsightly.

Please help me understand how this is even a possible location with obvious health and environmental impacts to our neighborhood and school.

IF no choice but to have a gas station, can it not be moved closer to freeway to reduce traffic on Silva and Serrano neighborhoods, can it not be removed from near school and homes to let us have clean air?

WHY?? There seems to be no common sense in its placement.
I'd like to invite you to my home(or Oak Meadow sports field) this summer to feel and see the strong Delta Breeze we have ..please. It is inconceivable that this is not a concern for the school, homeowners, children , park players , base ball games, etc.

Thank you-

Letha Horwath

From: Yihua Shen
To: EDHCostco@edcgov.us
Subject: Please stop
Date: Monday, March 10, 2025 11:05:24 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

There's an obvious safety issue for Costco gas station to be built right next to Oak Meadow Elementary School. Besides the huge traffic it would cause on the already very busy Silva Valley Pkwy, I can't imagine those young kids in the elementary school would have to smell and breathe in gasoline all day long! For anyone who would approve such a crazy plan, don't you, or your family, ever have kids???

Yihua Shen
EDH resident

Yahoo Mail: Search, Organize, Conquer

From: Amanda Hansen
To: EDHCostco@edcgov.us
Subject: Please Use This Version
Date: Monday, March 31, 2025 5:00:10 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Hi Mr. Welch,

Thank you for hosting the March 10 public comment on the proposed Costco project in El Dorado Hills. I raised a few points in person and am following up in greater detail in writing.

My name is Amanda Hansen, and I live in Village A just behind Oak Meadow Elementary School with my husband, 12-year old son and 10-year old daughter. This project will have profound environmental impacts – increasing pollution (air, noise and water); encouraging GHG emissions; reducing habitat for wildlife; and endangering public safety. Worst of all, this location puts the children in our community at the most risk given proximity (1.5 miles or less) to two elementary schools, our middle school and our high school. It is shocking that Costco believes a warehouse store and fueling facility in the proposed location is appropriate - a single-family residential community, adjacent to an elementary school, less than 1.5 miles from another elementary school, middle school and high school, and only 4.4 miles via Highway 50 from its existing store and fueling facility in Folsom.

These are the issues I would like the County to address through the EIR process:

1. **Traffic -** Silva Valley Parkway is not fit to support the increase in cars and trucks associated with a Costco. Both because we already have major traffic during the day given the schools identified above, and afterschool activities held on those school campuses. Clarksville Crossing and Silva Valley Pkwy are not large enough to support the increased traffic that a Costco warehouse and 32-pump gas station will bring. There will likely be increased traffic on Serrano Parkway as well, where many children cross going between Serrano Villages A and C and Rolling Hills Middle School, Oak Ridge High School, and the El Dorado Hills Library. Oak Meadow Elementary is of particular concern due to its proximity to the project and existing traffic and parking issues. School pick-up and drop off times will be impacted the most, so the traffic analysis must assess impacts during those time frames for all four schools – not just Oak Meadow. The DEIR needs to evaluate whether our roads are capable of serving this massive retailer and community members. The EDH Costco DEIR should also present the results of an LOS analysis prepared by a qualified traffic engineer. The DEIR should show how vehicles waiting to fuel at the fueling station would be prevented from queueing onto

Silva Valley Parkway. What is the maximum length of queue, and number of vehicles that will be able to queue, before backing up onto the parkway?

2. **Safety –** Many children walk, bike, and scooter up and down Silva Valley Pkwy every day to get to school and afterschool activities. According to the California Department of Public Health, "unintentional injuries are the leading cause of child death. Many of these injuries are caused by motor vehicle crashes…" Increasing the traffic on residential streets children traverse to get to school is a recipe for a terrible tragedy. In addition to pedestrian safety concerns, the proposed Costco project raises other safety concerns for children traveling to and from school alone. The DEIR needs to evaluate all elements of public safety, including increased accident risk for bicycles, pedestrians and other vehicles. The DEIR should describe how the eastern edge of the North Site will be secured to prevent trespass into the adjacent gated Serrano Village A.

3. **Air Pollution –** I would like an analysis of the project's impact (during construction and operation) on levels of ozone (ROGs and NOx), Carbon Monoxide, Particulate Matter (DPM, PM 10, PM 2.5), and other toxic air contaminants and their potential negative health effects on sensitive receptors, especially the approx. 700 Transitional Kindergarten through 5th grade students (ages 4 through 11) at Oak Meadow Elementary School. Please include an analysis of cumulative health risks from exposure to pollution from US 50, increased traffic on Silva Valley Pkwy and Clarksville Crossing, the Costco warehouse (including diesel delivery trucks), the 32-pump gas station (sales volume should be used as a continuous variable to accurately estimate the impacts from a gas station of this size), and other future development on this parcel, including the future development of Country Club Drive.

A study conducted by Columbia University Mailman School of Public Health and Johns Hopkins Bloomberg School of Public Health shows that vent pipe emissions are over 10 times greater than estimates used to determine setback distances for gas stations in CA. California's enhanced VR technology cannot control breathing losses, only working losses. The DEIR should address the public health impact on the children and staff at Oak Meadow and surrounding residents of breathing losses including benzene emissions from vent pipes caused by temperature & barometric pressure changes or when fuel in the tank evaporates. In addition, this analysis should include losses caused by drips and spills, as well as short term bursts of emissions (1 Hr Reference Exposure Level) as a result of human error while hooking up the stage 1 VR during bulk fuel drops or uncontrolled emissions due to equipment failures or defects. Human error is not something you can mitigate. All of these impacts should include cancer and non-cancer health impacts.

In addition, taking into consideration local meteorology and atmospheric conditions, I would like to know the health impact of construction activity on the nearby communities and students at Oak Meadow Elementary that are in very close proximity to the project. I am very concerned about the presence of Serpentine rock in the area and the potential for asbestos release into the air during digging, grading, etc. The soil studies should cover this asbestos risk comprehensively. Because it is impossible to completely mitigate this risk, there will be families that choose to disenroll their children from Oak Meadow Elementary should this project breaks ground as a result, which could

have significant impacts on the school district. All the above-mentioned air quality impacts should be analyzed at the higher elevation of surrounding neighborhoods as well.

- The DEIR should quantify the existing and average increase in auto travel time on Silva Valley Parkway between the traffic signal at the top of the eastbound Highway 50 offramp at Silva Valley Parkway/Whiterock Road and Serrano Parkway as a result of project-related traffic and operation of the project's proposed signal light(s). What will be the increase in travel time during the pm peak commute traffic period, and during Costco's peak weekday and weekend hours of operation at both the warehouse store and fueling facility? Address increases in travel time along other relevant local street segments.

- The DEIR should provide an analysis of the increase in vehicle miles travelled (VMT) as a result of the project that complies with SB743 and County Resolution No. 241-2020. These regulations prohibit an EIR from considering deterioration of traffic level of service (LOS) as a criterion for determining the significance of a project's traffic impacts (as it was for the first 45 years of CEQA's existence). However, the regulations do not prohibit a county lead agency from using the policies of its General Plan as impact criteria. The DEIR should conduct an LOS analysis, and if the effect of the project on LOS would be inconsistent with General Plan policy, that inconsistency should be found to be a significant effect of the project, irrespective of the deterioration of the LOS itself. The DEIR should analyze the project's effects on LOS, and if the effects are found to be inconsistent with the General Plan, the DEIR should find that inconsistency to be a significant impact.

- The calculation of VMT impacts should address net project-related travel by Costco customers, employees, and suppliers, as well as all VMT enabled by the project's sales of fuel and tires (that's going to be a LOT of VMT...).

- The DEIR should examine the project's impacts on pedestrian, vehicle, and bicycle safety, particularly for children going to and from Oak Meadow School. Would the project include crosswalks at signalized intersections, or elsewhere? Would the signals include pedestrian controls? Would the project include sidewalk segments or bicycle lane segments? Would the project provide any particular measures specifically to provide, protect, or enhance pedestrian and bicycle safety, particularly as it relates to Oak Meadow School? How will pedestrians, including Costco employees, be able to cross safely between the North and South sites?

- Would project-related increases in traffic volumes warrant traffic signals, or other roadway improvements, in addition to those proposed as part of the project?

- Would road or lane closures be required during project grading, site preparation, or construction? If so, at what times of day, for how long, and how often? What would be the effect on normal traffic flows? How would emergency access be maintained during any closures?

- The DEIR cumulative impact analyses should examine the project's contributions to the combined impacts of all past, present, and reasonably foreseeable future projects to which the proposed project would also contribute, including, but not limited to, the already approved but unbuilt Serrano Village A14, the eventual commercial development of the project "outparcel" on the North Site, and the eventual construction of the full Country Club Drive Extension, and all the growth the full extension would induce in its corridor.

- CEQA Guidelines Section 15355 define "cumulative impacts" as two or more individual effects which, when considered together, are considerable, or which compound or increase other environmental impacts. "The individual effects may be changes resulting from a single project (emphasis added) or a number of separate projects." In other words, the DEIR must consider whether the cumulative collective effects of the totality of this single Costco project's topically diverse, adverse but less-than-significant individual effects, taken together as a whole, constitutes a cumulatively significant impact. The significance criterion should be something like this: "A single project's cumulative impact is significant if the combined effect of its topically diverse, individually less-than-significant effects, together with its individually significant effects, collectively results in a substantial adverse change in the environment. This includes, but is not limited to, the totality of all impacts of the single project related to traffic, noise, air quality, public safety, biological resources, cultural resources, aesthetics, soils and geology, soil, water, and groundwater contamination, archaeological and historic resources, hydrology and water quality, hazards and hazardous resources, greenhouse gas emissions, energy, public services and recreation, public services and utilities, land use and planning, tribal cultural resources, hydrology and water quality, fire hazard, and population and housing." The question for the Costco DEIR should be whether the combined individual impacts of this single Costco project, taken together as a whole, constitute a single cumulatively significant effect? If so, the mitigation would be to reduce, further reduce, or avoid each of the project's individual impacts to the maximum extent "feasible" (CEQA Guidelines, Section 15126.4 (a)(1). The DEIR's discussion of cumulative effect must not be "siloed," or compartmentalized, topic-by-topic, but must be presented as a whole, in one place, in the EIR, to evaluate the overall synergistic, and interactive effect of all of these individual impacts to determine if, when considered collectively, they constitute a significant cumulative impact under CEQA Guidelines, Section 15355. Application of this criterion will result in a comprehensive, cumulative "omnibus" impact evaluation of all the project's diverse impacts to determine their combined overall cumulative effect on the environment. It underscores the importance of considering how the totality of a single project's diverse individual impacts can collectively combine to constitute a significant cumulative impact on the environment, irrespective of the significance of its individual impacts and the impacts of any other

past, present, or future projects.

- The DEIR should quantify and assess the air quality impacts of the annual project-related emissions of criteria pollutants and greenhouse gases based on estimates of annual VMT, normal project operation, and combustion of the approximately 10 million gallons (38,000 tons) of fossil fuel to be sold at the proposed 32-pump gas station. The DEIR should quantify projected emissions of Clean Air Act "criteria pollutants" (Carbon Monoxide, Lead, Nitrogen Dioxide, Ozone, Particulate Matter, and Sulphur Dioxide) and the hazardous air pollutants (HAPs) identified by the U.S. EPA, including, but not limited to, benzene. The air quality analysis should include consideration of prevailing wind patterns and their effect on distribution and concentration of airborne pollutants, particularly from the proposed fueling station to Oak Meadow School. The air quality analysis should also consider the results of a traffic level-of-service (LOS) analysis to take into account any reduced fuel efficiencies resulting from project-related reductions in LOS. Reduced fuel efficiencies result in increased pollutant emissions per vehicle mile travelled.

- The DEIR should identify any project-related health effects of these emissions on sensitive receptors, including but not limited to, children and personnel at Oak Meadow School, and neighboring residents, including seniors, like me.

- The DEIR should identify any potential project-related air quality violations of applicable national, state and local air quality standards, including those of the El Dorado County Air Quality Management District. Would the project conflict with, or obstruct implementation of, any applicable air quality regulation or management plan? Would the project contribute to an existing or projected air quality violation? Would it result in a cumulatively considerable increase in any criteria pollutant or greenhouse gas emissions for which the region is designated nonattainment under an applicable federal or state ambient air quality standard? Would it release emissions which would exceed applicable thresholds for ozone precursors?

4. The DEIR should quantify the amount of **water**, if any, that is currently supplied to the project site by the El Dorado Irrigation District. How much would the District supply annually to the North and South sites after project completion? Would the District be able to meet this demand in drought years?

46. Would the project include backup electrical generators in the event of a PG&E blackout? If so, where would they be located on each site, and what would be their visual and noise impacts? Would the increased electrical demand attributable to the project contribute considerably to the likelihood of future localized PG&E **blackouts**?

5. **Noise pollution** is another significant concern for residents, students, school staff, and community members who spend time in the afternoon and evenings at Oak Meadow and other school sites for activities like sports, scouts, and clubs. Or just to go outside and enjoy the outdoors on a walk or a trip to the park. Or to tuck your young kids into bed before 8pm, or to sleep through the night despite late night/early morning delivery trucks. The noise will interfere with normal activities of residents – sleeping, having conversations, outdoor learning, etc. According to the U.S. Environmental Protection Agency, "studies have shown that there are direct links between noise and health. Problems related to noise include stress related illnesses, high blood pressure, speech interference, hearing loss, sleep disruption, and lost productivity." The DEIR needs to evaluate the increased engine, tire, brakes, and horn noise.

The children at Oak Meadow Elementary are already disproportionately impacted by air and noise pollution from the US 50 and Silva Valley Parkway traffic. This school happens to also serve our community's low-income residents living in White Rock Village. This proposed project will exacerbate health impacts on young children and staff at Oak Meadow. The gas station fumes must be examined through the DEIR process to understand how idling cars will impact the health of these students and any other impacted community members (ex. particularly vulnerable populations such as those with existing health problems, seniors, etc.). The cumulative health impacts of all these factors must be carefully evaluated.

6. **Light Pollution –** The DEIR needs to evaluate the impact of Costco signage and lighting on wildlife and impacted residences. Also include an estimation of the path of delivery truck headlights and any impacts to homes.

7. **Carbon Pollution –** This project will increase greenhouse gas emissions in El Dorado Hills and California. The DEIR must evaluate the impacts to consumption of non-renewable fossil fuels, and explore as an alternative the impact of a smaller retail option that better aligns with our General Plan.

8. **Impacts to Wildlife –** the area we live in has abundant wildlife that we all enjoy living with. Coyotes, snakes, squirrels, rabbits, mountain lions, foxes and so many beautiful birds, including raptors. The DEIR should go into significant detail on how the proposed project will impact wildlife, as well as our natural resources. This includes wetlands, riparian areas, springs, heritage trees, tree groupings, woodlands, landforms, wildlife habitats, and cultural resources.

9. **Broader Development** - The Costco DEIR should assess the cumulative impacts of the potential growth induced by the full Country Club Drive Extension. Specifically, the Costco EIR Impact analyses should assess the potential for the full Country Club Drive Extension to open undeveloped and underdeveloped areas in its corridor to urban-scale growth, and it should evaluate the environmental consequences of that growth.

To ensure compliance with CEQA, the Costco DEIR must avoid segmentation, or "piecemealing," of environmental review by addressing the relationship between the Costco project and the full Country Club Drive Extension project. If the segment within the North Site is integral to the full extension, the Costco DEIR should make clear how and when the "whole of the action" that is the entire Country Club Drive extension will undergo its own CEQA review.

The Costco DEIR should clarify the sequencing of environmental review and provide assurances that the full extension's impacts will be appropriately addressed in its own EIR. The Costco DEIR should include an analysis of whether the growth induced by the full Country Club Drive Extension would be consistent with the County General Plan, and the Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) of the Sacramento Area Council of Governments (SACOG), and any other applicable regional plans. If the growth induced by the full Country Club Drive Extension is found to conflict with these regional plans, the DEIR should identify and discuss the implications of these conflicts.

10. **Whole of the Action** - The Costco DEIR Project Description should describe the "whole of the action" [CEQA Guidelines, Section 15003(h)], including the following project components, which are not fully described in the EDH Costco NOP:

    - The Project Description should disclose Costco's intentions, if any, for the future use and development of the 13.79-acre "outparcel" on the North Site. Costco's long-term plans for development of the outparcel should be included in the Project Description, and its impacts should be addressed as a future phase of the project. Does Costco intend to eventually develop the property itself, sell it to another developer, or convey it to the county as permanent open space? The outparcel is on the project site and is part of the project, and Costco's intentions for it should be included in the Project Description.

    - The Project Description should disclose Costco's, and the county's, conveyance plan for the transfer of the 7.75-acre "reserve" for the Country Club Drive Extension from Costco to the county. When and how will the conveyance occur? What is the schedule for construction of the on-site portion of the extension, and how does it relate to the schedule for construction of the entire extension, and to the schedule for the Costco project itself?

- The Project Description should include the project schedule for "pre-construction activities," grading and site preparation, construction, and commencement of operations.

- The Project Description should describe Costco's complete signage plan. On-building, off-building, and off-site signage is part of the "whole of the action," and its description is necessary for the DEIR's assessment of the project's visual and aesthetic effects.

- The Project Description should include the proposed operating days and hours of the proposed store as well as the proposed fueling facility, in order for the DEIR to evaluate the impact of a 32-pump gas station that operates 8 or10 hours a day vs 16 hours a day. The Project Description should also indicate whether diesel fuel will be sold at the fueling station, and the expected annual quantities of fuel sales for both diesel and gasoline.

- The Project Description should include a description and schedule for any future sanitary sewer connection across the project site necessary to connect the already approved but unbuilt 51-unit Serrano Village A14 to the sewage collection pipeline in Clarksville Crossing. A sewer easement across the North and South sites is necessary for the buildout of Village A14 to proceed. The Costco DEIR should address the growth-inducing impact of the sewage easement, or any other easements, across the project site.

- The Project Description should describe and map all proposed off-site facilities, particularly transportation improvements, including, but not limited to, turning lanes, lane widenings, traffic signs, traffic lights, crosswalks, roadway segments, bicycle lane segments, and sidewalk segments. Decision-makers would also benefit from understanding how these improvements would be funded – by Costco, the county general fund, or by county Transportation Impact Fees, etc.

- The Project Description should describe the project's degree of compliance, or non-compliance, with the county's requirements and regulations related to the physical design of the project, including, but not limited to, building height, building horizontal dimensions, floor area, floor area ratio, setbacks, parking spaces, signage, outdoor lighting, design features, and landscaping.

- The Project description should provide graphics that show the existing and proposed parcelization of the North and South sites.

11. **DEIR Clarity** - To the extent feasible, the DEIR should express impact criteria in objective, quantitative terms, and be as graphic as possible, using clear, readable color illustrations, maps, photos, plans, tables, and photo simulations (i.e., selected "before" and "after" views of the project site and project). The approaches, findings, and conclusions of the technical and engineering reports and studies that are prepared in support of the Costco EIR should be summarized, and presented in the body of the DEIR. The full reports themselves should be presented in DEIR appendices, or incorporated by reference into the DEIR and published at the same time and in the same manner as the DEIR itself. The DEIR should ***help residents understand*** the impacts of this proposed project.

12. **DEIR Policy Table** - The DEIR should contain a policy table that summarizes the applicable policies of the county, including those of the County General Plan, and the relationship of the project to those policies.

13. **DEIR Summary** - should include an impact summary table that summarizes each impact of the project, its level of significance, mitigation measures included in the project, mitigation measures not included in the project but identified in the DEIR, state whether those measures are accepted or rejected by the applicant, and identify the levels of impact significance after implementation of all proposed and accepted measures.

14. **DEIR Project Description** - should fully describe Costco's project objectives, including its objectives for profitability, and any objectives for preserving and protecting on-site natural features and resources (including wetlands, riparian areas, springs, heritage trees, tree groupings, woodlands, landforms, wildlife habitats, and cultural resources).

It should explain its long-term objectives for the fuel facility, given future expected reductions in fossil-fueled vehicles in California, its goals for annual tons of sales of fossil fuels, and its objectives, if any, for reducing or minimizing greenhouse gas emissions.

It should explain why Costco believes another warehouse store and fueling facility is appropriate in a single-family residential community, next to an elementary school, and only 4.4 miles via Highway 50 from its existing store and fueling facility in Folsom. It should describe its objectives for protecting kindergartners from benzene emissions.

The Project Description should describe any Costco responsibilities for maintaining the portions of the project site that are not proposed for development at this time (i.e.,the 1.38-acre remainder parcel west of Clarksville Crossing, the 13.79-acre "outparcel" on the North Site, the 7.75-acre "reserve" parcel for the Country Club Drive Extension, and any remainder of the North Site that extends to its

outer boundaries. Will Costco be responsible for ongoing maintenance, mowing, fire prevention, and litter cleanup (which will no doubt become more important once the project becomes operational) of these undeveloped portions of the site? Will Costco install landscaping outside the right-of-way of the future Country Club Drive Extension to provide a visual buffer between the project and Oak Meadow School and neighboring residences?

The Project Description should include graphic and technical descriptions of the proposed locations and appearance of any proposed ancillary facilities, including, but not limited to, solar arrays, rooftop mechanical equipment, outdoor lighting, emergency electrical generators, electric vehicle charging stations, off-site and on-site signage, and trash, recycling, and compacting facilities. The descriptions should be sufficient to permit analyses of the noise, visual, energy, air quality, and other impacts of these facilities.

The Project Description should include grading and drainage plans for both sites. The grading plans should graphically show areas to be cut and depths of cut, areas to be filled and depths of fill, and areas to be undisturbed. What would be the maximum and average depths of both cut and fill? Would cut and fill be balanced on site? If not, what will be the volume of import/export?

The Project Setting should describe existing physical conditions from both local and regional perspectives, at the time of the NOP publication date, February 25, 2025. If different setting dates are used, particularly older setting dates, they must be supported by substantial evidence (see CEQA Guidelines, Section 15125).

15. **Geotechnical Report -** The DEIR should present the results of a geotechnical report prepared by a licensed geotechnical engineer that addresses the soil, groundwater, surface water, bearing, and contaminant characteristics of each the site. The report should identify any project constraints, including the potential for asbestos or other soil contaminants, and any groundwater constraints at the location of proposed fuel storage tanks on the North Site. The DEIR should identify the health and other impacts of any soil, groundwater, or surface water contaminants identified, any violations of applicable contaminant standards, and mitigation measures to mitigate impacts to less than significant levels.

The grading and drainage plans should describe how runoff and erosion would be controlled during and after grading, and how runoff would be collected, treated, and discharged during and after grading and project construction, and during project operation. Where will treatment facilities, if any, be located? What will be the water quality of discharge? Will it meet applicable water quality standards? Will the project still have "bioretention areas" and "underground water quality vaults"? If so, where? Will all treated water be used on site for irrigation or other purposes?

16. **Sign Variance** - The NOP Project Description includes a Conditional Use Permit for the proposed tire center, vehicle display, and Christmas tree sales, and a sign variance to exceed

allowable signage provisions of the County Sign Code (County Zoning Code Section 130.36). The DEIR must fully describe and assess these project components in order to address "the whole of the action." In particular, omission of the project's signage plan from the project's description and impact analyses would render the EIR incomplete and inadequate. The county's actions on the proposed conditional use permits and variance must not be piecemealed after the fact.

17. **Wetland and Riparian Areas -** The DEIR should quantify, and show in photos and on a map, the wetland and riparian areas on each site. Are the delineations current as of the date of the NOP, February 2025? If not, when were they prepared? If not, provide substantial evidence in support of the actual setting date (see comment 14, above). Show how many acres of each would be filled on each site, and how many acres of each would remain unfilled? Identify any springs on either site, and characterize their flows by quantity and quality. Are they permanent? How will any springs affect the project, particularly the installation of fuel storage tanks? Are springs the source of the water in the wetland and riparian areas? What would be the project's impacts on the wetlands, riparian areas, and springs? What is the status of the Corps of Engineers Clean Water Act Section 404 review of the project application to fill? If the Corps has already approved the application, what is its stated basis? If the Corps has not approved the fill, what is the basis stated in the applicant's fill application?

18. **Trees -** The DEIR should quantify, and show in photos and on a map, all trees on each site, and identify the species, diameter at breast height, approximate height, age, and Heritage status of each tree. Identify which trees, oak and non-oak, are proposed to be removed and which are proposed to remain. Identify which trees are "protected" by applicable preservation policies, including County Ordinance 5061 and and General Plan Policy 7.4.4.4., and the degree of protection.

The DEIR should identify the location, and show photos, of the “in-lieu forest", so we can all see how well in-lieu mitigation fees actually work to mitigate tree removals from county development sites (please, no pictures of Giant Sequoias).

19. **Parking -** The DEIR should explain why the project proposes 121 more parking spaces on the South Site than county regulations require.

20. **Visual Quality** - the DEIR should describe the visual quality of the project sites as a community scenic resource. Describe how the scenic character of each site would be altered by the removal of natural trees, other vegetation, wetlands, riparian areas, and natural landforms, and whether these alterations would constitute significant and substantial degradation of the sites' visual character. CEQA Guidelines, Appendix G, clearly indicate that a project that would "substantially degrade the existing visual character or quality of public views of a site and its surroundings may have a significant effect on the environment" without regard to any "official" scenic designation of those views or locations.

The project site is publicly viewable from Highway 50, Silva Valley Parkway, and Clarksville Crossing. Appendix G also provides that scenic resources may include, but are not necessarily limited to, "trees, rock outcroppings, and historic buildings," and may also be reasonably inferred to include Heritage trees, oak woodlands, wetlands, grasslands, waterways, and water bodies. While the language of Appendix G appears to express primary concern for these resources where they are present in a designated scenic area, Appendix G in no way precludes these resources from being considered to have substantial and significant value in other locations.

21. **Visual Simulations -** the aesthetics analyses in the DEIR should include visual simulations (i.e., "before" and "after" views) of the site and proposed project, including project signage, from selected viewpoints on Highway 50, Silva Valley Parkway, Clarksville Crossing, and neighboring residential areas. The images should include before and after views of wetland and riparian areas, Heritage trees, tree groupings, and landforms. Visual simulations are the only way to successfully depict the actual visual impacts of a project in an EIR.

22. **Animal Species** - the DEIR should identify all animal species that inhabit, forage, and traverse each site. Map habitats and migration corridors. Identify which species are classified as candidate, sensitive, endangered, or otherwise special status in any local or regional plans or policies, or by the California Department of Fish and Wildlife, or by The U.S. Fish and Wildlife Service? Identify the status of each species, the impacts to each species, and mitigation for any impacts.

Similarly, the DEIR should identify all **plant species** on the project site. Map and quantify the presence of each, and identify any special status, Heritage, or other species classifications. Assess the impacts to each species and mitigation measures for any impacts.

Assess the natural synergies between and among the animal and plant species, and the overall impacts of the project on the **entire natural ecosystem** of the site and its surroundings. Identify any impacts, their significance, and appropriate mitigation measures.

47. Would the project violate any applicable county or other **noise** standard during site grading, site preparation, construction, or operation? Would project noise levels from project grading, construction, or operation activities contribute considerably to existing and projected noise levels, including roadway noise from Highway 50, Silva Valley Parkway, and Clarksville Crossing? What would be the increase in future cumulative ambient noise levels attributable to projected increases in traffic on these roadways and other local roadways? Would project-related construction or other noise interfere with instruction or other activities at Oak Meadow School? What would be the nighttime and early-morning noise impacts on sleep patterns of local residents from project delivery trucks, including the incredibly annoying **backup beeping** of trucks in reverse gear? What noise mitigation measures are proposed by the project, particularly for nighttime and early morning noise?

48. Would the project impact any tribal, or other historical, archaeological, paleontological, or other historic or prehistoric cultural resource? Would it disturb the site of any buried human remains? How would the project protect the existing historical marker? Describe and assess the significance of any impacts.

49. Pursuant to CEQA Guidelines, Section 15126.6, the DEIR must identify and evaluate a "**range of reasonable alternatives** to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." The DEIR "must" explain the **rationale for selecting** the alternatives selected (CEQA Guidelines, Section 15126.6(a), and should also identify any alternatives that were considered but not addressed, and identify the **reasons for their rejection** (CEQA Guidelines, Section 15126.6(c). "The DEIR should contain sufficient information about each alternative to allow meaningful evaluation, analysis and comparison with the proposed project." The Alternatives should include, but not necessarily be limited to the following:

49.1. "N**o Project Alternative**,"as required by CEQA Guidelines, Section 15126.6(e). This alternative would leave the site undeveloped to serve as community open space, as it does now, eventually available for future unspecified development consistent with the County General Plan.

49.2. "**No-fueling Facility Alternative**," that would exclude the North Site, eliminate the proposed fueling facility, and consist only of the proposed warehouse and parking facilities on the South Site. This alternative would involve no development or lot line adjustments on the North Site, would be consistent with the Costco project identified in the 2021 EDH52 NOP, which proposed no fueling facility, and apparently satisfied Costco's project objectives at the time. This alternative would essentially constitute a No-project Alternative for the North Site.

49.3 "**Reduced Fueling Facility Alternative,**" that would reduce the number of North Site fueling stations from 32 to a smaller number (most typically 16 for Costco). It would reduce North Site parking to only the number of spaces necessary to serve the reduced fueling facility's employee parking requirement, would allocate all warehouse-employee parking to some of the excess spaces proposed for the South Site, and would adjust the fueling facility's footprint to permit preservation of on-site wetland, Heritage trees, woodland habitat, and landforms.

49.4. "**Reduced Parking Alternative**" that would eliminate the proposed 121 parking spaces on the North Site that would be in excess of the county's parking requirement. This alternative could reduce the South Site parking footprint to permit preservation of on-site wetland Heritage trees, woodland, wildlife habitat, landforms, and historic architectural resources. (Costco proposes to forego substantial parking for the sale of Christmas trees during the busy holiday season anyway, so why not just do it for the rest of the year? We can all still get our Christmas trees at Green Acres).

49.5. "**Combined Reduced Fueling Facility and Reduced Parking Alternative**" that would

combine the two alternatives discussed in Comments 48.3. and 48.4.

49.6. "**Plan Consistent Alternative**" that, except for the required Planned Development Permit, would require no exceptions, conditional use permits, or variances, from the County General Plan, or Zoning Ordinance, including the county sign code (Zoning Ordinance Chapter 130.36), and would require no parking in excess of the county's requirements. This alternative would simply comply with all standing applicable county plans, regulations, policies, rules, regulations, and requirements, no more, no less.

49.7. "**Natural Resource Alternative**," that would preserve, to the maximum extent feasible, the natural features of the site, including existing landforms, riparian areas, springs, wetlands, trees and tree clusters, wildlife habitats, migration routes, and foraging areas on the project site.

49.8. "**Off-site Alternative**," on a different site, or sites, that would reduce or avoid any of the proposed project's significant individual and cumulative effects, and that would not be immediately adjacent to a school or residential uses.

49.9. other alternatives that may be identified as necessary to avoid or reduce the project's significant individual and cumulative effects identified under any of the 18 environmental topics listed in the project NOP, CEQA Appendix G, and comments on the NOP.

50. CEQA does not normally require an EIR to address the economic effects of a project, but if the economic effects of the project cause a significant physical effect, the physical effect must be addressed (CEQA Guidelines, Section 15131 and Section 15064(e). So, for example, if among the effects of the Costco project would be an economic effect, such as one that caused local businesses to fail and close, and those failures caused the physical effect of urban decay, the physical effect would need to be examined in the DEIR (See **Bakersfield Citizens for Local Control v. City of Bakersfield** at 124Cal.4th 1184). An economic study should be conducted to determine whether the Costco project would have such an indirect physical impact, and, if it does, the physical effect must be evaluated and mitigation identified in the DEIR.

51.. Although CEQA does not normally require an EIR to address economic effects, it does not prohibit it from doing so.(CEQA Guidelines, Section 15131). Because the project's economic effects will undoubtedly be critical to the public perception of it, and to the county's ultimate decision whether and how to approve or deny it, a cost-revenue analysis should be prepared, either as part of the EIR, or as a free-standing report. The cost-revenue analysis should examine the project's direct and indirect fiscal and economic impacts, including the effects of the project on the economies and treasuries of El Dorado County and other economically affected public agencies and private entities, and any economic effects that would lead to urban decay or other adverse physical effect. The report should include an examination of the project's effects on local residential property values, and the resulting effects on county property tax revenues. The report should be made publicly available and subject to public review at the time of, or before, the publication of the DEIR, with ample time for

public review and comment, and for county response to comments, on each. The report should be adequate to determine whether the project's economic effects would cause physical impacts that need to be addressed in the Costco DEIR (see Comment 49, above).

1. It does not seem credible that Costco has no plan for the 13.79-acre outparcel **"black hole"** that covers more than half of its 24.83-acre North Site. If Costco does have a plan, it should be included in the Project Description as a future phase of the project, and a new NOP should be issued. If Costco does not have a plan for the future development of this "outparcel," future development, by Costco, or others, of the outparcel, consistent with the commercial designation for the site in the General Plan, should be addressed in the DEIR's cumulative impact analyses as a reasonably foreseeable future project. Either way, the DEIR must address the future development of the outparcel.

2. And what about Costco's and the county's intentions for the 7.75-acre **"reserve"** for the future Country Club Drive Extension, which has been in the county's CIP since forever? Is the county's and Costco's plan that Costco will someday dedicate that to the county, or is the plan that the county will someday purchase it?

3. And when are we actually going to see an NOP on the **DEIR for the whole Country Club Drive Extension**, from Bass Lake Road, to the Tong Road cul du sac, around the project North Site, to Silva Valley Parkway, and beyond? We believe we know roughly how it will get from Bass Lake Road, to Tong Road, and around the North Site to Silva Valley Parkway, but the Costco NOP graphic only shows it wandering off from there somewhere to the west. Where is it supposed to end (Raley's loading dock?)? And why is it even proposed, parallel to Highway 50? What's it supposed to do that Highway 50 doesn't already do, except induce more growth in its own corridor? Is the extension and the growth it would induce already covered by the magnificent and timeless 2004 County General Plan EIR? But, if not, please let us know when we might see an NOP on "the whole of the action" for the entire Country Club Drive Extension.

Amanda Hansen

From: rlangan620@comcast.net
To: EDHCostco@edcgov.us
Subject: Proposed Costco - El Dorado Hills
Date: Monday, March 31, 2025 4:51:46 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

I am opposed to the construction of the planned Costco in El Dorado Hills due to impact to traffic and safety along the Silva Valley corridor. The proximity to Oak Meadow School makes it a hazard to any child attending that school.

From: Manuela Paykis
To: EDHCostco@edcgov.us
Cc: hoa@serranohoa.org
Subject: Proposed Costco Project in El Dorado Hills North off US 50
Date: Thursday, March 27, 2025 1:49:50 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

To: Cameron Welch, Senior Planner
County of El Dorado Planning and Building Department

I want to express my deep disappointment and outrage with the decision to build a new Costco Wholesale Member Warehouse retail store and Costco Wholesale fuel facility on Silva Valley Parkway off US 50 NEXT TO AN ELEMENTARY SCHOOL AND RESIDENCES. I live in Serrano close to the proposed Costco project. My village and my family will be negatively impacted by the traffic AND the noise pollution AND the air pollution AND the soil pollution because of this greedy decision.

Did you know that El Dorado County, particularly the area around El Dorado Hills, has naturally occurring asbestos (NOA) in local soils and rock formations, which has raised concerns about potential human exposure?

Concerns about Exposure:
Disturbing these deposits during construction or other activities can release asbestos fibers into the air, posing a potential health risk if inhaled.

EPA Involvement:
The U.S. Environmental Protection Agency (EPA) has been involved in assessing and minimizing the risk from asbestos in this area, including conducting studies and sampling.

Specific Locations:
Some areas of concern include the El Dorado Hills Community Park, Silva Valley Elementary School, Jackson Elementary School, Rolling Hills Middle School, and surrounding areas.

Health Effects:

Exposure to asbestos fibers can increase the risk of cancer and respiratory diseases.

Can you imagine what this Costco project will be digging up and what kind of poison will be floating in the air?

There seems to be no regard for the Serrano residents that live nearby and for the families that bring their children to Oak Meadows Elementary School. Have you been to the school during drop offs and pickups on Silva Valley Parkway? The line of cars start at the school at least 15 minutes prior to school dismissal and spill out onto Silva Valley Parkway blocking traffic. The Costco traffic will make it even worse and the safety of the drivers is at risk! How dare you even consider building such a huge project next door/across the street from an elementary school and among our community! Deciding to build here because it is a good revenue source for El Dorado County is NOT A GOOD ENOUGH REASON! What about the residents in quiet Serrano that live above the proposed Costco project site that want to spend time in their backyards only to see and smell the effects of a gas station and a tire center and crowds of shoppers? Their view from their backyard is the roof of the Costco building!

El Dorado HIlls Blvd. has become a traffic jam to get onto US 50 or to shop in Town Center so we take Silva Valley instead. Now with Costco coming to Silva Valley Parkway we will be trapped in between both main thoroughfares.

I can not believe an honest impact study was done in good faith while thinking of the impact it would have on the families in our community! The Costco in Folsom is 5.1 miles away from the proposed site! It doesn't make sense to have two Costco's so close to each other. And more importantly, Costco Folsom is surrounded by businesses such as a carwash, hotels, a plant nursery, and other businesses, NOT RESIDENCES AND AN ELEMENTARY SCHOOL right across the street!

SHAME ON El Dorado County for allowing this build to happen in El Dorado Hills. Serrano will no longer be the highly rated quiet community that it

boasts. Not with a Costco and gas station as its main attraction!

I really hope that the Serrano HOA will fight this major disruption to our beautiful quiet community! Not only am I referring to the disruption while this monster project is being built but also when it is completed. No one wants to live near a gas station and breathe all the polluted air and fight all the traffic! ***The residents here chose to live in Serrano because of the beauty, the gated communities, the quietness, the privacy!***

Costco belongs in a community with other businesses. Please reconsider this plan. Think about the people and the environment NOT the money.

Manuela & Sergey Paykis-

From: DAVE CARLSON
To: EDHCostco@edcgov.us
Subject: Proposed Costco Development (SCH#2021080-402)
Date: Monday, March 31, 2025 10:35:37 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Cameron Welch, Senior planner
County of El dorado Planning and Building Department
2850 Fairlane Court, Building C
Placerville, CA 95667
To Whom It May Concern:
I am writing to express our opposition to the proposed Costco development. We do not need another Costco located within a few miles of the Folsom store. We live in Serrano Village D2 and routinely use Silva Valley Parkway to access the freeway and El
Dorado Town Center, because traffic is usually less congested than the alternative (Serrano Parkway to EDH Blvd.) The latter has become heavily congested to the point of being unmanageable and continues to be increasingly impacted.
Silva Valley Parkway is already heavily impacted by traffic accessing the Oak Meadow Elementary School. In fact, traffic north bound on Silva Valley Parkway backs up and blocks the right lane from the elementary school back to the intersection of Clarksville Crossing. Parents picking up and dropping off students also impact the intersection of Silva Valley Parkway and Serrano Parkway. The proposed development will have significant additive traffic impacts that are unmitigable and will result in unacceptable traffic congestion.
Although apparently not part of this project, the proposed extension of Country Club Drive into this area will also heavily impact traffic in the vicinity and needs to be reconsidered.
The south site currently has several heritage oak trees that should not be allowed to be removed. These biological resources are irreplaceable.
Visual impacts of the proposed project will also be significant and unmitigable. A huge commercial development of the type proposed will adversely alter the visual esthetics and quality of life for residents in the immediate area.
Respectfully submitted,
David C. Carlson
dcarl01@comcast.net

From: Lana"s Yahoo
To: EDHCostco@edcgov.us
Subject: Proposed Costco in EDH
Date: Wednesday, March 26, 2025 4:13:20 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

I am a resident of the area and do not understand why you would put a Costco only two exits away from the one in Folsom. I understand that people are saying El Dorado County would then get the tax advantage, but we do not need one right in the middle of our community. Put a Costco up the hill closer to Placerville, where there is a lot more space and land available. The proposed area is right next to a school which seems very unsafe and the traffic going in and out of the school throughout the day especially at pick up and drop off is already terrible. Adding a Costco to that area will dramatically increase the traffic and it already is unbearable at certain times of the day. Building a Costco in that area right next to a residential area and a school could also increase crime, loitering. and littering and could be a safety issue. We moved to this area to get away from traffic, congestion, and big box stores. We do not need one right at the entrance to our community. Please consider putting a Costco up the hill in the more rural areas where there is a lot more land area available away from a residential community and a school,

Thank you,
Mrs Young

Aloha a hui hou

From: Rick Chakoff
To: EDHCostco@edcgov.us
Subject: Proposed Costco on Silva Parkway and US 50
Date: Monday, March 31, 2025 3:05:41 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

I am strongly opposed to the proposed Costo at Silva Parkway and Interstate 50.

<!--[if !supportLists]-->• <!--[endif]-->This location currently has no commercial structures and this would be out of place.

<!--[if !supportLists]-->• <!--[endif]-->It’s too close to residential properties and the nearby elementary school.

<!--[if !supportLists]-->• <!--[endif]-->Silva Parkway is a major artery to the area and this will create severe traffic congestion. Just look at the gas station at the Folsom location

Richard Chakoff
3035 Hammond Way
El Dorado Hills CA 95762

From: Rick Chakoff
To: EDHCostco@edcgov.us
Subject: Proposed Costco on Silva Parkway and US 50
Date: Monday, March 31, 2025 3:05:41 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

I am strongly opposed to the proposed Costo at Silva Parkway and Interstate 50.

<!--[if !supportLists]-->• <!--[endif]-->This location currently has no commercial structures and this would be out of place.

<!--[if !supportLists]-->• <!--[endif]-->It’s too close to residential properties and the nearby elementary school.

<!--[if !supportLists]-->• <!--[endif]-->Silva Parkway is a major artery to the area and this will create severe traffic congestion. Just look at the gas station at the Folsom location

Richard Chakoff
3035 Hammond Way
El Dorado Hills CA 95762

Cameron Welsh
Senior Planner
County of El Dorado Planning and Building Department
2850 Fairlane Court
Building C
Placerville, CA. 95667
C.C.: Email: EDHCostco@edcgov.us

RE: Proposed Costco on Silva Valley Parkway

Dear Cameron,

I am at a loss to understand HOW a Costco built on Silva Valley Parkway is aesthetically in-line with the surrounding Serrano development or even possible, given the *insane amount* of traffic which now flows on Silva Valley Parkway near Highway 50 already, starting in the morning and flows clearly until the evening! The road is packed.

This 'project' appears designed to devalue the residential housing in this area. It appears almost as a way to take a pretty area, which is a quiet gated development, and turn it into a commercially packed, EPA and real estate blunder of epic proportions. Do YOU live here in Serrano? I wonder. I doubt it. Are you trying to cheapen the housing here to be able to buy a house here? Who would entertain this project seriously?? Or want Costco as a next door neighbor??

I can tell you that somebody is getting some kind of payoff to look the other way and approve this square-peg-in-a-round-hole-of-a-project: Another Costco, SO CLOSE to the other one just over the hill off of Bidwell, is not only NOT necessary but almost appears defiantly vindictive towards Serrano residents.

Please remove the consideration for this future traffic nightmare and find another location for another second-sister Costco and put it away from the already beaten-down traffic pathway on Silva Valley Parkway!

God bless!

Mary and Michael Ott
Borders Drive
EDH, 95762

From: Bob Stroh
To: EDHCostco@edcgov.us
Subject: Proposed Costco Project on Silva Valley Parkway
Date: Monday, March 31, 2025 11:25:43 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

As a resident of the Serrano development in EDH I would like to offer my support for the proposed Costco Project.

I definitely like both the retail store and the gas station. The underground parking is a plus. I am tired of the longer drive to the Folsom Costco which is already overcrowded and will be more so as Empire Ranch is built out.

Also, I would rather have the retail taxes I pay go to El Dorado County instead of to Sacramento.

I moved to Serrano over 25 years ago and I always expected the proposed property to be developed for commercial purposes. This is a good project that will benefit everyone in El Dorado Hills. LET'S GET IT DONE A

Robert Stroh
4292 Greenview Dr
EDH, CA 95762

GBStroh@gmail.com
Mobile 916-718-8165

From: Clay Heil
To: edhcostco@edcgov.us
Subject: Proposed Costco Site in El Dorado Hills
Date: Friday, March 21, 2025 7:59:47 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Mr. Welch,

My wife and I have been residents of El Dorado Hills for about thirty-seven years. The last ten of which have been in Serrano Master Planned Community. We live close to the proposed Costco and we have a grandson who is a student at the Oak Meadow School which is adjacent to the proposed Costco site.

We want to express our deep opposition to the proposed Costco on both sides of Silva Valley Parkway at Highway 50. We feel this site is a very poor choice for a Costco and we believe there are better choices that would have less impacts on traffic and pollution affecting our neighborhood and the children at Oak Meadow School.

This site is obviously too small for the proposed Costco store, gas station and parking lot, which is why they had to locate the gas station and parking lot to another parcel to the east side of Silva Valley Parkway. What a poor design with significant impact on our use of this road accessing Highway 5o. With the proposed gas station being placed on the east side of Silva Valley it now will be located right next to Oak Meadow School and existing residential neighborhood.
What planning design would choose to place a gas station next to a school.

The proposed gas station (32 pumps) is the size of three gas stations and is 10 pumps larger that the existing Costco gas station in Folsom. This location and size will have negative impacts including air pollution, traffic congestion and gasoline fumes. Locating the parking lot on the east side of a major roadway, does this mean customers will have to walk across this major roadway? There is already quite heavy traffic congestion on Silva Valley at the existing school. This proposal will add to the existing traffic problems on Silva Valley Parkway.

This location for the a new Costco is clearly a poor site with many negative impacts on our community. This site is only approximately four miles from the existing Costco in Folsom. Where else in California are Costcs stores this close together, It would be better located farther east off Highway 50 in Cameron Park or Placerville and on site large enough to accommodate all the uses on one site. It should also be located next to other commercial uses not a school and a residential neighborhood.

Please consider our concerns and deny the Costco application at this location.

From: CARL HANDEN
To: EDHCostco@edcgov.us
Subject: Proposed Costco Wholesale Facility
Date: Saturday, March 29, 2025 1:06:47 PM

This Message Is From an Untrusted Sender

You have not previously corresponded with this sender.

Report Suspicious

Attn: Cameron Welch, Senior Planner

Like thousands of others in El Dorado Hills, I am opposed to the construction of the warehouse proposed in our community.

El Dorado Hills is a largely residential community with new housing being constructed at an accelerated pace. The projected road traffic, based on the number of new homes being constructed, is going to be very substantial.

The Costco warehouse will increase traffic flow on existing roads to a high degree above already high projected road use, which is inconsistent with community wishes.

Therefore, like many other residents of El Dorado Hills, I am opposed to the construction of the Costco Warehouse at the site planned. -- Carl Handen

From: Frederick Groves
To: EDHcostco@edcgov.us
Cc: Jennifer Fulmer Groves; lhansen1@gmail.com; Amy Frith
Subject: Proposed EDH Costco
Date: Monday, March 31, 2025 11:44:31 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear Mr. Welch,

I am writing to express my strong concerns regarding the proposed Costco development (both North and South sites) adjacent to Oak Meadow Middle School as outlined in the Notice of Preparation sent February 25, 2025. As a homeowner residing at 834 Bryce Ct, El Dorado Hills, and as a father of two children currently attending this school, I am deeply troubled by the potential negative impacts of this project on our community.

My primary concern is the potential health risks associated with both the construction and long-term operation of this facility so close to a school. The development will introduce significant air pollution, particularly from vehicle emissions and fuel storage, which could expose students to harmful pollutants like benzene and particulate matter. The proximity of a high-traffic retail and fueling facility to a school raises serious concerns about air quality, especially given prevailing wind patterns that could carry emissions directly onto school grounds. Young children are particularly vulnerable to air pollution, which has been linked to respiratory diseases, developmental issues, and other long-term health complications. The environmental impact report (EIR) for this project must thoroughly evaluate these risks and provide clear mitigation strategies.

Additionally, the increase in traffic congestion on Silva Valley Parkway and surrounding roads will introduce safety hazards for students walking or biking to school. The heightened volume of vehicles, including large delivery trucks, will increase accident risks at intersections, particularly if pedestrian crossings and traffic controls are not sufficiently enhanced. Furthermore, the potential for vehicle queueing at the fueling station to spill over onto public roadways has not been adequately addressed.

Another major concern is the ambiguity surrounding Costco's long-term development plans for the adjacent 13.79-acre outparcel. If future expansion is anticipated, this should be transparently addressed in the project description rather than handled in a piecemeal fashion that could circumvent proper environmental review. The cumulative impact of future development must be considered as part of the current environmental analysis, rather than deferred to a later stage when it may be too late to implement meaningful safeguards.

I urge the county to consider the long-term appropriateness of placing a high-intensity commercial development within a predominantly residential area. A large-scale retail warehouse and fueling station do not align with the character of our community, and the impact on property values, excessive signage, noise pollution, and overall quality of life must be thoroughly analyzed. The EIR should provide a comprehensive assessment of alternative locations that would mitigate these concerns while still meeting commercial demand.

The safety and well-being of our children should be a paramount consideration in any land-use decision. I strongly urge your department to take these concerns seriously and to ensure that the necessary environmental and health assessments are conducted with the highest level of scrutiny before any approvals are granted. Thank you for your time and attention to this critical matter, and I'd appreciate a reply of some sort that this email was received.

Sincerely,
The Groves Family (Frederick, Jennifer, Madeline, and Alexander)
834 Bryce Ct
El Dorado Hills, CA 95762

From: Lisa Figgins
To: EDHCostco@edcgov.us
Subject: Proposed EDH Costco
Date: Sunday, March 30, 2025 5:01:43 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Cameron Welch, Senior Planner
County of El Dorado Planning and Building Department
2850 Fairlane Court, Building C
Placerville, CA 95667

Subject: Opposition to Proposed Costco Gas Station on Silva Valley Parkway

Dear Planning Members,

I am writing to express my strong opposition to the proposed Costco gas station on Silva Valley Parkway, which is directly adjacent to Oak Meadow Elementary school and on the same street as three other schools. Approving this project would pose a significant and unnecessary danger to the children and families in our community.
As a mother of five, with three children currently attending Oak Meadow Elementary and one more set to start in the next couple of years, I am deeply concerned about the risks this project presents to the health and safety of our children. Our schools should be a safe haven for learning, not placed in harm's way due to increased traffic congestion and toxic emissions from a high-volume fueling station.
One of the most pressing concerns is the impact of harmful fumes. Gas stations release benzene and other toxic chemicals into the air, which have been linked to respiratory issues and other long-term health effects. Young children, whose lungs are still developing, are especially vulnerable. Placing a high-volume fueling station right next to an elementary school exposes hundreds of students daily to increased air pollution, putting their health at risk.
Additionally, the increased traffic congestion and safety hazards cannot be ignored. A Costco gas station will attract a constant flow of vehicles, significantly increasing traffic on a street already heavily traveled by school buses, parents, and pedestrians. More cars mean a greater risk of accidents, particularly in a zone where children walk to and from school. The additional vehicle emissions will further degrade air quality, compounding the health risks.
Before any approval is granted, a comprehensive environmental review must be conducted to assess the full impact of this project. The review should specifically evaluate:

- **Air Quality Impact**: A study on how fuel emissions, including benzene and other harmful pollutants, will affect the air quality around nearby schools and residential areas.
- **Traffic and Safety Analysis**: A thorough review of how increased vehicle traffic will impact congestion, pedestrian safety, and emergency response times in the area.
- **Groundwater and Soil Contamination Risk**: An assessment of potential fuel leaks and spills that could contaminate local water sources and soil.
- **Noise Pollution Impact**: A study on how the additional noise from fuel deliveries,

idling cars, and heavy traffic will affect nearby schools and neighborhoods.

There are many other locations that are better suited for a high-traffic gas station. Prioritizing the safety and well-being of children should be a guiding principle in planning decisions. I urge you to reject this proposal and consider alternative sites that do not put our youngest and most vulnerable residents in harm's way.

Thank you for your time and consideration. I hope the Planning Department will take into account the serious risks posed by this project and act in the best interest of our community's children.

Sincerely,

Lisa Figgins
211 Gunston Court, EDH
415-599-5907

From: Sarah Hauck
To: EDHCostco@edcgov.us
Subject: PROPOSED EDH COSTCO
Date: Thursday, April 3, 2025 3:39:28 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Gas stations not needed. Please do not approve the gas station.

From:	Heide Antonescu
To:	EDHCostco@edcgov.us
Subject:	Proposed Silva Valley Costco
Date:	Wednesday, March 26, 2025 4:01:41 PM
Attachments:	image001.png Costco Comment Letter 3.26.25.pdf

This Message Is From an Untrusted Sender

You have not previously corresponded with this sender.

Report Suspicious

Good Afternoon,

Attached please find my written comments regarding the proposed Costco Wholesale Warehouse and Gas Station on Silva Parkway in El Dorado Hills, CA

Respectfully,

Heide Antonescu

C (925) 324-9793

TRUMARK

Daiwa House Group

Public Comment on Air Quality Concerns – EDH Costco Draft EIR

Please include the following comments as part of the scoping for the Environmental Impact Report (EIR) on the proposed EDH Costco project (SCH #2021080402). These comments pertain specifically to air quality impacts.

1. **Air Quality – Exposure to Vehicle Emissions Along Student Walking Routes and School Crosswalks**

The EIR should evaluate how the proposed Costco development will increase **exposure to harmful vehicle emissions** along school routes—particularly where students walk, bike, and wait at crosswalks near Silva Valley Parkway.

Oak Ridge High School, Rolling Hills Middle School, Silva Valley Elementary, and Oak Meadow Elementary are all located in proximity to the project site, with **hundreds of students crossing Silva Valley Parkway daily**. These students often wait in high-traffic zones where exhaust accumulates, especially during school drop-off and pick-up periods.

The EIR should analyze increased exposure to **nitrogen oxides (NOx)**, **particulate matter (PM2.5)**, and other tailpipe pollutants resulting from added vehicle trips. The County should require mitigation, such as vegetative buffers, realigned crossings, or filtered pedestrian waiting areas, to reduce health risks to vulnerable populations.

2. **Air Quality – Cumulative Emissions from Idling Vehicles at the 32 Fuel Positions**

The EIR should evaluate the **air pollution impacts from vehicle idling** at the proposed 32 fuel positions. Vehicles waiting in line or fueling typically run their engines for several minutes at a time, releasing a concentrated stream of **carbon monoxide (CO)**, **volatile organic compounds (VOCs)**, **nitrogen oxides (NOx)**, and **fine particulate matter (PM2.5)** into the immediate environment.

The EIR should include air dispersion modeling for **hotspot concentrations**, especially during peak hours. If the project proceeds, mitigation measures should include **anti-idling signage**, **low-emission site design**, and **landscaped filtration barriers** to reduce health exposure in adjacent zones.

3. **Air Quality – Increased PM2.5 Exposure from Higher Vehicle Volume and Congestion**

The EIR should evaluate how the proposed Costco development will increase exposure to **fine particulate matter (PM2.5)** due to **elevated vehicle volumes, congestion, and stop-and-go driving** along Silva Valley Parkway and surrounding streets. PM2.5 is a harmful pollutant that penetrates deep into the lungs and bloodstream and is linked to a wide range of respiratory and cardiovascular illnesses.

The project's traffic generation—including cars, trucks, and delivery vehicles—will increase emissions along residential corridors and near schools, where children walk and play outdoors. This effect will be especially pronounced during **school commute hours and weekends**, when both traffic and pedestrian activity are high.

The EIR should quantify the project's contribution to local PM2.5 concentrations using appropriate air modeling tools. If concentrations near sensitive receptors (such as schools) exceed significance thresholds or background levels, the County should impose mitigation, such as traffic flow redesign, vegetative air buffers, or stricter emissions control requirements.

4. **Air Quality – Daily Exposure for Pedestrians, Cyclists, and Community Members Along Silva Valley Parkway**

The EIR should evaluate how the proposed Costco development will increase **daily air pollution exposure** for people of all ages who **walk, bike, jog, or recreate** along Silva Valley Parkway. This corridor is not just a transportation route—it is a **popular community pathway** for residents engaging in physical activity, school commutes, and neighborhood access throughout the day and evening.

Increased traffic and congestion resulting from the project will raise levels of tailpipe pollutants, including **particulate matter (PM2.5)**, **nitrogen oxides (NOx)**, and **volatile organic compounds (VOCs)** along sidewalks, bike lanes, and trail crossings. These pollutants are particularly harmful during physical activity, when individuals inhale more deeply and frequently.

The EIR should treat Silva Valley Parkway as a **multi-use corridor** with continuous exposure risks—not just a road—and should consider **cumulative health impacts** on seniors, children, and outdoor users. If pollution thresholds are exceeded or sensitive receptors are present, the County should require mitigation strategies, such as vegetated buffers, air-filtering design elements, or reduction in project-related vehicle volumes.

5. **Air Quality – Lasting PM2.5 Pollution from Increased Vehicle Volume, Even in an EV Future**

The EIR should evaluate the project's contribution to **particulate matter (PM2.5) pollution** from **non-exhaust sources**, including tire wear, brake wear, road surface abrasion, and resuspended road dust. These pollutants are released by all vehicles—**including electric vehicles (EVs)**—and can account for a significant share of airborne PM2.5 near roadways.

While California is transitioning away from internal combustion engines, the proposed project will significantly increase **vehicle volume, stop-and-go traffic, and heavy vehicle movement** near sensitive receptors such as schools, sidewalks, and bike lanes along Silva Valley Parkway. The increase in traffic-related non-exhaust emissions will result in continued exposure for students, pedestrians, and residents—particularly during commute hours and in hot, stagnant summer air.

The EIR should include this source of pollution in its air quality modeling, and should not assume that electric vehicles fully mitigate the project's impact on public health. The County should also

evaluate mitigation measures that reduce vehicle volume or increase separation between traffic and pedestrian pathways.

6. **Air Quality – Heavy-Duty Truck Emissions from Fueling and Delivery Operations**

The EIR should evaluate air quality impacts from **fuel tankers, freight trucks, and other heavy-duty vehicles** that will routinely serve the proposed Costco site. These vehicles emit high levels of **diesel particulate matter**, **nitrogen oxides (NOx)**, and other hazardous air pollutants (HAPs) that are strongly linked to **asthma, cancer, and cardiovascular harm**—especially in children and elderly populations.

Fuel delivery trucks will service the 32 fuel positions, and freight deliveries will be ongoing to maintain warehouse inventory. These vehicles are expected to idle, circulate, or queue on-site and nearby roads, including Silva Valley Parkway.

The EIR should assess the **frequency and volume of these trips**, their projected emission loads, and their proximity to **sensitive receptors**—including schools, sidewalks, and residential zones. The County should require mitigation measures such as **zero-emission delivery zones**, **anti-idling policies**, or scheduling adjustments to minimize health risks.

7. **Air Quality – Increased Pollution Exposure During Wildfire Smoke and Poor Air Quality Days**

The EIR should evaluate how the proposed project will exacerbate air quality risks during **wildfire smoke events**, which are becoming increasingly frequent and severe in El Dorado Hills. The region already experiences **multiple days or weeks each year** with **PM2.5 levels far above safe thresholds**, especially in summer and fall.

The added emissions from increased vehicle trips, idling, fuel deliveries, and loading operations will **compound airborne pollutant concentrations**, even when air quality is already hazardous.

The EIR should model worst-case scenarios during **Tier 1 and Tier 2 Air Quality Index (AQI) alerts**, and assess whether the project contributes to **violations of state or federal air quality standards** on those days. Mitigation measures should include adaptive operations planning, reduced truck scheduling, and public air quality alert systems.

8. **Air Quality – Toxic and Evaporative Emissions from 32 Fuel Positions**

The EIR should evaluate the **evaporative and fugitive emissions** associated with fueling operations at the proposed Costco gas station, which includes **32 fuel positions**. These operations will release **volatile organic compounds (VOCs)**, including **benzene**, a known human carcinogen, as well as other air toxics associated with fuel dispensing, storage, and transfer.

Vapor releases can occur through vehicle refueling, tank breathing, spillage, and pressure fluctuations. These emissions persist even when vehicles are not idling and are known to **travel downwind**, potentially impacting nearby **homes, sidewalks, schools, and playgrounds**.

Given the project's location the EIR must evaluate whether cumulative vapor emissions pose a **public health risk**, especially for children. Mitigation measures may include **enhanced vapor recovery systems**, **increased setbacks**, **downwind analysis**, and **barrier landscaping** to reduce exposure.

10. Air Quality – Decline in Pedestrian Health and Safety from Traffic-Related Pollution Beyond the Project Site

The EIR should evaluate how the proposed development will degrade air quality and walking conditions **not only near the project site, but along the entire Silva Valley Parkway corridor**—including areas **one to two miles north** where **daily pedestrian activity is high**.

These areas are used every day by children walking to school, families on foot, cyclists, joggers, and seniors. With no alternative north-south access to the Costco site, Silva Valley Parkway will absorb the bulk of vehicle trips—leading to a **steady stream of exhaust, particulate matter (PM2.5), and other vehicle-related air pollution** in areas currently safe, quiet, and clean.

The EIR should not confine its analysis to on-site impacts. It must evaluate how increased emissions along **the full length of Silva Valley Parkway** will affect health outcomes, especially for vulnerable users. Mitigation measures should be applied along the corridor—such as tree planting, vegetative buffers, or rerouted access—not just at the site itself.

11. Air Quality – Long-Term Cumulative Exposure Risks to Pedestrians and School Communities

The EIR should evaluate the **chronic, long-term air pollution exposure** that will result from the proposed project's traffic impacts—particularly for children, pedestrians, cyclists, and residents along Silva Valley Parkway.

Daily exposure to even low levels of **particulate matter (PM2.5)** and **nitrogen oxides (NOx)** is linked to cumulative health effects including **asthma, heart disease, and developmental harm in children**. These risks increase with **proximity to roads**, **daily exposure duration**, and **population vulnerability**.

Unlike one-time or peak-hour events, this project will introduce a **new baseline** of elevated emissions in an area where people currently walk, bike, and live with minimal traffic pollution. This chronic exposure must be analyzed not just for individual sources (like idling or fueling), but as a **daily, corridor-wide environmental change**.

CEQA requires evaluation of **cumulative impacts** over time. The EIR should quantify long-term exposure scenarios and propose mitigation—such as re-routing traffic, shifting site design, or enhancing community air monitoring—to reduce health burdens from this sustained pollution.

12. Air Quality – Impact on Perceived Safety, Comfort, and Community Well-Being

The EIR should evaluate how the project's increase in vehicle traffic and air pollution will affect not just physical health, but also the **psychological and emotional well-being** of community members—particularly students and parents who walk, bike, or wait along Silva Valley Parkway.

The perception of being forced to walk or send children through **heavily polluted, high-traffic environments** can lead to **chronic stress, reduced sense of safety, and loss of community trust** in public infrastructure. These impacts disproportionately affect **low-income families, students without vehicle access, and parents without alternatives to walking routes near the site.**

CEQA acknowledges **indirect environmental and psychological impacts** as legitimate concerns. The EIR should address how the project may change how people feel and act in their neighborhood—whether they still feel safe letting kids walk to school, whether outdoor activity is discouraged, and whether the community experiences a diminished quality of life.

Mitigation should include not only pollution reduction, but also design strategies that promote comfort, dignity, and emotional security in the public realm.

13. Air Quality – Involuntary Exposure Due to Inadequate Notification and Transparency

The EIR should evaluate how the project imposes **involuntary exposure to air pollution** on residents, students, and families who were not given adequate opportunity to weigh in during early stages of project planning.

Many residents living along Silva Valley Parkway were **not properly notified** of the project's Notice of Preparation or scoping process, despite being directly affected by its traffic and air quality impacts. Now, those residents face the prospect of **daily exposure to PM2.5, VOCs, and exhaust** from a project they had no role in shaping.

This creates not just an environmental burden, but a **loss of procedural fairness and trust**. CEQA emphasizes the importance of meaningful public participation and disclosure. The EIR must acknowledge this breakdown and assess how involuntary exposure—especially for children and low-mobility residents—will affect public health and social equity.

Mitigation should include enhanced transparency, outreach during the EIR phase, and design alternatives that reduce exposure for those who were never given the chance to consent.

14. Air Quality – Ongoing Exposure During After-School and Evening Hours

The EIR should evaluate how the project will extend air pollution exposure into **after-school hours, evenings, and weekends**, when students, families, and residents remain active outdoors in the Silva Valley Parkway corridor.

Costco's traffic volumes are not limited to peak commute hours. Fueling, parking lot idling, and customer circulation will continue into the late afternoon and evening—especially on weekends—producing a steady stream of **PM2.5, NOx, and VOC emissions** near schools, parks, and neighborhoods.

These hours coincide with children playing outside, families walking or biking home from school, and community members using nearby sidewalks, trails, and crossings. The EIR must evaluate exposure impacts that occur **outside of traditional 8am–3pm school hours**, particularly as **extended hours of exposure are known to compound health risks**.

The County should include evening and weekend exposure scenarios in its analysis, and propose mitigations that address this extended timeline of risk—including vegetative buffers, staggered access design, and pollution-reducing site operations.

Ivan Ruiz
(916)221-0564

Public Comments on Biological Resources – EDH Costco Draft EIR (SCH #2021080402)

1. **Biological Resources – Loss of Habitat and Wildlife Corridor Between Two Perennial Creeks**

The EIR should evaluate how the proposed project will impact a critical habitat corridor that lies between two perennial (year-round) creeks adjacent to the development site. The project area includes a seasonal creek and undeveloped open space that serve as connective habitat between these two permanent waterways.

These creek corridors support a range of sensitive biological resources, including riparian vegetation, amphibians, aquatic species, and terrestrial wildlife that rely on the continuity of habitat and access to water. The open field between these creeks currently functions as a wildlife corridor, with residents regularly observing deer, coyotes, bobcats, and beavers traversing the area. Birds of prey such as hawks and owls are frequently seen hunting in this corridor, which suggests the presence of nesting sites and a robust food web.

The removal of this habitat for large-scale development will not only degrade local biodiversity but also break a vital connection between two aquatic ecosystems. The EIR should assess the site's role in maintaining ecological connectivity, riparian health, and species movement across the Silva Valley corridor.

Impacts to this inter-creek corridor—including habitat fragmentation, edge effects, noise, lighting, and water quality degradation—must be analyzed in depth. Mitigation measures should include preservation of riparian buffers, wildlife corridors, and open space that allows for continued movement of species between the two creek systems.

2. **Biological Resources – Impacts to Riparian Habitat and Sensitive Wildlife Along Adjacent Year-Round Creeks**

The EIR should evaluate how the proposed development will affect riparian habitat and sensitive species associated with the two year-round creeks that run adjacent to the project site. Although the development does not directly encroach into the creeks, it lies between them and includes a seasonal drainage that contributes runoff into this system. Any increase in impervious surface, grading, or vegetation removal will directly affect water quality, runoff temperature, sedimentation rates, and ecological integrity of these downstream waterways.

These creeks host diverse plant and animal species that rely on clean, cool water and intact vegetative buffers. Beavers are regularly observed in the area and play a key role in maintaining riparian hydrology. Birds of prey—including hawks, owls, and falcons—frequently hunt and nest in the tree canopy along these creeks. Development activity may disrupt nesting behavior,

reduce foraging success, and introduce edge effects such as light, noise, and human disturbance.

The EIR should assess the presence of any special-status species or protected riparian communities, and analyze indirect impacts from runoff, loss of buffer vegetation, increased human presence, and construction-phase disruptions. If development alters the hydrological or ecological function of these year-round creeks, it could have a significant biological impact that must be mitigated.

Mitigation measures should include riparian setbacks, light and noise controls, enhanced stormwater treatment to protect aquatic species, and tree protection measures to preserve raptor habitat.

3. **Biological Resources – Removal of Trees and Habitat Structure Supporting Local Biodiversity**

The EIR should evaluate how the proposed project will impact tree cover and vegetation structure on the project site, particularly in relation to habitat value for birds, mammals, pollinators, and other native species. While much of the site appears to be grassland or open field, there are also scattered mature trees— including native oaks—that provide nesting, perching, and foraging habitat for a wide range of species.

These trees contribute to the structural diversity of the landscape, supporting different wildlife functions across vertical layers (canopy, understory, ground). Even isolated trees in open fields can serve as critical habitat islands for cavity-nesting birds, raptors, and mammals moving between larger habitat areas. Removal of these features not only displaces resident species but also fragments habitat connectivity and reduces biodiversity in the surrounding area.

The EIR should identify and map all trees and shrubs to be removed, particularly those with large diameter trunks, nesting cavities, or association with native species. A biological survey should determine if any protected or special-status wildlife depend on these features for breeding or movement. In addition, the EIR should consider cumulative loss of tree canopy in the region and require mitigation such as:

- Preservation of existing native trees wherever feasible
- On-site native tree replanting at appropriate ratios

  Long-term maintenance plans to ensure replanting success
- Wildlife corridor preservation and habitat linkage design

This impact may be particularly significant given the project's location between two year-round creeks and within a known wildlife movement area.

4. **Biological Resources – Light and Noise Pollution Disrupting Local Wildlife Behavior and Habitat Use**

The EIR should evaluate how artificial lighting and operational noise from the proposed Costco development will affect local wildlife, particularly in relation to the site's proximity to two year-round creeks and its role as a wildlife movement corridor. The introduction of extended-hour lighting, high-lumen parking lot fixtures, illuminated signage, and vehicle headlights will drastically alter the current light conditions, especially in evening and nighttime hours when many species are most active.

Increased nighttime illumination can disrupt natural behavioral cycles for a variety of species—interfering with nocturnal foraging, navigation, migration, and reproductive behavior. Light pollution near riparian zones is particularly harmful for amphibians, insects, and birds, many of which rely on darkness for orientation and predator avoidance. Similarly, chronic operational noise—including vehicle circulation, deliveries, customer activity, and HVAC systems—may deter wildlife from using habitat near the site, further fragmenting this corridor and reducing biodiversity.

The EIR should assess:

- Projected night sky brightness and directionality of lighting
- Sound level projections during both daytime and nighttime operations
- Species-specific sensitivity to artificial light and operational noise
- Distance-based effects on habitat corridors, particularly the adjacent year-round creek

Mitigation measures should include:

- Full cutoff lighting fixtures with minimal skyglow
- Motion-activated or timed lighting near site perimeters
- Vegetated or sound-buffering berms near sensitive habitat
- Reduced hours for high-noise operations

This analysis should recognize that wildlife do not recognize parcel boundaries, and the project's disturbance footprint will extend well beyond the site itself.

5. **Biological Resources – Barriers to Wildlife Movement Through a Known Habitat Corridor**

The EIR should evaluate how the proposed Costco development will create new physical and behavioral barriers to wildlife movement within a known habitat corridor. The project site sits

between two year-round creeks and includes a seasonal creek that feeds into one of them. This landscape currently supports a functional corridor for wildlife—including deer, coyotes, bobcats, foxes, beavers, and numerous bird species—moving between riparian zones, oak woodlands, and open fields.

The introduction of large-scale impervious surfaces, fencing, constant lighting, and human activity will severely restrict the ability of wildlife to traverse the area safely or at all. The project effectively severs the connection between the creeks, cutting off access to habitat and migration pathways used by multiple species. Additionally, increased vehicle traffic and site noise will create behavioral avoidance zones, shrinking the usable habitat envelope even further.

The EIR should assess:

- Current patterns of wildlife movement across and near the site
- Impacts on species known to use the corridor (especially medium to large mammals)
- Cumulative habitat fragmentation in the Silva Valley region
- Potential for vehicle-wildlife collisions on surrounding roads, including Silva Valley Parkway and White Rock Road

Mitigation measures should include:

- Maintaining a wide vegetated buffer or underpass that allows for safe wildlife crossing
- Limiting fencing that blocks wildlife routes
- Habitat connectivity analysis with design modifications that preserve natural movement patterns

As this site plays a role in regional ecological connectivity, its development should not be allowed to permanently sever wildlife routes without robust mitigation and alternatives analysis.

6. **Biological Resources – Stormwater Runoff and Impacts to Adjacent Year-Round Creeks**

The EIR should evaluate how stormwater runoff from the proposed Costco site will affect the integrity, water quality, and biological function of the adjacent year-round creeks and connected riparian systems. The project site lies between two perennial creeks—one directly adjacent to the **west**, and another nearby to the **east**—and also contains a seasonal drainage feature that feeds into these systems. These creeks support sensitive aquatic and riparian habitat that is highly vulnerable to pollution, erosion, sedimentation, and hydrological alteration.

The introduction of extensive impervious surfaces—including rooftops, parking lots, fueling areas, and driveways—will dramatically increase runoff volume and velocity during storms. Without robust treatment infrastructure, this runoff may carry:

- Oil, fuel, and heavy metals from vehicles
- Sediment and debris from grading
- Nutrients and trash from parking lots
- Potentially toxic substances from gas station operations

These pollutants can degrade aquatic habitat, harm fish and amphibians, and damage riparian vegetation. Fast-moving runoff may also contribute to erosion and destabilization of creek banks, further threatening ecological function.

The EIR should:

- Identify where runoff will drain and whether it reaches the nearby creeks directly or through storm drains
- Assess pollutant loads from expected land uses and surface types
- Evaluate the hydrological impact on flow regimes, sedimentation, and habitat connectivity
- Consider downstream cumulative impacts on water quality and wildlife habitat

Mitigation measures should include:

- Full stormwater treatment with filtration and pollutant capture
- Vegetated bioswales and retention basins to slow and filter runoff
- Setbacks and buffer zones between impervious surfaces and the creek corridors
- Monitoring requirements to ensure water quality protections over time

7. **Biological Resources – Potential Disturbance of Nesting Sites for Birds and Raptors**

The EIR should evaluate whether the proposed Costco development will disturb active or seasonal nesting sites for local and migratory bird species, including raptors such as hawks, owls, and kestrels. The project site contains mature trees—including **native oaks**—as well as grasslands and riparian-adjacent areas that provide suitable nesting habitat.

Birds of prey and other protected avian species are frequently observed in this area, using both trees and ground vegetation for nesting and roosting. The proximity of the site to a year-round creek and open space corridor further enhances its suitability as nesting habitat and a foraging zone. Construction activity, vegetation removal, noise, lighting, and human disturbance may:

- Destroy or displace nests
- Cause nest abandonment
- Interfere with breeding and fledging cycles

The EIR should:

- Include a thorough biological survey of the site's trees, shrubs, and open areas to identify any nesting activity
- Assess the timing and impact of construction during nesting season (generally February through August)
- Identify which species are present or likely to be affected, including any that are state or federally protected

Mitigation measures should include:

- Pre-construction nesting bird surveys by a qualified biologist
- No-disturbance buffers around active nests (typically 300 feet for raptors, 100 feet for others)
- Seasonal work restrictions to avoid breeding season impacts
- Replacement tree planting for any removed nesting trees, ideally native species

Given the site's open habitat, connection to a wildlife corridor, and presence of large trees, nesting disruption is a foreseeable impact. CEQA requires that it be fully assessed and mitigated.

8. **Biological Resources – Impacts on Creek Bank Stability and Local Hydrology**

The EIR should evaluate how the proposed development may affect creek bank stability and localized hydrological patterns—particularly in relation to the **seasonal creek located on the project site** and the **year-round creek immediately west of the project boundary**. The site sits **between** these two waterways and includes sloped terrain and natural drainage features that connect to the broader watershed.

Construction activities such as grading, vegetation removal, paving, and stormwater rerouting may:

- Destabilize soil on slopes adjacent to creeks
- Increase erosion and sedimentation into the downstream aquatic system
- Alter subsurface water flow and surface runoff into riparian areas
- Reduce infiltration and groundwater recharge due to added impervious surfaces

These impacts may in turn degrade **riparian vegetation**, **wildlife habitat**, and **water quality** downstream.

The EIR should:

- Conduct a hydrological assessment of how the project will alter drainage and runoff patterns on and around the site
- Evaluate changes in runoff volume, velocity, and sediment load entering the seasonal and year-round creeks
- Identify whether bank erosion or channel incision is likely to occur as a result of changed hydrology
- Model post-construction stormwater behavior, especially during peak rainfall events

Mitigation measures should include:

- Use of bioswales, vegetated buffers, or detention basins to slow and filter runoff
- Stabilization of vulnerable slopes with native vegetation or bioengineering techniques
- Avoidance of direct grading near creekbanks
- Ongoing post-construction monitoring of creek conditions and erosion levels

Because this site is directly adjacent to waterways and lies within a sensitive hydrologic corridor, the EIR must fully assess the cascading ecological impacts of development-related runoff and landform alteration.

From: Elaine Brilhart
To: EDHCostco@edcgov.us
Subject: Re Proposed Costco Project
Date: Wednesday, March 26, 2025 9:48:44 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Good day Sir/ Madam,

I am writing this letter to express my strong opposition to allowing Costco Wholesale and Gas on or near Silva Valley in El Dorado Hills.

First of all, as residents/property owners at Serrano it came as quite a surprise to my family and extended family/neighbors to recently hear that Costco will be building its operations in our neighborhood.

A primary concern is the fire hazard that would come from their bakery and gas station especially during dry season is concerning. Also the amount of traffic on and around Silva Valley would be ridiculous. There are four schools in this area which are already being impacted by high traffic in the mornings and evening. A business like Costco would bring massive traffic pile up in this area which would crate some danger to school children and joggers and dog walkers.
There are so many great concerns that a
fire would be literal devastation to the homes and structures located so close to the this proposed Costco site!

Another issue that also does not seem to be adequately considered is the noise and pollution Our community would not be the same and
was not structured to implement such commercial property of that magnitude.There are houses so close to the proposed site and a
valley where noise travels freely. The noise would be unacceptable for this community.
Finally, hope your office thoroughly examined the environmental impact of their gas line etc at the proposed areas?We have yet
to see an Environmental Impact Study done for the proposed sites. If any information is
available, our community should have a right to review the results of such

studies.
Should all of these things not be fully vetted out BEFORE making a proposal??? This proposal
seems in direct conflict with what this community was built on to ensure environmental
protection, public safety…and a rich quality of life.” As an entity who is entrusted with creating
land use policies, and regulates, monitors, and enforces County Zoning Ordinances and other related ordinances to guide development and conservation , I hope you will not let big corporations win over preservation of our communities wellbeing.
Thank you
Best regards
Elaine (Serrano Resident)

Sent from my iPhone

From: Phyllis Lee
To: EDHCostco@edcgov.us
Subject: re: Costco build on Silva Valley
Date: Friday, March 28, 2025 2:07:05 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Please proceed with this project - it is needed!
Something will be built at this freeway intersection, and no matter what, the home owners nearby will not like it.

--
Phyllis Lee

From: Katherine Omand
To: PL-EDH Costco Project
Subject: Re: Costco comments
Date: Wednesday, May 7, 2025 9:10:41 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

I am resending our comments in this email:

Proposed Costco Comments:

We live at 1248 Terracina Dr. and overlook the proposed Costco store and gas station. We are against approving the Costco development at that location.

Noise- Silva Valley Parkway is in a bowl/valley. All the noise on that road easily goes up the sides of the ridges. We currently hear a lot of noise from the parkway and can only imagine the increased noise from the influx of cars and the loading and unloading of trucks. I had read that the loading docks start operating before 6am.

The location of the Costco is surrounded by the Serrano residential development. The development was designed with minimal street lights. The more rural and natural setting is what attracted us to the area…NOT the Parking lights of a warehouse and gas station.

Traffic- From my experience with using the Folsom Costco store, there will be a tremendous increase in the number of cars that use Silva Valley for the warehouse and gas station. The customers will not only be coming off of Hwy 50, but also from the Green Valley Rd end of Silva Valley Rd. Thus, there will be increased traffic in front of the 3 other schools along Silva Valley. Oakridge HS, Rolling Hills middle school and Silva valley elementary school. These are already congested areas during school drop-offs and pickups. And, lastly the most hazardous effect of this proposal is that it is next door to Oak Meadow Elementary School. The current traffic on Silva Valley Rd. at pickup and drop-off times is dangerous! There is a line of cars along Silva Valley and they often overflow into the slow lane of Silva Valley. Several times I have narrowly missed hitting a car, or had to swerve into the other lane of traffic to avoid an accident. And, having a gas station next to a school and children's playground needs to be further evaluated. The exhaust emissions from running cars has to be detrimental to anyone and especially children.

Although, I realized that this area is zoned commercial, the amount of increased traffic and noise from a Costco warehouse is not a good fit for the surrounding area.

Jim and Kathy Omand
1248 Terracina. Dr.
El Dorado Hills

On May 6, 2025, at 11:39 AM, PL-EDH Costco Project <EDHCostco@edcgov.us> wrote:

Good morning, Jim and Kathy Omand,

Your attached comments are unable to be opened in the current file format. Please re-send comments attachment in either a WORD or PDF version, thank you.

Sincerely,

County of El Dorado
Planning and Building Department (Planning Services)
2850 Fairlane Court
Placerville, CA 95667
planning@edcgov.us

From: Katherine Omand <omjwk@yahoo.com>
Sent: Sunday, March 30, 2025 5:35 PM
To: PL-EDH Costco Project <EDHCostco@edcgov.us>
Subject: Costco comments

Attached are our comments against the proposed Costco warehouse and gas station.

Jim and Kathy Omand
1248 Terracina Dr. EDH

WARNING: This email and any attachments may contain private, confidential, and privileged material for the sole use of the intended recipient. Any unauthorized review, copying, or distribution of this email (or any attachments) by other than the intended recipient is strictly prohibited. If you are not the intended recipient, please contact the sender immediately and permanently delete the original and any copies of this email and any attachments. <costco 325.pages>

From: cyn.777@icloud.com
To: EDHCostco@edcgov.us
Subject: Re: Costco in EDH
Date: Thursday, March 27, 2025 9:31:06 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

To Whom It May Concern:

NO. Just no. Why?… when there's already one a short 5 minutes down the hill.

The original beauty of EDH, which was/is its rolling hills, gets depleted each time another building/neighborhood/project is allowed. This is supposed to be a bedroom community, not a major city with major traffic issues. Please stop.

Cynthia Gannon
EDH resident

From:	MarySobelOtt.Before The Ink Fades
To:	PL-EDH Costco Project
Cc:	BOS-Clerk of the Board; chamber@eldoradohillschamber.org; Greg Durante; Rania Serieh; Jon DeVille; David A Livingston; Jeffrey A. Warren; Karen L. Garner; Jeffery Leikauf; Brian Frazier; Rafael Martinez; M. Sobel Ott (Before The Ink Fades)
Subject:	RE: Proposed Costco on Silva Valley Parkway
Date:	Friday, March 28, 2025 2:45:43 PM
Attachments:	Screenshot 2025-03-28 at 2.27.47 PM.png Proposed Costco on Silva Valley Parkway.pdf

This Message Is From an Untrusted Sender

You have not previously corresponded with this sender.

Report Suspicious

Cameron Welsh
Senior Planner
County of El Dorado Planning and Building Department
2850 Fairlane Court
Building C
Placerville, CA. 95667
C.C.: Email: EDHCostco@edcgov.us

RE: Proposed Costco on Silva Valley Parkway

Dear Cameron,

I am at a loss to understand HOW a Costco built on Silva Valley Parkway is aesthetically in-line with the surrounding Serrano development or even possible, given the *insane amount* of traffic which now flows on Silva Valley Parkway near Highway 50 already, starting in the morning and flows clearly until the evening! The road is packed.

This 'project' appears designed to devalue the residential housing in this area. It appears almost as a way to take a pretty area, which is a quiet gated development, and turn it into a commercially packed, EPA and real estate blunder of epic proportions. Do YOU live here in Serrano? I wonder. I doubt it. Are you trying to cheapen the housing here to be able to buy a house here? Who would entertain this project seriously?? Or want Costco as a next door neighbor??

I can tell you that somebody is getting some kind of payoff to look the other way and approve this square-peg-in-a-round-hole-of-a-project: Another Costco, SO CLOSE to the other one just over the hill off of Bidwell, is not only NOT necessary but almost appears defiantly vindictive towards Serrano residents.

Please remove the consideration for this future traffic nightmare and find another location for another second-sister Costco and put it away from the already beaten-down traffic pathway on Silva Valley Parkway!

God bless!

Mary and Michael Ott
Borders Drive
EDH, 95762

From: marty abell
To: PL-EDH Costco Project
Cc: greatkazoo; Heather Siefkes; Amy Frith; Claudia Vidovic; Brian Siefkes; Amanda Hansen; Ivan Ruiz; Karen L. Garner; John Davey; Cameron W. Welch; Rafael Martinez; jons van dooren
Subject: Re: Rough Draft of Petition
Date: Monday, March 24, 2025 2:24:32 PM

This Message Is From an External Sender
This message came from outside your organization.

Report Suspicious

Hello Cameron,

Please address the following comments in the EDH Costco DEIR:

-- In 2021 and 2023, Costco proposed a 156,000 sf warehouse store with 763 parking spaces on the South Site. Now, in 2025, they've added 9,000 sf to the store to make it 165,000 sf, an increase of 5.8%. At the same time, they increased their estimate of employees from 165-170 in 2021 and 2023 to 250-300 in 2025. The 2025 estimate includes projected gas station employees. But I get gas at the Folsom Costco gas station and I've never even seen an employee there, so if we generously assume they'll have 20 gas station employees, their maximum estimate of warehouse employees has gone up from 170 to 280, an increase of 110, or 64.75%. How is it that when Costco's warehouse square footage goes up 6% its number of warehouse employees goes up 65%?

-- In 2021 and 2023, Costco proposed 763 total parking spaces on the South Site, which the 2021 NOP said was 121 spaces in excess of county requirements (NOP, bottom, p.10). If the county requirement was actually only 642 spaces, the requirement would seem to be one space per 243 sf of store. So, the extra 9,000 sf of store area in 2025 would seem to add 37 spaces to the parking requirement, for a new total of 679 spaces, about 80 fewer than Costco is still proposing. Even if we throw in 10 more spaces for the 20 non-warehouse gas station employees, Costco would still seem to be proposing 70 more parking spaces on the South Site than the County requires. Why?

Marty Abell

On Mon, Mar 24, 2025 at 9:25 AM jons van dooren <jvdusa@hotmail.com> wrote:

> I agree on that! but if Costco can not put in the gas station nor the 68 parking stalls, there will be NOT enough parking at the warehouse, to allow such a size warehouse.
>
> On the other had, I read the FAQ that Amy send to us before, saying there would be a traffic light at Clarksville Crossing at the Silva Valley Pkwy., which later would be moved to Country Club Drive, if these are the intentions at ALL, I know that the Planning Director has issues with ALL those traffic lights from the get go!
>
> On the South side is also ALL the issues with the narrow Clarksville Crossing (single road),

waterways hydrology / water quality , geology / Soils, noise, air quality, transportation / traffic, population/ housing, land use + planning ALL the 18 things that fall into what John Davey send over, CEQA California Environmental Quality Act

So I am for, NO Costco at all! Let them sell it off and will battle what is next!

Cheers,
Jons.

From: greatkazoo <greatkazoo@aol.com>
Sent: Monday, March 24, 2025 9:00 AM
To: Heather Siefkes <hmcarpentier@gmail.com>
Cc: Amy Frith <amfrith@gmail.com>; van dooren jons <jvdusa@hotmail.com>; Claudia Vidovic <claudiavidovic@hotmail.com>; Brian Siefkes <bdsiefkes@gmail.com>; Amanda Hansen <AmandaPHansen@gmail.com>
Subject: Re: Rough Draft of Petition

Hi all-I'm just curious why the petition isn't against Costco period, not just the gas station. The traffic, noise, appearance, safety will still be horrible with the Costco standing alone. Not only that, it will lower the values of our homes which I've researched.
Thanks,
Heather L.
Sent from my iPhone

> On Mar 21, 2025, at 3:48 PM, Heather Siefkes <hmcarpentier@gmail.com> wrote:
>
> Thanks Amy,
>
> I'll move this into a google document, make some edits and then share with everyone so we can more easily make edits and give comments.
>
> Heather
>
> > On Mar 18, 2025, at 9:07 PM, Amy Frith <amfrith@gmail.com> wrote:
> >
> > Hello,
> >
> > Ivan Ruiz has offered to start a draft petition that we can circulate for signatures. This doesn't need to be an NOP response letter, we can send it directly to Costco, the Planning Commission and BOS once we have signatures to try and influence them to change their plan (or go away). I haven't read this yet but want to share with

others to start making recommendations and edits. Please take a look and see what you think. The icons will be removed. Thanks!

Sent from my iPad

Begin forwarded message:

From: Ivan Ruiz <love2joypeace@gmail.com>
Date: March 18, 2025 at 7:15:37 PM PDT
To: Amy Frith <amfrith@gmail.com>
Subject: Rough Draft of Petition

PETITION TO PROTECT OAK MEADOW ELEMENTARY SCHOOL AND THE USERS OF SILVA VALLEY PARKWAY FROM THE COSTCO FUEL STATION DEVELOPMENT

To: El Dorado County Board of Supervisors, El Dorado County Planning and Building Department, and all relevant decision-makers

We, the undersigned, strongly oppose the construction of a Costco fuel station along Silva Valley Parkway and urge El Dorado County officials to reject this portion of the development.

Health Risks to Children at Oak Meadow Elementary School

The proposed Costco fuel station

poses a severe health threat to children attending Oak Meadow Elementary School, which is located adjacent to Silva Valley Parkway. According to extensive research on gas station pollution:

- Benzene, a known carcinogen, is emitted from gas station vents and fueling areas. Exposure to benzene has been directly linked to childhood leukemia and other blood disorders. Studies have found that gas stations vent 10 times more benzene than previously estimated, and hazardous levels can persist over 500 feet away.
- The California Air Resources Board (CARB) recommends a 300-foot minimum buffer between fuel stations and sensitive land uses like schools, but studies have shown benzene exposure can remain dangerous at up to 1,000 feet.
- The EPA warns that children exposed to gasoline vapors and vehicle exhaust are at increased risk for asthma, reduced lung function, and developmental issues. Students playing outside or attending class near a fuel station will be at constant risk of exposure.
- International studies have found higher rates of leukemia and other cancers among children who live or attend school near gas stations, with one French study reporting a 4-fold increase in leukemia risk for children near fuel stations.
- The U.S. EPA’s School Siting Guidelines flag gas stations as a hazardous land use near schools and require environmental assessments if within 1,000 feet.

Silva Valley Parkway Will Become a High-Traffic Corridor Affecting Schools and the Community

Silva Valley Parkway from Green Valley Road to Serrano Parkway will become a heavily congested roadway due to the increased traffic generated by the proposed Costco and fuel station. This corridor is a major route for local students and families, and its transformation into a high-traffic commercial corridor will have serious consequences:

- Students from Silva Valley Elementary, Rolling Hills Middle School, and Oak Ridge High School walk in large numbers along Silva Valley Parkway. Increased vehicle traffic will pose a major safety hazard for these children who rely on this route to get to and from school.
- Increased congestion will lead to longer commute times for residents, school buses, and emergency vehicles.
- Pedestrian and cyclist safety will be severely impacted, making it more dangerous for students and families to walk or bike along the corridor.
- The road was not designed for this level of traffic, and its transformation into a major commercial thoroughfare will negatively impact local residents, schools, and

businesses.

Other Concerns:

Cyclist & Pedestrian Safety at Risk – El Dorado Hills has few flat areas suitable for walking and biking. Silva Valley Parkway is one of the last remaining flat and accessible areas, making it a heavily used route for pedestrians and cyclists. Increased vehicle traffic and fuel tanker deliveries will make it significantly more dangerous. El Dorado Hills Blvd is already unfriendly to non-motorized users—Silva Valley is what we have left.

Destruction of a Green Corridor & Wildlife Habitat – The west side of Silva Valley Parkway is a vital riparian corridor, home to diverse wildlife and a key part of the community's green space. Wildlife travels east from the open space surrounding Carson Creek to access this habitat, and a fuel station will disrupt these natural migration paths.

Loss of Recreational Space – The area along Silva Valley Parkway is used for walking, running, cycling, and family activities. A fuel station and the heavy traffic it brings will eliminate opportunities for outdoor recreation and diminish our

community’s quality of life.

We Demand That El Dorado County Officials:

1. Reject the proposed Costco fuel station along Silva Valley Parkway due to its health risks, environmental destruction, and increased traffic hazards.
2. Protect Silva Valley Parkway as a recreational and green corridor for cyclists, pedestrians, and wildlife.
3. Ensure that any development includes dedicated bike lanes and pedestrian safety measures.
4. Enforce recommended public health setback distances by prohibiting large fuel stations within at least 500 feet of schools, parks, and playgrounds.
5. Explore alternative locations for the fuel station that do not threaten the environment, community safety, or recreation.

By signing this petition, we call on El Dorado County officials to prioritize public safety, environmental preservation, and community well-being over corporate interests.

Name | Address | Signature

1. _____ | _____ | _____
2. _____ | _____ |

3. _____ | _____ | _____
4. _____ | _____ | _____
5. _____ | _____ | _____

[Continue collecting signatures]

Thank you for protecting our children and preserving Silva Valley for future generations.

From: Nate Vickers
To: EDHCostco@edcgov.us
Subject: Response to EDH Costco Project
Date: Saturday, March 29, 2025 11:20:15 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear Cameron Welch,

As a concerned member of the El Dorado Hills community, I'm writing to provide comments on the proposed EDH Costco project. Specifically, I'd like to recommend that Costco Inc. takes responsibility for enhancing safety and infrastructure in the surrounding area.

Safety Concerns

Given the proximity of Oak Meadow Elementary School to the proposed Costco site (less than 1/16 of a mile), I strongly suggest that Costco Inc. contributes to updating the school's fencing to ensure student safety. The increased traffic and exposure on Silva Valley Road may pose a risk to students, and a secure campus is essential. The cost of fencing updates should be borne by Costco Inc. as part of their community responsibility.

Infrastructure Improvements

Furthermore, I recommend that Costco Inc. creates a walkway/bike path on White Rock Road, connecting Clarksville Road and Vine Street. This will provide residents with alternative transportation options, mitigating the impact of increased traffic on White Rock Road and Clarksville Road. This infrastructure improvement will benefit not only the local community but also customers visiting the Costco store.

By taking these steps, Costco Inc. can demonstrate its commitment to being a responsible corporate citizen in El Dorado County.

Sincerely,

Nate Vickers
925.858.8647

From: Steve Hullibarger
To: EDHCostco@edcgov.us
Cc: bosone@edcgov.us
Subject: Scope and Content of Environmental Document [Costco Silva Valley Project]
Date: Tuesday, March 11, 2025 1:57:26 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

We live on Souza Drive, not far from the site of the Costco project. We have reviewed the document and we believe that the benefits that our community will receive far exceed any potential environmental impacts listed.

In addition, we support the project because a) it is much nearer to us than the Folsom location, b) we will pay a lower sales tax rate than we do in Sacramento County, and c) it benefits El Dorado County residents to keep those sales taxes within our county.

Thank you,

Steve Hullibarger
1181 Souza Drive
El Dorado Hills, CA 95762
916-838-2370
hully2015@att.net

From: Paul Lucero
To: EDHCostco@edcgov.us
Subject: Silva Valley Costco
Date: Sunday, March 30, 2025 3:08:10 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Hello

Please build the Silva Valley Costco as soon as possible including the 32 gas pump addition. This is much needed in El Dorado County. Great location off the freeway and local impact is minimal.
The naysayers are a local loud small minority.
We need this tax revenue and Costco!!
Thanks for your consideration.

Paul Lucero
El Dorado County

Sent from my iPhone



From: pkhoosh@yahoo.com
To: EDHCostco@edcgov.us
Subject: Strong Opposition to Proposed Costco Development in El Dorado Hills and request for EIR study details
Date: Monday, March 31, 2025 11:40:09 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dr. Pete Khooshabeh
4030 Borders Dr.
El Dorado Hills, CA 95762
408.205.7167

El Dorado County Board of Supervisors
Mr. Cameron Welch, Senior Planner

Dear Mr. Welch and Members of the El Dorado County Board of Supervisors,

I am writing to express my strong opposition to the proposed Costco development in El Dorado Hills. As a resident of this community, I am deeply concerned about the negative impact this project will have on our environment, infrastructure, local businesses, and overall quality of life. Additionally, I urge the Board to ensure a comprehensive Environmental Impact Report (EIR) is conducted to assess the full scope of potential consequences.

First and foremost, the addition of a large-scale warehouse retailer like Costco will significantly increase traffic congestion in an already strained area. The influx of vehicles, including delivery trucks and out-of-town shoppers, will exacerbate congestion on major roads such as Highway 50 and Silva Valley Parkway. An EIR must study the projected traffic impact, including increased emissions, wear and tear on infrastructure, and the potential for higher accident rates due to the surge in vehicles. The EIR traffic study needs to have models showing area growth at 125% of forecasted impacts. Traffic models must include access and egress forecasts as well as planned and potential adjacent development.

Furthermore, the environmental consequences of this project cannot be ignored. The construction and operation of a Costco will contribute to increased pollution, loss of green space, and potential harm to local wildlife. The EIR must evaluate the impacts on air quality, stormwater runoff, and the disruption of natural habitats. The destruction of native vegetation and the increase in impervious surfaces may lead to soil erosion and water quality degradation, affecting local water bodies and ecosystems.

A particularly alarming concern is the planned inclusion of a Costco gas station. A study published in the *Science of the Total Environment* on September 24, 2018, found that toxic fume emissions from gas stations are up to ten times higher than

previously estimated. This calls into question the accuracy of the California Air Pollution Control Officers Association (CAPCOA) and California Air Resources Board (CARB) emission standards, which set an unrealistically low estimate of 0.11 pounds of toxic fumes released per 1,000 gallons of gasoline dispensed. However, a 2018 study from Johns Hopkins found that actual emissions are between 1.4 and 1.7 pounds per 1,000 gallons—more than ten times higher than the outdated regulatory estimate. This figure is now known to be severely flawed and dangerously underestimates the health risks associated with gas station vapors. These toxic emissions include harmful volatile organic compounds (VOCs) that contribute to air pollution and pose serious health risks to nearby residents, especially children at the nearby Oak Meadow Elementary School and elderly individuals. The EIR must carefully examine the public health risks associated with these underestimated emissions and their long-term impact on our community. An implication of this study is to increase gas station setbacks by an order of magnitude, e.g., at least 3,000 feet.

Finally, an EIR should assess the potential strain on public services, such as law enforcement, fire protection, and emergency medical response. With an increase in visitors and vehicular activity, response times for emergency services may be negatively affected, putting residents at greater risk.

I urge you to ensure a thorough Environmental Impact Report is completed before making any decisions regarding the Costco development. The long-term consequences of this project must be fully understood and weighed against the well-being of El Dorado Hills residents and our innocent children at Oak Meadow Elementary School. I respectfully request that you reject the proposed Costco development if the findings of the EIR confirm the significant adverse effects on our community. Thank you for your time and consideration.

Sincerely,

Dr. Pete Khooshabeh

pete khooshabeh, Ph.D. | 408 205 7167 [cell]

From: Tan Wu
To: EDHCostco@edcgov.us
Subject: Strong Opposition to Proposed Costco Gas Station and Warehouse
Date: Sunday, March 30, 2025 3:34:46 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Mr. Welch,

As a concerned resident of Serrano and a parent, I strongly oppose the proposed Costco gas station and warehouse near Oak Meadow Elementary School. This project poses unacceptable risks to our children, our community, and our environment. The health and safety of our families must take precedence over corporate interests.

Air Quality and Public Health

Children at Oak Meadow Elementary spend hours outside daily, breathing the air around them. A massive gas station so close to their school will expose them to toxic pollutants, including benzene—a known carcinogen linked to leukemia. The California Code of Regulations, Title 5, Section 14010(h), and guidance from the California Air Resources Board (CARB) advise against placing fuel storage tanks or large gas stations near schools due to public health risks. This project does not comply with these safeguards and should not move forward.

The Environmental Impact Report (EIR) must thoroughly evaluate the air quality and public health risks, including emissions from the gas station, idling vehicles, fuel trucks, and warehouse traffic. The applicant should be required to fund mitigation efforts, such as upgrading air filtration systems at the school and limiting fuel deliveries and customer traffic during school hours.

Additionally, El Dorado Hills has naturally occurring asbestos (NOA), a known carcinogen. The project site is within a quarter mile of identified NOA deposits, according to the county's asbestos map (source). A full soil analysis must be conducted before any construction begins to assess potential risks. If NOA is present, the EIR must include mitigation measures to prevent exposure, and construction should be limited to hours that do not coincide with school operations.

Traffic, Fire Hazard, and Noise

The EIR must also analyze the project's impact on:

• Traffic Congestion: Increased vehicle flow near the school during drop-off and pickup times will endanger students and create significant delays.

• Fire Hazards: Storing large quantities of fuel near a residential community and a school increases fire risk. A thorough emergency response plan is essential.

• Noise Pollution: Increased traffic from warehouse deliveries, gas station customers, and idling vehicles will disrupt school activities and learning. Mitigation measures should be considered to reduce noise impacts.

Safety Concerns

The proximity of a gas station to a school raises serious safety issues. The applicant should be required to fund a perimeter fence around the school with a gate to enhance security and minimize risks.

Sustainable Alternatives

Rather than adding a high-pollution facility near a school, the county should explore environmentally responsible alternatives. Installing EV charging stations and solar panels instead of a gas station would align with California's clean energy goals and reduce long-term environmental impacts. Other options include relocating the gas station south of Highway 50 near the town center or designating the northern parcel for parking only.

Transparency and Public Noticing

The county must ensure full transparency by making all project documents publicly available, including detailed application materials and environmental impact assessments. The current lack of access to these documents raises serious concerns about the fairness of this process. Additionally, the public notice for this project should be expanded to include all parents of students at Oak Meadow Elementary, including those in the Buckeye Union Mandarin Immersion Charter School, who do not necessarily reside near the school.

Conclusion

The proposed gas station presents clear dangers to our children's health, our community's safety, and our environment. I strongly urge the Planning Commission to reject this project and explore safer, more sustainable alternatives. Approving this development would be a direct threat to public health and would undermine trust in the county's commitment to responsible planning.

Sincerely,

Tan Wu

From:	Maryam Khosravifard
To:	edhcostco@edcgov.us
Subject:	Subject: Comments in Opposition to Revised Notice of Preparation of Draft Environmental Impact Report and for the EDH Costco (Application Nos. Planned Development Permit PD15-0001, Conditional Use Permit CUP23-0012, and Variance Application V22-0001)
Date:	Sunday, March 30, 2025 11:05:12 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Date: March 25, 2025

To: Cameron Welch, Senior Planner
County of El Dorado Planning and Building Department,
2850 Fairlane Court, Building C
Placerville, CA 95667
EDHCostco@edcgov.us

From: Maryam Khosravifard
1612 Daunting Dr.
El Dorado Hills CA
Khosravifard.Maryam@yahoo.com

Dear Mr. Welch,

I would like to express **my gravest concerns** about the impact of the proposed use of the properties identified in this study. These parcels are located at the bottom of a valley surrounded by many existing residential homes that are located higher up on both sides of the valley, up and down the hills, overlooking the subject properties. The proposed development is not suitable for this location for the following reasons:

1. The Silva Valley Road **traffic noise** level is magnified by the echo chamber created by the hills on both sides of the roadway. This roadway is not suitable to support high volume traffic for businesses such as Costco or drive-throughs. The noise level for homes located on both sides of Silva Valley has already increased significantly since the development of the intersection with HW-50 and can now be heard indoors day and night. The proposed developments can further increase the noise level by many folds.
2. Any traffic on Silva Valley Road **negatively impacts the Oak Meadows Elementary School** drop-off and pickup hours when cars line up. It will further put the neighborhood children in additional risk of high-volume traffic during school hours.
3. The proposed properties and buildings, signs, and parking lots within the properties will be in the direct line of sight of hundreds of existing homes. Due to the properties being overlooked from the hills, these views cannot be screened with trees and landscaping. Therefore, use cases such as gas station, or Costco warehouse will be in full view of hundreds of residential properties day and night, **creating an unsightly environment** that will negatively impact the value of all these residential properties.
4. The proposed properties can also impact the nighttime environment by generating too much reflective light that will be a nuisance to many homes in the area. The Serrano subdivision that borders this project was developed with no streetlights so that the residents could enjoy the beautiful night sky dotted with stars. **This development is in direct contradiction to the neighboring subdivisions light pollution mitigation plans**.
5. The nature of the proposed Costco **architectural plan that is inconsistent with the surrounding residential buildings and subdivisions**.

In general, big-box stores need to be in predominantly commercial areas not neighbored and overlooked by large existing residential developments or schools. I would appreciate a development that adds value to the community. I just don't see a value in Costco when there is one only 5 minutes away. As for revenue, since EDH is not incorporated, revenue will flow to the County. So as long as there is a Costco anywhere in the County, the benefit will be the same. It does not have to be right adjacent to a single-family development and elementary school. Target at EDH is a good example of more appropriate placement of big-box stores. There is a reasonable buffer.

I therefore request that you kindly NOT APPROVE the proposed plans.

Best Regards,

Maryam Khosravifard

From: Milan Mijic
To: EDHCostco@edcgov.us
Subject: Suggestion regarding the EDH Costco project
Date: Tuesday, March 4, 2025 5:21:39 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Looking at the Feb 25"Revised notice of preparation...", description on p. 3 and map on p. 8, it seems obvious that the project needs to include car overpass over the Silva Valley, between North and South sides.

Otherwise, customers who wish to get gas before or after the shopping will cause great congestion on Silva Valley, which will back up the traffic from and to freeway. The chances of car accidents will be huge.

Overpass is the only way to avoid that. Another possibility is a tunnel under Silva Valley, but will be more expensive.

Thank you.

Milan Mijic, Serrano village E

Air Quality – Traffic-Related Pollution Exposure in Sunset Estates Neighborhood (White Rock Road Corridor)

Air Quality – Increased Pollution Exposure for Sunset Estates Neighborhood Due to White Rock Road Traffic Impacts

The EIR should evaluate how the proposed Costco development will increase air pollution exposure for residents of the **Sunset Estates neighborhood**, which sits directly along **White Rock Road**, just south of the Highway 50 overpass.

This neighborhood is uniquely vulnerable due to its immediate proximity to a major access route to the project site. With the proposed development, White Rock Road is expected to carry significantly more vehicle traffic—including idling vehicles, delivery trucks, fuel tankers, and personal vehicles making turns into and out of the Costco site. These traffic increases will raise concentrations of **particulate matter (PM2.5)**, **nitrogen oxides (NOx)**, **volatile organic compounds (VOCs)**, and other harmful emissions along the corridor.

Sunset Estates residents—including families with young children, seniors, and individuals with respiratory conditions—will be exposed to increased pollution levels not just during peak hours, but throughout the day and into evenings and weekends. The EIR should include **air dispersion modeling** for this residential area, assess whether exposure levels will exceed health-based thresholds, and propose **mitigation measures**, such as vegetative buffers, low-emission site operations, or traffic flow changes to protect public health

From: Wendy Jacobs
To: EDHCostco@edcgov.us
Subject: Support for Costco
Date: Wednesday, March 19, 2025 10:30:57 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

To Whom it may concern :
As a 50 year resident of El Dorado County and a 35 year resident of El Dorado Hills I am so excited to have a Costco in El Dorado Hills! It will be wonderful to have tax revenue from Costco be used in El Dorado County. Looking forward to shopping in my own county!
Thank you,
Gwendolyn Jacobs
Sent from my iPhone

From: Rusty Everett
To: EDHCostco@edcgov.us
Subject: Support for Costco
Date: Monday, March 17, 2025 2:13:57 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

We appreciate the thourough consideration Costco has given to our location in EDH on the old EDH 52 location and think they will make a great community member and contribute significant taxes in to our county where many members now drive to the increasingly busy Folsom store.

As South of 50 continues to expand in Folsom we know the store will be over capacity and with the investments made on Silva Valley interchange to support Class A traffic this is a perfect location for the facility since it's been zone commercial for a very long time.

Of course you hear from all the NIMBY residents who are pulling out all the talking points as they didnt do their due diligence to understand what that big open space was going to be developed or even zoned for.

Regards

Rusty Everett
Resident since 2003

From: Karen Florence
To: EDHCostco@edcgov.us
Subject: Support for EDH Costco
Date: Tuesday, March 4, 2025 3:26:30 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

I wanted to lend my support to the proposed EDH Costco.

Due to the tremendous development in Folsom and surrounding areas, the current Costco in Folsom is constantly overly busy. It is clear EDH could support another Costco and I welcome the jobs and tax revenue it would create for El Dorado County.

Sincerely,
Karen Florence
Sent from my iPad

From: Kate Doyle
To: EDHCostco@edcgov.us
Subject: Support for EDH Costco
Date: Monday, March 31, 2025 9:29:20 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear Mr. Welch,
I am writing to support construction of the proposed Costco in El Dorado Hills. My house backs up to Silva Valley Road so I recognize the concerns about traffic. But I think the tax revenues from this Costco are critical to El Dorado County and that the plan should be implemented.
Kathleen Doyle
5037 Mertola Dr, El Dorado Hills

From: Laura Haislip
To: EDHCostco@edcgov.us
Subject: Support For EDH Costco
Date: Monday, March 31, 2025 10:13:01 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Subject: Support for the El Dorado Hills Costco Project

Dear Cameron Welsh,

I hope this message finds you well.

I am writing to express my support for the Costco project in El Dorado Hills. As a resident of the area, I believe this development is a valuable addition to our community, especially considering that much of the county's revenue comes from this region.

The location is highly convenient, with its close proximity to the freeway, making it easily accessible for both residents and visitors. While I understand concerns about its proximity to a school, it's important to note that the school is in session for only 180 days out of the year, which should help mitigate any potential issues regarding traffic or other disruptions.

Overall, I believe the Costco project will be a great asset to our area, contributing positively to the local economy and providing much-needed services to the community.

Thank you for considering my input, and I look forward to seeing the project move forward.

Best Regards,

Laura Haislip

From:	jons van dooren
To:	Cameron W. Welch
Cc:	PL-EDH Costco Project; rafael.martinez@edcgov.us; Karen.L.Garner@edcgov.us; bob.williams@edcgov.us; david.Spaur@edcgov.us; jeff.hansen@edcgov.us; Joni; bostwo@edcgov.us; bosthree@edcgov.us; BOS Four; bosfive@edcgov.us; Amy Frith; Claudia Vidovic; marty abell; John Davey; tjwhitejd@gmail.com; John Raslear; washburn_bew@yahoo.com; nstack@mtdemocrat.net; bvandermeer@bizjoournals.com; lramirez@thatchlaw.com
Subject:	Two Story Costco parking lot concern
Date:	Saturday, March 15, 2025 5:26:06 PM

This Message Is From an External Sender
This message came from outside your organization.

Report Suspicious

Good morning All,

At the recent recorded APAC meeting there was a slide informing us about other Costco warehouses in the USA, New York, San Diego and Tim White even mentioned San Francisco, Mexico and Asia that have a two-story parking garages.

Now of course I agree with that! BUT.....

Well let me remind every one that these USA cities (let's stay in the USA) have in those same cities two story parking garages for supermarkets and many or other retailers, like Whole Food, IKEA, RJ Market and this list could go on and on, especially in highly densely populated cities like San Francisco, New York, San Diego, Chicago etc.

But let's NOT compare this little unincorporated foothill community called El Dorado Hills, to those cities, please! Were we are having daily conversations about OPEN SPACE!

Costco paid I guess 8.2 million dollars for both parcels of land, but has NOT enough parking spots at their main warehouse, that is required by law for a 165.000 Sq. Foot building, without building a two-story parking garage!, makes no sense!
They even have on their concept plan, additional parking at the proposed Costco Gas station for whomever (employees) to have the required number of stalls.
Those people have to cross a 4 lane county road called Silva Valley Parkway to go to work.
Really? The employee entrance is on the south side of the proposed warehouse at the trash compactor and loading docks,, LONG WALK!

Can somebody tell me how many parking stall a company like Costco Warehouse is required by California law to have available, please!

Back to my story, putting 10 Lbs. of potatoes in a 5 Lbs. Bag, just does not work!

Thanks for reading

Jons van Dooren

From: Lian Wu
To: EDHCostco@edcgov.us
Subject: Urgent Concern – Proposed Costco Development Near Oak Meadow School
Date: Sunday, March 30, 2025 6:23:42 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

To Whom It May Concern,

As a longtime resident and grandparent of students at Oak Meadow, I'm writing to express my strong opposition to the proposed Costco and gas station development adjacent to our school. This project raises serious concerns that I believe warrant immediate reconsideration.

1. Student Safety at Risk
The increased truck traffic and customer vehicles from a Costco operation would create dangerous conditions during school arrival/dismissal times.

2. Environmental Health Impacts
A gas station's proximity to school grounds is particularly alarming. The potential for fuel leaks, exhaust fumes, and other pollutants could have lasting health consequences for developing children. Many students already suffer from asthma and respiratory conditions that would be aggravated.

3. Quality Education Threatened
The constant noise from delivery trucks, customer traffic, and construction would disrupt classroom learning and outdoor activities that are essential to childhood development. Our teachers already work hard enough without these additional distractions.

4. Community Character
Our neighborhood has always prioritized families and education. Introducing a massive commercial operation fundamentally changes the character of our community in ways that can't be undone.

I urge you to consider the following:
• Conducting an independent traffic study specific to school hours
• Exploring alternative locations away from schools and residential areas

As someone who has lived in this community for many years and watched generations of children grow up here, I beg you to prioritize our children's wellbeing over commercial development. Please feel free to contact me to discuss this further.

Sincerely,

Lian An Wu

From: Tess Chiamparino
To: EDHCostco@edcgov.us
Subject: Vote YES - Costco in EDH
Date: Wednesday, March 26, 2025 7:29:41 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Please vote yes to build a costco at the proposed location in EDH. The Folsom Costco is an overcrowded zoo. El Dorado County residents deserve the opportunity to keep our money in our county, and shop local.

Thank you,

Tess Chiamparino

We shall never know all the good that a simple smile can do - Mother Teresa

From: Ruhua Cai
To: EDHCostco@edcgov.us
Subject: We Do Not Need Costco Next to school
Date: Sunday, March 30, 2025 6:16:29 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Dear EDH Costo Planning Team,

As a senior resident and grandparent of children attending Oak Meadow Elementary School, I urge you to reject the proposed Costco and gas station adjacent to the school. This project threatens our community's safety, health, and quality of life.

1. Safety Risks

- **Traffic congestion**: Costco's high-volume traffic (especially during school hours) will endanger children walking or biking to school. Large trucks and impatient drivers are incompatible with a school zone.
- **Gas station hazards**: Fuel tanks and delivery trucks pose fire and chemical exposure risks near a school.

2. Health Concerns

- **Air pollution**: Idling vehicles and gas fumes will expose children to harmful emissions, worsening asthma and respiratory conditions.
- **Noise disruption**: Constant construction, truck deliveries, and customer activity will disrupt classrooms and outdoor activities.

3. Community Impact

- **Quality of life**: A 24/7 retail giant contradicts the quiet, family-oriented character of our neighborhood.
- **Property values**: Noise, traffic, and pollution may reduce home values for nearby residents.

I implore you to prioritize our children's well-being over commercial interests. Consider alternative locations for Costco in designated commercial zones—not next to a school.

Thank you for your time. I'm happy to discuss this further.

Sincerely,
Ru Hua Cai

From: Jayme Powers
To: EDHCostco@edcgov.us
Subject: We don"t need another Costco!
Date: Wednesday, March 26, 2025 3:17:27 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

Please do not add a Costco off of Silva Valley exit. There are schools, children and it will create unbearable traffic. Folsom Costco is right down the road and completely accessible. Vote NO!

--
Jayme Book
Serrano

From: L R
To: edhcostco@edcgov.us
Subject: We don"t want Costco!
Date: Wednesday, March 26, 2025 9:03:07 PM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Report Suspicious

There is absolutely no reason to bring a Costco to this quiet, beautiful area. Most residents do not want it, and we have repeatedly told you this.

Costco offers nothing but more traffic, huge supply trucks, pollution, and constant deliveries. Nighttime lighting will destroy the residential quiet and calm of this lovely setting. Heavy traffic near schools will put children in danger. The influx of heavy vehicles will pollute the surrounding area and cause traffic problems in a neighborhood that is the wrong setting for industry.

This project offers NOTHING to local residents and families -- and will destroy all the reasons we moved to El Dorado Hills.

We live here -- don't our opinions count for anything?

WE DON'T WANT COSTCO OR ANYTHING ELSE LIKE IT.

Sincerely,

Laurel Rady
7001 Gullane Way
El Dorado Hills, CA 95762

Appendix B

Air Quality Technical Report and North Site Remainder Area Technical Report

Air Quality Technical Report

Prepared for
Ascent Environmental, Inc.
Sacramento, California

Prepared by
Ramboll Americas Engineering Solutions, Inc.
Irvine, California

Project Number
1940112064

Date
October 2025

EDH COSTCO PROJECT
AIR QUALITY TECHNICAL REPORT
EL DORADO HILLS, CALIFORNIA

Ramboll Americas Engineering Solutions, Inc.
2211 Michelson Drive, Suite 400
Irvine, California 92612
(949) 261-5151

RAMBOLL

CONTENTS

		Page
1.	**INTRODUCTION**	**1**
1.1	Existing Conditions	1
1.2	Proposed Project	1
1.2.1	North Site	1
1.2.2	South Site	2
2.	**ENVIRONMENTAL BACKGROUND**	**7**
2.1	Criteria Air Pollutants	7
2.1.1	Ozone	7
2.1.2	Nitrogen Dioxide	7
2.1.3	Carbon Monoxide	7
2.1.4	Sulfur Dioxide	8
2.1.5	Particulate Matter	8
2.1.6	Lead	8
2.1.7	Sulfates	9
2.1.8	Vinyl Chloride	9
2.1.9	Hydrogen Sulfide	9
2.1.10	Visibility-Reducing Particles	9
2.2	Non-Criteria Air Pollutants	9
2.2.1	Toxic Air Contaminants	9
2.2.2	Diesel Particulate Matter	10
2.3	Environmental Setting	10
2.3.1	Federal and State Ambient Air Quality Standards Attainment Status	10
2.3.2	Local Air Quality Monitoring Data	11
3.	**SIGNIFICANCE THRESHOLDS**	**12**
3.1	California Environmental Quality Act Guidelines	12
3.2	El Dorado County Air Quality Management District Thresholds	12
3.3	Project Approach to Significance	13
4.	**AIR QUALITY EMISSIONS INVENTORY**	**14**
4.1	Resources	14
4.1.1	California Emission Estimator Model	14
4.1.2	Project Data	15
4.2	Construction Emissions	15
4.2.1	Emissions from Construction Equipment	16
4.2.2	Emissions from On-Road Construction Trips	17
4.2.3	Fugitive Dust	18
4.2.4	Architectural Coating	18
4.2.5	Paving	19
4.2.6	Total Construction Emissions	19
4.3	Operational Emissions	20
4.3.1	Area Sources	20
4.3.2	Energy Sources	20
4.3.3	Stationary Sources	21
4.3.4	Operational Gasoline Transfer and Dispensing	21
4.3.5	Mobile Sources	21
4.3.6	Total Operational Emissions	25

CONTENTS *(Continued)*

		Page
5.	**HEALTH RISK ASSESSMENT**	**27**
5.1	Estimated Air Concentrations	27
5.1.1	Toxic Air Contaminant Emissions	27
5.1.2	Air Dispersion Modeling Methodology	30
5.2	Risk Characterization Methods	35
5.2.1	Exposure Assessment	35
5.2.2	Age Sensitivity Factors	36
5.2.3	Toxicity Assessment	36
5.3	Risk Characterization	37
5.3.1	Estimation of Cancer Risks	37
5.4	Health Risk Results	38
6.	**MITIGATED RESULTS**	**40**
6.1	Construction Mitigation Measures	40
6.2	Emissions Inventory Results with Mitigation	40
6.3	Health Risk Assessment Results with Mitigation	41
7.	**CO HOTSPOTS**	**42**
7.1	Regulatory Background	42
7.2	Project Evaluation	43
8.	**PROJECT INVENTORY IN CONTEXT**	**44**
8.1	Threshold 1: Would the Project conflict with or obstruct implementation of the applicable air quality plan?	44
8.2	Threshold 2: Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?	46
8.3	Threshold 3: Would the Project expose sensitive receptors to substantial pollutant concentrations?	47
8.3.1	Health Risk Thresholds	47
8.3.2	CO Hotspots	47
8.4	Threshold 4: Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	47
8.4.1	Construction Odors	48
8.4.2	Operational Odors	48

TABLES

Table 2-1: Summary of NAAQS and CAAQS
Table 2-2: El Dorado County NAAQS and CAAQS Attainment Status
Table 2-3: Local Ambient Air Quality Data for El Dorado County
Table 2-4: Frequency of Air Quality Standard Violations
Table 3-1: EDCAQMD Air Quality Significance Thresholds
Table 4-1: Construction Schedule – Proposed Project
Table 4-2: Construction Schedule – Site Access and Roadway Improvements
Table 4-3: Construction Equipment Assumptions – Project
Table 4-4: Construction Equipment Assumptions – Site Access and Roadway Improvements

CONTENTS *(Continued)*

Table 4-5: Construction Trip Assumptions – Project Construction Scenario 1
Table 4-6: Construction Trip Assumptions – Project Construction Scenario 2
Table 4-7: Construction Trip Assumptions – Site Access and Roadway Improvements
Table 4-8: Construction Material Movement – Project Construction Scenario 1
Table 4-9: Construction Material Movement – Project Construction Scenario 2
Table 4-10: Construction Material Movement – Site Access and Roadway Improvements
Table 4-11: Construction Demolition Assumptions – Site Access and Roadway Improvements
Table 4-12: Average Daily Unmitigated Criteria Air Pollutant Emission for Project Construction
Table 4-13: Reactive Organic Gas Emission Factor for Consumer Product Usage in El Dorado County for Calendar Year 2027
Table 4-14: Operational Energy Assumptions
Table 4-15: Gasoline Dispensing Facility Operational VOC Emissions
Table 4-16: Maximum Daily Criteria Air Pollutant Emissions for Project Operation
Table 5-1: Mobile Source Air Toxics Speciation Profiles
Table 5-2: Construction Health Risk Assessment Options used in HARP2 ADMRT Tool
Table 5-3: Operational Health Risk Assessment Options used in HARP2 ADMRT Tool
Table 5-4: Health Risk Assessment Results for Unmitigated Project Construction and Operation
Table 6-1: Construction Equipment Assumptions With Mitigation – Project
Table 6-2: Construction Equipment Assumptions With Mitigation - Site Access and Roadway Improvements
Table 6-3: Average Daily Mitigated Criteria Air Pollutant Emission for Project Construction
Table 6-4: Health Risk Assessment Results for Mitigated Project Construction and Operation

FIGURES

Figure 1: Modeled Source Locations, Project Construction
Figure 2: Hauling, Vendor, and Concrete Truck Roadways, Project Construction
Figure 3: Fuel Truck Roadways, Project Operation
Figure 4: Warehouse Truck and TRU Roadways, Project Operation
Figure 5: Modeled Source Locations, Project Operation
Figure 6: Modeled Receptor Locations
Figure 7: Meteorology Station Locations

APPENDICES

Appendix A: Construction Emission Calculations
Appendix B: Emission Calculations for Project Operation
Appendix C: Toxic Air Contaminant Emission Calculations for the Health Risk Assessment
Appendix D: AERMOD Inputs
Appendix E: HARP2 Outputs

ACRONYMS AND ABBREVIATIONS

Acronym	Definition
µg	microgram
ACC	Advanced Clean Cars
ACF	Advanced Clean Fleets
ACT	Advanced Clean Trucks
AERMOD	American Meteorological Society/Environmental Protection Agency regulatory air dispersion model
AP-42	United States Environmental Protection Agency's Compilation of Air Pollutant Emission Factors
AQ	Air Quality
ASF	age sensitivity factor
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
Cal/EPA	California Environmental Protection Agency
CalEEMod	California Emission Estimator Model
CAP	criteria air pollutant
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CO	carbon monoxide
CPF	cancer potency factors
cREL	chronic reference exposure level
DPM	diesel particulate matter
EDCAQMD	El Dorado County Air Quality Management District
EDH	El Dorado Hills
EMFAC	EMission FACtors model
EV	electric vehicle
EVR	enhanced vapor recovery
g/s	gram per second
GDF	gasoline dispensing facility
HARP	Hot Spots Analysis and Reporting Program
HI	hazard index
HIA	acute hazard index
HIC	chronic hazard index
hp	horsepower
HQ	hazard quotient
HRA	health risk assessment
HVAC	heating, ventilation, and air conditioning
kg	kilogram
Kittelson	Kittelson & Associates, Inc
L	liter

ACRONYMS AND ABBREVIATIONS *(Continued)*

Acronym	Definition
lbs	pounds
LOS	level of service
m^3	cubic meter
MCAB	Mountain Counties Air Basin
mg	milligram
MSAT	mobile source air toxics
NAAQS	National Ambient Air Quality Standards
NED	National Elevation Datasets
NO	nitric oxide
NO_2	nitrogen dioxide
NOA	naturally occurring asbestos
NO_X	oxides of nitrogen
O_3	ozone
OEHHA	California Office of Environmental Health Hazard Assessment
OFFROAD	Off-road Emissions Inventory Program model
Pb	lead
PCAPCD	Placer County Air Pollution Control District
PG&E	Pacific Gas & Electric
PM	particulate matter
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
Ramboll	Ramboll Americas Engineering Solutions, Inc.
REL	reference exposure level
ROG	reactive organic gases
SIP	State Implementation Plan
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO_2	sulfur dioxide
SO_X	sulfur oxide
TAC	toxic air contaminant
T-BACT	best available control technology for toxics
TRU	transport refrigeration unit
USEPA	United States Environmental Protection Agency
VMT	vehicle miles traveled
VOC	volatile organic compound
ZEV	zero emission vehicle

1. INTRODUCTION

Ramboll Americas Engineering Solutions, Inc. (Ramboll) was retained to prepare an Air Quality (AQ) Technical Report for the proposed El Dorado Hills (EDH) Costco Project (Project) located north of the Silva Valley Parkway/US 50 interchange in the El Dorado Hills community area of the unincorporated El Dorado County in California. This AQ Technical Report analyzes the Project's impacts on air quality from construction and operations. In particular, this report describes the existing setting of the Project site, describes the relevant regulatory setting, discusses the methodology used to evaluate AQ emissions related to the Project, and evaluates potential impacts related to AQ that would be affected as a result of implementation of the Project.

1.1 Existing Conditions

The Project site is currently vacant grassland with scattered oak trees and seasonal drainage features. There are no permanent structures on the Project site. The southern edge of the property directly abuts the US 50 right-of-way, while the western boundary is adjacent to Clarksville Crossing. An approximate 7.75-acre portion of the northern site is reserved for a planned future extension of Country Club Drive, which is not part of the proposed Project.

Surrounding land uses include:

- North: Single-family residential uses and Oak Meadow Elementary School
- East: Vacant land, Tong Road, and single-family residential uses
- South: U.S. Highway 50 and Tong Road
- West: Clarksville Crossing roadway, open space, and undeveloped land

1.2 Proposed Project

The 43.26-acre project site is separated into two components: the North Site of approximately 24.83 acres and the South Site of approximately 18.43 acres. A membership-only Costco fuel facility and employee parking would occupy part of the North Site, while the South Site would accommodate the main Costco warehouse retail building and a partially below-grade parking structure. The majority of the North Site is not proposed to include any development as part of the Project.

1.2.1 North Site

On the North Site, approximately 3.29 acres would be developed with a Costco members-only fuel facility and an employee parking area. The remainder of the North Site would include an approximately 13.79-acre out-parcel that would remain undeveloped at this time (North Site Remainder Area). The Costco Project proposes no development for the North Site Remainder Area. The future extension of Country Club Drive (County Capital Improvement Project No. 36105008), when constructed by the County, would occupy a portion of the North Site near its northern edge, though the future extension is an independent project proposed by, and to be undertaken by, the County and is not analyzed as a part of the Project.

The fuel facility would occupy a generally rectangular footprint near Silva Valley Parkway, and the employee parking would be situated immediately west of the canopy, separated by drive aisles and landscaping.

Site Access and Roadway Improvements

Primary access to the North Site would be provided via a new signalized intersection on Silva Valley Parkway, shared with the South Site's main driveway. A secondary right-in/right-out driveway north of that intersection would separate fueling operations from primary traffic flows. Fuel delivery trucks would enter the northern driveway and exit at the signal to allow safe left turns. Sidewalks, bike lanes, and pedestrian connections would be provided along the North Site's frontage, north of the signalized intersection.

Architecture

The proposed fuel facility includes a steel canopy structure of up to 13,000 square feet, covering four fueling bays with four two-sided dispensers each (32 fueling positions total). A small, up to 200-square-foot controller enclosure would house operational equipment. The canopy design features neutral colors with corporate striping to align with Costco's brand, and recessed LED lighting directing illumination downward.

Construction

Construction for the North Site is anticipated to last approximately 11 months once construction begins, which is currently estimated to be July of 2026. Construction would occur 7 days per week, with construction occurring 7:00 a.m. to 7:00 p.m. on weekdays and 8:00 a.m. to 5:00 p.m. on weekends.

Operations

Fuel facility hours would generally be from 5:00 a.m. to 10:00 p.m. The facility is expected to receive approximately four to five fuel truck deliveries per day. These deliveries would be staged in a striped area north of the canopy. Approximately 70 employee parking spaces would serve Costco employees; circulation is designed to keep fuel facility traffic and employee parking separate.

1.2.2 South Site

The South Site would include up to approximately 165,000 square feet of building area planned to be constructed as a Costco Wholesale Member Warehouse retail store. Within the store, Costco would offer, among other product and services, optical exams and optical sales, hearing aid testing and sales, food service preparation and sales, meat preparation and sales, bakery and sales of baked goods, alcohol sales, and tire sales and installation. Temporary outdoor sales may occur within the portion of the parking area adjacent to the warehouse retail building for seasonal sales, such as Christmas tree sales during the months of November and December. The warehouse retail building is proposed to include one customer entrance to the main Costco store, which would be located at the northwest corner of the building. The tire center would have bay doors accessible from outside of the warehouse retail building, though the tire center sales area would be accessible through the building. A promotional vehicle may be on display near the customer entrance to the building. This vehicle would be used to promote online or off-site vehicle sales; no vehicles are proposed to be sold onsite. The South Site would also include a parking structure and surface parking, which are further described below. Development on the South Site would exclude the 1.38-acre area located west of Clarksville Crossing where no development is proposed.

The South Site has been designed to use the existing slope of the site by locating the Costco warehouse retail building in the southeast corner of the site, where the elevation of existing streets adjacent to the site are the highest. Parking would be provided in two at-grade parking lots and one subterranean (below-grade) parking lot structure beneath one of the at-grade lots. Vehicle access to this lower-level parking structure would be provided by a ramp on the north side of the structure from Clarksville Crossing and a ramp on the south side of the structure from the above at-grade parking lot. The below-grade parking structure would include approximately 200 to 230 spaces. A pedestrian ramp and elevators would provide pedestrian access from the below-grade level up to the at-grade parking and entry to the warehouse retail building. The below-grade parking structure and at-grade parking lots together would include approximately 750 to 780 spaces in total parking to serve the South Site.

Site Access and Roadway Improvements

The primary entrance to the South Site would be from the new signalized intersection with Silva Valley Parkway (shared with the North Site). Northbound traffic on Silva Valley Parkway would have a left-turn pocket into Clarksville Crossing, and three driveways off Clarksville Crossing would provide direct access to the South Site. A partial traffic signal would be installed at the intersection of Silva Valley Parkway and Clarksville Crossing. In the future, when Country Club Drive is extended by the County, Clarksville Crossing's connection to Silva Valley Parkway and the traffic signal would be removed. A public access road would be developed on the South Site within the remainder parcel that was taken by the County in connection with the development of Tong Road. A maintenance agreement between the County and Costco would be created to address the maintenance of the new public access road.

Delivery truck access would be allowed at all driveway locations depending on the size of the delivery truck and direction of travel for both the North Site and South Site. Most trucks delivering to the warehouse retail building would access the site at the southwest driveway on Clarksville Crossing near the receiving docks.

Architecture

The warehouse retail building design for the South Site is proposed to be contemporary and would include a variety of massing and appropriate materials for the building. By combining concrete masonry block and architectural metal panels, Costco intends to create a scale and architectural interest to minimize the visual impact of a large retail warehouse retail building. By use of design techniques such as the location of building materials, landscaping, and the incorporation of varying parapet cap heights, Costco proposes to break the long elevations both horizontally and vertically at the appropriate height to conceal roof top mounted mechanical equipment. The proposed colors are warm natural earth tones, which would relate to the proposed surrounding development by utilizing similar building materials and architectural detailing. The tire center would be integrated into the main building, with exterior bay doors and interior retail access for sales and service. Pedestrian entries (main and employee) would be oriented to the northwest for customer convenience and the tire center from the other warehouse retail building operational areas.

The South Site truck loading dock is proposed to be located at the southwest corner of the building adjacent to US 50. The bay doors would be equipped with sealed gaskets to limit noise impacts. A smaller on-grade door would also be located on the south side of the

building. This door is to receive bread deliveries and small delivery vans/trucks. A transformer and two trash compactors would also be located along the south edge of the building proposed for the South Site. Landscape material would provide screening of this area

Parking, Circulation, and Loading

Two at-grade lots and one below-grade lot together provide approximately 750 to 780 parking stalls. Access to the South Site would consist of a signalized intersection on Silva Valley Parkway, as well as driveways provided along Clarksville Road. These driveways would provide customer access to both at-grade and below-grade parking stalls. Delivery trucks would access sealed loading docks at the building's southwest corner.

Construction

As with the North Site, construction for the South Site is anticipated to last approximately 11 months once construction begins, which is currently estimated to be July of 2026. Construction would occur 7 days per week, with construction occurring 7:00 a.m. to 7:00 p.m. on weekdays and 8:00 a.m. to 5:00 p.m. on weekends. In addition to these construction hours, it is anticipated that there would be up to 8 days of nighttime construction activities involving concrete pours for the building foundation.

Operations

The warehouse retail building is proposed to include one member entrance to the main Costco store, which would be located at the northwest corner. The EDH Costco is expected to include, among other features, a bakery and sales of baked goods, meat preparation and sales, alcohol sales, food service preparation and sales, pharmacy, optical center with optical exams and retail optical sales, hearing aid testing center, and food court, along with the sales of approximately 4,000 products. The warehouse retail building would include a five-bay tire center with member access via the inside of the main Costco building, which would include tire sales and a tire installation facility.

It is anticipated that the EDH Costco Project (warehouse retail building and fuel facility) would employ approximately 250 to 300 employees combined. The warehouse retail building would in general be open from 9:00 a.m. to 8:30 p.m. on weekdays and 9:00 a.m. to 7:00 p.m. on weekends. Costco anticipates an average of about 10 to 12 trucks delivering goods per day. The trucks range in size from 26 feet long for single-axle trailers to 70 feet long for double-axle trailers. Receiving time would be from 2:00 a.m. to 1:00 p.m., averaging 2 to 3 trucks per hour, with most of the deliveries completed before 10:00 a.m. Deliveries to the warehouse retail building are made primarily in Costco trucks from its freight consolidation facility in Tracy, California, coming to the site from eastbound US 50. Truck travel routes would use Silva Valley Parkway (from US 50 to Clarksville Road), Clarksville Road (from White Rock Road to Silva Valley Parkway), future Country Club Drive extension west of the South Site to access Clarksville Road, and White Rock Road (from Clarksville Road to US 50).

The tire center receives shipments of tires once or twice a week, with old tires transported offsite for recycling. Seasonal outdoor sales of items such as Christmas trees may occur in the parking area. In addition, promotional vehicle displays may appear outside, but no on-site vehicle sales would occur.

Energy Efficiency Features

As noted above, the South Site would obtain electrical and natural gas services from Pacific Gas & Electric (PG&E). The development would comply with energy efficiency standards under California Code of Regulations Title 24. Additional energy efficiency and sustainability measures incorporated into the Costco Project are noted below.

- Parking lot light standards would be designed in order to provide even light distribution, and utilize less energy compared to a greater number of fixtures at lower heights. The use of LED lamps can provide a higher level of perceived brightness with less energy than other lamps such as high-pressure sodium.
- New and renewable building materials would typically be extracted and manufactured within the region. When masonry and concrete are used, the materials purchased would be local to the Project, minimizing the transportation distances and impact to local road networks.
- The use of pre-manufactured building components, including structural framing and metal panels, would help to minimize waste during construction.
- Pre-manufactured metal wall panels with insulation carry a higher R-Value and greater solar reflectivity to help conserve energy as compared to other materials. Building heat absorption would be further reduced by a decrease in the thermal mass of the metal wall when compared to a typical masonry block wall.
- A substantial amount of the proposed landscaping material for the North Site and South Site is climate adapted to the region and would use less water than other common landscape species.
- The irrigation system proposes to include the use of deep root watering bubblers for parking lot trees to minimize usage and ensure that water goes directly to the intended planting areas.
- Storm water management plans are designed to maintain water quality, minimize erosion, and manage storm water discharge rates based on the County requirements.
- High-efficiency restroom fixtures would be installed.
- Commissioning of mechanical systems would occur to ensure that the HVAC systems are performing as designed. HVAC comfort systems would be controlled by a computerized building management system to maximize efficiency.
- HVAC units planned for the South Site are high-efficiency direct ducted units, which have phased out the use of hydrochlorofluorocarbons completely.
- Parking lot and exterior lights would be controlled by a photo sensor and time clock.
- 10 electric vehicle (EV) chargers with DC fast chargers would be installed.
- Lighting would be controlled by the overall Project energy management system.
- Energy efficient Transformers (i.e., Square D Type EE transformers) would be used.
- Variable speed motors would be used on make-up air units and booster pumps.
- Gas water heaters would be direct vent and 94 percent efficient or greater.

- Reclaim tanks would be used to capture heat released by refrigeration equipment to heat domestic water in lieu of venting heat to the outside.
- The building structure would be a pre-engineered system that uses 100 percent recycled steel materials and would be designed to minimize the amount of material used.
- Construction waste would be recycled whenever possible.
- Floor sealant would be No-volatile organic compound (VOC) and would represent over 80 percent of the floor area.
- CO_2 would be monitored throughout the warehouse.
- Extensive recycling/reuse program would be implemented including tires, cardboard, grease, plastics, and electronic waste.
- Use of plastic shopping bags would be avoided.
- Suppliers would be required to reduce packaging and consider alternative packaging solutions.
- Distribution facilities would be strategically located to minimize miles traveled for delivery.
- Deliveries would be made in full trucks.
- All Costco trucks would be equipped with an engine idle shut off timers.
- 100 percent renewable electrical power will be supplied by PG&E, as Costco has a Clean Energy Contract with PG&E.

2. ENVIRONMENTAL BACKGROUND

2.1 Criteria Air Pollutants

Criteria air pollutants (CAPs) are defined as pollutants for which the federal and State governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and State standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive people from illness or discomfort. Pollutants of concern include ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), particulate matter less than 10 microns in diameter (PM_{10}), particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), and lead (Pb). In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as CAPs. These pollutants are discussed in the following paragraphs.

2.1.1 Ozone

O_3 is a colorless gas that is formed in the atmosphere when VOCs, sometimes referred to as reactive organic gases, and oxides of nitrogen (NO_X) react in the presence of ultraviolet sunlight. O_3 is not a primary pollutant; it is a secondary pollutant formed by complex interactions of two pollutants directly emitted into the atmosphere. The primary sources of VOCs and NO_X, the precursors of O_3, are automobile exhaust and industrial sources. Meteorology and terrain play major roles in O_3 formation, and ideal conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. Short-term exposures (lasting for a few hours) to O_3 at levels typically observed in El Dorado County can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes.

2.1.2 Nitrogen Dioxide

Most NO_2, like O_3, is not directly emitted into the atmosphere but is formed by an atmospheric chemical reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO_2 are collectively referred to as NO_X and are major contributors to O_3 formation. The primary sources of NO, the precursor to NO_2, include automobile exhaust and industrial sources. High concentrations of NO_2 can cause breathing difficulties and result in a brownish red cast to the atmosphere, causing reduced visibility. There is some indication of a relationship between NO_2 and chronic pulmonary fibrosis, and some increase in bronchitis in children (2 and 3 years old) has also been observed at concentrations below 0.3 parts per million by volume.

2.1.3 Carbon Monoxide

CO is a colorless and odorless gas formed by the incomplete combustion of fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In areas, such as the Project location, automobile exhaust accounts for the majority of CO emissions. CO is a non-reactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions, primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, a typical situation at dusk between November and February. The highest levels of CO typically occur during the

colder months of the year when inversion conditions, where a layer of warm air sits atop cool air, are more frequent and can trap pollutants close to the ground. In terms of health, CO competes with oxygen, often replacing it in the blood, thus reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can be dizziness, fatigue, and impairment of central nervous system functions.

2.1.4 Sulfur Dioxide

Sulfur Dioxide (SO_2) is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. The main sources of SO_2 are coal and oil used in power plants and industries; as such, the highest levels of SO_2 are generally found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits placed on the sulfur content of fuels. SO_2 is an irritant gas that attacks the throat and lungs and can cause acute respiratory symptoms and diminished ventilator function in children. SO_2 can also yellow plant leaves and erode iron and steel.

2.1.5 Particulate Matter

Particulate matter (PM) pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{2.5}$ and PM_{10} represent fractions of particulate matter. Fine particulate matter, or $PM_{2.5}$, is roughly 1/28 the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., motor vehicles, power generation, and industrial facilities), residential fireplaces, and woodstoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur oxides (SO_X), NO_X, and VOCs. Inhalable or coarse particulate matter, or PM_{10}, is about one- seventh the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions.

$PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances such as lead, sulfates, and nitrates can cause lung damage directly or be absorbed into the bloodstream, causing damage elsewhere in the body. Additionally, these substances can transport absorbed gases, such as chlorides or ammonium, into the lungs, also causing injury. Whereas PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle, as well as produce haze and reduce regional visibility.

2.1.6 Lead

Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline, the manufacturing of batteries, paint, ink, ceramics, ammunition, and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phase-out of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%. With the phase-out of leaded gasoline, secondary lead

smelters, battery recycling, and manufacturing facilities are becoming lead emission sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time, and growth.

2.1.7 Sulfates

Sulfates are the fully oxidized form of sulfur, which typically occur in combination with metals or hydrogen ions. Sulfates are produced from reactions of SO_2 in the atmosphere. Sulfates can result in respiratory impairment, as well as reduced visibility.

2.1.8 Vinyl Chloride

Vinyl chloride is a colorless gas with a mild, sweet odor, which has been detected near landfills, sewage plants, and hazardous waste sites, due to the microbial breakdown of chlorinated solvents. Short-term exposure to high levels of vinyl chloride in air can cause nervous system effects, such as dizziness, drowsiness, and headaches. Long-term exposure through inhalation can cause liver damage, including liver cancer.

2.1.9 Hydrogen Sulfide

Hydrogen sulfide is a colorless and flammable gas that has a characteristic odor of rotten eggs. Sources of hydrogen sulfide include geothermal power plants, petroleum refineries, sewers, and sewage treatment plants. Exposure to hydrogen sulfide can result in nuisance odors, as well as headaches and breathing difficulties at higher concentrations.

2.1.10 Visibility-Reducing Particles

Visibility-reducing particles are any particles in the air that obstruct the range of visibility. Effects of reduced visibility can include obscuring the view shed of natural scenery, reduced airport safety, and discouraging tourism. Sources of visibility-reducing particles are the same as for $PM_{2.5}$ described above.

2.2 Non-Criteria Air Pollutants

2.2.1 Toxic Air Contaminants

A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic non-cancer health effects. A toxic substance released into the air is considered a toxic air contaminant (TAC). Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources such as dry cleaners, gas stations, combustion sources, waste processing facilities and laboratories; mobile sources such as automobiles; and area sources such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and non-carcinogenic effects. Non-carcinogenic effects typically affect one or more target organ systems and may be experienced either on short-term (acute) or long-term (chronic) exposure to a given TAC.

2.2.2 Diesel Particulate Matter

Diesel particulate matter (DPM) is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. California Air Resources Board (CARB) classified "particulate emissions from diesel-fueled engines" (DPM; 17 California Code of Regulations 93000) as a TAC in August 1998. DPM is emitted from a broad range of diesel engines: on-road diesel engines of trucks, buses, and cars, and off-road diesel engines including locomotives, marine vessels, and heavy-duty construction equipment, among others. Approximately 70% of all airborne cancer risk in California is associated with DPM.[1] To reduce the cancer risk associated with DPM, CARB adopted a Diesel Risk Reduction Plan in 2000.

2.3 Environmental Setting

2.3.1 Federal and State Ambient Air Quality Standards Attainment Status

The Federal Clean Air Act (CAA) requires the adoption of National Ambient Air Quality Standards (NAAQS), which are periodically updated, to protect the public health and welfare from the effects of air pollution. Current federal standards are set for SO_2, CO, NO_2, O_3, PM_{10}, $PM_{2.5}$, and Pb.[2]

The State of California also has established additional standards, known as the California Ambient Air Quality Standards (CAAQS), which are generally more restrictive than the NAAQS. The current NAAQS and CAAQS are shown in **Table 2-1**.

Specific geographic areas are classified as either "attainment" or "non-attainment" areas for each pollutant based upon the comparison of measured data with the NAAQS and CAAQS. Those areas designated as "non-attainment" for purposes of NAAQS compliance are required to prepare regional air quality plans, which set forth a strategy for bringing an area into compliance with the standards. These regional air quality plans developed to meet federal requirements are included in an overall program referred to as the State Implementation Plan (SIP). If the SIP is deemed acceptable, the United States Environmental Protection Agency (USEPA) will delegate responsibility for implementation pursuant to the SIP to the State and/or its air districts therein.

Table 2-2 summarizes the attainment status of El Dorado County (El Dorado County Air Quality Management District) for the pollutants regulated by the NAAQS and CAAQS.[3,4] As seen in **Table 2-2**, El Dorado County is currently in attainment (including where unclassified) for the federal PM_{10} standard, the federal and State annual $PM_{2.5}$ standards, the federal and State CO standards, the federal and State NO_2 standards, the federal and State lead standard, the federal and State SO_2 standards, and the State standards for hydrogen sulfide, sulfates, and visibility-reducing particles. However, as also shown in **Table 2-2**, El Dorado County is currently designated as non-attainment for the State 1-hour O_3

[1] CARB. 2012. Summary: Diesel Particulate Matter Health Impacts. Available at: https://ww2.arb.ca.gov/resources/summary-diesel-particulate-matter-health-impacts. Accessed: October 2025.

[2] NAAQS. Available at: https://www.epa.gov/criteria-air-pollutants/naaqs-table. Accessed: October 2025.

[3] USEPA. Non-attainment Areas for Criteria Pollutants (Green Book). Available at: https://www.epa.gov/green-book. Accessed: October 2025.

[4] California standard attainment status based on CARB website. Available at: https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations. Accessed: October 2025.

standard, the federal and State 8-hour O_3 standards, the State PM_{10} standards, and the federal 24-hour $PM_{2.5}$ standard.

2.3.2 Local Air Quality Monitoring Data

The Project is located within the El Dorado County Air Quality Management District (EDCAQMD) jurisdiction. The EDCAQMD includes two municipalities: the City of South Lake Tahoe and the City of Placerville. The Folsom-Natoma Street monitoring station is the station closest to the Project which monitors ambient concentrations of O_3, $PM_{2.5}$, and NO_2. The nearest monitoring stations to the Project site that monitor ambient concentrations of PM_{10}, SO_2, and CO are the Roseville-N Sunrise Ave monitoring station, the Sacramento-Del Paso Manor monitoring station, and the Sacramento-Bercut Drive monitoring station, respectively. The location of these monitoring stations can be viewed on the CARB air monitoring webpage map of air monitoring sites in operation.[5]

The three most recent years of published data at these monitoring stations are provided in **Table 2-3**. The frequency with which the ozone and PM standards have been exceeded at the nearest monitoring sites is displayed in **Table 2-4**.

[5] CARB. Air Monitoring. Available at: https://ww2.arb.ca.gov/applications/air-monitoring-sites-interactive-map. Accessed: October 2025.

3. SIGNIFICANCE THRESHOLDS

3.1 California Environmental Quality Act Guidelines

The analysis provided in this report evaluates the significance of the Project's CAP and TAC emissions by reference to the following questions from Section III, Air Quality, of Appendix G of the California Environmental Quality Act (CEQA) Guidelines:[6]

Threshold 1. Would the Project conflict with or obstruct implementation of the applicable air quality plan?

Threshold 2. Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?

Threshold 3. Would the Project expose sensitive receptors to substantial pollutant concentrations?

Threshold 4. Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

An evaluation of the Project based on the thresholds discussed above is provided in subsequent sections.

3.2 El Dorado County Air Quality Management District Thresholds

The EDCAQMD has established significance thresholds to assess the impacts of Project-related construction and operational emissions on regional and local ambient air quality in its CEQA Guide.[7] **Table 3-1** shows the quantitative mass daily thresholds for construction and operation as adopted by the EDCAQMD for reactive organic gases (ROG) and NO_X emissions. The analysis summarized in this report estimates Project-related construction and operational mass emissions and compares the emissions to these significance thresholds.

The EDCAQMD has also established significance thresholds for other criteria pollutants, including CO, PM_{10}, SO_2, NO_2, sulfates, lead, hydrogen sulfide (H_2S), and visibility-reducing particles. Project-related emissions of these pollutants are considered to have significant impacts if these emissions will cause or contribute to a violation of the applicable national or State ambient air quality standard. The EDCAQMD provides screening techniques to evaluate if a project's CAP emissions would have a less-than-significant impact in Chapters 4 and 6 of the EDCAQMD CEQA Guide.[8] This analysis in this report estimates the Project-related construction and operational mass emissions of CO, PM_{10}, SO_X, and NO_X and evaluates the significance of their impacts using these screening techniques established in the EDCAQMD CEQA Guide.[9]

---

[6] California Natural Resources Agency. 2018. Appendix G of the CEQA Guidelines. Available at: http://resources.ca.gov/ceqa/docs/2018_CEQA_FINAL_TEXT_122818.pdf. Accessed: October 2025.

[7] EDCAQMD. 2002. Guide to Air Quality Assessment. February. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

[8] Ibid.

[9] Ibid.

The EDCAQMD has also established significance thresholds to assess health risk impacts of TACs from Project-related emission sources on nearby sensitive receptors including residents and other human populations. These include a maximum incremental cancer risk of one-in-a-million (or ten-in-a-million if best available control technology for toxics (T-BACT) is applied), and incremental chronic and acute hazard indices of 1. The analysis summarized in this report evaluates the human health risk impacts from on-site construction and operational emissions against these significance thresholds established by EDCAQMD.

Finally, the EDCAQMD CEQA Guide also required a qualitative assessment of odors from proposed projects to evaluate if they would have the potential to generate odorous emissions that would meet the statutory definition for nuisance, i.e., odors "which cause detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which may endanger the comfort, repose, health, or safety of any such person or the public, or which may cause, or have a natural tendency to cause, injury or damage to business or property."[10]

3.3 Project Approach to Significance

This report, relative to threshold 1, evaluates the proposed Project for consistency with applicable plans related to emissions, including the regional air quality attainment plans. This report, relative to threshold 2, quantifies the Project's emissions during construction and operations and compares those results to the applicable EDCAQMD thresholds. Relative to threshold 3, this report includes a CO hotspots analysis and summarizes results of the health risk assessment which assesses the potential health risk impacts to sensitive receptors. This report, relative to threshold 4, evaluates the potential for odor-generating activities from the proposed Project.

[10] Ibid.

4. AIR QUALITY EMISSIONS INVENTORY

This section describes the methodology that Ramboll used to develop the CAP inventories associated with the Project, which include one-time emissions associated with construction of the Project, and emissions associated with operation of the Project. Construction is expected to occur in mid-2026 to mid-2027. Emissions due to operation of the Project are therefore quantified for the anticipated first year of operations, i.e., 2027. This is a conservative assumption for mobile source emissions as these emissions are expected to decrease in future years with the transition of the Statewide mobile source fleet to lower-emitting technologies resulting from the implementation of federal and State mobile source regulations. Sub-categories of operational emissions include the following: area, energy, mobile, and stationary sources.

4.1 Resources

4.1.1 California Emission Estimator Model

Ramboll primarily utilized the California Emissions Estimator Model (CalEEMod) version 2022.[11] methodology to assist in quantifying the CAP emissions in the inventories presented in this report for the proposed Project. CalEEMod provides methodologies to calculate both construction emissions and operational emissions from a land use development project. It calculates daily or annual CAP emissions. Specifically, the model methodology aids the user in the following calculations:

- One-time short-term construction emissions from off-road construction equipment, and on-road worker, vendor, and hauling vehicles during the construction of the Project and site access and roadway improvements.
- Operational emissions associated with the proposed Project buildout condition such as on-road mobile vehicle traffic generated by the land uses; area sources such as landscaping equipment, architectural coatings, and consumer products; energy sources that use natural gas combustion; and stationary sources such as emergency generators.

CalEEMod is a statewide program designed to calculate both CAP and greenhouse gas emissions from development projects in California developed under the auspices of the South Coast Air Quality Management District, with input from other California air districts, and is currently supported by numerous lead agencies for use in quantifying the emissions associated with development projects undergoing environmental review. CalEEMod utilizes widely accepted models for emission estimates combined with appropriate default data that can be used if site-specific information is not available. These models and default estimates use sources such as the USEPA AP-42 emission factors,[12] CARB's on-road and off-road equipment emission models such as the EMission FACtor model (EMFAC) and the Emissions Inventory Program model (OFFROAD), and studies commissioned by California agencies such as the California Energy Commission and CalRecycle.

[11] CAPCOA. 2022. California Emissions Estimator Model User's Guide. Version 2022.1. Available at: https://caleemod.com/user-guide. Accessed: October 2025.

[12] The USEPA maintains a compilation of Air Pollutant Emission Factors and process information for several air pollution source categories. The data is based on source test data, material balance studies, and engineering estimates. Available at: https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissions-factors. Accessed: October 2025.

As mentioned above, CalEEMod is based upon the CARB-approved OFFROAD and EMFAC models. OFFROAD[13] is an emission factor model used to calculate emission rates from off-road mobile sources (e.g., construction equipment, agricultural equipment). The off-road diesel emission factors used by CalEEMod are based on the CARB OFFROAD2017 program. EMFAC is an emission factor model used to calculate emissions rates from on-road vehicles (e.g., passenger vehicles). CalEEMod 2022.1 contains EMFAC2021 emission factors.[14] These emissions factors were then used to estimate mobile source operational emissions based on CalEEMod methodology and defaults along with Project-specific values where available.

In addition, CalEEMod contains default values and existing regulation methodologies to use in each specific local air district region. Appropriate statewide default values can be utilized if regional default values are not defined. Ramboll used default factors for the El Dorado-Mountain County area for the emissions inventory, unless otherwise noted in the methodology descriptions below.

Details regarding the specific methodologies used by CalEEMod can be found in the CalEEMod User's Guide and associated appendices.[15]

4.1.2 Project Data

Where possible, Ramboll utilized Project-specific data to estimate the emissions associated with Project construction and operation. This data (e.g., activity information for construction, gasoline annual throughput dispensed at the gasoline dispensing facility [GDF], and Kittelson & Associates, Inc's [Kittelson's] Trip Generation Summary[16]) was obtained through communication with the Project applicant.

4.2 Construction Emissions

This section describes the calculation of CAP emissions from construction activities at the proposed Project site. While the exact construction schedule and equipment mix may vary from the current analysis, the emissions are not expected to be higher than that calculated given the conservative assumptions included in the analysis.

This analysis includes estimation of CAP emissions from the following major construction phases for the proposed Project:

- Site Preparation involves clearing vegetation (grubbing and tree/stump removal) and removing stones and other unwanted material or debris prior to grading.
- Grading involves the cut-and-fill of land to ensure the proper base and slope for the construction foundation.
- Building Construction involves the construction of structures and buildings.
- Paving involves the laying of concrete or asphalt such as in parking lots or roads.

[13] CARB. 2017. Off Road Mobile Source Emission factors. Available at: https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory. Accessed: October 2025.

[14] CARB. 2022. EMFAC2021. Available at: https://ww2.arb.ca.gov/our-work/programs/msei/on-road-emfac. Accessed: October 2025.

[15] CAPCOA. 2022. California Emissions Estimator Model User's Guide. Version 2022.1. Available at: https://caleemod.com/user-guide. Accessed: October 2025.

[16] Kittelson & Associates. 2025. El Dorado Costco CEQA Analysis. July 23.

- Architectural Coating involves the application of coatings to both the interior and exterior of buildings or structures, and the painting of parking lot striping, associated signage, and curbs.

Note, two scenarios are considered for the construction of the proposed Project that have different material movement amounts in the grading phase. Scenario 1 assumes that the excavated material from portions of the Project site will be used as fill during grading. Scenario 2 conservatively assumes that all the excavated material will be exported offsite and soil will be imported for fill during grading.

Besides this, the analysis also includes an estimation of the CAP emissions associated with the following construction phases for the site access and roadway improvements:

- Linear, Grubbing & Land Clearing involves removing vegetation, trees, stumps (grubbing), and clearing stones or other debris from roads, in preparation for grading and excavation.
- Linear, Grading & Excavation involves demolition of existing surfaces and cut-and-fill activities to ensure the proper base and slope for road construction.
- Linear, Drainage, Utilities, & Sub-Grade involves the road construction activities including installation of drainage systems, utility lines, and preparing and compacting the sub-grade to support the road pavement.
- Linear, Paving involves the laying of concrete or asphalt for road surfaces.

The proposed schedule for constructing the Project and the site access and roadway improvements are shown in **Table 4-1** and **Table 4-2** respectively. Construction-related emissions of ROGs, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$ were estimated using CalEEMod. PM emissions are composed of exhaust emissions and fugitive emissions. Exhaust emissions are typically given out by a combustion engine of on-road vehicles and/or off-road equipment. Fugitive emissions are PM dust suspended in the air by wind action and construction-related activities.

The off-road construction equipment list and specifications are based on the Project-specific information and supplemented with CalEEMod model defaults, as shown in **Table 4-3** and **Table 4-4**. The Project-specific worker, vendor, and hauling trips supplemented with CalEEMod defaults are displayed in **Table 4-5**, **Table 4-6**, and **Table 4-7**. **Table 4-8**, **Table 4-9**, and **Table 4-10** present material volumes which are anticipated to be imported and exported for Project construction Scenario 1, Project construction Scenario 2, and site access and roadway improvements respectively. Additionally, **Table 4-11** presents an estimate of the demolition debris that would be generated and shipped offsite during the Linear, Grubbing & Land Clearing construction phase for the site access and roadway improvements.

4.2.1 Emissions from Construction Equipment

The emission calculations associated with construction equipment are from off-road equipment engine use based on the equipment list and phase length, and on-road vehicle trips and phase length.

Since the majority of the off-road construction equipment used for construction projects are diesel-fueled, CalEEMod methodology assumes all of the equipment operates on diesel fuel. The calculations include the running exhaust emissions from off-road equipment. Since the equipment is assumed to be diesel, there are no starting emissions associated with the equipment, as these are *de minimis* for diesel-fueled equipment. CalEEMod calculates the exhaust emissions based on default values for horsepower and load factor from CARB's OFFROAD2017 methodology using the equation presented below.[17]

$$Emissions_{Diesel} = \sum_{i} (EF_i \times Pop_i \times AvgHP_i \times Load_i \times Activity_i)$$

Where:

EF	=	Emission factor in grams per horsepower-hour as processed from OFFROAD2017
Pop	=	Population, or the number of pieces of equipment
AvgHp	=	Maximum rated average horsepower
Load	=	Load factor
Activity	=	Hours of operation
i	=	equipment type

Construction would include on-site equipment during the following construction phases that generate fugitive dust: site preparation, grading, linear, grubbing & land clearing, and linear, grading & excavation. The construction-related equipment assumptions based on the Project-specific information and supplemented with CalEEMod model defaults are shown in **Table 4-3** and **Table 4-4**. The combustion emissions from these equipment were calculated using CalEEMod; the fugitive dust emissions from these equipment were calculated using the quantity of material moved and AP-42 emissions factors (see **Section 4.2.3** for further details).

4.2.2 Emissions from On-Road Construction Trips

Construction generates on-road vehicle CAP emissions from worker and vendor commuting, concrete trucks, and trucks used for construction debris and soil/material hauling.

These emissions are calculated in CalEEMod based on the number of trips and vehicle miles traveled (VMT) (**Table 4-5**, **Table 4-6**, and **Table 4-7**) along with emission factors from EMFAC2021. The numbers of worker and vendor trips represent defaults from CalEEMod based on the construction equipment to be used. The number of haul trips was estimated by CalEEMod based on the volume of soil to be imported/exported (**Table 4-8**, **Table 4-9**, and **Table 4-10**) and the amount of demolition debris generated (**Table 4-11**). The number of concrete truck trips were based on Project-specific information.

[17] CAPCOA. 2022. California Emissions Estimator Model User's Guide, Appendix C. Available at: https://caleemod.com/documents/user-guide/04_Appendix%20C.pdf. Accessed: October 2025.

Additionally, the emissions associated with on-site idling of concrete trucks during the building construction phase were estimated using concrete truck trip rates, idling duration per trip, and emission factors from EMFAC2021. Refer to **Table A-1** and **Table A-2** in **Appendix A** for further details.

4.2.3 Fugitive Dust

Fugitive dust contributes to PM_{10} and $PM_{2.5}$ emissions and is generated by the various construction activities including entrained road dust, grading, demolition, and truck loading.

Entrained road dust is generated by vehicle travel on paved and unpaved roads. Emission factors for entrained road dust are on a "per mile" basis. In CalEEMod, entrained road dust emission factors are based on the equations presented in the Paved Roads and Unpaved Roads chapters of USEPA's AP-42 and are then multiplied by the total VMT for Project-related trips. 0.10% of construction worker vehicle trips and 0.07% of construction trucks trips (vendor, hauling, and concrete trucks) were assumed to occur on unpaved roads based on the GIS analysis performed by Kittelson & Associates.[18] Emissions from entrained road dust were estimated using CalEEMod and are presented in **Appendix A**.

Fugitive dust emissions from bulldozing equipment (i.e., rubber-tired dozers), grading equipment (i.e., graders, rubber-tired dozers, and scrapers), and demolition activity occur during the Project construction. In addition, truck loading activities would generate fugitive dust emissions. The construction material movement and demolition assumptions are presented in **Table 4-8**, **Table 4-9**, **Table 4-10**, and **Table 4-11**.

Fugitive dust will be controlled by watering the construction site twice daily in accordance with the EDCAQMD Rule 223-1 for fugitive dust control.[19] CalEEMod defaults assume watering the construction site twice a day reduces the fugitive dust emissions by 61%. Emissions from these sources were estimated using CalEEMod and are presented in **Appendix A**.

4.2.4 Architectural Coating

Evaporation of solvents contained in architectural coatings that are applied to interior and exterior surfaces of building and used for parking lot painting/striping result in VOC evaporative emissions. CalEEMod was used to estimate these VOC evaporative emissions during Project construction. Ramboll utilized VOC contents of 150 grams per liter and 100 grams per liter as inputs in CalEEMod for architectural coatings on interior/exterior building surfaces and parking lot painting/striping respectively. These VOC content values are based on the VOC limits defined in EDCAQMD Rule 215 for Architectural Coatings.[20] Emissions from architectural coatings during construction are presented in the CalEEMod model run files shown in **Appendix A**.

---

[18] Kittelson & Associates. 2025. Technical Memorandum Regarding El Dorado Hills Costco Warehouse - Estimated Travel on Unpaved Roads. August 8.

[19] EDCAQMD. 2005. Rule 223-1 Fugitive Dust – Construction, Bulk Material Handling, Blasting, Other Earthmoving Activities and Carryout and Trackout Prevention. Available at: https://ww2.arb.ca.gov/sites/default/files/classic/technology-clearinghouse/rules/RuleID809.pdf. Accessed: October 2025.

[20] EDCAQMD. 2024. Rule 215 – Architectural Coatings. Available at: https://eldorado.legistar.com/LegislationDetail.aspx?ID=6779392&GUID=226948B1-3CF4-4769-AB77-0847C5CBB92F&FullText=1#. Accessed: October 2025.

4.2.5 Paving

CalEEMod was used to estimate the VOC off-gassing emissions associated with asphalt paving. The emissions associated with paving are presented in the CalEEMod model run files in **Appendix A**.

4.2.6 Total Construction Emissions

Maximum daily unmitigated construction emissions for each time period with overlapping construction phases for the two Project construction scenarios are estimated by summing up the maximum daily emissions associated with each overlapping construction phase for the proposed Project and the site access and roadway improvements in that scenario, as shown in **Table A-3** and **Table A-4** in **Appendix A**.

As noted previously under **Section 4.2**, Project construction Scenario 1 assumes that the excavated material from portions of the Project site will be used as fill during grading, while Project construction Scenario 2 conservatively assumes that all the excavated material will be exported offsite, and soil will be imported for fill during grading. The average daily unmitigated construction emissions for each quarter (3-month period) of construction for Project construction Scenarios 1 and 2 are estimated using the maximum daily construction emissions for each time period with overlapping construction phases within the respective scenarios. This is summarized in **Table 4-12**.

As shown in **Table 4-12**, the average daily unmitigated ROG and NO_X emissions associated with the construction of Project under both construction scenarios are below EDCAQMD mass daily significance thresholds for construction. While EDCAQMD has not adopted mass daily numerical thresholds for other CAP emissions from construction, the EDCAQMD CEQA Guide[21] states that if ROG and NO_X exhaust emissions from construction are deemed not significant, then exhaust emissions of CO and PM_{10} may also be deemed not significant. Hence, air quality impacts of all CAPs (ROG, NO_X, CO, and PM_{10}) from the exhaust of construction equipment and on-road vehicles associated with the construction of the proposed Project are less than significant.

The EDCAQMD CEQA Guide[22] states that fugitive dust PM_{10} emissions may be assumed to be not significant if the project complies with EDCAQMD Rule 223 and Rule 223-1 for fugitive dust control by implementing control measures that will prevent visible dust beyond the project property lines. The proposed Project will comply with these fugitive dust control rules. Hence, the air quality impacts of fugitive dust emissions from the construction proposed Project are less than significant.

Construction activities are expected to generate negligible emissions of SO_2, sulfates, lead, and H_2S. Therefore, the air quality impacts of these emissions from the construction of the proposed Project are also less than significant.

[21] EDCAQMD. 2002. Guide to Air Quality Assessment. February. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

[22] Ibid.

4.3 Operational Emissions

This section describes the calculation of CAP emissions from Project operational activities. As noted previously, operational emissions are quantified for the anticipated first year of Project operation, i.e., 2027. The following sub-sections describe the methodologies used to estimate emissions from the following operational source categories: area, energy, mobile, and stationary.

4.3.1 Area Sources

Area sources are those emission sources that are generally too small to be uniquely identified as point sources and are thus generally aggregated as a group. CalEEMod estimates emissions for the following sources under the category of "area" sources: landscaping equipment (e.g., lawn mowers), consumer products, and architectural coatings.

The CAP emissions generated by area sources associated with Project operation were calculated using CalEEMod and can be viewed in **Appendix B-1**.

CalEEMod default assumptions for the Project land uses were used to estimate the CAP emissions from landscaping equipment.

To estimate the VOC emissions from consumer products, Ramboll replaced the statewide default ROG emission factor for consumer product usage in CalEEMod with the ROG emission factor for consumer product usage in El Dorado County, where the proposed Project is located. As shown in **Table 4-13**, this emission factor was estimated using CARB's ROG consumer product inventory[23] and projected total building square footage[24] for El Dorado County in calendar year 2027, consistent with CalEEMod methodologies.

CalEEMod was used to estimate the VOC emissions from evaporation of solvents contained in architectural coatings that are routinely applied to interior and exterior surfaces of building and used for parking lot painting/striping during Project operation. Ramboll utilized VOC contents of 150 grams per liter and 100 grams per liter as inputs in CalEEMod for architectural coatings on interior/exterior building surfaces and parking lot painting/striping respectively. These VOC content values are based on the VOC limits defined in EDCAQMD Rule 215 for Architectural Coatings.[25]

CAP emissions due to natural gas combustion in buildings, could also be considered area sources, but are reported by CalEEMod in the emissions associated with building energy use (described below).

4.3.2 Energy Sources

CAP emissions are emitted from buildings as a result of activities that typically rely on natural gas as an energy source. Ramboll utilized CalEEMod default assumptions to calculate the annual natural gas usage for each of the proposed Project's land uses except for the GDF, which does not use natural gas in its operation. To account for the GDF's energy use,

[23] CARB. California Emissions Projection Analysis Model, CEPAM2019v1.04. Available at: https://ww2.arb.ca.gov/applications/cepam2019v1-04-standard-emission-tool. Accessed: October 2025.

[24] Total building square footage in 2027 was estimated as the product of the countywide building square footage per person in 2020 multiplied by the population projection for El Dorado County in calendar Year 2027. Refer to **Table 4-13** for further details.

[25] EDCAQMD. 2024. Rule 215 – Architectural Coatings. Available at: https://eldorado.legistar.com/LegislationDetail.aspx?ID=6779392&GUID=226948B1-3CF4-4769-AB77-0847C5CBB92F&FullText=1#. Accessed: October 2025.

CalEEMod default natural gas values were converted into equivalent electricity usage by applying the ratio of efficiencies between natural gas and equivalent electric appliances. **Table 4-14** summarized the operational energy assumptions of the proposed Project by land use type. The annual energy use and corresponding CAP emissions for the proposed Project from the natural gas consumption are shown in the CalEEMod output file in **Appendix B-1**. Direct CAP emissions are not associated with electricity usage.

4.3.3 Stationary Sources

The proposed Project includes two diesel-powered emergency generators, each rated at 250 horsepower (hp), to support warehouse operations. Testing and maintenance of each generator is not expected to exceed 50 hours per year or 1 hour on any given day. Emissions from emergency generator operation were estimated using default assumptions in CalEEMod. The resulting CAP emissions estimates are provided in the CalEEMod output file in **Appendix B-1**.

4.3.4 Operational Gasoline Transfer and Dispensing

Emissions from gasoline transfer and dispensing mainly occur during loading, breathing, refueling, spillage, and from hose permeation. Emission factors were obtained from the CARB and California Air Pollution Control Officers Association (CAPCOA) guidance for GDFs.[26] Emissions were calculated based on the anticipated permitted annual throughput of 23.00 million gallons per year. These emissions are presented in **Table 4-15**.

4.3.5 Mobile Sources

The CAP emissions associated with on-road mobile sources are generated from customers' and employees' vehicles, and delivery trucks (i.e., fuel delivery trucks; warehouse and tire center delivery trucks; and transport refrigeration units (TRUs) that are mounted on the trailers of some warehouse delivery trucks) traveling to and from the Project site. The emissions associated with on-road vehicles include running, idling and starting exhaust emissions, evaporative emissions, tire wear, brake wear, and entrained road dust. Running emissions are dependent on VMT. Starting and evaporative emissions are associated with the number of starts or time between vehicle uses and the assumptions used in determining these values are described below. Exhaust emissions from TRUs are dependent on the operational duration of TRUs. Ramboll relied upon the traffic analyses conducted by Kittelson[27] and Project-specific information for estimating the emissions from mobile sources as described in the following sub-sections.

The analysis includes the benefit of reductions from adopted regulatory programs that are accounted for within EMFAC2021 including Assembly Bill 1493 ("the Pavley Standard"), the Advanced Clean Cars (ACC) program, the USEPA/National Highway Traffic Safety Administration Advanced Fuel Economy, and the Heavy-Duty Omnibus regulation.

[26] CARB and CAPCOA. 2022. Gasoline Service Station Industrywide Risk Assessment Technical Guidance. February 18. Available at: https://ww2.arb.ca.gov/sites/default/files/2022-03/Draft%202022%20Gas%20Station%20IWG%20-%20Technical%20Guidance_ADA%20Compliant.pdf. Accessed: October 2025.

[27] Kittelson & Associates. 2025. El Dorado Costco CEQA Analysis. July 23.

Public Law 119-17, enacted on June 12, 2025, is a House joint resolution that disapproves the Clean Air Act waiver granted by USEPA for the Heavy-Duty Omnibus regulation under the Congressional Review Act.[28] As noted above, this analysis uses EMFAC2021 which incorporates the benefits of Heavy-Duty Omnibus regulation. However, EMFAC2021 does not account for the benefits associated with the implementation of CARB's Heavy-Duty Inspection/Maintenance (HD I/M) program, also known as the Clean Truck Check program. Excluding the emission benefits of the Heavy-Duty Omnibus regulation from this analysis would slightly increase the CAP emissions from Project-related delivery trucks by less than 4%. Nonetheless, this increase is expected to be offset by the benefits associated with the HD I/M program, which are anticipated to result in greater reductions (5-20%) of CAP emissions as compared to the Heavy-Duty Omnibus regulation.[29] Therefore, this analysis remains unaffected by Public Law 119-17.

Public Law 119-15, enacted on June 12, 2025, is a House joint resolution that disapproves the CAA waiver granted by USEPA for the Advanced Clean Trucks (ACT) Regulation, which is a zero emission vehicle (ZEV) sales mandate for truck manufacturers.[30] While EMFAC2021 incorporates reductions associated with the ACT regulation, this analysis assumes that all Project-related delivery trucks are diesel-fueled. Hence, Public Law 119-15's disapproval of California's CAA waiver for ACT regulation does not impact this analysis.

Public Law 119-16, enacted on June 12, 2025, is a House joint resolution that disapproves the CAA waiver granted by USEPA for the ACC II regulation, which is a ZEV sales mandate for passenger vehicle manufacturers.[31] Additionally, on January 13, 2025, CARB withdrew its waiver request for the Advanced Clean Fleets (ACF) regulation, which requires fleet owners to reduce emissions by increasing the use of zero emissions trucks in their fleets by replacing existing diesel/gasoline trucks.[32] EMFAC2021 does not incorporate the benefits of the ACC II

[28] United States Code. 2025. Public Law 119-17 - Joint resolution providing congressional disapproval under chapter 8 of title 5, United States Code, of the rule submitted by the Environmental Protection Agency relating to "California State Motor Vehicle and Engine and Nonroad Engine Pollution Control Standards; The `Omnibus' Low NOX Regulation; Waiver of Preemption; Notice of Decision". Available at: https://www.govinfo.gov/app/details/PLAW-119publ17. Accessed: October 2025.

[29] CARB. EMFAC2021 Model and Documentation - EMFAC2021 Interim Off-Model Adjustment Factors for the Heavy-Duty Inspection and Maintenance Program. Available at: https://ww2.arb.ca.gov/our-work/programs/msei/emfac2021-model-and-documentation. Accessed: October 2025.

[30] United States Code. 2025. Public Law 119-15 - Joint resolution providing congressional disapproval under chapter 8 of title 5, United States Code, of the rule submitted by the Environmental Protection Agency relating to "California State Motor Vehicle and Engine Pollution Control Standards; Heavy-Duty Vehicle and Engine Emission Warranty and Maintenance Provisions; Advanced Clean Trucks; Zero Emission Airport Shuttle; Zero-Emission Power Train Certification; Waiver of Preemption; Notice of Decision". Available at: https://www.govinfo.gov/app/details/PLAW-119publ15. Accessed: October 2025.

[31] United States Code. 2025. Public Law 119-16 - Joint resolution providing congressional disapproval under chapter 8 of title 5, United States Code, of the rule submitted by the Environmental Protection Agency relating to "California State Motor Vehicle and Engine Pollution Control Standards; Advanced Clean Cars II; Waiver of Preemption; Notice of Decision". Available at: https://www.govinfo.gov/app/details/PLAW-119publ16. Accessed: October 2025.

[32] California Air Resources Board. 2025. Withdrawal of California's Request for a Waiver, Pursuant to Clean Air Act Section 209(b), and Request for Authorization, Pursuant to Clean Air Act Section 209(e)(2), for the Advanced Clean Fleets (ACF) Regulation, Docket ID EPA-HQ-OAR-2023-0589. January 13. Available at: https://www.epa.gov/system/files/documents/2025-01/ca-acf-carb-withdrawal-ltr-2025-1-13.pdf. Accessed: October 2025.

and ACF regulations; therefore, CAP reductions associated with these regulations are not included in this analysis.

4.3.5.1 Calculating Mobile Source Emissions

Mobile source emissions calculation requires trip rates, trip lengths, and idle time for each on-road vehicle trip type associated with the proposed Project (e.g., passenger vehicles and delivery trucks). Additionally, the operational time for TRU engines that are mounted on some of the trailers delivered to the warehouse is required to estimate exhaust emissions from TRUs. The following sections describe the methodology to derive the necessary inputs for these calculations.

a) On-Road Vehicle Trip Generation Rates

The total trip generation rates for passenger vehicles (customer and employees) visiting the proposed Project were provided by Kittelson. The number of TRU equipped trailers that are brought onsite by warehouse delivery trucks and the trip generation rates for fuel and warehouse/tire center delivery trucks are based on Project-specific estimates. These are summarized in **Table B-1** in **Appendix B**.

b) Vehicle Miles Traveled

The VMT of passenger vehicles (customer and employees) was provided by Kittelson. The VMT of delivery trucks was calculated as the product of trip rates and trip lengths as shown in **Table B-1** in **Appendix B**. The trip length for delivery trucks is based on Project-specific estimates.

c) On-Road Vehicle Idle Duration

The passenger vehicle (customer and employees) idling durations for vehicles queuing at the GDF were provided by Kittelson (**Table B-1** in **Appendix B**). The idle duration for delivery trucks is assumed to be 15 minutes for each round trip (maximum of 5 minutes at Project site entry, 5 minutes at the loading area, and 5 minutes at Project site exit), consistent with CARB's Air Toxic Control to Limit Diesel-Fueled Commercial Motor Vehicle Idling.[33]

d) TRU Operational Time

The total operational time for each TRU equipped trailer that is brought onsite by a warehouse delivery truck is estimated as the sum of the on-site truck idling time and the travel time for the truck round trip (**Table B-1** in **Appendix B**). As noted above, the on-site truck idling time is assumed to be 15 minutes. The truck travel time for each warehouse delivery truck round trip is estimated as the ratio of the round trip length to the average vehicle speed. For purposes of this analysis, the average vehicle speed was assumed to be 30 miles per hour for off-site travel and 5 miles per hour for on-site travel consistent with CARB's assumptions in Appendix I of the Proposed Amendments to the Airborne Toxic Control Measure for In-Use Diesel-Fueled TRU and TRU Generator Sets, and Facilities Where TRUs Operate.[34] Refer to **Table B-1** in **Appendix B** for further details.

[33] CARB Air Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. Available at: https://ww2.arb.ca.gov/our-work/programs/atcm-to-limit-vehicle-idling/about. Accessed: October 2025.

[34] CARB. 2021. Appendix I of the Proposed Amendments to the Airborne Toxic Control Measure for In-Sue Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets, and Facilities where TRUs operate. July 17. Available at: https://ww2.arb.ca.gov/sites/default/files/barcu/board/rulemaking/tru2021/appi.pdf. Accessed: October 2025.

e) Fleet Mix

The CalEEMod default fleet mix for passenger vehicles in El Dorado-Mountain County (**Table B-2** in **Appendix B**) was adjusted using the default VMT distribution for passenger vehicle technology/fuel categories in EMFAC2021 to determine the Project-specific fleet mix of the passenger vehicles visiting the Project site (**Table B-3** in **Appendix B**). Passenger vehicles visiting the GDF represent vehicles used by patrons of the fuel facility and are assumed to only include plug-in hybrids and gasoline-fueled vehicles. Warehouse and employee passenger vehicles represent the vehicles used by patrons and employees of the warehouse and include gasoline, plug-in hybrid, electricity, and diesel-fueled vehicles. All delivery trucks were assumed to be heavy heavy-duty diesel trucks.

f) Mobile Source Emission Factors

Exhaust, evaporative, tire wear, and brake wear emission factors for passenger vehicles and delivery trucks were estimated using the Project-specific fleet mix and EMFAC2021 mobile source emission factor data for El Dorado-Mountain County. These calculations are presented in **Tables B-4 through B-11** in **Appendix B**.

Entrained road dust is generated by vehicle travel on paved and unpaved roads. Emission factors for entrained road dust are on a "per mile" basis. Entrained road dust emission factors were calculated following guidance in the CalEEMod User's Guide, Appendix A, which is based on Paved Roads and Unpaved Roads chapters of USEPA's AP-42. Entrained road dust emission factors for PM_{10} and $PM_{2.5}$ are shown in **Table B-12** in **Appendix B**. 99.90% of Project-related passenger vehicle travel is assumed to occur on paved roads and the remaining 0.10% is assumed to occur on unpaved roads based on the GIS analysis performed by Kittelson & Associates.[35] All truck travel was assumed to occur on paved roads based on Project-specific information on truck routes. Exhaust emission factors for TRUs were calculated using OFFROAD2021 outputs for in-State and out-of-State trailer TRUs operating in El Dorado-Mountain County as shown in **Table B-13** in **Appendix B**.

4.3.5.2 Mobile Source Emissions

The maximum daily CAP emissions from mobile sources associated with the proposed Project operation are presented in **Table B-14** in **Appendix B**. This includes emissions from passenger vehicles, delivery trucks, and TRUs.

As shown in **Table B-14** in **Appendix B**, CAP emissions from passenger vehicles and delivery trucks are estimated using Project-specific trip rates, VMT, idle time (**Table B-1** in **Appendix B**) and running exhaust, tire wear, brake wear, idling exhaust, starting exhaust, evaporative, and entrained road dust emission factors for these vehicle types (**Tables B-4 through B-12** in **Appendix B**).

CAP emissions from TRUs are also estimated in **Table B-14** in **Appendix B** using the Project-specific TRU operational time (**Table B-1** in **Appendix B**) and TRU exhaust emission factors from OFFROAD2021 (**Table B-13** in **Appendix B**).

[35] Kittelson & Associates. 2025. Technical Memorandum Regarding El Dorado Hills Costco Warehouse - Estimated Travel on Unpaved Roads. August 8.

4.3.6 Total Operational Emissions

Table 4-16 summarizes the proposed Project's maximum daily operational CAP emissions. As shown in this table, the maximum daily ROG and NO_X emissions associated with Project operation are below EDCAQMD's mass daily significance thresholds for operation. Hence, the air quality impacts of these pollutants from the operation of the proposed Project are less than significant.

While EDCAQMD has not adopted mass daily numerical thresholds for other CAP emissions, it considers a project to have a significant impact on air quality if it will cause or contribute significantly to a violation of the NAAQS or CAAQS for CO, PM_{10}, SO_2, sulfates, lead, H_2S.

The EDCAQMD CEQA Guide[36] states that development projects, with land use types similar to the proposed Project, that are deemed less than significant for ROG and NO_X emissions based on land use size screening criteria, can also be considered less than significant for CO emissions. Using this screening approach, we can consider the air quality impacts of CO emissions from the proposed Project operation to be less than significant because the proposed Project's ROG and NO_X emissions are less than EDCAQMD's mass daily significance thresholds. Additionally, Ramboll has also conducted a CO hotspot analysis in **Section 6** of this report. This CO hotspot analysis evaluates the ambient air quality impacts of the primary source of CO emissions associated with the proposed Project operation, i.e., on-road vehicle emissions. As described in **Section 6**, the proposed Project would not result in exceedances of CO NAAQS or CAAQS in the vicinity of the proposed Project. Hence, the air quality impacts of operational CO emissions from the proposed Project are less than significant.

The EDCAQMD CEQA Guide[37] states that PM_{10} emissions from land development projects primarily associated with gasoline-powered vehicles may be assumed to be insignificant if the projects do not generate heavy-duty diesel vehicle trips in greater proportion than the general mix of such trips in public roadways. As shown in **Table 4-16**, the proposed Project's primary source of PM_{10} emissions is mobile sources. As shown in **Table B-1** in **Appendix B**, mobile sources include passenger vehicles (GDF customer vehicles, warehouse and employee vehicles) and heavy-duty diesel vehicles (fuel delivery trucks, warehouse and tire center delivery trucks). The on-road vehicle trips generated by the proposed Project are predominately passenger vehicles. Heavy-duty diesel vehicle trips generated by the proposed Project make less than 0.25% of the total Project trips, which is lower the approximately 6% of heavy-duty diesel trucks operating on the roads in El Dorado County.[38] Hence, the proposed Project is not expected to generate heavy-duty diesel vehicle trips in greater proportion than the general mix of such trips in public roadways in the vicinity of the Project site and the air quality impacts of operational PM_{10} emissions from the proposed Project are less than significant.

[36] EDCAQMD. 2002. Guide to Air Quality Assessment. February. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

[37] Ibid.

[38] The fraction of heavy-duty diesel trucks in the on-road vehicle population operating in El Dorado County was estimated from EMFAC2021.

The EDCAQMD CEQA Guide[39] states that emissions associated with project operations that are less than 10 pounds per day of a pollutant may be presumed to have impacts that are not significant for that pollutant. Since SO_X emissions associated with the proposed Project operation are less than 10 pounds per day (**Table 4-16**), emissions of these pollutants are less than significant.

The proposed Project is a development project that is not a significant source of lead, sulfates, and H_2S. Hence, the emissions of these pollutants are less than significant.

Finally, according to the EDCAQMD CEQA Guide,[40] visibility impacts from development projects can be considered less than significant. Therefore, the proposed Project impacts on visibility are less then significant.

[39] EDCAQMD. 2002. Guide to Air Quality Assessment. February. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

[40] Ibid.

5. HEALTH RISK ASSESSMENT

This health risk assessment (HRA) evaluates the estimated cancer risk, non-cancer chronic hazard index (HIC), and acute hazard index (HIA) associated with construction and operation of the proposed Project. To meet these objectives, this HRA was conducted consistent with Air Toxics Hot Spots Program Risk Assessment Guidelines developed by the California Office of Environmental Health Hazard Assessment (OEHHA).[41] The health risks associated with the existing condition are not included in this analysis to be conservative.

5.1 Estimated Air Concentrations

To evaluate the health risks and concentration of air toxics in the surrounding area, the EDCAQMD CEQA Guide[42] recommends estimating concentrations using air pollution dispersion modeling methodologies described in the most recent OEHHA Guidance.[43] Hence, off-site air concentrations of TACs from Project emissions are estimated using the current version of American Meteorological Society/Environmental Protection Agency regulatory air dispersion model (AERMOD). Details on the inputs and methodology used in the dispersion modeling are discussed further in the sections below.

5.1.1 Toxic Air Contaminant Emissions

Ramboll evaluated excess lifetime cancer risk, HIC, and HIA for off-site sensitive receptors from proposed Project construction and operational emissions.

In particular, the lifetime cancer risk, HIC, and HIA analysis in the construction HRA assesses impacts from TAC emissions associated with DPM emissions from off-road diesel construction equipment exhaust (**Table C-1** in **Appendix C**), and diesel trucks (**Table C-2** and **Table C-3** in **Appendix C**) operated during construction of the proposed Project.

As noted previously in **Section 4.2**, the criteria air pollutant emissions associated with two construction scenarios are evaluated. Project construction Scenario 1 assumes that the excavated material from portions of the Project site will be used as fill during grading, while Project construction Scenario 2 conservatively assumes that all the excavated material will be exported offsite, and soil will be imported for fill during grading. Hence, the emissions associated with Scenario 2 are higher than that from Scenario 1. Therefore, for purposes of this HRA, the TAC emissions associated with Project construction Scenario 2 were evaluated.

Additionally, as noted in **Section 1.2.1**, the construction equipment greater than 50 hp used at the site shall be mitigated to meet USEPA Tier 4 Final emission standards for PM_{10} and $PM_{2.5}$. If Tier 4 Final equipment is viable but not available, all construction equipment larger than 50 hp used at the site shall meet USEPA emission standards for Tier 3 engines and include PM emissions control equivalent to CARB Level 3 verifiable diesel emission control devices. To be conservative, this analysis assumed that Tier 3 engines with PM emissions control equivalent to CARB Level 3 verifiable diesel emission control devices would be used

[41] California Environmental Protection Agency (Cal/EPA), Office of Environmental Health Hazard Assessment (OEHHA). 2015. Air Toxics Hot Spots Program Risk Assessment Guidelines. February. Available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf. Accessed: October 2025.

[42] EDCAQMD. 2002. Guide to Air Quality Assessment. February. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

[43] Cal/EPA, OEHHA. 2015. Air Toxics Hot Spots Program Risk Assessment Guidelines. February. Available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf. Accessed: October 2025.

onsite to model the potential mitigated construction emissions if Tier 4 Final equipment is not available.

The proposed Project is located in an area where naturally occurring asbestos (NOA) could be present.[44] Hence, there is a concern that NOA may be released along with fugitive dust emissions during construction of the proposed Project. As a result, the Project proponent conducted a Geotechnical Study[45] of the proposed Project site and performed soil sampling to assess the presence of NOA. The result of the Asbestos Sampling Report[46] showed that NOA was not detected in each of the ten bulk soil samples that were collected from the Project site. Additionally, the Geotechnical Study referenced the Asbestos Review Area maps published by Churchill et al. in 2000,[47] which indicate the Project site is in an area that has been removed as mappable NOA bearing unit based on geologic evaluation. Therefore, the Geotechnical Study concluded that the potential for NOA to be encountered at levels at or exceeding regulatory threshold level is considered low. Consequently, health risks from any fugitive dust containing asbestos are not analyzed further in this report.

The operational HRA assesses impacts from TAC emissions associated with gasoline transfer and dispensing at the GDF (**Table C-4** in **Appendix C**); operation of the emergency generators at the proposed warehouse (**Table C-5** in **Appendix C**); operation of delivery trucks and TRUs (**Table C-6** in **Appendix C**); and the on-site queuing of passenger vehicles that visit the GDF (**Tables C-7** and **C-8** in **Appendix C**).

A brief description of the methodologies uses to estimate the TAC emissions from Project construction and operation is provided below.

Off-Road Construction Equipment

The analysis of off-road equipment that are expected to operate during the construction of proposed Project including the site access and the roadway improvements focused on the diesel exhaust emissions from these equipment. Diesel exhaust, a complex mixture that includes hundreds of individual constituents, is identified by the State of California as a known carcinogen.[48,49] Under California regulatory guidelines, DPM is used as a surrogate measure of exposure for the mixture of chemicals that make up diesel exhaust as a whole. We conservatively assumed that all PM_{10} from diesel-fueled equipment is DPM.

[44] El Dorado County. Asbestos Review Areas, Western Slope, County of El Dorado, State of California. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/construction-dust-rules/asbestos-review-map-8-22-18.pdf. Accessed: October 2025.

[45] Kleinfelder, 2024. Geotechnical Study, Proposed Costco Fuel Facility, Silva Valley Parkway, El Dorado Hills, California, CW# 18-0487. December 2024.

[46] Asbestos TEM Laboratories, Inc. Laboratory Job #1519-00003. July 25, 2025.

[47] Churchill, R. K., Higgins, C. T., and Hill, B. 2000. Areas More Likely to Contain Natural Occurrences of Asbestos in Western El Dorado County, California, California Geological Survey, Open-File Report 2000-002.

[48] Cal/EPA, OEHHA. 1998. Findings of the Scientific Review Panel on The Report on Diesel Exhaust, as adopted at the Panel's April 22, 1998, meeting.

[49] Cal/EPA, OEHHA. 2024. OEHHA/ARB Consolidated Table of Approved Risk Assessment Health Values. December. Available at: https://www.arb.ca.gov/toxics/healthval/contable.pdf. Accessed: October 2025.

The unmitigated DPM emissions from off-road equipment used during the proposed Project construction are presented in **Table C-1** in **Appendix C** respectively. These emissions were obtained from the CalEEMod model files for Project construction Scenario 2 and construction of the site access and roadway improvements presented in **Appendix A**.

Mobile Sources

The analysis of Project-related mobile source emissions focused on TAC components of VOC and PM emissions found in gasoline and diesel vehicle exhaust, and diesel TRU exhaust. The TACs analyzed in this HRA are based on the Federal Highway Administration's nine priority mobile source air toxics (MSATs), listed below.

- DPM
- 1,3-Butadiene
- Acetaldehyde
- Acrolein
- Benzene
- Ethyl Benzene
- Formaldehyde
- Naphthalene
- Polycyclic Organic Matter, which includes the following 15 compounds[50]: acenaphthene, acenaphthylene, anthracene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-c,d)pyrene, phenanthrene, and pyrene.

The above nine priority MSATs serve as the TACs for this HRA. Cancer and chronic non-cancer impacts of Project-related diesel-fueled construction trucks, operational delivery trucks, and TRUs were estimated using DPM emissions.[51] As shown in **Tables C-2** and **C-3** in **Appendix C**, DPM emissions from construction trucks (hauling, vendor, and concrete) were obtained from CalEEMod output files for the Project construction Scenario 2 and construction of the site access and roadway improvements presented in **Appendix A**. **Table C-6** in **Appendix C** summarized the DPM emissions from operational delivery trucks and TRUs. The DPM emissions from the delivery trucks were estimated using Project-specific activity data (**Table C-9** in **Appendix C**) and DPM emission factors obtained from EMFAC2021 (**Table C-10** in **Appendix C**). The DPM exhaust emissions from TRUs were estimated using Project-specific activity data (**Table C-9** in **Appendix C**) and DPM emission factors obtained from OFFROAD2021 (**Table C-11** in **Appendix C**).

Cancer and non-cancer chronic/acute impacts for the gasoline-fueled passenger vehicles queuing at the GDF were estimated by speciating ROG and $PM_{2.5}$ exhaust emissions from these vehicles. **Table 5-1** summarizes the speciation profiles used in this analysis. Additional

[50] FHWA. 2016. Frequently Asked Questions (FAQ) Conducting Quantitative MSAT Analysis for FHWA NEPA Documents. October. Available at: https://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/moves_msat_faq.pdf. Accessed: October 2025.

[51] There is currently no acute non-cancer toxicity value available for DPM.

details on these speciation profiles can be found in **Table C-12** in **Appendix C**. The ROG and $PM_{2.5}$ exhaust emissions of the gasoline-fueled passenger vehicles queuing at the GDF are summarized in **Table C-13** in **Appendix C**. These emissions were estimated using Project-specific activity data **Table C-9** in **Appendix C**) and emission factors obtained from EMFAC2021 (**Tables C-14** and **C-15** in **Appendix C**).

Gasoline Transfer and Dispensing

TAC emissions from with gasoline transfer and dispensing mainly occur during loading, breathing, refueling, spillage, and from hose permeation. The TACs analyzed in this HRA noted below, are based on the CARB/CAPCOA Guidance for GDFs.[52]

- Benzene
- Ethyl Benzene
- n-Hexane
- Naphthalene
- Propylene
- Toluene
- Xylenes

As shown in **Table C-4** in **Appendix C**, TAC emissions are estimated using the Project-specific throughput, and the total organic gases emission factors and TAC speciation profiles obtained from CARB/CAPCOA Guidance for GDFs.[53]

Emergency Generator

Finally, the analysis of emergency generators that are expected to operate during the proposed Project operation focused on the DPM exhaust emissions from these equipment. As shown in **Table C-5** in **Appendix C**, Ramboll obtained the DPM emissions for these generators from the CalEEMod model run for the proposed Project operation shown in **Appendix B-1**.

5.1.2 Air Dispersion Modeling Methodology

Ramboll used AERMOD Version 24142 to estimate ambient air concentrations and evaluate the health risks of TACs at off-site receptors.[54,55] For each receptor location, the model generates air concentrations (or air dispersion factors if unit emissions [i.e., gram per second (1 g/s)] were modeled) that result from emissions from multiple sources.

---

[52] CARB and CAPCOA, 2022. Gasoline Service Station Industrywide Risk Assessment Guidelines. Available at: https://ww2.arb.ca.gov/sites/default/files/2022-03/Draft%202022%20Gas%20Station%20IWG%20-%20Technical%20Guidance_ADA%20Compliant.pdf. Accessed: October 2025.

[53] Ibid.

[54] USEPA. 2024. User's Guide for the AMS/EPA Regulatory Model (AERMOD). November. Available at: https://gaftp.epa.gov/Air/aqmg/SCRAM/models/preferred/aermod/aermod_userguide.pdf. Accessed: October 2025.

[55] USEPA. 2017. Guideline on Air Quality Models (Revised). 40 Code of Federal Regulations, Part 51, Appendix W. Office of Air Quality Planning and Standards. January. Available at: https://www.epa.gov/scram/clean-air-act-permit-modeling-guidance. Accessed: October 2025.

Air dispersion models such as AERMOD require a variety of inputs such as source parameters, meteorological data, topography information, and receptor parameters. When site-specific information was unknown, default parameter sets that are designed to produce conservative (i.e., overestimates of) air concentrations were used.

5.1.2.1 AERMOD

AERMOD has been approved for use by USEPA, CARB, and EDCAQMD, and incorporates multiple variables in its algorithms including:

- Meteorological data representative of surface and upper air conditions;
- Local terrain data to account for elevation changes; and
- Physical specification of emission sources including information such as:
  - Location;
  - Release height; and
  - Source dimensions.

Dispersion model averaging times are specified based on the averaging times of ambient air quality standards and the air quality significance thresholds established by the appropriate regulatory agencies. For the HRA, the 1-hour averaging time was used to evaluate acute (short-term) effects and the PERIOD averaging time (average concentration for the 5-year meteorological data set) was used to calculate chronic (long-term) health effects.

In the absence of detailed guidance on the choice of AERMOD input options in the EDCAQMD CEQA Guide,[56] Ramboll utilized the Sacramento Metropolitan Air Quality Management District (SMAQMD) modeling recommendations[57] for establishing the settings for variables such as receptor heights, off-site receptor grid spacing, and the use of the regulatory default option. The air dispersion model was run using a unit emission factor approach, which is also referred to as the χ/Q ("chi over q") method. The model output based on a unit emission factor approach was incorporated into a post-processing step with the calculated emission rates to estimate the air concentrations at each receptor.

5.1.2.2 Source Characterization

As shown in **Figure 1** and **Table D-1** in **Appendix D**, DPM emissions from on-site construction equipment were modeled as 264 individual volume sources. Air dispersion modeling source parameters and grid spacing for each volume source were developed using a 20-meter x 20-meter grid of elevated volume sources based on the SMAQMD modeling recommendations.[58] Additionally, Ramboll utilized an area poly source to represent on-site concrete truck idling (**Figure 1**) during Project construction. Source parameters for this area

[56] EDCAQMD. 2002. Guide to Air Quality Assessment. February. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

[57] SMAQMD. 2013. Modeling of Construction-Generated PM_{10} Emissions. Available at: https://www.airquality.org/LandUseTransportation/Documents/Ch3PMDispersionModelingGuidanceFINAL7-2013.pdf. Accessed: October 2025.

[58] Ibid.

source, shown in **Table D-2** in **Appendix D**, were developed based on the USEPA AERMOD User Guide[59] and the USEPA Transportation Conformity Guidance.[60]

As shown in **Figures 2 through 4**, off-site construction truck travel, fuel delivery truck travel, and warehouse and tire center delivery truck travel were evaluated for roadway links in the Project vicinity, extending approximately a quarter mile from the proposed Project site boundary. As noted in the transportation impact analysis, El Dorado County's 20-year Capital Improvement Program includes an extension of the County Club Drive. This plan would disconnect Clarksville Crossing from Silva Parkway and result in an alternative site access configuration. As shown in **Figure 4**, warehouse and tire center delivery truck travel was analyzed on the design concept for the alternative site access configuration as that route is closer to the residences in the vicinity of the Project site. Line (area) sources were used in the air dispersion model to represent vehicle travel. Source parameters for TAC emissions associated with mobile source travel were developed based on USEPA Transportation Conformity Guidance for Hotspot Analysis.[61] **Table D-3 through D-6** in **Appendix D** presents a list of modeled mobile sources, their source parameters, and emission rates. A source group was created for each roadway segment. As described earlier, modeling was done using the χ/Q method and emission rates were set to 1 gram per second for each source group. Additionally, as noted in **Table D-5** in **Appendix D**, TAC emissions from the operation of TRUs mounted on warehouse delivery trucks were modeled within the line (area) source that was setup for the warehouse delivery truck travel. This is consistent with the CARB's modeling assumptions for TRUs.[62]

As shown in **Figure 5**, area poly sources were used to represent TAC emissions from fuel delivery truck idling at the GDF, passenger vehicle idling at the GDF, warehouse and tire center delivery truck idling at the warehouse dock, and TRU operation at the warehouse dock during Project operation. The source parameters for passenger vehicle and truck idling, shown in **Table D-2** in **Appendix D**, are based on USEPA AERMOD User Guide[63] and the

[59] USEPA. 2024. User's Guide for the AMS/EPA Regulatory Model. November. Available at: https://gaftp.epa.gov/Air/aqmg/SCRAM/models/preferred/aermod/aermod_userguide.pdf. Accessed: October 2025.

[60] USEPA. 2021. Transportation Conformity Guidance for Quantitative Hot-spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas Appendices. October. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1013C6A.pdf. Accessed: October 2025.

[61] Ibid.

[62] CARB. 2021. Appendix I to the Proposed Amendments to the ATCM Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets, and Facilities Where TRUs Operate, Table II.G.4. AERMOD Source Inputs - Cold Storage Warehouse. Available at: https://ww2.arb.ca.gov/sites/default/files/barcu/board/rulemaking/tru2021/appi.pdf. Accessed: October 2025.

[63] USEPA. 2024. User's Guide for the AMS/EPA Regulatory Model. November. Available at: https://gaftp.epa.gov/Air/aqmg/SCRAM/models/preferred/aermod/aermod_userguide.pdf. Accessed: October 2025.

USEPA Transportation Conformity Guidance.[64] Source parameters for TRU idling were developed based on CARB's modeling assumptions for TRUs.[65]

Figure 5 also presents the locations of the GDF emission sources, which were modeled as point sources (loading and breathing emissions) and volume sources (refueling, hose permeation, and spillage) in accordance with the CARB/CAPCOA Guidance for GDFs.[66] **Tables D-1** and **D-7** in **Appendix D**, present a summary of the source parameters for these GDF emission sources that were developed based on the dimensions of the proposed GDF and CARB/CAPCOA Guidance for GDFs.[67] The emission rate for each source was modeled as 1 gram per second.

As shown in **Figure 5**, point sources were used to represent the emissions from emergency generators that are expected to be located at the proposed warehouse. Ramboll utilized the default source parameters for emergency generators provided in the BAAQMD CEQA Guidelines,[68] to model the dispersion of DPM emissions from these sources, as detailed in **Table D-7** in **Appendix D**.

5.1.2.3 Emission Rates

Emissions were modeled using the χ/Q ("chi over q") method, such that each source group has a unit emission rate (i.e., 1 g/s), and the model estimates dispersion factors (with units of micrograms per cubic meter [$\mu g/m^3$]/[g/s]). Actual emissions were multiplied by the dispersion factors to obtain concentrations.

Construction emissions from diesel-fueled construction equipment and hauling and vendor truck travel were assumed to occur between the hours of 7:00 AM and 7:00 PM on weekdays, and 8:00 AM to 5:00 PM on weekends. Emissions from off-site concrete truck travel and on-site concrete truck idling are assumed to occur between 12:00 AM and 7:00 AM for eight consecutive days during building construction phase.

Operational emissions from warehouse and tire center delivery trucks and TRUs operation were assumed to occur between 2:00 AM and 1:00 PM, 365 days per year based on the anticipated delivery schedule for the warehouse. Emissions from refueling, hose permeation, and spillage from GDF activities as well as passenger vehicle idling at the GDF and fuel delivery trucks activity were assumed to occur between 5:00 AM to 10:00 PM, 365 days per year based on the anticipated operating schedule of the GDF. Breathing emission from gasoline storage tank at the GDF was assumed to occur 24 hours per day, 365 days per

[64] USEPA. 2021. Transportation Conformity Guidance for Quantitative Hot-spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas Appendices. October. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1013C6A.pdf. Accessed: October 2025.

[65] CARB, 2021. Appendix I to the Proposed Amendments to the ATCM Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets, and Facilities Where TRUs Operate, Table II.G.4. AERMOD Source Inputs – Cold Storage Warehouse. Available at: https://ww2.arb.ca.gov/sites/default/files/barcu/board/rulemaking/tru2021/appi.pdf. Accessed: October 2025.

[66] CARB and CAPCOA, 2022. Gasoline Service Station Industrywide Risk Assessment Guidelines. Available at: https://ww2.arb.ca.gov/sites/default/files/2022-03/Draft%202022%20Gas%20Station%20IWG%20-%20Technical%20Guidance_ADA%20Compliant.pdf. Accessed: October 2025.

[67] Ibid.

[68] BAAQMD. 2023. Bay Area Air Quality Management District California Environmental Quality Act Air Quality Guidelines. Available at: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-e-recommended-methods-for-screening-and-modeling-local-risks-and-hazards_final-pdf.pdf?rev=b8917a27345a4a629fc18fc8650951e4&sc_lang=en. Accessed: October 2025.

year. The operation of the emergency generators was also assumed to occur 24 hours per day, 365 days per year.

5.1.2.4 Land Use

The land uses surrounding the Project alignment are a mix of residential, commercial, and open spaces. AERMOD offers the option of using either rural or urban dispersion characteristics depending on the predominant land use within a three-kilometer radius of the site. According to SMAQMD guidelines [69] if 50% or more of the land within this radius is heavy industrial, light/moderate industrial, or commercial, urban dispersion must be used for Project emissions. Since Ramboll determined that less than 50% of the surrounding land is in these categories, rural dispersion characteristics were used.

Terrain elevations data for all sources and receptors except the operational on-site sources were obtained from United States Geologic Survey's National Elevation Datasets (NEDs).[70] NED 1/3-arc second data used in this analysis. Elevations of on-site sources during Project operation (GDF emission sources, passenger vehicle idling at the GDF, warehouse and tire center delivery truck idling at the warehouse dock, TRU operation at the warehouse dock, emergency generators operation at the warehouse, and on-site delivery truck travel) were based on the proposed Project's finished grade.[71]

Building downwash effects of the proposed warehouse building were included in the modeling due to its proximity to the emergency generator emissions. The building height and base elevation used to represent the warehouse building in the model were obtained from the preliminary architectural drawings and the preliminary grading and drainage plan.

5.1.2.5 Receptors

In order to evaluate health impacts to off-site receptors, nearby sensitive receptor populations were identified. According to EDCAQMD, sensitive receptors include residences, schools, daycares, medical facilities, convalescent centers, and elderly care facilities within quarter mile of the proposed Project site.[72] Therefore, Ramboll included a receptor grid with a 10 meter x 10 meter spacing from the Project boundary to a quarter mile outward. The locations of all modeled receptors are illustrated on **Figure 6**. Receptor heights were assumed to be 1.8 meters based on SMAQMD guidance.[73]

---

[69] SMAQMD. 2013. Modeling of Construction-Generated PM_{10} Emissions. Available at: https://www.airquality.org/LandUseTransportation/Documents/Ch3PMDispersionModelingGuidanceFINAL7-2013.pdf. Accessed: October 2025.

[70] USGS National Elevation Dataset. Available at: https://www.mrlc.gov/tools. Accessed: October 2025.

[71] The finished grade was obtained from the proposed Project's preliminary grading and drainage plan prepared by Kier+Wright.

[72] EDCAQMD. 2002. Guide to Air Quality Assessment. February. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

[73] SMAQMD. 2013. Modeling of Construction-Generated PM_{10} Emissions. Available at: https://www.airquality.org/LandUseTransportation/Documents/Ch3PMDispersionModelingGuidanceFINAL7-2013.pdf. Accessed: October 2025.

5.1.2.6 Meteorology

CARB and SMAQMD provide AERMOD model-ready meteorological data sets for use in air quality and risk impact analyses for projects located within the EDCAQMD jurisdiction. SMAQMD's Sacramento Executive Airport (Station ID 23232) meteorological data set was selected based on its geographic proximity, and similarity in elevation and surrounding terrain to the proposed Project site. The SMAQMD meteorological data set for January 1, 2014 to December 25, 2018 was used for the analysis.[74] The meteorological station location is presented in **Figure 7**.

5.2 Risk Characterization Methods

The HRA was conducted in accordance with the most recent OEHHA Guidance,[75] as recommended by the EDCAQMD CEQA Guide.[76] The 2015 OEHHA Guidelines include various updates that are protective of human health, particularly related to estimating potential risks in infants, children, and other sensitive receptors. Lifetime cancer risk, HIC, and HIA were calculated at each receptor. TAC emissions and air dispersion modeling results were input into the Hot Spots Analysis and Reporting Program (HARP), version 22118, the OEHHA-recommended program for completing an HRA. Details of this methodology are discussed below.

5.2.1 Exposure Assessment

To calculate health impacts for comparison to EDCAQMD thresholds, this report assesses risk to residential, worker, and other sensitive receptors. Residential receptors have the highest exposure rate, as residents are assumed to live in their home for 30 years. For the purposes of this analysis, sensitive receptors (i.e., school child, daycare child, and patients) are conservatively assumed to have the same exposure rates as residents.

Exposure Assumptions: As indicated in **Table 5-2** and **Table 5-3**, the exposure parameters used to estimate the cancer risks for exposed populations were primarily sourced from the 2015 OEHHA Guidelines, as recommended by EDCAQMD CEQA Guide. For site-specific exposure options such as exposure pathways not covered in the 2015 OEHHA guidelines or the EDCAQMD CEQA Guide, Ramboll referred to the SMAQMD HRA Guidance.[77]

Calculation of Intake: The dose estimated for each exposure pathway is a function of the concentration of a chemical and the intake of that chemical. The intake factor for inhalation, IF_{inh}, can be calculated as follows:

[74] SMAQMD. CEQA Guidance & Tools. Available at: https://www.airquality.org/businesses/ceqa-land-use-planning/ceqa-guidance-tools. Accessed: October 2025.

[75] Cal/EPA, OEHHA. 2015. Air Toxics Hot Spots Program Risk Assessment Guidelines. February. Available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf. Accessed: October 2025.

[76] EDCAQMD. 2002. Guide to Air Quality Assessment. February. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

[77] SMAQMD. 2016. Health Risk Assessment Modeling Guidelines. Document provided by SMAQMD staff Venk Reddy, via email dated February 1, 2024.

$$IF_{inh} = \frac{DBR * FAH * EF * ED * CF}{AT}$$

Where:

IF_{inh} = Intake Factor for Inhalation (cubic meters [m^3]/kilograms [kg]-day)

DBR = Daily Breathing Rate (liters [L]/kg-day)

FAH = Frequency of time at Home (unitless)

EF = Exposure Frequency (days/year)

ED = Exposure Duration (years)

CF = Conversion Factor, 0.001 (m^3/L)

AT = Averaging Time (days)

The chemical intake or dose is estimated by multiplying the inhalation intake factor, IF_{inh}, by the chemical concentration in air, C_i. When coupled with the chemical concentration, this calculation is mathematically equivalent to the dose algorithm given in the current OEHHA Hot Spots guidance.[78]

5.2.2 Age Sensitivity Factors

As a conservative and health-protective measure, the estimated excess lifetime cancer risks for a resident will be adjusted using age sensitivity factors (ASFs) that account for an "anticipated special sensitivity to carcinogens" of infants and children as recommended in the OEHHA 2009 Technical Support Document and OEHHA 2015 Air Toxics Hot Spots Program Risk Assessment Guidelines.[79,80] Cancer risk estimates were weighted by a factor of 10 for exposures that occur from the third trimester of pregnancy to two years of age and by a factor of three for exposures that occur from two years through 15 years of age. No weighting factor (i.e., an ASF of one, which is equivalent to no adjustment) is applied to ages 16 and older.

5.2.3 Toxicity Assessment

The toxicity assessment characterizes the relationship between the magnitude of exposure and the nature and magnitude of adverse health effects that may result from such exposure. For purposes of calculating exposure criteria to be used in risk assessments, adverse health effects are classified into two broad categories – cancer and non-cancer endpoints. Toxicity values that are used to estimate the likelihood of adverse effects occurring in humans at different exposure levels are identified as part of the toxicity assessment component of a risk

[78] Cal/EPA, OEHHA. 2015. Air Toxics Hot Spots Program Risk Assessment Guidelines. Appendix D. February. Available at: https://oehha.ca.gov/sites/default/files/media/downloads/crnr/2015gmappendicesaf.pdf. Accessed: October 2025.

[79] Cal/EPA, OEHHA. 2009. Technical Support Document for Cancer Potency Factors: Methodologies for Derivation, Listing of Available Values, and Adjustment to Allow for Early Life Stage Exposures. May. Available online at: https://oehha.ca.gov/air/crnr/technical-support-document-cancer-potency-factors-2009. Accessed: October 2025.

[80] Cal/EPA, OEHHA. 2015. Air Toxics Hot Spots Program Risk Assessment Guidelines. Appendix D: February. Available at: https://oehha.ca.gov/sites/default/files/media/downloads/crnr/2015gmappendicesaf.pdf. Accessed: October 2025.

assessment. Toxicity factors in the latest HARP Health Database,[81] integrated into the HARP program, were used in this HRA. The HARP program contains the most up-to-date listing of available inhalation and oral cancer potency factors (CPFs), chronic inhalation and oral reference exposure levels (RELs), and acute RELs approved by Cal/EPA for use in health risk assessments.

5.3 Risk Characterization

This section describes the methods used to estimate potential adverse effects associated with off-site exposures to chemicals emitted from the Project. The results of the HRA are presented in **Section 5.4**. HARP was used to estimate carcinogenic risks and non-cancer hazard indices (HIs) associated with potential exposures to potential emissions from the Project's construction and operational emissions.

5.3.1 Estimation of Cancer Risks

Excess lifetime cancer risks are estimated as the upper-bound incremental probability that an individual will develop cancer over a lifetime as a direct result of exposure to potential carcinogens. The estimated risk is expressed as a unitless probability. The cancer risk attributed to a chemical is calculated by multiplying the chemical intake or dose at the human exchange boundaries (e.g., lungs) by the chemical-specific CPF. For carcinogenic chemicals, both inhalation and non-inhalation pathways must be considered, using the CPFs in HARP. Total risk is the sum of risks attributable to each chemical considered by each pathway.

The equation used to calculate the potential excess lifetime cancer risk for the inhalation pathway is as follows:

$$Riskinh = Ci\ x\ CF\ x\ IFinh\ x\ CPFi\ x\ ASF$$

Where:

Riskinh	=	Cancer risk; the incremental probability of an individual developing cancer as a result of inhalation exposure to a particular potential carcinogen (unitless)
Ci	=	Annual average air concentration for chemical (µg/m^3)
CF	=	Conversion factor (milligram [mg]/µg)
IFinh	=	Intake factor for inhalation (m^3/kg-day)
CPFi	=	Cancer potency factor for chemical (mg chemical/kg body weight-day)$^{-1}$
ASF	=	Age sensitivity factor (unitless)

[81] The latest HARP Health Database is available from ARB here: https://www.arb.ca.gov/toxics/harp/harp.htm. Accessed: October 2025.

5.3.1.1 Estimation of Chronic Non-Cancer Hazard Indices

The potential for exposure to result in adverse chronic non-cancer effects is evaluated by comparing the estimated annual average air concentration (which is equivalent to the average daily air concentration) to the non-cancer chronic reference exposure level (cREL) for each chemical. When calculated for a single chemical, the comparison yields a ratio termed a hazard quotient (HQ). To evaluate the potential for adverse chronic non-cancer health effects from simultaneous exposure to multiple chemicals, the HQs for all chemicals are summed, yielding a HI:

$$HQi = Ci / cREL$$

$$HI = \sum HQ$$

Where:

HI = Hazard index

HQi = Chronic hazard quotient for chemical i

Ci = Annual average concentration of chemical i (µg/m^3)

cRELi = Chronic non-cancer reference exposure level for chemical i (µg/m^3)

5.3.1.2 Estimation of Acute Non-Cancer Hazard Indices

The potential for exposure to result in adverse acute non-cancer effects is evaluated by comparing the estimated 1-hour maximum air concentration to the non-cancer acute reference exposure level (aREL) for each chemical. When calculated for a single chemical, the comparison yields a ratio termed as acute HQ. To evaluate the potential for adverse acute non-cancer health effects from simultaneous exposure to multiple chemicals, the acute HQs for all chemicals are summed, yielding an acute HI:

$$Acute\ HQi = aCi / aRELi$$

$$Acute\ HI = \sum Acute\ HQi$$

Where:

Acute HI = Acute Hazard index

Acute HQi = Acute hazard quotient for chemical i

aCi = 1-hour maximum concentration of chemical i (µg/m^3)

aRELi = Acute non-cancer reference exposure level for chemical i (µg/m^3)

5.4 Health Risk Results

Using the HRA options for HARP detailed in **Table 5-2** and **Table 5-3** for construction and operation of the proposed Project, respectively, the cancer risk and non-cancer chronic and acute HIs for the maximally impacted residential, worker, and other sensitive receptors were estimated. Results of the HRA for the unmitigated and mitigated project at each modeled receptor are presented in **Table E-1** and **Table E-2** of **Appendix E**, respectively.

Table 5-4 summarizes the cancer risk and non-cancer chronic and acute HIs for the maximally impacted residential, worker, and other sensitive receptors associated with the unmitigated TAC emissions from the proposed Project construction and operation. This table also presents results of the acute HI at the maximally impacted roadway/open space receptors. Overall, we find that the unmitigated cancer risk at the maximally impacted receptor is above the EDCAQMD significance threshold of 10 in a million.[82] Additionally, the unmitigated chronic and acute HIs for the maximally impacted receptor are below the EDCAQMD significance threshold of 1.0.

[82] The EDCAQMD CEQA Guide states that a significance threshold is ten-in-a-million can be used for cancer risk if T-BACT is applied. The Project will apply T-BACT by implementing Evaporative Vapor Recovery (EVR) Phase I and EVR Phase II on GDF sources and complying with the latest CARB certification procedures.

6. MITIGATED RESULTS

6.1 Construction Mitigation Measures

As discussed in **Section 5.4,** the unmitigated cancer risk at the maximally impacted receptor is above the EDCAQMD significance threshold of 10 in a million.[83] To address this significant impact, the following construction mitigation measure was applied to the proposed Project:

- **Mitigation Measure 3.2-4a: Apply Tier 4 Emission Standards to Diesel-Powered Off-Road Equipment**

  Construction equipment greater than 50 hp used at the site shall meet USEPA Tier 4 Final emission standards for particulate matter less than 10 microns in diameter (PM_{10}) and particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), if available. If Tier 4 Final equipment is not available, all construction equipment larger than 50 hp used at the site shall meet USEPA emission standards for Tier 3 engines and include PM emissions control equivalent to CARB Level 3 verifiable diesel emission control devices.

Additionally, the proposed Project would also implement the following mitigation measure during the construction to ensure that any potential NOA that is encountered in the disturbed area is mitigated.

- **Mitigation Measure 3.2-4b: Implement Asbestos Dust Mitigation Consistent with EDCAQMD Rule 223-1**

  An Asbestos Dust Mitigation Plan shall be prepared and submitted to the EDCAQMD and the County for review and approval by EDCAQMD for implementation during construction on the Costco Project, future development of the North Site Remainder Area, and for off-site roadway improvements (if the presence of NOA is confirmed). The Asbestos Dust Mitigation Plan shall comply with the El Dorado County Code Chapter 8.44 (Asbestos and Dust Protection) and EDCAQMD Rule 223-2, which provides performance standards for ensuring that adverse impacts do not result from asbestos dust during construction.

6.2 Emissions Inventory Results with Mitigation

Table 6-1 and **Table 6-2**, present the off-road construction equipment list and specifications for construction of the proposed Project with the implementation of **Mitigation Measure 3.2-4a**. As shown in these tables, this analysis conservatively assumed that Tier 3 engines with PM emissions control equivalent to CARB Level 3 verifiable diesel emission control devices would be used onsite to model the potential mitigated construction emissions if Tier 4 Final equipment is not available.

Maximum daily mitigated construction emissions for each time period with overlapping construction phases for the two Project construction scenarios are estimated by summing up the maximum daily emissions associated with each overlapping construction phase for the proposed Project and the site access and roadway improvements in that scenario, as shown in **Table A-5** and **Table A-6** in **Appendix A**.

[83] The EDCAQMD CEQA Guide states that a significance threshold is ten-in-a-million can be used for cancer risk if T-BACT is applied. The Project will apply T-BACT by implementing EVR Phase I and EVR Phase II on GDF sources and complying with the latest CARB certification procedures.

The average daily mitigated construction emissions for each quarter (3-month period) of construction for Project construction Scenarios 1 and 2 are estimated using the maximum daily construction emissions for each time period with overlapping construction phases within the respective scenarios. These are summarized in **Table 6-3**.

As shown in **Table 6-3**, the average daily mitigated ROG and NO_X emissions associated with the construction of Project under both construction scenarios are below EDCAQMD mass daily significance thresholds for construction. While EDCAQMD has not adopted mass daily numerical thresholds for other CAP emissions from construction, the EDCAQMD CEQA Guide[84] states that if ROG and NO_X exhaust emissions from construction are deemed not significant, then exhaust emissions of CO and PM_{10} may also be deemed not significant. Hence, air quality impacts of all CAPs (ROG, NO_X, CO, and PM_{10}) from the exhaust of construction equipment and on-road vehicles associated with the construction of the proposed Project are less than significant.

The EDCAQMD CEQA Guide[85] states that fugitive dust PM_{10} emissions may be assumed to be not significant if the project complies with EDCAQMD Rule 223 and Rule 223-1 for fugitive dust control by implementing control measures that will prevent visible dust beyond the project property lines. The proposed Project will comply with these fugitive dust control rules. Hence, the air quality impacts of fugitive dust emissions from the construction proposed Project are less than significant.

Construction activities are expected to generate negligible emissions of SO_2, sulfates, lead, and H_2S. Therefore, the air quality impacts of these emissions from the construction of the proposed Project are also less than significant.

6.3 Health Risk Assessment Results with Mitigation

Table C-16 in **Appendix C**, presents the DPM emissions from the proposed Project construction with the implementation of **Mitigation Measure 3.2-4a**. As noted previously, this analysis conservatively assumed that Tier 3 engines with PM emissions control equivalent to CARB Level 3 verifiable diesel emission control devices would be used onsite to model the potential mitigated construction emissions if Tier 4 Final equipment is not available.

Table 6-4 summarizes the cancer risk and non-cancer chronic and acute HIs for the maximally impacted residential, worker, and other sensitive receptors associated with the mitigated TAC emissions from the proposed Project construction and operation. As shown in **Table 6-4**, with the implementation of **Mitigation Measure 3.2-4a**, the cancer risk at the maximally impacted receptor reduces to a value below the EDCAQMD significance threshold of 10 in a million. The maximum chronic and acute HIs for the mitigated TAC emissions associated with the construction and operation of the proposed Project continue to be below the EDCAQMD significance threshold of 1.0.

[84] EDCAQMD. 2002. Guide to Air Quality Assessment. February. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

[85] Ibid.

7. CO HOTSPOTS

Mobile source impacts occur on two basic scales of motion. Regionally, Project-related travel will add to regional trip generation and increase the VMT within an air basin. Locally, Project traffic will be added to the County's roadway system. There is a potential for the formation of microscale CO "hotspots" in the area immediately around points of congested traffic. Because of continued improvement in mobile emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the Mountain Counties Air Basin (MCAB) has steadily decreased over the last two decades. MCAB has been in attainment of the 1-hour and 8-hour NAAQS and CAAQS for CO for several years and the likelihood that any single project would create a CO hotspot is minimal.

However, to verify that the proposed Project would not cause or contribute to a violation of the CO standard, a screening evaluation of the potential for CO hotspots was conducted based on the results of the proposed Project's Traffic Impact Analysis.[86]

7.1 Regulatory Background

The EDCAQMD CEQA Guide[87] provides guidance on the evaluation of CO impacts from Project-related peak period traffic levels using background CO concentrations and analysis-year factors for calendar years 2000 to 2010. As noted previously, vehicle technology has improved substantially over the last decade and the use of these outdated analysis-year factors for the CO hotspot analysis would not be appropriate.

The Placer County Air Pollution Control District (PCAPCD) 2017 CEQA Handbook[88] offers more recent guidance on evaluating CO impacts from new development projects. Ramboll used the preliminary screening methodology in the PCAPCD CEQA Handbook to evaluate the traffic related CO impacts from the proposed Project. According to these guidelines, the proposed Project would result in a less-than-significant impact to localized CO concentrations if the Project's CO emissions from vehicle operation are more than 550 pounds (lbs)/day and if either of the following scenarios is true:

- A traffic study for the Project indicates that the peak-hour level of service (LOS) on one or more streets or at one or more intersections (both signalized and non-signalized) in the Project vicinity will be degraded from an acceptable LOS (e.g., A, B, C, or D) to an unacceptable LOS (e.g., E or F); or
- A traffic study indicates that the Project will substantially worsen an already existing unacceptable peak-hour LOS on one or more streets or at one or more intersections in the Project vicinity. "Substantially worsen" includes situations where a delay would increase by 10 seconds or more when project-generated traffic is included.

[86] Kittelson & Associates. 2025. El Dorado Costco CEQA Analysis. July 23.

[87] EDCAQMD. 2002. Guide to Air Quality Assessment. February. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

[88] PCAPCD. 2017. 2017 CEQA Handbook. Available at: https://www.placerair.org/DocumentCenter/View/2049/Chapter-4-Analyzing-Operational-Criteria-Pollutant-Emissions-PDF. Accessed: October 2025.

7.2 Project Evaluation

According to the PCAPCD guidance, the CO emissions from the proposed Project operation would be less than significant if Project's CO emissions from vehicle operation are less than 550 lbs/day. As shown in **Table 4-16**, the CO emissions from mobile sources associated with the proposed Project operation are less than 550 lbs/day. Thus, the increase in CO emissions from Project-related increased traffic volumes at affected intersections and the on-site gasoline fueling facility are less than significant and the proposed Project would not expose sensitive receptors to substantial concentrations of localized CO.

8. PROJECT INVENTORY IN CONTEXT

This section assesses the significance of the proposed Project's emissions for purposes of CEQA.

8.1 Threshold 1: Would the Project conflict with or obstruct implementation of the applicable air quality plan?

According to the EDCAQMD CEQA Guide,[89] development projects in the MCAB portion of the County are considered consistent with the applicable air quality plan if:

1. The Project does not require a change in the existing land use designation (e.g., a general plan amendment or rezone), and projected emissions of ROG and NO_X from the Project are equal to or less than the emissions anticipated for the site if developed under the existing land use designation;
2. The Project does not exceed the "project alone" significance criteria;
3. The lead agency for the Project requires the Project to implement any applicable emission reduction measures contained in and/or derived from the air quality attainment plan; and
4. The Project complies with all applicable district rules and regulations.

El Dorado County's General Plan designates the Project site as Commercial (C). Zoning includes Commercial Regional–Planned Development (CR-PD), with smaller areas of Commercial Limited and Transportation Corridor. Once operational, the proposed Project would be a regional commercial center, which is consistent with the existing designation of the County's General Plan and zoning. Hence, the anticipated growth associated with the Project is generally accounted for in the 2023 Ozone Plan[90] and would be accounted for in forthcoming attainment plans.

As described in **Section 4.2.6** and **Section 4.3.6**, the air quality impacts of CAPs associated with the Project construction and operation are less than significant. Therefore, the Project does not exceed the "project alone" significance criteria.

Additionally, the proposed Project includes design features and mitigation measures that are not quantified in this analysis. Firstly, the Project would include ten direct current (DC) fast chargers which would reduce the operational ROG and NO_X emissions beyond the levels modeled in this analysis (**Section 4.3.6**), by replacing conventionally fueled VMT with EV miles traveled. Secondly, the Project will implement **Mitigation Measure 3.14-2a** and **Mitigation Measure 3.14-2b** described below, which would further reduce the operational ROG and NO_X emissions beyond levels modeled in this analysis (**Section 4.3.6**) by decreasing the vehicle miles traveled by employees.

[89] EDCAQMD. 2002. Guide to Air Quality Assessment. February. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

[90] Sacramento Region Air Quality Plans. Available at: https://ww2.arb.ca.gov/our-work/programs/california-state-implementation-plans/nonattainment-area-plans/sacramento-region. Accessed: October 2025.

- **Mitigation Measure 3.14-2a: Provide a Mandatory Commute Reduction Program for Costco Employees**

  Costco shall provide a Mandatory Commute Reduction Program for employees and must include all of the following measures as described in the CAPCOA Handbook for Analyzing GHG Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity:

  - **Commute Trip Reduction Marketing**: Costco shall develop and implement a marketing strategy to promote a commute reduction program. The following features (or similar alternatives) shall be provided:
    - On-site or online commuter information services;
    - Employee transportation coordinators; and
    - Guaranteed ride home service.
  - **Provide Ridesharing Program**: Costco shall develop and implement a ridesharing program. The following strategies provide examples of a multifaceted approach for promoting a rideshare program:
    - Designating a certain percentage of desirable parking spaces for ridesharing vehicles;
    - Designating adequate passenger loading and unloading and waiting areas for ridesharing vehicles; and
    - Providing an app or website for coordinating rides.
  - **Provide End-of-Trip Bicycle Facilities**: Costco shall install and maintain end-of-trip bicycle facilities for employee use. End-of-trip facilities include bike parking, bike lockers, showers, and personal lockers.

- **Mitigation Measure 3.14-2b: Implement Pedestrian Network Improvements**

  Costco shall provide pedestrian network improvements near the site, constructing sidewalks along the project frontage on Clarksville Crossing and Silva Valley Parkway. In addition, Costco shall construct sidewalks north of the project frontage on the east side of Silva Valley Parkway to connect to existing sidewalk near Oak Meadow Elementary School, thereby providing connectivity with the surrounding neighborhood.

The applicable air quality attainment plans for the Project area are the Sacramento Regional 8-hour Ozone Attainment and Reasonable Further Progress Plan[91] and $PM_{2.5}$ Maintenance Plan and Redesignation Request.[92] As such the proposed Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under these plans (see **Section 7.2** below for further details). Hence, the

[91] Ibid.

[92] EDCAQMD, Placer County Air Pollution Control District, SMAQMD, and Yolo-Solano Air Quality Management District. 2013. $PM_{2.5}$ Implementation/Maintenance Plan and Redesignation Request for Sacramento $PM_{2.5}$ Nonattainment Area. October 24. Available at: http://www.airquality.org/ProgramCoordination/Documents/PM2.5%20Imp%20and%20Redesignation%202013.pdf. Accessed: October 2025.

proposed Project is not required to implement any additional mitigation measures contained in these plans.

As described in **Section 4.2.3** and **Section 5.1.1**, the proposed Project would comply with EDCAQMD Rules 223-1 and 223-2 for fugitive dust control[93] and asbestos hazard mitigation[94] during construction. The proposed Project is located in an area where NOA could be present.[95] Although the proposed Project's Geotechnical Study[96] concluded that the potential for NOA to be encountered at levels at or exceeding regulatory threshold level is considered low, the proposed Project would implement asbestos dust mitigation measures consistent with EDCAQMD Rule 223-1 through the implementation of **Mitigation Measure 3.2-4b**. The proposed Project would also comply with all other applicable EDCAQMD rules.

Therefore, the proposed Project would not conflict with or obstruct implementation of the applicable air quality plans for the Project region.

8.2 Threshold 2: Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?

As shown in **Table 2-2**, the Project region is currently designated as non-attainment for the State 1-hour O_3 standard, the federal and State 8-hour O_3 standards, the State PM_{10} standards, and the federal 24-hour $PM_{2.5}$ standard.

The two primary precursors for O_3 formation are ROG and NO_X. **Table 4-12** and **Table 4-15** present the average and maximum daily ROG and NO_X emissions associated with the proposed Project construction and operation, respectively. Emissions of these O_3 precursors (ROG and NO_X) are below EDCAQMD mass daily significance thresholds for Project construction and operation. Additionally, as described in **Section 4.2.6** and **Section 4.3.6**, impacts of PM emissions from the proposed Project construction and operation are less than significant. Hence, the proposed Project would not result in a cumulatively considerable net increase in any criteria pollutant for which the Project region is non-attainment under an applicable federal or State ambient air quality standard.

[93] EDCAQMD. 2005. Rule 223-1 Fugitive Dust – Construction, Bulk Material Handling, Blasting, Other Earthmoving Activities and Carryout and Trackout Prevention. Available at: https://ww2.arb.ca.gov/sites/default/files/classic/technology-clearinghouse/rules/RuleID809.pdf. Accessed: October 2025.

[94] EDCAQMD. 2005. Rule 223-2 Fugitive Dust – Asbestos Hazard Mitigation. Available at: https://ww2.arb.ca.gov/sites/default/files/classic/technology-clearinghouse/rules/RuleID810.pdf. Accessed: October 2025.

[95] El Dorado County. Asbestos Review Areas, Western Slope, County of El Dorado, State of California. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/construction-dust-rules/asbestos-review-map-8-22-18.pdf. Accessed: October 2025.

[96] Kleinfelder, 2024. Geotechnical Study, Proposed Costco Fuel Facility, Silva Valley Parkway, El Dorado Hills, California, CW# 18-0487. December 2024.

8.3 Threshold 3: Would the Project expose sensitive receptors to substantial pollutant concentrations?

8.3.1 Health Risk Thresholds

The construction-related and operational HRA results were used to assess if the Project would expose off-site receptors to substantial pollutant concentrations. As discussed in **Section 5**, the construction analysis evaluates the health risk resulting from off-road equipment DPM emissions during construction of the Project, as well as the DPM emissions from hauling, vendor, and concrete trucks. The operational analysis evaluates the health risk resulting from DPM emissions from travel and idling for fuel delivery trucks, travel and idling of warehouse and tire center delivery trucks, operation of TRUs, emergency generator operations, as well as TAC emissions from passenger vehicle idling at GDF, gasoline transfer and dispensing activities at the GDF.

As shown in **Table 5-4**, the cancer risk at the maximally impacted residential receptor associated with the unmitigated TAC emissions from the proposed Project construction and operation would exceed EDCAQMD significance threshold of 10 in a million. Therefore, the Project is expected to expose sensitive receptors to substantial TAC concentrations without mitigation.

However, with the implementation of **Mitigation Measure 3.2-4a** the cancer risk, non-cancer chronic and acute HIs at the maximally impacted residential and other sensitive receptors associated with the mitigated TAC emissions from the proposed Project construction and operation are below EDCAQMD significance thresholds (**Table 6-4**). Therefore, the mitigated Project is not expected to expose sensitive receptors to substantial TAC concentrations.

8.3.2 CO Hotspots

As described in **Section 6**, the Project would not result in a localized CO "hot spot" and is therefore not expected to have the potential to result in exceedances of the CO CAAQS/NAAQS or expose sensitive receptors to substantial pollutant concentrations.

8.4 Threshold 4: Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

According to the EDCAQMD CEQA Guide,[97] common types of facilities known to produce odors include wastewater treatment plants, landfills and composting facilities, petroleum refineries, manufacturing plants such as asphalt batch plants and chemical/fiberglass manufacturing, painting and coating operations, food processing plants, rendering plants, and coffee roasters. The proposed Project would not include any of these land uses that have been identified by the EDCAQMD as being associated with odor generation, and thus would not result in odors adversely affecting a substantial number of people. In addition, the Project does not propose to locate any sensitive receptors near an existing source of objectional odors.

[97] EDCAQMD. 2002. Guide to Air Quality Assessment. February. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

8.4.1 Construction Odors

Construction activities associated with potential odor include equipment exhaust (i.e., from off-road construction equipment), paving, and architectural coating. There are no unusual Project characteristics or construction processes that would require the use of equipment that would be more fuel intensive than is used for comparable construction activities, nor equipment that would not conform to current emission standards. It is expected that these impacts would be short-term in duration and typical of comparable activities, therefore the impacts would not adversely affect a substantial number of people and would be less than significant.

8.4.2 Operational Odors

As discussed above, the proposed Project is a commercial and retail development and does not propose any odor-generating facilities identified by the EDCAQMD. However, the proposed Project does include a gasoline fueling facility. During the operation of the Project, VOCs released at the gasoline fueling facility due to refueling, spillage, and hose permeation would be controlled to minimize odors (i.e., nozzles equipped with Phase II Enhanced Vapor Recovery systems). Therefore, odor impact from the gasoline fueling facility would not affect a substantial number of people and would be less than significant.

There may be some potential for other small-scale, localized odor issues to emerge around some of the proposed Project sources, such as solid waste collection, wastewater or stormwater collection/conveyance, or food preparation. However, these localized short-term odors would not affect a substantial number of people. Therefore, the proposed Project's operational odor impact is considered less than significant.

TABLES

Table 2-1. Summary of NAAQS and CAAQS
El Dorado Hills Costco Project
El Dorado Hills, California

Pollutant	Averaging Time	CAAQS [1,2]	CAAQS Sampling Method [1,3]	Primary NAAQS [2,4,5]	Secondary NAAQS [2,4,6]	NAAQS Sampling Method [4,7]
Ozone (O_3) [8]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	-	Same as Primary Standard	Ultraviolet Photometry
Ozone (O_3) [8]	8 Hour	0.070 ppm (137 µg/m^3)	Ultraviolet Photometry	0.070 ppm (137 µg/m^3)	Same as Primary Standard	Ultraviolet Photometry
Respirable Particulate Matter (PM_{10}) [9]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
Respirable Particulate Matter (PM_{10}) [9]	Annual Arithmetic Mean	20 µg/m^3	Gravimetric or Beta Attenuation	-	-	-
Fine Particulate Matter ($PM_{2.5}$) [9]	24 Hour	-	-	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
Fine Particulate Matter ($PM_{2.5}$) [9]	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	9.0 µg/m^3	15.0 µg/m^3	Inertial Separation and Gravimetric Analysis
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	-	Non-Dispersive Infrared Photometry (NDIR)
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	-	Non-Dispersive Infrared Photometry (NDIR)
Carbon Monoxide (CO)	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	-	-	-
Nitrogen Dioxide (NO_2) [10]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	-	Gas Phase Chemiluminescence
Nitrogen Dioxide (NO_2) [10]	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	Gas Phase Chemiluminescence	53 ppb (100 µg/m^3)	Same as Primary Standard	Gas Phase Chemiluminescence
Sulfur Dioxide (SO_2) [11]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	-	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
Sulfur Dioxide (SO_2) [11]	3 Hour	-	-	-	0.5 ppm (1300 µg/m^3)	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
Sulfur Dioxide (SO_2) [11]	24 Hour	0.04 ppm (105 µg/m^3)	Ultraviolet Fluorescence	0.14 ppm (for certain areas) [11]	-	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
Sulfur Dioxide (SO_2) [11]	Annual Arithmetic Mean	-	-	0.030 ppm (for certain areas) [11]	-	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
Lead (Pb) [12,13]	30 Day Average	1.5 µg/m^3	Atomic Absorption	-	-	-
Lead (Pb) [12,13]	Calendar Quarter	-	-	1.5 µg/m^3 (for certain areas) [12]	Same as Primary Standard	High Volume Sampler and Atomic Absorption
Lead (Pb) [12,13]	Rolling 3-Month Average	-	-	0.15 µg/m^3	Same as Primary Standard	High Volume Sampler and Atomic Absorption
Visibility Reducing Particles [14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	-	-	-
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography	-	-	-
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence	-	-	-
Vinyl Chloride [12]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography	-	-	-

Notes:

[1] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[2] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[3] Methods specified by the CARB or any equivalent measurement method which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.

[4] National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the USEPA for further clarification and current national policies.

[5] Primary NAAQS: The levels of air quality necessary, with an adequate margin of safety to protect public health.

[6] Secondary NAAQS: The levels of air quality necessary to protect public welfare from any known or anticipated adverse effects of a pollutant.

[7] Reference method as described by the USEPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the USEPA.

[8] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

Table 2-1. Summary of NAAQS and CAAQS
El Dorado Hills Costco Project
El Dorado Hills, California

Notes (C*ontinued*):

[9] On February 7, 2024, the national annual $PM_{2.5}$ primary standard was lowered from 12.0 µg/m^3 to 9.0 µg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m^3 , as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[10] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[11] On June 2, 2010, a new 1-hour national SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-our national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (0.14 ppm 24-hour standard and 0.030 ppm annual standard) remain in effect until one year after an area is designated for the 2010 standard, except in areas designated nonattainment for the 1971 standards, where the 1971 standards remains in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of ppb. California standards are in units of ppm. To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

[12] CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[13] The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except in areas designated nonattainment for the 1978 standard, where the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

[14] In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Abbreviations:
µg/m^3 - micrograms per cubic meter
CAAQS - California Ambient Air Quality Standards
CARB - California Air Resources Board
°C - degrees Celsius
mg/m^3 - milligrams per cubic meter
NAAQS - National Ambient Air Quality Standards
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ppm - parts per million
USEPA - United States Environmental Protection Agency

Table 2-2. El Dorado County NAAQS and CAAQS Attainment Status
El Dorado Hills Costco Project
El Dorado Hills, California

Pollutant	Averaging Period	El Dorado County Attainment Status for CAAQS [1,2]	El Dorado County Attainment Status for Primary NAAQS [1,3,4]
Ozone (O_3)	1 hour	Nonattainment	-
Ozone (O_3)	8 hour	Nonattainment	Nonattainment (Serious)
Respirable Particulate Matter (PM_{10})	24 hour	Nonattainment	Unclassified/Attainment
Respirable Particulate Matter (PM_{10})	Annual Arithmetic Mean	Nonattainment	-
Fine Particulate Matter ($PM_{2.5}$)	24 hour	-	Nonattainment
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean [2]	Unclassified	Unclassified/Attainment
Carbon Monoxide (CO)	1 hour	Unclassified	Unclassified/Attainment
Carbon Monoxide (CO)	8 hour	Unclassified	Unclassified/Attainment
Nitrogen Dioxide (NO_2)	1 hour	Attainment	Unclassified/Attainment
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	Attainment	Unclassified/Attainment
Sulfur Dioxide (SO_2)	1 hour	Attainment	Unclassified/Attainment
Sulfur Dioxide (SO_2)	24 hour	Attainment	Unclassified/Attainment
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	-	Unclassified/Attainment
Lead (Pb)	30 day average	Attainment	-
Lead (Pb)	Calendar Quarter	-	Unclassified/Attainment
Lead (Pb)	Rolling 3-Month Average	-	Unclassified/Attainment
Visibility Reducing Particles	8 hour (10:00 to 18:00 PST)	Unclassified	-
Sulfates	24 hour	Attainment	-
Hydrogen Sulfide (H_2S)	1 hour	Unclassified	-
Vinyl Chloride	24 hour	Unclassified	-

Notes:
[1] Attainment status for El Dorado County for the California Standard obtained from the CARB website and U.S. EPA Greenbook.
[2] See California Code of Regulations Title 17 Sections 60200-60210.
[3] See 40 Code of Federal Regulations Part 81.
[4] The area is unclassified/in attainment of the 12 $\mu g/m^3$ standard that was in effect prior to the more stringent 9 $\mu g/m^3$ standard. The California Air Resources Board (CARB) submitted initial recommendations for area designations in February 2025, with final area designations expected to be issued by the U.S. EPA in February 2026.

Abbreviations:
$\mu g/m^3$ - micrograms per cubic meter
CAAQS - California Ambient Air Quality Standards
CARB - California Air Resources Board
NAAQS - National Ambient Air Quality Standards
PST - Pacific Standard Time
U.S. EPA - United States Environmental Protection Agency

References:
CARB. Maps of State and Federal Area Designations. Available at: https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations. Accessed: October 2025.
U.S. EPA. Green Book. Available at: https://www.epa.gov/green-book. Accessed: October 2025.

Table 2-3. Local Ambient Air Quality Data for El Dorado County
El Dorado Hills Costco Project
El Dorado Hills, California

Pollutant [1,2]	Averaging Time	Monitoring Station [3]	2021	2022	2023	Most Stringent Ambient Air Quality Standard [4]
Ozone	1 hour	Folsom-Natoma Street	0.108 ppm	0.085 ppm	0.088 ppm	0.09 ppm (CAAQS)
Ozone	8 hours	Folsom-Natoma Street	0.096 ppm	0.074 ppm	0.073 ppm	0.070 ppm (CAAQS/NAAQS)
PM_{10}	24 hours	Roseville-N Sunrise Ave	150.7 µg/m^3	78.0 µg/m^3	47.9 µg/m^3	50 µg/m^3 (CAAQS)
PM_{10}	Annual	Roseville-N Sunrise Ave	21.1 µg/m^3	17.8 µg/m^3	16.0 µg/m^3	20 µg/m^3 (CAAQS)
$PM_{2.5}$	24 hours	Folsom-Natoma Street	265.7 µg/m^3	73.0 µg/m^3	32.5 µg/m^3	35 µg/m^3 (NAAQS)
$PM_{2.5}$	Annual	Folsom-Natoma Street	10.3 µg/m^3	6.3 µg/m^3	6.6 µg/m^3	9 µg/m^3 (NAAQS)
SO_2	1 hour	Sacramento-Del Paso Manor	2.2 ppb	2.8 ppb	2.3 ppb	75 ppb (NAAQS)
SO_2	24 hours	Sacramento-Del Paso Manor	1 ppb	0.6 ppb	1.1 ppb	40 ppb (CAAQS)
NO_2	1 hour	Folsom-Natoma Street	14 ppb	23 ppb	21 ppb	100 ppb (NAAQS)
NO_2	Annual	Folsom-Natoma Street	1.29 * ppb	2.64 * ppb	2.34 * ppb	30 ppb (CAAQS)
CO	1 hour	Sacramento-Bercut Drive	2.2 ppm	2 ppm	1.9 ppm	20 ppm (CAAQS)
CO	8 hours	Sacramento-Bercut Drive	1.3 ppm	1.6 ppm	1.3 ppm	9 ppm (CAAQS/NAAQS)

Notes:

[1] Ozone and PM_{10} data and Most Stringent Ambient Air Quality Standards obtained from CARB iADAM: Air Quality Data Statistics. Available at: https://www.arb.ca.gov/adam/select8/sc8start.php. Accessed: October 2025.

[2] SO_2, NO_2, and CO data and Most Stringent Ambient Air Quality Standards obtained from EPA AirData. Exceptional events data is excluded. Available at: https://www.epa.gov/outdoor-air-quality-data/monitor-values-report. Accessed: October 2025.

[3] Location of monitoring stations available on the CARB air monitoring webpage map of air monitoring sites in operation. Available at: https://ww2.arb.ca.gov/applications/air-monitoring-sites-interactive-map. Accessed: October 2025.

[4] Most Stringent Ambient Air Quality Standard obtained from Table 2-1.

* indicates the mean does not satisfy minimum data completeness criteria.

Abbreviations:

µg/m^3 - micrograms per cubic meter
CAAQS - California Ambient Air Quality Standards
CARB - California Air Resources Board
CO - carbon monoxide
EPA - Environmental Protection Agency
NAAQS - National Ambient Air Quality Standards
NO_2 - nitrogen dioxide
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ppb - parts per billion
ppm - parts per million
SO_2 - sulfur dioxide

Table 2-4. Frequency of Air Quality Standard Violations
El Dorado Hills Costco Project
El Dorado Hills, California

Year	Number of Days Exceeding National 24-Hour PM_{10} Standard [1,2]	Number of Days Exceeding State 24-Hour PM_{10} Standard [1,2]	Number of Days Exceeding National 24-Hour $PM_{2.5}$ Standard [1,2]	Number of Days Exceeding State 1-Hour O_3 Standard [1,2]	Number of Days Exceeding State 8-Hour O_3 Standard [1,2]	Number of Days Exceeding National 8-Hour O_3 Standard [1,2]
2021	1.1	11	10	5	30	29
2022	0	4	2	0	4	3
2023	0	0	0	0	6	5

Notes:

[1] PM_{10} exceedances were referenced for the Roseville-N Sunrise Blvd monitoring station. $PM_{2.5}$ and O_3 exceedances were referenced for the Folsom-Natoma Street monitoring station.

[2] Ozone and PM_{10} data obtained from CARB iADAM: Air Quality Data Statistics. Daily exceedances for particulate matter are estimated days because PM_{10} and $PM_{2.5}$ are not monitored daily. Available at: https://arb.ca.gov/adam/select8/sc8start.php. Accessed: October 2025.

Abbreviations:

CARB - California Air Resources Board

O_3 - ozone

PM_{10} - particulate matter less than 10 microns in diameter

$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter

Table 3-1. EDCAQMD Air Quality Significance Thresholds
El Dorado Hills Costco Project
El Dorado Hills, California

Pollutant	Daily Emission Thresholds [1] (lb/day)
ROG	82
NOx	82
Category	**Significance Criteria [1]**
CO	Will cause or contribute to a violation of an applicable AAQS
PM_{10}	Will cause or contribute to a violation of an applicable AAQS
SO_2	Will cause or contribute to a violation of an applicable AAQS
NO_2	Will cause or contribute to a violation of an applicable AAQS
Sulfates	Will cause or contribute to a violation of an applicable AAQS
Lead	Will cause or contribute to a violation of an applicable AAQS
H_2S	Will cause or contribute to a violation of an applicable AAQS
Visibility Reducing Particles	Will cause or contribute significantly to a violation of the state visibility standard, which is 10 miles
Toxic Air Contaminants	Lifetime probability of contracting cancer is greater than one in one million (ten in one million if T-BACT is applied); or Ground-level concentration of non-carcinogenic toxic air contaminants would result in a Hazard Index of greater than 1
Odor	Will not cause detriment, nuisance, or annoyance to any considerable number of persons or to the public

Notes:

[1] El Dorado County APCD. 2002. Guide to Air Quality Assessment. February. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

Abbreviations:

AAQS - ambient air quality standard
APCD - Air Pollution Control District
CO - carbon monoxide
EDCAQMD - El Dorado County Air Quality Management District
H_2S - hydrogen sulfide
lb - pound
NO_2 - nitrogen dioxide
NOx - nitrogen oxides
PM_{10} - particulate matter less than 10 microns in diameter
ROG - reactive organic gas
SO_2 - sulfur dioxide
T-BACT - Best Available Control Technology for Toxics

Table 4-1. Construction Schedule - Proposed Project
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name [1]	CalEEMod Phase Type [1]	Start Date [1]	End Date [1]	Phase Duration [2] (days)
Site Preparation	Site Preparation	7/1/2026	8/6/2026	37
Grading	Grading	8/7/2026	1/27/2027	174
Building Construction	Building Construction	8/7/2026	5/17/2027	284
Paving	Paving	1/28/2027	4/16/2027	79
Architectural Coating	Architectural Coating	3/17/2027	5/17/2027	62

Notes:

[1] Construction phases and duration are based on Project-specific information. Note, there are two scenarios for project construction which differ in the material movement amounts in the grading phase. However, the construction schedule for both scenarios is expected to be the same.

[2] The construction work week was assumed to be 7 days per week.

Abbreviations:

CalEEMod - California Emissions Estimator Model

Table 4-2. Construction Schedule - Site Access and Roadway Improvements
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name [1]	CalEEMod Phase Type [1]	Start Date [1]	End Date [1]	Phase Duration [2] (days)
Linear, Grubbing & Land Clearing	Linear, Grubbing & Land Clearing	7/1/2026	7/26/2026	26
Linear, Grading & Excavation	Linear, Grading & Excavation	7/27/2026	11/8/2026	105
Linear, Drainage, Utilities, & Sub-Grade	Linear, Drainage, Utilities, & Sub-Grade	11/9/2026	2/8/2027	92
Linear, Paving	Linear, Paving	2/9/2027	3/19/2027	39

Notes:

[1] Construction phases and duration are based on Project-specific information.

[2] The construction work week was assumed to be 7 days per week.

Abbreviations:

CalEEMod - California Emissions Estimator Model

Table 4-3. Construction Equipment Assumptions - Project
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name	Offroad Equipment Type [1]	Number of Equipment [1]	Usage Hours [1] (hours/day)	Equipment Horsepower [1] (hp)	Equipment Load Factor [1]	Fuel Type [1]	Engine Tier [1]
Site Preparation	Rubber Tired Dozers	3	8	367	0.40	Diesel	Average
Site Preparation	Tractors/Loaders/Backhoes	4	8	84	0.37	Diesel	Average
Grading	Excavators	2	8	36	0.38	Diesel	Average
Grading	Graders	1	8	148	0.41	Diesel	Average
Grading	Rubber Tired Dozers	1	8	367	0.40	Diesel	Average
Grading	Scrapers	2	8	423	0.48	Diesel	Average
Grading	Tractors/Loaders/Backhoes	2	8	84	0.37	Diesel	Average
Building Construction	Cranes	1	7	367	0.29	Diesel	Average
Building Construction	Forklifts	3	8	82	0.20	Diesel	Average
Building Construction	Generator Sets	1	8	14	0.74	Diesel	Average
Building Construction	Tractors/Loaders/Backhoes	3	7	84	0.37	Diesel	Average
Building Construction	Welders	1	8	46	0.45	Diesel	Average
Paving	Pavers	2	8	81	0.42	Diesel	Average
Paving	Paving Equipment	2	8	89	0.36	Diesel	Average
Paving	Rollers	2	8	36	0.38	Diesel	Average
Architectural Coating	Air Compressors	1	6	37	0.48	Diesel	Average

Notes:

[1] Based on CalEEMod default values. Note, there are two scenarios for project construction which differ in the material movement amounts in the grading phase. However, the construction equipment activity for both scenarios is expected to be the same.

Abbreviations:

CalEEMod - California Emissions Estimator Model

hp - horsepower

Table 4-4. Construction Equipment Assumptions - Site Access and Roadway Improvements
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name	Offroad Equipment Type [1]	Number of Equipment [1]	Usage Hours [2] (hours/day)	Equipment Horsepower [2] (hp)	Equipment Load Factor [2]	Fuel Type [2]	Engine Tier [2]
Linear, Grubbing & Land Clearing	Crawler Tractors	1	8	87	0.43	Diesel	Average
Linear, Grubbing & Land Clearing	Excavators	2	8	36	0.38	Diesel	Average
Linear, Grubbing & Land Clearing	Signal Boards	1	8	6	0.82	Electric	Average
Linear, Grading & Excavation	Crawler Tractors	1	8	87	0.43	Diesel	Average
Linear, Grading & Excavation	Rollers	2	8	36	0.38	Diesel	Average
Linear, Grading & Excavation	Signal Boards	1	8	6	0.82	Electric	Average
Linear, Drainage, Utilities, & Sub-Grade	Air Compressors	1	8	37	0.48	Diesel	Average
Linear, Drainage, Utilities, & Sub-Grade	Plate Compactors	1	8	8	0.43	Diesel	Average
Linear, Drainage, Utilities, & Sub-Grade	Pumps	1	8	11	0.74	Diesel	Average
Linear, Drainage, Utilities, & Sub-Grade	Rough Terrain Forklifts	1	8	96	0.40	Diesel	Average
Linear, Drainage, Utilities, & Sub-Grade	Scrapers	1	8	423	0.48	Diesel	Average
Linear, Drainage, Utilities, & Sub-Grade	Signal Boards	1	8	6	0.82	Electric	Average
Linear, Paving	Pavers	1	8	81	0.42	Diesel	Average
Linear, Paving	Paving Equipment	1	8	89	0.36	Diesel	Average
Linear, Paving	Signal Boards	1	8	6	0.82	Electric	Average

Notes:

[1] Construction of Site Access and Roadway Improvements is expected to occur at the same time as the Project construction. Additional equipment needed in each subphase that are not already included in the Project construction are presented in this table.

[2] Based on CalEEMod default values.

Abbreviations:

CalEEMod - California Emissions Estimator Model

hp - horsepower

Table 4-5. Construction Trip Assumptions - Project Construction Scenario 1
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name	Worker Trips per Day [1,2]	Vendor Trips per Day [1,2]	Hauling Trips per Day [1,3]	Concrete Truck Trips per Day [1,4]
Site Preparation	18	0	0	0
Grading	20	0	39	0
Building Construction	96	44	0	104
Paving	15	0	0	0
Architectural Coating	19	0	0	0

Notes:

[1] Trips are presented as one-way trips per day.

[2] Worker and vendor trips are based on CalEEMod defaults. The one-way trip lengths for worker and vendor trips is assumed the CalEEMod default values of 14.3 and 8.8 miles, respectively.

[3] Hauling trips reflect CalEEMod defaults based on Project-specific estimates of material movement shown in Table 4-8. The one-way trip length for hauling trips is assumed to be the CalEEMod default value of 20 miles.

[4] Project construction includes nighttime concrete pours on eight days during the building construction phase where 52 concrete trucks would visit the site per day (104 one-way trips per day). This 8 day activity is expected to occur in December 2026. For purposes of this analysis, these concrete trucks are modeled as heavy-heavy duty vendor truck trips in CalEEMod with a CalEEMod default one-way trip length of 8.8 miles.

Abbreviations:

CalEEMod - California Emissions Estimator Model

Table 4-6. Construction Trip Assumptions - Project Construction Scenario 2
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name	Worker Trips per Day [1,2]	Vendor Trips per Day [1,2]	Hauling Trips per Day [1,3]	Concrete Truck Trips per Day [1,4]
Site Preparation	18	0	0	0
Grading	20	0	115	0
Building Construction	96	44	0	104
Paving	15	0	0	0
Architectural Coating	19	0	0	0

Notes:

[1] Trips are presented as one-way trips per day.

[2] Worker and vendor trips are based on CalEEMod defaults. The one-way trip lengths for worker and vendor trips is assumed the CalEEMod default values of 14.3 and 8.8 miles, respectively.

[3] Hauling trips reflect CalEEMod defaults based on Project-specific estimates of material movement shown in Table 4-9. The one-way trip length for hauling trips is assumed to be the CalEEMod default value of 20 miles.

[4] Project construction includes nighttime concrete pours on eight days during the building construction phase where 52 concrete trucks would visit the site per day (104 one-way trips per day). This 8 day activity is expected to occur in December 2026. For purposes of this analysis, these concrete trucks are modeled as heavy-heavy duty vendor truck trips in CalEEMod with a CalEEMod default one-way trip length of 8.8 miles.

Abbreviations:

CalEEMod - California Emissions Estimator Model

Table 4-7. Construction Trip Assumptions - Site Access and Roadway Improvements
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name	Worker Trips per Day [1,2]	Vendor Trips per Day [1,2]	Hauling Trips per Day [1,3]
Linear, Grubbing & Land Clearing	10	0	12
Linear, Grading & Excavation	10	1	0
Linear, Drainage, Utilities, & Sub-Grade	15	0	0
Linear, Paving	8	0	0

Notes:

[1] Trips are presented as one-way trips per day.

[2] Worker and vendor trips are based on CalEEMod defaults. The one-way trip lengths for worker and vendor trips is assumed the CalEEMod default values of 14.3 and 8.8 miles respectively.

[3] Hauling trips reflect CalEEMod defaults based on Project-specific estimates of material and construction debris movement shown in Table 4-10 and 4-11. The one-way trip length for hauling trips is assumed to be the CalEEMod default value of 20 miles.

Abbreviations:

CalEEMod - California Emissions Estimator Model

Table 4-8. Construction Material Movement - Project Construction Scenario 1
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name	Material Imported [1] (yd^3)	Material Exported [1] (yd^3)
Grading	54,000	0

Notes:

[1] Soil import and export quantities based on project-specific data.

Abbreviations:

yd^3 - cubic yard

Table 4-9. Construction Material Movement - Project Construction Scenario 2
El Dorado Hills Costco Project
El Dorado Hills, California

Phase Name	Material Imported [1] (yd^3)	Material Exported [1] (yd^3)
Grading	107,000	53,000

Notes:

[1] Soil import and export quantities based on project-specific data.

Abbreviations:

yd^3 - cubic yard

Table 4-10. Construction Material Movement - Site Access and Roadway Improvements
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name	Material Imported [1] (yd^3)	Material Exported [1] (yd^3)
Linear, Grading & Excavation	70	0

Notes:

[1] Soil import and export quantities based on project-specific data.

Abbreviations:

yd^3 - cubic yard

Table 4-11. Construction Demolition Assumptions - Site Access and Roadway Improvements
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name	Size Metric	Unit Amount [1]
Linear, Grubbing & Land Clearing	tons of debris	1,284

Notes:

[1] Demolition debris quantity based on project-specific data.

Table 4-12. Average Daily Unmitigated Criteria Air Pollutant Emission for Project Construction
El Dorado Hills Costco Project
El Dorado Hills, California

Project Construction Scenario	Construction Time Period	ROG Emissions [1,2] (lbs/day)	NO_x Emissions [1] (lbs/day)	CO Emissions [1] (lbs/day)	SO_X Emissions [1,3] (lbs/day)	PM_{10} Emissions [1] (lbs/day)	$PM_{2.5}$ Emissions [1] (lbs/day)
Scenario 1	First Quarter	4.7	43	46	0.1	8.3	3.1
Scenario 1	Second Quarter	5.6	53	55	0.1	12	4.1
Scenario 1	Third Quarter	11	31	40	0.1	7.2	2.2
Scenario 1	Fourth Quarter	42	15	24	0.0	4.9	1.1
EDCAQMD Mass Daily Significance Thresholds [4]	**-**	**82**	**82**	**-**	**-**	**-**	**-**
Do Emissions from Scenario 1 Exceed Threshold for any quarter of Construction?	**-**	NO	NO	**-**	**-**	**-**	**-**
Scenario 2	First Quarter	4.8	49	47	0.1	10	3.4
Scenario 2	Second Quarter	5.8	64	57	0.2	15	4.8
Scenario 2	Third Quarter	11	34	40	0.1	8.1	2.4
Scenario 2	Fourth Quarter	42	15	24	0.0	4.9	1.1
EDCAQMD Mass Daily Significance Thresholds [4]	**-**	**82**	**82**	**-**	**-**	**-**	**-**
Do Emissions from Scenario 2 Exceed Threshold for any quarter of Construction?	**-**	NO	NO	**-**	**-**	**-**	**-**

Notes:

[1] Obtained from **Table A-3** and **Table A-4.** Average daily emissions per quarter calculated as the total construction emissions, which include construction of the fuel station, warehouse, parking lot, and site access and roadway improvements, divided by the number of construction days in each quarter. Project construction emissions assume watering control consistent with EDCAQMD Rule 223-1.

[2] For purposes of this analysis VOC emissions are assumed to be equal to ROG.

[3] For purposes of this analysis SO_X emissions are assumed to be equal to SO_2.

[4] Obtained from EDCAQMD Guide to Air Quality Assessment Determining Significance of Air Quality Impact Under the California Environmental Quality Act. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

Abbreviations:

CO - carbon monoxide
EDCAQMD - El Dorado County Air Quality Management District
lb - pound
NO_x - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_2 - sulfur dioxide
SO_x - sulfur oxide compounds
VOC - volatile organic compounds

Table 4-13. Reactive Organic Gas Emission Factor for Consumer Product Usage in El Dorado County for Calendar Year 2027
El Dorado Hills Costco Project
El Dorado Hills, California

Countywide ROG Inventory for Consumer Product Usage [1] (tons/day)	County Population [2]	Total Building Square Footage in the County [3] (sqft)	ROG Emission Factors for Consumer Product Usage [4] (lb/sqft/day)
1.331	187,809	219,720,388	1.21E-05

Notes:

[1] ROG consumer products inventory for El Dorado County in calendar year 2027 was obtained from the California Emissions Projection Analysis Model, CEPAM2019v1.04. Available at: https://ww2.arb.ca.gov/applications/cepam2019v1-04-standard-emission-tool. Accessed: October 2025.

[2] Population estimates for El Dorado County in 2020 and 2027 were obtained from the State of California Department of Finance website. Available at: https://dof.ca.gov/forecasting/demographics/projections/. Accessed: October 2025.

[3] Total building square footage in 2027 was estimated as the product of the countywide building square footage per person in 2020 multiplied by the population projection for El Dorado County in calendar Year 2027.

[4] The consumer product ROG emission factor for consumer product usage is calculated as the ratio of the countywide

[5] Total building square footage in El Dorado County for 2020 was obtained from FEMA HAZUS-MH software (version 7.0). Available at: https://msc.fema.gov/portal/resources/hazus. Accessed: October 2025.

Constants:

El Dorado County Population [2] in Calendar Year 2020:	191,522
Total Building Square Footage [5] in El Dorado County in 2020:	224,064,279

Conversion Factors:

2000 lbs/ton

Abbreviations:

lb - pound
ROG - reactive organic compounds
sqft - square foot

Table 4-14. Operational Energy Assumptions
El Dorado Hills Costco Project
El Dorado Hills, California

CalEEMod Land Use Subtype	Total CalEEMod Default Electricity Usage (kWh/yr)	Total CalEEMod Default NG Usage (kBtu/yr)	CalEEMod Default NG Usage for Space Heating [1] (kBtu/yr)	CalEEMod Default NG Usage for Water Heating [1] (kBtu/yr)	CalEEMod Default NG Usage for Cooking [1] (kBtu/yr)	CalEEMod Default NG Usage for Other Equipment [1] (kBtu/yr)	New Electricity Usage from Electrification of NG Space Heating [2] (kWh/yr)	New Electricity Usage from Electrification of NG Water Heating [2] (kWh/yr)	New Electricity Usage from Electrification of NG Cooking [2] (kWh/yr)	New Electricity Usage from Electrification of Other NG Equipment [2] (kWh/yr)	Total New Electricity Usage from Electrification of NG Equipment [2] (kWh/yr)	Electricity Usage for Project Operation [3] (kWh/yr)	Natural Gas Usage for Project Operation [3] (kBtu/yr)
Gasoline/Service Station	23,335	93,655	29,267	8,105	225	56,058	6,948	1,987	33	16,429	25,397	48,732	0
Discount Club	1,437,492	1,423,224	1,099,764	258,768	16,173	48,519	0	0	0	0	0	1,437,492	1,423,224
Enclosed Parking with Elevator	369,143	0	0	0	0	0	0	0	0	0	0	369,143	0
Parking Lot	327,400	0	0	0	0	0	0	0	0	0	0	327,400	0

Notes:

[1] Total CalEEMod default natural gas usages broken down into end use distribution based on Appendix C in the CalEEMod handbook, where the "Other Equipment" category includes space cooling, refrigeration, and miscellaneous uses. Available at: https://www.caleemod.com/documents/handbook/appendices/appendix_c.pdf. Accessed: October 2025.

[2] The proposed Project will not have any natural gas usage at the gasoline dispensing facility. Hence, the CalEEMod default natural gas usage for the gasoline dispensing facility were converted into equivalent electricity usages by multiplying by the ratio of efficiencies between natural gas and equivalent electric appliances for 2022. Typical efficiency values for space heating (100% for electric and 81% for natural gas), water heating (98% for electric and 82% for natural gas), and cooking (71% for electric and 35% for natural gas) are available at: https://www.eia.gov/analysis/studies/buildings/equipcosts/pdf/appendix-a.pdf. Accessed: October 2025. The ratio of natural gas and electric efficiencies for the "Other Equipment" category was conservatively assumed to be 1:1.

[3] The proposed Project operational electricity and natural gas usage is assumed to be equal to CalEEMod defaults for all CalEEMod land use subtypes except the gasoline/service station. For this land use the operational natural gas usage is assumed to be zero based on Project-specific information. The electricity usage is higher than the CalEEMod defaults to account for electrification of CalEEMod default natural gas usage.

Conversion Factors:

3,412.14 Btu/kWh

Abbreviations:

Btu - British thermal units
CalEEMod - California Emissions Estimator Model
kBtu - thousand British thermal units
kWh - kilowatt-hour
NG - natural gas
yr - year

Table 4-15. Gasoline Dispensing Facility Operational VOC Emissions
El Dorado Hills Costco Project
El Dorado Hills, California

TOG Emission Factor for Loading [1] (lb/1,000 gal)	TOG Emission Factor for Breathing [1] (lb/1,000 gal)	TOG Emission Factor for Refueling [1,2] (lb/1,000 gal)	TOG Emission Factor for Hose Permeation [1] (lb/1,000 gal)	TOG Emission Factor for Spillage [3] (lb/1,000 gal)	TOG Emission Factor [1] (lb/1,000 gal)	Throughput (Mgal/ year)	Total VOC Emissions from GDF [4] (lb/day)
0.15	0.024	0.073	0.0090	0.05	**0.31**	23	**19.3**

Notes:

[1] TOG emission factors for GDFs with EVR systems was obtained from Table 7 of the 2022 CAPCOA Gasoline Service Station Industrywide Risk Assessment Technical Guidance. Available at: https://ww2.arb.ca.gov/sites/default/files/2022-03/Draft%202022%20Gas%20Station%20IWG%20-%20Technical%20Guidance_ADA%20Compliant.pdf. Accessed: October 2025.

[2] TOG emission factor for refueling estimated by assuming that 86.88% of the vehicles to which gasoline is dispensed at the GDF are ORVR vehicles and remaining 13.22% are non-ORVR vehicles, based on data provided by El Dorado County APCD. This rate was developed using the 2022 total vehicle population required to have ORVR, accounting for vehicle model year and weight class for Sacramento County.

[3] TOG emission factor for GDF spillage was obtained from Table 2-1 of CARB CP-201, which is the most recent Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities Using Underground Storage Tanks.

[4] For purposes of this analysis, total VOC emissions are assumed to be equal to TOG emissions. Total VOC emissions are estimated as the sum of the GDF TOG emissions associated with loading, breathing, fueling, hose permeation, and spillage.

Constants:

Fueling EF (Non-ORVR Vehicles, EVR) [1]	0.42	lb/1,000 gal
Fueling EF (ORVR Vehicles, EVR) [1]	0.021	lb/1,000 gal
Percent ORVR Vehicles [2]	86.88%	

Abbreviations:

APCD - Air Pollution Control District
CAPCOA - California Air Pollution Control Officers Association
CARB - California Air Resources Board
EVR - enhanced vapor recovery
gal - gallons
GDF - gasoline dispensing facility
lb - pounds
Mgal - million gallons
ORVR - onboard refueling vapor recovery
TOG - total organic gases
VOC - volatile organic compounds

Table 4-16. Maximum Daily Criteria Air Pollutant Emissions for Project Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Emission Category [1]	ROG Emissions [2] (lbs/day)	NO_x Emissions (lbs/day)	CO Emissions (lbs/day)	SO_X Emissions [3] (lbs/day)	PM_{10} Emissions (lbs/day)	$PM_{2.5}$ Emissions (lbs/day)
Area [4]	4.65	0.10	11.6	6.9E-04	0.02	0.02
Energy [4]	0.02	0.38	0.32	0.0023	0.03	0.03
Mobile [5]	42	31	168	0.30	37	6.8
Stationary Sources [4]	0.82	2.29	2.09	0.0039	0.12	0.12
Gasoline Dispensing Facility [6]	19	-	-	-	-	-
Total Daily Emissions (lb/day)	**66**	**34**	**182**	**0.30**	**37**	**7.0**
EDCAQMD Mass Daily Significance Thresholds [7]	**82**	**82**	**NA**	**NA**	**NA**	**NA**
Exceeds Threshold?	NO	NO	-	-	-	-

Notes:

[1] Emissions totals may not add up due to rounding. Emissions shown as zero may be non-zero values; however, they are below a meaningful reporting level for this analysis.

[2] For purposes of this analysis VOC emissions are assumed to be equal to ROG.

[3] For purposes of this analysis SO_X emissions are assumed to be equal to SO_2.

[4] Obtained from CalEEMod output file for the proposed Project operation in **Appendix B-1**.

[5] Obtained from **Table B-14** in **Appendix B**.

[6] Obtained from **Table 4-15**.

[7] EDCAQMD Guide to Air Quality Assessment Determining Significance of Air Quality Impact Under the California Environmental Quality Act. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel
CO - carbon monoxide
EDCAQMD - El Dorado County Air Quality Management District
lb - pound
NO_x - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_2 - sulfur dioxide
SO_x - sulfur oxide compounds
VOC - volatile organic compounds

Table 5-1. Mobile Source Air Toxics Speciation Profiles
El Dorado Hills Costco Project
El Dorado Hills, California

Non-Criteria Air Pollutant	Speciation Profile	Speciated MSAT/COPC
ROG running and idling exhaust emissions from gasoline-fueled vehicles	Maximum of CARB Profiles OG2303 and OG2304 [1]	1,3-Butadiene, Acetaldehyde, Acrolein, Benzene, Ethyl Benzene, Formaldehyde, Naphthalene
ROG running and idling exhaust emissions from gasoline-fueled vehicles	USEPA MOVES Gasoline VOC [2] Profile [3]	POM
ROG starting exhaust emissions from gasoline-fueled vehicles	Maximum of CARB Profiles OG2301 and OG2302 [4]	1,3-Butadiene, Acetaldehyde, Acrolein, Benzene, Ethyl Benzene, Formaldehyde, Naphthalene
ROG starting exhaust emissions from gasoline-fueled vehicles	USEPA MOVES Gasoline VOC [2] Profile [3]	POM
ROG evaporative emissions from gasoline-fueled vehicles	CARB Profile OG2315 [5]	Benzene, Ethyl Benzene
$PM_{2.5}$ running and starting exhaust emissions from gasoline-fueled vehicles	USEPA MOVES Gasoline $PM_{2.5}$ Profile [3]	Naphthalene, POM
DPM [6]	N/A	DPM

Notes:

[1] CARB. 2013. Organic Gas Speciation Profiles for Catalyzed Gasoline-Powered Vehicle Stabilized Running Exhaust - E6 Fuel (OG2303 & OG2304). December. Available at: https://ww3.arb.ca.gov/ei/speciate/profilereference/cate6running_og2303&04.pdf. Accessed: October 2025.

[2] Per EMFAC2021 User's Guide, The EMFAC2021 ROG class is the same as EPA's VOC definition. Available at: https://ww2.arb.ca.gov/sites/default/files/2021-06/emfac202x_users_guide_01112021_final_ada.pdf. Accessed: October 2025.

[3] USEPA. 2020. Air Toxic Emissions from On-Road Vehicles in MOVES3. November. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1010TJM.pdf. Accessed: October 2025.

[4] CARB. 2013. Organic Gas Speciation Profiles for Catalyzed Gasoline-Powered Vehicle Start Exhaust - E6 Fuel (OG2301 & OG2302). October. Available at: https://ww3.arb.ca.gov/ei/speciate/profilereference/cate6start_og2301&02.pdf. Accessed: October 2025.

[5] CARB. 2015. Organic Gas Speciation Profile for Gasoline-Powered Vehicles Hot Soak Evaporations - E10 Summer Fuel (OG2315). January. Available at: https://ww3.arb.ca.gov/ei/speciate/profilereference/e10shotsoak-og2315.pdf. Accessed: October 2025.

[6] Diesel particulate matter was used as a surrogate for estimating cancer risk and chronic health impacts of diesel vehicle exhaust.

Abbreviations:

CARB - California Air Resources Board
COPC - chemicals of potential concern
EMFAC - EMission FACtors model
MOVES - Motor Vehicle Emissions Stimulator
MSAT - Mobile Source Air Toxic
N/A - not applicable
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
POM - polycyclic organic matter
ROG - Reactive Organic Gases
VOC - Volatile Organic Gases
USEPA - United States Environmental Protection Agency

Table 5-2. Construction Health Risk Assessment Options used in HARP Air Dispersion Modeling and Risk Tool
El Dorado Hills Costco Project
El Dorado Hills, California

HARP2 Risk Analyses Screen	HARP2 Option Title	Residential Cancer Risk Run Options	Residential Chronic Risk Run Options	Worker Cancer Risk Run Options	Worker Chronic Risk Run Options	Acute Risk Run Options
Select Risk Scenario [1]	Analysis Type	Cancer Risk	Chronic Risk (Non-cancer)	Cancer Risk	Chronic Risk (Non-cancer)	Acute Risk (Non-cancer)
Select Risk Scenario [1]	Receptor Type	Individual Resident	Individual Resident	Worker	Worker	N/A
Select Risk Scenario [1]	Exposure Duration [3]	Split 1: 0.25 Years (Start Age in Third Trimester) Split 2: 0.63 Years (Start Age of 0)	N/A	0.88 Years (Start Age of 16)	N/A	N/A
Select Risk Scenario [2]	Intake Rate Percentile	RMP Derived Method	OEHHA Derived Method	OEHHA Derived Method	OEHHA Derived Method	N/A
Select Pathways to Evaluate [2]	Tab "Pathways to Evaluate"	Select "User Defined" pathways and choose: Inhalation; Soil Ingestion; Dermal; Mother's Milk; Homegrown Produce; Pig, Chicken, & Egg	Select "User Defined" pathways and choose: Inhalation; Soil Ingestion; Dermal; Mother's Milk; Homegrown Produce; Pig, Chicken, & Egg	Select "Worker Pathways"	Select "Worker Pathways"	Default Inhalation Only Pathway
Select Pathways to Evaluate [2]	Tab "Pathways to Evaluate"	Deposition Rate: 0.02 m/s	Deposition Rate: 0.02 m/s	Deposition Rate: 0.02 m/s	Deposition Rate: 0.02 m/s	N/A
Select Pathways to Evaluate [2]	Tab "Inh"	FAH option disabled due to proximity of the school to the proposed Project site.	FAH option disabled due to proximity of the school to the proposed Project site.	Check box "Use Adjustment Factors" with worker adjustment factor [4] (WAF) = 2.15	Check box "Use Adjustment Factors" with worker adjustment factor [4] (WAF) = 2.15	Use Defaults (No Change)
Select Pathways to Evaluate [2]	Tab "Soil"	Use Defaults (No Change)	Use Defaults (No Change)	Use Defaults (No Change)	Use Defaults (No Change)	N/A
Select Pathways to Evaluate [2]	Tab "Derm"	Select "Mixed" Climate	Select "Mixed" Climate	Select "Mixed" Climate	Select "Mixed" Climate	N/A
Select Pathways to Evaluate [2]	Tab "MMilk"	Use Defaults (No Change)	Use Defaults (No Change)	N/A	N/A	N/A
Select Pathways to Evaluate [2]	Tab "HG Produce"	Use Defaults (No Change)	Use Defaults (No Change)	N/A	N/A	N/A
Select Pathways to Evaluate [2]	Tab "Chicken, & Egg"	Use Defaults (No Change)	Use Defaults (No Change)	N/A	N/A	N/A

Notes:

[1] HARP2 Options related to receptor type and exposure durations were based on OEHHA's Guidance Manual for Preparation of Health Risk Assessments (2015), which is available at: https://oehha.ca.gov/sites/default/files/media/downloads/crnr/2015guidancemanual.pdf. Accessed: October 2025.

[2] HARP2 Options related to intake rate percentile, deposition rate and pathways to evaluate are based on the SMAQMD *Health Risk Assessment Modeling Guidelines* dated March 24, 2016.

[3] Exposure duration is based on a construction schedule of July 1, 2026 to May 17, 2027, which is equal to 0.877 years.

[4] Worker adjustment factor is set based on a construction schedule of 7:00 AM to 7:00 PM on weekdays and 8:00 AM to 5:00 PM on weekends.

Abbreviations:

FAH - fraction of time at home
HARP - Hotspots Analysis and Reporting Program
m/s - meter per second
N/A - not applicable
OEHHA - Office of Environmental Health Hazard Assessment
RMP - Risk Management Policy
SMAQMD - Sacramento Metropolitan Air Quality Management District

Table 5-3. Operational Health Risk Assessment Options used in HARP Air Dispersion Modeling and Risk Tool
El Dorado Hills Costco Project
El Dorado Hills, California

HARP2 Risk Analyses Screen	HARP2 Option Title	Residential Cancer Risk Run Options	Residential Chronic Risk Run Options	Worker Cancer Risk Run Options	Worker Chronic Risk Run Options	Acute Risk Run Options
Select Risk Scenario [1]	Analysis Type	Cancer Risk	Chronic Risk (Non-cancer)	Cancer Risk	Chronic Risk (Non-cancer)	Acute Risk (Non-cancer)
Select Risk Scenario [1]	Receptor Type	Individual Resident	Individual Resident	Worker	Worker	N/A
Select Risk Scenario [1]	Exposure Duration [3]	29.12 Years, (Start Age of 0.63)	N/A	24.12 Years, (Start Age of 16.88)	N/A	N/A
Select Risk Scenario [2]	Intake Rate Percentile	RMP Derived Method	OEHHA Derived Method	OEHHA Derived Method	OEHHA Derived Method	N/A
Select Pathways to Evaluate [2]	Tab "Pathways to Evaluate"	Select "User Defined" pathways and choose: Inhalation; Soil Ingestion; Dermal; Mother's Milk; Homegrown Produce; Pig, Chicken, & Egg	Select "User Defined" pathways and choose: Inhalation; Soil Ingestion; Dermal; Mother's Milk; Homegrown Produce; Pig, Chicken, & Egg	Select "Worker Pathways"	Select "Worker Pathways"	Default Inhalation Only Pathway
Select Pathways to Evaluate [2]	Tab "Pathways to Evaluate"	Deposition Rate: 0.02 m/s	Deposition Rate: 0.02 m/s	Deposition Rate: 0.02 m/s	Deposition Rate: 0.02 m/s	N/A
Select Pathways to Evaluate [2]	Tab "Inh"	FAH option disabled due to proximity of the school to the proposed Project site.	FAH option disabled due to proximity of the school to the proposed Project site.	Check box "Use Adjustment Factors" with worker adjustment factor [4] (WAF) = 2.15	Check box "Use Adjustment Factors" with worker adjustment factor [4] (WAF) = 2.15	Use Defaults (No Change)
Select Pathways to Evaluate [2]	Tab "Soil"	Use Defaults (No Change)	Use Defaults (No Change)	Use Defaults (No Change)	Use Defaults (No Change)	N/A
Select Pathways to Evaluate [2]	Tab "Derm"	Select "Mixed" Climate	Select "Mixed" Climate	Select "Mixed" Climate	Select "Mixed" Climate	N/A
Select Pathways to Evaluate [2]	Tab "MMilk"	Use Defaults (No Change)	Use Defaults (No Change)	N/A	N/A	N/A
Select Pathways to Evaluate [2]	Tab "HG Produce"	Use Defaults (No Change)	Use Defaults (No Change)	N/A	N/A	N/A
Select Pathways to Evaluate [2]	Tab "Chicken, & Egg"	Use Defaults (No Change)	Use Defaults (No Change)	N/A	N/A	N/A

Notes:

[1] HARP2 Options related to receptor type and exposure durations were based on OEHHA's Guidance Manual for Preparation of Health Risk Assessments (2015), which is available at: https://oehha.ca.gov/sites/default/files/media/downloads/crnr/2015guidancemanual.pdf. Accessed: October 2025.

[2] HARP2 Options related to intake rate percentile, deposition rate and pathways to evaluate are based on the SMAQMD *Health Risk Assessment Modeling Guidelines* dated March 24, 2016.

[3] Start age during Project operation corresponds to the completion of Project construction, which is estimated to last 0.877 years.

[4] Worker adjustment factor is set based on the GDF operating schedule of 5:00 AM to 10:00 PM, 7 days per week.

Abbreviations:

FAH - fraction of time at home
GDF - gasoline dispensing facility
HARP - Hotspots Analysis and Reporting Program
m/s - meter per second
N/A - not applicable
OEHHA - Office of Environmental Health Hazard Assessment
RMP - Risk Management Policy
SMAQMD - Sacramento Metropolitan Air Quality Management District

Table 5-4. Health Risk Assessment Results for Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor Type	Maximum Estimated Cancer Risk [1] (in a million)	Maximum Estimated Chronic Hazard Index [1]	Maximum Estimated Acute Hazard Index [1]
Residential	11.0	0.05	0.15
Worker	0.13	0.01	0.03
Roadway/Open Space [2]	-	-	0.50
Other Sensitive	9.1	0.04	0.13
EDCAQMD Significance Thresholds for Toxic Air Contaminants [3]	**10**	**1.0**	**1.0**
Do Health Risk Impacts Exceed Thresholds?	YES	NO	NO

Notes:

[1] The maximum estimated cancer risk, chronic and acute hazard index can occur at different locations for each receptor type. See **Table E-1** in **Appendix E** for further details.

[2] Cancer risk and chronic hazard index are not assessed for Roadway/Open Space receptors, as long term exposures are not expected at these locations.

[3] Obtained from EDCAQMD Guide to Air Quality Assessment Determining Significance of Air Quality Impact Under the California Environmental Quality Act. Available at:
https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf.
Accessed: October 2025.

Abbreviations:

EDCAQMD - El Dorado County Air Quality Management District

Table 6-1. Construction Equipment Assumptions With Mitigation - Project
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name	Offroad Equipment Type [1]	Number of Equipment [1]	Usage Hours [1] (hours/day)	Equipment Horsepower [1] (hp)	Equipment Load Factor [1]	Fuel Type [1]	Engine Tier for Mitigated Project [2]	DPF Level for Mitigated Project [2]
Site Preparation	Rubber Tired Dozers	3	8	367	0.40	Diesel	Tier 3	Level 3
Site Preparation	Tractors/Loaders/Backhoes	4	8	84	0.37	Diesel	Tier 3	Level 3
Grading	Excavators	2	8	36	0.38	Diesel	Average	N/A
Grading	Graders	1	8	148	0.41	Diesel	Tier 3	Level 3
Grading	Rubber Tired Dozers	1	8	367	0.40	Diesel	Tier 3	Level 3
Grading	Scrapers	2	8	423	0.48	Diesel	Tier 3	Level 3
Grading	Tractors/Loaders/Backhoes	2	8	84	0.37	Diesel	Tier 3	Level 3
Building Construction	Cranes	1	7	367	0.29	Diesel	Tier 3	Level 3
Building Construction	Forklifts	3	8	82	0.20	Diesel	Tier 3	Level 3
Building Construction	Generator Sets	1	8	14	0.74	Diesel	Average	N/A
Building Construction	Tractors/Loaders/Backhoes	3	7	84	0.37	Diesel	Tier 3	Level 3
Building Construction	Welders	1	8	46	0.45	Diesel	Average	N/A
Paving	Pavers	2	8	81	0.42	Diesel	Tier 3	Level 3
Paving	Paving Equipment	2	8	89	0.36	Diesel	Tier 3	Level 3
Paving	Rollers	2	8	36	0.38	Diesel	Average	N/A
Architectural Coating	Air Compressors	1	6	37	0.48	Diesel	Average	N/A

Notes:

[1] Based on CalEEMod default values. Note, there are two scenarios for project construction which differ in the material movement amounts in the grading phase. However, the construction equipment activity for both scenarios is expected to be the same.

[2] As noted in **Section 6.1**, construction equipment greater than 50 hp used at the site shall be mitigated to meet USEPA Tier 4 Final emission standards for PM_{10} and $PM_{2.5}$. If Tier 4 Final equipment is viable but not available, all construction equipment larger than 50 horsepower used at the site shall meet USEPA emission standards for Tier 3 engines and include particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices. To be conservative, this analysis assumed that Tier 3 engines with particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices would be used on-site to model the potential mitigated construction emissions if Tier 4 final equipment is not available.

Abbreviations:

CalEEMod - California Emissions Estimator Model

CARB - California Air Resources Board

DPF - Diesel Particulate Filter

hp - horsepower

N/A - not applicable

PM_{10} - particulate matter less than 10 microns in diameter

$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter

USEPA - United States Environmental Protection Agency

Table 6-2. Construction Equipment Assumptions With Mitigation - Site Access and Roadway Improvements
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name	Offroad Equipment Type [1]	Number of Equipment [1]	Usage Hours [2] (hours/day)	Equipment Horsepower [2] (hp)	Equipment Load Factor [2]	Fuel Type [2]	Engine Tier for Mitigated Project [3]	DPF Level for Mitigated Project [3]
Linear, Grubbing & Land Clearing	Crawler Tractors	1	8	87	0.43	Diesel	Tier 3	Level 3
Linear, Grubbing & Land Clearing	Excavators	2	8	36	0.38	Diesel	Average	N/A
Linear, Grubbing & Land Clearing	Signal Boards	1	8	6	0.82	Electric	Average	N/A
Linear, Grading & Excavation	Crawler Tractors	1	8	87	0.43	Diesel	Tier 3	Level 3
Linear, Grading & Excavation	Rollers	2	8	36	0.38	Diesel	Average	N/A
Linear, Grading & Excavation	Signal Boards	1	8	6	0.82	Electric	Average	N/A
Linear, Drainage, Utilities, & Sub-Grade	Air Compressors	1	8	37	0.48	Diesel	Average	N/A
Linear, Drainage, Utilities, & Sub-Grade	Plate Compactors	1	8	8	0.43	Diesel	Average	N/A
Linear, Drainage, Utilities, & Sub-Grade	Pumps	1	8	11	0.74	Diesel	Average	N/A
Linear, Drainage, Utilities, & Sub-Grade	Rough Terrain Forklifts	1	8	96	0.40	Diesel	Tier 3	Level 3
Linear, Drainage, Utilities, & Sub-Grade	Scrapers	1	8	423	0.48	Diesel	Tier 3	Level 3
Linear, Drainage, Utilities, & Sub-Grade	Signal Boards	1	8	6	0.82	Electric	Average	N/A
Linear, Paving	Pavers	1	8	81	0.42	Diesel	Tier 3	Level 3
Linear, Paving	Paving Equipment	1	8	89	0.36	Diesel	Tier 3	Level 3
Linear, Paving	Signal Boards	1	8	6	0.82	Electric	Average	N/A

Notes:

[1] Construction of Site Access and Roadway Improvements is expected to occur at the same time as the Project construction. Additional equipment needed in each subphase that are not already included in the Project construction are presented in this table.

[2] Based on CalEEMod default values.

[3] As noted in **Section 6.1**, construction equipment greater than 50 hp used at the site shall be mitigated to meet USEPA Tier 4 Final emission standards for PM_{10} and $PM_{2.5}$. If Tier 4 Final equipment is viable but not available, all construction equipment larger than 50 horsepower used at the site shall meet USEPA emission standards for Tier 3 engines and include particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices. To be conservative, this analysis assumed that Tier 3 engines with particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices would be used on-site to model the potential mitigated construction emissions if Tier 4 final equipment is not available.

Abbreviations:

CalEEMod - California Emissions Estimator Model

CARB - California Air Resources Board

DPF - Diesel Particulate Filter

hp - horsepower

N/A - not applicable

PM_{10} - particulate matter less than 10 microns in diameter

$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter

USEPA - United States Environmental Protection Agency

Table 6-3. Average Daily Mitigated Criteria Air Pollutant Emission for Project Construction
El Dorado Hills Costco Project
El Dorado Hills, California

Project Construction Scenario	Construction Time Period	ROG Emissions [1,2] (lbs/day)	NO_x Emissions [1] (lbs/day)	CO Emissions [1] (lbs/day)	SO_X Emissions [1,3] (lbs/day)	PM_{10} Emissions [1] (lbs/day)	$PM_{2.5}$ Emissions [1] (lbs/day)
Scenario 1	First Quarter	4.7	43	52	0.1	7.0	1.9
Scenario 1	Second Quarter	3.1	60	68	0.1	11	2.9
Scenario 1	Third Quarter	9.4	38	47	0.1	6.5	1.5
Scenario 1	Fourth Quarter	42	18	27	0.0	4.6	0.8
EDCAQMD Mass Daily Significance Thresholds [4]	**-**	**82**	**82**	**-**	**-**	**-**	**-**
Do Emissions from Scenario 1 Exceed Threshold for any quarter of Construction?	**-**	NO	NO	**-**	**-**	**-**	**-**
Scenario 2	First Quarter	2.3	49	52	0.1	8.9	2.3
Scenario 2	Second Quarter	3.2	71	69	0.2	14	3.5
Scenario 2	Third Quarter	9.4	41	47	0.1	7.4	1.7
Scenario 2	Fourth Quarter	42	18	27	0.0	4.6	0.8
EDCAQMD Mass Daily Significance Thresholds [4]	**-**	**82**	**82**	**-**	**-**	**-**	**-**
Do Emissions from Scenario 2 Exceed Threshold for any quarter of Construction?	**-**	NO	NO	**-**	**-**	**-**	**-**

Notes:

[1] Obtained from **Table A-5** and **Table A-6.** Average daily emissions per quarter calculated as the total construction emissions, which include construction of the fuel station, warehouse, parking lot, and site access and roadway improvements, divided by the number of construction days in each quarter. Project construction emissions assume watering control consistent with EDCAQMD Rule 223-1.

[2] For purposes of this analysis VOC emissions are assumed to be equal to ROG.

[3] For purposes of this analysis SO_X emissions are assumed to be equal to SO_2.

[4] Obtained from EDCAQMD Guide to Air Quality Assessment Determining Significance of Air Quality Impact Under the California Environmental Quality Act. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

Abbreviations:

CO - carbon monoxide
EDCAQMD - El Dorado County Air Quality Management District
lb - pound
NO_x - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_2 - sulfur dioxide
SO_x - sulfur oxide compounds
VOC - volatile organic compounds

Table 6-4. Health Risk Assessment Results for Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor Type	Maximum Estimated Cancer Risk [1] (in a million)	Maximum Estimated Chronic Hazard Index [1]	Maximum Estimated Acute Hazard Index [1]
Residential	4.13	0.02	0.15
Worker	0.05	0.003	0.03
Roadway/Open Space [2]	-	-	0.50
Other Sensitive	3.06	0.01	0.13
EDCAQMD Significance Thresholds for Toxic Air Contaminants [3]	**10**	**1.0**	**1.0**
Do Health Risk Impacts Exceed Thresholds?	NO	NO	NO

Notes:

[1] The maximum estimated cancer risk, chronic and acute hazard index can occur at different locations for each receptor type. See **Table E-2** in **Appendix E** for further details.

[2] Cancer risk and chronic hazard index are not assessed for Roadway/Open Space receptors, as long term exposures are not expected at these locations.

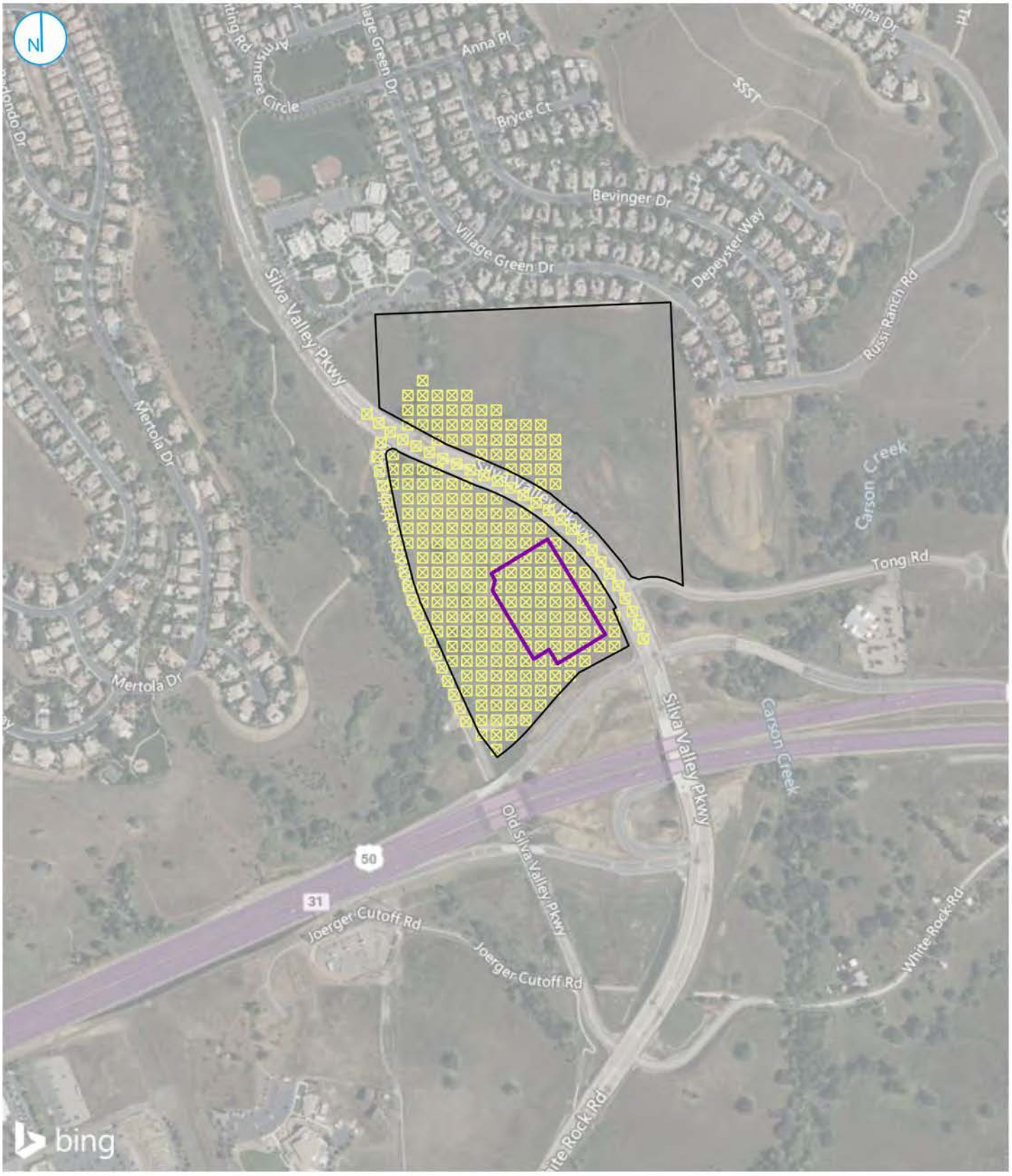
[3] Obtained from EDCAQMD Guide to Air Quality Assessment Determining Significance of Air Quality Impact Under the California Environmental Quality Act. Available at:
https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf.
Accessed: October 2025.

Abbreviations:

EDCAQMD - El Dorado County Air Quality Management District

FIGURES

C:\Users\ataylor\Ramboll\Western GIS Graphics Portal - General\Projects\Costco\El Dorado Hills\03_GIS\20250403_FigureCreation\20250403_FigureCreation.aprx\Figure 01 - Modeled Source Locations - Project Construction



PROJECT: 1940112064 | DATED: 7/7/2025 | DESIGNER: ATAYLOR

Site Boundary
Concrete Delivery Truck Idling (CT_IDL)
Construction Equipment (CONEQ)

0 300 600 Feet

MODELED SOURCE LOCATIONS
PROJECT CONSTRUCTION

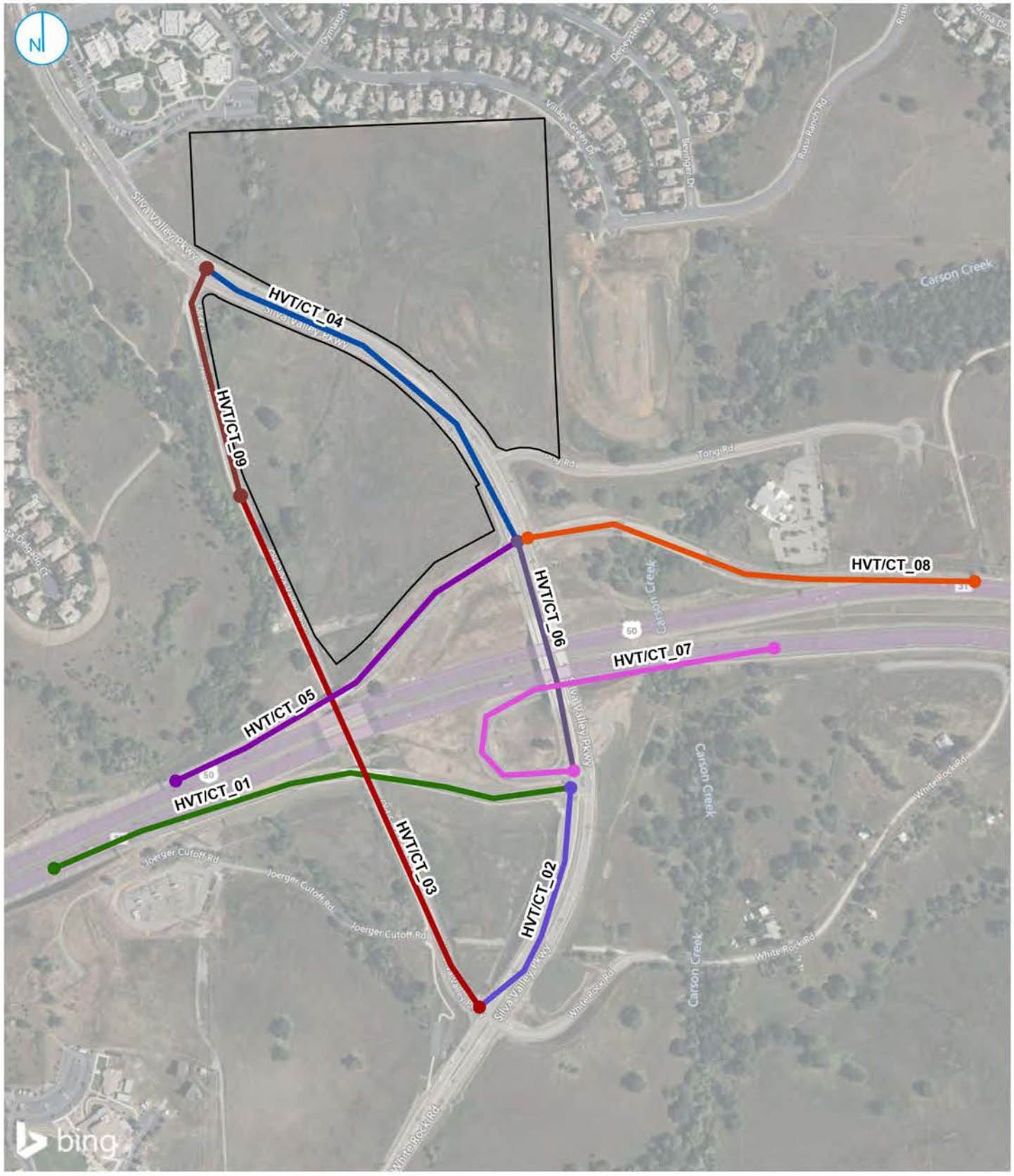
Costco El Dorado Hills
Silva Valley Parkway
El Dorado Hills, California

FIGURE 01

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

RAMBOLL

C:\Users\ataylor\Ramboll\Western GIS Graphics Portal - General\Projects\Costco\El Dorado Hills\03_GIS\20250403_FigureCreation\20250403_FigureCreation.aprx\Figure 02 - Hauling, Vendor, and Concrete Truck Roadways - Project Construction



PROJECT: 1940112064 | DATED: 6/11/2025 | DESIGNER: ATAYLOR

Site Boundary

Hualing/Vendor/Concrete Truck

- HVT/CT_01
- HVT/CT_02
- HVT/CT_03
- HVT/CT_04
- HVT/CT_05
- HVT/CT_06
- HVT/CT_07
- HVT/CT_08
- HVT/CT_09

0 250 500 Feet

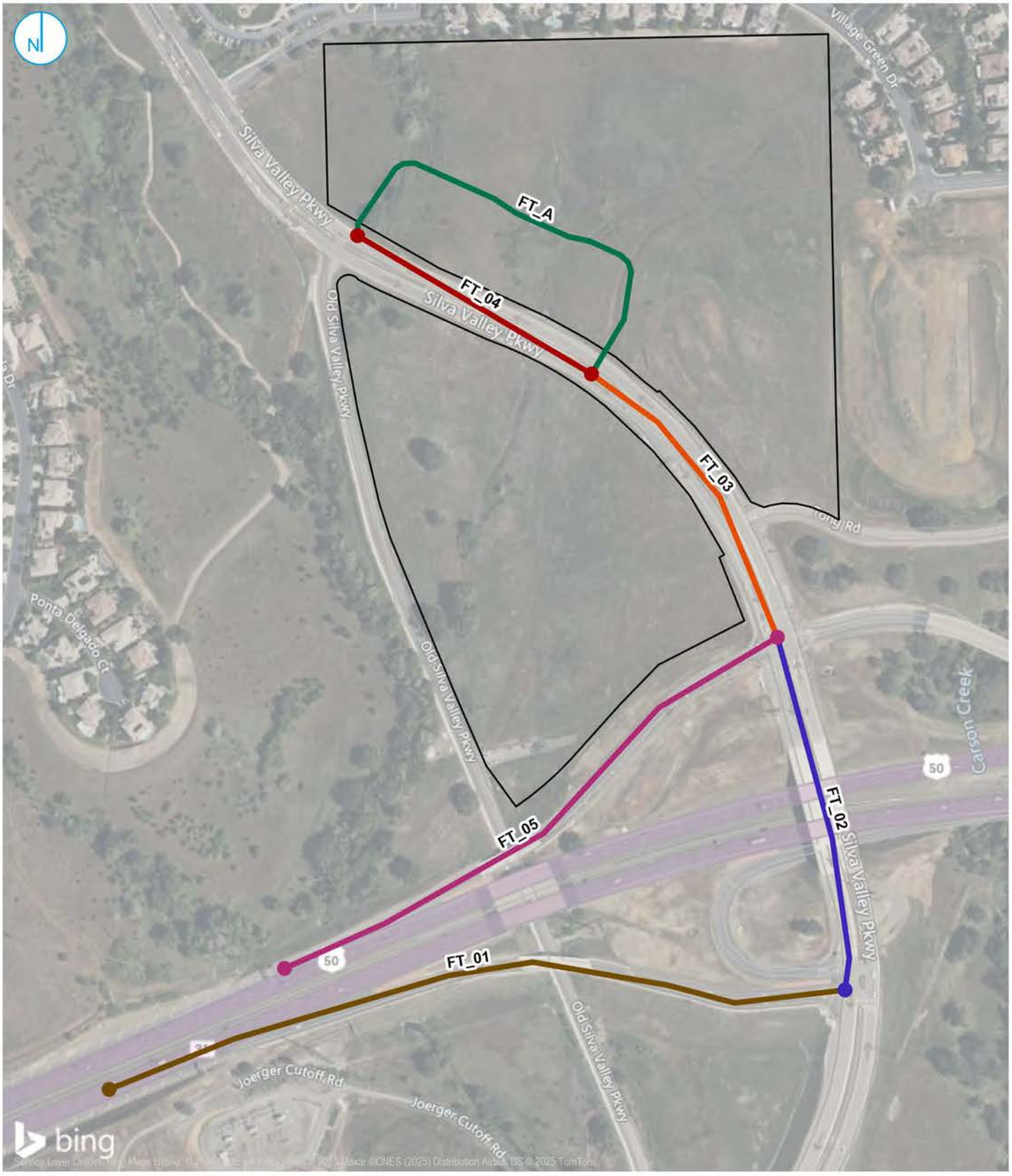
HAULING, VENDOR, AND CONCRETE TRUCK ROADWAYS
PROJECT CONSTRUCTION

Costco El Dorado Hills
Silva Valley Parkway
El Dorado Hills, California

FIGURE 02

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

C:\Users\ataylor\Ramboll\Western GIS Graphics Portal - General\Projects\Costco\El Dorado Hills\03_GIS\20250403_FigureCreation\20250403_FigureCreation.aprx\Figure 03 - Fuel Truck Roadways - Project Operation



PROJECT: 1940112064 | DATED: 6/12/2025 | DESIGNER: ATAYLOR

Site Boundary

Fuel Delivery Truck

- FT_A
- FT_01
- FT_02
- FT_03
- FT_04
- FT_05

0 225 450 Feet

FUEL TRUCK ROADWAYS
PROJECT OPERATION

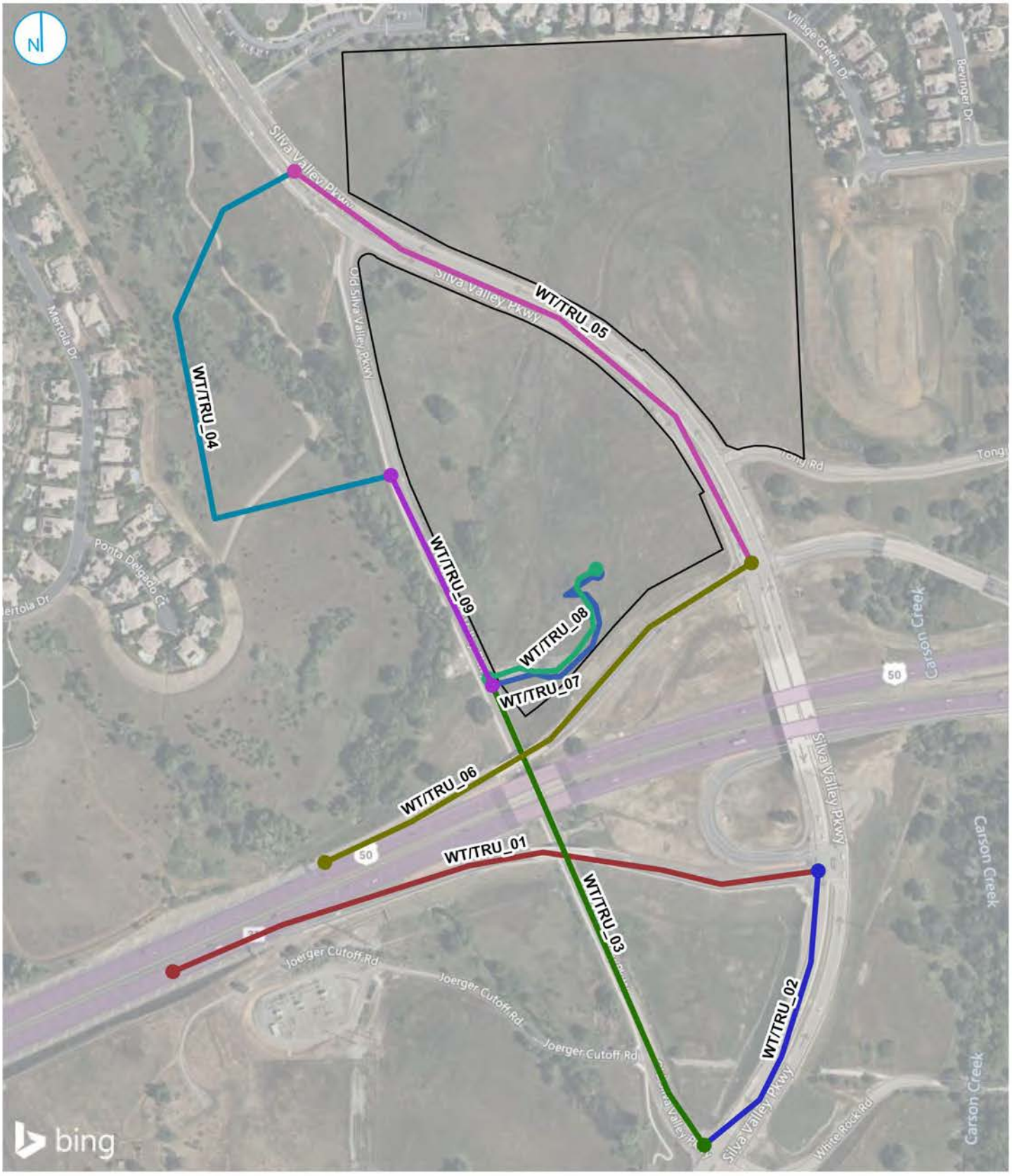
Costco El Dorado Hills
Silva Valley Parkway
El Dorado Hills, California

FIGURE 03

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

RAMBOLL

C:\Users\ataylor\Ramboll\Western GIS Graphics Portal - General\Projects\Costco\El Dorado Hills\03_GIS\20250403_FigureCreation\20250403_FigureCreation.aprx\Figure 04 - Warehouse Truck and TRU Roadways - Project Operation



PROJECT: 1940112064 | DATED: 6/12/2025 | DESIGNER: ATAYLOR

Site Boundary

Warehouse truck/TRU routes

- WT/TRU_01
- WT/TRU_02
- WT/TRU_03
- WT/TRU_04
- WT/TRU_05
- WT/TRU_06
- WT/TRU_07
- WT/TRU_08
- WT/TRU_09

0 200 400 Feet

WAREHOUSE TRUCK AND TRU ROADWAYS
PROJECT OPERATION

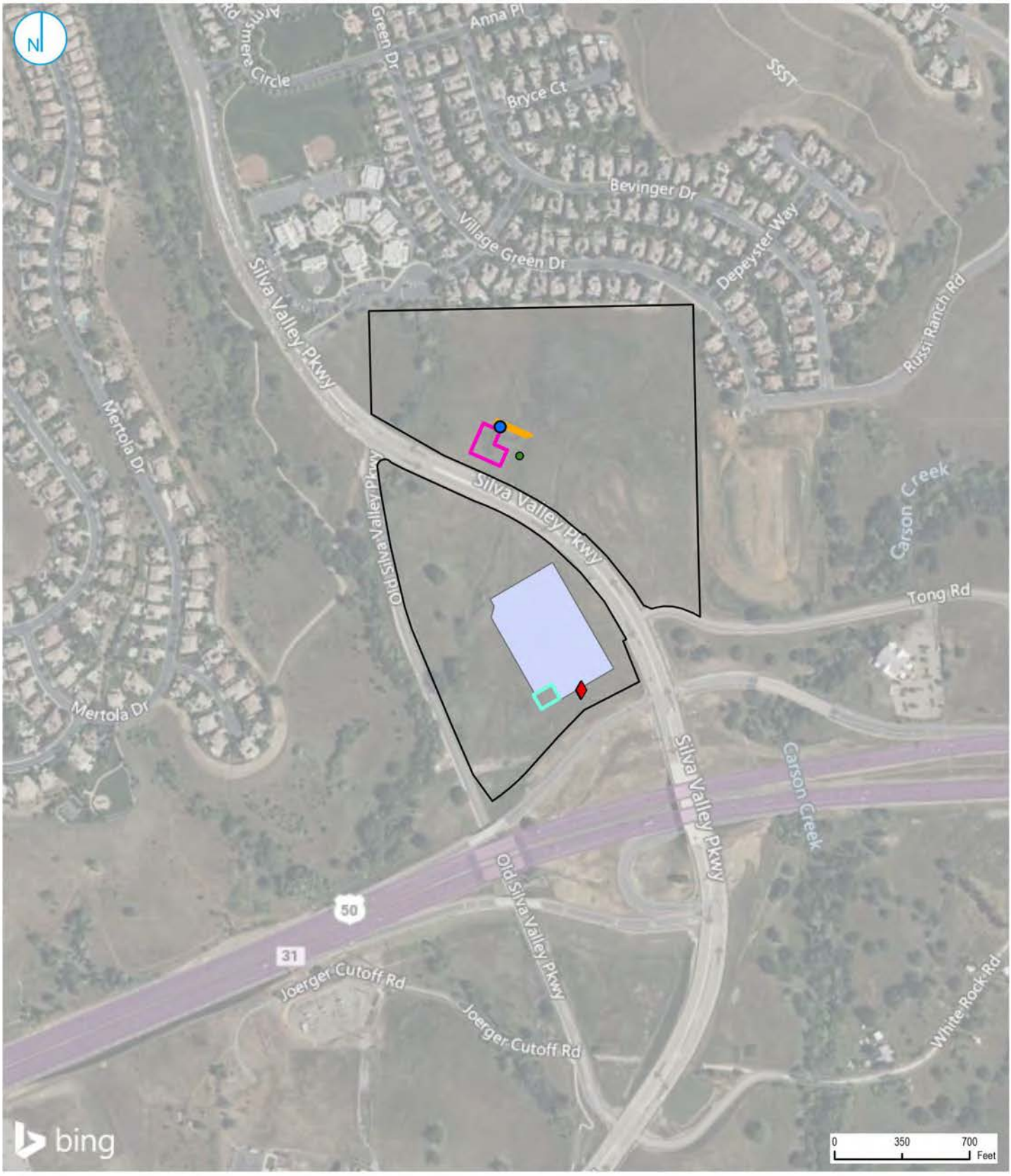
Costco El Dorado Hills
Silva Valley Parkway
El Dorado Hills, California

FIGURE 04

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

RAMBOLL

C:\Users\ataylor\Ramboll\Western GIS Graphics Portal - General\Projects\Costco\El Dorado Hills\03_GIS\20250403_FigureCreation\20250403_FigureCreation.aprx\Figure 05 - Modeled Source Locations - Project Operation



PROJECT: 1940112064 | DATED: 7/7/2025 | DESIGNER: ATAYLOR

- Site Boundary
- Warehouse Building

Sources

- Fuel Truck Idling (FT_IDL)
- Passenger Vehicle Idling (PV_IDL)
- Warehouse Truck/TRU Idling (WT_IDL/TRU_IDL)
- Emergency Generators (GEN)
- GDF Fueling and Spillage (REFILL/SPILL)
- GDF Loading and Breathing (LOADING/BREATH)

MODELED SOURCE LOCATIONS
PROJECT OPERATION

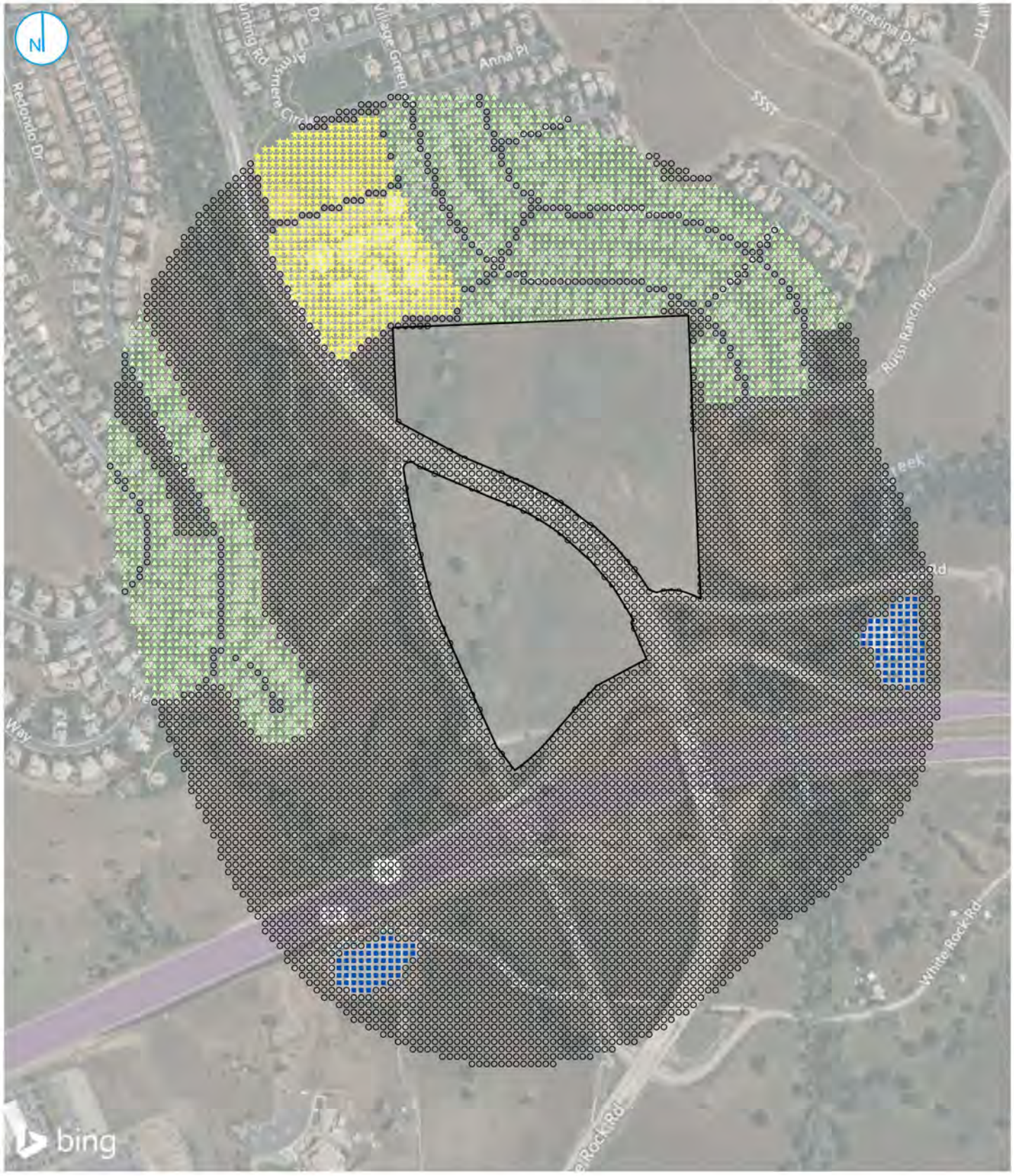
Costco El Dorado Hills
Silva Valley Parkway
El Dorado Hills, California

FIGURE 05

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

RAMBOLL

C:\Users\ataylor\Ramboll\Western GIS Graphics Portal - General\Projects\Costco\El Dorado Hills\03_GIS\20250403_FigureCreation\20250403_FigureCreation.aprx\Figure 06 - Modeled Receptor Locations



PROJECT: 1940112064 | DATED: 7/8/2025 | DESIGNER: ATAYLOR

Site Boundary
Residential
Other Sensitive
Worker
Roadway/Open Space

0 300 600 Feet

MODELED RECEPTOR LOCATIONS

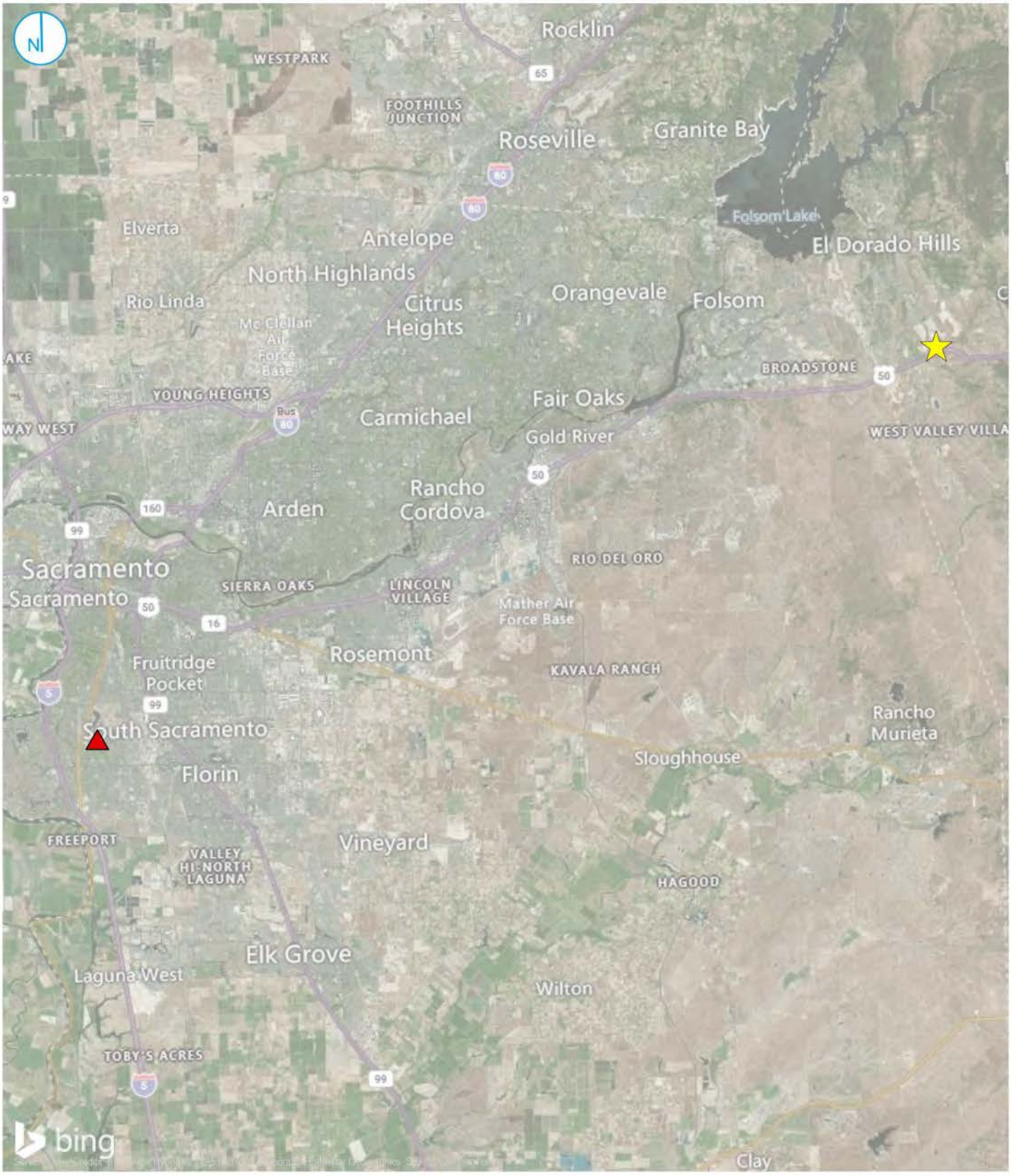
Costco El Dorado Hills
Silva Valley Parkway
El Dorado Hills, California

FIGURE 06

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

RAMBOLL

C:\Users\ataylor\Ramboll\Western GIS Graphics Portal - General\Projects\Costco\El Dorado Hills\03_GIS\20250403_FigureCreation\20250403_FigureCreation.aprx\Figure 07 - Meteorology Station Locations



PROJECT: 1940112064 | DATED: 6/11/2025 | DESIGNER: ATAYLOR

Meteorological Station

Site Location

0 10,000 20,000 Feet

METEOROLOGY STATION LOCATIONS

Costco El Dorado Hills
Silva Valley Parkway
El Dorado Hills, California

FIGURE 07

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

RAMBOLL

APPENDIX A
CONSTRUCTION EMISSION CALCULATIONS

Appendix A-1: CalEEMod Model Run for Project Construction Scenario 1 Excluding Concrete Trucks
Appendix A-2: CalEEMod Model Run for Project Construction Scenario 2 Excluding Concrete Trucks
Appendix A-3: CalEEMod Model Run for Concrete Truck Emissions During Project Construction
Appendix A-4: CalEEMod Model Run for Site Access and Roadway Improvements
Appendix A-5: Construction Emission Calculation Tables

APPENDIX A-1
CALEEMOD MODEL RUN FOR PROJECT CONSTRUCTION SCENARIO 1 EXCLUDING CONCRETE TRUCKS

EDH Costco Construction – Scenario 1 Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

2.3. Construction Emissions by Year, Mitigated

3. Construction Emissions Details

3.1. Site Preparation (2026) - Unmitigated

3.2. Site Preparation (2026) - Mitigated

3.3. Grading (2026) - Unmitigated

3.4. Grading (2026) - Mitigated

3.5. Grading (2027) - Unmitigated

3.6. Grading (2027) - Mitigated

3.7. Building Construction (2026) - Unmitigated

3.8. Building Construction (2026) - Mitigated

3.9. Building Construction (2027) - Unmitigated

3.10. Building Construction (2027) - Mitigated

3.11. Paving (2027) - Unmitigated

3.12. Paving (2027) - Mitigated

3.13. Architectural Coating (2027) - Unmitigated

3.14. Architectural Coating (2027) - Mitigated

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.2.2. Mitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.3.2. Mitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

5.18.2.2. Mitigated

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	EDH Costco Construction – Scenario 1
Construction Start Date	7/1/2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	9.40
Location	38.659852, -121.056799
County	El Dorado-Mountain County
City	Unincorporated
Air District	El Dorado County AQMD
Air Basin	Mountain Counties
TAZ	406
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Discount Club	165	1000sqft	3.79	165,000	318,349	—	—	—
Gasoline/Service Station	16.0	Pump	0.30	2,259	0.00	—	—	—

Parking Lot	617	Space	8.58	0.00	0.00	—	—	—
Enclosed Parking with Elevator	214	Space	2.30	100,000	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers
Construction	C-6	Use Diesel Particulate Filters

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	43.5	43.1	44.6	48.3	0.13	1.54	9.44	11.0	1.42	2.35	3.77	—	14,998	14,998	0.41	0.87	13.0	15,279
Mit.	42.5	42.4	49.5	58.1	0.13	0.38	9.44	9.83	0.35	2.35	2.70	—	14,998	14,998	0.41	0.87	13.0	15,279
% Reduced	2%	2%	-11%	-20%	—	75%	—	11%	75%	—	28%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	43.4	43.0	45.2	46.8	0.13	1.54	9.44	11.0	1.42	2.35	3.77	—	14,870	14,870	0.41	0.87	0.34	15,139
Mit.	42.5	42.3	50.1	56.7	0.13	0.39	9.44	9.83	0.35	2.35	2.70	—	14,870	14,870	0.41	0.87	0.34	15,139
% Reduced	2%	2%	-11%	-21%	—	75%	—	11%	75%	—	28%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	8.05	7.88	21.1	21.9	0.06	0.75	3.81	4.56	0.69	0.95	1.64	—	6,554	6,554	0.19	0.35	2.29	6,667
Mit.	7.59	7.54	22.6	25.8	0.06	0.17	3.81	3.98	0.15	0.95	1.10	—	6,554	6,554	0.19	0.35	2.29	6,667
% Reduced	6%	4%	-7%	-18%	—	77%	—	13%	78%	—	33%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.47	1.44	3.85	3.99	0.01	0.14	0.70	0.83	0.13	0.17	0.30	—	1,085	1,085	0.03	0.06	0.38	1,104
Mit.	1.39	1.38	4.12	4.71	0.01	0.03	0.70	0.73	0.03	0.17	0.20	—	1,085	1,085	0.03	0.06	0.38	1,104
% Reduced	6%	4%	-7%	-18%	—	77%	—	13%	78%	—	33%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	5.61	4.75	44.6	48.3	0.13	1.54	9.44	11.0	1.42	2.35	3.77	—	14,998	14,998	0.41	0.87	13.0	15,279
2027	43.5	43.1	19.4	31.5	0.05	0.66	4.77	5.43	0.61	0.71	1.32	—	6,778	6,778	0.19	0.28	7.45	6,875
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	5.56	4.70	45.2	46.8	0.13	1.54	9.44	11.0	1.42	2.35	3.77	—	14,870	14,870	0.41	0.87	0.34	15,139
2027	43.4	43.0	42.6	46.1	0.13	1.42	9.44	10.9	1.31	2.35	3.66	—	14,757	14,757	0.41	0.84	0.31	15,018
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.63	2.22	21.1	21.9	0.06	0.75	3.81	4.56	0.69	0.95	1.64	—	6,554	6,554	0.19	0.35	2.29	6,667
2027	8.05	7.88	8.32	11.3	0.02	0.28	1.98	2.26	0.26	0.37	0.62	—	2,919	2,919	0.08	0.15	1.29	2,965
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.48	0.41	3.85	3.99	0.01	0.14	0.70	0.83	0.13	0.17	0.30	—	1,085	1,085	0.03	0.06	0.38	1,104
2027	1.47	1.44	1.52	2.07	< 0.005	0.05	0.36	0.41	0.05	0.07	0.11	—	483	483	0.01	0.02	0.21	491

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.69	2.52	49.5	58.1	0.13	0.38	9.44	9.83	0.35	2.35	2.70	—	14,998	14,998	0.41	0.87	13.0	15,279
2027	42.5	42.4	23.4	34.2	0.05	0.26	4.77	5.02	0.24	0.71	0.94	—	6,778	6,778	0.19	0.28	7.45	6,875
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.64	2.47	50.1	56.7	0.13	0.39	9.44	9.83	0.35	2.35	2.70	—	14,870	14,870	0.41	0.87	0.34	15,139
2027	42.5	42.3	49.5	56.3	0.13	0.37	9.44	9.82	0.34	2.35	2.69	—	14,757	14,757	0.41	0.84	0.31	15,018
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.16	1.09	22.6	25.8	0.06	0.17	3.81	3.98	0.15	0.95	1.10	—	6,554	6,554	0.19	0.35	2.29	6,667
2027	7.59	7.54	9.92	12.8	0.02	0.09	1.98	2.08	0.09	0.37	0.45	—	2,919	2,919	0.08	0.15	1.29	2,965
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.21	0.20	4.12	4.71	0.01	0.03	0.70	0.73	0.03	0.17	0.20	—	1,085	1,085	0.03	0.06	0.38	1,104
2027	1.39	1.38	1.81	2.34	< 0.005	0.02	0.36	0.38	0.02	0.07	0.08	—	483	483	0.01	0.02	0.21	491

3. Construction Emissions Details

3.1. Site Preparation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	3.74	3.14	29.2	28.8	0.05	1.24	—	1.24	1.14	—	1.14	—	5,298	5,298	0.21	0.04	—	5,316
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.38	0.32	2.96	2.92	< 0.005	0.13	—	0.13	0.12	—	0.12	—	537	537	0.02	< 0.005	—	539
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.07	0.06	0.54	0.53	< 0.005	0.02	—	0.02	0.02	—	0.02	—	88.9	88.9	< 0.005	< 0.005	—	89.2
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.05	1.03	0.00	0.00	0.54	0.54	0.00	0.08	0.08	—	193	193	< 0.005	0.01	0.70	196
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	18.0	18.0	< 0.005	< 0.005	0.03	18.2

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	2.97	2.97	< 0.005	< 0.005	0.01	3.02
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Site Preparation (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.90	0.90	24.0	28.3	0.05	0.14	—	0.14	0.13	—	0.13	—	5,298	5,298	0.21	0.04	—	5,316
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.09	2.44	2.87	< 0.005	0.01	—	0.01	0.01	—	0.01	—	537	537	0.02	< 0.005	—	539
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.02	0.02	0.44	0.52	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	88.9	88.9	< 0.005	< 0.005	—	89.2
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.05	1.03	0.00	0.00	0.54	0.54	0.00	0.08	0.08	—	193	193	< 0.005	0.01	0.70	196
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	18.0	18.0	< 0.005	< 0.005	0.03	18.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	2.97	2.97	< 0.005	< 0.005	0.01	3.02
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	3.62	3.04	27.2	27.6	0.06	1.12	—	1.12	1.03	—	1.03	—	6,599	6,599	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.60	3.60	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.62	3.04	27.2	27.6	0.06	1.12	—	1.12	1.03	—	1.03	—	6,599	6,599	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.60	3.60	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.46	1.23	11.0	11.1	0.02	0.45	—	0.45	0.42	—	0.42	—	2,658	2,658	0.11	0.02	—	2,667
Dust From Material Movement	—	—	—	—	—	—	1.45	1.45	—	0.57	0.57	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	0.22	2.00	2.03	< 0.005	0.08	—	0.08	0.08	—	0.08	—	440	440	0.02	< 0.005	—	441

Dust From Material Movement	—	—	—	—	—	—	0.26	0.26	—	0.10	0.10	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.06	1.18	0.00	0.00	0.62	0.62	0.00	0.09	0.09	—	220	220	< 0.005	0.01	0.79	224
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.09	0.07	5.23	0.57	0.04	0.03	1.52	1.55	0.03	0.28	0.31	—	3,372	3,372	0.02	0.54	5.36	3,538
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.92	0.00	0.00	0.62	0.62	0.00	0.09	0.09	—	198	198	< 0.005	0.01	0.02	201
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.09	0.07	5.57	0.58	0.04	0.04	1.52	1.55	0.04	0.28	0.31	—	3,371	3,371	0.02	0.54	0.14	3,532
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.38	0.00	0.00	0.25	0.25	0.00	0.04	0.04	—	81.5	81.5	< 0.005	< 0.005	0.14	82.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.03	2.22	0.23	0.01	0.01	0.60	0.62	0.01	0.11	0.12	—	1,358	1,358	0.01	0.22	0.93	1,424
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	13.5	13.5	< 0.005	< 0.005	0.02	13.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.01	0.41	0.04	< 0.005	< 0.005	0.11	0.11	< 0.005	0.02	0.02	—	225	225	< 0.005	0.04	0.15	236

3.4. Grading (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.30	1.26	29.8	35.4	0.06	0.21	—	0.21	0.19	—	0.19	—	6,599	6,599	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.60	3.60	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.30	1.26	29.8	35.4	0.06	0.21	—	0.21	0.19	—	0.19	—	6,599	6,599	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.60	3.60	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	0.51	12.0	14.3	0.02	0.09	—	0.09	0.08	—	0.08	—	2,658	2,658	0.11	0.02	—	2,667
Dust From Material Movement	—	—	—	—	—	—	1.45	1.45	—	0.57	0.57	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.09	2.19	2.60	< 0.005	0.02	—	0.02	0.01	—	0.01	—	440	440	0.02	< 0.005	—	441
Dust From Material Movement	—	—	—	—	—	—	0.26	0.26	—	0.10	0.10	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.06	1.18	0.00	0.00	0.62	0.62	0.00	0.09	0.09	—	220	220	< 0.005	0.01	0.79	224
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.09	0.07	5.23	0.57	0.04	0.03	1.52	1.55	0.03	0.28	0.31	—	3,372	3,372	0.02	0.54	5.36	3,538
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.92	0.00	0.00	0.62	0.62	0.00	0.09	0.09	—	198	198	< 0.005	0.01	0.02	201
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.09	0.07	5.57	0.58	0.04	0.04	1.52	1.55	0.04	0.28	0.31	—	3,371	3,371	0.02	0.54	0.14	3,532
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.38	0.00	0.00	0.25	0.25	0.00	0.04	0.04	—	81.5	81.5	< 0.005	< 0.005	0.14	82.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.03	2.22	0.23	0.01	0.01	0.60	0.62	0.01	0.11	0.12	—	1,358	1,358	0.01	0.22	0.93	1,424
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	13.5	13.5	< 0.005	< 0.005	0.02	13.7

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.01	0.41	0.04	< 0.005	< 0.005	0.11	0.11	< 0.005	0.02	0.02	—	225	225	< 0.005	0.04	0.15	236

3.5. Grading (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.51	2.95	25.6	27.3	0.06	1.04	—	1.04	0.96	—	0.96	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.60	3.60	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	0.22	1.89	2.02	< 0.005	0.08	—	0.08	0.07	—	0.07	—	488	488	0.02	< 0.005	—	490
Dust From Material Movement	—	—	—	—	—	—	0.27	0.27	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.35	0.37	< 0.005	0.01	—	0.01	0.01	—	0.01	—	80.8	80.8	< 0.005	< 0.005	—	81.1
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.07	0.86	0.00	0.00	0.62	0.62	0.00	0.09	0.09	—	195	195	< 0.005	0.01	0.02	197
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.09	0.07	5.25	0.57	0.04	0.04	1.52	1.55	0.04	0.28	0.31	—	3,303	3,303	0.02	0.52	0.13	3,459
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.07	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.01	0.38	0.04	< 0.005	< 0.005	0.11	0.11	< 0.005	0.02	0.02	—	244	244	< 0.005	0.04	0.16	256
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	2.44	2.44	< 0.005	< 0.005	< 0.005	2.47
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.07	0.01	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	40.5	40.5	< 0.005	0.01	0.03	42.4

3.6. Grading (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.29	1.26	29.7	35.4	0.06	0.21	—	0.21	0.19	—	0.19	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.60	3.60	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.09	2.20	2.62	< 0.005	0.02	—	0.02	0.01	—	0.01	—	488	488	0.02	< 0.005	—	490
Dust From Material Movement	—	—	—	—	—	—	0.27	0.27	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.40	0.48	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	80.8	80.8	< 0.005	< 0.005	—	81.1

Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.07	0.86	0.00	0.00	0.62	0.62	0.00	0.09	0.09	—	195	195	< 0.005	0.01	0.02	197
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.09	0.07	5.25	0.57	0.04	0.04	1.52	1.55	0.04	0.28	0.31	—	3,303	3,303	0.02	0.52	0.13	3,459
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.07	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.01	0.38	0.04	< 0.005	< 0.005	0.11	0.11	< 0.005	0.02	0.02	—	244	244	< 0.005	0.04	0.16	256
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	2.44	2.44	< 0.005	< 0.005	< 0.005	2.47
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.07	0.01	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	40.5	40.5	< 0.005	0.01	0.03	42.4

3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	0.43	3.97	5.22	0.01	0.15	—	0.15	0.14	—	0.14	—	965	965	0.04	0.01	—	969
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.72	0.95	< 0.005	0.03	—	0.03	0.03	—	0.03	—	160	160	0.01	< 0.005	—	160
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.47	0.44	0.28	5.62	0.00	0.00	2.97	2.97	0.00	0.43	0.43	—	1,052	1,052	0.02	0.04	3.79	1,067
Vendor	0.04	0.04	1.96	0.34	0.01	0.01	0.73	0.74	0.01	0.13	0.14	—	1,358	1,358	< 0.005	0.21	3.04	1,424
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.44	0.39	0.39	4.41	0.00	0.00	2.97	2.97	0.00	0.43	0.43	—	947	947	0.02	0.04	0.10	959
Vendor	0.04	0.04	2.07	0.36	0.01	0.01	0.73	0.74	0.01	0.13	0.14	—	1,358	1,358	< 0.005	0.21	0.08	1,421
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.16	0.14	1.80	0.00	0.00	1.17	1.17	0.00	0.17	0.17	—	389	389	0.01	0.02	0.66	395
Vendor	0.02	0.02	0.83	0.14	< 0.005	< 0.005	0.29	0.29	< 0.005	0.05	0.05	—	547	547	< 0.005	0.08	0.53	573
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.33	0.00	0.00	0.21	0.21	0.00	0.03	0.03	—	64.5	64.5	< 0.005	< 0.005	0.11	65.4
Vendor	< 0.005	< 0.005	0.15	0.03	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	90.6	90.6	< 0.005	0.01	0.09	94.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.68	0.62	12.2	15.0	0.02	0.13	—	0.13	0.12	—	0.12	—	2,397	2,397	0.10	0.02	—	2,405

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.68	0.62	12.2	15.0	0.02	0.13	—	0.13	0.12	—	0.12	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	0.25	4.92	6.03	0.01	0.05	—	0.05	0.05	—	0.05	—	965	965	0.04	0.01	—	969
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.90	1.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	160	160	0.01	< 0.005	—	160
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.47	0.44	0.28	5.62	0.00	0.00	2.97	2.97	0.00	0.43	0.43	—	1,052	1,052	0.02	0.04	3.79	1,067
Vendor	0.04	0.04	1.96	0.34	0.01	0.01	0.73	0.74	0.01	0.13	0.14	—	1,358	1,358	< 0.005	0.21	3.04	1,424
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.44	0.39	0.39	4.41	0.00	0.00	2.97	2.97	0.00	0.43	0.43	—	947	947	0.02	0.04	0.10	959
Vendor	0.04	0.04	2.07	0.36	0.01	0.01	0.73	0.74	0.01	0.13	0.14	—	1,358	1,358	< 0.005	0.21	0.08	1,421
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.16	0.14	1.80	0.00	0.00	1.17	1.17	0.00	0.17	0.17	—	389	389	0.01	0.02	0.66	395
Vendor	0.02	0.02	0.83	0.14	< 0.005	< 0.005	0.29	0.29	< 0.005	0.05	0.05	—	547	547	< 0.005	0.08	0.53	573
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.33	0.00	0.00	0.21	0.21	0.00	0.03	0.03	—	64.5	64.5	< 0.005	< 0.005	0.11	65.4
Vendor	< 0.005	< 0.005	0.15	0.03	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	90.6	90.6	< 0.005	0.01	0.09	94.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	0.39	3.52	4.86	0.01	0.13	—	0.13	0.12	—	0.12	—	900	900	0.04	0.01	—	903
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.64	0.89	< 0.005	0.02	—	0.02	0.02	—	0.02	—	149	149	0.01	< 0.005	—	149
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.45	0.42	0.28	5.28	0.00	0.00	2.97	2.97	0.00	0.43	0.43	—	1,034	1,034	0.02	0.04	3.46	1,049
Vendor	0.04	0.03	1.85	0.34	0.01	0.01	0.73	0.74	0.01	0.13	0.14	—	1,333	1,333	< 0.005	0.20	2.76	1,396
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.39	0.38	0.36	4.12	0.00	0.00	2.97	2.97	0.00	0.43	0.43	—	931	931	0.02	0.04	0.09	943
Vendor	0.04	0.03	1.95	0.35	0.01	0.01	0.73	0.74	0.01	0.13	0.14	—	1,333	1,333	< 0.005	0.20	0.07	1,393
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.14	0.12	1.58	0.00	0.00	1.09	1.09	0.00	0.16	0.16	—	357	357	0.01	0.01	0.56	362
Vendor	0.02	0.01	0.72	0.13	< 0.005	< 0.005	0.27	0.27	< 0.005	0.05	0.05	—	500	500	< 0.005	0.08	0.45	523
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.29	0.00	0.00	0.20	0.20	0.00	0.03	0.03	—	59.1	59.1	< 0.005	< 0.005	0.09	59.9
Vendor	< 0.005	< 0.005	0.13	0.02	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	82.8	82.8	< 0.005	0.01	0.07	86.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Building Construction (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.61	12.2	15.0	0.02	0.12	—	0.12	0.11	—	0.11	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.61	12.2	15.0	0.02	0.12	—	0.12	0.11	—	0.11	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.23	4.57	5.61	0.01	0.05	—	0.05	0.04	—	0.04	—	900	900	0.04	0.01	—	903
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.83	1.02	< 0.005	0.01	—	0.01	0.01	—	0.01	—	149	149	0.01	< 0.005	—	149
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.45	0.42	0.28	5.28	0.00	0.00	2.97	2.97	0.00	0.43	0.43	—	1,034	1,034	0.02	0.04	3.46	1,049
Vendor	0.04	0.03	1.85	0.34	0.01	0.01	0.73	0.74	0.01	0.13	0.14	—	1,333	1,333	< 0.005	0.20	2.76	1,396
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.39	0.38	0.36	4.12	0.00	0.00	2.97	2.97	0.00	0.43	0.43	—	931	931	0.02	0.04	0.09	943
Vendor	0.04	0.03	1.95	0.35	0.01	0.01	0.73	0.74	0.01	0.13	0.14	—	1,333	1,333	< 0.005	0.20	0.07	1,393
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.14	0.12	1.58	0.00	0.00	1.09	1.09	0.00	0.16	0.16	—	357	357	0.01	0.01	0.56	362
Vendor	0.02	0.01	0.72	0.13	< 0.005	< 0.005	0.27	0.27	< 0.005	0.05	0.05	—	500	500	< 0.005	0.08	0.45	523
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.03	0.03	0.02	0.29	0.00	0.00	0.20	0.20	0.00	0.03	0.03	—	59.1	59.1	< 0.005	< 0.005	0.09	59.9
Vendor	< 0.005	< 0.005	0.13	0.02	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	82.8	82.8	< 0.005	0.01	0.07	86.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.88	0.74	6.94	9.95	0.01	0.30	—	0.30	0.27	—	0.27	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.36	0.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.88	0.74	6.94	9.95	0.01	0.30	—	0.30	0.27	—	0.27	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.36	0.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.16	1.50	2.15	< 0.005	0.06	—	0.06	0.06	—	0.06	—	327	327	0.01	< 0.005	—	328

Paving	0.08	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.27	0.39	< 0.005	0.01	—	0.01	0.01	—	0.01	—	54.1	54.1	< 0.005	< 0.005	—	54.3
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.04	0.83	0.00	0.00	0.47	0.47	0.00	0.07	0.07	—	162	162	< 0.005	0.01	0.54	165
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.06	0.65	0.00	0.00	0.47	0.47	0.00	0.07	0.07	—	146	146	< 0.005	0.01	0.01	148
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.10	0.10	0.00	0.01	0.01	—	32.3	32.3	< 0.005	< 0.005	0.05	32.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	5.35	5.35	< 0.005	< 0.005	0.01	5.43
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Paving (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	0.46	8.11	10.6	0.01	0.11	—	0.11	0.10	—	0.10	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.36	0.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	0.46	8.11	10.6	0.01	0.11	—	0.11	0.10	—	0.10	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.36	0.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.10	1.76	2.29	< 0.005	0.02	—	0.02	0.02	—	0.02	—	327	327	0.01	< 0.005	—	328
Paving	0.08	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.32	0.42	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	54.1	54.1	< 0.005	< 0.005	—	54.3
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.04	0.83	0.00	0.00	0.47	0.47	0.00	0.07	0.07	—	162	162	< 0.005	0.01	0.54	165
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.06	0.65	0.00	0.00	0.47	0.47	0.00	0.07	0.07	—	146	146	< 0.005	0.01	0.01	148
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.10	0.10	0.00	0.01	0.01	—	32.3	32.3	< 0.005	< 0.005	0.05	32.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	5.35	5.35	< 0.005	< 0.005	0.01	5.43
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Architectural Coating (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	40.2	40.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	40.2	40.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22.7	22.7	< 0.005	< 0.005	—	22.8

Architect Coatings	6.83	6.83	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.75	3.75	< 0.005	< 0.005	—	3.77
Architectural Coatings	1.25	1.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.06	1.06	0.00	0.00	0.59	0.59	0.00	0.09	0.09	—	207	207	< 0.005	0.01	0.69	210
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.07	0.82	0.00	0.00	0.59	0.59	0.00	0.09	0.09	—	186	186	< 0.005	0.01	0.02	189
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.10	0.10	0.00	0.01	0.01	—	32.3	32.3	< 0.005	< 0.005	0.05	32.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	5.35	5.35	< 0.005	< 0.005	0.01	5.43
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Architectural Coating (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	40.2	40.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	40.2	40.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22.7	22.7	< 0.005	< 0.005	—	22.8
Architectural Coatings	6.83	6.83	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.75	3.75	< 0.005	< 0.005	—	3.77
Architectural Coatings	1.25	1.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.06	1.06	0.00	0.00	0.59	0.59	0.00	0.09	0.09	—	207	207	< 0.005	0.01	0.69	210
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.07	0.82	0.00	0.00	0.59	0.59	0.00	0.09	0.09	—	186	186	< 0.005	0.01	0.02	189
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.10	0.10	0.00	0.01	0.01	—	32.3	32.3	< 0.005	< 0.005	0.05	32.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	5.35	5.35	< 0.005	< 0.005	0.01	5.43
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	7/1/2026	8/6/2026	7.00	37.0	—
Grading	Grading	8/7/2026	1/27/2027	7.00	174	—
Building Construction	Building Construction	8/7/2026	5/17/2027	7.00	284	—
Paving	Paving	1/28/2027	4/16/2027	7.00	79.0	—
Architectural Coating	Architectural Coating	3/17/2027	5/17/2027	7.00	62.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36

Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Tier 3	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 3	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Tier 3	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 3	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Tier 3	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Tier 3	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Tier 3	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Tier 3	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 3	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Tier 3	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 3	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix

Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	14.3	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.80	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	14.3	LDA,LDT1,LDT2
Grading	Vendor	—	8.80	HHDT,MHDT
Grading	Hauling	38.8	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	95.5	14.3	LDA,LDT1,LDT2
Building Construction	Vendor	43.8	8.80	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	14.3	LDA,LDT1,LDT2
Paving	Vendor	—	8.80	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	19.1	14.3	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.80	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix

Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	14.3	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.80	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	14.3	LDA,LDT1,LDT2
Grading	Vendor	—	8.80	HHDT,MHDT
Grading	Hauling	38.8	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	95.5	14.3	LDA,LDT1,LDT2
Building Construction	Vendor	43.8	8.80	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	14.3	LDA,LDT1,LDT2
Paving	Vendor	—	8.80	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	19.1	14.3	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.80	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	255,397	84,130	28,436

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Grading	54,000	—	522	0.00	—
Paving	0.00	0.00	0.00	0.00	10.9

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Discount Club	0.00	0%
Gasoline/Service Station	0.00	0%
Parking Lot	8.58	100%
Enclosed Parking with Elevator	2.30	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

8. User Changes to Default Data

Screen	Justification
Characteristics: Utility Information	—
Land Use	Based on project-specific information.
Construction: Construction Phases	Based on project-specific information.
Construction: Dust From Material Movement	Construction material movement based on project-specific information. Watering 2x/day based on Rule 223-1, Table 1.
Construction: Architectural Coatings	Updated the VOC emission factor based on EDCAPCD Rule 215 Limits.
Construction: Electricity	—
Construction: On-Road Fugitive Dust	Percent paved roads updated based on Project-specific information.

APPENDIX A-2
CALEEMOD MODEL RUN FOR PROJECT CONSTRUCTION SCENARIO 2 EXCLUDING CONCRETE TRUCKS

EDH Costco Construction – Scenario 2 Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

2.3. Construction Emissions by Year, Mitigated

3. Construction Emissions Details

3.1. Site Preparation (2026) - Unmitigated

3.2. Site Preparation (2026) - Mitigated

3.3. Grading (2026) - Unmitigated

3.4. Grading (2026) - Mitigated

3.5. Grading (2027) - Unmitigated

3.6. Grading (2027) - Mitigated

3.7. Building Construction (2026) - Unmitigated

3.8. Building Construction (2026) - Mitigated

3.9. Building Construction (2027) - Unmitigated

3.10. Building Construction (2027) - Mitigated

3.11. Paving (2027) - Unmitigated

3.12. Paving (2027) - Mitigated

3.13. Architectural Coating (2027) - Unmitigated

3.14. Architectural Coating (2027) - Mitigated

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.2.2. Mitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.3.2. Mitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

5.18.2.2. Mitigated

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	EDH Costco Construction – Scenario 2
Construction Start Date	7/1/2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	9.40
Location	38.659852, -121.056799
County	El Dorado-Mountain County
City	Unincorporated
Air District	El Dorado County AQMD
Air Basin	Mountain Counties
TAZ	406
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Discount Club	165	1000sqft	3.79	165,000	318,349	—	—	—
Gasoline/Service Station	16.0	Pump	0.30	2,259	0.00	—	—	—

Parking Lot	617	Space	8.58	0.00	0.00	—	—	—
Enclosed Parking with Elevator	214	Space	2.30	100,000	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers
Construction	C-6	Use Diesel Particulate Filters

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	43.5	43.1	54.9	49.4	0.20	1.61	12.4	14.0	1.49	2.89	4.38	—	21,616	21,616	0.45	1.92	23.5	22,224
Mit.	42.5	42.4	59.8	59.2	0.20	0.45	12.4	12.9	0.42	2.89	3.31	—	21,616	21,616	0.45	1.92	23.5	22,224
% Reduced	2%	2%	-9%	-20%	—	72%	—	8%	72%	—	24%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	43.4	43.0	56.1	48.0	0.20	1.61	12.4	14.0	1.49	2.89	4.38	—	21,488	21,488	0.45	1.92	0.61	22,073
Mit.	42.5	42.3	61.0	57.8	0.20	0.45	12.4	12.9	0.42	2.89	3.31	—	21,488	21,488	0.45	1.92	0.61	22,073
% Reduced	2%	2%	-9%	-21%	—	72%	—	8%	72%	—	24%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	8.06	7.89	25.5	22.3	0.08	0.77	5.00	5.78	0.72	1.17	1.88	—	9,219	9,219	0.20	0.78	4.12	9,461
Mit.	7.60	7.55	26.9	26.2	0.08	0.20	5.00	5.20	0.18	1.17	1.35	—	9,219	9,219	0.20	0.78	4.12	9,461
% Reduced	6%	4%	-6%	-18%	—	75%	—	10%	75%	—	28%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.47	1.44	4.65	4.08	0.02	0.14	0.91	1.05	0.13	0.21	0.34	—	1,526	1,526	0.03	0.13	0.68	1,566
Mit.	1.39	1.38	4.91	4.79	0.02	0.04	0.91	0.95	0.03	0.21	0.25	—	1,526	1,526	0.03	0.13	0.68	1,566
% Reduced	6%	4%	-6%	-18%	—	75%	—	10%	75%	—	28%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	5.79	4.89	54.9	49.4	0.20	1.61	12.4	14.0	1.49	2.89	4.38	—	21,616	21,616	0.45	1.92	23.5	22,224
2027	43.5	43.1	19.4	31.5	0.05	0.66	4.77	5.43	0.61	0.71	1.32	—	6,778	6,778	0.19	0.28	7.45	6,875
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	5.74	4.83	56.1	48.0	0.20	1.61	12.4	14.0	1.49	2.89	4.38	—	21,488	21,488	0.45	1.92	0.61	22,073
2027	43.4	43.0	52.9	47.2	0.20	1.49	12.4	13.9	1.38	2.89	4.27	—	21,240	21,240	0.45	1.86	0.56	21,808
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.70	2.28	25.5	22.3	0.08	0.77	5.00	5.78	0.72	1.17	1.88	—	9,219	9,219	0.20	0.78	4.12	9,461
2027	8.06	7.89	9.07	11.4	0.03	0.28	2.20	2.48	0.26	0.41	0.67	—	3,398	3,398	0.09	0.22	1.60	3,468
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.49	0.42	4.65	4.08	0.02	0.14	0.91	1.05	0.13	0.21	0.34	—	1,526	1,526	0.03	0.13	0.68	1,566
2027	1.47	1.44	1.66	2.08	0.01	0.05	0.40	0.45	0.05	0.07	0.12	—	563	563	0.01	0.04	0.26	574

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.87	2.66	59.8	59.2	0.20	0.45	12.4	12.9	0.42	2.89	3.31	—	21,616	21,616	0.45	1.92	23.5	22,224
2027	42.5	42.4	23.4	34.2	0.05	0.26	4.77	5.02	0.24	0.71	0.94	—	6,778	6,778	0.19	0.28	7.45	6,875
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.82	2.61	61.0	57.8	0.20	0.45	12.4	12.9	0.42	2.89	3.31	—	21,488	21,488	0.45	1.92	0.61	22,073
2027	42.5	42.3	59.9	57.4	0.20	0.44	12.4	12.9	0.41	2.89	3.30	—	21,240	21,240	0.45	1.86	0.56	21,808
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.23	1.15	26.9	26.2	0.08	0.20	5.00	5.20	0.18	1.17	1.35	—	9,219	9,219	0.20	0.78	4.12	9,461
2027	7.60	7.55	10.7	12.9	0.03	0.10	2.20	2.30	0.09	0.41	0.50	—	3,398	3,398	0.09	0.22	1.60	3,468
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.23	0.21	4.91	4.79	0.02	0.04	0.91	0.95	0.03	0.21	0.25	—	1,526	1,526	0.03	0.13	0.68	1,566
2027	1.39	1.38	1.95	2.35	0.01	0.02	0.40	0.42	0.02	0.07	0.09	—	563	563	0.01	0.04	0.26	574

3. Construction Emissions Details

3.1. Site Preparation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	3.74	3.14	29.2	28.8	0.05	1.24	—	1.24	1.14	—	1.14	—	5,298	5,298	0.21	0.04	—	5,316
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.38	0.32	2.96	2.92	< 0.005	0.13	—	0.13	0.12	—	0.12	—	537	537	0.02	< 0.005	—	539
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.07	0.06	0.54	0.53	< 0.005	0.02	—	0.02	0.02	—	0.02	—	88.9	88.9	< 0.005	< 0.005	—	89.2
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.05	1.03	0.00	0.00	0.54	0.54	0.00	0.08	0.08	—	193	193	< 0.005	0.01	0.70	196
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	18.0	18.0	< 0.005	< 0.005	0.03	18.2

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	2.97	2.97	< 0.005	< 0.005	0.01	3.02
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Site Preparation (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.90	0.90	24.0	28.3	0.05	0.14	—	0.14	0.13	—	0.13	—	5,298	5,298	0.21	0.04	—	5,316
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.09	2.44	2.87	< 0.005	0.01	—	0.01	0.01	—	0.01	—	537	537	0.02	< 0.005	—	539
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.02	0.02	0.44	0.52	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	88.9	88.9	< 0.005	< 0.005	—	89.2
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.05	1.03	0.00	0.00	0.54	0.54	0.00	0.08	0.08	—	193	193	< 0.005	0.01	0.70	196
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	18.0	18.0	< 0.005	< 0.005	0.03	18.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	2.97	2.97	< 0.005	< 0.005	0.01	3.02
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	3.62	3.04	27.2	27.6	0.06	1.12	—	1.12	1.03	—	1.03	—	6,599	6,599	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.61	3.61	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.62	3.04	27.2	27.6	0.06	1.12	—	1.12	1.03	—	1.03	—	6,599	6,599	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.61	3.61	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.46	1.23	11.0	11.1	0.02	0.45	—	0.45	0.42	—	0.42	—	2,658	2,658	0.11	0.02	—	2,667
Dust From Material Movement	—	—	—	—	—	—	1.45	1.45	—	0.58	0.58	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	0.22	2.00	2.03	< 0.005	0.08	—	0.08	0.08	—	0.08	—	440	440	0.02	< 0.005	—	441

Dust From Material Movement	—	—	—	—	—	—	0.27	0.27	—	0.10	0.10	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.06	1.18	0.00	0.00	0.62	0.62	0.00	0.09	0.09	—	220	220	< 0.005	0.01	0.79	224
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.27	0.21	15.5	1.68	0.10	0.10	4.50	4.60	0.10	0.82	0.92	—	9,990	9,990	0.06	1.59	15.9	10,482
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.92	0.00	0.00	0.62	0.62	0.00	0.09	0.09	—	198	198	< 0.005	0.01	0.02	201
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.27	0.21	16.5	1.72	0.10	0.10	4.50	4.60	0.10	0.82	0.92	—	9,989	9,989	0.06	1.59	0.41	10,466
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.38	0.00	0.00	0.25	0.25	0.00	0.04	0.04	—	81.5	81.5	< 0.005	< 0.005	0.14	82.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.11	0.08	6.58	0.68	0.04	0.04	1.78	1.82	0.04	0.33	0.37	—	4,023	4,023	0.02	0.64	2.77	4,218
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	13.5	13.5	< 0.005	< 0.005	0.02	13.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	0.02	1.20	0.12	0.01	0.01	0.33	0.33	0.01	0.06	0.07	—	666	666	< 0.005	0.11	0.46	698

3.4. Grading (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.30	1.26	29.8	35.4	0.06	0.21	—	0.21	0.19	—	0.19	—	6,599	6,599	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.61	3.61	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.30	1.26	29.8	35.4	0.06	0.21	—	0.21	0.19	—	0.19	—	6,599	6,599	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.61	3.61	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	0.51	12.0	14.3	0.02	0.09	—	0.09	0.08	—	0.08	—	2,658	2,658	0.11	0.02	—	2,667
Dust From Material Movement	—	—	—	—	—	—	1.45	1.45	—	0.58	0.58	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.09	2.19	2.60	< 0.005	0.02	—	0.02	0.01	—	0.01	—	440	440	0.02	< 0.005	—	441
Dust From Material Movement	—	—	—	—	—	—	0.27	0.27	—	0.10	0.10	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.06	1.18	0.00	0.00	0.62	0.62	0.00	0.09	0.09	—	220	220	< 0.005	0.01	0.79	224
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.27	0.21	15.5	1.68	0.10	0.10	4.50	4.60	0.10	0.82	0.92	—	9,990	9,990	0.06	1.59	15.9	10,482
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.92	0.00	0.00	0.62	0.62	0.00	0.09	0.09	—	198	198	< 0.005	0.01	0.02	201
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.27	0.21	16.5	1.72	0.10	0.10	4.50	4.60	0.10	0.82	0.92	—	9,989	9,989	0.06	1.59	0.41	10,466
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.38	0.00	0.00	0.25	0.25	0.00	0.04	0.04	—	81.5	81.5	< 0.005	< 0.005	0.14	82.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.11	0.08	6.58	0.68	0.04	0.04	1.78	1.82	0.04	0.33	0.37	—	4,023	4,023	0.02	0.64	2.77	4,218
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	13.5	13.5	< 0.005	< 0.005	0.02	13.7

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	0.02	1.20	0.12	0.01	0.01	0.33	0.33	0.01	0.06	0.07	—	666	666	< 0.005	0.11	0.46	698

3.5. Grading (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.51	2.95	25.6	27.3	0.06	1.04	—	1.04	0.96	—	0.96	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.61	3.61	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	0.22	1.89	2.02	< 0.005	0.08	—	0.08	0.07	—	0.07	—	488	488	0.02	< 0.005	—	490
Dust From Material Movement	—	—	—	—	—	—	0.27	0.27	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.35	0.37	< 0.005	0.01	—	0.01	0.01	—	0.01	—	80.8	80.8	< 0.005	< 0.005	—	81.1
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.07	0.86	0.00	0.00	0.62	0.62	0.00	0.09	0.09	—	195	195	< 0.005	0.01	0.02	197
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.27	0.21	15.6	1.68	0.10	0.10	4.50	4.60	0.10	0.82	0.92	—	9,786	9,786	0.06	1.54	0.38	10,248
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.07	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	0.02	1.14	0.12	0.01	0.01	0.33	0.34	0.01	0.06	0.07	—	724	724	< 0.005	0.11	0.47	759
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	2.44	2.44	< 0.005	< 0.005	< 0.005	2.47
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.21	0.02	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	120	120	< 0.005	0.02	0.08	126

3.6. Grading (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.29	1.26	29.7	35.4	0.06	0.21	—	0.21	0.19	—	0.19	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.61	3.61	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.09	2.20	2.62	< 0.005	0.02	—	0.02	0.01	—	0.01	—	488	488	0.02	< 0.005	—	490
Dust From Material Movement	—	—	—	—	—	—	0.27	0.27	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.40	0.48	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	80.8	80.8	< 0.005	< 0.005	—	81.1

Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.07	0.86	0.00	0.00	0.62	0.62	0.00	0.09	0.09	—	195	195	< 0.005	0.01	0.02	197
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.27	0.21	15.6	1.68	0.10	0.10	4.50	4.60	0.10	0.82	0.92	—	9,786	9,786	0.06	1.54	0.38	10,248
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.07	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	0.02	1.14	0.12	0.01	0.01	0.33	0.34	0.01	0.06	0.07	—	724	724	< 0.005	0.11	0.47	759
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	2.44	2.44	< 0.005	< 0.005	< 0.005	2.47
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.21	0.02	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	120	120	< 0.005	0.02	0.08	126

3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	0.43	3.97	5.22	0.01	0.15	—	0.15	0.14	—	0.14	—	965	965	0.04	0.01	—	969
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.72	0.95	< 0.005	0.03	—	0.03	0.03	—	0.03	—	160	160	0.01	< 0.005	—	160
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.47	0.44	0.28	5.62	0.00	0.00	2.97	2.97	0.00	0.43	0.43	—	1,052	1,052	0.02	0.04	3.79	1,067
Vendor	0.04	0.04	1.96	0.34	0.01	0.01	0.73	0.74	0.01	0.13	0.14	—	1,358	1,358	< 0.005	0.21	3.04	1,424
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.44	0.39	0.39	4.41	0.00	0.00	2.97	2.97	0.00	0.43	0.43	—	947	947	0.02	0.04	0.10	959
Vendor	0.04	0.04	2.07	0.36	0.01	0.01	0.73	0.74	0.01	0.13	0.14	—	1,358	1,358	< 0.005	0.21	0.08	1,421
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.16	0.14	1.80	0.00	0.00	1.17	1.17	0.00	0.17	0.17	—	389	389	0.01	0.02	0.66	395
Vendor	0.02	0.02	0.83	0.14	< 0.005	< 0.005	0.29	0.29	< 0.005	0.05	0.05	—	547	547	< 0.005	0.08	0.53	573
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.33	0.00	0.00	0.21	0.21	0.00	0.03	0.03	—	64.5	64.5	< 0.005	< 0.005	0.11	65.4
Vendor	< 0.005	< 0.005	0.15	0.03	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	90.6	90.6	< 0.005	0.01	0.09	94.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.68	0.62	12.2	15.0	0.02	0.13	—	0.13	0.12	—	0.12	—	2,397	2,397	0.10	0.02	—	2,405

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.68	0.62	12.2	15.0	0.02	0.13	—	0.13	0.12	—	0.12	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	0.25	4.92	6.03	0.01	0.05	—	0.05	0.05	—	0.05	—	965	965	0.04	0.01	—	969
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.90	1.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	160	160	0.01	< 0.005	—	160
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.47	0.44	0.28	5.62	0.00	0.00	2.97	2.97	0.00	0.43	0.43	—	1,052	1,052	0.02	0.04	3.79	1,067
Vendor	0.04	0.04	1.96	0.34	0.01	0.01	0.73	0.74	0.01	0.13	0.14	—	1,358	1,358	< 0.005	0.21	3.04	1,424
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.44	0.39	0.39	4.41	0.00	0.00	2.97	2.97	0.00	0.43	0.43	—	947	947	0.02	0.04	0.10	959
Vendor	0.04	0.04	2.07	0.36	0.01	0.01	0.73	0.74	0.01	0.13	0.14	—	1,358	1,358	< 0.005	0.21	0.08	1,421
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.16	0.14	1.80	0.00	0.00	1.17	1.17	0.00	0.17	0.17	—	389	389	0.01	0.02	0.66	395
Vendor	0.02	0.02	0.83	0.14	< 0.005	< 0.005	0.29	0.29	< 0.005	0.05	0.05	—	547	547	< 0.005	0.08	0.53	573
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.33	0.00	0.00	0.21	0.21	0.00	0.03	0.03	—	64.5	64.5	< 0.005	< 0.005	0.11	65.4
Vendor	< 0.005	< 0.005	0.15	0.03	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	90.6	90.6	< 0.005	0.01	0.09	94.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	0.39	3.52	4.86	0.01	0.13	—	0.13	0.12	—	0.12	—	900	900	0.04	0.01	—	903
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.64	0.89	< 0.005	0.02	—	0.02	0.02	—	0.02	—	149	149	0.01	< 0.005	—	149
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.45	0.42	0.28	5.28	0.00	0.00	2.97	2.97	0.00	0.43	0.43	—	1,034	1,034	0.02	0.04	3.46	1,049
Vendor	0.04	0.03	1.85	0.34	0.01	0.01	0.73	0.74	0.01	0.13	0.14	—	1,333	1,333	< 0.005	0.20	2.76	1,396
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.39	0.38	0.36	4.12	0.00	0.00	2.97	2.97	0.00	0.43	0.43	—	931	931	0.02	0.04	0.09	943
Vendor	0.04	0.03	1.95	0.35	0.01	0.01	0.73	0.74	0.01	0.13	0.14	—	1,333	1,333	< 0.005	0.20	0.07	1,393
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.14	0.12	1.58	0.00	0.00	1.09	1.09	0.00	0.16	0.16	—	357	357	0.01	0.01	0.56	362
Vendor	0.02	0.01	0.72	0.13	< 0.005	< 0.005	0.27	0.27	< 0.005	0.05	0.05	—	500	500	< 0.005	0.08	0.45	523
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.29	0.00	0.00	0.20	0.20	0.00	0.03	0.03	—	59.1	59.1	< 0.005	< 0.005	0.09	59.9
Vendor	< 0.005	< 0.005	0.13	0.02	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	82.8	82.8	< 0.005	0.01	0.07	86.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Building Construction (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.61	12.2	15.0	0.02	0.12	—	0.12	0.11	—	0.11	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.61	12.2	15.0	0.02	0.12	—	0.12	0.11	—	0.11	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.23	4.57	5.61	0.01	0.05	—	0.05	0.04	—	0.04	—	900	900	0.04	0.01	—	903
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.83	1.02	< 0.005	0.01	—	0.01	0.01	—	0.01	—	149	149	0.01	< 0.005	—	149
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.45	0.42	0.28	5.28	0.00	0.00	2.97	2.97	0.00	0.43	0.43	—	1,034	1,034	0.02	0.04	3.46	1,049
Vendor	0.04	0.03	1.85	0.34	0.01	0.01	0.73	0.74	0.01	0.13	0.14	—	1,333	1,333	< 0.005	0.20	2.76	1,396
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.39	0.38	0.36	4.12	0.00	0.00	2.97	2.97	0.00	0.43	0.43	—	931	931	0.02	0.04	0.09	943
Vendor	0.04	0.03	1.95	0.35	0.01	0.01	0.73	0.74	0.01	0.13	0.14	—	1,333	1,333	< 0.005	0.20	0.07	1,393
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.14	0.12	1.58	0.00	0.00	1.09	1.09	0.00	0.16	0.16	—	357	357	0.01	0.01	0.56	362
Vendor	0.02	0.01	0.72	0.13	< 0.005	< 0.005	0.27	0.27	< 0.005	0.05	0.05	—	500	500	< 0.005	0.08	0.45	523
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.03	0.03	0.02	0.29	0.00	0.00	0.20	0.20	0.00	0.03	0.03	—	59.1	59.1	< 0.005	< 0.005	0.09	59.9
Vendor	< 0.005	< 0.005	0.13	0.02	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	82.8	82.8	< 0.005	0.01	0.07	86.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.88	0.74	6.94	9.95	0.01	0.30	—	0.30	0.27	—	0.27	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.36	0.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.88	0.74	6.94	9.95	0.01	0.30	—	0.30	0.27	—	0.27	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.36	0.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.16	1.50	2.15	< 0.005	0.06	—	0.06	0.06	—	0.06	—	327	327	0.01	< 0.005	—	328

Paving	0.08	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.27	0.39	< 0.005	0.01	—	0.01	0.01	—	0.01	—	54.1	54.1	< 0.005	< 0.005	—	54.3
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.04	0.83	0.00	0.00	0.47	0.47	0.00	0.07	0.07	—	162	162	< 0.005	0.01	0.54	165
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.06	0.65	0.00	0.00	0.47	0.47	0.00	0.07	0.07	—	146	146	< 0.005	0.01	0.01	148
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.10	0.10	0.00	0.01	0.01	—	32.3	32.3	< 0.005	< 0.005	0.05	32.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	5.35	5.35	< 0.005	< 0.005	0.01	5.43
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Paving (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	0.46	8.11	10.6	0.01	0.11	—	0.11	0.10	—	0.10	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.36	0.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	0.46	8.11	10.6	0.01	0.11	—	0.11	0.10	—	0.10	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.36	0.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.10	1.76	2.29	< 0.005	0.02	—	0.02	0.02	—	0.02	—	327	327	0.01	< 0.005	—	328
Paving	0.08	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.32	0.42	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	54.1	54.1	< 0.005	< 0.005	—	54.3
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.04	0.83	0.00	0.00	0.47	0.47	0.00	0.07	0.07	—	162	162	< 0.005	0.01	0.54	165
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.06	0.65	0.00	0.00	0.47	0.47	0.00	0.07	0.07	—	146	146	< 0.005	0.01	0.01	148
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.10	0.10	0.00	0.01	0.01	—	32.3	32.3	< 0.005	< 0.005	0.05	32.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	5.35	5.35	< 0.005	< 0.005	0.01	5.43
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Architectural Coating (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	40.2	40.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	40.2	40.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22.7	22.7	< 0.005	< 0.005	—	22.8

Architect Coatings	6.83	6.83	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.75	3.75	< 0.005	< 0.005	—	3.77
Architectural Coatings	1.25	1.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.06	1.06	0.00	0.00	0.59	0.59	0.00	0.09	0.09	—	207	207	< 0.005	0.01	0.69	210
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.07	0.82	0.00	0.00	0.59	0.59	0.00	0.09	0.09	—	186	186	< 0.005	0.01	0.02	189
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.10	0.10	0.00	0.01	0.01	—	32.3	32.3	< 0.005	< 0.005	0.05	32.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	5.35	5.35	< 0.005	< 0.005	0.01	5.43
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Architectural Coating (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	40.2	40.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	40.2	40.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22.7	22.7	< 0.005	< 0.005	—	22.8
Architectural Coatings	6.83	6.83	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.75	3.75	< 0.005	< 0.005	—	3.77
Architectural Coatings	1.25	1.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.06	1.06	0.00	0.00	0.59	0.59	0.00	0.09	0.09	—	207	207	< 0.005	0.01	0.69	210
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.07	0.82	0.00	0.00	0.59	0.59	0.00	0.09	0.09	—	186	186	< 0.005	0.01	0.02	189
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.10	0.10	0.00	0.01	0.01	—	32.3	32.3	< 0.005	< 0.005	0.05	32.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	5.35	5.35	< 0.005	< 0.005	0.01	5.43
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	7/1/2026	8/6/2026	7.00	37.0	—
Grading	Grading	8/7/2026	1/27/2027	7.00	174	—
Building Construction	Building Construction	8/7/2026	5/17/2027	7.00	284	—
Paving	Paving	1/28/2027	4/16/2027	7.00	79.0	—
Architectural Coating	Architectural Coating	3/17/2027	5/17/2027	7.00	62.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36

Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Tier 3	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 3	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Tier 3	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 3	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Tier 3	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Tier 3	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Tier 3	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Tier 3	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 3	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Tier 3	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 3	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix

Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	14.3	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.80	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	14.3	LDA,LDT1,LDT2
Grading	Vendor	—	8.80	HHDT,MHDT
Grading	Hauling	115	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	95.5	14.3	LDA,LDT1,LDT2
Building Construction	Vendor	43.8	8.80	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	14.3	LDA,LDT1,LDT2
Paving	Vendor	—	8.80	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	19.1	14.3	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.80	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix

Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	14.3	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.80	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	14.3	LDA,LDT1,LDT2
Grading	Vendor	—	8.80	HHDT,MHDT
Grading	Hauling	115	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	95.5	14.3	LDA,LDT1,LDT2
Building Construction	Vendor	43.8	8.80	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	14.3	LDA,LDT1,LDT2
Paving	Vendor	—	8.80	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	19.1	14.3	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.80	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	255,397	84,130	28,436

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Grading	107,000	53,000	522	0.00	—
Paving	0.00	0.00	0.00	0.00	10.9

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Discount Club	0.00	0%
Gasoline/Service Station	0.00	0%
Parking Lot	8.58	100%
Enclosed Parking with Elevator	2.30	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

8. User Changes to Default Data

Screen	Justification
Characteristics: Utility Information	—
Land Use	Based on project-specific information.
Construction: Construction Phases	Based on project-specific information.
Construction: Dust From Material Movement	Construction material movement based on project-specific information. Watering 2x/day based on Rule 223-1, Table 1.
Construction: Architectural Coatings	Updated the VOC emission factor based on EDCAPCD Rule 215 Limits.
Construction: Electricity	—
Construction: On-Road Fugitive Dust	Percent paved roads updated based on Project-specific information.

APPENDIX A-3
CALEEMOD MODEL RUN FOR CONCRETE TRUCK EMISSIONS DURING PROJECT CONSTRUCTION

EDH Costco Construction - Concrete Trucks Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

3. Construction Emissions Details

3.1. Building Construction - Concrete Pour (2026) - Unmitigated

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	EDH Costco Construction - Concrete Trucks
Construction Start Date	12/3/2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	9.40
Location	38.659852, -121.056799
County	El Dorado-Mountain County
City	Unincorporated
Air District	El Dorado County AQMD
Air Basin	Mountain Counties
TAZ	406
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Discount Club	165	1000sqft	3.79	165,000	318,349	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.14	0.11	7.50	1.07	0.04	0.04	1.79	1.83	0.04	0.33	0.37	—	4,049	4,049	0.03	0.65	0.16	4,242
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	0.16	0.02	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	88.8	88.8	< 0.005	0.01	0.06	93.1
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	0.03	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.01	15.4

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.14	0.11	7.50	1.07	0.04	0.04	1.79	1.83	0.04	0.33	0.37	—	4,049	4,049	0.03	0.65	0.16	4,242
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2026	< 0.005	< 0.005	0.16	0.02	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	88.8	88.8	< 0.005	0.01	0.06	93.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	< 0.005	< 0.005	0.03	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.01	15.4

3. Construction Emissions Details

3.1. Building Construction - Concrete Pour (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.14	0.11	7.50	1.07	0.04	0.04	1.79	1.83	0.04	0.33	0.37	—	4,049	4,049	0.03	0.65	0.16	4,242
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	0.16	0.02	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	88.8	88.8	< 0.005	0.01	0.06	93.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	0.03	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.01	15.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Building Construction - Concrete Pour	Building Construction	12/3/2026	12/10/2026	7.00	8.00	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Building Construction - Concrete Pour	—	—	—	—
Building Construction - Concrete Pour	Worker	0.00	0.00	LDA,LDT1,LDT2
Building Construction - Concrete Pour	Vendor	104	8.80	HHDT
Building Construction - Concrete Pour	Hauling	0.00	0.00	HHDT
Building Construction - Concrete Pour	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Discount Club	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	204	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

8. User Changes to Default Data

Screen	Justification
Characteristics: Utility Information	—
Land Use	Project-specific information was provided by the Project Applicant.
Construction: Construction Phases	Based on project-specific information.
Construction: Off-Road Equipment	Concrete truck run only.
Construction: Trips and VMT	Vendor fleet mix based on project-specific information.
Construction: Electricity	—
Construction: On-Road Fugitive Dust	Percent paved roads updated based on Project-specific information.

APPENDIX A-4
CALEEMOD MODEL RUN FOR SITE ACCESS AND ROADWAY IMPROVEMENTS

Site Access and Roadway Improvements Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

2.3. Construction Emissions by Year, Mitigated

3. Construction Emissions Details

3.1. Linear, Grubbing & Land Clearing (2026) - Unmitigated

3.2. Linear, Grubbing & Land Clearing (2026) - Mitigated

3.3. Linear, Grading & Excavation (2026) - Unmitigated

3.4. Linear, Grading & Excavation (2026) - Mitigated

3.5. Linear, Drainage, Utilities, & Sub-Grade (2026) - Unmitigated

3.6. Linear, Drainage, Utilities, & Sub-Grade (2026) - Mitigated

3.7. Linear, Drainage, Utilities, & Sub-Grade (2027) - Unmitigated

3.8. Linear, Drainage, Utilities, & Sub-Grade (2027) - Mitigated

3.9. Linear, Paving (2027) - Unmitigated

3.10. Linear, Paving (2027) - Mitigated

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.2.2. Mitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.3.2. Mitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

5.18.2.2. Mitigated

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Site Access and Roadway Improvements
Construction Start Date	7/1/2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	9.40
Location	38.659852, -121.056799
County	El Dorado-Mountain County
City	Unincorporated
Air District	El Dorado County AQMD
Air Basin	Mountain Counties
TAZ	406
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Road Widening	0.60	Mile	7.20	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers
Construction	C-6	Use Diesel Particulate Filters

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.69	0.58	5.73	5.26	0.02	0.24	1.48	1.71	0.22	0.24	0.44	—	1,815	1,815	0.03	0.18	2.10	1,872
Mit.	0.42	0.37	5.15	5.25	0.02	0.09	1.48	1.55	0.08	0.24	0.30	—	1,815	1,815	0.03	0.18	2.10	1,872
% Reduced	39%	37%	10%	< 0.5%	—	64%	—	9%	64%	—	32%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.33	1.12	9.42	10.5	0.02	0.33	0.54	0.80	0.31	0.07	0.37	—	2,695	2,695	0.11	0.03	0.02	2,706
Mit.	0.78	0.72	12.2	14.7	0.02	0.13	0.54	0.62	0.11	0.07	0.18	—	2,695	2,695	0.11	0.03	0.02	2,706
% Reduced	41%	36%	-30%	-39%	—	62%	—	22%	63%	—	51%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.43	0.37	3.00	3.31	0.01	0.13	0.32	0.46	0.12	0.05	0.17	—	742	742	0.03	0.02	0.16	750
Mit.	0.26	0.23	3.20	3.90	0.01	0.05	0.32	0.37	0.04	0.05	0.09	—	742	742	0.03	0.02	0.16	750
% Reduced	40%	37%	-7%	-18%	—	64%	—	19%	64%	—	47%	—	—	—	—	—	—	—

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.08	0.07	0.55	0.60	< 0.005	0.02	0.06	0.08	0.02	0.01	0.03	—	123	123	< 0.005	< 0.005	0.03	124
Mit.	0.05	0.04	0.58	0.71	< 0.005	0.01	0.06	0.07	0.01	0.01	0.02	—	123	123	< 0.005	< 0.005	0.03	124
% Reduced	40%	37%	-7%	-18%	—	64%	—	19%	64%	—	47%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.69	0.58	5.73	5.26	0.02	0.24	1.48	1.71	0.22	0.24	0.44	—	1,815	1,815	0.03	0.18	2.10	1,872
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.33	1.12	9.42	10.5	0.02	0.33	0.54	0.80	0.31	0.07	0.37	—	2,695	2,695	0.11	0.03	0.02	2,706
2027	1.29	1.08	8.89	10.4	0.02	0.31	0.47	0.78	0.28	0.07	0.35	—	2,692	2,692	0.11	0.03	0.01	2,702
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.43	0.37	3.00	3.31	0.01	0.13	0.32	0.46	0.12	0.05	0.17	—	742	742	0.03	0.02	0.16	750
2027	0.17	0.14	1.23	1.58	< 0.005	0.05	0.07	0.12	0.04	0.01	0.05	—	362	362	0.01	< 0.005	0.04	363
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.08	0.07	0.55	0.60	< 0.005	0.02	0.06	0.08	0.02	0.01	0.03	—	123	123	< 0.005	< 0.005	0.03	124
2027	0.03	0.03	0.22	0.29	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	—	59.9	59.9	< 0.005	< 0.005	0.01	60.1

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.42	0.37	5.15	5.25	0.02	0.09	1.48	1.55	0.08	0.24	0.30	—	1,815	1,815	0.03	0.18	2.10	1,872
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.78	0.72	12.2	14.7	0.02	0.13	0.54	0.62	0.11	0.07	0.18	—	2,695	2,695	0.11	0.03	0.02	2,706
2027	0.77	0.71	12.2	14.6	0.02	0.12	0.47	0.59	0.11	0.07	0.18	—	2,692	2,692	0.11	0.03	0.01	2,702
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.26	0.23	3.20	3.90	0.01	0.05	0.32	0.37	0.04	0.05	0.09	—	742	742	0.03	0.02	0.16	750
2027	0.10	0.09	1.65	2.06	< 0.005	0.01	0.07	0.09	0.01	0.01	0.02	—	362	362	0.01	< 0.005	0.04	363
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.05	0.04	0.58	0.71	< 0.005	0.01	0.06	0.07	0.01	0.01	0.02	—	123	123	< 0.005	< 0.005	0.03	124
2027	0.02	0.02	0.30	0.38	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	59.9	59.9	< 0.005	< 0.005	0.01	60.1

3. Construction Emissions Details

3.1. Linear, Grubbing & Land Clearing (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.55	0.46	4.04	4.49	0.01	0.21	—	0.21	0.20	—	0.20	—	632	632	0.03	0.01	—	634
Demolition	—	—	—	—	—	—	0.69	0.69	—	0.10	0.10	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.29	0.32	< 0.005	0.02	—	0.02	0.01	—	0.01	—	45.0	45.0	< 0.005	< 0.005	—	45.2
Demolition	—	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.45	7.45	< 0.005	< 0.005	—	7.48
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.59	0.00	0.00	0.31	0.31	0.00	0.04	0.04	—	110	110	< 0.005	< 0.005	0.40	112
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	0.02	1.67	0.18	0.01	0.01	0.48	0.49	0.01	0.09	0.10	—	1,073	1,073	0.01	0.17	1.70	1,126
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	7.21	7.21	< 0.005	< 0.005	0.01	7.31
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.12	0.01	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	76.4	76.4	< 0.005	0.01	0.05	80.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.19	1.19	< 0.005	< 0.005	< 0.005	1.21
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	12.7	12.7	< 0.005	< 0.005	0.01	13.3

3.2. Linear, Grubbing & Land Clearing (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	0.25	3.45	4.48	0.01	0.06	—	0.06	0.05	—	0.05	—	632	632	0.03	0.01	—	634
Demolition	—	—	—	—	—	—	0.69	0.69	—	0.10	0.10	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.02	0.25	0.32	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	45.0	45.0	< 0.005	< 0.005	—	45.2
Demolition	—	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.45	7.45	< 0.005	< 0.005	—	7.48
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.59	0.00	0.00	0.31	0.31	0.00	0.04	0.04	—	110	110	< 0.005	< 0.005	0.40	112
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	0.02	1.67	0.18	0.01	0.01	0.48	0.49	0.01	0.09	0.10	—	1,073	1,073	0.01	0.17	1.70	1,126
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	7.21	7.21	< 0.005	< 0.005	0.01	7.31
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.12	0.01	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	76.4	76.4	< 0.005	0.01	0.05	80.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.19	1.19	< 0.005	< 0.005	< 0.005	1.21

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	12.7	12.7	< 0.005	< 0.005	0.01	13.3

3.3. Linear, Grading & Excavation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.53	4.14	4.43	0.01	0.24	—	0.24	0.22	—	0.22	—	632	632	0.03	0.01	—	634
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.53	4.14	4.43	0.01	0.24	—	0.24	0.22	—	0.22	—	632	632	0.03	0.01	—	634
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.18	0.15	1.19	1.28	< 0.005	0.07	—	0.07	0.06	—	0.06	—	182	182	0.01	< 0.005	—	182
Dust From Material Movement	—	—	—	—	—	—	0.06	0.06	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.03	0.03	0.22	0.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	30.1	30.1	< 0.005	< 0.005	—	30.2
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.59	0.00	0.00	0.31	0.31	0.00	0.04	0.04	—	110	110	< 0.005	< 0.005	0.40	112
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	31.0	31.0	< 0.005	< 0.005	0.07	32.5
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.45	7.45	< 0.005	< 0.005	0.01	7.82
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.46	0.00	0.00	0.31	0.31	0.00	0.04	0.04	—	99.1	99.1	< 0.005	< 0.005	0.01	100
Vendor	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	31.0	31.0	< 0.005	< 0.005	< 0.005	32.4
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.45	7.45	< 0.005	< 0.005	< 0.005	7.80
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.09	0.09	0.00	0.01	0.01	—	29.1	29.1	< 0.005	< 0.005	0.05	29.5

Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.92	8.92	< 0.005	< 0.005	0.01	9.34
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.14	2.14	< 0.005	< 0.005	< 0.005	2.25
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	4.82	4.82	< 0.005	< 0.005	0.01	4.89
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.48	1.48	< 0.005	< 0.005	< 0.005	1.55
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.35	0.35	< 0.005	< 0.005	< 0.005	0.37

3.4. Linear, Grading & Excavation (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	0.32	3.55	4.42	0.01	0.09	—	0.09	0.08	—	0.08	—	632	632	0.03	0.01	—	634
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	0.32	3.55	4.42	0.01	0.09	—	0.09	0.08	—	0.08	—	632	632	0.03	0.01	—	634

Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	1.02	1.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	182	182	0.01	< 0.005	—	182
Dust From Material Movement	—	—	—	—	—	—	0.06	0.06	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.19	0.23	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	30.1	30.1	< 0.005	< 0.005	—	30.2
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.59	0.00	0.00	0.31	0.31	0.00	0.04	0.04	—	110	110	< 0.005	< 0.005	0.40	112
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	31.0	31.0	< 0.005	< 0.005	0.07	32.5
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.45	7.45	< 0.005	< 0.005	0.01	7.82

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.46	0.00	0.00	0.31	0.31	0.00	0.04	0.04	—	99.1	99.1	< 0.005	< 0.005	0.01	100
Vendor	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	31.0	31.0	< 0.005	< 0.005	< 0.005	32.4
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.45	7.45	< 0.005	< 0.005	< 0.005	7.80
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.09	0.09	0.00	0.01	0.01	—	29.1	29.1	< 0.005	< 0.005	0.05	29.5
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.92	8.92	< 0.005	< 0.005	0.01	9.34
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.14	2.14	< 0.005	< 0.005	< 0.005	2.25
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	4.82	4.82	< 0.005	< 0.005	0.01	4.89
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.48	1.48	< 0.005	< 0.005	< 0.005	1.55
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.35	0.35	< 0.005	< 0.005	< 0.005	0.37

3.5. Linear, Drainage, Utilities, & Sub-Grade (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.26	1.06	9.36	9.84	0.02	0.33	—	0.33	0.31	—	0.31	—	2,546	2,546	0.10	0.02	—	2,555
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.36	1.43	< 0.005	0.05	—	0.05	0.04	—	0.04	—	370	370	0.01	< 0.005	—	371
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.25	0.26	< 0.005	0.01	—	0.01	0.01	—	0.01	—	61.2	61.2	< 0.005	< 0.005	—	61.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.69	0.00	0.00	0.47	0.47	0.00	0.07	0.07	—	149	149	< 0.005	0.01	0.02	151
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.07	0.07	0.00	0.01	0.01	—	22.1	22.1	< 0.005	< 0.005	0.04	22.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	3.65	3.65	< 0.005	< 0.005	0.01	3.70
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Linear, Drainage, Utilities, & Sub-Grade (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.72	0.66	12.2	14.0	0.02	0.13	—	0.13	0.11	—	0.11	—	2,546	2,546	0.10	0.02	—	2,555
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.10	1.77	2.03	< 0.005	0.02	—	0.02	0.02	—	0.02	—	370	370	0.01	< 0.005	—	371
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.32	0.37	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	61.2	61.2	< 0.005	< 0.005	—	61.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.69	0.00	0.00	0.47	0.47	0.00	0.07	0.07	—	149	149	< 0.005	0.01	0.02	151
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.07	0.07	0.00	0.01	0.01	—	22.1	22.1	< 0.005	< 0.005	0.04	22.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	3.65	3.65	< 0.005	< 0.005	0.01	3.70
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Linear, Drainage, Utilities, & Sub-Grade (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.22	1.02	8.83	9.77	0.02	0.31	—	0.31	0.28	—	0.28	—	2,545	2,545	0.10	0.02	—	2,554
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.94	1.04	< 0.005	0.03	—	0.03	0.03	—	0.03	—	272	272	0.01	< 0.005	—	273
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.17	0.19	< 0.005	0.01	—	0.01	0.01	—	0.01	—	45.0	45.0	< 0.005	< 0.005	—	45.2
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.06	0.65	0.00	0.00	0.47	0.47	0.00	0.07	0.07	—	146	146	< 0.005	0.01	0.01	148
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	16.0	16.0	< 0.005	< 0.005	0.03	16.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	2.64	2.64	< 0.005	< 0.005	< 0.005	2.68
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Linear, Drainage, Utilities, & Sub-Grade (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.70	0.65	12.1	14.0	0.02	0.12	—	0.12	0.11	—	0.11	—	2,545	2,545	0.10	0.02	—	2,554
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	1.30	1.49	< 0.005	0.01	—	0.01	0.01	—	0.01	—	272	272	0.01	< 0.005	—	273
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.24	0.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	45.0	45.0	< 0.005	< 0.005	—	45.2
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.06	0.65	0.00	0.00	0.47	0.47	0.00	0.07	0.07	—	146	146	< 0.005	0.01	0.01	148
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	16.0	16.0	< 0.005	< 0.005	0.03	16.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	2.64	2.64	< 0.005	< 0.005	< 0.005	2.68
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Linear, Paving (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	0.24	2.61	3.99	0.01	0.11	—	0.11	0.10	—	0.10	—	614	614	0.02	< 0.005	—	616
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.28	0.43	< 0.005	0.01	—	0.01	0.01	—	0.01	—	65.6	65.6	< 0.005	< 0.005	—	65.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.05	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.9	10.9	< 0.005	< 0.005	—	10.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.32	0.00	0.00	0.23	0.23	0.00	0.03	0.03	—	73.1	73.1	< 0.005	< 0.005	0.01	74.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	7.98	7.98	< 0.005	< 0.005	0.01	8.09
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.32	1.32	< 0.005	< 0.005	< 0.005	1.34
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Linear, Paving (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.10	3.19	4.31	0.01	0.02	—	0.02	0.02	—	0.02	—	614	614	0.02	< 0.005	—	616
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.34	0.46	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	65.6	65.6	< 0.005	< 0.005	—	65.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.06	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.9	10.9	< 0.005	< 0.005	—	10.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.32	0.00	0.00	0.23	0.23	0.00	0.03	0.03	—	73.1	73.1	< 0.005	< 0.005	0.01	74.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	7.98	7.98	< 0.005	< 0.005	0.01	8.09
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.32	1.32	< 0.005	< 0.005	< 0.005	1.34
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Linear, Grubbing & Land Clearing	Linear, Grubbing & Land Clearing	7/1/2026	7/26/2026	7.00	26.0	—
Linear, Grading & Excavation	Linear, Grading & Excavation	7/27/2026	11/8/2026	7.00	105	—
Linear, Drainage, Utilities, & Sub-Grade	Linear, Drainage, Utilities, & Sub-Grade	11/9/2026	2/8/2027	7.00	92.0	—
Linear, Paving	Linear, Paving	2/9/2027	3/19/2027	7.00	39.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Linear, Grubbing & Land Clearing	Crawler Tractors	Diesel	Average	1.00	8.00	87.0	0.43
Linear, Grubbing & Land Clearing	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Linear, Grubbing & Land Clearing	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Linear, Grading & Excavation	Crawler Tractors	Diesel	Average	1.00	8.00	87.0	0.43
Linear, Grading & Excavation	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Linear, Grading & Excavation	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Linear, Drainage, Utilities, & Sub-Grade	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
Linear, Drainage, Utilities, & Sub-Grade	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43

Linear, Drainage, Utilities, & Sub-Grade	Pumps	Diesel	Average	1.00	8.00	11.0	0.74
Linear, Drainage, Utilities, & Sub-Grade	Rough Terrain Forklifts	Diesel	Average	1.00	8.00	96.0	0.40
Linear, Drainage, Utilities, & Sub-Grade	Scrapers	Diesel	Average	1.00	8.00	423	0.48
Linear, Drainage, Utilities, & Sub-Grade	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Linear, Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Linear, Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Linear, Paving	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Linear, Grubbing & Land Clearing	Crawler Tractors	Diesel	Tier 3	1.00	8.00	87.0	0.43
Linear, Grubbing & Land Clearing	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Linear, Grubbing & Land Clearing	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Linear, Grading & Excavation	Crawler Tractors	Diesel	Tier 3	1.00	8.00	87.0	0.43
Linear, Grading & Excavation	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Linear, Grading & Excavation	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Linear, Drainage, Utilities, & Sub-Grade	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
Linear, Drainage, Utilities, & Sub-Grade	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Linear, Drainage, Utilities, & Sub-Grade	Pumps	Diesel	Average	1.00	8.00	11.0	0.74

Linear, Drainage, Utilities, & Sub-Grade	Rough Terrain Forklifts	Diesel	Tier 3	1.00	8.00	96.0	0.40
Linear, Drainage, Utilities, & Sub-Grade	Scrapers	Diesel	Tier 3	1.00	8.00	423	0.48
Linear, Drainage, Utilities, & Sub-Grade	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Linear, Paving	Pavers	Diesel	Tier 3	1.00	8.00	81.0	0.42
Linear, Paving	Paving Equipment	Diesel	Tier 3	1.00	8.00	89.0	0.36
Linear, Paving	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Linear, Grubbing & Land Clearing	—	—	—	—
Linear, Grubbing & Land Clearing	Worker	10.0	14.3	LDA,LDT1,LDT2
Linear, Grubbing & Land Clearing	Vendor	0.00	8.80	HHDT,MHDT
Linear, Grubbing & Land Clearing	Hauling	12.3	20.0	HHDT
Linear, Grubbing & Land Clearing	Onsite truck	—	—	HHDT
Linear, Grading & Excavation	—	—	—	—
Linear, Grading & Excavation	Worker	10.0	14.3	LDA,LDT1,LDT2
Linear, Grading & Excavation	Vendor	1.00	8.80	HHDT,MHDT
Linear, Grading & Excavation	Hauling	0.09	20.0	HHDT
Linear, Grading & Excavation	Onsite truck	—	—	HHDT
Linear, Drainage, Utilities, & Sub-Grade	—	—	—	—
Linear, Drainage, Utilities, & Sub-Grade	Worker	15.0	14.3	LDA,LDT1,LDT2
Linear, Drainage, Utilities, & Sub-Grade	Vendor	0.00	8.80	HHDT,MHDT

Linear, Drainage, Utilities, & Sub-Grade	Hauling	0.00	20.0	HHDT
Linear, Drainage, Utilities, & Sub-Grade	Onsite truck	—	—	HHDT
Linear, Paving	—	—	—	—
Linear, Paving	Worker	7.50	14.3	LDA,LDT1,LDT2
Linear, Paving	Vendor	0.00	8.80	HHDT,MHDT
Linear, Paving	Hauling	0.00	20.0	HHDT
Linear, Paving	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Linear, Grubbing & Land Clearing	—	—	—	—
Linear, Grubbing & Land Clearing	Worker	10.0	14.3	LDA,LDT1,LDT2
Linear, Grubbing & Land Clearing	Vendor	0.00	8.80	HHDT,MHDT
Linear, Grubbing & Land Clearing	Hauling	12.3	20.0	HHDT
Linear, Grubbing & Land Clearing	Onsite truck	—	—	HHDT
Linear, Grading & Excavation	—	—	—	—
Linear, Grading & Excavation	Worker	10.0	14.3	LDA,LDT1,LDT2
Linear, Grading & Excavation	Vendor	1.00	8.80	HHDT,MHDT
Linear, Grading & Excavation	Hauling	0.09	20.0	HHDT
Linear, Grading & Excavation	Onsite truck	—	—	HHDT
Linear, Drainage, Utilities, & Sub-Grade	—	—	—	—
Linear, Drainage, Utilities, & Sub-Grade	Worker	15.0	14.3	LDA,LDT1,LDT2
Linear, Drainage, Utilities, & Sub-Grade	Vendor	0.00	8.80	HHDT,MHDT
Linear, Drainage, Utilities, & Sub-Grade	Hauling	0.00	20.0	HHDT

Linear, Drainage, Utilities, & Sub-Grade	Onsite truck	—	—	HHDT
Linear, Paving	—	—	—	—
Linear, Paving	Worker	7.50	14.3	LDA,LDT1,LDT2
Linear, Paving	Vendor	0.00	8.80	HHDT,MHDT
Linear, Paving	Hauling	0.00	20.0	HHDT
Linear, Paving	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Linear, Grubbing & Land Clearing	0.00	0.00	0.00	1,284	—
Linear, Grading & Excavation	70.0	—	7.20	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Road Widening	7.20	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	88.1	204	0.03	< 0.005
2027	58.7	204	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

8. User Changes to Default Data

Screen	Justification
Construction: Demolition	Construction demolition material movement based on project-specific information. Watering 2x/day based on Rule 223-1, Table 1.
Construction: Trips and VMT	—
Construction: Construction Phases	Based on project-specific information.
Construction: Dust From Material Movement	Construction material movement based on project-specific information. Watering 2x/day based on Rule 223-1, Table 1.
Characteristics: Utility Information	—
Construction: Electricity	—
Construction: Off-Road Equipment	Equipment list updated to account for overlap of Project Construction and Site Access and Roadway Improvements Construction.
Construction: On-Road Fugitive Dust	Percent paved roads updated based on Project-specific information.

APPENDIX A-5
CONSTRUCTION EMISSION CALCULATION TABLES

List of Tables

Table A-1: Criteria Air Pollutant Emission Factors for Concrete Truck Idling
Table A-2: Maximum Daily Criteria Air Pollutant Emissions from Concrete Trucks during Project Construction
Table A-3: Estimating Unmitigated Criteria Air Pollutant Emissions for Project Construction - Scenario 1
Table A-4: Estimating Unmitigated Criteria Air Pollutant Emissions for Project Construction - Scenario 2
Table A-5: Estimating Mitigated Criteria Air Pollutant Emissions for Project Construction - Scenario 1
Table A-6: Estimating Mitigated Criteria Air Pollutant Emissions for Project Construction - Scenario 2

Table A-1. Criteria Air Pollutant Emission Factors for Concrete Truck Idling
El Dorado Hills Costco Project
El Dorado Hills, California

EMFAC Vehicle Class	Fuel Type	Concrete Truck Fleet Mix [1]	VOC Emission Factor [2,3] (grams/ idle-minute)	NO_X Emission Factor [2] (grams/ idle-minute)	CO Emission Factor [2] (grams/ idle-minute)	SO_X Emission Factor [2] (grams/ idle-minute)	PM_{10} Emission Factor [2] (grams/ idle-minute)	$PM_{2.5}$ Emission Factor [2] (grams/ idle-minute)
HHDT	Diesel	100%	0.039	0.58	0.53	9.1E-04	6.2E-04	5.9E-04
Weighted Idling Emission Factor [4]			0.039	0.58	0.53	9.1E-04	6.2E-04	5.9E-04

Notes:

[1] Concrete trucks are conservatively assumed to be diesel-fueled HHDT.

[2] Idling emission factors were obtained from the default EMFAC2021 project-level output for El Dorado (MC) sub-area in calendar year 2026.

[3] For purposes of this analysis VOC is assumed to be equal to ROG.

[4] Weighted average emission factors for concrete trucks are calculated as the sumproduct of the project specific fleet mix and the emission factors for the individual vehicle class/fuel categories within that fleet mix.

Abbreviations:

CO - carbon monoxide

EMFAC - EMission FACtors model

HHDT - Heavy Heavy-Duty Truck

MC - Mountain County

NO_x - nitrogen oxide compounds

$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter

PM_{10} - particulate matter less than 10 microns in diameter

ROG - reactive organic gases

SO_x - sulfur oxide compounds

VOC - volatile organic compounds

Table A-2. Maximum Daily Criteria Air Pollutant Emissions from Concrete Trucks during Project Construction
El Dorado Hills Costco Project
El Dorado Hills, California

Concrete Truck Activity	Number of Days of Concrete Truck Activity [1] (days)	Daily Trips [1] (round trips/day)	Idle Duration [1] (minutes/ round trip)	VOC Emissions [2] (lbs/day)	NO_X Emissions (lbs/day)	CO Emissions (lbs/day)	SO_X Emissions (lbs/day)	PM_{10} Emissions (lbs/day)	$PM_{2.5}$ Emissions (lbs/day)
Idling [3]	8	52	60	0.27	4.0	3.7	0.0063	0.0043	0.0041
On-Road Travel [4]	8	52	-	0.11	7.5	1.1	0.043	1.8	0.4
Total Emissions				**0.38**	**12**	**4.7**	**0.049**	**1.8**	**0.4**

Notes:

[1] Based on Project-specific information.

[2] For purposes of this analysis VOC is assumed to be equal to ROG.

[3] Idling emissions were estimated as a product of the emission factors from **Table A-1**, the idle duration per round trip, and the number of round trips per day.

[4] Obtained from the CalEEMod model run for concrete trucks in **Appendix A-3**.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel
CO - carbon monoxide
NO_x - nitrogen oxide compounds
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
PM_{10} - particulate matter less than 10 microns in diameter
ROG - reactive organic gases
SO_x - sulfur oxide compounds
VOC - volatile organic compounds

Table A-3. Estimating Unmitigated Criteria Air Pollutant Emissions for Project Construction - Scenario 1
El Dorado Hills Costco Project
El Dorado Hills, California

Overlapping Construction Phases [1]	Start Date	End Date	Number of Construction Days	Construction Time Period	Season [2]	Daily VOC Emissions [3,4] (lbs/day)	Daily NO_X Emissions [3] (lbs/day)	Daily CO Emissions [3] (lbs/day)	Daily SO_X Emissions [3,5] (lbs/day)	Daily PM_{10} Emissions [3,6] (lbs/day)	Daily $PM_{2.5}$ Emissions [3,6] (lbs/day)	Total VOC Emissions [4,7] (lbs)	Total NO_X Emissions [7] (lbs)	Total CO Emissions [7] (lbs)	Total SO_X Emissions [5,7] (lbs)	Total PM_{10} Emissions [6,7] (lbs)	Total $PM_{2.5}$ Emissions [6,7] (lbs)
Site Preparation + Linear, Grubbing & Land Clearing	7/1/2026	7/26/2026	26	First Quarter	Summer	3.8	35	35	0.07	3.5	1.7	98	909	913	1.7	91	43
Site Preparation + Linear, Grading & Excavation	7/27/2026	8/6/2026	11	First Quarter	Summer	3.8	33	35	0.06	2.6	1.5	42	368	384	0.6	28	17
Grading + Building Construction + Linear, Grading & Excavation	8/7/2026	9/30/2026	55	First Quarter	Summer	5.3	49	53	0.13	12	4.1	293	2686	2930	7.4	647	223
Grading + Building Construction + Linear, Grading & Excavation	10/1/2026	11/8/2026	39	Second Quarter	Winter	5.3	49	52	0.13	12	4.1	206	1928	2017	5.2	459	158
Grading + Building Construction + Linear, Drainage, Utilities, & Sub-Grade	11/9/2026	12/2/2026	24	Second Quarter	Winter	5.8	55	57	0.15	12	4.1	140	1311	1376	3.7	283	99
Grading + Building Construction + Linear, Drainage, Utilities, & Sub-Grade + Concrete Truck Activity	12/3/2026	12/10/2026	8	Second Quarter	Winter	6.2	66	62	0.20	14	4.5	50	529	497	1.6	109	36
Grading + Building Construction + Linear, Drainage, Utilities, & Sub-Grade	12/11/2026	12/31/2026	21	Second Quarter	Winter	5.8	55	57	0.15	12	4.1	122	1147	1204	3.2	247	87
Grading + Building Construction + Linear, Drainage, Utilities, & Sub-Grade	1/1/2027	1/27/2027	27	Third Quarter	Winter	5.6	51	57	0.15	12	4.0	152	1390	1527	4.1	314	108
Building Construction + Paving + Linear, Drainage, Utilities, & Sub-Grade	1/28/2027	2/8/2027	12	Third Quarter	Winter	3.7	28	38	0.07	5.6	1.6	44	331	461	0.8	67	19
Building Construction + Paving + Linear, Paving [8]	2/9/2027	3/16/2027	36	Third Quarter	Winter	3.4	21	32	0.05	5.2	1.4	121	768	1164	1.9	186	49
Building Construction + Paving + Architectural Coating + Linear, Paving [8]	3/17/2027	3/19/2027	3	Third Quarter	Winter	44	22	34	0.05	5.8	1.5	131	67	103	0.2	17	4.4
Building Construction + Paving + Architectural Coating	3/20/2027	3/31/2027	12	Third Quarter	Winter	43	20	30	0.05	5.4	1.3	516	235	360	0.6	65	16
Building Construction + Paving + Architectural Coating	4/1/2027	4/16/2027	16	Fourth Quarter	Summer	43	19	32	0.05	5.4	1.3	689	310	504	0.8	87	21
Building Construction + Architectural Coating	4/17/2027	5/17/2027	31	Fourth Quarter	Summer	42	12	21	0.03	4.7	1.0	1299	385	643	1.0	145	30

Notes:

[1] Overlapping construction phases were determined based on the proposed construction schedules shown in **Table 4-1** and **Table 4-2**. Additionally, as noted in **Table 4-5** concrete truck activity is expected to occur on eight days in December 2026 during the Building Construction phase.

[2] Based on CalEEMod defaults.

[3] Estimated by summing up the maximum daily mitigated emissions for the overlapping construction phases. Maximum daily emissions for the Site Preparation; Grading; Building Construction; Paving; and Architectural Coating phases are obtained from **Appendix A-1**. Maximum daily emissions for the Linear, Grubbing & Land Clearing; Linear, Grading & Excavation; Linear, Drainage, Utilities, & Sub-Grade; and Linear, Paving construction phases are obtained from **Appendix A-4**. Maximum daily emissions for concrete truck activity is obtained from **Table A-2**.

[4] For purposes of this analysis VOC emissions are assumed to be equal to ROG.

[5] For purposes of this analysis SO_X emissions are assumed to be equal to SO_2.

[6] Particulate matter emissions include exhaust emissions from off-road construction equipment, fugitive dust emissions from on-site construction activities, and exhaust/tire wear/brake wear/entrained road dust emissions from on-road vehicles associated with project construction. As noted in **Section 4.2.3**, fugitive dust emissions will be controlled by watering the construction site twice daily in accordance with the EDCAQMD Rule 223-1. Particulate matter emissions presented here account for these control measures for fugitive dust emissions.

[7] Estimated by multiplying the maximum daily emissions by the number of construction days for each overlapping construction phases.

[8] The CalEEMod output for the Linear, Paving phase in the Site Access + Roadway Improvements construction did not account for VOC emissions from Paving. Hence, we have estimated this using CalEEMod methodology and included it in this emissions summary. The VOC emissions from Paving are estimated as 0.47 lbs/day, per the following equation: 2.62 lbs of VOC/acre paved * 7.2 acres paved * 100% paved areas / 39 work days.

Abbreviations:

CO - carbon monoxide
CalEEMod - CALifornia Emissions Estimator MODel
EDCAQMD - El Dorado County Air Quality Management District
lbs - pounds
NOx - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_2 - sulfur dioxide
SO_x - sulfur oxide compounds
VOC - volatile organic compounds

Table A-4. Estimating Unmitigated Criteria Air Pollutant Emissions for Project Construction - Scenario 2
El Dorado Hills Costco Project
El Dorado Hills, California

Overlapping Construction Phases [1]	Start Date	End Date	Number of Construction Days	Construction Time Period	Season [2]	Daily VOC Emissions [3,4] (lbs/day)	Daily NO_X Emissions [3] (lbs/day)	Daily CO Emissions [3] (lbs/day)	Daily SO_X Emissions [3,5] (lbs/day)	Daily PM_{10} Emissions [3,6] (lbs/day)	Daily $PM_{2.5}$ Emissions [3,6] (lbs/day)	Total VOC Emissions [4,7] (lbs)	Total NO_X Emissions [7] (lbs)	Total CO Emissions [7] (lbs)	Total SO_X Emissions [5,7] (lbs)	Total PM_{10} Emissions [6,7] (lbs)	Total $PM_{2.5}$ Emissions [6,7] (lbs)
Site Preparation + Linear, Grubbing & Land Clearing	7/1/2026	7/26/2026	26	First Quarter	Summer	3.8	35	35	0.07	3.5	1.7	98	909	913	1.7	91	43
Site Preparation + Linear, Grading & Excavation	7/27/2026	8/6/2026	11	First Quarter	Summer	3.8	33	35	0.06	2.6	1.5	42	368	384	0.6	28	17
Grading + Building Construction + Linear, Grading & Excavation	8/7/2026	9/30/2026	55	First Quarter	Summer	5.5	59	54	0.20	15	4.7	301	3251	2992	11.2	815	257
Grading + Building Construction + Linear, Grading & Excavation	10/1/2026	11/8/2026	39	Second Quarter	Winter	5.4	60	53	0.20	15	4.7	211	2354	2062	7.9	578	182
Grading + Building Construction + Linear, Drainage, Utilities, & Sub-Grade	11/9/2026	12/2/2026	24	Second Quarter	Winter	6.0	66	58	0.22	15	4.8	143	1573	1404	5.3	356	114
Grading + Building Construction + Linear, Drainage, Utilities, & Sub-Grade + Concrete Truck Activity	12/3/2026	12/10/2026	8	Second Quarter	Winter	6.3	77	63	0.27	17	5.1	51	616	506	2.2	133	41
Grading + Building Construction + Linear, Drainage, Utilities, & Sub-Grade	12/11/2026	12/31/2026	21	Second Quarter	Winter	6.0	66	58	0.22	15	4.8	125	1376	1228	4.7	312	100
Grading + Building Construction + Linear, Drainage, Utilities, & Sub-Grade	1/1/2027	1/27/2027	27	Third Quarter	Winter	5.8	62	58	0.22	15	4.6	155	1669	1557	6.0	397	125
Building Construction + Paving + Linear, Drainage, Utilities, & Sub-Grade	1/28/2027	2/8/2027	12	Third Quarter	Winter	3.7	28	38	0.07	5.6	1.6	44	331	461	0.8	67	19
Building Construction + Paving + Linear, Paving [8]	2/9/2027	3/16/2027	36	Third Quarter	Winter	3.4	21	32	0.05	5.2	1.4	121	768	1164	1.9	186	49
Building Construction + Paving + Architectural Coating + Linear, Paving [8]	3/17/2027	3/19/2027	3	Third Quarter	Winter	44	22	34	0.05	5.8	1.5	131	67	103	0.2	17	4.4
Building Construction + Paving + Architectural Coating	3/20/2027	3/31/2027	12	Third Quarter	Winter	43	20	30	0.05	5.4	1.3	516	235	360	0.6	65	16
Building Construction + Paving + Architectural Coating	4/1/2027	4/16/2027	16	Fourth Quarter	Summer	43	19	32	0.05	5.4	1.3	689	310	504	0.8	87	21
Building Construction + Architectural Coating	4/17/2027	5/17/2027	31	Fourth Quarter	Summer	42	12	21	0.03	4.7	1.0	1299	385	643	1.0	145	30

Notes:

[1] Overlapping construction phases were determined based on the proposed construction schedules shown in **Table 4-1** and **Table 4-2**. Additionally, as noted in **Table 4-6** concrete truck activity is expected to occur on eight days in December 2026 during the Building Construction phase.

[2] Based on CalEEMod defaults.

[3] Estimated by summing up the maximum daily mitigated emissions for the overlapping construction phases. Maximum daily emissions for the Site Preparation; Grading; Building Construction; Paving; and Architectural Coating phases are obtained from **Appendix A-2**. Maximum daily emissions for the Linear, Grubbing & Land Clearing; Linear, Grading & Excavation; Linear, Drainage, Utilities, & Sub-Grade; and Linear, Paving construction phases are obtained from **Appendix A-4**. Maximum daily emissions for concrete truck activity is obtained from **Table A-2**.

[4] For purposes of this analysis VOC emissions are assumed to be equal to ROG.

[5] For purposes of this analysis SO_X emissions are assumed to be equal to SO_2.

[6] Particulate matter emissions include exhaust emissions from off-road construction equipment, fugitive dust emissions from on-site construction activities, and exhaust/tire wear/brake wear/entrained road dust emissions from on-road vehicles associated with project construction. As noted in **Section 4.2.3**, fugitive dust emissions will be controlled by watering the construction site twice daily in accordance with the EDCAQMD Rule 223-1. Particulate matter emissions presented here account for these control measures for fugitive dust emissions.

[7] Estimated by multiplying the maximum daily emissions by the number of construction days for each overlapping construction phases.

[8] The CalEEMod output for the Linear, Paving phase in the Site Access + Roadway Improvements construction did not account for VOC emissions from Paving. Hence, we have estimated this using CalEEMod methodology and included it in this emissions summary. The VOC emissions from Paving are estimated as 0.47 lbs/day, per the following equation: 2.62 lbs of VOC/acre paved * 7.2 acres paved * 100% paved areas / 39 work days.

Abbreviations:

CO - carbon monoxide
CalEEMod - CALifornia Emissions Estimator MODel
EDCAQMD - El Dorado County Air Quality Management District
lbs - pounds
NOx - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_2 - sulfur dioxide
SO_x - sulfur oxide compounds
VOC - volatile organic compounds

Table A-5. Estimating Mitigated Criteria Air Pollutant Emissions for Project Construction - Scenario 1
El Dorado Hills Costco Project
El Dorado Hills, California

Overlapping Construction Phases [1]	Start Date	End Date	Number of Construction Days	Construction Time Period	Season [2]	Daily VOC Emissions [3,4] (lbs/day)	Daily NO_X Emissions [3] (lbs/day)	Daily CO Emissions [3] (lbs/day)	Daily SO_X Emissions [3,5] (lbs/day)	Daily PM_{10} Emissions [3,6] (lbs/day)	Daily $PM_{2.5}$ Emissions [3,6] (lbs/day)	Total VOC Emissions [4,7] (lbs)	Total NO_X Emissions [7] (lbs)	Total CO Emissions [7] (lbs)	Total SO_X Emissions [5,7] (lbs)	Total PM_{10} Emissions [6,7] (lbs)	Total $PM_{2.5}$ Emissions [6,7] (lbs)
Site Preparation + Linear, Grubbing & Land Clearing	7/1/2026	7/26/2026	26	First Quarter	Summer	1.3	29	35	0.07	2.2	0.5	34	760	899	1.7	58	13
Site Preparation + Linear, Grading & Excavation	7/27/2026	8/6/2026	11	First Quarter	Summer	1.3	28	34	0.06	1.3	0.4	15	305	378	0.6	14	3.9
Grading + Building Construction + Linear, Grading & Excavation	8/7/2026	9/30/2026	55	First Quarter	Summer	2.9	53	63	0.13	10	2.8	159	2923	3471	7.4	575	157
Grading + Building Construction + Linear, Grading & Excavation	10/1/2026	11/8/2026	39	Second Quarter	Winter	2.8	54	62	0.13	10	2.8	110	2096	2400	5.2	408	111
Grading + Building Construction + Linear, Drainage, Utilities, & Sub-Grade	11/9/2026	12/2/2026	24	Second Quarter	Winter	3.2	62	71	0.15	10	2.9	77	1496	1712	3.7	250	69
Grading + Building Construction + Linear, Drainage, Utilities, & Sub-Grade + Concrete Truck Activity	12/3/2026	12/10/2026	8	Second Quarter	Winter	3.6	74	76	0.20	12	3.3	29	591	608	1.6	98	26
Grading + Building Construction + Linear, Drainage, Utilities, & Sub-Grade	12/11/2026	12/31/2026	21	Second Quarter	Winter	3.2	62	71	0.15	10	2.9	67	1309	1498	3.2	219	60
Grading + Building Construction + Linear, Drainage, Utilities, & Sub-Grade	1/1/2027	1/27/2027	27	Third Quarter	Winter	3.1	62	71	0.15	10	2.9	85	1667	1914	4.1	281	77
Building Construction + Paving + Linear, Drainage, Utilities, & Sub-Grade	1/28/2027	2/8/2027	12	Third Quarter	Winter	2.6	35	45	0.07	5.0	1.0	31	418	543	0.8	60	12
Building Construction + Paving + Linear, Paving [8]	2/9/2027	3/16/2027	36	Third Quarter	Winter	2.5	26	35	0.05	4.7	0.9	91	932	1271	1.9	168	32
Building Construction + Paving + Architectural Coating + Linear, Paving [8]	3/17/2027	3/19/2027	3	Third Quarter	Winter	43	27	37	0.05	5.3	1.0	129	80	112	0.2	16	3.0
Building Construction + Paving + Architectural Coating	3/20/2027	3/31/2027	12	Third Quarter	Winter	42	24	33	0.05	5.0	0.9	508	283	392	0.6	60	11
Building Construction + Paving + Architectural Coating	4/1/2027	4/16/2027	16	Fourth Quarter	Summer	42	23	34	0.05	5.0	0.9	678	374	547	0.8	80	15
Building Construction + Architectural Coating	4/17/2027	5/17/2027	31	Fourth Quarter	Summer	41	15	23	0.03	4.4	0.8	1286	471	705	1.0	138	24

Notes:

[1] Overlapping construction phases were determined based on the proposed construction schedules shown in **Table 4-1** and **Table 4-2**. Additionally, as noted in **Table 4-5** concrete truck activity is expected to occur on eight days in December 2026 during the Building Construction phase.

[2] Based on CalEEMod defaults.

[3] Estimated by summing up the maximum daily mitigated emissions for the overlapping construction phases. Maximum daily emissions for the Site Preparation; Grading; Building Construction; Paving; and Architectural Coating phases are obtained from **Appendix A-1**. Maximum daily emissions for the Linear, Grubbing & Land Clearing; Linear, Grading & Excavation; Linear, Drainage, Utilities, & Sub-Grade; and Linear, Paving construction phases are obtained from **Appendix A-4**. Maximum daily emissions for concrete truck activity is obtained from **Table A-2**.

[4] For purposes of this analysis VOC emissions are assumed to be equal to ROG.

[5] For purposes of this analysis SO_X emissions are assumed to be equal to SO_2.

[6] Particulate matter emissions include exhaust emissions from off-road construction equipment, fugitive dust emissions from on-site construction activities, and exhaust/tire wear/brake wear/entrained road dust emissions from on-road vehicles associated with project construction. As noted in **Section 4.2.3**, fugitive dust emissions will be controlled by watering the construction site twice daily in accordance with the EDCAQMD Rule 223-1. Particulate matter emissions presented here account for these control measures for fugitive dust emissions.

[7] Estimated by multiplying the maximum daily emissions by the number of construction days for each overlapping construction phases.

[8] The CalEEMod output for the Linear, Paving phase in the Site Access + Roadway Improvements construction did not account for VOC emissions from Paving. Hence, we have estimated this using CalEEMod methodology and included it in this emissions summary. The VOC emissions from Paving are estimated as 0.47 lbs/day, per the following equation: 2.62 lbs of VOC/acre paved * 7.2 acres paved * 100% paved areas / 39 work days.

Abbreviations:

CO - carbon monoxide
CalEEMod - CALifornia Emissions Estimator MODel
EDCAQMD - El Dorado County Air Quality Management District
lbs - pounds
NOx - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_2 - sulfur dioxide
SO_x - sulfur oxide compounds
VOC - volatile organic compounds

Table A-6. Estimating Mitigated Criteria Air Pollutant Emissions for Project Construction - Scenario 2
El Dorado Hills Costco Project
El Dorado Hills, California

Overlapping Construction Phases [1]	Start Date	End Date	Number of Construction Days	Construction Time Period	Season [2]	Daily VOC Emissions [3,4] (lbs/day)	Daily NO_X Emissions [3] (lbs/day)	Daily CO Emissions [3] (lbs/day)	Daily SO_X Emissions [3,5] (lbs/day)	Daily PM_{10} Emissions [3,6] (lbs/day)	Daily $PM_{2.5}$ Emissions [3,6] (lbs/day)	Total VOC Emissions [4,7] (lbs)	Total NO_X Emissions [7] (lbs)	Total CO Emissions [7] (lbs)	Total SO_X Emissions [5,7] (lbs)	Total PM_{10} Emissions [6,7] (lbs)	Total $PM_{2.5}$ Emissions [6,7] (lbs)
Site Preparation + Linear, Grubbing & Land Clearing	7/1/2026	7/26/2026	26	First Quarter	Summer	1.3	29	35	0.07	2.2	0.5	34	760	899	1.7	58	13
Site Preparation + Linear, Grading & Excavation	7/27/2026	8/6/2026	11	First Quarter	Summer	1.3	28	34	0.06	1.3	0.4	15	305	378	0.6	14	3.9
Grading + Building Construction + Linear, Grading & Excavation	8/7/2026	9/30/2026	55	First Quarter	Summer	3.0	63	64	0.20	14	3.5	167	3488	3532	11.2	743	190
Grading + Building Construction + Linear, Grading & Excavation	10/1/2026	11/8/2026	39	Second Quarter	Winter	3.0	65	63	0.20	14	3.5	116	2522	2445	7.9	527	135
Grading + Building Construction + Linear, Drainage, Utilities, & Sub-Grade	11/9/2026	12/2/2026	24	Second Quarter	Winter	3.3	73	72	0.22	13	3.5	80	1758	1739	5.3	324	84
Grading + Building Construction + Linear, Drainage, Utilities, & Sub-Grade + Concrete Truck Activity	12/3/2026	12/10/2026	8	Second Quarter	Winter	3.7	85	77	0.27	15	3.9	30	678	617	2.2	123	31
Grading + Building Construction + Linear, Drainage, Utilities, & Sub-Grade	12/11/2026	12/31/2026	21	Second Quarter	Winter	3.3	73	72	0.22	13	3.5	70	1538	1522	4.7	283	73
Grading + Building Construction + Linear, Drainage, Utilities, & Sub-Grade	1/1/2027	1/27/2027	27	Third Quarter	Winter	3.3	72	72	0.22	13	3.5	88	1945	1944	6.0	364	94
Building Construction + Paving + Linear, Drainage, Utilities, & Sub-Grade	1/28/2027	2/8/2027	12	Third Quarter	Winter	2.6	35	45	0.07	5.0	1.0	31	418	543	0.8	60	12
Building Construction + Paving + Linear, Paving [8]	2/9/2027	3/16/2027	36	Third Quarter	Winter	2.5	26	35	0.05	4.7	0.9	91	932	1271	1.9	168	32
Building Construction + Paving + Architectural Coating + Linear, Paving [8]	3/17/2027	3/19/2027	3	Third Quarter	Winter	43	27	37	0.05	5.3	1.0	129	80	112	0.2	16	3.0
Building Construction + Paving + Architectural Coating	3/20/2027	3/31/2027	12	Third Quarter	Winter	42	24	33	0.05	5.0	0.9	508	283	392	0.6	60	11
Building Construction + Paving + Architectural Coating	4/1/2027	4/16/2027	16	Fourth Quarter	Summer	42	23	34	0.05	5.0	0.9	678	374	547	0.8	80	15
Building Construction + Architectural Coating	4/17/2027	5/17/2027	31	Fourth Quarter	Summer	41	15	23	0.03	4.4	0.8	1286	471	705	1.0	138	24

Notes:

[1] Overlapping construction phases were determined based on the proposed construction schedules shown in **Table 4-1** and **Table 4-2**. Additionally, as noted in **Table 4-6** concrete truck activity is expected to occur on eight days in December 2026 during the Building Construction phase.

[2] Based on CalEEMod defaults.

[3] Estimated by summing up the maximum daily mitigated emissions for the overlapping construction phases. Maximum daily emissions for the Site Preparation; Grading; Building Construction; Paving; and Architectural Coating phases are obtained from **Appendix A-2**. Maximum daily emissions for the Linear, Grubbing & Land Clearing; Linear, Grading & Excavation; Linear, Drainage, Utilities, & Sub-Grade; and Linear, Paving construction phases are obtained from **Appendix A-4**. Maximum daily emissions for concrete truck activity is obtained from **Table A-2**.

[4] For purposes of this analysis VOC emissions are assumed to be equal to ROG.

[5] For purposes of this analysis SO_X emissions are assumed to be equal to SO_2.

[6] Particulate matter emissions include exhaust emissions from off-road construction equipment, fugitive dust emissions from on-site construction activities, and exhaust/tire wear/brake wear/entrained road dust emissions from on-road vehicles associated with project construction. As noted in **Section 4.2.3**, fugitive dust emissions will be controlled by watering the construction site twice daily in accordance with the EDCAQMD Rule 223-1. Particulate matter emissions presented here account for these control measures for fugitive dust emissions.

[7] Estimated by multiplying the maximum daily emissions by the number of construction days for each overlapping construction phases.

[8] The CalEEMod output for the Linear, Paving phase in the Site Access + Roadway Improvements construction did not account for VOC emissions from Paving. Hence, we have estimated this using CalEEMod methodology and included it in this emissions summary. The VOC emissions from Paving are estimated as 0.47 lbs/day, per the following equation: 2.62 lbs of VOC/acre paved * 7.2 acres paved * 100% paved areas / 39 work days.

Abbreviations:

CO - carbon monoxide
CalEEMod - CALifornia Emissions Estimator MODel
EDCAQMD - El Dorado County Air Quality Management District
lbs - pounds
NOx - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_2 - sulfur dioxide
SO_x - sulfur oxide compounds
VOC - volatile organic compounds

APPENDIX B
EMISSION CALCULATIONS FOR PROJECT OPERATION

Appendix B-1: CalEEMod Model Run for Project Operation
Appendix B-2: Emission Calculation Tables for Project Operation

APPENDIX B-1
CALEEMOD MODEL RUN FOR PROJECT OPERATION

EDH Costco Operation Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

2.5. Operations Emissions by Sector, Unmitigated

2.6. Operations Emissions by Sector, Mitigated

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.1.2. Mitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.2. Electricity Emissions By Land Use - Mitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.2.4. Natural Gas Emissions By Land Use - Mitigated

4.3. Area Emissions by Source

4.3.1. Unmitigated

4.3.2. Mitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.4.2. Mitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.5.2. Mitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.6.2. Mitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.7.2. Mitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.8.2. Mitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.9.2. Mitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.9.2. Mitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.10.4. Landscape Equipment - Mitigated

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.11.2. Mitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.12.2. Mitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.13.2. Mitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.14.2. Mitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.15.2. Mitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

5.18.2.2. Mitigated

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	EDH Costco Operation
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	9.40
Location	38.659852, -121.056799
County	El Dorado-Mountain County
City	Unincorporated
Air District	El Dorado County AQMD
Air Basin	Mountain Counties
TAZ	406
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Discount Club	165	1000sqft	3.79	165,000	318,349	—	—	—
Gasoline/Service Station	16.0	Pump	0.30	2,259	0.00	—	—	—

Enclosed Parking with Elevator	214	Space	2.30	100,000	0.00	—	—	—
Parking Lot	617	Space	8.58	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Water	W-4	Require Low-Flow Water Fixtures
Water	W-5	Design Water-Efficient Landscapes

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.76	5.49	2.77	14.0	0.01	0.17	0.00	0.17	0.17	0.00	0.17	411	990	1,401	41.4	0.09	0.79	2,462
Mit.	5.76	5.49	2.77	14.0	0.01	0.17	0.00	0.17	0.17	0.00	0.17	408	990	1,398	41.1	0.08	0.79	2,449
% Reduced	—	—	—	—	—	—	—	—	—	—	—	1%	—	< 0.5%	1%	9%	—	1%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.69	3.59	2.68	2.41	0.01	0.15	0.00	0.15	0.15	0.00	0.15	411	942	1,353	41.4	0.09	0.79	2,414
Mit.	3.69	3.59	2.68	2.41	0.01	0.15	0.00	0.15	0.15	0.00	0.15	408	942	1,350	41.1	0.08	0.79	2,401
% Reduced	—	—	—	—	—	—	—	—	—	—	—	1%	—	< 0.5%	1%	9%	—	1%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	3.93	3.82	0.74	6.34	< 0.005	0.06	0.00	0.06	0.05	0.00	0.05	411	603	1,014	41.4	0.08	0.79	2,074
Mit.	3.93	3.82	0.74	6.34	< 0.005	0.06	0.00	0.06	0.05	0.00	0.05	408	603	1,011	41.1	0.08	0.79	2,061
% Reduced	—	—	—	—	—	—	—	—	—	—	—	1%	—	< 0.5%	1%	9%	—	1%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.72	0.70	0.14	1.16	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	68.0	99.9	168	6.85	0.01	0.13	343
Mit.	0.72	0.70	0.14	1.16	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	67.5	99.9	167	6.80	0.01	0.13	341
% Reduced	—	—	—	—	—	—	—	—	—	—	—	1%	—	< 0.5%	1%	9%	—	1%

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	4.81	4.65	0.10	11.6	< 0.005	0.02	—	0.02	0.02	—	0.02	—	47.8	47.8	< 0.005	< 0.005	—	48.0
Energy	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	456	456	0.24	0.02	—	469
Water	—	—	—	—	—	—	—	—	—	—	—	23.8	0.00	23.8	2.45	0.06	—	102
Waste	—	—	—	—	—	—	—	—	—	—	—	387	0.00	387	38.7	0.00	—	1,354
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.79	0.79
Stationary	0.90	0.82	2.29	2.09	< 0.005	0.12	0.00	0.12	0.12	0.00	0.12	0.00	420	420	0.02	< 0.005	0.00	421
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	66.2	66.2	—	—	—	66.2
Total	5.76	5.49	2.77	14.0	0.01	0.17	0.00	0.17	0.17	0.00	0.17	411	990	1,401	41.4	0.09	0.79	2,462
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	2.74	2.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	456	456	0.24	0.02	—	469
Water	—	—	—	—	—	—	—	—	—	—	—	23.8	0.00	23.8	2.45	0.06	—	102
Waste	—	—	—	—	—	—	—	—	—	—	—	387	0.00	387	38.7	0.00	—	1,354
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.79	0.79
Stationary	0.90	0.82	2.29	2.09	< 0.005	0.12	0.00	0.12	0.12	0.00	0.12	0.00	420	420	0.02	< 0.005	0.00	421
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	66.2	66.2	—	—	—	66.2
Total	3.69	3.59	2.68	2.41	0.01	0.15	0.00	0.15	0.15	0.00	0.15	411	942	1,353	41.4	0.09	0.79	2,414
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	3.76	3.69	0.05	5.73	< 0.005	0.01	—	0.01	0.01	—	0.01	—	23.6	23.6	< 0.005	< 0.005	—	23.7
Energy	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	456	456	0.24	0.02	—	469
Water	—	—	—	—	—	—	—	—	—	—	—	23.8	0.00	23.8	2.45	0.06	—	102
Waste	—	—	—	—	—	—	—	—	—	—	—	387	0.00	387	38.7	0.00	—	1,354
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.79	0.79
Stationary	0.12	0.11	0.31	0.29	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	57.5	57.5	< 0.005	< 0.005	0.00	57.7
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	66.2	66.2	—	—	—	66.2
Total	3.93	3.82	0.74	6.34	< 0.005	0.06	0.00	0.06	0.05	0.00	0.05	411	603	1,014	41.4	0.08	0.79	2,074
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.69	0.67	0.01	1.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.90	3.90	< 0.005	< 0.005	—	3.92
Energy	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	75.5	75.5	0.04	< 0.005	—	77.7
Water	—	—	—	—	—	—	—	—	—	—	—	3.94	0.00	3.94	0.41	0.01	—	17.0
Waste	—	—	—	—	—	—	—	—	—	—	—	64.1	0.00	64.1	6.41	0.00	—	224

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Stationary	0.02	0.02	0.06	0.05	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	9.52	9.52	< 0.005	< 0.005	0.00	9.55
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	11.0	11.0	—	—	—	11.0
Total	0.72	0.70	0.14	1.16	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	68.0	99.9	168	6.85	0.01	0.13	343

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	4.81	4.65	0.10	11.6	< 0.005	0.02	—	0.02	0.02	—	0.02	—	47.8	47.8	< 0.005	< 0.005	—	48.0
Energy	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	456	456	0.24	0.02	—	469
Water	—	—	—	—	—	—	—	—	—	—	—	20.7	0.00	20.7	2.13	0.05	—	89.1
Waste	—	—	—	—	—	—	—	—	—	—	—	387	0.00	387	38.7	0.00	—	1,354
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.79	0.79
Stationary	0.90	0.82	2.29	2.09	< 0.005	0.12	0.00	0.12	0.12	0.00	0.12	0.00	420	420	0.02	< 0.005	0.00	421
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	66.2	66.2	—	—	—	66.2
Total	5.76	5.49	2.77	14.0	0.01	0.17	0.00	0.17	0.17	0.00	0.17	408	990	1,398	41.1	0.08	0.79	2,449
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	2.74	2.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	456	456	0.24	0.02	—	469
Water	—	—	—	—	—	—	—	—	—	—	—	20.7	0.00	20.7	2.13	0.05	—	89.1

Waste	—	—	—	—	—	—	—	—	—	—	—	387	0.00	387	38.7	0.00	—	1,354
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.79	0.79
Stationary	0.90	0.82	2.29	2.09	< 0.005	0.12	0.00	0.12	0.12	0.00	0.12	0.00	420	420	0.02	< 0.005	0.00	421
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	66.2	66.2	—	—	—	66.2
Total	3.69	3.59	2.68	2.41	0.01	0.15	0.00	0.15	0.15	0.00	0.15	408	942	1,350	41.1	0.08	0.79	2,401
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	3.76	3.69	0.05	5.73	< 0.005	0.01	—	0.01	0.01	—	0.01	—	23.6	23.6	< 0.005	< 0.005	—	23.7
Energy	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	456	456	0.24	0.02	—	469
Water	—	—	—	—	—	—	—	—	—	—	—	20.7	0.00	20.7	2.13	0.05	—	89.1
Waste	—	—	—	—	—	—	—	—	—	—	—	387	0.00	387	38.7	0.00	—	1,354
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.79	0.79
Stationary	0.12	0.11	0.31	0.29	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	57.5	57.5	< 0.005	< 0.005	0.00	57.7
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	66.2	66.2	—	—	—	66.2
Total	3.93	3.82	0.74	6.34	< 0.005	0.06	0.00	0.06	0.05	0.00	0.05	408	603	1,011	41.1	0.08	0.79	2,061
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.69	0.67	0.01	1.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.90	3.90	< 0.005	< 0.005	—	3.92
Energy	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	75.5	75.5	0.04	< 0.005	—	77.7
Water	—	—	—	—	—	—	—	—	—	—	—	3.43	0.00	3.43	0.35	0.01	—	14.8
Waste	—	—	—	—	—	—	—	—	—	—	—	64.1	0.00	64.1	6.41	0.00	—	224
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Stationary	0.02	0.02	0.06	0.05	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	9.52	9.52	< 0.005	< 0.005	0.00	9.55
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	11.0	11.0	—	—	—	11.0

Total	0.72	0.70	0.14	1.16	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	67.5	99.9	167	6.80	0.01	0.13	341

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.1.2. Mitigated

Mobile source emissions results are presented in Sections 2.5. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.13	0.02	—	7.94
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	< 0.005	< 0.005	—	0.27
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.03	< 0.005	—	2.04
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.03	< 0.005	—	1.81
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.20	0.02	—	12.1

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.13	0.02	—	7.94
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	< 0.005	< 0.005	—	0.27
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.03	< 0.005	—	2.04
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.03	< 0.005	—	1.81
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.20	0.02	—	12.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.02	< 0.005	—	1.32
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	< 0.005	< 0.005	—	0.04
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.01	< 0.005	—	0.34
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	< 0.005	< 0.005	—	0.30
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.03	< 0.005	—	2.00

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.13	0.02	—	7.94
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	< 0.005	< 0.005	—	0.27
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.03	< 0.005	—	2.04
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.03	< 0.005	—	1.81
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.20	0.02	—	12.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.13	0.02	—	7.94
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	< 0.005	< 0.005	—	0.27
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.03	< 0.005	—	2.04
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.03	< 0.005	—	1.81
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.20	0.02	—	12.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Discount Club	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.02	< 0.005	—	1.32
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	< 0.005	< 0.005	—	0.04
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.01	< 0.005	—	0.34
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	< 0.005	< 0.005	—	0.30
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.03	< 0.005	—	2.00

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	456	456	0.04	< 0.005	—	457
Gasoline/Service Station	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	456	456	0.04	< 0.005	—	457

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	456	456	0.04	< 0.005	—	457
Gasoline/Service Station	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	456	456	0.04	< 0.005	—	457
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	75.5	75.5	0.01	< 0.005	—	75.7
Gasoline/Service Station	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	75.5	75.5	0.01	< 0.005	—	75.7

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	456	456	0.04	< 0.005	—	457
Gasoline/Service Station	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	456	456	0.04	< 0.005	—	457
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	456	456	0.04	< 0.005	—	457
Gasoline/Service Station	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	456	456	0.04	< 0.005	—	457
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Discount Club	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	75.5	75.5	0.01	< 0.005	—	75.7
Gasoline/Service Station	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	75.5	75.5	0.01	< 0.005	—	75.7

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	2.06	2.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.68	0.68	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	2.07	1.91	0.10	11.6	< 0.005	0.02	—	0.02	0.02	—	0.02	—	47.8	47.8	< 0.005	< 0.005	—	48.0
Total	4.81	4.65	0.10	11.6	< 0.005	0.02	—	0.02	0.02	—	0.02	—	47.8	47.8	< 0.005	< 0.005	—	48.0

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	2.06	2.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.68	0.68	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	2.74	2.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.38	0.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.12	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.19	0.17	0.01	1.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.90	3.90	< 0.005	< 0.005	—	3.92
Total	0.69	0.67	0.01	1.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.90	3.90	< 0.005	< 0.005	—	3.92

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consumer Products	2.06	2.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.68	0.68	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	2.07	1.91	0.10	11.6	< 0.005	0.02	—	0.02	0.02	—	0.02	—	47.8	47.8	< 0.005	< 0.005	—	48.0
Total	4.81	4.65	0.10	11.6	< 0.005	0.02	—	0.02	0.02	—	0.02	—	47.8	47.8	< 0.005	< 0.005	—	48.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	2.06	2.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.68	0.68	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	2.74	2.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.38	0.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.12	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.19	0.17	0.01	1.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.90	3.90	< 0.005	< 0.005	—	3.92

Total	0.69	0.67	0.01	1.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.90	3.90	< 0.005	< 0.005	—	3.92

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	23.4	0.00	23.4	2.41	0.06	—	101
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	0.41	0.00	0.41	0.04	< 0.005	—	1.75
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	23.8	0.00	23.8	2.45	0.06	—	102
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	23.4	0.00	23.4	2.41	0.06	—	101
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	0.41	0.00	0.41	0.04	< 0.005	—	1.75

Enclosed	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	23.8	0.00	23.8	2.45	0.06	—	102
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	3.88	0.00	3.88	0.40	0.01	—	16.7
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	0.07	0.00	0.07	0.01	< 0.005	—	0.29
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3.94	0.00	3.94	0.41	0.01	—	17.0

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	20.3	0.00	20.3	2.09	0.05	—	87.4
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	0.41	0.00	0.41	0.04	< 0.005	—	1.75

Enclosed	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	20.7	0.00	20.7	2.13	0.05	—	89.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	20.3	0.00	20.3	2.09	0.05	—	87.4
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	0.41	0.00	0.41	0.04	< 0.005	—	1.75
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	20.7	0.00	20.7	2.13	0.05	—	89.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	3.37	0.00	3.37	0.35	0.01	—	14.5
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	0.07	0.00	0.07	0.01	< 0.005	—	0.29
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3.43	0.00	3.43	0.35	0.01	—	14.8

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	382	0.00	382	38.2	0.00	—	1,338
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	4.65	0.00	4.65	0.46	0.00	—	16.3
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	387	0.00	387	38.7	0.00	—	1,354
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	382	0.00	382	38.2	0.00	—	1,338
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	4.65	0.00	4.65	0.46	0.00	—	16.3

Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	387	0.00	387	38.7	0.00	—	1,354
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	63.3	0.00	63.3	6.33	0.00	—	222
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	0.77	0.00	0.77	0.08	0.00	—	2.69
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	64.1	0.00	64.1	6.41	0.00	—	224

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	382	0.00	382	38.2	0.00	—	1,338

Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	4.65	0.00	4.65	0.46	0.00	—	16.3
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	387	0.00	387	38.7	0.00	—	1,354
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	382	0.00	382	38.2	0.00	—	1,338
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	4.65	0.00	4.65	0.46	0.00	—	16.3
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	387	0.00	387	38.7	0.00	—	1,354
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	63.3	0.00	63.3	6.33	0.00	—	222
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	0.77	0.00	0.77	0.08	0.00	—	2.69

Enclosed	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	64.1	0.00	64.1	6.41	0.00	—	224

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.79	0.79
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.79	0.79
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.79	0.79
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.79	0.79
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.79	0.79
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.79	0.79
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.79	0.79
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.79	0.79
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.90	0.82	2.29	2.09	< 0.005	0.12	0.00	0.12	0.12	0.00	0.12	0.00	420	420	0.02	< 0.005	0.00	421

Total	0.90	0.82	2.29	2.09	< 0.005	0.12	0.00	0.12	0.12	0.00	0.12	0.00	420	420	0.02	< 0.005	0.00	421
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.90	0.82	2.29	2.09	< 0.005	0.12	0.00	0.12	0.12	0.00	0.12	0.00	420	420	0.02	< 0.005	0.00	421
Total	0.90	0.82	2.29	2.09	< 0.005	0.12	0.00	0.12	0.12	0.00	0.12	0.00	420	420	0.02	< 0.005	0.00	421
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.02	0.02	0.06	0.05	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	9.52	9.52	< 0.005	< 0.005	0.00	9.55
Total	0.02	0.02	0.06	0.05	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	9.52	9.52	< 0.005	< 0.005	0.00	9.55

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.90	0.82	2.29	2.09	< 0.005	0.12	0.00	0.12	0.12	0.00	0.12	0.00	420	420	0.02	< 0.005	0.00	421
Total	0.90	0.82	2.29	2.09	< 0.005	0.12	0.00	0.12	0.12	0.00	0.12	0.00	420	420	0.02	< 0.005	0.00	421
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.90	0.82	2.29	2.09	< 0.005	0.12	0.00	0.12	0.12	0.00	0.12	0.00	420	420	0.02	< 0.005	0.00	421

Total	0.90	0.82	2.29	2.09	< 0.005	0.12	0.00	0.12	0.12	0.00	0.12	0.00	420	420	0.02	< 0.005	0.00	421
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.02	0.02	0.06	0.05	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	9.52	9.52	< 0.005	< 0.005	0.00	9.55
Total	0.02	0.02	0.06	0.05	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	9.52	9.52	< 0.005	< 0.005	0.00	9.55

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other	—	—	—	—	—	—	—	—	—	—	—	—	46.3	46.3	—	—	—	46.3
Urban	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	46.3	46.3	—	—	—	46.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other	—	—	—	—	—	—	—	—	—	—	—	—	46.3	46.3	—	—	—	46.3
Urban	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	46.3	46.3	—	—	—	46.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other	—	—	—	—	—	—	—	—	—	—	—	—	7.66	7.66	—	—	—	7.66
Urban	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	—	—	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	—	7.66	7.66	—	—	—	7.66

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grassland	—	—	—	—	—	—	—	—	—	—	—	—	19.9	19.9	—	—	—	19.9
Urban	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	19.9	19.9	—	—	—	19.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grassland	—	—	—	—	—	—	—	—	—	—	—	—	19.9	19.9	—	—	—	19.9
Urban	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	19.9	19.9	—	—	—	19.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grassland	—	—	—	—	—	—	—	—	—	—	—	—	3.29	3.29	—	—	—	3.29
Urban	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	3.29	3.29	—	—	—	3.29

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other	—	—	—	—	—	—	—	—	—	—	—	—	46.3	46.3	—	—	—	46.3
Urban	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	46.3	46.3	—	—	—	46.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other	—	—	—	—	—	—	—	—	—	—	—	—	46.3	46.3	—	—	—	46.3
Urban	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	46.3	46.3	—	—	—	46.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other	—	—	—	—	—	—	—	—	—	—	—	—	7.66	7.66	—	—	—	7.66
Urban	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	7.66	7.66	—	—	—	7.66

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grassland	—	—	—	—	—	—	—	—	—	—	—	—	19.9	19.9	—	—	—	19.9
Urban	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	—	—	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	—	19.9	19.9	—	—	—	19.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grassland	—	—	—	—	—	—	—	—	—	—	—	—	19.9	19.9	—	—	—	19.9
Urban	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	19.9	19.9	—	—	—	19.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grassland	—	—	—	—	—	—	—	—	—	—	—	—	3.29	3.29	—	—	—	3.29
Urban	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	3.29	3.29	—	—	—	3.29

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	255,397	84,130	28,436

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Discount Club	1,437,492	0.00	0.0330	0.0040	1,423,224
Gasoline/Service Station	48,732	0.00	0.0330	0.0040	0.00
Enclosed Parking with Elevator	369,143	0.00	0.0330	0.0040	0.00
Parking Lot	327,400	0.00	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Discount Club	1,437,492	0.00	0.0330	0.0040	1,423,224
Gasoline/Service Station	48,732	0.00	0.0330	0.0040	0.00
Enclosed Parking with Elevator	369,143	0.00	0.0330	0.0040	0.00
Parking Lot	327,400	0.00	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Discount Club	12,221,966	3,416,445
Gasoline/Service Station	212,510	0.00
Enclosed Parking with Elevator	0.00	0.00
Parking Lot	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)

Discount Club	10,608,667	1,022,923
Gasoline/Service Station	212,510	0.00
Enclosed Parking with Elevator	0.00	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Discount Club	710	—
Gasoline/Service Station	8.62	—
Enclosed Parking with Elevator	0.00	—
Parking Lot	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Discount Club	710	—
Gasoline/Service Station	8.62	—
Enclosed Parking with Elevator	0.00	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Discount Club	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

Discount Club	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Discount Club	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Discount Club	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	2.00	1.00	50.0	250	0.73

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
Other	Inceptisols	15.0	7.31
Urban	Inceptisols	0.00	7.66

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
Other	Inceptisols	15.0	7.31
Urban	Inceptisols	0.00	7.66

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
Grassland	15.0	7.31
Urban	0.00	7.66

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres
Grassland	15.0	7.31

Urban	0.00	7.66

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

8. User Changes to Default Data

Screen	Justification
Land Use	Project-specific information was provided by the Project Applicant.
Characteristics: Utility Information	CO2 emission factor estimated based upon Project-specific information.
Operations: Energy Use	Updated based on project-specific information, refer to report for further details.
Operations: Consumer Products	Updated based on county specific data, refer to report for further details.
Operations: Architectural Coatings	Updated the VOC emission factor based on EDCAPCD Rule 215 Limits.

APPENDIX B-2
EMISSION CALCULATION TABLES FOR PROJECT OPERATION

List of Tables

Table B-1: Operational Mobile Sources Activity Data
Table B-2: Passenger Vehicle Fleet Mix for El Dorado County
Table B-3: Passenger Vehicle Fleet Mix for the Proposed Project by Vehicle Category and Fuel Type
Table B-4: Operational Mobile Source CAP Emission Factors for Passenger Vehicles Visiting the Gasoline Dispensing Facility - Running Exhaust, Running Loss, Tire Wear, and Brake Wear
Table B-5: Operational Mobile Source CAP Emission Factors for Warehouse and Employee Passenger Vehicles - Running Exhaust, Running Loss, Tire Wear, and Brake Wear
Table B-6: Operational Mobile Source CAP Emission Factors for Delivery Trucks - Running Exhaust, Running Loss, Tire Wear, and Brake Wear
Table B-7: Operational Mobile Source CAP Emission Factors for Passenger Vehicles Visiting the Gasoline Dispensing Facility - Starting Exhaust, Hot Soak, and Diurnal & Resting Loss
Table B-8: Operational Mobile Source CAP Emission Factors for Warehouse and Employee Passenger Vehicles - Starting Exhaust, Hot Soak, and Diurnal & Resting Loss
Table B-9: Operational Mobile Source CAP Emission Factors for Delivery Trucks - Starting Exhaust, Hot Soak, and Diurnal & Resting Loss
Table B-10: Operational Mobile Source CAP Emission Factors for Passenger Vehicles Visiting the Gasoline Dispensing Facility - Idling
Table B-11: Operational Mobile Source CAP Emission Factors for Delivery Trucks - Idling
Table B-12: Entrained Road Dust Emission Factors for Operational Mobile Sources
Table B-13: Operational Mobile Source CAP Emission Factors for Transport Refrigeration Units
Table B-14: Maximum Daily Criteria Air Pollutant Emission Estimates for Operational Mobile Sources

Table B-1. Operational Mobile Sources Activity Data
El Dorado Hills Costco Project
El Dorado Hills, California

Trip Type	Average One-Way Trip Length (miles)	Weekday Daily Trips (one-way trips/day)	Weekend Daily Trips (one-way trips/day)	Weekday Daily VMT (miles/day)	Weekend Daily VMT (miles/day)	Weekday Daily Idle Duration (minutes/day)	Weekend Daily Idle Duration (minutes/day)	Daily TRU Operational Duration (minutes/day)
GDF Customer Vehicles (Passenger Vehicles) [1,2]	-	5,779	6,442	2,909	3,300	-	-	-
Warehouse and Employee Vehicles (Passenger Vehicles) [1,3]	-	8,950	9,907	18,214	20,146	-	-	-
Passenger Vehicles Idling at GDF [4]	-	-	-	-	-	6,551	9,115	-
Fuel Delivery Trucks [5]	19	10	10	190	190	75	75	-
Warehouse and Tire Center Delivery Trucks [3]	90	26	26	2,340	2,340	195	195	-
TRUs for Warehouse Delivery Trucks [6]	-	-	-	-	-	-	-	1,132

Notes:

[1] Weekday passenger vehicle trip and VMT information were obtained from the El Dorado Costco CEQA Analysis, dated July 23, 2025. Weekend passenger trip and VMT information were provided by Kittelson and Associates.

[2] GDF customer vehicles represent vehicles used by the patrons of the fuel station.

[3] Warehouse and employee vehicles represent vehicles used by patrons of the warehouse and employee vehicles.

[4] Idle duration for passenger vehicles visiting the gas station was provided by Kittelson & Associates.

[5] Trip lengths and trip rates for delivery trucks are based on Project-specific information. The daily VMT is estimated as a product of trip length and daily trips. The daily idle duration for delivery trucks is estimated as a product of idle duration per round trip and daily round trips. The idle duration per round trip is assumed to be 15 minutes (maximum 5 minutes at project site entry, maximum 5 minutes at the fuel tank and maximum 5 minutes at project site exit), consistent with the CARB Air Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. Available at: https://ww2.arb.ca.gov/our-work/programs/atcm-to-limit-vehicle-idling/about. Accessed: March 2025.

[6] Daily TRU operational duration is estimated based on total operational time per TRU and the number of TRUs per day, as provided in the TRU Trip Information below.

[7] The on-site TRU operational time during truck idling is assumed to be 15 minutes as described above in footnote 5. Note, the TRUs are not expected to idle for more than 5 minutes at the dock while unloading goods at the warehouse.

[8] The on-site warehouse delivery truck travel distance was estimated based on the proposed Project site layout. The off-site warehouse delivery truck travel distance was calculated by subtracting the on-site travel distance from the total trip length for the warehouse delivery truck.

[9] The on-site and off-site average truck travel speed are consistent with CARB's assumptions in Appendix I of the Proposed Amendments to the ATCM Measure for In-Use Diesel-Fueled TRU and TRU Generator Sets, and Facilities Where TRUs Operate. Available at: https://ww2.arb.ca.gov/sites/default/files/barcu/board/rulemaking/tru2021/appi.pdf. Accessed: March 2025.

[10] The on-site and off-site TRU operational time during warehouse delivery truck travel was calculated by dividing the on-site and off-site truck travel distances by their corresponding average truck travel speeds, respectively.

[11] The total operational time per TRU includes the operational time during on-site and off-site truck travel and on-site truck idling.

[12] The number of TRUs per day is based on Project-specific information. The total number of TRU uses per year was estimated by multiplying the daily number of TRUs by 365 operational days per year.

TRU Trip Information:

On-Site Operational Time During Truck Idling [7]	15	minutes/round trip per TRU
On-Site Truck Travel Distance [8]	0.2	miles/round trip
On-Site Average Truck Travel Speed [9]	5	miles/hour
On-Site Operational Time During Truck Travel [10]	2.9	minutes/round trip per TRU
Off-Site Truck Travel Distance [8]	179.8	miles/round trip
Off-Site Average Truck Travel Speed [9]	30	miles/hour
Off-Site Operational Time During Truck Travel [10]	360	minutes/round trip per TRU
Total Operational Time [11]	377.4	minutes/TRU
Number of TRUs [12]	3	TRUs/day
Number of TRUs [12]	1,095	TRUs/year

Abbreviations:

ATCM - Airborne Toxic Control Measure
CARB - California Air Resources Board
CEQA - California Environmental Quality Act
GDF - gasoline dispensing facility
TRU - transport refrigeration unit
VMT - vehicle miles traveled

Table B-2. Passenger Vehicle Fleet Mix for El Dorado County
El Dorado Hills Costco Project
El Dorado Hills, California

EMFAC Vehicle Class	CalEEMod Default Fleet Mix [1]	Passenger Vehicle Fleet Mix [2]
LDA	37.9%	43.7%
LDT1	5.2%	6.0%
LDT2	26.3%	30.4%
MDV	17.3%	19.9%
LHDT1	5.4%	-
LHDT2	1.3%	-
MHDT	1.6%	-
HHDT	0.4%	-
OBUS	0.1%	-
UBUS	0.0%	-
MCY	3.6%	-
SBUS	0.1%	-
MH	0.8%	-

Notes:

[1] CalEEMod default for El Dorado (MC) sub-area, calendar year 2027.

[2] Estimated using the CalEEMod default fleet mix for El Dorado County. EMFAC vehicle categories that represent passenger vehicles include LDA, LDT1, LDT2, and MDV.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel
EMFAC - EMission FACtors model
HHDT - Heavy heavy-duty truck
LDA - light duty automobiles
LDT - light-duty trucks
LHDT - light heavy-duty trucks
MC - Mountain County
MCY - motorcycles
MDV - medium-duty vehicle
MH - motor homes
MHDT - medium heavy-duty trucks
OBUS - other buses
SBUS - school buses
UBUS - urban buses

Table B-3. Passenger Vehicle Fleet Mix for the Proposed Project by Vehicle Category and Fuel Type
El Dorado Hills Costco Project
El Dorado Hills, California

EMFAC Vehicle Class	Fuel Type	EMFAC VMT Output [1] (miles/day)	Project-Specific Vehicle Fleet Mix for Passenger Vehicles Visiting the GDF [2]	Project-Specific Vehicle Fleet Mix for Warehouse and Employee Passenger Vehicles [3]
LDA	Gasoline	1,619,691	41.98%	38.43%
LDA	Plug-in Hybrid	66,445	1.72%	1.58%
LDA	Electricity	150,587	-	3.57%
LDA	Diesel	5,444	-	0.13%
LDT1	Gasoline	181,944	5.96%	5.93%
LDT1	Plug-in Hybrid	658	0.02%	0.02%
LDT1	Electricity	816	-	0.03%
LDT1	Diesel	16	-	0.00%
LDT2	Gasoline	1,158,122	30.00%	29.64%
LDT2	Plug-in Hybrid	14,398	0.37%	0.37%
LDT2	Electricity	9,343	-	0.24%
LDT2	Diesel	4,897	-	0.13%
MDV	Gasoline	662,071	19.68%	18.97%
MDV	Plug-in Hybrid	8,766	0.26%	0.25%
MDV	Electricity	9,787	-	0.28%
MDV	Diesel	15,203	-	0.44%

Notes:

[1] Default EMFAC2021 output for the El Dorado (MC) sub-area in calendar year 2027.

[2] The Project-specific vehicle fleet mix for passenger vehicles visiting the GDF represents vehicles used by patrons of the fuel station; they are conservatively assumed to be plug-in hybrids and gasoline-fueled vehicles only. The fleet mix is estimated by apportioning the passenger vehicle fleet mix for El Dorado County (**Table B-2**) into the project specific fuel types (gasoline and plug-in hybrid) within each passenger vehicle EMFAC vehicle class (LDA, LDT1, LDT2, and MDV) using the default EMFAC VMT output for those fuel types.

[3] The Project-specific vehicle fleet mix for warehouse and employee passenger vehicles represents the vehicles used by patrons and employees of the warehouse. The fleet mix is estimated by apportioning the passenger vehicle fleet mix for El Dorado County (**Table B-2**) within each passenger vehicle EMFAC vehicle class (LDA, LDT1, LDT2, and MDV) using the default EMFAC VMT output for the default fuel types (gasoline, plug-in hybrid, electricity, and diesel).

Abbreviations:

EMFAC - EMission FACtors model
GDF - gasoline dispensing facility
LDA - light duty automobiles
LDT - light-duty trucks
MC - Mountain County
MDV - medium-duty vehicle
VMT - vehicle miles traveled

Table B-4. Operational Mobile Source CAP Emission Factors for Passenger Vehicles Visiting the Gasoline Dispensing Facility - Running Exhaust, Running Loss, Tire Wear, and Brake Wear
El Dorado Hills Costco Project
El Dorado Hills, California

EMFAC Vehicle Class	Fuel Type	Project Specific Fleet Mix [1]	VOC Emission Factor [2,3] (g/mi)	NO_X Emission Factor [2] (g/mi)	CO Emission Factor [2] (g/mi)	SO_x Emission Factor [2] (g/mi)	PM_{10} Emission Factor [2] (g/mi)	$PM_{2.5}$ Emission Factor [2] (g/mi)
LDA	Gasoline	42.0%	0.0068	0.033	0.67	0.0026	0.017	0.0059
LDA	Plug-in Hybrid	1.7%	0.0014	0.0033	0.22	0.0013	0.013	0.0039
LDT1	Gasoline	6.0%	0.027	0.12	1.4	0.0033	0.020	0.0072
LDT1	Plug-in Hybrid	0.022%	0.0013	0.0030	0.20	0.0012	0.012	0.0038
LDT2	Gasoline	30.0%	0.0093	0.055	0.81	0.0033	0.019	0.0065
LDT2	Plug-in Hybrid	0.37%	0.0014	0.0032	0.21	0.0013	0.013	0.0038
MDV	Gasoline	19.7%	0.013	0.078	0.92	0.0040	0.019	0.0066
MDV	Plug-in Hybrid	0.26%	0.0014	0.0032	0.22	0.0013	0.013	0.0039
Weighted Average Emission Factor [4]			0.010	0.053	0.80	0.0031	0.018	0.0063

Notes:

[1] The Project-specific fleet mix for passenger vehicles visiting the GDF are obtained from **Table B-3**.

[2] Emission factors for each EMFAC vehicle class/fuel combination were obtained from the default EMFAC2021 output for El Dorado (MC) sub-area calendar year 2027. For VOC, NO_X, CO, and SO_X this table provides the running exhaust emission factors. For PM_{10} and $PM_{2.5}$ a sum of running exhaust, tire wear, and break wear emission factors are provided.

[3] For purposes of this analysis VOC is assumed to be equal to ROG.

[4] Weighted average emission factors for passenger vehicles visiting the Project site are calculated as the sumproduct of the Project-specific fleet mix and the emission factors for the individual vehicle class/fuel categories within that fleet mix.

Abbreviations:

CAP - criteria air pollutant
CO - carbon monoxide
EMFAC - EMission FACtors model
g/mi - grams per mile
GDF - gasoline dispensing facility
LDA - Light-Duty Automobile
LDT - Light-Duty Truck
MC - Mountain County
MDV - Medium-Duty Vehicle
NO_x - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_x - sulfur oxide compounds
VOC - volatile organic compounds

Table B-5. Operational Mobile Source CAP Emission Factors for Warehouse and Employee Passenger Vehicles - Running Exhaust, Running Loss, Tire Wear, and Brake Wear
El Dorado Hills Costco Project
El Dorado Hills, California

EMFAC Vehicle Class	Fuel Type	Project Specific Fleet Mix [1]	VOC Emission Factor [2,3] (g/mi)	NO_X Emission Factor [2] (g/mi)	CO Emission Factor [2] (g/mi)	SO_x Emission Factor [2] (g/mi)	PM_{10} Emission Factor [2] (g/mi)	$PM_{2.5}$ Emission Factor [2] (g/mi)
LDA	Gasoline	38.4%	0.0068	0.033	0.67	0.0026	0.017	0.0059
LDA	Plug-in Hybrid	1.6%	0.0014	0.003	0.22	0.0013	0.013	0.0039
LDA	Electricity	3.6%	0.0000	0.000	0.00	0.0000	0.012	0.0035
LDA	Diesel	0.1%	0.0253	0.216	0.37	0.0022	0.030	0.0176
LDT1	Gasoline	5.9%	0.0266	0.121	1.44	0.0033	0.020	0.0072
LDT1	Plug-in Hybrid	0.0%	0.0013	0.003	0.20	0.0012	0.012	0.0038
LDT1	Electricity	0.0%	0.0000	0.000	0.00	0.0000	0.012	0.0035
LDT1	Diesel	0.0%	0.2596	1.348	1.77	0.0038	0.242	0.2192
LDT2	Gasoline	29.6%	0.0093	0.055	0.81	0.0033	0.019	0.0065
LDT2	Plug-in Hybrid	0.4%	0.0014	0.003	0.21	0.0013	0.013	0.0038
LDT2	Electricity	0.2%	0.0000	0.000	0.00	0.0000	0.012	0.0035
LDT2	Diesel	0.1%	0.0154	0.040	0.16	0.0029	0.022	0.0100
MDV	Gasoline	19.0%	0.0133	0.078	0.92	0.0040	0.019	0.0066
MDV	Plug-in Hybrid	0.3%	0.0014	0.003	0.22	0.0013	0.013	0.0039
MDV	Electricity	0.3%	0.0000	0.000	0.00	0.0000	0.012	0.0035
MDV	Diesel	0.4%	0.0137	0.044	0.26	0.0039	0.024	0.0108
Weighted Average Emission Factor [4]			0.010	0.052	0.77	0.0030	0.018	0.0062

Notes:

[1] The Project-specific fleet mix for warehouse and employee passenger vehicles are obtained from **Table B-3**.

[2] Emission factors for each EMFAC vehicle class/fuel combination were obtained from the default EMFAC2021 output for El Dorado (MC) sub-area calendar year 2027. For VOC, NO_X, CO, and SO_X this table provides the running exhaust emission factors. For PM_{10} and $PM_{2.5}$ a sum of running exhaust, tire wear, and break wear emission factors are provided.

[3] For purposes of this analysis VOC is assumed to be equal to ROG.

[4] Weighted average emission factors for passenger vehicles visiting the Project site are calculated as the sumproduct of the Project-specific fleet mix and the emission factors for the individual vehicle class/fuel categories within that fleet mix.

Abbreviations:

CAP - criteria air pollutant
CO - carbon monoxide
EMFAC - EMission FACtors model
g/mi - grams per mile
LDA - Light-Duty Automobile
LDT - Light-Duty Truck
MC - Mountain County
MDV - Medium-Duty Vehicle
NO_x - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_x - sulfur oxide compounds
VOC - volatile organic compounds

Table B-6. Operational Mobile Source CAP Emission Factors for Delivery Trucks - Running Exhaust, Running Loss, Tire Wear, and Brake Wear
El Dorado Hills Costco Project
El Dorado Hills, California

EMFAC Vehicle Class	Fuel Type	Project Specific Fleet Mix [1]	VOC Emission Factor [2,3] (g/mi)	NO_X Emission Factor [2] (g/mi)	CO Emission Factor [2] (g/mi)	SO_x Emission Factor [2] (g/mi)	PM_{10} Emission Factor [2] (g/mi)	$PM_{2.5}$ Emission Factor [2] (g/mi)
HHDT	Diesel	100.0%	0.029	2.8	0.13	0.019	0.15	0.061
Weighted Average Emission Factor [4]			0.029	2.8	0.13	0.019	0.15	0.061

Notes:

[1] Delivery trucks are assumed to be diesel-fueled heavy heavy duty trucks.

[2] Emission factors were obtained from the default EMFAC2021 output for El Dorado (MC) sub-area calendar year 2027. For VOC, NO_X, CO, and SO_X this table provides the running exhaust emission factors. For PM_{10} and $PM_{2.5}$ a sum of running exhaust, tire wear, and break wear emission factors are provided.

[3] For purposes of this analysis VOC is assumed to be equal to ROG.

[4] Weighted average emission factors for delivery trucks visiting the Project site are calculated as the sumproduct of the Project-specific fleet mix and the emission factors for the individual vehicle class/fuel categories within that fleet mix.

Abbreviations:

CAP - criteria air pollutant
CO - carbon monoxide
EMFAC - EMission FACtors model
g/mi - grams per mile
HHDT - Heavy Heavy-Duty Truck
MC - Mountain County
NO_x - nitrogen oxide compounds
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
PM_{10} - particulate matter less than 10 microns in diameter
ROG - reactive organic gases
SO_x - sulfur oxide compounds
VOC - volatile organic compounds

Table B-7. Operational Mobile Source CAP Emission Factors for Passenger Vehicles Visiting the Gasoline Dispensing Facility - Starting Exhaust, Hot Soak, Diurnal, and Running Loss
El Dorado Hills Costco Project
El Dorado Hills, California

EMFAC Vehicle Class	Fuel Type	Project Specific Fleet Mix [1]	VOC Emission Factor [2,3] (g/trip)	NO_X Emission Factor [2] (g/trip)	CO Emission Factor [2] (g/trip)	SO_x Emission Factor [2] (g/trip)	PM_{10} Emission Factor [2] (g/trip)	$PM_{2.5}$ Emission Factor [2] (g/trip)
LDA	Gasoline	42.0%	0.89	0.23	2.9	6.5E-04	0.0019	0.0017
LDA	Plug-in Hybrid	1.7%	0.36	0.12	1.4	6.1E-04	0.0018	0.0017
LDT1	Gasoline	6.0%	2.4	0.46	6.6	8.8E-04	0.0032	0.0030
LDT1	Plug-in Hybrid	0.022%	0.29	0.12	1.4	6.5E-04	0.0013	0.0012
LDT2	Gasoline	30.0%	1.1	0.33	3.6	8.3E-04	0.0020	0.0019
LDT2	Plug-in Hybrid	0.37%	0.31	0.12	1.4	7.2E-04	0.0016	0.0015
MDV	Gasoline	19.7%	1.5	0.43	4.3	0.0010	0.0022	0.0020
MDV	Plug-in Hybrid	0.26%	0.33	0.12	1.4	8.9E-04	0.0019	0.0017
Weighted Average Emission Factor [4]			1.2	0.31	3.6	7.9E-04	0.0021	0.0019

Notes:

[1] The Project-specific fleet mix for passenger vehicles visiting the GDF are obtained from **Table B-3**.

[2] Emission factors for each EMFAC vehicle class/fuel combination were obtained from the default EMFAC2021 output for El Dorado (MC) sub-area calendar year 2027. For NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$ this table provides the starting exhaust emission factors. For VOC a sum of starting exhaust, hot soak, diurnal, and running loss emission factors are provided.

[3] For purposes of this analysis VOC is assumed to be equal to ROG.

[4] Weighted average emission factors for passenger vehicles visiting the Project site are calculated as the sumproduct of the Project-specific fleet mix and the emission factors for the individual vehicle class/fuel categories within that fleet mix.

Abbreviations:

CAP - criteria air pollutant
CO - carbon monoxide
EMFAC - EMission FACtors model
g - gram
GDF - gasoline dispensing facility
LDA - Light-Duty Automobile
LDT - Light-Duty Truck
MC - Mountain County
MDV - Medium-Duty Vehicle
NO_x - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_x - sulfur oxide compounds
VOC - volatile organic compounds

Table B-8. Operational Mobile Source CAP Emission Factors for Warehouse and Employee Passenger Vehicles - Starting Exhaust, Hot Soak, Diurnal, and Running Loss
El Dorado Hills Costco Project
El Dorado Hills, California

EMFAC Vehicle Class	Fuel Type	Project Specific Fleet Mix [1]	VOC Emission Factor [2,3] (g/trip)	NO_X Emission Factor [2] (g/trip)	CO Emission Factor [2] (g/trip)	SO_x Emission Factor [2] (g/trip)	PM_{10} Emission Factor [2] (g/trip)	$PM_{2.5}$ Emission Factor [2] (g/trip)
LDA	Gasoline	38.4%	0.89	0.23	2.9	6.5E-04	0.0019	0.0017
LDA	Plug-in Hybrid	1.6%	0.36	0.12	1.4	6.1E-04	0.0018	0.0017
LDA	Electricity	3.6%	0.00	0.00	0.0	0.0E+00	0.0000	0.0000
LDA	Diesel	0.1%	0.00	0.00	0.0	0.0E+00	0.0000	0.0000
LDT1	Gasoline	5.9%	2.44	0.46	6.6	8.8E-04	0.0032	0.0030
LDT1	Plug-in Hybrid	0.0%	0.29	0.12	1.4	6.5E-04	0.0013	0.0012
LDT1	Electricity	0.0%	0.00	0.00	0.0	0.0E+00	0.0000	0.0000
LDT1	Diesel	0.0%	0.00	0.00	0.0	0.0E+00	0.0000	0.0000
LDT2	Gasoline	29.6%	1.12	0.33	3.6	8.3E-04	0.0020	0.0019
LDT2	Plug-in Hybrid	0.4%	0.31	0.12	1.4	7.2E-04	0.0016	0.0015
LDT2	Electricity	0.2%	0.00	0.00	0.0	0.0E+00	0.0000	0.0000
LDT2	Diesel	0.1%	0.00	0.00	0.0	0.0E+00	0.0000	0.0000
MDV	Gasoline	19.0%	1.51	0.43	4.3	1.0E-03	0.0022	0.0020
MDV	Plug-in Hybrid	0.3%	0.33	0.12	1.4	8.9E-04	0.0019	0.0017
MDV	Electricity	0.3%	0.00	0.00	0.0	0.0E+00	0.0000	0.0000
MDV	Diesel	0.4%	0.00	0.00	0.0	0.0E+00	0.0000	0.0000
Weighted Average Emission Factor [4]			1.1	0.30	3.4	7.6E-04	0.0020	0.0018

Notes:

[1] The Project-specific fleet mix for warehouse and employee passenger vehicles are obtained from **Table B-3**.

[2] Emission factors for each EMFAC vehicle class/fuel combination were obtained from the default EMFAC2021 output for El Dorado (MC) sub-area calendar year 2027. For NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$ this table provides the starting exhaust emission factors. For VOC a sum of starting exhaust, hot soak, diurnal, running loss emission factors are provided.

[3] For purposes of this analysis VOC is assumed to be equal to ROG.

[4] Weighted average emission factors for passenger vehicles visiting the Project site are calculated as the sumproduct of the Project-specific fleet mix and the emission factors for the individual vehicle class/fuel categories within that fleet mix.

Abbreviations:

CAP - criteria air pollutant
CO - carbon monoxide
EMFAC - EMission FACtors model
g - gram
LDA - Light-Duty Automobile
LDT - Light-Duty Truck
MC - Mountain County
MDV - Medium-Duty Vehicle
NO_x - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_x - sulfur oxide compounds
VOC - volatile organic compounds

Table B-9. Operational Mobile Source CAP Emission Factors for Delivery Trucks - Starting Exhaust, Hot Soak, Diurnal and Running Loss
El Dorado Hills Costco Project
El Dorado Hills, California

EMFAC Vehicle Class	Fuel Type	Project Specific Fleet Mix [1]	VOC Emission Factor [2,3] (g/trip)	NO_X Emission Factor [2] (g/trip)	CO Emission Factor [2] (g/trip)	SO_x Emission Factor [2] (g/trip)	PM_{10} Emission Factor [2] (g/trip)	$PM_{2.5}$ Emission Factor [2] (g/trip)
HHDT	Diesel	100.0%	0	3.4	0	0	0	0
Weighted Average Emission Factor [4]			0	3.4	0	0	0	0

Notes:

[1] Delivery trucks are assumed to be diesel-fueled heavy heavy duty trucks.

[2] Emission factors were obtained from the default EMFAC2021 output for El Dorado (MC) sub-area calendar year 2027. For NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$ this table provides the starting exhaust emission factors. For VOC a sum of starting exhaust, hot soak, diurnal, and running loss emission factors are provided.

[3] For purposes of this analysis VOC is assumed to be equal to ROG.

[4] Weighted average emission factors for delivery trucks visiting the Project site are calculated as the sumproduct of the Project-specific fleet mix and the emission factors for the individual vehicle class/fuel categories within that fleet mix.

Abbreviations:

CAP - criteria air pollutant

CO - carbon monoxide

EMFAC - EMission FACtors model

g - gram

HHDT - Heavy Heavy-Duty Truck

MC - Mountain County

NO_x - nitrogen oxide compounds

PM_{10} - particulate matter less than 10 microns in diameter

$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter

ROG - reactive organic gases

SO_x - sulfur oxide compounds

VOC - volatile organic compounds

Table B-10. Operational Mobile Source CAP Emission Factors for Passenger Vehicles Visiting the GDF - Idling
El Dorado Hills Costco Project
El Dorado Hills, California

EMFAC Vehicle Class	Fuel Type	Project Specific Fleet Mix [1]	VOC Emission Factor [2,3] (grams/ idle-minute)	NO_X Emission Factor [2] (grams/ idle-minute)	CO Emission Factor [2] (grams/ idle-minute)	SO_X Emission Factor [2] (grams/ idle-minute)	PM_{10} Emission Factor [2] (grams/ idle-minute)	$PM_{2.5}$ Emission Factor [2] (grams/ idle-minute)
LDA	Gasoline	42.0%	0.0018	0.0026	0.047	2.5E-04	3.3E-04	3.1E-04
LDA	Plug-in Hybrid	1.7%	5.0E-04	5.2E-04	0.037	1.5E-04	1.5E-04	1.4E-04
LDT1	Gasoline	6.0%	0.0067	0.010	0.10	3.1E-04	5.0E-04	4.6E-04
LDT1	Plug-in Hybrid	0.0%	4.6E-04	4.7E-04	0.034	1.4E-04	1.0E-04	9.4E-05
LDT2	Gasoline	30.0%	0.0025	0.0043	0.057	3.2E-04	3.6E-04	3.3E-04
LDT2	Plug-in Hybrid	0.4%	4.9E-04	5.0E-04	0.036	1.5E-04	1.3E-04	1.2E-04
MDV	Gasoline	19.7%	0.0035	0.0061	0.065	3.9E-04	3.7E-04	3.4E-04
MDV	Plug-in Hybrid	0.3%	4.9E-04	5.0E-04	0.036	1.5E-04	1.5E-04	1.4E-04
Weighted Emission Factor [4]			0.0026	0.0041	0.057	3.0E-04	3.5E-04	3.3E-04

Notes:

[1] The project specific fleet mix for passenger vehicles visiting the GDF are obtained from **Table B-3**.

[2] Emission factors for each EMFAC vehicle class/fuel combination were obtained from the default EMFAC2021 project-level output for El Dorado (MC) sub-area calendar year 2027. For EMFAC Vehicle Classes LDA, LDT1, LDT2, and MDV, the idling emission rates were estimated by multiplying the speed correction factor of 2.5 mph to the running exhaust emission rate in grams per mile at 5 mph.

[3] For purposes of this analysis VOC is assumed to be equal to ROG.

[4] Weighted average emission factors for passenger vehicles the Project site are calculated as the sumproduct of the Project-specific fleet mix and the emission factors for the individual vehicle class/fuel categories within that fleet mix.

Abbreviations:

CAP - criteria air pollutant
CO - carbon monoxide
EMFAC - EMission FACtors model
GDF - gasoline dispensing facility
LDA - Light-Duty Automobile
LDT - Light-Duty Truck
MC - Mountain County
MDV - Medium-Duty Vehicle
mph - miles per hour
NO_x - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_x - sulfur oxide compounds
VOC - volatile organic compounds

Table B-11. Operational Mobile Source CAP Emission Factors for Delivery Trucks - Idling
El Dorado Hills Costco Project
El Dorado Hills, California

EMFAC Vehicle Class	Fuel Type	Project Specific Fleet Mix [1]	VOC Emission Factor [2,3] (grams/ idle-minute)	NO_X Emission Factor [2] (grams/ idle-minute)	CO Emission Factor [2] (grams/ idle-minute)	SO_X Emission Factor [2] (grams/ idle-minute)	PM_{10} Emission Factor [2] (grams/ idle-minute)	$PM_{2.5}$ Emission Factor [2] (grams/ idle-minute)
HHDT	Diesel	100.0%	0.039	0.56	0.54	9.0E-04	5.6E-04	5.4E-04
Weighted Emission Factor [4]			0.039	0.56	0.54	9.0E-04	5.6E-04	5.4E-04

Notes:

[1] Delivery trucks are assumed to be diesel-fueled heavy heavy duty trucks.

[2] Emission factors for each EMFAC vehicle class/fuel combination were obtained from the default EMFAC2021 project-level output for El Dorado (MC) sub-area calendar year 2027.

[3] For purposes of this analysis VOC is assumed to be equal to ROG.

[4] Weighted average emission factors for delivery trucks visiting the Project site are calculated as the sumproduct of the Project-specific fleet mix and the emission factors for the individual vehicle class/fuel categories within that fleet mix.

Abbreviations:

CAP - criteria air pollutant

CO - carbon monoxide

EMFAC - EMission FACtors model

HHDT - Heavy Heavy-Duty Truck

MC - Mountain County

NO_x - nitrogen oxide compounds

PM_{10} - particulate matter less than 10 microns in diameter

$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter

ROG - reactive organic gases

SO_x - sulfur oxide compounds

VOC - volatile organic compounds

Table B-12. Entrained Road Dust Emission Factors for Operational Mobile Sources
El Dorado Hills Costco Project
El Dorado Hills, California

Mobile Source Activity Type	PM_{10} Entrained Road Dust Emission Factor (lb/VMT)	$PM_{2.5}$ Entrained Road Dust Emission Factor (lb/VMT)
Travel on Paved Roads [1]	6.62E-04	1.66E-04
Travel on Unpaved Roads [1]	7.44E-01	7.41E-02
Truck Travel [2]	6.62E-04	1.66E-04
Passenger Vehicle Travel [3]	1.41E-03	2.40E-04

Notes:

[1] Entrained road dust for paved and unpaved roads are CalEEMod default values for El Dorado County.

[2] 100% of on-road travel for fuel delivery trucks and warehouse and tire center delivery trucks would occur on paved roads.

[3] Per project-specific information, 99.90% of project-related passenger vehicle travel is assumed to occur on paved roads and the remaining 0.10% is assumed to occur on unpaved roads.

Abbreviations:

CalEEMod - California Emissions Estimator Model

lb - pound

PM_{10} - particulate matter less than 10 microns in diameter

$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter

VMT - vehicle miles traveled

Table B-13. Operational Mobile Source CAP Emission Factors for Transport Refrigeration Units
El Dorado Hills Costco Project
El Dorado Hills, California

Transport Refrigeration Unit (TRU) Category	Fuel Type	Total Statewide Activity [1] (hr/year)	VOC Emission Factor [1,2] (lbs/hr)	NO_X Emission Factor [1] (lbs/hr)	CO Emission Factor [1] (lbs/hr)	SO_X Emission Factor [1] (lbs/hr)	PM_{10} Emission Factor [1] (lbs/hr)	$PM_{2.5}$ Emission Factor [1] (lbs/hr)
Transport Refrigeration Unit - Instate Trailer	Diesel	3,284	1.16E-02	9.03E-02	1.06E-02	1.50E-04	1.49E-03	1.37E-03
Transport Refrigeration Unit - Out-Of-State Trailer	Diesel	1,895	1.16E-02	9.25E-02	1.07E-02	1.44E-04	2.05E-03	1.89E-03
Weighted Average Emission Factor [3]			1.16E-02	9.11E-02	1.06E-02	1.48E-04	1.70E-03	1.56E-03

Notes:

[1] Total statewide activity and exhaust emission factors for TRUs were obtained from OFFROAD2021 emissions output for El Dorado (MC) sub-area calendar year 2027.

[2] For purposes of this analysis VOC is assumed to be equal to ROG.

[3] The activity weighted average emission factors for TRUs servicing the proposed Project were calculated using the OFFROAD2021 emission factors and total activity for each individual TRU category.

Abbreviations:

CAP - criteria air pollutant
CO - carbon monoxide
hr - hour
lbs - pounds
MC - Mountain County
NO_x - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_x - sulfur oxide compounds
VOC - volatile organic compounds

Table B-14. Maximum Daily Criteria Air Pollutant Emission Estimates for Operational Mobile Sources
El Dorado Hills Costco Project
El Dorado Hills, California

Mobile Source Activity	Average One-Way Trip Length [1] (mi)	Maximum Daily Trips [1] (one-way trips/day)	Maximum Daily VMT [1] (mi/day)	Maximum Daily Idle Duration [1] (min/day)	Daily TRU Operational Duration [1] (min/day)	VOC Emissions [2] (lbs/day)	NO_x Emissions [3] (lbs/day)	CO Emissions [3] (lbs/day)	SO_X Emissions [3] (lbs/day)	PM_{10} Emissions [4] (lbs/day)	$PM_{2.5}$ Emissions [4] (lbs/day)
GDF Customer Vehicles (Passenger Vehicles) [5]	-	6,442	3,300	-	-	17	4.8	56	0.03	4.8	0.9
Warehouse and Employee Vehicles (Passenger Vehicles) [5]	-	9,907	20,146	-	-	24.69	8.84	108.67	0.15	29.17	5.14
Passenger Vehicle Idling at GDF	-	-	-	9,115	-	0.053	0.083	1.1	0.0060	0.0071	0.0065
Fuel Delivery Trucks [6]	19	10	190	75	-	0.019	1.3	0.14	0.0079	0.19	0.057
Warehouse and Tire Center Delivery Trucks [6]	90	26	2,340	195	-	0.17	15	0.89	0.10	2.3	0.71
TRUs for Warehouse Delivery Trucks [7]	-	-	-	-	1,132	0.22	1.7	0.20	0.0028	0.032	0.029
Total Emissions [8]						**42**	**31**	**168**	**0.30**	**37**	**6.8**

Notes:

[1] Data obtained from **Table B-1**.

[2] VOC emissions for on-road vehicles include running exhaust, running loss, hot soak, diurnal, starting exhaust, and idling exhaust. These emissions were estimated using emission factors from **Tables B-4 through B-11** along with daily VMT, trips, and idle duration.

[3] NO_X, CO, and SO_X emissions for on-road vehicles include running exhaust, starting exhaust, and idling exhaust. These emissions were estimated using emission factors from **Tables B-4 through B-11** along with daily VMT, trips, and idle

[4] PM_{10} and $PM_{2.5}$ emissions from on-road vehicles include running exhaust, tire wear, brake wear, entrained road dust, starting exhaust, and idling exhaust. These emissions were estimated using emission factors from **Tables B-4 through B-12** along with daily VMT, trips, and idle duration.

[5] Passenger vehicle trip emissions include travel emissions (running exhaust, tire wear, brake wear, and fugitive dust), evaporative emissions (running loss, hot soak, and diurnal) using the number of one-way trips, and starting exhaust using the number of one-way trips.

[6] Delivery truck trip emissions include travel emissions (running exhaust, tire wear, brake wear, and fugitive dust), evaporative emissions (hot soak, running loss, and diurnal) using the number of one-way trips, starting exhaust emissions using the number of one-way trips, and idling exhaust using the number of round trips (i.e., half of the one-way trips).

[7] TRU emissions were estimated using emission factors from **Table B-13** and the daily TRU operational duration.

[8] Emissions totals may not add up due to rounding. Emissions shown as zero may be non-zero values; however, they are below a meaningful reporting level for this analysis.

Abbreviations:

CO - carbon monoxide
GDF - gasoline dispensing facility
lbs - pounds
mi - mile
min - minute
NO_x - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
SO_x - sulfur oxide compounds
TRU - Transport Refrigeration Unit
VMT - vehicle miles traveled
VOC - volatile organic compounds

APPENDIX C
TOXIC AIR CONTAMINANT EMISSION CALCULATIONS FOR THE HEALTH RISK ASSESSMENT

List of Tables

Table C-1: Diesel Particulate Matter Emissions from Unmitigated Off-Road Construction Equipment
Table C-2: Diesel Particulate Matter Emissions from Construction Trucks (Hauling and Vendor)
Table C-3: Diesel Particulate Matter Emissions from Concrete Trucks
Table C-4: Toxic Air Contaminant Emissions from Gasoline Transfer and Dispensing
Table C-5: Diesel Particulate Matter Emissions from Stationary Emergency Generators
Table C-6: Diesel Particulate Matter Emissions from Delivery Trucks and Transport Refrigeration Units
Table C-7: Annual Average Toxic Air Contaminant Emissions from Passenger Vehicles
Table C-8: Maximum Hourly Toxic Air Contaminant Emissions from Passenger Vehicles
Table C-9: Mobile Source Activity Data on Modeled Roadways
Table C-10: Diesel Particulate Matter Emission Factors for Delivery Trucks
Table C-11: Diesel Particulate Matter Emission Factors for Transport Refrigeration Units
Table C-12: Speciation Profiles Used to Calculate Mobile Source Air Toxic Emissions from Passenger Vehicles
Table C-13: Reactive Organic Gas and PM2.5 Emissions from Passenger Vehicles
Table C-14: Reactive Organic Gas Emission Factors for Passenger Vehicles
Table C-15: PM2.5 Emission Factors for Passenger Vehicles
Table C-16: Diesel Particulate Matter Emissions from Mitigated Off-Road Construction Equipment

Table C-1. Diesel Particulate Matter Emissions from Unmitigated Off-Road Construction Equipment
El Dorado Hills Costco Project
El Dorado Hills, California

Exposure Period for Construction Health Risk Assessment	Start Date for Exposure Period	End Date for Exposure Period	Construction Phase	Start Date for Construction Phase within Exposure Period	End Date for Construction Phase within Exposure Period	Construction Phase Duration within Exposure Period (days)	Exhaust PM_{10} Emissions from Construction Equipment [1] (lbs)
0.25 Years in Third Trimester	7/1/2026	9/29/2026	Site Preparation	7/1/2026	8/6/2026	37	46.0
0.25 Years in Third Trimester	7/1/2026	9/29/2026	Grading	8/7/2026	9/29/2026	54	60.6
0.25 Years in Third Trimester	7/1/2026	9/29/2026	Building Construction	8/7/2026	9/29/2026	54	20.4
0.25 Years in Third Trimester	7/1/2026	9/29/2026	Linear, Grubbing & Land Clearing	7/1/2026	7/26/2026	26	5.5
0.25 Years in Third Trimester	7/1/2026	9/29/2026	Linear, Grading & Excavation	7/27/2026	9/29/2026	65	84.9
0.63 Years in 0-2 Year Age Bin	9/30/2026	5/17/2027	Grading	9/30/2026	12/31/2026	93	104.3
0.63 Years in 0-2 Year Age Bin	9/30/2026	5/17/2027	Grading	1/1/2027	1/27/2027	27	28.2
0.63 Years in 0-2 Year Age Bin	9/30/2026	5/17/2027	Building Construction	9/30/2026	12/31/2026	93	35.2
0.63 Years in 0-2 Year Age Bin	9/30/2026	5/17/2027	Building Construction	1/1/2027	5/17/2027	137	46.1
0.63 Years in 0-2 Year Age Bin	9/30/2026	5/17/2027	Paving	1/28/2027	4/16/2027	79	23.6
0.63 Years in 0-2 Year Age Bin	9/30/2026	5/17/2027	Architectural Coating	3/17/2027	5/17/2027	62	1.2
0.63 Years in 0-2 Year Age Bin	9/30/2026	5/17/2027	Linear, Grading & Excavation	9/30/2026	11/8/2026	40	52.3
0.63 Years in 0-2 Year Age Bin	9/30/2026	5/17/2027	Linear, Drainage, Utilities, & Sub-Grade	11/9/2026	12/31/2026	53	32.8
0.63 Years in 0-2 Year Age Bin	9/30/2026	5/17/2027	Linear, Drainage, Utilities, & Sub-Grade	1/1/2027	2/8/2027	39	22.1
0.63 Years in 0-2 Year Age Bin	9/30/2026	5/17/2027	Linear, Paving	2/9/2027	3/19/2027	39	10.7
Total DPM Emissions [2] for Unmitigated Off-road Construction Equipment (Source Group CONEQ) in the Third Trimester Exposure Period (lbs)							217.4
Total DPM Emissions [2] for Unmitigated Off-road Construction Equipment (Source Group CONEQ) in the 0-2 Year Age Bin Exposure Period (lbs)							356.2

Notes:

[1] Unmitigated emissions for the Site Preparation; Grading; Building Construction; Paving; and Architectural Coating phases are obtained from **Appendix A-2**. Unmitigated emissions for the Linear, Grubbing & Land Clearing; Linear, Grading & Excavation; Linear, Drainage, Utilities, & Sub-Grade; and Linear, Paving construction phases are obtained from **Appendix A-4**. Emissions for construction phases that occur in multiple exposure periods are apportioned based on construction phase duration within each exposure period.

[2] For purposes of this analysis, DPM emissions are assumed to be equal to PM_{10} exhaust emissions.

Abbreviations:

DPM - Diesel Particulate Matter

lbs - pounds

PM_{10} - particulate matter less than 10 microns in diameter

Table C-2. Diesel Particulate Matter Emissions from Construction Trucks (Hauling and Vendor)
El Dorado Hills Costco Project
El Dorado Hills, California

AERMOD Source Group ID [1]	Exposure Period	Segment Length [2] (miles)	Haul Truck One-Way Trips [3]	Haul Truck VMT [4] (miles)	Haul Truck DPM Emissions [5] (lbs)	Vendor Truck One-Way Trips [3]	Vendor Truck VMT [4] (miles)	Vendor Truck DPM Emissions [5] (lbs)	Total DPM Emissions (lbs)
HVT_01	Third Trimester	0.38	653	245	1.08E-02	243	91	2.01E-03	1.28E-02
HVT_01	0-2 Years	0.38	1,380	518	2.29E-02	1,011	380	8.38E-03	3.12E-02
HVT_02	Third Trimester	0.17	653	114	5.02E-03	243	42	9.34E-04	5.96E-03
HVT_02	0-2 Years	0.17	1,380	241	1.06E-02	1,011	176	3.89E-03	1.45E-02
HVT_03	Third Trimester	0.39	653	252	1.11E-02	243	94	2.07E-03	1.32E-02
HVT_03	0-2 Years	0.39	1,380	532	2.35E-02	1,011	390	8.60E-03	3.21E-02
HVT_04	Third Trimester	0.30	5,880	1,771	7.81E-02	2,187	659	1.45E-02	9.26E-02
HVT_04	0-2 Years	0.30	12,417	3,739	1.65E-01	9,103	2,741	6.04E-02	2.25E-01
HVT_05	Third Trimester	0.30	653	193	8.53E-03	243	72	1.59E-03	1.01E-02
HVT_05	0-2 Years	0.30	1,380	409	1.80E-02	1,011	300	6.60E-03	2.46E-02
HVT_06	Third Trimester	0.17	2,613	433	1.91E-02	972	161	3.55E-03	2.27E-02
HVT_06	0-2 Years	0.17	5,519	915	4.03E-02	4,046	671	1.48E-02	5.51E-02
HVT_07	Third Trimester	0.31	2,613	801	3.53E-02	972	298	6.57E-03	4.19E-02
HVT_07	0-2 Years	0.31	5,519	1,692	7.46E-02	4,046	1,240	2.73E-02	1.02E-01
HVT_08	Third Trimester	0.33	2,613	859	3.79E-02	972	319	7.04E-03	4.49E-02
HVT_08	0-2 Years	0.33	5,519	1,813	7.99E-02	4,046	1,329	2.93E-02	1.09E-01
HVT_09	Third Trimester	0.18	5,880	1,036	4.57E-02	2,187	385	8.49E-03	5.42E-02
HVT_09	0-2 Years	0.18	12,417	2,187	9.64E-02	9,103	1,603	3.54E-02	1.32E-01

Notes:

[1] Source IDs represent construction truck routes for hauling and vendor trucks as modeled in AERMOD. See **Figure 2** for graphical representations of the modeled sources.

[2] Segment length based on modeled source length in AERMOD.

[3] One-way trips for haul trucks and vendor trucks on each modeled roadway are estimated based on total trips estimated in CalEEMod model run (**Appendix A-2**) and project specific truck routes.

[4] Vehicle miles traveled by haul trucks and vendor trucks are calculated as the product of segment length and one-way trips on that segment.

[5] DPM emissions from haul and vendor truck travel on each modeled roadway segment are calculated as the product of VMT and PM_{10} emission factor for that truck type. For purposes of this analysis, DPM emissions are assumed to be equal to PM_{10} exhaust emissions.

[6] DPM emission factors for haul trucks and vendor trucks are estimated as a ratio of the exhaust PM_{10} emissions to VMT for each truck type obtained from the CalEEMod model run in **Appendix A-2**.

DPM Emission Factors: [6]

Haul Trucks	4.41E-05 lb/mile
Vendor Trucks	2.20E-05 lb/mile

Abbreviations:

AERMOD - American Meteorological Society/Environmental Protection Agency Regulatory Model
CalEEMod - CALifornia Emissions Estimator MODel
DPM - diesel particulate matter
lb(s) - pound(s)
PM_{10} - particulate matter less than 10 microns in diameter
VMT - vehicle miles traveled

Table C-3. Diesel Particulate Matter Emissions from Concrete Trucks
El Dorado Hills Costco Project
El Dorado Hills, California

AERMOD Source Group ID [1]	Exposure Period	Segment Length [2] (miles)	One-Way Trips [3]	VMT [4] (miles)	DPM Emissions [5,6] (lbs)
CT_01	0-2 Years	0.38	83	31	1.38E-03
CT_02	0-2 Years	0.17	83	15	6.40E-04
CT_03	0-2 Years	0.39	83	32	1.42E-03
CT_04	0-2 Years	0.30	749	225	9.94E-03
CT_05	0-2 Years	0.30	83	25	1.09E-03
CT_06	0-2 Years	0.17	333	55	2.43E-03
CT_07	0-2 Years	0.31	333	102	4.50E-03
CT_08	0-2 Years	0.33	333	109	4.82E-03
CT_09	0-2 Years	0.18	749	132	5.82E-03
CT_IDL	0-2 Years	-	-	-	3.41E-02

Notes:

[1] Source IDs represent construction truck routes for concrete trucks as modeled in AERMOD. See **Figure 2** for graphical representations of the modeled sources.

[2] Segment length based on modeled source length in AERMOD.

[3] One-way trips for concrete truck on each modeled roadway are estimated based on project specific information.

[4] Vehicle miles traveled by concrete trucks are calculated as the product of segment length and total annual one-way trips on t

[5] DPM emissions from concrete trucks travel on each modeled roadway segment (CT_01 through CT_09) are calculated as the product of VMT and PM_{10} emission factor for concrete trucks. For purposes of this analysis, DPM emissions are assumed to be equal to PM_{10} exhaust emissions.

[6] DPM emissions for concrete truck idling (modeled source CT_IDL) is calculated as a product of the daily PM_{10} emissions from concrete tuck idling and the number of days of concrete truck activity. Refer to **Table A-2** in **Appendix A** for further details.

[7] DPM emission factors concrete trucks are estimated as a ratio of the exhaust PM_{10} emissions to VMT for concrete trucks obtained from the CalEEMod model run in **Appendix A-4**.

DPM Emission Factors: [7]

Concrete Trucks 4.41E-05 lb/mile

Abbreviations:

AERMOD - American Meteorological Society/Environmental Protection Agency Regulatory Model

CalEEMod - CALifornia Emissions Estimator MODel

DPM - diesel particulate matter

lb(s) - pound(s)

PM_{10} - particulate matter less than 10 microns in diameter

VMT - vehicle miles traveled

Table C-4. Toxic Air Contaminant Emissions from Gasoline Transfer and Dispensing
El Dorado Hills Costco Project
El Dorado Hills, California

Emission Sources	Loading	Breathing	Refueling	Permeation	Total for Refueling and Permeation	GDF Spillage
Source Group ID [1]	**LOADING**	**BREATH**	**REFILL**	**REFILL**	**REFILL**	**SPILL**
TOG Emission Factor [2,3] (lb/1,000 gallons)	0.15	0.024	0.073	0.009	-	0.05
Acute Benzene Speciation Factor [4] (% TOG weight)	0.549%	0.549%	0.549%	0.549%	-	0.702%
Acute Toluene Speciation Factor [4] (% TOG weight)	1.350%	1.350%	1.350%	1.350%	-	5.800%
Acute Xylenes Speciation Factor [4] (% TOG weight)	0.509%	0.509%	0.509%	0.509%	-	6.910%
Chronic Benzene Speciation Factor [4] (% TOG weight)	0.457%	0.457%	0.457%	0.457%	-	0.71%
Chronic Ethyl Benzene Speciation Factor [4] (% TOG weight)	0.107%	0.107%	0.107%	0.107%	-	1.29%
Chronic n-Hexane Speciation Factor [4] (% TOG weight)	1.82%	1.82%	1.82%	1.82%	-	1.86%
Chronic Naphthalene Speciation Factor [4] (% TOG weight)	0.0004%	0.0004%	0.0004%	0.0004%	-	0.17%
Chronic Propylene Speciation Factor [4] (% TOG weight)	0.0036%	0.0036%	0.0036%	0.0036%	-	0.0001%
Chronic Toluene Speciation Factor [4] (% TOG weight)	1.11%	1.11%	1.11%	1.11%	-	5.6%
Chronic Xylenes Speciation Factor [4] (% TOG weight)	0.41%	0.41%	0.41%	0.41%	-	6.59%
Maximum Hourly Benzene Emissions [5] (lb/hr)	7.25E-03	7.80E-04	2.38E-03	2.92E-04	0.0027	0.0021
Maximum Hourly Toluene Emissions [5] (lb/hr)	1.78E-02	1.92E-03	5.86E-03	7.19E-04	0.0066	0.0172
Maximum Hourly Xylenes Emissions [5] (lb/hr)	6.72E-03	7.23E-04	2.21E-03	2.71E-04	0.0025	0.0204
Annual Average Benzene Emissions [6] (lb/year)	15.766500	2.52E+00	7.71E+00	9.46E-01	8.66	8.13
Annual Average Ethyl Benzene Emissions [6] (lb/year)	3.69E+00	5.91E-01	1.81E+00	2.21E-01	2.03	14.84
Annual Average n-Hexane Emissions [6] (lb/year)	6.28E+01	1.00E+01	3.07E+01	3.77E+00	34.47	21.39
Annual Average Naphthalene Emissions [6] (lb/year)	1.54E-02	2.46E-03	7.51E-03	9.21E-04	0.01	2.00
Annual Average Propylene Emissions [6] (lb/year)	1.24E-01	1.98E-02	6.06E-02	7.44E-03	0.07	0.00
Annual Average Toluene Emissions [6] (lb/year)	3.83E+01	6.13E+00	1.87E+01	2.30E+00	21.02	64.75
Annual Average Xylenes Emissions [6] (lb/year)	1.41E+01	2.26E+00	6.90E+00	8.47E-01	7.75	75.79

Throughput:

Maximum Hourly Throughput for GDF Loading [7]	8,800	gallons/hr
Maximum Hourly Throughput for Other GDF Sources [8]	5,917	gallons/hr
Annual Throughput	23.0	million gallons/year

Constants:

Fueling Emission Factor (Non-ORVR Vehicles, EVR) [2]	0.42	lb/1,000 gallons
Fueling Emission Factor (ORVR Vehicles, EVR) [2]	0.021	lb/1,000 gallons
Percent ORVR Vehicles [9]	86.88%	
Maximum Hourly Throughput Adjustment [8]	1.60	

Notes:

[1] See **Figure 5** for graphical representations of the modeled sources.

[2] Emission factors obtained from Table 9 of CAPCOA Gasoline Service Station Industrywide Risk Assessment Technical Guidance. Refueling emission factor is calculated as the sum of the weighted emission factors for non-ORVR and ORVR vehicles. Available at: https://ww2.arb.ca.gov/sites/default/files/2022-03/Draft%202022%20Gas%20Station%20IWG%20-%20Technical%20Guidance_ADA%20Compliant.pdf. Accessed: June 2025.

[3] Spillage emission factor was obtained from Table 2-1 of CARB CP-201, which is the most recent Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities Using Underground Storage Tanks. Available at: https://ww2.arb.ca.gov/sites/default/files/2023-09/CP-201.pdf. Accessed: December 2024.

[4] Toxic air contaminant speciation factors were obtained from Table 11 and Table 12 of CAPCOA Gasoline Service Station Industrywide Risk Assessment Technical Guidance. Available at: https://ww2.arb.ca.gov/sites/default/files/2022-03/Draft%202022%20Gas%20Station%20IWG%20-%20Technical%20Guidance_ADA%20Compliant.pdf. Accessed: June 2025.

[5] Maximum hourly emissions are calculated as a product of the maximum hourly throughput, TOG emission factor, and the acute speciation factors.

[6] Annual average emissions are calculated as a product of the annual throughput, TOG emission factor, and the chronic speciation factors.

[7] Maximum hourly loading throughput is obtained from CAPCOA Gasoline Service Station Industrywide Risk Assessment Technical Guidance. Available at: https://ww2.arb.ca.gov/sites/default/files/2022-03/Draft%202022%20Gas%20Station%20IWG%20-%20Technical%20Guidance_ADA%20Compliant.pdf. Accessed: June 2025.

[8] Maximum hourly throughput for other GDF sources is estimated by applying a scaling factor of 1.60 to the average daily throughput of the GDF. The average daily throughput was calculated using an annual throughput of 23 million gallons/year and the GDF operating schedule (7 days per week). The scaling factor of 1.60 was estimated as the ratio of maximum hourly vehicle volumes to average hourly vehicles that would be serviced at the gas station. Vehicle volume data was provided by Kittelson & Associates.

[9] TOG emission factor for refueling is estimated by assuming that 86.88% of the vehicles to which gasoline is dispensed at the GDF are ORVR vehicles and remaining 13.22% are non-ORVR vehicles, based on data provided by El Dorado County APCD. This rate was developed using the 2022 total vehicle population required to have ORVR, accounting for vehicle model year and weight class for Sacramento County.

Abbreviations:

APCD - Air Pollution Control District
CAPCOA - California Air Pollution Control Officers Association
CARB - California Air Resources Board
EVR - enhanced vapor recovery
GDF - gasoline dispensing facility
hr - hour
lb - pound
ORVR - onboard refueling vapor recovery
TOG - total organic gases

Table C-5. Diesel Particulate Matter Emissions from Stationary Emergency Generators
El Dorado Hills Costco Project
El Dorado, California

Source [1]	AERMOD Source ID [1]	Emissions [2] (lb/year)
Particulate Matter (PM_{10})	GEN1	3.02
Particulate Matter (PM_{10})	GEN2	3.02

Notes:

[1] See **Figure 5** for graphical representations of the modeled sources.

[2] Obtained from CalEEMod model file in **Appendix B-1**.

Abbreviations:

AERMOD - American Meteorological Society/Environmental Protection Agency Regulatory Model
CalEEMod - California Emissions Estimator Model
lb - pounds
PM_{10} - particulate matter of 10 microns or less in diameter

Table C-6. Diesel Particulate Matter Emissions from Delivery Trucks and Transport Refrigeration Units
El Dorado Hills Costco Project
El Dorado Hills, California

Source Group ID [1]	Annual DPM Emissions from Delivery Trucks [2] (lb/year)	Annual DPM Emissions from Transport Refrigeration Units [3] (lb/year)	Total Annual DPM Running and Idling Exhaust Emissions (lb/year)
FT_01	3.18E-02	-	3.18E-02
FT_02	1.54E-02	-	1.54E-02
FT_03	2.82E-02	-	2.82E-02
FT_04	1.13E-02	-	1.13E-02
FT_05	2.51E-02	-	2.51E-02
FT_A	2.25E-02	-	2.25E-02
FT_IDL	3.40E-02	-	3.40E-02
WT_01	7.18E-02	2.33E-02	9.50E-02
WT_02	3.33E-02	1.08E-02	4.41E-02
WT_03	5.44E-02	1.76E-02	7.20E-02
WT_04	6.27E-02	2.04E-02	8.31E-02
WT_05	6.67E-02	2.16E-02	8.83E-02
WT_06	5.66E-02	1.84E-02	7.49E-02
WT_07	2.90E-02	4.80E-02	7.69E-02
WT_08	2.53E-02	4.18E-02	6.71E-02
WT_09	2.50E-02	8.11E-03	3.31E-02
WT_IDL	7.68E-02	-	7.68E-02
TRU_IDL	-	4.65E-01	4.65E-01

Notes:

[1] See **Figure 3** through **Figure 5** for graphical representations of the modeled sources.

[2] DPM emissions from fuel delivery trucks and warehouse and tire center delivery trucks are calculated using emission factors from **Table C-10** along with VMT and vehicle idling time from **Table C-9**.

[3] DPM emissions from TRUs are calculated using TRU emission factors from **Table C-11** along with TRU operational duration from **Table C-9**.

Conversion Factors:

453.592 g/lb
60 min/hr

Abbreviations:

DPM - diesel particulate matter
g - gram
lb - pound
min/hr - minutes per hour
TRU - transport refrigeration unit
VMT - vehicle miles traveled

Table C-7. Annual Average Toxic Air Contaminant Emissions from Passenger Vehicles
El Dorado Hills Costco Project
El Dorado Hills, California

Toxic Air Contaminant (TAC)	Annual Average TAC Emission in ROG Starting Exhaust Emissions [1] (lb/year)	Annual Average TAC Emissions in ROG Idling Exhaust Emissions [1] (lb/year)	Annual Average TAC Emissions in ROG Evaporative Exhaust Emissions [1] (lb/year)	Annual Average TAC Emissions in $PM_{2.5}$ Idling Exhaust Emissions [2] (lb/year)	Annual Average TAC Emissions in $PM_{2.5}$ Starting Exhaust Emissions [2] (lb/year)	Total Annual Average TAC Emissions (lb/year)
1,3-butadiene	5.00E-01	2.56E-02	0.00E+00	0.00E+00	0.00E+00	**5.25E-01**
benzene	2.00E+00	4.10E-01	2.57E+00	0.00E+00	0.00E+00	**4.98E+00**
formaldehyde	1.25E+00	2.27E-01	0.00E+00	0.00E+00	0.00E+00	**1.47E+00**
acrolein (2-propenal)	4.88E-03	5.12E-04	0.00E+00	0.00E+00	0.00E+00	**5.39E-03**
Naphthalene	4.51E-02	3.89E-02	0.00E+00	1.37E-04	2.46E-05	**8.41E-02**
acetaldehyde	8.66E-01	1.51E-01	0.00E+00	0.00E+00	0.00E+00	**1.02E+00**
ethyl benzene	9.98E-01	1.18E-01	1.67E+00	0.00E+00	0.00E+00	**2.78E+00**
Acenaphthene	3.08E-03	6.14E-04	0.00E+00	0.00E+00	0.00E+00	**3.69E-03**
Acenaphthylene	1.40E-02	2.79E-03	0.00E+00	4.07E-05	7.34E-06	**1.68E-02**
Anthracene	2.58E-03	5.15E-04	0.00E+00	4.21E-05	7.60E-06	**3.15E-03**
Benz(a)anthracene	4.16E-04	8.31E-05	0.00E+00	3.86E-04	6.97E-05	**9.55E-04**
Benzo(a)pyrene	2.27E-05	4.52E-06	0.00E+00	9.69E-04	1.74E-04	**1.17E-03**
Benzo(b)fluoranthene	3.09E-04	6.17E-05	0.00E+00	4.72E-04	8.51E-05	**9.28E-04**
Benzo(g,h,i)perylene	0.00E+00	0.00E+00	0.00E+00	2.62E-03	4.73E-04	**3.10E-03**
Benzo(k)fluoranthene	3.09E-04	6.17E-05	0.00E+00	4.72E-04	8.51E-05	**9.28E-04**
Chrysene	4.66E-04	9.31E-05	0.00E+00	3.27E-04	5.89E-05	**9.45E-04**
Dibenz(a,h)anthracene	0.00E+00	0.00E+00	0.00E+00	2.26E-05	4.09E-06	**2.67E-05**
Fluoranthene	4.32E-03	8.62E-04	0.00E+00	1.49E-04	2.68E-05	**5.35E-03**
Fluorene	6.23E-03	1.24E-03	0.00E+00	0.00E+00	0.00E+00	**7.47E-03**
Indeno(1,2,3-c,d)pyrene	0.00E+00	0.00E+00	0.00E+00	9.85E-04	1.77E-04	**1.16E-03**
Phenanthrene	1.65E-02	3.29E-03	0.00E+00	1.48E-04	2.65E-05	**2.00E-02**
Pyrene	4.93E-03	9.85E-04	0.00E+00	1.61E-04	2.90E-05	**6.11E-03**

Notes:

[1] Annual average TAC emissions in ROG starting exhaust, idling exhaust, and evaporative emissions are calculated based on annual average ROG emissions presented in **Table C-13** and the TAC speciation profiles presented in **Table C-12**.

[2] Annual average TAC emissions in $PM_{2.5}$ idling and starting exhaust emissions are calculated based on annual average $PM_{2.5}$ emissions presented in **Table C-13** and the TAC speciation profiles presented in **Table C-12**.

Abbreviations:

lb - pound

$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter

ROG - reactive organic gases

Table C-8. Maximum Hourly Toxic Air Contaminant Emissions from Passenger Vehicles
El Dorado Hills Costco Project
El Dorado Hills, California

Toxic Air Contaminant (TAC)	Maximum Hourly TAC Emissions in ROG Starting Exhaust Emissions [1] (lb/hr)	Maximum Hourly TAC Emissions in ROG Idling Exhaust Emissions [1] (lb/hr)	Maximum Hourly TAC Emissions in ROG Evaporative Exhaust Emissions [1] (lb/hr)	Maximum Hourly TAC Emissions in $PM_{2.5}$ Idling Exhaust Emissions [2] (lb/hr)	Maximum Hourly TAC Emissions in $PM_{2.5}$ Starting Exhaust Emissions [2] (lb/hr)	Total Maximum Hourly TAC Emissions (lb/hr)
1,3-butadiene	1.23E-04	1.14E-05	0.00E+00	0.00E+00	0.00E+00	**1.34E-04**
benzene	4.91E-04	1.82E-04	6.33E-04	0.00E+00	0.00E+00	**1.31E-03**
formaldehyde	3.07E-04	1.01E-04	0.00E+00	0.00E+00	0.00E+00	**4.07E-04**
acrolein (2-propenal)	1.20E-06	2.28E-07	0.00E+00	0.00E+00	0.00E+00	**1.43E-06**
Naphthalene	1.11E-05	1.73E-05	0.00E+00	6.08E-08	6.05E-09	**2.84E-05**
acetaldehyde	2.13E-04	6.71E-05	0.00E+00	0.00E+00	0.00E+00	**2.80E-04**
ethyl benzene	2.45E-04	5.24E-05	4.10E-04	0.00E+00	0.00E+00	**7.08E-04**
Acenaphthene	7.57E-07	2.73E-07	0.00E+00	0.00E+00	0.00E+00	**1.03E-06**
Acenaphthylene	3.43E-06	1.24E-06	0.00E+00	1.81E-08	1.81E-09	**4.69E-06**
Anthracene	6.35E-07	2.29E-07	0.00E+00	1.87E-08	1.87E-09	**8.85E-07**
Benz(a)anthracene	1.02E-07	3.69E-08	0.00E+00	1.72E-07	1.72E-08	**3.28E-07**
Benzo(a)pyrene	5.58E-09	2.01E-09	0.00E+00	4.31E-07	4.29E-08	**4.81E-07**
Benzo(b)fluoranthene	7.61E-08	2.74E-08	0.00E+00	2.10E-07	2.09E-08	**3.34E-07**
Benzo(g,h,i)perylene	0.00E+00	0.00E+00	0.00E+00	1.16E-06	1.16E-07	**1.28E-06**
Benzo(k)fluoranthene	7.61E-08	2.74E-08	0.00E+00	2.10E-07	2.09E-08	**3.34E-07**
Chrysene	1.15E-07	4.14E-08	0.00E+00	1.45E-07	1.45E-08	**3.16E-07**
Dibenz(a,h)anthracene	0.00E+00	0.00E+00	0.00E+00	1.00E-08	1.01E-09	**1.10E-08**
Fluoranthene	1.06E-06	3.83E-07	0.00E+00	6.60E-08	6.59E-09	**1.52E-06**
Fluorene	1.53E-06	5.52E-07	0.00E+00	0.00E+00	0.00E+00	**2.08E-06**
Indeno(1,2,3-c,d)pyrene	0.00E+00	0.00E+00	0.00E+00	4.38E-07	4.36E-08	**4.81E-07**
Phenanthrene	4.06E-06	1.46E-06	0.00E+00	6.55E-08	6.52E-09	**5.59E-06**
Pyrene	1.21E-06	4.37E-07	0.00E+00	7.17E-08	7.13E-09	**1.73E-06**

Notes:

[1] Maximum hourly TAC emissions in ROG starting exhaust, running and idling exhaust, and evaporative emissions are calculated based on maximum hourly ROG emissions presented in **Table C-13** and the TAC speciation profiles presented in **Table C-12**.

[2] Maximum hourly TAC emissions in $PM_{2.5}$ running and idling, and starting exhaust emissions calculated based on maximum hourly $PM_{2.5}$ emissions presented in **Table C-13** and the TAC speciation profiles presented in **Table C-12**.

Abbreviations:

lb/hr - pounds per hour

$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter

ROG - reactive organic gases

Table C-9. Mobile Source Activity Data on Modeled Roadways
El Dorado Hills Costco Project
El Dorado Hills, California

Modeled Roadway Links [1]	AERMOD Source Group ID [1]	Annual Trip Rates [2] (one-way trips/year)	Segment Length [3] (miles)	Annual VMT [4] (miles/ year)	Annual TRU Operational Duration [5] (minutes/ year)	Peak Hour Vehicle Volume [2] (vehicle/ hour)	Annual Vehicle Volume [2] (vehicle/ year)	Annual Average Idling Time [6] (idle minutes/ year)	Maximum Hourly Idling Time for Passenger Vehicles [6] (idle minutes/ hour)
Fuel Delivery Truck Travel	FT_01	1,825	0.38	686	-	-	-	-	-
Fuel Delivery Truck Travel	FT_02	1,825	0.18	331	-	-	-	-	-
Fuel Delivery Truck Travel	FT_03	3,650	0.17	607	-	-	-	-	-
Fuel Delivery Truck Travel	FT_04	1,825	0.13	245	-	-	-	-	-
Fuel Delivery Truck Travel	FT_05	1,825	0.30	540	-	-	-	-	-
Fuel Delivery Truck Travel	FT_A	1,825	0.23	412	-	-	-	-	-
Fuel Delivery Truck Travel	FT_IDL	-	-	-	-	-	1,825	27,375	-
Warehouse and Tire Center Delivery Truck and TRU Travel	WT_01	4,119	0.38	1,548	823	-	-	-	-
Warehouse and Tire Center Delivery Truck and TRU Travel	WT_02	4,119	0.17	718	382	-	-	-	-
Warehouse and Tire Center Delivery Truck and TRU Travel	WT_03	4,119	0.28	1,173	624	-	-	-	-
Warehouse and Tire Center Delivery Truck and TRU Travel	WT_04	4,119	0.33	1,353	719	-	-	-	-
Warehouse and Tire Center Delivery Truck and TRU Travel	WT_05	4,119	0.35	1,438	765	-	-	-	-
Warehouse and Tire Center Delivery Truck and TRU Travel	WT_06	4,119	0.30	1,220	649	-	-	-	-
Warehouse and Tire Center Delivery Truck and TRU Travel	WT_07	4,119	0.13	531	1,694	-	-	-	-
Warehouse and Tire Center Delivery Truck and TRU Travel	WT_08	4,119	0.11	464	1,479	-	-	-	-
Warehouse and Tire Center Delivery Truck and TRU Travel	WT_09	4,119	0.13	539	287	-	-	-	-
Warehouse and Tire Center Delivery Truck Idling	WT_IDL	-	-	-	-	-	4,119	61,789	-
TRU Operation at Dock	TRU_IDL	-	-	-	16,425	-	-	-	-
Passenger Vehicle Idling [7]	PV_IDL	-	-	-	-	255	1,036,522	2,658,504	1,181

Notes:

[1] See **Figure 3** through **Figure 5** for graphical representations of the modeled sources.

[2] Passenger vehicle volumes based project-specific data provided by Kittelson & Associates. Fuel delivery truck trip rates and vehicle volumes assume a maximum of one truck per hour and five trucks per day based on project-specific information. Warehouse and tire center delivery truck trip rates and vehicle volumes assume a maximum of one truck per hour, eleven warehouse delivery trucks per day, and two tire center delivery trucks per week based on project-specific information.

[3] Segment length based on modeled source length in AERMOD.

[4] VMT is calculated as the product of the segment length and the total number of trips in the respective averaging period.

[5] The annual TRU operational time during warehouse delivery truck travel was calculated as a product of the number of TRUs visiting the site in a year and the TRU operational time for an individual TRU traveling on that roadway link. The operational time for an individual TRU traveling on a roadway link is calculated by dividing the segment length by the corresponding average truck travel speeds. Warehouse truck travel on roadway links WT_07 and WT_08 represent on-site travel and all other warehouse delivery truck roadway links represent off-site travel. The annual TRU operational time at the dock is calculated as the product of the on-site operational time during truck idling and the annual number of TRUs visiting the site.

[6] Idle duration for passenger vehicles based on project-specific data. Delivery truck idle durations are assumed to be 15 minutes (5 minutes arriving, 5 minutes idling, 5 minutes leaving) per truck visit consistent with the CARB Air Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. Available at: https://ww2.arb.ca.gov/our-work/programs/atcm-to-limit-vehicle-idling/about. Accessed: June 2025.

[7] Passenger vehicles represent vehicles used by patrons of the fuel station.

[8] The on-site TRU operational time during truck idling is assumed to 15 minutes as described above in footnote 6. Note, the TRUs are not expected to idle for more than 5 minutes at the dock while unloading goods at the warehouse.

[9] The on-site and off-site average truck travel speed are consistent with CARB's assumptions in Appendix I of the Proposed Amendments to the ATCM Measure for In-Use Diesel-Fueled TRU and TRU Generator Sets, and Facilities Where TRUs Operate. Available at: https://ww2.arb.ca.gov/sites/default/files/barcu/board/rulemaking/tru2021/appi.pdf. Accessed: March 2025.

[10] The number of TRUs per day is based on Project-specific information. The total number of TRU uses per year was estimated by multiplying the daily number of TRUs by 365 operational days per year.

TRU Trip Information:

On-Site Operational Time During Truck Idling [8]	15	minutes/round trip per TRU
On-Site Average Truck Travel Speed [9]	5	miles/hour
Off-Site Average Truck Travel Speed [9]	30	miles/hour
Number of TRUs [10]	3	TRUs/day
Number of TRUs [10]	1,095	TRUs/year

Conversion Factor:

60 minutes/hour

Abbreviations:

AERMOD - American Meteorological Society/Environmental Protection Agency Regulatory Model
CARB - California Air Resources Board
TRU - transport refrigeration unit
VMT - vehicle miles traveled

Table C-10. Diesel Particulate Matter Emission Factors for Delivery Trucks
El Dorado Hills Costco Project
El Dorado Hills, California

EMFAC Vehicle Class	Fuel Type	Project Specific Fleet Mix [1]	Off-site Running Exhaust [2,3] (g/mile)	On-site Running Exhaust [2,4] (g/mile)	Idle Exhaust [2,5] (g/idle-minute)
HHDT	Diesel	100%	2.10E-02	2.47E-02	5.64E-04
Weighted Average Emission Factor			**2.10E-02**	**2.47E-02**	**5.64E-04**

Notes:

[1] Delivery trucks are assumed to be diesel-fueled heavy heavy duty trucks.

[2] For purposes of this analysis, DPM emissions are assumed to be equal to PM_{10} exhaust emissions from diesel vehicles.

[3] Off-site running exhaust emission factor was obtained from the default EMFAC2021 output for El Dorado County - Mountain Counties calendar year 2027. Emission factor reflects aggregated vehicle travel speeds.

[4] On-site running exhaust emission factor was obtained from the default EMFAC2021 project-level output for El Dorado County - Mountain Counties calendar year 2027. Emission factor reflects vehicle travel speed of 5 mph.

[5] Idle exhaust emission factor was obtained from the default EMFAC2021 project-level output for El Dorado County - Mountain Counties calendar year 2027.

Abbreviations:

DPM - diesel particulate matter

EMFAC - EMission FACtors model

g - gram

HHDT - Heavy heavy-duty truck

mph - miles per hour

PM_{10} - particulate matter less than 10 microns in diameter

Table C-11. Diesel Particulate Matter Emission Factors for Transport Refrigeration Units
El Dorado Hills Costco Project
El Dorado Hills, California

Transport Refrigeration Unit (TRU) Category	Fuel Type	Total Activity [1] (hr/year)	DPM Emission Factor [1,2] (lb/hr)
Transport Refrigeration Unit - Instate Trailer	Diesel	3,284	1.49E-03
Transport Refrigeration Unit - Out-Of-State Trailer	Diesel	1,895	2.05E-03
Weighted Average Emission Factor [3]			1.70E-03

Notes:

[1] Total activity and PM_{10} emission factors for TRUs were obtained from OFFROAD2021 emissions output for El Dorado (MC) sub-area calendar year 2027.

[2] For purposes of this analysis, DPM emissions are assumed to be equal to PM_{10} exhaust emissions from diesel vehicles.

[3] The activity weighted average emission factor for TRUs servicing the proposed Project are calculated as the sumproduct of the total activity and the DPM emission factors for the individual TRU categories.

Abbreviations:

DPM - diesel particulate matter

hr - hour

lb - pound

MC - Mountain County

PM_{10} - particulate matter less than 10 microns in diameter

Table C-12. Speciation Profiles Used to Calculate Mobile Source Air Toxic Emissions from Passenger Vehicles
El Dorado Hills Costco Project
El Dorado Hills, California

Chemical Name	CAS Number	ROG Starting Exhaust Weight Fraction [1]	ROG Idling Exhaust Weight Fraction [2]	ROG Evaporative Weight Fraction [3]	$PM_{2.5}$ Starting Exhaust Weight Fraction [4]	$PM_{2.5}$ Idling Exhaust Weight Fraction [4]
1,3-butadiene	106990	6.48E-03	1.66E-03	-	-	-
benzene	71432	2.59E-02	2.67E-02	1.17E-02	-	-
formaldehyde	50000	1.62E-02	1.47E-02	-	-	-
acrolein (2-propenal)	107028	6.33E-05	3.33E-05	-	-	-
naphthalene	91203	5.84E-04	2.53E-03	-	7.16E-05	7.19E-05
acetaldehyde	75070	1.12E-02	9.82E-03	-	-	-
ethyl benzene	100414	1.29E-02	7.67E-03	7.55E-03	-	-
POM (15 Pollutants)						
Acenaphthene	83329	3.99E-05	3.99E-05	-	-	-
Acenaphthylene	208968	1.81E-04	1.81E-04	-	2.14E-05	2.13E-05
Anthracene	120127	3.35E-05	3.35E-05	-	2.21E-05	2.21E-05
Benz(a)anthracene	56553	5.40E-06	5.40E-06	-	2.03E-04	2.03E-04
Benzo(a)pyrene	50328	2.94E-07	2.94E-07	-	5.07E-04	5.09E-04
Benzo(b)fluoranthene	205992	4.01E-06	4.01E-06	-	2.48E-04	2.48E-04
Benzo(g,h,i)perylene	191242	-	-	-	1.38E-03	1.38E-03
Benzo(k)fluoranthene	207089	4.01E-06	4.01E-06	-	2.48E-04	2.48E-04
Chrysene	218019	6.05E-06	6.05E-06	-	1.71E-04	1.72E-04
Dibenz(a,h)anthracene	53703	-	-	-	1.19E-05	1.19E-05
Fluoranthene	206440	5.60E-05	5.60E-05	-	7.80E-05	7.80E-05
Fluorene	86737	8.08E-05	8.08E-05	-	-	-
Indeno(1,2,3-c,d)pyrene	193395	-	-	-	5.16E-04	5.17E-04
Phenanthrene	85018	2.14E-04	2.14E-04	-	7.72E-05	7.74E-05
Pyrene	129000	6.40E-05	6.40E-05	-	8.44E-05	8.47E-05

Notes:

[1] The ROG starting exhaust speciation profile for gasoline vehicles represents the maximum of CARB profiles OG2301 and OG2302 and EPA MOVES profiles. See **Table 5-1** for further details.

[2] The ROG idling exhaust speciation profile for gasoline vehicles represents the maximum of CARB profiles OG2303 and OG2304 and EPA MOVES profiles. See **Table 5-1** for further details.

[3] The ROG evaporative speciation profile for gasoline vehicles represents CARB profile OG2315. See **Table 5-1** for further details.

[4] The $PM_{2.5}$ starting and idling exhaust speciation profiles for gasoline vehicles represent EPA MOVES profiles. See **Table 5-1** for further details.

Abbreviations:

CARB - California Air Resources Board

CAS - Chemical Abstract Service

EPA MOVES - Environmental Projection Agency Motor Vehicle Emission Simulator

$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter

POM - polycyclic organic matter

ROG - reactive organic gases

Table C-13. Reactive Organic Gas and $PM_{2.5}$ Emissions from Passenger Vehicles
El Dorado Hills Costco Project
El Dorado Hills, California

Source Group ID [1]	Peak Hour ROG Starting Exhaust Emissions [2] (lb/hr)	Annual ROG Starting Exhaust Emissions [2] (lb/year)	Peak Hour ROG Idling Exhaust Emissions [2] (lb/hr)	Annual ROG Idling Exhaust Emissions [2] (lb/year)	Peak Hour ROG Evaporative Emissions [2] (lb/hr)	Annual ROG Evaporative Emissions [2] (lb/year)	Peak Hour $PM_{2.5}$ Idling Exhaust Emissions [3] (lb/hr)	Annual $PM_{2.5}$ Idling Exhaust Emissions [3] (lb/year)	Peak Hour $PM_{2.5}$ Starting Exhaust Emissions [3] (lb/hr)	Annual $PM_{2.5}$ Starting Exhaust Emissions [3] (lb/year)
PV_IDL	1.90E-02	7.71E+01	6.84E-03	1.54E+01	5.43E-02	2.21E+02	8.47E-04	1.91E+00	8.45E-05	3.43E-01

Notes:

[1] See **Figure 5** for a graphical representation of the modeled sources.

[2] ROG emissions calculated using emission factors from **Table C-14** along with idling minutes and vehicle volumes from **Table C-9**. On-site starting exhaust emissions and evaporative hotsoak emissions are assumed to occur once over a round trip. Therefore, starting exhaust emissions and evaporative hot soak emissions are based on the vehicle volumes specified in **Table C-7**.

[3] $PM_{2.5}$ emissions calculated using emission factors from **Table C-15** along with idling minutes and vehicle volumes from **Table C-9**. On-site starting exhaust emissions are assumed to occur once over a round trip, therefore, starting exhaust emissions are based on the vehicle volumes specified in **Table C-9**.

Abbreviations:

hr - hour

lb - pound

$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter

ROG - reactive organic gases

Table C-14. Reactive Organic Gas Emission Factors for Passenger Vehicles
El Dorado Hills Costco Project
El Dorado Hills, California

EMFAC Vehicle Class	Fuel Type	Project Specific Fleet Mix for Passenger Vehicles Visiting the GDF [1]	Hot Soak [2] (g/trip)	Starting Exhaust [3] (g/trip)	Idle Exhaust [4] (g/idle-minute)
LDA	Gasoline	42.0%	7.9E-02	2.3E-02	1.8E-03
LDT1	Gasoline	6.0%	2.2E-01	6.3E-02	6.7E-03
LDT2	Gasoline	30.0%	9.0E-02	3.5E-02	2.5E-03
MDV	Gasoline	19.7%	1.2E-01	4.9E-02	3.5E-03
LDA	Plug-in Hybrid	1.7%	1.4E-02	1.1E-02	5.0E-04
LDT1	Plug-in Hybrid	0.0%	8.1E-03	9.9E-03	4.6E-04
LDT2	Plug-in Hybrid	0.4%	9.6E-03	1.0E-02	4.9E-04
MDV	Plug-in Hybrid	0.3%	1.2E-02	1.1E-02	4.9E-04
Weighted Emission Factor [5]			9.7E-02	3.4E-02	2.6E-03

Notes:

[1] The project specific fleet mix for passenger vehicles visiting the GDF are obtained from **Table B-3** in **Appendix B**.

[2] ROG emission factors for hot soak for each EMFAC vehicle class/fuel combination were obtained from the default EMFAC2021 project-level output for El Dorado County - Mountain Counties calendar year 2027.

[3] ROG emission factors for starting exhaust for each EMFAC vehicle class/fuel combination were obtained from the default EMFAC2021 project-level output for El Dorado County - Mountain Counties calendar year 2027. Emission factors reflect starting exhaust emissions based on an assumed vehicle shutoff time (i.e., soak time) of 5 minutes.

[4] Emission factors for each EMFAC vehicle class/fuel combination were obtained from the default EMFAC2021 project-level output for El Dorado County - Mountain Counties calendar year 2027. The idling emission rates were estimated by multiplying the speed correction factor of 2.5 mph to the running exhaust emission rate in grams per mile at 5 mph.

[5] Weighted average emission factors for passenger cars visiting the GDF are calculated as the sumproduct of the project specific fleet mix and the emission factors for the individual vehicle class/fuel categories within that fleet mix.

Abbreviations:

EMFAC - EMission FACtors model
g - gram
GDF - gasoline dispensing facility
LDA - Light-duty automobile
LDT - Light-duty truck
MDV - Medium-duty vehicle
mph - miles per hour
ROG - reactive organic gases

Table C-15. $PM_{2.5}$ Emission Factors for Passenger Vehicles
El Dorado Hills Costco Project
El Dorado Hills, California

EMFAC Vehicle Class	Fuel Type	Project Specific Fleet Mix for Passenger Vehicles Visiting the GDF [1]	Starting Exhaust [2] (g/trip)	Idle Exhaust [3] (g/idle-minute)
LDA	Gasoline	42.0%	1.4E-04	3.1E-04
LDT1	Gasoline	6.0%	2.7E-04	4.6E-04
LDT2	Gasoline	30.0%	1.4E-04	3.3E-04
MDV	Gasoline	19.7%	1.7E-04	3.4E-04
LDA	Plug-in Hybrid	1.7%	5.6E-05	1.4E-04
LDT1	Plug-in Hybrid	0.0%	3.8E-05	9.4E-05
LDT2	Plug-in Hybrid	0.4%	4.8E-05	1.2E-04
MDV	Plug-in Hybrid	0.3%	5.6E-05	1.4E-04
Weighted Average Emission Factor [4]			1.5E-04	3.3E-04

Notes:

[1] The project specific fleet mix for passenger vehicles visiting the GDF are obtained from **Table B-3** in **Appendix B**.

[2] $PM_{2.5}$ emission factors for starting exhaust for each EMFAC vehicle class/fuel combination were obtained from the default EMFAC2021 project-level output for El Dorado County - Mountain Counties calendar year 2027. Emission factors reflect starting exhaust emissions after an assumed vehicle shutoff time of 5 minutes.

[3] Emission factors for each EMFAC vehicle class/fuel combination were obtained from the default EMFAC2021 project-level output for El Dorado County - Mountain Counties calendar year 2027. The idling emission rates were estimated by multiplying the speed correction factor of 2.5 mph to the running exhaust emission rate in grams per mile at 5 mph.

[4] Weighted average emission factors for passenger cars visiting the GDF are calculated as the sumproduct of the project specific fleet mix and the emission factors for the individual vehicle class/fuel categories within that fleet mix.

Abbreviations:
EMFAC - EMission FACtors model
g - gram
GDF - gasoline dispensing facility
LDA - Light-duty automobile
LDT - Light-duty truck
MDV - medium-duty vehicle
mph - miles per hour
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter

Table C-16. Diesel Particulate Matter Emissions from Mitigated Off-Road Construction Equipment
El Dorado Hills Costco Project
El Dorado Hills, California

Exposure Period for Construction Health Risk Assessment	Start Date for Exposure Period	End Date for Exposure Period	Construction Phase	Start Date for Construction Phase within Exposure Period	End Date for Construction Phase within Exposure Period	Construction Phase Duration within Exposure Period (days)	Exhaust PM_{10} Emissions from Mitigated Construction Equipment [1] (lbs)
0.25 Years in Third Trimester	7/1/2026	9/29/2026	Site Preparation	7/1/2026	8/6/2026	37	5.2
0.25 Years in Third Trimester	7/1/2026	9/29/2026	Grading	8/7/2026	9/29/2026	54	11.6
0.25 Years in Third Trimester	7/1/2026	9/29/2026	Building Construction	8/7/2026	9/29/2026	54	6.9
0.25 Years in Third Trimester	7/1/2026	9/29/2026	Linear, Grubbing & Land Clearing	7/1/2026	7/26/2026	26	1.5
0.25 Years in Third Trimester	7/1/2026	9/29/2026	Linear, Grading & Excavation	7/27/2026	9/29/2026	65	5.5
0.63 Years in 0-2 Year Age Bin	9/30/2026	5/17/2027	Grading	9/30/2026	12/31/2026	93	20.0
0.63 Years in 0-2 Year Age Bin	9/30/2026	5/17/2027	Grading	1/1/2027	1/27/2027	27	5.7
0.63 Years in 0-2 Year Age Bin	9/30/2026	5/17/2027	Building Construction	9/30/2026	12/31/2026	93	11.8
0.63 Years in 0-2 Year Age Bin	9/30/2026	5/17/2027	Building Construction	1/1/2027	5/17/2027	137	16.5
0.63 Years in 0-2 Year Age Bin	9/30/2026	5/17/2027	Paving	1/28/2027	4/16/2027	79	8.6
0.63 Years in 0-2 Year Age Bin	9/30/2026	5/17/2027	Architectural Coating	3/17/2027	5/17/2027	62	1.2
0.63 Years in 0-2 Year Age Bin	9/30/2026	5/17/2027	Linear, Grading & Excavation	9/30/2026	11/8/2026	40	3.4
0.63 Years in 0-2 Year Age Bin	9/30/2026	5/17/2027	Linear, Drainage, Utilities, & Sub-Grade	11/9/2026	12/31/2026	53	6.7
0.63 Years in 0-2 Year Age Bin	9/30/2026	5/17/2027	Linear, Drainage, Utilities, & Sub-Grade	1/1/2027	2/8/2027	39	4.7
0.63 Years in 0-2 Year Age Bin	9/30/2026	5/17/2027	Linear, Paving	2/9/2027	3/19/2027	39	0.7
Total DPM Emissions [2] for Mitigated Off-road Construction Equipment (Source Group CONEQ) in the Third Trimester Exposure Period (lbs)							30.7
Total DPM Emissions [2] for Mitigated Off-road Construction Equipment (Source Group CONEQ) in the 0-2 Year Age Bin Exposure Period (lbs)							79.2

Notes:

[1] Mitigated emissions for the Site Preparation; Grading; Building Construction; Paving; and Architectural Coating phases are obtained from **Appendix A-2**. Mitigated emissions for the Linear, Grubbing & Land Clearing; Linear, Grading & Excavation; Linear, Drainage, Utilities, & Sub-Grade; and Linear, Paving construction phases are obtained from **Appendix A-4**. Emissions for construction phases that occur in multiple exposure periods are apportioned based on construction phase duration within each exposure period.

[2] For purposes of this analysis, DPM emissions are assumed to be equal to PM_{10} exhaust emissions.

Abbreviations:

DPM - Diesel Particulate Matter

lbs - pounds

PM_{10} - particulate matter less than 10 microns in diameter

APPENDIX D
AERMOD INPUTS

List of Tables

Table D-1: Volume Source Parameters
Table D-2: Area Source Parameters for On-Site Truck and TRU Idling
Table D-3: Area Source Parameters for Construction Truck (Hauling and Vendor) Travel
Table D-4: Area Source Parameters for Concrete Truck Travel
Table D-5: Area Source Parameters for Fuel Delivery Truck Travel
Table D-6: Area Source Parameters for Warehouse and Tire Center Delivery Truck Travel
Table D-7: Point Source Parameters

Table D-1. Volume Source Parameters
El Dorado Hills Costco Project
El Dorado Hills, California

Modeled Emissions Source [1]	Operating Hours for Modeled Emission Sources	AERMOD Source Group	Release Height [2] (m)	Initial Lateral Dimension, Sigma Y [3] (m)	Initial Vertical Dimension, Sigma Z [2] (m)	Number of Modeled Sources [4]	Modeled Emission Rate [5]
GDF fueling and Hose Permeation	5:00 AM - 10:00 PM daily	REFILL	1.50	8.01	1.86	1	1
GDF Spillage	5:00 AM - 10:00 PM daily	SPILL	1.00	8.01	1.86	1	1
On-Site Construction Equipment [6]	7:00 AM - 7:00 PM on Weekdays and 8:00 AM - 5:00 PM on Weekends	CONEQ	5.00	9.30	1.0	264	0.0038

Notes:

[1] See **Figures 1** and **5** for graphical representations of the modeled sources.

[2] Release height and Sigma Z for GDF fueling, hose permeation, and spillage are based on CARB and CAPCOA Gasoline Service Station Industrywide Risk Assessment Guidelines.

[3] Initial lateral dimensions of GDF fueling, hose permeation, and spillage, are based on the dimensions of the gas station canopy, divided by 4.3 as suggested by USEPA AERMOD User Guide.

[4] Represents total number of sources modeled within each source group in AERMOD.

[5] Each AERMOD source group is modeled with a 1 gram per second emission rate.

[6] Initial lateral dimension, initial vertical dimension and release height of construction equipment sources are based on SMAQMD CEQA Guide Chapter 3 Appendix Dispersion Modeling of Construction-Generated PM_{10} Emissions.

Abbreviations:

AERMOD - American Meteorological Society/Environmental Protection Agency Regulatory Model
CARB - California Air Resources Board
CAPCOA - California Air Pollution Control Officers Association
CEQA - California Environmental Quality Act
GDF - Gasoline Dispensing Facility
m - meters
SMAQMD - Sacramento Metropolitan Air Quality Management District
USEPA - United States Environmental Protection Agency

References:

SMAQMD, 2013. CEQA Guide Chapter 3 Appendix: Dispersion Modeling of Construction-Generated PM10 Emissions. Available at: https://www.airquality.org/LandUseTransportation/Documents/Ch3PMDispersionModelingGuidanceFINAL7-2013.pdf. Accessed: June 2025.

CARB and CAPCOA, 2022. Gasoline Service Station Industrywide Risk Assessment Guidelines. Available at: https://ww2.arb.ca.gov/sites/default/files/2022-03/Draft%202022%20Gas%20Station%20IWG%20-%20Technical%20Guidance_ADA%20Compliant.pdf. Accessed: June 2025.

USEPA. 2021. User's Guide for the AMS/EPA Regulatory Model. August. Available at: https://gaftp.epa.gov/Air/aqmg/SCRAM/models/preferred/aermod/aermod_userguide.pdf. Accessed: June 2025.

Table D-2. Area Source Parameters for On-Site Truck and TRU Idling
El Dorado Hills Costco Project
El Dorado Hills, California

Modeled Emissions Source [1]	Operating Hours for Modeled Emission Sources	AERMOD Source ID [1]	AERMOD Source Group	Source Type	Vertical Dimension [2] (m)	Initial Vertical Dimension, Sigma Z [3] (m)	Release Height [4] (m)	Total Area of Source (m^2)	Modeled Emission Rate [5] ($g/s/m^2$)
Fuel Delivery Truck Idling	5:00 AM - 10:00 PM daily	FT_IDL	FT_IDL	Areapoly	4.0	0.93	4.0	188	5.32E-03
Warehouse and Tire Center Truck Idling	2:00 AM - 1:00 PM daily	WT_IDL	WT_IDL	Areapoly	9.6	4.47	4.0	522	1.92E-03
Concrete Truck Idling	12:00 AM - 7:00 AM daily	CT_IDL	CT_IDL	Areapoly	4.0	0.93	4.0	14,403	6.94E-05
Passenger Vehicle Idling	5:00 AM - 10:00 PM daily	PV_IDL	PV_IDL	Areapoly	1.53	0.36	1.53	1,287	7.77E-04
TRU Idling [6]	2:00 AM - 1:00 PM daily	TRU_IDL	TRU_IDL	Areapoly	9.6	4.47	6.0	522	1.92E-03

Notes:

[1] See **Figures 1** and **5** for graphical representations of the modeled sources.

[2] The vertical dimension is assumed to be equal to the vehicle height for vehicle idling, per the USEPA Transportation Conformity Guidance. Vehicle height is based on the USEPA Transportation Conformity Guidance.

[3] For on-site idling emission sources that are not adjacent to buildings (fuel delivery truck idling, concrete truck idling, and passenger vehicle idling), the initial vertical dimension, Sigma Z, is estimated as the vertical dimension divided by 4.3, based on the USEPA AERMOD User Guide. For warehouse truck idling that is expected to occur adjacent to the warehouse building the initial vertical dimension, Sigma Z, is estimated as the vertical dimension divided by 2.15, in accordance with the USEPA AERMOD User Guide.

[4] The release height of truck idling is assumed to be 4 meters, based on the USEPA Transportation Conformity Guidance.

[5] Each AERMOD source group is modeled with a 1 gram per second emission rate.

[6] The release height and initial vertical dimension (Sigma Z) for TRU idling are based on CARB's modeling assumptions in Appendix I of the Proposed Amendments to the ATCM Measure for In-Use Diesel-Fueled TRU and TRU Generator Sets, and Facilities Where TRUs Operate. While the release height was directly obtained from this document (average of values in Table II.G.4), the initial vertical dimension, Sigma Z, for this source that is adjacent to the warehouse building is estimated by dividing the proposed warehouse building height by 2.15.

Abbreviations:

AERMOD - American Meteorological Society/Environmental Protection Agency Regulatory Model
ATCM - Airborne Toxic Control Measure
CARB - California Air Resources Board
g - grams
m - meters
s - second
USEPA - United States Environmental Protection Agency
TRU - transport refrigeration unit

References:

CARB, 2021. Appendix I to the Proposed Amendments to the ATCM Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets, and Facilities Where TRUs Operate, Table II.G.4. AERMOD Source Inputs - Cold Storage Warehouse. Available at: https://ww2.arb.ca.gov/sites/default/files/barcu/board/rulemaking/tru2021/appi.pdf. Accessed: June 2025.

USEPA. 2021. Transportation Conformity Guidance for Quantitative Hot-spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas Appendices. November. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1013C6A.pdf. Accessed: June 2025.

USEPA. 2023. User's Guide for the AMS/EPA Regulatory Model. August. Available at: https://gaftp.epa.gov/Air/aqmg/SCRAM/models/preferred/aermod/aermod_userguide.pdf. Accessed: June 2025.

Table D-3. Area Source Parameters for Construction Truck (Hauling and Vendor) Travel
El Dorado Hills Costco Project
El Dorado Hills, California

AERMOD Source ID [1]	AERMOD Source Group	Source Type	Lane Count	Width [2] (m)	Length (m)	Vertical Dimension [3] (m)	Initial Vertical Dimension, Sigma Z [4] (m)	Release Height [5] (m)	Total Area of Source (m^2)	Modeled Emission Rate [6] ($g/s/m^2$)
HVT_01_1	HVT_01	Line-Area	1	3.30	107	6.8	3.16	3.4	354	5.01E-04
HVT_01_2	HVT_01	Line-Area	1	3.30	177	6.8	3.16	3.4	584	5.01E-04
HVT_01_3	HVT_01	Line-Area	1	3.30	68	6.8	3.16	3.4	226	5.01E-04
HVT_01_4	HVT_01	Line-Area	1	3.30	108	6.8	3.16	3.4	358	5.01E-04
HVT_01_5	HVT_01	Line-Area	1	3.30	55	6.8	3.16	3.4	182	5.01E-04
HVT_01_6	HVT_01	Line-Area	1	3.30	88	6.8	3.16	3.4	292	5.01E-04
HVT_02_1	HVT_02	Line-Area	2	6.60	83	6.8	3.16	3.4	548	5.40E-04
HVT_02_2	HVT_02	Line-Area	2	6.60	89	6.8	3.16	3.4	587	5.40E-04
HVT_02_3	HVT_02	Line-Area	2	6.60	44	6.8	3.16	3.4	289	5.40E-04
HVT_02_4	HVT_02	Line-Area	2	6.60	65	6.8	3.16	3.4	428	5.40E-04
HVT_03_1	HVT_03	Line-Area	1	3.30	57	6.8	3.16	3.4	188	4.88E-04
HVT_03_2	HVT_03	Line-Area	1	3.30	564	6.8	3.16	3.4	1,861	4.88E-04
HVT_04_1	HVT_04	Line-Area	4	13.20	43	6.8	3.16	3.4	562	1.56E-04
HVT_04_2	HVT_04	Line-Area	4	13.20	155	6.8	3.16	3.4	2,051	1.56E-04
HVT_04_3	HVT_04	Line-Area	4	13.20	137	6.8	3.16	3.4	1,815	1.56E-04
HVT_04_4	HVT_04	Line-Area	4	13.20	149	6.8	3.16	3.4	1,969	1.56E-04
HVT_05_1	HVT_05	Line-Area	1	3.30	109	6.8	3.16	3.4	360	6.36E-04
HVT_05_2	HVT_05	Line-Area	1	3.30	135	6.8	3.16	3.4	446	6.36E-04
HVT_05_3	HVT_05	Line-Area	1	3.30	145	6.8	3.16	3.4	478	6.36E-04
HVT_05_4	HVT_05	Line-Area	1	3.30	87	6.8	3.16	3.4	289	6.36E-04
HVT_06_1	HVT_06	Line-Area	2	6.60	164	6.8	3.16	3.4	1,082	5.68E-04
HVT_06_2	HVT_06	Line-Area	2	6.60	103	6.8	3.16	3.4	679	5.68E-04
HVT_07_1	HVT_07	Line-Area	1	3.30	80	6.8	3.16	3.4	264	6.14E-04
HVT_07_2	HVT_07	Line-Area	1	3.30	36	6.8	3.16	3.4	118	6.14E-04
HVT_07_3	HVT_07	Line-Area	1	3.30	41	6.8	3.16	3.4	134	6.14E-04
HVT_07_4	HVT_07	Line-Area	1	3.30	63	6.8	3.16	3.4	208	6.14E-04
HVT_07_5	HVT_07	Line-Area	1	3.30	274	6.8	3.16	3.4	904	6.14E-04
HVT_08_1	HVT_08	Line-Area	1	3.30	189	6.8	3.16	3.4	624	5.73E-04
HVT_08_2	HVT_08	Line-Area	1	3.30	70	6.8	3.16	3.4	232	5.73E-04
HVT_08_3	HVT_08	Line-Area	1	3.30	159	6.8	3.16	3.4	524	5.73E-04
HVT_08_4	HVT_08	Line-Area	1	3.30	111	6.8	3.16	3.4	365	5.73E-04
HVT_09_1	HVT_09	Line-Area	2	6.60	168	6.8	3.16	3.4	1,110	5.34E-04
HVT_09_2	HVT_09	Line-Area	2	6.60	73	6.8	3.16	3.4	479	5.34E-04
HVT_09_3	HVT_09	Line-Area	2	6.60	43	6.8	3.16	3.4	282	5.34E-04

Notes:

[1] See **Figure 2** for graphical representations of Construction Hauling and Vendor Truck Travel sources. Operating hours for modeled emission sources are 7:00 AM - 7:00 PM on weekdays and 8:00 AM - 5:00 PM on weekends.

[2] Road width is estimated as a product of the number of lanes and width of a lane. The width of the lane is defined as 3.3 meters based on the USEPA Transportation Conformity Guidance.

[3] The vertical dimension is assumed to be equal to 1.7 times the vehicle height for truck travel, per the USEPA Transportation Conformity Guidance. Vehicle height is based on the USEPA Transportation Conformity Guidance.

[4] The initial vertical dimension, Sigma Z, for truck travel is estimated as the vertical dimension divided by 2.15 based on the USEPA Transportation Conformity Guidance.

[5] The release height for on-road sources is estimated as half of the vertical dimension, based on the USEPA Transportation Conformity Guidance.

[6] Each AERMOD source group is modeled with a 1 gram per second emission rate.

Abbreviations:

AERMOD - American Meteorological Society/Environmental Protection Agency Regulatory Model
g - grams
m - meters
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
s - second
USEPA - United States Environmental Protection Agency

References:

USEPA. 2021. Transportation Conformity Guidance for Quantitative Hot-spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas Appendices. November. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1013C6A.pdf. Accessed: June 2025.

Table D-4. Area Source Parameters for Concrete Truck Travel
El Dorado Hills Costco Project
El Dorado Hills, California

AERMOD Source ID [1]	AERMOD Source Group	Source Type	Lane Count	Width [2] (m)	Length (m)	Vertical Dimension [3] (m)	Initial Vertical Dimension, Sigma Z [4] (m)	Release Height [5] (m)	Total Area of Source (m^2)	Modeled Emission Rate [6] ($g/s/m^2$)
CT_01_1	CT_01	Line-Area	1	3.30	107	6.8	3.16	3.4	354	5.01E-04
CT_01_2	CT_01	Line-Area	1	3.30	177	6.8	3.16	3.4	584	5.01E-04
CT_01_3	CT_01	Line-Area	1	3.30	68	6.8	3.16	3.4	226	5.01E-04
CT_01_4	CT_01	Line-Area	1	3.30	108	6.8	3.16	3.4	358	5.01E-04
CT_01_5	CT_01	Line-Area	1	3.30	55	6.8	3.16	3.4	182	5.01E-04
CT_01_6	CT_01	Line-Area	1	3.30	88	6.8	3.16	3.4	292	5.01E-04
CT_02_1	CT_02	Line-Area	2	6.60	83	6.8	3.16	3.4	548	5.40E-04
CT_02_2	CT_02	Line-Area	2	6.60	89	6.8	3.16	3.4	587	5.40E-04
CT_02_3	CT_02	Line-Area	2	6.60	44	6.8	3.16	3.4	289	5.40E-04
CT_02_4	CT_02	Line-Area	2	6.60	65	6.8	3.16	3.4	428	5.40E-04
CT_03_1	CT_03	Line-Area	1	3.30	57	6.8	3.16	3.4	188	4.88E-04
CT_03_2	CT_03	Line-Area	1	3.30	564	6.8	3.16	3.4	1,861	4.88E-04
CT_04_1	CT_04	Line-Area	4	13.20	43	6.8	3.16	3.4	562	1.56E-04
CT_04_2	CT_04	Line-Area	4	13.20	155	6.8	3.16	3.4	2,051	1.56E-04
CT_04_3	CT_04	Line-Area	4	13.20	137	6.8	3.16	3.4	1,815	1.56E-04
CT_04_4	CT_04	Line-Area	4	13.20	149	6.8	3.16	3.4	1,969	1.56E-04
CT_05_1	CT_05	Line-Area	1	3.30	109	6.8	3.16	3.4	360	6.36E-04
CT_05_2	CT_05	Line-Area	1	3.30	135	6.8	3.16	3.4	446	6.36E-04
CT_05_3	CT_05	Line-Area	1	3.30	145	6.8	3.16	3.4	478	6.36E-04
CT_05_4	CT_05	Line-Area	1	3.30	87	6.8	3.16	3.4	289	6.36E-04
CT_06_1	CT_06	Line-Area	2	6.60	164	6.8	3.16	3.4	1,082	5.68E-04
CT_06_2	CT_06	Line-Area	2	6.60	103	6.8	3.16	3.4	679	5.68E-04
CT_07_1	CT_07	Line-Area	1	3.30	80	6.8	3.16	3.4	264	6.14E-04
CT_07_2	CT_07	Line-Area	1	3.30	36	6.8	3.16	3.4	118	6.14E-04
CT_07_3	CT_07	Line-Area	1	3.30	41	6.8	3.16	3.4	134	6.14E-04
CT_07_4	CT_07	Line-Area	1	3.30	63	6.8	3.16	3.4	208	6.14E-04
CT_07_5	CT_07	Line-Area	1	3.30	274	6.8	3.16	3.4	904	6.14E-04
CT_08_1	CT_08	Line-Area	1	3.30	189	6.8	3.16	3.4	624	5.73E-04
CT_08_2	CT_08	Line-Area	1	3.30	70	6.8	3.16	3.4	232	5.73E-04
CT_08_3	CT_08	Line-Area	1	3.30	159	6.8	3.16	3.4	524	5.73E-04
CT_08_4	CT_08	Line-Area	1	3.30	111	6.8	3.16	3.4	365	5.73E-04
CT_09_1	CT_09	Line-Area	2	6.60	168	6.8	3.16	3.4	1,110	5.34E-04
CT_09_2	CT_09	Line-Area	2	6.60	73	6.8	3.16	3.4	479	5.34E-04
CT_09_3	CT_09	Line-Area	2	6.60	43	6.8	3.16	3.4	282	5.34E-04

Notes:

[1] See **Figure 2** for graphical representations of Concrete Delivery Truck Travel sources. Operating hours for modeled emission sources are 12:00 AM - 7:00 AM daily.

[2] Road width is estimated as a product of the number of lanes and width of a lane. The width of the lane is defined as 3.3 meters based on the USEPA Transportation Conformity Guidance.

[3] The vertical dimension is assumed to be equal to 1.7 times the vehicle height for truck travel, per the USEPA Transportation Conformity Guidance. Vehicle height is based on the USEPA Transportation Conformity Guidance.

[4] The initial vertical dimension, Sigma Z, for truck travel is estimated as the vertical dimension divided by 2.15 based on the USEPA Transportation Conformity Guidance.

[5] The release height for on-road sources is estimated as half of the vertical dimension, based on the USEPA Transportation Conformity Guidance.

[6] Each AERMOD source group is modeled with a 1 gram per second emission rate.

Abbreviations:

AERMOD - American Meteorological Society/Environmental Protection Agency Regulatory Model
g - grams
m - meters
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
s - second
USEPA - United States Environmental Protection Agency

References:

USEPA. 2021. Transportation Conformity Guidance for Quantitative Hot-spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas Appendices. November. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1013C6A.pdf. Accessed: June 2025.

Table D-5. Area Source Parameters for Fuel Delivery Truck Travel
El Dorado Hills Costco Project
El Dorado Hills, California

AERMOD Source ID [1]	AERMOD Source Group	Source Type	Lane Count	Width [2] (m)	Length (m)	Vertical Dimension [3] (m)	Initial Vertical Dimension, Sigma Z [4] (m)	Release Height [5] (m)	Total Area of Source (m^2)	Modeled Emission Rate [6] ($g/s/m^2$)
FT_01_1	FT_01	Line-Area	1	3.30	107	6.8	3.16	3.4	354	5.01E-04
FT_01_2	FT_01	Line-Area	1	3.30	177	6.8	3.16	3.4	584	5.01E-04
FT_01_3	FT_01	Line-Area	1	3.30	68	6.8	3.16	3.4	226	5.01E-04
FT_01_4	FT_01	Line-Area	1	3.30	108	6.8	3.16	3.4	358	5.01E-04
FT_01_5	FT_01	Line-Area	1	3.30	55	6.8	3.16	3.4	182	5.01E-04
FT_01_6	FT_01	Line-Area	1	3.30	88	6.8	3.16	3.4	292	5.01E-04
FT_02_1	FT_02	Line-Area	2	6.60	26	6.8	3.16	3.4	172	5.19E-04
FT_02_2	FT_02	Line-Area	2	6.60	98	6.8	3.16	3.4	647	5.19E-04
FT_02_3	FT_02	Line-Area	2	6.60	168	6.8	3.16	3.4	1,108	5.19E-04
FT_03_1	FT_03	Line-Area	4	13.20	126	6.8	3.16	3.4	1,664	2.83E-04
FT_03_2	FT_03	Line-Area	4	13.20	77	6.8	3.16	3.4	1,017	2.83E-04
FT_03_3	FT_03	Line-Area	4	13.20	65	6.8	3.16	3.4	854	2.83E-04
FT_04_1	FT_04	Line-Area	2	6.60	216	6.8	3.16	3.4	1,424	7.02E-04
FT_05_1	FT_05	Line-Area	1	3.30	109	6.8	3.16	3.4	360	6.36E-04
FT_05_2	FT_05	Line-Area	1	3.30	135	6.8	3.16	3.4	446	6.36E-04
FT_05_3	FT_05	Line-Area	1	3.30	145	6.8	3.16	3.4	478	6.36E-04
FT_05_4	FT_05	Line-Area	1	3.30	87	6.8	3.16	3.4	289	6.36E-04
FT_A_1	FT_A	Line-Area	1	3.30	10	6.8	3.16	3.4	32	8.34E-04
FT_A_2	FT_A	Line-Area	1	3.30	53	6.8	3.16	3.4	174	8.34E-04
FT_A_3	FT_A	Line-Area	1	3.30	7	6.8	3.16	3.4	24	8.34E-04
FT_A_4	FT_A	Line-Area	1	3.30	9	6.8	3.16	3.4	31	8.34E-04
FT_A_5	FT_A	Line-Area	1	3.30	69	6.8	3.16	3.4	228	8.34E-04
FT_A_6	FT_A	Line-Area	1	3.30	21	6.8	3.16	3.4	68	8.34E-04
FT_A_7	FT_A	Line-Area	1	3.30	46	6.8	3.16	3.4	151	8.34E-04
FT_A_8	FT_A	Line-Area	1	3.30	17	6.8	3.16	3.4	57	8.34E-04
FT_A_9	FT_A	Line-Area	1	3.30	27	6.8	3.16	3.4	88	8.34E-04
FT_A_10	FT_A	Line-Area	1	3.30	8	6.8	3.16	3.4	27	8.34E-04
FT_A_11	FT_A	Line-Area	1	3.30	8	6.8	3.16	3.4	26	8.34E-04
FT_A_12	FT_A	Line-Area	1	3.30	39	6.8	3.16	3.4	127	8.34E-04
FT_A_13	FT_A	Line-Area	1	3.30	50	6.8	3.16	3.4	165	8.34E-04

Notes:

[1] See **Figure 3** for graphical representations of Fuel Delivery Truck Travel sources. Operating hours for modeled emission sources are 5:00 AM - 10:00 PM daily.

[2] Road width is estimated as a product of the number of lanes and width of a lane. The width of the lane is defined as 3.3 meters based on the USEPA Transportation Conformity Guidance.

[3] The vertical dimension is assumed to be equal to 1.7 times the vehicle height for truck travel, per the USEPA Transportation Conformity Guidance. Vehicle height is based on the USEPA Transportation Conformity Guidance.

[4] The initial vertical dimension, Sigma Z, for truck travel is estimated as the vertical dimension divided by 2.15 based on the USEPA Transportation Conformity Guidance.

[5] The release height for on-road sources is estimated as half of the vertical dimension, based on the USEPA Transportation Conformity Guidance.

[6] Each AERMOD source group is modeled with a 1 gram per second emission rate.

Abbreviations:

AERMOD - American Meteorological Society/Environmental Protection Agency Regulatory Model

g - grams

m - meters

PM_{10} - particulate matter less than 10 microns in diameter

$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter

s - second

USEPA - United States Environmental Protection Agency

References:

USEPA. 2021. Transportation Conformity Guidance for Quantitative Hot-spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas Appendices. November. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1013C6A.pdf. Accessed: June 2025.

Table D-6. Area Source Parameters for Warehouse and Tire Center Delivery Truck Travel
El Dorado Hills Costco Project
El Dorado Hills, California

AERMOD Source ID [1]	AERMOD Source Group [2]	Source Type	Lane Count	Width [3] (m)	Length (m)	Vertical Dimension [4] (m)	Initial Vertical Dimension, Sigma Z [5] (m)	Release Height [6] (m)	Total Area of Source (m^2)	Modeled Emission Rate [7] ($g/s/m^2$)
WT_01_1	WT_01	Line-Area	1	3.30	107	6.8	3.16	3.4	354	5.01E-04
WT_01_2	WT_01	Line-Area	1	3.30	177	6.8	3.16	3.4	584	5.01E-04
WT_01_3	WT_01	Line-Area	1	3.30	68	6.8	3.16	3.4	226	5.01E-04
WT_01_4	WT_01	Line-Area	1	3.30	108	6.8	3.16	3.4	358	5.01E-04
WT_01_5	WT_01	Line-Area	1	3.30	55	6.8	3.16	3.4	182	5.01E-04
WT_01_6	WT_01	Line-Area	1	3.30	88	6.8	3.16	3.4	292	5.01E-04
WT_02_1	WT_02	Line-Area	2	6.60	83	6.8	3.16	3.4	548	5.40E-04
WT_02_2	WT_02	Line-Area	2	6.60	89	6.8	3.16	3.4	587	5.40E-04
WT_02_3	WT_02	Line-Area	2	6.60	44	6.8	3.16	3.4	289	5.40E-04
WT_02_4	WT_02	Line-Area	2	6.60	65	6.8	3.16	3.4	428	5.40E-04
WT_03_1	WT_03	Line-Area	1	3.30	57	6.8	3.16	3.4	188	6.61E-04
WT_03_2	WT_03	Line-Area	1	3.30	401	6.8	3.16	3.4	1,324	6.61E-04
WT_04_1	WT_04	Line-Area	2	6.60	164	6.8	3.16	3.4	1,082	2.87E-04
WT_04_2	WT_04	Line-Area	2	6.60	186	6.8	3.16	3.4	1,230	2.87E-04
WT_04_3	WT_04	Line-Area	2	6.60	105	6.8	3.16	3.4	693	2.87E-04
WT_04_4	WT_04	Line-Area	2	6.60	73	6.8	3.16	3.4	484	2.87E-04
WT_05_1	WT_05	Line-Area	2	6.60	120	6.8	3.16	3.4	791	2.70E-04
WT_05_2	WT_05	Line-Area	2	6.60	155	6.8	3.16	3.4	1,025	2.70E-04
WT_05_3	WT_05	Line-Area	2	6.60	137	6.8	3.16	3.4	907	2.70E-04
WT_05_4	WT_05	Line-Area	2	6.60	149	6.8	3.16	3.4	985	2.70E-04
WT_06_1	WT_06	Line-Area	1	3.30	109	6.8	3.16	3.4	360	6.36E-04
WT_06_2	WT_06	Line-Area	1	3.30	135	6.8	3.16	3.4	446	6.36E-04
WT_06_3	WT_06	Line-Area	1	3.30	145	6.8	3.16	3.4	478	6.36E-04
WT_06_4	WT_06	Line-Area	1	3.30	87	6.8	3.16	3.4	289	6.36E-04
WT_07_1	WT_07	Line-Area	2	6.60	40	6.8	3.16	3.4	264	7.30E-04
WT_07_2	WT_07	Line-Area	2	6.60	13	6.8	3.16	3.4	86	7.30E-04
WT_07_3	WT_07	Line-Area	2	6.60	11	6.8	3.16	3.4	73	7.30E-04
WT_07_4	WT_07	Line-Area	2	6.60	39	6.8	3.16	3.4	256	7.30E-04
WT_07_5	WT_07	Line-Area	2	6.60	22	6.8	3.16	3.4	145	7.30E-04
WT_07_6	WT_07	Line-Area	2	6.60	17	6.8	3.16	3.4	109	7.30E-04
WT_07_7	WT_07	Line-Area	2	6.60	13	6.8	3.16	3.4	87	7.30E-04
WT_07_8	WT_07	Line-Area	2	6.60	18	6.8	3.16	3.4	122	7.30E-04
WT_07_9	WT_07	Line-Area	2	6.60	34	6.8	3.16	3.4	227	7.30E-04
WT_08_1	WT_08	Line-Area	2	6.60	19	6.8	3.16	3.4	123	8.37E-04
WT_08_2	WT_08	Line-Area	2	6.60	8	6.8	3.16	3.4	50	8.37E-04
WT_08_3	WT_08	Line-Area	2	6.60	22	6.8	3.16	3.4	146	8.37E-04
WT_08_4	WT_08	Line-Area	2	6.60	18	6.8	3.16	3.4	119	8.37E-04
WT_08_5	WT_08	Line-Area	2	6.60	28	6.8	3.16	3.4	185	8.37E-04
WT_08_6	WT_08	Line-Area	2	6.60	24	6.8	3.16	3.4	156	8.37E-04
WT_08_7	WT_08	Line-Area	2	6.60	19	6.8	3.16	3.4	124	8.37E-04
WT_08_8	WT_08	Line-Area	2	6.60	16	6.8	3.16	3.4	105	8.37E-04
WT_08_9	WT_08	Line-Area	2	6.60	28	6.8	3.16	3.4	188	8.37E-04
WT_09_1	WT_09	Line-Area	2	6.60	211	6.8	3.16	3.4	1,390	7.19E-04

Notes:

[1] See **Figure 4** for graphical representations of Warehouse Truck and Transport Refrigeration Units (TRUs) Travel sources. Operating hours for modeled emission sources are 2:00 AM - 1:00 PM daily.

[2] TRU travel source parameters are assumed to be the same as that of the warehouse truck on which they are mounted during truck travel. This is consistent with CARB's modeling assumptions in Appendix I of the Proposed Amendments to the ATCM Measure for In-Use Diesel-Fueled TRU and TRU Generator Sets, and Facilities Where TRUs Operate.

[3] Road width is estimated as a product of the number of lanes and width of a lane. The width of the lane is defined as 3.3 meters based on the USEPA Transportation Conformity Guidance.

[4] The vertical dimension is assumed to be equal to 1.7 times the vehicle height for truck travel, per the USEPA Transportation Conformity Guidance. Vehicle height is based on the USEPA Transportation Conformity Guidance.

[5] The initial vertical dimension, Sigma Z, for truck travel is estimated as the vertical dimension divided by 2.15 based on the USEPA Transportation Conformity Guidance.

[6] The release height for on-road sources is estimated as half of the vertical dimension, based on the USEPA Transportation Conformity Guidance.

[7] Each AERMOD source group is modeled with a 1 gram per second emission rate.

Abbreviations:

AERMOD - American Meteorological Society/Environmental Protection Agency Regulatory Model
ATCM - Airborne Toxic Control Measure
CARB - California Air Resources Board
g - grams
m - meters
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
s - second
USEPA - United States Environmental Protection Agency

References:

CARB. 2021. Appendix I to the Proposed Amendments to the ATCM Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets, and Facilities Where TRUs Operate, Table II.G.4. AERMOD Source Inputs - Cold Storage Warehouse. Available at: https://ww2.arb.ca.gov/sites/default/files/barcu/board/rulemaking/tru2021/appi.pdf. Accessed: June 2025.

USEPA. 2021. Transportation Conformity Guidance for Quantitative Hot-spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas Appendices. November. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1013C6A.pdf. Accessed: June 2025.

Table D-7. Point Sources Parameters
El Dorado Hills Costco Project
El Dorado Hills, California

Modeled Emission Source [1]	Operating Hours for Modeled Emission Sources	AERMOD Source ID [1]	AERMOD Source Group	Stack Height [2,3] (m)	Stack Temperature [2,3] (K)	Exit Velocity [2,3] (m/s)	Stack Diameter [2,3] (m)	Modeled Emission Rate (g/s)
GDF Loading	5:00 AM -10:00 PM daily	LOADING	LOADING	3.66	291	0.001	0.0508	1
GDF Breathing	Anytime (24-hours daily)	BREATH	BREATH	3.66	289	0.001	0.0508	1
Generator 1	Anytime (24-hours daily)	GEN1	GEN1	3.66	740	45.3	0.183	1
Generator 2	Anytime (24-hours daily)	GEN2	GEN2	3.66	740	45.3	0.183	1

Notes:

[1] See **Figure 5** for a graphical representation of the modeled sources.

[2] Stack parameters for GDF loading and breathing are based on CARB and CAPCOA Gasoline Service Station Industrywide Risk Assessment Guidelines.

[3] Stack parameters for generators are based on generator defaults from the BAAQMD CEQA Guidelines Appendix E: Recommended Methods For Screening and Modeling Local Risks and Hazards.

Abbreviations:

AERMOD - American Meteorological Society/Environmental Protection Agency Regulatory Model
BAAQMD - Bay Area Air Quality Management District
CAPCOA - California Air Pollution Control Officers Association
CARB - California Air Resources Board
g - grams
GDF - gasoline dispensing facility
K - Kelvin
m - meters
s - second

References:

BAAQMD. 2023. Bay Area Air Quality Management District California Environmental Quality Act Air Quality Guidelines. Available at: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-e-recommended-methods-for-screening-and-modeling-local-risks-and-hazards_final-pdf.pdf?rev=b8917a27345a4a629fc18fc8650951e4&sc_lang=en. Accessed: June 2025.

CARB and CAPCOA, 2022. Gasoline Service Station Industrywide Risk Assessment Guidelines. Available at: https://ww2.arb.ca.gov/sites/default/files/2022-03/Draft%202022%20Gas%20Station%20IWG%20-%20Technical%20Guidance_ADA%20Compliant.pdf. Accessed: June 2025.

APPENDIX E
HARP2 OUTPUTS

List of Tables

Table E-1: Health Risk Assessment Results for All Receptors – Unmitigated Project Construction and Operation
Table E-2: Health Risk Assessment Results for All Receptors – Mitigated Project Construction and Operation

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
1	668989.0	4280225.0	Roadway/Open Space	-	-	0.02
2	668999.0	4280225.0	Roadway/Open Space	-	-	0.02
3	669009.0	4280225.0	Roadway/Open Space	-	-	0.02
4	669019.0	4280225.0	Roadway/Open Space	-	-	0.01
5	669029.0	4280225.0	Roadway/Open Space	-	-	0.01
6	669039.0	4280225.0	Roadway/Open Space	-	-	0.01
7	669049.0	4280225.0	Roadway/Open Space	-	-	0.01
8	669059.0	4280225.0	Roadway/Open Space	-	-	0.01
9	669069.0	4280225.0	Roadway/Open Space	-	-	0.01
10	669079.0	4280225.0	Roadway/Open Space	-	-	0.01
11	669089.0	4280225.0	Roadway/Open Space	-	-	0.01
12	669099.0	4280225.0	Roadway/Open Space	-	-	0.01
13	668949.0	4280235.0	Roadway/Open Space	-	-	0.02
14	668959.0	4280235.0	Roadway/Open Space	-	-	0.02
15	668969.0	4280235.0	Roadway/Open Space	-	-	0.02
16	668979.0	4280235.0	Roadway/Open Space	-	-	0.02
17	668989.0	4280235.0	Roadway/Open Space	-	-	0.02
18	668999.0	4280235.0	Roadway/Open Space	-	-	0.02
19	669009.0	4280235.0	Roadway/Open Space	-	-	0.02
20	669019.0	4280235.0	Roadway/Open Space	-	-	0.01
21	669029.0	4280235.0	Roadway/Open Space	-	-	0.01
22	669039.0	4280235.0	Roadway/Open Space	-	-	0.01
23	669049.0	4280235.0	Roadway/Open Space	-	-	0.01
24	669059.0	4280235.0	Roadway/Open Space	-	-	0.01
25	669069.0	4280235.0	Roadway/Open Space	-	-	0.01
26	669079.0	4280235.0	Roadway/Open Space	-	-	0.01
27	669089.0	4280235.0	Roadway/Open Space	-	-	0.01
28	669099.0	4280235.0	Roadway/Open Space	-	-	0.01
29	669109.0	4280235.0	Roadway/Open Space	-	-	0.01
30	669119.0	4280235.0	Roadway/Open Space	-	-	0.01
31	669129.0	4280235.0	Roadway/Open Space	-	-	0.01
32	669139.0	4280235.0	Roadway/Open Space	-	-	0.01
33	669149.0	4280235.0	Roadway/Open Space	-	-	0.01
34	668909.0	4280245.0	Roadway/Open Space	-	-	0.02
35	668919.0	4280245.0	Roadway/Open Space	-	-	0.02
36	668929.0	4280245.0	Roadway/Open Space	-	-	0.02
37	668939.0	4280245.0	Roadway/Open Space	-	-	0.02
38	668949.0	4280245.0	Roadway/Open Space	-	-	0.02
39	668959.0	4280245.0	Roadway/Open Space	-	-	0.02
40	668969.0	4280245.0	Roadway/Open Space	-	-	0.02
41	668979.0	4280245.0	Roadway/Open Space	-	-	0.02
42	668989.0	4280245.0	Roadway/Open Space	-	-	0.02
43	668999.0	4280245.0	Roadway/Open Space	-	-	0.02
44	669009.0	4280245.0	Roadway/Open Space	-	-	0.01
45	669019.0	4280245.0	Roadway/Open Space	-	-	0.01
46	669029.0	4280245.0	Roadway/Open Space	-	-	0.01
47	669039.0	4280245.0	Roadway/Open Space	-	-	0.01
48	669049.0	4280245.0	Roadway/Open Space	-	-	0.01
49	669059.0	4280245.0	Roadway/Open Space	-	-	0.01
50	669069.0	4280245.0	Roadway/Open Space	-	-	0.01
51	669079.0	4280245.0	Roadway/Open Space	-	-	0.01
52	669089.0	4280245.0	Roadway/Open Space	-	-	0.01
53	669099.0	4280245.0	Roadway/Open Space	-	-	0.01
54	669109.0	4280245.0	Roadway/Open Space	-	-	0.01
55	669119.0	4280245.0	Roadway/Open Space	-	-	0.01
56	669129.0	4280245.0	Roadway/Open Space	-	-	0.01
57	669139.0	4280245.0	Roadway/Open Space	-	-	0.01
58	669149.0	4280245.0	Roadway/Open Space	-	-	0.01
59	669159.0	4280245.0	Roadway/Open Space	-	-	0.01
60	669169.0	4280245.0	Roadway/Open Space	-	-	0.01
61	669179.0	4280245.0	Roadway/Open Space	-	-	0.01
62	668889.0	4280255.0	Roadway/Open Space	-	-	0.02
63	668899.0	4280255.0	Roadway/Open Space	-	-	0.02
64	668909.0	4280255.0	Roadway/Open Space	-	-	0.02
65	668919.0	4280255.0	Roadway/Open Space	-	-	0.02
66	668929.0	4280255.0	Roadway/Open Space	-	-	0.02
67	668939.0	4280255.0	Roadway/Open Space	-	-	0.02
68	668949.0	4280255.0	Roadway/Open Space	-	-	0.02
69	668959.0	4280255.0	Roadway/Open Space	-	-	0.02
70	668969.0	4280255.0	Roadway/Open Space	-	-	0.02
71	668979.0	4280255.0	Roadway/Open Space	-	-	0.02
72	668989.0	4280255.0	Roadway/Open Space	-	-	0.02
73	668999.0	4280255.0	Roadway/Open Space	-	-	0.02
74	669009.0	4280255.0	Roadway/Open Space	-	-	0.01
75	669019.0	4280255.0	Roadway/Open Space	-	-	0.01
76	669029.0	4280255.0	Roadway/Open Space	-	-	0.01
77	669039.0	4280255.0	Roadway/Open Space	-	-	0.01
78	669049.0	4280255.0	Roadway/Open Space	-	-	0.01
79	669059.0	4280255.0	Roadway/Open Space	-	-	0.01
80	669069.0	4280255.0	Roadway/Open Space	-	-	0.01
81	669079.0	4280255.0	Roadway/Open Space	-	-	0.01
82	669089.0	4280255.0	Roadway/Open Space	-	-	0.01
83	669099.0	4280255.0	Roadway/Open Space	-	-	0.01
84	669109.0	4280255.0	Roadway/Open Space	-	-	0.01

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
85	669119.0	4280255.0	Roadway/Open Space	-	-	0.01
86	669129.0	4280255.0	Roadway/Open Space	-	-	0.01
87	669139.0	4280255.0	Roadway/Open Space	-	-	0.01
88	669149.0	4280255.0	Roadway/Open Space	-	-	0.01
89	669159.0	4280255.0	Roadway/Open Space	-	-	0.01
90	669169.0	4280255.0	Roadway/Open Space	-	-	0.01
91	669179.0	4280255.0	Roadway/Open Space	-	-	0.01
92	669189.0	4280255.0	Roadway/Open Space	-	-	0.01
93	669199.0	4280255.0	Roadway/Open Space	-	-	0.01
94	669209.0	4280255.0	Roadway/Open Space	-	-	0.01
95	668869.0	4280265.0	Roadway/Open Space	-	-	0.02
96	668879.0	4280265.0	Roadway/Open Space	-	-	0.02
97	668889.0	4280265.0	Roadway/Open Space	-	-	0.02
98	668899.0	4280265.0	Roadway/Open Space	-	-	0.02
99	668909.0	4280265.0	Roadway/Open Space	-	-	0.02
100	668919.0	4280265.0	Roadway/Open Space	-	-	0.02
101	668929.0	4280265.0	Roadway/Open Space	-	-	0.02
102	668939.0	4280265.0	Roadway/Open Space	-	-	0.02
103	668949.0	4280265.0	Roadway/Open Space	-	-	0.02
104	668959.0	4280265.0	Roadway/Open Space	-	-	0.02
105	668969.0	4280265.0	Roadway/Open Space	-	-	0.02
106	668979.0	4280265.0	Roadway/Open Space	-	-	0.02
107	668989.0	4280265.0	Roadway/Open Space	-	-	0.02
108	668999.0	4280265.0	Roadway/Open Space	-	-	0.02
109	669009.0	4280265.0	Roadway/Open Space	-	-	0.01
110	669019.0	4280265.0	Roadway/Open Space	-	-	0.01
111	669029.0	4280265.0	Roadway/Open Space	-	-	0.01
112	669039.0	4280265.0	Roadway/Open Space	-	-	0.01
113	669049.0	4280265.0	Roadway/Open Space	-	-	0.01
114	669059.0	4280265.0	Roadway/Open Space	-	-	0.01
115	669069.0	4280265.0	Roadway/Open Space	-	-	0.01
116	669079.0	4280265.0	Roadway/Open Space	-	-	0.01
117	669089.0	4280265.0	Roadway/Open Space	-	-	0.01
118	669099.0	4280265.0	Roadway/Open Space	-	-	0.01
119	669109.0	4280265.0	Roadway/Open Space	-	-	0.01
120	669119.0	4280265.0	Roadway/Open Space	-	-	0.01
121	669129.0	4280265.0	Roadway/Open Space	-	-	0.01
122	669139.0	4280265.0	Roadway/Open Space	-	-	0.01
123	669149.0	4280265.0	Roadway/Open Space	-	-	0.01
124	669159.0	4280265.0	Roadway/Open Space	-	-	0.01
125	669169.0	4280265.0	Roadway/Open Space	-	-	0.01
126	669179.0	4280265.0	Roadway/Open Space	-	-	0.01
127	669189.0	4280265.0	Roadway/Open Space	-	-	0.01
128	669199.0	4280265.0	Roadway/Open Space	-	-	0.01
129	669209.0	4280265.0	Roadway/Open Space	-	-	0.01
130	669219.0	4280265.0	Roadway/Open Space	-	-	0.01
131	669229.0	4280265.0	Roadway/Open Space	-	-	0.01
132	668849.0	4280275.0	Roadway/Open Space	-	-	0.02
133	668859.0	4280275.0	Roadway/Open Space	-	-	0.02
134	668869.0	4280275.0	Roadway/Open Space	-	-	0.02
135	668879.0	4280275.0	Roadway/Open Space	-	-	0.02
136	668889.0	4280275.0	Roadway/Open Space	-	-	0.02
137	668899.0	4280275.0	Roadway/Open Space	-	-	0.02
138	668909.0	4280275.0	Roadway/Open Space	-	-	0.02
139	668919.0	4280275.0	Roadway/Open Space	-	-	0.02
140	668929.0	4280275.0	Roadway/Open Space	-	-	0.02
141	668939.0	4280275.0	Roadway/Open Space	-	-	0.02
142	668949.0	4280275.0	Roadway/Open Space	-	-	0.02
143	668959.0	4280275.0	Roadway/Open Space	-	-	0.02
144	668969.0	4280275.0	Roadway/Open Space	-	-	0.02
145	668979.0	4280275.0	Roadway/Open Space	-	-	0.02
146	668989.0	4280275.0	Roadway/Open Space	-	-	0.02
147	668999.0	4280275.0	Roadway/Open Space	-	-	0.02
148	669009.0	4280275.0	Roadway/Open Space	-	-	0.01
149	669019.0	4280275.0	Roadway/Open Space	-	-	0.01
150	669029.0	4280275.0	Roadway/Open Space	-	-	0.01
151	669039.0	4280275.0	Roadway/Open Space	-	-	0.01
152	669049.0	4280275.0	Roadway/Open Space	-	-	0.01
153	669059.0	4280275.0	Roadway/Open Space	-	-	0.01
154	669069.0	4280275.0	Roadway/Open Space	-	-	0.01
155	669079.0	4280275.0	Roadway/Open Space	-	-	0.01
156	669089.0	4280275.0	Roadway/Open Space	-	-	0.01
157	669099.0	4280275.0	Roadway/Open Space	-	-	0.01
158	669109.0	4280275.0	Roadway/Open Space	-	-	0.01
159	669119.0	4280275.0	Roadway/Open Space	-	-	0.01
160	669129.0	4280275.0	Roadway/Open Space	-	-	0.01
161	669139.0	4280275.0	Roadway/Open Space	-	-	0.01
162	669149.0	4280275.0	Roadway/Open Space	-	-	0.01
163	669159.0	4280275.0	Roadway/Open Space	-	-	0.01
164	669169.0	4280275.0	Roadway/Open Space	-	-	0.01
165	669179.0	4280275.0	Roadway/Open Space	-	-	0.01
166	669189.0	4280275.0	Roadway/Open Space	-	-	0.01
167	669199.0	4280275.0	Roadway/Open Space	-	-	0.01
168	669209.0	4280275.0	Roadway/Open Space	-	-	0.01

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
169	669219.0	4280275.0	Roadway/Open Space	-	-	0.01
170	669229.0	4280275.0	Roadway/Open Space	-	-	0.01
171	669239.0	4280275.0	Roadway/Open Space	-	-	0.01
172	669249.0	4280275.0	Roadway/Open Space	-	-	0.01
173	668829.0	4280285.0	Roadway/Open Space	-	-	0.02
174	668839.0	4280285.0	Roadway/Open Space	-	-	0.02
175	668849.0	4280285.0	Roadway/Open Space	-	-	0.02
176	668859.0	4280285.0	Roadway/Open Space	-	-	0.02
177	668869.0	4280285.0	Roadway/Open Space	-	-	0.02
178	668879.0	4280285.0	Roadway/Open Space	-	-	0.02
179	668889.0	4280285.0	Roadway/Open Space	-	-	0.02
180	668899.0	4280285.0	Roadway/Open Space	-	-	0.02
181	668909.0	4280285.0	Roadway/Open Space	-	-	0.02
182	668919.0	4280285.0	Roadway/Open Space	-	-	0.02
183	668929.0	4280285.0	Roadway/Open Space	-	-	0.02
184	668939.0	4280285.0	Roadway/Open Space	-	-	0.02
185	668949.0	4280285.0	Roadway/Open Space	-	-	0.02
186	668959.0	4280285.0	Roadway/Open Space	-	-	0.02
187	668969.0	4280285.0	Roadway/Open Space	-	-	0.02
188	668979.0	4280285.0	Roadway/Open Space	-	-	0.02
189	668989.0	4280285.0	Roadway/Open Space	-	-	0.02
190	668999.0	4280285.0	Roadway/Open Space	-	-	0.02
191	669009.0	4280285.0	Roadway/Open Space	-	-	0.02
192	669019.0	4280285.0	Roadway/Open Space	-	-	0.02
193	669029.0	4280285.0	Roadway/Open Space	-	-	0.01
194	669039.0	4280285.0	Roadway/Open Space	-	-	0.01
195	669049.0	4280285.0	Roadway/Open Space	-	-	0.01
196	669059.0	4280285.0	Roadway/Open Space	-	-	0.01
197	669069.0	4280285.0	Roadway/Open Space	-	-	0.01
198	669079.0	4280285.0	Roadway/Open Space	-	-	0.01
199	669089.0	4280285.0	Roadway/Open Space	-	-	0.01
200	669099.0	4280285.0	Roadway/Open Space	-	-	0.01
201	669109.0	4280285.0	Roadway/Open Space	-	-	0.01
202	669119.0	4280285.0	Roadway/Open Space	-	-	0.01
203	669129.0	4280285.0	Roadway/Open Space	-	-	0.01
204	669139.0	4280285.0	Roadway/Open Space	-	-	0.01
205	669149.0	4280285.0	Roadway/Open Space	-	-	0.01
206	669159.0	4280285.0	Roadway/Open Space	-	-	0.01
207	669169.0	4280285.0	Roadway/Open Space	-	-	0.01
208	669179.0	4280285.0	Roadway/Open Space	-	-	0.01
209	669189.0	4280285.0	Roadway/Open Space	-	-	0.01
210	669199.0	4280285.0	Roadway/Open Space	-	-	0.01
211	669209.0	4280285.0	Roadway/Open Space	-	-	0.01
212	669219.0	4280285.0	Roadway/Open Space	-	-	0.01
213	669229.0	4280285.0	Roadway/Open Space	-	-	0.01
214	669239.0	4280285.0	Roadway/Open Space	-	-	0.01
215	669249.0	4280285.0	Roadway/Open Space	-	-	0.01
216	669259.0	4280285.0	Roadway/Open Space	-	-	0.01
217	668819.0	4280295.0	Roadway/Open Space	-	-	0.02
218	668829.0	4280295.0	Roadway/Open Space	-	-	0.02
219	668839.0	4280295.0	Roadway/Open Space	-	-	0.02
220	668849.0	4280295.0	Roadway/Open Space	-	-	0.02
221	668859.0	4280295.0	Roadway/Open Space	-	-	0.02
222	668869.0	4280295.0	Roadway/Open Space	-	-	0.02
223	668879.0	4280295.0	Roadway/Open Space	-	-	0.02
224	668889.0	4280295.0	Roadway/Open Space	-	-	0.02
225	668899.0	4280295.0	Roadway/Open Space	-	-	0.02
226	668909.0	4280295.0	Roadway/Open Space	-	-	0.02
227	668919.0	4280295.0	Roadway/Open Space	-	-	0.02
228	668929.0	4280295.0	Roadway/Open Space	-	-	0.02
229	668939.0	4280295.0	Roadway/Open Space	-	-	0.02
230	668949.0	4280295.0	Roadway/Open Space	-	-	0.02
231	668959.0	4280295.0	Roadway/Open Space	-	-	0.02
232	668969.0	4280295.0	Roadway/Open Space	-	-	0.02
233	668979.0	4280295.0	Roadway/Open Space	-	-	0.02
234	668989.0	4280295.0	Roadway/Open Space	-	-	0.02
235	668999.0	4280295.0	Roadway/Open Space	-	-	0.02
236	669009.0	4280295.0	Roadway/Open Space	-	-	0.02
237	669019.0	4280295.0	Roadway/Open Space	-	-	0.02
238	669029.0	4280295.0	Roadway/Open Space	-	-	0.01
239	669039.0	4280295.0	Roadway/Open Space	-	-	0.01
240	669049.0	4280295.0	Roadway/Open Space	-	-	0.01
241	669059.0	4280295.0	Roadway/Open Space	-	-	0.01
242	669069.0	4280295.0	Roadway/Open Space	-	-	0.01
243	669079.0	4280295.0	Roadway/Open Space	-	-	0.01
244	669089.0	4280295.0	Roadway/Open Space	-	-	0.01
245	669099.0	4280295.0	Roadway/Open Space	-	-	0.01
246	669109.0	4280295.0	Roadway/Open Space	-	-	0.01
247	669119.0	4280295.0	Roadway/Open Space	-	-	0.01
248	669129.0	4280295.0	Roadway/Open Space	-	-	0.01
249	669139.0	4280295.0	Roadway/Open Space	-	-	0.01
250	669149.0	4280295.0	Roadway/Open Space	-	-	0.01
251	669159.0	4280295.0	Roadway/Open Space	-	-	0.01
252	669169.0	4280295.0	Roadway/Open Space	-	-	0.01

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
253	669179.0	4280295.0	Roadway/Open Space	-	-	0.01
254	669189.0	4280295.0	Roadway/Open Space	-	-	0.01
255	669199.0	4280295.0	Roadway/Open Space	-	-	0.01
256	669209.0	4280295.0	Roadway/Open Space	-	-	0.01
257	669219.0	4280295.0	Roadway/Open Space	-	-	0.01
258	669229.0	4280295.0	Roadway/Open Space	-	-	0.01
259	669239.0	4280295.0	Roadway/Open Space	-	-	0.01
260	669249.0	4280295.0	Roadway/Open Space	-	-	0.01
261	669259.0	4280295.0	Roadway/Open Space	-	-	0.01
262	669269.0	4280295.0	Roadway/Open Space	-	-	0.01
263	669279.0	4280295.0	Roadway/Open Space	-	-	0.01
264	668809.0	4280305.0	Roadway/Open Space	-	-	0.02
265	668819.0	4280305.0	Roadway/Open Space	-	-	0.02
266	668829.0	4280305.0	Roadway/Open Space	-	-	0.02
267	668839.0	4280305.0	Roadway/Open Space	-	-	0.02
268	668849.0	4280305.0	Roadway/Open Space	-	-	0.02
269	668859.0	4280305.0	Roadway/Open Space	-	-	0.02
270	668869.0	4280305.0	Roadway/Open Space	-	-	0.02
271	668879.0	4280305.0	Roadway/Open Space	-	-	0.02
272	668889.0	4280305.0	Roadway/Open Space	-	-	0.02
273	668899.0	4280305.0	Roadway/Open Space	-	-	0.02
274	668909.0	4280305.0	Roadway/Open Space	-	-	0.02
275	668919.0	4280305.0	Roadway/Open Space	-	-	0.02
276	668929.0	4280305.0	Roadway/Open Space	-	-	0.02
277	668939.0	4280305.0	Roadway/Open Space	-	-	0.02
278	668949.0	4280305.0	Roadway/Open Space	-	-	0.02
279	668959.0	4280305.0	Roadway/Open Space	-	-	0.02
280	668969.0	4280305.0	Roadway/Open Space	-	-	0.02
281	668979.0	4280305.0	Roadway/Open Space	-	-	0.02
282	668989.0	4280305.0	Roadway/Open Space	-	-	0.02
283	668999.0	4280305.0	Roadway/Open Space	-	-	0.02
284	669009.0	4280305.0	Roadway/Open Space	-	-	0.02
285	669019.0	4280305.0	Roadway/Open Space	-	-	0.02
286	669029.0	4280305.0	Roadway/Open Space	-	-	0.02
287	669039.0	4280305.0	Roadway/Open Space	-	-	0.01
288	669049.0	4280305.0	Roadway/Open Space	-	-	0.01
289	669059.0	4280305.0	Roadway/Open Space	-	-	0.01
290	669069.0	4280305.0	Roadway/Open Space	-	-	0.01
291	669079.0	4280305.0	Roadway/Open Space	-	-	0.01
292	669089.0	4280305.0	Roadway/Open Space	-	-	0.01
293	669099.0	4280305.0	Roadway/Open Space	-	-	0.01
294	669109.0	4280305.0	Roadway/Open Space	-	-	0.01
295	669119.0	4280305.0	Roadway/Open Space	-	-	0.01
296	669129.0	4280305.0	Roadway/Open Space	-	-	0.01
297	669139.0	4280305.0	Roadway/Open Space	-	-	0.01
298	669149.0	4280305.0	Roadway/Open Space	-	-	0.01
299	669159.0	4280305.0	Roadway/Open Space	-	-	0.01
300	669169.0	4280305.0	Roadway/Open Space	-	-	0.01
301	669179.0	4280305.0	Roadway/Open Space	-	-	0.01
302	669189.0	4280305.0	Roadway/Open Space	-	-	0.01
303	669199.0	4280305.0	Roadway/Open Space	-	-	0.01
304	669209.0	4280305.0	Roadway/Open Space	-	-	0.01
305	669219.0	4280305.0	Roadway/Open Space	-	-	0.01
306	669229.0	4280305.0	Roadway/Open Space	-	-	0.01
307	669239.0	4280305.0	Roadway/Open Space	-	-	0.01
308	669249.0	4280305.0	Roadway/Open Space	-	-	0.01
309	669259.0	4280305.0	Roadway/Open Space	-	-	0.01
310	669269.0	4280305.0	Roadway/Open Space	-	-	0.01
311	669279.0	4280305.0	Roadway/Open Space	-	-	0.01
312	669289.0	4280305.0	Roadway/Open Space	-	-	0.01
313	668789.0	4280315.0	Roadway/Open Space	-	-	0.02
314	668799.0	4280315.0	Roadway/Open Space	-	-	0.02
315	668809.0	4280315.0	Roadway/Open Space	-	-	0.02
316	668819.0	4280315.0	Roadway/Open Space	-	-	0.02
317	668829.0	4280315.0	Roadway/Open Space	-	-	0.02
318	668839.0	4280315.0	Roadway/Open Space	-	-	0.02
319	668849.0	4280315.0	Roadway/Open Space	-	-	0.02
320	668859.0	4280315.0	Roadway/Open Space	-	-	0.02
321	668869.0	4280315.0	Roadway/Open Space	-	-	0.02
322	668879.0	4280315.0	Roadway/Open Space	-	-	0.02
323	668889.0	4280315.0	Roadway/Open Space	-	-	0.02
324	668899.0	4280315.0	Roadway/Open Space	-	-	0.02
325	668909.0	4280315.0	Roadway/Open Space	-	-	0.02
326	668919.0	4280315.0	Roadway/Open Space	-	-	0.02
327	668929.0	4280315.0	Roadway/Open Space	-	-	0.02
328	668939.0	4280315.0	Roadway/Open Space	-	-	0.02
329	668949.0	4280315.0	Roadway/Open Space	-	-	0.02
330	668959.0	4280315.0	Roadway/Open Space	-	-	0.02
331	668969.0	4280315.0	Roadway/Open Space	-	-	0.02
332	668979.0	4280315.0	Roadway/Open Space	-	-	0.02
333	668989.0	4280315.0	Roadway/Open Space	-	-	0.02
334	668999.0	4280315.0	Roadway/Open Space	-	-	0.02
335	669009.0	4280315.0	Roadway/Open Space	-	-	0.02
336	669019.0	4280315.0	Roadway/Open Space	-	-	0.02

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
337	669029.0	4280315.0	Roadway/Open Space	-	-	0.02
338	669039.0	4280315.0	Roadway/Open Space	-	-	0.02
339	669049.0	4280315.0	Roadway/Open Space	-	-	0.02
340	669059.0	4280315.0	Roadway/Open Space	-	-	0.01
341	669069.0	4280315.0	Roadway/Open Space	-	-	0.01
342	669079.0	4280315.0	Roadway/Open Space	-	-	0.01
343	669089.0	4280315.0	Roadway/Open Space	-	-	0.01
344	669099.0	4280315.0	Roadway/Open Space	-	-	0.01
345	669109.0	4280315.0	Roadway/Open Space	-	-	0.01
346	669119.0	4280315.0	Roadway/Open Space	-	-	0.01
347	669129.0	4280315.0	Roadway/Open Space	-	-	0.01
348	669139.0	4280315.0	Roadway/Open Space	-	-	0.01
349	669149.0	4280315.0	Roadway/Open Space	-	-	0.01
350	669159.0	4280315.0	Roadway/Open Space	-	-	0.01
351	669169.0	4280315.0	Roadway/Open Space	-	-	0.01
352	669179.0	4280315.0	Roadway/Open Space	-	-	0.01
353	669189.0	4280315.0	Roadway/Open Space	-	-	0.01
354	669199.0	4280315.0	Roadway/Open Space	-	-	0.01
355	669209.0	4280315.0	Roadway/Open Space	-	-	0.01
356	669219.0	4280315.0	Roadway/Open Space	-	-	0.01
357	669229.0	4280315.0	Roadway/Open Space	-	-	0.01
358	669239.0	4280315.0	Roadway/Open Space	-	-	0.01
359	669249.0	4280315.0	Roadway/Open Space	-	-	0.01
360	669259.0	4280315.0	Roadway/Open Space	-	-	0.01
361	669269.0	4280315.0	Roadway/Open Space	-	-	0.01
362	669279.0	4280315.0	Roadway/Open Space	-	-	0.01
363	669289.0	4280315.0	Roadway/Open Space	-	-	0.01
364	669299.0	4280315.0	Roadway/Open Space	-	-	0.01
365	668779.0	4280325.0	Roadway/Open Space	-	-	0.02
366	668789.0	4280325.0	Roadway/Open Space	-	-	0.02
367	668799.0	4280325.0	Roadway/Open Space	-	-	0.02
368	668809.0	4280325.0	Roadway/Open Space	-	-	0.02
369	668819.0	4280325.0	Roadway/Open Space	-	-	0.02
370	668829.0	4280325.0	Worker	0.06	0.005	0.02
371	668839.0	4280325.0	Worker	0.06	0.005	0.02
372	668849.0	4280325.0	Worker	0.07	0.005	0.02
373	668859.0	4280325.0	Roadway/Open Space	-	-	0.02
374	668869.0	4280325.0	Roadway/Open Space	-	-	0.02
375	668879.0	4280325.0	Roadway/Open Space	-	-	0.02
376	668889.0	4280325.0	Roadway/Open Space	-	-	0.02
377	668899.0	4280325.0	Roadway/Open Space	-	-	0.02
378	668909.0	4280325.0	Roadway/Open Space	-	-	0.02
379	668919.0	4280325.0	Roadway/Open Space	-	-	0.02
380	668929.0	4280325.0	Roadway/Open Space	-	-	0.02
381	668939.0	4280325.0	Roadway/Open Space	-	-	0.02
382	668949.0	4280325.0	Roadway/Open Space	-	-	0.02
383	668959.0	4280325.0	Roadway/Open Space	-	-	0.02
384	668969.0	4280325.0	Roadway/Open Space	-	-	0.02
385	668979.0	4280325.0	Roadway/Open Space	-	-	0.02
386	668989.0	4280325.0	Roadway/Open Space	-	-	0.02
387	668999.0	4280325.0	Roadway/Open Space	-	-	0.02
388	669009.0	4280325.0	Roadway/Open Space	-	-	0.02
389	669019.0	4280325.0	Roadway/Open Space	-	-	0.02
390	669029.0	4280325.0	Roadway/Open Space	-	-	0.02
391	669039.0	4280325.0	Roadway/Open Space	-	-	0.02
392	669049.0	4280325.0	Roadway/Open Space	-	-	0.02
393	669059.0	4280325.0	Roadway/Open Space	-	-	0.02
394	669069.0	4280325.0	Roadway/Open Space	-	-	0.02
395	669079.0	4280325.0	Roadway/Open Space	-	-	0.01
396	669089.0	4280325.0	Roadway/Open Space	-	-	0.01
397	669099.0	4280325.0	Roadway/Open Space	-	-	0.01
398	669109.0	4280325.0	Roadway/Open Space	-	-	0.01
399	669119.0	4280325.0	Roadway/Open Space	-	-	0.01
400	669129.0	4280325.0	Roadway/Open Space	-	-	0.01
401	669139.0	4280325.0	Roadway/Open Space	-	-	0.01
402	669149.0	4280325.0	Roadway/Open Space	-	-	0.01
403	669159.0	4280325.0	Roadway/Open Space	-	-	0.01
404	669169.0	4280325.0	Roadway/Open Space	-	-	0.01
405	669179.0	4280325.0	Roadway/Open Space	-	-	0.01
406	669189.0	4280325.0	Roadway/Open Space	-	-	0.01
407	669199.0	4280325.0	Roadway/Open Space	-	-	0.01
408	669209.0	4280325.0	Roadway/Open Space	-	-	0.01
409	669219.0	4280325.0	Roadway/Open Space	-	-	0.01
410	669229.0	4280325.0	Roadway/Open Space	-	-	0.01
411	669239.0	4280325.0	Roadway/Open Space	-	-	0.01
412	669249.0	4280325.0	Roadway/Open Space	-	-	0.01
413	669259.0	4280325.0	Roadway/Open Space	-	-	0.01
414	669269.0	4280325.0	Roadway/Open Space	-	-	0.01
415	669279.0	4280325.0	Roadway/Open Space	-	-	0.01
416	669289.0	4280325.0	Roadway/Open Space	-	-	0.01
417	669299.0	4280325.0	Roadway/Open Space	-	-	0.01
418	669309.0	4280325.0	Roadway/Open Space	-	-	0.01
419	669319.0	4280325.0	Roadway/Open Space	-	-	0.01
420	668769.0	4280335.0	Roadway/Open Space	-	-	0.02

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
421	668779.0	4280335.0	Roadway/Open Space	-	-	0.02
422	668789.0	4280335.0	Roadway/Open Space	-	-	0.02
423	668799.0	4280335.0	Roadway/Open Space	-	-	0.02
424	668809.0	4280335.0	Worker	0.06	0.005	0.02
425	668819.0	4280335.0	Worker	0.06	0.005	0.02
426	668829.0	4280335.0	Worker	0.06	0.005	0.02
427	668839.0	4280335.0	Worker	0.07	0.005	0.02
428	668849.0	4280335.0	Worker	0.07	0.006	0.02
429	668859.0	4280335.0	Worker	0.07	0.006	0.02
430	668869.0	4280335.0	Worker	0.07	0.006	0.02
431	668879.0	4280335.0	Roadway/Open Space	-	-	0.02
432	668889.0	4280335.0	Roadway/Open Space	-	-	0.02
433	668899.0	4280335.0	Roadway/Open Space	-	-	0.02
434	668909.0	4280335.0	Roadway/Open Space	-	-	0.02
435	668919.0	4280335.0	Roadway/Open Space	-	-	0.02
436	668929.0	4280335.0	Roadway/Open Space	-	-	0.02
437	668939.0	4280335.0	Roadway/Open Space	-	-	0.02
438	668949.0	4280335.0	Roadway/Open Space	-	-	0.02
439	668959.0	4280335.0	Roadway/Open Space	-	-	0.02
440	668969.0	4280335.0	Roadway/Open Space	-	-	0.02
441	668979.0	4280335.0	Roadway/Open Space	-	-	0.02
442	668989.0	4280335.0	Roadway/Open Space	-	-	0.02
443	668999.0	4280335.0	Roadway/Open Space	-	-	0.02
444	669009.0	4280335.0	Roadway/Open Space	-	-	0.02
445	669019.0	4280335.0	Roadway/Open Space	-	-	0.02
446	669029.0	4280335.0	Roadway/Open Space	-	-	0.02
447	669039.0	4280335.0	Roadway/Open Space	-	-	0.02
448	669049.0	4280335.0	Roadway/Open Space	-	-	0.02
449	669059.0	4280335.0	Roadway/Open Space	-	-	0.02
450	669069.0	4280335.0	Roadway/Open Space	-	-	0.02
451	669079.0	4280335.0	Roadway/Open Space	-	-	0.02
452	669089.0	4280335.0	Roadway/Open Space	-	-	0.02
453	669099.0	4280335.0	Roadway/Open Space	-	-	0.01
454	669109.0	4280335.0	Roadway/Open Space	-	-	0.01
455	669119.0	4280335.0	Roadway/Open Space	-	-	0.01
456	669129.0	4280335.0	Roadway/Open Space	-	-	0.01
457	669139.0	4280335.0	Roadway/Open Space	-	-	0.01
458	669149.0	4280335.0	Roadway/Open Space	-	-	0.01
459	669159.0	4280335.0	Roadway/Open Space	-	-	0.01
460	669169.0	4280335.0	Roadway/Open Space	-	-	0.01
461	669179.0	4280335.0	Roadway/Open Space	-	-	0.01
462	669189.0	4280335.0	Roadway/Open Space	-	-	0.01
463	669199.0	4280335.0	Roadway/Open Space	-	-	0.01
464	669209.0	4280335.0	Roadway/Open Space	-	-	0.01
465	669219.0	4280335.0	Roadway/Open Space	-	-	0.01
466	669229.0	4280335.0	Roadway/Open Space	-	-	0.01
467	669239.0	4280335.0	Roadway/Open Space	-	-	0.01
468	669249.0	4280335.0	Roadway/Open Space	-	-	0.01
469	669259.0	4280335.0	Roadway/Open Space	-	-	0.01
470	669269.0	4280335.0	Roadway/Open Space	-	-	0.01
471	669279.0	4280335.0	Roadway/Open Space	-	-	0.01
472	669289.0	4280335.0	Roadway/Open Space	-	-	0.01
473	669299.0	4280335.0	Roadway/Open Space	-	-	0.01
474	669309.0	4280335.0	Roadway/Open Space	-	-	0.02
475	669319.0	4280335.0	Roadway/Open Space	-	-	0.02
476	669329.0	4280335.0	Roadway/Open Space	-	-	0.02
477	668759.0	4280345.0	Roadway/Open Space	-	-	0.02
478	668769.0	4280345.0	Roadway/Open Space	-	-	0.02
479	668779.0	4280345.0	Roadway/Open Space	-	-	0.02
480	668789.0	4280345.0	Roadway/Open Space	-	-	0.02
481	668799.0	4280345.0	Roadway/Open Space	-	-	0.02
482	668809.0	4280345.0	Worker	0.06	0.005	0.02
483	668819.0	4280345.0	Worker	0.06	0.005	0.02
484	668829.0	4280345.0	Worker	0.07	0.005	0.02
485	668839.0	4280345.0	Worker	0.07	0.006	0.02
486	668849.0	4280345.0	Worker	0.07	0.006	0.02
487	668859.0	4280345.0	Worker	0.07	0.006	0.02
488	668869.0	4280345.0	Worker	0.07	0.006	0.02
489	668879.0	4280345.0	Worker	0.07	0.006	0.02
490	668889.0	4280345.0	Worker	0.07	0.006	0.02
491	668899.0	4280345.0	Roadway/Open Space	-	-	0.02
492	668909.0	4280345.0	Roadway/Open Space	-	-	0.02
493	668919.0	4280345.0	Roadway/Open Space	-	-	0.02
494	668929.0	4280345.0	Roadway/Open Space	-	-	0.02
495	668939.0	4280345.0	Roadway/Open Space	-	-	0.02
496	668949.0	4280345.0	Roadway/Open Space	-	-	0.02
497	668959.0	4280345.0	Roadway/Open Space	-	-	0.02
498	668969.0	4280345.0	Roadway/Open Space	-	-	0.02
499	668979.0	4280345.0	Roadway/Open Space	-	-	0.02
500	668989.0	4280345.0	Roadway/Open Space	-	-	0.02
501	668999.0	4280345.0	Roadway/Open Space	-	-	0.02
502	669009.0	4280345.0	Roadway/Open Space	-	-	0.02
503	669019.0	4280345.0	Roadway/Open Space	-	-	0.02
504	669029.0	4280345.0	Roadway/Open Space	-	-	0.02

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
505	669039.0	4280345.0	Roadway/Open Space	-	-	0.02
506	669049.0	4280345.0	Roadway/Open Space	-	-	0.02
507	669059.0	4280345.0	Roadway/Open Space	-	-	0.02
508	669069.0	4280345.0	Roadway/Open Space	-	-	0.02
509	669079.0	4280345.0	Roadway/Open Space	-	-	0.02
510	669089.0	4280345.0	Roadway/Open Space	-	-	0.02
511	669099.0	4280345.0	Roadway/Open Space	-	-	0.02
512	669109.0	4280345.0	Roadway/Open Space	-	-	0.02
513	669119.0	4280345.0	Roadway/Open Space	-	-	0.01
514	669129.0	4280345.0	Roadway/Open Space	-	-	0.01
515	669139.0	4280345.0	Roadway/Open Space	-	-	0.01
516	669149.0	4280345.0	Roadway/Open Space	-	-	0.01
517	669159.0	4280345.0	Roadway/Open Space	-	-	0.01
518	669169.0	4280345.0	Roadway/Open Space	-	-	0.01
519	669179.0	4280345.0	Roadway/Open Space	-	-	0.01
520	669189.0	4280345.0	Roadway/Open Space	-	-	0.01
521	669199.0	4280345.0	Roadway/Open Space	-	-	0.01
522	669209.0	4280345.0	Roadway/Open Space	-	-	0.01
523	669219.0	4280345.0	Roadway/Open Space	-	-	0.01
524	669229.0	4280345.0	Roadway/Open Space	-	-	0.01
525	669239.0	4280345.0	Roadway/Open Space	-	-	0.01
526	669249.0	4280345.0	Roadway/Open Space	-	-	0.01
527	669259.0	4280345.0	Roadway/Open Space	-	-	0.01
528	669269.0	4280345.0	Roadway/Open Space	-	-	0.01
529	669279.0	4280345.0	Roadway/Open Space	-	-	0.01
530	669289.0	4280345.0	Roadway/Open Space	-	-	0.02
531	669299.0	4280345.0	Roadway/Open Space	-	-	0.02
532	669309.0	4280345.0	Roadway/Open Space	-	-	0.02
533	669319.0	4280345.0	Roadway/Open Space	-	-	0.02
534	669329.0	4280345.0	Roadway/Open Space	-	-	0.02
535	669339.0	4280345.0	Roadway/Open Space	-	-	0.02
536	668749.0	4280355.0	Roadway/Open Space	-	-	0.02
537	668759.0	4280355.0	Roadway/Open Space	-	-	0.02
538	668769.0	4280355.0	Roadway/Open Space	-	-	0.02
539	668779.0	4280355.0	Roadway/Open Space	-	-	0.02
540	668789.0	4280355.0	Roadway/Open Space	-	-	0.02
541	668799.0	4280355.0	Roadway/Open Space	-	-	0.02
542	668809.0	4280355.0	Worker	0.06	0.005	0.02
543	668819.0	4280355.0	Worker	0.07	0.005	0.02
544	668829.0	4280355.0	Worker	0.07	0.006	0.02
545	668839.0	4280355.0	Worker	0.07	0.006	0.02
546	668849.0	4280355.0	Worker	0.07	0.006	0.02
547	668859.0	4280355.0	Worker	0.07	0.006	0.02
548	668869.0	4280355.0	Worker	0.07	0.006	0.02
549	668879.0	4280355.0	Worker	0.07	0.006	0.02
550	668889.0	4280355.0	Worker	0.07	0.006	0.02
551	668899.0	4280355.0	Roadway/Open Space	-	-	0.02
552	668909.0	4280355.0	Roadway/Open Space	-	-	0.02
553	668919.0	4280355.0	Roadway/Open Space	-	-	0.02
554	668929.0	4280355.0	Roadway/Open Space	-	-	0.02
555	668939.0	4280355.0	Roadway/Open Space	-	-	0.02
556	668949.0	4280355.0	Roadway/Open Space	-	-	0.02
557	668959.0	4280355.0	Roadway/Open Space	-	-	0.02
558	668969.0	4280355.0	Roadway/Open Space	-	-	0.02
559	668979.0	4280355.0	Roadway/Open Space	-	-	0.02
560	668989.0	4280355.0	Roadway/Open Space	-	-	0.02
561	668999.0	4280355.0	Roadway/Open Space	-	-	0.02
562	669009.0	4280355.0	Roadway/Open Space	-	-	0.02
563	669019.0	4280355.0	Roadway/Open Space	-	-	0.02
564	669029.0	4280355.0	Roadway/Open Space	-	-	0.02
565	669039.0	4280355.0	Roadway/Open Space	-	-	0.02
566	669049.0	4280355.0	Roadway/Open Space	-	-	0.02
567	669059.0	4280355.0	Roadway/Open Space	-	-	0.02
568	669069.0	4280355.0	Roadway/Open Space	-	-	0.02
569	669079.0	4280355.0	Roadway/Open Space	-	-	0.02
570	669089.0	4280355.0	Roadway/Open Space	-	-	0.02
571	669099.0	4280355.0	Roadway/Open Space	-	-	0.02
572	669109.0	4280355.0	Roadway/Open Space	-	-	0.02
573	669119.0	4280355.0	Roadway/Open Space	-	-	0.02
574	669129.0	4280355.0	Roadway/Open Space	-	-	0.02
575	669139.0	4280355.0	Roadway/Open Space	-	-	0.02
576	669149.0	4280355.0	Roadway/Open Space	-	-	0.02
577	669159.0	4280355.0	Roadway/Open Space	-	-	0.02
578	669169.0	4280355.0	Roadway/Open Space	-	-	0.02
579	669179.0	4280355.0	Roadway/Open Space	-	-	0.01
580	669189.0	4280355.0	Roadway/Open Space	-	-	0.01
581	669199.0	4280355.0	Roadway/Open Space	-	-	0.01
582	669209.0	4280355.0	Roadway/Open Space	-	-	0.02
583	669219.0	4280355.0	Roadway/Open Space	-	-	0.01
584	669229.0	4280355.0	Roadway/Open Space	-	-	0.01
585	669239.0	4280355.0	Roadway/Open Space	-	-	0.01
586	669249.0	4280355.0	Roadway/Open Space	-	-	0.01
587	669259.0	4280355.0	Roadway/Open Space	-	-	0.01
588	669269.0	4280355.0	Roadway/Open Space	-	-	0.01

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
589	669279.0	4280355.0	Roadway/Open Space	-	-	0.02
590	669289.0	4280355.0	Roadway/Open Space	-	-	0.02
591	669299.0	4280355.0	Roadway/Open Space	-	-	0.02
592	669309.0	4280355.0	Roadway/Open Space	-	-	0.02
593	669319.0	4280355.0	Roadway/Open Space	-	-	0.02
594	669329.0	4280355.0	Roadway/Open Space	-	-	0.02
595	669339.0	4280355.0	Roadway/Open Space	-	-	0.02
596	669349.0	4280355.0	Roadway/Open Space	-	-	0.02
597	668739.0	4280365.0	Roadway/Open Space	-	-	0.02
598	668749.0	4280365.0	Roadway/Open Space	-	-	0.02
599	668759.0	4280365.0	Roadway/Open Space	-	-	0.02
600	668769.0	4280365.0	Roadway/Open Space	-	-	0.02
601	668779.0	4280365.0	Roadway/Open Space	-	-	0.02
602	668789.0	4280365.0	Roadway/Open Space	-	-	0.02
603	668799.0	4280365.0	Roadway/Open Space	-	-	0.02
604	668809.0	4280365.0	Worker	0.07	0.005	0.02
605	668819.0	4280365.0	Worker	0.07	0.006	0.02
606	668829.0	4280365.0	Worker	0.07	0.006	0.02
607	668839.0	4280365.0	Worker	0.07	0.006	0.02
608	668849.0	4280365.0	Worker	0.07	0.006	0.02
609	668859.0	4280365.0	Worker	0.07	0.006	0.02
610	668869.0	4280365.0	Worker	0.07	0.006	0.02
611	668879.0	4280365.0	Worker	0.07	0.006	0.02
612	668889.0	4280365.0	Worker	0.08	0.006	0.02
613	668899.0	4280365.0	Worker	0.08	0.006	0.02
614	668909.0	4280365.0	Roadway/Open Space	-	-	0.02
615	668919.0	4280365.0	Roadway/Open Space	-	-	0.02
616	668929.0	4280365.0	Roadway/Open Space	-	-	0.02
617	668939.0	4280365.0	Roadway/Open Space	-	-	0.02
618	668949.0	4280365.0	Roadway/Open Space	-	-	0.02
619	668959.0	4280365.0	Roadway/Open Space	-	-	0.02
620	668969.0	4280365.0	Roadway/Open Space	-	-	0.02
621	668979.0	4280365.0	Roadway/Open Space	-	-	0.02
622	668989.0	4280365.0	Roadway/Open Space	-	-	0.02
623	668999.0	4280365.0	Roadway/Open Space	-	-	0.02
624	669009.0	4280365.0	Roadway/Open Space	-	-	0.02
625	669019.0	4280365.0	Roadway/Open Space	-	-	0.02
626	669029.0	4280365.0	Roadway/Open Space	-	-	0.02
627	669039.0	4280365.0	Roadway/Open Space	-	-	0.02
628	669049.0	4280365.0	Roadway/Open Space	-	-	0.02
629	669059.0	4280365.0	Roadway/Open Space	-	-	0.02
630	669069.0	4280365.0	Roadway/Open Space	-	-	0.02
631	669079.0	4280365.0	Roadway/Open Space	-	-	0.02
632	669089.0	4280365.0	Roadway/Open Space	-	-	0.02
633	669099.0	4280365.0	Roadway/Open Space	-	-	0.02
634	669109.0	4280365.0	Roadway/Open Space	-	-	0.02
635	669119.0	4280365.0	Roadway/Open Space	-	-	0.02
636	669129.0	4280365.0	Roadway/Open Space	-	-	0.02
637	669139.0	4280365.0	Roadway/Open Space	-	-	0.02
638	669149.0	4280365.0	Roadway/Open Space	-	-	0.02
639	669159.0	4280365.0	Roadway/Open Space	-	-	0.02
640	669169.0	4280365.0	Roadway/Open Space	-	-	0.02
641	669179.0	4280365.0	Roadway/Open Space	-	-	0.02
642	669189.0	4280365.0	Roadway/Open Space	-	-	0.02
643	669199.0	4280365.0	Roadway/Open Space	-	-	0.02
644	669209.0	4280365.0	Roadway/Open Space	-	-	0.02
645	669219.0	4280365.0	Roadway/Open Space	-	-	0.02
646	669229.0	4280365.0	Roadway/Open Space	-	-	0.02
647	669239.0	4280365.0	Roadway/Open Space	-	-	0.01
648	669249.0	4280365.0	Roadway/Open Space	-	-	0.01
649	669259.0	4280365.0	Roadway/Open Space	-	-	0.02
650	669269.0	4280365.0	Roadway/Open Space	-	-	0.02
651	669279.0	4280365.0	Roadway/Open Space	-	-	0.02
652	669289.0	4280365.0	Roadway/Open Space	-	-	0.02
653	669299.0	4280365.0	Roadway/Open Space	-	-	0.02
654	669309.0	4280365.0	Roadway/Open Space	-	-	0.02
655	669319.0	4280365.0	Roadway/Open Space	-	-	0.02
656	669329.0	4280365.0	Roadway/Open Space	-	-	0.02
657	669339.0	4280365.0	Roadway/Open Space	-	-	0.02
658	669349.0	4280365.0	Roadway/Open Space	-	-	0.02
659	669359.0	4280365.0	Roadway/Open Space	-	-	0.02
660	668739.0	4280375.0	Roadway/Open Space	-	-	0.02
661	668749.0	4280375.0	Roadway/Open Space	-	-	0.02
662	668759.0	4280375.0	Roadway/Open Space	-	-	0.02
663	668769.0	4280375.0	Roadway/Open Space	-	-	0.02
664	668779.0	4280375.0	Roadway/Open Space	-	-	0.02
665	668789.0	4280375.0	Roadway/Open Space	-	-	0.02
666	668799.0	4280375.0	Roadway/Open Space	-	-	0.02
667	668809.0	4280375.0	Roadway/Open Space	-	-	0.02
668	668819.0	4280375.0	Worker	0.07	0.006	0.02
669	668829.0	4280375.0	Worker	0.07	0.006	0.02
670	668839.0	4280375.0	Worker	0.07	0.006	0.02
671	668849.0	4280375.0	Worker	0.07	0.006	0.02
672	668859.0	4280375.0	Worker	0.07	0.006	0.02

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
673	668869.0	4280375.0	Worker	0.07	0.006	0.02
674	668879.0	4280375.0	Worker	0.08	0.006	0.02
675	668889.0	4280375.0	Worker	0.08	0.006	0.02
676	668899.0	4280375.0	Worker	0.08	0.007	0.02
677	668909.0	4280375.0	Worker	0.08	0.007	0.02
678	668919.0	4280375.0	Roadway/Open Space	-	-	0.02
679	668929.0	4280375.0	Roadway/Open Space	-	-	0.02
680	668939.0	4280375.0	Roadway/Open Space	-	-	0.02
681	668949.0	4280375.0	Roadway/Open Space	-	-	0.02
682	668959.0	4280375.0	Roadway/Open Space	-	-	0.02
683	668969.0	4280375.0	Roadway/Open Space	-	-	0.02
684	668979.0	4280375.0	Roadway/Open Space	-	-	0.02
685	668989.0	4280375.0	Roadway/Open Space	-	-	0.02
686	668999.0	4280375.0	Roadway/Open Space	-	-	0.02
687	669009.0	4280375.0	Roadway/Open Space	-	-	0.02
688	669019.0	4280375.0	Roadway/Open Space	-	-	0.02
689	669029.0	4280375.0	Roadway/Open Space	-	-	0.02
690	669039.0	4280375.0	Roadway/Open Space	-	-	0.02
691	669049.0	4280375.0	Roadway/Open Space	-	-	0.02
692	669059.0	4280375.0	Roadway/Open Space	-	-	0.02
693	669069.0	4280375.0	Roadway/Open Space	-	-	0.02
694	669079.0	4280375.0	Roadway/Open Space	-	-	0.02
695	669089.0	4280375.0	Roadway/Open Space	-	-	0.02
696	669099.0	4280375.0	Roadway/Open Space	-	-	0.02
697	669109.0	4280375.0	Roadway/Open Space	-	-	0.02
698	669119.0	4280375.0	Roadway/Open Space	-	-	0.02
699	669129.0	4280375.0	Roadway/Open Space	-	-	0.02
700	669139.0	4280375.0	Roadway/Open Space	-	-	0.02
701	669149.0	4280375.0	Roadway/Open Space	-	-	0.02
702	669159.0	4280375.0	Roadway/Open Space	-	-	0.02
703	669169.0	4280375.0	Roadway/Open Space	-	-	0.02
704	669179.0	4280375.0	Roadway/Open Space	-	-	0.02
705	669189.0	4280375.0	Roadway/Open Space	-	-	0.02
706	669199.0	4280375.0	Roadway/Open Space	-	-	0.02
707	669209.0	4280375.0	Roadway/Open Space	-	-	0.02
708	669219.0	4280375.0	Roadway/Open Space	-	-	0.02
709	669229.0	4280375.0	Roadway/Open Space	-	-	0.02
710	669239.0	4280375.0	Roadway/Open Space	-	-	0.02
711	669249.0	4280375.0	Roadway/Open Space	-	-	0.02
712	669259.0	4280375.0	Roadway/Open Space	-	-	0.02
713	669269.0	4280375.0	Roadway/Open Space	-	-	0.02
714	669279.0	4280375.0	Roadway/Open Space	-	-	0.02
715	669289.0	4280375.0	Roadway/Open Space	-	-	0.02
716	669299.0	4280375.0	Roadway/Open Space	-	-	0.02
717	669309.0	4280375.0	Roadway/Open Space	-	-	0.02
718	669319.0	4280375.0	Roadway/Open Space	-	-	0.02
719	669329.0	4280375.0	Roadway/Open Space	-	-	0.02
720	669339.0	4280375.0	Roadway/Open Space	-	-	0.02
721	669349.0	4280375.0	Roadway/Open Space	-	-	0.02
722	669359.0	4280375.0	Roadway/Open Space	-	-	0.02
723	669369.0	4280375.0	Roadway/Open Space	-	-	0.02
724	668729.0	4280385.0	Roadway/Open Space	-	-	0.02
725	668739.0	4280385.0	Roadway/Open Space	-	-	0.02
726	668749.0	4280385.0	Roadway/Open Space	-	-	0.02
727	668759.0	4280385.0	Roadway/Open Space	-	-	0.02
728	668769.0	4280385.0	Roadway/Open Space	-	-	0.02
729	668779.0	4280385.0	Roadway/Open Space	-	-	0.02
730	668789.0	4280385.0	Roadway/Open Space	-	-	0.02
731	668799.0	4280385.0	Roadway/Open Space	-	-	0.02
732	668809.0	4280385.0	Roadway/Open Space	-	-	0.02
733	668819.0	4280385.0	Roadway/Open Space	-	-	0.02
734	668829.0	4280385.0	Roadway/Open Space	-	-	0.02
735	668839.0	4280385.0	Roadway/Open Space	-	-	0.02
736	668849.0	4280385.0	Worker	0.07	0.006	0.02
737	668859.0	4280385.0	Worker	0.07	0.006	0.02
738	668869.0	4280385.0	Worker	0.08	0.006	0.02
739	668879.0	4280385.0	Worker	0.08	0.006	0.02
740	668889.0	4280385.0	Worker	0.08	0.007	0.02
741	668899.0	4280385.0	Worker	0.08	0.007	0.02
742	668909.0	4280385.0	Worker	0.08	0.007	0.02
743	668919.0	4280385.0	Roadway/Open Space	-	-	0.02
744	668929.0	4280385.0	Roadway/Open Space	-	-	0.02
745	668939.0	4280385.0	Roadway/Open Space	-	-	0.02
746	668949.0	4280385.0	Roadway/Open Space	-	-	0.02
747	668959.0	4280385.0	Roadway/Open Space	-	-	0.02
748	668969.0	4280385.0	Roadway/Open Space	-	-	0.02
749	668979.0	4280385.0	Roadway/Open Space	-	-	0.02
750	668989.0	4280385.0	Roadway/Open Space	-	-	0.02
751	668999.0	4280385.0	Roadway/Open Space	-	-	0.02
752	669009.0	4280385.0	Roadway/Open Space	-	-	0.02
753	669019.0	4280385.0	Roadway/Open Space	-	-	0.02
754	669029.0	4280385.0	Roadway/Open Space	-	-	0.02
755	669039.0	4280385.0	Roadway/Open Space	-	-	0.02
756	669049.0	4280385.0	Roadway/Open Space	-	-	0.02

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
757	669059.0	4280385.0	Roadway/Open Space	-	-	0.02
758	669069.0	4280385.0	Roadway/Open Space	-	-	0.02
759	669079.0	4280385.0	Roadway/Open Space	-	-	0.02
760	669089.0	4280385.0	Roadway/Open Space	-	-	0.02
761	669099.0	4280385.0	Roadway/Open Space	-	-	0.02
762	669109.0	4280385.0	Roadway/Open Space	-	-	0.02
763	669119.0	4280385.0	Roadway/Open Space	-	-	0.02
764	669129.0	4280385.0	Roadway/Open Space	-	-	0.02
765	669139.0	4280385.0	Roadway/Open Space	-	-	0.02
766	669149.0	4280385.0	Roadway/Open Space	-	-	0.02
767	669159.0	4280385.0	Roadway/Open Space	-	-	0.02
768	669169.0	4280385.0	Roadway/Open Space	-	-	0.02
769	669179.0	4280385.0	Roadway/Open Space	-	-	0.02
770	669189.0	4280385.0	Roadway/Open Space	-	-	0.02
771	669199.0	4280385.0	Roadway/Open Space	-	-	0.02
772	669209.0	4280385.0	Roadway/Open Space	-	-	0.02
773	669219.0	4280385.0	Roadway/Open Space	-	-	0.02
774	669229.0	4280385.0	Roadway/Open Space	-	-	0.02
775	669239.0	4280385.0	Roadway/Open Space	-	-	0.02
776	669249.0	4280385.0	Roadway/Open Space	-	-	0.02
777	669259.0	4280385.0	Roadway/Open Space	-	-	0.02
778	669269.0	4280385.0	Roadway/Open Space	-	-	0.02
779	669279.0	4280385.0	Roadway/Open Space	-	-	0.02
780	669289.0	4280385.0	Roadway/Open Space	-	-	0.02
781	669299.0	4280385.0	Roadway/Open Space	-	-	0.02
782	669309.0	4280385.0	Roadway/Open Space	-	-	0.02
783	669319.0	4280385.0	Roadway/Open Space	-	-	0.02
784	669329.0	4280385.0	Roadway/Open Space	-	-	0.02
785	669339.0	4280385.0	Roadway/Open Space	-	-	0.02
786	669349.0	4280385.0	Roadway/Open Space	-	-	0.02
787	669359.0	4280385.0	Roadway/Open Space	-	-	0.02
788	669369.0	4280385.0	Roadway/Open Space	-	-	0.02
789	669379.0	4280385.0	Roadway/Open Space	-	-	0.02
790	668719.0	4280395.0	Roadway/Open Space	-	-	0.02
791	668729.0	4280395.0	Roadway/Open Space	-	-	0.02
792	668739.0	4280395.0	Roadway/Open Space	-	-	0.02
793	668749.0	4280395.0	Roadway/Open Space	-	-	0.02
794	668759.0	4280395.0	Roadway/Open Space	-	-	0.02
795	668769.0	4280395.0	Roadway/Open Space	-	-	0.02
796	668779.0	4280395.0	Roadway/Open Space	-	-	0.02
797	668789.0	4280395.0	Roadway/Open Space	-	-	0.02
798	668799.0	4280395.0	Roadway/Open Space	-	-	0.02
799	668809.0	4280395.0	Roadway/Open Space	-	-	0.02
800	668819.0	4280395.0	Roadway/Open Space	-	-	0.02
801	668829.0	4280395.0	Roadway/Open Space	-	-	0.02
802	668839.0	4280395.0	Roadway/Open Space	-	-	0.02
803	668849.0	4280395.0	Roadway/Open Space	-	-	0.02
804	668859.0	4280395.0	Roadway/Open Space	-	-	0.02
805	668869.0	4280395.0	Worker	0.08	0.007	0.02
806	668879.0	4280395.0	Worker	0.08	0.007	0.02
807	668889.0	4280395.0	Roadway/Open Space	-	-	0.02
808	668899.0	4280395.0	Roadway/Open Space	-	-	0.02
809	668909.0	4280395.0	Roadway/Open Space	-	-	0.02
810	668919.0	4280395.0	Roadway/Open Space	-	-	0.02
811	668929.0	4280395.0	Roadway/Open Space	-	-	0.02
812	668939.0	4280395.0	Roadway/Open Space	-	-	0.02
813	668949.0	4280395.0	Roadway/Open Space	-	-	0.02
814	668959.0	4280395.0	Roadway/Open Space	-	-	0.02
815	668969.0	4280395.0	Roadway/Open Space	-	-	0.02
816	668979.0	4280395.0	Roadway/Open Space	-	-	0.02
817	668989.0	4280395.0	Roadway/Open Space	-	-	0.02
818	668999.0	4280395.0	Roadway/Open Space	-	-	0.02
819	669009.0	4280395.0	Roadway/Open Space	-	-	0.02
820	669019.0	4280395.0	Roadway/Open Space	-	-	0.02
821	669029.0	4280395.0	Roadway/Open Space	-	-	0.02
822	669039.0	4280395.0	Roadway/Open Space	-	-	0.02
823	669049.0	4280395.0	Roadway/Open Space	-	-	0.02
824	669059.0	4280395.0	Roadway/Open Space	-	-	0.02
825	669069.0	4280395.0	Roadway/Open Space	-	-	0.02
826	669079.0	4280395.0	Roadway/Open Space	-	-	0.02
827	669089.0	4280395.0	Roadway/Open Space	-	-	0.02
828	669099.0	4280395.0	Roadway/Open Space	-	-	0.02
829	669109.0	4280395.0	Roadway/Open Space	-	-	0.02
830	669119.0	4280395.0	Roadway/Open Space	-	-	0.02
831	669129.0	4280395.0	Roadway/Open Space	-	-	0.02
832	669139.0	4280395.0	Roadway/Open Space	-	-	0.02
833	669149.0	4280395.0	Roadway/Open Space	-	-	0.02
834	669159.0	4280395.0	Roadway/Open Space	-	-	0.02
835	669169.0	4280395.0	Roadway/Open Space	-	-	0.02
836	669179.0	4280395.0	Roadway/Open Space	-	-	0.02
837	669189.0	4280395.0	Roadway/Open Space	-	-	0.02
838	669199.0	4280395.0	Roadway/Open Space	-	-	0.02
839	669209.0	4280395.0	Roadway/Open Space	-	-	0.02
840	669219.0	4280395.0	Roadway/Open Space	-	-	0.02

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
841	669229.0	4280395.0	Roadway/Open Space	-	-	0.02
842	669239.0	4280395.0	Roadway/Open Space	-	-	0.02
843	669249.0	4280395.0	Roadway/Open Space	-	-	0.02
844	669259.0	4280395.0	Roadway/Open Space	-	-	0.02
845	669269.0	4280395.0	Roadway/Open Space	-	-	0.02
846	669279.0	4280395.0	Roadway/Open Space	-	-	0.02
847	669289.0	4280395.0	Roadway/Open Space	-	-	0.02
848	669299.0	4280395.0	Roadway/Open Space	-	-	0.02
849	669309.0	4280395.0	Roadway/Open Space	-	-	0.02
850	669319.0	4280395.0	Roadway/Open Space	-	-	0.02
851	669329.0	4280395.0	Roadway/Open Space	-	-	0.02
852	669339.0	4280395.0	Roadway/Open Space	-	-	0.02
853	669349.0	4280395.0	Roadway/Open Space	-	-	0.02
854	669359.0	4280395.0	Roadway/Open Space	-	-	0.02
855	669369.0	4280395.0	Roadway/Open Space	-	-	0.02
856	669379.0	4280395.0	Roadway/Open Space	-	-	0.02
857	669389.0	4280395.0	Roadway/Open Space	-	-	0.02
858	668709.0	4280405.0	Roadway/Open Space	-	-	0.02
859	668719.0	4280405.0	Roadway/Open Space	-	-	0.02
860	668729.0	4280405.0	Roadway/Open Space	-	-	0.02
861	668739.0	4280405.0	Roadway/Open Space	-	-	0.02
862	668749.0	4280405.0	Roadway/Open Space	-	-	0.02
863	668759.0	4280405.0	Roadway/Open Space	-	-	0.02
864	668769.0	4280405.0	Roadway/Open Space	-	-	0.02
865	668779.0	4280405.0	Roadway/Open Space	-	-	0.02
866	668789.0	4280405.0	Roadway/Open Space	-	-	0.02
867	668799.0	4280405.0	Roadway/Open Space	-	-	0.02
868	668809.0	4280405.0	Roadway/Open Space	-	-	0.02
869	668819.0	4280405.0	Roadway/Open Space	-	-	0.02
870	668829.0	4280405.0	Roadway/Open Space	-	-	0.02
871	668839.0	4280405.0	Roadway/Open Space	-	-	0.02
872	668849.0	4280405.0	Roadway/Open Space	-	-	0.02
873	668859.0	4280405.0	Roadway/Open Space	-	-	0.02
874	668869.0	4280405.0	Roadway/Open Space	-	-	0.02
875	668879.0	4280405.0	Roadway/Open Space	-	-	0.02
876	668889.0	4280405.0	Roadway/Open Space	-	-	0.02
877	668899.0	4280405.0	Roadway/Open Space	-	-	0.02
878	668909.0	4280405.0	Roadway/Open Space	-	-	0.02
879	668919.0	4280405.0	Roadway/Open Space	-	-	0.02
880	668929.0	4280405.0	Roadway/Open Space	-	-	0.02
881	668939.0	4280405.0	Roadway/Open Space	-	-	0.02
882	668949.0	4280405.0	Roadway/Open Space	-	-	0.02
883	668959.0	4280405.0	Roadway/Open Space	-	-	0.02
884	668969.0	4280405.0	Roadway/Open Space	-	-	0.02
885	668979.0	4280405.0	Roadway/Open Space	-	-	0.02
886	668989.0	4280405.0	Roadway/Open Space	-	-	0.02
887	668999.0	4280405.0	Roadway/Open Space	-	-	0.02
888	669009.0	4280405.0	Roadway/Open Space	-	-	0.02
889	669019.0	4280405.0	Roadway/Open Space	-	-	0.02
890	669029.0	4280405.0	Roadway/Open Space	-	-	0.02
891	669039.0	4280405.0	Roadway/Open Space	-	-	0.02
892	669049.0	4280405.0	Roadway/Open Space	-	-	0.02
893	669059.0	4280405.0	Roadway/Open Space	-	-	0.02
894	669069.0	4280405.0	Roadway/Open Space	-	-	0.02
895	669079.0	4280405.0	Roadway/Open Space	-	-	0.02
896	669089.0	4280405.0	Roadway/Open Space	-	-	0.02
897	669099.0	4280405.0	Roadway/Open Space	-	-	0.02
898	669109.0	4280405.0	Roadway/Open Space	-	-	0.02
899	669119.0	4280405.0	Roadway/Open Space	-	-	0.02
900	669129.0	4280405.0	Roadway/Open Space	-	-	0.02
901	669139.0	4280405.0	Roadway/Open Space	-	-	0.02
902	669149.0	4280405.0	Roadway/Open Space	-	-	0.02
903	669159.0	4280405.0	Roadway/Open Space	-	-	0.02
904	669169.0	4280405.0	Roadway/Open Space	-	-	0.02
905	669179.0	4280405.0	Roadway/Open Space	-	-	0.02
906	669189.0	4280405.0	Roadway/Open Space	-	-	0.02
907	669199.0	4280405.0	Roadway/Open Space	-	-	0.02
908	669209.0	4280405.0	Roadway/Open Space	-	-	0.02
909	669219.0	4280405.0	Roadway/Open Space	-	-	0.02
910	669229.0	4280405.0	Roadway/Open Space	-	-	0.02
911	669239.0	4280405.0	Roadway/Open Space	-	-	0.02
912	669249.0	4280405.0	Roadway/Open Space	-	-	0.02
913	669259.0	4280405.0	Roadway/Open Space	-	-	0.02
914	669269.0	4280405.0	Roadway/Open Space	-	-	0.02
915	669279.0	4280405.0	Roadway/Open Space	-	-	0.02
916	669289.0	4280405.0	Roadway/Open Space	-	-	0.02
917	669299.0	4280405.0	Roadway/Open Space	-	-	0.02
918	669309.0	4280405.0	Roadway/Open Space	-	-	0.02
919	669319.0	4280405.0	Roadway/Open Space	-	-	0.02
920	669329.0	4280405.0	Roadway/Open Space	-	-	0.02
921	669339.0	4280405.0	Roadway/Open Space	-	-	0.02
922	669349.0	4280405.0	Roadway/Open Space	-	-	0.02
923	669359.0	4280405.0	Roadway/Open Space	-	-	0.02
924	669369.0	4280405.0	Roadway/Open Space	-	-	0.02

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
925	669379.0	4280405.0	Roadway/Open Space	-	-	0.02
926	669389.0	4280405.0	Roadway/Open Space	-	-	0.02
927	669399.0	4280405.0	Roadway/Open Space	-	-	0.02
928	668709.0	4280415.0	Roadway/Open Space	-	-	0.02
929	668719.0	4280415.0	Roadway/Open Space	-	-	0.02
930	668729.0	4280415.0	Roadway/Open Space	-	-	0.02
931	668739.0	4280415.0	Roadway/Open Space	-	-	0.02
932	668749.0	4280415.0	Roadway/Open Space	-	-	0.02
933	668759.0	4280415.0	Roadway/Open Space	-	-	0.02
934	668769.0	4280415.0	Roadway/Open Space	-	-	0.02
935	668779.0	4280415.0	Roadway/Open Space	-	-	0.02
936	668789.0	4280415.0	Roadway/Open Space	-	-	0.02
937	668799.0	4280415.0	Roadway/Open Space	-	-	0.02
938	668809.0	4280415.0	Roadway/Open Space	-	-	0.02
939	668819.0	4280415.0	Roadway/Open Space	-	-	0.02
940	668829.0	4280415.0	Roadway/Open Space	-	-	0.02
941	668839.0	4280415.0	Roadway/Open Space	-	-	0.02
942	668849.0	4280415.0	Roadway/Open Space	-	-	0.02
943	668859.0	4280415.0	Roadway/Open Space	-	-	0.02
944	668869.0	4280415.0	Roadway/Open Space	-	-	0.02
945	668879.0	4280415.0	Roadway/Open Space	-	-	0.02
946	668889.0	4280415.0	Roadway/Open Space	-	-	0.02
947	668899.0	4280415.0	Roadway/Open Space	-	-	0.02
948	668909.0	4280415.0	Roadway/Open Space	-	-	0.02
949	668919.0	4280415.0	Roadway/Open Space	-	-	0.02
950	668929.0	4280415.0	Roadway/Open Space	-	-	0.02
951	668939.0	4280415.0	Roadway/Open Space	-	-	0.02
952	668949.0	4280415.0	Roadway/Open Space	-	-	0.02
953	668959.0	4280415.0	Roadway/Open Space	-	-	0.02
954	668969.0	4280415.0	Roadway/Open Space	-	-	0.02
955	668979.0	4280415.0	Roadway/Open Space	-	-	0.02
956	668989.0	4280415.0	Roadway/Open Space	-	-	0.02
957	668999.0	4280415.0	Roadway/Open Space	-	-	0.02
958	669009.0	4280415.0	Roadway/Open Space	-	-	0.02
959	669019.0	4280415.0	Roadway/Open Space	-	-	0.02
960	669029.0	4280415.0	Roadway/Open Space	-	-	0.02
961	669039.0	4280415.0	Roadway/Open Space	-	-	0.02
962	669049.0	4280415.0	Roadway/Open Space	-	-	0.02
963	669059.0	4280415.0	Roadway/Open Space	-	-	0.02
964	669069.0	4280415.0	Roadway/Open Space	-	-	0.02
965	669079.0	4280415.0	Roadway/Open Space	-	-	0.02
966	669089.0	4280415.0	Roadway/Open Space	-	-	0.02
967	669099.0	4280415.0	Roadway/Open Space	-	-	0.02
968	669109.0	4280415.0	Roadway/Open Space	-	-	0.02
969	669119.0	4280415.0	Roadway/Open Space	-	-	0.02
970	669129.0	4280415.0	Roadway/Open Space	-	-	0.02
971	669139.0	4280415.0	Roadway/Open Space	-	-	0.02
972	669149.0	4280415.0	Roadway/Open Space	-	-	0.02
973	669159.0	4280415.0	Roadway/Open Space	-	-	0.02
974	669169.0	4280415.0	Roadway/Open Space	-	-	0.02
975	669179.0	4280415.0	Roadway/Open Space	-	-	0.02
976	669189.0	4280415.0	Roadway/Open Space	-	-	0.02
977	669199.0	4280415.0	Roadway/Open Space	-	-	0.02
978	669209.0	4280415.0	Roadway/Open Space	-	-	0.02
979	669219.0	4280415.0	Roadway/Open Space	-	-	0.02
980	669229.0	4280415.0	Roadway/Open Space	-	-	0.02
981	669239.0	4280415.0	Roadway/Open Space	-	-	0.02
982	669249.0	4280415.0	Roadway/Open Space	-	-	0.02
983	669259.0	4280415.0	Roadway/Open Space	-	-	0.02
984	669269.0	4280415.0	Roadway/Open Space	-	-	0.02
985	669279.0	4280415.0	Roadway/Open Space	-	-	0.02
986	669289.0	4280415.0	Roadway/Open Space	-	-	0.02
987	669299.0	4280415.0	Roadway/Open Space	-	-	0.02
988	669309.0	4280415.0	Roadway/Open Space	-	-	0.02
989	669319.0	4280415.0	Roadway/Open Space	-	-	0.02
990	669329.0	4280415.0	Roadway/Open Space	-	-	0.02
991	669339.0	4280415.0	Roadway/Open Space	-	-	0.02
992	669349.0	4280415.0	Roadway/Open Space	-	-	0.02
993	669359.0	4280415.0	Roadway/Open Space	-	-	0.02
994	669369.0	4280415.0	Roadway/Open Space	-	-	0.02
995	669379.0	4280415.0	Roadway/Open Space	-	-	0.02
996	669389.0	4280415.0	Roadway/Open Space	-	-	0.02
997	669399.0	4280415.0	Roadway/Open Space	-	-	0.02
998	668699.0	4280425.0	Roadway/Open Space	-	-	0.02
999	668709.0	4280425.0	Roadway/Open Space	-	-	0.02
1000	668719.0	4280425.0	Roadway/Open Space	-	-	0.02
1001	668729.0	4280425.0	Roadway/Open Space	-	-	0.02
1002	668739.0	4280425.0	Roadway/Open Space	-	-	0.02
1003	668749.0	4280425.0	Roadway/Open Space	-	-	0.02
1004	668759.0	4280425.0	Roadway/Open Space	-	-	0.02
1005	668769.0	4280425.0	Roadway/Open Space	-	-	0.02
1006	668779.0	4280425.0	Roadway/Open Space	-	-	0.02
1007	668789.0	4280425.0	Roadway/Open Space	-	-	0.02
1008	668799.0	4280425.0	Roadway/Open Space	-	-	0.02

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
1009	668809.0	4280425.0	Roadway/Open Space	-	-	0.02
1010	668819.0	4280425.0	Roadway/Open Space	-	-	0.02
1011	668829.0	4280425.0	Roadway/Open Space	-	-	0.02
1012	668839.0	4280425.0	Roadway/Open Space	-	-	0.02
1013	668849.0	4280425.0	Roadway/Open Space	-	-	0.02
1014	668859.0	4280425.0	Roadway/Open Space	-	-	0.02
1015	668869.0	4280425.0	Roadway/Open Space	-	-	0.02
1016	668879.0	4280425.0	Roadway/Open Space	-	-	0.02
1017	668889.0	4280425.0	Roadway/Open Space	-	-	0.02
1018	668899.0	4280425.0	Roadway/Open Space	-	-	0.02
1019	668909.0	4280425.0	Roadway/Open Space	-	-	0.02
1020	668919.0	4280425.0	Roadway/Open Space	-	-	0.02
1021	668929.0	4280425.0	Roadway/Open Space	-	-	0.02
1022	668939.0	4280425.0	Roadway/Open Space	-	-	0.02
1023	668949.0	4280425.0	Roadway/Open Space	-	-	0.02
1024	668959.0	4280425.0	Roadway/Open Space	-	-	0.02
1025	668969.0	4280425.0	Roadway/Open Space	-	-	0.02
1026	668979.0	4280425.0	Roadway/Open Space	-	-	0.02
1027	668989.0	4280425.0	Roadway/Open Space	-	-	0.02
1028	668999.0	4280425.0	Roadway/Open Space	-	-	0.02
1029	669009.0	4280425.0	Roadway/Open Space	-	-	0.02
1030	669019.0	4280425.0	Roadway/Open Space	-	-	0.02
1031	669029.0	4280425.0	Roadway/Open Space	-	-	0.02
1032	669039.0	4280425.0	Roadway/Open Space	-	-	0.02
1033	669049.0	4280425.0	Roadway/Open Space	-	-	0.02
1034	669059.0	4280425.0	Roadway/Open Space	-	-	0.02
1035	669069.0	4280425.0	Roadway/Open Space	-	-	0.02
1036	669079.0	4280425.0	Roadway/Open Space	-	-	0.02
1037	669089.0	4280425.0	Roadway/Open Space	-	-	0.02
1038	669099.0	4280425.0	Roadway/Open Space	-	-	0.02
1039	669109.0	4280425.0	Roadway/Open Space	-	-	0.02
1040	669119.0	4280425.0	Roadway/Open Space	-	-	0.02
1041	669129.0	4280425.0	Roadway/Open Space	-	-	0.02
1042	669139.0	4280425.0	Roadway/Open Space	-	-	0.02
1043	669149.0	4280425.0	Roadway/Open Space	-	-	0.02
1044	669159.0	4280425.0	Roadway/Open Space	-	-	0.02
1045	669169.0	4280425.0	Roadway/Open Space	-	-	0.02
1046	669179.0	4280425.0	Roadway/Open Space	-	-	0.02
1047	669189.0	4280425.0	Roadway/Open Space	-	-	0.02
1048	669199.0	4280425.0	Roadway/Open Space	-	-	0.02
1049	669209.0	4280425.0	Roadway/Open Space	-	-	0.02
1050	669219.0	4280425.0	Roadway/Open Space	-	-	0.02
1051	669229.0	4280425.0	Roadway/Open Space	-	-	0.02
1052	669239.0	4280425.0	Roadway/Open Space	-	-	0.02
1053	669249.0	4280425.0	Roadway/Open Space	-	-	0.02
1054	669259.0	4280425.0	Roadway/Open Space	-	-	0.02
1055	669269.0	4280425.0	Roadway/Open Space	-	-	0.02
1056	669279.0	4280425.0	Roadway/Open Space	-	-	0.02
1057	669289.0	4280425.0	Roadway/Open Space	-	-	0.02
1058	669299.0	4280425.0	Roadway/Open Space	-	-	0.02
1059	669309.0	4280425.0	Roadway/Open Space	-	-	0.02
1060	669319.0	4280425.0	Roadway/Open Space	-	-	0.02
1061	669329.0	4280425.0	Roadway/Open Space	-	-	0.02
1062	669339.0	4280425.0	Roadway/Open Space	-	-	0.02
1063	669349.0	4280425.0	Roadway/Open Space	-	-	0.02
1064	669359.0	4280425.0	Roadway/Open Space	-	-	0.02
1065	669369.0	4280425.0	Roadway/Open Space	-	-	0.02
1066	669379.0	4280425.0	Roadway/Open Space	-	-	0.02
1067	669389.0	4280425.0	Roadway/Open Space	-	-	0.02
1068	669399.0	4280425.0	Roadway/Open Space	-	-	0.02
1069	669409.0	4280425.0	Roadway/Open Space	-	-	0.02
1070	669419.0	4280425.0	Roadway/Open Space	-	-	0.02
1071	668689.0	4280435.0	Roadway/Open Space	-	-	0.02
1072	668699.0	4280435.0	Roadway/Open Space	-	-	0.02
1073	668709.0	4280435.0	Roadway/Open Space	-	-	0.02
1074	668719.0	4280435.0	Roadway/Open Space	-	-	0.02
1075	668729.0	4280435.0	Roadway/Open Space	-	-	0.02
1076	668739.0	4280435.0	Roadway/Open Space	-	-	0.02
1077	668749.0	4280435.0	Roadway/Open Space	-	-	0.02
1078	668759.0	4280435.0	Roadway/Open Space	-	-	0.02
1079	668769.0	4280435.0	Roadway/Open Space	-	-	0.02
1080	668779.0	4280435.0	Roadway/Open Space	-	-	0.02
1081	668789.0	4280435.0	Roadway/Open Space	-	-	0.02
1082	668799.0	4280435.0	Roadway/Open Space	-	-	0.02
1083	668809.0	4280435.0	Roadway/Open Space	-	-	0.02
1084	668819.0	4280435.0	Roadway/Open Space	-	-	0.02
1085	668829.0	4280435.0	Roadway/Open Space	-	-	0.02
1086	668839.0	4280435.0	Roadway/Open Space	-	-	0.02
1087	668849.0	4280435.0	Roadway/Open Space	-	-	0.02
1088	668859.0	4280435.0	Roadway/Open Space	-	-	0.02
1089	668869.0	4280435.0	Roadway/Open Space	-	-	0.02
1090	668879.0	4280435.0	Roadway/Open Space	-	-	0.02
1091	668889.0	4280435.0	Roadway/Open Space	-	-	0.02
1092	668899.0	4280435.0	Roadway/Open Space	-	-	0.02

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
1093	668909.0	4280435.0	Roadway/Open Space	-	-	0.02
1094	668919.0	4280435.0	Roadway/Open Space	-	-	0.02
1095	668929.0	4280435.0	Roadway/Open Space	-	-	0.02
1096	668939.0	4280435.0	Roadway/Open Space	-	-	0.02
1097	668949.0	4280435.0	Roadway/Open Space	-	-	0.02
1098	668959.0	4280435.0	Roadway/Open Space	-	-	0.02
1099	668969.0	4280435.0	Roadway/Open Space	-	-	0.02
1100	668979.0	4280435.0	Roadway/Open Space	-	-	0.02
1101	668989.0	4280435.0	Roadway/Open Space	-	-	0.02
1102	668999.0	4280435.0	Roadway/Open Space	-	-	0.02
1103	669009.0	4280435.0	Roadway/Open Space	-	-	0.02
1104	669019.0	4280435.0	Roadway/Open Space	-	-	0.02
1105	669029.0	4280435.0	Roadway/Open Space	-	-	0.02
1106	669039.0	4280435.0	Roadway/Open Space	-	-	0.02
1107	669049.0	4280435.0	Roadway/Open Space	-	-	0.02
1108	669059.0	4280435.0	Roadway/Open Space	-	-	0.02
1109	669069.0	4280435.0	Roadway/Open Space	-	-	0.02
1110	669079.0	4280435.0	Roadway/Open Space	-	-	0.02
1111	669089.0	4280435.0	Roadway/Open Space	-	-	0.02
1112	669099.0	4280435.0	Roadway/Open Space	-	-	0.02
1113	669109.0	4280435.0	Roadway/Open Space	-	-	0.02
1114	669119.0	4280435.0	Roadway/Open Space	-	-	0.02
1115	669129.0	4280435.0	Roadway/Open Space	-	-	0.02
1116	669139.0	4280435.0	Roadway/Open Space	-	-	0.02
1117	669149.0	4280435.0	Roadway/Open Space	-	-	0.02
1118	669159.0	4280435.0	Roadway/Open Space	-	-	0.02
1119	669169.0	4280435.0	Roadway/Open Space	-	-	0.02
1120	669179.0	4280435.0	Roadway/Open Space	-	-	0.02
1121	669189.0	4280435.0	Roadway/Open Space	-	-	0.02
1122	669199.0	4280435.0	Roadway/Open Space	-	-	0.02
1123	669209.0	4280435.0	Roadway/Open Space	-	-	0.02
1124	669219.0	4280435.0	Roadway/Open Space	-	-	0.02
1125	669229.0	4280435.0	Roadway/Open Space	-	-	0.02
1126	669239.0	4280435.0	Roadway/Open Space	-	-	0.02
1127	669249.0	4280435.0	Roadway/Open Space	-	-	0.02
1128	669259.0	4280435.0	Roadway/Open Space	-	-	0.02
1129	669269.0	4280435.0	Roadway/Open Space	-	-	0.02
1130	669279.0	4280435.0	Roadway/Open Space	-	-	0.02
1131	669289.0	4280435.0	Roadway/Open Space	-	-	0.02
1132	669299.0	4280435.0	Roadway/Open Space	-	-	0.02
1133	669309.0	4280435.0	Roadway/Open Space	-	-	0.02
1134	669319.0	4280435.0	Roadway/Open Space	-	-	0.02
1135	669329.0	4280435.0	Roadway/Open Space	-	-	0.02
1136	669339.0	4280435.0	Roadway/Open Space	-	-	0.02
1137	669349.0	4280435.0	Roadway/Open Space	-	-	0.02
1138	669359.0	4280435.0	Roadway/Open Space	-	-	0.02
1139	669369.0	4280435.0	Roadway/Open Space	-	-	0.02
1140	669379.0	4280435.0	Roadway/Open Space	-	-	0.02
1141	669389.0	4280435.0	Roadway/Open Space	-	-	0.02
1142	669399.0	4280435.0	Roadway/Open Space	-	-	0.02
1143	669409.0	4280435.0	Roadway/Open Space	-	-	0.02
1144	669419.0	4280435.0	Roadway/Open Space	-	-	0.02
1145	669429.0	4280435.0	Roadway/Open Space	-	-	0.02
1146	669439.0	4280435.0	Roadway/Open Space	-	-	0.01
1147	668689.0	4280445.0	Roadway/Open Space	-	-	0.02
1148	668699.0	4280445.0	Roadway/Open Space	-	-	0.02
1149	668709.0	4280445.0	Roadway/Open Space	-	-	0.02
1150	668719.0	4280445.0	Roadway/Open Space	-	-	0.02
1151	668729.0	4280445.0	Roadway/Open Space	-	-	0.02
1152	668739.0	4280445.0	Roadway/Open Space	-	-	0.02
1153	668749.0	4280445.0	Roadway/Open Space	-	-	0.02
1154	668759.0	4280445.0	Roadway/Open Space	-	-	0.02
1155	668769.0	4280445.0	Roadway/Open Space	-	-	0.02
1156	668779.0	4280445.0	Roadway/Open Space	-	-	0.02
1157	668789.0	4280445.0	Roadway/Open Space	-	-	0.02
1158	668799.0	4280445.0	Roadway/Open Space	-	-	0.02
1159	668809.0	4280445.0	Roadway/Open Space	-	-	0.02
1160	668819.0	4280445.0	Roadway/Open Space	-	-	0.02
1161	668829.0	4280445.0	Roadway/Open Space	-	-	0.02
1162	668839.0	4280445.0	Roadway/Open Space	-	-	0.02
1163	668849.0	4280445.0	Roadway/Open Space	-	-	0.02
1164	668859.0	4280445.0	Roadway/Open Space	-	-	0.02
1165	668869.0	4280445.0	Roadway/Open Space	-	-	0.02
1166	668879.0	4280445.0	Roadway/Open Space	-	-	0.02
1167	668889.0	4280445.0	Roadway/Open Space	-	-	0.02
1168	668899.0	4280445.0	Roadway/Open Space	-	-	0.02
1169	668909.0	4280445.0	Roadway/Open Space	-	-	0.02
1170	668919.0	4280445.0	Roadway/Open Space	-	-	0.02
1171	668929.0	4280445.0	Roadway/Open Space	-	-	0.02
1172	668939.0	4280445.0	Roadway/Open Space	-	-	0.02
1173	668949.0	4280445.0	Roadway/Open Space	-	-	0.02
1174	668959.0	4280445.0	Roadway/Open Space	-	-	0.02
1175	668969.0	4280445.0	Roadway/Open Space	-	-	0.02
1176	668979.0	4280445.0	Roadway/Open Space	-	-	0.02

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
1177	668989.0	4280445.0	Roadway/Open Space	-	-	0.02
1178	668999.0	4280445.0	Roadway/Open Space	-	-	0.02
1179	669009.0	4280445.0	Roadway/Open Space	-	-	0.02
1180	669019.0	4280445.0	Roadway/Open Space	-	-	0.02
1181	669029.0	4280445.0	Roadway/Open Space	-	-	0.02
1182	669039.0	4280445.0	Roadway/Open Space	-	-	0.02
1183	669049.0	4280445.0	Roadway/Open Space	-	-	0.02
1184	669059.0	4280445.0	Roadway/Open Space	-	-	0.02
1185	669069.0	4280445.0	Roadway/Open Space	-	-	0.02
1186	669079.0	4280445.0	Roadway/Open Space	-	-	0.02
1187	669089.0	4280445.0	Roadway/Open Space	-	-	0.02
1188	669099.0	4280445.0	Roadway/Open Space	-	-	0.02
1189	669109.0	4280445.0	Roadway/Open Space	-	-	0.02
1190	669119.0	4280445.0	Roadway/Open Space	-	-	0.02
1191	669129.0	4280445.0	Roadway/Open Space	-	-	0.02
1192	669139.0	4280445.0	Roadway/Open Space	-	-	0.02
1193	669149.0	4280445.0	Roadway/Open Space	-	-	0.02
1194	669159.0	4280445.0	Roadway/Open Space	-	-	0.02
1195	669169.0	4280445.0	Roadway/Open Space	-	-	0.02
1196	669179.0	4280445.0	Roadway/Open Space	-	-	0.02
1197	669189.0	4280445.0	Roadway/Open Space	-	-	0.02
1198	669199.0	4280445.0	Roadway/Open Space	-	-	0.02
1199	669209.0	4280445.0	Roadway/Open Space	-	-	0.02
1200	669219.0	4280445.0	Roadway/Open Space	-	-	0.02
1201	669229.0	4280445.0	Roadway/Open Space	-	-	0.02
1202	669239.0	4280445.0	Roadway/Open Space	-	-	0.02
1203	669249.0	4280445.0	Roadway/Open Space	-	-	0.02
1204	669259.0	4280445.0	Roadway/Open Space	-	-	0.02
1205	669269.0	4280445.0	Roadway/Open Space	-	-	0.02
1206	669279.0	4280445.0	Roadway/Open Space	-	-	0.02
1207	669289.0	4280445.0	Roadway/Open Space	-	-	0.02
1208	669299.0	4280445.0	Roadway/Open Space	-	-	0.02
1209	669309.0	4280445.0	Roadway/Open Space	-	-	0.02
1210	669319.0	4280445.0	Roadway/Open Space	-	-	0.02
1211	669329.0	4280445.0	Roadway/Open Space	-	-	0.02
1212	669339.0	4280445.0	Roadway/Open Space	-	-	0.02
1213	669349.0	4280445.0	Roadway/Open Space	-	-	0.02
1214	669359.0	4280445.0	Roadway/Open Space	-	-	0.02
1215	669369.0	4280445.0	Roadway/Open Space	-	-	0.02
1216	669379.0	4280445.0	Roadway/Open Space	-	-	0.02
1217	669389.0	4280445.0	Roadway/Open Space	-	-	0.02
1218	669399.0	4280445.0	Roadway/Open Space	-	-	0.02
1219	669409.0	4280445.0	Roadway/Open Space	-	-	0.02
1220	669419.0	4280445.0	Roadway/Open Space	-	-	0.02
1221	669429.0	4280445.0	Roadway/Open Space	-	-	0.02
1222	669439.0	4280445.0	Roadway/Open Space	-	-	0.01
1223	669449.0	4280445.0	Roadway/Open Space	-	-	0.01
1224	668679.0	4280455.0	Roadway/Open Space	-	-	0.02
1225	668689.0	4280455.0	Roadway/Open Space	-	-	0.02
1226	668699.0	4280455.0	Roadway/Open Space	-	-	0.02
1227	668709.0	4280455.0	Roadway/Open Space	-	-	0.02
1228	668719.0	4280455.0	Roadway/Open Space	-	-	0.02
1229	668729.0	4280455.0	Roadway/Open Space	-	-	0.02
1230	668739.0	4280455.0	Roadway/Open Space	-	-	0.02
1231	668749.0	4280455.0	Roadway/Open Space	-	-	0.02
1232	668759.0	4280455.0	Roadway/Open Space	-	-	0.02
1233	668769.0	4280455.0	Roadway/Open Space	-	-	0.02
1234	668779.0	4280455.0	Roadway/Open Space	-	-	0.02
1235	668789.0	4280455.0	Roadway/Open Space	-	-	0.02
1236	668799.0	4280455.0	Roadway/Open Space	-	-	0.02
1237	668809.0	4280455.0	Roadway/Open Space	-	-	0.02
1238	668819.0	4280455.0	Roadway/Open Space	-	-	0.02
1239	668829.0	4280455.0	Roadway/Open Space	-	-	0.02
1240	668839.0	4280455.0	Roadway/Open Space	-	-	0.02
1241	668849.0	4280455.0	Roadway/Open Space	-	-	0.02
1242	668859.0	4280455.0	Roadway/Open Space	-	-	0.02
1243	668869.0	4280455.0	Roadway/Open Space	-	-	0.02
1244	668879.0	4280455.0	Roadway/Open Space	-	-	0.02
1245	668889.0	4280455.0	Roadway/Open Space	-	-	0.02
1246	668899.0	4280455.0	Roadway/Open Space	-	-	0.02
1247	668909.0	4280455.0	Roadway/Open Space	-	-	0.02
1248	668919.0	4280455.0	Roadway/Open Space	-	-	0.02
1249	668929.0	4280455.0	Roadway/Open Space	-	-	0.02
1250	668939.0	4280455.0	Roadway/Open Space	-	-	0.02
1251	668949.0	4280455.0	Roadway/Open Space	-	-	0.02
1252	668959.0	4280455.0	Roadway/Open Space	-	-	0.02
1253	668969.0	4280455.0	Roadway/Open Space	-	-	0.02
1254	668979.0	4280455.0	Roadway/Open Space	-	-	0.02
1255	668989.0	4280455.0	Roadway/Open Space	-	-	0.02
1256	668999.0	4280455.0	Roadway/Open Space	-	-	0.02
1257	669009.0	4280455.0	Roadway/Open Space	-	-	0.02
1258	669019.0	4280455.0	Roadway/Open Space	-	-	0.02
1259	669029.0	4280455.0	Roadway/Open Space	-	-	0.02
1260	669039.0	4280455.0	Roadway/Open Space	-	-	0.02

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
1261	669049.0	4280455.0	Roadway/Open Space	-	-	0.02
1262	669059.0	4280455.0	Roadway/Open Space	-	-	0.02
1263	669069.0	4280455.0	Roadway/Open Space	-	-	0.02
1264	669079.0	4280455.0	Roadway/Open Space	-	-	0.02
1265	669089.0	4280455.0	Roadway/Open Space	-	-	0.02
1266	669099.0	4280455.0	Roadway/Open Space	-	-	0.02
1267	669109.0	4280455.0	Roadway/Open Space	-	-	0.02
1268	669119.0	4280455.0	Roadway/Open Space	-	-	0.02
1269	669129.0	4280455.0	Roadway/Open Space	-	-	0.02
1270	669139.0	4280455.0	Roadway/Open Space	-	-	0.02
1271	669149.0	4280455.0	Roadway/Open Space	-	-	0.02
1272	669159.0	4280455.0	Roadway/Open Space	-	-	0.02
1273	669169.0	4280455.0	Roadway/Open Space	-	-	0.02
1274	669179.0	4280455.0	Roadway/Open Space	-	-	0.02
1275	669189.0	4280455.0	Roadway/Open Space	-	-	0.02
1276	669199.0	4280455.0	Roadway/Open Space	-	-	0.02
1277	669209.0	4280455.0	Roadway/Open Space	-	-	0.02
1278	669219.0	4280455.0	Roadway/Open Space	-	-	0.02
1279	669229.0	4280455.0	Roadway/Open Space	-	-	0.02
1280	669239.0	4280455.0	Roadway/Open Space	-	-	0.02
1281	669249.0	4280455.0	Roadway/Open Space	-	-	0.02
1282	669259.0	4280455.0	Roadway/Open Space	-	-	0.02
1283	669269.0	4280455.0	Roadway/Open Space	-	-	0.02
1284	669279.0	4280455.0	Roadway/Open Space	-	-	0.02
1285	669289.0	4280455.0	Roadway/Open Space	-	-	0.02
1286	669299.0	4280455.0	Roadway/Open Space	-	-	0.02
1287	669309.0	4280455.0	Roadway/Open Space	-	-	0.02
1288	669319.0	4280455.0	Roadway/Open Space	-	-	0.02
1289	669329.0	4280455.0	Roadway/Open Space	-	-	0.02
1290	669339.0	4280455.0	Roadway/Open Space	-	-	0.02
1291	669349.0	4280455.0	Roadway/Open Space	-	-	0.02
1292	669359.0	4280455.0	Roadway/Open Space	-	-	0.02
1293	669369.0	4280455.0	Roadway/Open Space	-	-	0.02
1294	669379.0	4280455.0	Roadway/Open Space	-	-	0.02
1295	669389.0	4280455.0	Roadway/Open Space	-	-	0.02
1296	669399.0	4280455.0	Roadway/Open Space	-	-	0.02
1297	669409.0	4280455.0	Roadway/Open Space	-	-	0.02
1298	669419.0	4280455.0	Roadway/Open Space	-	-	0.02
1299	669429.0	4280455.0	Roadway/Open Space	-	-	0.02
1300	669439.0	4280455.0	Roadway/Open Space	-	-	0.01
1301	669449.0	4280455.0	Roadway/Open Space	-	-	0.01
1302	669459.0	4280455.0	Roadway/Open Space	-	-	0.01
1303	669469.0	4280455.0	Roadway/Open Space	-	-	0.01
1304	668669.0	4280465.0	Roadway/Open Space	-	-	0.02
1305	668679.0	4280465.0	Roadway/Open Space	-	-	0.02
1306	668689.0	4280465.0	Roadway/Open Space	-	-	0.02
1307	668699.0	4280465.0	Roadway/Open Space	-	-	0.02
1308	668709.0	4280465.0	Roadway/Open Space	-	-	0.02
1309	668719.0	4280465.0	Roadway/Open Space	-	-	0.02
1310	668729.0	4280465.0	Roadway/Open Space	-	-	0.02
1311	668739.0	4280465.0	Roadway/Open Space	-	-	0.02
1312	668749.0	4280465.0	Roadway/Open Space	-	-	0.02
1313	668759.0	4280465.0	Roadway/Open Space	-	-	0.02
1314	668769.0	4280465.0	Roadway/Open Space	-	-	0.02
1315	668779.0	4280465.0	Roadway/Open Space	-	-	0.02
1316	668789.0	4280465.0	Roadway/Open Space	-	-	0.02
1317	668799.0	4280465.0	Roadway/Open Space	-	-	0.02
1318	668809.0	4280465.0	Roadway/Open Space	-	-	0.02
1319	668819.0	4280465.0	Roadway/Open Space	-	-	0.02
1320	668829.0	4280465.0	Roadway/Open Space	-	-	0.02
1321	668839.0	4280465.0	Roadway/Open Space	-	-	0.02
1322	668849.0	4280465.0	Roadway/Open Space	-	-	0.02
1323	668859.0	4280465.0	Roadway/Open Space	-	-	0.02
1324	668869.0	4280465.0	Roadway/Open Space	-	-	0.02
1325	668879.0	4280465.0	Roadway/Open Space	-	-	0.02
1326	668889.0	4280465.0	Roadway/Open Space	-	-	0.02
1327	668899.0	4280465.0	Roadway/Open Space	-	-	0.02
1328	668909.0	4280465.0	Roadway/Open Space	-	-	0.02
1329	668919.0	4280465.0	Roadway/Open Space	-	-	0.02
1330	668929.0	4280465.0	Roadway/Open Space	-	-	0.02
1331	668939.0	4280465.0	Roadway/Open Space	-	-	0.02
1332	668949.0	4280465.0	Roadway/Open Space	-	-	0.02
1333	668959.0	4280465.0	Roadway/Open Space	-	-	0.02
1334	668969.0	4280465.0	Roadway/Open Space	-	-	0.02
1335	668979.0	4280465.0	Roadway/Open Space	-	-	0.02
1336	668989.0	4280465.0	Roadway/Open Space	-	-	0.02
1337	668999.0	4280465.0	Roadway/Open Space	-	-	0.02
1338	669009.0	4280465.0	Roadway/Open Space	-	-	0.02
1339	669019.0	4280465.0	Roadway/Open Space	-	-	0.02
1340	669029.0	4280465.0	Roadway/Open Space	-	-	0.02
1341	669039.0	4280465.0	Roadway/Open Space	-	-	0.02
1342	669049.0	4280465.0	Roadway/Open Space	-	-	0.02
1343	669059.0	4280465.0	Roadway/Open Space	-	-	0.02
1344	669069.0	4280465.0	Roadway/Open Space	-	-	0.02

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
1345	669079.0	4280465.0	Roadway/Open Space	-	-	0.02
1346	669089.0	4280465.0	Roadway/Open Space	-	-	0.02
1347	669099.0	4280465.0	Roadway/Open Space	-	-	0.02
1348	669109.0	4280465.0	Roadway/Open Space	-	-	0.02
1349	669119.0	4280465.0	Roadway/Open Space	-	-	0.02
1350	669129.0	4280465.0	Roadway/Open Space	-	-	0.02
1351	669139.0	4280465.0	Roadway/Open Space	-	-	0.02
1352	669149.0	4280465.0	Roadway/Open Space	-	-	0.02
1353	669159.0	4280465.0	Roadway/Open Space	-	-	0.02
1354	669169.0	4280465.0	Roadway/Open Space	-	-	0.02
1355	669179.0	4280465.0	Roadway/Open Space	-	-	0.02
1356	669189.0	4280465.0	Roadway/Open Space	-	-	0.02
1357	669199.0	4280465.0	Roadway/Open Space	-	-	0.02
1358	669209.0	4280465.0	Roadway/Open Space	-	-	0.02
1359	669219.0	4280465.0	Roadway/Open Space	-	-	0.02
1360	669229.0	4280465.0	Roadway/Open Space	-	-	0.02
1361	669239.0	4280465.0	Roadway/Open Space	-	-	0.02
1362	669249.0	4280465.0	Roadway/Open Space	-	-	0.02
1363	669259.0	4280465.0	Roadway/Open Space	-	-	0.02
1364	669269.0	4280465.0	Roadway/Open Space	-	-	0.02
1365	669279.0	4280465.0	Roadway/Open Space	-	-	0.02
1366	669289.0	4280465.0	Roadway/Open Space	-	-	0.02
1367	669299.0	4280465.0	Roadway/Open Space	-	-	0.02
1368	669309.0	4280465.0	Roadway/Open Space	-	-	0.02
1369	669319.0	4280465.0	Roadway/Open Space	-	-	0.02
1370	669329.0	4280465.0	Roadway/Open Space	-	-	0.02
1371	669339.0	4280465.0	Roadway/Open Space	-	-	0.02
1372	669349.0	4280465.0	Roadway/Open Space	-	-	0.02
1373	669359.0	4280465.0	Roadway/Open Space	-	-	0.02
1374	669369.0	4280465.0	Roadway/Open Space	-	-	0.02
1375	669379.0	4280465.0	Roadway/Open Space	-	-	0.02
1376	669389.0	4280465.0	Roadway/Open Space	-	-	0.02
1377	669399.0	4280465.0	Roadway/Open Space	-	-	0.02
1378	669409.0	4280465.0	Roadway/Open Space	-	-	0.02
1379	669419.0	4280465.0	Roadway/Open Space	-	-	0.02
1380	669429.0	4280465.0	Roadway/Open Space	-	-	0.02
1381	669439.0	4280465.0	Roadway/Open Space	-	-	0.02
1382	669449.0	4280465.0	Roadway/Open Space	-	-	0.01
1383	669459.0	4280465.0	Roadway/Open Space	-	-	0.01
1384	669469.0	4280465.0	Roadway/Open Space	-	-	0.01
1385	669479.0	4280465.0	Roadway/Open Space	-	-	0.01
1386	668669.0	4280475.0	Roadway/Open Space	-	-	0.02
1387	668679.0	4280475.0	Roadway/Open Space	-	-	0.02
1388	668689.0	4280475.0	Roadway/Open Space	-	-	0.02
1389	668699.0	4280475.0	Roadway/Open Space	-	-	0.02
1390	668709.0	4280475.0	Roadway/Open Space	-	-	0.02
1391	668719.0	4280475.0	Roadway/Open Space	-	-	0.02
1392	668729.0	4280475.0	Roadway/Open Space	-	-	0.02
1393	668739.0	4280475.0	Roadway/Open Space	-	-	0.02
1394	668749.0	4280475.0	Roadway/Open Space	-	-	0.02
1395	668759.0	4280475.0	Roadway/Open Space	-	-	0.02
1396	668769.0	4280475.0	Roadway/Open Space	-	-	0.02
1397	668779.0	4280475.0	Roadway/Open Space	-	-	0.02
1398	668789.0	4280475.0	Roadway/Open Space	-	-	0.02
1399	668799.0	4280475.0	Roadway/Open Space	-	-	0.02
1400	668809.0	4280475.0	Roadway/Open Space	-	-	0.02
1401	668819.0	4280475.0	Roadway/Open Space	-	-	0.02
1402	668829.0	4280475.0	Roadway/Open Space	-	-	0.02
1403	668839.0	4280475.0	Roadway/Open Space	-	-	0.02
1404	668849.0	4280475.0	Roadway/Open Space	-	-	0.02
1405	668859.0	4280475.0	Roadway/Open Space	-	-	0.02
1406	668869.0	4280475.0	Roadway/Open Space	-	-	0.02
1407	668879.0	4280475.0	Roadway/Open Space	-	-	0.02
1408	668889.0	4280475.0	Roadway/Open Space	-	-	0.02
1409	668899.0	4280475.0	Roadway/Open Space	-	-	0.02
1410	668909.0	4280475.0	Roadway/Open Space	-	-	0.02
1411	668919.0	4280475.0	Roadway/Open Space	-	-	0.02
1412	668929.0	4280475.0	Roadway/Open Space	-	-	0.02
1413	668939.0	4280475.0	Roadway/Open Space	-	-	0.02
1414	668949.0	4280475.0	Roadway/Open Space	-	-	0.02
1415	668959.0	4280475.0	Roadway/Open Space	-	-	0.02
1416	668969.0	4280475.0	Roadway/Open Space	-	-	0.02
1417	668979.0	4280475.0	Roadway/Open Space	-	-	0.02
1418	668989.0	4280475.0	Roadway/Open Space	-	-	0.02
1419	668999.0	4280475.0	Roadway/Open Space	-	-	0.02
1420	669009.0	4280475.0	Roadway/Open Space	-	-	0.02
1421	669019.0	4280475.0	Roadway/Open Space	-	-	0.02
1422	669029.0	4280475.0	Roadway/Open Space	-	-	0.02
1423	669039.0	4280475.0	Roadway/Open Space	-	-	0.02
1424	669049.0	4280475.0	Roadway/Open Space	-	-	0.02
1425	669059.0	4280475.0	Roadway/Open Space	-	-	0.02
1426	669069.0	4280475.0	Roadway/Open Space	-	-	0.02
1427	669079.0	4280475.0	Roadway/Open Space	-	-	0.02
1428	669089.0	4280475.0	Roadway/Open Space	-	-	0.02

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
1429	669099.0	4280475.0	Roadway/Open Space	-	-	0.02
1430	669109.0	4280475.0	Roadway/Open Space	-	-	0.02
1431	669119.0	4280475.0	Roadway/Open Space	-	-	0.02
1432	669129.0	4280475.0	Roadway/Open Space	-	-	0.02
1433	669139.0	4280475.0	Roadway/Open Space	-	-	0.02
1434	669149.0	4280475.0	Roadway/Open Space	-	-	0.02
1435	669159.0	4280475.0	Roadway/Open Space	-	-	0.02
1436	669169.0	4280475.0	Roadway/Open Space	-	-	0.02
1437	669179.0	4280475.0	Roadway/Open Space	-	-	0.02
1438	669189.0	4280475.0	Roadway/Open Space	-	-	0.02
1439	669199.0	4280475.0	Roadway/Open Space	-	-	0.02
1440	669209.0	4280475.0	Roadway/Open Space	-	-	0.02
1441	669219.0	4280475.0	Roadway/Open Space	-	-	0.02
1442	669229.0	4280475.0	Roadway/Open Space	-	-	0.02
1443	669239.0	4280475.0	Roadway/Open Space	-	-	0.02
1444	669249.0	4280475.0	Roadway/Open Space	-	-	0.02
1445	669259.0	4280475.0	Roadway/Open Space	-	-	0.02
1446	669269.0	4280475.0	Roadway/Open Space	-	-	0.02
1447	669279.0	4280475.0	Roadway/Open Space	-	-	0.02
1448	669289.0	4280475.0	Roadway/Open Space	-	-	0.02
1449	669299.0	4280475.0	Roadway/Open Space	-	-	0.02
1450	669309.0	4280475.0	Roadway/Open Space	-	-	0.02
1451	669319.0	4280475.0	Roadway/Open Space	-	-	0.02
1452	669329.0	4280475.0	Roadway/Open Space	-	-	0.02
1453	669339.0	4280475.0	Roadway/Open Space	-	-	0.02
1454	669349.0	4280475.0	Roadway/Open Space	-	-	0.02
1455	669359.0	4280475.0	Roadway/Open Space	-	-	0.02
1456	669369.0	4280475.0	Roadway/Open Space	-	-	0.02
1457	669379.0	4280475.0	Roadway/Open Space	-	-	0.02
1458	669389.0	4280475.0	Roadway/Open Space	-	-	0.02
1459	669399.0	4280475.0	Roadway/Open Space	-	-	0.02
1460	669409.0	4280475.0	Roadway/Open Space	-	-	0.02
1461	669419.0	4280475.0	Roadway/Open Space	-	-	0.02
1462	669429.0	4280475.0	Roadway/Open Space	-	-	0.02
1463	669439.0	4280475.0	Roadway/Open Space	-	-	0.02
1464	669449.0	4280475.0	Roadway/Open Space	-	-	0.01
1465	669459.0	4280475.0	Roadway/Open Space	-	-	0.01
1466	669469.0	4280475.0	Roadway/Open Space	-	-	0.01
1467	669479.0	4280475.0	Roadway/Open Space	-	-	0.01
1468	669489.0	4280475.0	Roadway/Open Space	-	-	0.02
1469	668659.0	4280485.0	Roadway/Open Space	-	-	0.02
1470	668669.0	4280485.0	Roadway/Open Space	-	-	0.02
1471	668679.0	4280485.0	Roadway/Open Space	-	-	0.02
1472	668689.0	4280485.0	Roadway/Open Space	-	-	0.02
1473	668699.0	4280485.0	Roadway/Open Space	-	-	0.02
1474	668709.0	4280485.0	Roadway/Open Space	-	-	0.02
1475	668719.0	4280485.0	Roadway/Open Space	-	-	0.02
1476	668729.0	4280485.0	Roadway/Open Space	-	-	0.02
1477	668739.0	4280485.0	Roadway/Open Space	-	-	0.02
1478	668749.0	4280485.0	Roadway/Open Space	-	-	0.02
1479	668759.0	4280485.0	Roadway/Open Space	-	-	0.02
1480	668769.0	4280485.0	Roadway/Open Space	-	-	0.02
1481	668779.0	4280485.0	Roadway/Open Space	-	-	0.02
1482	668789.0	4280485.0	Roadway/Open Space	-	-	0.02
1483	668799.0	4280485.0	Roadway/Open Space	-	-	0.02
1484	668809.0	4280485.0	Roadway/Open Space	-	-	0.02
1485	668819.0	4280485.0	Roadway/Open Space	-	-	0.02
1486	668829.0	4280485.0	Roadway/Open Space	-	-	0.02
1487	668839.0	4280485.0	Roadway/Open Space	-	-	0.02
1488	668849.0	4280485.0	Roadway/Open Space	-	-	0.02
1489	668859.0	4280485.0	Roadway/Open Space	-	-	0.02
1490	668869.0	4280485.0	Roadway/Open Space	-	-	0.02
1491	668879.0	4280485.0	Roadway/Open Space	-	-	0.02
1492	668889.0	4280485.0	Roadway/Open Space	-	-	0.02
1493	668899.0	4280485.0	Roadway/Open Space	-	-	0.02
1494	668909.0	4280485.0	Roadway/Open Space	-	-	0.02
1495	668919.0	4280485.0	Roadway/Open Space	-	-	0.02
1496	668929.0	4280485.0	Roadway/Open Space	-	-	0.02
1497	668939.0	4280485.0	Roadway/Open Space	-	-	0.02
1498	668949.0	4280485.0	Roadway/Open Space	-	-	0.02
1499	668959.0	4280485.0	Roadway/Open Space	-	-	0.02
1500	668969.0	4280485.0	Roadway/Open Space	-	-	0.02
1501	668979.0	4280485.0	Roadway/Open Space	-	-	0.02
1502	668989.0	4280485.0	Roadway/Open Space	-	-	0.02
1503	668999.0	4280485.0	Roadway/Open Space	-	-	0.02
1504	669009.0	4280485.0	Roadway/Open Space	-	-	0.02
1505	669019.0	4280485.0	Roadway/Open Space	-	-	0.02
1506	669029.0	4280485.0	Roadway/Open Space	-	-	0.02
1507	669039.0	4280485.0	Roadway/Open Space	-	-	0.02
1508	669049.0	4280485.0	Roadway/Open Space	-	-	0.02
1509	669059.0	4280485.0	Roadway/Open Space	-	-	0.02
1510	669069.0	4280485.0	Roadway/Open Space	-	-	0.02
1511	669079.0	4280485.0	Roadway/Open Space	-	-	0.02
1512	669089.0	4280485.0	Roadway/Open Space	-	-	0.02

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
1513	669099.0	4280485.0	Roadway/Open Space	-	-	0.02
1514	669109.0	4280485.0	Roadway/Open Space	-	-	0.02
1515	669119.0	4280485.0	Roadway/Open Space	-	-	0.02
1516	669129.0	4280485.0	Roadway/Open Space	-	-	0.02
1517	669139.0	4280485.0	Roadway/Open Space	-	-	0.02
1518	669149.0	4280485.0	Roadway/Open Space	-	-	0.02
1519	669159.0	4280485.0	Roadway/Open Space	-	-	0.02
1520	669169.0	4280485.0	Roadway/Open Space	-	-	0.02
1521	669179.0	4280485.0	Roadway/Open Space	-	-	0.02
1522	669189.0	4280485.0	Roadway/Open Space	-	-	0.02
1523	669199.0	4280485.0	Roadway/Open Space	-	-	0.02
1524	669209.0	4280485.0	Roadway/Open Space	-	-	0.02
1525	669219.0	4280485.0	Roadway/Open Space	-	-	0.02
1526	669229.0	4280485.0	Roadway/Open Space	-	-	0.02
1527	669239.0	4280485.0	Roadway/Open Space	-	-	0.02
1528	669249.0	4280485.0	Roadway/Open Space	-	-	0.02
1529	669259.0	4280485.0	Roadway/Open Space	-	-	0.02
1530	669269.0	4280485.0	Roadway/Open Space	-	-	0.02
1531	669279.0	4280485.0	Roadway/Open Space	-	-	0.02
1532	669289.0	4280485.0	Roadway/Open Space	-	-	0.02
1533	669299.0	4280485.0	Roadway/Open Space	-	-	0.02
1534	669309.0	4280485.0	Roadway/Open Space	-	-	0.02
1535	669319.0	4280485.0	Roadway/Open Space	-	-	0.02
1536	669329.0	4280485.0	Roadway/Open Space	-	-	0.02
1537	669339.0	4280485.0	Roadway/Open Space	-	-	0.02
1538	669349.0	4280485.0	Roadway/Open Space	-	-	0.02
1539	669359.0	4280485.0	Roadway/Open Space	-	-	0.02
1540	669369.0	4280485.0	Roadway/Open Space	-	-	0.02
1541	669379.0	4280485.0	Roadway/Open Space	-	-	0.02
1542	669389.0	4280485.0	Roadway/Open Space	-	-	0.02
1543	669399.0	4280485.0	Roadway/Open Space	-	-	0.02
1544	669409.0	4280485.0	Roadway/Open Space	-	-	0.02
1545	669419.0	4280485.0	Roadway/Open Space	-	-	0.02
1546	669429.0	4280485.0	Roadway/Open Space	-	-	0.02
1547	669439.0	4280485.0	Roadway/Open Space	-	-	0.02
1548	669449.0	4280485.0	Roadway/Open Space	-	-	0.02
1549	669459.0	4280485.0	Roadway/Open Space	-	-	0.02
1550	669469.0	4280485.0	Roadway/Open Space	-	-	0.01
1551	669479.0	4280485.0	Roadway/Open Space	-	-	0.02
1552	669489.0	4280485.0	Roadway/Open Space	-	-	0.02
1553	669499.0	4280485.0	Roadway/Open Space	-	-	0.02
1554	668659.0	4280495.0	Roadway/Open Space	-	-	0.02
1555	668669.0	4280495.0	Roadway/Open Space	-	-	0.02
1556	668679.0	4280495.0	Roadway/Open Space	-	-	0.02
1557	668689.0	4280495.0	Roadway/Open Space	-	-	0.02
1558	668699.0	4280495.0	Roadway/Open Space	-	-	0.02
1559	668709.0	4280495.0	Roadway/Open Space	-	-	0.02
1560	668719.0	4280495.0	Roadway/Open Space	-	-	0.02
1561	668729.0	4280495.0	Roadway/Open Space	-	-	0.02
1562	668739.0	4280495.0	Roadway/Open Space	-	-	0.02
1563	668749.0	4280495.0	Roadway/Open Space	-	-	0.02
1564	668759.0	4280495.0	Roadway/Open Space	-	-	0.02
1565	668769.0	4280495.0	Roadway/Open Space	-	-	0.02
1566	668779.0	4280495.0	Roadway/Open Space	-	-	0.02
1567	668789.0	4280495.0	Roadway/Open Space	-	-	0.02
1568	668799.0	4280495.0	Roadway/Open Space	-	-	0.02
1569	668809.0	4280495.0	Roadway/Open Space	-	-	0.02
1570	668819.0	4280495.0	Roadway/Open Space	-	-	0.02
1571	668829.0	4280495.0	Roadway/Open Space	-	-	0.02
1572	668839.0	4280495.0	Roadway/Open Space	-	-	0.02
1573	668849.0	4280495.0	Roadway/Open Space	-	-	0.02
1574	668859.0	4280495.0	Roadway/Open Space	-	-	0.02
1575	668869.0	4280495.0	Roadway/Open Space	-	-	0.02
1576	668879.0	4280495.0	Roadway/Open Space	-	-	0.02
1577	668889.0	4280495.0	Roadway/Open Space	-	-	0.02
1578	668899.0	4280495.0	Roadway/Open Space	-	-	0.02
1579	668909.0	4280495.0	Roadway/Open Space	-	-	0.02
1580	668919.0	4280495.0	Roadway/Open Space	-	-	0.02
1581	668929.0	4280495.0	Roadway/Open Space	-	-	0.02
1582	668939.0	4280495.0	Roadway/Open Space	-	-	0.02
1583	668949.0	4280495.0	Roadway/Open Space	-	-	0.02
1584	668959.0	4280495.0	Roadway/Open Space	-	-	0.02
1585	668969.0	4280495.0	Roadway/Open Space	-	-	0.02
1586	668979.0	4280495.0	Roadway/Open Space	-	-	0.02
1587	668989.0	4280495.0	Roadway/Open Space	-	-	0.02
1588	668999.0	4280495.0	Roadway/Open Space	-	-	0.02
1589	669009.0	4280495.0	Roadway/Open Space	-	-	0.02
1590	669019.0	4280495.0	Roadway/Open Space	-	-	0.02
1591	669029.0	4280495.0	Roadway/Open Space	-	-	0.02
1592	669039.0	4280495.0	Roadway/Open Space	-	-	0.02
1593	669049.0	4280495.0	Roadway/Open Space	-	-	0.02
1594	669059.0	4280495.0	Roadway/Open Space	-	-	0.02
1595	669069.0	4280495.0	Roadway/Open Space	-	-	0.02
1596	669079.0	4280495.0	Roadway/Open Space	-	-	0.02

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
1597	669089.0	4280495.0	Roadway/Open Space	-	-	0.02
1598	669099.0	4280495.0	Roadway/Open Space	-	-	0.02
1599	669109.0	4280495.0	Roadway/Open Space	-	-	0.02
1600	669119.0	4280495.0	Roadway/Open Space	-	-	0.02
1601	669129.0	4280495.0	Roadway/Open Space	-	-	0.02
1602	669139.0	4280495.0	Roadway/Open Space	-	-	0.02
1603	669149.0	4280495.0	Roadway/Open Space	-	-	0.02
1604	669159.0	4280495.0	Roadway/Open Space	-	-	0.02
1605	669169.0	4280495.0	Roadway/Open Space	-	-	0.02
1606	669179.0	4280495.0	Roadway/Open Space	-	-	0.02
1607	669189.0	4280495.0	Roadway/Open Space	-	-	0.02
1608	669199.0	4280495.0	Roadway/Open Space	-	-	0.02
1609	669209.0	4280495.0	Roadway/Open Space	-	-	0.02
1610	669219.0	4280495.0	Roadway/Open Space	-	-	0.02
1611	669229.0	4280495.0	Roadway/Open Space	-	-	0.02
1612	669239.0	4280495.0	Roadway/Open Space	-	-	0.02
1613	669249.0	4280495.0	Roadway/Open Space	-	-	0.02
1614	669259.0	4280495.0	Roadway/Open Space	-	-	0.02
1615	669269.0	4280495.0	Roadway/Open Space	-	-	0.02
1616	669279.0	4280495.0	Roadway/Open Space	-	-	0.02
1617	669289.0	4280495.0	Roadway/Open Space	-	-	0.02
1618	669299.0	4280495.0	Roadway/Open Space	-	-	0.02
1619	669309.0	4280495.0	Roadway/Open Space	-	-	0.02
1620	669319.0	4280495.0	Roadway/Open Space	-	-	0.02
1621	669329.0	4280495.0	Roadway/Open Space	-	-	0.02
1622	669339.0	4280495.0	Roadway/Open Space	-	-	0.02
1623	669349.0	4280495.0	Roadway/Open Space	-	-	0.02
1624	669359.0	4280495.0	Roadway/Open Space	-	-	0.02
1625	669369.0	4280495.0	Roadway/Open Space	-	-	0.02
1626	669379.0	4280495.0	Roadway/Open Space	-	-	0.02
1627	669389.0	4280495.0	Roadway/Open Space	-	-	0.02
1628	669399.0	4280495.0	Roadway/Open Space	-	-	0.02
1629	669409.0	4280495.0	Roadway/Open Space	-	-	0.02
1630	669419.0	4280495.0	Roadway/Open Space	-	-	0.02
1631	669429.0	4280495.0	Roadway/Open Space	-	-	0.02
1632	669439.0	4280495.0	Roadway/Open Space	-	-	0.02
1633	669449.0	4280495.0	Roadway/Open Space	-	-	0.02
1634	669459.0	4280495.0	Roadway/Open Space	-	-	0.02
1635	669469.0	4280495.0	Roadway/Open Space	-	-	0.02
1636	669479.0	4280495.0	Roadway/Open Space	-	-	0.02
1637	669489.0	4280495.0	Roadway/Open Space	-	-	0.02
1638	669499.0	4280495.0	Roadway/Open Space	-	-	0.02
1639	669509.0	4280495.0	Roadway/Open Space	-	-	0.02
1640	668649.0	4280505.0	Roadway/Open Space	-	-	0.02
1641	668659.0	4280505.0	Roadway/Open Space	-	-	0.02
1642	668669.0	4280505.0	Roadway/Open Space	-	-	0.02
1643	668679.0	4280505.0	Roadway/Open Space	-	-	0.02
1644	668689.0	4280505.0	Roadway/Open Space	-	-	0.02
1645	668699.0	4280505.0	Roadway/Open Space	-	-	0.02
1646	668709.0	4280505.0	Roadway/Open Space	-	-	0.02
1647	668719.0	4280505.0	Roadway/Open Space	-	-	0.02
1648	668729.0	4280505.0	Roadway/Open Space	-	-	0.02
1649	668739.0	4280505.0	Roadway/Open Space	-	-	0.02
1650	668749.0	4280505.0	Roadway/Open Space	-	-	0.02
1651	668759.0	4280505.0	Roadway/Open Space	-	-	0.02
1652	668769.0	4280505.0	Roadway/Open Space	-	-	0.02
1653	668779.0	4280505.0	Roadway/Open Space	-	-	0.02
1654	668789.0	4280505.0	Roadway/Open Space	-	-	0.02
1655	668799.0	4280505.0	Roadway/Open Space	-	-	0.02
1656	668809.0	4280505.0	Roadway/Open Space	-	-	0.02
1657	668819.0	4280505.0	Roadway/Open Space	-	-	0.02
1658	668829.0	4280505.0	Roadway/Open Space	-	-	0.02
1659	668839.0	4280505.0	Roadway/Open Space	-	-	0.02
1660	668849.0	4280505.0	Roadway/Open Space	-	-	0.02
1661	668859.0	4280505.0	Roadway/Open Space	-	-	0.02
1662	668869.0	4280505.0	Roadway/Open Space	-	-	0.02
1663	668879.0	4280505.0	Roadway/Open Space	-	-	0.02
1664	668889.0	4280505.0	Roadway/Open Space	-	-	0.02
1665	668899.0	4280505.0	Roadway/Open Space	-	-	0.02
1666	668909.0	4280505.0	Roadway/Open Space	-	-	0.02
1667	668919.0	4280505.0	Roadway/Open Space	-	-	0.02
1668	668929.0	4280505.0	Roadway/Open Space	-	-	0.02
1669	668939.0	4280505.0	Roadway/Open Space	-	-	0.02
1670	668949.0	4280505.0	Roadway/Open Space	-	-	0.02
1671	668959.0	4280505.0	Roadway/Open Space	-	-	0.02
1672	668969.0	4280505.0	Roadway/Open Space	-	-	0.02
1673	668979.0	4280505.0	Roadway/Open Space	-	-	0.02
1674	668989.0	4280505.0	Roadway/Open Space	-	-	0.02
1675	668999.0	4280505.0	Roadway/Open Space	-	-	0.02
1676	669009.0	4280505.0	Roadway/Open Space	-	-	0.02
1677	669019.0	4280505.0	Roadway/Open Space	-	-	0.02
1678	669029.0	4280505.0	Roadway/Open Space	-	-	0.02
1679	669039.0	4280505.0	Roadway/Open Space	-	-	0.02
1680	669049.0	4280505.0	Roadway/Open Space	-	-	0.02

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
1681	669059.0	4280505.0	Roadway/Open Space	-	-	0.02
1682	669069.0	4280505.0	Roadway/Open Space	-	-	0.02
1683	669079.0	4280505.0	Roadway/Open Space	-	-	0.02
1684	669089.0	4280505.0	Roadway/Open Space	-	-	0.02
1685	669099.0	4280505.0	Roadway/Open Space	-	-	0.02
1686	669109.0	4280505.0	Roadway/Open Space	-	-	0.02
1687	669119.0	4280505.0	Roadway/Open Space	-	-	0.02
1688	669129.0	4280505.0	Roadway/Open Space	-	-	0.02
1689	669139.0	4280505.0	Roadway/Open Space	-	-	0.02
1690	669149.0	4280505.0	Roadway/Open Space	-	-	0.02
1691	669159.0	4280505.0	Roadway/Open Space	-	-	0.02
1692	669169.0	4280505.0	Roadway/Open Space	-	-	0.02
1693	669179.0	4280505.0	Roadway/Open Space	-	-	0.02
1694	669189.0	4280505.0	Roadway/Open Space	-	-	0.02
1695	669199.0	4280505.0	Roadway/Open Space	-	-	0.02
1696	669209.0	4280505.0	Roadway/Open Space	-	-	0.02
1697	669219.0	4280505.0	Roadway/Open Space	-	-	0.02
1698	669229.0	4280505.0	Roadway/Open Space	-	-	0.02
1699	669239.0	4280505.0	Roadway/Open Space	-	-	0.02
1700	669249.0	4280505.0	Roadway/Open Space	-	-	0.02
1701	669259.0	4280505.0	Roadway/Open Space	-	-	0.02
1702	669269.0	4280505.0	Roadway/Open Space	-	-	0.02
1703	669279.0	4280505.0	Roadway/Open Space	-	-	0.02
1704	669289.0	4280505.0	Roadway/Open Space	-	-	0.02
1705	669299.0	4280505.0	Roadway/Open Space	-	-	0.02
1706	669309.0	4280505.0	Roadway/Open Space	-	-	0.02
1707	669319.0	4280505.0	Roadway/Open Space	-	-	0.02
1708	669329.0	4280505.0	Roadway/Open Space	-	-	0.02
1709	669339.0	4280505.0	Roadway/Open Space	-	-	0.02
1710	669349.0	4280505.0	Roadway/Open Space	-	-	0.02
1711	669359.0	4280505.0	Roadway/Open Space	-	-	0.02
1712	669369.0	4280505.0	Roadway/Open Space	-	-	0.02
1713	669379.0	4280505.0	Roadway/Open Space	-	-	0.02
1714	669389.0	4280505.0	Roadway/Open Space	-	-	0.02
1715	669399.0	4280505.0	Roadway/Open Space	-	-	0.02
1716	669409.0	4280505.0	Roadway/Open Space	-	-	0.02
1717	669419.0	4280505.0	Roadway/Open Space	-	-	0.02
1718	669429.0	4280505.0	Roadway/Open Space	-	-	0.02
1719	669439.0	4280505.0	Roadway/Open Space	-	-	0.02
1720	669449.0	4280505.0	Roadway/Open Space	-	-	0.02
1721	669459.0	4280505.0	Roadway/Open Space	-	-	0.02
1722	669469.0	4280505.0	Roadway/Open Space	-	-	0.02
1723	669479.0	4280505.0	Roadway/Open Space	-	-	0.02
1724	669489.0	4280505.0	Roadway/Open Space	-	-	0.02
1725	669499.0	4280505.0	Roadway/Open Space	-	-	0.02
1726	669509.0	4280505.0	Roadway/Open Space	-	-	0.02
1727	669519.0	4280505.0	Roadway/Open Space	-	-	0.02
1728	668649.0	4280515.0	Roadway/Open Space	-	-	0.02
1729	668659.0	4280515.0	Roadway/Open Space	-	-	0.02
1730	668669.0	4280515.0	Roadway/Open Space	-	-	0.02
1731	668679.0	4280515.0	Roadway/Open Space	-	-	0.02
1732	668689.0	4280515.0	Roadway/Open Space	-	-	0.02
1733	668699.0	4280515.0	Roadway/Open Space	-	-	0.02
1734	668709.0	4280515.0	Roadway/Open Space	-	-	0.02
1735	668719.0	4280515.0	Roadway/Open Space	-	-	0.02
1736	668729.0	4280515.0	Roadway/Open Space	-	-	0.02
1737	668739.0	4280515.0	Roadway/Open Space	-	-	0.02
1738	668749.0	4280515.0	Roadway/Open Space	-	-	0.02
1739	668759.0	4280515.0	Roadway/Open Space	-	-	0.02
1740	668769.0	4280515.0	Roadway/Open Space	-	-	0.02
1741	668779.0	4280515.0	Roadway/Open Space	-	-	0.02
1742	668789.0	4280515.0	Roadway/Open Space	-	-	0.02
1743	668799.0	4280515.0	Roadway/Open Space	-	-	0.02
1744	668809.0	4280515.0	Roadway/Open Space	-	-	0.02
1745	668819.0	4280515.0	Roadway/Open Space	-	-	0.02
1746	668829.0	4280515.0	Roadway/Open Space	-	-	0.02
1747	668839.0	4280515.0	Roadway/Open Space	-	-	0.02
1748	668849.0	4280515.0	Roadway/Open Space	-	-	0.02
1749	668859.0	4280515.0	Roadway/Open Space	-	-	0.02
1750	668869.0	4280515.0	Roadway/Open Space	-	-	0.02
1751	668879.0	4280515.0	Roadway/Open Space	-	-	0.02
1752	668889.0	4280515.0	Roadway/Open Space	-	-	0.02
1753	668899.0	4280515.0	Roadway/Open Space	-	-	0.02
1754	668909.0	4280515.0	Roadway/Open Space	-	-	0.02
1755	668919.0	4280515.0	Roadway/Open Space	-	-	0.02
1756	668929.0	4280515.0	Roadway/Open Space	-	-	0.02
1757	668939.0	4280515.0	Roadway/Open Space	-	-	0.02
1758	668949.0	4280515.0	Roadway/Open Space	-	-	0.02
1759	668959.0	4280515.0	Roadway/Open Space	-	-	0.02
1760	668969.0	4280515.0	Roadway/Open Space	-	-	0.02
1761	668979.0	4280515.0	Roadway/Open Space	-	-	0.02
1762	668989.0	4280515.0	Roadway/Open Space	-	-	0.02
1763	668999.0	4280515.0	Roadway/Open Space	-	-	0.03
1764	669009.0	4280515.0	Roadway/Open Space	-	-	0.03

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
1765	669019.0	4280515.0	Roadway/Open Space	-	-	0.03
1766	669029.0	4280515.0	Roadway/Open Space	-	-	0.03
1767	669039.0	4280515.0	Roadway/Open Space	-	-	0.03
1768	669049.0	4280515.0	Roadway/Open Space	-	-	0.03
1769	669059.0	4280515.0	Roadway/Open Space	-	-	0.02
1770	669069.0	4280515.0	Roadway/Open Space	-	-	0.02
1771	669079.0	4280515.0	Roadway/Open Space	-	-	0.02
1772	669089.0	4280515.0	Roadway/Open Space	-	-	0.02
1773	669099.0	4280515.0	Roadway/Open Space	-	-	0.02
1774	669109.0	4280515.0	Roadway/Open Space	-	-	0.02
1775	669119.0	4280515.0	Roadway/Open Space	-	-	0.02
1776	669129.0	4280515.0	Roadway/Open Space	-	-	0.02
1777	669139.0	4280515.0	Roadway/Open Space	-	-	0.02
1778	669149.0	4280515.0	Roadway/Open Space	-	-	0.02
1779	669159.0	4280515.0	Roadway/Open Space	-	-	0.02
1780	669169.0	4280515.0	Roadway/Open Space	-	-	0.02
1781	669179.0	4280515.0	Roadway/Open Space	-	-	0.02
1782	669189.0	4280515.0	Roadway/Open Space	-	-	0.02
1783	669199.0	4280515.0	Roadway/Open Space	-	-	0.02
1784	669209.0	4280515.0	Roadway/Open Space	-	-	0.02
1785	669219.0	4280515.0	Roadway/Open Space	-	-	0.02
1786	669229.0	4280515.0	Roadway/Open Space	-	-	0.02
1787	669239.0	4280515.0	Roadway/Open Space	-	-	0.02
1788	669249.0	4280515.0	Roadway/Open Space	-	-	0.03
1789	669259.0	4280515.0	Roadway/Open Space	-	-	0.03
1790	669269.0	4280515.0	Roadway/Open Space	-	-	0.03
1791	669279.0	4280515.0	Roadway/Open Space	-	-	0.03
1792	669289.0	4280515.0	Roadway/Open Space	-	-	0.02
1793	669299.0	4280515.0	Roadway/Open Space	-	-	0.02
1794	669309.0	4280515.0	Roadway/Open Space	-	-	0.03
1795	669319.0	4280515.0	Roadway/Open Space	-	-	0.03
1796	669329.0	4280515.0	Roadway/Open Space	-	-	0.03
1797	669339.0	4280515.0	Roadway/Open Space	-	-	0.02
1798	669349.0	4280515.0	Roadway/Open Space	-	-	0.02
1799	669359.0	4280515.0	Roadway/Open Space	-	-	0.02
1800	669369.0	4280515.0	Roadway/Open Space	-	-	0.02
1801	669379.0	4280515.0	Roadway/Open Space	-	-	0.02
1802	669389.0	4280515.0	Roadway/Open Space	-	-	0.02
1803	669399.0	4280515.0	Roadway/Open Space	-	-	0.02
1804	669409.0	4280515.0	Roadway/Open Space	-	-	0.02
1805	669419.0	4280515.0	Roadway/Open Space	-	-	0.02
1806	669429.0	4280515.0	Roadway/Open Space	-	-	0.02
1807	669439.0	4280515.0	Roadway/Open Space	-	-	0.02
1808	669449.0	4280515.0	Roadway/Open Space	-	-	0.02
1809	669459.0	4280515.0	Roadway/Open Space	-	-	0.02
1810	669469.0	4280515.0	Roadway/Open Space	-	-	0.02
1811	669479.0	4280515.0	Roadway/Open Space	-	-	0.02
1812	669489.0	4280515.0	Roadway/Open Space	-	-	0.02
1813	669499.0	4280515.0	Roadway/Open Space	-	-	0.02
1814	669509.0	4280515.0	Roadway/Open Space	-	-	0.02
1815	669519.0	4280515.0	Roadway/Open Space	-	-	0.02
1816	669529.0	4280515.0	Roadway/Open Space	-	-	0.02
1817	668649.0	4280525.0	Roadway/Open Space	-	-	0.02
1818	668659.0	4280525.0	Roadway/Open Space	-	-	0.02
1819	668669.0	4280525.0	Roadway/Open Space	-	-	0.02
1820	668679.0	4280525.0	Roadway/Open Space	-	-	0.02
1821	668689.0	4280525.0	Roadway/Open Space	-	-	0.02
1822	668699.0	4280525.0	Roadway/Open Space	-	-	0.02
1823	668709.0	4280525.0	Roadway/Open Space	-	-	0.02
1824	668719.0	4280525.0	Roadway/Open Space	-	-	0.02
1825	668729.0	4280525.0	Roadway/Open Space	-	-	0.02
1826	668739.0	4280525.0	Roadway/Open Space	-	-	0.02
1827	668749.0	4280525.0	Roadway/Open Space	-	-	0.02
1828	668759.0	4280525.0	Roadway/Open Space	-	-	0.02
1829	668769.0	4280525.0	Roadway/Open Space	-	-	0.02
1830	668779.0	4280525.0	Roadway/Open Space	-	-	0.02
1831	668789.0	4280525.0	Roadway/Open Space	-	-	0.02
1832	668799.0	4280525.0	Roadway/Open Space	-	-	0.02
1833	668809.0	4280525.0	Roadway/Open Space	-	-	0.02
1834	668819.0	4280525.0	Roadway/Open Space	-	-	0.02
1835	668829.0	4280525.0	Roadway/Open Space	-	-	0.02
1836	668839.0	4280525.0	Roadway/Open Space	-	-	0.02
1837	668849.0	4280525.0	Roadway/Open Space	-	-	0.02
1838	668859.0	4280525.0	Roadway/Open Space	-	-	0.02
1839	668869.0	4280525.0	Roadway/Open Space	-	-	0.02
1840	668879.0	4280525.0	Roadway/Open Space	-	-	0.02
1841	668889.0	4280525.0	Roadway/Open Space	-	-	0.02
1842	668899.0	4280525.0	Roadway/Open Space	-	-	0.02
1843	668909.0	4280525.0	Roadway/Open Space	-	-	0.02
1844	668919.0	4280525.0	Roadway/Open Space	-	-	0.02
1845	668929.0	4280525.0	Roadway/Open Space	-	-	0.02
1846	668939.0	4280525.0	Roadway/Open Space	-	-	0.02
1847	668949.0	4280525.0	Roadway/Open Space	-	-	0.02
1848	668959.0	4280525.0	Roadway/Open Space	-	-	0.03

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
1849	668969.0	4280525.0	Roadway/Open Space	-	-	0.03
1850	668979.0	4280525.0	Roadway/Open Space	-	-	0.03
1851	668989.0	4280525.0	Roadway/Open Space	-	-	0.03
1852	668999.0	4280525.0	Roadway/Open Space	-	-	0.03
1853	669009.0	4280525.0	Roadway/Open Space	-	-	0.03
1854	669019.0	4280525.0	Roadway/Open Space	-	-	0.03
1855	669029.0	4280525.0	Roadway/Open Space	-	-	0.03
1856	669039.0	4280525.0	Roadway/Open Space	-	-	0.03
1857	669049.0	4280525.0	Roadway/Open Space	-	-	0.03
1858	669059.0	4280525.0	Roadway/Open Space	-	-	0.03
1859	669069.0	4280525.0	Roadway/Open Space	-	-	0.03
1860	669079.0	4280525.0	Roadway/Open Space	-	-	0.02
1861	669089.0	4280525.0	Roadway/Open Space	-	-	0.02
1862	669099.0	4280525.0	Roadway/Open Space	-	-	0.02
1863	669109.0	4280525.0	Roadway/Open Space	-	-	0.02
1864	669119.0	4280525.0	Roadway/Open Space	-	-	0.02
1865	669129.0	4280525.0	Roadway/Open Space	-	-	0.02
1866	669139.0	4280525.0	Roadway/Open Space	-	-	0.02
1867	669149.0	4280525.0	Roadway/Open Space	-	-	0.02
1868	669159.0	4280525.0	Roadway/Open Space	-	-	0.02
1869	669169.0	4280525.0	Roadway/Open Space	-	-	0.02
1870	669179.0	4280525.0	Roadway/Open Space	-	-	0.02
1871	669189.0	4280525.0	Roadway/Open Space	-	-	0.02
1872	669199.0	4280525.0	Roadway/Open Space	-	-	0.02
1873	669209.0	4280525.0	Roadway/Open Space	-	-	0.02
1874	669219.0	4280525.0	Roadway/Open Space	-	-	0.02
1875	669229.0	4280525.0	Roadway/Open Space	-	-	0.03
1876	669239.0	4280525.0	Roadway/Open Space	-	-	0.03
1877	669249.0	4280525.0	Roadway/Open Space	-	-	0.03
1878	669259.0	4280525.0	Roadway/Open Space	-	-	0.03
1879	669269.0	4280525.0	Roadway/Open Space	-	-	0.03
1880	669279.0	4280525.0	Roadway/Open Space	-	-	0.03
1881	669289.0	4280525.0	Roadway/Open Space	-	-	0.03
1882	669299.0	4280525.0	Roadway/Open Space	-	-	0.03
1883	669309.0	4280525.0	Roadway/Open Space	-	-	0.03
1884	669319.0	4280525.0	Roadway/Open Space	-	-	0.03
1885	669329.0	4280525.0	Roadway/Open Space	-	-	0.03
1886	669339.0	4280525.0	Roadway/Open Space	-	-	0.03
1887	669349.0	4280525.0	Roadway/Open Space	-	-	0.02
1888	669359.0	4280525.0	Roadway/Open Space	-	-	0.02
1889	669369.0	4280525.0	Roadway/Open Space	-	-	0.02
1890	669379.0	4280525.0	Roadway/Open Space	-	-	0.02
1891	669389.0	4280525.0	Roadway/Open Space	-	-	0.02
1892	669399.0	4280525.0	Roadway/Open Space	-	-	0.02
1893	669409.0	4280525.0	Roadway/Open Space	-	-	0.02
1894	669419.0	4280525.0	Roadway/Open Space	-	-	0.02
1895	669429.0	4280525.0	Roadway/Open Space	-	-	0.02
1896	669439.0	4280525.0	Roadway/Open Space	-	-	0.02
1897	669449.0	4280525.0	Roadway/Open Space	-	-	0.02
1898	669459.0	4280525.0	Roadway/Open Space	-	-	0.02
1899	669469.0	4280525.0	Roadway/Open Space	-	-	0.02
1900	669479.0	4280525.0	Roadway/Open Space	-	-	0.02
1901	669489.0	4280525.0	Roadway/Open Space	-	-	0.02
1902	669499.0	4280525.0	Roadway/Open Space	-	-	0.02
1903	669509.0	4280525.0	Roadway/Open Space	-	-	0.02
1904	669519.0	4280525.0	Roadway/Open Space	-	-	0.02
1905	669529.0	4280525.0	Roadway/Open Space	-	-	0.02
1906	669539.0	4280525.0	Roadway/Open Space	-	-	0.02
1907	668639.0	4280535.0	Roadway/Open Space	-	-	0.02
1908	668649.0	4280535.0	Roadway/Open Space	-	-	0.02
1909	668659.0	4280535.0	Roadway/Open Space	-	-	0.02
1910	668669.0	4280535.0	Roadway/Open Space	-	-	0.02
1911	668679.0	4280535.0	Roadway/Open Space	-	-	0.02
1912	668689.0	4280535.0	Roadway/Open Space	-	-	0.02
1913	668699.0	4280535.0	Roadway/Open Space	-	-	0.02
1914	668709.0	4280535.0	Roadway/Open Space	-	-	0.02
1915	668719.0	4280535.0	Roadway/Open Space	-	-	0.02
1916	668729.0	4280535.0	Roadway/Open Space	-	-	0.02
1917	668739.0	4280535.0	Roadway/Open Space	-	-	0.02
1918	668749.0	4280535.0	Roadway/Open Space	-	-	0.02
1919	668759.0	4280535.0	Roadway/Open Space	-	-	0.02
1920	668769.0	4280535.0	Roadway/Open Space	-	-	0.02
1921	668779.0	4280535.0	Roadway/Open Space	-	-	0.02
1922	668789.0	4280535.0	Roadway/Open Space	-	-	0.02
1923	668799.0	4280535.0	Roadway/Open Space	-	-	0.02
1924	668809.0	4280535.0	Roadway/Open Space	-	-	0.02
1925	668819.0	4280535.0	Roadway/Open Space	-	-	0.02
1926	668829.0	4280535.0	Roadway/Open Space	-	-	0.02
1927	668839.0	4280535.0	Roadway/Open Space	-	-	0.02
1928	668849.0	4280535.0	Roadway/Open Space	-	-	0.02
1929	668859.0	4280535.0	Roadway/Open Space	-	-	0.02
1930	668869.0	4280535.0	Roadway/Open Space	-	-	0.02
1931	668879.0	4280535.0	Roadway/Open Space	-	-	0.02
1932	668889.0	4280535.0	Roadway/Open Space	-	-	0.02

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
1933	668899.0	4280535.0	Roadway/Open Space	-	-	0.02
1934	668909.0	4280535.0	Roadway/Open Space	-	-	0.02
1935	668919.0	4280535.0	Roadway/Open Space	-	-	0.02
1936	668929.0	4280535.0	Roadway/Open Space	-	-	0.02
1937	668939.0	4280535.0	Roadway/Open Space	-	-	0.02
1938	668949.0	4280535.0	Roadway/Open Space	-	-	0.03
1939	668959.0	4280535.0	Roadway/Open Space	-	-	0.03
1940	668969.0	4280535.0	Roadway/Open Space	-	-	0.03
1941	668979.0	4280535.0	Roadway/Open Space	-	-	0.03
1942	668989.0	4280535.0	Roadway/Open Space	-	-	0.03
1943	668999.0	4280535.0	Roadway/Open Space	-	-	0.03
1944	669009.0	4280535.0	Roadway/Open Space	-	-	0.03
1945	669019.0	4280535.0	Roadway/Open Space	-	-	0.03
1946	669029.0	4280535.0	Roadway/Open Space	-	-	0.03
1947	669039.0	4280535.0	Roadway/Open Space	-	-	0.03
1948	669049.0	4280535.0	Roadway/Open Space	-	-	0.03
1949	669059.0	4280535.0	Roadway/Open Space	-	-	0.03
1950	669069.0	4280535.0	Roadway/Open Space	-	-	0.03
1951	669079.0	4280535.0	Roadway/Open Space	-	-	0.03
1952	669089.0	4280535.0	Roadway/Open Space	-	-	0.03
1953	669099.0	4280535.0	Roadway/Open Space	-	-	0.02
1954	669109.0	4280535.0	Roadway/Open Space	-	-	0.02
1955	669119.0	4280535.0	Roadway/Open Space	-	-	0.02
1956	669129.0	4280535.0	Roadway/Open Space	-	-	0.02
1957	669139.0	4280535.0	Roadway/Open Space	-	-	0.02
1958	669149.0	4280535.0	Roadway/Open Space	-	-	0.02
1959	669159.0	4280535.0	Roadway/Open Space	-	-	0.03
1960	669169.0	4280535.0	Roadway/Open Space	-	-	0.03
1961	669179.0	4280535.0	Roadway/Open Space	-	-	0.03
1962	669189.0	4280535.0	Roadway/Open Space	-	-	0.03
1963	669199.0	4280535.0	Roadway/Open Space	-	-	0.03
1964	669209.0	4280535.0	Roadway/Open Space	-	-	0.03
1965	669219.0	4280535.0	Roadway/Open Space	-	-	0.03
1966	669229.0	4280535.0	Roadway/Open Space	-	-	0.03
1967	669239.0	4280535.0	Roadway/Open Space	-	-	0.03
1968	669249.0	4280535.0	Roadway/Open Space	-	-	0.03
1969	669259.0	4280535.0	Roadway/Open Space	-	-	0.03
1970	669269.0	4280535.0	Roadway/Open Space	-	-	0.03
1971	669279.0	4280535.0	Roadway/Open Space	-	-	0.03
1972	669289.0	4280535.0	Roadway/Open Space	-	-	0.03
1973	669299.0	4280535.0	Roadway/Open Space	-	-	0.03
1974	669309.0	4280535.0	Roadway/Open Space	-	-	0.03
1975	669319.0	4280535.0	Roadway/Open Space	-	-	0.03
1976	669329.0	4280535.0	Roadway/Open Space	-	-	0.03
1977	669339.0	4280535.0	Roadway/Open Space	-	-	0.03
1978	669349.0	4280535.0	Roadway/Open Space	-	-	0.02
1979	669359.0	4280535.0	Roadway/Open Space	-	-	0.02
1980	669369.0	4280535.0	Roadway/Open Space	-	-	0.02
1981	669379.0	4280535.0	Roadway/Open Space	-	-	0.02
1982	669389.0	4280535.0	Roadway/Open Space	-	-	0.02
1983	669399.0	4280535.0	Roadway/Open Space	-	-	0.02
1984	669409.0	4280535.0	Roadway/Open Space	-	-	0.02
1985	669419.0	4280535.0	Roadway/Open Space	-	-	0.02
1986	669429.0	4280535.0	Roadway/Open Space	-	-	0.02
1987	669439.0	4280535.0	Roadway/Open Space	-	-	0.02
1988	669449.0	4280535.0	Roadway/Open Space	-	-	0.02
1989	669459.0	4280535.0	Roadway/Open Space	-	-	0.02
1990	669469.0	4280535.0	Roadway/Open Space	-	-	0.02
1991	669479.0	4280535.0	Roadway/Open Space	-	-	0.02
1992	669489.0	4280535.0	Roadway/Open Space	-	-	0.02
1993	669499.0	4280535.0	Roadway/Open Space	-	-	0.02
1994	669509.0	4280535.0	Roadway/Open Space	-	-	0.02
1995	669519.0	4280535.0	Roadway/Open Space	-	-	0.02
1996	669529.0	4280535.0	Roadway/Open Space	-	-	0.02
1997	669539.0	4280535.0	Roadway/Open Space	-	-	0.02
1998	669549.0	4280535.0	Roadway/Open Space	-	-	0.02
1999	668639.0	4280545.0	Roadway/Open Space	-	-	0.02
2000	668649.0	4280545.0	Roadway/Open Space	-	-	0.02
2001	668659.0	4280545.0	Roadway/Open Space	-	-	0.02
2002	668669.0	4280545.0	Roadway/Open Space	-	-	0.02
2003	668679.0	4280545.0	Roadway/Open Space	-	-	0.02
2004	668689.0	4280545.0	Roadway/Open Space	-	-	0.02
2005	668699.0	4280545.0	Roadway/Open Space	-	-	0.02
2006	668709.0	4280545.0	Roadway/Open Space	-	-	0.02
2007	668719.0	4280545.0	Roadway/Open Space	-	-	0.02
2008	668729.0	4280545.0	Roadway/Open Space	-	-	0.02
2009	668739.0	4280545.0	Roadway/Open Space	-	-	0.02
2010	668749.0	4280545.0	Roadway/Open Space	-	-	0.02
2011	668759.0	4280545.0	Roadway/Open Space	-	-	0.02
2012	668769.0	4280545.0	Roadway/Open Space	-	-	0.03
2013	668779.0	4280545.0	Roadway/Open Space	-	-	0.03
2014	668789.0	4280545.0	Roadway/Open Space	-	-	0.03
2015	668799.0	4280545.0	Roadway/Open Space	-	-	0.03
2016	668809.0	4280545.0	Roadway/Open Space	-	-	0.03

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
2017	668819.0	4280545.0	Roadway/Open Space	-	-	0.03
2018	668829.0	4280545.0	Roadway/Open Space	-	-	0.03
2019	668839.0	4280545.0	Roadway/Open Space	-	-	0.02
2020	668849.0	4280545.0	Roadway/Open Space	-	-	0.03
2021	668859.0	4280545.0	Roadway/Open Space	-	-	0.03
2022	668869.0	4280545.0	Roadway/Open Space	-	-	0.02
2023	668879.0	4280545.0	Roadway/Open Space	-	-	0.02
2024	668889.0	4280545.0	Roadway/Open Space	-	-	0.02
2025	668899.0	4280545.0	Roadway/Open Space	-	-	0.02
2026	668909.0	4280545.0	Roadway/Open Space	-	-	0.02
2027	668919.0	4280545.0	Roadway/Open Space	-	-	0.02
2028	668929.0	4280545.0	Roadway/Open Space	-	-	0.02
2029	668939.0	4280545.0	Roadway/Open Space	-	-	0.03
2030	668949.0	4280545.0	Roadway/Open Space	-	-	0.03
2031	668959.0	4280545.0	Roadway/Open Space	-	-	0.03
2032	668969.0	4280545.0	Roadway/Open Space	-	-	0.03
2033	668979.0	4280545.0	Roadway/Open Space	-	-	0.03
2034	668989.0	4280545.0	Roadway/Open Space	-	-	0.03
2035	668999.0	4280545.0	Roadway/Open Space	-	-	0.03
2036	669009.0	4280545.0	Roadway/Open Space	-	-	0.03
2037	669019.0	4280545.0	Roadway/Open Space	-	-	0.03
2038	669029.0	4280545.0	Roadway/Open Space	-	-	0.03
2039	669039.0	4280545.0	Roadway/Open Space	-	-	0.03
2040	669049.0	4280545.0	Roadway/Open Space	-	-	0.03
2041	669059.0	4280545.0	Roadway/Open Space	-	-	0.03
2042	669069.0	4280545.0	Roadway/Open Space	-	-	0.03
2043	669079.0	4280545.0	Roadway/Open Space	-	-	0.03
2044	669089.0	4280545.0	Roadway/Open Space	-	-	0.03
2045	669099.0	4280545.0	Roadway/Open Space	-	-	0.03
2046	669109.0	4280545.0	Roadway/Open Space	-	-	0.03
2047	669119.0	4280545.0	Roadway/Open Space	-	-	0.03
2048	669129.0	4280545.0	Roadway/Open Space	-	-	0.03
2049	669139.0	4280545.0	Roadway/Open Space	-	-	0.03
2050	669149.0	4280545.0	Roadway/Open Space	-	-	0.03
2051	669159.0	4280545.0	Roadway/Open Space	-	-	0.03
2052	669169.0	4280545.0	Roadway/Open Space	-	-	0.03
2053	669179.0	4280545.0	Roadway/Open Space	-	-	0.03
2054	669189.0	4280545.0	Roadway/Open Space	-	-	0.03
2055	669199.0	4280545.0	Roadway/Open Space	-	-	0.03
2056	669209.0	4280545.0	Roadway/Open Space	-	-	0.03
2057	669219.0	4280545.0	Roadway/Open Space	-	-	0.03
2058	669229.0	4280545.0	Roadway/Open Space	-	-	0.03
2059	669239.0	4280545.0	Roadway/Open Space	-	-	0.03
2060	669249.0	4280545.0	Roadway/Open Space	-	-	0.03
2061	669259.0	4280545.0	Roadway/Open Space	-	-	0.03
2062	669269.0	4280545.0	Roadway/Open Space	-	-	0.03
2063	669279.0	4280545.0	Roadway/Open Space	-	-	0.03
2064	669289.0	4280545.0	Roadway/Open Space	-	-	0.03
2065	669299.0	4280545.0	Roadway/Open Space	-	-	0.03
2066	669309.0	4280545.0	Roadway/Open Space	-	-	0.03
2067	669319.0	4280545.0	Roadway/Open Space	-	-	0.03
2068	669329.0	4280545.0	Roadway/Open Space	-	-	0.03
2069	669339.0	4280545.0	Roadway/Open Space	-	-	0.03
2070	669349.0	4280545.0	Roadway/Open Space	-	-	0.03
2071	669359.0	4280545.0	Roadway/Open Space	-	-	0.02
2072	669369.0	4280545.0	Roadway/Open Space	-	-	0.02
2073	669379.0	4280545.0	Roadway/Open Space	-	-	0.02
2074	669389.0	4280545.0	Roadway/Open Space	-	-	0.02
2075	669399.0	4280545.0	Roadway/Open Space	-	-	0.02
2076	669409.0	4280545.0	Roadway/Open Space	-	-	0.02
2077	669419.0	4280545.0	Roadway/Open Space	-	-	0.02
2078	669429.0	4280545.0	Roadway/Open Space	-	-	0.02
2079	669439.0	4280545.0	Roadway/Open Space	-	-	0.02
2080	669449.0	4280545.0	Roadway/Open Space	-	-	0.02
2081	669459.0	4280545.0	Roadway/Open Space	-	-	0.02
2082	669469.0	4280545.0	Roadway/Open Space	-	-	0.02
2083	669479.0	4280545.0	Roadway/Open Space	-	-	0.02
2084	669489.0	4280545.0	Roadway/Open Space	-	-	0.02
2085	669499.0	4280545.0	Roadway/Open Space	-	-	0.02
2086	669509.0	4280545.0	Roadway/Open Space	-	-	0.02
2087	669519.0	4280545.0	Roadway/Open Space	-	-	0.02
2088	669529.0	4280545.0	Roadway/Open Space	-	-	0.02
2089	669539.0	4280545.0	Roadway/Open Space	-	-	0.02
2090	669549.0	4280545.0	Roadway/Open Space	-	-	0.02
2091	668629.0	4280555.0	Roadway/Open Space	-	-	0.02
2092	668639.0	4280555.0	Roadway/Open Space	-	-	0.02
2093	668649.0	4280555.0	Roadway/Open Space	-	-	0.02
2094	668659.0	4280555.0	Roadway/Open Space	-	-	0.02
2095	668669.0	4280555.0	Roadway/Open Space	-	-	0.02
2096	668679.0	4280555.0	Roadway/Open Space	-	-	0.02
2097	668689.0	4280555.0	Roadway/Open Space	-	-	0.02
2098	668699.0	4280555.0	Roadway/Open Space	-	-	0.02
2099	668709.0	4280555.0	Roadway/Open Space	-	-	0.02
2100	668719.0	4280555.0	Roadway/Open Space	-	-	0.02

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
2101	668729.0	4280555.0	Roadway/Open Space	-	-	0.02
2102	668739.0	4280555.0	Roadway/Open Space	-	-	0.02
2103	668749.0	4280555.0	Roadway/Open Space	-	-	0.02
2104	668759.0	4280555.0	Roadway/Open Space	-	-	0.02
2105	668769.0	4280555.0	Roadway/Open Space	-	-	0.03
2106	668779.0	4280555.0	Roadway/Open Space	-	-	0.03
2107	668789.0	4280555.0	Roadway/Open Space	-	-	0.03
2108	668799.0	4280555.0	Roadway/Open Space	-	-	0.03
2109	668809.0	4280555.0	Roadway/Open Space	-	-	0.03
2110	668819.0	4280555.0	Roadway/Open Space	-	-	0.03
2111	668829.0	4280555.0	Roadway/Open Space	-	-	0.03
2112	668839.0	4280555.0	Roadway/Open Space	-	-	0.03
2113	668849.0	4280555.0	Roadway/Open Space	-	-	0.03
2114	668859.0	4280555.0	Roadway/Open Space	-	-	0.03
2115	668869.0	4280555.0	Roadway/Open Space	-	-	0.03
2116	668879.0	4280555.0	Roadway/Open Space	-	-	0.02
2117	668889.0	4280555.0	Roadway/Open Space	-	-	0.02
2118	668899.0	4280555.0	Roadway/Open Space	-	-	0.02
2119	668909.0	4280555.0	Roadway/Open Space	-	-	0.02
2120	668919.0	4280555.0	Roadway/Open Space	-	-	0.02
2121	668929.0	4280555.0	Roadway/Open Space	-	-	0.02
2122	668939.0	4280555.0	Roadway/Open Space	-	-	0.03
2123	668949.0	4280555.0	Roadway/Open Space	-	-	0.03
2124	668959.0	4280555.0	Roadway/Open Space	-	-	0.03
2125	668969.0	4280555.0	Roadway/Open Space	-	-	0.03
2126	668979.0	4280555.0	Roadway/Open Space	-	-	0.03
2127	668989.0	4280555.0	Roadway/Open Space	-	-	0.03
2128	668999.0	4280555.0	Roadway/Open Space	-	-	0.03
2129	669009.0	4280555.0	Roadway/Open Space	-	-	0.03
2130	669019.0	4280555.0	Roadway/Open Space	-	-	0.03
2131	669029.0	4280555.0	Roadway/Open Space	-	-	0.03
2132	669039.0	4280555.0	Roadway/Open Space	-	-	0.03
2133	669049.0	4280555.0	Roadway/Open Space	-	-	0.03
2134	669059.0	4280555.0	Roadway/Open Space	-	-	0.03
2135	669069.0	4280555.0	Roadway/Open Space	-	-	0.03
2136	669079.0	4280555.0	Roadway/Open Space	-	-	0.03
2137	669089.0	4280555.0	Roadway/Open Space	-	-	0.03
2138	669099.0	4280555.0	Roadway/Open Space	-	-	0.03
2139	669109.0	4280555.0	Roadway/Open Space	-	-	0.03
2140	669119.0	4280555.0	Roadway/Open Space	-	-	0.03
2141	669129.0	4280555.0	Roadway/Open Space	-	-	0.03
2142	669139.0	4280555.0	Roadway/Open Space	-	-	0.03
2143	669149.0	4280555.0	Roadway/Open Space	-	-	0.03
2144	669159.0	4280555.0	Roadway/Open Space	-	-	0.03
2145	669169.0	4280555.0	Roadway/Open Space	-	-	0.03
2146	669179.0	4280555.0	Roadway/Open Space	-	-	0.03
2147	669189.0	4280555.0	Roadway/Open Space	-	-	0.03
2148	669199.0	4280555.0	Roadway/Open Space	-	-	0.03
2149	669209.0	4280555.0	Roadway/Open Space	-	-	0.03
2150	669219.0	4280555.0	Roadway/Open Space	-	-	0.03
2151	669229.0	4280555.0	Roadway/Open Space	-	-	0.03
2152	669239.0	4280555.0	Roadway/Open Space	-	-	0.03
2153	669249.0	4280555.0	Roadway/Open Space	-	-	0.03
2154	669259.0	4280555.0	Roadway/Open Space	-	-	0.03
2155	669269.0	4280555.0	Roadway/Open Space	-	-	0.03
2156	669279.0	4280555.0	Roadway/Open Space	-	-	0.03
2157	669289.0	4280555.0	Roadway/Open Space	-	-	0.03
2158	669299.0	4280555.0	Roadway/Open Space	-	-	0.03
2159	669309.0	4280555.0	Roadway/Open Space	-	-	0.03
2160	669319.0	4280555.0	Roadway/Open Space	-	-	0.03
2161	669329.0	4280555.0	Roadway/Open Space	-	-	0.03
2162	669339.0	4280555.0	Roadway/Open Space	-	-	0.03
2163	669349.0	4280555.0	Roadway/Open Space	-	-	0.03
2164	669359.0	4280555.0	Roadway/Open Space	-	-	0.03
2165	669369.0	4280555.0	Roadway/Open Space	-	-	0.02
2166	669379.0	4280555.0	Roadway/Open Space	-	-	0.02
2167	669389.0	4280555.0	Roadway/Open Space	-	-	0.02
2168	669399.0	4280555.0	Roadway/Open Space	-	-	0.02
2169	669409.0	4280555.0	Roadway/Open Space	-	-	0.02
2170	669419.0	4280555.0	Roadway/Open Space	-	-	0.02
2171	669429.0	4280555.0	Roadway/Open Space	-	-	0.02
2172	669439.0	4280555.0	Roadway/Open Space	-	-	0.02
2173	669449.0	4280555.0	Roadway/Open Space	-	-	0.02
2174	669459.0	4280555.0	Roadway/Open Space	-	-	0.02
2175	669469.0	4280555.0	Roadway/Open Space	-	-	0.02
2176	669479.0	4280555.0	Roadway/Open Space	-	-	0.02
2177	669489.0	4280555.0	Roadway/Open Space	-	-	0.02
2178	669499.0	4280555.0	Roadway/Open Space	-	-	0.02
2179	669509.0	4280555.0	Roadway/Open Space	-	-	0.02
2180	669519.0	4280555.0	Roadway/Open Space	-	-	0.02
2181	669529.0	4280555.0	Roadway/Open Space	-	-	0.02
2182	669539.0	4280555.0	Roadway/Open Space	-	-	0.02
2183	669549.0	4280555.0	Roadway/Open Space	-	-	0.02
2184	669559.0	4280555.0	Roadway/Open Space	-	-	0.02

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
2185	668629.0	4280565.0	Roadway/Open Space	-	-	0.02
2186	668639.0	4280565.0	Roadway/Open Space	-	-	0.02
2187	668649.0	4280565.0	Roadway/Open Space	-	-	0.02
2188	668659.0	4280565.0	Roadway/Open Space	-	-	0.02
2189	668669.0	4280565.0	Roadway/Open Space	-	-	0.02
2190	668679.0	4280565.0	Roadway/Open Space	-	-	0.02
2191	668689.0	4280565.0	Roadway/Open Space	-	-	0.02
2192	668699.0	4280565.0	Roadway/Open Space	-	-	0.02
2193	668709.0	4280565.0	Roadway/Open Space	-	-	0.02
2194	668719.0	4280565.0	Roadway/Open Space	-	-	0.02
2195	668729.0	4280565.0	Roadway/Open Space	-	-	0.02
2196	668739.0	4280565.0	Roadway/Open Space	-	-	0.02
2197	668749.0	4280565.0	Roadway/Open Space	-	-	0.02
2198	668759.0	4280565.0	Roadway/Open Space	-	-	0.02
2199	668769.0	4280565.0	Roadway/Open Space	-	-	0.03
2200	668779.0	4280565.0	Roadway/Open Space	-	-	0.03
2201	668789.0	4280565.0	Roadway/Open Space	-	-	0.03
2202	668799.0	4280565.0	Roadway/Open Space	-	-	0.03
2203	668809.0	4280565.0	Roadway/Open Space	-	-	0.03
2204	668819.0	4280565.0	Roadway/Open Space	-	-	0.03
2205	668829.0	4280565.0	Roadway/Open Space	-	-	0.03
2206	668839.0	4280565.0	Roadway/Open Space	-	-	0.03
2207	668849.0	4280565.0	Roadway/Open Space	-	-	0.03
2208	668859.0	4280565.0	Roadway/Open Space	-	-	0.03
2209	668869.0	4280565.0	Roadway/Open Space	-	-	0.03
2210	668879.0	4280565.0	Roadway/Open Space	-	-	0.03
2211	668889.0	4280565.0	Roadway/Open Space	-	-	0.03
2212	668899.0	4280565.0	Roadway/Open Space	-	-	0.03
2213	668909.0	4280565.0	Roadway/Open Space	-	-	0.03
2214	668919.0	4280565.0	Roadway/Open Space	-	-	0.03
2215	668929.0	4280565.0	Roadway/Open Space	-	-	0.03
2216	668939.0	4280565.0	Roadway/Open Space	-	-	0.03
2217	668949.0	4280565.0	Roadway/Open Space	-	-	0.03
2218	668959.0	4280565.0	Roadway/Open Space	-	-	0.03
2219	668969.0	4280565.0	Roadway/Open Space	-	-	0.03
2220	668979.0	4280565.0	Roadway/Open Space	-	-	0.03
2221	668989.0	4280565.0	Roadway/Open Space	-	-	0.03
2222	668999.0	4280565.0	Roadway/Open Space	-	-	0.03
2223	669009.0	4280565.0	Roadway/Open Space	-	-	0.03
2224	669019.0	4280565.0	Roadway/Open Space	-	-	0.03
2225	669029.0	4280565.0	Roadway/Open Space	-	-	0.03
2226	669039.0	4280565.0	Roadway/Open Space	-	-	0.03
2227	669049.0	4280565.0	Roadway/Open Space	-	-	0.03
2228	669059.0	4280565.0	Roadway/Open Space	-	-	0.03
2229	669069.0	4280565.0	Roadway/Open Space	-	-	0.03
2230	669079.0	4280565.0	Roadway/Open Space	-	-	0.03
2231	669089.0	4280565.0	Roadway/Open Space	-	-	0.03
2232	669099.0	4280565.0	Roadway/Open Space	-	-	0.03
2233	669109.0	4280565.0	Roadway/Open Space	-	-	0.03
2234	669119.0	4280565.0	Roadway/Open Space	-	-	0.03
2235	669129.0	4280565.0	Roadway/Open Space	-	-	0.03
2236	669139.0	4280565.0	Roadway/Open Space	-	-	0.03
2237	669149.0	4280565.0	Roadway/Open Space	-	-	0.03
2238	669159.0	4280565.0	Roadway/Open Space	-	-	0.03
2239	669169.0	4280565.0	Roadway/Open Space	-	-	0.03
2240	669179.0	4280565.0	Roadway/Open Space	-	-	0.03
2241	669189.0	4280565.0	Roadway/Open Space	-	-	0.03
2242	669199.0	4280565.0	Roadway/Open Space	-	-	0.03
2243	669209.0	4280565.0	Roadway/Open Space	-	-	0.03
2244	669219.0	4280565.0	Roadway/Open Space	-	-	0.03
2245	669229.0	4280565.0	Roadway/Open Space	-	-	0.03
2246	669239.0	4280565.0	Roadway/Open Space	-	-	0.03
2247	669249.0	4280565.0	Roadway/Open Space	-	-	0.03
2248	669259.0	4280565.0	Roadway/Open Space	-	-	0.03
2249	669269.0	4280565.0	Roadway/Open Space	-	-	0.03
2250	669279.0	4280565.0	Roadway/Open Space	-	-	0.03
2251	669289.0	4280565.0	Roadway/Open Space	-	-	0.03
2252	669299.0	4280565.0	Roadway/Open Space	-	-	0.03
2253	669309.0	4280565.0	Roadway/Open Space	-	-	0.03
2254	669319.0	4280565.0	Roadway/Open Space	-	-	0.03
2255	669329.0	4280565.0	Roadway/Open Space	-	-	0.03
2256	669339.0	4280565.0	Roadway/Open Space	-	-	0.03
2257	669349.0	4280565.0	Roadway/Open Space	-	-	0.03
2258	669359.0	4280565.0	Roadway/Open Space	-	-	0.03
2259	669369.0	4280565.0	Roadway/Open Space	-	-	0.02
2260	669379.0	4280565.0	Roadway/Open Space	-	-	0.02
2261	669389.0	4280565.0	Roadway/Open Space	-	-	0.02
2262	669399.0	4280565.0	Roadway/Open Space	-	-	0.02
2263	669409.0	4280565.0	Roadway/Open Space	-	-	0.02
2264	669419.0	4280565.0	Roadway/Open Space	-	-	0.02
2265	669429.0	4280565.0	Roadway/Open Space	-	-	0.02
2266	669439.0	4280565.0	Roadway/Open Space	-	-	0.02
2267	669449.0	4280565.0	Roadway/Open Space	-	-	0.02
2268	669459.0	4280565.0	Roadway/Open Space	-	-	0.02

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
2269	669469.0	4280565.0	Roadway/Open Space	-	-	0.02
2270	669479.0	4280565.0	Roadway/Open Space	-	-	0.02
2271	669489.0	4280565.0	Roadway/Open Space	-	-	0.02
2272	669499.0	4280565.0	Roadway/Open Space	-	-	0.02
2273	669509.0	4280565.0	Roadway/Open Space	-	-	0.02
2274	669519.0	4280565.0	Roadway/Open Space	-	-	0.02
2275	669529.0	4280565.0	Roadway/Open Space	-	-	0.02
2276	669539.0	4280565.0	Roadway/Open Space	-	-	0.02
2277	669549.0	4280565.0	Roadway/Open Space	-	-	0.02
2278	669559.0	4280565.0	Roadway/Open Space	-	-	0.02
2279	669569.0	4280565.0	Roadway/Open Space	-	-	0.02
2280	668619.0	4280575.0	Roadway/Open Space	-	-	0.02
2281	668629.0	4280575.0	Roadway/Open Space	-	-	0.02
2282	668639.0	4280575.0	Roadway/Open Space	-	-	0.02
2283	668649.0	4280575.0	Roadway/Open Space	-	-	0.02
2284	668659.0	4280575.0	Roadway/Open Space	-	-	0.02
2285	668669.0	4280575.0	Roadway/Open Space	-	-	0.02
2286	668679.0	4280575.0	Roadway/Open Space	-	-	0.02
2287	668689.0	4280575.0	Roadway/Open Space	-	-	0.02
2288	668699.0	4280575.0	Roadway/Open Space	-	-	0.02
2289	668709.0	4280575.0	Roadway/Open Space	-	-	0.02
2290	668719.0	4280575.0	Roadway/Open Space	-	-	0.02
2291	668729.0	4280575.0	Roadway/Open Space	-	-	0.02
2292	668739.0	4280575.0	Roadway/Open Space	-	-	0.02
2293	668749.0	4280575.0	Roadway/Open Space	-	-	0.02
2294	668759.0	4280575.0	Roadway/Open Space	-	-	0.03
2295	668769.0	4280575.0	Roadway/Open Space	-	-	0.03
2296	668779.0	4280575.0	Roadway/Open Space	-	-	0.03
2297	668789.0	4280575.0	Roadway/Open Space	-	-	0.03
2298	668799.0	4280575.0	Roadway/Open Space	-	-	0.03
2299	668809.0	4280575.0	Roadway/Open Space	-	-	0.03
2300	668819.0	4280575.0	Roadway/Open Space	-	-	0.03
2301	668829.0	4280575.0	Roadway/Open Space	-	-	0.03
2302	668839.0	4280575.0	Roadway/Open Space	-	-	0.03
2303	668849.0	4280575.0	Roadway/Open Space	-	-	0.03
2304	668859.0	4280575.0	Roadway/Open Space	-	-	0.03
2305	668869.0	4280575.0	Roadway/Open Space	-	-	0.03
2306	668879.0	4280575.0	Roadway/Open Space	-	-	0.03
2307	668889.0	4280575.0	Roadway/Open Space	-	-	0.03
2308	668899.0	4280575.0	Roadway/Open Space	-	-	0.03
2309	668909.0	4280575.0	Roadway/Open Space	-	-	0.03
2310	668919.0	4280575.0	Roadway/Open Space	-	-	0.03
2311	668929.0	4280575.0	Roadway/Open Space	-	-	0.03
2312	668939.0	4280575.0	Roadway/Open Space	-	-	0.03
2313	668949.0	4280575.0	Roadway/Open Space	-	-	0.03
2314	668959.0	4280575.0	Roadway/Open Space	-	-	0.03
2315	668969.0	4280575.0	Roadway/Open Space	-	-	0.03
2316	668979.0	4280575.0	Roadway/Open Space	-	-	0.03
2317	668989.0	4280575.0	Roadway/Open Space	-	-	0.03
2318	668999.0	4280575.0	Roadway/Open Space	-	-	0.03
2319	669009.0	4280575.0	Roadway/Open Space	-	-	0.03
2320	669019.0	4280575.0	Roadway/Open Space	-	-	0.03
2321	669029.0	4280575.0	Roadway/Open Space	-	-	0.03
2322	669039.0	4280575.0	Roadway/Open Space	-	-	0.03
2323	669049.0	4280575.0	Roadway/Open Space	-	-	0.03
2324	669059.0	4280575.0	Roadway/Open Space	-	-	0.03
2325	669069.0	4280575.0	Roadway/Open Space	-	-	0.03
2326	669079.0	4280575.0	Roadway/Open Space	-	-	0.03
2327	669089.0	4280575.0	Roadway/Open Space	-	-	0.03
2328	669099.0	4280575.0	Roadway/Open Space	-	-	0.03
2329	669109.0	4280575.0	Roadway/Open Space	-	-	0.03
2330	669119.0	4280575.0	Roadway/Open Space	-	-	0.03
2331	669129.0	4280575.0	Roadway/Open Space	-	-	0.03
2332	669139.0	4280575.0	Roadway/Open Space	-	-	0.03
2333	669149.0	4280575.0	Roadway/Open Space	-	-	0.03
2334	669159.0	4280575.0	Roadway/Open Space	-	-	0.03
2335	669169.0	4280575.0	Roadway/Open Space	-	-	0.03
2336	669179.0	4280575.0	Roadway/Open Space	-	-	0.03
2337	669189.0	4280575.0	Roadway/Open Space	-	-	0.03
2338	669199.0	4280575.0	Roadway/Open Space	-	-	0.03
2339	669209.0	4280575.0	Roadway/Open Space	-	-	0.03
2340	669219.0	4280575.0	Roadway/Open Space	-	-	0.03
2341	669229.0	4280575.0	Roadway/Open Space	-	-	0.03
2342	669239.0	4280575.0	Roadway/Open Space	-	-	0.03
2343	669249.0	4280575.0	Roadway/Open Space	-	-	0.03
2344	669259.0	4280575.0	Roadway/Open Space	-	-	0.03
2345	669269.0	4280575.0	Roadway/Open Space	-	-	0.03
2346	669279.0	4280575.0	Roadway/Open Space	-	-	0.03
2347	669289.0	4280575.0	Roadway/Open Space	-	-	0.03
2348	669299.0	4280575.0	Roadway/Open Space	-	-	0.03
2349	669309.0	4280575.0	Roadway/Open Space	-	-	0.04
2350	669319.0	4280575.0	Roadway/Open Space	-	-	0.04
2351	669329.0	4280575.0	Roadway/Open Space	-	-	0.03
2352	669339.0	4280575.0	Roadway/Open Space	-	-	0.03

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
2353	669349.0	4280575.0	Roadway/Open Space	-	-	0.03
2354	669359.0	4280575.0	Roadway/Open Space	-	-	0.03
2355	669369.0	4280575.0	Roadway/Open Space	-	-	0.02
2356	669379.0	4280575.0	Roadway/Open Space	-	-	0.02
2357	669389.0	4280575.0	Roadway/Open Space	-	-	0.02
2358	669399.0	4280575.0	Roadway/Open Space	-	-	0.02
2359	669409.0	4280575.0	Roadway/Open Space	-	-	0.02
2360	669419.0	4280575.0	Roadway/Open Space	-	-	0.02
2361	669429.0	4280575.0	Roadway/Open Space	-	-	0.02
2362	669439.0	4280575.0	Roadway/Open Space	-	-	0.02
2363	669449.0	4280575.0	Roadway/Open Space	-	-	0.02
2364	669459.0	4280575.0	Roadway/Open Space	-	-	0.02
2365	669469.0	4280575.0	Roadway/Open Space	-	-	0.02
2366	669479.0	4280575.0	Roadway/Open Space	-	-	0.02
2367	669489.0	4280575.0	Roadway/Open Space	-	-	0.02
2368	669499.0	4280575.0	Roadway/Open Space	-	-	0.02
2369	669509.0	4280575.0	Roadway/Open Space	-	-	0.02
2370	669519.0	4280575.0	Roadway/Open Space	-	-	0.02
2371	669529.0	4280575.0	Roadway/Open Space	-	-	0.02
2372	669539.0	4280575.0	Roadway/Open Space	-	-	0.02
2373	669549.0	4280575.0	Roadway/Open Space	-	-	0.02
2374	669559.0	4280575.0	Roadway/Open Space	-	-	0.02
2375	669569.0	4280575.0	Roadway/Open Space	-	-	0.02
2376	668619.0	4280585.0	Roadway/Open Space	-	-	0.02
2377	668629.0	4280585.0	Roadway/Open Space	-	-	0.02
2378	668639.0	4280585.0	Roadway/Open Space	-	-	0.02
2379	668649.0	4280585.0	Roadway/Open Space	-	-	0.02
2380	668659.0	4280585.0	Roadway/Open Space	-	-	0.02
2381	668669.0	4280585.0	Roadway/Open Space	-	-	0.02
2382	668679.0	4280585.0	Roadway/Open Space	-	-	0.02
2383	668689.0	4280585.0	Roadway/Open Space	-	-	0.02
2384	668699.0	4280585.0	Roadway/Open Space	-	-	0.02
2385	668709.0	4280585.0	Roadway/Open Space	-	-	0.02
2386	668719.0	4280585.0	Roadway/Open Space	-	-	0.02
2387	668729.0	4280585.0	Roadway/Open Space	-	-	0.02
2388	668739.0	4280585.0	Roadway/Open Space	-	-	0.02
2389	668749.0	4280585.0	Roadway/Open Space	-	-	0.03
2390	668759.0	4280585.0	Roadway/Open Space	-	-	0.03
2391	668769.0	4280585.0	Roadway/Open Space	-	-	0.03
2392	668779.0	4280585.0	Roadway/Open Space	-	-	0.03
2393	668789.0	4280585.0	Roadway/Open Space	-	-	0.03
2394	668799.0	4280585.0	Roadway/Open Space	-	-	0.03
2395	668809.0	4280585.0	Roadway/Open Space	-	-	0.03
2396	668819.0	4280585.0	Roadway/Open Space	-	-	0.03
2397	668829.0	4280585.0	Roadway/Open Space	-	-	0.03
2398	668839.0	4280585.0	Roadway/Open Space	-	-	0.03
2399	668849.0	4280585.0	Roadway/Open Space	-	-	0.03
2400	668859.0	4280585.0	Roadway/Open Space	-	-	0.03
2401	668869.0	4280585.0	Roadway/Open Space	-	-	0.03
2402	668879.0	4280585.0	Roadway/Open Space	-	-	0.03
2403	668889.0	4280585.0	Roadway/Open Space	-	-	0.03
2404	668899.0	4280585.0	Roadway/Open Space	-	-	0.03
2405	668909.0	4280585.0	Roadway/Open Space	-	-	0.03
2406	668919.0	4280585.0	Roadway/Open Space	-	-	0.03
2407	668929.0	4280585.0	Roadway/Open Space	-	-	0.03
2408	668939.0	4280585.0	Roadway/Open Space	-	-	0.03
2409	668949.0	4280585.0	Roadway/Open Space	-	-	0.03
2410	668959.0	4280585.0	Roadway/Open Space	-	-	0.03
2411	668969.0	4280585.0	Roadway/Open Space	-	-	0.03
2412	668979.0	4280585.0	Roadway/Open Space	-	-	0.03
2413	668989.0	4280585.0	Roadway/Open Space	-	-	0.03
2414	668999.0	4280585.0	Roadway/Open Space	-	-	0.03
2415	669009.0	4280585.0	Roadway/Open Space	-	-	0.03
2416	669019.0	4280585.0	Roadway/Open Space	-	-	0.03
2417	669029.0	4280585.0	Roadway/Open Space	-	-	0.03
2418	669039.0	4280585.0	Roadway/Open Space	-	-	0.03
2419	669049.0	4280585.0	Roadway/Open Space	-	-	0.03
2420	669059.0	4280585.0	Roadway/Open Space	-	-	0.03
2421	669069.0	4280585.0	Roadway/Open Space	-	-	0.03
2422	669079.0	4280585.0	Roadway/Open Space	-	-	0.03
2423	669089.0	4280585.0	Roadway/Open Space	-	-	0.03
2424	669099.0	4280585.0	Roadway/Open Space	-	-	0.03
2425	669109.0	4280585.0	Roadway/Open Space	-	-	0.03
2426	669119.0	4280585.0	Roadway/Open Space	-	-	0.03
2427	669129.0	4280585.0	Roadway/Open Space	-	-	0.03
2428	669139.0	4280585.0	Roadway/Open Space	-	-	0.03
2429	669149.0	4280585.0	Roadway/Open Space	-	-	0.03
2430	669159.0	4280585.0	Roadway/Open Space	-	-	0.03
2431	669169.0	4280585.0	Roadway/Open Space	-	-	0.03
2432	669179.0	4280585.0	Roadway/Open Space	-	-	0.03
2433	669189.0	4280585.0	Roadway/Open Space	-	-	0.03
2434	669199.0	4280585.0	Roadway/Open Space	-	-	0.03
2435	669209.0	4280585.0	Roadway/Open Space	-	-	0.03
2436	669219.0	4280585.0	Roadway/Open Space	-	-	0.03

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
2437	669229.0	4280585.0	Roadway/Open Space	-	-	0.03
2438	669239.0	4280585.0	Roadway/Open Space	-	-	0.03
2439	669249.0	4280585.0	Roadway/Open Space	-	-	0.03
2440	669259.0	4280585.0	Roadway/Open Space	-	-	0.03
2441	669269.0	4280585.0	Roadway/Open Space	-	-	0.03
2442	669279.0	4280585.0	Roadway/Open Space	-	-	0.03
2443	669289.0	4280585.0	Roadway/Open Space	-	-	0.04
2444	669299.0	4280585.0	Roadway/Open Space	-	-	0.04
2445	669309.0	4280585.0	Roadway/Open Space	-	-	0.04
2446	669319.0	4280585.0	Roadway/Open Space	-	-	0.04
2447	669329.0	4280585.0	Roadway/Open Space	-	-	0.04
2448	669339.0	4280585.0	Roadway/Open Space	-	-	0.03
2449	669349.0	4280585.0	Roadway/Open Space	-	-	0.03
2450	669359.0	4280585.0	Roadway/Open Space	-	-	0.03
2451	669369.0	4280585.0	Roadway/Open Space	-	-	0.02
2452	669379.0	4280585.0	Roadway/Open Space	-	-	0.02
2453	669389.0	4280585.0	Roadway/Open Space	-	-	0.02
2454	669399.0	4280585.0	Roadway/Open Space	-	-	0.02
2455	669409.0	4280585.0	Roadway/Open Space	-	-	0.02
2456	669419.0	4280585.0	Roadway/Open Space	-	-	0.02
2457	669429.0	4280585.0	Roadway/Open Space	-	-	0.02
2458	669439.0	4280585.0	Roadway/Open Space	-	-	0.02
2459	669449.0	4280585.0	Roadway/Open Space	-	-	0.02
2460	669459.0	4280585.0	Roadway/Open Space	-	-	0.02
2461	669469.0	4280585.0	Roadway/Open Space	-	-	0.02
2462	669479.0	4280585.0	Roadway/Open Space	-	-	0.02
2463	669489.0	4280585.0	Roadway/Open Space	-	-	0.02
2464	669499.0	4280585.0	Roadway/Open Space	-	-	0.02
2465	669509.0	4280585.0	Roadway/Open Space	-	-	0.02
2466	669519.0	4280585.0	Roadway/Open Space	-	-	0.02
2467	669529.0	4280585.0	Roadway/Open Space	-	-	0.02
2468	669539.0	4280585.0	Roadway/Open Space	-	-	0.02
2469	669549.0	4280585.0	Roadway/Open Space	-	-	0.02
2470	669559.0	4280585.0	Roadway/Open Space	-	-	0.02
2471	669569.0	4280585.0	Roadway/Open Space	-	-	0.02
2472	669579.0	4280585.0	Roadway/Open Space	-	-	0.02
2473	668609.0	4280595.0	Roadway/Open Space	-	-	0.02
2474	668619.0	4280595.0	Roadway/Open Space	-	-	0.02
2475	668629.0	4280595.0	Roadway/Open Space	-	-	0.02
2476	668639.0	4280595.0	Roadway/Open Space	-	-	0.02
2477	668649.0	4280595.0	Roadway/Open Space	-	-	0.02
2478	668659.0	4280595.0	Roadway/Open Space	-	-	0.02
2479	668669.0	4280595.0	Roadway/Open Space	-	-	0.02
2480	668679.0	4280595.0	Roadway/Open Space	-	-	0.02
2481	668689.0	4280595.0	Roadway/Open Space	-	-	0.02
2482	668699.0	4280595.0	Roadway/Open Space	-	-	0.02
2483	668709.0	4280595.0	Roadway/Open Space	-	-	0.02
2484	668719.0	4280595.0	Roadway/Open Space	-	-	0.02
2485	668729.0	4280595.0	Roadway/Open Space	-	-	0.02
2486	668739.0	4280595.0	Roadway/Open Space	-	-	0.03
2487	668749.0	4280595.0	Roadway/Open Space	-	-	0.03
2488	668759.0	4280595.0	Roadway/Open Space	-	-	0.03
2489	668769.0	4280595.0	Roadway/Open Space	-	-	0.03
2490	668779.0	4280595.0	Roadway/Open Space	-	-	0.03
2491	668789.0	4280595.0	Roadway/Open Space	-	-	0.03
2492	668799.0	4280595.0	Roadway/Open Space	-	-	0.03
2493	668809.0	4280595.0	Roadway/Open Space	-	-	0.03
2494	668819.0	4280595.0	Roadway/Open Space	-	-	0.03
2495	668829.0	4280595.0	Roadway/Open Space	-	-	0.03
2496	668839.0	4280595.0	Roadway/Open Space	-	-	0.03
2497	668849.0	4280595.0	Roadway/Open Space	-	-	0.03
2498	668859.0	4280595.0	Roadway/Open Space	-	-	0.03
2499	668869.0	4280595.0	Roadway/Open Space	-	-	0.03
2500	668879.0	4280595.0	Roadway/Open Space	-	-	0.03
2501	668889.0	4280595.0	Roadway/Open Space	-	-	0.03
2502	668899.0	4280595.0	Roadway/Open Space	-	-	0.03
2503	668909.0	4280595.0	Roadway/Open Space	-	-	0.03
2504	668919.0	4280595.0	Roadway/Open Space	-	-	0.03
2505	668929.0	4280595.0	Roadway/Open Space	-	-	0.03
2506	668939.0	4280595.0	Roadway/Open Space	-	-	0.03
2507	668949.0	4280595.0	Roadway/Open Space	-	-	0.03
2508	668959.0	4280595.0	Roadway/Open Space	-	-	0.03
2509	668969.0	4280595.0	Roadway/Open Space	-	-	0.03
2510	668979.0	4280595.0	Roadway/Open Space	-	-	0.03
2511	668989.0	4280595.0	Roadway/Open Space	-	-	0.03
2512	668999.0	4280595.0	Roadway/Open Space	-	-	0.03
2513	669009.0	4280595.0	Roadway/Open Space	-	-	0.03
2514	669019.0	4280595.0	Roadway/Open Space	-	-	0.03
2515	669029.0	4280595.0	Roadway/Open Space	-	-	0.03
2516	669039.0	4280595.0	Roadway/Open Space	-	-	0.03
2517	669049.0	4280595.0	Roadway/Open Space	-	-	0.03
2518	669059.0	4280595.0	Roadway/Open Space	-	-	0.03
2519	669069.0	4280595.0	Roadway/Open Space	-	-	0.03
2520	669079.0	4280595.0	Roadway/Open Space	-	-	0.03

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
2521	669089.0	4280595.0	Roadway/Open Space	-	-	0.03
2522	669099.0	4280595.0	Roadway/Open Space	-	-	0.03
2523	669109.0	4280595.0	Roadway/Open Space	-	-	0.03
2524	669119.0	4280595.0	Roadway/Open Space	-	-	0.03
2525	669129.0	4280595.0	Roadway/Open Space	-	-	0.03
2526	669139.0	4280595.0	Roadway/Open Space	-	-	0.03
2527	669149.0	4280595.0	Roadway/Open Space	-	-	0.03
2528	669159.0	4280595.0	Roadway/Open Space	-	-	0.03
2529	669169.0	4280595.0	Roadway/Open Space	-	-	0.03
2530	669179.0	4280595.0	Roadway/Open Space	-	-	0.03
2531	669189.0	4280595.0	Roadway/Open Space	-	-	0.03
2532	669199.0	4280595.0	Roadway/Open Space	-	-	0.03
2533	669209.0	4280595.0	Roadway/Open Space	-	-	0.03
2534	669219.0	4280595.0	Roadway/Open Space	-	-	0.03
2535	669229.0	4280595.0	Roadway/Open Space	-	-	0.03
2536	669239.0	4280595.0	Roadway/Open Space	-	-	0.03
2537	669249.0	4280595.0	Roadway/Open Space	-	-	0.03
2538	669259.0	4280595.0	Roadway/Open Space	-	-	0.03
2539	669269.0	4280595.0	Roadway/Open Space	-	-	0.03
2540	669279.0	4280595.0	Roadway/Open Space	-	-	0.04
2541	669289.0	4280595.0	Roadway/Open Space	-	-	0.04
2542	669299.0	4280595.0	Roadway/Open Space	-	-	0.04
2543	669309.0	4280595.0	Roadway/Open Space	-	-	0.04
2544	669319.0	4280595.0	Roadway/Open Space	-	-	0.04
2545	669329.0	4280595.0	Roadway/Open Space	-	-	0.04
2546	669339.0	4280595.0	Roadway/Open Space	-	-	0.03
2547	669349.0	4280595.0	Roadway/Open Space	-	-	0.03
2548	669359.0	4280595.0	Roadway/Open Space	-	-	0.03
2549	669369.0	4280595.0	Roadway/Open Space	-	-	0.03
2550	669379.0	4280595.0	Roadway/Open Space	-	-	0.02
2551	669389.0	4280595.0	Roadway/Open Space	-	-	0.02
2552	669399.0	4280595.0	Roadway/Open Space	-	-	0.02
2553	669409.0	4280595.0	Roadway/Open Space	-	-	0.02
2554	669419.0	4280595.0	Roadway/Open Space	-	-	0.02
2555	669429.0	4280595.0	Roadway/Open Space	-	-	0.02
2556	669439.0	4280595.0	Roadway/Open Space	-	-	0.02
2557	669449.0	4280595.0	Roadway/Open Space	-	-	0.02
2558	669459.0	4280595.0	Roadway/Open Space	-	-	0.02
2559	669469.0	4280595.0	Roadway/Open Space	-	-	0.02
2560	669479.0	4280595.0	Roadway/Open Space	-	-	0.02
2561	669489.0	4280595.0	Roadway/Open Space	-	-	0.02
2562	669499.0	4280595.0	Roadway/Open Space	-	-	0.02
2563	669509.0	4280595.0	Roadway/Open Space	-	-	0.02
2564	669519.0	4280595.0	Roadway/Open Space	-	-	0.02
2565	669529.0	4280595.0	Roadway/Open Space	-	-	0.02
2566	669539.0	4280595.0	Roadway/Open Space	-	-	0.02
2567	669549.0	4280595.0	Roadway/Open Space	-	-	0.02
2568	669559.0	4280595.0	Roadway/Open Space	-	-	0.02
2569	669569.0	4280595.0	Roadway/Open Space	-	-	0.02
2570	669579.0	4280595.0	Roadway/Open Space	-	-	0.02
2571	668609.0	4280605.0	Roadway/Open Space	-	-	0.02
2572	668619.0	4280605.0	Roadway/Open Space	-	-	0.02
2573	668629.0	4280605.0	Roadway/Open Space	-	-	0.02
2574	668639.0	4280605.0	Roadway/Open Space	-	-	0.02
2575	668649.0	4280605.0	Roadway/Open Space	-	-	0.02
2576	668659.0	4280605.0	Roadway/Open Space	-	-	0.02
2577	668669.0	4280605.0	Roadway/Open Space	-	-	0.02
2578	668679.0	4280605.0	Roadway/Open Space	-	-	0.02
2579	668689.0	4280605.0	Roadway/Open Space	-	-	0.02
2580	668699.0	4280605.0	Roadway/Open Space	-	-	0.02
2581	668709.0	4280605.0	Roadway/Open Space	-	-	0.02
2582	668719.0	4280605.0	Roadway/Open Space	-	-	0.02
2583	668729.0	4280605.0	Roadway/Open Space	-	-	0.02
2584	668739.0	4280605.0	Roadway/Open Space	-	-	0.03
2585	668749.0	4280605.0	Roadway/Open Space	-	-	0.03
2586	668759.0	4280605.0	Roadway/Open Space	-	-	0.03
2587	668769.0	4280605.0	Roadway/Open Space	-	-	0.03
2588	668779.0	4280605.0	Roadway/Open Space	-	-	0.03
2589	668789.0	4280605.0	Roadway/Open Space	-	-	0.03
2590	668799.0	4280605.0	Roadway/Open Space	-	-	0.03
2591	668809.0	4280605.0	Roadway/Open Space	-	-	0.03
2592	668819.0	4280605.0	Roadway/Open Space	-	-	0.03
2593	668829.0	4280605.0	Roadway/Open Space	-	-	0.03
2594	668839.0	4280605.0	Roadway/Open Space	-	-	0.03
2595	668849.0	4280605.0	Roadway/Open Space	-	-	0.03
2596	668859.0	4280605.0	Roadway/Open Space	-	-	0.03
2597	668869.0	4280605.0	Roadway/Open Space	-	-	0.03
2598	668879.0	4280605.0	Roadway/Open Space	-	-	0.03
2599	668889.0	4280605.0	Roadway/Open Space	-	-	0.03
2600	668899.0	4280605.0	Roadway/Open Space	-	-	0.03
2601	668909.0	4280605.0	Roadway/Open Space	-	-	0.03
2602	668919.0	4280605.0	Roadway/Open Space	-	-	0.03
2603	668929.0	4280605.0	Roadway/Open Space	-	-	0.03
2604	668939.0	4280605.0	Roadway/Open Space	-	-	0.03

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
2605	668949.0	4280605.0	Roadway/Open Space	-	-	0.03
2606	668959.0	4280605.0	Roadway/Open Space	-	-	0.03
2607	668969.0	4280605.0	Roadway/Open Space	-	-	0.03
2608	668979.0	4280605.0	Roadway/Open Space	-	-	0.03
2609	668989.0	4280605.0	Roadway/Open Space	-	-	0.03
2610	668999.0	4280605.0	Roadway/Open Space	-	-	0.03
2611	669009.0	4280605.0	Roadway/Open Space	-	-	0.03
2612	669019.0	4280605.0	Roadway/Open Space	-	-	0.03
2613	669029.0	4280605.0	Roadway/Open Space	-	-	0.03
2614	669039.0	4280605.0	Roadway/Open Space	-	-	0.03
2615	669049.0	4280605.0	Roadway/Open Space	-	-	0.03
2616	669059.0	4280605.0	Roadway/Open Space	-	-	0.03
2617	669069.0	4280605.0	Roadway/Open Space	-	-	0.03
2618	669079.0	4280605.0	Roadway/Open Space	-	-	0.03
2619	669089.0	4280605.0	Roadway/Open Space	-	-	0.03
2620	669099.0	4280605.0	Roadway/Open Space	-	-	0.03
2621	669109.0	4280605.0	Roadway/Open Space	-	-	0.03
2622	669119.0	4280605.0	Roadway/Open Space	-	-	0.03
2623	669129.0	4280605.0	Roadway/Open Space	-	-	0.03
2624	669139.0	4280605.0	Roadway/Open Space	-	-	0.03
2625	669149.0	4280605.0	Roadway/Open Space	-	-	0.03
2626	669159.0	4280605.0	Roadway/Open Space	-	-	0.03
2627	669169.0	4280605.0	Roadway/Open Space	-	-	0.03
2628	669179.0	4280605.0	Roadway/Open Space	-	-	0.03
2629	669189.0	4280605.0	Roadway/Open Space	-	-	0.03
2630	669199.0	4280605.0	Roadway/Open Space	-	-	0.03
2631	669209.0	4280605.0	Roadway/Open Space	-	-	0.03
2632	669219.0	4280605.0	Roadway/Open Space	-	-	0.03
2633	669229.0	4280605.0	Roadway/Open Space	-	-	0.03
2634	669239.0	4280605.0	Roadway/Open Space	-	-	0.03
2635	669249.0	4280605.0	Roadway/Open Space	-	-	0.03
2636	669259.0	4280605.0	Roadway/Open Space	-	-	0.03
2637	669269.0	4280605.0	Roadway/Open Space	-	-	0.03
2638	669279.0	4280605.0	Roadway/Open Space	-	-	0.04
2639	669289.0	4280605.0	Roadway/Open Space	-	-	0.04
2640	669299.0	4280605.0	Roadway/Open Space	-	-	0.04
2641	669309.0	4280605.0	Roadway/Open Space	-	-	0.04
2642	669319.0	4280605.0	Roadway/Open Space	-	-	0.04
2643	669329.0	4280605.0	Roadway/Open Space	-	-	0.04
2644	669339.0	4280605.0	Roadway/Open Space	-	-	0.03
2645	669349.0	4280605.0	Roadway/Open Space	-	-	0.03
2646	669359.0	4280605.0	Roadway/Open Space	-	-	0.03
2647	669369.0	4280605.0	Roadway/Open Space	-	-	0.03
2648	669379.0	4280605.0	Roadway/Open Space	-	-	0.03
2649	669389.0	4280605.0	Roadway/Open Space	-	-	0.02
2650	669399.0	4280605.0	Roadway/Open Space	-	-	0.02
2651	669409.0	4280605.0	Roadway/Open Space	-	-	0.02
2652	669419.0	4280605.0	Roadway/Open Space	-	-	0.02
2653	669429.0	4280605.0	Roadway/Open Space	-	-	0.02
2654	669439.0	4280605.0	Roadway/Open Space	-	-	0.02
2655	669449.0	4280605.0	Roadway/Open Space	-	-	0.02
2656	669459.0	4280605.0	Roadway/Open Space	-	-	0.02
2657	669469.0	4280605.0	Roadway/Open Space	-	-	0.02
2658	669479.0	4280605.0	Roadway/Open Space	-	-	0.02
2659	669489.0	4280605.0	Roadway/Open Space	-	-	0.02
2660	669499.0	4280605.0	Roadway/Open Space	-	-	0.02
2661	669509.0	4280605.0	Roadway/Open Space	-	-	0.02
2662	669519.0	4280605.0	Roadway/Open Space	-	-	0.02
2663	669529.0	4280605.0	Roadway/Open Space	-	-	0.02
2664	669539.0	4280605.0	Roadway/Open Space	-	-	0.02
2665	669549.0	4280605.0	Roadway/Open Space	-	-	0.02
2666	669559.0	4280605.0	Roadway/Open Space	-	-	0.02
2667	669569.0	4280605.0	Roadway/Open Space	-	-	0.02
2668	669579.0	4280605.0	Roadway/Open Space	-	-	0.02
2669	669589.0	4280605.0	Roadway/Open Space	-	-	0.02
2670	668609.0	4280615.0	Roadway/Open Space	-	-	0.03
2671	668619.0	4280615.0	Roadway/Open Space	-	-	0.02
2672	668629.0	4280615.0	Roadway/Open Space	-	-	0.02
2673	668639.0	4280615.0	Roadway/Open Space	-	-	0.02
2674	668649.0	4280615.0	Roadway/Open Space	-	-	0.02
2675	668659.0	4280615.0	Roadway/Open Space	-	-	0.02
2676	668669.0	4280615.0	Roadway/Open Space	-	-	0.02
2677	668679.0	4280615.0	Roadway/Open Space	-	-	0.02
2678	668689.0	4280615.0	Roadway/Open Space	-	-	0.02
2679	668699.0	4280615.0	Roadway/Open Space	-	-	0.02
2680	668709.0	4280615.0	Roadway/Open Space	-	-	0.02
2681	668719.0	4280615.0	Roadway/Open Space	-	-	0.03
2682	668729.0	4280615.0	Roadway/Open Space	-	-	0.03
2683	668739.0	4280615.0	Roadway/Open Space	-	-	0.03
2684	668749.0	4280615.0	Roadway/Open Space	-	-	0.03
2685	668759.0	4280615.0	Roadway/Open Space	-	-	0.03
2686	668769.0	4280615.0	Roadway/Open Space	-	-	0.03
2687	668779.0	4280615.0	Roadway/Open Space	-	-	0.03
2688	668789.0	4280615.0	Roadway/Open Space	-	-	0.03

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
2689	668799.0	4280615.0	Roadway/Open Space	-	-	0.03
2690	668809.0	4280615.0	Roadway/Open Space	-	-	0.03
2691	668819.0	4280615.0	Roadway/Open Space	-	-	0.03
2692	668829.0	4280615.0	Roadway/Open Space	-	-	0.03
2693	668839.0	4280615.0	Roadway/Open Space	-	-	0.03
2694	668849.0	4280615.0	Roadway/Open Space	-	-	0.03
2695	668859.0	4280615.0	Roadway/Open Space	-	-	0.03
2696	668869.0	4280615.0	Roadway/Open Space	-	-	0.03
2697	668879.0	4280615.0	Roadway/Open Space	-	-	0.03
2698	668889.0	4280615.0	Roadway/Open Space	-	-	0.03
2699	668899.0	4280615.0	Roadway/Open Space	-	-	0.03
2700	668909.0	4280615.0	Roadway/Open Space	-	-	0.03
2701	668919.0	4280615.0	Roadway/Open Space	-	-	0.03
2702	668929.0	4280615.0	Roadway/Open Space	-	-	0.03
2703	668939.0	4280615.0	Roadway/Open Space	-	-	0.03
2704	668949.0	4280615.0	Roadway/Open Space	-	-	0.03
2705	668959.0	4280615.0	Roadway/Open Space	-	-	0.03
2706	668969.0	4280615.0	Roadway/Open Space	-	-	0.03
2707	668979.0	4280615.0	Roadway/Open Space	-	-	0.03
2708	668989.0	4280615.0	Roadway/Open Space	-	-	0.03
2709	668999.0	4280615.0	Roadway/Open Space	-	-	0.03
2710	669009.0	4280615.0	Roadway/Open Space	-	-	0.03
2711	669019.0	4280615.0	Roadway/Open Space	-	-	0.03
2712	669029.0	4280615.0	Roadway/Open Space	-	-	0.03
2713	669039.0	4280615.0	Roadway/Open Space	-	-	0.03
2714	669049.0	4280615.0	Roadway/Open Space	-	-	0.03
2715	669059.0	4280615.0	Roadway/Open Space	-	-	0.03
2716	669069.0	4280615.0	Roadway/Open Space	-	-	0.03
2717	669079.0	4280615.0	Roadway/Open Space	-	-	0.03
2718	669089.0	4280615.0	Roadway/Open Space	-	-	0.03
2719	669099.0	4280615.0	Roadway/Open Space	-	-	0.03
2720	669109.0	4280615.0	Roadway/Open Space	-	-	0.03
2721	669119.0	4280615.0	Roadway/Open Space	-	-	0.03
2722	669129.0	4280615.0	Roadway/Open Space	-	-	0.03
2723	669139.0	4280615.0	Roadway/Open Space	-	-	0.03
2724	669149.0	4280615.0	Roadway/Open Space	-	-	0.03
2725	669159.0	4280615.0	Roadway/Open Space	-	-	0.03
2726	669169.0	4280615.0	Roadway/Open Space	-	-	0.03
2727	669179.0	4280615.0	Roadway/Open Space	-	-	0.03
2728	669189.0	4280615.0	Roadway/Open Space	-	-	0.03
2729	669199.0	4280615.0	Roadway/Open Space	-	-	0.03
2730	669209.0	4280615.0	Roadway/Open Space	-	-	0.03
2731	669219.0	4280615.0	Roadway/Open Space	-	-	0.03
2732	669229.0	4280615.0	Roadway/Open Space	-	-	0.03
2733	669239.0	4280615.0	Roadway/Open Space	-	-	0.03
2734	669249.0	4280615.0	Roadway/Open Space	-	-	0.03
2735	669259.0	4280615.0	Roadway/Open Space	-	-	0.03
2736	669269.0	4280615.0	Roadway/Open Space	-	-	0.03
2737	669279.0	4280615.0	Roadway/Open Space	-	-	0.03
2738	669289.0	4280615.0	Roadway/Open Space	-	-	0.03
2739	669299.0	4280615.0	Roadway/Open Space	-	-	0.03
2740	669309.0	4280615.0	Roadway/Open Space	-	-	0.04
2741	669319.0	4280615.0	Roadway/Open Space	-	-	0.04
2742	669329.0	4280615.0	Roadway/Open Space	-	-	0.04
2743	669339.0	4280615.0	Roadway/Open Space	-	-	0.03
2744	669349.0	4280615.0	Roadway/Open Space	-	-	0.03
2745	669359.0	4280615.0	Roadway/Open Space	-	-	0.03
2746	669369.0	4280615.0	Roadway/Open Space	-	-	0.03
2747	669379.0	4280615.0	Roadway/Open Space	-	-	0.03
2748	669389.0	4280615.0	Roadway/Open Space	-	-	0.02
2749	669399.0	4280615.0	Roadway/Open Space	-	-	0.02
2750	669409.0	4280615.0	Roadway/Open Space	-	-	0.02
2751	669419.0	4280615.0	Roadway/Open Space	-	-	0.02
2752	669429.0	4280615.0	Roadway/Open Space	-	-	0.02
2753	669439.0	4280615.0	Roadway/Open Space	-	-	0.02
2754	669449.0	4280615.0	Roadway/Open Space	-	-	0.02
2755	669459.0	4280615.0	Roadway/Open Space	-	-	0.02
2756	669469.0	4280615.0	Roadway/Open Space	-	-	0.02
2757	669479.0	4280615.0	Roadway/Open Space	-	-	0.02
2758	669489.0	4280615.0	Roadway/Open Space	-	-	0.02
2759	669499.0	4280615.0	Roadway/Open Space	-	-	0.02
2760	669509.0	4280615.0	Roadway/Open Space	-	-	0.02
2761	669519.0	4280615.0	Roadway/Open Space	-	-	0.02
2762	669529.0	4280615.0	Roadway/Open Space	-	-	0.02
2763	669539.0	4280615.0	Roadway/Open Space	-	-	0.02
2764	669549.0	4280615.0	Roadway/Open Space	-	-	0.02
2765	669559.0	4280615.0	Roadway/Open Space	-	-	0.02
2766	669569.0	4280615.0	Roadway/Open Space	-	-	0.02
2767	669579.0	4280615.0	Roadway/Open Space	-	-	0.02
2768	669589.0	4280615.0	Roadway/Open Space	-	-	0.02
2769	668599.0	4280625.0	Roadway/Open Space	-	-	0.03
2770	668609.0	4280625.0	Roadway/Open Space	-	-	0.03
2771	668619.0	4280625.0	Roadway/Open Space	-	-	0.02
2772	668629.0	4280625.0	Roadway/Open Space	-	-	0.02

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
2773	668639.0	4280625.0	Roadway/Open Space	-	-	0.02
2774	668649.0	4280625.0	Roadway/Open Space	-	-	0.02
2775	668659.0	4280625.0	Roadway/Open Space	-	-	0.02
2776	668669.0	4280625.0	Roadway/Open Space	-	-	0.02
2777	668679.0	4280625.0	Roadway/Open Space	-	-	0.02
2778	668689.0	4280625.0	Roadway/Open Space	-	-	0.02
2779	668699.0	4280625.0	Roadway/Open Space	-	-	0.02
2780	668709.0	4280625.0	Roadway/Open Space	-	-	0.03
2781	668719.0	4280625.0	Roadway/Open Space	-	-	0.03
2782	668729.0	4280625.0	Roadway/Open Space	-	-	0.03
2783	668739.0	4280625.0	Roadway/Open Space	-	-	0.03
2784	668749.0	4280625.0	Roadway/Open Space	-	-	0.03
2785	668759.0	4280625.0	Roadway/Open Space	-	-	0.03
2786	668769.0	4280625.0	Roadway/Open Space	-	-	0.03
2787	668779.0	4280625.0	Roadway/Open Space	-	-	0.03
2788	668789.0	4280625.0	Roadway/Open Space	-	-	0.03
2789	668799.0	4280625.0	Roadway/Open Space	-	-	0.03
2790	668809.0	4280625.0	Roadway/Open Space	-	-	0.03
2791	668819.0	4280625.0	Roadway/Open Space	-	-	0.03
2792	668829.0	4280625.0	Roadway/Open Space	-	-	0.03
2793	668839.0	4280625.0	Roadway/Open Space	-	-	0.03
2794	668849.0	4280625.0	Roadway/Open Space	-	-	0.03
2795	668859.0	4280625.0	Roadway/Open Space	-	-	0.03
2796	668869.0	4280625.0	Roadway/Open Space	-	-	0.03
2797	668879.0	4280625.0	Roadway/Open Space	-	-	0.03
2798	668889.0	4280625.0	Roadway/Open Space	-	-	0.03
2799	668899.0	4280625.0	Roadway/Open Space	-	-	0.03
2800	668909.0	4280625.0	Roadway/Open Space	-	-	0.03
2801	668919.0	4280625.0	Roadway/Open Space	-	-	0.03
2802	668929.0	4280625.0	Roadway/Open Space	-	-	0.03
2803	668939.0	4280625.0	Roadway/Open Space	-	-	0.03
2804	668949.0	4280625.0	Roadway/Open Space	-	-	0.03
2805	668959.0	4280625.0	Roadway/Open Space	-	-	0.03
2806	668969.0	4280625.0	Roadway/Open Space	-	-	0.03
2807	668979.0	4280625.0	Roadway/Open Space	-	-	0.03
2808	668989.0	4280625.0	Roadway/Open Space	-	-	0.03
2809	668999.0	4280625.0	Roadway/Open Space	-	-	0.03
2810	669009.0	4280625.0	Roadway/Open Space	-	-	0.03
2811	669019.0	4280625.0	Roadway/Open Space	-	-	0.03
2812	669029.0	4280625.0	Roadway/Open Space	-	-	0.03
2813	669039.0	4280625.0	Roadway/Open Space	-	-	0.03
2815	669059.0	4280625.0	Roadway/Open Space	-	-	0.03
2816	669069.0	4280625.0	Roadway/Open Space	-	-	0.03
2817	669079.0	4280625.0	Roadway/Open Space	-	-	0.03
2818	669089.0	4280625.0	Roadway/Open Space	-	-	0.03
2819	669099.0	4280625.0	Roadway/Open Space	-	-	0.03
2820	669109.0	4280625.0	Roadway/Open Space	-	-	0.03
2821	669119.0	4280625.0	Roadway/Open Space	-	-	0.03
2822	669129.0	4280625.0	Roadway/Open Space	-	-	0.03
2823	669139.0	4280625.0	Roadway/Open Space	-	-	0.03
2824	669149.0	4280625.0	Roadway/Open Space	-	-	0.03
2825	669159.0	4280625.0	Roadway/Open Space	-	-	0.03
2826	669169.0	4280625.0	Roadway/Open Space	-	-	0.03
2827	669179.0	4280625.0	Roadway/Open Space	-	-	0.03
2828	669189.0	4280625.0	Roadway/Open Space	-	-	0.03
2829	669199.0	4280625.0	Roadway/Open Space	-	-	0.03
2830	669209.0	4280625.0	Roadway/Open Space	-	-	0.04
2831	669219.0	4280625.0	Roadway/Open Space	-	-	0.03
2832	669229.0	4280625.0	Roadway/Open Space	-	-	0.04
2833	669239.0	4280625.0	Roadway/Open Space	-	-	0.03
2834	669249.0	4280625.0	Roadway/Open Space	-	-	0.03
2835	669259.0	4280625.0	Roadway/Open Space	-	-	0.03
2836	669269.0	4280625.0	Roadway/Open Space	-	-	0.03
2837	669279.0	4280625.0	Roadway/Open Space	-	-	0.03
2838	669289.0	4280625.0	Roadway/Open Space	-	-	0.03
2839	669299.0	4280625.0	Roadway/Open Space	-	-	0.03
2840	669309.0	4280625.0	Roadway/Open Space	-	-	0.03
2841	669319.0	4280625.0	Roadway/Open Space	-	-	0.04
2842	669329.0	4280625.0	Roadway/Open Space	-	-	0.03
2843	669339.0	4280625.0	Roadway/Open Space	-	-	0.03
2844	669349.0	4280625.0	Roadway/Open Space	-	-	0.03
2845	669359.0	4280625.0	Roadway/Open Space	-	-	0.03
2846	669369.0	4280625.0	Roadway/Open Space	-	-	0.03
2847	669379.0	4280625.0	Roadway/Open Space	-	-	0.03
2848	669389.0	4280625.0	Roadway/Open Space	-	-	0.02
2849	669399.0	4280625.0	Roadway/Open Space	-	-	0.02
2850	669409.0	4280625.0	Roadway/Open Space	-	-	0.02
2851	669419.0	4280625.0	Roadway/Open Space	-	-	0.02
2852	669429.0	4280625.0	Roadway/Open Space	-	-	0.02
2853	669439.0	4280625.0	Roadway/Open Space	-	-	0.02
2854	669449.0	4280625.0	Roadway/Open Space	-	-	0.02
2855	669459.0	4280625.0	Roadway/Open Space	-	-	0.02
2856	669469.0	4280625.0	Roadway/Open Space	-	-	0.02
2857	669479.0	4280625.0	Roadway/Open Space	-	-	0.02

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
2858	669489.0	4280625.0	Roadway/Open Space	-	-	0.02
2859	669499.0	4280625.0	Roadway/Open Space	-	-	0.02
2860	669509.0	4280625.0	Roadway/Open Space	-	-	0.02
2861	669519.0	4280625.0	Roadway/Open Space	-	-	0.02
2862	669529.0	4280625.0	Roadway/Open Space	-	-	0.02
2863	669539.0	4280625.0	Roadway/Open Space	-	-	0.02
2864	669549.0	4280625.0	Roadway/Open Space	-	-	0.02
2865	669559.0	4280625.0	Roadway/Open Space	-	-	0.02
2866	669569.0	4280625.0	Roadway/Open Space	-	-	0.02
2867	669579.0	4280625.0	Roadway/Open Space	-	-	0.02
2868	669589.0	4280625.0	Roadway/Open Space	-	-	0.02
2869	669599.0	4280625.0	Roadway/Open Space	-	-	0.02
2870	668599.0	4280635.0	Roadway/Open Space	-	-	0.03
2871	668609.0	4280635.0	Roadway/Open Space	-	-	0.03
2872	668619.0	4280635.0	Roadway/Open Space	-	-	0.02
2873	668629.0	4280635.0	Roadway/Open Space	-	-	0.02
2874	668639.0	4280635.0	Roadway/Open Space	-	-	0.02
2875	668649.0	4280635.0	Roadway/Open Space	-	-	0.02
2876	668659.0	4280635.0	Roadway/Open Space	-	-	0.02
2877	668669.0	4280635.0	Roadway/Open Space	-	-	0.02
2878	668679.0	4280635.0	Roadway/Open Space	-	-	0.02
2879	668689.0	4280635.0	Roadway/Open Space	-	-	0.02
2880	668699.0	4280635.0	Roadway/Open Space	-	-	0.02
2881	668709.0	4280635.0	Roadway/Open Space	-	-	0.03
2882	668719.0	4280635.0	Roadway/Open Space	-	-	0.03
2883	668729.0	4280635.0	Roadway/Open Space	-	-	0.03
2884	668739.0	4280635.0	Roadway/Open Space	-	-	0.03
2885	668749.0	4280635.0	Roadway/Open Space	-	-	0.03
2886	668759.0	4280635.0	Roadway/Open Space	-	-	0.03
2887	668769.0	4280635.0	Roadway/Open Space	-	-	0.03
2888	668779.0	4280635.0	Roadway/Open Space	-	-	0.03
2889	668789.0	4280635.0	Roadway/Open Space	-	-	0.03
2890	668799.0	4280635.0	Roadway/Open Space	-	-	0.03
2891	668809.0	4280635.0	Roadway/Open Space	-	-	0.03
2892	668819.0	4280635.0	Roadway/Open Space	-	-	0.03
2893	668829.0	4280635.0	Roadway/Open Space	-	-	0.03
2894	668839.0	4280635.0	Roadway/Open Space	-	-	0.03
2895	668849.0	4280635.0	Roadway/Open Space	-	-	0.03
2896	668859.0	4280635.0	Roadway/Open Space	-	-	0.03
2897	668869.0	4280635.0	Roadway/Open Space	-	-	0.03
2898	668879.0	4280635.0	Roadway/Open Space	-	-	0.03
2899	668889.0	4280635.0	Roadway/Open Space	-	-	0.03
2900	668899.0	4280635.0	Roadway/Open Space	-	-	0.03
2901	668909.0	4280635.0	Roadway/Open Space	-	-	0.03
2902	668919.0	4280635.0	Roadway/Open Space	-	-	0.03
2903	668929.0	4280635.0	Roadway/Open Space	-	-	0.03
2904	668939.0	4280635.0	Roadway/Open Space	-	-	0.03
2905	668949.0	4280635.0	Roadway/Open Space	-	-	0.03
2906	668959.0	4280635.0	Roadway/Open Space	-	-	0.03
2907	668969.0	4280635.0	Roadway/Open Space	-	-	0.03
2908	668979.0	4280635.0	Roadway/Open Space	-	-	0.03
2909	668989.0	4280635.0	Roadway/Open Space	-	-	0.03
2910	668999.0	4280635.0	Roadway/Open Space	-	-	0.03
2911	669009.0	4280635.0	Roadway/Open Space	-	-	0.03
2912	669019.0	4280635.0	Roadway/Open Space	-	-	0.03
2913	669029.0	4280635.0	Roadway/Open Space	-	-	0.03
2917	669069.0	4280635.0	Roadway/Open Space	-	-	0.03
2918	669079.0	4280635.0	Roadway/Open Space	-	-	0.03
2919	669089.0	4280635.0	Roadway/Open Space	-	-	0.04
2920	669099.0	4280635.0	Roadway/Open Space	-	-	0.03
2921	669109.0	4280635.0	Roadway/Open Space	-	-	0.04
2922	669119.0	4280635.0	Roadway/Open Space	-	-	0.03
2923	669129.0	4280635.0	Roadway/Open Space	-	-	0.04
2924	669139.0	4280635.0	Roadway/Open Space	-	-	0.04
2925	669149.0	4280635.0	Roadway/Open Space	-	-	0.04
2926	669159.0	4280635.0	Roadway/Open Space	-	-	0.04
2927	669169.0	4280635.0	Roadway/Open Space	-	-	0.03
2928	669179.0	4280635.0	Roadway/Open Space	-	-	0.04
2929	669189.0	4280635.0	Roadway/Open Space	-	-	0.04
2930	669199.0	4280635.0	Roadway/Open Space	-	-	0.04
2931	669209.0	4280635.0	Roadway/Open Space	-	-	0.04
2932	669219.0	4280635.0	Roadway/Open Space	-	-	0.04
2933	669229.0	4280635.0	Roadway/Open Space	-	-	0.04
2934	669239.0	4280635.0	Roadway/Open Space	-	-	0.04
2935	669249.0	4280635.0	Roadway/Open Space	-	-	0.03
2936	669259.0	4280635.0	Roadway/Open Space	-	-	0.04
2937	669269.0	4280635.0	Roadway/Open Space	-	-	0.04
2938	669279.0	4280635.0	Roadway/Open Space	-	-	0.03
2939	669289.0	4280635.0	Roadway/Open Space	-	-	0.03
2940	669299.0	4280635.0	Roadway/Open Space	-	-	0.03
2941	669309.0	4280635.0	Roadway/Open Space	-	-	0.03
2942	669319.0	4280635.0	Roadway/Open Space	-	-	0.03
2943	669329.0	4280635.0	Roadway/Open Space	-	-	0.03
2944	669339.0	4280635.0	Roadway/Open Space	-	-	0.03

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
2945	669349.0	4280635.0	Roadway/Open Space	-	-	0.03
2946	669359.0	4280635.0	Roadway/Open Space	-	-	0.03
2947	669369.0	4280635.0	Roadway/Open Space	-	-	0.03
2948	669379.0	4280635.0	Roadway/Open Space	-	-	0.03
2949	669389.0	4280635.0	Roadway/Open Space	-	-	0.03
2950	669399.0	4280635.0	Roadway/Open Space	-	-	0.02
2951	669409.0	4280635.0	Roadway/Open Space	-	-	0.02
2952	669419.0	4280635.0	Roadway/Open Space	-	-	0.02
2953	669429.0	4280635.0	Roadway/Open Space	-	-	0.02
2954	669439.0	4280635.0	Roadway/Open Space	-	-	0.02
2955	669449.0	4280635.0	Roadway/Open Space	-	-	0.02
2956	669459.0	4280635.0	Roadway/Open Space	-	-	0.02
2957	669469.0	4280635.0	Roadway/Open Space	-	-	0.02
2958	669479.0	4280635.0	Roadway/Open Space	-	-	0.02
2959	669489.0	4280635.0	Roadway/Open Space	-	-	0.02
2960	669499.0	4280635.0	Roadway/Open Space	-	-	0.02
2961	669509.0	4280635.0	Roadway/Open Space	-	-	0.02
2962	669519.0	4280635.0	Roadway/Open Space	-	-	0.02
2963	669529.0	4280635.0	Roadway/Open Space	-	-	0.02
2964	669539.0	4280635.0	Roadway/Open Space	-	-	0.02
2965	669549.0	4280635.0	Roadway/Open Space	-	-	0.02
2966	669559.0	4280635.0	Roadway/Open Space	-	-	0.02
2967	669569.0	4280635.0	Roadway/Open Space	-	-	0.02
2968	669579.0	4280635.0	Roadway/Open Space	-	-	0.02
2969	669589.0	4280635.0	Roadway/Open Space	-	-	0.02
2970	669599.0	4280635.0	Roadway/Open Space	-	-	0.02
2971	668589.0	4280645.0	Roadway/Open Space	-	-	0.03
2972	668599.0	4280645.0	Roadway/Open Space	-	-	0.03
2973	668609.0	4280645.0	Roadway/Open Space	-	-	0.03
2974	668619.0	4280645.0	Roadway/Open Space	-	-	0.02
2975	668629.0	4280645.0	Roadway/Open Space	-	-	0.02
2976	668639.0	4280645.0	Roadway/Open Space	-	-	0.02
2977	668649.0	4280645.0	Roadway/Open Space	-	-	0.02
2978	668659.0	4280645.0	Roadway/Open Space	-	-	0.02
2979	668669.0	4280645.0	Roadway/Open Space	-	-	0.02
2980	668679.0	4280645.0	Roadway/Open Space	-	-	0.02
2981	668689.0	4280645.0	Roadway/Open Space	-	-	0.02
2982	668699.0	4280645.0	Roadway/Open Space	-	-	0.03
2983	668709.0	4280645.0	Roadway/Open Space	-	-	0.03
2984	668719.0	4280645.0	Roadway/Open Space	-	-	0.03
2985	668729.0	4280645.0	Roadway/Open Space	-	-	0.03
2986	668739.0	4280645.0	Roadway/Open Space	-	-	0.03
2987	668749.0	4280645.0	Roadway/Open Space	-	-	0.03
2988	668759.0	4280645.0	Roadway/Open Space	-	-	0.03
2989	668769.0	4280645.0	Roadway/Open Space	-	-	0.03
2990	668779.0	4280645.0	Roadway/Open Space	-	-	0.03
2991	668789.0	4280645.0	Roadway/Open Space	-	-	0.03
2992	668799.0	4280645.0	Roadway/Open Space	-	-	0.03
2993	668809.0	4280645.0	Roadway/Open Space	-	-	0.03
2994	668819.0	4280645.0	Roadway/Open Space	-	-	0.04
2995	668829.0	4280645.0	Roadway/Open Space	-	-	0.04
2996	668839.0	4280645.0	Roadway/Open Space	-	-	0.04
2997	668849.0	4280645.0	Roadway/Open Space	-	-	0.04
2998	668859.0	4280645.0	Roadway/Open Space	-	-	0.04
2999	668869.0	4280645.0	Roadway/Open Space	-	-	0.03
3000	668879.0	4280645.0	Roadway/Open Space	-	-	0.03
3001	668889.0	4280645.0	Roadway/Open Space	-	-	0.03
3002	668899.0	4280645.0	Roadway/Open Space	-	-	0.03
3003	668909.0	4280645.0	Roadway/Open Space	-	-	0.03
3004	668919.0	4280645.0	Roadway/Open Space	-	-	0.03
3005	668929.0	4280645.0	Roadway/Open Space	-	-	0.03
3006	668939.0	4280645.0	Roadway/Open Space	-	-	0.03
3007	668949.0	4280645.0	Roadway/Open Space	-	-	0.03
3008	668959.0	4280645.0	Roadway/Open Space	-	-	0.03
3009	668969.0	4280645.0	Roadway/Open Space	-	-	0.03
3010	668979.0	4280645.0	Roadway/Open Space	-	-	0.04
3011	668989.0	4280645.0	Roadway/Open Space	-	-	0.04
3012	668999.0	4280645.0	Roadway/Open Space	-	-	0.04
3013	669009.0	4280645.0	Roadway/Open Space	-	-	0.03
3014	669019.0	4280645.0	Roadway/Open Space	-	-	0.04
3015	669029.0	4280645.0	Roadway/Open Space	-	-	0.04
3020	669079.0	4280645.0	Roadway/Open Space	-	-	0.04
3021	669089.0	4280645.0	Roadway/Open Space	-	-	0.04
3022	669099.0	4280645.0	Roadway/Open Space	-	-	0.04
3023	669109.0	4280645.0	Roadway/Open Space	-	-	0.04
3024	669119.0	4280645.0	Roadway/Open Space	-	-	0.04
3025	669129.0	4280645.0	Roadway/Open Space	-	-	0.04
3026	669139.0	4280645.0	Roadway/Open Space	-	-	0.04
3027	669149.0	4280645.0	Roadway/Open Space	-	-	0.04
3028	669159.0	4280645.0	Roadway/Open Space	-	-	0.04
3029	669169.0	4280645.0	Roadway/Open Space	-	-	0.04
3030	669179.0	4280645.0	Roadway/Open Space	-	-	0.04
3031	669189.0	4280645.0	Roadway/Open Space	-	-	0.04
3032	669199.0	4280645.0	Roadway/Open Space	-	-	0.04

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
3033	669209.0	4280645.0	Roadway/Open Space	-	-	0.04
3034	669219.0	4280645.0	Roadway/Open Space	-	-	0.04
3035	669229.0	4280645.0	Roadway/Open Space	-	-	0.04
3036	669239.0	4280645.0	Roadway/Open Space	-	-	0.04
3037	669249.0	4280645.0	Roadway/Open Space	-	-	0.04
3038	669259.0	4280645.0	Roadway/Open Space	-	-	0.04
3039	669269.0	4280645.0	Roadway/Open Space	-	-	0.04
3040	669279.0	4280645.0	Roadway/Open Space	-	-	0.04
3041	669289.0	4280645.0	Roadway/Open Space	-	-	0.04
3042	669299.0	4280645.0	Roadway/Open Space	-	-	0.03
3043	669309.0	4280645.0	Roadway/Open Space	-	-	0.03
3044	669319.0	4280645.0	Roadway/Open Space	-	-	0.03
3045	669329.0	4280645.0	Roadway/Open Space	-	-	0.03
3046	669339.0	4280645.0	Roadway/Open Space	-	-	0.03
3047	669349.0	4280645.0	Roadway/Open Space	-	-	0.03
3048	669359.0	4280645.0	Roadway/Open Space	-	-	0.03
3049	669369.0	4280645.0	Roadway/Open Space	-	-	0.03
3050	669379.0	4280645.0	Roadway/Open Space	-	-	0.03
3051	669389.0	4280645.0	Roadway/Open Space	-	-	0.03
3052	669399.0	4280645.0	Roadway/Open Space	-	-	0.02
3053	669409.0	4280645.0	Roadway/Open Space	-	-	0.02
3054	669419.0	4280645.0	Roadway/Open Space	-	-	0.02
3055	669429.0	4280645.0	Roadway/Open Space	-	-	0.02
3056	669439.0	4280645.0	Roadway/Open Space	-	-	0.02
3057	669449.0	4280645.0	Roadway/Open Space	-	-	0.02
3058	669459.0	4280645.0	Roadway/Open Space	-	-	0.02
3059	669469.0	4280645.0	Roadway/Open Space	-	-	0.02
3060	669479.0	4280645.0	Roadway/Open Space	-	-	0.02
3061	669489.0	4280645.0	Roadway/Open Space	-	-	0.02
3062	669499.0	4280645.0	Roadway/Open Space	-	-	0.02
3063	669509.0	4280645.0	Roadway/Open Space	-	-	0.02
3064	669519.0	4280645.0	Roadway/Open Space	-	-	0.02
3065	669529.0	4280645.0	Roadway/Open Space	-	-	0.02
3066	669539.0	4280645.0	Roadway/Open Space	-	-	0.02
3067	669549.0	4280645.0	Roadway/Open Space	-	-	0.02
3068	669559.0	4280645.0	Roadway/Open Space	-	-	0.02
3069	669569.0	4280645.0	Roadway/Open Space	-	-	0.02
3070	669579.0	4280645.0	Roadway/Open Space	-	-	0.02
3071	669589.0	4280645.0	Roadway/Open Space	-	-	0.02
3072	669599.0	4280645.0	Roadway/Open Space	-	-	0.02
3073	668589.0	4280655.0	Roadway/Open Space	-	-	0.03
3074	668599.0	4280655.0	Roadway/Open Space	-	-	0.03
3075	668609.0	4280655.0	Roadway/Open Space	-	-	0.03
3076	668619.0	4280655.0	Roadway/Open Space	-	-	0.02
3077	668629.0	4280655.0	Roadway/Open Space	-	-	0.02
3078	668639.0	4280655.0	Roadway/Open Space	-	-	0.02
3079	668649.0	4280655.0	Roadway/Open Space	-	-	0.02
3080	668659.0	4280655.0	Roadway/Open Space	-	-	0.02
3081	668669.0	4280655.0	Roadway/Open Space	-	-	0.02
3082	668679.0	4280655.0	Roadway/Open Space	-	-	0.03
3083	668689.0	4280655.0	Roadway/Open Space	-	-	0.03
3084	668699.0	4280655.0	Roadway/Open Space	-	-	0.03
3085	668709.0	4280655.0	Roadway/Open Space	-	-	0.03
3086	668719.0	4280655.0	Roadway/Open Space	-	-	0.03
3087	668729.0	4280655.0	Roadway/Open Space	-	-	0.03
3088	668739.0	4280655.0	Roadway/Open Space	-	-	0.04
3089	668749.0	4280655.0	Roadway/Open Space	-	-	0.04
3090	668759.0	4280655.0	Roadway/Open Space	-	-	0.04
3091	668769.0	4280655.0	Roadway/Open Space	-	-	0.03
3092	668779.0	4280655.0	Roadway/Open Space	-	-	0.03
3093	668789.0	4280655.0	Roadway/Open Space	-	-	0.03
3094	668799.0	4280655.0	Roadway/Open Space	-	-	0.03
3095	668809.0	4280655.0	Roadway/Open Space	-	-	0.04
3096	668819.0	4280655.0	Roadway/Open Space	-	-	0.04
3097	668829.0	4280655.0	Roadway/Open Space	-	-	0.04
3098	668839.0	4280655.0	Roadway/Open Space	-	-	0.04
3099	668849.0	4280655.0	Roadway/Open Space	-	-	0.04
3100	668859.0	4280655.0	Roadway/Open Space	-	-	0.04
3101	668869.0	4280655.0	Roadway/Open Space	-	-	0.04
3102	668879.0	4280655.0	Roadway/Open Space	-	-	0.03
3103	668889.0	4280655.0	Roadway/Open Space	-	-	0.03
3104	668899.0	4280655.0	Roadway/Open Space	-	-	0.03
3105	668909.0	4280655.0	Roadway/Open Space	-	-	0.03
3106	668919.0	4280655.0	Roadway/Open Space	-	-	0.03
3107	668929.0	4280655.0	Roadway/Open Space	-	-	0.03
3108	668939.0	4280655.0	Roadway/Open Space	-	-	0.03
3109	668949.0	4280655.0	Roadway/Open Space	-	-	0.03
3110	668959.0	4280655.0	Roadway/Open Space	-	-	0.03
3111	668969.0	4280655.0	Roadway/Open Space	-	-	0.04
3112	668979.0	4280655.0	Roadway/Open Space	-	-	0.04
3113	668989.0	4280655.0	Roadway/Open Space	-	-	0.04
3114	668999.0	4280655.0	Roadway/Open Space	-	-	0.04
3115	669009.0	4280655.0	Roadway/Open Space	-	-	0.04
3116	669019.0	4280655.0	Roadway/Open Space	-	-	0.04

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
3123	669089.0	4280655.0	Roadway/Open Space	-	-	0.04
3124	669099.0	4280655.0	Roadway/Open Space	-	-	0.04
3125	669109.0	4280655.0	Roadway/Open Space	-	-	0.04
3126	669119.0	4280655.0	Roadway/Open Space	-	-	0.04
3127	669129.0	4280655.0	Roadway/Open Space	-	-	0.04
3128	669139.0	4280655.0	Roadway/Open Space	-	-	0.04
3129	669149.0	4280655.0	Roadway/Open Space	-	-	0.04
3130	669159.0	4280655.0	Roadway/Open Space	-	-	0.04
3131	669169.0	4280655.0	Roadway/Open Space	-	-	0.04
3132	669179.0	4280655.0	Roadway/Open Space	-	-	0.04
3133	669189.0	4280655.0	Roadway/Open Space	-	-	0.04
3134	669199.0	4280655.0	Roadway/Open Space	-	-	0.04
3135	669209.0	4280655.0	Roadway/Open Space	-	-	0.04
3136	669219.0	4280655.0	Roadway/Open Space	-	-	0.04
3137	669229.0	4280655.0	Roadway/Open Space	-	-	0.04
3138	669239.0	4280655.0	Roadway/Open Space	-	-	0.04
3139	669249.0	4280655.0	Roadway/Open Space	-	-	0.04
3140	669259.0	4280655.0	Roadway/Open Space	-	-	0.04
3141	669269.0	4280655.0	Roadway/Open Space	-	-	0.04
3142	669279.0	4280655.0	Roadway/Open Space	-	-	0.04
3143	669289.0	4280655.0	Roadway/Open Space	-	-	0.04
3144	669299.0	4280655.0	Roadway/Open Space	-	-	0.04
3145	669309.0	4280655.0	Roadway/Open Space	-	-	0.04
3146	669319.0	4280655.0	Roadway/Open Space	-	-	0.04
3147	669329.0	4280655.0	Roadway/Open Space	-	-	0.03
3148	669339.0	4280655.0	Roadway/Open Space	-	-	0.03
3149	669349.0	4280655.0	Roadway/Open Space	-	-	0.03
3150	669359.0	4280655.0	Roadway/Open Space	-	-	0.03
3151	669369.0	4280655.0	Roadway/Open Space	-	-	0.03
3152	669379.0	4280655.0	Roadway/Open Space	-	-	0.03
3153	669389.0	4280655.0	Roadway/Open Space	-	-	0.03
3154	669399.0	4280655.0	Roadway/Open Space	-	-	0.03
3155	669409.0	4280655.0	Roadway/Open Space	-	-	0.02
3156	669419.0	4280655.0	Roadway/Open Space	-	-	0.02
3157	669429.0	4280655.0	Roadway/Open Space	-	-	0.03
3158	669439.0	4280655.0	Roadway/Open Space	-	-	0.03
3159	669449.0	4280655.0	Roadway/Open Space	-	-	0.02
3160	669459.0	4280655.0	Roadway/Open Space	-	-	0.02
3161	669469.0	4280655.0	Roadway/Open Space	-	-	0.02
3162	669479.0	4280655.0	Roadway/Open Space	-	-	0.02
3163	669489.0	4280655.0	Roadway/Open Space	-	-	0.02
3164	669499.0	4280655.0	Roadway/Open Space	-	-	0.02
3165	669509.0	4280655.0	Roadway/Open Space	-	-	0.02
3166	669519.0	4280655.0	Roadway/Open Space	-	-	0.02
3167	669529.0	4280655.0	Roadway/Open Space	-	-	0.02
3168	669539.0	4280655.0	Roadway/Open Space	-	-	0.02
3169	669549.0	4280655.0	Roadway/Open Space	-	-	0.02
3170	669559.0	4280655.0	Roadway/Open Space	-	-	0.02
3171	669569.0	4280655.0	Roadway/Open Space	-	-	0.02
3172	669579.0	4280655.0	Roadway/Open Space	-	-	0.02
3173	669589.0	4280655.0	Roadway/Open Space	-	-	0.02
3174	669599.0	4280655.0	Roadway/Open Space	-	-	0.02
3175	669609.0	4280655.0	Roadway/Open Space	-	-	0.02
3176	668579.0	4280665.0	Roadway/Open Space	-	-	0.03
3177	668589.0	4280665.0	Roadway/Open Space	-	-	0.03
3178	668599.0	4280665.0	Roadway/Open Space	-	-	0.03
3179	668609.0	4280665.0	Roadway/Open Space	-	-	0.03
3180	668619.0	4280665.0	Roadway/Open Space	-	-	0.02
3181	668629.0	4280665.0	Roadway/Open Space	-	-	0.02
3182	668639.0	4280665.0	Roadway/Open Space	-	-	0.02
3183	668649.0	4280665.0	Roadway/Open Space	-	-	0.02
3184	668659.0	4280665.0	Roadway/Open Space	-	-	0.03
3185	668669.0	4280665.0	Roadway/Open Space	-	-	0.03
3186	668679.0	4280665.0	Roadway/Open Space	-	-	0.03
3187	668689.0	4280665.0	Roadway/Open Space	-	-	0.03
3188	668699.0	4280665.0	Roadway/Open Space	-	-	0.03
3189	668709.0	4280665.0	Residential	1.11	0.005	0.03
3190	668719.0	4280665.0	Residential	1.15	0.005	0.03
3191	668729.0	4280665.0	Residential	1.20	0.005	0.03
3192	668739.0	4280665.0	Residential	1.27	0.005	0.04
3193	668749.0	4280665.0	Roadway/Open Space	-	-	0.04
3194	668759.0	4280665.0	Roadway/Open Space	-	-	0.04
3195	668769.0	4280665.0	Roadway/Open Space	-	-	0.04
3196	668779.0	4280665.0	Roadway/Open Space	-	-	0.03
3197	668789.0	4280665.0	Roadway/Open Space	-	-	0.03
3198	668799.0	4280665.0	Roadway/Open Space	-	-	0.03
3199	668809.0	4280665.0	Roadway/Open Space	-	-	0.04
3200	668819.0	4280665.0	Roadway/Open Space	-	-	0.04
3201	668829.0	4280665.0	Roadway/Open Space	-	-	0.04
3202	668839.0	4280665.0	Roadway/Open Space	-	-	0.04
3203	668849.0	4280665.0	Roadway/Open Space	-	-	0.04
3204	668859.0	4280665.0	Roadway/Open Space	-	-	0.04
3205	668869.0	4280665.0	Roadway/Open Space	-	-	0.04
3206	668879.0	4280665.0	Roadway/Open Space	-	-	0.04

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
3207	668889.0	4280665.0	Roadway/Open Space	-	-	0.04
3208	668899.0	4280665.0	Roadway/Open Space	-	-	0.04
3209	668909.0	4280665.0	Roadway/Open Space	-	-	0.04
3210	668919.0	4280665.0	Roadway/Open Space	-	-	0.04
3211	668929.0	4280665.0	Roadway/Open Space	-	-	0.03
3212	668939.0	4280665.0	Roadway/Open Space	-	-	0.03
3213	668949.0	4280665.0	Roadway/Open Space	-	-	0.03
3214	668959.0	4280665.0	Roadway/Open Space	-	-	0.03
3215	668969.0	4280665.0	Roadway/Open Space	-	-	0.04
3216	668979.0	4280665.0	Roadway/Open Space	-	-	0.04
3217	668989.0	4280665.0	Roadway/Open Space	-	-	0.04
3218	668999.0	4280665.0	Roadway/Open Space	-	-	0.04
3219	669009.0	4280665.0	Roadway/Open Space	-	-	0.04
3228	669099.0	4280665.0	Roadway/Open Space	-	-	0.04
3229	669109.0	4280665.0	Roadway/Open Space	-	-	0.04
3230	669119.0	4280665.0	Roadway/Open Space	-	-	0.04
3231	669129.0	4280665.0	Roadway/Open Space	-	-	0.04
3232	669139.0	4280665.0	Roadway/Open Space	-	-	0.04
3233	669149.0	4280665.0	Roadway/Open Space	-	-	0.04
3234	669159.0	4280665.0	Roadway/Open Space	-	-	0.04
3235	669169.0	4280665.0	Roadway/Open Space	-	-	0.04
3236	669179.0	4280665.0	Roadway/Open Space	-	-	0.04
3237	669189.0	4280665.0	Roadway/Open Space	-	-	0.04
3238	669199.0	4280665.0	Roadway/Open Space	-	-	0.04
3239	669209.0	4280665.0	Roadway/Open Space	-	-	0.04
3240	669219.0	4280665.0	Roadway/Open Space	-	-	0.04
3241	669229.0	4280665.0	Roadway/Open Space	-	-	0.04
3242	669239.0	4280665.0	Roadway/Open Space	-	-	0.04
3243	669249.0	4280665.0	Roadway/Open Space	-	-	0.05
3244	669259.0	4280665.0	Roadway/Open Space	-	-	0.05
3245	669269.0	4280665.0	Roadway/Open Space	-	-	0.05
3246	669279.0	4280665.0	Roadway/Open Space	-	-	0.05
3247	669289.0	4280665.0	Roadway/Open Space	-	-	0.04
3248	669299.0	4280665.0	Roadway/Open Space	-	-	0.04
3249	669309.0	4280665.0	Roadway/Open Space	-	-	0.04
3250	669319.0	4280665.0	Roadway/Open Space	-	-	0.04
3251	669329.0	4280665.0	Roadway/Open Space	-	-	0.04
3252	669339.0	4280665.0	Roadway/Open Space	-	-	0.04
3253	669349.0	4280665.0	Roadway/Open Space	-	-	0.03
3254	669359.0	4280665.0	Roadway/Open Space	-	-	0.03
3255	669369.0	4280665.0	Roadway/Open Space	-	-	0.03
3256	669379.0	4280665.0	Roadway/Open Space	-	-	0.03
3257	669389.0	4280665.0	Roadway/Open Space	-	-	0.03
3258	669399.0	4280665.0	Roadway/Open Space	-	-	0.03
3259	669409.0	4280665.0	Roadway/Open Space	-	-	0.03
3260	669419.0	4280665.0	Roadway/Open Space	-	-	0.03
3261	669429.0	4280665.0	Roadway/Open Space	-	-	0.03
3262	669439.0	4280665.0	Roadway/Open Space	-	-	0.03
3263	669449.0	4280665.0	Roadway/Open Space	-	-	0.03
3264	669459.0	4280665.0	Roadway/Open Space	-	-	0.03
3265	669469.0	4280665.0	Roadway/Open Space	-	-	0.03
3266	669479.0	4280665.0	Roadway/Open Space	-	-	0.02
3267	669489.0	4280665.0	Roadway/Open Space	-	-	0.02
3268	669499.0	4280665.0	Roadway/Open Space	-	-	0.02
3269	669509.0	4280665.0	Roadway/Open Space	-	-	0.02
3270	669519.0	4280665.0	Roadway/Open Space	-	-	0.02
3271	669529.0	4280665.0	Roadway/Open Space	-	-	0.02
3272	669539.0	4280665.0	Roadway/Open Space	-	-	0.02
3273	669549.0	4280665.0	Roadway/Open Space	-	-	0.02
3274	669559.0	4280665.0	Roadway/Open Space	-	-	0.02
3275	669569.0	4280665.0	Roadway/Open Space	-	-	0.02
3276	669579.0	4280665.0	Roadway/Open Space	-	-	0.02
3277	669589.0	4280665.0	Roadway/Open Space	-	-	0.02
3278	669599.0	4280665.0	Roadway/Open Space	-	-	0.02
3279	669609.0	4280665.0	Roadway/Open Space	-	-	0.02
3280	668579.0	4280675.0	Roadway/Open Space	-	-	0.03
3281	668589.0	4280675.0	Roadway/Open Space	-	-	0.03
3282	668599.0	4280675.0	Roadway/Open Space	-	-	0.03
3283	668609.0	4280675.0	Roadway/Open Space	-	-	0.03
3284	668619.0	4280675.0	Roadway/Open Space	-	-	0.02
3285	668629.0	4280675.0	Roadway/Open Space	-	-	0.02
3286	668639.0	4280675.0	Roadway/Open Space	-	-	0.02
3287	668649.0	4280675.0	Roadway/Open Space	-	-	0.03
3288	668659.0	4280675.0	Roadway/Open Space	-	-	0.03
3289	668669.0	4280675.0	Roadway/Open Space	-	-	0.03
3290	668679.0	4280675.0	Roadway/Open Space	-	-	0.03
3291	668689.0	4280675.0	Roadway/Open Space	-	-	0.03
3292	668699.0	4280675.0	Residential	1.02	0.004	0.03
3293	668709.0	4280675.0	Residential	1.04	0.004	0.03
3294	668719.0	4280675.0	Residential	1.08	0.004	0.03
3295	668729.0	4280675.0	Residential	1.13	0.005	0.03
3296	668739.0	4280675.0	Residential	1.21	0.005	0.04
3297	668749.0	4280675.0	Residential	1.32	0.005	0.04
3298	668759.0	4280675.0	Residential	1.47	0.006	0.04

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
3299	668769.0	4280675.0	Roadway/Open Space	-	-	0.04
3300	668779.0	4280675.0	Roadway/Open Space	-	-	0.04
3301	668789.0	4280675.0	Roadway/Open Space	-	-	0.03
3302	668799.0	4280675.0	Roadway/Open Space	-	-	0.03
3303	668809.0	4280675.0	Roadway/Open Space	-	-	0.04
3304	668819.0	4280675.0	Roadway/Open Space	-	-	0.04
3305	668829.0	4280675.0	Roadway/Open Space	-	-	0.04
3306	668839.0	4280675.0	Roadway/Open Space	-	-	0.04
3307	668849.0	4280675.0	Roadway/Open Space	-	-	0.04
3308	668859.0	4280675.0	Roadway/Open Space	-	-	0.04
3309	668869.0	4280675.0	Roadway/Open Space	-	-	0.04
3310	668879.0	4280675.0	Roadway/Open Space	-	-	0.04
3311	668889.0	4280675.0	Roadway/Open Space	-	-	0.04
3312	668899.0	4280675.0	Roadway/Open Space	-	-	0.04
3313	668909.0	4280675.0	Roadway/Open Space	-	-	0.04
3314	668919.0	4280675.0	Roadway/Open Space	-	-	0.04
3315	668929.0	4280675.0	Roadway/Open Space	-	-	0.04
3316	668939.0	4280675.0	Roadway/Open Space	-	-	0.04
3317	668949.0	4280675.0	Roadway/Open Space	-	-	0.04
3318	668959.0	4280675.0	Roadway/Open Space	-	-	0.04
3319	668969.0	4280675.0	Roadway/Open Space	-	-	0.04
3320	668979.0	4280675.0	Roadway/Open Space	-	-	0.04
3321	668989.0	4280675.0	Roadway/Open Space	-	-	0.04
3322	668999.0	4280675.0	Roadway/Open Space	-	-	0.04
3323	669009.0	4280675.0	Roadway/Open Space	-	-	0.04
3333	669109.0	4280675.0	Roadway/Open Space	-	-	0.04
3334	669119.0	4280675.0	Roadway/Open Space	-	-	0.04
3335	669129.0	4280675.0	Roadway/Open Space	-	-	0.04
3336	669139.0	4280675.0	Roadway/Open Space	-	-	0.04
3337	669149.0	4280675.0	Roadway/Open Space	-	-	0.04
3338	669159.0	4280675.0	Roadway/Open Space	-	-	0.04
3339	669169.0	4280675.0	Roadway/Open Space	-	-	0.04
3340	669179.0	4280675.0	Roadway/Open Space	-	-	0.04
3341	669189.0	4280675.0	Roadway/Open Space	-	-	0.04
3342	669199.0	4280675.0	Roadway/Open Space	-	-	0.04
3343	669209.0	4280675.0	Roadway/Open Space	-	-	0.04
3344	669219.0	4280675.0	Roadway/Open Space	-	-	0.04
3345	669229.0	4280675.0	Roadway/Open Space	-	-	0.04
3346	669239.0	4280675.0	Roadway/Open Space	-	-	0.04
3347	669249.0	4280675.0	Roadway/Open Space	-	-	0.05
3348	669259.0	4280675.0	Roadway/Open Space	-	-	0.05
3349	669269.0	4280675.0	Roadway/Open Space	-	-	0.05
3350	669279.0	4280675.0	Roadway/Open Space	-	-	0.05
3351	669289.0	4280675.0	Roadway/Open Space	-	-	0.04
3352	669299.0	4280675.0	Roadway/Open Space	-	-	0.04
3353	669309.0	4280675.0	Roadway/Open Space	-	-	0.04
3354	669319.0	4280675.0	Roadway/Open Space	-	-	0.04
3355	669329.0	4280675.0	Roadway/Open Space	-	-	0.04
3356	669339.0	4280675.0	Roadway/Open Space	-	-	0.04
3357	669349.0	4280675.0	Roadway/Open Space	-	-	0.03
3358	669359.0	4280675.0	Roadway/Open Space	-	-	0.03
3359	669369.0	4280675.0	Roadway/Open Space	-	-	0.03
3360	669379.0	4280675.0	Roadway/Open Space	-	-	0.03
3361	669389.0	4280675.0	Roadway/Open Space	-	-	0.03
3362	669399.0	4280675.0	Roadway/Open Space	-	-	0.03
3363	669409.0	4280675.0	Roadway/Open Space	-	-	0.03
3364	669419.0	4280675.0	Roadway/Open Space	-	-	0.03
3365	669429.0	4280675.0	Roadway/Open Space	-	-	0.03
3366	669439.0	4280675.0	Roadway/Open Space	-	-	0.03
3367	669449.0	4280675.0	Roadway/Open Space	-	-	0.03
3368	669459.0	4280675.0	Roadway/Open Space	-	-	0.03
3369	669469.0	4280675.0	Roadway/Open Space	-	-	0.03
3370	669479.0	4280675.0	Roadway/Open Space	-	-	0.02
3371	669489.0	4280675.0	Roadway/Open Space	-	-	0.02
3372	669499.0	4280675.0	Roadway/Open Space	-	-	0.02
3373	669509.0	4280675.0	Roadway/Open Space	-	-	0.02
3374	669519.0	4280675.0	Roadway/Open Space	-	-	0.02
3375	669529.0	4280675.0	Roadway/Open Space	-	-	0.02
3376	669539.0	4280675.0	Roadway/Open Space	-	-	0.02
3377	669549.0	4280675.0	Roadway/Open Space	-	-	0.02
3378	669559.0	4280675.0	Roadway/Open Space	-	-	0.02
3379	669569.0	4280675.0	Roadway/Open Space	-	-	0.02
3380	669579.0	4280675.0	Roadway/Open Space	-	-	0.02
3381	669589.0	4280675.0	Roadway/Open Space	-	-	0.02
3382	669599.0	4280675.0	Roadway/Open Space	-	-	0.02
3383	669609.0	4280675.0	Roadway/Open Space	-	-	0.02
3384	668569.0	4280685.0	Roadway/Open Space	-	-	0.03
3385	668579.0	4280685.0	Roadway/Open Space	-	-	0.03
3386	668589.0	4280685.0	Roadway/Open Space	-	-	0.03
3387	668599.0	4280685.0	Roadway/Open Space	-	-	0.03
3388	668609.0	4280685.0	Roadway/Open Space	-	-	0.02
3389	668619.0	4280685.0	Roadway/Open Space	-	-	0.02
3390	668629.0	4280685.0	Roadway/Open Space	-	-	0.02
3391	668639.0	4280685.0	Roadway/Open Space	-	-	0.03

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
3392	668649.0	4280685.0	Roadway/Open Space	-	-	0.03
3393	668659.0	4280685.0	Roadway/Open Space	-	-	0.03
3394	668669.0	4280685.0	Roadway/Open Space	-	-	0.03
3395	668679.0	4280685.0	Roadway/Open Space	-	-	0.03
3396	668689.0	4280685.0	Residential	0.95	0.004	0.03
3397	668699.0	4280685.0	Residential	0.97	0.004	0.03
3398	668709.0	4280685.0	Residential	1.00	0.004	0.03
3399	668719.0	4280685.0	Residential	1.04	0.004	0.03
3400	668729.0	4280685.0	Residential	1.10	0.005	0.03
3401	668739.0	4280685.0	Residential	1.17	0.005	0.03
3402	668749.0	4280685.0	Residential	1.28	0.005	0.04
3403	668759.0	4280685.0	Residential	1.43	0.006	0.04
3404	668769.0	4280685.0	Residential	1.59	0.007	0.04
3405	668779.0	4280685.0	Roadway/Open Space	-	-	0.04
3406	668789.0	4280685.0	Roadway/Open Space	-	-	0.04
3407	668799.0	4280685.0	Roadway/Open Space	-	-	0.03
3408	668809.0	4280685.0	Roadway/Open Space	-	-	0.04
3409	668819.0	4280685.0	Roadway/Open Space	-	-	0.04
3410	668829.0	4280685.0	Roadway/Open Space	-	-	0.04
3411	668839.0	4280685.0	Roadway/Open Space	-	-	0.04
3412	668849.0	4280685.0	Roadway/Open Space	-	-	0.04
3413	668859.0	4280685.0	Roadway/Open Space	-	-	0.04
3414	668869.0	4280685.0	Roadway/Open Space	-	-	0.04
3415	668879.0	4280685.0	Roadway/Open Space	-	-	0.04
3416	668889.0	4280685.0	Roadway/Open Space	-	-	0.04
3417	668899.0	4280685.0	Roadway/Open Space	-	-	0.04
3418	668909.0	4280685.0	Roadway/Open Space	-	-	0.04
3419	668919.0	4280685.0	Roadway/Open Space	-	-	0.04
3420	668929.0	4280685.0	Roadway/Open Space	-	-	0.04
3421	668939.0	4280685.0	Roadway/Open Space	-	-	0.04
3422	668949.0	4280685.0	Roadway/Open Space	-	-	0.04
3423	668959.0	4280685.0	Roadway/Open Space	-	-	0.04
3424	668969.0	4280685.0	Roadway/Open Space	-	-	0.04
3425	668979.0	4280685.0	Roadway/Open Space	-	-	0.04
3426	668989.0	4280685.0	Roadway/Open Space	-	-	0.04
3427	668999.0	4280685.0	Roadway/Open Space	-	-	0.04
3439	669119.0	4280685.0	Roadway/Open Space	-	-	0.04
3440	669129.0	4280685.0	Roadway/Open Space	-	-	0.04
3441	669139.0	4280685.0	Roadway/Open Space	-	-	0.04
3442	669149.0	4280685.0	Roadway/Open Space	-	-	0.04
3443	669159.0	4280685.0	Roadway/Open Space	-	-	0.04
3444	669169.0	4280685.0	Roadway/Open Space	-	-	0.04
3445	669179.0	4280685.0	Roadway/Open Space	-	-	0.04
3446	669189.0	4280685.0	Roadway/Open Space	-	-	0.04
3447	669199.0	4280685.0	Roadway/Open Space	-	-	0.04
3448	669209.0	4280685.0	Roadway/Open Space	-	-	0.04
3449	669219.0	4280685.0	Roadway/Open Space	-	-	0.04
3450	669229.0	4280685.0	Roadway/Open Space	-	-	0.04
3451	669239.0	4280685.0	Roadway/Open Space	-	-	0.04
3452	669249.0	4280685.0	Roadway/Open Space	-	-	0.05
3453	669259.0	4280685.0	Roadway/Open Space	-	-	0.05
3454	669269.0	4280685.0	Roadway/Open Space	-	-	0.05
3455	669279.0	4280685.0	Roadway/Open Space	-	-	0.05
3456	669289.0	4280685.0	Roadway/Open Space	-	-	0.04
3457	669299.0	4280685.0	Roadway/Open Space	-	-	0.04
3458	669309.0	4280685.0	Roadway/Open Space	-	-	0.04
3459	669319.0	4280685.0	Roadway/Open Space	-	-	0.04
3460	669329.0	4280685.0	Roadway/Open Space	-	-	0.04
3461	669339.0	4280685.0	Roadway/Open Space	-	-	0.04
3462	669349.0	4280685.0	Roadway/Open Space	-	-	0.03
3463	669359.0	4280685.0	Roadway/Open Space	-	-	0.03
3464	669369.0	4280685.0	Roadway/Open Space	-	-	0.03
3465	669379.0	4280685.0	Roadway/Open Space	-	-	0.03
3466	669389.0	4280685.0	Roadway/Open Space	-	-	0.03
3467	669399.0	4280685.0	Roadway/Open Space	-	-	0.03
3468	669409.0	4280685.0	Roadway/Open Space	-	-	0.03
3469	669419.0	4280685.0	Roadway/Open Space	-	-	0.03
3470	669429.0	4280685.0	Roadway/Open Space	-	-	0.03
3471	669439.0	4280685.0	Roadway/Open Space	-	-	0.03
3472	669449.0	4280685.0	Roadway/Open Space	-	-	0.03
3473	669459.0	4280685.0	Roadway/Open Space	-	-	0.03
3474	669469.0	4280685.0	Roadway/Open Space	-	-	0.03
3475	669479.0	4280685.0	Roadway/Open Space	-	-	0.03
3476	669489.0	4280685.0	Roadway/Open Space	-	-	0.02
3477	669499.0	4280685.0	Roadway/Open Space	-	-	0.02
3478	669509.0	4280685.0	Roadway/Open Space	-	-	0.02
3479	669519.0	4280685.0	Roadway/Open Space	-	-	0.02
3480	669529.0	4280685.0	Roadway/Open Space	-	-	0.02
3481	669539.0	4280685.0	Roadway/Open Space	-	-	0.02
3482	669549.0	4280685.0	Roadway/Open Space	-	-	0.02
3483	669559.0	4280685.0	Roadway/Open Space	-	-	0.02
3484	669569.0	4280685.0	Roadway/Open Space	-	-	0.02
3485	669579.0	4280685.0	Roadway/Open Space	-	-	0.02
3486	669589.0	4280685.0	Roadway/Open Space	-	-	0.02

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
3487	669599.0	4280685.0	Roadway/Open Space	-	-	0.02
3488	669609.0	4280685.0	Roadway/Open Space	-	-	0.02
3489	668569.0	4280695.0	Roadway/Open Space	-	-	0.03
3490	668579.0	4280695.0	Roadway/Open Space	-	-	0.03
3491	668589.0	4280695.0	Roadway/Open Space	-	-	0.03
3492	668599.0	4280695.0	Roadway/Open Space	-	-	0.03
3493	668609.0	4280695.0	Roadway/Open Space	-	-	0.02
3494	668619.0	4280695.0	Roadway/Open Space	-	-	0.02
3495	668629.0	4280695.0	Roadway/Open Space	-	-	0.03
3496	668639.0	4280695.0	Roadway/Open Space	-	-	0.03
3497	668649.0	4280695.0	Roadway/Open Space	-	-	0.03
3498	668659.0	4280695.0	Roadway/Open Space	-	-	0.03
3499	668669.0	4280695.0	Roadway/Open Space	-	-	0.03
3500	668679.0	4280695.0	Residential	0.89	0.004	0.03
3501	668689.0	4280695.0	Residential	0.90	0.004	0.03
3502	668699.0	4280695.0	Residential	0.92	0.004	0.03
3503	668709.0	4280695.0	Residential	0.96	0.004	0.03
3504	668719.0	4280695.0	Residential	1.01	0.004	0.03
3505	668729.0	4280695.0	Residential	1.07	0.004	0.03
3506	668739.0	4280695.0	Residential	1.15	0.005	0.04
3507	668749.0	4280695.0	Residential	1.26	0.005	0.04
3508	668759.0	4280695.0	Residential	1.39	0.006	0.04
3509	668769.0	4280695.0	Residential	1.55	0.006	0.04
3510	668779.0	4280695.0	Roadway/Open Space	-	-	0.04
3511	668789.0	4280695.0	Roadway/Open Space	-	-	0.04
3512	668799.0	4280695.0	Roadway/Open Space	-	-	0.04
3513	668809.0	4280695.0	Roadway/Open Space	-	-	0.04
3514	668819.0	4280695.0	Roadway/Open Space	-	-	0.04
3515	668829.0	4280695.0	Roadway/Open Space	-	-	0.04
3516	668839.0	4280695.0	Roadway/Open Space	-	-	0.04
3517	668849.0	4280695.0	Roadway/Open Space	-	-	0.04
3518	668859.0	4280695.0	Roadway/Open Space	-	-	0.04
3519	668869.0	4280695.0	Roadway/Open Space	-	-	0.05
3520	668879.0	4280695.0	Roadway/Open Space	-	-	0.04
3521	668889.0	4280695.0	Roadway/Open Space	-	-	0.04
3522	668899.0	4280695.0	Roadway/Open Space	-	-	0.04
3523	668909.0	4280695.0	Roadway/Open Space	-	-	0.04
3524	668919.0	4280695.0	Roadway/Open Space	-	-	0.04
3525	668929.0	4280695.0	Roadway/Open Space	-	-	0.04
3526	668939.0	4280695.0	Roadway/Open Space	-	-	0.04
3527	668949.0	4280695.0	Roadway/Open Space	-	-	0.04
3528	668959.0	4280695.0	Roadway/Open Space	-	-	0.04
3529	668969.0	4280695.0	Roadway/Open Space	-	-	0.04
3530	668979.0	4280695.0	Roadway/Open Space	-	-	0.04
3531	668989.0	4280695.0	Roadway/Open Space	-	-	0.04
3532	668999.0	4280695.0	Roadway/Open Space	-	-	0.04
3545	669129.0	4280695.0	Roadway/Open Space	-	-	0.04
3546	669139.0	4280695.0	Roadway/Open Space	-	-	0.04
3547	669149.0	4280695.0	Roadway/Open Space	-	-	0.04
3548	669159.0	4280695.0	Roadway/Open Space	-	-	0.04
3549	669169.0	4280695.0	Roadway/Open Space	-	-	0.04
3550	669179.0	4280695.0	Roadway/Open Space	-	-	0.04
3551	669189.0	4280695.0	Roadway/Open Space	-	-	0.04
3552	669199.0	4280695.0	Roadway/Open Space	-	-	0.04
3553	669209.0	4280695.0	Roadway/Open Space	-	-	0.04
3554	669219.0	4280695.0	Roadway/Open Space	-	-	0.04
3555	669229.0	4280695.0	Roadway/Open Space	-	-	0.04
3556	669239.0	4280695.0	Roadway/Open Space	-	-	0.04
3557	669249.0	4280695.0	Roadway/Open Space	-	-	0.05
3558	669259.0	4280695.0	Roadway/Open Space	-	-	0.05
3559	669269.0	4280695.0	Roadway/Open Space	-	-	0.05
3560	669279.0	4280695.0	Roadway/Open Space	-	-	0.05
3561	669289.0	4280695.0	Roadway/Open Space	-	-	0.04
3562	669299.0	4280695.0	Roadway/Open Space	-	-	0.04
3563	669309.0	4280695.0	Roadway/Open Space	-	-	0.04
3564	669319.0	4280695.0	Roadway/Open Space	-	-	0.04
3565	669329.0	4280695.0	Roadway/Open Space	-	-	0.04
3566	669339.0	4280695.0	Roadway/Open Space	-	-	0.04
3567	669349.0	4280695.0	Roadway/Open Space	-	-	0.03
3568	669359.0	4280695.0	Roadway/Open Space	-	-	0.03
3569	669369.0	4280695.0	Roadway/Open Space	-	-	0.03
3570	669379.0	4280695.0	Roadway/Open Space	-	-	0.03
3571	669389.0	4280695.0	Roadway/Open Space	-	-	0.03
3572	669399.0	4280695.0	Roadway/Open Space	-	-	0.03
3573	669409.0	4280695.0	Roadway/Open Space	-	-	0.03
3574	669419.0	4280695.0	Roadway/Open Space	-	-	0.03
3575	669429.0	4280695.0	Roadway/Open Space	-	-	0.03
3576	669439.0	4280695.0	Roadway/Open Space	-	-	0.03
3577	669449.0	4280695.0	Roadway/Open Space	-	-	0.03
3578	669459.0	4280695.0	Roadway/Open Space	-	-	0.03
3579	669469.0	4280695.0	Roadway/Open Space	-	-	0.03
3580	669479.0	4280695.0	Roadway/Open Space	-	-	0.03
3581	669489.0	4280695.0	Roadway/Open Space	-	-	0.03
3582	669499.0	4280695.0	Roadway/Open Space	-	-	0.02

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
3583	669509.0	4280695.0	Roadway/Open Space	-	-	0.02
3584	669519.0	4280695.0	Roadway/Open Space	-	-	0.02
3585	669529.0	4280695.0	Roadway/Open Space	-	-	0.02
3586	669539.0	4280695.0	Roadway/Open Space	-	-	0.02
3587	669549.0	4280695.0	Roadway/Open Space	-	-	0.02
3588	669559.0	4280695.0	Roadway/Open Space	-	-	0.02
3589	669569.0	4280695.0	Roadway/Open Space	-	-	0.02
3590	669579.0	4280695.0	Roadway/Open Space	-	-	0.02
3591	669589.0	4280695.0	Roadway/Open Space	-	-	0.02
3592	669599.0	4280695.0	Roadway/Open Space	-	-	0.02
3593	669609.0	4280695.0	Roadway/Open Space	-	-	0.02
3594	669619.0	4280695.0	Roadway/Open Space	-	-	0.02
3595	668569.0	4280705.0	Roadway/Open Space	-	-	0.03
3596	668579.0	4280705.0	Roadway/Open Space	-	-	0.03
3597	668589.0	4280705.0	Roadway/Open Space	-	-	0.03
3598	668599.0	4280705.0	Roadway/Open Space	-	-	0.03
3599	668609.0	4280705.0	Roadway/Open Space	-	-	0.02
3600	668619.0	4280705.0	Roadway/Open Space	-	-	0.03
3601	668629.0	4280705.0	Roadway/Open Space	-	-	0.03
3602	668639.0	4280705.0	Roadway/Open Space	-	-	0.03
3603	668649.0	4280705.0	Roadway/Open Space	-	-	0.03
3604	668659.0	4280705.0	Roadway/Open Space	-	-	0.03
3605	668669.0	4280705.0	Roadway/Open Space	-	-	0.03
3606	668679.0	4280705.0	Residential	0.85	0.003	0.03
3607	668689.0	4280705.0	Residential	0.86	0.004	0.03
3608	668699.0	4280705.0	Residential	0.89	0.004	0.03
3609	668709.0	4280705.0	Residential	0.93	0.004	0.03
3610	668719.0	4280705.0	Roadway/Open Space	-	-	0.03
3611	668729.0	4280705.0	Roadway/Open Space	-	-	0.03
3612	668739.0	4280705.0	Residential	1.12	0.005	0.04
3613	668749.0	4280705.0	Residential	1.23	0.005	0.04
3614	668759.0	4280705.0	Residential	1.36	0.006	0.04
3615	668769.0	4280705.0	Residential	1.51	0.006	0.04
3616	668779.0	4280705.0	Roadway/Open Space	-	-	0.04
3617	668789.0	4280705.0	Roadway/Open Space	-	-	0.04
3618	668799.0	4280705.0	Roadway/Open Space	-	-	0.04
3619	668809.0	4280705.0	Roadway/Open Space	-	-	0.04
3620	668819.0	4280705.0	Roadway/Open Space	-	-	0.04
3621	668829.0	4280705.0	Roadway/Open Space	-	-	0.04
3622	668839.0	4280705.0	Roadway/Open Space	-	-	0.04
3623	668849.0	4280705.0	Roadway/Open Space	-	-	0.04
3624	668859.0	4280705.0	Roadway/Open Space	-	-	0.05
3625	668869.0	4280705.0	Roadway/Open Space	-	-	0.05
3626	668879.0	4280705.0	Roadway/Open Space	-	-	0.05
3627	668889.0	4280705.0	Roadway/Open Space	-	-	0.04
3628	668899.0	4280705.0	Roadway/Open Space	-	-	0.04
3629	668909.0	4280705.0	Roadway/Open Space	-	-	0.04
3630	668919.0	4280705.0	Roadway/Open Space	-	-	0.04
3631	668929.0	4280705.0	Roadway/Open Space	-	-	0.04
3632	668939.0	4280705.0	Roadway/Open Space	-	-	0.04
3633	668949.0	4280705.0	Roadway/Open Space	-	-	0.04
3634	668959.0	4280705.0	Roadway/Open Space	-	-	0.04
3635	668969.0	4280705.0	Roadway/Open Space	-	-	0.04
3636	668979.0	4280705.0	Roadway/Open Space	-	-	0.04
3637	668989.0	4280705.0	Roadway/Open Space	-	-	0.04
3638	668999.0	4280705.0	Roadway/Open Space	-	-	0.04
3651	669129.0	4280705.0	Roadway/Open Space	-	-	0.05
3652	669139.0	4280705.0	Roadway/Open Space	-	-	0.05
3653	669149.0	4280705.0	Roadway/Open Space	-	-	0.04
3654	669159.0	4280705.0	Roadway/Open Space	-	-	0.05
3655	669169.0	4280705.0	Roadway/Open Space	-	-	0.05
3656	669179.0	4280705.0	Roadway/Open Space	-	-	0.05
3657	669189.0	4280705.0	Roadway/Open Space	-	-	0.05
3658	669199.0	4280705.0	Roadway/Open Space	-	-	0.05
3659	669209.0	4280705.0	Roadway/Open Space	-	-	0.05
3660	669219.0	4280705.0	Roadway/Open Space	-	-	0.04
3661	669229.0	4280705.0	Roadway/Open Space	-	-	0.04
3662	669239.0	4280705.0	Roadway/Open Space	-	-	0.05
3663	669249.0	4280705.0	Roadway/Open Space	-	-	0.05
3664	669259.0	4280705.0	Roadway/Open Space	-	-	0.05
3665	669269.0	4280705.0	Roadway/Open Space	-	-	0.05
3666	669279.0	4280705.0	Roadway/Open Space	-	-	0.05
3667	669289.0	4280705.0	Roadway/Open Space	-	-	0.05
3668	669299.0	4280705.0	Roadway/Open Space	-	-	0.04
3669	669309.0	4280705.0	Roadway/Open Space	-	-	0.04
3670	669319.0	4280705.0	Roadway/Open Space	-	-	0.04
3671	669329.0	4280705.0	Roadway/Open Space	-	-	0.04
3672	669339.0	4280705.0	Roadway/Open Space	-	-	0.04
3673	669349.0	4280705.0	Roadway/Open Space	-	-	0.03
3674	669359.0	4280705.0	Roadway/Open Space	-	-	0.03
3675	669369.0	4280705.0	Roadway/Open Space	-	-	0.03
3676	669379.0	4280705.0	Roadway/Open Space	-	-	0.03
3677	669389.0	4280705.0	Roadway/Open Space	-	-	0.03
3678	669399.0	4280705.0	Roadway/Open Space	-	-	0.03

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
3679	669409.0	4280705.0	Roadway/Open Space	-	-	0.03
3680	669419.0	4280705.0	Roadway/Open Space	-	-	0.03
3681	669429.0	4280705.0	Roadway/Open Space	-	-	0.03
3682	669439.0	4280705.0	Roadway/Open Space	-	-	0.03
3683	669449.0	4280705.0	Roadway/Open Space	-	-	0.03
3684	669459.0	4280705.0	Roadway/Open Space	-	-	0.03
3685	669469.0	4280705.0	Roadway/Open Space	-	-	0.03
3686	669479.0	4280705.0	Roadway/Open Space	-	-	0.03
3687	669489.0	4280705.0	Roadway/Open Space	-	-	0.03
3688	669499.0	4280705.0	Roadway/Open Space	-	-	0.03
3689	669509.0	4280705.0	Roadway/Open Space	-	-	0.03
3690	669519.0	4280705.0	Roadway/Open Space	-	-	0.02
3691	669529.0	4280705.0	Roadway/Open Space	-	-	0.02
3692	669539.0	4280705.0	Roadway/Open Space	-	-	0.02
3693	669549.0	4280705.0	Roadway/Open Space	-	-	0.02
3694	669559.0	4280705.0	Roadway/Open Space	-	-	0.02
3695	669569.0	4280705.0	Roadway/Open Space	-	-	0.02
3696	669579.0	4280705.0	Roadway/Open Space	-	-	0.02
3697	669589.0	4280705.0	Roadway/Open Space	-	-	0.02
3698	669599.0	4280705.0	Roadway/Open Space	-	-	0.02
3699	669609.0	4280705.0	Roadway/Open Space	-	-	0.03
3700	669619.0	4280705.0	Roadway/Open Space	-	-	0.03
3701	668559.0	4280715.0	Roadway/Open Space	-	-	0.03
3702	668569.0	4280715.0	Roadway/Open Space	-	-	0.03
3703	668579.0	4280715.0	Roadway/Open Space	-	-	0.03
3704	668589.0	4280715.0	Roadway/Open Space	-	-	0.03
3705	668599.0	4280715.0	Roadway/Open Space	-	-	0.03
3706	668609.0	4280715.0	Roadway/Open Space	-	-	0.03
3707	668619.0	4280715.0	Roadway/Open Space	-	-	0.03
3708	668629.0	4280715.0	Roadway/Open Space	-	-	0.03
3709	668639.0	4280715.0	Roadway/Open Space	-	-	0.03
3710	668649.0	4280715.0	Roadway/Open Space	-	-	0.03
3711	668659.0	4280715.0	Roadway/Open Space	-	-	0.03
3712	668669.0	4280715.0	Roadway/Open Space	-	-	0.03
3713	668679.0	4280715.0	Residential	0.81	0.003	0.03
3714	668689.0	4280715.0	Residential	0.84	0.003	0.03
3715	668699.0	4280715.0	Residential	0.87	0.004	0.03
3716	668709.0	4280715.0	Residential	0.91	0.004	0.03
3717	668719.0	4280715.0	Roadway/Open Space	-	-	0.03
3718	668729.0	4280715.0	Roadway/Open Space	-	-	0.03
3719	668739.0	4280715.0	Residential	1.09	0.005	0.03
3720	668749.0	4280715.0	Residential	1.20	0.005	0.04
3721	668759.0	4280715.0	Residential	1.32	0.005	0.04
3722	668769.0	4280715.0	Residential	1.46	0.006	0.04
3723	668779.0	4280715.0	Roadway/Open Space	-	-	0.04
3724	668789.0	4280715.0	Roadway/Open Space	-	-	0.04
3725	668799.0	4280715.0	Roadway/Open Space	-	-	0.04
3726	668809.0	4280715.0	Roadway/Open Space	-	-	0.04
3727	668819.0	4280715.0	Roadway/Open Space	-	-	0.04
3728	668829.0	4280715.0	Roadway/Open Space	-	-	0.04
3729	668839.0	4280715.0	Roadway/Open Space	-	-	0.04
3730	668849.0	4280715.0	Roadway/Open Space	-	-	0.04
3731	668859.0	4280715.0	Roadway/Open Space	-	-	0.05
3732	668869.0	4280715.0	Roadway/Open Space	-	-	0.05
3733	668879.0	4280715.0	Roadway/Open Space	-	-	0.05
3734	668889.0	4280715.0	Roadway/Open Space	-	-	0.05
3735	668899.0	4280715.0	Roadway/Open Space	-	-	0.04
3736	668909.0	4280715.0	Roadway/Open Space	-	-	0.04
3737	668919.0	4280715.0	Roadway/Open Space	-	-	0.04
3738	668929.0	4280715.0	Roadway/Open Space	-	-	0.04
3739	668939.0	4280715.0	Roadway/Open Space	-	-	0.04
3740	668949.0	4280715.0	Roadway/Open Space	-	-	0.04
3741	668959.0	4280715.0	Roadway/Open Space	-	-	0.04
3742	668969.0	4280715.0	Roadway/Open Space	-	-	0.04
3743	668979.0	4280715.0	Roadway/Open Space	-	-	0.04
3744	668989.0	4280715.0	Roadway/Open Space	-	-	0.04
3759	669139.0	4280715.0	Roadway/Open Space	-	-	0.05
3760	669149.0	4280715.0	Roadway/Open Space	-	-	0.05
3761	669159.0	4280715.0	Roadway/Open Space	-	-	0.05
3762	669169.0	4280715.0	Roadway/Open Space	-	-	0.05
3763	669179.0	4280715.0	Roadway/Open Space	-	-	0.05
3764	669189.0	4280715.0	Roadway/Open Space	-	-	0.05
3765	669199.0	4280715.0	Roadway/Open Space	-	-	0.05
3766	669209.0	4280715.0	Roadway/Open Space	-	-	0.05
3767	669219.0	4280715.0	Roadway/Open Space	-	-	0.05
3768	669229.0	4280715.0	Roadway/Open Space	-	-	0.05
3769	669239.0	4280715.0	Roadway/Open Space	-	-	0.05
3770	669249.0	4280715.0	Roadway/Open Space	-	-	0.05
3771	669259.0	4280715.0	Roadway/Open Space	-	-	0.05
3772	669269.0	4280715.0	Roadway/Open Space	-	-	0.05
3773	669279.0	4280715.0	Roadway/Open Space	-	-	0.05
3774	669289.0	4280715.0	Roadway/Open Space	-	-	0.05
3775	669299.0	4280715.0	Roadway/Open Space	-	-	0.04
3776	669309.0	4280715.0	Roadway/Open Space	-	-	0.04

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
3777	669319.0	4280715.0	Roadway/Open Space	-	-	0.04
3778	669329.0	4280715.0	Roadway/Open Space	-	-	0.04
3779	669339.0	4280715.0	Roadway/Open Space	-	-	0.04
3780	669349.0	4280715.0	Roadway/Open Space	-	-	0.03
3781	669359.0	4280715.0	Roadway/Open Space	-	-	0.03
3782	669369.0	4280715.0	Roadway/Open Space	-	-	0.03
3783	669379.0	4280715.0	Roadway/Open Space	-	-	0.03
3784	669389.0	4280715.0	Roadway/Open Space	-	-	0.03
3785	669399.0	4280715.0	Roadway/Open Space	-	-	0.03
3786	669409.0	4280715.0	Roadway/Open Space	-	-	0.03
3787	669419.0	4280715.0	Roadway/Open Space	-	-	0.03
3788	669429.0	4280715.0	Roadway/Open Space	-	-	0.03
3789	669439.0	4280715.0	Roadway/Open Space	-	-	0.03
3790	669449.0	4280715.0	Roadway/Open Space	-	-	0.03
3791	669459.0	4280715.0	Roadway/Open Space	-	-	0.03
3792	669469.0	4280715.0	Roadway/Open Space	-	-	0.03
3793	669479.0	4280715.0	Roadway/Open Space	-	-	0.03
3794	669489.0	4280715.0	Roadway/Open Space	-	-	0.03
3795	669499.0	4280715.0	Roadway/Open Space	-	-	0.03
3796	669509.0	4280715.0	Roadway/Open Space	-	-	0.03
3797	669519.0	4280715.0	Roadway/Open Space	-	-	0.03
3798	669529.0	4280715.0	Roadway/Open Space	-	-	0.03
3799	669539.0	4280715.0	Roadway/Open Space	-	-	0.02
3800	669549.0	4280715.0	Roadway/Open Space	-	-	0.02
3801	669559.0	4280715.0	Roadway/Open Space	-	-	0.02
3802	669569.0	4280715.0	Roadway/Open Space	-	-	0.02
3803	669579.0	4280715.0	Roadway/Open Space	-	-	0.03
3804	669589.0	4280715.0	Roadway/Open Space	-	-	0.03
3805	669599.0	4280715.0	Roadway/Open Space	-	-	0.03
3806	669609.0	4280715.0	Roadway/Open Space	-	-	0.03
3807	669619.0	4280715.0	Roadway/Open Space	-	-	0.03
3808	668559.0	4280725.0	Residential	0.72	0.003	0.03
3809	668569.0	4280725.0	Residential	0.78	0.003	0.03
3810	668579.0	4280725.0	Residential	0.83	0.003	0.03
3811	668589.0	4280725.0	Residential	0.88	0.004	0.03
3812	668599.0	4280725.0	Roadway/Open Space	-	-	0.03
3813	668609.0	4280725.0	Roadway/Open Space	-	-	0.03
3814	668619.0	4280725.0	Roadway/Open Space	-	-	0.03
3815	668629.0	4280725.0	Roadway/Open Space	-	-	0.03
3816	668639.0	4280725.0	Roadway/Open Space	-	-	0.03
3817	668649.0	4280725.0	Roadway/Open Space	-	-	0.03
3818	668659.0	4280725.0	Roadway/Open Space	-	-	0.03
3819	668669.0	4280725.0	Residential	0.75	0.003	0.03
3820	668679.0	4280725.0	Residential	0.79	0.003	0.03
3821	668689.0	4280725.0	Residential	0.82	0.003	0.03
3822	668699.0	4280725.0	Residential	0.85	0.004	0.03
3823	668709.0	4280725.0	Residential	0.89	0.004	0.03
3824	668719.0	4280725.0	Roadway/Open Space	-	-	0.03
3825	668729.0	4280725.0	Residential	1.01	0.004	0.03
3826	668739.0	4280725.0	Residential	1.08	0.004	0.03
3827	668749.0	4280725.0	Residential	1.17	0.005	0.04
3828	668759.0	4280725.0	Residential	1.29	0.005	0.04
3829	668769.0	4280725.0	Residential	1.42	0.006	0.04
3830	668779.0	4280725.0	Roadway/Open Space	-	-	0.04
3831	668789.0	4280725.0	Roadway/Open Space	-	-	0.04
3832	668799.0	4280725.0	Roadway/Open Space	-	-	0.04
3833	668809.0	4280725.0	Roadway/Open Space	-	-	0.04
3834	668819.0	4280725.0	Roadway/Open Space	-	-	0.04
3835	668829.0	4280725.0	Roadway/Open Space	-	-	0.04
3836	668839.0	4280725.0	Roadway/Open Space	-	-	0.04
3837	668849.0	4280725.0	Roadway/Open Space	-	-	0.05
3838	668859.0	4280725.0	Roadway/Open Space	-	-	0.05
3839	668869.0	4280725.0	Roadway/Open Space	-	-	0.05
3840	668879.0	4280725.0	Roadway/Open Space	-	-	0.05
3841	668889.0	4280725.0	Roadway/Open Space	-	-	0.05
3842	668899.0	4280725.0	Roadway/Open Space	-	-	0.05
3843	668909.0	4280725.0	Roadway/Open Space	-	-	0.04
3844	668919.0	4280725.0	Roadway/Open Space	-	-	0.04
3845	668929.0	4280725.0	Roadway/Open Space	-	-	0.04
3846	668939.0	4280725.0	Roadway/Open Space	-	-	0.04
3847	668949.0	4280725.0	Roadway/Open Space	-	-	0.04
3848	668959.0	4280725.0	Roadway/Open Space	-	-	0.04
3849	668969.0	4280725.0	Roadway/Open Space	-	-	0.04
3850	668979.0	4280725.0	Roadway/Open Space	-	-	0.05
3851	668989.0	4280725.0	Roadway/Open Space	-	-	0.05
3867	669149.0	4280725.0	Roadway/Open Space	-	-	0.05
3868	669159.0	4280725.0	Roadway/Open Space	-	-	0.05
3869	669169.0	4280725.0	Roadway/Open Space	-	-	0.05
3870	669179.0	4280725.0	Roadway/Open Space	-	-	0.05
3871	669189.0	4280725.0	Roadway/Open Space	-	-	0.05
3872	669199.0	4280725.0	Roadway/Open Space	-	-	0.05
3873	669209.0	4280725.0	Roadway/Open Space	-	-	0.05
3874	669219.0	4280725.0	Roadway/Open Space	-	-	0.05
3875	669229.0	4280725.0	Roadway/Open Space	-	-	0.05

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
3876	669239.0	4280725.0	Roadway/Open Space	-	-	0.05
3877	669249.0	4280725.0	Roadway/Open Space	-	-	0.05
3878	669259.0	4280725.0	Roadway/Open Space	-	-	0.05
3879	669269.0	4280725.0	Roadway/Open Space	-	-	0.05
3880	669279.0	4280725.0	Roadway/Open Space	-	-	0.05
3881	669289.0	4280725.0	Roadway/Open Space	-	-	0.05
3882	669299.0	4280725.0	Roadway/Open Space	-	-	0.05
3883	669309.0	4280725.0	Roadway/Open Space	-	-	0.05
3884	669319.0	4280725.0	Roadway/Open Space	-	-	0.04
3885	669329.0	4280725.0	Roadway/Open Space	-	-	0.04
3886	669339.0	4280725.0	Roadway/Open Space	-	-	0.04
3887	669349.0	4280725.0	Roadway/Open Space	-	-	0.04
3888	669359.0	4280725.0	Roadway/Open Space	-	-	0.04
3889	669369.0	4280725.0	Roadway/Open Space	-	-	0.03
3890	669379.0	4280725.0	Roadway/Open Space	-	-	0.03
3891	669389.0	4280725.0	Roadway/Open Space	-	-	0.03
3892	669399.0	4280725.0	Roadway/Open Space	-	-	0.03
3893	669409.0	4280725.0	Roadway/Open Space	-	-	0.03
3894	669419.0	4280725.0	Roadway/Open Space	-	-	0.03
3895	669429.0	4280725.0	Roadway/Open Space	-	-	0.03
3896	669439.0	4280725.0	Roadway/Open Space	-	-	0.03
3897	669449.0	4280725.0	Roadway/Open Space	-	-	0.03
3898	669459.0	4280725.0	Roadway/Open Space	-	-	0.03
3899	669469.0	4280725.0	Roadway/Open Space	-	-	0.03
3900	669479.0	4280725.0	Roadway/Open Space	-	-	0.03
3901	669489.0	4280725.0	Roadway/Open Space	-	-	0.03
3902	669499.0	4280725.0	Roadway/Open Space	-	-	0.03
3903	669509.0	4280725.0	Roadway/Open Space	-	-	0.03
3904	669519.0	4280725.0	Roadway/Open Space	-	-	0.03
3905	669529.0	4280725.0	Roadway/Open Space	-	-	0.03
3906	669539.0	4280725.0	Roadway/Open Space	-	-	0.02
3907	669549.0	4280725.0	Roadway/Open Space	-	-	0.02
3908	669559.0	4280725.0	Roadway/Open Space	-	-	0.02
3909	669569.0	4280725.0	Roadway/Open Space	-	-	0.03
3910	669579.0	4280725.0	Roadway/Open Space	-	-	0.03
3911	669589.0	4280725.0	Roadway/Open Space	-	-	0.03
3912	669599.0	4280725.0	Roadway/Open Space	-	-	0.03
3913	669609.0	4280725.0	Roadway/Open Space	-	-	0.03
3914	669619.0	4280725.0	Roadway/Open Space	-	-	0.03
3915	668559.0	4280735.0	Residential	0.74	0.003	0.03
3916	668569.0	4280735.0	Residential	0.78	0.003	0.03
3917	668579.0	4280735.0	Residential	0.80	0.003	0.03
3918	668589.0	4280735.0	Residential	0.83	0.003	0.03
3919	668599.0	4280735.0	Residential	0.85	0.004	0.03
3920	668609.0	4280735.0	Residential	0.86	0.004	0.03
3921	668619.0	4280735.0	Roadway/Open Space	-	-	0.03
3922	668629.0	4280735.0	Roadway/Open Space	-	-	0.03
3923	668639.0	4280735.0	Roadway/Open Space	-	-	0.03
3924	668649.0	4280735.0	Roadway/Open Space	-	-	0.03
3925	668659.0	4280735.0	Residential	0.72	0.003	0.03
3926	668669.0	4280735.0	Residential	0.75	0.003	0.03
3927	668679.0	4280735.0	Residential	0.77	0.003	0.03
3928	668689.0	4280735.0	Residential	0.80	0.003	0.03
3929	668699.0	4280735.0	Residential	0.84	0.003	0.03
3930	668709.0	4280735.0	Roadway/Open Space	-	-	0.03
3931	668719.0	4280735.0	Residential	0.94	0.004	0.03
3932	668729.0	4280735.0	Residential	1.00	0.004	0.03
3933	668739.0	4280735.0	Residential	1.06	0.004	0.03
3934	668749.0	4280735.0	Residential	1.14	0.005	0.03
3935	668759.0	4280735.0	Residential	1.26	0.005	0.04
3936	668769.0	4280735.0	Residential	1.39	0.006	0.04
3937	668779.0	4280735.0	Roadway/Open Space	-	-	0.04
3938	668789.0	4280735.0	Roadway/Open Space	-	-	0.04
3939	668799.0	4280735.0	Roadway/Open Space	-	-	0.05
3940	668809.0	4280735.0	Roadway/Open Space	-	-	0.05
3941	668819.0	4280735.0	Roadway/Open Space	-	-	0.05
3942	668829.0	4280735.0	Roadway/Open Space	-	-	0.04
3943	668839.0	4280735.0	Roadway/Open Space	-	-	0.04
3944	668849.0	4280735.0	Roadway/Open Space	-	-	0.05
3945	668859.0	4280735.0	Roadway/Open Space	-	-	0.05
3946	668869.0	4280735.0	Roadway/Open Space	-	-	0.05
3947	668879.0	4280735.0	Roadway/Open Space	-	-	0.05
3948	668889.0	4280735.0	Roadway/Open Space	-	-	0.05
3949	668899.0	4280735.0	Roadway/Open Space	-	-	0.05
3950	668909.0	4280735.0	Roadway/Open Space	-	-	0.05
3951	668919.0	4280735.0	Roadway/Open Space	-	-	0.04
3952	668929.0	4280735.0	Roadway/Open Space	-	-	0.04
3953	668939.0	4280735.0	Roadway/Open Space	-	-	0.04
3954	668949.0	4280735.0	Roadway/Open Space	-	-	0.04
3955	668959.0	4280735.0	Roadway/Open Space	-	-	0.04
3956	668969.0	4280735.0	Roadway/Open Space	-	-	0.05
3957	668979.0	4280735.0	Roadway/Open Space	-	-	0.05
3975	669159.0	4280735.0	Roadway/Open Space	-	-	0.05
3976	669169.0	4280735.0	Roadway/Open Space	-	-	0.05

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
3977	669179.0	4280735.0	Roadway/Open Space	-	-	0.05
3978	669189.0	4280735.0	Roadway/Open Space	-	-	0.05
3979	669199.0	4280735.0	Roadway/Open Space	-	-	0.05
3980	669209.0	4280735.0	Roadway/Open Space	-	-	0.05
3981	669219.0	4280735.0	Roadway/Open Space	-	-	0.05
3982	669229.0	4280735.0	Roadway/Open Space	-	-	0.06
3983	669239.0	4280735.0	Roadway/Open Space	-	-	0.06
3984	669249.0	4280735.0	Roadway/Open Space	-	-	0.06
3985	669259.0	4280735.0	Roadway/Open Space	-	-	0.05
3986	669269.0	4280735.0	Roadway/Open Space	-	-	0.05
3987	669279.0	4280735.0	Roadway/Open Space	-	-	0.05
3988	669289.0	4280735.0	Roadway/Open Space	-	-	0.05
3989	669299.0	4280735.0	Roadway/Open Space	-	-	0.05
3990	669309.0	4280735.0	Roadway/Open Space	-	-	0.05
3991	669319.0	4280735.0	Roadway/Open Space	-	-	0.04
3992	669329.0	4280735.0	Roadway/Open Space	-	-	0.04
3993	669339.0	4280735.0	Roadway/Open Space	-	-	0.04
3994	669349.0	4280735.0	Roadway/Open Space	-	-	0.04
3995	669359.0	4280735.0	Roadway/Open Space	-	-	0.04
3996	669369.0	4280735.0	Roadway/Open Space	-	-	0.03
3997	669379.0	4280735.0	Roadway/Open Space	-	-	0.03
3998	669389.0	4280735.0	Roadway/Open Space	-	-	0.03
3999	669399.0	4280735.0	Roadway/Open Space	-	-	0.03
4000	669409.0	4280735.0	Roadway/Open Space	-	-	0.03
4001	669419.0	4280735.0	Roadway/Open Space	-	-	0.03
4002	669429.0	4280735.0	Roadway/Open Space	-	-	0.03
4003	669439.0	4280735.0	Roadway/Open Space	-	-	0.03
4004	669449.0	4280735.0	Roadway/Open Space	-	-	0.03
4005	669459.0	4280735.0	Roadway/Open Space	-	-	0.03
4006	669469.0	4280735.0	Roadway/Open Space	-	-	0.03
4007	669479.0	4280735.0	Roadway/Open Space	-	-	0.03
4008	669489.0	4280735.0	Roadway/Open Space	-	-	0.03
4009	669499.0	4280735.0	Roadway/Open Space	-	-	0.03
4010	669509.0	4280735.0	Roadway/Open Space	-	-	0.03
4011	669519.0	4280735.0	Roadway/Open Space	-	-	0.03
4012	669529.0	4280735.0	Roadway/Open Space	-	-	0.03
4013	669539.0	4280735.0	Roadway/Open Space	-	-	0.02
4014	669549.0	4280735.0	Roadway/Open Space	-	-	0.02
4015	669559.0	4280735.0	Roadway/Open Space	-	-	0.03
4016	669569.0	4280735.0	Roadway/Open Space	-	-	0.03
4017	669579.0	4280735.0	Worker	0.10	0.008	0.03
4018	669589.0	4280735.0	Roadway/Open Space	-	-	0.03
4019	669599.0	4280735.0	Roadway/Open Space	-	-	0.03
4020	669609.0	4280735.0	Roadway/Open Space	-	-	0.03
4021	669619.0	4280735.0	Roadway/Open Space	-	-	0.03
4022	668549.0	4280745.0	Residential	0.70	0.003	0.03
4023	668559.0	4280745.0	Residential	0.75	0.003	0.03
4024	668569.0	4280745.0	Residential	0.76	0.003	0.03
4025	668579.0	4280745.0	Residential	0.77	0.003	0.03
4026	668589.0	4280745.0	Residential	0.78	0.003	0.03
4027	668599.0	4280745.0	Residential	0.79	0.003	0.03
4028	668609.0	4280745.0	Residential	0.80	0.003	0.03
4029	668619.0	4280745.0	Residential	0.79	0.003	0.03
4030	668629.0	4280745.0	Roadway/Open Space	-	-	0.03
4031	668639.0	4280745.0	Residential	0.72	0.003	0.03
4032	668649.0	4280745.0	Residential	0.70	0.003	0.02
4033	668659.0	4280745.0	Residential	0.69	0.003	0.02
4034	668669.0	4280745.0	Residential	0.70	0.003	0.02
4035	668679.0	4280745.0	Residential	0.76	0.003	0.03
4036	668689.0	4280745.0	Residential	0.79	0.003	0.03
4037	668699.0	4280745.0	Residential	0.83	0.003	0.03
4038	668709.0	4280745.0	Roadway/Open Space	-	-	0.03
4039	668719.0	4280745.0	Residential	0.93	0.004	0.03
4040	668729.0	4280745.0	Residential	0.99	0.004	0.03
4041	668739.0	4280745.0	Residential	1.06	0.004	0.03
4042	668749.0	4280745.0	Residential	1.14	0.005	0.03
4043	668759.0	4280745.0	Residential	1.24	0.005	0.04
4044	668769.0	4280745.0	Roadway/Open Space	-	-	0.04
4045	668779.0	4280745.0	Roadway/Open Space	-	-	0.04
4046	668789.0	4280745.0	Roadway/Open Space	-	-	0.04
4047	668799.0	4280745.0	Roadway/Open Space	-	-	0.05
4048	668809.0	4280745.0	Roadway/Open Space	-	-	0.05
4049	668819.0	4280745.0	Roadway/Open Space	-	-	0.05
4050	668829.0	4280745.0	Roadway/Open Space	-	-	0.04
4051	668839.0	4280745.0	Roadway/Open Space	-	-	0.04
4052	668849.0	4280745.0	Roadway/Open Space	-	-	0.05
4053	668859.0	4280745.0	Roadway/Open Space	-	-	0.05
4054	668869.0	4280745.0	Roadway/Open Space	-	-	0.05
4055	668879.0	4280745.0	Roadway/Open Space	-	-	0.05
4056	668889.0	4280745.0	Roadway/Open Space	-	-	0.05
4057	668899.0	4280745.0	Roadway/Open Space	-	-	0.05
4058	668909.0	4280745.0	Roadway/Open Space	-	-	0.05
4059	668919.0	4280745.0	Roadway/Open Space	-	-	0.05
4060	668929.0	4280745.0	Roadway/Open Space	-	-	0.05

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
4061	668939.0	4280745.0	Roadway/Open Space	-	-	0.05
4062	668949.0	4280745.0	Roadway/Open Space	-	-	0.05
4063	668959.0	4280745.0	Roadway/Open Space	-	-	0.05
4064	668969.0	4280745.0	Roadway/Open Space	-	-	0.05
4065	668979.0	4280745.0	Roadway/Open Space	-	-	0.05
4085	669179.0	4280745.0	Roadway/Open Space	-	-	0.05
4086	669189.0	4280745.0	Roadway/Open Space	-	-	0.05
4087	669199.0	4280745.0	Roadway/Open Space	-	-	0.05
4088	669209.0	4280745.0	Roadway/Open Space	-	-	0.05
4089	669219.0	4280745.0	Roadway/Open Space	-	-	0.05
4090	669229.0	4280745.0	Roadway/Open Space	-	-	0.06
4091	669239.0	4280745.0	Roadway/Open Space	-	-	0.06
4092	669249.0	4280745.0	Roadway/Open Space	-	-	0.06
4093	669259.0	4280745.0	Roadway/Open Space	-	-	0.05
4094	669269.0	4280745.0	Roadway/Open Space	-	-	0.05
4095	669279.0	4280745.0	Roadway/Open Space	-	-	0.05
4096	669289.0	4280745.0	Roadway/Open Space	-	-	0.05
4097	669299.0	4280745.0	Roadway/Open Space	-	-	0.05
4098	669309.0	4280745.0	Roadway/Open Space	-	-	0.04
4099	669319.0	4280745.0	Roadway/Open Space	-	-	0.04
4100	669329.0	4280745.0	Roadway/Open Space	-	-	0.05
4101	669339.0	4280745.0	Roadway/Open Space	-	-	0.04
4102	669349.0	4280745.0	Roadway/Open Space	-	-	0.04
4103	669359.0	4280745.0	Roadway/Open Space	-	-	0.04
4104	669369.0	4280745.0	Roadway/Open Space	-	-	0.04
4105	669379.0	4280745.0	Roadway/Open Space	-	-	0.03
4106	669389.0	4280745.0	Roadway/Open Space	-	-	0.03
4107	669399.0	4280745.0	Roadway/Open Space	-	-	0.03
4108	669409.0	4280745.0	Roadway/Open Space	-	-	0.03
4109	669419.0	4280745.0	Roadway/Open Space	-	-	0.03
4110	669429.0	4280745.0	Roadway/Open Space	-	-	0.03
4111	669439.0	4280745.0	Roadway/Open Space	-	-	0.03
4112	669449.0	4280745.0	Roadway/Open Space	-	-	0.03
4113	669459.0	4280745.0	Roadway/Open Space	-	-	0.03
4114	669469.0	4280745.0	Roadway/Open Space	-	-	0.03
4115	669479.0	4280745.0	Roadway/Open Space	-	-	0.03
4116	669489.0	4280745.0	Roadway/Open Space	-	-	0.03
4117	669499.0	4280745.0	Roadway/Open Space	-	-	0.03
4118	669509.0	4280745.0	Roadway/Open Space	-	-	0.03
4119	669519.0	4280745.0	Roadway/Open Space	-	-	0.03
4120	669529.0	4280745.0	Roadway/Open Space	-	-	0.03
4121	669539.0	4280745.0	Roadway/Open Space	-	-	0.02
4122	669549.0	4280745.0	Worker	0.12	0.009	0.02
4123	669559.0	4280745.0	Worker	0.11	0.009	0.03
4124	669569.0	4280745.0	Worker	0.11	0.009	0.03
4125	669579.0	4280745.0	Worker	0.10	0.008	0.03
4126	669589.0	4280745.0	Worker	0.10	0.008	0.03
4127	669599.0	4280745.0	Worker	0.10	0.008	0.03
4128	669609.0	4280745.0	Roadway/Open Space	-	-	0.03
4129	669619.0	4280745.0	Roadway/Open Space	-	-	0.03
4130	668549.0	4280755.0	Residential	0.70	0.003	0.03
4131	668559.0	4280755.0	Residential	0.72	0.003	0.03
4132	668569.0	4280755.0	Residential	0.72	0.003	0.03
4133	668579.0	4280755.0	Residential	0.73	0.003	0.03
4134	668589.0	4280755.0	Residential	0.74	0.003	0.03
4135	668599.0	4280755.0	Residential	0.74	0.003	0.03
4136	668609.0	4280755.0	Residential	0.75	0.003	0.03
4137	668619.0	4280755.0	Residential	0.73	0.003	0.03
4138	668629.0	4280755.0	Residential	0.71	0.003	0.03
4139	668639.0	4280755.0	Roadway/Open Space	-	-	0.03
4140	668649.0	4280755.0	Residential	0.68	0.003	0.02
4141	668659.0	4280755.0	Residential	0.68	0.003	0.02
4142	668669.0	4280755.0	Residential	0.69	0.003	0.02
4143	668679.0	4280755.0	Residential	0.75	0.003	0.02
4144	668689.0	4280755.0	Residential	0.78	0.003	0.02
4145	668699.0	4280755.0	Roadway/Open Space	-	-	0.03
4146	668709.0	4280755.0	Residential	0.87	0.004	0.03
4147	668719.0	4280755.0	Residential	0.92	0.004	0.03
4148	668729.0	4280755.0	Residential	0.98	0.004	0.03
4149	668739.0	4280755.0	Residential	1.06	0.004	0.03
4150	668749.0	4280755.0	Residential	1.14	0.005	0.03
4151	668759.0	4280755.0	Residential	1.23	0.005	0.04
4152	668769.0	4280755.0	Roadway/Open Space	-	-	0.04
4153	668779.0	4280755.0	Roadway/Open Space	-	-	0.04
4154	668789.0	4280755.0	Roadway/Open Space	-	-	0.04
4155	668799.0	4280755.0	Roadway/Open Space	-	-	0.05
4156	668809.0	4280755.0	Roadway/Open Space	-	-	0.05
4157	668819.0	4280755.0	Roadway/Open Space	-	-	0.05
4158	668829.0	4280755.0	Roadway/Open Space	-	-	0.04
4159	668839.0	4280755.0	Roadway/Open Space	-	-	0.04
4160	668849.0	4280755.0	Roadway/Open Space	-	-	0.05
4161	668859.0	4280755.0	Roadway/Open Space	-	-	0.05
4162	668869.0	4280755.0	Roadway/Open Space	-	-	0.05
4163	668879.0	4280755.0	Roadway/Open Space	-	-	0.05

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
4164	668889.0	4280755.0	Roadway/Open Space	-	-	0.05
4165	668899.0	4280755.0	Roadway/Open Space	-	-	0.05
4166	668909.0	4280755.0	Roadway/Open Space	-	-	0.05
4167	668919.0	4280755.0	Roadway/Open Space	-	-	0.05
4168	668929.0	4280755.0	Roadway/Open Space	-	-	0.05
4169	668939.0	4280755.0	Roadway/Open Space	-	-	0.05
4170	668949.0	4280755.0	Roadway/Open Space	-	-	0.05
4171	668959.0	4280755.0	Roadway/Open Space	-	-	0.05
4172	668969.0	4280755.0	Roadway/Open Space	-	-	0.05
4195	669199.0	4280755.0	Roadway/Open Space	-	-	0.05
4196	669209.0	4280755.0	Roadway/Open Space	-	-	0.05
4197	669219.0	4280755.0	Roadway/Open Space	-	-	0.06
4198	669229.0	4280755.0	Roadway/Open Space	-	-	0.06
4199	669239.0	4280755.0	Roadway/Open Space	-	-	0.06
4200	669249.0	4280755.0	Roadway/Open Space	-	-	0.06
4201	669259.0	4280755.0	Roadway/Open Space	-	-	0.05
4202	669269.0	4280755.0	Roadway/Open Space	-	-	0.05
4203	669279.0	4280755.0	Roadway/Open Space	-	-	0.05
4204	669289.0	4280755.0	Roadway/Open Space	-	-	0.05
4205	669299.0	4280755.0	Roadway/Open Space	-	-	0.05
4206	669309.0	4280755.0	Roadway/Open Space	-	-	0.04
4207	669319.0	4280755.0	Roadway/Open Space	-	-	0.05
4208	669329.0	4280755.0	Roadway/Open Space	-	-	0.05
4209	669339.0	4280755.0	Roadway/Open Space	-	-	0.05
4210	669349.0	4280755.0	Roadway/Open Space	-	-	0.04
4211	669359.0	4280755.0	Roadway/Open Space	-	-	0.04
4212	669369.0	4280755.0	Roadway/Open Space	-	-	0.04
4213	669379.0	4280755.0	Roadway/Open Space	-	-	0.04
4214	669389.0	4280755.0	Roadway/Open Space	-	-	0.03
4215	669399.0	4280755.0	Roadway/Open Space	-	-	0.03
4216	669409.0	4280755.0	Roadway/Open Space	-	-	0.03
4217	669419.0	4280755.0	Roadway/Open Space	-	-	0.03
4218	669429.0	4280755.0	Roadway/Open Space	-	-	0.03
4219	669439.0	4280755.0	Roadway/Open Space	-	-	0.03
4220	669449.0	4280755.0	Roadway/Open Space	-	-	0.03
4221	669459.0	4280755.0	Roadway/Open Space	-	-	0.03
4222	669469.0	4280755.0	Roadway/Open Space	-	-	0.03
4223	669479.0	4280755.0	Roadway/Open Space	-	-	0.03
4224	669489.0	4280755.0	Roadway/Open Space	-	-	0.03
4225	669499.0	4280755.0	Roadway/Open Space	-	-	0.03
4226	669509.0	4280755.0	Roadway/Open Space	-	-	0.03
4227	669519.0	4280755.0	Roadway/Open Space	-	-	0.03
4228	669529.0	4280755.0	Roadway/Open Space	-	-	0.03
4229	669539.0	4280755.0	Roadway/Open Space	-	-	0.02
4230	669549.0	4280755.0	Worker	0.12	0.009	0.03
4231	669559.0	4280755.0	Worker	0.11	0.009	0.03
4232	669569.0	4280755.0	Worker	0.11	0.009	0.03
4233	669579.0	4280755.0	Worker	0.10	0.008	0.03
4234	669589.0	4280755.0	Worker	0.10	0.008	0.03
4235	669599.0	4280755.0	Worker	0.09	0.008	0.03
4236	669609.0	4280755.0	Roadway/Open Space	-	-	0.03
4237	669619.0	4280755.0	Roadway/Open Space	-	-	0.03
4238	668549.0	4280765.0	Residential	0.66	0.003	0.03
4239	668559.0	4280765.0	Residential	0.67	0.003	0.03
4240	668569.0	4280765.0	Residential	0.67	0.003	0.03
4241	668579.0	4280765.0	Residential	0.68	0.003	0.03
4242	668589.0	4280765.0	Residential	0.69	0.003	0.03
4243	668599.0	4280765.0	Residential	0.70	0.003	0.03
4244	668609.0	4280765.0	Residential	0.70	0.003	0.03
4245	668619.0	4280765.0	Residential	0.69	0.003	0.03
4246	668629.0	4280765.0	Residential	0.68	0.003	0.03
4247	668639.0	4280765.0	Roadway/Open Space	-	-	0.02
4248	668649.0	4280765.0	Residential	0.66	0.003	0.02
4249	668659.0	4280765.0	Residential	0.66	0.003	0.02
4250	668669.0	4280765.0	Residential	0.67	0.003	0.02
4251	668679.0	4280765.0	Residential	0.74	0.003	0.02
4252	668689.0	4280765.0	Roadway/Open Space	-	-	0.02
4253	668699.0	4280765.0	Residential	0.81	0.003	0.02
4254	668709.0	4280765.0	Residential	0.86	0.004	0.03
4255	668719.0	4280765.0	Residential	0.92	0.004	0.03
4256	668729.0	4280765.0	Residential	0.98	0.004	0.03
4257	668739.0	4280765.0	Residential	1.07	0.004	0.03
4258	668749.0	4280765.0	Residential	1.11	0.005	0.03
4259	668759.0	4280765.0	Roadway/Open Space	-	-	0.03
4260	668769.0	4280765.0	Roadway/Open Space	-	-	0.04
4261	668779.0	4280765.0	Roadway/Open Space	-	-	0.04
4262	668789.0	4280765.0	Roadway/Open Space	-	-	0.04
4263	668799.0	4280765.0	Roadway/Open Space	-	-	0.05
4264	668809.0	4280765.0	Roadway/Open Space	-	-	0.05
4265	668819.0	4280765.0	Roadway/Open Space	-	-	0.05
4266	668829.0	4280765.0	Roadway/Open Space	-	-	0.04
4267	668839.0	4280765.0	Roadway/Open Space	-	-	0.04
4268	668849.0	4280765.0	Roadway/Open Space	-	-	0.05
4269	668859.0	4280765.0	Roadway/Open Space	-	-	0.05

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
4270	668869.0	4280765.0	Roadway/Open Space	-	-	0.05
4271	668879.0	4280765.0	Roadway/Open Space	-	-	0.05
4272	668889.0	4280765.0	Roadway/Open Space	-	-	0.05
4273	668899.0	4280765.0	Roadway/Open Space	-	-	0.05
4274	668909.0	4280765.0	Roadway/Open Space	-	-	0.05
4275	668919.0	4280765.0	Roadway/Open Space	-	-	0.05
4276	668929.0	4280765.0	Roadway/Open Space	-	-	0.05
4277	668939.0	4280765.0	Roadway/Open Space	-	-	0.05
4278	668949.0	4280765.0	Roadway/Open Space	-	-	0.05
4279	668959.0	4280765.0	Roadway/Open Space	-	-	0.05
4280	668969.0	4280765.0	Roadway/Open Space	-	-	0.05
4305	669219.0	4280765.0	Roadway/Open Space	-	-	0.06
4306	669229.0	4280765.0	Roadway/Open Space	-	-	0.06
4307	669239.0	4280765.0	Roadway/Open Space	-	-	0.06
4308	669249.0	4280765.0	Roadway/Open Space	-	-	0.06
4309	669259.0	4280765.0	Roadway/Open Space	-	-	0.05
4310	669269.0	4280765.0	Roadway/Open Space	-	-	0.05
4311	669279.0	4280765.0	Roadway/Open Space	-	-	0.05
4312	669289.0	4280765.0	Roadway/Open Space	-	-	0.05
4313	669299.0	4280765.0	Roadway/Open Space	-	-	0.05
4314	669309.0	4280765.0	Roadway/Open Space	-	-	0.05
4315	669319.0	4280765.0	Roadway/Open Space	-	-	0.05
4316	669329.0	4280765.0	Roadway/Open Space	-	-	0.05
4317	669339.0	4280765.0	Roadway/Open Space	-	-	0.05
4318	669349.0	4280765.0	Roadway/Open Space	-	-	0.04
4319	669359.0	4280765.0	Roadway/Open Space	-	-	0.04
4320	669369.0	4280765.0	Roadway/Open Space	-	-	0.04
4321	669379.0	4280765.0	Roadway/Open Space	-	-	0.04
4322	669389.0	4280765.0	Roadway/Open Space	-	-	0.03
4323	669399.0	4280765.0	Roadway/Open Space	-	-	0.03
4324	669409.0	4280765.0	Roadway/Open Space	-	-	0.03
4325	669419.0	4280765.0	Roadway/Open Space	-	-	0.03
4326	669429.0	4280765.0	Roadway/Open Space	-	-	0.03
4327	669439.0	4280765.0	Roadway/Open Space	-	-	0.03
4328	669449.0	4280765.0	Roadway/Open Space	-	-	0.03
4329	669459.0	4280765.0	Roadway/Open Space	-	-	0.03
4330	669469.0	4280765.0	Roadway/Open Space	-	-	0.03
4331	669479.0	4280765.0	Roadway/Open Space	-	-	0.03
4332	669489.0	4280765.0	Roadway/Open Space	-	-	0.03
4333	669499.0	4280765.0	Roadway/Open Space	-	-	0.03
4334	669509.0	4280765.0	Roadway/Open Space	-	-	0.03
4335	669519.0	4280765.0	Roadway/Open Space	-	-	0.03
4336	669529.0	4280765.0	Roadway/Open Space	-	-	0.03
4337	669539.0	4280765.0	Worker	0.12	0.010	0.03
4338	669549.0	4280765.0	Worker	0.12	0.009	0.03
4339	669559.0	4280765.0	Worker	0.11	0.009	0.03
4340	669569.0	4280765.0	Worker	0.11	0.008	0.03
4341	669579.0	4280765.0	Worker	0.10	0.008	0.03
4342	669589.0	4280765.0	Worker	0.10	0.008	0.03
4343	669599.0	4280765.0	Worker	0.09	0.007	0.03
4344	669609.0	4280765.0	Roadway/Open Space	-	-	0.03
4345	669619.0	4280765.0	Roadway/Open Space	-	-	0.03
4346	668549.0	4280775.0	Residential	0.60	0.002	0.03
4347	668559.0	4280775.0	Residential	0.61	0.003	0.03
4348	668569.0	4280775.0	Residential	0.62	0.003	0.03
4349	668579.0	4280775.0	Residential	0.63	0.003	0.03
4350	668589.0	4280775.0	Residential	0.65	0.003	0.03
4351	668599.0	4280775.0	Residential	0.67	0.003	0.03
4352	668609.0	4280775.0	Residential	0.67	0.003	0.03
4353	668619.0	4280775.0	Residential	0.66	0.003	0.03
4354	668629.0	4280775.0	Residential	0.65	0.003	0.02
4355	668639.0	4280775.0	Roadway/Open Space	-	-	0.02
4356	668649.0	4280775.0	Residential	0.64	0.003	0.02
4357	668659.0	4280775.0	Residential	0.65	0.003	0.02
4358	668669.0	4280775.0	Roadway/Open Space	-	-	0.02
4359	668679.0	4280775.0	Residential	0.68	0.003	0.02
4360	668689.0	4280775.0	Residential	0.76	0.003	0.02
4361	668699.0	4280775.0	Residential	0.80	0.003	0.02
4362	668709.0	4280775.0	Residential	0.86	0.004	0.02
4363	668719.0	4280775.0	Residential	0.87	0.004	0.03
4364	668729.0	4280775.0	Residential	0.94	0.004	0.03
4365	668739.0	4280775.0	Residential	1.02	0.004	0.03
4366	668749.0	4280775.0	Residential	1.13	0.005	0.03
4367	668759.0	4280775.0	Roadway/Open Space	-	-	0.04
4368	668769.0	4280775.0	Roadway/Open Space	-	-	0.04
4369	668779.0	4280775.0	Roadway/Open Space	-	-	0.04
4370	668789.0	4280775.0	Roadway/Open Space	-	-	0.05
4371	668799.0	4280775.0	Roadway/Open Space	-	-	0.05
4372	668809.0	4280775.0	Roadway/Open Space	-	-	0.05
4373	668819.0	4280775.0	Roadway/Open Space	-	-	0.05
4374	668829.0	4280775.0	Roadway/Open Space	-	-	0.04
4375	668839.0	4280775.0	Roadway/Open Space	-	-	0.05
4376	668849.0	4280775.0	Roadway/Open Space	-	-	0.05
4377	668859.0	4280775.0	Roadway/Open Space	-	-	0.05

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
4378	668869.0	4280775.0	Roadway/Open Space	-	-	0.05
4379	668879.0	4280775.0	Roadway/Open Space	-	-	0.05
4380	668889.0	4280775.0	Roadway/Open Space	-	-	0.05
4381	668899.0	4280775.0	Roadway/Open Space	-	-	0.05
4382	668909.0	4280775.0	Roadway/Open Space	-	-	0.05
4383	668919.0	4280775.0	Roadway/Open Space	-	-	0.05
4384	668929.0	4280775.0	Roadway/Open Space	-	-	0.05
4385	668939.0	4280775.0	Roadway/Open Space	-	-	0.05
4386	668949.0	4280775.0	Roadway/Open Space	-	-	0.05
4387	668959.0	4280775.0	Roadway/Open Space	-	-	0.05
4414	669229.0	4280775.0	Roadway/Open Space	-	-	0.06
4415	669239.0	4280775.0	Roadway/Open Space	-	-	0.06
4416	669249.0	4280775.0	Roadway/Open Space	-	-	0.06
4417	669259.0	4280775.0	Roadway/Open Space	-	-	0.05
4418	669269.0	4280775.0	Roadway/Open Space	-	-	0.05
4419	669279.0	4280775.0	Roadway/Open Space	-	-	0.05
4420	669289.0	4280775.0	Roadway/Open Space	-	-	0.05
4421	669299.0	4280775.0	Roadway/Open Space	-	-	0.05
4422	669309.0	4280775.0	Roadway/Open Space	-	-	0.05
4423	669319.0	4280775.0	Roadway/Open Space	-	-	0.05
4424	669329.0	4280775.0	Roadway/Open Space	-	-	0.05
4425	669339.0	4280775.0	Roadway/Open Space	-	-	0.05
4426	669349.0	4280775.0	Roadway/Open Space	-	-	0.05
4427	669359.0	4280775.0	Roadway/Open Space	-	-	0.04
4428	669369.0	4280775.0	Roadway/Open Space	-	-	0.04
4429	669379.0	4280775.0	Roadway/Open Space	-	-	0.04
4430	669389.0	4280775.0	Roadway/Open Space	-	-	0.04
4431	669399.0	4280775.0	Roadway/Open Space	-	-	0.03
4432	669409.0	4280775.0	Roadway/Open Space	-	-	0.03
4433	669419.0	4280775.0	Roadway/Open Space	-	-	0.03
4434	669429.0	4280775.0	Roadway/Open Space	-	-	0.03
4435	669439.0	4280775.0	Roadway/Open Space	-	-	0.03
4436	669449.0	4280775.0	Roadway/Open Space	-	-	0.03
4437	669459.0	4280775.0	Roadway/Open Space	-	-	0.03
4438	669469.0	4280775.0	Roadway/Open Space	-	-	0.03
4439	669479.0	4280775.0	Roadway/Open Space	-	-	0.03
4440	669489.0	4280775.0	Roadway/Open Space	-	-	0.03
4441	669499.0	4280775.0	Roadway/Open Space	-	-	0.03
4442	669509.0	4280775.0	Roadway/Open Space	-	-	0.03
4443	669519.0	4280775.0	Roadway/Open Space	-	-	0.03
4444	669529.0	4280775.0	Roadway/Open Space	-	-	0.03
4445	669539.0	4280775.0	Worker	0.12	0.010	0.03
4446	669549.0	4280775.0	Worker	0.11	0.009	0.03
4447	669559.0	4280775.0	Worker	0.11	0.009	0.03
4448	669569.0	4280775.0	Worker	0.10	0.008	0.03
4449	669579.0	4280775.0	Worker	0.10	0.008	0.03
4450	669589.0	4280775.0	Worker	0.10	0.008	0.03
4451	669599.0	4280775.0	Worker	0.09	0.007	0.03
4452	669609.0	4280775.0	Roadway/Open Space	-	-	0.03
4453	669619.0	4280775.0	Roadway/Open Space	-	-	0.03
4454	668539.0	4280785.0	Residential	0.55	0.002	0.02
4455	668549.0	4280785.0	Residential	0.56	0.002	0.02
4456	668559.0	4280785.0	Residential	0.56	0.002	0.02
4457	668569.0	4280785.0	Residential	0.58	0.002	0.02
4458	668579.0	4280785.0	Residential	0.59	0.002	0.02
4459	668589.0	4280785.0	Residential	0.61	0.003	0.02
4460	668599.0	4280785.0	Residential	0.63	0.003	0.02
4461	668609.0	4280785.0	Residential	0.63	0.003	0.02
4462	668619.0	4280785.0	Residential	0.62	0.003	0.02
4463	668629.0	4280785.0	Residential	0.62	0.003	0.02
4464	668639.0	4280785.0	Roadway/Open Space	-	-	0.02
4465	668649.0	4280785.0	Roadway/Open Space	-	-	0.02
4466	668659.0	4280785.0	Residential	0.63	0.003	0.02
4467	668669.0	4280785.0	Residential	0.65	0.003	0.02
4468	668679.0	4280785.0	Residential	0.67	0.003	0.02
4469	668689.0	4280785.0	Residential	0.75	0.003	0.02
4470	668699.0	4280785.0	Residential	0.79	0.003	0.02
4471	668709.0	4280785.0	Residential	0.80	0.003	0.02
4472	668719.0	4280785.0	Residential	0.88	0.004	0.02
4473	668729.0	4280785.0	Residential	0.96	0.004	0.03
4474	668739.0	4280785.0	Residential	1.05	0.004	0.03
4475	668749.0	4280785.0	Roadway/Open Space	-	-	0.03
4476	668759.0	4280785.0	Roadway/Open Space	-	-	0.04
4477	668769.0	4280785.0	Roadway/Open Space	-	-	0.04
4478	668779.0	4280785.0	Roadway/Open Space	-	-	0.04
4479	668789.0	4280785.0	Roadway/Open Space	-	-	0.05
4480	668799.0	4280785.0	Roadway/Open Space	-	-	0.05
4481	668809.0	4280785.0	Roadway/Open Space	-	-	0.05
4482	668819.0	4280785.0	Roadway/Open Space	-	-	0.04
4483	668829.0	4280785.0	Roadway/Open Space	-	-	0.04
4484	668839.0	4280785.0	Roadway/Open Space	-	-	0.05
4485	668849.0	4280785.0	Roadway/Open Space	-	-	0.05
4486	668859.0	4280785.0	Roadway/Open Space	-	-	0.05
4487	668869.0	4280785.0	Roadway/Open Space	-	-	0.05

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
4488	668879.0	4280785.0	Roadway/Open Space	-	-	0.05
4489	668889.0	4280785.0	Roadway/Open Space	-	-	0.05
4490	668899.0	4280785.0	Roadway/Open Space	-	-	0.05
4491	668909.0	4280785.0	Roadway/Open Space	-	-	0.05
4492	668919.0	4280785.0	Roadway/Open Space	-	-	0.05
4493	668929.0	4280785.0	Roadway/Open Space	-	-	0.05
4494	668939.0	4280785.0	Roadway/Open Space	-	-	0.05
4495	668949.0	4280785.0	Roadway/Open Space	-	-	0.06
4496	668959.0	4280785.0	Roadway/Open Space	-	-	0.05
4523	669229.0	4280785.0	Roadway/Open Space	-	-	0.06
4524	669239.0	4280785.0	Roadway/Open Space	-	-	0.06
4525	669249.0	4280785.0	Roadway/Open Space	-	-	0.06
4526	669259.0	4280785.0	Roadway/Open Space	-	-	0.06
4527	669269.0	4280785.0	Roadway/Open Space	-	-	0.05
4528	669279.0	4280785.0	Roadway/Open Space	-	-	0.05
4529	669289.0	4280785.0	Roadway/Open Space	-	-	0.05
4530	669299.0	4280785.0	Roadway/Open Space	-	-	0.05
4531	669309.0	4280785.0	Roadway/Open Space	-	-	0.05
4532	669319.0	4280785.0	Roadway/Open Space	-	-	0.05
4533	669329.0	4280785.0	Roadway/Open Space	-	-	0.05
4534	669339.0	4280785.0	Roadway/Open Space	-	-	0.05
4535	669349.0	4280785.0	Roadway/Open Space	-	-	0.05
4536	669359.0	4280785.0	Roadway/Open Space	-	-	0.05
4537	669369.0	4280785.0	Roadway/Open Space	-	-	0.04
4538	669379.0	4280785.0	Roadway/Open Space	-	-	0.04
4539	669389.0	4280785.0	Roadway/Open Space	-	-	0.04
4540	669399.0	4280785.0	Roadway/Open Space	-	-	0.04
4541	669409.0	4280785.0	Roadway/Open Space	-	-	0.03
4542	669419.0	4280785.0	Roadway/Open Space	-	-	0.03
4543	669429.0	4280785.0	Roadway/Open Space	-	-	0.03
4544	669439.0	4280785.0	Roadway/Open Space	-	-	0.03
4545	669449.0	4280785.0	Roadway/Open Space	-	-	0.03
4546	669459.0	4280785.0	Roadway/Open Space	-	-	0.03
4547	669469.0	4280785.0	Roadway/Open Space	-	-	0.03
4548	669479.0	4280785.0	Roadway/Open Space	-	-	0.03
4549	669489.0	4280785.0	Roadway/Open Space	-	-	0.03
4550	669499.0	4280785.0	Roadway/Open Space	-	-	0.03
4551	669509.0	4280785.0	Roadway/Open Space	-	-	0.03
4552	669519.0	4280785.0	Roadway/Open Space	-	-	0.03
4553	669529.0	4280785.0	Roadway/Open Space	-	-	0.03
4554	669539.0	4280785.0	Worker	0.12	0.010	0.03
4555	669549.0	4280785.0	Worker	0.11	0.009	0.03
4556	669559.0	4280785.0	Worker	0.11	0.009	0.03
4557	669569.0	4280785.0	Worker	0.10	0.008	0.03
4558	669579.0	4280785.0	Worker	0.10	0.008	0.03
4559	669589.0	4280785.0	Worker	0.10	0.008	0.03
4560	669599.0	4280785.0	Worker	0.09	0.007	0.03
4561	669609.0	4280785.0	Roadway/Open Space	-	-	0.03
4562	669619.0	4280785.0	Roadway/Open Space	-	-	0.03
4563	668539.0	4280795.0	Residential	0.52	0.002	0.02
4564	668549.0	4280795.0	Residential	0.52	0.002	0.02
4565	668559.0	4280795.0	Residential	0.53	0.002	0.02
4566	668569.0	4280795.0	Residential	0.54	0.002	0.02
4567	668579.0	4280795.0	Residential	0.56	0.002	0.02
4568	668589.0	4280795.0	Residential	0.57	0.002	0.02
4569	668599.0	4280795.0	Residential	0.58	0.002	0.02
4570	668609.0	4280795.0	Residential	0.59	0.002	0.02
4571	668619.0	4280795.0	Residential	0.59	0.002	0.02
4572	668629.0	4280795.0	Residential	0.58	0.002	0.02
4573	668639.0	4280795.0	Residential	0.58	0.002	0.02
4574	668649.0	4280795.0	Residential	0.59	0.002	0.02
4575	668659.0	4280795.0	Residential	0.61	0.003	0.02
4576	668669.0	4280795.0	Residential	0.63	0.003	0.02
4577	668679.0	4280795.0	Residential	0.66	0.003	0.02
4578	668689.0	4280795.0	Residential	0.69	0.003	0.02
4579	668699.0	4280795.0	Residential	0.74	0.003	0.02
4580	668709.0	4280795.0	Residential	0.81	0.003	0.02
4581	668719.0	4280795.0	Residential	0.90	0.004	0.02
4582	668729.0	4280795.0	Residential	0.99	0.004	0.03
4583	668739.0	4280795.0	Roadway/Open Space	-	-	0.03
4584	668749.0	4280795.0	Roadway/Open Space	-	-	0.04
4585	668759.0	4280795.0	Roadway/Open Space	-	-	0.04
4586	668769.0	4280795.0	Roadway/Open Space	-	-	0.04
4587	668779.0	4280795.0	Roadway/Open Space	-	-	0.05
4588	668789.0	4280795.0	Roadway/Open Space	-	-	0.05
4589	668799.0	4280795.0	Roadway/Open Space	-	-	0.05
4590	668809.0	4280795.0	Roadway/Open Space	-	-	0.05
4591	668819.0	4280795.0	Roadway/Open Space	-	-	0.04
4592	668829.0	4280795.0	Roadway/Open Space	-	-	0.05
4593	668839.0	4280795.0	Roadway/Open Space	-	-	0.05
4594	668849.0	4280795.0	Roadway/Open Space	-	-	0.05
4595	668859.0	4280795.0	Roadway/Open Space	-	-	0.05
4596	668869.0	4280795.0	Roadway/Open Space	-	-	0.05
4597	668879.0	4280795.0	Roadway/Open Space	-	-	0.05

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
4598	668889.0	4280795.0	Roadway/Open Space	-	-	0.05
4599	668899.0	4280795.0	Roadway/Open Space	-	-	0.05
4600	668909.0	4280795.0	Roadway/Open Space	-	-	0.05
4601	668919.0	4280795.0	Roadway/Open Space	-	-	0.05
4602	668929.0	4280795.0	Roadway/Open Space	-	-	0.06
4603	668939.0	4280795.0	Roadway/Open Space	-	-	0.06
4604	668949.0	4280795.0	Roadway/Open Space	-	-	0.06
4605	668959.0	4280795.0	Roadway/Open Space	-	-	0.06
4631	669219.0	4280795.0	Roadway/Open Space	-	-	0.07
4632	669229.0	4280795.0	Roadway/Open Space	-	-	0.06
4633	669239.0	4280795.0	Roadway/Open Space	-	-	0.06
4634	669249.0	4280795.0	Roadway/Open Space	-	-	0.06
4635	669259.0	4280795.0	Roadway/Open Space	-	-	0.06
4636	669269.0	4280795.0	Roadway/Open Space	-	-	0.05
4637	669279.0	4280795.0	Roadway/Open Space	-	-	0.05
4638	669289.0	4280795.0	Roadway/Open Space	-	-	0.05
4639	669299.0	4280795.0	Roadway/Open Space	-	-	0.05
4640	669309.0	4280795.0	Roadway/Open Space	-	-	0.05
4641	669319.0	4280795.0	Roadway/Open Space	-	-	0.05
4642	669329.0	4280795.0	Roadway/Open Space	-	-	0.05
4643	669339.0	4280795.0	Roadway/Open Space	-	-	0.06
4644	669349.0	4280795.0	Roadway/Open Space	-	-	0.05
4645	669359.0	4280795.0	Roadway/Open Space	-	-	0.05
4646	669369.0	4280795.0	Roadway/Open Space	-	-	0.04
4647	669379.0	4280795.0	Roadway/Open Space	-	-	0.04
4648	669389.0	4280795.0	Roadway/Open Space	-	-	0.04
4649	669399.0	4280795.0	Roadway/Open Space	-	-	0.04
4650	669409.0	4280795.0	Roadway/Open Space	-	-	0.04
4651	669419.0	4280795.0	Roadway/Open Space	-	-	0.03
4652	669429.0	4280795.0	Roadway/Open Space	-	-	0.03
4653	669439.0	4280795.0	Roadway/Open Space	-	-	0.03
4654	669449.0	4280795.0	Roadway/Open Space	-	-	0.03
4655	669459.0	4280795.0	Roadway/Open Space	-	-	0.03
4656	669469.0	4280795.0	Roadway/Open Space	-	-	0.03
4657	669479.0	4280795.0	Roadway/Open Space	-	-	0.03
4658	669489.0	4280795.0	Roadway/Open Space	-	-	0.03
4659	669499.0	4280795.0	Roadway/Open Space	-	-	0.03
4660	669509.0	4280795.0	Roadway/Open Space	-	-	0.03
4661	669519.0	4280795.0	Worker	0.13	0.011	0.03
4662	669529.0	4280795.0	Worker	0.13	0.010	0.03
4663	669539.0	4280795.0	Worker	0.12	0.010	0.03
4664	669549.0	4280795.0	Worker	0.11	0.009	0.03
4665	669559.0	4280795.0	Worker	0.11	0.009	0.03
4666	669569.0	4280795.0	Worker	0.10	0.008	0.03
4667	669579.0	4280795.0	Worker	0.10	0.008	0.03
4668	669589.0	4280795.0	Worker	0.10	0.008	0.03
4669	669599.0	4280795.0	Worker	0.09	0.007	0.03
4670	669609.0	4280795.0	Roadway/Open Space	-	-	0.03
4671	669619.0	4280795.0	Roadway/Open Space	-	-	0.03
4672	668539.0	4280805.0	Residential	0.49	0.002	0.02
4673	668549.0	4280805.0	Residential	0.49	0.002	0.02
4674	668559.0	4280805.0	Residential	0.50	0.002	0.02
4675	668569.0	4280805.0	Residential	0.51	0.002	0.02
4676	668579.0	4280805.0	Residential	0.52	0.002	0.02
4677	668589.0	4280805.0	Residential	0.54	0.002	0.02
4678	668599.0	4280805.0	Residential	0.55	0.002	0.02
4679	668609.0	4280805.0	Residential	0.55	0.002	0.02
4680	668619.0	4280805.0	Residential	0.56	0.002	0.02
4681	668629.0	4280805.0	Residential	0.56	0.002	0.02
4682	668639.0	4280805.0	Residential	0.56	0.002	0.02
4683	668649.0	4280805.0	Roadway/Open Space	-	-	0.02
4684	668659.0	4280805.0	Residential	0.59	0.002	0.02
4685	668669.0	4280805.0	Residential	0.62	0.003	0.02
4686	668679.0	4280805.0	Residential	0.65	0.003	0.02
4687	668689.0	4280805.0	Residential	0.69	0.003	0.02
4688	668699.0	4280805.0	Residential	0.75	0.003	0.02
4689	668709.0	4280805.0	Residential	0.83	0.003	0.02
4690	668719.0	4280805.0	Residential	0.93	0.004	0.03
4691	668729.0	4280805.0	Roadway/Open Space	-	-	0.03
4692	668739.0	4280805.0	Roadway/Open Space	-	-	0.03
4693	668749.0	4280805.0	Roadway/Open Space	-	-	0.04
4694	668759.0	4280805.0	Roadway/Open Space	-	-	0.04
4695	668769.0	4280805.0	Roadway/Open Space	-	-	0.05
4696	668779.0	4280805.0	Roadway/Open Space	-	-	0.05
4697	668789.0	4280805.0	Roadway/Open Space	-	-	0.05
4698	668799.0	4280805.0	Roadway/Open Space	-	-	0.05
4699	668809.0	4280805.0	Roadway/Open Space	-	-	0.04
4700	668819.0	4280805.0	Roadway/Open Space	-	-	0.04
4701	668829.0	4280805.0	Roadway/Open Space	-	-	0.05
4702	668839.0	4280805.0	Roadway/Open Space	-	-	0.05
4703	668849.0	4280805.0	Roadway/Open Space	-	-	0.05
4704	668859.0	4280805.0	Roadway/Open Space	-	-	0.05
4705	668869.0	4280805.0	Roadway/Open Space	-	-	0.05
4706	668879.0	4280805.0	Roadway/Open Space	-	-	0.05

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
4707	668889.0	4280805.0	Roadway/Open Space	-	-	0.05
4708	668899.0	4280805.0	Roadway/Open Space	-	-	0.05
4709	668909.0	4280805.0	Roadway/Open Space	-	-	0.05
4710	668919.0	4280805.0	Roadway/Open Space	-	-	0.06
4711	668929.0	4280805.0	Roadway/Open Space	-	-	0.06
4712	668939.0	4280805.0	Roadway/Open Space	-	-	0.06
4713	668949.0	4280805.0	Roadway/Open Space	-	-	0.06
4740	669219.0	4280805.0	Roadway/Open Space	-	-	0.07
4741	669229.0	4280805.0	Roadway/Open Space	-	-	0.07
4742	669239.0	4280805.0	Roadway/Open Space	-	-	0.06
4743	669249.0	4280805.0	Roadway/Open Space	-	-	0.06
4744	669259.0	4280805.0	Roadway/Open Space	-	-	0.06
4745	669269.0	4280805.0	Roadway/Open Space	-	-	0.06
4746	669279.0	4280805.0	Roadway/Open Space	-	-	0.05
4747	669289.0	4280805.0	Roadway/Open Space	-	-	0.05
4748	669299.0	4280805.0	Roadway/Open Space	-	-	0.05
4749	669309.0	4280805.0	Roadway/Open Space	-	-	0.05
4750	669319.0	4280805.0	Roadway/Open Space	-	-	0.06
4751	669329.0	4280805.0	Roadway/Open Space	-	-	0.06
4752	669339.0	4280805.0	Roadway/Open Space	-	-	0.06
4753	669349.0	4280805.0	Roadway/Open Space	-	-	0.05
4754	669359.0	4280805.0	Roadway/Open Space	-	-	0.05
4755	669369.0	4280805.0	Roadway/Open Space	-	-	0.04
4756	669379.0	4280805.0	Roadway/Open Space	-	-	0.04
4757	669389.0	4280805.0	Roadway/Open Space	-	-	0.04
4758	669399.0	4280805.0	Roadway/Open Space	-	-	0.04
4759	669409.0	4280805.0	Roadway/Open Space	-	-	0.04
4760	669419.0	4280805.0	Roadway/Open Space	-	-	0.03
4761	669429.0	4280805.0	Roadway/Open Space	-	-	0.03
4762	669439.0	4280805.0	Roadway/Open Space	-	-	0.03
4763	669449.0	4280805.0	Roadway/Open Space	-	-	0.03
4764	669459.0	4280805.0	Roadway/Open Space	-	-	0.03
4765	669469.0	4280805.0	Roadway/Open Space	-	-	0.03
4766	669479.0	4280805.0	Roadway/Open Space	-	-	0.03
4767	669489.0	4280805.0	Roadway/Open Space	-	-	0.03
4768	669499.0	4280805.0	Roadway/Open Space	-	-	0.03
4769	669509.0	4280805.0	Roadway/Open Space	-	-	0.03
4770	669519.0	4280805.0	Worker	0.13	0.011	0.03
4771	669529.0	4280805.0	Worker	0.13	0.010	0.03
4772	669539.0	4280805.0	Worker	0.12	0.010	0.03
4773	669549.0	4280805.0	Worker	0.11	0.009	0.03
4774	669559.0	4280805.0	Worker	0.11	0.009	0.03
4775	669569.0	4280805.0	Worker	0.10	0.008	0.03
4776	669579.0	4280805.0	Worker	0.10	0.008	0.03
4777	669589.0	4280805.0	Worker	0.09	0.008	0.03
4778	669599.0	4280805.0	Roadway/Open Space	-	-	0.03
4779	669609.0	4280805.0	Roadway/Open Space	-	-	0.03
4780	669619.0	4280805.0	Roadway/Open Space	-	-	0.03
4781	668539.0	4280815.0	Residential	0.46	0.002	0.02
4782	668549.0	4280815.0	Residential	0.46	0.002	0.02
4783	668559.0	4280815.0	Residential	0.47	0.002	0.02
4784	668569.0	4280815.0	Residential	0.48	0.002	0.02
4785	668579.0	4280815.0	Residential	0.50	0.002	0.02
4786	668589.0	4280815.0	Residential	0.51	0.002	0.02
4787	668599.0	4280815.0	Residential	0.52	0.002	0.02
4788	668609.0	4280815.0	Residential	0.53	0.002	0.02
4789	668619.0	4280815.0	Residential	0.53	0.002	0.02
4790	668629.0	4280815.0	Residential	0.54	0.002	0.02
4791	668639.0	4280815.0	Residential	0.55	0.002	0.02
4792	668649.0	4280815.0	Roadway/Open Space	-	-	0.02
4793	668659.0	4280815.0	Residential	0.58	0.002	0.02
4794	668669.0	4280815.0	Residential	0.61	0.002	0.02
4795	668679.0	4280815.0	Residential	0.64	0.003	0.02
4796	668689.0	4280815.0	Residential	0.69	0.003	0.02
4797	668699.0	4280815.0	Residential	0.76	0.003	0.02
4798	668709.0	4280815.0	Residential	0.85	0.003	0.02
4799	668719.0	4280815.0	Residential	0.96	0.004	0.03
4800	668729.0	4280815.0	Roadway/Open Space	-	-	0.03
4801	668739.0	4280815.0	Roadway/Open Space	-	-	0.03
4802	668749.0	4280815.0	Roadway/Open Space	-	-	0.04
4803	668759.0	4280815.0	Roadway/Open Space	-	-	0.04
4804	668769.0	4280815.0	Roadway/Open Space	-	-	0.05
4805	668779.0	4280815.0	Roadway/Open Space	-	-	0.05
4806	668789.0	4280815.0	Roadway/Open Space	-	-	0.05
4807	668799.0	4280815.0	Roadway/Open Space	-	-	0.05
4808	668809.0	4280815.0	Roadway/Open Space	-	-	0.04
4809	668819.0	4280815.0	Roadway/Open Space	-	-	0.05
4810	668829.0	4280815.0	Roadway/Open Space	-	-	0.05
4811	668839.0	4280815.0	Roadway/Open Space	-	-	0.05
4812	668849.0	4280815.0	Roadway/Open Space	-	-	0.05
4813	668859.0	4280815.0	Roadway/Open Space	-	-	0.05
4814	668869.0	4280815.0	Roadway/Open Space	-	-	0.05
4815	668879.0	4280815.0	Roadway/Open Space	-	-	0.05
4816	668889.0	4280815.0	Roadway/Open Space	-	-	0.05

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
4817	668899.0	4280815.0	Roadway/Open Space	-	-	0.05
4818	668909.0	4280815.0	Roadway/Open Space	-	-	0.05
4819	668919.0	4280815.0	Roadway/Open Space	-	-	0.06
4820	668929.0	4280815.0	Roadway/Open Space	-	-	0.06
4821	668939.0	4280815.0	Roadway/Open Space	-	-	0.06
4822	668949.0	4280815.0	Roadway/Open Space	-	-	0.06
4848	669209.0	4280815.0	Roadway/Open Space	-	-	0.07
4849	669219.0	4280815.0	Roadway/Open Space	-	-	0.07
4850	669229.0	4280815.0	Roadway/Open Space	-	-	0.07
4851	669239.0	4280815.0	Roadway/Open Space	-	-	0.06
4852	669249.0	4280815.0	Roadway/Open Space	-	-	0.06
4853	669259.0	4280815.0	Roadway/Open Space	-	-	0.06
4854	669269.0	4280815.0	Roadway/Open Space	-	-	0.06
4855	669279.0	4280815.0	Roadway/Open Space	-	-	0.06
4856	669289.0	4280815.0	Roadway/Open Space	-	-	0.05
4857	669299.0	4280815.0	Roadway/Open Space	-	-	0.05
4858	669309.0	4280815.0	Roadway/Open Space	-	-	0.06
4859	669319.0	4280815.0	Roadway/Open Space	-	-	0.06
4860	669329.0	4280815.0	Roadway/Open Space	-	-	0.06
4861	669339.0	4280815.0	Roadway/Open Space	-	-	0.06
4862	669349.0	4280815.0	Roadway/Open Space	-	-	0.05
4863	669359.0	4280815.0	Roadway/Open Space	-	-	0.05
4864	669369.0	4280815.0	Roadway/Open Space	-	-	0.05
4865	669379.0	4280815.0	Roadway/Open Space	-	-	0.04
4866	669389.0	4280815.0	Roadway/Open Space	-	-	0.04
4867	669399.0	4280815.0	Roadway/Open Space	-	-	0.04
4868	669409.0	4280815.0	Roadway/Open Space	-	-	0.04
4869	669419.0	4280815.0	Roadway/Open Space	-	-	0.04
4870	669429.0	4280815.0	Roadway/Open Space	-	-	0.03
4871	669439.0	4280815.0	Roadway/Open Space	-	-	0.03
4872	669449.0	4280815.0	Roadway/Open Space	-	-	0.03
4873	669459.0	4280815.0	Roadway/Open Space	-	-	0.03
4874	669469.0	4280815.0	Roadway/Open Space	-	-	0.03
4875	669479.0	4280815.0	Roadway/Open Space	-	-	0.03
4876	669489.0	4280815.0	Roadway/Open Space	-	-	0.03
4877	669499.0	4280815.0	Roadway/Open Space	-	-	0.03
4878	669509.0	4280815.0	Roadway/Open Space	-	-	0.03
4879	669519.0	4280815.0	Roadway/Open Space	-	-	0.03
4880	669529.0	4280815.0	Worker	0.13	0.010	0.03
4881	669539.0	4280815.0	Worker	0.12	0.010	0.03
4882	669549.0	4280815.0	Worker	0.11	0.009	0.02
4883	669559.0	4280815.0	Worker	0.11	0.009	0.03
4884	669569.0	4280815.0	Worker	0.10	0.008	0.03
4885	669579.0	4280815.0	Worker	0.10	0.008	0.03
4886	669589.0	4280815.0	Worker	0.09	0.008	0.03
4887	669599.0	4280815.0	Roadway/Open Space	-	-	0.03
4888	669609.0	4280815.0	Roadway/Open Space	-	-	0.03
4889	669619.0	4280815.0	Roadway/Open Space	-	-	0.03
4890	668529.0	4280825.0	Residential	0.42	0.002	0.02
4891	668539.0	4280825.0	Residential	0.43	0.002	0.02
4892	668549.0	4280825.0	Residential	0.43	0.002	0.02
4893	668559.0	4280825.0	Residential	0.44	0.002	0.02
4894	668569.0	4280825.0	Residential	0.45	0.002	0.02
4895	668579.0	4280825.0	Residential	0.47	0.002	0.02
4896	668589.0	4280825.0	Residential	0.48	0.002	0.02
4897	668599.0	4280825.0	Residential	0.49	0.002	0.02
4898	668609.0	4280825.0	Residential	0.50	0.002	0.02
4899	668619.0	4280825.0	Residential	0.51	0.002	0.02
4900	668629.0	4280825.0	Residential	0.52	0.002	0.02
4901	668639.0	4280825.0	Residential	0.53	0.002	0.02
4902	668649.0	4280825.0	Roadway/Open Space	-	-	0.01
4903	668659.0	4280825.0	Residential	0.58	0.002	0.01
4904	668669.0	4280825.0	Residential	0.60	0.002	0.02
4905	668679.0	4280825.0	Residential	0.64	0.003	0.02
4906	668689.0	4280825.0	Residential	0.70	0.003	0.02
4907	668699.0	4280825.0	Residential	0.77	0.003	0.02
4908	668709.0	4280825.0	Residential	0.87	0.004	0.02
4909	668719.0	4280825.0	Roadway/Open Space	-	-	0.03
4910	668729.0	4280825.0	Roadway/Open Space	-	-	0.03
4911	668739.0	4280825.0	Roadway/Open Space	-	-	0.04
4912	668749.0	4280825.0	Roadway/Open Space	-	-	0.04
4913	668759.0	4280825.0	Roadway/Open Space	-	-	0.05
4914	668769.0	4280825.0	Roadway/Open Space	-	-	0.05
4915	668779.0	4280825.0	Roadway/Open Space	-	-	0.05
4916	668789.0	4280825.0	Roadway/Open Space	-	-	0.05
4917	668799.0	4280825.0	Roadway/Open Space	-	-	0.05
4918	668809.0	4280825.0	Roadway/Open Space	-	-	0.05
4919	668819.0	4280825.0	Roadway/Open Space	-	-	0.05
4920	668829.0	4280825.0	Roadway/Open Space	-	-	0.05
4921	668839.0	4280825.0	Roadway/Open Space	-	-	0.05
4922	668849.0	4280825.0	Roadway/Open Space	-	-	0.05
4923	668859.0	4280825.0	Roadway/Open Space	-	-	0.05
4924	668869.0	4280825.0	Roadway/Open Space	-	-	0.05
4925	668879.0	4280825.0	Roadway/Open Space	-	-	0.05

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
4926	668889.0	4280825.0	Roadway/Open Space	-	-	0.05
4927	668899.0	4280825.0	Roadway/Open Space	-	-	0.05
4928	668909.0	4280825.0	Roadway/Open Space	-	-	0.06
4929	668919.0	4280825.0	Roadway/Open Space	-	-	0.06
4930	668929.0	4280825.0	Roadway/Open Space	-	-	0.06
4931	668939.0	4280825.0	Roadway/Open Space	-	-	0.06
4958	669209.0	4280825.0	Roadway/Open Space	-	-	0.07
4959	669219.0	4280825.0	Roadway/Open Space	-	-	0.07
4960	669229.0	4280825.0	Roadway/Open Space	-	-	0.07
4961	669239.0	4280825.0	Roadway/Open Space	-	-	0.07
4962	669249.0	4280825.0	Roadway/Open Space	-	-	0.06
4963	669259.0	4280825.0	Roadway/Open Space	-	-	0.06
4964	669269.0	4280825.0	Roadway/Open Space	-	-	0.06
4965	669279.0	4280825.0	Roadway/Open Space	-	-	0.06
4966	669289.0	4280825.0	Roadway/Open Space	-	-	0.06
4967	669299.0	4280825.0	Roadway/Open Space	-	-	0.06
4968	669309.0	4280825.0	Roadway/Open Space	-	-	0.06
4969	669319.0	4280825.0	Roadway/Open Space	-	-	0.06
4970	669329.0	4280825.0	Roadway/Open Space	-	-	0.06
4971	669339.0	4280825.0	Roadway/Open Space	-	-	0.06
4972	669349.0	4280825.0	Roadway/Open Space	-	-	0.06
4973	669359.0	4280825.0	Roadway/Open Space	-	-	0.05
4974	669369.0	4280825.0	Roadway/Open Space	-	-	0.05
4975	669379.0	4280825.0	Roadway/Open Space	-	-	0.05
4976	669389.0	4280825.0	Roadway/Open Space	-	-	0.04
4977	669399.0	4280825.0	Roadway/Open Space	-	-	0.04
4978	669409.0	4280825.0	Roadway/Open Space	-	-	0.04
4979	669419.0	4280825.0	Roadway/Open Space	-	-	0.04
4980	669429.0	4280825.0	Roadway/Open Space	-	-	0.03
4981	669439.0	4280825.0	Roadway/Open Space	-	-	0.03
4982	669449.0	4280825.0	Roadway/Open Space	-	-	0.03
4983	669459.0	4280825.0	Roadway/Open Space	-	-	0.03
4984	669469.0	4280825.0	Roadway/Open Space	-	-	0.03
4985	669479.0	4280825.0	Roadway/Open Space	-	-	0.03
4986	669489.0	4280825.0	Roadway/Open Space	-	-	0.03
4987	669499.0	4280825.0	Roadway/Open Space	-	-	0.03
4988	669509.0	4280825.0	Roadway/Open Space	-	-	0.03
4989	669519.0	4280825.0	Roadway/Open Space	-	-	0.03
4990	669529.0	4280825.0	Worker	0.13	0.010	0.03
4991	669539.0	4280825.0	Worker	0.12	0.010	0.03
4992	669549.0	4280825.0	Worker	0.11	0.009	0.02
4993	669559.0	4280825.0	Worker	0.11	0.009	0.03
4994	669569.0	4280825.0	Worker	0.10	0.008	0.03
4995	669579.0	4280825.0	Worker	0.10	0.008	0.03
4996	669589.0	4280825.0	Worker	0.09	0.008	0.03
4997	669599.0	4280825.0	Roadway/Open Space	-	-	0.03
4998	669609.0	4280825.0	Roadway/Open Space	-	-	0.03
4999	669619.0	4280825.0	Roadway/Open Space	-	-	0.03
5000	668529.0	4280835.0	Residential	0.40	0.002	0.02
5001	668539.0	4280835.0	Residential	0.40	0.002	0.02
5002	668549.0	4280835.0	Residential	0.41	0.002	0.01
5003	668559.0	4280835.0	Residential	0.42	0.002	0.01
5004	668569.0	4280835.0	Residential	0.43	0.002	0.01
5005	668579.0	4280835.0	Residential	0.44	0.002	0.01
5006	668589.0	4280835.0	Residential	0.45	0.002	0.01
5007	668599.0	4280835.0	Residential	0.47	0.002	0.01
5008	668609.0	4280835.0	Residential	0.48	0.002	0.01
5009	668619.0	4280835.0	Residential	0.48	0.002	0.01
5010	668629.0	4280835.0	Residential	0.51	0.002	0.01
5011	668639.0	4280835.0	Residential	0.52	0.002	0.01
5012	668649.0	4280835.0	Roadway/Open Space	-	-	0.01
5013	668659.0	4280835.0	Residential	0.58	0.002	0.01
5014	668669.0	4280835.0	Residential	0.61	0.002	0.02
5015	668679.0	4280835.0	Residential	0.65	0.003	0.02
5016	668689.0	4280835.0	Residential	0.71	0.003	0.02
5017	668699.0	4280835.0	Residential	0.79	0.003	0.02
5018	668709.0	4280835.0	Roadway/Open Space	-	-	0.02
5019	668719.0	4280835.0	Roadway/Open Space	-	-	0.03
5020	668729.0	4280835.0	Roadway/Open Space	-	-	0.03
5021	668739.0	4280835.0	Roadway/Open Space	-	-	0.04
5022	668749.0	4280835.0	Roadway/Open Space	-	-	0.04
5023	668759.0	4280835.0	Roadway/Open Space	-	-	0.05
5024	668769.0	4280835.0	Roadway/Open Space	-	-	0.05
5025	668779.0	4280835.0	Roadway/Open Space	-	-	0.05
5026	668789.0	4280835.0	Roadway/Open Space	-	-	0.05
5027	668799.0	4280835.0	Roadway/Open Space	-	-	0.05
5028	668809.0	4280835.0	Roadway/Open Space	-	-	0.05
5029	668819.0	4280835.0	Roadway/Open Space	-	-	0.05
5030	668829.0	4280835.0	Roadway/Open Space	-	-	0.05
5031	668839.0	4280835.0	Roadway/Open Space	-	-	0.05
5032	668849.0	4280835.0	Roadway/Open Space	-	-	0.05
5033	668859.0	4280835.0	Roadway/Open Space	-	-	0.05
5034	668869.0	4280835.0	Roadway/Open Space	-	-	0.05
5035	668879.0	4280835.0	Roadway/Open Space	-	-	0.05

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
5036	668889.0	4280835.0	Roadway/Open Space	-	-	0.05
5037	668899.0	4280835.0	Roadway/Open Space	-	-	0.05
5038	668909.0	4280835.0	Roadway/Open Space	-	-	0.06
5039	668919.0	4280835.0	Roadway/Open Space	-	-	0.06
5040	668929.0	4280835.0	Roadway/Open Space	-	-	0.06
5041	668939.0	4280835.0	Roadway/Open Space	-	-	0.07
5068	669209.0	4280835.0	Roadway/Open Space	-	-	0.07
5069	669219.0	4280835.0	Roadway/Open Space	-	-	0.07
5070	669229.0	4280835.0	Roadway/Open Space	-	-	0.07
5071	669239.0	4280835.0	Roadway/Open Space	-	-	0.07
5072	669249.0	4280835.0	Roadway/Open Space	-	-	0.06
5073	669259.0	4280835.0	Roadway/Open Space	-	-	0.06
5074	669269.0	4280835.0	Roadway/Open Space	-	-	0.06
5075	669279.0	4280835.0	Roadway/Open Space	-	-	0.06
5076	669289.0	4280835.0	Roadway/Open Space	-	-	0.06
5077	669299.0	4280835.0	Roadway/Open Space	-	-	0.06
5078	669309.0	4280835.0	Roadway/Open Space	-	-	0.06
5079	669319.0	4280835.0	Roadway/Open Space	-	-	0.06
5080	669329.0	4280835.0	Roadway/Open Space	-	-	0.06
5081	669339.0	4280835.0	Roadway/Open Space	-	-	0.06
5082	669349.0	4280835.0	Roadway/Open Space	-	-	0.06
5083	669359.0	4280835.0	Roadway/Open Space	-	-	0.05
5084	669369.0	4280835.0	Roadway/Open Space	-	-	0.05
5085	669379.0	4280835.0	Roadway/Open Space	-	-	0.05
5086	669389.0	4280835.0	Roadway/Open Space	-	-	0.04
5087	669399.0	4280835.0	Roadway/Open Space	-	-	0.04
5088	669409.0	4280835.0	Roadway/Open Space	-	-	0.04
5089	669419.0	4280835.0	Roadway/Open Space	-	-	0.04
5090	669429.0	4280835.0	Roadway/Open Space	-	-	0.04
5091	669439.0	4280835.0	Roadway/Open Space	-	-	0.03
5092	669449.0	4280835.0	Roadway/Open Space	-	-	0.03
5093	669459.0	4280835.0	Roadway/Open Space	-	-	0.03
5094	669469.0	4280835.0	Roadway/Open Space	-	-	0.03
5095	669479.0	4280835.0	Roadway/Open Space	-	-	0.03
5096	669489.0	4280835.0	Roadway/Open Space	-	-	0.03
5097	669499.0	4280835.0	Roadway/Open Space	-	-	0.03
5098	669509.0	4280835.0	Roadway/Open Space	-	-	0.03
5099	669519.0	4280835.0	Roadway/Open Space	-	-	0.03
5100	669529.0	4280835.0	Roadway/Open Space	-	-	0.03
5101	669539.0	4280835.0	Roadway/Open Space	-	-	0.02
5102	669549.0	4280835.0	Roadway/Open Space	-	-	0.02
5103	669559.0	4280835.0	Worker	0.11	0.009	0.03
5104	669569.0	4280835.0	Worker	0.10	0.008	0.03
5105	669579.0	4280835.0	Worker	0.10	0.008	0.03
5106	669589.0	4280835.0	Worker	0.09	0.007	0.03
5107	669599.0	4280835.0	Roadway/Open Space	-	-	0.03
5108	669609.0	4280835.0	Roadway/Open Space	-	-	0.03
5109	669619.0	4280835.0	Roadway/Open Space	-	-	0.03
5110	668529.0	4280845.0	Residential	0.38	0.002	0.01
5111	668539.0	4280845.0	Residential	0.38	0.002	0.01
5112	668549.0	4280845.0	Residential	0.39	0.002	0.01
5113	668559.0	4280845.0	Residential	0.40	0.002	0.01
5114	668569.0	4280845.0	Residential	0.41	0.002	0.01
5115	668579.0	4280845.0	Residential	0.42	0.002	0.01
5116	668589.0	4280845.0	Residential	0.43	0.002	0.01
5117	668599.0	4280845.0	Residential	0.45	0.002	0.01
5118	668609.0	4280845.0	Residential	0.46	0.002	0.01
5119	668619.0	4280845.0	Residential	0.47	0.002	0.01
5120	668629.0	4280845.0	Residential	0.51	0.002	0.01
5121	668639.0	4280845.0	Residential	0.52	0.002	0.01
5122	668649.0	4280845.0	Roadway/Open Space	-	-	0.01
5123	668659.0	4280845.0	Residential	0.58	0.002	0.02
5124	668669.0	4280845.0	Residential	0.61	0.003	0.02
5125	668679.0	4280845.0	Residential	0.66	0.003	0.02
5126	668689.0	4280845.0	Residential	0.72	0.003	0.02
5127	668699.0	4280845.0	Residential	0.80	0.003	0.02
5128	668709.0	4280845.0	Roadway/Open Space	-	-	0.02
5129	668719.0	4280845.0	Roadway/Open Space	-	-	0.03
5130	668729.0	4280845.0	Roadway/Open Space	-	-	0.03
5131	668739.0	4280845.0	Roadway/Open Space	-	-	0.04
5132	668749.0	4280845.0	Roadway/Open Space	-	-	0.04
5133	668759.0	4280845.0	Roadway/Open Space	-	-	0.05
5134	668769.0	4280845.0	Roadway/Open Space	-	-	0.05
5135	668779.0	4280845.0	Roadway/Open Space	-	-	0.05
5136	668789.0	4280845.0	Roadway/Open Space	-	-	0.06
5137	668799.0	4280845.0	Roadway/Open Space	-	-	0.05
5138	668809.0	4280845.0	Roadway/Open Space	-	-	0.05
5139	668819.0	4280845.0	Roadway/Open Space	-	-	0.05
5140	668829.0	4280845.0	Roadway/Open Space	-	-	0.05
5141	668839.0	4280845.0	Roadway/Open Space	-	-	0.05
5142	668849.0	4280845.0	Roadway/Open Space	-	-	0.05
5143	668859.0	4280845.0	Roadway/Open Space	-	-	0.05
5144	668869.0	4280845.0	Roadway/Open Space	-	-	0.05
5145	668879.0	4280845.0	Roadway/Open Space	-	-	0.05

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
5146	668889.0	4280845.0	Roadway/Open Space	-	-	0.05
5147	668899.0	4280845.0	Roadway/Open Space	-	-	0.05
5148	668909.0	4280845.0	Roadway/Open Space	-	-	0.06
5149	668919.0	4280845.0	Roadway/Open Space	-	-	0.06
5150	668929.0	4280845.0	Roadway/Open Space	-	-	0.07
5177	669199.0	4280845.0	Roadway/Open Space	-	-	0.08
5178	669209.0	4280845.0	Roadway/Open Space	-	-	0.07
5179	669219.0	4280845.0	Roadway/Open Space	-	-	0.07
5180	669229.0	4280845.0	Roadway/Open Space	-	-	0.07
5181	669239.0	4280845.0	Roadway/Open Space	-	-	0.07
5182	669249.0	4280845.0	Roadway/Open Space	-	-	0.07
5183	669259.0	4280845.0	Roadway/Open Space	-	-	0.06
5184	669269.0	4280845.0	Roadway/Open Space	-	-	0.06
5185	669279.0	4280845.0	Roadway/Open Space	-	-	0.06
5186	669289.0	4280845.0	Roadway/Open Space	-	-	0.06
5187	669299.0	4280845.0	Roadway/Open Space	-	-	0.06
5188	669309.0	4280845.0	Roadway/Open Space	-	-	0.06
5189	669319.0	4280845.0	Roadway/Open Space	-	-	0.06
5190	669329.0	4280845.0	Roadway/Open Space	-	-	0.06
5191	669339.0	4280845.0	Roadway/Open Space	-	-	0.06
5192	669349.0	4280845.0	Roadway/Open Space	-	-	0.06
5193	669359.0	4280845.0	Roadway/Open Space	-	-	0.06
5194	669369.0	4280845.0	Roadway/Open Space	-	-	0.05
5195	669379.0	4280845.0	Roadway/Open Space	-	-	0.05
5196	669389.0	4280845.0	Roadway/Open Space	-	-	0.05
5197	669399.0	4280845.0	Roadway/Open Space	-	-	0.04
5198	669409.0	4280845.0	Roadway/Open Space	-	-	0.04
5199	669419.0	4280845.0	Roadway/Open Space	-	-	0.04
5200	669429.0	4280845.0	Roadway/Open Space	-	-	0.04
5201	669439.0	4280845.0	Roadway/Open Space	-	-	0.03
5202	669449.0	4280845.0	Roadway/Open Space	-	-	0.03
5203	669459.0	4280845.0	Roadway/Open Space	-	-	0.03
5204	669469.0	4280845.0	Roadway/Open Space	-	-	0.03
5205	669479.0	4280845.0	Roadway/Open Space	-	-	0.03
5206	669489.0	4280845.0	Roadway/Open Space	-	-	0.03
5207	669499.0	4280845.0	Roadway/Open Space	-	-	0.03
5208	669509.0	4280845.0	Roadway/Open Space	-	-	0.03
5209	669519.0	4280845.0	Roadway/Open Space	-	-	0.03
5210	669529.0	4280845.0	Roadway/Open Space	-	-	0.03
5211	669539.0	4280845.0	Roadway/Open Space	-	-	0.03
5212	669549.0	4280845.0	Roadway/Open Space	-	-	0.02
5213	669559.0	4280845.0	Worker	0.11	0.009	0.02
5214	669569.0	4280845.0	Worker	0.10	0.008	0.03
5215	669579.0	4280845.0	Worker	0.10	0.008	0.03
5216	669589.0	4280845.0	Worker	0.09	0.007	0.03
5217	669599.0	4280845.0	Roadway/Open Space	-	-	0.03
5218	669609.0	4280845.0	Roadway/Open Space	-	-	0.03
5219	669619.0	4280845.0	Roadway/Open Space	-	-	0.03
5220	668529.0	4280855.0	Residential	0.36	0.001	0.01
5221	668539.0	4280855.0	Residential	0.36	0.001	0.01
5222	668549.0	4280855.0	Residential	0.37	0.002	0.01
5223	668559.0	4280855.0	Residential	0.38	0.002	0.01
5224	668569.0	4280855.0	Residential	0.39	0.002	0.01
5225	668579.0	4280855.0	Residential	0.40	0.002	0.01
5226	668589.0	4280855.0	Residential	0.42	0.002	0.01
5227	668599.0	4280855.0	Residential	0.43	0.002	0.01
5228	668609.0	4280855.0	Residential	0.45	0.002	0.01
5229	668619.0	4280855.0	Residential	0.49	0.002	0.01
5230	668629.0	4280855.0	Residential	0.50	0.002	0.01
5231	668639.0	4280855.0	Residential	0.52	0.002	0.01
5232	668649.0	4280855.0	Roadway/Open Space	-	-	0.01
5233	668659.0	4280855.0	Residential	0.58	0.002	0.01
5234	668669.0	4280855.0	Residential	0.61	0.003	0.02
5235	668679.0	4280855.0	Residential	0.67	0.003	0.02
5236	668689.0	4280855.0	Residential	0.74	0.003	0.02
5237	668699.0	4280855.0	Residential	0.82	0.003	0.02
5238	668709.0	4280855.0	Roadway/Open Space	-	-	0.03
5239	668719.0	4280855.0	Roadway/Open Space	-	-	0.03
5240	668729.0	4280855.0	Roadway/Open Space	-	-	0.03
5241	668739.0	4280855.0	Roadway/Open Space	-	-	0.04
5242	668749.0	4280855.0	Roadway/Open Space	-	-	0.04
5243	668759.0	4280855.0	Roadway/Open Space	-	-	0.05
5244	668769.0	4280855.0	Roadway/Open Space	-	-	0.05
5245	668779.0	4280855.0	Roadway/Open Space	-	-	0.06
5246	668789.0	4280855.0	Roadway/Open Space	-	-	0.06
5247	668799.0	4280855.0	Roadway/Open Space	-	-	0.05
5248	668809.0	4280855.0	Roadway/Open Space	-	-	0.05
5249	668819.0	4280855.0	Roadway/Open Space	-	-	0.05
5250	668829.0	4280855.0	Roadway/Open Space	-	-	0.05
5251	668839.0	4280855.0	Roadway/Open Space	-	-	0.05
5252	668849.0	4280855.0	Roadway/Open Space	-	-	0.05
5253	668859.0	4280855.0	Roadway/Open Space	-	-	0.05
5254	668869.0	4280855.0	Roadway/Open Space	-	-	0.05
5255	668879.0	4280855.0	Roadway/Open Space	-	-	0.05

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
5256	668889.0	4280855.0	Roadway/Open Space	-	-	0.05
5257	668899.0	4280855.0	Roadway/Open Space	-	-	0.06
5258	668909.0	4280855.0	Roadway/Open Space	-	-	0.06
5259	668919.0	4280855.0	Roadway/Open Space	-	-	0.07
5260	668929.0	4280855.0	Roadway/Open Space	-	-	0.07
5287	669199.0	4280855.0	Roadway/Open Space	-	-	0.08
5288	669209.0	4280855.0	Roadway/Open Space	-	-	0.08
5289	669219.0	4280855.0	Roadway/Open Space	-	-	0.07
5290	669229.0	4280855.0	Roadway/Open Space	-	-	0.07
5291	669239.0	4280855.0	Roadway/Open Space	-	-	0.07
5292	669249.0	4280855.0	Roadway/Open Space	-	-	0.07
5293	669259.0	4280855.0	Roadway/Open Space	-	-	0.06
5294	669269.0	4280855.0	Roadway/Open Space	-	-	0.06
5295	669279.0	4280855.0	Roadway/Open Space	-	-	0.06
5296	669289.0	4280855.0	Roadway/Open Space	-	-	0.06
5297	669299.0	4280855.0	Roadway/Open Space	-	-	0.06
5298	669309.0	4280855.0	Roadway/Open Space	-	-	0.06
5299	669319.0	4280855.0	Roadway/Open Space	-	-	0.06
5300	669329.0	4280855.0	Roadway/Open Space	-	-	0.06
5301	669339.0	4280855.0	Roadway/Open Space	-	-	0.06
5302	669349.0	4280855.0	Roadway/Open Space	-	-	0.06
5303	669359.0	4280855.0	Roadway/Open Space	-	-	0.06
5304	669369.0	4280855.0	Roadway/Open Space	-	-	0.06
5305	669379.0	4280855.0	Roadway/Open Space	-	-	0.05
5306	669389.0	4280855.0	Roadway/Open Space	-	-	0.05
5307	669399.0	4280855.0	Roadway/Open Space	-	-	0.04
5308	669409.0	4280855.0	Roadway/Open Space	-	-	0.04
5309	669419.0	4280855.0	Roadway/Open Space	-	-	0.04
5310	669429.0	4280855.0	Roadway/Open Space	-	-	0.04
5311	669439.0	4280855.0	Roadway/Open Space	-	-	0.03
5312	669449.0	4280855.0	Roadway/Open Space	-	-	0.03
5313	669459.0	4280855.0	Roadway/Open Space	-	-	0.03
5314	669469.0	4280855.0	Roadway/Open Space	-	-	0.03
5315	669479.0	4280855.0	Roadway/Open Space	-	-	0.03
5316	669489.0	4280855.0	Roadway/Open Space	-	-	0.03
5317	669499.0	4280855.0	Roadway/Open Space	-	-	0.03
5318	669509.0	4280855.0	Roadway/Open Space	-	-	0.03
5319	669519.0	4280855.0	Roadway/Open Space	-	-	0.03
5320	669529.0	4280855.0	Roadway/Open Space	-	-	0.03
5321	669539.0	4280855.0	Roadway/Open Space	-	-	0.03
5322	669549.0	4280855.0	Roadway/Open Space	-	-	0.02
5323	669559.0	4280855.0	Roadway/Open Space	-	-	0.02
5324	669569.0	4280855.0	Roadway/Open Space	-	-	0.03
5325	669579.0	4280855.0	Worker	0.10	0.008	0.03
5326	669589.0	4280855.0	Worker	0.09	0.007	0.03
5327	669599.0	4280855.0	Roadway/Open Space	-	-	0.03
5328	669609.0	4280855.0	Roadway/Open Space	-	-	0.03
5329	669619.0	4280855.0	Roadway/Open Space	-	-	0.03
5330	668519.0	4280865.0	Roadway/Open Space	-	-	0.01
5331	668529.0	4280865.0	Residential	0.34	0.001	0.01
5332	668539.0	4280865.0	Residential	0.35	0.001	0.01
5333	668549.0	4280865.0	Residential	0.36	0.001	0.01
5334	668559.0	4280865.0	Residential	0.37	0.002	0.01
5335	668569.0	4280865.0	Residential	0.38	0.002	0.01
5336	668579.0	4280865.0	Residential	0.39	0.002	0.01
5337	668589.0	4280865.0	Residential	0.41	0.002	0.01
5338	668599.0	4280865.0	Residential	0.42	0.002	0.01
5339	668609.0	4280865.0	Residential	0.44	0.002	0.01
5340	668619.0	4280865.0	Residential	0.48	0.002	0.01
5341	668629.0	4280865.0	Residential	0.50	0.002	0.01
5342	668639.0	4280865.0	Residential	0.52	0.002	0.01
5343	668649.0	4280865.0	Roadway/Open Space	-	-	0.01
5344	668659.0	4280865.0	Residential	0.59	0.002	0.01
5345	668669.0	4280865.0	Residential	0.62	0.003	0.02
5346	668679.0	4280865.0	Residential	0.69	0.003	0.02
5347	668689.0	4280865.0	Residential	0.76	0.003	0.02
5348	668699.0	4280865.0	Residential	0.86	0.004	0.02
5349	668709.0	4280865.0	Roadway/Open Space	-	-	0.03
5350	668719.0	4280865.0	Roadway/Open Space	-	-	0.03
5351	668729.0	4280865.0	Roadway/Open Space	-	-	0.03
5352	668739.0	4280865.0	Roadway/Open Space	-	-	0.04
5353	668749.0	4280865.0	Roadway/Open Space	-	-	0.05
5354	668759.0	4280865.0	Roadway/Open Space	-	-	0.05
5355	668769.0	4280865.0	Roadway/Open Space	-	-	0.06
5356	668779.0	4280865.0	Roadway/Open Space	-	-	0.06
5357	668789.0	4280865.0	Roadway/Open Space	-	-	0.06
5358	668799.0	4280865.0	Roadway/Open Space	-	-	0.05
5359	668809.0	4280865.0	Roadway/Open Space	-	-	0.05
5360	668819.0	4280865.0	Roadway/Open Space	-	-	0.05
5361	668829.0	4280865.0	Roadway/Open Space	-	-	0.05
5362	668839.0	4280865.0	Roadway/Open Space	-	-	0.05
5363	668849.0	4280865.0	Roadway/Open Space	-	-	0.05
5364	668859.0	4280865.0	Roadway/Open Space	-	-	0.05
5365	668869.0	4280865.0	Roadway/Open Space	-	-	0.05

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
5366	668879.0	4280865.0	Roadway/Open Space	-	-	0.05
5367	668889.0	4280865.0	Roadway/Open Space	-	-	0.05
5368	668899.0	4280865.0	Roadway/Open Space	-	-	0.06
5369	668909.0	4280865.0	Roadway/Open Space	-	-	0.06
5370	668919.0	4280865.0	Roadway/Open Space	-	-	0.07
5371	668929.0	4280865.0	Roadway/Open Space	-	-	0.07
5397	669189.0	4280865.0	Roadway/Open Space	-	-	0.08
5398	669199.0	4280865.0	Roadway/Open Space	-	-	0.08
5399	669209.0	4280865.0	Roadway/Open Space	-	-	0.08
5400	669219.0	4280865.0	Roadway/Open Space	-	-	0.07
5401	669229.0	4280865.0	Roadway/Open Space	-	-	0.07
5402	669249.0	4280865.0	Roadway/Open Space	-	-	0.06
5403	669259.0	4280865.0	Roadway/Open Space	-	-	0.06
5404	669269.0	4280865.0	Roadway/Open Space	-	-	0.06
5405	669299.0	4280865.0	Roadway/Open Space	-	-	0.06
5406	669309.0	4280865.0	Roadway/Open Space	-	-	0.06
5407	669319.0	4280865.0	Roadway/Open Space	-	-	0.06
5408	669329.0	4280865.0	Roadway/Open Space	-	-	0.06
5409	669339.0	4280865.0	Roadway/Open Space	-	-	0.06
5410	669349.0	4280865.0	Roadway/Open Space	-	-	0.06
5411	669359.0	4280865.0	Roadway/Open Space	-	-	0.06
5412	669369.0	4280865.0	Roadway/Open Space	-	-	0.06
5413	669379.0	4280865.0	Roadway/Open Space	-	-	0.06
5414	669389.0	4280865.0	Roadway/Open Space	-	-	0.05
5415	669399.0	4280865.0	Roadway/Open Space	-	-	0.05
5416	669409.0	4280865.0	Roadway/Open Space	-	-	0.04
5417	669419.0	4280865.0	Roadway/Open Space	-	-	0.04
5418	669429.0	4280865.0	Roadway/Open Space	-	-	0.04
5419	669439.0	4280865.0	Roadway/Open Space	-	-	0.03
5420	669449.0	4280865.0	Roadway/Open Space	-	-	0.03
5421	669459.0	4280865.0	Roadway/Open Space	-	-	0.03
5422	669469.0	4280865.0	Roadway/Open Space	-	-	0.03
5423	669479.0	4280865.0	Roadway/Open Space	-	-	0.03
5424	669489.0	4280865.0	Roadway/Open Space	-	-	0.03
5425	669499.0	4280865.0	Roadway/Open Space	-	-	0.03
5426	669509.0	4280865.0	Roadway/Open Space	-	-	0.03
5427	669519.0	4280865.0	Roadway/Open Space	-	-	0.03
5428	669529.0	4280865.0	Roadway/Open Space	-	-	0.03
5429	669539.0	4280865.0	Roadway/Open Space	-	-	0.03
5430	669549.0	4280865.0	Roadway/Open Space	-	-	0.02
5431	669559.0	4280865.0	Roadway/Open Space	-	-	0.02
5432	669569.0	4280865.0	Roadway/Open Space	-	-	0.03
5433	669579.0	4280865.0	Roadway/Open Space	-	-	0.03
5434	669589.0	4280865.0	Roadway/Open Space	-	-	0.03
5435	669599.0	4280865.0	Roadway/Open Space	-	-	0.03
5436	669609.0	4280865.0	Roadway/Open Space	-	-	0.03
5437	668519.0	4280875.0	Residential	0.33	0.001	0.01
5438	668529.0	4280875.0	Roadway/Open Space	-	-	0.01
5439	668539.0	4280875.0	Residential	0.34	0.001	0.01
5440	668549.0	4280875.0	Residential	0.35	0.001	0.01
5441	668559.0	4280875.0	Residential	0.36	0.001	0.01
5442	668569.0	4280875.0	Residential	0.37	0.002	0.01
5443	668579.0	4280875.0	Residential	0.38	0.002	0.01
5444	668589.0	4280875.0	Residential	0.40	0.002	0.01
5445	668599.0	4280875.0	Residential	0.42	0.002	0.01
5446	668609.0	4280875.0	Residential	0.45	0.002	0.01
5447	668619.0	4280875.0	Residential	0.48	0.002	0.01
5448	668629.0	4280875.0	Residential	0.50	0.002	0.01
5449	668639.0	4280875.0	Residential	0.53	0.002	0.01
5450	668649.0	4280875.0	Roadway/Open Space	-	-	0.01
5451	668659.0	4280875.0	Residential	0.59	0.002	0.01
5452	668669.0	4280875.0	Residential	0.64	0.003	0.02
5453	668679.0	4280875.0	Residential	0.72	0.003	0.02
5454	668689.0	4280875.0	Residential	0.80	0.003	0.02
5455	668699.0	4280875.0	Residential	0.91	0.004	0.02
5456	668709.0	4280875.0	Roadway/Open Space	-	-	0.03
5457	668719.0	4280875.0	Roadway/Open Space	-	-	0.03
5458	668729.0	4280875.0	Roadway/Open Space	-	-	0.04
5459	668739.0	4280875.0	Roadway/Open Space	-	-	0.04
5460	668749.0	4280875.0	Roadway/Open Space	-	-	0.05
5461	668759.0	4280875.0	Roadway/Open Space	-	-	0.05
5462	668769.0	4280875.0	Roadway/Open Space	-	-	0.06
5463	668779.0	4280875.0	Roadway/Open Space	-	-	0.06
5464	668789.0	4280875.0	Roadway/Open Space	-	-	0.06
5465	668799.0	4280875.0	Roadway/Open Space	-	-	0.05
5466	668809.0	4280875.0	Roadway/Open Space	-	-	0.05
5467	668819.0	4280875.0	Roadway/Open Space	-	-	0.06
5468	668829.0	4280875.0	Roadway/Open Space	-	-	0.06
5469	668839.0	4280875.0	Roadway/Open Space	-	-	0.06
5470	668849.0	4280875.0	Roadway/Open Space	-	-	0.05
5471	668859.0	4280875.0	Roadway/Open Space	-	-	0.05
5472	668869.0	4280875.0	Roadway/Open Space	-	-	0.05
5473	668879.0	4280875.0	Roadway/Open Space	-	-	0.05
5474	668889.0	4280875.0	Roadway/Open Space	-	-	0.06

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
5475	668899.0	4280875.0	Roadway/Open Space	-	-	0.06
5476	668909.0	4280875.0	Roadway/Open Space	-	-	0.06
5477	668919.0	4280875.0	Roadway/Open Space	-	-	0.07
5478	668929.0	4280875.0	Roadway/Open Space	-	-	0.08
5503	669179.0	4280875.0	Roadway/Open Space	-	-	0.09
5504	669189.0	4280875.0	Roadway/Open Space	-	-	0.08
5505	669199.0	4280875.0	Roadway/Open Space	-	-	0.08
5506	669209.0	4280875.0	Roadway/Open Space	-	-	0.08
5507	669219.0	4280875.0	Roadway/Open Space	-	-	0.07
5508	669299.0	4280875.0	Roadway/Open Space	-	-	0.06
5509	669309.0	4280875.0	Roadway/Open Space	-	-	0.06
5510	669319.0	4280875.0	Roadway/Open Space	-	-	0.06
5511	669329.0	4280875.0	Roadway/Open Space	-	-	0.06
5512	669339.0	4280875.0	Roadway/Open Space	-	-	0.06
5513	669349.0	4280875.0	Roadway/Open Space	-	-	0.06
5514	669359.0	4280875.0	Roadway/Open Space	-	-	0.06
5515	669369.0	4280875.0	Roadway/Open Space	-	-	0.06
5516	669379.0	4280875.0	Roadway/Open Space	-	-	0.05
5517	669389.0	4280875.0	Roadway/Open Space	-	-	0.05
5518	669399.0	4280875.0	Roadway/Open Space	-	-	0.05
5519	669409.0	4280875.0	Roadway/Open Space	-	-	0.04
5520	669419.0	4280875.0	Roadway/Open Space	-	-	0.04
5521	669429.0	4280875.0	Roadway/Open Space	-	-	0.04
5522	669439.0	4280875.0	Roadway/Open Space	-	-	0.03
5523	669449.0	4280875.0	Roadway/Open Space	-	-	0.03
5524	669459.0	4280875.0	Roadway/Open Space	-	-	0.03
5525	669469.0	4280875.0	Roadway/Open Space	-	-	0.03
5526	669479.0	4280875.0	Roadway/Open Space	-	-	0.03
5527	669489.0	4280875.0	Roadway/Open Space	-	-	0.03
5528	669499.0	4280875.0	Roadway/Open Space	-	-	0.03
5529	669509.0	4280875.0	Roadway/Open Space	-	-	0.03
5530	669519.0	4280875.0	Roadway/Open Space	-	-	0.03
5531	669529.0	4280875.0	Roadway/Open Space	-	-	0.03
5532	669539.0	4280875.0	Roadway/Open Space	-	-	0.03
5533	669549.0	4280875.0	Roadway/Open Space	-	-	0.02
5534	669559.0	4280875.0	Roadway/Open Space	-	-	0.02
5535	669569.0	4280875.0	Roadway/Open Space	-	-	0.03
5536	669579.0	4280875.0	Roadway/Open Space	-	-	0.03
5537	669589.0	4280875.0	Roadway/Open Space	-	-	0.03
5538	669599.0	4280875.0	Roadway/Open Space	-	-	0.03
5539	669609.0	4280875.0	Roadway/Open Space	-	-	0.03
5540	668519.0	4280885.0	Residential	0.32	0.001	0.01
5541	668529.0	4280885.0	Residential	0.32	0.001	0.01
5542	668539.0	4280885.0	Roadway/Open Space	-	-	0.01
5543	668549.0	4280885.0	Residential	0.34	0.001	0.01
5544	668559.0	4280885.0	Residential	0.35	0.001	0.01
5545	668569.0	4280885.0	Residential	0.37	0.002	0.01
5546	668579.0	4280885.0	Residential	0.39	0.002	0.01
5547	668589.0	4280885.0	Residential	0.41	0.002	0.01
5548	668599.0	4280885.0	Residential	0.43	0.002	0.01
5549	668609.0	4280885.0	Residential	0.46	0.002	0.01
5550	668619.0	4280885.0	Residential	0.48	0.002	0.01
5551	668629.0	4280885.0	Residential	0.51	0.002	0.01
5552	668639.0	4280885.0	Residential	0.54	0.002	0.01
5553	668649.0	4280885.0	Roadway/Open Space	-	-	0.01
5554	668659.0	4280885.0	Residential	0.60	0.002	0.01
5555	668669.0	4280885.0	Residential	0.67	0.003	0.02
5556	668679.0	4280885.0	Residential	0.75	0.003	0.02
5557	668689.0	4280885.0	Residential	0.85	0.004	0.02
5558	668699.0	4280885.0	Residential	0.98	0.004	0.03
5559	668709.0	4280885.0	Roadway/Open Space	-	-	0.03
5560	668719.0	4280885.0	Roadway/Open Space	-	-	0.04
5561	668729.0	4280885.0	Roadway/Open Space	-	-	0.04
5562	668739.0	4280885.0	Roadway/Open Space	-	-	0.05
5563	668749.0	4280885.0	Roadway/Open Space	-	-	0.05
5564	668759.0	4280885.0	Roadway/Open Space	-	-	0.06
5565	668769.0	4280885.0	Roadway/Open Space	-	-	0.06
5566	668779.0	4280885.0	Roadway/Open Space	-	-	0.06
5567	668789.0	4280885.0	Roadway/Open Space	-	-	0.05
5568	668799.0	4280885.0	Roadway/Open Space	-	-	0.06
5569	668809.0	4280885.0	Roadway/Open Space	-	-	0.06
5570	668819.0	4280885.0	Roadway/Open Space	-	-	0.06
5571	668829.0	4280885.0	Roadway/Open Space	-	-	0.06
5572	668839.0	4280885.0	Roadway/Open Space	-	-	0.06
5573	668849.0	4280885.0	Roadway/Open Space	-	-	0.05
5574	668859.0	4280885.0	Roadway/Open Space	-	-	0.05
5575	668869.0	4280885.0	Roadway/Open Space	-	-	0.05
5576	668879.0	4280885.0	Roadway/Open Space	-	-	0.06
5577	668889.0	4280885.0	Roadway/Open Space	-	-	0.06
5578	668899.0	4280885.0	Roadway/Open Space	-	-	0.06
5579	668909.0	4280885.0	Roadway/Open Space	-	-	0.07
5580	668919.0	4280885.0	Roadway/Open Space	-	-	0.07
5605	669169.0	4280885.0	Roadway/Open Space	-	-	0.10
5606	669179.0	4280885.0	Roadway/Open Space	-	-	0.09

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
5607	669189.0	4280885.0	Roadway/Open Space	-	-	0.09
5608	669199.0	4280885.0	Roadway/Open Space	-	-	0.08
5609	669209.0	4280885.0	Roadway/Open Space	-	-	0.07
5610	669299.0	4280885.0	Roadway/Open Space	-	-	0.06
5611	669309.0	4280885.0	Roadway/Open Space	-	-	0.06
5612	669319.0	4280885.0	Roadway/Open Space	-	-	0.06
5613	669329.0	4280885.0	Roadway/Open Space	-	-	0.06
5614	669339.0	4280885.0	Roadway/Open Space	-	-	0.06
5615	669349.0	4280885.0	Roadway/Open Space	-	-	0.06
5616	669359.0	4280885.0	Roadway/Open Space	-	-	0.06
5617	669369.0	4280885.0	Roadway/Open Space	-	-	0.06
5618	669379.0	4280885.0	Roadway/Open Space	-	-	0.05
5619	669389.0	4280885.0	Roadway/Open Space	-	-	0.05
5620	669399.0	4280885.0	Roadway/Open Space	-	-	0.05
5621	669409.0	4280885.0	Roadway/Open Space	-	-	0.05
5622	669419.0	4280885.0	Roadway/Open Space	-	-	0.04
5623	669429.0	4280885.0	Roadway/Open Space	-	-	0.04
5624	669439.0	4280885.0	Roadway/Open Space	-	-	0.03
5625	669449.0	4280885.0	Roadway/Open Space	-	-	0.03
5626	669459.0	4280885.0	Roadway/Open Space	-	-	0.03
5627	669469.0	4280885.0	Roadway/Open Space	-	-	0.03
5628	669479.0	4280885.0	Roadway/Open Space	-	-	0.03
5629	669489.0	4280885.0	Roadway/Open Space	-	-	0.03
5630	669499.0	4280885.0	Roadway/Open Space	-	-	0.03
5631	669509.0	4280885.0	Roadway/Open Space	-	-	0.03
5632	669519.0	4280885.0	Roadway/Open Space	-	-	0.03
5633	669529.0	4280885.0	Roadway/Open Space	-	-	0.03
5634	669539.0	4280885.0	Roadway/Open Space	-	-	0.03
5635	669549.0	4280885.0	Roadway/Open Space	-	-	0.03
5636	669559.0	4280885.0	Roadway/Open Space	-	-	0.02
5637	669569.0	4280885.0	Roadway/Open Space	-	-	0.03
5638	669579.0	4280885.0	Roadway/Open Space	-	-	0.03
5639	669589.0	4280885.0	Roadway/Open Space	-	-	0.03
5640	669599.0	4280885.0	Roadway/Open Space	-	-	0.03
5641	669609.0	4280885.0	Roadway/Open Space	-	-	0.03
5642	668519.0	4280895.0	Residential	0.31	0.001	0.01
5643	668529.0	4280895.0	Residential	0.32	0.001	0.01
5644	668539.0	4280895.0	Roadway/Open Space	-	-	0.01
5645	668549.0	4280895.0	Residential	0.34	0.001	0.01
5646	668559.0	4280895.0	Residential	0.36	0.001	0.01
5647	668569.0	4280895.0	Residential	0.37	0.002	0.01
5648	668579.0	4280895.0	Residential	0.39	0.002	0.01
5649	668589.0	4280895.0	Residential	0.41	0.002	0.01
5650	668599.0	4280895.0	Residential	0.43	0.002	0.01
5651	668609.0	4280895.0	Residential	0.46	0.002	0.01
5652	668619.0	4280895.0	Residential	0.49	0.002	0.01
5653	668629.0	4280895.0	Residential	0.52	0.002	0.01
5654	668639.0	4280895.0	Residential	0.55	0.002	0.01
5655	668649.0	4280895.0	Roadway/Open Space	-	-	0.01
5656	668659.0	4280895.0	Residential	0.62	0.003	0.01
5657	668669.0	4280895.0	Residential	0.70	0.003	0.02
5658	668679.0	4280895.0	Residential	0.79	0.003	0.02
5659	668689.0	4280895.0	Residential	0.91	0.004	0.02
5660	668699.0	4280895.0	Residential	1.05	0.004	0.03
5661	668709.0	4280895.0	Roadway/Open Space	-	-	0.03
5662	668719.0	4280895.0	Roadway/Open Space	-	-	0.04
5663	668729.0	4280895.0	Roadway/Open Space	-	-	0.04
5664	668739.0	4280895.0	Roadway/Open Space	-	-	0.05
5665	668749.0	4280895.0	Roadway/Open Space	-	-	0.05
5666	668759.0	4280895.0	Roadway/Open Space	-	-	0.06
5667	668769.0	4280895.0	Roadway/Open Space	-	-	0.06
5668	668779.0	4280895.0	Roadway/Open Space	-	-	0.05
5669	668789.0	4280895.0	Roadway/Open Space	-	-	0.05
5670	668799.0	4280895.0	Roadway/Open Space	-	-	0.06
5671	668809.0	4280895.0	Roadway/Open Space	-	-	0.06
5672	668819.0	4280895.0	Roadway/Open Space	-	-	0.06
5673	668829.0	4280895.0	Roadway/Open Space	-	-	0.06
5674	668839.0	4280895.0	Roadway/Open Space	-	-	0.06
5675	668849.0	4280895.0	Roadway/Open Space	-	-	0.05
5676	668859.0	4280895.0	Roadway/Open Space	-	-	0.06
5677	668869.0	4280895.0	Roadway/Open Space	-	-	0.05
5678	668879.0	4280895.0	Roadway/Open Space	-	-	0.06
5679	668889.0	4280895.0	Roadway/Open Space	-	-	0.06
5680	668899.0	4280895.0	Roadway/Open Space	-	-	0.06
5681	668909.0	4280895.0	Roadway/Open Space	-	-	0.07
5682	668919.0	4280895.0	Roadway/Open Space	-	-	0.08
5707	669169.0	4280895.0	Roadway/Open Space	-	-	0.10
5708	669179.0	4280895.0	Roadway/Open Space	-	-	0.09
5709	669189.0	4280895.0	Roadway/Open Space	-	-	0.09
5710	669199.0	4280895.0	Roadway/Open Space	-	-	0.08
5711	669209.0	4280895.0	Roadway/Open Space	-	-	0.07
5712	669299.0	4280895.0	Roadway/Open Space	-	-	0.06
5713	669309.0	4280895.0	Roadway/Open Space	-	-	0.06
5714	669319.0	4280895.0	Roadway/Open Space	-	-	0.06

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
5715	669329.0	4280895.0	Roadway/Open Space	-	-	0.06
5716	669339.0	4280895.0	Roadway/Open Space	-	-	0.06
5717	669349.0	4280895.0	Roadway/Open Space	-	-	0.06
5718	669359.0	4280895.0	Roadway/Open Space	-	-	0.06
5719	669369.0	4280895.0	Roadway/Open Space	-	-	0.06
5720	669379.0	4280895.0	Roadway/Open Space	-	-	0.05
5721	669389.0	4280895.0	Roadway/Open Space	-	-	0.05
5722	669399.0	4280895.0	Roadway/Open Space	-	-	0.05
5723	669409.0	4280895.0	Roadway/Open Space	-	-	0.05
5724	669419.0	4280895.0	Roadway/Open Space	-	-	0.04
5725	669429.0	4280895.0	Roadway/Open Space	-	-	0.04
5726	669439.0	4280895.0	Roadway/Open Space	-	-	0.03
5727	669449.0	4280895.0	Roadway/Open Space	-	-	0.03
5728	669459.0	4280895.0	Roadway/Open Space	-	-	0.03
5729	669469.0	4280895.0	Roadway/Open Space	-	-	0.03
5730	669479.0	4280895.0	Roadway/Open Space	-	-	0.03
5731	669489.0	4280895.0	Roadway/Open Space	-	-	0.03
5732	669499.0	4280895.0	Roadway/Open Space	-	-	0.03
5733	669509.0	4280895.0	Roadway/Open Space	-	-	0.03
5734	669519.0	4280895.0	Roadway/Open Space	-	-	0.03
5735	669529.0	4280895.0	Roadway/Open Space	-	-	0.03
5736	669539.0	4280895.0	Roadway/Open Space	-	-	0.03
5737	669549.0	4280895.0	Roadway/Open Space	-	-	0.03
5738	669559.0	4280895.0	Roadway/Open Space	-	-	0.02
5739	669569.0	4280895.0	Roadway/Open Space	-	-	0.03
5740	669579.0	4280895.0	Roadway/Open Space	-	-	0.03
5741	669589.0	4280895.0	Roadway/Open Space	-	-	0.03
5742	669599.0	4280895.0	Roadway/Open Space	-	-	0.03
5743	669609.0	4280895.0	Roadway/Open Space	-	-	0.03
5744	668519.0	4280905.0	Residential	0.30	0.001	0.01
5745	668529.0	4280905.0	Residential	0.31	0.001	0.01
5746	668539.0	4280905.0	Residential	0.32	0.001	0.01
5747	668549.0	4280905.0	Roadway/Open Space	-	-	0.01
5748	668559.0	4280905.0	Residential	0.36	0.001	0.01
5749	668569.0	4280905.0	Residential	0.37	0.002	0.01
5750	668579.0	4280905.0	Residential	0.39	0.002	0.01
5751	668589.0	4280905.0	Residential	0.41	0.002	0.01
5752	668599.0	4280905.0	Residential	0.44	0.002	0.01
5753	668609.0	4280905.0	Residential	0.46	0.002	0.01
5754	668619.0	4280905.0	Residential	0.49	0.002	0.01
5755	668629.0	4280905.0	Residential	0.52	0.002	0.01
5756	668639.0	4280905.0	Residential	0.54	0.002	0.01
5757	668649.0	4280905.0	Roadway/Open Space	-	-	0.01
5758	668659.0	4280905.0	Residential	0.65	0.003	0.02
5759	668669.0	4280905.0	Residential	0.73	0.003	0.02
5760	668679.0	4280905.0	Residential	0.83	0.003	0.02
5761	668689.0	4280905.0	Residential	0.97	0.004	0.03
5762	668699.0	4280905.0	Residential	1.12	0.005	0.03
5763	668709.0	4280905.0	Roadway/Open Space	-	-	0.04
5764	668719.0	4280905.0	Roadway/Open Space	-	-	0.04
5765	668729.0	4280905.0	Roadway/Open Space	-	-	0.04
5766	668739.0	4280905.0	Roadway/Open Space	-	-	0.05
5767	668749.0	4280905.0	Roadway/Open Space	-	-	0.05
5768	668759.0	4280905.0	Roadway/Open Space	-	-	0.06
5769	668769.0	4280905.0	Roadway/Open Space	-	-	0.06
5770	668779.0	4280905.0	Roadway/Open Space	-	-	0.05
5771	668789.0	4280905.0	Roadway/Open Space	-	-	0.05
5772	668799.0	4280905.0	Roadway/Open Space	-	-	0.06
5773	668809.0	4280905.0	Roadway/Open Space	-	-	0.06
5774	668819.0	4280905.0	Roadway/Open Space	-	-	0.06
5775	668829.0	4280905.0	Roadway/Open Space	-	-	0.06
5776	668839.0	4280905.0	Roadway/Open Space	-	-	0.06
5777	668849.0	4280905.0	Roadway/Open Space	-	-	0.06
5778	668859.0	4280905.0	Roadway/Open Space	-	-	0.06
5779	668869.0	4280905.0	Roadway/Open Space	-	-	0.06
5780	668879.0	4280905.0	Roadway/Open Space	-	-	0.06
5781	668889.0	4280905.0	Roadway/Open Space	-	-	0.06
5782	668899.0	4280905.0	Roadway/Open Space	-	-	0.07
5783	668909.0	4280905.0	Roadway/Open Space	-	-	0.07
5784	668919.0	4280905.0	Roadway/Open Space	-	-	0.08
5808	669159.0	4280905.0	Roadway/Open Space	-	-	0.11
5809	669169.0	4280905.0	Roadway/Open Space	-	-	0.10
5810	669179.0	4280905.0	Roadway/Open Space	-	-	0.09
5811	669189.0	4280905.0	Roadway/Open Space	-	-	0.08
5812	669199.0	4280905.0	Roadway/Open Space	-	-	0.08
5813	669299.0	4280905.0	Roadway/Open Space	-	-	0.06
5814	669309.0	4280905.0	Roadway/Open Space	-	-	0.06
5815	669319.0	4280905.0	Roadway/Open Space	-	-	0.06
5816	669329.0	4280905.0	Roadway/Open Space	-	-	0.06
5817	669339.0	4280905.0	Roadway/Open Space	-	-	0.06
5818	669349.0	4280905.0	Roadway/Open Space	-	-	0.06
5819	669359.0	4280905.0	Roadway/Open Space	-	-	0.06
5820	669369.0	4280905.0	Roadway/Open Space	-	-	0.05
5821	669379.0	4280905.0	Roadway/Open Space	-	-	0.05

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
5822	669389.0	4280905.0	Roadway/Open Space	-	-	0.05
5823	669399.0	4280905.0	Roadway/Open Space	-	-	0.05
5824	669409.0	4280905.0	Roadway/Open Space	-	-	0.05
5825	669419.0	4280905.0	Roadway/Open Space	-	-	0.04
5826	669429.0	4280905.0	Roadway/Open Space	-	-	0.04
5827	669439.0	4280905.0	Roadway/Open Space	-	-	0.03
5828	669449.0	4280905.0	Roadway/Open Space	-	-	0.03
5829	669459.0	4280905.0	Roadway/Open Space	-	-	0.03
5830	669469.0	4280905.0	Roadway/Open Space	-	-	0.03
5831	669479.0	4280905.0	Roadway/Open Space	-	-	0.03
5832	669489.0	4280905.0	Roadway/Open Space	-	-	0.03
5833	669499.0	4280905.0	Roadway/Open Space	-	-	0.03
5834	669509.0	4280905.0	Roadway/Open Space	-	-	0.03
5835	669519.0	4280905.0	Roadway/Open Space	-	-	0.03
5836	669529.0	4280905.0	Roadway/Open Space	-	-	0.03
5837	669539.0	4280905.0	Roadway/Open Space	-	-	0.03
5838	669549.0	4280905.0	Roadway/Open Space	-	-	0.03
5839	669559.0	4280905.0	Roadway/Open Space	-	-	0.02
5840	669569.0	4280905.0	Roadway/Open Space	-	-	0.03
5841	669579.0	4280905.0	Roadway/Open Space	-	-	0.03
5842	669589.0	4280905.0	Roadway/Open Space	-	-	0.03
5843	669599.0	4280905.0	Roadway/Open Space	-	-	0.03
5844	668509.0	4280915.0	Residential	0.29	0.001	0.01
5845	668519.0	4280915.0	Residential	0.30	0.001	0.01
5846	668529.0	4280915.0	Residential	0.31	0.001	0.01
5847	668539.0	4280915.0	Residential	0.32	0.001	0.01
5848	668549.0	4280915.0	Roadway/Open Space	-	-	0.01
5849	668559.0	4280915.0	Residential	0.36	0.001	0.01
5850	668569.0	4280915.0	Residential	0.37	0.002	0.01
5851	668579.0	4280915.0	Residential	0.39	0.002	0.01
5852	668589.0	4280915.0	Residential	0.41	0.002	0.01
5853	668599.0	4280915.0	Residential	0.43	0.002	0.01
5854	668609.0	4280915.0	Residential	0.45	0.002	0.01
5855	668619.0	4280915.0	Residential	0.48	0.002	0.01
5856	668629.0	4280915.0	Residential	0.52	0.002	0.01
5857	668639.0	4280915.0	Residential	0.56	0.002	0.01
5858	668649.0	4280915.0	Roadway/Open Space	-	-	0.01
5859	668659.0	4280915.0	Residential	0.68	0.003	0.02
5860	668669.0	4280915.0	Residential	0.76	0.003	0.02
5861	668679.0	4280915.0	Residential	0.87	0.004	0.02
5862	668689.0	4280915.0	Residential	1.01	0.004	0.03
5863	668699.0	4280915.0	Residential	1.17	0.005	0.03
5864	668709.0	4280915.0	Roadway/Open Space	-	-	0.04
5865	668719.0	4280915.0	Roadway/Open Space	-	-	0.04
5866	668729.0	4280915.0	Roadway/Open Space	-	-	0.05
5867	668739.0	4280915.0	Roadway/Open Space	-	-	0.05
5868	668749.0	4280915.0	Roadway/Open Space	-	-	0.05
5869	668759.0	4280915.0	Roadway/Open Space	-	-	0.05
5870	668769.0	4280915.0	Roadway/Open Space	-	-	0.05
5871	668779.0	4280915.0	Roadway/Open Space	-	-	0.05
5872	668789.0	4280915.0	Roadway/Open Space	-	-	0.05
5873	668799.0	4280915.0	Roadway/Open Space	-	-	0.05
5874	668809.0	4280915.0	Roadway/Open Space	-	-	0.05
5875	668819.0	4280915.0	Roadway/Open Space	-	-	0.06
5876	668829.0	4280915.0	Roadway/Open Space	-	-	0.06
5877	668839.0	4280915.0	Roadway/Open Space	-	-	0.06
5878	668849.0	4280915.0	Roadway/Open Space	-	-	0.06
5879	668859.0	4280915.0	Roadway/Open Space	-	-	0.06
5880	668869.0	4280915.0	Roadway/Open Space	-	-	0.06
5881	668879.0	4280915.0	Roadway/Open Space	-	-	0.06
5882	668889.0	4280915.0	Roadway/Open Space	-	-	0.06
5883	668899.0	4280915.0	Roadway/Open Space	-	-	0.07
5884	668909.0	4280915.0	Roadway/Open Space	-	-	0.08
5885	668919.0	4280915.0	Roadway/Open Space	-	-	0.08
5908	669149.0	4280915.0	Roadway/Open Space	-	-	0.13
5909	669159.0	4280915.0	Roadway/Open Space	-	-	0.11
5910	669169.0	4280915.0	Roadway/Open Space	-	-	0.10
5911	669179.0	4280915.0	Roadway/Open Space	-	-	0.09
5912	669189.0	4280915.0	Roadway/Open Space	-	-	0.08
5913	669299.0	4280915.0	Roadway/Open Space	-	-	0.05
5914	669309.0	4280915.0	Roadway/Open Space	-	-	0.06
5915	669319.0	4280915.0	Roadway/Open Space	-	-	0.06
5916	669329.0	4280915.0	Roadway/Open Space	-	-	0.06
5917	669339.0	4280915.0	Roadway/Open Space	-	-	0.06
5918	669349.0	4280915.0	Roadway/Open Space	-	-	0.05
5919	669359.0	4280915.0	Roadway/Open Space	-	-	0.05
5920	669369.0	4280915.0	Roadway/Open Space	-	-	0.05
5921	669379.0	4280915.0	Roadway/Open Space	-	-	0.05
5922	669389.0	4280915.0	Roadway/Open Space	-	-	0.05
5923	669399.0	4280915.0	Roadway/Open Space	-	-	0.05
5924	669409.0	4280915.0	Roadway/Open Space	-	-	0.05
5925	669419.0	4280915.0	Roadway/Open Space	-	-	0.04
5926	669429.0	4280915.0	Roadway/Open Space	-	-	0.04
5927	669439.0	4280915.0	Roadway/Open Space	-	-	0.03

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
5928	669449.0	4280915.0	Roadway/Open Space	-	-	0.03
5929	669459.0	4280915.0	Roadway/Open Space	-	-	0.03
5930	669469.0	4280915.0	Roadway/Open Space	-	-	0.03
5931	669479.0	4280915.0	Roadway/Open Space	-	-	0.03
5932	669489.0	4280915.0	Roadway/Open Space	-	-	0.03
5933	669499.0	4280915.0	Roadway/Open Space	-	-	0.03
5934	669509.0	4280915.0	Roadway/Open Space	-	-	0.03
5935	669519.0	4280915.0	Roadway/Open Space	-	-	0.03
5936	669529.0	4280915.0	Roadway/Open Space	-	-	0.03
5937	669539.0	4280915.0	Roadway/Open Space	-	-	0.03
5938	669549.0	4280915.0	Roadway/Open Space	-	-	0.03
5939	669559.0	4280915.0	Roadway/Open Space	-	-	0.03
5940	669569.0	4280915.0	Roadway/Open Space	-	-	0.03
5941	669579.0	4280915.0	Roadway/Open Space	-	-	0.03
5942	669589.0	4280915.0	Roadway/Open Space	-	-	0.03
5943	669599.0	4280915.0	Roadway/Open Space	-	-	0.03
5944	668509.0	4280925.0	Residential	0.29	0.001	0.01
5945	668519.0	4280925.0	Residential	0.29	0.001	0.01
5946	668529.0	4280925.0	Residential	0.30	0.001	0.01
5947	668539.0	4280925.0	Residential	0.32	0.001	0.01
5948	668549.0	4280925.0	Roadway/Open Space	-	-	0.01
5949	668559.0	4280925.0	Residential	0.36	0.001	0.01
5950	668569.0	4280925.0	Residential	0.38	0.002	0.01
5951	668579.0	4280925.0	Residential	0.40	0.002	0.01
5952	668589.0	4280925.0	Residential	0.40	0.002	0.01
5953	668599.0	4280925.0	Residential	0.43	0.002	0.01
5954	668609.0	4280925.0	Residential	0.46	0.002	0.01
5955	668619.0	4280925.0	Residential	0.50	0.002	0.01
5956	668629.0	4280925.0	Residential	0.53	0.002	0.01
5957	668639.0	4280925.0	Residential	0.58	0.002	0.01
5958	668649.0	4280925.0	Roadway/Open Space	-	-	0.02
5959	668659.0	4280925.0	Residential	0.72	0.003	0.02
5960	668669.0	4280925.0	Residential	0.80	0.003	0.02
5961	668679.0	4280925.0	Residential	0.92	0.004	0.02
5962	668689.0	4280925.0	Residential	1.06	0.004	0.03
5963	668699.0	4280925.0	Roadway/Open Space	-	-	0.03
5964	668709.0	4280925.0	Roadway/Open Space	-	-	0.04
5965	668719.0	4280925.0	Roadway/Open Space	-	-	0.04
5966	668729.0	4280925.0	Roadway/Open Space	-	-	0.05
5967	668739.0	4280925.0	Roadway/Open Space	-	-	0.05
5968	668749.0	4280925.0	Roadway/Open Space	-	-	0.05
5969	668759.0	4280925.0	Roadway/Open Space	-	-	0.04
5970	668769.0	4280925.0	Roadway/Open Space	-	-	0.05
5971	668779.0	4280925.0	Roadway/Open Space	-	-	0.05
5972	668789.0	4280925.0	Roadway/Open Space	-	-	0.05
5973	668799.0	4280925.0	Roadway/Open Space	-	-	0.05
5974	668809.0	4280925.0	Roadway/Open Space	-	-	0.05
5975	668819.0	4280925.0	Roadway/Open Space	-	-	0.05
5976	668829.0	4280925.0	Roadway/Open Space	-	-	0.05
5977	668839.0	4280925.0	Roadway/Open Space	-	-	0.06
5978	668849.0	4280925.0	Roadway/Open Space	-	-	0.06
5979	668859.0	4280925.0	Roadway/Open Space	-	-	0.06
5980	668869.0	4280925.0	Roadway/Open Space	-	-	0.06
5981	668879.0	4280925.0	Roadway/Open Space	-	-	0.06
5982	668889.0	4280925.0	Roadway/Open Space	-	-	0.07
5983	668899.0	4280925.0	Roadway/Open Space	-	-	0.07
5984	668909.0	4280925.0	Roadway/Open Space	-	-	0.08
6007	669139.0	4280925.0	Roadway/Open Space	-	-	0.14
6008	669149.0	4280925.0	Roadway/Open Space	-	-	0.13
6009	669159.0	4280925.0	Roadway/Open Space	-	-	0.12
6010	669169.0	4280925.0	Roadway/Open Space	-	-	0.10
6011	669179.0	4280925.0	Roadway/Open Space	-	-	0.08
6012	669299.0	4280925.0	Roadway/Open Space	-	-	0.05
6013	669309.0	4280925.0	Roadway/Open Space	-	-	0.05
6014	669319.0	4280925.0	Roadway/Open Space	-	-	0.05
6015	669329.0	4280925.0	Roadway/Open Space	-	-	0.05
6016	669339.0	4280925.0	Roadway/Open Space	-	-	0.05
6017	669349.0	4280925.0	Roadway/Open Space	-	-	0.05
6018	669359.0	4280925.0	Roadway/Open Space	-	-	0.05
6019	669369.0	4280925.0	Roadway/Open Space	-	-	0.05
6020	669379.0	4280925.0	Roadway/Open Space	-	-	0.05
6021	669389.0	4280925.0	Roadway/Open Space	-	-	0.05
6022	669399.0	4280925.0	Roadway/Open Space	-	-	0.05
6023	669409.0	4280925.0	Roadway/Open Space	-	-	0.05
6024	669419.0	4280925.0	Roadway/Open Space	-	-	0.05
6025	669429.0	4280925.0	Roadway/Open Space	-	-	0.04
6026	669439.0	4280925.0	Roadway/Open Space	-	-	0.04
6027	669449.0	4280925.0	Roadway/Open Space	-	-	0.03
6028	669459.0	4280925.0	Roadway/Open Space	-	-	0.03
6029	669469.0	4280925.0	Roadway/Open Space	-	-	0.03
6030	669479.0	4280925.0	Roadway/Open Space	-	-	0.03
6031	669489.0	4280925.0	Roadway/Open Space	-	-	0.03
6032	669499.0	4280925.0	Roadway/Open Space	-	-	0.03
6033	669509.0	4280925.0	Roadway/Open Space	-	-	0.03

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
6034	669519.0	4280925.0	Roadway/Open Space	-	-	0.03
6035	669529.0	4280925.0	Roadway/Open Space	-	-	0.03
6036	669539.0	4280925.0	Roadway/Open Space	-	-	0.03
6037	669549.0	4280925.0	Roadway/Open Space	-	-	0.03
6038	669559.0	4280925.0	Roadway/Open Space	-	-	0.03
6039	669569.0	4280925.0	Roadway/Open Space	-	-	0.02
6040	669579.0	4280925.0	Roadway/Open Space	-	-	0.03
6041	669589.0	4280925.0	Roadway/Open Space	-	-	0.03
6042	668509.0	4280935.0	Residential	0.28	0.001	0.01
6043	668519.0	4280935.0	Residential	0.29	0.001	0.01
6044	668529.0	4280935.0	Residential	0.31	0.001	0.01
6045	668539.0	4280935.0	Residential	0.32	0.001	0.01
6046	668549.0	4280935.0	Roadway/Open Space	-	-	0.01
6047	668559.0	4280935.0	Residential	0.35	0.001	0.01
6048	668569.0	4280935.0	Residential	0.36	0.001	0.01
6049	668579.0	4280935.0	Residential	0.39	0.002	0.01
6050	668589.0	4280935.0	Residential	0.41	0.002	0.01
6051	668599.0	4280935.0	Residential	0.45	0.002	0.01
6052	668609.0	4280935.0	Residential	0.48	0.002	0.01
6053	668619.0	4280935.0	Residential	0.52	0.002	0.01
6054	668629.0	4280935.0	Residential	0.56	0.002	0.01
6055	668639.0	4280935.0	Residential	0.62	0.003	0.01
6056	668649.0	4280935.0	Roadway/Open Space	-	-	0.02
6057	668659.0	4280935.0	Residential	0.76	0.003	0.02
6058	668669.0	4280935.0	Residential	0.86	0.004	0.02
6059	668679.0	4280935.0	Residential	0.98	0.004	0.03
6060	668689.0	4280935.0	Residential	1.12	0.005	0.03
6061	668699.0	4280935.0	Roadway/Open Space	-	-	0.04
6062	668709.0	4280935.0	Roadway/Open Space	-	-	0.04
6063	668719.0	4280935.0	Roadway/Open Space	-	-	0.04
6064	668729.0	4280935.0	Roadway/Open Space	-	-	0.04
6065	668739.0	4280935.0	Roadway/Open Space	-	-	0.04
6066	668749.0	4280935.0	Roadway/Open Space	-	-	0.04
6067	668759.0	4280935.0	Roadway/Open Space	-	-	0.04
6068	668769.0	4280935.0	Roadway/Open Space	-	-	0.04
6069	668779.0	4280935.0	Roadway/Open Space	-	-	0.05
6070	668789.0	4280935.0	Roadway/Open Space	-	-	0.05
6071	668799.0	4280935.0	Roadway/Open Space	-	-	0.05
6072	668809.0	4280935.0	Roadway/Open Space	-	-	0.05
6073	668819.0	4280935.0	Roadway/Open Space	-	-	0.05
6074	668829.0	4280935.0	Roadway/Open Space	-	-	0.05
6075	668839.0	4280935.0	Roadway/Open Space	-	-	0.05
6076	668849.0	4280935.0	Roadway/Open Space	-	-	0.06
6077	668859.0	4280935.0	Roadway/Open Space	-	-	0.06
6078	668869.0	4280935.0	Roadway/Open Space	-	-	0.07
6079	668879.0	4280935.0	Roadway/Open Space	-	-	0.07
6080	668889.0	4280935.0	Roadway/Open Space	-	-	0.07
6081	668899.0	4280935.0	Roadway/Open Space	-	-	0.08
6082	668909.0	4280935.0	Roadway/Open Space	-	-	0.08
6103	669119.0	4280935.0	Roadway/Open Space	-	-	0.16
6104	669129.0	4280935.0	Roadway/Open Space	-	-	0.14
6105	669139.0	4280935.0	Roadway/Open Space	-	-	0.15
6106	669149.0	4280935.0	Roadway/Open Space	-	-	0.13
6107	669159.0	4280935.0	Roadway/Open Space	-	-	0.12
6108	669169.0	4280935.0	Roadway/Open Space	-	-	0.10
6109	669299.0	4280935.0	Roadway/Open Space	-	-	0.05
6110	669309.0	4280935.0	Roadway/Open Space	-	-	0.05
6111	669319.0	4280935.0	Roadway/Open Space	-	-	0.05
6112	669329.0	4280935.0	Roadway/Open Space	-	-	0.05
6113	669339.0	4280935.0	Roadway/Open Space	-	-	0.05
6114	669349.0	4280935.0	Roadway/Open Space	-	-	0.05
6115	669359.0	4280935.0	Roadway/Open Space	-	-	0.05
6116	669369.0	4280935.0	Roadway/Open Space	-	-	0.05
6117	669379.0	4280935.0	Roadway/Open Space	-	-	0.05
6118	669389.0	4280935.0	Roadway/Open Space	-	-	0.05
6119	669399.0	4280935.0	Roadway/Open Space	-	-	0.05
6120	669409.0	4280935.0	Roadway/Open Space	-	-	0.05
6121	669419.0	4280935.0	Roadway/Open Space	-	-	0.05
6122	669429.0	4280935.0	Roadway/Open Space	-	-	0.04
6123	669439.0	4280935.0	Roadway/Open Space	-	-	0.04
6124	669449.0	4280935.0	Roadway/Open Space	-	-	0.03
6125	669459.0	4280935.0	Roadway/Open Space	-	-	0.03
6126	669469.0	4280935.0	Roadway/Open Space	-	-	0.03
6127	669479.0	4280935.0	Roadway/Open Space	-	-	0.03
6128	669489.0	4280935.0	Roadway/Open Space	-	-	0.03
6129	669499.0	4280935.0	Roadway/Open Space	-	-	0.03
6130	669509.0	4280935.0	Roadway/Open Space	-	-	0.03
6131	669519.0	4280935.0	Roadway/Open Space	-	-	0.03
6132	669529.0	4280935.0	Roadway/Open Space	-	-	0.03
6133	669539.0	4280935.0	Roadway/Open Space	-	-	0.03
6134	669549.0	4280935.0	Roadway/Open Space	-	-	0.03
6135	669559.0	4280935.0	Roadway/Open Space	-	-	0.03
6136	669569.0	4280935.0	Roadway/Open Space	-	-	0.02
6137	669579.0	4280935.0	Roadway/Open Space	-	-	0.03

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
6138	669589.0	4280935.0	Roadway/Open Space	-	-	0.03
6139	668509.0	4280945.0	Residential	0.28	0.001	0.01
6140	668519.0	4280945.0	Residential	0.30	0.001	0.01
6141	668529.0	4280945.0	Residential	0.31	0.001	0.01
6142	668539.0	4280945.0	Residential	0.32	0.001	0.01
6143	668549.0	4280945.0	Roadway/Open Space	-	-	0.01
6144	668559.0	4280945.0	Residential	0.35	0.001	0.01
6145	668569.0	4280945.0	Residential	0.37	0.002	0.01
6146	668579.0	4280945.0	Residential	0.40	0.002	0.01
6147	668589.0	4280945.0	Roadway/Open Space	-	-	0.01
6148	668599.0	4280945.0	Roadway/Open Space	-	-	0.01
6149	668609.0	4280945.0	Roadway/Open Space	-	-	0.01
6150	668619.0	4280945.0	Roadway/Open Space	-	-	0.02
6151	668629.0	4280945.0	Roadway/Open Space	-	-	0.02
6152	668639.0	4280945.0	Roadway/Open Space	-	-	0.02
6153	668649.0	4280945.0	Residential	0.74	0.003	0.02
6154	668659.0	4280945.0	Residential	0.82	0.003	0.02
6155	668669.0	4280945.0	Residential	0.93	0.004	0.03
6156	668679.0	4280945.0	Residential	1.05	0.004	0.03
6157	668689.0	4280945.0	Residential	1.20	0.005	0.03
6158	668699.0	4280945.0	Roadway/Open Space	-	-	0.04
6159	668709.0	4280945.0	Roadway/Open Space	-	-	0.04
6160	668719.0	4280945.0	Roadway/Open Space	-	-	0.04
6161	668729.0	4280945.0	Roadway/Open Space	-	-	0.04
6162	668739.0	4280945.0	Roadway/Open Space	-	-	0.03
6163	668749.0	4280945.0	Roadway/Open Space	-	-	0.04
6164	668759.0	4280945.0	Roadway/Open Space	-	-	0.04
6165	668769.0	4280945.0	Roadway/Open Space	-	-	0.04
6166	668779.0	4280945.0	Roadway/Open Space	-	-	0.04
6167	668789.0	4280945.0	Roadway/Open Space	-	-	0.04
6168	668799.0	4280945.0	Roadway/Open Space	-	-	0.05
6169	668809.0	4280945.0	Roadway/Open Space	-	-	0.05
6170	668819.0	4280945.0	Roadway/Open Space	-	-	0.05
6171	668829.0	4280945.0	Roadway/Open Space	-	-	0.05
6172	668839.0	4280945.0	Roadway/Open Space	-	-	0.06
6173	668849.0	4280945.0	Roadway/Open Space	-	-	0.06
6174	668859.0	4280945.0	Roadway/Open Space	-	-	0.06
6175	668869.0	4280945.0	Roadway/Open Space	-	-	0.07
6176	668879.0	4280945.0	Roadway/Open Space	-	-	0.07
6177	668889.0	4280945.0	Roadway/Open Space	-	-	0.08
6178	668899.0	4280945.0	Roadway/Open Space	-	-	0.08
6179	668909.0	4280945.0	Roadway/Open Space	-	-	0.09
6199	669109.0	4280945.0	Roadway/Open Space	-	-	0.19
6200	669119.0	4280945.0	Roadway/Open Space	-	-	0.17
6201	669129.0	4280945.0	Roadway/Open Space	-	-	0.17
6202	669139.0	4280945.0	Roadway/Open Space	-	-	0.15
6203	669149.0	4280945.0	Roadway/Open Space	-	-	0.14
6204	669159.0	4280945.0	Roadway/Open Space	-	-	0.12
6205	669299.0	4280945.0	Roadway/Open Space	-	-	0.05
6206	669309.0	4280945.0	Roadway/Open Space	-	-	0.05
6207	669319.0	4280945.0	Roadway/Open Space	-	-	0.05
6208	669329.0	4280945.0	Roadway/Open Space	-	-	0.05
6209	669339.0	4280945.0	Roadway/Open Space	-	-	0.05
6210	669349.0	4280945.0	Roadway/Open Space	-	-	0.05
6211	669359.0	4280945.0	Roadway/Open Space	-	-	0.05
6212	669369.0	4280945.0	Roadway/Open Space	-	-	0.05
6213	669379.0	4280945.0	Roadway/Open Space	-	-	0.05
6214	669389.0	4280945.0	Roadway/Open Space	-	-	0.05
6215	669399.0	4280945.0	Roadway/Open Space	-	-	0.05
6216	669409.0	4280945.0	Roadway/Open Space	-	-	0.05
6217	669419.0	4280945.0	Roadway/Open Space	-	-	0.05
6218	669429.0	4280945.0	Roadway/Open Space	-	-	0.05
6219	669439.0	4280945.0	Roadway/Open Space	-	-	0.04
6220	669449.0	4280945.0	Roadway/Open Space	-	-	0.03
6221	669459.0	4280945.0	Roadway/Open Space	-	-	0.03
6222	669469.0	4280945.0	Roadway/Open Space	-	-	0.03
6223	669479.0	4280945.0	Roadway/Open Space	-	-	0.03
6224	669489.0	4280945.0	Roadway/Open Space	-	-	0.03
6225	669499.0	4280945.0	Roadway/Open Space	-	-	0.03
6226	669509.0	4280945.0	Roadway/Open Space	-	-	0.03
6227	669519.0	4280945.0	Roadway/Open Space	-	-	0.03
6228	669529.0	4280945.0	Roadway/Open Space	-	-	0.03
6229	669539.0	4280945.0	Roadway/Open Space	-	-	0.03
6230	669549.0	4280945.0	Roadway/Open Space	-	-	0.03
6231	669559.0	4280945.0	Roadway/Open Space	-	-	0.03
6232	669569.0	4280945.0	Roadway/Open Space	-	-	0.03
6233	669579.0	4280945.0	Roadway/Open Space	-	-	0.03
6234	669589.0	4280945.0	Roadway/Open Space	-	-	0.03
6235	668509.0	4280955.0	Residential	0.29	0.001	0.01
6236	668519.0	4280955.0	Residential	0.30	0.001	0.01
6237	668529.0	4280955.0	Residential	0.31	0.001	0.01
6238	668539.0	4280955.0	Residential	0.32	0.001	0.01
6239	668549.0	4280955.0	Roadway/Open Space	-	-	0.01
6240	668559.0	4280955.0	Residential	0.36	0.001	0.01

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
6241	668569.0	4280955.0	Residential	0.38	0.002	0.01
6242	668579.0	4280955.0	Residential	0.41	0.002	0.01
6243	668589.0	4280955.0	Roadway/Open Space	-	-	0.01
6244	668599.0	4280955.0	Roadway/Open Space	-	-	0.01
6245	668609.0	4280955.0	Roadway/Open Space	-	-	0.02
6246	668619.0	4280955.0	Roadway/Open Space	-	-	0.02
6247	668629.0	4280955.0	Roadway/Open Space	-	-	0.02
6248	668639.0	4280955.0	Roadway/Open Space	-	-	0.02
6249	668649.0	4280955.0	Residential	0.80	0.003	0.02
6250	668659.0	4280955.0	Residential	0.90	0.004	0.03
6251	668669.0	4280955.0	Residential	1.02	0.004	0.03
6252	668679.0	4280955.0	Residential	1.14	0.005	0.03
6253	668689.0	4280955.0	Residential	1.29	0.005	0.04
6254	668699.0	4280955.0	Roadway/Open Space	-	-	0.04
6255	668709.0	4280955.0	Roadway/Open Space	-	-	0.04
6256	668719.0	4280955.0	Roadway/Open Space	-	-	0.04
6257	668729.0	4280955.0	Roadway/Open Space	-	-	0.04
6258	668739.0	4280955.0	Roadway/Open Space	-	-	0.03
6259	668749.0	4280955.0	Roadway/Open Space	-	-	0.04
6260	668759.0	4280955.0	Roadway/Open Space	-	-	0.04
6261	668769.0	4280955.0	Roadway/Open Space	-	-	0.04
6262	668779.0	4280955.0	Roadway/Open Space	-	-	0.04
6263	668789.0	4280955.0	Roadway/Open Space	-	-	0.04
6264	668799.0	4280955.0	Roadway/Open Space	-	-	0.04
6265	668809.0	4280955.0	Roadway/Open Space	-	-	0.05
6266	668819.0	4280955.0	Roadway/Open Space	-	-	0.05
6267	668829.0	4280955.0	Roadway/Open Space	-	-	0.05
6268	668839.0	4280955.0	Roadway/Open Space	-	-	0.06
6269	668849.0	4280955.0	Roadway/Open Space	-	-	0.06
6270	668859.0	4280955.0	Roadway/Open Space	-	-	0.07
6271	668869.0	4280955.0	Roadway/Open Space	-	-	0.07
6272	668879.0	4280955.0	Roadway/Open Space	-	-	0.07
6273	668889.0	4280955.0	Roadway/Open Space	-	-	0.08
6274	668899.0	4280955.0	Roadway/Open Space	-	-	0.08
6275	668909.0	4280955.0	Roadway/Open Space	-	-	0.09
6294	669099.0	4280955.0	Roadway/Open Space	-	-	0.22
6295	669109.0	4280955.0	Roadway/Open Space	-	-	0.20
6296	669119.0	4280955.0	Roadway/Open Space	-	-	0.18
6297	669129.0	4280955.0	Roadway/Open Space	-	-	0.18
6298	669139.0	4280955.0	Roadway/Open Space	-	-	0.16
6299	669149.0	4280955.0	Roadway/Open Space	-	-	0.14
6300	669299.0	4280955.0	Roadway/Open Space	-	-	0.05
6301	669309.0	4280955.0	Roadway/Open Space	-	-	0.05
6302	669319.0	4280955.0	Roadway/Open Space	-	-	0.05
6303	669329.0	4280955.0	Roadway/Open Space	-	-	0.05
6304	669339.0	4280955.0	Roadway/Open Space	-	-	0.05
6305	669349.0	4280955.0	Roadway/Open Space	-	-	0.05
6306	669359.0	4280955.0	Roadway/Open Space	-	-	0.05
6307	669369.0	4280955.0	Roadway/Open Space	-	-	0.05
6308	669379.0	4280955.0	Roadway/Open Space	-	-	0.05
6309	669389.0	4280955.0	Roadway/Open Space	-	-	0.05
6310	669399.0	4280955.0	Roadway/Open Space	-	-	0.05
6311	669409.0	4280955.0	Roadway/Open Space	-	-	0.05
6312	669419.0	4280955.0	Roadway/Open Space	-	-	0.05
6313	669429.0	4280955.0	Roadway/Open Space	-	-	0.05
6314	669439.0	4280955.0	Roadway/Open Space	-	-	0.04
6315	669449.0	4280955.0	Roadway/Open Space	-	-	0.04
6316	669459.0	4280955.0	Roadway/Open Space	-	-	0.03
6317	669469.0	4280955.0	Roadway/Open Space	-	-	0.03
6318	669479.0	4280955.0	Roadway/Open Space	-	-	0.03
6319	669489.0	4280955.0	Roadway/Open Space	-	-	0.03
6320	669499.0	4280955.0	Roadway/Open Space	-	-	0.03
6321	669509.0	4280955.0	Roadway/Open Space	-	-	0.03
6322	669519.0	4280955.0	Roadway/Open Space	-	-	0.03
6323	669529.0	4280955.0	Roadway/Open Space	-	-	0.03
6324	669539.0	4280955.0	Roadway/Open Space	-	-	0.03
6325	669549.0	4280955.0	Roadway/Open Space	-	-	0.03
6326	669559.0	4280955.0	Roadway/Open Space	-	-	0.03
6327	669569.0	4280955.0	Roadway/Open Space	-	-	0.03
6328	669579.0	4280955.0	Roadway/Open Space	-	-	0.02
6329	669589.0	4280955.0	Roadway/Open Space	-	-	0.03
6330	668509.0	4280965.0	Residential	0.29	0.001	0.01
6331	668519.0	4280965.0	Residential	0.30	0.001	0.01
6332	668529.0	4280965.0	Residential	0.31	0.001	0.01
6333	668539.0	4280965.0	Residential	0.32	0.001	0.01
6334	668549.0	4280965.0	Roadway/Open Space	-	-	0.01
6335	668559.0	4280965.0	Residential	0.36	0.001	0.01
6336	668569.0	4280965.0	Residential	0.39	0.002	0.01
6337	668579.0	4280965.0	Residential	0.42	0.002	0.01
6338	668589.0	4280965.0	Roadway/Open Space	-	-	0.01
6339	668599.0	4280965.0	Roadway/Open Space	-	-	0.01
6340	668609.0	4280965.0	Roadway/Open Space	-	-	0.02
6341	668619.0	4280965.0	Roadway/Open Space	-	-	0.02
6342	668629.0	4280965.0	Roadway/Open Space	-	-	0.02

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
6343	668639.0	4280965.0	Residential	0.78	0.003	0.02
6344	668649.0	4280965.0	Residential	0.89	0.004	0.03
6345	668659.0	4280965.0	Residential	0.99	0.004	0.03
6346	668669.0	4280965.0	Residential	1.11	0.005	0.03
6347	668679.0	4280965.0	Residential	1.24	0.005	0.04
6348	668689.0	4280965.0	Roadway/Open Space	-	-	0.04
6349	668699.0	4280965.0	Roadway/Open Space	-	-	0.04
6350	668709.0	4280965.0	Roadway/Open Space	-	-	0.04
6351	668719.0	4280965.0	Roadway/Open Space	-	-	0.04
6352	668729.0	4280965.0	Roadway/Open Space	-	-	0.03
6353	668739.0	4280965.0	Roadway/Open Space	-	-	0.04
6354	668749.0	4280965.0	Roadway/Open Space	-	-	0.04
6355	668759.0	4280965.0	Roadway/Open Space	-	-	0.04
6356	668769.0	4280965.0	Roadway/Open Space	-	-	0.04
6357	668779.0	4280965.0	Roadway/Open Space	-	-	0.04
6358	668789.0	4280965.0	Roadway/Open Space	-	-	0.04
6359	668799.0	4280965.0	Roadway/Open Space	-	-	0.04
6360	668809.0	4280965.0	Roadway/Open Space	-	-	0.05
6361	668819.0	4280965.0	Roadway/Open Space	-	-	0.05
6362	668829.0	4280965.0	Roadway/Open Space	-	-	0.05
6363	668839.0	4280965.0	Roadway/Open Space	-	-	0.06
6364	668849.0	4280965.0	Roadway/Open Space	-	-	0.06
6365	668859.0	4280965.0	Roadway/Open Space	-	-	0.07
6366	668869.0	4280965.0	Roadway/Open Space	-	-	0.07
6367	668879.0	4280965.0	Roadway/Open Space	-	-	0.07
6368	668889.0	4280965.0	Roadway/Open Space	-	-	0.08
6369	668899.0	4280965.0	Roadway/Open Space	-	-	0.08
6387	669079.0	4280965.0	Roadway/Open Space	-	-	0.25
6388	669089.0	4280965.0	Roadway/Open Space	-	-	0.25
6389	669099.0	4280965.0	Roadway/Open Space	-	-	0.23
6390	669109.0	4280965.0	Roadway/Open Space	-	-	0.21
6391	669119.0	4280965.0	Roadway/Open Space	-	-	0.19
6392	669129.0	4280965.0	Roadway/Open Space	-	-	0.19
6393	669299.0	4280965.0	Roadway/Open Space	-	-	0.05
6394	669309.0	4280965.0	Roadway/Open Space	-	-	0.05
6395	669319.0	4280965.0	Roadway/Open Space	-	-	0.05
6396	669329.0	4280965.0	Roadway/Open Space	-	-	0.05
6397	669339.0	4280965.0	Roadway/Open Space	-	-	0.05
6398	669349.0	4280965.0	Roadway/Open Space	-	-	0.05
6399	669359.0	4280965.0	Roadway/Open Space	-	-	0.05
6400	669369.0	4280965.0	Roadway/Open Space	-	-	0.05
6401	669379.0	4280965.0	Roadway/Open Space	-	-	0.05
6402	669389.0	4280965.0	Roadway/Open Space	-	-	0.05
6403	669399.0	4280965.0	Roadway/Open Space	-	-	0.05
6404	669409.0	4280965.0	Roadway/Open Space	-	-	0.05
6405	669419.0	4280965.0	Roadway/Open Space	-	-	0.05
6406	669429.0	4280965.0	Roadway/Open Space	-	-	0.05
6407	669439.0	4280965.0	Roadway/Open Space	-	-	0.04
6408	669449.0	4280965.0	Roadway/Open Space	-	-	0.04
6409	669459.0	4280965.0	Roadway/Open Space	-	-	0.03
6410	669469.0	4280965.0	Roadway/Open Space	-	-	0.03
6411	669479.0	4280965.0	Roadway/Open Space	-	-	0.03
6412	669489.0	4280965.0	Roadway/Open Space	-	-	0.03
6413	669499.0	4280965.0	Roadway/Open Space	-	-	0.03
6414	669509.0	4280965.0	Roadway/Open Space	-	-	0.03
6415	669519.0	4280965.0	Roadway/Open Space	-	-	0.03
6416	669529.0	4280965.0	Roadway/Open Space	-	-	0.03
6417	669539.0	4280965.0	Roadway/Open Space	-	-	0.03
6418	669549.0	4280965.0	Roadway/Open Space	-	-	0.03
6419	669559.0	4280965.0	Roadway/Open Space	-	-	0.03
6420	669569.0	4280965.0	Roadway/Open Space	-	-	0.03
6421	669579.0	4280965.0	Roadway/Open Space	-	-	0.02
6422	668499.0	4280975.0	Residential	0.28	0.001	0.01
6423	668509.0	4280975.0	Residential	0.29	0.001	0.01
6424	668519.0	4280975.0	Residential	0.30	0.001	0.01
6425	668529.0	4280975.0	Residential	0.31	0.001	0.01
6426	668539.0	4280975.0	Roadway/Open Space	-	-	0.01
6427	668549.0	4280975.0	Residential	0.35	0.001	0.01
6428	668559.0	4280975.0	Residential	0.37	0.002	0.01
6429	668569.0	4280975.0	Residential	0.40	0.002	0.01
6430	668579.0	4280975.0	Residential	0.44	0.002	0.01
6431	668589.0	4280975.0	Roadway/Open Space	-	-	0.01
6432	668599.0	4280975.0	Roadway/Open Space	-	-	0.02
6433	668609.0	4280975.0	Roadway/Open Space	-	-	0.02
6434	668619.0	4280975.0	Roadway/Open Space	-	-	0.02
6435	668629.0	4280975.0	Roadway/Open Space	-	-	0.02
6436	668639.0	4280975.0	Residential	0.85	0.003	0.03
6437	668649.0	4280975.0	Residential	0.97	0.004	0.03
6438	668659.0	4280975.0	Residential	1.09	0.004	0.03
6439	668669.0	4280975.0	Residential	1.21	0.005	0.04
6440	668679.0	4280975.0	Residential	1.35	0.006	0.04
6441	668689.0	4280975.0	Roadway/Open Space	-	-	0.04
6442	668699.0	4280975.0	Roadway/Open Space	-	-	0.04
6443	668709.0	4280975.0	Roadway/Open Space	-	-	0.04

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
6444	668719.0	4280975.0	Roadway/Open Space	-	-	0.03
6445	668729.0	4280975.0	Roadway/Open Space	-	-	0.03
6446	668739.0	4280975.0	Roadway/Open Space	-	-	0.04
6447	668749.0	4280975.0	Roadway/Open Space	-	-	0.04
6448	668759.0	4280975.0	Roadway/Open Space	-	-	0.04
6449	668769.0	4280975.0	Roadway/Open Space	-	-	0.04
6450	668779.0	4280975.0	Roadway/Open Space	-	-	0.04
6451	668789.0	4280975.0	Roadway/Open Space	-	-	0.04
6452	668799.0	4280975.0	Roadway/Open Space	-	-	0.04
6453	668809.0	4280975.0	Roadway/Open Space	-	-	0.05
6454	668819.0	4280975.0	Roadway/Open Space	-	-	0.05
6455	668829.0	4280975.0	Roadway/Open Space	-	-	0.05
6456	668839.0	4280975.0	Roadway/Open Space	-	-	0.06
6457	668849.0	4280975.0	Roadway/Open Space	-	-	0.06
6458	668859.0	4280975.0	Roadway/Open Space	-	-	0.07
6459	668869.0	4280975.0	Roadway/Open Space	-	-	0.07
6460	668879.0	4280975.0	Roadway/Open Space	-	-	0.08
6461	668889.0	4280975.0	Roadway/Open Space	-	-	0.08
6462	668899.0	4280975.0	Roadway/Open Space	-	-	0.09
6478	669059.0	4280975.0	Roadway/Open Space	-	-	0.28
6479	669069.0	4280975.0	Roadway/Open Space	-	-	0.29
6480	669079.0	4280975.0	Roadway/Open Space	-	-	0.29
6481	669089.0	4280975.0	Roadway/Open Space	-	-	0.28
6482	669099.0	4280975.0	Roadway/Open Space	-	-	0.25
6483	669109.0	4280975.0	Roadway/Open Space	-	-	0.23
6484	669119.0	4280975.0	Roadway/Open Space	-	-	0.20
6485	669299.0	4280975.0	Roadway/Open Space	-	-	0.05
6486	669309.0	4280975.0	Roadway/Open Space	-	-	0.05
6487	669319.0	4280975.0	Roadway/Open Space	-	-	0.05
6488	669329.0	4280975.0	Roadway/Open Space	-	-	0.05
6489	669339.0	4280975.0	Roadway/Open Space	-	-	0.05
6490	669349.0	4280975.0	Roadway/Open Space	-	-	0.05
6491	669359.0	4280975.0	Roadway/Open Space	-	-	0.05
6492	669369.0	4280975.0	Roadway/Open Space	-	-	0.05
6493	669379.0	4280975.0	Roadway/Open Space	-	-	0.05
6494	669389.0	4280975.0	Roadway/Open Space	-	-	0.05
6495	669399.0	4280975.0	Roadway/Open Space	-	-	0.05
6496	669409.0	4280975.0	Roadway/Open Space	-	-	0.05
6497	669419.0	4280975.0	Roadway/Open Space	-	-	0.05
6498	669429.0	4280975.0	Roadway/Open Space	-	-	0.05
6499	669439.0	4280975.0	Roadway/Open Space	-	-	0.04
6500	669449.0	4280975.0	Roadway/Open Space	-	-	0.04
6501	669459.0	4280975.0	Roadway/Open Space	-	-	0.03
6502	669469.0	4280975.0	Roadway/Open Space	-	-	0.03
6503	669479.0	4280975.0	Roadway/Open Space	-	-	0.04
6504	669489.0	4280975.0	Roadway/Open Space	-	-	0.04
6505	669499.0	4280975.0	Roadway/Open Space	-	-	0.04
6506	669509.0	4280975.0	Roadway/Open Space	-	-	0.03
6507	669519.0	4280975.0	Roadway/Open Space	-	-	0.03
6508	669529.0	4280975.0	Roadway/Open Space	-	-	0.03
6509	669539.0	4280975.0	Roadway/Open Space	-	-	0.03
6510	669549.0	4280975.0	Roadway/Open Space	-	-	0.03
6511	669559.0	4280975.0	Roadway/Open Space	-	-	0.03
6512	669569.0	4280975.0	Roadway/Open Space	-	-	0.03
6513	669579.0	4280975.0	Roadway/Open Space	-	-	0.02
6514	668499.0	4280985.0	Residential	0.28	0.001	0.01
6515	668509.0	4280985.0	Residential	0.29	0.001	0.01
6516	668519.0	4280985.0	Residential	0.30	0.001	0.01
6517	668529.0	4280985.0	Residential	0.32	0.001	0.01
6518	668539.0	4280985.0	Roadway/Open Space	-	-	0.01
6519	668549.0	4280985.0	Residential	0.35	0.001	0.01
6520	668559.0	4280985.0	Residential	0.38	0.002	0.01
6521	668569.0	4280985.0	Residential	0.41	0.002	0.01
6522	668579.0	4280985.0	Residential	0.45	0.002	0.01
6523	668589.0	4280985.0	Roadway/Open Space	-	-	0.01
6524	668599.0	4280985.0	Roadway/Open Space	-	-	0.02
6525	668609.0	4280985.0	Roadway/Open Space	-	-	0.02
6526	668619.0	4280985.0	Roadway/Open Space	-	-	0.02
6527	668629.0	4280985.0	Residential	0.78	0.003	0.02
6528	668639.0	4280985.0	Residential	0.90	0.004	0.03
6529	668649.0	4280985.0	Residential	1.04	0.004	0.03
6530	668659.0	4280985.0	Residential	1.18	0.005	0.04
6531	668669.0	4280985.0	Residential	1.33	0.005	0.04
6532	668679.0	4280985.0	Roadway/Open Space	-	-	0.04
6533	668689.0	4280985.0	Roadway/Open Space	-	-	0.04
6534	668699.0	4280985.0	Roadway/Open Space	-	-	0.04
6535	668709.0	4280985.0	Roadway/Open Space	-	-	0.03
6536	668719.0	4280985.0	Roadway/Open Space	-	-	0.03
6537	668729.0	4280985.0	Roadway/Open Space	-	-	0.04
6538	668739.0	4280985.0	Roadway/Open Space	-	-	0.04
6539	668749.0	4280985.0	Roadway/Open Space	-	-	0.04
6540	668759.0	4280985.0	Roadway/Open Space	-	-	0.04
6541	668769.0	4280985.0	Roadway/Open Space	-	-	0.04
6542	668779.0	4280985.0	Roadway/Open Space	-	-	0.04

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
6543	668789.0	4280985.0	Roadway/Open Space	-	-	0.04
6544	668799.0	4280985.0	Roadway/Open Space	-	-	0.04
6545	668809.0	4280985.0	Roadway/Open Space	-	-	0.05
6546	668819.0	4280985.0	Roadway/Open Space	-	-	0.05
6547	668829.0	4280985.0	Roadway/Open Space	-	-	0.05
6548	668839.0	4280985.0	Roadway/Open Space	-	-	0.06
6549	668849.0	4280985.0	Roadway/Open Space	-	-	0.06
6550	668859.0	4280985.0	Roadway/Open Space	-	-	0.07
6551	668869.0	4280985.0	Roadway/Open Space	-	-	0.07
6552	668879.0	4280985.0	Roadway/Open Space	-	-	0.08
6553	668889.0	4280985.0	Roadway/Open Space	-	-	0.08
6554	668899.0	4280985.0	Roadway/Open Space	-	-	0.09
6568	669039.0	4280985.0	Roadway/Open Space	-	-	0.30
6569	669049.0	4280985.0	Roadway/Open Space	-	-	0.32
6570	669059.0	4280985.0	Roadway/Open Space	-	-	0.32
6571	669069.0	4280985.0	Roadway/Open Space	-	-	0.34
6572	669079.0	4280985.0	Roadway/Open Space	-	-	0.32
6573	669089.0	4280985.0	Roadway/Open Space	-	-	0.29
6574	669099.0	4280985.0	Roadway/Open Space	-	-	0.27
6575	669109.0	4280985.0	Roadway/Open Space	-	-	0.24
6577	669299.0	4280985.0	Roadway/Open Space	-	-	0.05
6578	669309.0	4280985.0	Roadway/Open Space	-	-	0.05
6579	669319.0	4280985.0	Roadway/Open Space	-	-	0.05
6580	669329.0	4280985.0	Roadway/Open Space	-	-	0.05
6581	669339.0	4280985.0	Roadway/Open Space	-	-	0.05
6582	669349.0	4280985.0	Roadway/Open Space	-	-	0.06
6583	669359.0	4280985.0	Roadway/Open Space	-	-	0.06
6584	669369.0	4280985.0	Roadway/Open Space	-	-	0.06
6585	669379.0	4280985.0	Roadway/Open Space	-	-	0.06
6586	669389.0	4280985.0	Roadway/Open Space	-	-	0.05
6587	669399.0	4280985.0	Roadway/Open Space	-	-	0.05
6588	669409.0	4280985.0	Roadway/Open Space	-	-	0.05
6589	669419.0	4280985.0	Roadway/Open Space	-	-	0.05
6590	669429.0	4280985.0	Roadway/Open Space	-	-	0.05
6591	669439.0	4280985.0	Roadway/Open Space	-	-	0.04
6592	669449.0	4280985.0	Roadway/Open Space	-	-	0.04
6593	669459.0	4280985.0	Roadway/Open Space	-	-	0.03
6594	669469.0	4280985.0	Roadway/Open Space	-	-	0.04
6595	669479.0	4280985.0	Roadway/Open Space	-	-	0.04
6596	669489.0	4280985.0	Roadway/Open Space	-	-	0.04
6597	669499.0	4280985.0	Roadway/Open Space	-	-	0.04
6598	669509.0	4280985.0	Roadway/Open Space	-	-	0.04
6599	669519.0	4280985.0	Roadway/Open Space	-	-	0.03
6600	669529.0	4280985.0	Roadway/Open Space	-	-	0.03
6601	669539.0	4280985.0	Roadway/Open Space	-	-	0.03
6602	669549.0	4280985.0	Roadway/Open Space	-	-	0.03
6603	669559.0	4280985.0	Roadway/Open Space	-	-	0.03
6604	669569.0	4280985.0	Roadway/Open Space	-	-	0.03
6605	668499.0	4280995.0	Residential	0.28	0.001	0.01
6606	668509.0	4280995.0	Residential	0.30	0.001	0.01
6607	668519.0	4280995.0	Residential	0.30	0.001	0.01
6608	668529.0	4280995.0	Roadway/Open Space	-	-	0.01
6609	668539.0	4280995.0	Residential	0.34	0.001	0.01
6610	668549.0	4280995.0	Residential	0.36	0.001	0.01
6611	668559.0	4280995.0	Residential	0.39	0.002	0.01
6612	668569.0	4280995.0	Residential	0.42	0.002	0.01
6613	668579.0	4280995.0	Roadway/Open Space	-	-	0.01
6614	668589.0	4280995.0	Roadway/Open Space	-	-	0.01
6615	668599.0	4280995.0	Roadway/Open Space	-	-	0.02
6616	668609.0	4280995.0	Roadway/Open Space	-	-	0.02
6617	668619.0	4280995.0	Roadway/Open Space	-	-	0.02
6618	668629.0	4280995.0	Residential	0.79	0.003	0.02
6619	668639.0	4280995.0	Residential	0.92	0.004	0.03
6620	668649.0	4280995.0	Residential	1.08	0.004	0.03
6621	668659.0	4280995.0	Residential	1.27	0.005	0.04
6622	668669.0	4280995.0	Residential	1.45	0.006	0.04
6623	668679.0	4280995.0	Roadway/Open Space	-	-	0.04
6624	668689.0	4280995.0	Roadway/Open Space	-	-	0.04
6625	668699.0	4280995.0	Roadway/Open Space	-	-	0.03
6626	668709.0	4280995.0	Roadway/Open Space	-	-	0.03
6627	668719.0	4280995.0	Roadway/Open Space	-	-	0.04
6628	668729.0	4280995.0	Roadway/Open Space	-	-	0.04
6629	668739.0	4280995.0	Roadway/Open Space	-	-	0.04
6630	668749.0	4280995.0	Roadway/Open Space	-	-	0.04
6631	668759.0	4280995.0	Roadway/Open Space	-	-	0.04
6632	668769.0	4280995.0	Roadway/Open Space	-	-	0.04
6633	668779.0	4280995.0	Roadway/Open Space	-	-	0.04
6634	668789.0	4280995.0	Roadway/Open Space	-	-	0.04
6635	668799.0	4280995.0	Roadway/Open Space	-	-	0.05
6636	668809.0	4280995.0	Roadway/Open Space	-	-	0.05
6637	668819.0	4280995.0	Roadway/Open Space	-	-	0.05
6638	668829.0	4280995.0	Roadway/Open Space	-	-	0.05
6639	668839.0	4280995.0	Roadway/Open Space	-	-	0.06
6640	668849.0	4280995.0	Roadway/Open Space	-	-	0.06

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
6641	668859.0	4280995.0	Roadway/Open Space	-	-	0.07
6642	668869.0	4280995.0	Roadway/Open Space	-	-	0.07
6643	668879.0	4280995.0	Roadway/Open Space	-	-	0.08
6644	668889.0	4280995.0	Roadway/Open Space	-	-	0.08
6645	668899.0	4280995.0	Roadway/Open Space	-	-	0.09
6657	669019.0	4280995.0	Roadway/Open Space	-	-	0.32
6658	669029.0	4280995.0	Roadway/Open Space	-	-	0.32
6659	669039.0	4280995.0	Roadway/Open Space	-	-	0.34
6660	669049.0	4280995.0	Roadway/Open Space	-	-	0.36
6661	669059.0	4280995.0	Roadway/Open Space	-	-	0.37
6662	669069.0	4280995.0	Roadway/Open Space	-	-	0.40
6663	669079.0	4280995.0	Roadway/Open Space	-	-	0.36
6664	669089.0	4280995.0	Roadway/Open Space	-	-	0.33
6668	669299.0	4280995.0	Roadway/Open Space	-	-	0.05
6669	669309.0	4280995.0	Roadway/Open Space	-	-	0.05
6670	669319.0	4280995.0	Roadway/Open Space	-	-	0.06
6671	669329.0	4280995.0	Roadway/Open Space	-	-	0.06
6672	669339.0	4280995.0	Roadway/Open Space	-	-	0.06
6673	669349.0	4280995.0	Roadway/Open Space	-	-	0.06
6674	669359.0	4280995.0	Roadway/Open Space	-	-	0.06
6675	669369.0	4280995.0	Roadway/Open Space	-	-	0.06
6676	669379.0	4280995.0	Roadway/Open Space	-	-	0.06
6677	669389.0	4280995.0	Roadway/Open Space	-	-	0.05
6678	669399.0	4280995.0	Roadway/Open Space	-	-	0.05
6679	669409.0	4280995.0	Roadway/Open Space	-	-	0.05
6680	669419.0	4280995.0	Roadway/Open Space	-	-	0.05
6681	669429.0	4280995.0	Roadway/Open Space	-	-	0.05
6682	669439.0	4280995.0	Roadway/Open Space	-	-	0.04
6683	669449.0	4280995.0	Roadway/Open Space	-	-	0.04
6684	669459.0	4280995.0	Roadway/Open Space	-	-	0.04
6685	669469.0	4280995.0	Roadway/Open Space	-	-	0.04
6686	669479.0	4280995.0	Roadway/Open Space	-	-	0.04
6687	669489.0	4280995.0	Roadway/Open Space	-	-	0.04
6688	669499.0	4280995.0	Roadway/Open Space	-	-	0.04
6689	669509.0	4280995.0	Roadway/Open Space	-	-	0.04
6690	669519.0	4280995.0	Roadway/Open Space	-	-	0.03
6691	669529.0	4280995.0	Roadway/Open Space	-	-	0.03
6692	669539.0	4280995.0	Roadway/Open Space	-	-	0.03
6693	669549.0	4280995.0	Roadway/Open Space	-	-	0.03
6694	669559.0	4280995.0	Roadway/Open Space	-	-	0.03
6695	669569.0	4280995.0	Roadway/Open Space	-	-	0.03
6696	668499.0	4281005.0	Residential	0.27	0.001	0.01
6697	668509.0	4281005.0	Residential	0.29	0.001	0.01
6698	668519.0	4281005.0	Roadway/Open Space	-	-	0.01
6699	668529.0	4281005.0	Residential	0.32	0.001	0.01
6700	668539.0	4281005.0	Residential	0.35	0.001	0.01
6701	668549.0	4281005.0	Residential	0.37	0.002	0.01
6702	668559.0	4281005.0	Residential	0.40	0.002	0.01
6703	668569.0	4281005.0	Residential	0.43	0.002	0.01
6704	668579.0	4281005.0	Roadway/Open Space	-	-	0.01
6705	668589.0	4281005.0	Roadway/Open Space	-	-	0.01
6706	668599.0	4281005.0	Roadway/Open Space	-	-	0.02
6707	668609.0	4281005.0	Roadway/Open Space	-	-	0.02
6708	668619.0	4281005.0	Residential	0.70	0.003	0.02
6709	668629.0	4281005.0	Residential	0.81	0.003	0.03
6710	668639.0	4281005.0	Residential	0.94	0.004	0.03
6711	668649.0	4281005.0	Residential	1.11	0.005	0.04
6712	668659.0	4281005.0	Residential	1.32	0.005	0.04
6713	668669.0	4281005.0	Roadway/Open Space	-	-	0.04
6714	668679.0	4281005.0	Roadway/Open Space	-	-	0.04
6715	668689.0	4281005.0	Roadway/Open Space	-	-	0.03
6716	668699.0	4281005.0	Roadway/Open Space	-	-	0.03
6717	668709.0	4281005.0	Roadway/Open Space	-	-	0.03
6718	668719.0	4281005.0	Roadway/Open Space	-	-	0.03
6719	668729.0	4281005.0	Roadway/Open Space	-	-	0.04
6720	668739.0	4281005.0	Roadway/Open Space	-	-	0.04
6721	668749.0	4281005.0	Roadway/Open Space	-	-	0.04
6722	668759.0	4281005.0	Roadway/Open Space	-	-	0.04
6723	668769.0	4281005.0	Roadway/Open Space	-	-	0.04
6724	668779.0	4281005.0	Roadway/Open Space	-	-	0.04
6725	668789.0	4281005.0	Roadway/Open Space	-	-	0.04
6726	668799.0	4281005.0	Roadway/Open Space	-	-	0.05
6727	668809.0	4281005.0	Roadway/Open Space	-	-	0.05
6728	668819.0	4281005.0	Roadway/Open Space	-	-	0.05
6729	668829.0	4281005.0	Roadway/Open Space	-	-	0.06
6730	668839.0	4281005.0	Roadway/Open Space	-	-	0.06
6731	668849.0	4281005.0	Roadway/Open Space	-	-	0.06
6732	668859.0	4281005.0	Roadway/Open Space	-	-	0.07
6733	668869.0	4281005.0	Roadway/Open Space	-	-	0.07
6734	668879.0	4281005.0	Roadway/Open Space	-	-	0.07
6735	668889.0	4281005.0	Roadway/Open Space	-	-	0.08
6736	668899.0	4281005.0	Roadway/Open Space	-	-	0.09
6745	668989.0	4281005.0	Roadway/Open Space	-	-	0.27
6746	668999.0	4281005.0	Roadway/Open Space	-	-	0.32

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
6747	669009.0	4281005.0	Roadway/Open Space	-	-	0.35
6748	669019.0	4281005.0	Roadway/Open Space	-	-	0.36
6749	669029.0	4281005.0	Roadway/Open Space	-	-	0.38
6750	669039.0	4281005.0	Roadway/Open Space	-	-	0.40
6751	669049.0	4281005.0	Roadway/Open Space	-	-	0.42
6752	669059.0	4281005.0	Roadway/Open Space	-	-	0.44
6753	669069.0	4281005.0	Roadway/Open Space	-	-	0.46
6760	669299.0	4281005.0	Roadway/Open Space	-	-	0.06
6761	669309.0	4281005.0	Roadway/Open Space	-	-	0.06
6762	669319.0	4281005.0	Roadway/Open Space	-	-	0.06
6763	669329.0	4281005.0	Roadway/Open Space	-	-	0.06
6764	669339.0	4281005.0	Roadway/Open Space	-	-	0.06
6765	669349.0	4281005.0	Roadway/Open Space	-	-	0.06
6766	669359.0	4281005.0	Roadway/Open Space	-	-	0.06
6767	669369.0	4281005.0	Roadway/Open Space	-	-	0.06
6768	669379.0	4281005.0	Roadway/Open Space	-	-	0.06
6769	669389.0	4281005.0	Roadway/Open Space	-	-	0.06
6770	669399.0	4281005.0	Roadway/Open Space	-	-	0.05
6771	669409.0	4281005.0	Roadway/Open Space	-	-	0.05
6772	669419.0	4281005.0	Roadway/Open Space	-	-	0.05
6773	669429.0	4281005.0	Roadway/Open Space	-	-	0.05
6774	669439.0	4281005.0	Roadway/Open Space	-	-	0.04
6775	669449.0	4281005.0	Roadway/Open Space	-	-	0.04
6776	669459.0	4281005.0	Roadway/Open Space	-	-	0.04
6777	669469.0	4281005.0	Roadway/Open Space	-	-	0.04
6778	669479.0	4281005.0	Roadway/Open Space	-	-	0.04
6779	669489.0	4281005.0	Roadway/Open Space	-	-	0.04
6780	669499.0	4281005.0	Roadway/Open Space	-	-	0.04
6781	669509.0	4281005.0	Roadway/Open Space	-	-	0.04
6782	669519.0	4281005.0	Roadway/Open Space	-	-	0.04
6783	669529.0	4281005.0	Roadway/Open Space	-	-	0.03
6784	669539.0	4281005.0	Roadway/Open Space	-	-	0.03
6785	669549.0	4281005.0	Roadway/Open Space	-	-	0.03
6786	669559.0	4281005.0	Roadway/Open Space	-	-	0.03
6787	668499.0	4281015.0	Residential	0.28	0.001	0.01
6788	668509.0	4281015.0	Roadway/Open Space	-	-	0.01
6789	668519.0	4281015.0	Roadway/Open Space	-	-	0.01
6790	668529.0	4281015.0	Residential	0.33	0.001	0.01
6791	668539.0	4281015.0	Residential	0.35	0.001	0.01
6792	668549.0	4281015.0	Residential	0.38	0.002	0.01
6793	668559.0	4281015.0	Residential	0.41	0.002	0.01
6794	668569.0	4281015.0	Residential	0.44	0.002	0.01
6795	668579.0	4281015.0	Roadway/Open Space	-	-	0.01
6796	668589.0	4281015.0	Roadway/Open Space	-	-	0.01
6797	668599.0	4281015.0	Roadway/Open Space	-	-	0.02
6798	668609.0	4281015.0	Roadway/Open Space	-	-	0.02
6799	668619.0	4281015.0	Residential	0.72	0.003	0.02
6800	668629.0	4281015.0	Residential	0.82	0.003	0.02
6801	668639.0	4281015.0	Residential	0.96	0.004	0.03
6802	668649.0	4281015.0	Residential	1.14	0.005	0.04
6803	668659.0	4281015.0	Residential	1.35	0.006	0.04
6804	668669.0	4281015.0	Roadway/Open Space	-	-	0.04
6805	668679.0	4281015.0	Roadway/Open Space	-	-	0.04
6806	668689.0	4281015.0	Roadway/Open Space	-	-	0.03
6807	668699.0	4281015.0	Roadway/Open Space	-	-	0.03
6808	668709.0	4281015.0	Roadway/Open Space	-	-	0.03
6809	668719.0	4281015.0	Roadway/Open Space	-	-	0.03
6810	668729.0	4281015.0	Roadway/Open Space	-	-	0.03
6811	668739.0	4281015.0	Roadway/Open Space	-	-	0.04
6812	668749.0	4281015.0	Roadway/Open Space	-	-	0.04
6813	668759.0	4281015.0	Roadway/Open Space	-	-	0.04
6814	668769.0	4281015.0	Roadway/Open Space	-	-	0.04
6815	668779.0	4281015.0	Roadway/Open Space	-	-	0.04
6816	668789.0	4281015.0	Roadway/Open Space	-	-	0.05
6817	668799.0	4281015.0	Roadway/Open Space	-	-	0.05
6818	668809.0	4281015.0	Roadway/Open Space	-	-	0.05
6819	668819.0	4281015.0	Roadway/Open Space	-	-	0.06
6820	668829.0	4281015.0	Roadway/Open Space	-	-	0.06
6821	668839.0	4281015.0	Roadway/Open Space	-	-	0.06
6822	668849.0	4281015.0	Roadway/Open Space	-	-	0.07
6823	668859.0	4281015.0	Roadway/Open Space	-	-	0.07
6824	668869.0	4281015.0	Roadway/Open Space	-	-	0.07
6825	668879.0	4281015.0	Roadway/Open Space	-	-	0.07
6826	668889.0	4281015.0	Roadway/Open Space	-	-	0.08
6834	668969.0	4281015.0	Roadway/Open Space	-	-	0.23
6835	668979.0	4281015.0	Roadway/Open Space	-	-	0.24
6836	668989.0	4281015.0	Roadway/Open Space	-	-	0.26
6837	668999.0	4281015.0	Roadway/Open Space	-	-	0.31
6838	669009.0	4281015.0	Roadway/Open Space	-	-	0.39
6839	669019.0	4281015.0	Roadway/Open Space	-	-	0.42
6840	669029.0	4281015.0	Roadway/Open Space	-	-	0.43
6841	669039.0	4281015.0	Roadway/Open Space	-	-	0.47
6842	669049.0	4281015.0	Roadway/Open Space	-	-	0.47
6851	669299.0	4281015.0	Roadway/Open Space	-	-	0.06

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
6852	669309.0	4281015.0	Roadway/Open Space	-	-	0.06
6853	669319.0	4281015.0	Roadway/Open Space	-	-	0.06
6854	669329.0	4281015.0	Roadway/Open Space	-	-	0.06
6855	669339.0	4281015.0	Roadway/Open Space	-	-	0.06
6856	669349.0	4281015.0	Roadway/Open Space	-	-	0.06
6857	669359.0	4281015.0	Roadway/Open Space	-	-	0.06
6858	669369.0	4281015.0	Roadway/Open Space	-	-	0.06
6859	669379.0	4281015.0	Roadway/Open Space	-	-	0.06
6860	669389.0	4281015.0	Roadway/Open Space	-	-	0.06
6861	669399.0	4281015.0	Roadway/Open Space	-	-	0.05
6862	669409.0	4281015.0	Roadway/Open Space	-	-	0.05
6863	669419.0	4281015.0	Roadway/Open Space	-	-	0.05
6864	669429.0	4281015.0	Roadway/Open Space	-	-	0.05
6865	669439.0	4281015.0	Roadway/Open Space	-	-	0.05
6866	669449.0	4281015.0	Roadway/Open Space	-	-	0.04
6867	669459.0	4281015.0	Roadway/Open Space	-	-	0.04
6868	669469.0	4281015.0	Roadway/Open Space	-	-	0.04
6869	669479.0	4281015.0	Roadway/Open Space	-	-	0.04
6870	669489.0	4281015.0	Roadway/Open Space	-	-	0.04
6871	669499.0	4281015.0	Roadway/Open Space	-	-	0.04
6872	669509.0	4281015.0	Roadway/Open Space	-	-	0.04
6873	669519.0	4281015.0	Roadway/Open Space	-	-	0.04
6874	669529.0	4281015.0	Roadway/Open Space	-	-	0.04
6875	669539.0	4281015.0	Roadway/Open Space	-	-	0.03
6876	669549.0	4281015.0	Roadway/Open Space	-	-	0.03
6877	669559.0	4281015.0	Roadway/Open Space	-	-	0.03
6878	668499.0	4281025.0	Residential	0.28	0.001	0.01
6879	668509.0	4281025.0	Roadway/Open Space	-	-	0.01
6880	668519.0	4281025.0	Residential	0.32	0.001	0.01
6881	668529.0	4281025.0	Residential	0.34	0.001	0.01
6882	668539.0	4281025.0	Residential	0.36	0.001	0.01
6883	668549.0	4281025.0	Residential	0.39	0.002	0.01
6884	668559.0	4281025.0	Residential	0.42	0.002	0.01
6885	668569.0	4281025.0	Roadway/Open Space	-	-	0.01
6886	668579.0	4281025.0	Roadway/Open Space	-	-	0.01
6887	668589.0	4281025.0	Roadway/Open Space	-	-	0.01
6888	668599.0	4281025.0	Roadway/Open Space	-	-	0.02
6889	668609.0	4281025.0	Residential	0.66	0.003	0.02
6890	668619.0	4281025.0	Residential	0.74	0.003	0.02
6891	668629.0	4281025.0	Residential	0.85	0.004	0.03
6892	668639.0	4281025.0	Residential	0.99	0.004	0.03
6893	668649.0	4281025.0	Residential	1.16	0.005	0.04
6894	668659.0	4281025.0	Roadway/Open Space	-	-	0.04
6895	668669.0	4281025.0	Roadway/Open Space	-	-	0.04
6896	668679.0	4281025.0	Roadway/Open Space	-	-	0.04
6897	668689.0	4281025.0	Roadway/Open Space	-	-	0.03
6898	668699.0	4281025.0	Roadway/Open Space	-	-	0.03
6899	668709.0	4281025.0	Roadway/Open Space	-	-	0.03
6900	668719.0	4281025.0	Roadway/Open Space	-	-	0.03
6901	668729.0	4281025.0	Roadway/Open Space	-	-	0.03
6902	668739.0	4281025.0	Roadway/Open Space	-	-	0.04
6903	668749.0	4281025.0	Roadway/Open Space	-	-	0.04
6904	668759.0	4281025.0	Roadway/Open Space	-	-	0.04
6905	668769.0	4281025.0	Roadway/Open Space	-	-	0.04
6906	668779.0	4281025.0	Roadway/Open Space	-	-	0.05
6907	668789.0	4281025.0	Roadway/Open Space	-	-	0.05
6908	668799.0	4281025.0	Roadway/Open Space	-	-	0.05
6909	668809.0	4281025.0	Roadway/Open Space	-	-	0.05
6910	668819.0	4281025.0	Roadway/Open Space	-	-	0.06
6911	668829.0	4281025.0	Roadway/Open Space	-	-	0.06
6912	668839.0	4281025.0	Roadway/Open Space	-	-	0.06
6913	668849.0	4281025.0	Roadway/Open Space	-	-	0.07
6914	668859.0	4281025.0	Roadway/Open Space	-	-	0.07
6915	668869.0	4281025.0	Roadway/Open Space	-	-	0.07
6916	668879.0	4281025.0	Roadway/Open Space	-	-	0.08
6917	668889.0	4281025.0	Roadway/Open Space	-	-	0.08
6922	668939.0	4281025.0	Roadway/Open Space	-	-	0.15
6923	668949.0	4281025.0	Roadway/Open Space	-	-	0.18
6924	668959.0	4281025.0	Roadway/Open Space	-	-	0.21
6925	668969.0	4281025.0	Roadway/Open Space	-	-	0.24
6926	668979.0	4281025.0	Roadway/Open Space	-	-	0.27
6927	668989.0	4281025.0	Roadway/Open Space	-	-	0.30
6928	668999.0	4281025.0	Roadway/Open Space	-	-	0.32
6929	669009.0	4281025.0	Roadway/Open Space	-	-	0.39
6930	669019.0	4281025.0	Roadway/Open Space	-	-	0.45
6931	669029.0	4281025.0	Roadway/Open Space	-	-	0.50
6942	669299.0	4281025.0	Roadway/Open Space	-	-	0.06
6943	669309.0	4281025.0	Roadway/Open Space	-	-	0.06
6944	669319.0	4281025.0	Roadway/Open Space	-	-	0.06
6945	669329.0	4281025.0	Roadway/Open Space	-	-	0.06
6946	669339.0	4281025.0	Roadway/Open Space	-	-	0.06
6947	669349.0	4281025.0	Roadway/Open Space	-	-	0.06
6948	669359.0	4281025.0	Roadway/Open Space	-	-	0.06
6949	669369.0	4281025.0	Roadway/Open Space	-	-	0.06

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
6950	669379.0	4281025.0	Roadway/Open Space	-	-	0.06
6951	669389.0	4281025.0	Roadway/Open Space	-	-	0.06
6952	669399.0	4281025.0	Roadway/Open Space	-	-	0.05
6953	669409.0	4281025.0	Roadway/Open Space	-	-	0.05
6954	669419.0	4281025.0	Roadway/Open Space	-	-	0.05
6955	669429.0	4281025.0	Roadway/Open Space	-	-	0.05
6956	669439.0	4281025.0	Roadway/Open Space	-	-	0.05
6957	669449.0	4281025.0	Roadway/Open Space	-	-	0.04
6958	669459.0	4281025.0	Roadway/Open Space	-	-	0.04
6959	669469.0	4281025.0	Roadway/Open Space	-	-	0.04
6960	669479.0	4281025.0	Roadway/Open Space	-	-	0.04
6961	669489.0	4281025.0	Roadway/Open Space	-	-	0.04
6962	669499.0	4281025.0	Roadway/Open Space	-	-	0.04
6963	669509.0	4281025.0	Roadway/Open Space	-	-	0.04
6964	669519.0	4281025.0	Roadway/Open Space	-	-	0.04
6965	669529.0	4281025.0	Roadway/Open Space	-	-	0.04
6966	669539.0	4281025.0	Roadway/Open Space	-	-	0.03
6967	669549.0	4281025.0	Roadway/Open Space	-	-	0.03
6968	668499.0	4281035.0	Roadway/Open Space	-	-	0.01
6969	668509.0	4281035.0	Residential	0.30	0.001	0.01
6970	668519.0	4281035.0	Residential	0.32	0.001	0.01
6971	668529.0	4281035.0	Residential	0.34	0.001	0.01
6972	668539.0	4281035.0	Residential	0.37	0.002	0.01
6973	668549.0	4281035.0	Residential	0.40	0.002	0.01
6974	668559.0	4281035.0	Roadway/Open Space	-	-	0.01
6975	668569.0	4281035.0	Roadway/Open Space	-	-	0.01
6976	668579.0	4281035.0	Roadway/Open Space	-	-	0.01
6977	668589.0	4281035.0	Roadway/Open Space	-	-	0.01
6978	668599.0	4281035.0	Roadway/Open Space	-	-	0.02
6979	668609.0	4281035.0	Residential	0.69	0.003	0.02
6980	668619.0	4281035.0	Residential	0.78	0.003	0.02
6981	668629.0	4281035.0	Residential	0.89	0.004	0.03
6982	668639.0	4281035.0	Residential	1.03	0.004	0.03
6983	668649.0	4281035.0	Residential	1.20	0.005	0.04
6984	668659.0	4281035.0	Roadway/Open Space	-	-	0.04
6985	668669.0	4281035.0	Roadway/Open Space	-	-	0.04
6986	668679.0	4281035.0	Roadway/Open Space	-	-	0.04
6987	668689.0	4281035.0	Roadway/Open Space	-	-	0.03
6988	668699.0	4281035.0	Roadway/Open Space	-	-	0.03
6989	668709.0	4281035.0	Roadway/Open Space	-	-	0.03
6990	668719.0	4281035.0	Roadway/Open Space	-	-	0.03
6991	668729.0	4281035.0	Roadway/Open Space	-	-	0.03
6992	668739.0	4281035.0	Roadway/Open Space	-	-	0.04
6993	668749.0	4281035.0	Roadway/Open Space	-	-	0.04
6994	668759.0	4281035.0	Roadway/Open Space	-	-	0.04
6995	668769.0	4281035.0	Roadway/Open Space	-	-	0.04
6996	668779.0	4281035.0	Roadway/Open Space	-	-	0.05
6997	668789.0	4281035.0	Roadway/Open Space	-	-	0.05
6998	668799.0	4281035.0	Roadway/Open Space	-	-	0.05
6999	668809.0	4281035.0	Roadway/Open Space	-	-	0.06
7000	668819.0	4281035.0	Roadway/Open Space	-	-	0.06
7001	668829.0	4281035.0	Roadway/Open Space	-	-	0.06
7002	668839.0	4281035.0	Roadway/Open Space	-	-	0.07
7003	668849.0	4281035.0	Roadway/Open Space	-	-	0.07
7004	668859.0	4281035.0	Roadway/Open Space	-	-	0.07
7005	668869.0	4281035.0	Roadway/Open Space	-	-	0.08
7006	668879.0	4281035.0	Roadway/Open Space	-	-	0.08
7007	668889.0	4281035.0	Roadway/Open Space	-	-	0.09
7010	668919.0	4281035.0	Roadway/Open Space	-	-	0.11
7011	668929.0	4281035.0	Roadway/Open Space	-	-	0.12
7012	668939.0	4281035.0	Roadway/Open Space	-	-	0.14
7013	668949.0	4281035.0	Roadway/Open Space	-	-	0.17
7014	668959.0	4281035.0	Roadway/Open Space	-	-	0.20
7015	668969.0	4281035.0	Roadway/Open Space	-	-	0.24
7016	668979.0	4281035.0	Roadway/Open Space	-	-	0.28
7017	668989.0	4281035.0	Roadway/Open Space	-	-	0.33
7018	668999.0	4281035.0	Roadway/Open Space	-	-	0.37
7032	669299.0	4281035.0	Roadway/Open Space	-	-	0.06
7033	669309.0	4281035.0	Roadway/Open Space	-	-	0.06
7034	669319.0	4281035.0	Roadway/Open Space	-	-	0.06
7035	669329.0	4281035.0	Roadway/Open Space	-	-	0.06
7036	669339.0	4281035.0	Roadway/Open Space	-	-	0.06
7037	669349.0	4281035.0	Roadway/Open Space	-	-	0.06
7038	669359.0	4281035.0	Roadway/Open Space	-	-	0.06
7039	669369.0	4281035.0	Roadway/Open Space	-	-	0.06
7040	669379.0	4281035.0	Roadway/Open Space	-	-	0.06
7041	669389.0	4281035.0	Roadway/Open Space	-	-	0.06
7042	669399.0	4281035.0	Roadway/Open Space	-	-	0.05
7043	669409.0	4281035.0	Roadway/Open Space	-	-	0.05
7044	669419.0	4281035.0	Roadway/Open Space	-	-	0.05
7045	669429.0	4281035.0	Roadway/Open Space	-	-	0.05
7046	669439.0	4281035.0	Roadway/Open Space	-	-	0.05
7047	669449.0	4281035.0	Roadway/Open Space	-	-	0.05
7048	669459.0	4281035.0	Roadway/Open Space	-	-	0.04

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
7049	669469.0	4281035.0	Roadway/Open Space	-	-	0.04
7050	669479.0	4281035.0	Roadway/Open Space	-	-	0.04
7051	669489.0	4281035.0	Roadway/Open Space	-	-	0.04
7052	669499.0	4281035.0	Roadway/Open Space	-	-	0.04
7053	669509.0	4281035.0	Roadway/Open Space	-	-	0.04
7054	669519.0	4281035.0	Roadway/Open Space	-	-	0.04
7055	669529.0	4281035.0	Roadway/Open Space	-	-	0.04
7056	669539.0	4281035.0	Roadway/Open Space	-	-	0.04
7057	669549.0	4281035.0	Roadway/Open Space	-	-	0.04
7058	668499.0	4281045.0	Residential	0.29	0.001	0.01
7059	668509.0	4281045.0	Residential	0.31	0.001	0.01
7060	668519.0	4281045.0	Residential	0.33	0.001	0.01
7061	668529.0	4281045.0	Residential	0.35	0.001	0.01
7062	668539.0	4281045.0	Residential	0.37	0.002	0.01
7063	668549.0	4281045.0	Residential	0.40	0.002	0.01
7064	668559.0	4281045.0	Roadway/Open Space	-	-	0.01
7065	668569.0	4281045.0	Roadway/Open Space	-	-	0.01
7066	668579.0	4281045.0	Roadway/Open Space	-	-	0.01
7067	668589.0	4281045.0	Roadway/Open Space	-	-	0.01
7068	668599.0	4281045.0	Residential	0.64	0.003	0.02
7069	668609.0	4281045.0	Residential	0.72	0.003	0.02
7070	668619.0	4281045.0	Residential	0.82	0.003	0.03
7071	668629.0	4281045.0	Residential	0.94	0.004	0.03
7072	668639.0	4281045.0	Residential	1.08	0.004	0.03
7073	668649.0	4281045.0	Roadway/Open Space	-	-	0.04
7074	668659.0	4281045.0	Roadway/Open Space	-	-	0.04
7075	668669.0	4281045.0	Roadway/Open Space	-	-	0.04
7076	668679.0	4281045.0	Roadway/Open Space	-	-	0.03
7077	668689.0	4281045.0	Roadway/Open Space	-	-	0.03
7078	668699.0	4281045.0	Roadway/Open Space	-	-	0.03
7079	668709.0	4281045.0	Roadway/Open Space	-	-	0.03
7080	668719.0	4281045.0	Roadway/Open Space	-	-	0.03
7081	668729.0	4281045.0	Roadway/Open Space	-	-	0.03
7082	668739.0	4281045.0	Roadway/Open Space	-	-	0.04
7083	668749.0	4281045.0	Roadway/Open Space	-	-	0.04
7084	668759.0	4281045.0	Roadway/Open Space	-	-	0.04
7085	668769.0	4281045.0	Roadway/Open Space	-	-	0.04
7086	668779.0	4281045.0	Roadway/Open Space	-	-	0.05
7087	668789.0	4281045.0	Roadway/Open Space	-	-	0.05
7088	668799.0	4281045.0	Roadway/Open Space	-	-	0.05
7089	668809.0	4281045.0	Roadway/Open Space	-	-	0.06
7090	668819.0	4281045.0	Roadway/Open Space	-	-	0.06
7091	668829.0	4281045.0	Roadway/Open Space	-	-	0.06
7092	668839.0	4281045.0	Roadway/Open Space	-	-	0.07
7093	668849.0	4281045.0	Roadway/Open Space	-	-	0.07
7094	668859.0	4281045.0	Roadway/Open Space	-	-	0.08
7095	668869.0	4281045.0	Roadway/Open Space	-	-	0.08
7096	668879.0	4281045.0	Roadway/Open Space	-	-	0.08
7097	668889.0	4281045.0	Roadway/Open Space	-	-	0.09
7098	668899.0	4281045.0	Roadway/Open Space	-	-	0.10
7099	668909.0	4281045.0	Roadway/Open Space	-	-	0.11
7100	668919.0	4281045.0	Roadway/Open Space	-	-	0.11
7101	668929.0	4281045.0	Roadway/Open Space	-	-	0.13
7102	668939.0	4281045.0	Roadway/Open Space	-	-	0.15
7103	668949.0	4281045.0	Roadway/Open Space	-	-	0.17
7104	668959.0	4281045.0	Roadway/Open Space	-	-	0.20
7105	668969.0	4281045.0	Roadway/Open Space	-	-	0.24
7106	668979.0	4281045.0	Roadway/Open Space	-	-	0.28
7122	669299.0	4281045.0	Roadway/Open Space	-	-	0.06
7123	669309.0	4281045.0	Roadway/Open Space	-	-	0.06
7124	669319.0	4281045.0	Roadway/Open Space	-	-	0.06
7125	669329.0	4281045.0	Roadway/Open Space	-	-	0.06
7126	669339.0	4281045.0	Roadway/Open Space	-	-	0.06
7127	669349.0	4281045.0	Roadway/Open Space	-	-	0.06
7128	669359.0	4281045.0	Roadway/Open Space	-	-	0.06
7129	669369.0	4281045.0	Roadway/Open Space	-	-	0.06
7130	669379.0	4281045.0	Roadway/Open Space	-	-	0.06
7131	669389.0	4281045.0	Roadway/Open Space	-	-	0.06
7132	669399.0	4281045.0	Roadway/Open Space	-	-	0.05
7133	669409.0	4281045.0	Roadway/Open Space	-	-	0.05
7134	669419.0	4281045.0	Roadway/Open Space	-	-	0.05
7135	669429.0	4281045.0	Roadway/Open Space	-	-	0.05
7136	669439.0	4281045.0	Roadway/Open Space	-	-	0.05
7137	669449.0	4281045.0	Roadway/Open Space	-	-	0.05
7138	669459.0	4281045.0	Roadway/Open Space	-	-	0.04
7139	669469.0	4281045.0	Roadway/Open Space	-	-	0.04
7140	669479.0	4281045.0	Roadway/Open Space	-	-	0.04
7141	669489.0	4281045.0	Roadway/Open Space	-	-	0.04
7142	669499.0	4281045.0	Roadway/Open Space	-	-	0.04
7143	669509.0	4281045.0	Roadway/Open Space	-	-	0.04
7144	669519.0	4281045.0	Roadway/Open Space	-	-	0.04
7145	669529.0	4281045.0	Roadway/Open Space	-	-	0.04
7146	669539.0	4281045.0	Roadway/Open Space	-	-	0.04
7147	668499.0	4281055.0	Residential	0.29	0.001	0.01

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
7148	668509.0	4281055.0	Residential	0.31	0.001	0.01
7149	668519.0	4281055.0	Residential	0.33	0.001	0.01
7150	668529.0	4281055.0	Residential	0.35	0.001	0.01
7151	668539.0	4281055.0	Residential	0.38	0.002	0.01
7152	668549.0	4281055.0	Roadway/Open Space	-	-	0.01
7153	668559.0	4281055.0	Roadway/Open Space	-	-	0.01
7154	668569.0	4281055.0	Roadway/Open Space	-	-	0.01
7155	668579.0	4281055.0	Roadway/Open Space	-	-	0.01
7156	668589.0	4281055.0	Residential	0.60	0.002	0.02
7157	668599.0	4281055.0	Residential	0.67	0.003	0.02
7158	668609.0	4281055.0	Residential	0.75	0.003	0.02
7159	668619.0	4281055.0	Residential	0.86	0.004	0.03
7160	668629.0	4281055.0	Residential	0.99	0.004	0.03
7161	668639.0	4281055.0	Residential	1.14	0.005	0.03
7162	668649.0	4281055.0	Roadway/Open Space	-	-	0.04
7163	668659.0	4281055.0	Roadway/Open Space	-	-	0.04
7164	668669.0	4281055.0	Roadway/Open Space	-	-	0.04
7165	668679.0	4281055.0	Roadway/Open Space	-	-	0.03
7166	668689.0	4281055.0	Roadway/Open Space	-	-	0.03
7167	668699.0	4281055.0	Roadway/Open Space	-	-	0.03
7168	668709.0	4281055.0	Roadway/Open Space	-	-	0.03
7169	668719.0	4281055.0	Roadway/Open Space	-	-	0.03
7170	668729.0	4281055.0	Roadway/Open Space	-	-	0.03
7171	668739.0	4281055.0	Roadway/Open Space	-	-	0.04
7172	668749.0	4281055.0	Roadway/Open Space	-	-	0.04
7173	668759.0	4281055.0	Roadway/Open Space	-	-	0.04
7174	668769.0	4281055.0	Roadway/Open Space	-	-	0.04
7175	668779.0	4281055.0	Roadway/Open Space	-	-	0.05
7176	668789.0	4281055.0	Roadway/Open Space	-	-	0.05
7177	668799.0	4281055.0	Roadway/Open Space	-	-	0.05
7178	668809.0	4281055.0	Roadway/Open Space	-	-	0.05
7179	668819.0	4281055.0	Roadway/Open Space	-	-	0.06
7180	668829.0	4281055.0	Roadway/Open Space	-	-	0.06
7181	668839.0	4281055.0	Roadway/Open Space	-	-	0.07
7182	668849.0	4281055.0	Roadway/Open Space	-	-	0.07
7183	668859.0	4281055.0	Roadway/Open Space	-	-	0.07
7184	668869.0	4281055.0	Roadway/Open Space	-	-	0.08
7185	668879.0	4281055.0	Roadway/Open Space	-	-	0.08
7186	668889.0	4281055.0	Roadway/Open Space	-	-	0.09
7187	668899.0	4281055.0	Roadway/Open Space	-	-	0.10
7188	668909.0	4281055.0	Roadway/Open Space	-	-	0.11
7189	668919.0	4281055.0	Roadway/Open Space	-	-	0.12
7190	668929.0	4281055.0	Roadway/Open Space	-	-	0.13
7191	668939.0	4281055.0	Roadway/Open Space	-	-	0.15
7192	668949.0	4281055.0	Roadway/Open Space	-	-	0.17
7193	668959.0	4281055.0	Roadway/Open Space	-	-	0.20
7211	669299.0	4281055.0	Roadway/Open Space	-	-	0.06
7212	669309.0	4281055.0	Roadway/Open Space	-	-	0.06
7213	669319.0	4281055.0	Roadway/Open Space	-	-	0.06
7214	669329.0	4281055.0	Roadway/Open Space	-	-	0.06
7215	669339.0	4281055.0	Roadway/Open Space	-	-	0.06
7216	669349.0	4281055.0	Roadway/Open Space	-	-	0.06
7217	669359.0	4281055.0	Roadway/Open Space	-	-	0.06
7218	669369.0	4281055.0	Roadway/Open Space	-	-	0.06
7219	669379.0	4281055.0	Roadway/Open Space	-	-	0.06
7220	669389.0	4281055.0	Roadway/Open Space	-	-	0.05
7221	669399.0	4281055.0	Roadway/Open Space	-	-	0.05
7222	669409.0	4281055.0	Roadway/Open Space	-	-	0.05
7223	669419.0	4281055.0	Roadway/Open Space	-	-	0.05
7224	669429.0	4281055.0	Roadway/Open Space	-	-	0.05
7225	669439.0	4281055.0	Roadway/Open Space	-	-	0.05
7226	669449.0	4281055.0	Roadway/Open Space	-	-	0.05
7227	669459.0	4281055.0	Roadway/Open Space	-	-	0.04
7228	669469.0	4281055.0	Roadway/Open Space	-	-	0.04
7229	669479.0	4281055.0	Roadway/Open Space	-	-	0.04
7230	669489.0	4281055.0	Roadway/Open Space	-	-	0.04
7231	669499.0	4281055.0	Roadway/Open Space	-	-	0.04
7232	669509.0	4281055.0	Roadway/Open Space	-	-	0.04
7233	669519.0	4281055.0	Roadway/Open Space	-	-	0.04
7234	669529.0	4281055.0	Roadway/Open Space	-	-	0.04
7235	669539.0	4281055.0	Roadway/Open Space	-	-	0.03
7236	668499.0	4281065.0	Residential	0.30	0.001	0.01
7237	668509.0	4281065.0	Residential	0.32	0.001	0.01
7238	668519.0	4281065.0	Residential	0.34	0.001	0.01
7239	668529.0	4281065.0	Residential	0.36	0.001	0.01
7240	668539.0	4281065.0	Roadway/Open Space	-	-	0.01
7241	668549.0	4281065.0	Roadway/Open Space	-	-	0.01
7242	668559.0	4281065.0	Roadway/Open Space	-	-	0.01
7243	668569.0	4281065.0	Roadway/Open Space	-	-	0.01
7244	668579.0	4281065.0	Roadway/Open Space	-	-	0.01
7245	668589.0	4281065.0	Residential	0.61	0.002	0.01
7246	668599.0	4281065.0	Residential	0.68	0.003	0.02
7247	668609.0	4281065.0	Residential	0.78	0.003	0.02
7248	668619.0	4281065.0	Residential	0.89	0.004	0.03

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
7249	668629.0	4281065.0	Residential	1.02	0.004	0.03
7250	668639.0	4281065.0	Roadway/Open Space	-	-	0.04
7251	668649.0	4281065.0	Roadway/Open Space	-	-	0.04
7252	668659.0	4281065.0	Roadway/Open Space	-	-	0.04
7253	668669.0	4281065.0	Roadway/Open Space	-	-	0.03
7254	668679.0	4281065.0	Roadway/Open Space	-	-	0.03
7255	668689.0	4281065.0	Roadway/Open Space	-	-	0.03
7256	668699.0	4281065.0	Roadway/Open Space	-	-	0.03
7257	668709.0	4281065.0	Roadway/Open Space	-	-	0.03
7258	668719.0	4281065.0	Roadway/Open Space	-	-	0.03
7259	668729.0	4281065.0	Roadway/Open Space	-	-	0.03
7260	668739.0	4281065.0	Roadway/Open Space	-	-	0.04
7261	668749.0	4281065.0	Roadway/Open Space	-	-	0.04
7262	668759.0	4281065.0	Roadway/Open Space	-	-	0.04
7263	668769.0	4281065.0	Roadway/Open Space	-	-	0.04
7264	668779.0	4281065.0	Roadway/Open Space	-	-	0.05
7265	668789.0	4281065.0	Roadway/Open Space	-	-	0.05
7266	668799.0	4281065.0	Roadway/Open Space	-	-	0.05
7267	668809.0	4281065.0	Roadway/Open Space	-	-	0.05
7268	668819.0	4281065.0	Roadway/Open Space	-	-	0.06
7269	668829.0	4281065.0	Roadway/Open Space	-	-	0.06
7270	668839.0	4281065.0	Roadway/Open Space	-	-	0.06
7271	668849.0	4281065.0	Roadway/Open Space	-	-	0.07
7272	668859.0	4281065.0	Roadway/Open Space	-	-	0.07
7273	668869.0	4281065.0	Roadway/Open Space	-	-	0.08
7274	668879.0	4281065.0	Roadway/Open Space	-	-	0.08
7275	668889.0	4281065.0	Roadway/Open Space	-	-	0.09
7276	668899.0	4281065.0	Roadway/Open Space	-	-	0.10
7277	668909.0	4281065.0	Roadway/Open Space	-	-	0.10
7278	668919.0	4281065.0	Roadway/Open Space	-	-	0.12
7279	668929.0	4281065.0	Roadway/Open Space	-	-	0.13
7280	668939.0	4281065.0	Roadway/Open Space	-	-	0.14
7300	669299.0	4281065.0	Roadway/Open Space	-	-	0.07
7301	669309.0	4281065.0	Roadway/Open Space	-	-	0.06
7302	669319.0	4281065.0	Roadway/Open Space	-	-	0.06
7303	669329.0	4281065.0	Roadway/Open Space	-	-	0.06
7304	669339.0	4281065.0	Roadway/Open Space	-	-	0.06
7305	669349.0	4281065.0	Roadway/Open Space	-	-	0.06
7306	669359.0	4281065.0	Roadway/Open Space	-	-	0.06
7307	669369.0	4281065.0	Roadway/Open Space	-	-	0.06
7308	669379.0	4281065.0	Roadway/Open Space	-	-	0.05
7309	669389.0	4281065.0	Roadway/Open Space	-	-	0.05
7310	669399.0	4281065.0	Roadway/Open Space	-	-	0.05
7311	669409.0	4281065.0	Roadway/Open Space	-	-	0.05
7312	669419.0	4281065.0	Roadway/Open Space	-	-	0.05
7313	669429.0	4281065.0	Roadway/Open Space	-	-	0.05
7314	669439.0	4281065.0	Roadway/Open Space	-	-	0.05
7315	669449.0	4281065.0	Roadway/Open Space	-	-	0.05
7316	669459.0	4281065.0	Roadway/Open Space	-	-	0.04
7317	669469.0	4281065.0	Roadway/Open Space	-	-	0.04
7318	669479.0	4281065.0	Roadway/Open Space	-	-	0.04
7319	669489.0	4281065.0	Roadway/Open Space	-	-	0.04
7320	669499.0	4281065.0	Roadway/Open Space	-	-	0.04
7321	669509.0	4281065.0	Roadway/Open Space	-	-	0.04
7322	669519.0	4281065.0	Roadway/Open Space	-	-	0.04
7323	669529.0	4281065.0	Roadway/Open Space	-	-	0.03
7324	668499.0	4281075.0	Residential	0.30	0.001	0.01
7325	668509.0	4281075.0	Residential	0.32	0.001	0.01
7326	668519.0	4281075.0	Residential	0.34	0.001	0.01
7327	668529.0	4281075.0	Residential	0.36	0.001	0.01
7328	668539.0	4281075.0	Roadway/Open Space	-	-	0.01
7329	668549.0	4281075.0	Roadway/Open Space	-	-	0.01
7330	668559.0	4281075.0	Roadway/Open Space	-	-	0.01
7331	668569.0	4281075.0	Roadway/Open Space	-	-	0.01
7332	668579.0	4281075.0	Residential	0.55	0.002	0.01
7333	668589.0	4281075.0	Residential	0.61	0.003	0.01
7334	668599.0	4281075.0	Residential	0.69	0.003	0.02
7335	668609.0	4281075.0	Residential	0.79	0.003	0.02
7336	668619.0	4281075.0	Residential	0.91	0.004	0.03
7337	668629.0	4281075.0	Residential	1.05	0.004	0.03
7338	668639.0	4281075.0	Roadway/Open Space	-	-	0.04
7339	668649.0	4281075.0	Roadway/Open Space	-	-	0.04
7340	668659.0	4281075.0	Roadway/Open Space	-	-	0.04
7341	668669.0	4281075.0	Roadway/Open Space	-	-	0.03
7342	668679.0	4281075.0	Roadway/Open Space	-	-	0.03
7343	668689.0	4281075.0	Roadway/Open Space	-	-	0.03
7344	668699.0	4281075.0	Roadway/Open Space	-	-	0.03
7345	668709.0	4281075.0	Roadway/Open Space	-	-	0.03
7346	668719.0	4281075.0	Roadway/Open Space	-	-	0.03
7347	668729.0	4281075.0	Roadway/Open Space	-	-	0.03
7348	668739.0	4281075.0	Roadway/Open Space	-	-	0.04
7349	668749.0	4281075.0	Roadway/Open Space	-	-	0.04
7350	668759.0	4281075.0	Roadway/Open Space	-	-	0.04
7351	668769.0	4281075.0	Roadway/Open Space	-	-	0.04

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
7352	668779.0	4281075.0	Roadway/Open Space	-	-	0.05
7353	668789.0	4281075.0	Roadway/Open Space	-	-	0.05
7354	668799.0	4281075.0	Roadway/Open Space	-	-	0.05
7355	668809.0	4281075.0	Roadway/Open Space	-	-	0.05
7356	668819.0	4281075.0	Roadway/Open Space	-	-	0.06
7357	668829.0	4281075.0	Roadway/Open Space	-	-	0.06
7358	668839.0	4281075.0	Roadway/Open Space	-	-	0.06
7359	668849.0	4281075.0	Roadway/Open Space	-	-	0.07
7360	668859.0	4281075.0	Roadway/Open Space	-	-	0.07
7361	668869.0	4281075.0	Roadway/Open Space	-	-	0.08
7362	668879.0	4281075.0	Roadway/Open Space	-	-	0.08
7363	668889.0	4281075.0	Roadway/Open Space	-	-	0.09
7364	668899.0	4281075.0	Roadway/Open Space	-	-	0.10
7365	668909.0	4281075.0	Roadway/Open Space	-	-	0.10
7366	668919.0	4281075.0	Roadway/Open Space	-	-	0.11
7385	669299.0	4281075.0	Roadway/Open Space	-	-	0.06
7386	669309.0	4281075.0	Roadway/Open Space	-	-	0.06
7387	669319.0	4281075.0	Roadway/Open Space	-	-	0.06
7388	669329.0	4281075.0	Roadway/Open Space	-	-	0.06
7389	669339.0	4281075.0	Roadway/Open Space	-	-	0.06
7390	669349.0	4281075.0	Roadway/Open Space	-	-	0.06
7391	669359.0	4281075.0	Roadway/Open Space	-	-	0.06
7392	669369.0	4281075.0	Roadway/Open Space	-	-	0.06
7393	669379.0	4281075.0	Roadway/Open Space	-	-	0.05
7394	669389.0	4281075.0	Roadway/Open Space	-	-	0.05
7395	669399.0	4281075.0	Roadway/Open Space	-	-	0.05
7396	669409.0	4281075.0	Roadway/Open Space	-	-	0.05
7397	669419.0	4281075.0	Roadway/Open Space	-	-	0.05
7398	669429.0	4281075.0	Roadway/Open Space	-	-	0.05
7399	669439.0	4281075.0	Roadway/Open Space	-	-	0.05
7400	669449.0	4281075.0	Roadway/Open Space	-	-	0.05
7401	669459.0	4281075.0	Roadway/Open Space	-	-	0.04
7402	669469.0	4281075.0	Roadway/Open Space	-	-	0.04
7403	669479.0	4281075.0	Roadway/Open Space	-	-	0.04
7404	669489.0	4281075.0	Roadway/Open Space	-	-	0.04
7405	669499.0	4281075.0	Roadway/Open Space	-	-	0.04
7406	669509.0	4281075.0	Roadway/Open Space	-	-	0.04
7407	669519.0	4281075.0	Roadway/Open Space	-	-	0.04
7408	669529.0	4281075.0	Roadway/Open Space	-	-	0.03
7409	668499.0	4281085.0	Residential	0.31	0.001	0.01
7410	668509.0	4281085.0	Residential	0.32	0.001	0.01
7411	668519.0	4281085.0	Residential	0.35	0.001	0.01
7412	668529.0	4281085.0	Roadway/Open Space	-	-	0.01
7413	668539.0	4281085.0	Roadway/Open Space	-	-	0.01
7414	668549.0	4281085.0	Roadway/Open Space	-	-	0.01
7415	668559.0	4281085.0	Roadway/Open Space	-	-	0.01
7416	668569.0	4281085.0	Roadway/Open Space	-	-	0.01
7417	668579.0	4281085.0	Residential	0.56	0.002	0.01
7418	668589.0	4281085.0	Residential	0.62	0.003	0.02
7419	668599.0	4281085.0	Residential	0.70	0.003	0.02
7420	668609.0	4281085.0	Residential	0.80	0.003	0.02
7421	668619.0	4281085.0	Residential	0.93	0.004	0.03
7422	668629.0	4281085.0	Roadway/Open Space	-	-	0.03
7423	668639.0	4281085.0	Roadway/Open Space	-	-	0.04
7424	668649.0	4281085.0	Roadway/Open Space	-	-	0.04
7425	668659.0	4281085.0	Roadway/Open Space	-	-	0.04
7426	668669.0	4281085.0	Roadway/Open Space	-	-	0.03
7427	668679.0	4281085.0	Roadway/Open Space	-	-	0.03
7428	668689.0	4281085.0	Roadway/Open Space	-	-	0.03
7429	668699.0	4281085.0	Roadway/Open Space	-	-	0.03
7430	668709.0	4281085.0	Roadway/Open Space	-	-	0.03
7431	668719.0	4281085.0	Roadway/Open Space	-	-	0.03
7432	668729.0	4281085.0	Roadway/Open Space	-	-	0.03
7433	668739.0	4281085.0	Roadway/Open Space	-	-	0.04
7434	668749.0	4281085.0	Roadway/Open Space	-	-	0.04
7435	668759.0	4281085.0	Roadway/Open Space	-	-	0.04
7436	668769.0	4281085.0	Roadway/Open Space	-	-	0.04
7437	668779.0	4281085.0	Roadway/Open Space	-	-	0.04
7438	668789.0	4281085.0	Roadway/Open Space	-	-	0.05
7439	668799.0	4281085.0	Roadway/Open Space	-	-	0.05
7440	668809.0	4281085.0	Roadway/Open Space	-	-	0.05
7441	668819.0	4281085.0	Roadway/Open Space	-	-	0.05
7442	668829.0	4281085.0	Roadway/Open Space	-	-	0.06
7443	668839.0	4281085.0	Roadway/Open Space	-	-	0.06
7444	668849.0	4281085.0	Roadway/Open Space	-	-	0.07
7445	668859.0	4281085.0	Roadway/Open Space	-	-	0.07
7446	668869.0	4281085.0	Roadway/Open Space	-	-	0.08
7447	668879.0	4281085.0	Roadway/Open Space	-	-	0.08
7448	668889.0	4281085.0	Roadway/Open Space	-	-	0.09
7449	668899.0	4281085.0	Roadway/Open Space	-	-	0.10
7468	669289.0	4281085.0	Roadway/Open Space	-	-	0.06
7469	669299.0	4281085.0	Roadway/Open Space	-	-	0.06
7470	669309.0	4281085.0	Roadway/Open Space	-	-	0.06
7471	669319.0	4281085.0	Roadway/Open Space	-	-	0.06

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
7472	669329.0	4281085.0	Roadway/Open Space	-	-	0.06
7473	669339.0	4281085.0	Roadway/Open Space	-	-	0.06
7474	669349.0	4281085.0	Roadway/Open Space	-	-	0.06
7475	669359.0	4281085.0	Roadway/Open Space	-	-	0.05
7476	669369.0	4281085.0	Roadway/Open Space	-	-	0.05
7477	669379.0	4281085.0	Roadway/Open Space	-	-	0.05
7478	669389.0	4281085.0	Roadway/Open Space	-	-	0.05
7479	669399.0	4281085.0	Roadway/Open Space	-	-	0.05
7480	669409.0	4281085.0	Roadway/Open Space	-	-	0.05
7481	669419.0	4281085.0	Roadway/Open Space	-	-	0.05
7482	669429.0	4281085.0	Roadway/Open Space	-	-	0.05
7483	669439.0	4281085.0	Roadway/Open Space	-	-	0.05
7484	669449.0	4281085.0	Roadway/Open Space	-	-	0.04
7485	669459.0	4281085.0	Roadway/Open Space	-	-	0.04
7486	669469.0	4281085.0	Roadway/Open Space	-	-	0.04
7487	669479.0	4281085.0	Roadway/Open Space	-	-	0.04
7488	669489.0	4281085.0	Roadway/Open Space	-	-	0.04
7489	669499.0	4281085.0	Roadway/Open Space	-	-	0.04
7490	669509.0	4281085.0	Roadway/Open Space	-	-	0.04
7491	669519.0	4281085.0	Roadway/Open Space	-	-	0.03
7492	669529.0	4281085.0	Roadway/Open Space	-	-	0.03
7493	668499.0	4281095.0	Residential	0.31	0.001	0.01
7494	668509.0	4281095.0	Residential	0.33	0.001	0.01
7495	668519.0	4281095.0	Roadway/Open Space	-	-	0.01
7496	668529.0	4281095.0	Roadway/Open Space	-	-	0.01
7497	668539.0	4281095.0	Roadway/Open Space	-	-	0.01
7498	668549.0	4281095.0	Roadway/Open Space	-	-	0.01
7499	668559.0	4281095.0	Roadway/Open Space	-	-	0.01
7500	668569.0	4281095.0	Residential	0.52	0.002	0.01
7501	668579.0	4281095.0	Residential	0.57	0.002	0.01
7502	668589.0	4281095.0	Residential	0.64	0.003	0.02
7503	668599.0	4281095.0	Residential	0.72	0.003	0.02
7504	668609.0	4281095.0	Residential	0.82	0.003	0.02
7505	668619.0	4281095.0	Residential	0.95	0.004	0.03
7506	668629.0	4281095.0	Roadway/Open Space	-	-	0.03
7507	668639.0	4281095.0	Roadway/Open Space	-	-	0.04
7508	668649.0	4281095.0	Roadway/Open Space	-	-	0.04
7509	668659.0	4281095.0	Roadway/Open Space	-	-	0.04
7510	668669.0	4281095.0	Roadway/Open Space	-	-	0.03
7511	668679.0	4281095.0	Roadway/Open Space	-	-	0.03
7512	668689.0	4281095.0	Roadway/Open Space	-	-	0.03
7513	668699.0	4281095.0	Roadway/Open Space	-	-	0.03
7514	668709.0	4281095.0	Roadway/Open Space	-	-	0.03
7515	668719.0	4281095.0	Roadway/Open Space	-	-	0.03
7516	668729.0	4281095.0	Roadway/Open Space	-	-	0.03
7517	668739.0	4281095.0	Roadway/Open Space	-	-	0.04
7518	668749.0	4281095.0	Roadway/Open Space	-	-	0.04
7519	668759.0	4281095.0	Roadway/Open Space	-	-	0.04
7520	668769.0	4281095.0	Roadway/Open Space	-	-	0.04
7521	668779.0	4281095.0	Roadway/Open Space	-	-	0.04
7522	668789.0	4281095.0	Roadway/Open Space	-	-	0.05
7523	668799.0	4281095.0	Roadway/Open Space	-	-	0.05
7524	668809.0	4281095.0	Roadway/Open Space	-	-	0.05
7525	668819.0	4281095.0	Roadway/Open Space	-	-	0.05
7526	668829.0	4281095.0	Roadway/Open Space	-	-	0.06
7527	668839.0	4281095.0	Roadway/Open Space	-	-	0.06
7528	668849.0	4281095.0	Roadway/Open Space	-	-	0.07
7529	668859.0	4281095.0	Roadway/Open Space	-	-	0.07
7530	668869.0	4281095.0	Roadway/Open Space	-	-	0.08
7531	668879.0	4281095.0	Roadway/Open Space	-	-	0.08
7532	668889.0	4281095.0	Roadway/Open Space	-	-	0.09
7547	669289.0	4281095.0	Roadway/Open Space	-	-	0.06
7548	669299.0	4281095.0	Roadway/Open Space	-	-	0.06
7549	669309.0	4281095.0	Roadway/Open Space	-	-	0.06
7550	669319.0	4281095.0	Roadway/Open Space	-	-	0.06
7551	669329.0	4281095.0	Roadway/Open Space	-	-	0.06
7552	669339.0	4281095.0	Roadway/Open Space	-	-	0.05
7553	669349.0	4281095.0	Roadway/Open Space	-	-	0.05
7554	669359.0	4281095.0	Roadway/Open Space	-	-	0.05
7555	669369.0	4281095.0	Roadway/Open Space	-	-	0.05
7556	669379.0	4281095.0	Roadway/Open Space	-	-	0.05
7557	669389.0	4281095.0	Roadway/Open Space	-	-	0.05
7558	669399.0	4281095.0	Roadway/Open Space	-	-	0.05
7559	669409.0	4281095.0	Roadway/Open Space	-	-	0.05
7560	669419.0	4281095.0	Roadway/Open Space	-	-	0.05
7561	669429.0	4281095.0	Roadway/Open Space	-	-	0.05
7562	669439.0	4281095.0	Roadway/Open Space	-	-	0.04
7563	669449.0	4281095.0	Roadway/Open Space	-	-	0.04
7564	669459.0	4281095.0	Roadway/Open Space	-	-	0.04
7565	669469.0	4281095.0	Roadway/Open Space	-	-	0.04
7566	669479.0	4281095.0	Roadway/Open Space	-	-	0.04
7567	669489.0	4281095.0	Roadway/Open Space	-	-	0.04
7568	669499.0	4281095.0	Roadway/Open Space	-	-	0.04
7569	669509.0	4281095.0	Roadway/Open Space	-	-	0.03

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
7570	669519.0	4281095.0	Roadway/Open Space	-	-	0.03
7571	669529.0	4281095.0	Roadway/Open Space	-	-	0.03
7572	668509.0	4281105.0	Roadway/Open Space	-	-	0.01
7573	668519.0	4281105.0	Roadway/Open Space	-	-	0.01
7574	668529.0	4281105.0	Roadway/Open Space	-	-	0.01
7575	668539.0	4281105.0	Roadway/Open Space	-	-	0.01
7576	668549.0	4281105.0	Roadway/Open Space	-	-	0.01
7577	668559.0	4281105.0	Roadway/Open Space	-	-	0.01
7578	668569.0	4281105.0	Residential	0.53	0.002	0.01
7579	668579.0	4281105.0	Residential	0.59	0.002	0.02
7580	668589.0	4281105.0	Residential	0.66	0.003	0.02
7581	668599.0	4281105.0	Residential	0.74	0.003	0.02
7582	668609.0	4281105.0	Residential	0.85	0.003	0.02
7583	668619.0	4281105.0	Roadway/Open Space	-	-	0.03
7584	668629.0	4281105.0	Roadway/Open Space	-	-	0.03
7585	668639.0	4281105.0	Roadway/Open Space	-	-	0.04
7586	668649.0	4281105.0	Roadway/Open Space	-	-	0.04
7587	668659.0	4281105.0	Roadway/Open Space	-	-	0.04
7588	668669.0	4281105.0	Roadway/Open Space	-	-	0.03
7589	668679.0	4281105.0	Roadway/Open Space	-	-	0.03
7590	668689.0	4281105.0	Roadway/Open Space	-	-	0.03
7591	668699.0	4281105.0	Roadway/Open Space	-	-	0.03
7592	668709.0	4281105.0	Roadway/Open Space	-	-	0.03
7593	668719.0	4281105.0	Roadway/Open Space	-	-	0.03
7594	668729.0	4281105.0	Roadway/Open Space	-	-	0.03
7595	668739.0	4281105.0	Roadway/Open Space	-	-	0.04
7596	668749.0	4281105.0	Roadway/Open Space	-	-	0.04
7597	668759.0	4281105.0	Roadway/Open Space	-	-	0.04
7598	668769.0	4281105.0	Roadway/Open Space	-	-	0.04
7599	668779.0	4281105.0	Roadway/Open Space	-	-	0.04
7600	668789.0	4281105.0	Roadway/Open Space	-	-	0.05
7601	668799.0	4281105.0	Roadway/Open Space	-	-	0.05
7602	668809.0	4281105.0	Roadway/Open Space	-	-	0.05
7603	668819.0	4281105.0	Roadway/Open Space	-	-	0.05
7604	668829.0	4281105.0	Roadway/Open Space	-	-	0.06
7605	668839.0	4281105.0	Roadway/Open Space	-	-	0.06
7606	668849.0	4281105.0	Roadway/Open Space	-	-	0.07
7607	668859.0	4281105.0	Roadway/Open Space	-	-	0.07
7608	668869.0	4281105.0	Roadway/Open Space	-	-	0.07
7609	668879.0	4281105.0	Roadway/Open Space	-	-	0.08
7621	669289.0	4281105.0	Roadway/Open Space	-	-	0.06
7622	669299.0	4281105.0	Roadway/Open Space	-	-	0.06
7623	669309.0	4281105.0	Roadway/Open Space	-	-	0.06
7624	669319.0	4281105.0	Roadway/Open Space	-	-	0.06
7625	669329.0	4281105.0	Roadway/Open Space	-	-	0.06
7626	669339.0	4281105.0	Roadway/Open Space	-	-	0.05
7627	669349.0	4281105.0	Roadway/Open Space	-	-	0.05
7628	669359.0	4281105.0	Roadway/Open Space	-	-	0.05
7629	669369.0	4281105.0	Roadway/Open Space	-	-	0.05
7630	669379.0	4281105.0	Roadway/Open Space	-	-	0.05
7631	669389.0	4281105.0	Roadway/Open Space	-	-	0.05
7632	669399.0	4281105.0	Roadway/Open Space	-	-	0.05
7633	669409.0	4281105.0	Roadway/Open Space	-	-	0.05
7634	669419.0	4281105.0	Roadway/Open Space	-	-	0.05
7635	669429.0	4281105.0	Roadway/Open Space	-	-	0.05
7636	669439.0	4281105.0	Roadway/Open Space	-	-	0.04
7637	669449.0	4281105.0	Roadway/Open Space	-	-	0.04
7638	669459.0	4281105.0	Roadway/Open Space	-	-	0.04
7639	669469.0	4281105.0	Roadway/Open Space	-	-	0.04
7640	669479.0	4281105.0	Roadway/Open Space	-	-	0.04
7641	669489.0	4281105.0	Roadway/Open Space	-	-	0.04
7642	669499.0	4281105.0	Roadway/Open Space	-	-	0.04
7643	669509.0	4281105.0	Roadway/Open Space	-	-	0.03
7644	669519.0	4281105.0	Roadway/Open Space	-	-	0.03
7645	669529.0	4281105.0	Roadway/Open Space	-	-	0.03
7646	668509.0	4281115.0	Roadway/Open Space	-	-	0.01
7647	668519.0	4281115.0	Roadway/Open Space	-	-	0.01
7648	668529.0	4281115.0	Roadway/Open Space	-	-	0.01
7649	668539.0	4281115.0	Roadway/Open Space	-	-	0.01
7650	668549.0	4281115.0	Roadway/Open Space	-	-	0.01
7651	668559.0	4281115.0	Residential	0.50	0.002	0.01
7652	668569.0	4281115.0	Residential	0.55	0.002	0.01
7653	668579.0	4281115.0	Residential	0.61	0.003	0.02
7654	668589.0	4281115.0	Residential	0.68	0.003	0.02
7655	668599.0	4281115.0	Residential	0.77	0.003	0.02
7656	668609.0	4281115.0	Roadway/Open Space	-	-	0.02
7657	668619.0	4281115.0	Roadway/Open Space	-	-	0.03
7658	668629.0	4281115.0	Roadway/Open Space	-	-	0.03
7659	668639.0	4281115.0	Roadway/Open Space	-	-	0.04
7660	668649.0	4281115.0	Roadway/Open Space	-	-	0.04
7661	668659.0	4281115.0	Roadway/Open Space	-	-	0.03
7662	668669.0	4281115.0	Roadway/Open Space	-	-	0.03
7663	668679.0	4281115.0	Roadway/Open Space	-	-	0.03
7664	668689.0	4281115.0	Roadway/Open Space	-	-	0.03

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
7665	668699.0	4281115.0	Roadway/Open Space	-	-	0.03
7666	668709.0	4281115.0	Roadway/Open Space	-	-	0.03
7667	668719.0	4281115.0	Roadway/Open Space	-	-	0.03
7668	668729.0	4281115.0	Roadway/Open Space	-	-	0.03
7669	668739.0	4281115.0	Roadway/Open Space	-	-	0.04
7670	668749.0	4281115.0	Roadway/Open Space	-	-	0.04
7671	668759.0	4281115.0	Roadway/Open Space	-	-	0.04
7672	668769.0	4281115.0	Roadway/Open Space	-	-	0.04
7673	668779.0	4281115.0	Roadway/Open Space	-	-	0.04
7674	668789.0	4281115.0	Roadway/Open Space	-	-	0.05
7675	668799.0	4281115.0	Roadway/Open Space	-	-	0.05
7676	668809.0	4281115.0	Roadway/Open Space	-	-	0.05
7677	668819.0	4281115.0	Roadway/Open Space	-	-	0.05
7678	668829.0	4281115.0	Roadway/Open Space	-	-	0.06
7679	668839.0	4281115.0	Roadway/Open Space	-	-	0.06
7680	668849.0	4281115.0	Roadway/Open Space	-	-	0.06
7681	668859.0	4281115.0	Roadway/Open Space	-	-	0.07
7682	668869.0	4281115.0	Roadway/Open Space	-	-	0.07
7683	668879.0	4281115.0	Roadway/Open Space	-	-	0.08
7693	669289.0	4281115.0	Roadway/Open Space	-	-	0.06
7694	669299.0	4281115.0	Roadway/Open Space	-	-	0.05
7695	669309.0	4281115.0	Roadway/Open Space	-	-	0.05
7696	669319.0	4281115.0	Roadway/Open Space	-	-	0.05
7697	669329.0	4281115.0	Roadway/Open Space	-	-	0.05
7698	669339.0	4281115.0	Roadway/Open Space	-	-	0.05
7699	669349.0	4281115.0	Roadway/Open Space	-	-	0.05
7700	669359.0	4281115.0	Roadway/Open Space	-	-	0.05
7701	669369.0	4281115.0	Roadway/Open Space	-	-	0.05
7702	669379.0	4281115.0	Roadway/Open Space	-	-	0.05
7703	669389.0	4281115.0	Roadway/Open Space	-	-	0.05
7704	669399.0	4281115.0	Roadway/Open Space	-	-	0.05
7705	669409.0	4281115.0	Roadway/Open Space	-	-	0.05
7706	669419.0	4281115.0	Roadway/Open Space	-	-	0.05
7707	669429.0	4281115.0	Roadway/Open Space	-	-	0.04
7708	669439.0	4281115.0	Roadway/Open Space	-	-	0.04
7709	669449.0	4281115.0	Roadway/Open Space	-	-	0.04
7710	669459.0	4281115.0	Roadway/Open Space	-	-	0.04
7711	669469.0	4281115.0	Roadway/Open Space	-	-	0.04
7712	669479.0	4281115.0	Roadway/Open Space	-	-	0.04
7713	669489.0	4281115.0	Roadway/Open Space	-	-	0.04
7714	669499.0	4281115.0	Roadway/Open Space	-	-	0.03
7715	669509.0	4281115.0	Roadway/Open Space	-	-	0.03
7716	669519.0	4281115.0	Roadway/Open Space	-	-	0.03
7717	669529.0	4281115.0	Roadway/Open Space	-	-	0.03
7718	668509.0	4281125.0	Roadway/Open Space	-	-	0.01
7719	668519.0	4281125.0	Roadway/Open Space	-	-	0.01
7720	668529.0	4281125.0	Roadway/Open Space	-	-	0.01
7721	668539.0	4281125.0	Roadway/Open Space	-	-	0.01
7722	668549.0	4281125.0	Roadway/Open Space	-	-	0.01
7723	668559.0	4281125.0	Residential	0.52	0.002	0.01
7724	668569.0	4281125.0	Residential	0.57	0.002	0.02
7725	668579.0	4281125.0	Residential	0.64	0.003	0.02
7726	668589.0	4281125.0	Residential	0.71	0.003	0.02
7727	668599.0	4281125.0	Residential	0.80	0.003	0.02
7728	668609.0	4281125.0	Roadway/Open Space	-	-	0.03
7729	668619.0	4281125.0	Roadway/Open Space	-	-	0.03
7730	668629.0	4281125.0	Roadway/Open Space	-	-	0.03
7731	668639.0	4281125.0	Roadway/Open Space	-	-	0.04
7732	668649.0	4281125.0	Roadway/Open Space	-	-	0.04
7733	668659.0	4281125.0	Roadway/Open Space	-	-	0.03
7734	668669.0	4281125.0	Roadway/Open Space	-	-	0.03
7735	668679.0	4281125.0	Roadway/Open Space	-	-	0.03
7736	668689.0	4281125.0	Roadway/Open Space	-	-	0.03
7737	668699.0	4281125.0	Roadway/Open Space	-	-	0.03
7738	668709.0	4281125.0	Roadway/Open Space	-	-	0.03
7739	668719.0	4281125.0	Roadway/Open Space	-	-	0.03
7740	668729.0	4281125.0	Roadway/Open Space	-	-	0.03
7741	668739.0	4281125.0	Roadway/Open Space	-	-	0.04
7742	668749.0	4281125.0	Roadway/Open Space	-	-	0.04
7743	668759.0	4281125.0	Roadway/Open Space	-	-	0.04
7744	668769.0	4281125.0	Roadway/Open Space	-	-	0.04
7745	668779.0	4281125.0	Roadway/Open Space	-	-	0.04
7746	668789.0	4281125.0	Roadway/Open Space	-	-	0.04
7747	668799.0	4281125.0	Roadway/Open Space	-	-	0.06
7748	668809.0	4281125.0	Roadway/Open Space	-	-	0.06
7749	668819.0	4281125.0	Roadway/Open Space	-	-	0.06
7750	668829.0	4281125.0	Roadway/Open Space	-	-	0.07
7751	668839.0	4281125.0	Roadway/Open Space	-	-	0.06
7752	668849.0	4281125.0	Roadway/Open Space	-	-	0.06
7753	668859.0	4281125.0	Roadway/Open Space	-	-	0.07
7754	668869.0	4281125.0	Roadway/Open Space	-	-	0.07
7755	668879.0	4281125.0	Roadway/Open Space	-	-	0.08
7761	669289.0	4281125.0	Roadway/Open Space	-	-	0.05
7762	669299.0	4281125.0	Roadway/Open Space	-	-	0.05

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
7763	669309.0	4281125.0	Residential	4.79	0.020	0.05
7764	669319.0	4281125.0	Residential	4.53	0.019	0.05
7765	669329.0	4281125.0	Residential	4.33	0.018	0.05
7766	669339.0	4281125.0	Residential	4.07	0.017	0.04
7767	669349.0	4281125.0	Roadway/Open Space	-	-	0.04
7768	669359.0	4281125.0	Roadway/Open Space	-	-	0.04
7769	669369.0	4281125.0	Roadway/Open Space	-	-	0.04
7770	669379.0	4281125.0	Roadway/Open Space	-	-	0.05
7771	669389.0	4281125.0	Roadway/Open Space	-	-	0.05
7772	669399.0	4281125.0	Roadway/Open Space	-	-	0.05
7773	669409.0	4281125.0	Roadway/Open Space	-	-	0.05
7774	669419.0	4281125.0	Roadway/Open Space	-	-	0.05
7775	669429.0	4281125.0	Roadway/Open Space	-	-	0.04
7776	669439.0	4281125.0	Roadway/Open Space	-	-	0.04
7777	669449.0	4281125.0	Roadway/Open Space	-	-	0.04
7778	669459.0	4281125.0	Roadway/Open Space	-	-	0.04
7779	669469.0	4281125.0	Roadway/Open Space	-	-	0.04
7780	669479.0	4281125.0	Roadway/Open Space	-	-	0.04
7781	669489.0	4281125.0	Roadway/Open Space	-	-	0.04
7782	669499.0	4281125.0	Roadway/Open Space	-	-	0.03
7783	669509.0	4281125.0	Roadway/Open Space	-	-	0.03
7784	669519.0	4281125.0	Roadway/Open Space	-	-	0.03
7785	669529.0	4281125.0	Roadway/Open Space	-	-	0.03
7786	668509.0	4281135.0	Roadway/Open Space	-	-	0.01
7787	668519.0	4281135.0	Roadway/Open Space	-	-	0.01
7788	668529.0	4281135.0	Roadway/Open Space	-	-	0.01
7789	668539.0	4281135.0	Roadway/Open Space	-	-	0.01
7790	668549.0	4281135.0	Residential	0.49	0.002	0.01
7791	668559.0	4281135.0	Residential	0.54	0.002	0.02
7792	668569.0	4281135.0	Residential	0.60	0.002	0.02
7793	668579.0	4281135.0	Residential	0.67	0.003	0.02
7794	668589.0	4281135.0	Residential	0.75	0.003	0.02
7795	668599.0	4281135.0	Roadway/Open Space	-	-	0.02
7796	668609.0	4281135.0	Roadway/Open Space	-	-	0.03
7797	668619.0	4281135.0	Roadway/Open Space	-	-	0.03
7798	668629.0	4281135.0	Roadway/Open Space	-	-	0.03
7799	668639.0	4281135.0	Roadway/Open Space	-	-	0.04
7800	668649.0	4281135.0	Roadway/Open Space	-	-	0.04
7801	668659.0	4281135.0	Roadway/Open Space	-	-	0.03
7802	668669.0	4281135.0	Roadway/Open Space	-	-	0.03
7803	668679.0	4281135.0	Roadway/Open Space	-	-	0.03
7804	668689.0	4281135.0	Roadway/Open Space	-	-	0.03
7805	668699.0	4281135.0	Roadway/Open Space	-	-	0.03
7806	668709.0	4281135.0	Roadway/Open Space	-	-	0.03
7807	668719.0	4281135.0	Roadway/Open Space	-	-	0.03
7808	668729.0	4281135.0	Roadway/Open Space	-	-	0.03
7809	668739.0	4281135.0	Roadway/Open Space	-	-	0.04
7810	668749.0	4281135.0	Roadway/Open Space	-	-	0.04
7811	668759.0	4281135.0	Roadway/Open Space	-	-	0.04
7812	668769.0	4281135.0	Roadway/Open Space	-	-	0.04
7813	668779.0	4281135.0	Roadway/Open Space	-	-	0.04
7814	668789.0	4281135.0	Roadway/Open Space	-	-	0.06
7815	668799.0	4281135.0	Roadway/Open Space	-	-	0.06
7816	668809.0	4281135.0	Roadway/Open Space	-	-	0.06
7817	668819.0	4281135.0	Roadway/Open Space	-	-	0.07
7818	668829.0	4281135.0	Roadway/Open Space	-	-	0.07
7819	668839.0	4281135.0	Roadway/Open Space	-	-	0.06
7820	668849.0	4281135.0	Roadway/Open Space	-	-	0.06
7821	668859.0	4281135.0	Roadway/Open Space	-	-	0.07
7822	668869.0	4281135.0	Roadway/Open Space	-	-	0.07
7823	668879.0	4281135.0	Roadway/Open Space	-	-	0.08
7826	669289.0	4281135.0	Roadway/Open Space	-	-	0.05
7827	669299.0	4281135.0	Roadway/Open Space	-	-	0.05
7828	669309.0	4281135.0	Residential	4.63	0.019	0.04
7829	669319.0	4281135.0	Residential	4.35	0.018	0.04
7830	669329.0	4281135.0	Residential	4.11	0.017	0.04
7831	669339.0	4281135.0	Residential	3.88	0.016	0.04
7832	669349.0	4281135.0	Residential	3.69	0.015	0.04
7833	669359.0	4281135.0	Roadway/Open Space	-	-	0.04
7834	669369.0	4281135.0	Residential	3.49	0.014	0.04
7835	669379.0	4281135.0	Residential	3.42	0.014	0.04
7836	669389.0	4281135.0	Residential	3.37	0.014	0.05
7837	669399.0	4281135.0	Residential	3.30	0.014	0.05
7838	669409.0	4281135.0	Residential	3.16	0.013	0.05
7839	669419.0	4281135.0	Residential	2.96	0.012	0.04
7840	669429.0	4281135.0	Residential	2.78	0.011	0.04
7841	669439.0	4281135.0	Roadway/Open Space	-	-	0.04
7842	669449.0	4281135.0	Roadway/Open Space	-	-	0.04
7843	669459.0	4281135.0	Roadway/Open Space	-	-	0.04
7844	669469.0	4281135.0	Roadway/Open Space	-	-	0.04
7845	669479.0	4281135.0	Roadway/Open Space	-	-	0.04
7846	669489.0	4281135.0	Roadway/Open Space	-	-	0.03
7847	669499.0	4281135.0	Roadway/Open Space	-	-	0.03
7848	669509.0	4281135.0	Roadway/Open Space	-	-	0.03

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
7849	669519.0	4281135.0	Roadway/Open Space	-	-	0.03
7850	669529.0	4281135.0	Roadway/Open Space	-	-	0.02
7851	668509.0	4281145.0	Roadway/Open Space	-	-	0.01
7852	668519.0	4281145.0	Roadway/Open Space	-	-	0.01
7853	668529.0	4281145.0	Roadway/Open Space	-	-	0.01
7854	668539.0	4281145.0	Roadway/Open Space	-	-	0.01
7855	668549.0	4281145.0	Residential	0.51	0.002	0.01
7856	668559.0	4281145.0	Residential	0.56	0.002	0.02
7857	668569.0	4281145.0	Residential	0.63	0.003	0.02
7858	668579.0	4281145.0	Residential	0.71	0.003	0.02
7859	668589.0	4281145.0	Residential	0.79	0.003	0.02
7860	668599.0	4281145.0	Roadway/Open Space	-	-	0.03
7861	668609.0	4281145.0	Roadway/Open Space	-	-	0.03
7862	668619.0	4281145.0	Roadway/Open Space	-	-	0.03
7863	668629.0	4281145.0	Roadway/Open Space	-	-	0.03
7864	668639.0	4281145.0	Roadway/Open Space	-	-	0.03
7865	668649.0	4281145.0	Roadway/Open Space	-	-	0.03
7866	668659.0	4281145.0	Roadway/Open Space	-	-	0.03
7867	668669.0	4281145.0	Roadway/Open Space	-	-	0.03
7868	668679.0	4281145.0	Roadway/Open Space	-	-	0.03
7869	668689.0	4281145.0	Roadway/Open Space	-	-	0.03
7870	668699.0	4281145.0	Roadway/Open Space	-	-	0.03
7871	668709.0	4281145.0	Roadway/Open Space	-	-	0.03
7872	668719.0	4281145.0	Roadway/Open Space	-	-	0.03
7873	668729.0	4281145.0	Roadway/Open Space	-	-	0.03
7874	668739.0	4281145.0	Roadway/Open Space	-	-	0.04
7875	668749.0	4281145.0	Roadway/Open Space	-	-	0.04
7876	668759.0	4281145.0	Roadway/Open Space	-	-	0.04
7877	668769.0	4281145.0	Roadway/Open Space	-	-	0.04
7878	668779.0	4281145.0	Roadway/Open Space	-	-	0.05
7879	668789.0	4281145.0	Roadway/Open Space	-	-	0.06
7880	668799.0	4281145.0	Roadway/Open Space	-	-	0.06
7881	668809.0	4281145.0	Roadway/Open Space	-	-	0.06
7882	668819.0	4281145.0	Roadway/Open Space	-	-	0.06
7883	668829.0	4281145.0	Roadway/Open Space	-	-	0.07
7884	668839.0	4281145.0	Roadway/Open Space	-	-	0.07
7885	668849.0	4281145.0	Roadway/Open Space	-	-	0.06
7886	668859.0	4281145.0	Roadway/Open Space	-	-	0.06
7887	668869.0	4281145.0	Roadway/Open Space	-	-	0.07
7888	668879.0	4281145.0	Roadway/Open Space	-	-	0.08
7889	669289.0	4281145.0	Roadway/Open Space	-	-	0.05
7890	669299.0	4281145.0	Roadway/Open Space	-	-	0.05
7891	669309.0	4281145.0	Residential	4.55	0.019	0.04
7892	669319.0	4281145.0	Residential	4.25	0.017	0.04
7893	669329.0	4281145.0	Residential	3.99	0.016	0.04
7894	669339.0	4281145.0	Residential	3.76	0.015	0.04
7895	669349.0	4281145.0	Residential	3.56	0.015	0.04
7896	669359.0	4281145.0	Roadway/Open Space	-	-	0.04
7897	669369.0	4281145.0	Residential	3.36	0.014	0.04
7898	669379.0	4281145.0	Residential	3.30	0.014	0.04
7899	669389.0	4281145.0	Residential	3.23	0.013	0.04
7900	669399.0	4281145.0	Residential	3.16	0.013	0.04
7901	669409.0	4281145.0	Residential	3.04	0.012	0.04
7902	669419.0	4281145.0	Residential	2.89	0.012	0.04
7903	669429.0	4281145.0	Residential	2.74	0.011	0.04
7904	669439.0	4281145.0	Residential	2.63	0.011	0.04
7905	669449.0	4281145.0	Roadway/Open Space	-	-	0.04
7906	669459.0	4281145.0	Roadway/Open Space	-	-	0.04
7907	669469.0	4281145.0	Roadway/Open Space	-	-	0.04
7908	669479.0	4281145.0	Roadway/Open Space	-	-	0.04
7909	669489.0	4281145.0	Roadway/Open Space	-	-	0.03
7910	669499.0	4281145.0	Roadway/Open Space	-	-	0.03
7911	669509.0	4281145.0	Roadway/Open Space	-	-	0.03
7912	669519.0	4281145.0	Roadway/Open Space	-	-	0.02
7913	668519.0	4281155.0	Roadway/Open Space	-	-	0.01
7914	668529.0	4281155.0	Roadway/Open Space	-	-	0.01
7915	668539.0	4281155.0	Residential	0.48	0.002	0.01
7916	668549.0	4281155.0	Residential	0.52	0.002	0.01
7917	668559.0	4281155.0	Residential	0.59	0.002	0.02
7918	668569.0	4281155.0	Residential	0.67	0.003	0.02
7919	668579.0	4281155.0	Residential	0.75	0.003	0.02
7920	668589.0	4281155.0	Roadway/Open Space	-	-	0.02
7921	668599.0	4281155.0	Roadway/Open Space	-	-	0.03
7922	668609.0	4281155.0	Roadway/Open Space	-	-	0.03
7923	668619.0	4281155.0	Roadway/Open Space	-	-	0.03
7924	668629.0	4281155.0	Roadway/Open Space	-	-	0.03
7925	668639.0	4281155.0	Roadway/Open Space	-	-	0.03
7926	668649.0	4281155.0	Roadway/Open Space	-	-	0.03
7927	668659.0	4281155.0	Roadway/Open Space	-	-	0.03
7928	668669.0	4281155.0	Roadway/Open Space	-	-	0.03
7929	668679.0	4281155.0	Roadway/Open Space	-	-	0.03
7930	668689.0	4281155.0	Roadway/Open Space	-	-	0.03
7931	668699.0	4281155.0	Roadway/Open Space	-	-	0.03
7932	668709.0	4281155.0	Roadway/Open Space	-	-	0.03

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
7933	668719.0	4281155.0	Roadway/Open Space	-	-	0.03
7934	668729.0	4281155.0	Roadway/Open Space	-	-	0.03
7935	668739.0	4281155.0	Roadway/Open Space	-	-	0.04
7936	668749.0	4281155.0	Roadway/Open Space	-	-	0.04
7937	668759.0	4281155.0	Roadway/Open Space	-	-	0.04
7938	668769.0	4281155.0	Roadway/Open Space	-	-	0.05
7939	668779.0	4281155.0	Roadway/Open Space	-	-	0.05
7940	668789.0	4281155.0	Roadway/Open Space	-	-	0.06
7941	668799.0	4281155.0	Roadway/Open Space	-	-	0.06
7942	668809.0	4281155.0	Roadway/Open Space	-	-	0.06
7943	668819.0	4281155.0	Roadway/Open Space	-	-	0.06
7944	668829.0	4281155.0	Roadway/Open Space	-	-	0.07
7945	668839.0	4281155.0	Roadway/Open Space	-	-	0.07
7946	668849.0	4281155.0	Roadway/Open Space	-	-	0.07
7947	668859.0	4281155.0	Roadway/Open Space	-	-	0.07
7948	668869.0	4281155.0	Roadway/Open Space	-	-	0.07
7949	668879.0	4281155.0	Roadway/Open Space	-	-	0.08
7950	669289.0	4281155.0	Roadway/Open Space	-	-	0.05
7951	669299.0	4281155.0	Residential	4.80	0.020	0.05
7952	669309.0	4281155.0	Residential	4.48	0.018	0.04
7953	669319.0	4281155.0	Residential	4.17	0.017	0.04
7954	669329.0	4281155.0	Residential	3.91	0.016	0.04
7955	669339.0	4281155.0	Residential	3.67	0.015	0.03
7956	669349.0	4281155.0	Roadway/Open Space	-	-	0.03
7957	669359.0	4281155.0	Roadway/Open Space	-	-	0.03
7958	669369.0	4281155.0	Residential	3.26	0.013	0.04
7959	669379.0	4281155.0	Residential	3.19	0.013	0.04
7960	669389.0	4281155.0	Residential	3.11	0.013	0.04
7961	669399.0	4281155.0	Residential	3.04	0.013	0.04
7962	669409.0	4281155.0	Residential	2.92	0.012	0.04
7963	669419.0	4281155.0	Residential	2.80	0.012	0.04
7964	669429.0	4281155.0	Residential	2.68	0.011	0.04
7965	669439.0	4281155.0	Residential	2.56	0.011	0.04
7966	669449.0	4281155.0	Roadway/Open Space	-	-	0.04
7967	669459.0	4281155.0	Roadway/Open Space	-	-	0.04
7968	669469.0	4281155.0	Roadway/Open Space	-	-	0.04
7969	669479.0	4281155.0	Roadway/Open Space	-	-	0.03
7970	669489.0	4281155.0	Roadway/Open Space	-	-	0.03
7971	669499.0	4281155.0	Roadway/Open Space	-	-	0.03
7972	669509.0	4281155.0	Roadway/Open Space	-	-	0.02
7973	669519.0	4281155.0	Roadway/Open Space	-	-	0.02
7974	668519.0	4281165.0	Roadway/Open Space	-	-	0.01
7975	668529.0	4281165.0	Roadway/Open Space	-	-	0.01
7976	668539.0	4281165.0	Residential	0.49	0.002	0.01
7977	668549.0	4281165.0	Residential	0.54	0.002	0.02
7978	668559.0	4281165.0	Residential	0.61	0.003	0.02
7979	668569.0	4281165.0	Residential	0.69	0.003	0.02
7980	668579.0	4281165.0	Residential	0.79	0.003	0.02
7981	668589.0	4281165.0	Roadway/Open Space	-	-	0.03
7982	668599.0	4281165.0	Roadway/Open Space	-	-	0.03
7983	668609.0	4281165.0	Roadway/Open Space	-	-	0.03
7984	668619.0	4281165.0	Roadway/Open Space	-	-	0.03
7985	668629.0	4281165.0	Roadway/Open Space	-	-	0.03
7986	668639.0	4281165.0	Roadway/Open Space	-	-	0.03
7987	668649.0	4281165.0	Roadway/Open Space	-	-	0.02
7988	668659.0	4281165.0	Roadway/Open Space	-	-	0.03
7989	668669.0	4281165.0	Roadway/Open Space	-	-	0.03
7990	668679.0	4281165.0	Roadway/Open Space	-	-	0.03
7991	668689.0	4281165.0	Roadway/Open Space	-	-	0.03
7992	668699.0	4281165.0	Roadway/Open Space	-	-	0.03
7993	668709.0	4281165.0	Roadway/Open Space	-	-	0.03
7994	668719.0	4281165.0	Roadway/Open Space	-	-	0.03
7995	668729.0	4281165.0	Roadway/Open Space	-	-	0.03
7996	668739.0	4281165.0	Roadway/Open Space	-	-	0.03
7997	668749.0	4281165.0	Roadway/Open Space	-	-	0.04
7998	668759.0	4281165.0	Roadway/Open Space	-	-	0.04
7999	668769.0	4281165.0	Roadway/Open Space	-	-	0.05
8000	668779.0	4281165.0	Roadway/Open Space	-	-	0.05
8001	668789.0	4281165.0	Roadway/Open Space	-	-	0.05
8002	668799.0	4281165.0	Roadway/Open Space	-	-	0.06
8003	668809.0	4281165.0	Roadway/Open Space	-	-	0.06
8004	668819.0	4281165.0	Roadway/Open Space	-	-	0.06
8005	668829.0	4281165.0	Roadway/Open Space	-	-	0.07
8006	668839.0	4281165.0	Roadway/Open Space	-	-	0.07
8007	668849.0	4281165.0	Roadway/Open Space	-	-	0.07
8008	668859.0	4281165.0	Roadway/Open Space	-	-	0.07
8009	668869.0	4281165.0	Roadway/Open Space	-	-	0.07
8010	668879.0	4281165.0	Roadway/Open Space	-	-	0.08
8011	669289.0	4281165.0	Roadway/Open Space	-	-	0.05
8012	669299.0	4281165.0	Residential	4.72	0.019	0.05
8013	669309.0	4281165.0	Residential	4.41	0.018	0.05
8014	669319.0	4281165.0	Residential	4.11	0.017	0.04
8015	669329.0	4281165.0	Residential	3.85	0.016	0.04
8016	669339.0	4281165.0	Residential	3.63	0.015	0.03

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
8017	669349.0	4281165.0	Roadway/Open Space	-	-	0.03
8018	669359.0	4281165.0	Residential	3.29	0.014	0.03
8019	669369.0	4281165.0	Residential	3.19	0.013	0.03
8020	669379.0	4281165.0	Residential	3.13	0.013	0.03
8021	669389.0	4281165.0	Residential	3.04	0.013	0.04
8022	669399.0	4281165.0	Residential	2.94	0.012	0.04
8023	669409.0	4281165.0	Residential	2.83	0.012	0.04
8024	669419.0	4281165.0	Residential	2.71	0.011	0.04
8025	669429.0	4281165.0	Residential	2.60	0.011	0.04
8026	669439.0	4281165.0	Residential	2.49	0.010	0.04
8027	669449.0	4281165.0	Roadway/Open Space	-	-	0.04
8028	669459.0	4281165.0	Roadway/Open Space	-	-	0.03
8029	669469.0	4281165.0	Roadway/Open Space	-	-	0.03
8030	669479.0	4281165.0	Roadway/Open Space	-	-	0.03
8031	669489.0	4281165.0	Roadway/Open Space	-	-	0.03
8032	669499.0	4281165.0	Roadway/Open Space	-	-	0.03
8033	669509.0	4281165.0	Roadway/Open Space	-	-	0.02
8034	669519.0	4281165.0	Roadway/Open Space	-	-	0.02
8035	668519.0	4281175.0	Roadway/Open Space	-	-	0.01
8036	668529.0	4281175.0	Residential	0.47	0.002	0.01
8037	668539.0	4281175.0	Residential	0.51	0.002	0.01
8038	668549.0	4281175.0	Residential	0.56	0.002	0.02
8039	668559.0	4281175.0	Residential	0.63	0.003	0.02
8040	668569.0	4281175.0	Residential	0.72	0.003	0.02
8041	668579.0	4281175.0	Roadway/Open Space	-	-	0.02
8042	668589.0	4281175.0	Roadway/Open Space	-	-	0.03
8043	668599.0	4281175.0	Roadway/Open Space	-	-	0.03
8044	668609.0	4281175.0	Roadway/Open Space	-	-	0.03
8045	668619.0	4281175.0	Roadway/Open Space	-	-	0.03
8046	668629.0	4281175.0	Roadway/Open Space	-	-	0.03
8047	668639.0	4281175.0	Roadway/Open Space	-	-	0.03
8048	668649.0	4281175.0	Roadway/Open Space	-	-	0.02
8049	668659.0	4281175.0	Roadway/Open Space	-	-	0.03
8050	668669.0	4281175.0	Roadway/Open Space	-	-	0.03
8051	668679.0	4281175.0	Roadway/Open Space	-	-	0.03
8052	668689.0	4281175.0	Roadway/Open Space	-	-	0.03
8053	668699.0	4281175.0	Roadway/Open Space	-	-	0.03
8054	668709.0	4281175.0	Roadway/Open Space	-	-	0.03
8055	668719.0	4281175.0	Roadway/Open Space	-	-	0.03
8056	668729.0	4281175.0	Roadway/Open Space	-	-	0.03
8057	668739.0	4281175.0	Roadway/Open Space	-	-	0.03
8058	668749.0	4281175.0	Roadway/Open Space	-	-	0.04
8059	668759.0	4281175.0	Roadway/Open Space	-	-	0.05
8060	668769.0	4281175.0	Roadway/Open Space	-	-	0.05
8061	668779.0	4281175.0	Roadway/Open Space	-	-	0.05
8062	668789.0	4281175.0	Roadway/Open Space	-	-	0.05
8063	668799.0	4281175.0	Roadway/Open Space	-	-	0.06
8064	668809.0	4281175.0	Roadway/Open Space	-	-	0.06
8065	668819.0	4281175.0	Roadway/Open Space	-	-	0.06
8066	668829.0	4281175.0	Roadway/Open Space	-	-	0.07
8067	668839.0	4281175.0	Roadway/Open Space	-	-	0.07
8068	668849.0	4281175.0	Roadway/Open Space	-	-	0.08
8069	668859.0	4281175.0	Roadway/Open Space	-	-	0.08
8070	668869.0	4281175.0	Roadway/Open Space	-	-	0.08
8071	668879.0	4281175.0	Roadway/Open Space	-	-	0.08
8072	669289.0	4281175.0	Residential	4.96	0.020	0.05
8073	669299.0	4281175.0	Residential	4.64	0.019	0.05
8074	669309.0	4281175.0	Residential	4.34	0.018	0.05
8075	669319.0	4281175.0	Residential	4.07	0.017	0.04
8076	669329.0	4281175.0	Residential	3.82	0.016	0.04
8077	669339.0	4281175.0	Residential	3.60	0.015	0.04
8078	669349.0	4281175.0	Roadway/Open Space	-	-	0.03
8079	669359.0	4281175.0	Residential	3.26	0.013	0.03
8080	669369.0	4281175.0	Residential	3.15	0.013	0.03
8081	669379.0	4281175.0	Residential	3.07	0.013	0.03
8082	669389.0	4281175.0	Residential	2.98	0.012	0.03
8083	669399.0	4281175.0	Residential	2.89	0.012	0.04
8084	669409.0	4281175.0	Residential	2.77	0.011	0.04
8085	669419.0	4281175.0	Residential	2.64	0.011	0.03
8086	669429.0	4281175.0	Residential	2.52	0.010	0.03
8087	669439.0	4281175.0	Roadway/Open Space	-	-	0.03
8088	669449.0	4281175.0	Roadway/Open Space	-	-	0.03
8089	669459.0	4281175.0	Roadway/Open Space	-	-	0.03
8090	669469.0	4281175.0	Roadway/Open Space	-	-	0.03
8091	669479.0	4281175.0	Roadway/Open Space	-	-	0.03
8092	669489.0	4281175.0	Roadway/Open Space	-	-	0.03
8093	669499.0	4281175.0	Roadway/Open Space	-	-	0.03
8094	669509.0	4281175.0	Roadway/Open Space	-	-	0.02
8095	669519.0	4281175.0	Roadway/Open Space	-	-	0.02
8096	668519.0	4281185.0	Roadway/Open Space	-	-	0.01
8097	668529.0	4281185.0	Residential	0.49	0.002	0.01
8098	668539.0	4281185.0	Residential	0.53	0.002	0.02
8099	668549.0	4281185.0	Residential	0.59	0.002	0.02
8100	668559.0	4281185.0	Residential	0.65	0.003	0.02

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
8101	668569.0	4281185.0	Residential	0.75	0.003	0.02
8102	668579.0	4281185.0	Roadway/Open Space	-	-	0.02
8103	668589.0	4281185.0	Roadway/Open Space	-	-	0.03
8104	668599.0	4281185.0	Roadway/Open Space	-	-	0.03
8105	668609.0	4281185.0	Roadway/Open Space	-	-	0.03
8106	668619.0	4281185.0	Roadway/Open Space	-	-	0.03
8107	668629.0	4281185.0	Roadway/Open Space	-	-	0.03
8108	668639.0	4281185.0	Roadway/Open Space	-	-	0.03
8109	668649.0	4281185.0	Roadway/Open Space	-	-	0.02
8110	668659.0	4281185.0	Roadway/Open Space	-	-	0.03
8111	668669.0	4281185.0	Roadway/Open Space	-	-	0.03
8112	668679.0	4281185.0	Roadway/Open Space	-	-	0.03
8113	668689.0	4281185.0	Roadway/Open Space	-	-	0.03
8114	668699.0	4281185.0	Roadway/Open Space	-	-	0.03
8115	668709.0	4281185.0	Roadway/Open Space	-	-	0.03
8116	668719.0	4281185.0	Roadway/Open Space	-	-	0.03
8117	668729.0	4281185.0	Roadway/Open Space	-	-	0.03
8118	668739.0	4281185.0	Roadway/Open Space	-	-	0.03
8119	668749.0	4281185.0	Roadway/Open Space	-	-	0.04
8120	668759.0	4281185.0	Roadway/Open Space	-	-	0.05
8121	668769.0	4281185.0	Roadway/Open Space	-	-	0.05
8122	668779.0	4281185.0	Roadway/Open Space	-	-	0.05
8123	668789.0	4281185.0	Roadway/Open Space	-	-	0.05
8124	668799.0	4281185.0	Roadway/Open Space	-	-	0.06
8125	668809.0	4281185.0	Other Sensitive	4.60	0.019	0.06
8126	668819.0	4281185.0	Other Sensitive	4.96	0.020	0.06
8127	668829.0	4281185.0	Roadway/Open Space	-	-	0.07
8128	668839.0	4281185.0	Roadway/Open Space	-	-	0.07
8129	668849.0	4281185.0	Roadway/Open Space	-	-	0.08
8130	668859.0	4281185.0	Roadway/Open Space	-	-	0.08
8131	668869.0	4281185.0	Roadway/Open Space	-	-	0.07
8132	668879.0	4281185.0	Roadway/Open Space	-	-	0.08
8133	669289.0	4281185.0	Residential	4.84	0.020	0.05
8134	669299.0	4281185.0	Residential	4.55	0.019	0.05
8135	669309.0	4281185.0	Residential	4.28	0.018	0.05
8136	669319.0	4281185.0	Residential	4.03	0.017	0.04
8137	669329.0	4281185.0	Residential	3.79	0.016	0.04
8138	669339.0	4281185.0	Roadway/Open Space	-	-	0.04
8139	669349.0	4281185.0	Residential	3.38	0.014	0.04
8140	669359.0	4281185.0	Residential	3.23	0.013	0.03
8141	669369.0	4281185.0	Residential	3.12	0.013	0.03
8142	669379.0	4281185.0	Residential	3.02	0.012	0.03
8143	669389.0	4281185.0	Residential	2.94	0.012	0.04
8144	669399.0	4281185.0	Residential	2.85	0.012	0.04
8145	669409.0	4281185.0	Residential	2.72	0.011	0.03
8146	669419.0	4281185.0	Residential	2.57	0.011	0.03
8147	669429.0	4281185.0	Residential	2.45	0.010	0.03
8148	669439.0	4281185.0	Roadway/Open Space	-	-	0.03
8149	669449.0	4281185.0	Roadway/Open Space	-	-	0.03
8150	669459.0	4281185.0	Roadway/Open Space	-	-	0.03
8151	669469.0	4281185.0	Roadway/Open Space	-	-	0.03
8152	669479.0	4281185.0	Roadway/Open Space	-	-	0.03
8153	669489.0	4281185.0	Roadway/Open Space	-	-	0.03
8154	669499.0	4281185.0	Roadway/Open Space	-	-	0.03
8155	669509.0	4281185.0	Roadway/Open Space	-	-	0.02
8156	668519.0	4281195.0	Residential	0.47	0.002	0.01
8157	668529.0	4281195.0	Residential	0.51	0.002	0.01
8158	668539.0	4281195.0	Residential	0.56	0.002	0.02
8159	668549.0	4281195.0	Residential	0.62	0.003	0.02
8160	668559.0	4281195.0	Residential	0.69	0.003	0.02
8161	668569.0	4281195.0	Roadway/Open Space	-	-	0.02
8162	668579.0	4281195.0	Roadway/Open Space	-	-	0.03
8163	668589.0	4281195.0	Roadway/Open Space	-	-	0.03
8164	668599.0	4281195.0	Roadway/Open Space	-	-	0.03
8165	668609.0	4281195.0	Roadway/Open Space	-	-	0.03
8166	668619.0	4281195.0	Roadway/Open Space	-	-	0.03
8167	668629.0	4281195.0	Roadway/Open Space	-	-	0.03
8168	668639.0	4281195.0	Roadway/Open Space	-	-	0.03
8169	668649.0	4281195.0	Roadway/Open Space	-	-	0.02
8170	668659.0	4281195.0	Roadway/Open Space	-	-	0.03
8171	668669.0	4281195.0	Roadway/Open Space	-	-	0.03
8172	668679.0	4281195.0	Roadway/Open Space	-	-	0.03
8173	668689.0	4281195.0	Roadway/Open Space	-	-	0.03
8174	668699.0	4281195.0	Roadway/Open Space	-	-	0.03
8175	668709.0	4281195.0	Roadway/Open Space	-	-	0.03
8176	668719.0	4281195.0	Roadway/Open Space	-	-	0.03
8177	668729.0	4281195.0	Roadway/Open Space	-	-	0.03
8178	668739.0	4281195.0	Roadway/Open Space	-	-	0.03
8179	668749.0	4281195.0	Roadway/Open Space	-	-	0.04
8180	668759.0	4281195.0	Roadway/Open Space	-	-	0.05
8181	668769.0	4281195.0	Roadway/Open Space	-	-	0.05
8182	668779.0	4281195.0	Roadway/Open Space	-	-	0.05
8183	668789.0	4281195.0	Roadway/Open Space	-	-	0.05
8184	668799.0	4281195.0	Other Sensitive	4.22	0.017	0.06

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
8185	668809.0	4281195.0	Other Sensitive	4.52	0.019	0.06
8186	668819.0	4281195.0	Other Sensitive	4.86	0.020	0.07
8187	668829.0	4281195.0	Other Sensitive	5.24	0.022	0.07
8188	668839.0	4281195.0	Roadway/Open Space	-	-	0.07
8189	668849.0	4281195.0	Roadway/Open Space	-	-	0.08
8190	668859.0	4281195.0	Roadway/Open Space	-	-	0.08
8191	668869.0	4281195.0	Roadway/Open Space	-	-	0.08
8192	668879.0	4281195.0	Roadway/Open Space	-	-	0.07
8193	669289.0	4281195.0	Residential	4.75	0.020	0.05
8194	669299.0	4281195.0	Residential	4.47	0.018	0.04
8195	669309.0	4281195.0	Residential	4.22	0.017	0.04
8196	669319.0	4281195.0	Residential	3.99	0.016	0.04
8197	669329.0	4281195.0	Residential	3.76	0.015	0.04
8198	669339.0	4281195.0	Roadway/Open Space	-	-	0.04
8199	669349.0	4281195.0	Residential	3.36	0.014	0.04
8200	669359.0	4281195.0	Residential	3.20	0.013	0.04
8201	669369.0	4281195.0	Residential	3.08	0.013	0.03
8202	669379.0	4281195.0	Residential	2.99	0.012	0.03
8203	669389.0	4281195.0	Residential	2.91	0.012	0.03
8204	669399.0	4281195.0	Residential	2.81	0.012	0.04
8205	669409.0	4281195.0	Residential	2.66	0.011	0.03
8206	669419.0	4281195.0	Residential	2.51	0.010	0.03
8207	669429.0	4281195.0	Residential	2.38	0.010	0.03
8208	669439.0	4281195.0	Roadway/Open Space	-	-	0.03
8209	669449.0	4281195.0	Roadway/Open Space	-	-	0.03
8210	669459.0	4281195.0	Roadway/Open Space	-	-	0.03
8211	669469.0	4281195.0	Roadway/Open Space	-	-	0.03
8212	669479.0	4281195.0	Roadway/Open Space	-	-	0.03
8213	669489.0	4281195.0	Roadway/Open Space	-	-	0.03
8214	669499.0	4281195.0	Roadway/Open Space	-	-	0.03
8215	669509.0	4281195.0	Roadway/Open Space	-	-	0.02
8216	668529.0	4281205.0	Residential	0.54	0.002	0.01
8217	668539.0	4281205.0	Residential	0.59	0.002	0.02
8218	668549.0	4281205.0	Residential	0.66	0.003	0.02
8219	668559.0	4281205.0	Residential	0.73	0.003	0.02
8220	668569.0	4281205.0	Roadway/Open Space	-	-	0.02
8221	668579.0	4281205.0	Roadway/Open Space	-	-	0.03
8222	668589.0	4281205.0	Roadway/Open Space	-	-	0.03
8223	668599.0	4281205.0	Roadway/Open Space	-	-	0.03
8224	668609.0	4281205.0	Roadway/Open Space	-	-	0.03
8225	668619.0	4281205.0	Roadway/Open Space	-	-	0.03
8226	668629.0	4281205.0	Roadway/Open Space	-	-	0.03
8227	668639.0	4281205.0	Roadway/Open Space	-	-	0.02
8228	668649.0	4281205.0	Roadway/Open Space	-	-	0.02
8229	668659.0	4281205.0	Roadway/Open Space	-	-	0.03
8230	668669.0	4281205.0	Roadway/Open Space	-	-	0.03
8231	668679.0	4281205.0	Roadway/Open Space	-	-	0.03
8232	668689.0	4281205.0	Roadway/Open Space	-	-	0.03
8233	668699.0	4281205.0	Roadway/Open Space	-	-	0.03
8234	668709.0	4281205.0	Roadway/Open Space	-	-	0.03
8235	668719.0	4281205.0	Roadway/Open Space	-	-	0.03
8236	668729.0	4281205.0	Roadway/Open Space	-	-	0.03
8237	668739.0	4281205.0	Roadway/Open Space	-	-	0.03
8238	668749.0	4281205.0	Roadway/Open Space	-	-	0.04
8239	668759.0	4281205.0	Roadway/Open Space	-	-	0.05
8240	668769.0	4281205.0	Roadway/Open Space	-	-	0.05
8241	668779.0	4281205.0	Roadway/Open Space	-	-	0.05
8242	668789.0	4281205.0	Other Sensitive	3.88	0.016	0.06
8243	668799.0	4281205.0	Other Sensitive	4.16	0.017	0.06
8244	668809.0	4281205.0	Other Sensitive	4.44	0.018	0.06
8245	668819.0	4281205.0	Other Sensitive	4.76	0.020	0.07
8246	668829.0	4281205.0	Other Sensitive	5.10	0.021	0.07
8247	668839.0	4281205.0	Other Sensitive	5.45	0.022	0.07
8248	668849.0	4281205.0	Roadway/Open Space	-	-	0.08
8249	668859.0	4281205.0	Roadway/Open Space	-	-	0.08
8250	668869.0	4281205.0	Roadway/Open Space	-	-	0.08
8251	668879.0	4281205.0	Roadway/Open Space	-	-	0.08
8252	669289.0	4281205.0	Roadway/Open Space	-	-	0.05
8253	669299.0	4281205.0	Residential	4.41	0.018	0.04
8254	669309.0	4281205.0	Residential	4.16	0.017	0.04
8255	669319.0	4281205.0	Residential	3.94	0.016	0.04
8256	669329.0	4281205.0	Roadway/Open Space	-	-	0.04
8257	669339.0	4281205.0	Residential	3.52	0.014	0.04
8258	669349.0	4281205.0	Residential	3.33	0.014	0.04
8259	669359.0	4281205.0	Residential	3.15	0.013	0.04
8260	669369.0	4281205.0	Residential	3.03	0.012	0.03
8261	669379.0	4281205.0	Residential	2.95	0.012	0.03
8262	669389.0	4281205.0	Residential	2.87	0.012	0.03
8263	669399.0	4281205.0	Residential	2.76	0.011	0.03
8264	669409.0	4281205.0	Residential	2.62	0.011	0.03
8265	669419.0	4281205.0	Residential	2.47	0.010	0.03
8266	669429.0	4281205.0	Residential	2.34	0.010	0.03
8267	669439.0	4281205.0	Roadway/Open Space	-	-	0.03
8268	669449.0	4281205.0	Roadway/Open Space	-	-	0.03

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
8269	669459.0	4281205.0	Roadway/Open Space	-	-	0.03
8270	669469.0	4281205.0	Roadway/Open Space	-	-	0.03
8271	669479.0	4281205.0	Roadway/Open Space	-	-	0.03
8272	669489.0	4281205.0	Roadway/Open Space	-	-	0.03
8273	669499.0	4281205.0	Roadway/Open Space	-	-	0.03
8274	669509.0	4281205.0	Roadway/Open Space	-	-	0.02
8275	668529.0	4281215.0	Residential	0.56	0.002	0.01
8276	668539.0	4281215.0	Residential	0.62	0.003	0.02
8277	668549.0	4281215.0	Residential	0.69	0.003	0.02
8278	668559.0	4281215.0	Roadway/Open Space	-	-	0.02
8279	668569.0	4281215.0	Roadway/Open Space	-	-	0.02
8280	668579.0	4281215.0	Roadway/Open Space	-	-	0.03
8281	668589.0	4281215.0	Roadway/Open Space	-	-	0.03
8282	668599.0	4281215.0	Roadway/Open Space	-	-	0.03
8283	668609.0	4281215.0	Roadway/Open Space	-	-	0.03
8284	668619.0	4281215.0	Roadway/Open Space	-	-	0.03
8285	668629.0	4281215.0	Roadway/Open Space	-	-	0.03
8286	668639.0	4281215.0	Roadway/Open Space	-	-	0.02
8287	668649.0	4281215.0	Roadway/Open Space	-	-	0.02
8288	668659.0	4281215.0	Roadway/Open Space	-	-	0.02
8289	668669.0	4281215.0	Roadway/Open Space	-	-	0.02
8290	668679.0	4281215.0	Roadway/Open Space	-	-	0.03
8291	668689.0	4281215.0	Roadway/Open Space	-	-	0.03
8292	668699.0	4281215.0	Roadway/Open Space	-	-	0.03
8293	668709.0	4281215.0	Roadway/Open Space	-	-	0.03
8294	668719.0	4281215.0	Roadway/Open Space	-	-	0.03
8295	668729.0	4281215.0	Roadway/Open Space	-	-	0.03
8296	668739.0	4281215.0	Roadway/Open Space	-	-	0.04
8297	668749.0	4281215.0	Roadway/Open Space	-	-	0.04
8298	668759.0	4281215.0	Roadway/Open Space	-	-	0.05
8299	668769.0	4281215.0	Roadway/Open Space	-	-	0.05
8300	668779.0	4281215.0	Roadway/Open Space	-	-	0.05
8301	668789.0	4281215.0	Other Sensitive	3.83	0.016	0.06
8302	668799.0	4281215.0	Other Sensitive	4.09	0.017	0.06
8303	668809.0	4281215.0	Other Sensitive	4.36	0.018	0.06
8304	668819.0	4281215.0	Other Sensitive	4.66	0.019	0.07
8305	668829.0	4281215.0	Other Sensitive	4.95	0.020	0.07
8306	668839.0	4281215.0	Other Sensitive	5.25	0.022	0.07
8307	668849.0	4281215.0	Other Sensitive	5.63	0.023	0.07
8308	668859.0	4281215.0	Other Sensitive	6.04	0.025	0.08
8309	668869.0	4281215.0	Roadway/Open Space	-	-	0.08
8310	668879.0	4281215.0	Roadway/Open Space	-	-	0.08
8311	669289.0	4281215.0	Roadway/Open Space	-	-	0.05
8312	669299.0	4281215.0	Roadway/Open Space	-	-	0.05
8313	669309.0	4281215.0	Residential	4.11	0.017	0.04
8314	669319.0	4281215.0	Roadway/Open Space	-	-	0.04
8315	669329.0	4281215.0	Roadway/Open Space	-	-	0.04
8316	669339.0	4281215.0	Residential	3.50	0.014	0.03
8317	669349.0	4281215.0	Residential	3.30	0.014	0.03
8318	669359.0	4281215.0	Residential	3.11	0.013	0.03
8319	669369.0	4281215.0	Residential	2.99	0.012	0.03
8320	669379.0	4281215.0	Residential	2.91	0.012	0.03
8321	669389.0	4281215.0	Residential	2.84	0.012	0.03
8322	669399.0	4281215.0	Residential	2.73	0.011	0.03
8323	669409.0	4281215.0	Residential	2.58	0.011	0.03
8324	669419.0	4281215.0	Residential	2.43	0.010	0.03
8325	669429.0	4281215.0	Residential	2.31	0.009	0.03
8326	669439.0	4281215.0	Roadway/Open Space	-	-	0.03
8327	669449.0	4281215.0	Roadway/Open Space	-	-	0.03
8328	669459.0	4281215.0	Roadway/Open Space	-	-	0.03
8329	669469.0	4281215.0	Roadway/Open Space	-	-	0.03
8330	669479.0	4281215.0	Roadway/Open Space	-	-	0.03
8331	669489.0	4281215.0	Roadway/Open Space	-	-	0.03
8332	669499.0	4281215.0	Roadway/Open Space	-	-	0.03
8333	668529.0	4281225.0	Residential	0.57	0.002	0.01
8334	668539.0	4281225.0	Residential	0.63	0.003	0.02
8335	668549.0	4281225.0	Residential	0.70	0.003	0.02
8336	668559.0	4281225.0	Roadway/Open Space	-	-	0.02
8337	668569.0	4281225.0	Roadway/Open Space	-	-	0.03
8338	668579.0	4281225.0	Roadway/Open Space	-	-	0.03
8339	668589.0	4281225.0	Roadway/Open Space	-	-	0.03
8340	668599.0	4281225.0	Roadway/Open Space	-	-	0.03
8341	668609.0	4281225.0	Roadway/Open Space	-	-	0.03
8342	668619.0	4281225.0	Roadway/Open Space	-	-	0.03
8343	668629.0	4281225.0	Roadway/Open Space	-	-	0.03
8344	668639.0	4281225.0	Roadway/Open Space	-	-	0.02
8345	668649.0	4281225.0	Roadway/Open Space	-	-	0.02
8346	668659.0	4281225.0	Roadway/Open Space	-	-	0.02
8347	668669.0	4281225.0	Roadway/Open Space	-	-	0.02
8348	668679.0	4281225.0	Roadway/Open Space	-	-	0.03
8349	668689.0	4281225.0	Roadway/Open Space	-	-	0.03
8350	668699.0	4281225.0	Roadway/Open Space	-	-	0.03
8351	668709.0	4281225.0	Roadway/Open Space	-	-	0.03
8352	668719.0	4281225.0	Roadway/Open Space	-	-	0.03

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
8353	668729.0	4281225.0	Roadway/Open Space	-	-	0.03
8354	668739.0	4281225.0	Roadway/Open Space	-	-	0.04
8355	668749.0	4281225.0	Roadway/Open Space	-	-	0.05
8356	668759.0	4281225.0	Roadway/Open Space	-	-	0.05
8357	668769.0	4281225.0	Roadway/Open Space	-	-	0.05
8358	668779.0	4281225.0	Other Sensitive	3.55	0.015	0.06
8359	668789.0	4281225.0	Other Sensitive	3.78	0.016	0.06
8360	668799.0	4281225.0	Other Sensitive	4.03	0.017	0.06
8361	668809.0	4281225.0	Other Sensitive	4.28	0.018	0.06
8362	668819.0	4281225.0	Other Sensitive	4.54	0.019	0.07
8363	668829.0	4281225.0	Other Sensitive	4.78	0.020	0.07
8364	668839.0	4281225.0	Other Sensitive	5.06	0.021	0.07
8365	668849.0	4281225.0	Other Sensitive	5.41	0.022	0.07
8366	668859.0	4281225.0	Other Sensitive	5.80	0.024	0.07
8367	668869.0	4281225.0	Other Sensitive	6.23	0.026	0.08
8368	668879.0	4281225.0	Roadway/Open Space	-	-	0.08
8369	668889.0	4281225.0	Roadway/Open Space	-	-	0.08
8370	668899.0	4281225.0	Roadway/Open Space	-	-	0.09
8371	668909.0	4281225.0	Roadway/Open Space	-	-	0.09
8372	668919.0	4281225.0	Roadway/Open Space	-	-	0.09
8373	668929.0	4281225.0	Roadway/Open Space	-	-	0.09
8374	669289.0	4281225.0	Roadway/Open Space	-	-	0.05
8375	669299.0	4281225.0	Roadway/Open Space	-	-	0.05
8376	669309.0	4281225.0	Roadway/Open Space	-	-	0.04
8377	669319.0	4281225.0	Roadway/Open Space	-	-	0.04
8378	669329.0	4281225.0	Residential	3.64	0.015	0.04
8379	669339.0	4281225.0	Residential	3.45	0.014	0.04
8380	669349.0	4281225.0	Residential	3.26	0.013	0.03
8381	669359.0	4281225.0	Residential	3.08	0.013	0.03
8382	669369.0	4281225.0	Residential	2.94	0.012	0.03
8383	669379.0	4281225.0	Residential	2.86	0.012	0.03
8384	669389.0	4281225.0	Residential	2.80	0.012	0.03
8385	669399.0	4281225.0	Residential	2.70	0.011	0.03
8386	669409.0	4281225.0	Residential	2.56	0.011	0.03
8387	669419.0	4281225.0	Residential	2.40	0.010	0.03
8388	669429.0	4281225.0	Residential	2.28	0.009	0.03
8389	669439.0	4281225.0	Roadway/Open Space	-	-	0.03
8390	669449.0	4281225.0	Residential	2.11	0.009	0.03
8391	669459.0	4281225.0	Residential	2.06	0.008	0.03
8392	669469.0	4281225.0	Residential	2.00	0.008	0.03
8393	669479.0	4281225.0	Residential	1.92	0.008	0.03
8394	669489.0	4281225.0	Roadway/Open Space	-	-	0.03
8395	669499.0	4281225.0	Roadway/Open Space	-	-	0.03
8396	668539.0	4281235.0	Residential	0.63	0.003	0.02
8397	668549.0	4281235.0	Roadway/Open Space	-	-	0.02
8398	668559.0	4281235.0	Roadway/Open Space	-	-	0.02
8399	668569.0	4281235.0	Roadway/Open Space	-	-	0.03
8400	668579.0	4281235.0	Roadway/Open Space	-	-	0.03
8401	668589.0	4281235.0	Roadway/Open Space	-	-	0.03
8402	668599.0	4281235.0	Roadway/Open Space	-	-	0.03
8403	668609.0	4281235.0	Roadway/Open Space	-	-	0.03
8404	668619.0	4281235.0	Roadway/Open Space	-	-	0.03
8405	668629.0	4281235.0	Roadway/Open Space	-	-	0.02
8406	668639.0	4281235.0	Roadway/Open Space	-	-	0.02
8407	668649.0	4281235.0	Roadway/Open Space	-	-	0.02
8408	668659.0	4281235.0	Roadway/Open Space	-	-	0.02
8409	668669.0	4281235.0	Roadway/Open Space	-	-	0.02
8410	668679.0	4281235.0	Roadway/Open Space	-	-	0.03
8411	668689.0	4281235.0	Roadway/Open Space	-	-	0.03
8412	668699.0	4281235.0	Roadway/Open Space	-	-	0.03
8413	668709.0	4281235.0	Roadway/Open Space	-	-	0.03
8414	668719.0	4281235.0	Roadway/Open Space	-	-	0.03
8415	668729.0	4281235.0	Roadway/Open Space	-	-	0.03
8416	668739.0	4281235.0	Roadway/Open Space	-	-	0.04
8417	668749.0	4281235.0	Roadway/Open Space	-	-	0.05
8418	668759.0	4281235.0	Roadway/Open Space	-	-	0.05
8419	668769.0	4281235.0	Other Sensitive	3.33	0.014	0.05
8420	668779.0	4281235.0	Other Sensitive	3.52	0.015	0.06
8421	668789.0	4281235.0	Other Sensitive	3.73	0.015	0.06
8422	668799.0	4281235.0	Other Sensitive	3.96	0.016	0.06
8423	668809.0	4281235.0	Other Sensitive	4.18	0.017	0.06
8424	668819.0	4281235.0	Other Sensitive	4.38	0.018	0.06
8425	668829.0	4281235.0	Other Sensitive	4.60	0.019	0.06
8426	668839.0	4281235.0	Other Sensitive	4.88	0.020	0.07
8427	668849.0	4281235.0	Other Sensitive	5.21	0.022	0.07
8428	668859.0	4281235.0	Other Sensitive	5.60	0.023	0.07
8429	668869.0	4281235.0	Other Sensitive	5.98	0.025	0.07
8430	668879.0	4281235.0	Other Sensitive	6.32	0.026	0.08
8431	668889.0	4281235.0	Other Sensitive	6.69	0.028	0.08
8432	668899.0	4281235.0	Roadway/Open Space	-	-	0.08
8433	668909.0	4281235.0	Roadway/Open Space	-	-	0.09
8434	668919.0	4281235.0	Roadway/Open Space	-	-	0.09
8435	668929.0	4281235.0	Roadway/Open Space	-	-	0.08
8436	668939.0	4281235.0	Roadway/Open Space	-	-	0.10

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
8437	668949.0	4281235.0	Roadway/Open Space	-	-	0.13
8438	668959.0	4281235.0	Roadway/Open Space	-	-	0.14
8439	668969.0	4281235.0	Roadway/Open Space	-	-	0.14
8440	668979.0	4281235.0	Residential	10.43	0.043	0.14
8441	668989.0	4281235.0	Residential	10.64	0.044	0.15
8442	668999.0	4281235.0	Residential	10.81	0.045	0.14
8443	669009.0	4281235.0	Residential	10.91	0.046	0.14
8444	669019.0	4281235.0	Residential	10.92	0.046	0.14
8445	669029.0	4281235.0	Residential	10.89	0.045	0.13
8446	669039.0	4281235.0	Residential	10.94	0.046	0.13
8447	669049.0	4281235.0	Residential	10.97	0.046	0.13
8448	669059.0	4281235.0	Residential	10.88	0.045	0.12
8449	669069.0	4281235.0	Residential	10.99	0.046	0.12
8450	669079.0	4281235.0	Residential	11.04	0.046	0.12
8451	669089.0	4281235.0	Residential	10.87	0.046	0.12
8452	669099.0	4281235.0	Residential	10.61	0.044	0.11
8453	669109.0	4281235.0	Residential	10.32	0.043	0.11
8454	669119.0	4281235.0	Residential	10.05	0.042	0.11
8455	669129.0	4281235.0	Residential	9.69	0.041	0.09
8456	669139.0	4281235.0	Residential	9.33	0.039	0.09
8457	669149.0	4281235.0	Residential	8.94	0.037	0.09
8458	669159.0	4281235.0	Residential	8.53	0.036	0.09
8459	669169.0	4281235.0	Residential	8.12	0.034	0.08
8460	669179.0	4281235.0	Residential	7.72	0.032	0.07
8461	669289.0	4281235.0	Roadway/Open Space	-	-	0.04
8462	669299.0	4281235.0	Roadway/Open Space	-	-	0.04
8463	669309.0	4281235.0	Roadway/Open Space	-	-	0.04
8464	669319.0	4281235.0	Residential	3.75	0.015	0.04
8465	669329.0	4281235.0	Residential	3.56	0.015	0.04
8466	669339.0	4281235.0	Residential	3.38	0.014	0.04
8467	669349.0	4281235.0	Residential	3.21	0.013	0.03
8468	669359.0	4281235.0	Residential	3.04	0.013	0.03
8469	669369.0	4281235.0	Residential	2.90	0.012	0.03
8470	669379.0	4281235.0	Residential	2.81	0.012	0.03
8471	669389.0	4281235.0	Residential	2.74	0.011	0.03
8472	669399.0	4281235.0	Residential	2.65	0.011	0.03
8473	669409.0	4281235.0	Residential	2.51	0.010	0.03
8474	669419.0	4281235.0	Residential	2.36	0.010	0.03
8475	669429.0	4281235.0	Residential	2.25	0.009	0.03
8476	669439.0	4281235.0	Roadway/Open Space	-	-	0.03
8477	669449.0	4281235.0	Residential	2.07	0.009	0.03
8478	669459.0	4281235.0	Residential	2.01	0.008	0.03
8479	669469.0	4281235.0	Residential	1.94	0.008	0.03
8480	669479.0	4281235.0	Residential	1.86	0.008	0.03
8481	669489.0	4281235.0	Residential	1.79	0.007	0.03
8482	668539.0	4281245.0	Residential	0.64	0.003	0.02
8483	668549.0	4281245.0	Roadway/Open Space	-	-	0.02
8484	668559.0	4281245.0	Roadway/Open Space	-	-	0.02
8485	668569.0	4281245.0	Roadway/Open Space	-	-	0.03
8486	668579.0	4281245.0	Roadway/Open Space	-	-	0.03
8487	668589.0	4281245.0	Roadway/Open Space	-	-	0.03
8488	668599.0	4281245.0	Roadway/Open Space	-	-	0.03
8489	668609.0	4281245.0	Roadway/Open Space	-	-	0.03
8490	668619.0	4281245.0	Roadway/Open Space	-	-	0.03
8491	668629.0	4281245.0	Roadway/Open Space	-	-	0.02
8492	668639.0	4281245.0	Roadway/Open Space	-	-	0.02
8493	668649.0	4281245.0	Roadway/Open Space	-	-	0.02
8494	668659.0	4281245.0	Roadway/Open Space	-	-	0.02
8495	668669.0	4281245.0	Roadway/Open Space	-	-	0.02
8496	668679.0	4281245.0	Roadway/Open Space	-	-	0.03
8497	668689.0	4281245.0	Roadway/Open Space	-	-	0.03
8498	668699.0	4281245.0	Roadway/Open Space	-	-	0.03
8499	668709.0	4281245.0	Roadway/Open Space	-	-	0.03
8500	668719.0	4281245.0	Roadway/Open Space	-	-	0.03
8501	668729.0	4281245.0	Roadway/Open Space	-	-	0.04
8502	668739.0	4281245.0	Roadway/Open Space	-	-	0.04
8503	668749.0	4281245.0	Roadway/Open Space	-	-	0.05
8504	668759.0	4281245.0	Roadway/Open Space	-	-	0.05
8505	668769.0	4281245.0	Other Sensitive	3.30	0.014	0.05
8506	668779.0	4281245.0	Other Sensitive	3.47	0.014	0.06
8507	668789.0	4281245.0	Other Sensitive	3.67	0.015	0.06
8508	668799.0	4281245.0	Other Sensitive	3.88	0.016	0.06
8509	668809.0	4281245.0	Other Sensitive	4.08	0.017	0.06
8510	668819.0	4281245.0	Other Sensitive	4.25	0.018	0.06
8511	668829.0	4281245.0	Other Sensitive	4.45	0.018	0.06
8512	668839.0	4281245.0	Other Sensitive	4.71	0.019	0.06
8513	668849.0	4281245.0	Other Sensitive	5.03	0.021	0.07
8514	668859.0	4281245.0	Other Sensitive	5.39	0.022	0.07
8515	668869.0	4281245.0	Other Sensitive	5.71	0.024	0.07
8516	668879.0	4281245.0	Other Sensitive	6.03	0.025	0.08
8517	668889.0	4281245.0	Other Sensitive	6.37	0.026	0.08
8518	668899.0	4281245.0	Other Sensitive	6.77	0.028	0.08
8519	668909.0	4281245.0	Other Sensitive	7.16	0.030	0.08
8520	668919.0	4281245.0	Other Sensitive	7.59	0.031	0.09

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
8521	668929.0	4281245.0	Other Sensitive	8.10	0.034	0.08
8522	668939.0	4281245.0	Other Sensitive	8.51	0.035	0.10
8523	668949.0	4281245.0	Other Sensitive	8.82	0.037	0.13
8524	668959.0	4281245.0	Other Sensitive	9.15	0.038	0.13
8525	668969.0	4281245.0	Roadway/Open Space	-	-	0.13
8526	668979.0	4281245.0	Residential	9.63	0.040	0.14
8527	668989.0	4281245.0	Residential	9.76	0.041	0.14
8528	668999.0	4281245.0	Residential	9.88	0.041	0.13
8529	669009.0	4281245.0	Residential	9.99	0.042	0.13
8530	669019.0	4281245.0	Residential	9.97	0.042	0.13
8531	669029.0	4281245.0	Residential	9.93	0.041	0.12
8532	669039.0	4281245.0	Residential	9.95	0.041	0.12
8533	669049.0	4281245.0	Residential	9.95	0.042	0.12
8534	669059.0	4281245.0	Residential	9.96	0.042	0.11
8535	669069.0	4281245.0	Residential	10.13	0.042	0.11
8536	669079.0	4281245.0	Residential	10.19	0.043	0.11
8537	669089.0	4281245.0	Residential	10.01	0.042	0.11
8538	669099.0	4281245.0	Residential	9.83	0.041	0.10
8539	669109.0	4281245.0	Residential	9.61	0.040	0.10
8540	669119.0	4281245.0	Residential	9.38	0.039	0.10
8541	669129.0	4281245.0	Residential	9.13	0.038	0.09
8542	669139.0	4281245.0	Residential	8.80	0.037	0.09
8543	669149.0	4281245.0	Residential	8.47	0.035	0.08
8544	669159.0	4281245.0	Residential	8.12	0.034	0.08
8545	669169.0	4281245.0	Residential	7.76	0.032	0.08
8546	669179.0	4281245.0	Residential	7.40	0.031	0.07
8547	669189.0	4281245.0	Residential	7.06	0.029	0.06
8548	669199.0	4281245.0	Residential	6.73	0.028	0.06
8549	669209.0	4281245.0	Residential	6.41	0.027	0.06
8550	669219.0	4281245.0	Residential	6.11	0.025	0.06
8551	669229.0	4281245.0	Residential	5.83	0.024	0.05
8552	669239.0	4281245.0	Residential	5.53	0.023	0.05
8553	669249.0	4281245.0	Roadway/Open Space	-	-	0.05
8554	669259.0	4281245.0	Roadway/Open Space	-	-	0.05
8555	669269.0	4281245.0	Roadway/Open Space	-	-	0.04
8556	669279.0	4281245.0	Roadway/Open Space	-	-	0.04
8557	669289.0	4281245.0	Roadway/Open Space	-	-	0.04
8558	669299.0	4281245.0	Roadway/Open Space	-	-	0.04
8559	669309.0	4281245.0	Residential	3.87	0.016	0.04
8560	669319.0	4281245.0	Residential	3.67	0.015	0.04
8561	669329.0	4281245.0	Residential	3.48	0.014	0.04
8562	669339.0	4281245.0	Residential	3.31	0.014	0.04
8563	669349.0	4281245.0	Residential	3.14	0.013	0.03
8564	669359.0	4281245.0	Residential	2.99	0.012	0.03
8565	669369.0	4281245.0	Residential	2.86	0.012	0.03
8566	669379.0	4281245.0	Residential	2.76	0.011	0.03
8567	669389.0	4281245.0	Residential	2.67	0.011	0.03
8568	669399.0	4281245.0	Residential	2.56	0.011	0.03
8569	669409.0	4281245.0	Residential	2.43	0.010	0.03
8570	669419.0	4281245.0	Residential	2.31	0.009	0.03
8571	669429.0	4281245.0	Roadway/Open Space	-	-	0.03
8572	669439.0	4281245.0	Roadway/Open Space	-	-	0.03
8573	669449.0	4281245.0	Residential	2.02	0.008	0.03
8574	669459.0	4281245.0	Residential	1.94	0.008	0.03
8575	669469.0	4281245.0	Residential	1.87	0.008	0.02
8576	669479.0	4281245.0	Residential	1.80	0.007	0.02
8577	669489.0	4281245.0	Residential	1.73	0.007	0.02
8578	668549.0	4281255.0	Roadway/Open Space	-	-	0.02
8579	668559.0	4281255.0	Roadway/Open Space	-	-	0.02
8580	668569.0	4281255.0	Roadway/Open Space	-	-	0.03
8581	668579.0	4281255.0	Roadway/Open Space	-	-	0.03
8582	668589.0	4281255.0	Roadway/Open Space	-	-	0.03
8583	668599.0	4281255.0	Roadway/Open Space	-	-	0.03
8584	668609.0	4281255.0	Roadway/Open Space	-	-	0.03
8585	668619.0	4281255.0	Roadway/Open Space	-	-	0.03
8586	668629.0	4281255.0	Roadway/Open Space	-	-	0.02
8587	668639.0	4281255.0	Roadway/Open Space	-	-	0.02
8588	668649.0	4281255.0	Roadway/Open Space	-	-	0.02
8589	668659.0	4281255.0	Roadway/Open Space	-	-	0.02
8590	668669.0	4281255.0	Roadway/Open Space	-	-	0.03
8591	668679.0	4281255.0	Roadway/Open Space	-	-	0.03
8592	668689.0	4281255.0	Roadway/Open Space	-	-	0.03
8593	668699.0	4281255.0	Roadway/Open Space	-	-	0.03
8594	668709.0	4281255.0	Roadway/Open Space	-	-	0.03
8595	668719.0	4281255.0	Roadway/Open Space	-	-	0.04
8596	668729.0	4281255.0	Roadway/Open Space	-	-	0.04
8597	668739.0	4281255.0	Roadway/Open Space	-	-	0.05
8598	668749.0	4281255.0	Roadway/Open Space	-	-	0.05
8599	668759.0	4281255.0	Other Sensitive	3.11	0.013	0.05
8600	668769.0	4281255.0	Other Sensitive	3.25	0.013	0.05
8601	668779.0	4281255.0	Other Sensitive	3.40	0.014	0.05
8602	668789.0	4281255.0	Other Sensitive	3.59	0.015	0.05
8603	668799.0	4281255.0	Other Sensitive	3.79	0.016	0.06
8604	668809.0	4281255.0	Other Sensitive	3.96	0.016	0.06

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
8605	668819.0	4281255.0	Other Sensitive	4.12	0.017	0.06
8606	668829.0	4281255.0	Other Sensitive	4.31	0.018	0.06
8607	668839.0	4281255.0	Other Sensitive	4.57	0.019	0.06
8608	668849.0	4281255.0	Other Sensitive	4.86	0.020	0.07
8609	668859.0	4281255.0	Other Sensitive	5.17	0.021	0.07
8610	668869.0	4281255.0	Other Sensitive	5.45	0.023	0.07
8611	668879.0	4281255.0	Other Sensitive	5.76	0.024	0.07
8612	668889.0	4281255.0	Other Sensitive	6.10	0.025	0.07
8613	668899.0	4281255.0	Other Sensitive	6.47	0.027	0.08
8614	668909.0	4281255.0	Other Sensitive	6.83	0.028	0.08
8615	668919.0	4281255.0	Other Sensitive	7.23	0.030	0.08
8616	668929.0	4281255.0	Other Sensitive	7.67	0.032	0.09
8617	668939.0	4281255.0	Other Sensitive	8.00	0.033	0.11
8618	668949.0	4281255.0	Other Sensitive	8.28	0.034	0.12
8619	668959.0	4281255.0	Other Sensitive	8.55	0.036	0.12
8620	668969.0	4281255.0	Other Sensitive	8.74	0.036	0.13
8621	668979.0	4281255.0	Residential	8.89	0.037	0.13
8622	668989.0	4281255.0	Residential	8.99	0.037	0.13
8623	668999.0	4281255.0	Residential	9.04	0.038	0.12
8624	669009.0	4281255.0	Residential	9.09	0.038	0.12
8625	669019.0	4281255.0	Residential	9.05	0.038	0.12
8626	669029.0	4281255.0	Residential	9.01	0.038	0.11
8627	669039.0	4281255.0	Residential	9.04	0.038	0.11
8628	669049.0	4281255.0	Residential	9.05	0.038	0.10
8629	669059.0	4281255.0	Residential	9.17	0.038	0.10
8630	669069.0	4281255.0	Residential	9.39	0.039	0.11
8631	669079.0	4281255.0	Residential	9.44	0.039	0.11
8632	669089.0	4281255.0	Residential	9.26	0.039	0.10
8633	669099.0	4281255.0	Residential	9.13	0.038	0.10
8634	669109.0	4281255.0	Residential	9.01	0.038	0.09
8635	669119.0	4281255.0	Residential	8.79	0.037	0.09
8636	669129.0	4281255.0	Residential	8.56	0.036	0.09
8637	669139.0	4281255.0	Residential	8.31	0.035	0.08
8638	669149.0	4281255.0	Residential	8.03	0.034	0.08
8639	669159.0	4281255.0	Residential	7.73	0.032	0.07
8640	669169.0	4281255.0	Residential	7.41	0.031	0.07
8641	669179.0	4281255.0	Residential	7.09	0.029	0.07
8642	669189.0	4281255.0	Residential	6.78	0.028	0.06
8643	669199.0	4281255.0	Residential	6.48	0.027	0.06
8644	669209.0	4281255.0	Residential	6.18	0.026	0.05
8645	669219.0	4281255.0	Residential	5.90	0.024	0.05
8646	669229.0	4281255.0	Residential	5.62	0.023	0.05
8647	669239.0	4281255.0	Residential	5.35	0.022	0.05
8648	669249.0	4281255.0	Residential	5.08	0.021	0.04
8649	669259.0	4281255.0	Roadway/Open Space	-	-	0.04
8650	669269.0	4281255.0	Roadway/Open Space	-	-	0.04
8651	669279.0	4281255.0	Roadway/Open Space	-	-	0.04
8652	669289.0	4281255.0	Roadway/Open Space	-	-	0.04
8653	669299.0	4281255.0	Residential	3.99	0.016	0.04
8654	669309.0	4281255.0	Roadway/Open Space	-	-	0.04
8655	669319.0	4281255.0	Residential	3.60	0.015	0.03
8656	669329.0	4281255.0	Residential	3.41	0.014	0.03
8657	669339.0	4281255.0	Residential	3.24	0.013	0.03
8658	669349.0	4281255.0	Residential	3.08	0.013	0.03
8659	669359.0	4281255.0	Residential	2.93	0.012	0.03
8660	669369.0	4281255.0	Residential	2.81	0.012	0.03
8661	669379.0	4281255.0	Residential	2.70	0.011	0.03
8662	669389.0	4281255.0	Residential	2.59	0.011	0.03
8663	669399.0	4281255.0	Residential	2.47	0.010	0.03
8664	669409.0	4281255.0	Residential	2.36	0.010	0.03
8665	669419.0	4281255.0	Residential	2.24	0.009	0.03
8666	669429.0	4281255.0	Roadway/Open Space	-	-	0.03
8667	669439.0	4281255.0	Residential	2.05	0.008	0.02
8668	669449.0	4281255.0	Residential	1.96	0.008	0.02
8669	669459.0	4281255.0	Residential	1.88	0.008	0.02
8670	669469.0	4281255.0	Residential	1.80	0.007	0.02
8671	669479.0	4281255.0	Residential	1.73	0.007	0.02
8672	668549.0	4281265.0	Roadway/Open Space	-	-	0.02
8673	668559.0	4281265.0	Roadway/Open Space	-	-	0.02
8674	668569.0	4281265.0	Roadway/Open Space	-	-	0.03
8675	668579.0	4281265.0	Roadway/Open Space	-	-	0.03
8676	668589.0	4281265.0	Roadway/Open Space	-	-	0.03
8677	668599.0	4281265.0	Roadway/Open Space	-	-	0.03
8678	668609.0	4281265.0	Roadway/Open Space	-	-	0.03
8679	668619.0	4281265.0	Roadway/Open Space	-	-	0.03
8680	668629.0	4281265.0	Roadway/Open Space	-	-	0.02
8681	668639.0	4281265.0	Roadway/Open Space	-	-	0.02
8682	668649.0	4281265.0	Roadway/Open Space	-	-	0.02
8683	668659.0	4281265.0	Roadway/Open Space	-	-	0.02
8684	668669.0	4281265.0	Roadway/Open Space	-	-	0.03
8685	668679.0	4281265.0	Roadway/Open Space	-	-	0.03
8686	668689.0	4281265.0	Roadway/Open Space	-	-	0.03
8687	668699.0	4281265.0	Roadway/Open Space	-	-	0.03
8688	668709.0	4281265.0	Roadway/Open Space	-	-	0.03

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
8689	668719.0	4281265.0	Roadway/Open Space	-	-	0.04
8690	668729.0	4281265.0	Roadway/Open Space	-	-	0.04
8691	668739.0	4281265.0	Roadway/Open Space	-	-	0.05
8692	668749.0	4281265.0	Other Sensitive	2.92	0.012	0.05
8693	668759.0	4281265.0	Other Sensitive	3.07	0.013	0.05
8694	668769.0	4281265.0	Other Sensitive	3.20	0.013	0.05
8695	668779.0	4281265.0	Other Sensitive	3.32	0.014	0.05
8696	668789.0	4281265.0	Other Sensitive	3.49	0.014	0.05
8697	668799.0	4281265.0	Other Sensitive	3.67	0.015	0.05
8698	668809.0	4281265.0	Other Sensitive	3.83	0.016	0.06
8699	668819.0	4281265.0	Other Sensitive	3.99	0.016	0.06
8700	668829.0	4281265.0	Other Sensitive	4.19	0.017	0.06
8701	668839.0	4281265.0	Other Sensitive	4.42	0.018	0.06
8702	668849.0	4281265.0	Other Sensitive	4.69	0.019	0.06
8703	668859.0	4281265.0	Other Sensitive	4.96	0.021	0.07
8704	668869.0	4281265.0	Other Sensitive	5.24	0.022	0.07
8705	668879.0	4281265.0	Other Sensitive	5.53	0.023	0.07
8706	668889.0	4281265.0	Other Sensitive	5.87	0.024	0.07
8707	668899.0	4281265.0	Other Sensitive	6.21	0.026	0.07
8708	668909.0	4281265.0	Other Sensitive	6.54	0.027	0.08
8709	668919.0	4281265.0	Other Sensitive	6.91	0.029	0.08
8710	668929.0	4281265.0	Other Sensitive	7.28	0.030	0.09
8711	668939.0	4281265.0	Other Sensitive	7.54	0.031	0.11
8712	668949.0	4281265.0	Other Sensitive	7.79	0.032	0.12
8713	668959.0	4281265.0	Other Sensitive	8.00	0.033	0.12
8714	668969.0	4281265.0	Other Sensitive	8.12	0.034	0.12
8715	668979.0	4281265.0	Residential	8.21	0.034	0.12
8716	668989.0	4281265.0	Residential	8.27	0.034	0.12
8717	668999.0	4281265.0	Residential	8.24	0.034	0.11
8718	669009.0	4281265.0	Residential	8.21	0.034	0.11
8719	669019.0	4281265.0	Residential	8.18	0.034	0.10
8720	669029.0	4281265.0	Residential	8.15	0.034	0.10
8721	669039.0	4281265.0	Residential	8.21	0.034	0.09
8722	669049.0	4281265.0	Residential	8.28	0.034	0.09
8723	669059.0	4281265.0	Residential	8.50	0.035	0.10
8724	669069.0	4281265.0	Residential	8.74	0.036	0.10
8725	669079.0	4281265.0	Residential	8.78	0.037	0.10
8726	669089.0	4281265.0	Residential	8.66	0.036	0.10
8727	669099.0	4281265.0	Residential	8.56	0.036	0.09
8728	669109.0	4281265.0	Residential	8.45	0.035	0.09
8729	669119.0	4281265.0	Residential	8.28	0.035	0.08
8730	669129.0	4281265.0	Residential	8.07	0.034	0.08
8731	669139.0	4281265.0	Residential	7.85	0.033	0.08
8732	669149.0	4281265.0	Residential	7.59	0.032	0.07
8733	669159.0	4281265.0	Residential	7.32	0.031	0.07
8734	669169.0	4281265.0	Residential	7.06	0.029	0.07
8735	669179.0	4281265.0	Residential	6.78	0.028	0.07
8736	669189.0	4281265.0	Residential	6.50	0.027	0.06
8737	669199.0	4281265.0	Residential	6.22	0.026	0.05
8738	669209.0	4281265.0	Residential	5.95	0.025	0.05
8739	669219.0	4281265.0	Residential	5.69	0.024	0.05
8740	669229.0	4281265.0	Residential	5.43	0.023	0.05
8741	669239.0	4281265.0	Residential	5.18	0.021	0.05
8742	669249.0	4281265.0	Residential	4.93	0.020	0.04
8743	669259.0	4281265.0	Roadway/Open Space	-	-	0.04
8744	669269.0	4281265.0	Roadway/Open Space	-	-	0.04
8745	669279.0	4281265.0	Residential	4.26	0.018	0.04
8746	669289.0	4281265.0	Residential	4.07	0.017	0.04
8747	669299.0	4281265.0	Residential	3.90	0.016	0.03
8748	669309.0	4281265.0	Residential	3.71	0.015	0.03
8749	669319.0	4281265.0	Roadway/Open Space	-	-	0.03
8750	669329.0	4281265.0	Residential	3.34	0.014	0.03
8751	669339.0	4281265.0	Residential	3.16	0.013	0.03
8752	669349.0	4281265.0	Residential	3.01	0.012	0.03
8753	669359.0	4281265.0	Residential	2.87	0.012	0.03
8754	669369.0	4281265.0	Residential	2.75	0.011	0.03
8755	669379.0	4281265.0	Residential	2.63	0.011	0.03
8756	669389.0	4281265.0	Residential	2.51	0.010	0.03
8757	669399.0	4281265.0	Residential	2.40	0.010	0.03
8758	669409.0	4281265.0	Residential	2.29	0.009	0.03
8759	669419.0	4281265.0	Roadway/Open Space	-	-	0.03
8760	669429.0	4281265.0	Roadway/Open Space	-	-	0.02
8761	669439.0	4281265.0	Residential	1.99	0.008	0.02
8762	669449.0	4281265.0	Residential	1.90	0.008	0.02
8763	669459.0	4281265.0	Residential	1.82	0.007	0.02
8764	669469.0	4281265.0	Residential	1.74	0.007	0.02
8765	669479.0	4281265.0	Residential	1.68	0.007	0.02
8766	668559.0	4281275.0	Roadway/Open Space	-	-	0.02
8767	668569.0	4281275.0	Roadway/Open Space	-	-	0.03
8768	668579.0	4281275.0	Roadway/Open Space	-	-	0.03
8769	668589.0	4281275.0	Roadway/Open Space	-	-	0.03
8770	668599.0	4281275.0	Roadway/Open Space	-	-	0.03
8771	668609.0	4281275.0	Roadway/Open Space	-	-	0.03
8772	668619.0	4281275.0	Roadway/Open Space	-	-	0.02

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
8773	668629.0	4281275.0	Roadway/Open Space	-	-	0.02
8774	668639.0	4281275.0	Roadway/Open Space	-	-	0.02
8775	668649.0	4281275.0	Roadway/Open Space	-	-	0.02
8776	668659.0	4281275.0	Roadway/Open Space	-	-	0.03
8777	668669.0	4281275.0	Roadway/Open Space	-	-	0.03
8778	668679.0	4281275.0	Roadway/Open Space	-	-	0.03
8779	668689.0	4281275.0	Roadway/Open Space	-	-	0.03
8780	668699.0	4281275.0	Roadway/Open Space	-	-	0.03
8781	668709.0	4281275.0	Roadway/Open Space	-	-	0.04
8782	668719.0	4281275.0	Roadway/Open Space	-	-	0.04
8783	668729.0	4281275.0	Roadway/Open Space	-	-	0.04
8784	668739.0	4281275.0	Roadway/Open Space	-	-	0.05
8785	668749.0	4281275.0	Other Sensitive	2.86	0.012	0.05
8786	668759.0	4281275.0	Other Sensitive	3.02	0.012	0.05
8787	668769.0	4281275.0	Other Sensitive	3.14	0.013	0.05
8788	668779.0	4281275.0	Other Sensitive	3.25	0.013	0.05
8789	668789.0	4281275.0	Other Sensitive	3.40	0.014	0.05
8790	668799.0	4281275.0	Other Sensitive	3.55	0.015	0.05
8791	668809.0	4281275.0	Other Sensitive	3.69	0.015	0.05
8792	668819.0	4281275.0	Other Sensitive	3.86	0.016	0.06
8793	668829.0	4281275.0	Other Sensitive	4.06	0.017	0.06
8794	668839.0	4281275.0	Other Sensitive	4.28	0.018	0.06
8795	668849.0	4281275.0	Other Sensitive	4.53	0.019	0.06
8796	668859.0	4281275.0	Other Sensitive	4.78	0.020	0.07
8797	668869.0	4281275.0	Other Sensitive	5.04	0.021	0.07
8798	668879.0	4281275.0	Other Sensitive	5.34	0.022	0.07
8799	668889.0	4281275.0	Other Sensitive	5.67	0.023	0.07
8800	668899.0	4281275.0	Other Sensitive	5.97	0.025	0.07
8801	668909.0	4281275.0	Other Sensitive	6.27	0.026	0.08
8802	668919.0	4281275.0	Other Sensitive	6.61	0.027	0.08
8803	668929.0	4281275.0	Other Sensitive	6.90	0.029	0.09
8804	668939.0	4281275.0	Other Sensitive	7.12	0.030	0.11
8805	668949.0	4281275.0	Other Sensitive	7.35	0.031	0.11
8806	668959.0	4281275.0	Other Sensitive	7.51	0.031	0.11
8807	668969.0	4281275.0	Other Sensitive	7.59	0.032	0.12
8808	668979.0	4281275.0	Roadway/Open Space	-	-	0.12
8809	668989.0	4281275.0	Roadway/Open Space	-	-	0.11
8810	668999.0	4281275.0	Residential	7.51	0.031	0.10
8811	669009.0	4281275.0	Residential	7.42	0.031	0.10
8812	669019.0	4281275.0	Residential	7.39	0.031	0.09
8813	669029.0	4281275.0	Residential	7.40	0.031	0.09
8814	669039.0	4281275.0	Residential	7.47	0.031	0.08
8815	669049.0	4281275.0	Residential	7.59	0.032	0.09
8816	669059.0	4281275.0	Residential	7.83	0.033	0.09
8817	669069.0	4281275.0	Residential	8.10	0.034	0.09
8818	669079.0	4281275.0	Residential	8.20	0.034	0.09
8819	669089.0	4281275.0	Residential	8.14	0.034	0.09
8820	669099.0	4281275.0	Residential	8.03	0.034	0.09
8821	669109.0	4281275.0	Residential	7.94	0.033	0.08
8822	669119.0	4281275.0	Residential	7.81	0.033	0.08
8823	669129.0	4281275.0	Residential	7.63	0.032	0.08
8824	669139.0	4281275.0	Residential	7.42	0.031	0.07
8825	669149.0	4281275.0	Residential	7.19	0.030	0.07
8826	669159.0	4281275.0	Residential	6.96	0.029	0.07
8827	669169.0	4281275.0	Residential	6.72	0.028	0.06
8828	669179.0	4281275.0	Residential	6.48	0.027	0.06
8829	669189.0	4281275.0	Residential	6.23	0.026	0.06
8830	669199.0	4281275.0	Residential	5.97	0.025	0.05
8831	669209.0	4281275.0	Residential	5.73	0.024	0.05
8832	669219.0	4281275.0	Residential	5.48	0.023	0.05
8833	669229.0	4281275.0	Roadway/Open Space	-	-	0.05
8834	669239.0	4281275.0	Roadway/Open Space	-	-	0.04
8835	669249.0	4281275.0	Roadway/Open Space	-	-	0.04
8836	669259.0	4281275.0	Residential	4.57	0.019	0.04
8837	669269.0	4281275.0	Residential	4.35	0.018	0.04
8838	669279.0	4281275.0	Residential	4.14	0.017	0.04
8839	669289.0	4281275.0	Residential	3.95	0.016	0.03
8840	669299.0	4281275.0	Residential	3.78	0.016	0.03
8841	669309.0	4281275.0	Residential	3.61	0.015	0.03
8842	669319.0	4281275.0	Residential	3.43	0.014	0.03
8843	669329.0	4281275.0	Roadway/Open Space	-	-	0.03
8844	669339.0	4281275.0	Residential	3.09	0.013	0.03
8845	669349.0	4281275.0	Residential	2.93	0.012	0.03
8846	669359.0	4281275.0	Residential	2.80	0.011	0.03
8847	669369.0	4281275.0	Residential	2.68	0.011	0.03
8848	669379.0	4281275.0	Residential	2.56	0.011	0.03
8849	669389.0	4281275.0	Residential	2.45	0.010	0.03
8850	669399.0	4281275.0	Residential	2.35	0.010	0.03
8851	669409.0	4281275.0	Residential	2.24	0.009	0.03
8852	669419.0	4281275.0	Roadway/Open Space	-	-	0.03
8853	669429.0	4281275.0	Residential	2.04	0.008	0.02
8854	669439.0	4281275.0	Residential	1.95	0.008	0.02
8855	669449.0	4281275.0	Residential	1.86	0.008	0.02
8856	669459.0	4281275.0	Residential	1.77	0.007	0.02

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
8857	669469.0	4281275.0	Residential	1.69	0.007	0.02
8858	668559.0	4281285.0	Roadway/Open Space	-	-	0.02
8859	668569.0	4281285.0	Roadway/Open Space	-	-	0.03
8860	668579.0	4281285.0	Roadway/Open Space	-	-	0.03
8861	668589.0	4281285.0	Roadway/Open Space	-	-	0.03
8862	668599.0	4281285.0	Roadway/Open Space	-	-	0.03
8863	668609.0	4281285.0	Roadway/Open Space	-	-	0.03
8864	668619.0	4281285.0	Roadway/Open Space	-	-	0.02
8865	668629.0	4281285.0	Roadway/Open Space	-	-	0.02
8866	668639.0	4281285.0	Roadway/Open Space	-	-	0.02
8867	668649.0	4281285.0	Roadway/Open Space	-	-	0.03
8868	668659.0	4281285.0	Roadway/Open Space	-	-	0.03
8869	668669.0	4281285.0	Roadway/Open Space	-	-	0.03
8870	668679.0	4281285.0	Roadway/Open Space	-	-	0.03
8871	668689.0	4281285.0	Roadway/Open Space	-	-	0.03
8872	668699.0	4281285.0	Roadway/Open Space	-	-	0.04
8873	668709.0	4281285.0	Roadway/Open Space	-	-	0.04
8874	668719.0	4281285.0	Roadway/Open Space	-	-	0.04
8875	668729.0	4281285.0	Roadway/Open Space	-	-	0.04
8876	668739.0	4281285.0	Other Sensitive	2.68	0.011	0.04
8877	668749.0	4281285.0	Other Sensitive	2.80	0.012	0.05
8878	668759.0	4281285.0	Other Sensitive	2.94	0.012	0.05
8879	668769.0	4281285.0	Other Sensitive	3.07	0.013	0.05
8880	668779.0	4281285.0	Other Sensitive	3.17	0.013	0.05
8881	668789.0	4281285.0	Other Sensitive	3.34	0.014	0.05
8882	668799.0	4281285.0	Other Sensitive	3.48	0.014	0.05
8883	668809.0	4281285.0	Other Sensitive	3.57	0.015	0.05
8884	668819.0	4281285.0	Other Sensitive	3.73	0.015	0.06
8885	668829.0	4281285.0	Other Sensitive	3.92	0.016	0.06
8886	668839.0	4281285.0	Other Sensitive	4.13	0.017	0.06
8887	668849.0	4281285.0	Other Sensitive	4.38	0.018	0.06
8888	668859.0	4281285.0	Other Sensitive	4.61	0.019	0.06
8889	668869.0	4281285.0	Other Sensitive	4.87	0.020	0.06
8890	668879.0	4281285.0	Other Sensitive	5.16	0.021	0.07
8891	668889.0	4281285.0	Other Sensitive	5.47	0.023	0.07
8892	668899.0	4281285.0	Other Sensitive	5.75	0.024	0.07
8893	668909.0	4281285.0	Other Sensitive	6.02	0.025	0.08
8894	668919.0	4281285.0	Other Sensitive	6.32	0.026	0.08
8895	668929.0	4281285.0	Other Sensitive	6.55	0.027	0.10
8896	668939.0	4281285.0	Other Sensitive	6.74	0.028	0.10
8897	668949.0	4281285.0	Other Sensitive	6.93	0.029	0.11
8898	668959.0	4281285.0	Other Sensitive	7.05	0.029	0.11
8899	668969.0	4281285.0	Residential	7.10	0.030	0.11
8900	668979.0	4281285.0	Residential	7.12	0.030	0.11
8901	668989.0	4281285.0	Residential	7.06	0.029	0.10
8902	668999.0	4281285.0	Roadway/Open Space	-	-	0.09
8903	669009.0	4281285.0	Roadway/Open Space	-	-	0.09
8904	669019.0	4281285.0	Residential	6.74	0.028	0.08
8905	669029.0	4281285.0	Residential	6.78	0.028	0.08
8906	669039.0	4281285.0	Residential	6.87	0.029	0.08
8907	669049.0	4281285.0	Residential	7.01	0.029	0.08
8908	669059.0	4281285.0	Roadway/Open Space	-	-	0.08
8909	669069.0	4281285.0	Roadway/Open Space	-	-	0.09
8910	669079.0	4281285.0	Roadway/Open Space	-	-	0.09
8911	669089.0	4281285.0	Roadway/Open Space	-	-	0.09
8912	669099.0	4281285.0	Roadway/Open Space	-	-	0.09
8913	669109.0	4281285.0	Roadway/Open Space	-	-	0.08
8914	669119.0	4281285.0	Roadway/Open Space	-	-	0.08
8915	669129.0	4281285.0	Roadway/Open Space	-	-	0.08
8916	669139.0	4281285.0	Roadway/Open Space	-	-	0.07
8917	669149.0	4281285.0	Roadway/Open Space	-	-	0.07
8918	669159.0	4281285.0	Roadway/Open Space	-	-	0.06
8919	669169.0	4281285.0	Roadway/Open Space	-	-	0.06
8920	669179.0	4281285.0	Roadway/Open Space	-	-	0.06
8921	669189.0	4281285.0	Roadway/Open Space	-	-	0.06
8922	669199.0	4281285.0	Roadway/Open Space	-	-	0.05
8923	669209.0	4281285.0	Roadway/Open Space	-	-	0.05
8924	669219.0	4281285.0	Roadway/Open Space	-	-	0.04
8925	669229.0	4281285.0	Residential	5.07	0.021	0.04
8926	669239.0	4281285.0	Residential	4.85	0.020	0.04
8927	669249.0	4281285.0	Residential	4.65	0.019	0.04
8928	669259.0	4281285.0	Residential	4.44	0.018	0.04
8929	669269.0	4281285.0	Residential	4.23	0.017	0.03
8930	669279.0	4281285.0	Residential	4.03	0.017	0.03
8931	669289.0	4281285.0	Residential	3.84	0.016	0.03
8932	669299.0	4281285.0	Residential	3.66	0.015	0.03
8933	669309.0	4281285.0	Residential	3.49	0.014	0.03
8934	669319.0	4281285.0	Residential	3.33	0.014	0.03
8935	669329.0	4281285.0	Residential	3.16	0.013	0.03
8936	669339.0	4281285.0	Roadway/Open Space	-	-	0.03
8937	669349.0	4281285.0	Roadway/Open Space	-	-	0.03
8938	669359.0	4281285.0	Residential	2.72	0.011	0.02
8939	669369.0	4281285.0	Residential	2.60	0.011	0.03
8940	669379.0	4281285.0	Residential	2.49	0.010	0.03

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
8941	669389.0	4281285.0	Residential	2.40	0.010	0.03
8942	669399.0	4281285.0	Residential	2.31	0.009	0.03
8943	669409.0	4281285.0	Roadway/Open Space	-	-	0.02
8944	669419.0	4281285.0	Residential	2.10	0.009	0.02
8945	669429.0	4281285.0	Residential	2.01	0.008	0.02
8946	669439.0	4281285.0	Residential	1.91	0.008	0.02
8947	669449.0	4281285.0	Residential	1.82	0.007	0.02
8948	669459.0	4281285.0	Residential	1.73	0.007	0.02
8949	668569.0	4281295.0	Roadway/Open Space	-	-	0.03
8950	668579.0	4281295.0	Roadway/Open Space	-	-	0.03
8951	668589.0	4281295.0	Roadway/Open Space	-	-	0.03
8952	668599.0	4281295.0	Roadway/Open Space	-	-	0.03
8953	668609.0	4281295.0	Roadway/Open Space	-	-	0.03
8954	668619.0	4281295.0	Roadway/Open Space	-	-	0.02
8955	668629.0	4281295.0	Roadway/Open Space	-	-	0.02
8956	668639.0	4281295.0	Roadway/Open Space	-	-	0.03
8957	668649.0	4281295.0	Roadway/Open Space	-	-	0.03
8958	668659.0	4281295.0	Roadway/Open Space	-	-	0.03
8959	668669.0	4281295.0	Roadway/Open Space	-	-	0.03
8960	668679.0	4281295.0	Roadway/Open Space	-	-	0.03
8961	668689.0	4281295.0	Roadway/Open Space	-	-	0.03
8962	668699.0	4281295.0	Roadway/Open Space	-	-	0.04
8963	668709.0	4281295.0	Roadway/Open Space	-	-	0.04
8964	668719.0	4281295.0	Roadway/Open Space	-	-	0.04
8965	668729.0	4281295.0	Roadway/Open Space	-	-	0.04
8966	668739.0	4281295.0	Other Sensitive	2.61	0.011	0.04
8967	668749.0	4281295.0	Other Sensitive	2.73	0.011	0.04
8968	668759.0	4281295.0	Other Sensitive	2.85	0.012	0.05
8969	668769.0	4281295.0	Other Sensitive	2.95	0.012	0.05
8970	668779.0	4281295.0	Other Sensitive	3.06	0.013	0.05
8971	668789.0	4281295.0	Other Sensitive	3.22	0.013	0.05
8972	668799.0	4281295.0	Other Sensitive	3.35	0.014	0.05
8973	668809.0	4281295.0	Other Sensitive	3.45	0.014	0.05
8974	668819.0	4281295.0	Other Sensitive	3.61	0.015	0.05
8975	668829.0	4281295.0	Other Sensitive	3.79	0.016	0.06
8976	668839.0	4281295.0	Other Sensitive	4.00	0.017	0.06
8977	668849.0	4281295.0	Other Sensitive	4.22	0.017	0.06
8978	668859.0	4281295.0	Other Sensitive	4.45	0.018	0.06
8979	668869.0	4281295.0	Other Sensitive	4.70	0.019	0.06
8980	668879.0	4281295.0	Other Sensitive	4.99	0.021	0.06
8981	668889.0	4281295.0	Other Sensitive	5.28	0.022	0.07
8982	668899.0	4281295.0	Other Sensitive	5.53	0.023	0.07
8983	668909.0	4281295.0	Other Sensitive	5.77	0.024	0.08
8984	668919.0	4281295.0	Other Sensitive	6.02	0.025	0.09
8985	668929.0	4281295.0	Other Sensitive	6.23	0.026	0.10
8986	668939.0	4281295.0	Other Sensitive	6.40	0.027	0.10
8987	668949.0	4281295.0	Other Sensitive	6.55	0.027	0.10
8988	668959.0	4281295.0	Other Sensitive	6.64	0.028	0.11
8989	668969.0	4281295.0	Residential	6.65	0.028	0.11
8990	668979.0	4281295.0	Residential	6.65	0.028	0.10
8991	668989.0	4281295.0	Residential	6.57	0.027	0.10
8992	668999.0	4281295.0	Residential	6.40	0.027	0.09
8993	669009.0	4281295.0	Roadway/Open Space	-	-	0.08
8994	669019.0	4281295.0	Roadway/Open Space	-	-	0.07
8995	669029.0	4281295.0	Residential	6.25	0.026	0.07
8996	669039.0	4281295.0	Roadway/Open Space	-	-	0.07
8997	669049.0	4281295.0	Roadway/Open Space	-	-	0.07
8998	669059.0	4281295.0	Roadway/Open Space	-	-	0.08
8999	669069.0	4281295.0	Residential	6.91	0.029	0.08
9000	669079.0	4281295.0	Residential	7.13	0.030	0.08
9001	669089.0	4281295.0	Residential	7.18	0.030	0.08
9002	669099.0	4281295.0	Residential	7.14	0.030	0.08
9003	669109.0	4281295.0	Residential	7.07	0.030	0.08
9004	669119.0	4281295.0	Residential	6.98	0.029	0.07
9005	669129.0	4281295.0	Residential	6.85	0.029	0.07
9006	669139.0	4281295.0	Residential	6.67	0.028	0.07
9007	669149.0	4281295.0	Residential	6.48	0.027	0.06
9008	669159.0	4281295.0	Residential	6.30	0.026	0.06
9009	669169.0	4281295.0	Residential	6.11	0.025	0.06
9010	669179.0	4281295.0	Residential	5.91	0.025	0.05
9011	669189.0	4281295.0	Residential	5.71	0.024	0.05
9012	669199.0	4281295.0	Residential	5.50	0.023	0.05
9013	669209.0	4281295.0	Residential	5.29	0.022	0.05
9014	669219.0	4281295.0	Residential	5.08	0.021	0.04
9015	669229.0	4281295.0	Residential	4.89	0.020	0.04
9016	669239.0	4281295.0	Residential	4.69	0.019	0.04
9017	669249.0	4281295.0	Residential	4.50	0.019	0.04
9018	669259.0	4281295.0	Residential	4.32	0.018	0.04
9019	669269.0	4281295.0	Residential	4.12	0.017	0.03
9020	669279.0	4281295.0	Residential	3.92	0.016	0.03
9021	669289.0	4281295.0	Residential	3.73	0.015	0.03
9022	669299.0	4281295.0	Residential	3.56	0.015	0.03
9023	669309.0	4281295.0	Residential	3.39	0.014	0.03
9024	669319.0	4281295.0	Residential	3.23	0.013	0.03

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
9025	669329.0	4281295.0	Residential	3.07	0.013	0.03
9026	669339.0	4281295.0	Residential	2.92	0.012	0.02
9027	669349.0	4281295.0	Roadway/Open Space	-	-	0.02
9028	669359.0	4281295.0	Roadway/Open Space	-	-	0.02
9029	669369.0	4281295.0	Residential	2.53	0.010	0.02
9030	669379.0	4281295.0	Residential	2.43	0.010	0.02
9031	669389.0	4281295.0	Residential	2.35	0.010	0.02
9032	669399.0	4281295.0	Roadway/Open Space	-	-	0.02
9033	669409.0	4281295.0	Residential	2.17	0.009	0.02
9034	669419.0	4281295.0	Residential	2.07	0.008	0.02
9035	669429.0	4281295.0	Residential	1.97	0.008	0.02
9036	669439.0	4281295.0	Residential	1.87	0.008	0.02
9037	669449.0	4281295.0	Residential	1.78	0.007	0.02
9038	669459.0	4281295.0	Residential	1.69	0.007	0.02
9039	668579.0	4281305.0	Roadway/Open Space	-	-	0.03
9040	668589.0	4281305.0	Roadway/Open Space	-	-	0.03
9041	668599.0	4281305.0	Roadway/Open Space	-	-	0.03
9042	668609.0	4281305.0	Roadway/Open Space	-	-	0.02
9043	668619.0	4281305.0	Roadway/Open Space	-	-	0.02
9044	668629.0	4281305.0	Roadway/Open Space	-	-	0.03
9045	668639.0	4281305.0	Roadway/Open Space	-	-	0.03
9046	668649.0	4281305.0	Roadway/Open Space	-	-	0.03
9047	668659.0	4281305.0	Roadway/Open Space	-	-	0.03
9048	668669.0	4281305.0	Roadway/Open Space	-	-	0.03
9049	668679.0	4281305.0	Roadway/Open Space	-	-	0.03
9050	668689.0	4281305.0	Roadway/Open Space	-	-	0.04
9051	668699.0	4281305.0	Roadway/Open Space	-	-	0.04
9052	668709.0	4281305.0	Roadway/Open Space	-	-	0.04
9053	668719.0	4281305.0	Roadway/Open Space	-	-	0.04
9054	668729.0	4281305.0	Other Sensitive	2.47	0.010	0.04
9055	668739.0	4281305.0	Other Sensitive	2.55	0.011	0.04
9056	668749.0	4281305.0	Other Sensitive	2.64	0.011	0.04
9057	668759.0	4281305.0	Other Sensitive	2.74	0.011	0.05
9058	668769.0	4281305.0	Other Sensitive	2.84	0.012	0.05
9059	668779.0	4281305.0	Other Sensitive	2.94	0.012	0.05
9060	668789.0	4281305.0	Other Sensitive	3.06	0.013	0.05
9061	668799.0	4281305.0	Other Sensitive	3.20	0.013	0.05
9062	668809.0	4281305.0	Other Sensitive	3.33	0.014	0.05
9063	668819.0	4281305.0	Other Sensitive	3.49	0.014	0.05
9064	668829.0	4281305.0	Other Sensitive	3.68	0.015	0.06
9065	668839.0	4281305.0	Other Sensitive	3.87	0.016	0.06
9066	668849.0	4281305.0	Other Sensitive	4.08	0.017	0.06
9067	668859.0	4281305.0	Other Sensitive	4.31	0.018	0.06
9068	668869.0	4281305.0	Other Sensitive	4.56	0.019	0.06
9069	668879.0	4281305.0	Other Sensitive	4.83	0.020	0.06
9070	668889.0	4281305.0	Other Sensitive	5.09	0.021	0.06
9071	668899.0	4281305.0	Other Sensitive	5.31	0.022	0.07
9072	668909.0	4281305.0	Other Sensitive	5.51	0.023	0.09
9073	668919.0	4281305.0	Other Sensitive	5.73	0.024	0.09
9074	668929.0	4281305.0	Other Sensitive	5.92	0.025	0.09
9075	668939.0	4281305.0	Other Sensitive	6.10	0.025	0.10
9076	668949.0	4281305.0	Other Sensitive	6.22	0.026	0.10
9077	668959.0	4281305.0	Residential	6.28	0.026	0.10
9078	668969.0	4281305.0	Residential	6.29	0.026	0.10
9079	668979.0	4281305.0	Residential	6.26	0.026	0.10
9080	668989.0	4281305.0	Residential	6.15	0.026	0.09
9081	668999.0	4281305.0	Residential	6.01	0.025	0.08
9082	669009.0	4281305.0	Residential	5.87	0.024	0.08
9083	669019.0	4281305.0	Roadway/Open Space	-	-	0.07
9084	669029.0	4281305.0	Roadway/Open Space	-	-	0.07
9085	669039.0	4281305.0	Residential	5.94	0.025	0.07
9086	669049.0	4281305.0	Residential	6.08	0.025	0.07
9087	669059.0	4281305.0	Residential	6.24	0.026	0.07
9088	669069.0	4281305.0	Residential	6.43	0.027	0.07
9089	669079.0	4281305.0	Residential	6.63	0.028	0.08
9090	669089.0	4281305.0	Residential	6.75	0.028	0.08
9091	669099.0	4281305.0	Residential	6.75	0.028	0.08
9092	669109.0	4281305.0	Residential	6.69	0.028	0.08
9093	669119.0	4281305.0	Residential	6.61	0.028	0.07
9094	669129.0	4281305.0	Residential	6.49	0.027	0.07
9095	669139.0	4281305.0	Residential	6.34	0.026	0.07
9096	669149.0	4281305.0	Residential	6.17	0.026	0.06
9097	669159.0	4281305.0	Residential	6.01	0.025	0.06
9098	669169.0	4281305.0	Residential	5.84	0.024	0.05
9099	669179.0	4281305.0	Residential	5.65	0.024	0.05
9100	669189.0	4281305.0	Residential	5.47	0.023	0.05
9101	669199.0	4281305.0	Residential	5.28	0.022	0.05
9102	669209.0	4281305.0	Residential	5.09	0.021	0.05
9103	669219.0	4281305.0	Residential	4.90	0.020	0.04
9104	669229.0	4281305.0	Residential	4.71	0.020	0.04
9105	669239.0	4281305.0	Residential	4.53	0.019	0.04
9106	669249.0	4281305.0	Residential	4.36	0.018	0.04
9107	669259.0	4281305.0	Residential	4.19	0.017	0.04
9108	669269.0	4281305.0	Residential	4.00	0.017	0.03

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
9109	669279.0	4281305.0	Residential	3.81	0.016	0.03
9110	669289.0	4281305.0	Residential	3.63	0.015	0.03
9111	669299.0	4281305.0	Residential	3.46	0.014	0.03
9112	669309.0	4281305.0	Residential	3.30	0.014	0.03
9113	669319.0	4281305.0	Residential	3.14	0.013	0.03
9114	669329.0	4281305.0	Residential	2.99	0.012	0.02
9115	669339.0	4281305.0	Residential	2.84	0.012	0.02
9116	669349.0	4281305.0	Residential	2.70	0.011	0.02
9117	669359.0	4281305.0	Roadway/Open Space	-	-	0.02
9118	669369.0	4281305.0	Residential	2.46	0.010	0.02
9119	669379.0	4281305.0	Residential	2.37	0.010	0.02
9120	669389.0	4281305.0	Roadway/Open Space	-	-	0.02
9121	669399.0	4281305.0	Residential	2.23	0.009	0.02
9122	669409.0	4281305.0	Residential	2.14	0.009	0.02
9123	669419.0	4281305.0	Residential	2.04	0.008	0.02
9124	669429.0	4281305.0	Residential	1.93	0.008	0.02
9125	669439.0	4281305.0	Residential	1.83	0.008	0.02
9126	669449.0	4281305.0	Residential	1.74	0.007	0.02
9127	668579.0	4281315.0	Roadway/Open Space	-	-	0.03
9128	668589.0	4281315.0	Roadway/Open Space	-	-	0.03
9129	668599.0	4281315.0	Roadway/Open Space	-	-	0.03
9130	668609.0	4281315.0	Roadway/Open Space	-	-	0.02
9131	668619.0	4281315.0	Roadway/Open Space	-	-	0.02
9132	668629.0	4281315.0	Roadway/Open Space	-	-	0.03
9133	668639.0	4281315.0	Roadway/Open Space	-	-	0.03
9134	668649.0	4281315.0	Roadway/Open Space	-	-	0.03
9135	668659.0	4281315.0	Roadway/Open Space	-	-	0.03
9136	668669.0	4281315.0	Roadway/Open Space	-	-	0.03
9137	668679.0	4281315.0	Roadway/Open Space	-	-	0.03
9138	668689.0	4281315.0	Roadway/Open Space	-	-	0.04
9139	668699.0	4281315.0	Roadway/Open Space	-	-	0.04
9140	668709.0	4281315.0	Roadway/Open Space	-	-	0.04
9141	668719.0	4281315.0	Roadway/Open Space	-	-	0.04
9142	668729.0	4281315.0	Other Sensitive	2.41	0.010	0.04
9143	668739.0	4281315.0	Other Sensitive	2.48	0.010	0.04
9144	668749.0	4281315.0	Other Sensitive	2.56	0.011	0.04
9145	668759.0	4281315.0	Other Sensitive	2.64	0.011	0.04
9146	668769.0	4281315.0	Other Sensitive	2.72	0.011	0.05
9147	668779.0	4281315.0	Other Sensitive	2.81	0.012	0.05
9148	668789.0	4281315.0	Other Sensitive	2.93	0.012	0.05
9149	668799.0	4281315.0	Other Sensitive	3.06	0.013	0.05
9150	668809.0	4281315.0	Other Sensitive	3.21	0.013	0.05
9151	668819.0	4281315.0	Other Sensitive	3.38	0.014	0.05
9152	668829.0	4281315.0	Other Sensitive	3.57	0.015	0.05
9153	668839.0	4281315.0	Other Sensitive	3.76	0.016	0.05
9154	668849.0	4281315.0	Other Sensitive	3.97	0.016	0.06
9155	668859.0	4281315.0	Other Sensitive	4.19	0.017	0.06
9156	668869.0	4281315.0	Other Sensitive	4.41	0.018	0.06
9157	668879.0	4281315.0	Other Sensitive	4.64	0.019	0.06
9158	668889.0	4281315.0	Other Sensitive	4.88	0.020	0.06
9159	668899.0	4281315.0	Other Sensitive	5.08	0.021	0.08
9160	668909.0	4281315.0	Other Sensitive	5.25	0.022	0.09
9161	668919.0	4281315.0	Other Sensitive	5.45	0.023	0.09
9162	668929.0	4281315.0	Other Sensitive	5.64	0.023	0.09
9163	668939.0	4281315.0	Other Sensitive	5.81	0.024	0.09
9164	668949.0	4281315.0	Residential	5.93	0.025	0.10
9165	668959.0	4281315.0	Residential	5.98	0.025	0.10
9166	668969.0	4281315.0	Residential	5.96	0.025	0.10
9167	668979.0	4281315.0	Residential	5.88	0.025	0.09
9168	668989.0	4281315.0	Residential	5.78	0.024	0.09
9169	668999.0	4281315.0	Residential	5.69	0.024	0.08
9170	669009.0	4281315.0	Roadway/Open Space	-	-	0.08
9171	669019.0	4281315.0	Roadway/Open Space	-	-	0.07
9172	669029.0	4281315.0	Roadway/Open Space	-	-	0.07
9173	669039.0	4281315.0	Residential	5.56	0.023	0.06
9174	669049.0	4281315.0	Residential	5.68	0.024	0.07
9175	669059.0	4281315.0	Residential	5.86	0.024	0.07
9176	669069.0	4281315.0	Residential	6.02	0.025	0.07
9177	669079.0	4281315.0	Residential	6.19	0.026	0.07
9178	669089.0	4281315.0	Residential	6.33	0.026	0.07
9179	669099.0	4281315.0	Residential	6.37	0.027	0.07
9180	669109.0	4281315.0	Residential	6.34	0.026	0.07
9181	669119.0	4281315.0	Residential	6.28	0.026	0.07
9182	669129.0	4281315.0	Residential	6.16	0.026	0.06
9183	669139.0	4281315.0	Residential	6.02	0.025	0.06
9184	669149.0	4281315.0	Residential	5.87	0.024	0.06
9185	669159.0	4281315.0	Residential	5.72	0.024	0.06
9186	669169.0	4281315.0	Residential	5.55	0.023	0.05
9187	669179.0	4281315.0	Residential	5.39	0.022	0.05
9188	669189.0	4281315.0	Residential	5.22	0.022	0.05
9189	669199.0	4281315.0	Residential	5.06	0.021	0.04
9190	669209.0	4281315.0	Residential	4.89	0.020	0.04
9191	669219.0	4281315.0	Residential	4.71	0.020	0.04
9192	669229.0	4281315.0	Residential	4.54	0.019	0.04

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
9193	669239.0	4281315.0	Residential	4.37	0.018	0.04
9194	669249.0	4281315.0	Residential	4.20	0.017	0.03
9195	669259.0	4281315.0	Residential	4.04	0.017	0.03
9196	669269.0	4281315.0	Residential	3.87	0.016	0.03
9197	669279.0	4281315.0	Residential	3.70	0.015	0.03
9198	669289.0	4281315.0	Residential	3.53	0.015	0.03
9199	669299.0	4281315.0	Residential	3.37	0.014	0.03
9200	669309.0	4281315.0	Residential	3.21	0.013	0.03
9201	669319.0	4281315.0	Residential	3.06	0.013	0.02
9202	669329.0	4281315.0	Residential	2.92	0.012	0.02
9203	669339.0	4281315.0	Residential	2.78	0.011	0.02
9204	669349.0	4281315.0	Residential	2.64	0.011	0.02
9205	669359.0	4281315.0	Residential	2.51	0.010	0.02
9206	669369.0	4281315.0	Roadway/Open Space	-	-	0.02
9207	669379.0	4281315.0	Roadway/Open Space	-	-	0.02
9208	669389.0	4281315.0	Residential	2.25	0.009	0.02
9209	669399.0	4281315.0	Residential	2.20	0.009	0.02
9210	669409.0	4281315.0	Residential	2.12	0.009	0.02
9211	669419.0	4281315.0	Residential	2.01	0.008	0.02
9212	669429.0	4281315.0	Residential	1.90	0.008	0.02
9213	669439.0	4281315.0	Residential	1.80	0.007	0.02
9214	668589.0	4281325.0	Roadway/Open Space	-	-	0.03
9215	668599.0	4281325.0	Roadway/Open Space	-	-	0.03
9216	668609.0	4281325.0	Roadway/Open Space	-	-	0.02
9217	668619.0	4281325.0	Roadway/Open Space	-	-	0.02
9218	668629.0	4281325.0	Roadway/Open Space	-	-	0.03
9219	668639.0	4281325.0	Roadway/Open Space	-	-	0.03
9220	668649.0	4281325.0	Roadway/Open Space	-	-	0.03
9221	668659.0	4281325.0	Roadway/Open Space	-	-	0.03
9222	668669.0	4281325.0	Roadway/Open Space	-	-	0.03
9223	668679.0	4281325.0	Roadway/Open Space	-	-	0.03
9224	668689.0	4281325.0	Roadway/Open Space	-	-	0.03
9225	668699.0	4281325.0	Roadway/Open Space	-	-	0.04
9226	668709.0	4281325.0	Roadway/Open Space	-	-	0.04
9227	668719.0	4281325.0	Other Sensitive	2.30	0.009	0.04
9228	668729.0	4281325.0	Other Sensitive	2.36	0.010	0.04
9229	668739.0	4281325.0	Other Sensitive	2.42	0.010	0.04
9230	668749.0	4281325.0	Other Sensitive	2.48	0.010	0.04
9231	668759.0	4281325.0	Other Sensitive	2.56	0.011	0.04
9232	668769.0	4281325.0	Other Sensitive	2.63	0.011	0.04
9233	668779.0	4281325.0	Other Sensitive	2.71	0.011	0.04
9234	668789.0	4281325.0	Other Sensitive	2.81	0.012	0.05
9235	668799.0	4281325.0	Other Sensitive	2.95	0.012	0.05
9236	668809.0	4281325.0	Other Sensitive	3.11	0.013	0.05
9237	668819.0	4281325.0	Other Sensitive	3.29	0.014	0.05
9238	668829.0	4281325.0	Other Sensitive	3.47	0.014	0.05
9239	668839.0	4281325.0	Other Sensitive	3.66	0.015	0.05
9240	668849.0	4281325.0	Other Sensitive	3.85	0.016	0.05
9241	668859.0	4281325.0	Other Sensitive	4.05	0.017	0.06
9242	668869.0	4281325.0	Other Sensitive	4.24	0.018	0.06
9243	668879.0	4281325.0	Other Sensitive	4.46	0.018	0.06
9244	668889.0	4281325.0	Other Sensitive	4.67	0.019	0.07
9245	668899.0	4281325.0	Other Sensitive	4.84	0.020	0.08
9246	668909.0	4281325.0	Other Sensitive	5.01	0.021	0.08
9247	668919.0	4281325.0	Other Sensitive	5.19	0.022	0.08
9248	668929.0	4281325.0	Other Sensitive	5.38	0.022	0.09
9249	668939.0	4281325.0	Other Sensitive	5.54	0.023	0.09
9250	668949.0	4281325.0	Residential	5.67	0.024	0.10
9251	668959.0	4281325.0	Residential	5.71	0.024	0.10
9252	668969.0	4281325.0	Residential	5.64	0.024	0.09
9253	668979.0	4281325.0	Residential	5.56	0.023	0.09
9254	668989.0	4281325.0	Residential	5.47	0.023	0.08
9255	668999.0	4281325.0	Roadway/Open Space	-	-	0.08
9256	669009.0	4281325.0	Residential	5.33	0.022	0.08
9257	669019.0	4281325.0	Residential	5.28	0.022	0.07
9258	669029.0	4281325.0	Roadway/Open Space	-	-	0.07
9259	669039.0	4281325.0	Roadway/Open Space	-	-	0.06
9260	669049.0	4281325.0	Residential	5.33	0.022	0.06
9261	669059.0	4281325.0	Residential	5.50	0.023	0.07
9262	669069.0	4281325.0	Residential	5.68	0.024	0.07
9263	669079.0	4281325.0	Residential	5.83	0.024	0.07
9264	669089.0	4281325.0	Residential	5.96	0.025	0.07
9265	669099.0	4281325.0	Residential	6.02	0.025	0.07
9266	669109.0	4281325.0	Residential	6.01	0.025	0.07
9267	669119.0	4281325.0	Residential	5.96	0.025	0.07
9268	669129.0	4281325.0	Residential	5.85	0.024	0.06
9269	669139.0	4281325.0	Residential	5.72	0.024	0.06
9270	669149.0	4281325.0	Residential	5.58	0.023	0.06
9271	669159.0	4281325.0	Residential	5.44	0.023	0.05
9272	669169.0	4281325.0	Residential	5.29	0.022	0.05
9273	669179.0	4281325.0	Residential	5.15	0.021	0.05
9274	669189.0	4281325.0	Residential	5.01	0.021	0.05
9275	669199.0	4281325.0	Residential	4.85	0.020	0.04
9276	669209.0	4281325.0	Residential	4.70	0.020	0.04

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
9277	669219.0	4281325.0	Residential	4.54	0.019	0.04
9278	669229.0	4281325.0	Residential	4.38	0.018	0.04
9279	669239.0	4281325.0	Residential	4.21	0.017	0.03
9280	669249.0	4281325.0	Residential	4.04	0.017	0.03
9281	669259.0	4281325.0	Residential	3.89	0.016	0.03
9282	669269.0	4281325.0	Residential	3.73	0.015	0.03
9283	669279.0	4281325.0	Residential	3.58	0.015	0.03
9284	669289.0	4281325.0	Residential	3.42	0.014	0.03
9285	669299.0	4281325.0	Residential	3.27	0.013	0.02
9286	669309.0	4281325.0	Residential	3.13	0.013	0.02
9287	669319.0	4281325.0	Residential	2.98	0.012	0.02
9288	669329.0	4281325.0	Residential	2.84	0.012	0.02
9289	669339.0	4281325.0	Residential	2.71	0.011	0.02
9290	669349.0	4281325.0	Residential	2.58	0.011	0.02
9291	669359.0	4281325.0	Roadway/Open Space	-	-	0.02
9292	669369.0	4281325.0	Roadway/Open Space	-	-	0.02
9293	669379.0	4281325.0	Roadway/Open Space	-	-	0.02
9294	669389.0	4281325.0	Residential	2.21	0.009	0.02
9295	669399.0	4281325.0	Residential	2.17	0.009	0.02
9296	669409.0	4281325.0	Residential	2.10	0.009	0.02
9297	669419.0	4281325.0	Residential	1.99	0.008	0.02
9298	669429.0	4281325.0	Residential	1.87	0.008	0.02
9299	668599.0	4281335.0	Roadway/Open Space	-	-	0.03
9300	668609.0	4281335.0	Roadway/Open Space	-	-	0.02
9301	668619.0	4281335.0	Roadway/Open Space	-	-	0.02
9302	668629.0	4281335.0	Roadway/Open Space	-	-	0.02
9303	668639.0	4281335.0	Roadway/Open Space	-	-	0.03
9304	668649.0	4281335.0	Roadway/Open Space	-	-	0.03
9305	668659.0	4281335.0	Roadway/Open Space	-	-	0.03
9306	668669.0	4281335.0	Roadway/Open Space	-	-	0.03
9307	668679.0	4281335.0	Roadway/Open Space	-	-	0.03
9308	668689.0	4281335.0	Roadway/Open Space	-	-	0.03
9309	668699.0	4281335.0	Roadway/Open Space	-	-	0.04
9310	668709.0	4281335.0	Roadway/Open Space	-	-	0.04
9311	668719.0	4281335.0	Other Sensitive	2.27	0.009	0.04
9312	668729.0	4281335.0	Other Sensitive	2.32	0.010	0.04
9313	668739.0	4281335.0	Other Sensitive	2.37	0.010	0.04
9314	668749.0	4281335.0	Other Sensitive	2.43	0.010	0.04
9315	668759.0	4281335.0	Other Sensitive	2.49	0.010	0.04
9316	668769.0	4281335.0	Other Sensitive	2.55	0.011	0.04
9317	668779.0	4281335.0	Other Sensitive	2.62	0.011	0.04
9318	668789.0	4281335.0	Other Sensitive	2.72	0.011	0.04
9319	668799.0	4281335.0	Other Sensitive	2.86	0.012	0.05
9320	668809.0	4281335.0	Other Sensitive	3.02	0.013	0.05
9321	668819.0	4281335.0	Other Sensitive	3.19	0.013	0.05
9322	668829.0	4281335.0	Other Sensitive	3.37	0.014	0.05
9323	668839.0	4281335.0	Other Sensitive	3.55	0.015	0.05
9324	668849.0	4281335.0	Other Sensitive	3.72	0.015	0.05
9325	668859.0	4281335.0	Other Sensitive	3.88	0.016	0.05
9326	668869.0	4281335.0	Other Sensitive	4.07	0.017	0.06
9327	668879.0	4281335.0	Other Sensitive	4.29	0.018	0.06
9328	668889.0	4281335.0	Other Sensitive	4.47	0.019	0.07
9329	668899.0	4281335.0	Other Sensitive	4.62	0.019	0.08
9330	668909.0	4281335.0	Other Sensitive	4.78	0.020	0.08
9331	668919.0	4281335.0	Other Sensitive	4.96	0.021	0.08
9332	668929.0	4281335.0	Other Sensitive	5.14	0.021	0.09
9333	668939.0	4281335.0	Residential	5.29	0.022	0.09
9334	668949.0	4281335.0	Residential	5.40	0.023	0.09
9335	668959.0	4281335.0	Residential	5.41	0.023	0.09
9336	668969.0	4281335.0	Residential	5.34	0.022	0.09
9337	668979.0	4281335.0	Residential	5.26	0.022	0.08
9338	668989.0	4281335.0	Roadway/Open Space	-	-	0.08
9339	668999.0	4281335.0	Residential	5.12	0.021	0.08
9340	669009.0	4281335.0	Residential	5.07	0.021	0.07
9341	669019.0	4281335.0	Residential	5.02	0.021	0.07
9342	669029.0	4281335.0	Residential	4.99	0.021	0.07
9343	669039.0	4281335.0	Roadway/Open Space	-	-	0.06
9344	669049.0	4281335.0	Residential	5.02	0.021	0.06
9345	669059.0	4281335.0	Residential	5.16	0.021	0.06
9346	669069.0	4281335.0	Residential	5.36	0.022	0.06
9347	669079.0	4281335.0	Residential	5.52	0.023	0.07
9348	669089.0	4281335.0	Residential	5.63	0.023	0.07
9349	669099.0	4281335.0	Residential	5.70	0.024	0.07
9350	669109.0	4281335.0	Residential	5.70	0.024	0.07
9351	669119.0	4281335.0	Residential	5.65	0.024	0.06
9352	669129.0	4281335.0	Residential	5.55	0.023	0.06
9353	669139.0	4281335.0	Residential	5.43	0.023	0.06
9354	669149.0	4281335.0	Residential	5.31	0.022	0.06
9355	669159.0	4281335.0	Residential	5.18	0.022	0.05
9356	669169.0	4281335.0	Residential	5.05	0.021	0.05
9357	669179.0	4281335.0	Residential	4.93	0.020	0.04
9358	669189.0	4281335.0	Residential	4.80	0.020	0.04
9359	669199.0	4281335.0	Residential	4.66	0.019	0.04
9360	669209.0	4281335.0	Residential	4.52	0.019	0.04

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
9361	669219.0	4281335.0	Residential	4.37	0.018	0.04
9362	669229.0	4281335.0	Residential	4.22	0.018	0.04
9363	669239.0	4281335.0	Residential	4.06	0.017	0.03
9364	669249.0	4281335.0	Residential	3.90	0.016	0.03
9365	669259.0	4281335.0	Residential	3.74	0.015	0.03
9366	669269.0	4281335.0	Residential	3.60	0.015	0.03
9367	669279.0	4281335.0	Residential	3.46	0.014	0.03
9368	669289.0	4281335.0	Residential	3.31	0.014	0.03
9369	669299.0	4281335.0	Residential	3.18	0.013	0.02
9370	669309.0	4281335.0	Residential	3.04	0.013	0.02
9371	669319.0	4281335.0	Residential	2.91	0.012	0.02
9372	669329.0	4281335.0	Residential	2.78	0.011	0.02
9373	669339.0	4281335.0	Residential	2.65	0.011	0.02
9374	669349.0	4281335.0	Roadway/Open Space	-	-	0.02
9375	669359.0	4281335.0	Roadway/Open Space	-	-	0.02
9376	669369.0	4281335.0	Residential	2.31	0.009	0.02
9377	669379.0	4281335.0	Roadway/Open Space	-	-	0.02
9378	669389.0	4281335.0	Roadway/Open Space	-	-	0.02
9379	669399.0	4281335.0	Residential	2.14	0.009	0.02
9380	669409.0	4281335.0	Residential	2.08	0.009	0.02
9381	669419.0	4281335.0	Residential	1.97	0.008	0.02
9382	669429.0	4281335.0	Residential	1.85	0.008	0.02
9383	668599.0	4281345.0	Roadway/Open Space	-	-	0.02
9384	668609.0	4281345.0	Roadway/Open Space	-	-	0.02
9385	668619.0	4281345.0	Roadway/Open Space	-	-	0.02
9386	668629.0	4281345.0	Roadway/Open Space	-	-	0.02
9387	668639.0	4281345.0	Roadway/Open Space	-	-	0.03
9388	668649.0	4281345.0	Roadway/Open Space	-	-	0.03
9389	668659.0	4281345.0	Roadway/Open Space	-	-	0.03
9390	668669.0	4281345.0	Roadway/Open Space	-	-	0.03
9391	668679.0	4281345.0	Roadway/Open Space	-	-	0.03
9392	668689.0	4281345.0	Roadway/Open Space	-	-	0.03
9393	668699.0	4281345.0	Roadway/Open Space	-	-	0.03
9394	668709.0	4281345.0	Roadway/Open Space	-	-	0.04
9395	668719.0	4281345.0	Other Sensitive	2.24	0.009	0.04
9396	668729.0	4281345.0	Other Sensitive	2.29	0.009	0.04
9397	668739.0	4281345.0	Other Sensitive	2.33	0.010	0.04
9398	668749.0	4281345.0	Other Sensitive	2.38	0.010	0.04
9399	668759.0	4281345.0	Other Sensitive	2.43	0.010	0.04
9400	668769.0	4281345.0	Other Sensitive	2.48	0.010	0.04
9401	668779.0	4281345.0	Other Sensitive	2.55	0.011	0.04
9402	668789.0	4281345.0	Other Sensitive	2.65	0.011	0.04
9403	668799.0	4281345.0	Other Sensitive	2.79	0.012	0.05
9404	668809.0	4281345.0	Other Sensitive	2.94	0.012	0.05
9405	668819.0	4281345.0	Other Sensitive	3.10	0.013	0.05
9406	668829.0	4281345.0	Other Sensitive	3.27	0.014	0.05
9407	668839.0	4281345.0	Other Sensitive	3.43	0.014	0.05
9408	668849.0	4281345.0	Other Sensitive	3.58	0.015	0.05
9409	668859.0	4281345.0	Other Sensitive	3.75	0.016	0.05
9410	668869.0	4281345.0	Other Sensitive	3.95	0.016	0.06
9411	668879.0	4281345.0	Other Sensitive	4.12	0.017	0.06
9412	668889.0	4281345.0	Other Sensitive	4.27	0.018	0.07
9413	668899.0	4281345.0	Other Sensitive	4.42	0.018	0.08
9414	668909.0	4281345.0	Other Sensitive	4.58	0.019	0.08
9415	668919.0	4281345.0	Other Sensitive	4.75	0.020	0.08
9416	668929.0	4281345.0	Residential	4.91	0.020	0.08
9417	668939.0	4281345.0	Residential	5.04	0.021	0.09
9418	668949.0	4281345.0	Residential	5.10	0.021	0.09
9419	668959.0	4281345.0	Residential	5.10	0.021	0.09
9420	668969.0	4281345.0	Residential	5.05	0.021	0.08
9421	668979.0	4281345.0	Roadway/Open Space	-	-	0.08
9422	668989.0	4281345.0	Residential	4.91	0.020	0.08
9423	668999.0	4281345.0	Residential	4.86	0.020	0.08
9424	669009.0	4281345.0	Residential	4.82	0.020	0.07
9425	669019.0	4281345.0	Residential	4.77	0.020	0.07
9426	669029.0	4281345.0	Residential	4.74	0.020	0.06
9427	669039.0	4281345.0	Residential	4.72	0.020	0.06
9428	669049.0	4281345.0	Roadway/Open Space	-	-	0.06
9429	669059.0	4281345.0	Residential	4.86	0.020	0.06
9430	669069.0	4281345.0	Residential	5.05	0.021	0.06
9431	669079.0	4281345.0	Residential	5.21	0.022	0.06
9432	669089.0	4281345.0	Residential	5.33	0.022	0.06
9433	669099.0	4281345.0	Residential	5.41	0.023	0.06
9434	669109.0	4281345.0	Residential	5.41	0.023	0.06
9435	669119.0	4281345.0	Residential	5.35	0.022	0.06
9436	669129.0	4281345.0	Residential	5.26	0.022	0.06
9437	669139.0	4281345.0	Residential	5.15	0.021	0.05
9438	669149.0	4281345.0	Residential	5.05	0.021	0.05
9439	669159.0	4281345.0	Residential	4.93	0.021	0.05
9440	669169.0	4281345.0	Residential	4.82	0.020	0.05
9441	669179.0	4281345.0	Residential	4.71	0.020	0.04
9442	669189.0	4281345.0	Residential	4.60	0.019	0.04
9443	669199.0	4281345.0	Residential	4.47	0.019	0.04
9444	669209.0	4281345.0	Residential	4.34	0.018	0.04

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
9445	669219.0	4281345.0	Residential	4.21	0.017	0.04
9446	669229.0	4281345.0	Residential	4.07	0.017	0.03
9447	669239.0	4281345.0	Residential	3.91	0.016	0.03
9448	669249.0	4281345.0	Residential	3.76	0.016	0.03
9449	669259.0	4281345.0	Residential	3.61	0.015	0.03
9450	669269.0	4281345.0	Residential	3.48	0.014	0.03
9451	669279.0	4281345.0	Residential	3.34	0.014	0.03
9452	669289.0	4281345.0	Residential	3.21	0.013	0.02
9453	669299.0	4281345.0	Residential	3.08	0.013	0.02
9454	669309.0	4281345.0	Residential	2.96	0.012	0.02
9455	669319.0	4281345.0	Residential	2.84	0.012	0.02
9456	669329.0	4281345.0	Roadway/Open Space	-	-	0.02
9457	669339.0	4281345.0	Roadway/Open Space	-	-	0.02
9458	669349.0	4281345.0	Residential	2.47	0.010	0.02
9459	669359.0	4281345.0	Residential	2.36	0.010	0.02
9460	669369.0	4281345.0	Residential	2.26	0.009	0.02
9461	669379.0	4281345.0	Residential	2.19	0.009	0.02
9462	669389.0	4281345.0	Roadway/Open Space	-	-	0.02
9463	669399.0	4281345.0	Residential	2.10	0.009	0.02
9464	669409.0	4281345.0	Residential	2.06	0.008	0.02
9465	669419.0	4281345.0	Residential	1.95	0.008	0.02
9466	668609.0	4281355.0	Roadway/Open Space	-	-	0.02
9467	668619.0	4281355.0	Roadway/Open Space	-	-	0.02
9468	668629.0	4281355.0	Roadway/Open Space	-	-	0.02
9469	668639.0	4281355.0	Roadway/Open Space	-	-	0.02
9470	668649.0	4281355.0	Roadway/Open Space	-	-	0.03
9471	668659.0	4281355.0	Roadway/Open Space	-	-	0.03
9472	668669.0	4281355.0	Roadway/Open Space	-	-	0.03
9473	668679.0	4281355.0	Roadway/Open Space	-	-	0.03
9474	668689.0	4281355.0	Roadway/Open Space	-	-	0.03
9475	668699.0	4281355.0	Roadway/Open Space	-	-	0.03
9476	668709.0	4281355.0	Roadway/Open Space	-	-	0.04
9477	668719.0	4281355.0	Roadway/Open Space	-	-	0.04
9478	668729.0	4281355.0	Other Sensitive	2.24	0.009	0.04
9479	668739.0	4281355.0	Other Sensitive	2.28	0.009	0.04
9480	668749.0	4281355.0	Other Sensitive	2.32	0.010	0.04
9481	668759.0	4281355.0	Other Sensitive	2.37	0.010	0.04
9482	668769.0	4281355.0	Other Sensitive	2.42	0.010	0.04
9483	668779.0	4281355.0	Other Sensitive	2.50	0.010	0.04
9484	668789.0	4281355.0	Other Sensitive	2.60	0.011	0.04
9485	668799.0	4281355.0	Other Sensitive	2.73	0.011	0.04
9486	668809.0	4281355.0	Other Sensitive	2.88	0.012	0.04
9487	668819.0	4281355.0	Other Sensitive	3.04	0.013	0.05
9488	668829.0	4281355.0	Other Sensitive	3.19	0.013	0.05
9489	668839.0	4281355.0	Other Sensitive	3.33	0.014	0.05
9490	668849.0	4281355.0	Other Sensitive	3.49	0.014	0.05
9491	668859.0	4281355.0	Other Sensitive	3.68	0.015	0.05
9492	668869.0	4281355.0	Other Sensitive	3.84	0.016	0.06
9493	668879.0	4281355.0	Other Sensitive	3.96	0.016	0.07
9494	668889.0	4281355.0	Other Sensitive	4.10	0.017	0.07
9495	668899.0	4281355.0	Other Sensitive	4.24	0.018	0.07
9496	668909.0	4281355.0	Other Sensitive	4.39	0.018	0.07
9497	668919.0	4281355.0	Residential	4.54	0.019	0.08
9498	668929.0	4281355.0	Residential	4.69	0.020	0.08
9499	668939.0	4281355.0	Residential	4.80	0.020	0.08
9500	668949.0	4281355.0	Residential	4.83	0.020	0.08
9501	668959.0	4281355.0	Residential	4.81	0.020	0.08
9502	668969.0	4281355.0	Roadway/Open Space	-	-	0.08
9503	668979.0	4281355.0	Roadway/Open Space	-	-	0.08
9504	668989.0	4281355.0	Residential	4.65	0.019	0.07
9505	668999.0	4281355.0	Residential	4.60	0.019	0.07
9506	669009.0	4281355.0	Residential	4.56	0.019	0.07
9507	669019.0	4281355.0	Residential	4.52	0.019	0.07
9508	669029.0	4281355.0	Residential	4.50	0.019	0.06
9509	669039.0	4281355.0	Residential	4.50	0.019	0.06
9510	669049.0	4281355.0	Roadway/Open Space	-	-	0.06
9511	669059.0	4281355.0	Residential	4.60	0.019	0.06
9512	669069.0	4281355.0	Residential	4.74	0.020	0.06
9513	669079.0	4281355.0	Residential	4.89	0.020	0.06
9514	669089.0	4281355.0	Residential	5.01	0.021	0.06
9515	669099.0	4281355.0	Residential	5.09	0.021	0.06
9516	669109.0	4281355.0	Residential	5.09	0.021	0.06
9517	669119.0	4281355.0	Residential	5.05	0.021	0.06
9518	669129.0	4281355.0	Residential	4.98	0.021	0.05
9519	669139.0	4281355.0	Residential	4.88	0.020	0.05
9520	669149.0	4281355.0	Residential	4.78	0.020	0.05
9521	669159.0	4281355.0	Residential	4.68	0.019	0.05
9522	669169.0	4281355.0	Residential	4.59	0.019	0.04
9523	669179.0	4281355.0	Residential	4.50	0.019	0.04
9524	669189.0	4281355.0	Residential	4.39	0.018	0.04
9525	669199.0	4281355.0	Residential	4.29	0.018	0.04
9526	669209.0	4281355.0	Residential	4.17	0.017	0.04
9527	669219.0	4281355.0	Residential	4.05	0.017	0.04
9528	669229.0	4281355.0	Residential	3.91	0.016	0.03

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
9529	669239.0	4281355.0	Residential	3.77	0.016	0.03
9530	669249.0	4281355.0	Residential	3.63	0.015	0.03
9531	669259.0	4281355.0	Residential	3.49	0.014	0.03
9532	669269.0	4281355.0	Residential	3.36	0.014	0.03
9533	669279.0	4281355.0	Residential	3.22	0.013	0.02
9534	669289.0	4281355.0	Residential	3.10	0.013	0.02
9535	669299.0	4281355.0	Residential	2.98	0.012	0.02
9536	669309.0	4281355.0	Roadway/Open Space	-	-	0.02
9537	669319.0	4281355.0	Roadway/Open Space	-	-	0.02
9538	669329.0	4281355.0	Residential	2.67	0.011	0.02
9539	669339.0	4281355.0	Residential	2.54	0.010	0.02
9540	669349.0	4281355.0	Residential	2.42	0.010	0.02
9541	669359.0	4281355.0	Residential	2.31	0.010	0.02
9542	669369.0	4281355.0	Residential	2.22	0.009	0.02
9543	669379.0	4281355.0	Residential	2.14	0.009	0.02
9544	669389.0	4281355.0	Residential	2.08	0.009	0.02
9545	669399.0	4281355.0	Roadway/Open Space	-	-	0.02
9546	669409.0	4281355.0	Residential	1.99	0.008	0.02
9547	668619.0	4281365.0	Roadway/Open Space	-	-	0.02
9548	668629.0	4281365.0	Roadway/Open Space	-	-	0.02
9549	668639.0	4281365.0	Roadway/Open Space	-	-	0.02
9550	668649.0	4281365.0	Roadway/Open Space	-	-	0.02
9551	668659.0	4281365.0	Roadway/Open Space	-	-	0.02
9552	668669.0	4281365.0	Roadway/Open Space	-	-	0.03
9553	668679.0	4281365.0	Roadway/Open Space	-	-	0.03
9554	668689.0	4281365.0	Roadway/Open Space	-	-	0.03
9555	668699.0	4281365.0	Roadway/Open Space	-	-	0.03
9556	668709.0	4281365.0	Roadway/Open Space	-	-	0.04
9557	668719.0	4281365.0	Roadway/Open Space	-	-	0.04
9558	668729.0	4281365.0	Roadway/Open Space	-	-	0.04
9559	668739.0	4281365.0	Roadway/Open Space	-	-	0.04
9560	668749.0	4281365.0	Roadway/Open Space	-	-	0.04
9561	668759.0	4281365.0	Other Sensitive	2.32	0.010	0.04
9562	668769.0	4281365.0	Other Sensitive	2.38	0.010	0.04
9563	668779.0	4281365.0	Other Sensitive	2.46	0.010	0.04
9564	668789.0	4281365.0	Other Sensitive	2.56	0.011	0.04
9565	668799.0	4281365.0	Other Sensitive	2.69	0.011	0.04
9566	668809.0	4281365.0	Other Sensitive	2.83	0.012	0.04
9567	668819.0	4281365.0	Other Sensitive	2.98	0.012	0.05
9568	668829.0	4281365.0	Other Sensitive	3.11	0.013	0.05
9569	668839.0	4281365.0	Other Sensitive	3.25	0.013	0.05
9570	668849.0	4281365.0	Other Sensitive	3.43	0.014	0.05
9571	668859.0	4281365.0	Other Sensitive	3.59	0.015	0.05
9572	668869.0	4281365.0	Other Sensitive	3.71	0.015	0.06
9573	668879.0	4281365.0	Other Sensitive	3.82	0.016	0.07
9574	668889.0	4281365.0	Other Sensitive	3.94	0.016	0.07
9575	668899.0	4281365.0	Other Sensitive	4.07	0.017	0.07
9576	668909.0	4281365.0	Other Sensitive	4.21	0.017	0.07
9577	668919.0	4281365.0	Residential	4.33	0.018	0.08
9578	668929.0	4281365.0	Residential	4.44	0.019	0.08
9579	668939.0	4281365.0	Residential	4.53	0.019	0.08
9580	668949.0	4281365.0	Residential	4.56	0.019	0.08
9581	668959.0	4281365.0	Roadway/Open Space	-	-	0.08
9582	668969.0	4281365.0	Roadway/Open Space	-	-	0.07
9583	668979.0	4281365.0	Residential	4.45	0.019	0.07
9584	668989.0	4281365.0	Residential	4.40	0.018	0.07
9585	668999.0	4281365.0	Residential	4.35	0.018	0.07
9586	669009.0	4281365.0	Residential	4.30	0.018	0.07
9587	669019.0	4281365.0	Residential	4.28	0.018	0.06
9588	669029.0	4281365.0	Residential	4.27	0.018	0.06
9589	669039.0	4281365.0	Residential	4.27	0.018	0.06
9590	669049.0	4281365.0	Residential	4.29	0.018	0.05
9591	669059.0	4281365.0	Roadway/Open Space	-	-	0.05
9592	669069.0	4281365.0	Residential	4.44	0.018	0.05
9593	669079.0	4281365.0	Residential	4.56	0.019	0.05
9594	669089.0	4281365.0	Residential	4.67	0.019	0.06
9595	669099.0	4281365.0	Residential	4.73	0.020	0.06
9596	669109.0	4281365.0	Residential	4.75	0.020	0.05
9597	669119.0	4281365.0	Residential	4.74	0.020	0.05
9598	669129.0	4281365.0	Residential	4.69	0.020	0.05
9599	669139.0	4281365.0	Residential	4.61	0.019	0.05
9600	669149.0	4281365.0	Residential	4.53	0.019	0.05
9601	669159.0	4281365.0	Residential	4.45	0.018	0.04
9602	669169.0	4281365.0	Residential	4.38	0.018	0.04
9603	669179.0	4281365.0	Residential	4.30	0.018	0.04
9604	669189.0	4281365.0	Residential	4.21	0.017	0.04
9605	669199.0	4281365.0	Residential	4.11	0.017	0.04
9606	669209.0	4281365.0	Residential	4.01	0.017	0.04
9607	669219.0	4281365.0	Residential	3.89	0.016	0.03
9608	669229.0	4281365.0	Residential	3.76	0.016	0.03
9609	669239.0	4281365.0	Residential	3.62	0.015	0.03
9610	669249.0	4281365.0	Residential	3.50	0.014	0.03
9611	669259.0	4281365.0	Residential	3.37	0.014	0.03
9612	669269.0	4281365.0	Residential	3.24	0.013	0.02

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
9613	669279.0	4281365.0	Roadway/Open Space	-	-	0.02
9614	669289.0	4281365.0	Roadway/Open Space	-	-	0.02
9615	669299.0	4281365.0	Roadway/Open Space	-	-	0.02
9616	669309.0	4281365.0	Residential	2.78	0.011	0.02
9617	669319.0	4281365.0	Residential	2.69	0.011	0.02
9618	669329.0	4281365.0	Residential	2.59	0.011	0.02
9619	669339.0	4281365.0	Residential	2.48	0.010	0.02
9620	669349.0	4281365.0	Residential	2.36	0.010	0.02
9621	669359.0	4281365.0	Residential	2.25	0.009	0.02
9622	669369.0	4281365.0	Residential	2.16	0.009	0.01
9623	669379.0	4281365.0	Residential	2.08	0.009	0.01
9624	669389.0	4281365.0	Residential	2.02	0.008	0.02
9625	668619.0	4281375.0	Roadway/Open Space	-	-	0.02
9626	668629.0	4281375.0	Roadway/Open Space	-	-	0.02
9627	668639.0	4281375.0	Roadway/Open Space	-	-	0.02
9628	668649.0	4281375.0	Roadway/Open Space	-	-	0.02
9629	668659.0	4281375.0	Roadway/Open Space	-	-	0.02
9630	668669.0	4281375.0	Roadway/Open Space	-	-	0.03
9631	668679.0	4281375.0	Roadway/Open Space	-	-	0.03
9632	668689.0	4281375.0	Roadway/Open Space	-	-	0.03
9633	668699.0	4281375.0	Roadway/Open Space	-	-	0.03
9634	668709.0	4281375.0	Roadway/Open Space	-	-	0.04
9635	668719.0	4281375.0	Other Sensitive	2.11	0.009	0.04
9636	668729.0	4281375.0	Other Sensitive	2.15	0.009	0.04
9637	668739.0	4281375.0	Other Sensitive	2.19	0.009	0.04
9638	668749.0	4281375.0	Other Sensitive	2.22	0.009	0.04
9639	668759.0	4281375.0	Roadway/Open Space	-	-	0.04
9640	668769.0	4281375.0	Roadway/Open Space	-	-	0.04
9641	668779.0	4281375.0	Roadway/Open Space	-	-	0.04
9642	668789.0	4281375.0	Other Sensitive	2.52	0.010	0.04
9643	668799.0	4281375.0	Other Sensitive	2.64	0.011	0.04
9644	668809.0	4281375.0	Other Sensitive	2.77	0.011	0.04
9645	668819.0	4281375.0	Other Sensitive	2.90	0.012	0.04
9646	668829.0	4281375.0	Other Sensitive	3.03	0.013	0.05
9647	668839.0	4281375.0	Other Sensitive	3.19	0.013	0.05
9648	668849.0	4281375.0	Other Sensitive	3.34	0.014	0.05
9649	668859.0	4281375.0	Other Sensitive	3.47	0.014	0.05
9650	668869.0	4281375.0	Other Sensitive	3.58	0.015	0.06
9651	668879.0	4281375.0	Other Sensitive	3.67	0.015	0.07
9652	668889.0	4281375.0	Other Sensitive	3.78	0.016	0.07
9653	668899.0	4281375.0	Other Sensitive	3.91	0.016	0.07
9654	668909.0	4281375.0	Residential	4.01	0.017	0.07
9655	668919.0	4281375.0	Residential	4.09	0.017	0.07
9656	668929.0	4281375.0	Residential	4.18	0.017	0.08
9657	668939.0	4281375.0	Residential	4.24	0.018	0.08
9658	668949.0	4281375.0	Residential	4.28	0.018	0.08
9659	668959.0	4281375.0	Roadway/Open Space	-	-	0.07
9660	668969.0	4281375.0	Residential	4.24	0.018	0.07
9661	668979.0	4281375.0	Residential	4.20	0.018	0.07
9662	668989.0	4281375.0	Residential	4.17	0.017	0.07
9663	668999.0	4281375.0	Residential	4.13	0.017	0.07
9664	669009.0	4281375.0	Residential	4.08	0.017	0.06
9665	669019.0	4281375.0	Residential	4.05	0.017	0.06
9666	669029.0	4281375.0	Residential	4.05	0.017	0.06
9667	669039.0	4281375.0	Residential	4.05	0.017	0.05
9668	669049.0	4281375.0	Residential	4.07	0.017	0.05
9669	669059.0	4281375.0	Roadway/Open Space	-	-	0.05
9670	669069.0	4281375.0	Roadway/Open Space	-	-	0.05
9671	669079.0	4281375.0	Residential	4.25	0.018	0.05
9672	669089.0	4281375.0	Residential	4.32	0.018	0.05
9673	669099.0	4281375.0	Residential	4.36	0.018	0.05
9674	669109.0	4281375.0	Residential	4.40	0.018	0.05
9675	669119.0	4281375.0	Roadway/Open Space	-	-	0.05
9676	669129.0	4281375.0	Roadway/Open Space	-	-	0.05
9677	669139.0	4281375.0	Roadway/Open Space	-	-	0.04
9678	669149.0	4281375.0	Roadway/Open Space	-	-	0.04
9679	669159.0	4281375.0	Residential	4.24	0.018	0.04
9680	669169.0	4281375.0	Residential	4.19	0.017	0.04
9681	669179.0	4281375.0	Residential	4.12	0.017	0.04
9682	669189.0	4281375.0	Residential	4.04	0.017	0.04
9683	669199.0	4281375.0	Residential	3.95	0.016	0.04
9684	669209.0	4281375.0	Residential	3.85	0.016	0.03
9685	669219.0	4281375.0	Residential	3.73	0.015	0.03
9686	669229.0	4281375.0	Roadway/Open Space	-	-	0.03
9687	669239.0	4281375.0	Roadway/Open Space	-	-	0.03
9688	669249.0	4281375.0	Roadway/Open Space	-	-	0.03
9689	669259.0	4281375.0	Roadway/Open Space	-	-	0.02
9690	669269.0	4281375.0	Roadway/Open Space	-	-	0.02
9691	669279.0	4281375.0	Residential	3.01	0.012	0.02
9692	669289.0	4281375.0	Residential	2.90	0.012	0.02
9693	669299.0	4281375.0	Residential	2.78	0.012	0.02
9694	669309.0	4281375.0	Residential	2.68	0.011	0.02
9695	669319.0	4281375.0	Residential	2.59	0.011	0.02
9696	669329.0	4281375.0	Residential	2.49	0.010	0.02

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
9697	669339.0	4281375.0	Residential	2.39	0.010	0.02
9698	669349.0	4281375.0	Residential	2.29	0.009	0.02
9699	669359.0	4281375.0	Residential	2.19	0.009	0.01
9700	669369.0	4281375.0	Residential	2.10	0.009	0.01
9701	669379.0	4281375.0	Residential	2.03	0.008	0.01
9702	668629.0	4281385.0	Roadway/Open Space	-	-	0.02
9703	668639.0	4281385.0	Roadway/Open Space	-	-	0.02
9704	668649.0	4281385.0	Roadway/Open Space	-	-	0.02
9705	668659.0	4281385.0	Roadway/Open Space	-	-	0.03
9706	668669.0	4281385.0	Roadway/Open Space	-	-	0.03
9707	668679.0	4281385.0	Roadway/Open Space	-	-	0.03
9708	668689.0	4281385.0	Roadway/Open Space	-	-	0.03
9709	668699.0	4281385.0	Roadway/Open Space	-	-	0.03
9710	668709.0	4281385.0	Roadway/Open Space	-	-	0.04
9711	668719.0	4281385.0	Other Sensitive	2.07	0.009	0.04
9712	668729.0	4281385.0	Other Sensitive	2.10	0.009	0.04
9713	668739.0	4281385.0	Other Sensitive	2.13	0.009	0.04
9714	668749.0	4281385.0	Other Sensitive	2.17	0.009	0.04
9715	668759.0	4281385.0	Other Sensitive	2.23	0.009	0.04
9716	668769.0	4281385.0	Other Sensitive	2.30	0.010	0.04
9717	668779.0	4281385.0	Other Sensitive	2.38	0.010	0.04
9718	668789.0	4281385.0	Roadway/Open Space	-	-	0.04
9719	668799.0	4281385.0	Roadway/Open Space	-	-	0.04
9720	668809.0	4281385.0	Roadway/Open Space	-	-	0.04
9721	668819.0	4281385.0	Other Sensitive	2.84	0.012	0.04
9722	668829.0	4281385.0	Other Sensitive	2.98	0.012	0.05
9723	668839.0	4281385.0	Other Sensitive	3.11	0.013	0.05
9724	668849.0	4281385.0	Other Sensitive	3.24	0.013	0.05
9725	668859.0	4281385.0	Other Sensitive	3.35	0.014	0.06
9726	668869.0	4281385.0	Other Sensitive	3.44	0.014	0.06
9727	668879.0	4281385.0	Other Sensitive	3.53	0.015	0.06
9728	668889.0	4281385.0	Other Sensitive	3.63	0.015	0.07
9729	668899.0	4281385.0	Other Sensitive	3.72	0.015	0.07
9730	668909.0	4281385.0	Residential	3.80	0.016	0.07
9731	668919.0	4281385.0	Residential	3.86	0.016	0.07
9732	668929.0	4281385.0	Residential	3.93	0.016	0.07
9733	668939.0	4281385.0	Residential	3.96	0.016	0.07
9734	668949.0	4281385.0	Roadway/Open Space	-	-	0.07
9735	668959.0	4281385.0	Roadway/Open Space	-	-	0.07
9736	668969.0	4281385.0	Residential	3.97	0.017	0.07
9737	668979.0	4281385.0	Residential	3.94	0.016	0.07
9738	668989.0	4281385.0	Residential	3.94	0.016	0.07
9739	668999.0	4281385.0	Residential	3.92	0.016	0.06
9740	669009.0	4281385.0	Residential	3.88	0.016	0.06
9741	669019.0	4281385.0	Residential	3.84	0.016	0.06
9742	669029.0	4281385.0	Residential	3.83	0.016	0.06
9743	669039.0	4281385.0	Residential	3.83	0.016	0.05
9744	669049.0	4281385.0	Residential	3.85	0.016	0.05
9745	669059.0	4281385.0	Residential	3.89	0.016	0.05
9746	669069.0	4281385.0	Roadway/Open Space	-	-	0.05
9747	669079.0	4281385.0	Roadway/Open Space	-	-	0.05
9748	669089.0	4281385.0	Roadway/Open Space	-	-	0.05
9749	669099.0	4281385.0	Roadway/Open Space	-	-	0.05
9750	669109.0	4281385.0	Roadway/Open Space	-	-	0.04
9751	669119.0	4281385.0	Roadway/Open Space	-	-	0.04
9752	669129.0	4281385.0	Residential	4.07	0.017	0.04
9753	669139.0	4281385.0	Residential	4.07	0.017	0.04
9754	669149.0	4281385.0	Roadway/Open Space	-	-	0.04
9755	669159.0	4281385.0	Roadway/Open Space	-	-	0.04
9756	669169.0	4281385.0	Roadway/Open Space	-	-	0.04
9757	669179.0	4281385.0	Roadway/Open Space	-	-	0.04
9758	669189.0	4281385.0	Roadway/Open Space	-	-	0.04
9759	669199.0	4281385.0	Roadway/Open Space	-	-	0.03
9760	669209.0	4281385.0	Roadway/Open Space	-	-	0.03
9761	669219.0	4281385.0	Roadway/Open Space	-	-	0.03
9762	669229.0	4281385.0	Residential	3.45	0.014	0.03
9763	669239.0	4281385.0	Residential	3.34	0.014	0.03
9764	669249.0	4281385.0	Residential	3.23	0.013	0.03
9765	669259.0	4281385.0	Residential	3.12	0.013	0.02
9766	669269.0	4281385.0	Residential	3.02	0.012	0.02
9767	669279.0	4281385.0	Residential	2.91	0.012	0.02
9768	669289.0	4281385.0	Residential	2.80	0.012	0.02
9769	669299.0	4281385.0	Residential	2.68	0.011	0.02
9770	669309.0	4281385.0	Residential	2.58	0.011	0.02
9771	669319.0	4281385.0	Residential	2.48	0.010	0.02
9772	669329.0	4281385.0	Residential	2.39	0.010	0.02
9773	669339.0	4281385.0	Residential	2.30	0.009	0.02
9774	669349.0	4281385.0	Residential	2.21	0.009	0.01
9775	669359.0	4281385.0	Residential	2.13	0.009	0.01
9776	669369.0	4281385.0	Residential	2.05	0.008	0.01
9777	668639.0	4281395.0	Roadway/Open Space	-	-	0.02
9778	668649.0	4281395.0	Roadway/Open Space	-	-	0.02
9779	668659.0	4281395.0	Roadway/Open Space	-	-	0.03
9780	668669.0	4281395.0	Roadway/Open Space	-	-	0.03

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
9781	668679.0	4281395.0	Roadway/Open Space	-	-	0.03
9782	668689.0	4281395.0	Roadway/Open Space	-	-	0.03
9783	668699.0	4281395.0	Roadway/Open Space	-	-	0.03
9784	668709.0	4281395.0	Roadway/Open Space	-	-	0.03
9785	668719.0	4281395.0	Other Sensitive	2.02	0.008	0.04
9786	668729.0	4281395.0	Other Sensitive	2.05	0.008	0.04
9787	668739.0	4281395.0	Other Sensitive	2.08	0.009	0.04
9788	668749.0	4281395.0	Other Sensitive	2.13	0.009	0.04
9789	668759.0	4281395.0	Other Sensitive	2.20	0.009	0.04
9790	668769.0	4281395.0	Other Sensitive	2.26	0.009	0.04
9791	668779.0	4281395.0	Other Sensitive	2.34	0.010	0.04
9792	668789.0	4281395.0	Other Sensitive	2.44	0.010	0.04
9793	668799.0	4281395.0	Other Sensitive	2.55	0.011	0.04
9794	668809.0	4281395.0	Other Sensitive	2.67	0.011	0.04
9795	668819.0	4281395.0	Roadway/Open Space	-	-	0.04
9796	668829.0	4281395.0	Roadway/Open Space	-	-	0.04
9797	668839.0	4281395.0	Roadway/Open Space	-	-	0.05
9798	668849.0	4281395.0	Other Sensitive	3.12	0.013	0.05
9799	668859.0	4281395.0	Other Sensitive	3.22	0.013	0.06
9800	668869.0	4281395.0	Other Sensitive	3.30	0.014	0.06
9801	668879.0	4281395.0	Other Sensitive	3.39	0.014	0.06
9802	668889.0	4281395.0	Other Sensitive	3.47	0.014	0.06
9803	668899.0	4281395.0	Other Sensitive	3.53	0.015	0.07
9804	668909.0	4281395.0	Residential	3.61	0.015	0.07
9805	668919.0	4281395.0	Residential	3.63	0.015	0.07
9806	668929.0	4281395.0	Residential	3.67	0.015	0.07
9807	668939.0	4281395.0	Residential	3.73	0.016	0.07
9808	668949.0	4281395.0	Roadway/Open Space	-	-	0.07
9809	668959.0	4281395.0	Residential	3.74	0.016	0.06
9810	668969.0	4281395.0	Residential	3.74	0.016	0.06
9811	668979.0	4281395.0	Residential	3.77	0.016	0.06
9812	668989.0	4281395.0	Residential	3.77	0.016	0.06
9813	668999.0	4281395.0	Residential	3.73	0.016	0.06
9814	669009.0	4281395.0	Residential	3.71	0.015	0.06
9815	669019.0	4281395.0	Residential	3.68	0.015	0.06
9816	669029.0	4281395.0	Residential	3.66	0.015	0.05
9817	669039.0	4281395.0	Residential	3.66	0.015	0.05
9818	669049.0	4281395.0	Residential	3.66	0.015	0.05
9819	669059.0	4281395.0	Residential	3.67	0.015	0.05
9820	669069.0	4281395.0	Roadway/Open Space	-	-	0.04
9821	669079.0	4281395.0	Roadway/Open Space	-	-	0.04
9822	669089.0	4281395.0	Residential	3.67	0.015	0.04
9823	669099.0	4281395.0	Residential	3.71	0.015	0.04
9824	669109.0	4281395.0	Residential	3.75	0.016	0.04
9825	669119.0	4281395.0	Residential	3.78	0.016	0.04
9826	669129.0	4281395.0	Residential	3.81	0.016	0.04
9827	669139.0	4281395.0	Residential	3.84	0.016	0.04
9828	669149.0	4281395.0	Residential	3.86	0.016	0.04
9829	669159.0	4281395.0	Residential	3.85	0.016	0.04
9830	669169.0	4281395.0	Residential	3.82	0.016	0.04
9831	669179.0	4281395.0	Residential	3.78	0.016	0.04
9832	669189.0	4281395.0	Residential	3.71	0.015	0.04
9833	669199.0	4281395.0	Residential	3.63	0.015	0.03
9834	669209.0	4281395.0	Residential	3.52	0.015	0.03
9835	669219.0	4281395.0	Residential	3.42	0.014	0.03
9836	669229.0	4281395.0	Residential	3.31	0.014	0.03
9837	669239.0	4281395.0	Residential	3.20	0.013	0.03
9838	669249.0	4281395.0	Residential	3.10	0.013	0.03
9839	669259.0	4281395.0	Residential	3.01	0.012	0.02
9840	669269.0	4281395.0	Residential	2.91	0.012	0.02
9841	669279.0	4281395.0	Residential	2.81	0.012	0.02
9842	669289.0	4281395.0	Residential	2.69	0.011	0.02
9843	669299.0	4281395.0	Residential	2.58	0.011	0.02
9844	669309.0	4281395.0	Residential	2.47	0.010	0.02
9845	669319.0	4281395.0	Residential	2.38	0.010	0.02
9846	669329.0	4281395.0	Residential	2.30	0.009	0.02
9847	669339.0	4281395.0	Residential	2.23	0.009	0.01
9848	669349.0	4281395.0	Residential	2.15	0.009	0.01
9849	669359.0	4281395.0	Residential	2.07	0.009	0.01
9850	668649.0	4281405.0	Roadway/Open Space	-	-	0.03
9851	668659.0	4281405.0	Roadway/Open Space	-	-	0.03
9852	668669.0	4281405.0	Roadway/Open Space	-	-	0.03
9853	668679.0	4281405.0	Roadway/Open Space	-	-	0.03
9854	668689.0	4281405.0	Roadway/Open Space	-	-	0.03
9855	668699.0	4281405.0	Roadway/Open Space	-	-	0.03
9856	668709.0	4281405.0	Other Sensitive	1.95	0.008	0.03
9857	668719.0	4281405.0	Other Sensitive	1.98	0.008	0.03
9858	668729.0	4281405.0	Other Sensitive	2.00	0.008	0.04
9859	668739.0	4281405.0	Other Sensitive	2.04	0.008	0.04
9860	668749.0	4281405.0	Other Sensitive	2.10	0.009	0.04
9861	668759.0	4281405.0	Other Sensitive	2.16	0.009	0.04
9862	668769.0	4281405.0	Other Sensitive	2.23	0.009	0.04
9863	668779.0	4281405.0	Other Sensitive	2.31	0.010	0.04
9864	668789.0	4281405.0	Other Sensitive	2.40	0.010	0.04

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
9865	668799.0	4281405.0	Other Sensitive	2.51	0.010	0.04
9866	668809.0	4281405.0	Other Sensitive	2.62	0.011	0.04
9867	668819.0	4281405.0	Other Sensitive	2.73	0.011	0.04
9868	668829.0	4281405.0	Other Sensitive	2.81	0.012	0.04
9869	668839.0	4281405.0	Other Sensitive	2.90	0.012	0.05
9870	668849.0	4281405.0	Roadway/Open Space	-	-	0.05
9871	668859.0	4281405.0	Roadway/Open Space	-	-	0.06
9872	668869.0	4281405.0	Roadway/Open Space	-	-	0.06
9873	668879.0	4281405.0	Other Sensitive	3.25	0.013	0.06
9874	668889.0	4281405.0	Other Sensitive	3.30	0.014	0.06
9875	668899.0	4281405.0	Residential	3.37	0.014	0.06
9876	668909.0	4281405.0	Residential	3.44	0.014	0.07
9877	668919.0	4281405.0	Residential	3.43	0.014	0.07
9878	668929.0	4281405.0	Residential	3.46	0.014	0.07
9879	668939.0	4281405.0	Roadway/Open Space	-	-	0.07
9880	668949.0	4281405.0	Roadway/Open Space	-	-	0.06
9881	668959.0	4281405.0	Residential	3.52	0.015	0.06
9882	668969.0	4281405.0	Residential	3.54	0.015	0.06
9883	668979.0	4281405.0	Residential	3.57	0.015	0.06
9884	668989.0	4281405.0	Residential	3.60	0.015	0.06
9885	668999.0	4281405.0	Residential	3.58	0.015	0.06
9886	669009.0	4281405.0	Residential	3.56	0.015	0.06
9887	669019.0	4281405.0	Residential	3.53	0.015	0.06
9888	669029.0	4281405.0	Residential	3.51	0.015	0.05
9889	669039.0	4281405.0	Residential	3.49	0.015	0.05
9890	669049.0	4281405.0	Residential	3.49	0.014	0.05
9891	669059.0	4281405.0	Roadway/Open Space	-	-	0.05
9892	669069.0	4281405.0	Roadway/Open Space	-	-	0.04
9893	669079.0	4281405.0	Residential	3.41	0.014	0.04
9894	669089.0	4281405.0	Residential	3.42	0.014	0.04
9895	669099.0	4281405.0	Residential	3.46	0.014	0.04
9896	669109.0	4281405.0	Residential	3.50	0.015	0.04
9897	669119.0	4281405.0	Residential	3.54	0.015	0.04
9898	669129.0	4281405.0	Residential	3.59	0.015	0.04
9899	669139.0	4281405.0	Residential	3.64	0.015	0.04
9900	669149.0	4281405.0	Residential	3.67	0.015	0.04
9901	669159.0	4281405.0	Residential	3.68	0.015	0.04
9902	669169.0	4281405.0	Residential	3.66	0.015	0.04
9903	669179.0	4281405.0	Residential	3.62	0.015	0.04
9904	669189.0	4281405.0	Residential	3.56	0.015	0.03
9905	669199.0	4281405.0	Residential	3.47	0.014	0.03
9906	669209.0	4281405.0	Residential	3.37	0.014	0.03
9907	669219.0	4281405.0	Residential	3.26	0.014	0.03
9908	669229.0	4281405.0	Residential	3.16	0.013	0.03
9909	669239.0	4281405.0	Residential	3.07	0.013	0.03
9910	669249.0	4281405.0	Residential	2.98	0.012	0.03
9911	669259.0	4281405.0	Residential	2.90	0.012	0.02
9912	669269.0	4281405.0	Residential	2.81	0.012	0.02
9913	669279.0	4281405.0	Residential	2.69	0.011	0.02
9914	669289.0	4281405.0	Residential	2.58	0.011	0.02
9915	669299.0	4281405.0	Residential	2.47	0.010	0.02
9916	669309.0	4281405.0	Residential	2.37	0.010	0.02
9917	669319.0	4281405.0	Residential	2.28	0.009	0.01
9918	669329.0	4281405.0	Residential	2.21	0.009	0.01
9919	669339.0	4281405.0	Residential	2.15	0.009	0.01
9920	668659.0	4281415.0	Roadway/Open Space	-	-	0.03
9921	668669.0	4281415.0	Roadway/Open Space	-	-	0.03
9922	668679.0	4281415.0	Roadway/Open Space	-	-	0.03
9923	668689.0	4281415.0	Roadway/Open Space	-	-	0.03
9924	668699.0	4281415.0	Roadway/Open Space	-	-	0.03
9925	668709.0	4281415.0	Other Sensitive	1.92	0.008	0.03
9926	668719.0	4281415.0	Other Sensitive	1.94	0.008	0.03
9927	668729.0	4281415.0	Other Sensitive	1.96	0.008	0.04
9928	668739.0	4281415.0	Other Sensitive	2.01	0.008	0.03
9929	668749.0	4281415.0	Other Sensitive	2.07	0.009	0.04
9930	668759.0	4281415.0	Other Sensitive	2.13	0.009	0.04
9931	668769.0	4281415.0	Other Sensitive	2.20	0.009	0.04
9932	668779.0	4281415.0	Other Sensitive	2.27	0.009	0.04
9933	668789.0	4281415.0	Other Sensitive	2.36	0.010	0.04
9934	668799.0	4281415.0	Other Sensitive	2.46	0.010	0.04
9935	668809.0	4281415.0	Other Sensitive	2.57	0.011	0.04
9936	668819.0	4281415.0	Other Sensitive	2.66	0.011	0.04
9937	668829.0	4281415.0	Other Sensitive	2.73	0.011	0.04
9938	668839.0	4281415.0	Other Sensitive	2.80	0.012	0.05
9939	668849.0	4281415.0	Other Sensitive	2.89	0.012	0.05
9940	668859.0	4281415.0	Other Sensitive	2.97	0.012	0.06
9941	668869.0	4281415.0	Other Sensitive	3.04	0.013	0.06
9942	668879.0	4281415.0	Roadway/Open Space	-	-	0.06
9943	668889.0	4281415.0	Roadway/Open Space	-	-	0.06
9944	668899.0	4281415.0	Residential	3.23	0.013	0.06
9945	668909.0	4281415.0	Residential	3.26	0.014	0.06
9946	668919.0	4281415.0	Residential	3.25	0.014	0.06
9947	668929.0	4281415.0	Residential	3.30	0.014	0.06
9948	668939.0	4281415.0	Roadway/Open Space	-	-	0.06

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
9949	668949.0	4281415.0	Residential	3.36	0.014	0.06
9950	668959.0	4281415.0	Residential	3.36	0.014	0.06
9951	668969.0	4281415.0	Residential	3.37	0.014	0.06
9952	668979.0	4281415.0	Residential	3.38	0.014	0.06
9953	668989.0	4281415.0	Residential	3.41	0.014	0.06
9954	668999.0	4281415.0	Residential	3.42	0.014	0.06
9955	669009.0	4281415.0	Residential	3.41	0.014	0.06
9956	669019.0	4281415.0	Residential	3.38	0.014	0.05
9957	669029.0	4281415.0	Residential	3.35	0.014	0.05
9958	669039.0	4281415.0	Residential	3.32	0.014	0.05
9959	669049.0	4281415.0	Roadway/Open Space	-	-	0.04
9960	669059.0	4281415.0	Residential	3.28	0.014	0.04
9961	669069.0	4281415.0	Residential	3.24	0.013	0.04
9962	669079.0	4281415.0	Residential	3.23	0.013	0.04
9963	669089.0	4281415.0	Residential	3.23	0.013	0.04
9964	669099.0	4281415.0	Residential	3.24	0.013	0.04
9965	669109.0	4281415.0	Residential	3.27	0.014	0.03
9966	669119.0	4281415.0	Residential	3.33	0.014	0.03
9967	669129.0	4281415.0	Residential	3.39	0.014	0.04
9968	669139.0	4281415.0	Residential	3.45	0.014	0.04
9969	669149.0	4281415.0	Residential	3.49	0.015	0.04
9970	669159.0	4281415.0	Residential	3.51	0.015	0.04
9971	669169.0	4281415.0	Residential	3.50	0.015	0.03
9972	669179.0	4281415.0	Residential	3.48	0.014	0.03
9973	669189.0	4281415.0	Residential	3.41	0.014	0.03
9974	669199.0	4281415.0	Residential	3.31	0.014	0.03
9975	669209.0	4281415.0	Residential	3.21	0.013	0.03
9976	669219.0	4281415.0	Residential	3.11	0.013	0.03
9977	669229.0	4281415.0	Residential	3.02	0.013	0.03
9978	669239.0	4281415.0	Residential	2.94	0.012	0.02
9979	669249.0	4281415.0	Residential	2.86	0.012	0.02
9980	669259.0	4281415.0	Residential	2.78	0.012	0.02
9981	669269.0	4281415.0	Residential	2.68	0.011	0.02
9982	669279.0	4281415.0	Residential	2.57	0.011	0.02
9983	669289.0	4281415.0	Residential	2.47	0.010	0.02
9984	669299.0	4281415.0	Residential	2.37	0.010	0.02
9985	669309.0	4281415.0	Residential	2.28	0.009	0.02
9986	669319.0	4281415.0	Residential	2.20	0.009	0.01
9987	668669.0	4281425.0	Roadway/Open Space	-	-	0.03
9988	668679.0	4281425.0	Roadway/Open Space	-	-	0.03
9989	668689.0	4281425.0	Roadway/Open Space	-	-	0.03
9990	668699.0	4281425.0	Roadway/Open Space	-	-	0.03
9991	668709.0	4281425.0	Other Sensitive	1.89	0.008	0.03
9992	668719.0	4281425.0	Other Sensitive	1.91	0.008	0.03
9993	668729.0	4281425.0	Other Sensitive	1.94	0.008	0.03
9994	668739.0	4281425.0	Other Sensitive	1.98	0.008	0.03
9995	668749.0	4281425.0	Other Sensitive	2.04	0.008	0.03
9996	668759.0	4281425.0	Other Sensitive	2.10	0.009	0.04
9997	668769.0	4281425.0	Other Sensitive	2.17	0.009	0.04
9998	668779.0	4281425.0	Other Sensitive	2.23	0.009	0.04
9999	668789.0	4281425.0	Other Sensitive	2.32	0.010	0.04
10000	668799.0	4281425.0	Other Sensitive	2.42	0.010	0.04
10001	668809.0	4281425.0	Other Sensitive	2.51	0.010	0.04
10002	668819.0	4281425.0	Other Sensitive	2.58	0.011	0.04
10003	668829.0	4281425.0	Other Sensitive	2.64	0.011	0.04
10004	668839.0	4281425.0	Other Sensitive	2.71	0.011	0.05
10005	668849.0	4281425.0	Other Sensitive	2.78	0.012	0.05
10006	668859.0	4281425.0	Other Sensitive	2.85	0.012	0.05
10007	668869.0	4281425.0	Other Sensitive	2.91	0.012	0.05
10008	668879.0	4281425.0	Other Sensitive	2.97	0.012	0.06
10009	668889.0	4281425.0	Roadway/Open Space	-	-	0.06
10010	668899.0	4281425.0	Residential	3.10	0.013	0.06
10011	668909.0	4281425.0	Residential	3.09	0.013	0.06
10012	668919.0	4281425.0	Residential	3.10	0.013	0.06
10013	668929.0	4281425.0	Residential	3.16	0.013	0.06
10014	668939.0	4281425.0	Roadway/Open Space	-	-	0.06
10015	668949.0	4281425.0	Residential	3.22	0.013	0.06
10016	668959.0	4281425.0	Residential	3.22	0.013	0.06
10017	668969.0	4281425.0	Residential	3.22	0.013	0.06
10018	668979.0	4281425.0	Residential	3.24	0.013	0.06
10019	668989.0	4281425.0	Residential	3.25	0.014	0.06
10020	668999.0	4281425.0	Residential	3.25	0.014	0.06
10021	669009.0	4281425.0	Residential	3.25	0.014	0.05
10022	669019.0	4281425.0	Residential	3.22	0.013	0.05
10023	669029.0	4281425.0	Residential	3.19	0.013	0.05
10024	669039.0	4281425.0	Roadway/Open Space	-	-	0.04
10025	669049.0	4281425.0	Residential	3.12	0.013	0.04
10026	669059.0	4281425.0	Residential	3.10	0.013	0.04
10027	669069.0	4281425.0	Residential	3.07	0.013	0.04
10028	669079.0	4281425.0	Residential	3.06	0.013	0.04
10029	669089.0	4281425.0	Residential	3.05	0.013	0.03
10030	669099.0	4281425.0	Residential	3.06	0.013	0.03
10031	669109.0	4281425.0	Residential	3.08	0.013	0.03
10032	669119.0	4281425.0	Residential	3.13	0.013	0.03

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
10033	669129.0	4281425.0	Residential	3.20	0.013	0.03
10034	669139.0	4281425.0	Residential	3.28	0.014	0.03
10035	669149.0	4281425.0	Residential	3.32	0.014	0.03
10036	669159.0	4281425.0	Residential	3.34	0.014	0.03
10037	669169.0	4281425.0	Residential	3.35	0.014	0.03
10038	669179.0	4281425.0	Residential	3.32	0.014	0.03
10039	669189.0	4281425.0	Residential	3.25	0.013	0.03
10040	669199.0	4281425.0	Residential	3.15	0.013	0.03
10041	669209.0	4281425.0	Residential	3.06	0.013	0.03
10042	669219.0	4281425.0	Residential	2.97	0.012	0.03
10043	669229.0	4281425.0	Residential	2.89	0.012	0.02
10044	669239.0	4281425.0	Residential	2.82	0.012	0.02
10045	669249.0	4281425.0	Roadway/Open Space	-	-	0.02
10046	669259.0	4281425.0	Roadway/Open Space	-	-	0.02
10047	669269.0	4281425.0	Roadway/Open Space	-	-	0.02
10048	669279.0	4281425.0	Roadway/Open Space	-	-	0.02
10049	669289.0	4281425.0	Roadway/Open Space	-	-	0.02
10050	669299.0	4281425.0	Roadway/Open Space	-	-	0.02
10051	669309.0	4281425.0	Roadway/Open Space	-	-	0.02
10052	668679.0	4281435.0	Roadway/Open Space	-	-	0.03
10053	668689.0	4281435.0	Roadway/Open Space	-	-	0.03
10054	668699.0	4281435.0	Other Sensitive	1.85	0.008	0.03
10055	668709.0	4281435.0	Other Sensitive	1.87	0.008	0.03
10056	668719.0	4281435.0	Other Sensitive	1.89	0.008	0.03
10057	668729.0	4281435.0	Other Sensitive	1.92	0.008	0.03
10058	668739.0	4281435.0	Other Sensitive	1.96	0.008	0.03
10059	668749.0	4281435.0	Other Sensitive	2.02	0.008	0.03
10060	668759.0	4281435.0	Other Sensitive	2.08	0.009	0.04
10061	668769.0	4281435.0	Other Sensitive	2.14	0.009	0.04
10062	668779.0	4281435.0	Other Sensitive	2.21	0.009	0.04
10063	668789.0	4281435.0	Other Sensitive	2.30	0.010	0.04
10064	668799.0	4281435.0	Other Sensitive	2.39	0.010	0.04
10065	668809.0	4281435.0	Other Sensitive	2.46	0.010	0.04
10066	668819.0	4281435.0	Other Sensitive	2.51	0.010	0.04
10067	668829.0	4281435.0	Other Sensitive	2.56	0.011	0.05
10068	668839.0	4281435.0	Other Sensitive	2.61	0.011	0.05
10069	668849.0	4281435.0	Other Sensitive	2.67	0.011	0.05
10070	668859.0	4281435.0	Other Sensitive	2.73	0.011	0.05
10071	668869.0	4281435.0	Other Sensitive	2.80	0.012	0.05
10072	668879.0	4281435.0	Other Sensitive	2.87	0.012	0.05
10073	668889.0	4281435.0	Residential	2.93	0.012	0.06
10074	668899.0	4281435.0	Residential	2.96	0.012	0.06
10075	668909.0	4281435.0	Residential	2.96	0.012	0.06
10076	668919.0	4281435.0	Residential	2.98	0.012	0.06
10077	668929.0	4281435.0	Roadway/Open Space	-	-	0.06
10078	668939.0	4281435.0	Roadway/Open Space	-	-	0.06
10079	668949.0	4281435.0	Residential	3.09	0.013	0.06
10080	668959.0	4281435.0	Residential	3.10	0.013	0.06
10081	668969.0	4281435.0	Residential	3.10	0.013	0.06
10082	668979.0	4281435.0	Residential	3.10	0.013	0.06
10083	668989.0	4281435.0	Residential	3.10	0.013	0.06
10084	668999.0	4281435.0	Residential	3.11	0.013	0.05
10085	669009.0	4281435.0	Residential	3.09	0.013	0.05
10086	669019.0	4281435.0	Residential	3.06	0.013	0.05
10087	669029.0	4281435.0	Residential	3.03	0.013	0.05
10088	669039.0	4281435.0	Roadway/Open Space	-	-	0.04
10089	669049.0	4281435.0	Residential	2.98	0.012	0.04
10090	669059.0	4281435.0	Residential	2.94	0.012	0.04
10091	669069.0	4281435.0	Residential	2.93	0.012	0.04
10092	669079.0	4281435.0	Residential	2.91	0.012	0.03
10093	669089.0	4281435.0	Residential	2.90	0.012	0.03
10094	669099.0	4281435.0	Residential	2.90	0.012	0.03
10095	669109.0	4281435.0	Residential	2.90	0.012	0.03
10096	669119.0	4281435.0	Residential	2.94	0.012	0.03
10097	669129.0	4281435.0	Residential	3.01	0.012	0.03
10098	669139.0	4281435.0	Residential	3.08	0.013	0.03
10099	669149.0	4281435.0	Residential	3.14	0.013	0.03
10100	669159.0	4281435.0	Residential	3.16	0.013	0.03
10101	669169.0	4281435.0	Residential	3.16	0.013	0.03
10102	669179.0	4281435.0	Residential	3.13	0.013	0.03
10103	669189.0	4281435.0	Residential	3.06	0.013	0.03
10104	669199.0	4281435.0	Residential	2.98	0.012	0.03
10105	669209.0	4281435.0	Residential	2.90	0.012	0.03
10106	669219.0	4281435.0	Residential	2.83	0.012	0.02
10107	669229.0	4281435.0	Residential	2.76	0.011	0.02
10108	669239.0	4281435.0	Residential	2.69	0.011	0.02
10109	669249.0	4281435.0	Roadway/Open Space	-	-	0.02
10110	669259.0	4281435.0	Roadway/Open Space	-	-	0.02
10111	669269.0	4281435.0	Roadway/Open Space	-	-	0.02
10112	669279.0	4281435.0	Roadway/Open Space	-	-	0.02
10113	668689.0	4281445.0	Roadway/Open Space	-	-	0.03
10114	668699.0	4281445.0	Other Sensitive	1.83	0.008	0.03
10115	668709.0	4281445.0	Other Sensitive	1.85	0.008	0.03
10116	668719.0	4281445.0	Other Sensitive	1.87	0.008	0.03

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
10117	668729.0	4281445.0	Other Sensitive	1.91	0.008	0.03
10118	668739.0	4281445.0	Other Sensitive	1.95	0.008	0.03
10119	668749.0	4281445.0	Other Sensitive	2.01	0.008	0.03
10120	668759.0	4281445.0	Other Sensitive	2.07	0.009	0.03
10121	668769.0	4281445.0	Other Sensitive	2.14	0.009	0.03
10122	668779.0	4281445.0	Other Sensitive	2.20	0.009	0.04
10123	668789.0	4281445.0	Other Sensitive	2.28	0.009	0.04
10124	668799.0	4281445.0	Other Sensitive	2.35	0.010	0.04
10125	668809.0	4281445.0	Other Sensitive	2.39	0.010	0.04
10126	668819.0	4281445.0	Other Sensitive	2.43	0.010	0.04
10127	668829.0	4281445.0	Other Sensitive	2.47	0.010	0.05
10128	668839.0	4281445.0	Other Sensitive	2.52	0.010	0.05
10129	668849.0	4281445.0	Other Sensitive	2.57	0.011	0.05
10130	668859.0	4281445.0	Other Sensitive	2.64	0.011	0.05
10131	668869.0	4281445.0	Other Sensitive	2.71	0.011	0.05
10132	668879.0	4281445.0	Other Sensitive	2.77	0.012	0.05
10133	668889.0	4281445.0	Residential	2.82	0.012	0.06
10134	668899.0	4281445.0	Residential	2.83	0.012	0.06
10135	668909.0	4281445.0	Residential	2.84	0.012	0.06
10136	668919.0	4281445.0	Residential	2.86	0.012	0.06
10137	668929.0	4281445.0	Roadway/Open Space	-	-	0.05
10138	668939.0	4281445.0	Residential	2.92	0.012	0.05
10139	668949.0	4281445.0	Residential	2.94	0.012	0.05
10140	668959.0	4281445.0	Residential	2.95	0.012	0.05
10141	668969.0	4281445.0	Residential	2.96	0.012	0.05
10142	668979.0	4281445.0	Residential	2.98	0.012	0.05
10143	668989.0	4281445.0	Residential	2.98	0.012	0.05
10144	668999.0	4281445.0	Residential	2.97	0.012	0.05
10145	669009.0	4281445.0	Residential	2.95	0.012	0.05
10146	669019.0	4281445.0	Residential	2.93	0.012	0.05
10147	669029.0	4281445.0	Roadway/Open Space	-	-	0.04
10148	669039.0	4281445.0	Residential	2.87	0.012	0.04
10149	669049.0	4281445.0	Residential	2.83	0.012	0.04
10150	669059.0	4281445.0	Residential	2.80	0.012	0.04
10151	669069.0	4281445.0	Residential	2.79	0.012	0.03
10152	669079.0	4281445.0	Residential	2.78	0.012	0.03
10153	669089.0	4281445.0	Residential	2.77	0.011	0.03
10154	669099.0	4281445.0	Residential	2.75	0.011	0.03
10155	669109.0	4281445.0	Residential	2.75	0.011	0.03
10156	669119.0	4281445.0	Residential	2.77	0.012	0.03
10157	669129.0	4281445.0	Residential	2.82	0.012	0.03
10158	669139.0	4281445.0	Residential	2.87	0.012	0.03
10159	669149.0	4281445.0	Residential	2.91	0.012	0.03
10160	669159.0	4281445.0	Residential	2.94	0.012	0.03
10161	669169.0	4281445.0	Residential	2.93	0.012	0.03
10162	669179.0	4281445.0	Residential	2.90	0.012	0.03
10163	669189.0	4281445.0	Residential	2.87	0.012	0.03
10164	669199.0	4281445.0	Residential	2.82	0.012	0.03
10165	669209.0	4281445.0	Residential	2.77	0.011	0.03
10166	669219.0	4281445.0	Residential	2.71	0.011	0.02
10167	669229.0	4281445.0	Residential	2.65	0.011	0.02
10168	669239.0	4281445.0	Roadway/Open Space	-	-	0.02
10169	669249.0	4281445.0	Roadway/Open Space	-	-	0.02
10170	669259.0	4281445.0	Roadway/Open Space	-	-	0.02
10171	668699.0	4281455.0	Other Sensitive	1.81	0.007	0.03
10172	668709.0	4281455.0	Other Sensitive	1.84	0.008	0.03
10173	668719.0	4281455.0	Other Sensitive	1.86	0.008	0.03
10174	668729.0	4281455.0	Other Sensitive	1.91	0.008	0.03
10175	668739.0	4281455.0	Other Sensitive	1.96	0.008	0.03
10176	668749.0	4281455.0	Other Sensitive	2.02	0.008	0.03
10177	668759.0	4281455.0	Other Sensitive	2.10	0.009	0.03
10178	668769.0	4281455.0	Other Sensitive	2.15	0.009	0.03
10179	668779.0	4281455.0	Other Sensitive	2.20	0.009	0.04
10180	668789.0	4281455.0	Other Sensitive	2.25	0.009	0.04
10181	668799.0	4281455.0	Other Sensitive	2.29	0.009	0.04
10182	668809.0	4281455.0	Other Sensitive	2.32	0.010	0.04
10183	668819.0	4281455.0	Other Sensitive	2.36	0.010	0.04
10184	668829.0	4281455.0	Other Sensitive	2.39	0.010	0.05
10185	668839.0	4281455.0	Other Sensitive	2.43	0.010	0.05
10186	668849.0	4281455.0	Other Sensitive	2.48	0.010	0.05
10187	668859.0	4281455.0	Other Sensitive	2.54	0.011	0.05
10188	668869.0	4281455.0	Other Sensitive	2.61	0.011	0.05
10189	668879.0	4281455.0	Roadway/Open Space	-	-	0.05
10190	668889.0	4281455.0	Residential	2.71	0.011	0.05
10191	668899.0	4281455.0	Residential	2.73	0.011	0.05
10192	668909.0	4281455.0	Residential	2.73	0.011	0.06
10193	668919.0	4281455.0	Residential	2.75	0.011	0.05
10194	668929.0	4281455.0	Roadway/Open Space	-	-	0.05
10195	668939.0	4281455.0	Residential	2.80	0.012	0.05
10196	668949.0	4281455.0	Residential	2.81	0.012	0.05
10197	668959.0	4281455.0	Residential	2.83	0.012	0.05
10198	668969.0	4281455.0	Residential	2.85	0.012	0.05
10199	668979.0	4281455.0	Residential	2.87	0.012	0.05
10200	668989.0	4281455.0	Residential	2.87	0.012	0.05

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
10201	668999.0	4281455.0	Residential	2.85	0.012	0.05
10202	669009.0	4281455.0	Residential	2.83	0.012	0.05
10203	669019.0	4281455.0	Residential	2.80	0.012	0.05
10204	669029.0	4281455.0	Roadway/Open Space	-	-	0.04
10205	669039.0	4281455.0	Residential	2.73	0.011	0.04
10206	669049.0	4281455.0	Residential	2.69	0.011	0.04
10207	669059.0	4281455.0	Residential	2.66	0.011	0.04
10208	669069.0	4281455.0	Residential	2.65	0.011	0.03
10209	669079.0	4281455.0	Residential	2.64	0.011	0.03
10210	669089.0	4281455.0	Residential	2.64	0.011	0.03
10211	669099.0	4281455.0	Residential	2.63	0.011	0.03
10212	669109.0	4281455.0	Residential	2.62	0.011	0.03
10213	669119.0	4281455.0	Residential	2.63	0.011	0.03
10214	669129.0	4281455.0	Residential	2.64	0.011	0.03
10215	669139.0	4281455.0	Residential	2.67	0.011	0.03
10216	669149.0	4281455.0	Residential	2.69	0.011	0.03
10217	669159.0	4281455.0	Residential	2.70	0.011	0.03
10218	669169.0	4281455.0	Residential	2.70	0.011	0.03
10219	669179.0	4281455.0	Residential	2.69	0.011	0.03
10220	669189.0	4281455.0	Residential	2.68	0.011	0.03
10221	669199.0	4281455.0	Residential	2.67	0.011	0.03
10222	669209.0	4281455.0	Residential	2.65	0.011	0.02
10223	669219.0	4281455.0	Residential	2.61	0.011	0.02
10224	669229.0	4281455.0	Roadway/Open Space	-	-	0.02
10225	669239.0	4281455.0	Roadway/Open Space	-	-	0.02
10226	668709.0	4281465.0	Other Sensitive	1.82	0.008	0.03
10227	668719.0	4281465.0	Other Sensitive	1.86	0.008	0.03
10228	668729.0	4281465.0	Other Sensitive	1.91	0.008	0.03
10229	668739.0	4281465.0	Other Sensitive	1.96	0.008	0.03
10230	668749.0	4281465.0	Other Sensitive	2.03	0.008	0.03
10231	668759.0	4281465.0	Other Sensitive	2.09	0.009	0.03
10232	668769.0	4281465.0	Other Sensitive	2.13	0.009	0.03
10233	668779.0	4281465.0	Other Sensitive	2.17	0.009	0.03
10234	668789.0	4281465.0	Other Sensitive	2.20	0.009	0.04
10235	668799.0	4281465.0	Other Sensitive	2.23	0.009	0.04
10236	668809.0	4281465.0	Other Sensitive	2.26	0.009	0.04
10237	668819.0	4281465.0	Other Sensitive	2.29	0.009	0.04
10238	668829.0	4281465.0	Other Sensitive	2.32	0.010	0.05
10239	668839.0	4281465.0	Other Sensitive	2.35	0.010	0.05
10240	668849.0	4281465.0	Other Sensitive	2.40	0.010	0.05
10241	668859.0	4281465.0	Other Sensitive	2.46	0.010	0.05
10242	668869.0	4281465.0	Other Sensitive	2.52	0.010	0.05
10243	668879.0	4281465.0	Residential	2.57	0.011	0.05
10244	668889.0	4281465.0	Residential	2.60	0.011	0.05
10245	668899.0	4281465.0	Residential	2.62	0.011	0.05
10246	668909.0	4281465.0	Residential	2.64	0.011	0.05
10247	668919.0	4281465.0	Roadway/Open Space	-	-	0.05
10248	668929.0	4281465.0	Residential	2.67	0.011	0.05
10249	668939.0	4281465.0	Residential	2.69	0.011	0.05
10250	668949.0	4281465.0	Residential	2.70	0.011	0.05
10251	668959.0	4281465.0	Residential	2.71	0.011	0.05
10252	668969.0	4281465.0	Residential	2.73	0.011	0.05
10253	668979.0	4281465.0	Residential	2.76	0.011	0.05
10254	668989.0	4281465.0	Residential	2.77	0.012	0.05
10255	668999.0	4281465.0	Residential	2.75	0.011	0.05
10256	669009.0	4281465.0	Residential	2.72	0.011	0.05
10257	669019.0	4281465.0	Roadway/Open Space	-	-	0.05
10258	669029.0	4281465.0	Roadway/Open Space	-	-	0.04
10259	669039.0	4281465.0	Residential	2.61	0.011	0.04
10260	669049.0	4281465.0	Residential	2.57	0.011	0.04
10261	669059.0	4281465.0	Residential	2.54	0.011	0.03
10262	669069.0	4281465.0	Residential	2.53	0.010	0.03
10263	669079.0	4281465.0	Residential	2.52	0.010	0.03
10264	669089.0	4281465.0	Residential	2.51	0.010	0.03
10265	669099.0	4281465.0	Residential	2.51	0.010	0.03
10266	669109.0	4281465.0	Residential	2.50	0.010	0.03
10267	669119.0	4281465.0	Residential	2.50	0.010	0.03
10268	669129.0	4281465.0	Residential	2.49	0.010	0.02
10269	669139.0	4281465.0	Residential	2.49	0.010	0.03
10270	669149.0	4281465.0	Residential	2.50	0.010	0.03
10271	669159.0	4281465.0	Residential	2.50	0.010	0.03
10272	669169.0	4281465.0	Residential	2.50	0.010	0.02
10273	669179.0	4281465.0	Residential	2.50	0.010	0.02
10274	669189.0	4281465.0	Residential	2.52	0.010	0.02
10275	669199.0	4281465.0	Residential	2.54	0.011	0.02
10276	669209.0	4281465.0	Residential	2.53	0.011	0.02
10277	668729.0	4281475.0	Other Sensitive	1.90	0.008	0.03
10278	668739.0	4281475.0	Other Sensitive	1.95	0.008	0.03
10279	668749.0	4281475.0	Other Sensitive	2.01	0.008	0.03
10280	668759.0	4281475.0	Other Sensitive	2.05	0.008	0.03
10281	668769.0	4281475.0	Other Sensitive	2.08	0.009	0.03
10282	668779.0	4281475.0	Other Sensitive	2.12	0.009	0.03
10283	668789.0	4281475.0	Other Sensitive	2.15	0.009	0.03
10284	668799.0	4281475.0	Other Sensitive	2.18	0.009	0.04

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
10285	668809.0	4281475.0	Other Sensitive	2.21	0.009	0.04
10286	668819.0	4281475.0	Other Sensitive	2.23	0.009	0.04
10287	668829.0	4281475.0	Other Sensitive	2.25	0.009	0.04
10288	668839.0	4281475.0	Other Sensitive	2.28	0.009	0.04
10289	668849.0	4281475.0	Other Sensitive	2.32	0.010	0.04
10290	668859.0	4281475.0	Other Sensitive	2.38	0.010	0.05
10291	668869.0	4281475.0	Other Sensitive	2.44	0.010	0.05
10292	668879.0	4281475.0	Residential	2.47	0.010	0.05
10293	668889.0	4281475.0	Residential	2.50	0.010	0.05
10294	668899.0	4281475.0	Residential	2.52	0.010	0.05
10295	668909.0	4281475.0	Residential	2.54	0.011	0.05
10296	668919.0	4281475.0	Roadway/Open Space	-	-	0.05
10297	668929.0	4281475.0	Residential	2.57	0.011	0.05
10298	668939.0	4281475.0	Residential	2.59	0.011	0.05
10299	668949.0	4281475.0	Residential	2.59	0.011	0.05
10300	668959.0	4281475.0	Residential	2.60	0.011	0.05
10301	668969.0	4281475.0	Residential	2.61	0.011	0.05
10302	668979.0	4281475.0	Residential	2.64	0.011	0.05
10303	668989.0	4281475.0	Residential	2.66	0.011	0.05
10304	668999.0	4281475.0	Residential	2.66	0.011	0.05
10305	669009.0	4281475.0	Residential	2.63	0.011	0.05
10306	669019.0	4281475.0	Roadway/Open Space	-	-	0.04
10307	669029.0	4281475.0	Roadway/Open Space	-	-	0.04
10308	669039.0	4281475.0	Roadway/Open Space	-	-	0.04
10309	669049.0	4281475.0	Roadway/Open Space	-	-	0.03
10310	669059.0	4281475.0	Residential	2.44	0.010	0.03
10311	669069.0	4281475.0	Residential	2.42	0.010	0.03
10312	669079.0	4281475.0	Residential	2.41	0.010	0.03
10313	669089.0	4281475.0	Residential	2.40	0.010	0.03
10314	669099.0	4281475.0	Residential	2.39	0.010	0.03
10315	669109.0	4281475.0	Residential	2.39	0.010	0.03
10316	669119.0	4281475.0	Residential	2.37	0.010	0.02
10317	669129.0	4281475.0	Residential	2.35	0.010	0.02
10318	669139.0	4281475.0	Residential	2.34	0.010	0.02
10319	669149.0	4281475.0	Residential	2.34	0.010	0.02
10320	669159.0	4281475.0	Residential	2.34	0.010	0.02
10321	669169.0	4281475.0	Residential	2.34	0.010	0.02
10322	669179.0	4281475.0	Residential	2.35	0.010	0.02
10323	669189.0	4281475.0	Residential	2.38	0.010	0.02
10324	668749.0	4281485.0	Other Sensitive	1.97	0.008	0.03
10325	668759.0	4281485.0	Other Sensitive	2.00	0.008	0.03
10326	668769.0	4281485.0	Other Sensitive	2.03	0.008	0.03
10327	668779.0	4281485.0	Other Sensitive	2.07	0.009	0.03
10328	668789.0	4281485.0	Other Sensitive	2.10	0.009	0.04
10329	668799.0	4281485.0	Other Sensitive	2.13	0.009	0.04
10330	668809.0	4281485.0	Other Sensitive	2.15	0.009	0.04
10331	668819.0	4281485.0	Other Sensitive	2.17	0.009	0.04
10332	668829.0	4281485.0	Other Sensitive	2.18	0.009	0.04
10333	668839.0	4281485.0	Other Sensitive	2.20	0.009	0.04
10334	668849.0	4281485.0	Other Sensitive	2.24	0.009	0.04
10335	668859.0	4281485.0	Other Sensitive	2.30	0.010	0.04
10336	668869.0	4281485.0	Roadway/Open Space	-	-	0.05
10337	668879.0	4281485.0	Residential	2.37	0.010	0.05
10338	668889.0	4281485.0	Residential	2.40	0.010	0.05
10339	668899.0	4281485.0	Residential	2.43	0.010	0.05
10340	668909.0	4281485.0	Residential	2.46	0.010	0.05
10341	668919.0	4281485.0	Roadway/Open Space	-	-	0.05
10342	668929.0	4281485.0	Residential	2.48	0.010	0.05
10343	668939.0	4281485.0	Residential	2.48	0.010	0.05
10344	668949.0	4281485.0	Residential	2.49	0.010	0.05
10345	668959.0	4281485.0	Residential	2.49	0.010	0.05
10346	668969.0	4281485.0	Residential	2.50	0.010	0.05
10347	668979.0	4281485.0	Residential	2.51	0.010	0.05
10348	668989.0	4281485.0	Residential	2.53	0.011	0.05
10349	668999.0	4281485.0	Residential	2.54	0.011	0.05
10350	669009.0	4281485.0	Residential	2.51	0.010	0.04
10351	669019.0	4281485.0	Roadway/Open Space	-	-	0.04
10352	669029.0	4281485.0	Residential	2.44	0.010	0.04
10353	669039.0	4281485.0	Residential	2.39	0.010	0.04
10354	669049.0	4281485.0	Residential	2.37	0.010	0.03
10355	669059.0	4281485.0	Roadway/Open Space	-	-	0.03
10356	669069.0	4281485.0	Roadway/Open Space	-	-	0.03
10357	669079.0	4281485.0	Roadway/Open Space	-	-	0.03
10358	669089.0	4281485.0	Residential	2.31	0.010	0.03
10359	669099.0	4281485.0	Residential	2.30	0.010	0.03
10360	669109.0	4281485.0	Residential	2.29	0.009	0.02
10361	669119.0	4281485.0	Residential	2.25	0.009	0.02
10362	669129.0	4281485.0	Residential	2.23	0.009	0.02
10363	669139.0	4281485.0	Residential	2.22	0.009	0.02
10364	669149.0	4281485.0	Residential	2.21	0.009	0.02
10365	669159.0	4281485.0	Residential	2.21	0.009	0.02
10366	668759.0	4281495.0	Roadway/Open Space	-	-	0.03
10367	668769.0	4281495.0	Roadway/Open Space	-	-	0.03
10368	668779.0	4281495.0	Roadway/Open Space	-	-	0.03

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
10369	668789.0	4281495.0	Roadway/Open Space	-	-	0.04
10370	668799.0	4281495.0	Other Sensitive	2.07	0.009	0.04
10371	668809.0	4281495.0	Other Sensitive	2.09	0.009	0.04
10372	668819.0	4281495.0	Other Sensitive	2.10	0.009	0.04
10373	668829.0	4281495.0	Other Sensitive	2.11	0.009	0.04
10374	668839.0	4281495.0	Other Sensitive	2.12	0.009	0.04
10375	668849.0	4281495.0	Other Sensitive	2.16	0.009	0.04
10376	668859.0	4281495.0	Other Sensitive	2.21	0.009	0.04
10377	668869.0	4281495.0	Residential	2.26	0.009	0.05
10378	668879.0	4281495.0	Residential	2.29	0.010	0.05
10379	668889.0	4281495.0	Residential	2.32	0.010	0.05
10380	668899.0	4281495.0	Residential	2.35	0.010	0.05
10381	668909.0	4281495.0	Roadway/Open Space	-	-	0.05
10382	668919.0	4281495.0	Residential	2.39	0.010	0.05
10383	668929.0	4281495.0	Residential	2.39	0.010	0.05
10384	668939.0	4281495.0	Residential	2.39	0.010	0.04
10385	668949.0	4281495.0	Residential	2.38	0.010	0.05
10386	668959.0	4281495.0	Residential	2.38	0.010	0.05
10387	668969.0	4281495.0	Residential	2.37	0.010	0.05
10388	668979.0	4281495.0	Residential	2.38	0.010	0.05
10389	668989.0	4281495.0	Residential	2.39	0.010	0.04
10390	668999.0	4281495.0	Residential	2.39	0.010	0.04
10391	669009.0	4281495.0	Roadway/Open Space	-	-	0.04
10392	669019.0	4281495.0	Residential	2.36	0.010	0.04
10393	669029.0	4281495.0	Residential	2.34	0.010	0.04
10394	669039.0	4281495.0	Residential	2.31	0.010	0.03
10395	669049.0	4281495.0	Residential	2.29	0.010	0.03
10396	669059.0	4281495.0	Residential	2.28	0.009	0.03
10397	669069.0	4281495.0	Residential	2.26	0.009	0.03
10398	669079.0	4281495.0	Residential	2.26	0.009	0.03
10399	669089.0	4281495.0	Roadway/Open Space	-	-	0.03
10400	669099.0	4281495.0	Roadway/Open Space	-	-	0.03
10401	669109.0	4281495.0	Roadway/Open Space	-	-	0.02
10402	669119.0	4281495.0	Residential	2.16	0.009	0.02
10403	669129.0	4281495.0	Residential	2.14	0.009	0.02
10404	669139.0	4281495.0	Residential	2.12	0.009	0.02
10405	668779.0	4281505.0	Roadway/Open Space	-	-	0.03
10406	668789.0	4281505.0	Roadway/Open Space	-	-	0.04
10407	668799.0	4281505.0	Roadway/Open Space	-	-	0.04
10408	668809.0	4281505.0	Roadway/Open Space	-	-	0.04
10409	668819.0	4281505.0	Roadway/Open Space	-	-	0.04
10410	668829.0	4281505.0	Roadway/Open Space	-	-	0.04
10411	668839.0	4281505.0	Other Sensitive	2.05	0.009	0.04
10412	668849.0	4281505.0	Other Sensitive	2.08	0.009	0.04
10413	668859.0	4281505.0	Other Sensitive	2.12	0.009	0.04
10414	668869.0	4281505.0	Residential	2.17	0.009	0.04
10415	668879.0	4281505.0	Residential	2.21	0.009	0.05
10416	668889.0	4281505.0	Residential	2.24	0.009	0.05
10417	668899.0	4281505.0	Residential	2.27	0.009	0.05
10418	668909.0	4281505.0	Roadway/Open Space	-	-	0.04
10419	668919.0	4281505.0	Residential	2.30	0.010	0.04
10420	668929.0	4281505.0	Residential	2.30	0.010	0.04
10421	668939.0	4281505.0	Residential	2.29	0.010	0.04
10422	668949.0	4281505.0	Residential	2.27	0.009	0.04
10423	668959.0	4281505.0	Residential	2.26	0.009	0.04
10424	668969.0	4281505.0	Residential	2.25	0.009	0.04
10425	668979.0	4281505.0	Residential	2.25	0.009	0.04
10426	668989.0	4281505.0	Residential	2.26	0.009	0.04
10427	668999.0	4281505.0	Residential	2.25	0.009	0.04
10428	669009.0	4281505.0	Roadway/Open Space	-	-	0.04
10429	669019.0	4281505.0	Residential	2.24	0.009	0.04
10430	669029.0	4281505.0	Residential	2.22	0.009	0.04
10431	669039.0	4281505.0	Residential	2.22	0.009	0.03
10432	669049.0	4281505.0	Residential	2.22	0.009	0.03
10433	669059.0	4281505.0	Residential	2.22	0.009	0.03
10434	669069.0	4281505.0	Residential	2.22	0.009	0.03
10435	669079.0	4281505.0	Residential	2.22	0.009	0.03
10436	669089.0	4281505.0	Residential	2.22	0.009	0.03
10437	669099.0	4281505.0	Residential	2.21	0.009	0.03
10438	669109.0	4281505.0	Residential	2.16	0.009	0.02
10439	669119.0	4281505.0	Roadway/Open Space	-	-	0.02
10440	668809.0	4281515.0	Roadway/Open Space	-	-	0.04
10441	668819.0	4281515.0	Roadway/Open Space	-	-	0.04
10442	668829.0	4281515.0	Roadway/Open Space	-	-	0.04
10443	668839.0	4281515.0	Roadway/Open Space	-	-	0.04
10444	668849.0	4281515.0	Roadway/Open Space	-	-	0.04
10445	668859.0	4281515.0	Roadway/Open Space	-	-	0.04
10446	668869.0	4281515.0	Residential	2.07	0.009	0.04
10447	668879.0	4281515.0	Residential	2.11	0.009	0.04
10448	668889.0	4281515.0	Residential	2.15	0.009	0.04
10449	668899.0	4281515.0	Residential	2.19	0.009	0.04
10450	668909.0	4281515.0	Roadway/Open Space	-	-	0.04
10451	668919.0	4281515.0	Residential	2.23	0.009	0.04
10452	668929.0	4281515.0	Residential	2.22	0.009	0.04

Table E-1. Health Risk Assessment Results for All Receptors - Unmitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
10453	668939.0	4281515.0	Residential	2.20	0.009	0.04
10454	668949.0	4281515.0	Residential	2.17	0.009	0.04
10455	668959.0	4281515.0	Residential	2.16	0.009	0.04
10456	668969.0	4281515.0	Residential	2.15	0.009	0.04
10457	668979.0	4281515.0	Residential	2.15	0.009	0.04
10458	668989.0	4281515.0	Residential	2.14	0.009	0.04
10459	668999.0	4281515.0	Residential	2.13	0.009	0.04
10460	669009.0	4281515.0	Roadway/Open Space	-	-	0.04
10461	669019.0	4281515.0	Residential	2.12	0.009	0.04
10462	669029.0	4281515.0	Residential	2.11	0.009	0.03
10463	669039.0	4281515.0	Residential	2.12	0.009	0.03
10464	669049.0	4281515.0	Residential	2.13	0.009	0.03
10465	669059.0	4281515.0	Residential	2.15	0.009	0.03
10466	669069.0	4281515.0	Residential	2.17	0.009	0.03
10467	669079.0	4281515.0	Residential	2.19	0.009	0.03
10468	669089.0	4281515.0	Residential	2.20	0.009	0.03
10469	668839.0	4281525.0	Roadway/Open Space	-	-	0.04
10470	668849.0	4281525.0	Roadway/Open Space	-	-	0.04
10471	668859.0	4281525.0	Roadway/Open Space	-	-	0.04
10472	668869.0	4281525.0	Roadway/Open Space	-	-	0.04
10473	668879.0	4281525.0	Residential	2.02	0.008	0.04
10474	668889.0	4281525.0	Residential	2.07	0.009	0.04
10475	668899.0	4281525.0	Roadway/Open Space	-	-	0.04
10476	668909.0	4281525.0	Roadway/Open Space	-	-	0.04
10477	668919.0	4281525.0	Residential	2.16	0.009	0.04
10478	668929.0	4281525.0	Residential	2.15	0.009	0.04
10479	668939.0	4281525.0	Residential	2.11	0.009	0.04
10480	668949.0	4281525.0	Residential	2.09	0.009	0.04
10481	668959.0	4281525.0	Residential	2.07	0.009	0.04
10482	668969.0	4281525.0	Residential	2.06	0.009	0.04
10483	668979.0	4281525.0	Residential	2.05	0.009	0.04
10484	668989.0	4281525.0	Residential	2.04	0.008	0.04
10485	668999.0	4281525.0	Roadway/Open Space	-	-	0.04
10486	669009.0	4281525.0	Residential	2.02	0.008	0.03
10487	669019.0	4281525.0	Residential	2.01	0.008	0.03
10488	669029.0	4281525.0	Residential	2.02	0.008	0.03
10489	669039.0	4281525.0	Residential	2.02	0.008	0.03
10490	669049.0	4281525.0	Residential	2.03	0.008	0.03
10491	669059.0	4281525.0	Residential	2.05	0.009	0.03
10492	668879.0	4281535.0	Roadway/Open Space	-	-	0.04
10493	668889.0	4281535.0	Roadway/Open Space	-	-	0.04
10494	668899.0	4281535.0	Roadway/Open Space	-	-	0.04
10495	668909.0	4281535.0	Residential	2.10	0.009	0.04
10496	668919.0	4281535.0	Residential	2.10	0.009	0.04
10497	668929.0	4281535.0	Residential	2.07	0.009	0.04
10498	668939.0	4281535.0	Residential	2.03	0.008	0.04
10499	668949.0	4281535.0	Residential	2.01	0.008	0.04
10500	668959.0	4281535.0	Residential	1.99	0.008	0.04
10501	668969.0	4281535.0	Residential	1.97	0.008	0.04
10502	668979.0	4281535.0	Residential	1.95	0.008	0.04
10503	668989.0	4281535.0	Residential	1.94	0.008	0.03
10504	668999.0	4281535.0	Roadway/Open Space	-	-	0.03
10505	669009.0	4281535.0	Residential	1.92	0.008	0.03
10506	669019.0	4281535.0	Residential	1.92	0.008	0.03

Notes:
[1] The receptors with the maximum estimated cancer risk, chronic hazard index, and acute hazard index for each receptor type are highlighted in light grey.
[2] Cancer risk and chronic hazard index are not assessed for Roadway/Open Space receptors, as long term exposures are not expected at these locations.

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
1	668989.0	4280225.0	Roadway/Open Space	-	-	0.02
2	668999.0	4280225.0	Roadway/Open Space	-	-	0.02
3	669009.0	4280225.0	Roadway/Open Space	-	-	0.02
4	669019.0	4280225.0	Roadway/Open Space	-	-	0.01
5	669029.0	4280225.0	Roadway/Open Space	-	-	0.01
6	669039.0	4280225.0	Roadway/Open Space	-	-	0.01
7	669049.0	4280225.0	Roadway/Open Space	-	-	0.01
8	669059.0	4280225.0	Roadway/Open Space	-	-	0.01
9	669069.0	4280225.0	Roadway/Open Space	-	-	0.01
10	669079.0	4280225.0	Roadway/Open Space	-	-	0.01
11	669089.0	4280225.0	Roadway/Open Space	-	-	0.01
12	669099.0	4280225.0	Roadway/Open Space	-	-	0.01
13	668949.0	4280235.0	Roadway/Open Space	-	-	0.02
14	668959.0	4280235.0	Roadway/Open Space	-	-	0.02
15	668969.0	4280235.0	Roadway/Open Space	-	-	0.02
16	668979.0	4280235.0	Roadway/Open Space	-	-	0.02
17	668989.0	4280235.0	Roadway/Open Space	-	-	0.02
18	668999.0	4280235.0	Roadway/Open Space	-	-	0.02
19	669009.0	4280235.0	Roadway/Open Space	-	-	0.02
20	669019.0	4280235.0	Roadway/Open Space	-	-	0.01
21	669029.0	4280235.0	Roadway/Open Space	-	-	0.01
22	669039.0	4280235.0	Roadway/Open Space	-	-	0.01
23	669049.0	4280235.0	Roadway/Open Space	-	-	0.01
24	669059.0	4280235.0	Roadway/Open Space	-	-	0.01
25	669069.0	4280235.0	Roadway/Open Space	-	-	0.01
26	669079.0	4280235.0	Roadway/Open Space	-	-	0.01
27	669089.0	4280235.0	Roadway/Open Space	-	-	0.01
28	669099.0	4280235.0	Roadway/Open Space	-	-	0.01
29	669109.0	4280235.0	Roadway/Open Space	-	-	0.01
30	669119.0	4280235.0	Roadway/Open Space	-	-	0.01
31	669129.0	4280235.0	Roadway/Open Space	-	-	0.01
32	669139.0	4280235.0	Roadway/Open Space	-	-	0.01
33	669149.0	4280235.0	Roadway/Open Space	-	-	0.01
34	668909.0	4280245.0	Roadway/Open Space	-	-	0.02
35	668919.0	4280245.0	Roadway/Open Space	-	-	0.02
36	668929.0	4280245.0	Roadway/Open Space	-	-	0.02
37	668939.0	4280245.0	Roadway/Open Space	-	-	0.02
38	668949.0	4280245.0	Roadway/Open Space	-	-	0.02
39	668959.0	4280245.0	Roadway/Open Space	-	-	0.02
40	668969.0	4280245.0	Roadway/Open Space	-	-	0.02
41	668979.0	4280245.0	Roadway/Open Space	-	-	0.02
42	668989.0	4280245.0	Roadway/Open Space	-	-	0.02
43	668999.0	4280245.0	Roadway/Open Space	-	-	0.02
44	669009.0	4280245.0	Roadway/Open Space	-	-	0.01
45	669019.0	4280245.0	Roadway/Open Space	-	-	0.01
46	669029.0	4280245.0	Roadway/Open Space	-	-	0.01
47	669039.0	4280245.0	Roadway/Open Space	-	-	0.01
48	669049.0	4280245.0	Roadway/Open Space	-	-	0.01
49	669059.0	4280245.0	Roadway/Open Space	-	-	0.01
50	669069.0	4280245.0	Roadway/Open Space	-	-	0.01
51	669079.0	4280245.0	Roadway/Open Space	-	-	0.01
52	669089.0	4280245.0	Roadway/Open Space	-	-	0.01
53	669099.0	4280245.0	Roadway/Open Space	-	-	0.01
54	669109.0	4280245.0	Roadway/Open Space	-	-	0.01
55	669119.0	4280245.0	Roadway/Open Space	-	-	0.01
56	669129.0	4280245.0	Roadway/Open Space	-	-	0.01
57	669139.0	4280245.0	Roadway/Open Space	-	-	0.01
58	669149.0	4280245.0	Roadway/Open Space	-	-	0.01
59	669159.0	4280245.0	Roadway/Open Space	-	-	0.01
60	669169.0	4280245.0	Roadway/Open Space	-	-	0.01
61	669179.0	4280245.0	Roadway/Open Space	-	-	0.01
62	668889.0	4280255.0	Roadway/Open Space	-	-	0.02
63	668899.0	4280255.0	Roadway/Open Space	-	-	0.02
64	668909.0	4280255.0	Roadway/Open Space	-	-	0.02
65	668919.0	4280255.0	Roadway/Open Space	-	-	0.02
66	668929.0	4280255.0	Roadway/Open Space	-	-	0.02
67	668939.0	4280255.0	Roadway/Open Space	-	-	0.02
68	668949.0	4280255.0	Roadway/Open Space	-	-	0.02
69	668959.0	4280255.0	Roadway/Open Space	-	-	0.02
70	668969.0	4280255.0	Roadway/Open Space	-	-	0.02
71	668979.0	4280255.0	Roadway/Open Space	-	-	0.02
72	668989.0	4280255.0	Roadway/Open Space	-	-	0.02
73	668999.0	4280255.0	Roadway/Open Space	-	-	0.02
74	669009.0	4280255.0	Roadway/Open Space	-	-	0.01
75	669019.0	4280255.0	Roadway/Open Space	-	-	0.01
76	669029.0	4280255.0	Roadway/Open Space	-	-	0.01
77	669039.0	4280255.0	Roadway/Open Space	-	-	0.01
78	669049.0	4280255.0	Roadway/Open Space	-	-	0.01
79	669059.0	4280255.0	Roadway/Open Space	-	-	0.01
80	669069.0	4280255.0	Roadway/Open Space	-	-	0.01
81	669079.0	4280255.0	Roadway/Open Space	-	-	0.01
82	669089.0	4280255.0	Roadway/Open Space	-	-	0.01
83	669099.0	4280255.0	Roadway/Open Space	-	-	0.01
84	669109.0	4280255.0	Roadway/Open Space	-	-	0.01

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
85	669119.0	4280255.0	Roadway/Open Space	-	-	0.01
86	669129.0	4280255.0	Roadway/Open Space	-	-	0.01
87	669139.0	4280255.0	Roadway/Open Space	-	-	0.01
88	669149.0	4280255.0	Roadway/Open Space	-	-	0.01
89	669159.0	4280255.0	Roadway/Open Space	-	-	0.01
90	669169.0	4280255.0	Roadway/Open Space	-	-	0.01
91	669179.0	4280255.0	Roadway/Open Space	-	-	0.01
92	669189.0	4280255.0	Roadway/Open Space	-	-	0.01
93	669199.0	4280255.0	Roadway/Open Space	-	-	0.01
94	669209.0	4280255.0	Roadway/Open Space	-	-	0.01
95	668869.0	4280265.0	Roadway/Open Space	-	-	0.02
96	668879.0	4280265.0	Roadway/Open Space	-	-	0.02
97	668889.0	4280265.0	Roadway/Open Space	-	-	0.02
98	668899.0	4280265.0	Roadway/Open Space	-	-	0.02
99	668909.0	4280265.0	Roadway/Open Space	-	-	0.02
100	668919.0	4280265.0	Roadway/Open Space	-	-	0.02
101	668929.0	4280265.0	Roadway/Open Space	-	-	0.02
102	668939.0	4280265.0	Roadway/Open Space	-	-	0.02
103	668949.0	4280265.0	Roadway/Open Space	-	-	0.02
104	668959.0	4280265.0	Roadway/Open Space	-	-	0.02
105	668969.0	4280265.0	Roadway/Open Space	-	-	0.02
106	668979.0	4280265.0	Roadway/Open Space	-	-	0.02
107	668989.0	4280265.0	Roadway/Open Space	-	-	0.02
108	668999.0	4280265.0	Roadway/Open Space	-	-	0.02
109	669009.0	4280265.0	Roadway/Open Space	-	-	0.01
110	669019.0	4280265.0	Roadway/Open Space	-	-	0.01
111	669029.0	4280265.0	Roadway/Open Space	-	-	0.01
112	669039.0	4280265.0	Roadway/Open Space	-	-	0.01
113	669049.0	4280265.0	Roadway/Open Space	-	-	0.01
114	669059.0	4280265.0	Roadway/Open Space	-	-	0.01
115	669069.0	4280265.0	Roadway/Open Space	-	-	0.01
116	669079.0	4280265.0	Roadway/Open Space	-	-	0.01
117	669089.0	4280265.0	Roadway/Open Space	-	-	0.01
118	669099.0	4280265.0	Roadway/Open Space	-	-	0.01
119	669109.0	4280265.0	Roadway/Open Space	-	-	0.01
120	669119.0	4280265.0	Roadway/Open Space	-	-	0.01
121	669129.0	4280265.0	Roadway/Open Space	-	-	0.01
122	669139.0	4280265.0	Roadway/Open Space	-	-	0.01
123	669149.0	4280265.0	Roadway/Open Space	-	-	0.01
124	669159.0	4280265.0	Roadway/Open Space	-	-	0.01
125	669169.0	4280265.0	Roadway/Open Space	-	-	0.01
126	669179.0	4280265.0	Roadway/Open Space	-	-	0.01
127	669189.0	4280265.0	Roadway/Open Space	-	-	0.01
128	669199.0	4280265.0	Roadway/Open Space	-	-	0.01
129	669209.0	4280265.0	Roadway/Open Space	-	-	0.01
130	669219.0	4280265.0	Roadway/Open Space	-	-	0.01
131	669229.0	4280265.0	Roadway/Open Space	-	-	0.01
132	668849.0	4280275.0	Roadway/Open Space	-	-	0.02
133	668859.0	4280275.0	Roadway/Open Space	-	-	0.02
134	668869.0	4280275.0	Roadway/Open Space	-	-	0.02
135	668879.0	4280275.0	Roadway/Open Space	-	-	0.02
136	668889.0	4280275.0	Roadway/Open Space	-	-	0.02
137	668899.0	4280275.0	Roadway/Open Space	-	-	0.02
138	668909.0	4280275.0	Roadway/Open Space	-	-	0.02
139	668919.0	4280275.0	Roadway/Open Space	-	-	0.02
140	668929.0	4280275.0	Roadway/Open Space	-	-	0.02
141	668939.0	4280275.0	Roadway/Open Space	-	-	0.02
142	668949.0	4280275.0	Roadway/Open Space	-	-	0.02
143	668959.0	4280275.0	Roadway/Open Space	-	-	0.02
144	668969.0	4280275.0	Roadway/Open Space	-	-	0.02
145	668979.0	4280275.0	Roadway/Open Space	-	-	0.02
146	668989.0	4280275.0	Roadway/Open Space	-	-	0.02
147	668999.0	4280275.0	Roadway/Open Space	-	-	0.02
148	669009.0	4280275.0	Roadway/Open Space	-	-	0.01
149	669019.0	4280275.0	Roadway/Open Space	-	-	0.01
150	669029.0	4280275.0	Roadway/Open Space	-	-	0.01
151	669039.0	4280275.0	Roadway/Open Space	-	-	0.01
152	669049.0	4280275.0	Roadway/Open Space	-	-	0.01
153	669059.0	4280275.0	Roadway/Open Space	-	-	0.01
154	669069.0	4280275.0	Roadway/Open Space	-	-	0.01
155	669079.0	4280275.0	Roadway/Open Space	-	-	0.01
156	669089.0	4280275.0	Roadway/Open Space	-	-	0.01
157	669099.0	4280275.0	Roadway/Open Space	-	-	0.01
158	669109.0	4280275.0	Roadway/Open Space	-	-	0.01
159	669119.0	4280275.0	Roadway/Open Space	-	-	0.01
160	669129.0	4280275.0	Roadway/Open Space	-	-	0.01
161	669139.0	4280275.0	Roadway/Open Space	-	-	0.01
162	669149.0	4280275.0	Roadway/Open Space	-	-	0.01
163	669159.0	4280275.0	Roadway/Open Space	-	-	0.01
164	669169.0	4280275.0	Roadway/Open Space	-	-	0.01
165	669179.0	4280275.0	Roadway/Open Space	-	-	0.01
166	669189.0	4280275.0	Roadway/Open Space	-	-	0.01
167	669199.0	4280275.0	Roadway/Open Space	-	-	0.01
168	669209.0	4280275.0	Roadway/Open Space	-	-	0.01

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
169	669219.0	4280275.0	Roadway/Open Space	-	-	0.01
170	669229.0	4280275.0	Roadway/Open Space	-	-	0.01
171	669239.0	4280275.0	Roadway/Open Space	-	-	0.01
172	669249.0	4280275.0	Roadway/Open Space	-	-	0.01
173	668829.0	4280285.0	Roadway/Open Space	-	-	0.02
174	668839.0	4280285.0	Roadway/Open Space	-	-	0.02
175	668849.0	4280285.0	Roadway/Open Space	-	-	0.02
176	668859.0	4280285.0	Roadway/Open Space	-	-	0.02
177	668869.0	4280285.0	Roadway/Open Space	-	-	0.02
178	668879.0	4280285.0	Roadway/Open Space	-	-	0.02
179	668889.0	4280285.0	Roadway/Open Space	-	-	0.02
180	668899.0	4280285.0	Roadway/Open Space	-	-	0.02
181	668909.0	4280285.0	Roadway/Open Space	-	-	0.02
182	668919.0	4280285.0	Roadway/Open Space	-	-	0.02
183	668929.0	4280285.0	Roadway/Open Space	-	-	0.02
184	668939.0	4280285.0	Roadway/Open Space	-	-	0.02
185	668949.0	4280285.0	Roadway/Open Space	-	-	0.02
186	668959.0	4280285.0	Roadway/Open Space	-	-	0.02
187	668969.0	4280285.0	Roadway/Open Space	-	-	0.02
188	668979.0	4280285.0	Roadway/Open Space	-	-	0.02
189	668989.0	4280285.0	Roadway/Open Space	-	-	0.02
190	668999.0	4280285.0	Roadway/Open Space	-	-	0.02
191	669009.0	4280285.0	Roadway/Open Space	-	-	0.02
192	669019.0	4280285.0	Roadway/Open Space	-	-	0.02
193	669029.0	4280285.0	Roadway/Open Space	-	-	0.01
194	669039.0	4280285.0	Roadway/Open Space	-	-	0.01
195	669049.0	4280285.0	Roadway/Open Space	-	-	0.01
196	669059.0	4280285.0	Roadway/Open Space	-	-	0.01
197	669069.0	4280285.0	Roadway/Open Space	-	-	0.01
198	669079.0	4280285.0	Roadway/Open Space	-	-	0.01
199	669089.0	4280285.0	Roadway/Open Space	-	-	0.01
200	669099.0	4280285.0	Roadway/Open Space	-	-	0.01
201	669109.0	4280285.0	Roadway/Open Space	-	-	0.01
202	669119.0	4280285.0	Roadway/Open Space	-	-	0.01
203	669129.0	4280285.0	Roadway/Open Space	-	-	0.01
204	669139.0	4280285.0	Roadway/Open Space	-	-	0.01
205	669149.0	4280285.0	Roadway/Open Space	-	-	0.01
206	669159.0	4280285.0	Roadway/Open Space	-	-	0.01
207	669169.0	4280285.0	Roadway/Open Space	-	-	0.01
208	669179.0	4280285.0	Roadway/Open Space	-	-	0.01
209	669189.0	4280285.0	Roadway/Open Space	-	-	0.01
210	669199.0	4280285.0	Roadway/Open Space	-	-	0.01
211	669209.0	4280285.0	Roadway/Open Space	-	-	0.01
212	669219.0	4280285.0	Roadway/Open Space	-	-	0.01
213	669229.0	4280285.0	Roadway/Open Space	-	-	0.01
214	669239.0	4280285.0	Roadway/Open Space	-	-	0.01
215	669249.0	4280285.0	Roadway/Open Space	-	-	0.01
216	669259.0	4280285.0	Roadway/Open Space	-	-	0.01
217	668819.0	4280295.0	Roadway/Open Space	-	-	0.02
218	668829.0	4280295.0	Roadway/Open Space	-	-	0.02
219	668839.0	4280295.0	Roadway/Open Space	-	-	0.02
220	668849.0	4280295.0	Roadway/Open Space	-	-	0.02
221	668859.0	4280295.0	Roadway/Open Space	-	-	0.02
222	668869.0	4280295.0	Roadway/Open Space	-	-	0.02
223	668879.0	4280295.0	Roadway/Open Space	-	-	0.02
224	668889.0	4280295.0	Roadway/Open Space	-	-	0.02
225	668899.0	4280295.0	Roadway/Open Space	-	-	0.02
226	668909.0	4280295.0	Roadway/Open Space	-	-	0.02
227	668919.0	4280295.0	Roadway/Open Space	-	-	0.02
228	668929.0	4280295.0	Roadway/Open Space	-	-	0.02
229	668939.0	4280295.0	Roadway/Open Space	-	-	0.02
230	668949.0	4280295.0	Roadway/Open Space	-	-	0.02
231	668959.0	4280295.0	Roadway/Open Space	-	-	0.02
232	668969.0	4280295.0	Roadway/Open Space	-	-	0.02
233	668979.0	4280295.0	Roadway/Open Space	-	-	0.02
234	668989.0	4280295.0	Roadway/Open Space	-	-	0.02
235	668999.0	4280295.0	Roadway/Open Space	-	-	0.02
236	669009.0	4280295.0	Roadway/Open Space	-	-	0.02
237	669019.0	4280295.0	Roadway/Open Space	-	-	0.02
238	669029.0	4280295.0	Roadway/Open Space	-	-	0.01
239	669039.0	4280295.0	Roadway/Open Space	-	-	0.01
240	669049.0	4280295.0	Roadway/Open Space	-	-	0.01
241	669059.0	4280295.0	Roadway/Open Space	-	-	0.01
242	669069.0	4280295.0	Roadway/Open Space	-	-	0.01
243	669079.0	4280295.0	Roadway/Open Space	-	-	0.01
244	669089.0	4280295.0	Roadway/Open Space	-	-	0.01
245	669099.0	4280295.0	Roadway/Open Space	-	-	0.01
246	669109.0	4280295.0	Roadway/Open Space	-	-	0.01
247	669119.0	4280295.0	Roadway/Open Space	-	-	0.01
248	669129.0	4280295.0	Roadway/Open Space	-	-	0.01
249	669139.0	4280295.0	Roadway/Open Space	-	-	0.01
250	669149.0	4280295.0	Roadway/Open Space	-	-	0.01
251	669159.0	4280295.0	Roadway/Open Space	-	-	0.01
252	669169.0	4280295.0	Roadway/Open Space	-	-	0.01

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
253	669179.0	4280295.0	Roadway/Open Space	-	-	0.01
254	669189.0	4280295.0	Roadway/Open Space	-	-	0.01
255	669199.0	4280295.0	Roadway/Open Space	-	-	0.01
256	669209.0	4280295.0	Roadway/Open Space	-	-	0.01
257	669219.0	4280295.0	Roadway/Open Space	-	-	0.01
258	669229.0	4280295.0	Roadway/Open Space	-	-	0.01
259	669239.0	4280295.0	Roadway/Open Space	-	-	0.01
260	669249.0	4280295.0	Roadway/Open Space	-	-	0.01
261	669259.0	4280295.0	Roadway/Open Space	-	-	0.01
262	669269.0	4280295.0	Roadway/Open Space	-	-	0.01
263	669279.0	4280295.0	Roadway/Open Space	-	-	0.01
264	668809.0	4280305.0	Roadway/Open Space	-	-	0.02
265	668819.0	4280305.0	Roadway/Open Space	-	-	0.02
266	668829.0	4280305.0	Roadway/Open Space	-	-	0.02
267	668839.0	4280305.0	Roadway/Open Space	-	-	0.02
268	668849.0	4280305.0	Roadway/Open Space	-	-	0.02
269	668859.0	4280305.0	Roadway/Open Space	-	-	0.02
270	668869.0	4280305.0	Roadway/Open Space	-	-	0.02
271	668879.0	4280305.0	Roadway/Open Space	-	-	0.02
272	668889.0	4280305.0	Roadway/Open Space	-	-	0.02
273	668899.0	4280305.0	Roadway/Open Space	-	-	0.02
274	668909.0	4280305.0	Roadway/Open Space	-	-	0.02
275	668919.0	4280305.0	Roadway/Open Space	-	-	0.02
276	668929.0	4280305.0	Roadway/Open Space	-	-	0.02
277	668939.0	4280305.0	Roadway/Open Space	-	-	0.02
278	668949.0	4280305.0	Roadway/Open Space	-	-	0.02
279	668959.0	4280305.0	Roadway/Open Space	-	-	0.02
280	668969.0	4280305.0	Roadway/Open Space	-	-	0.02
281	668979.0	4280305.0	Roadway/Open Space	-	-	0.02
282	668989.0	4280305.0	Roadway/Open Space	-	-	0.02
283	668999.0	4280305.0	Roadway/Open Space	-	-	0.02
284	669009.0	4280305.0	Roadway/Open Space	-	-	0.02
285	669019.0	4280305.0	Roadway/Open Space	-	-	0.02
286	669029.0	4280305.0	Roadway/Open Space	-	-	0.02
287	669039.0	4280305.0	Roadway/Open Space	-	-	0.01
288	669049.0	4280305.0	Roadway/Open Space	-	-	0.01
289	669059.0	4280305.0	Roadway/Open Space	-	-	0.01
290	669069.0	4280305.0	Roadway/Open Space	-	-	0.01
291	669079.0	4280305.0	Roadway/Open Space	-	-	0.01
292	669089.0	4280305.0	Roadway/Open Space	-	-	0.01
293	669099.0	4280305.0	Roadway/Open Space	-	-	0.01
294	669109.0	4280305.0	Roadway/Open Space	-	-	0.01
295	669119.0	4280305.0	Roadway/Open Space	-	-	0.01
296	669129.0	4280305.0	Roadway/Open Space	-	-	0.01
297	669139.0	4280305.0	Roadway/Open Space	-	-	0.01
298	669149.0	4280305.0	Roadway/Open Space	-	-	0.01
299	669159.0	4280305.0	Roadway/Open Space	-	-	0.01
300	669169.0	4280305.0	Roadway/Open Space	-	-	0.01
301	669179.0	4280305.0	Roadway/Open Space	-	-	0.01
302	669189.0	4280305.0	Roadway/Open Space	-	-	0.01
303	669199.0	4280305.0	Roadway/Open Space	-	-	0.01
304	669209.0	4280305.0	Roadway/Open Space	-	-	0.01
305	669219.0	4280305.0	Roadway/Open Space	-	-	0.01
306	669229.0	4280305.0	Roadway/Open Space	-	-	0.01
307	669239.0	4280305.0	Roadway/Open Space	-	-	0.01
308	669249.0	4280305.0	Roadway/Open Space	-	-	0.01
309	669259.0	4280305.0	Roadway/Open Space	-	-	0.01
310	669269.0	4280305.0	Roadway/Open Space	-	-	0.01
311	669279.0	4280305.0	Roadway/Open Space	-	-	0.01
312	669289.0	4280305.0	Roadway/Open Space	-	-	0.01
313	668789.0	4280315.0	Roadway/Open Space	-	-	0.02
314	668799.0	4280315.0	Roadway/Open Space	-	-	0.02
315	668809.0	4280315.0	Roadway/Open Space	-	-	0.02
316	668819.0	4280315.0	Roadway/Open Space	-	-	0.02
317	668829.0	4280315.0	Roadway/Open Space	-	-	0.02
318	668839.0	4280315.0	Roadway/Open Space	-	-	0.02
319	668849.0	4280315.0	Roadway/Open Space	-	-	0.02
320	668859.0	4280315.0	Roadway/Open Space	-	-	0.02
321	668869.0	4280315.0	Roadway/Open Space	-	-	0.02
322	668879.0	4280315.0	Roadway/Open Space	-	-	0.02
323	668889.0	4280315.0	Roadway/Open Space	-	-	0.02
324	668899.0	4280315.0	Roadway/Open Space	-	-	0.02
325	668909.0	4280315.0	Roadway/Open Space	-	-	0.02
326	668919.0	4280315.0	Roadway/Open Space	-	-	0.02
327	668929.0	4280315.0	Roadway/Open Space	-	-	0.02
328	668939.0	4280315.0	Roadway/Open Space	-	-	0.02
329	668949.0	4280315.0	Roadway/Open Space	-	-	0.02
330	668959.0	4280315.0	Roadway/Open Space	-	-	0.02
331	668969.0	4280315.0	Roadway/Open Space	-	-	0.02
332	668979.0	4280315.0	Roadway/Open Space	-	-	0.02
333	668989.0	4280315.0	Roadway/Open Space	-	-	0.02
334	668999.0	4280315.0	Roadway/Open Space	-	-	0.02
335	669009.0	4280315.0	Roadway/Open Space	-	-	0.02
336	669019.0	4280315.0	Roadway/Open Space	-	-	0.02

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
337	669029.0	4280315.0	Roadway/Open Space	-	-	0.02
338	669039.0	4280315.0	Roadway/Open Space	-	-	0.02
339	669049.0	4280315.0	Roadway/Open Space	-	-	0.02
340	669059.0	4280315.0	Roadway/Open Space	-	-	0.01
341	669069.0	4280315.0	Roadway/Open Space	-	-	0.01
342	669079.0	4280315.0	Roadway/Open Space	-	-	0.01
343	669089.0	4280315.0	Roadway/Open Space	-	-	0.01
344	669099.0	4280315.0	Roadway/Open Space	-	-	0.01
345	669109.0	4280315.0	Roadway/Open Space	-	-	0.01
346	669119.0	4280315.0	Roadway/Open Space	-	-	0.01
347	669129.0	4280315.0	Roadway/Open Space	-	-	0.01
348	669139.0	4280315.0	Roadway/Open Space	-	-	0.01
349	669149.0	4280315.0	Roadway/Open Space	-	-	0.01
350	669159.0	4280315.0	Roadway/Open Space	-	-	0.01
351	669169.0	4280315.0	Roadway/Open Space	-	-	0.01
352	669179.0	4280315.0	Roadway/Open Space	-	-	0.01
353	669189.0	4280315.0	Roadway/Open Space	-	-	0.01
354	669199.0	4280315.0	Roadway/Open Space	-	-	0.01
355	669209.0	4280315.0	Roadway/Open Space	-	-	0.01
356	669219.0	4280315.0	Roadway/Open Space	-	-	0.01
357	669229.0	4280315.0	Roadway/Open Space	-	-	0.01
358	669239.0	4280315.0	Roadway/Open Space	-	-	0.01
359	669249.0	4280315.0	Roadway/Open Space	-	-	0.01
360	669259.0	4280315.0	Roadway/Open Space	-	-	0.01
361	669269.0	4280315.0	Roadway/Open Space	-	-	0.01
362	669279.0	4280315.0	Roadway/Open Space	-	-	0.01
363	669289.0	4280315.0	Roadway/Open Space	-	-	0.01
364	669299.0	4280315.0	Roadway/Open Space	-	-	0.01
365	668779.0	4280325.0	Roadway/Open Space	-	-	0.02
366	668789.0	4280325.0	Roadway/Open Space	-	-	0.02
367	668799.0	4280325.0	Roadway/Open Space	-	-	0.02
368	668809.0	4280325.0	Roadway/Open Space	-	-	0.02
369	668819.0	4280325.0	Roadway/Open Space	-	-	0.02
370	668829.0	4280325.0	Worker	0.02	0.001	0.02
371	668839.0	4280325.0	Worker	0.02	0.001	0.02
372	668849.0	4280325.0	Worker	0.02	0.001	0.02
373	668859.0	4280325.0	Roadway/Open Space	-	-	0.02
374	668869.0	4280325.0	Roadway/Open Space	-	-	0.02
375	668879.0	4280325.0	Roadway/Open Space	-	-	0.02
376	668889.0	4280325.0	Roadway/Open Space	-	-	0.02
377	668899.0	4280325.0	Roadway/Open Space	-	-	0.02
378	668909.0	4280325.0	Roadway/Open Space	-	-	0.02
379	668919.0	4280325.0	Roadway/Open Space	-	-	0.02
380	668929.0	4280325.0	Roadway/Open Space	-	-	0.02
381	668939.0	4280325.0	Roadway/Open Space	-	-	0.02
382	668949.0	4280325.0	Roadway/Open Space	-	-	0.02
383	668959.0	4280325.0	Roadway/Open Space	-	-	0.02
384	668969.0	4280325.0	Roadway/Open Space	-	-	0.02
385	668979.0	4280325.0	Roadway/Open Space	-	-	0.02
386	668989.0	4280325.0	Roadway/Open Space	-	-	0.02
387	668999.0	4280325.0	Roadway/Open Space	-	-	0.02
388	669009.0	4280325.0	Roadway/Open Space	-	-	0.02
389	669019.0	4280325.0	Roadway/Open Space	-	-	0.02
390	669029.0	4280325.0	Roadway/Open Space	-	-	0.02
391	669039.0	4280325.0	Roadway/Open Space	-	-	0.02
392	669049.0	4280325.0	Roadway/Open Space	-	-	0.02
393	669059.0	4280325.0	Roadway/Open Space	-	-	0.02
394	669069.0	4280325.0	Roadway/Open Space	-	-	0.02
395	669079.0	4280325.0	Roadway/Open Space	-	-	0.01
396	669089.0	4280325.0	Roadway/Open Space	-	-	0.01
397	669099.0	4280325.0	Roadway/Open Space	-	-	0.01
398	669109.0	4280325.0	Roadway/Open Space	-	-	0.01
399	669119.0	4280325.0	Roadway/Open Space	-	-	0.01
400	669129.0	4280325.0	Roadway/Open Space	-	-	0.01
401	669139.0	4280325.0	Roadway/Open Space	-	-	0.01
402	669149.0	4280325.0	Roadway/Open Space	-	-	0.01
403	669159.0	4280325.0	Roadway/Open Space	-	-	0.01
404	669169.0	4280325.0	Roadway/Open Space	-	-	0.01
405	669179.0	4280325.0	Roadway/Open Space	-	-	0.01
406	669189.0	4280325.0	Roadway/Open Space	-	-	0.01
407	669199.0	4280325.0	Roadway/Open Space	-	-	0.01
408	669209.0	4280325.0	Roadway/Open Space	-	-	0.01
409	669219.0	4280325.0	Roadway/Open Space	-	-	0.01
410	669229.0	4280325.0	Roadway/Open Space	-	-	0.01
411	669239.0	4280325.0	Roadway/Open Space	-	-	0.01
412	669249.0	4280325.0	Roadway/Open Space	-	-	0.01
413	669259.0	4280325.0	Roadway/Open Space	-	-	0.01
414	669269.0	4280325.0	Roadway/Open Space	-	-	0.01
415	669279.0	4280325.0	Roadway/Open Space	-	-	0.01
416	669289.0	4280325.0	Roadway/Open Space	-	-	0.01
417	669299.0	4280325.0	Roadway/Open Space	-	-	0.01
418	669309.0	4280325.0	Roadway/Open Space	-	-	0.01
419	669319.0	4280325.0	Roadway/Open Space	-	-	0.01
420	668769.0	4280335.0	Roadway/Open Space	-	-	0.02

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
421	668779.0	4280335.0	Roadway/Open Space	-	-	0.02
422	668789.0	4280335.0	Roadway/Open Space	-	-	0.02
423	668799.0	4280335.0	Roadway/Open Space	-	-	0.02
424	668809.0	4280335.0	Worker	0.02	0.001	0.02
425	668819.0	4280335.0	Worker	0.02	0.001	0.02
426	668829.0	4280335.0	Worker	0.02	0.001	0.02
427	668839.0	4280335.0	Worker	0.02	0.001	0.02
428	668849.0	4280335.0	Worker	0.02	0.001	0.02
429	668859.0	4280335.0	Worker	0.02	0.001	0.02
430	668869.0	4280335.0	Worker	0.02	0.001	0.02
431	668879.0	4280335.0	Roadway/Open Space	-	-	0.02
432	668889.0	4280335.0	Roadway/Open Space	-	-	0.02
433	668899.0	4280335.0	Roadway/Open Space	-	-	0.02
434	668909.0	4280335.0	Roadway/Open Space	-	-	0.02
435	668919.0	4280335.0	Roadway/Open Space	-	-	0.02
436	668929.0	4280335.0	Roadway/Open Space	-	-	0.02
437	668939.0	4280335.0	Roadway/Open Space	-	-	0.02
438	668949.0	4280335.0	Roadway/Open Space	-	-	0.02
439	668959.0	4280335.0	Roadway/Open Space	-	-	0.02
440	668969.0	4280335.0	Roadway/Open Space	-	-	0.02
441	668979.0	4280335.0	Roadway/Open Space	-	-	0.02
442	668989.0	4280335.0	Roadway/Open Space	-	-	0.02
443	668999.0	4280335.0	Roadway/Open Space	-	-	0.02
444	669009.0	4280335.0	Roadway/Open Space	-	-	0.02
445	669019.0	4280335.0	Roadway/Open Space	-	-	0.02
446	669029.0	4280335.0	Roadway/Open Space	-	-	0.02
447	669039.0	4280335.0	Roadway/Open Space	-	-	0.02
448	669049.0	4280335.0	Roadway/Open Space	-	-	0.02
449	669059.0	4280335.0	Roadway/Open Space	-	-	0.02
450	669069.0	4280335.0	Roadway/Open Space	-	-	0.02
451	669079.0	4280335.0	Roadway/Open Space	-	-	0.02
452	669089.0	4280335.0	Roadway/Open Space	-	-	0.02
453	669099.0	4280335.0	Roadway/Open Space	-	-	0.01
454	669109.0	4280335.0	Roadway/Open Space	-	-	0.01
455	669119.0	4280335.0	Roadway/Open Space	-	-	0.01
456	669129.0	4280335.0	Roadway/Open Space	-	-	0.01
457	669139.0	4280335.0	Roadway/Open Space	-	-	0.01
458	669149.0	4280335.0	Roadway/Open Space	-	-	0.01
459	669159.0	4280335.0	Roadway/Open Space	-	-	0.01
460	669169.0	4280335.0	Roadway/Open Space	-	-	0.01
461	669179.0	4280335.0	Roadway/Open Space	-	-	0.01
462	669189.0	4280335.0	Roadway/Open Space	-	-	0.01
463	669199.0	4280335.0	Roadway/Open Space	-	-	0.01
464	669209.0	4280335.0	Roadway/Open Space	-	-	0.01
465	669219.0	4280335.0	Roadway/Open Space	-	-	0.01
466	669229.0	4280335.0	Roadway/Open Space	-	-	0.01
467	669239.0	4280335.0	Roadway/Open Space	-	-	0.01
468	669249.0	4280335.0	Roadway/Open Space	-	-	0.01
469	669259.0	4280335.0	Roadway/Open Space	-	-	0.01
470	669269.0	4280335.0	Roadway/Open Space	-	-	0.01
471	669279.0	4280335.0	Roadway/Open Space	-	-	0.01
472	669289.0	4280335.0	Roadway/Open Space	-	-	0.01
473	669299.0	4280335.0	Roadway/Open Space	-	-	0.01
474	669309.0	4280335.0	Roadway/Open Space	-	-	0.02
475	669319.0	4280335.0	Roadway/Open Space	-	-	0.02
476	669329.0	4280335.0	Roadway/Open Space	-	-	0.02
477	668759.0	4280345.0	Roadway/Open Space	-	-	0.02
478	668769.0	4280345.0	Roadway/Open Space	-	-	0.02
479	668779.0	4280345.0	Roadway/Open Space	-	-	0.02
480	668789.0	4280345.0	Roadway/Open Space	-	-	0.02
481	668799.0	4280345.0	Roadway/Open Space	-	-	0.02
482	668809.0	4280345.0	Worker	0.02	0.001	0.02
483	668819.0	4280345.0	Worker	0.02	0.001	0.02
484	668829.0	4280345.0	Worker	0.02	0.001	0.02
485	668839.0	4280345.0	Worker	0.02	0.001	0.02
486	668849.0	4280345.0	Worker	0.02	0.001	0.02
487	668859.0	4280345.0	Worker	0.02	0.001	0.02
488	668869.0	4280345.0	Worker	0.02	0.001	0.02
489	668879.0	4280345.0	Worker	0.02	0.001	0.02
490	668889.0	4280345.0	Worker	0.02	0.001	0.02
491	668899.0	4280345.0	Roadway/Open Space	-	-	0.02
492	668909.0	4280345.0	Roadway/Open Space	-	-	0.02
493	668919.0	4280345.0	Roadway/Open Space	-	-	0.02
494	668929.0	4280345.0	Roadway/Open Space	-	-	0.02
495	668939.0	4280345.0	Roadway/Open Space	-	-	0.02
496	668949.0	4280345.0	Roadway/Open Space	-	-	0.02
497	668959.0	4280345.0	Roadway/Open Space	-	-	0.02
498	668969.0	4280345.0	Roadway/Open Space	-	-	0.02
499	668979.0	4280345.0	Roadway/Open Space	-	-	0.02
500	668989.0	4280345.0	Roadway/Open Space	-	-	0.02
501	668999.0	4280345.0	Roadway/Open Space	-	-	0.02
502	669009.0	4280345.0	Roadway/Open Space	-	-	0.02
503	669019.0	4280345.0	Roadway/Open Space	-	-	0.02
504	669029.0	4280345.0	Roadway/Open Space	-	-	0.02

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
505	669039.0	4280345.0	Roadway/Open Space	-	-	0.02
506	669049.0	4280345.0	Roadway/Open Space	-	-	0.02
507	669059.0	4280345.0	Roadway/Open Space	-	-	0.02
508	669069.0	4280345.0	Roadway/Open Space	-	-	0.02
509	669079.0	4280345.0	Roadway/Open Space	-	-	0.02
510	669089.0	4280345.0	Roadway/Open Space	-	-	0.02
511	669099.0	4280345.0	Roadway/Open Space	-	-	0.02
512	669109.0	4280345.0	Roadway/Open Space	-	-	0.02
513	669119.0	4280345.0	Roadway/Open Space	-	-	0.01
514	669129.0	4280345.0	Roadway/Open Space	-	-	0.01
515	669139.0	4280345.0	Roadway/Open Space	-	-	0.01
516	669149.0	4280345.0	Roadway/Open Space	-	-	0.01
517	669159.0	4280345.0	Roadway/Open Space	-	-	0.01
518	669169.0	4280345.0	Roadway/Open Space	-	-	0.01
519	669179.0	4280345.0	Roadway/Open Space	-	-	0.01
520	669189.0	4280345.0	Roadway/Open Space	-	-	0.01
521	669199.0	4280345.0	Roadway/Open Space	-	-	0.01
522	669209.0	4280345.0	Roadway/Open Space	-	-	0.01
523	669219.0	4280345.0	Roadway/Open Space	-	-	0.01
524	669229.0	4280345.0	Roadway/Open Space	-	-	0.01
525	669239.0	4280345.0	Roadway/Open Space	-	-	0.01
526	669249.0	4280345.0	Roadway/Open Space	-	-	0.01
527	669259.0	4280345.0	Roadway/Open Space	-	-	0.01
528	669269.0	4280345.0	Roadway/Open Space	-	-	0.01
529	669279.0	4280345.0	Roadway/Open Space	-	-	0.01
530	669289.0	4280345.0	Roadway/Open Space	-	-	0.02
531	669299.0	4280345.0	Roadway/Open Space	-	-	0.02
532	669309.0	4280345.0	Roadway/Open Space	-	-	0.02
533	669319.0	4280345.0	Roadway/Open Space	-	-	0.02
534	669329.0	4280345.0	Roadway/Open Space	-	-	0.02
535	669339.0	4280345.0	Roadway/Open Space	-	-	0.02
536	668749.0	4280355.0	Roadway/Open Space	-	-	0.02
537	668759.0	4280355.0	Roadway/Open Space	-	-	0.02
538	668769.0	4280355.0	Roadway/Open Space	-	-	0.02
539	668779.0	4280355.0	Roadway/Open Space	-	-	0.02
540	668789.0	4280355.0	Roadway/Open Space	-	-	0.02
541	668799.0	4280355.0	Roadway/Open Space	-	-	0.02
542	668809.0	4280355.0	Worker	0.02	0.001	0.02
543	668819.0	4280355.0	Worker	0.02	0.001	0.02
544	668829.0	4280355.0	Worker	0.02	0.001	0.02
545	668839.0	4280355.0	Worker	0.02	0.001	0.02
546	668849.0	4280355.0	Worker	0.02	0.001	0.02
547	668859.0	4280355.0	Worker	0.02	0.001	0.02
548	668869.0	4280355.0	Worker	0.02	0.001	0.02
549	668879.0	4280355.0	Worker	0.02	0.001	0.02
550	668889.0	4280355.0	Worker	0.02	0.001	0.02
551	668899.0	4280355.0	Roadway/Open Space	-	-	0.02
552	668909.0	4280355.0	Roadway/Open Space	-	-	0.02
553	668919.0	4280355.0	Roadway/Open Space	-	-	0.02
554	668929.0	4280355.0	Roadway/Open Space	-	-	0.02
555	668939.0	4280355.0	Roadway/Open Space	-	-	0.02
556	668949.0	4280355.0	Roadway/Open Space	-	-	0.02
557	668959.0	4280355.0	Roadway/Open Space	-	-	0.02
558	668969.0	4280355.0	Roadway/Open Space	-	-	0.02
559	668979.0	4280355.0	Roadway/Open Space	-	-	0.02
560	668989.0	4280355.0	Roadway/Open Space	-	-	0.02
561	668999.0	4280355.0	Roadway/Open Space	-	-	0.02
562	669009.0	4280355.0	Roadway/Open Space	-	-	0.02
563	669019.0	4280355.0	Roadway/Open Space	-	-	0.02
564	669029.0	4280355.0	Roadway/Open Space	-	-	0.02
565	669039.0	4280355.0	Roadway/Open Space	-	-	0.02
566	669049.0	4280355.0	Roadway/Open Space	-	-	0.02
567	669059.0	4280355.0	Roadway/Open Space	-	-	0.02
568	669069.0	4280355.0	Roadway/Open Space	-	-	0.02
569	669079.0	4280355.0	Roadway/Open Space	-	-	0.02
570	669089.0	4280355.0	Roadway/Open Space	-	-	0.02
571	669099.0	4280355.0	Roadway/Open Space	-	-	0.02
572	669109.0	4280355.0	Roadway/Open Space	-	-	0.02
573	669119.0	4280355.0	Roadway/Open Space	-	-	0.02
574	669129.0	4280355.0	Roadway/Open Space	-	-	0.02
575	669139.0	4280355.0	Roadway/Open Space	-	-	0.02
576	669149.0	4280355.0	Roadway/Open Space	-	-	0.02
577	669159.0	4280355.0	Roadway/Open Space	-	-	0.02
578	669169.0	4280355.0	Roadway/Open Space	-	-	0.02
579	669179.0	4280355.0	Roadway/Open Space	-	-	0.01
580	669189.0	4280355.0	Roadway/Open Space	-	-	0.01
581	669199.0	4280355.0	Roadway/Open Space	-	-	0.01
582	669209.0	4280355.0	Roadway/Open Space	-	-	0.02
583	669219.0	4280355.0	Roadway/Open Space	-	-	0.01
584	669229.0	4280355.0	Roadway/Open Space	-	-	0.01
585	669239.0	4280355.0	Roadway/Open Space	-	-	0.01
586	669249.0	4280355.0	Roadway/Open Space	-	-	0.01
587	669259.0	4280355.0	Roadway/Open Space	-	-	0.01
588	669269.0	4280355.0	Roadway/Open Space	-	-	0.01

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
589	669279.0	4280355.0	Roadway/Open Space	-	-	0.02
590	669289.0	4280355.0	Roadway/Open Space	-	-	0.02
591	669299.0	4280355.0	Roadway/Open Space	-	-	0.02
592	669309.0	4280355.0	Roadway/Open Space	-	-	0.02
593	669319.0	4280355.0	Roadway/Open Space	-	-	0.02
594	669329.0	4280355.0	Roadway/Open Space	-	-	0.02
595	669339.0	4280355.0	Roadway/Open Space	-	-	0.02
596	669349.0	4280355.0	Roadway/Open Space	-	-	0.02
597	668739.0	4280365.0	Roadway/Open Space	-	-	0.02
598	668749.0	4280365.0	Roadway/Open Space	-	-	0.02
599	668759.0	4280365.0	Roadway/Open Space	-	-	0.02
600	668769.0	4280365.0	Roadway/Open Space	-	-	0.02
601	668779.0	4280365.0	Roadway/Open Space	-	-	0.02
602	668789.0	4280365.0	Roadway/Open Space	-	-	0.02
603	668799.0	4280365.0	Roadway/Open Space	-	-	0.02
604	668809.0	4280365.0	Worker	0.02	0.001	0.02
605	668819.0	4280365.0	Worker	0.02	0.001	0.02
606	668829.0	4280365.0	Worker	0.02	0.001	0.02
607	668839.0	4280365.0	Worker	0.02	0.001	0.02
608	668849.0	4280365.0	Worker	0.02	0.001	0.02
609	668859.0	4280365.0	Worker	0.02	0.001	0.02
610	668869.0	4280365.0	Worker	0.02	0.001	0.02
611	668879.0	4280365.0	Worker	0.02	0.001	0.02
612	668889.0	4280365.0	Worker	0.02	0.001	0.02
613	668899.0	4280365.0	Worker	0.02	0.001	0.02
614	668909.0	4280365.0	Roadway/Open Space	-	-	0.02
615	668919.0	4280365.0	Roadway/Open Space	-	-	0.02
616	668929.0	4280365.0	Roadway/Open Space	-	-	0.02
617	668939.0	4280365.0	Roadway/Open Space	-	-	0.02
618	668949.0	4280365.0	Roadway/Open Space	-	-	0.02
619	668959.0	4280365.0	Roadway/Open Space	-	-	0.02
620	668969.0	4280365.0	Roadway/Open Space	-	-	0.02
621	668979.0	4280365.0	Roadway/Open Space	-	-	0.02
622	668989.0	4280365.0	Roadway/Open Space	-	-	0.02
623	668999.0	4280365.0	Roadway/Open Space	-	-	0.02
624	669009.0	4280365.0	Roadway/Open Space	-	-	0.02
625	669019.0	4280365.0	Roadway/Open Space	-	-	0.02
626	669029.0	4280365.0	Roadway/Open Space	-	-	0.02
627	669039.0	4280365.0	Roadway/Open Space	-	-	0.02
628	669049.0	4280365.0	Roadway/Open Space	-	-	0.02
629	669059.0	4280365.0	Roadway/Open Space	-	-	0.02
630	669069.0	4280365.0	Roadway/Open Space	-	-	0.02
631	669079.0	4280365.0	Roadway/Open Space	-	-	0.02
632	669089.0	4280365.0	Roadway/Open Space	-	-	0.02
633	669099.0	4280365.0	Roadway/Open Space	-	-	0.02
634	669109.0	4280365.0	Roadway/Open Space	-	-	0.02
635	669119.0	4280365.0	Roadway/Open Space	-	-	0.02
636	669129.0	4280365.0	Roadway/Open Space	-	-	0.02
637	669139.0	4280365.0	Roadway/Open Space	-	-	0.02
638	669149.0	4280365.0	Roadway/Open Space	-	-	0.02
639	669159.0	4280365.0	Roadway/Open Space	-	-	0.02
640	669169.0	4280365.0	Roadway/Open Space	-	-	0.02
641	669179.0	4280365.0	Roadway/Open Space	-	-	0.02
642	669189.0	4280365.0	Roadway/Open Space	-	-	0.02
643	669199.0	4280365.0	Roadway/Open Space	-	-	0.02
644	669209.0	4280365.0	Roadway/Open Space	-	-	0.02
645	669219.0	4280365.0	Roadway/Open Space	-	-	0.02
646	669229.0	4280365.0	Roadway/Open Space	-	-	0.02
647	669239.0	4280365.0	Roadway/Open Space	-	-	0.01
648	669249.0	4280365.0	Roadway/Open Space	-	-	0.01
649	669259.0	4280365.0	Roadway/Open Space	-	-	0.02
650	669269.0	4280365.0	Roadway/Open Space	-	-	0.02
651	669279.0	4280365.0	Roadway/Open Space	-	-	0.02
652	669289.0	4280365.0	Roadway/Open Space	-	-	0.02
653	669299.0	4280365.0	Roadway/Open Space	-	-	0.02
654	669309.0	4280365.0	Roadway/Open Space	-	-	0.02
655	669319.0	4280365.0	Roadway/Open Space	-	-	0.02
656	669329.0	4280365.0	Roadway/Open Space	-	-	0.02
657	669339.0	4280365.0	Roadway/Open Space	-	-	0.02
658	669349.0	4280365.0	Roadway/Open Space	-	-	0.02
659	669359.0	4280365.0	Roadway/Open Space	-	-	0.02
660	668739.0	4280375.0	Roadway/Open Space	-	-	0.02
661	668749.0	4280375.0	Roadway/Open Space	-	-	0.02
662	668759.0	4280375.0	Roadway/Open Space	-	-	0.02
663	668769.0	4280375.0	Roadway/Open Space	-	-	0.02
664	668779.0	4280375.0	Roadway/Open Space	-	-	0.02
665	668789.0	4280375.0	Roadway/Open Space	-	-	0.02
666	668799.0	4280375.0	Roadway/Open Space	-	-	0.02
667	668809.0	4280375.0	Roadway/Open Space	-	-	0.02
668	668819.0	4280375.0	Worker	0.02	0.001	0.02
669	668829.0	4280375.0	Worker	0.02	0.001	0.02
670	668839.0	4280375.0	Worker	0.02	0.001	0.02
671	668849.0	4280375.0	Worker	0.02	0.001	0.02
672	668859.0	4280375.0	Worker	0.02	0.001	0.02

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
673	668869.0	4280375.0	Worker	0.02	0.001	0.02
674	668879.0	4280375.0	Worker	0.02	0.001	0.02
675	668889.0	4280375.0	Worker	0.02	0.001	0.02
676	668899.0	4280375.0	Worker	0.02	0.001	0.02
677	668909.0	4280375.0	Worker	0.02	0.001	0.02
678	668919.0	4280375.0	Roadway/Open Space	-	-	0.02
679	668929.0	4280375.0	Roadway/Open Space	-	-	0.02
680	668939.0	4280375.0	Roadway/Open Space	-	-	0.02
681	668949.0	4280375.0	Roadway/Open Space	-	-	0.02
682	668959.0	4280375.0	Roadway/Open Space	-	-	0.02
683	668969.0	4280375.0	Roadway/Open Space	-	-	0.02
684	668979.0	4280375.0	Roadway/Open Space	-	-	0.02
685	668989.0	4280375.0	Roadway/Open Space	-	-	0.02
686	668999.0	4280375.0	Roadway/Open Space	-	-	0.02
687	669009.0	4280375.0	Roadway/Open Space	-	-	0.02
688	669019.0	4280375.0	Roadway/Open Space	-	-	0.02
689	669029.0	4280375.0	Roadway/Open Space	-	-	0.02
690	669039.0	4280375.0	Roadway/Open Space	-	-	0.02
691	669049.0	4280375.0	Roadway/Open Space	-	-	0.02
692	669059.0	4280375.0	Roadway/Open Space	-	-	0.02
693	669069.0	4280375.0	Roadway/Open Space	-	-	0.02
694	669079.0	4280375.0	Roadway/Open Space	-	-	0.02
695	669089.0	4280375.0	Roadway/Open Space	-	-	0.02
696	669099.0	4280375.0	Roadway/Open Space	-	-	0.02
697	669109.0	4280375.0	Roadway/Open Space	-	-	0.02
698	669119.0	4280375.0	Roadway/Open Space	-	-	0.02
699	669129.0	4280375.0	Roadway/Open Space	-	-	0.02
700	669139.0	4280375.0	Roadway/Open Space	-	-	0.02
701	669149.0	4280375.0	Roadway/Open Space	-	-	0.02
702	669159.0	4280375.0	Roadway/Open Space	-	-	0.02
703	669169.0	4280375.0	Roadway/Open Space	-	-	0.02
704	669179.0	4280375.0	Roadway/Open Space	-	-	0.02
705	669189.0	4280375.0	Roadway/Open Space	-	-	0.02
706	669199.0	4280375.0	Roadway/Open Space	-	-	0.02
707	669209.0	4280375.0	Roadway/Open Space	-	-	0.02
708	669219.0	4280375.0	Roadway/Open Space	-	-	0.02
709	669229.0	4280375.0	Roadway/Open Space	-	-	0.02
710	669239.0	4280375.0	Roadway/Open Space	-	-	0.02
711	669249.0	4280375.0	Roadway/Open Space	-	-	0.02
712	669259.0	4280375.0	Roadway/Open Space	-	-	0.02
713	669269.0	4280375.0	Roadway/Open Space	-	-	0.02
714	669279.0	4280375.0	Roadway/Open Space	-	-	0.02
715	669289.0	4280375.0	Roadway/Open Space	-	-	0.02
716	669299.0	4280375.0	Roadway/Open Space	-	-	0.02
717	669309.0	4280375.0	Roadway/Open Space	-	-	0.02
718	669319.0	4280375.0	Roadway/Open Space	-	-	0.02
719	669329.0	4280375.0	Roadway/Open Space	-	-	0.02
720	669339.0	4280375.0	Roadway/Open Space	-	-	0.02
721	669349.0	4280375.0	Roadway/Open Space	-	-	0.02
722	669359.0	4280375.0	Roadway/Open Space	-	-	0.02
723	669369.0	4280375.0	Roadway/Open Space	-	-	0.02
724	668729.0	4280385.0	Roadway/Open Space	-	-	0.02
725	668739.0	4280385.0	Roadway/Open Space	-	-	0.02
726	668749.0	4280385.0	Roadway/Open Space	-	-	0.02
727	668759.0	4280385.0	Roadway/Open Space	-	-	0.02
728	668769.0	4280385.0	Roadway/Open Space	-	-	0.02
729	668779.0	4280385.0	Roadway/Open Space	-	-	0.02
730	668789.0	4280385.0	Roadway/Open Space	-	-	0.02
731	668799.0	4280385.0	Roadway/Open Space	-	-	0.02
732	668809.0	4280385.0	Roadway/Open Space	-	-	0.02
733	668819.0	4280385.0	Roadway/Open Space	-	-	0.02
734	668829.0	4280385.0	Roadway/Open Space	-	-	0.02
735	668839.0	4280385.0	Roadway/Open Space	-	-	0.02
736	668849.0	4280385.0	Worker	0.02	0.001	0.02
737	668859.0	4280385.0	Worker	0.02	0.001	0.02
738	668869.0	4280385.0	Worker	0.02	0.001	0.02
739	668879.0	4280385.0	Worker	0.02	0.001	0.02
740	668889.0	4280385.0	Worker	0.02	0.001	0.02
741	668899.0	4280385.0	Worker	0.02	0.001	0.02
742	668909.0	4280385.0	Worker	0.02	0.001	0.02
743	668919.0	4280385.0	Roadway/Open Space	-	-	0.02
744	668929.0	4280385.0	Roadway/Open Space	-	-	0.02
745	668939.0	4280385.0	Roadway/Open Space	-	-	0.02
746	668949.0	4280385.0	Roadway/Open Space	-	-	0.02
747	668959.0	4280385.0	Roadway/Open Space	-	-	0.02
748	668969.0	4280385.0	Roadway/Open Space	-	-	0.02
749	668979.0	4280385.0	Roadway/Open Space	-	-	0.02
750	668989.0	4280385.0	Roadway/Open Space	-	-	0.02
751	668999.0	4280385.0	Roadway/Open Space	-	-	0.02
752	669009.0	4280385.0	Roadway/Open Space	-	-	0.02
753	669019.0	4280385.0	Roadway/Open Space	-	-	0.02
754	669029.0	4280385.0	Roadway/Open Space	-	-	0.02
755	669039.0	4280385.0	Roadway/Open Space	-	-	0.02
756	669049.0	4280385.0	Roadway/Open Space	-	-	0.02

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
757	669059.0	4280385.0	Roadway/Open Space	-	-	0.02
758	669069.0	4280385.0	Roadway/Open Space	-	-	0.02
759	669079.0	4280385.0	Roadway/Open Space	-	-	0.02
760	669089.0	4280385.0	Roadway/Open Space	-	-	0.02
761	669099.0	4280385.0	Roadway/Open Space	-	-	0.02
762	669109.0	4280385.0	Roadway/Open Space	-	-	0.02
763	669119.0	4280385.0	Roadway/Open Space	-	-	0.02
764	669129.0	4280385.0	Roadway/Open Space	-	-	0.02
765	669139.0	4280385.0	Roadway/Open Space	-	-	0.02
766	669149.0	4280385.0	Roadway/Open Space	-	-	0.02
767	669159.0	4280385.0	Roadway/Open Space	-	-	0.02
768	669169.0	4280385.0	Roadway/Open Space	-	-	0.02
769	669179.0	4280385.0	Roadway/Open Space	-	-	0.02
770	669189.0	4280385.0	Roadway/Open Space	-	-	0.02
771	669199.0	4280385.0	Roadway/Open Space	-	-	0.02
772	669209.0	4280385.0	Roadway/Open Space	-	-	0.02
773	669219.0	4280385.0	Roadway/Open Space	-	-	0.02
774	669229.0	4280385.0	Roadway/Open Space	-	-	0.02
775	669239.0	4280385.0	Roadway/Open Space	-	-	0.02
776	669249.0	4280385.0	Roadway/Open Space	-	-	0.02
777	669259.0	4280385.0	Roadway/Open Space	-	-	0.02
778	669269.0	4280385.0	Roadway/Open Space	-	-	0.02
779	669279.0	4280385.0	Roadway/Open Space	-	-	0.02
780	669289.0	4280385.0	Roadway/Open Space	-	-	0.02
781	669299.0	4280385.0	Roadway/Open Space	-	-	0.02
782	669309.0	4280385.0	Roadway/Open Space	-	-	0.02
783	669319.0	4280385.0	Roadway/Open Space	-	-	0.02
784	669329.0	4280385.0	Roadway/Open Space	-	-	0.02
785	669339.0	4280385.0	Roadway/Open Space	-	-	0.02
786	669349.0	4280385.0	Roadway/Open Space	-	-	0.02
787	669359.0	4280385.0	Roadway/Open Space	-	-	0.02
788	669369.0	4280385.0	Roadway/Open Space	-	-	0.02
789	669379.0	4280385.0	Roadway/Open Space	-	-	0.02
790	668719.0	4280395.0	Roadway/Open Space	-	-	0.02
791	668729.0	4280395.0	Roadway/Open Space	-	-	0.02
792	668739.0	4280395.0	Roadway/Open Space	-	-	0.02
793	668749.0	4280395.0	Roadway/Open Space	-	-	0.02
794	668759.0	4280395.0	Roadway/Open Space	-	-	0.02
795	668769.0	4280395.0	Roadway/Open Space	-	-	0.02
796	668779.0	4280395.0	Roadway/Open Space	-	-	0.02
797	668789.0	4280395.0	Roadway/Open Space	-	-	0.02
798	668799.0	4280395.0	Roadway/Open Space	-	-	0.02
799	668809.0	4280395.0	Roadway/Open Space	-	-	0.02
800	668819.0	4280395.0	Roadway/Open Space	-	-	0.02
801	668829.0	4280395.0	Roadway/Open Space	-	-	0.02
802	668839.0	4280395.0	Roadway/Open Space	-	-	0.02
803	668849.0	4280395.0	Roadway/Open Space	-	-	0.02
804	668859.0	4280395.0	Roadway/Open Space	-	-	0.02
805	668869.0	4280395.0	Worker	0.02	0.001	0.02
806	668879.0	4280395.0	Worker	0.02	0.001	0.02
807	668889.0	4280395.0	Roadway/Open Space	-	-	0.02
808	668899.0	4280395.0	Roadway/Open Space	-	-	0.02
809	668909.0	4280395.0	Roadway/Open Space	-	-	0.02
810	668919.0	4280395.0	Roadway/Open Space	-	-	0.02
811	668929.0	4280395.0	Roadway/Open Space	-	-	0.02
812	668939.0	4280395.0	Roadway/Open Space	-	-	0.02
813	668949.0	4280395.0	Roadway/Open Space	-	-	0.02
814	668959.0	4280395.0	Roadway/Open Space	-	-	0.02
815	668969.0	4280395.0	Roadway/Open Space	-	-	0.02
816	668979.0	4280395.0	Roadway/Open Space	-	-	0.02
817	668989.0	4280395.0	Roadway/Open Space	-	-	0.02
818	668999.0	4280395.0	Roadway/Open Space	-	-	0.02
819	669009.0	4280395.0	Roadway/Open Space	-	-	0.02
820	669019.0	4280395.0	Roadway/Open Space	-	-	0.02
821	669029.0	4280395.0	Roadway/Open Space	-	-	0.02
822	669039.0	4280395.0	Roadway/Open Space	-	-	0.02
823	669049.0	4280395.0	Roadway/Open Space	-	-	0.02
824	669059.0	4280395.0	Roadway/Open Space	-	-	0.02
825	669069.0	4280395.0	Roadway/Open Space	-	-	0.02
826	669079.0	4280395.0	Roadway/Open Space	-	-	0.02
827	669089.0	4280395.0	Roadway/Open Space	-	-	0.02
828	669099.0	4280395.0	Roadway/Open Space	-	-	0.02
829	669109.0	4280395.0	Roadway/Open Space	-	-	0.02
830	669119.0	4280395.0	Roadway/Open Space	-	-	0.02
831	669129.0	4280395.0	Roadway/Open Space	-	-	0.02
832	669139.0	4280395.0	Roadway/Open Space	-	-	0.02
833	669149.0	4280395.0	Roadway/Open Space	-	-	0.02
834	669159.0	4280395.0	Roadway/Open Space	-	-	0.02
835	669169.0	4280395.0	Roadway/Open Space	-	-	0.02
836	669179.0	4280395.0	Roadway/Open Space	-	-	0.02
837	669189.0	4280395.0	Roadway/Open Space	-	-	0.02
838	669199.0	4280395.0	Roadway/Open Space	-	-	0.02
839	669209.0	4280395.0	Roadway/Open Space	-	-	0.02
840	669219.0	4280395.0	Roadway/Open Space	-	-	0.02

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
841	669229.0	4280395.0	Roadway/Open Space	-	-	0.02
842	669239.0	4280395.0	Roadway/Open Space	-	-	0.02
843	669249.0	4280395.0	Roadway/Open Space	-	-	0.02
844	669259.0	4280395.0	Roadway/Open Space	-	-	0.02
845	669269.0	4280395.0	Roadway/Open Space	-	-	0.02
846	669279.0	4280395.0	Roadway/Open Space	-	-	0.02
847	669289.0	4280395.0	Roadway/Open Space	-	-	0.02
848	669299.0	4280395.0	Roadway/Open Space	-	-	0.02
849	669309.0	4280395.0	Roadway/Open Space	-	-	0.02
850	669319.0	4280395.0	Roadway/Open Space	-	-	0.02
851	669329.0	4280395.0	Roadway/Open Space	-	-	0.02
852	669339.0	4280395.0	Roadway/Open Space	-	-	0.02
853	669349.0	4280395.0	Roadway/Open Space	-	-	0.02
854	669359.0	4280395.0	Roadway/Open Space	-	-	0.02
855	669369.0	4280395.0	Roadway/Open Space	-	-	0.02
856	669379.0	4280395.0	Roadway/Open Space	-	-	0.02
857	669389.0	4280395.0	Roadway/Open Space	-	-	0.02
858	668709.0	4280405.0	Roadway/Open Space	-	-	0.02
859	668719.0	4280405.0	Roadway/Open Space	-	-	0.02
860	668729.0	4280405.0	Roadway/Open Space	-	-	0.02
861	668739.0	4280405.0	Roadway/Open Space	-	-	0.02
862	668749.0	4280405.0	Roadway/Open Space	-	-	0.02
863	668759.0	4280405.0	Roadway/Open Space	-	-	0.02
864	668769.0	4280405.0	Roadway/Open Space	-	-	0.02
865	668779.0	4280405.0	Roadway/Open Space	-	-	0.02
866	668789.0	4280405.0	Roadway/Open Space	-	-	0.02
867	668799.0	4280405.0	Roadway/Open Space	-	-	0.02
868	668809.0	4280405.0	Roadway/Open Space	-	-	0.02
869	668819.0	4280405.0	Roadway/Open Space	-	-	0.02
870	668829.0	4280405.0	Roadway/Open Space	-	-	0.02
871	668839.0	4280405.0	Roadway/Open Space	-	-	0.02
872	668849.0	4280405.0	Roadway/Open Space	-	-	0.02
873	668859.0	4280405.0	Roadway/Open Space	-	-	0.02
874	668869.0	4280405.0	Roadway/Open Space	-	-	0.02
875	668879.0	4280405.0	Roadway/Open Space	-	-	0.02
876	668889.0	4280405.0	Roadway/Open Space	-	-	0.02
877	668899.0	4280405.0	Roadway/Open Space	-	-	0.02
878	668909.0	4280405.0	Roadway/Open Space	-	-	0.02
879	668919.0	4280405.0	Roadway/Open Space	-	-	0.02
880	668929.0	4280405.0	Roadway/Open Space	-	-	0.02
881	668939.0	4280405.0	Roadway/Open Space	-	-	0.02
882	668949.0	4280405.0	Roadway/Open Space	-	-	0.02
883	668959.0	4280405.0	Roadway/Open Space	-	-	0.02
884	668969.0	4280405.0	Roadway/Open Space	-	-	0.02
885	668979.0	4280405.0	Roadway/Open Space	-	-	0.02
886	668989.0	4280405.0	Roadway/Open Space	-	-	0.02
887	668999.0	4280405.0	Roadway/Open Space	-	-	0.02
888	669009.0	4280405.0	Roadway/Open Space	-	-	0.02
889	669019.0	4280405.0	Roadway/Open Space	-	-	0.02
890	669029.0	4280405.0	Roadway/Open Space	-	-	0.02
891	669039.0	4280405.0	Roadway/Open Space	-	-	0.02
892	669049.0	4280405.0	Roadway/Open Space	-	-	0.02
893	669059.0	4280405.0	Roadway/Open Space	-	-	0.02
894	669069.0	4280405.0	Roadway/Open Space	-	-	0.02
895	669079.0	4280405.0	Roadway/Open Space	-	-	0.02
896	669089.0	4280405.0	Roadway/Open Space	-	-	0.02
897	669099.0	4280405.0	Roadway/Open Space	-	-	0.02
898	669109.0	4280405.0	Roadway/Open Space	-	-	0.02
899	669119.0	4280405.0	Roadway/Open Space	-	-	0.02
900	669129.0	4280405.0	Roadway/Open Space	-	-	0.02
901	669139.0	4280405.0	Roadway/Open Space	-	-	0.02
902	669149.0	4280405.0	Roadway/Open Space	-	-	0.02
903	669159.0	4280405.0	Roadway/Open Space	-	-	0.02
904	669169.0	4280405.0	Roadway/Open Space	-	-	0.02
905	669179.0	4280405.0	Roadway/Open Space	-	-	0.02
906	669189.0	4280405.0	Roadway/Open Space	-	-	0.02
907	669199.0	4280405.0	Roadway/Open Space	-	-	0.02
908	669209.0	4280405.0	Roadway/Open Space	-	-	0.02
909	669219.0	4280405.0	Roadway/Open Space	-	-	0.02
910	669229.0	4280405.0	Roadway/Open Space	-	-	0.02
911	669239.0	4280405.0	Roadway/Open Space	-	-	0.02
912	669249.0	4280405.0	Roadway/Open Space	-	-	0.02
913	669259.0	4280405.0	Roadway/Open Space	-	-	0.02
914	669269.0	4280405.0	Roadway/Open Space	-	-	0.02
915	669279.0	4280405.0	Roadway/Open Space	-	-	0.02
916	669289.0	4280405.0	Roadway/Open Space	-	-	0.02
917	669299.0	4280405.0	Roadway/Open Space	-	-	0.02
918	669309.0	4280405.0	Roadway/Open Space	-	-	0.02
919	669319.0	4280405.0	Roadway/Open Space	-	-	0.02
920	669329.0	4280405.0	Roadway/Open Space	-	-	0.02
921	669339.0	4280405.0	Roadway/Open Space	-	-	0.02
922	669349.0	4280405.0	Roadway/Open Space	-	-	0.02
923	669359.0	4280405.0	Roadway/Open Space	-	-	0.02
924	669369.0	4280405.0	Roadway/Open Space	-	-	0.02

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
925	669379.0	4280405.0	Roadway/Open Space	-	-	0.02
926	669389.0	4280405.0	Roadway/Open Space	-	-	0.02
927	669399.0	4280405.0	Roadway/Open Space	-	-	0.02
928	668709.0	4280415.0	Roadway/Open Space	-	-	0.02
929	668719.0	4280415.0	Roadway/Open Space	-	-	0.02
930	668729.0	4280415.0	Roadway/Open Space	-	-	0.02
931	668739.0	4280415.0	Roadway/Open Space	-	-	0.02
932	668749.0	4280415.0	Roadway/Open Space	-	-	0.02
933	668759.0	4280415.0	Roadway/Open Space	-	-	0.02
934	668769.0	4280415.0	Roadway/Open Space	-	-	0.02
935	668779.0	4280415.0	Roadway/Open Space	-	-	0.02
936	668789.0	4280415.0	Roadway/Open Space	-	-	0.02
937	668799.0	4280415.0	Roadway/Open Space	-	-	0.02
938	668809.0	4280415.0	Roadway/Open Space	-	-	0.02
939	668819.0	4280415.0	Roadway/Open Space	-	-	0.02
940	668829.0	4280415.0	Roadway/Open Space	-	-	0.02
941	668839.0	4280415.0	Roadway/Open Space	-	-	0.02
942	668849.0	4280415.0	Roadway/Open Space	-	-	0.02
943	668859.0	4280415.0	Roadway/Open Space	-	-	0.02
944	668869.0	4280415.0	Roadway/Open Space	-	-	0.02
945	668879.0	4280415.0	Roadway/Open Space	-	-	0.02
946	668889.0	4280415.0	Roadway/Open Space	-	-	0.02
947	668899.0	4280415.0	Roadway/Open Space	-	-	0.02
948	668909.0	4280415.0	Roadway/Open Space	-	-	0.02
949	668919.0	4280415.0	Roadway/Open Space	-	-	0.02
950	668929.0	4280415.0	Roadway/Open Space	-	-	0.02
951	668939.0	4280415.0	Roadway/Open Space	-	-	0.02
952	668949.0	4280415.0	Roadway/Open Space	-	-	0.02
953	668959.0	4280415.0	Roadway/Open Space	-	-	0.02
954	668969.0	4280415.0	Roadway/Open Space	-	-	0.02
955	668979.0	4280415.0	Roadway/Open Space	-	-	0.02
956	668989.0	4280415.0	Roadway/Open Space	-	-	0.02
957	668999.0	4280415.0	Roadway/Open Space	-	-	0.02
958	669009.0	4280415.0	Roadway/Open Space	-	-	0.02
959	669019.0	4280415.0	Roadway/Open Space	-	-	0.02
960	669029.0	4280415.0	Roadway/Open Space	-	-	0.02
961	669039.0	4280415.0	Roadway/Open Space	-	-	0.02
962	669049.0	4280415.0	Roadway/Open Space	-	-	0.02
963	669059.0	4280415.0	Roadway/Open Space	-	-	0.02
964	669069.0	4280415.0	Roadway/Open Space	-	-	0.02
965	669079.0	4280415.0	Roadway/Open Space	-	-	0.02
966	669089.0	4280415.0	Roadway/Open Space	-	-	0.02
967	669099.0	4280415.0	Roadway/Open Space	-	-	0.02
968	669109.0	4280415.0	Roadway/Open Space	-	-	0.02
969	669119.0	4280415.0	Roadway/Open Space	-	-	0.02
970	669129.0	4280415.0	Roadway/Open Space	-	-	0.02
971	669139.0	4280415.0	Roadway/Open Space	-	-	0.02
972	669149.0	4280415.0	Roadway/Open Space	-	-	0.02
973	669159.0	4280415.0	Roadway/Open Space	-	-	0.02
974	669169.0	4280415.0	Roadway/Open Space	-	-	0.02
975	669179.0	4280415.0	Roadway/Open Space	-	-	0.02
976	669189.0	4280415.0	Roadway/Open Space	-	-	0.02
977	669199.0	4280415.0	Roadway/Open Space	-	-	0.02
978	669209.0	4280415.0	Roadway/Open Space	-	-	0.02
979	669219.0	4280415.0	Roadway/Open Space	-	-	0.02
980	669229.0	4280415.0	Roadway/Open Space	-	-	0.02
981	669239.0	4280415.0	Roadway/Open Space	-	-	0.02
982	669249.0	4280415.0	Roadway/Open Space	-	-	0.02
983	669259.0	4280415.0	Roadway/Open Space	-	-	0.02
984	669269.0	4280415.0	Roadway/Open Space	-	-	0.02
985	669279.0	4280415.0	Roadway/Open Space	-	-	0.02
986	669289.0	4280415.0	Roadway/Open Space	-	-	0.02
987	669299.0	4280415.0	Roadway/Open Space	-	-	0.02
988	669309.0	4280415.0	Roadway/Open Space	-	-	0.02
989	669319.0	4280415.0	Roadway/Open Space	-	-	0.02
990	669329.0	4280415.0	Roadway/Open Space	-	-	0.02
991	669339.0	4280415.0	Roadway/Open Space	-	-	0.02
992	669349.0	4280415.0	Roadway/Open Space	-	-	0.02
993	669359.0	4280415.0	Roadway/Open Space	-	-	0.02
994	669369.0	4280415.0	Roadway/Open Space	-	-	0.02
995	669379.0	4280415.0	Roadway/Open Space	-	-	0.02
996	669389.0	4280415.0	Roadway/Open Space	-	-	0.02
997	669399.0	4280415.0	Roadway/Open Space	-	-	0.02
998	668699.0	4280425.0	Roadway/Open Space	-	-	0.02
999	668709.0	4280425.0	Roadway/Open Space	-	-	0.02
1000	668719.0	4280425.0	Roadway/Open Space	-	-	0.02
1001	668729.0	4280425.0	Roadway/Open Space	-	-	0.02
1002	668739.0	4280425.0	Roadway/Open Space	-	-	0.02
1003	668749.0	4280425.0	Roadway/Open Space	-	-	0.02
1004	668759.0	4280425.0	Roadway/Open Space	-	-	0.02
1005	668769.0	4280425.0	Roadway/Open Space	-	-	0.02
1006	668779.0	4280425.0	Roadway/Open Space	-	-	0.02
1007	668789.0	4280425.0	Roadway/Open Space	-	-	0.02
1008	668799.0	4280425.0	Roadway/Open Space	-	-	0.02

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
1009	668809.0	4280425.0	Roadway/Open Space	-	-	0.02
1010	668819.0	4280425.0	Roadway/Open Space	-	-	0.02
1011	668829.0	4280425.0	Roadway/Open Space	-	-	0.02
1012	668839.0	4280425.0	Roadway/Open Space	-	-	0.02
1013	668849.0	4280425.0	Roadway/Open Space	-	-	0.02
1014	668859.0	4280425.0	Roadway/Open Space	-	-	0.02
1015	668869.0	4280425.0	Roadway/Open Space	-	-	0.02
1016	668879.0	4280425.0	Roadway/Open Space	-	-	0.02
1017	668889.0	4280425.0	Roadway/Open Space	-	-	0.02
1018	668899.0	4280425.0	Roadway/Open Space	-	-	0.02
1019	668909.0	4280425.0	Roadway/Open Space	-	-	0.02
1020	668919.0	4280425.0	Roadway/Open Space	-	-	0.02
1021	668929.0	4280425.0	Roadway/Open Space	-	-	0.02
1022	668939.0	4280425.0	Roadway/Open Space	-	-	0.02
1023	668949.0	4280425.0	Roadway/Open Space	-	-	0.02
1024	668959.0	4280425.0	Roadway/Open Space	-	-	0.02
1025	668969.0	4280425.0	Roadway/Open Space	-	-	0.02
1026	668979.0	4280425.0	Roadway/Open Space	-	-	0.02
1027	668989.0	4280425.0	Roadway/Open Space	-	-	0.02
1028	668999.0	4280425.0	Roadway/Open Space	-	-	0.02
1029	669009.0	4280425.0	Roadway/Open Space	-	-	0.02
1030	669019.0	4280425.0	Roadway/Open Space	-	-	0.02
1031	669029.0	4280425.0	Roadway/Open Space	-	-	0.02
1032	669039.0	4280425.0	Roadway/Open Space	-	-	0.02
1033	669049.0	4280425.0	Roadway/Open Space	-	-	0.02
1034	669059.0	4280425.0	Roadway/Open Space	-	-	0.02
1035	669069.0	4280425.0	Roadway/Open Space	-	-	0.02
1036	669079.0	4280425.0	Roadway/Open Space	-	-	0.02
1037	669089.0	4280425.0	Roadway/Open Space	-	-	0.02
1038	669099.0	4280425.0	Roadway/Open Space	-	-	0.02
1039	669109.0	4280425.0	Roadway/Open Space	-	-	0.02
1040	669119.0	4280425.0	Roadway/Open Space	-	-	0.02
1041	669129.0	4280425.0	Roadway/Open Space	-	-	0.02
1042	669139.0	4280425.0	Roadway/Open Space	-	-	0.02
1043	669149.0	4280425.0	Roadway/Open Space	-	-	0.02
1044	669159.0	4280425.0	Roadway/Open Space	-	-	0.02
1045	669169.0	4280425.0	Roadway/Open Space	-	-	0.02
1046	669179.0	4280425.0	Roadway/Open Space	-	-	0.02
1047	669189.0	4280425.0	Roadway/Open Space	-	-	0.02
1048	669199.0	4280425.0	Roadway/Open Space	-	-	0.02
1049	669209.0	4280425.0	Roadway/Open Space	-	-	0.02
1050	669219.0	4280425.0	Roadway/Open Space	-	-	0.02
1051	669229.0	4280425.0	Roadway/Open Space	-	-	0.02
1052	669239.0	4280425.0	Roadway/Open Space	-	-	0.02
1053	669249.0	4280425.0	Roadway/Open Space	-	-	0.02
1054	669259.0	4280425.0	Roadway/Open Space	-	-	0.02
1055	669269.0	4280425.0	Roadway/Open Space	-	-	0.02
1056	669279.0	4280425.0	Roadway/Open Space	-	-	0.02
1057	669289.0	4280425.0	Roadway/Open Space	-	-	0.02
1058	669299.0	4280425.0	Roadway/Open Space	-	-	0.02
1059	669309.0	4280425.0	Roadway/Open Space	-	-	0.02
1060	669319.0	4280425.0	Roadway/Open Space	-	-	0.02
1061	669329.0	4280425.0	Roadway/Open Space	-	-	0.02
1062	669339.0	4280425.0	Roadway/Open Space	-	-	0.02
1063	669349.0	4280425.0	Roadway/Open Space	-	-	0.02
1064	669359.0	4280425.0	Roadway/Open Space	-	-	0.02
1065	669369.0	4280425.0	Roadway/Open Space	-	-	0.02
1066	669379.0	4280425.0	Roadway/Open Space	-	-	0.02
1067	669389.0	4280425.0	Roadway/Open Space	-	-	0.02
1068	669399.0	4280425.0	Roadway/Open Space	-	-	0.02
1069	669409.0	4280425.0	Roadway/Open Space	-	-	0.02
1070	669419.0	4280425.0	Roadway/Open Space	-	-	0.02
1071	668689.0	4280435.0	Roadway/Open Space	-	-	0.02
1072	668699.0	4280435.0	Roadway/Open Space	-	-	0.02
1073	668709.0	4280435.0	Roadway/Open Space	-	-	0.02
1074	668719.0	4280435.0	Roadway/Open Space	-	-	0.02
1075	668729.0	4280435.0	Roadway/Open Space	-	-	0.02
1076	668739.0	4280435.0	Roadway/Open Space	-	-	0.02
1077	668749.0	4280435.0	Roadway/Open Space	-	-	0.02
1078	668759.0	4280435.0	Roadway/Open Space	-	-	0.02
1079	668769.0	4280435.0	Roadway/Open Space	-	-	0.02
1080	668779.0	4280435.0	Roadway/Open Space	-	-	0.02
1081	668789.0	4280435.0	Roadway/Open Space	-	-	0.02
1082	668799.0	4280435.0	Roadway/Open Space	-	-	0.02
1083	668809.0	4280435.0	Roadway/Open Space	-	-	0.02
1084	668819.0	4280435.0	Roadway/Open Space	-	-	0.02
1085	668829.0	4280435.0	Roadway/Open Space	-	-	0.02
1086	668839.0	4280435.0	Roadway/Open Space	-	-	0.02
1087	668849.0	4280435.0	Roadway/Open Space	-	-	0.02
1088	668859.0	4280435.0	Roadway/Open Space	-	-	0.02
1089	668869.0	4280435.0	Roadway/Open Space	-	-	0.02
1090	668879.0	4280435.0	Roadway/Open Space	-	-	0.02
1091	668889.0	4280435.0	Roadway/Open Space	-	-	0.02
1092	668899.0	4280435.0	Roadway/Open Space	-	-	0.02

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
1093	668909.0	4280435.0	Roadway/Open Space	-	-	0.02
1094	668919.0	4280435.0	Roadway/Open Space	-	-	0.02
1095	668929.0	4280435.0	Roadway/Open Space	-	-	0.02
1096	668939.0	4280435.0	Roadway/Open Space	-	-	0.02
1097	668949.0	4280435.0	Roadway/Open Space	-	-	0.02
1098	668959.0	4280435.0	Roadway/Open Space	-	-	0.02
1099	668969.0	4280435.0	Roadway/Open Space	-	-	0.02
1100	668979.0	4280435.0	Roadway/Open Space	-	-	0.02
1101	668989.0	4280435.0	Roadway/Open Space	-	-	0.02
1102	668999.0	4280435.0	Roadway/Open Space	-	-	0.02
1103	669009.0	4280435.0	Roadway/Open Space	-	-	0.02
1104	669019.0	4280435.0	Roadway/Open Space	-	-	0.02
1105	669029.0	4280435.0	Roadway/Open Space	-	-	0.02
1106	669039.0	4280435.0	Roadway/Open Space	-	-	0.02
1107	669049.0	4280435.0	Roadway/Open Space	-	-	0.02
1108	669059.0	4280435.0	Roadway/Open Space	-	-	0.02
1109	669069.0	4280435.0	Roadway/Open Space	-	-	0.02
1110	669079.0	4280435.0	Roadway/Open Space	-	-	0.02
1111	669089.0	4280435.0	Roadway/Open Space	-	-	0.02
1112	669099.0	4280435.0	Roadway/Open Space	-	-	0.02
1113	669109.0	4280435.0	Roadway/Open Space	-	-	0.02
1114	669119.0	4280435.0	Roadway/Open Space	-	-	0.02
1115	669129.0	4280435.0	Roadway/Open Space	-	-	0.02
1116	669139.0	4280435.0	Roadway/Open Space	-	-	0.02
1117	669149.0	4280435.0	Roadway/Open Space	-	-	0.02
1118	669159.0	4280435.0	Roadway/Open Space	-	-	0.02
1119	669169.0	4280435.0	Roadway/Open Space	-	-	0.02
1120	669179.0	4280435.0	Roadway/Open Space	-	-	0.02
1121	669189.0	4280435.0	Roadway/Open Space	-	-	0.02
1122	669199.0	4280435.0	Roadway/Open Space	-	-	0.02
1123	669209.0	4280435.0	Roadway/Open Space	-	-	0.02
1124	669219.0	4280435.0	Roadway/Open Space	-	-	0.02
1125	669229.0	4280435.0	Roadway/Open Space	-	-	0.02
1126	669239.0	4280435.0	Roadway/Open Space	-	-	0.02
1127	669249.0	4280435.0	Roadway/Open Space	-	-	0.02
1128	669259.0	4280435.0	Roadway/Open Space	-	-	0.02
1129	669269.0	4280435.0	Roadway/Open Space	-	-	0.02
1130	669279.0	4280435.0	Roadway/Open Space	-	-	0.02
1131	669289.0	4280435.0	Roadway/Open Space	-	-	0.02
1132	669299.0	4280435.0	Roadway/Open Space	-	-	0.02
1133	669309.0	4280435.0	Roadway/Open Space	-	-	0.02
1134	669319.0	4280435.0	Roadway/Open Space	-	-	0.02
1135	669329.0	4280435.0	Roadway/Open Space	-	-	0.02
1136	669339.0	4280435.0	Roadway/Open Space	-	-	0.02
1137	669349.0	4280435.0	Roadway/Open Space	-	-	0.02
1138	669359.0	4280435.0	Roadway/Open Space	-	-	0.02
1139	669369.0	4280435.0	Roadway/Open Space	-	-	0.02
1140	669379.0	4280435.0	Roadway/Open Space	-	-	0.02
1141	669389.0	4280435.0	Roadway/Open Space	-	-	0.02
1142	669399.0	4280435.0	Roadway/Open Space	-	-	0.02
1143	669409.0	4280435.0	Roadway/Open Space	-	-	0.02
1144	669419.0	4280435.0	Roadway/Open Space	-	-	0.02
1145	669429.0	4280435.0	Roadway/Open Space	-	-	0.02
1146	669439.0	4280435.0	Roadway/Open Space	-	-	0.01
1147	668689.0	4280445.0	Roadway/Open Space	-	-	0.02
1148	668699.0	4280445.0	Roadway/Open Space	-	-	0.02
1149	668709.0	4280445.0	Roadway/Open Space	-	-	0.02
1150	668719.0	4280445.0	Roadway/Open Space	-	-	0.02
1151	668729.0	4280445.0	Roadway/Open Space	-	-	0.02
1152	668739.0	4280445.0	Roadway/Open Space	-	-	0.02
1153	668749.0	4280445.0	Roadway/Open Space	-	-	0.02
1154	668759.0	4280445.0	Roadway/Open Space	-	-	0.02
1155	668769.0	4280445.0	Roadway/Open Space	-	-	0.02
1156	668779.0	4280445.0	Roadway/Open Space	-	-	0.02
1157	668789.0	4280445.0	Roadway/Open Space	-	-	0.02
1158	668799.0	4280445.0	Roadway/Open Space	-	-	0.02
1159	668809.0	4280445.0	Roadway/Open Space	-	-	0.02
1160	668819.0	4280445.0	Roadway/Open Space	-	-	0.02
1161	668829.0	4280445.0	Roadway/Open Space	-	-	0.02
1162	668839.0	4280445.0	Roadway/Open Space	-	-	0.02
1163	668849.0	4280445.0	Roadway/Open Space	-	-	0.02
1164	668859.0	4280445.0	Roadway/Open Space	-	-	0.02
1165	668869.0	4280445.0	Roadway/Open Space	-	-	0.02
1166	668879.0	4280445.0	Roadway/Open Space	-	-	0.02
1167	668889.0	4280445.0	Roadway/Open Space	-	-	0.02
1168	668899.0	4280445.0	Roadway/Open Space	-	-	0.02
1169	668909.0	4280445.0	Roadway/Open Space	-	-	0.02
1170	668919.0	4280445.0	Roadway/Open Space	-	-	0.02
1171	668929.0	4280445.0	Roadway/Open Space	-	-	0.02
1172	668939.0	4280445.0	Roadway/Open Space	-	-	0.02
1173	668949.0	4280445.0	Roadway/Open Space	-	-	0.02
1174	668959.0	4280445.0	Roadway/Open Space	-	-	0.02
1175	668969.0	4280445.0	Roadway/Open Space	-	-	0.02
1176	668979.0	4280445.0	Roadway/Open Space	-	-	0.02

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
1177	668989.0	4280445.0	Roadway/Open Space	-	-	0.02
1178	668999.0	4280445.0	Roadway/Open Space	-	-	0.02
1179	669009.0	4280445.0	Roadway/Open Space	-	-	0.02
1180	669019.0	4280445.0	Roadway/Open Space	-	-	0.02
1181	669029.0	4280445.0	Roadway/Open Space	-	-	0.02
1182	669039.0	4280445.0	Roadway/Open Space	-	-	0.02
1183	669049.0	4280445.0	Roadway/Open Space	-	-	0.02
1184	669059.0	4280445.0	Roadway/Open Space	-	-	0.02
1185	669069.0	4280445.0	Roadway/Open Space	-	-	0.02
1186	669079.0	4280445.0	Roadway/Open Space	-	-	0.02
1187	669089.0	4280445.0	Roadway/Open Space	-	-	0.02
1188	669099.0	4280445.0	Roadway/Open Space	-	-	0.02
1189	669109.0	4280445.0	Roadway/Open Space	-	-	0.02
1190	669119.0	4280445.0	Roadway/Open Space	-	-	0.02
1191	669129.0	4280445.0	Roadway/Open Space	-	-	0.02
1192	669139.0	4280445.0	Roadway/Open Space	-	-	0.02
1193	669149.0	4280445.0	Roadway/Open Space	-	-	0.02
1194	669159.0	4280445.0	Roadway/Open Space	-	-	0.02
1195	669169.0	4280445.0	Roadway/Open Space	-	-	0.02
1196	669179.0	4280445.0	Roadway/Open Space	-	-	0.02
1197	669189.0	4280445.0	Roadway/Open Space	-	-	0.02
1198	669199.0	4280445.0	Roadway/Open Space	-	-	0.02
1199	669209.0	4280445.0	Roadway/Open Space	-	-	0.02
1200	669219.0	4280445.0	Roadway/Open Space	-	-	0.02
1201	669229.0	4280445.0	Roadway/Open Space	-	-	0.02
1202	669239.0	4280445.0	Roadway/Open Space	-	-	0.02
1203	669249.0	4280445.0	Roadway/Open Space	-	-	0.02
1204	669259.0	4280445.0	Roadway/Open Space	-	-	0.02
1205	669269.0	4280445.0	Roadway/Open Space	-	-	0.02
1206	669279.0	4280445.0	Roadway/Open Space	-	-	0.02
1207	669289.0	4280445.0	Roadway/Open Space	-	-	0.02
1208	669299.0	4280445.0	Roadway/Open Space	-	-	0.02
1209	669309.0	4280445.0	Roadway/Open Space	-	-	0.02
1210	669319.0	4280445.0	Roadway/Open Space	-	-	0.02
1211	669329.0	4280445.0	Roadway/Open Space	-	-	0.02
1212	669339.0	4280445.0	Roadway/Open Space	-	-	0.02
1213	669349.0	4280445.0	Roadway/Open Space	-	-	0.02
1214	669359.0	4280445.0	Roadway/Open Space	-	-	0.02
1215	669369.0	4280445.0	Roadway/Open Space	-	-	0.02
1216	669379.0	4280445.0	Roadway/Open Space	-	-	0.02
1217	669389.0	4280445.0	Roadway/Open Space	-	-	0.02
1218	669399.0	4280445.0	Roadway/Open Space	-	-	0.02
1219	669409.0	4280445.0	Roadway/Open Space	-	-	0.02
1220	669419.0	4280445.0	Roadway/Open Space	-	-	0.02
1221	669429.0	4280445.0	Roadway/Open Space	-	-	0.02
1222	669439.0	4280445.0	Roadway/Open Space	-	-	0.01
1223	669449.0	4280445.0	Roadway/Open Space	-	-	0.01
1224	668679.0	4280455.0	Roadway/Open Space	-	-	0.02
1225	668689.0	4280455.0	Roadway/Open Space	-	-	0.02
1226	668699.0	4280455.0	Roadway/Open Space	-	-	0.02
1227	668709.0	4280455.0	Roadway/Open Space	-	-	0.02
1228	668719.0	4280455.0	Roadway/Open Space	-	-	0.02
1229	668729.0	4280455.0	Roadway/Open Space	-	-	0.02
1230	668739.0	4280455.0	Roadway/Open Space	-	-	0.02
1231	668749.0	4280455.0	Roadway/Open Space	-	-	0.02
1232	668759.0	4280455.0	Roadway/Open Space	-	-	0.02
1233	668769.0	4280455.0	Roadway/Open Space	-	-	0.02
1234	668779.0	4280455.0	Roadway/Open Space	-	-	0.02
1235	668789.0	4280455.0	Roadway/Open Space	-	-	0.02
1236	668799.0	4280455.0	Roadway/Open Space	-	-	0.02
1237	668809.0	4280455.0	Roadway/Open Space	-	-	0.02
1238	668819.0	4280455.0	Roadway/Open Space	-	-	0.02
1239	668829.0	4280455.0	Roadway/Open Space	-	-	0.02
1240	668839.0	4280455.0	Roadway/Open Space	-	-	0.02
1241	668849.0	4280455.0	Roadway/Open Space	-	-	0.02
1242	668859.0	4280455.0	Roadway/Open Space	-	-	0.02
1243	668869.0	4280455.0	Roadway/Open Space	-	-	0.02
1244	668879.0	4280455.0	Roadway/Open Space	-	-	0.02
1245	668889.0	4280455.0	Roadway/Open Space	-	-	0.02
1246	668899.0	4280455.0	Roadway/Open Space	-	-	0.02
1247	668909.0	4280455.0	Roadway/Open Space	-	-	0.02
1248	668919.0	4280455.0	Roadway/Open Space	-	-	0.02
1249	668929.0	4280455.0	Roadway/Open Space	-	-	0.02
1250	668939.0	4280455.0	Roadway/Open Space	-	-	0.02
1251	668949.0	4280455.0	Roadway/Open Space	-	-	0.02
1252	668959.0	4280455.0	Roadway/Open Space	-	-	0.02
1253	668969.0	4280455.0	Roadway/Open Space	-	-	0.02
1254	668979.0	4280455.0	Roadway/Open Space	-	-	0.02
1255	668989.0	4280455.0	Roadway/Open Space	-	-	0.02
1256	668999.0	4280455.0	Roadway/Open Space	-	-	0.02
1257	669009.0	4280455.0	Roadway/Open Space	-	-	0.02
1258	669019.0	4280455.0	Roadway/Open Space	-	-	0.02
1259	669029.0	4280455.0	Roadway/Open Space	-	-	0.02
1260	669039.0	4280455.0	Roadway/Open Space	-	-	0.02

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
1261	669049.0	4280455.0	Roadway/Open Space	-	-	0.02
1262	669059.0	4280455.0	Roadway/Open Space	-	-	0.02
1263	669069.0	4280455.0	Roadway/Open Space	-	-	0.02
1264	669079.0	4280455.0	Roadway/Open Space	-	-	0.02
1265	669089.0	4280455.0	Roadway/Open Space	-	-	0.02
1266	669099.0	4280455.0	Roadway/Open Space	-	-	0.02
1267	669109.0	4280455.0	Roadway/Open Space	-	-	0.02
1268	669119.0	4280455.0	Roadway/Open Space	-	-	0.02
1269	669129.0	4280455.0	Roadway/Open Space	-	-	0.02
1270	669139.0	4280455.0	Roadway/Open Space	-	-	0.02
1271	669149.0	4280455.0	Roadway/Open Space	-	-	0.02
1272	669159.0	4280455.0	Roadway/Open Space	-	-	0.02
1273	669169.0	4280455.0	Roadway/Open Space	-	-	0.02
1274	669179.0	4280455.0	Roadway/Open Space	-	-	0.02
1275	669189.0	4280455.0	Roadway/Open Space	-	-	0.02
1276	669199.0	4280455.0	Roadway/Open Space	-	-	0.02
1277	669209.0	4280455.0	Roadway/Open Space	-	-	0.02
1278	669219.0	4280455.0	Roadway/Open Space	-	-	0.02
1279	669229.0	4280455.0	Roadway/Open Space	-	-	0.02
1280	669239.0	4280455.0	Roadway/Open Space	-	-	0.02
1281	669249.0	4280455.0	Roadway/Open Space	-	-	0.02
1282	669259.0	4280455.0	Roadway/Open Space	-	-	0.02
1283	669269.0	4280455.0	Roadway/Open Space	-	-	0.02
1284	669279.0	4280455.0	Roadway/Open Space	-	-	0.02
1285	669289.0	4280455.0	Roadway/Open Space	-	-	0.02
1286	669299.0	4280455.0	Roadway/Open Space	-	-	0.02
1287	669309.0	4280455.0	Roadway/Open Space	-	-	0.02
1288	669319.0	4280455.0	Roadway/Open Space	-	-	0.02
1289	669329.0	4280455.0	Roadway/Open Space	-	-	0.02
1290	669339.0	4280455.0	Roadway/Open Space	-	-	0.02
1291	669349.0	4280455.0	Roadway/Open Space	-	-	0.02
1292	669359.0	4280455.0	Roadway/Open Space	-	-	0.02
1293	669369.0	4280455.0	Roadway/Open Space	-	-	0.02
1294	669379.0	4280455.0	Roadway/Open Space	-	-	0.02
1295	669389.0	4280455.0	Roadway/Open Space	-	-	0.02
1296	669399.0	4280455.0	Roadway/Open Space	-	-	0.02
1297	669409.0	4280455.0	Roadway/Open Space	-	-	0.02
1298	669419.0	4280455.0	Roadway/Open Space	-	-	0.02
1299	669429.0	4280455.0	Roadway/Open Space	-	-	0.02
1300	669439.0	4280455.0	Roadway/Open Space	-	-	0.01
1301	669449.0	4280455.0	Roadway/Open Space	-	-	0.01
1302	669459.0	4280455.0	Roadway/Open Space	-	-	0.01
1303	669469.0	4280455.0	Roadway/Open Space	-	-	0.01
1304	668669.0	4280465.0	Roadway/Open Space	-	-	0.02
1305	668679.0	4280465.0	Roadway/Open Space	-	-	0.02
1306	668689.0	4280465.0	Roadway/Open Space	-	-	0.02
1307	668699.0	4280465.0	Roadway/Open Space	-	-	0.02
1308	668709.0	4280465.0	Roadway/Open Space	-	-	0.02
1309	668719.0	4280465.0	Roadway/Open Space	-	-	0.02
1310	668729.0	4280465.0	Roadway/Open Space	-	-	0.02
1311	668739.0	4280465.0	Roadway/Open Space	-	-	0.02
1312	668749.0	4280465.0	Roadway/Open Space	-	-	0.02
1313	668759.0	4280465.0	Roadway/Open Space	-	-	0.02
1314	668769.0	4280465.0	Roadway/Open Space	-	-	0.02
1315	668779.0	4280465.0	Roadway/Open Space	-	-	0.02
1316	668789.0	4280465.0	Roadway/Open Space	-	-	0.02
1317	668799.0	4280465.0	Roadway/Open Space	-	-	0.02
1318	668809.0	4280465.0	Roadway/Open Space	-	-	0.02
1319	668819.0	4280465.0	Roadway/Open Space	-	-	0.02
1320	668829.0	4280465.0	Roadway/Open Space	-	-	0.02
1321	668839.0	4280465.0	Roadway/Open Space	-	-	0.02
1322	668849.0	4280465.0	Roadway/Open Space	-	-	0.02
1323	668859.0	4280465.0	Roadway/Open Space	-	-	0.02
1324	668869.0	4280465.0	Roadway/Open Space	-	-	0.02
1325	668879.0	4280465.0	Roadway/Open Space	-	-	0.02
1326	668889.0	4280465.0	Roadway/Open Space	-	-	0.02
1327	668899.0	4280465.0	Roadway/Open Space	-	-	0.02
1328	668909.0	4280465.0	Roadway/Open Space	-	-	0.02
1329	668919.0	4280465.0	Roadway/Open Space	-	-	0.02
1330	668929.0	4280465.0	Roadway/Open Space	-	-	0.02
1331	668939.0	4280465.0	Roadway/Open Space	-	-	0.02
1332	668949.0	4280465.0	Roadway/Open Space	-	-	0.02
1333	668959.0	4280465.0	Roadway/Open Space	-	-	0.02
1334	668969.0	4280465.0	Roadway/Open Space	-	-	0.02
1335	668979.0	4280465.0	Roadway/Open Space	-	-	0.02
1336	668989.0	4280465.0	Roadway/Open Space	-	-	0.02
1337	668999.0	4280465.0	Roadway/Open Space	-	-	0.02
1338	669009.0	4280465.0	Roadway/Open Space	-	-	0.02
1339	669019.0	4280465.0	Roadway/Open Space	-	-	0.02
1340	669029.0	4280465.0	Roadway/Open Space	-	-	0.02
1341	669039.0	4280465.0	Roadway/Open Space	-	-	0.02
1342	669049.0	4280465.0	Roadway/Open Space	-	-	0.02
1343	669059.0	4280465.0	Roadway/Open Space	-	-	0.02
1344	669069.0	4280465.0	Roadway/Open Space	-	-	0.02

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
1345	669079.0	4280465.0	Roadway/Open Space	-	-	0.02
1346	669089.0	4280465.0	Roadway/Open Space	-	-	0.02
1347	669099.0	4280465.0	Roadway/Open Space	-	-	0.02
1348	669109.0	4280465.0	Roadway/Open Space	-	-	0.02
1349	669119.0	4280465.0	Roadway/Open Space	-	-	0.02
1350	669129.0	4280465.0	Roadway/Open Space	-	-	0.02
1351	669139.0	4280465.0	Roadway/Open Space	-	-	0.02
1352	669149.0	4280465.0	Roadway/Open Space	-	-	0.02
1353	669159.0	4280465.0	Roadway/Open Space	-	-	0.02
1354	669169.0	4280465.0	Roadway/Open Space	-	-	0.02
1355	669179.0	4280465.0	Roadway/Open Space	-	-	0.02
1356	669189.0	4280465.0	Roadway/Open Space	-	-	0.02
1357	669199.0	4280465.0	Roadway/Open Space	-	-	0.02
1358	669209.0	4280465.0	Roadway/Open Space	-	-	0.02
1359	669219.0	4280465.0	Roadway/Open Space	-	-	0.02
1360	669229.0	4280465.0	Roadway/Open Space	-	-	0.02
1361	669239.0	4280465.0	Roadway/Open Space	-	-	0.02
1362	669249.0	4280465.0	Roadway/Open Space	-	-	0.02
1363	669259.0	4280465.0	Roadway/Open Space	-	-	0.02
1364	669269.0	4280465.0	Roadway/Open Space	-	-	0.02
1365	669279.0	4280465.0	Roadway/Open Space	-	-	0.02
1366	669289.0	4280465.0	Roadway/Open Space	-	-	0.02
1367	669299.0	4280465.0	Roadway/Open Space	-	-	0.02
1368	669309.0	4280465.0	Roadway/Open Space	-	-	0.02
1369	669319.0	4280465.0	Roadway/Open Space	-	-	0.02
1370	669329.0	4280465.0	Roadway/Open Space	-	-	0.02
1371	669339.0	4280465.0	Roadway/Open Space	-	-	0.02
1372	669349.0	4280465.0	Roadway/Open Space	-	-	0.02
1373	669359.0	4280465.0	Roadway/Open Space	-	-	0.02
1374	669369.0	4280465.0	Roadway/Open Space	-	-	0.02
1375	669379.0	4280465.0	Roadway/Open Space	-	-	0.02
1376	669389.0	4280465.0	Roadway/Open Space	-	-	0.02
1377	669399.0	4280465.0	Roadway/Open Space	-	-	0.02
1378	669409.0	4280465.0	Roadway/Open Space	-	-	0.02
1379	669419.0	4280465.0	Roadway/Open Space	-	-	0.02
1380	669429.0	4280465.0	Roadway/Open Space	-	-	0.02
1381	669439.0	4280465.0	Roadway/Open Space	-	-	0.02
1382	669449.0	4280465.0	Roadway/Open Space	-	-	0.01
1383	669459.0	4280465.0	Roadway/Open Space	-	-	0.01
1384	669469.0	4280465.0	Roadway/Open Space	-	-	0.01
1385	669479.0	4280465.0	Roadway/Open Space	-	-	0.01
1386	668669.0	4280475.0	Roadway/Open Space	-	-	0.02
1387	668679.0	4280475.0	Roadway/Open Space	-	-	0.02
1388	668689.0	4280475.0	Roadway/Open Space	-	-	0.02
1389	668699.0	4280475.0	Roadway/Open Space	-	-	0.02
1390	668709.0	4280475.0	Roadway/Open Space	-	-	0.02
1391	668719.0	4280475.0	Roadway/Open Space	-	-	0.02
1392	668729.0	4280475.0	Roadway/Open Space	-	-	0.02
1393	668739.0	4280475.0	Roadway/Open Space	-	-	0.02
1394	668749.0	4280475.0	Roadway/Open Space	-	-	0.02
1395	668759.0	4280475.0	Roadway/Open Space	-	-	0.02
1396	668769.0	4280475.0	Roadway/Open Space	-	-	0.02
1397	668779.0	4280475.0	Roadway/Open Space	-	-	0.02
1398	668789.0	4280475.0	Roadway/Open Space	-	-	0.02
1399	668799.0	4280475.0	Roadway/Open Space	-	-	0.02
1400	668809.0	4280475.0	Roadway/Open Space	-	-	0.02
1401	668819.0	4280475.0	Roadway/Open Space	-	-	0.02
1402	668829.0	4280475.0	Roadway/Open Space	-	-	0.02
1403	668839.0	4280475.0	Roadway/Open Space	-	-	0.02
1404	668849.0	4280475.0	Roadway/Open Space	-	-	0.02
1405	668859.0	4280475.0	Roadway/Open Space	-	-	0.02
1406	668869.0	4280475.0	Roadway/Open Space	-	-	0.02
1407	668879.0	4280475.0	Roadway/Open Space	-	-	0.02
1408	668889.0	4280475.0	Roadway/Open Space	-	-	0.02
1409	668899.0	4280475.0	Roadway/Open Space	-	-	0.02
1410	668909.0	4280475.0	Roadway/Open Space	-	-	0.02
1411	668919.0	4280475.0	Roadway/Open Space	-	-	0.02
1412	668929.0	4280475.0	Roadway/Open Space	-	-	0.02
1413	668939.0	4280475.0	Roadway/Open Space	-	-	0.02
1414	668949.0	4280475.0	Roadway/Open Space	-	-	0.02
1415	668959.0	4280475.0	Roadway/Open Space	-	-	0.02
1416	668969.0	4280475.0	Roadway/Open Space	-	-	0.02
1417	668979.0	4280475.0	Roadway/Open Space	-	-	0.02
1418	668989.0	4280475.0	Roadway/Open Space	-	-	0.02
1419	668999.0	4280475.0	Roadway/Open Space	-	-	0.02
1420	669009.0	4280475.0	Roadway/Open Space	-	-	0.02
1421	669019.0	4280475.0	Roadway/Open Space	-	-	0.02
1422	669029.0	4280475.0	Roadway/Open Space	-	-	0.02
1423	669039.0	4280475.0	Roadway/Open Space	-	-	0.02
1424	669049.0	4280475.0	Roadway/Open Space	-	-	0.02
1425	669059.0	4280475.0	Roadway/Open Space	-	-	0.02
1426	669069.0	4280475.0	Roadway/Open Space	-	-	0.02
1427	669079.0	4280475.0	Roadway/Open Space	-	-	0.02
1428	669089.0	4280475.0	Roadway/Open Space	-	-	0.02

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
1429	669099.0	4280475.0	Roadway/Open Space	-	-	0.02
1430	669109.0	4280475.0	Roadway/Open Space	-	-	0.02
1431	669119.0	4280475.0	Roadway/Open Space	-	-	0.02
1432	669129.0	4280475.0	Roadway/Open Space	-	-	0.02
1433	669139.0	4280475.0	Roadway/Open Space	-	-	0.02
1434	669149.0	4280475.0	Roadway/Open Space	-	-	0.02
1435	669159.0	4280475.0	Roadway/Open Space	-	-	0.02
1436	669169.0	4280475.0	Roadway/Open Space	-	-	0.02
1437	669179.0	4280475.0	Roadway/Open Space	-	-	0.02
1438	669189.0	4280475.0	Roadway/Open Space	-	-	0.02
1439	669199.0	4280475.0	Roadway/Open Space	-	-	0.02
1440	669209.0	4280475.0	Roadway/Open Space	-	-	0.02
1441	669219.0	4280475.0	Roadway/Open Space	-	-	0.02
1442	669229.0	4280475.0	Roadway/Open Space	-	-	0.02
1443	669239.0	4280475.0	Roadway/Open Space	-	-	0.02
1444	669249.0	4280475.0	Roadway/Open Space	-	-	0.02
1445	669259.0	4280475.0	Roadway/Open Space	-	-	0.02
1446	669269.0	4280475.0	Roadway/Open Space	-	-	0.02
1447	669279.0	4280475.0	Roadway/Open Space	-	-	0.02
1448	669289.0	4280475.0	Roadway/Open Space	-	-	0.02
1449	669299.0	4280475.0	Roadway/Open Space	-	-	0.02
1450	669309.0	4280475.0	Roadway/Open Space	-	-	0.02
1451	669319.0	4280475.0	Roadway/Open Space	-	-	0.02
1452	669329.0	4280475.0	Roadway/Open Space	-	-	0.02
1453	669339.0	4280475.0	Roadway/Open Space	-	-	0.02
1454	669349.0	4280475.0	Roadway/Open Space	-	-	0.02
1455	669359.0	4280475.0	Roadway/Open Space	-	-	0.02
1456	669369.0	4280475.0	Roadway/Open Space	-	-	0.02
1457	669379.0	4280475.0	Roadway/Open Space	-	-	0.02
1458	669389.0	4280475.0	Roadway/Open Space	-	-	0.02
1459	669399.0	4280475.0	Roadway/Open Space	-	-	0.02
1460	669409.0	4280475.0	Roadway/Open Space	-	-	0.02
1461	669419.0	4280475.0	Roadway/Open Space	-	-	0.02
1462	669429.0	4280475.0	Roadway/Open Space	-	-	0.02
1463	669439.0	4280475.0	Roadway/Open Space	-	-	0.02
1464	669449.0	4280475.0	Roadway/Open Space	-	-	0.01
1465	669459.0	4280475.0	Roadway/Open Space	-	-	0.01
1466	669469.0	4280475.0	Roadway/Open Space	-	-	0.01
1467	669479.0	4280475.0	Roadway/Open Space	-	-	0.01
1468	669489.0	4280475.0	Roadway/Open Space	-	-	0.02
1469	668659.0	4280485.0	Roadway/Open Space	-	-	0.02
1470	668669.0	4280485.0	Roadway/Open Space	-	-	0.02
1471	668679.0	4280485.0	Roadway/Open Space	-	-	0.02
1472	668689.0	4280485.0	Roadway/Open Space	-	-	0.02
1473	668699.0	4280485.0	Roadway/Open Space	-	-	0.02
1474	668709.0	4280485.0	Roadway/Open Space	-	-	0.02
1475	668719.0	4280485.0	Roadway/Open Space	-	-	0.02
1476	668729.0	4280485.0	Roadway/Open Space	-	-	0.02
1477	668739.0	4280485.0	Roadway/Open Space	-	-	0.02
1478	668749.0	4280485.0	Roadway/Open Space	-	-	0.02
1479	668759.0	4280485.0	Roadway/Open Space	-	-	0.02
1480	668769.0	4280485.0	Roadway/Open Space	-	-	0.02
1481	668779.0	4280485.0	Roadway/Open Space	-	-	0.02
1482	668789.0	4280485.0	Roadway/Open Space	-	-	0.02
1483	668799.0	4280485.0	Roadway/Open Space	-	-	0.02
1484	668809.0	4280485.0	Roadway/Open Space	-	-	0.02
1485	668819.0	4280485.0	Roadway/Open Space	-	-	0.02
1486	668829.0	4280485.0	Roadway/Open Space	-	-	0.02
1487	668839.0	4280485.0	Roadway/Open Space	-	-	0.02
1488	668849.0	4280485.0	Roadway/Open Space	-	-	0.02
1489	668859.0	4280485.0	Roadway/Open Space	-	-	0.02
1490	668869.0	4280485.0	Roadway/Open Space	-	-	0.02
1491	668879.0	4280485.0	Roadway/Open Space	-	-	0.02
1492	668889.0	4280485.0	Roadway/Open Space	-	-	0.02
1493	668899.0	4280485.0	Roadway/Open Space	-	-	0.02
1494	668909.0	4280485.0	Roadway/Open Space	-	-	0.02
1495	668919.0	4280485.0	Roadway/Open Space	-	-	0.02
1496	668929.0	4280485.0	Roadway/Open Space	-	-	0.02
1497	668939.0	4280485.0	Roadway/Open Space	-	-	0.02
1498	668949.0	4280485.0	Roadway/Open Space	-	-	0.02
1499	668959.0	4280485.0	Roadway/Open Space	-	-	0.02
1500	668969.0	4280485.0	Roadway/Open Space	-	-	0.02
1501	668979.0	4280485.0	Roadway/Open Space	-	-	0.02
1502	668989.0	4280485.0	Roadway/Open Space	-	-	0.02
1503	668999.0	4280485.0	Roadway/Open Space	-	-	0.02
1504	669009.0	4280485.0	Roadway/Open Space	-	-	0.02
1505	669019.0	4280485.0	Roadway/Open Space	-	-	0.02
1506	669029.0	4280485.0	Roadway/Open Space	-	-	0.02
1507	669039.0	4280485.0	Roadway/Open Space	-	-	0.02
1508	669049.0	4280485.0	Roadway/Open Space	-	-	0.02
1509	669059.0	4280485.0	Roadway/Open Space	-	-	0.02
1510	669069.0	4280485.0	Roadway/Open Space	-	-	0.02
1511	669079.0	4280485.0	Roadway/Open Space	-	-	0.02
1512	669089.0	4280485.0	Roadway/Open Space	-	-	0.02

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
1513	669099.0	4280485.0	Roadway/Open Space	-	-	0.02
1514	669109.0	4280485.0	Roadway/Open Space	-	-	0.02
1515	669119.0	4280485.0	Roadway/Open Space	-	-	0.02
1516	669129.0	4280485.0	Roadway/Open Space	-	-	0.02
1517	669139.0	4280485.0	Roadway/Open Space	-	-	0.02
1518	669149.0	4280485.0	Roadway/Open Space	-	-	0.02
1519	669159.0	4280485.0	Roadway/Open Space	-	-	0.02
1520	669169.0	4280485.0	Roadway/Open Space	-	-	0.02
1521	669179.0	4280485.0	Roadway/Open Space	-	-	0.02
1522	669189.0	4280485.0	Roadway/Open Space	-	-	0.02
1523	669199.0	4280485.0	Roadway/Open Space	-	-	0.02
1524	669209.0	4280485.0	Roadway/Open Space	-	-	0.02
1525	669219.0	4280485.0	Roadway/Open Space	-	-	0.02
1526	669229.0	4280485.0	Roadway/Open Space	-	-	0.02
1527	669239.0	4280485.0	Roadway/Open Space	-	-	0.02
1528	669249.0	4280485.0	Roadway/Open Space	-	-	0.02
1529	669259.0	4280485.0	Roadway/Open Space	-	-	0.02
1530	669269.0	4280485.0	Roadway/Open Space	-	-	0.02
1531	669279.0	4280485.0	Roadway/Open Space	-	-	0.02
1532	669289.0	4280485.0	Roadway/Open Space	-	-	0.02
1533	669299.0	4280485.0	Roadway/Open Space	-	-	0.02
1534	669309.0	4280485.0	Roadway/Open Space	-	-	0.02
1535	669319.0	4280485.0	Roadway/Open Space	-	-	0.02
1536	669329.0	4280485.0	Roadway/Open Space	-	-	0.02
1537	669339.0	4280485.0	Roadway/Open Space	-	-	0.02
1538	669349.0	4280485.0	Roadway/Open Space	-	-	0.02
1539	669359.0	4280485.0	Roadway/Open Space	-	-	0.02
1540	669369.0	4280485.0	Roadway/Open Space	-	-	0.02
1541	669379.0	4280485.0	Roadway/Open Space	-	-	0.02
1542	669389.0	4280485.0	Roadway/Open Space	-	-	0.02
1543	669399.0	4280485.0	Roadway/Open Space	-	-	0.02
1544	669409.0	4280485.0	Roadway/Open Space	-	-	0.02
1545	669419.0	4280485.0	Roadway/Open Space	-	-	0.02
1546	669429.0	4280485.0	Roadway/Open Space	-	-	0.02
1547	669439.0	4280485.0	Roadway/Open Space	-	-	0.02
1548	669449.0	4280485.0	Roadway/Open Space	-	-	0.02
1549	669459.0	4280485.0	Roadway/Open Space	-	-	0.02
1550	669469.0	4280485.0	Roadway/Open Space	-	-	0.01
1551	669479.0	4280485.0	Roadway/Open Space	-	-	0.02
1552	669489.0	4280485.0	Roadway/Open Space	-	-	0.02
1553	669499.0	4280485.0	Roadway/Open Space	-	-	0.02
1554	668659.0	4280495.0	Roadway/Open Space	-	-	0.02
1555	668669.0	4280495.0	Roadway/Open Space	-	-	0.02
1556	668679.0	4280495.0	Roadway/Open Space	-	-	0.02
1557	668689.0	4280495.0	Roadway/Open Space	-	-	0.02
1558	668699.0	4280495.0	Roadway/Open Space	-	-	0.02
1559	668709.0	4280495.0	Roadway/Open Space	-	-	0.02
1560	668719.0	4280495.0	Roadway/Open Space	-	-	0.02
1561	668729.0	4280495.0	Roadway/Open Space	-	-	0.02
1562	668739.0	4280495.0	Roadway/Open Space	-	-	0.02
1563	668749.0	4280495.0	Roadway/Open Space	-	-	0.02
1564	668759.0	4280495.0	Roadway/Open Space	-	-	0.02
1565	668769.0	4280495.0	Roadway/Open Space	-	-	0.02
1566	668779.0	4280495.0	Roadway/Open Space	-	-	0.02
1567	668789.0	4280495.0	Roadway/Open Space	-	-	0.02
1568	668799.0	4280495.0	Roadway/Open Space	-	-	0.02
1569	668809.0	4280495.0	Roadway/Open Space	-	-	0.02
1570	668819.0	4280495.0	Roadway/Open Space	-	-	0.02
1571	668829.0	4280495.0	Roadway/Open Space	-	-	0.02
1572	668839.0	4280495.0	Roadway/Open Space	-	-	0.02
1573	668849.0	4280495.0	Roadway/Open Space	-	-	0.02
1574	668859.0	4280495.0	Roadway/Open Space	-	-	0.02
1575	668869.0	4280495.0	Roadway/Open Space	-	-	0.02
1576	668879.0	4280495.0	Roadway/Open Space	-	-	0.02
1577	668889.0	4280495.0	Roadway/Open Space	-	-	0.02
1578	668899.0	4280495.0	Roadway/Open Space	-	-	0.02
1579	668909.0	4280495.0	Roadway/Open Space	-	-	0.02
1580	668919.0	4280495.0	Roadway/Open Space	-	-	0.02
1581	668929.0	4280495.0	Roadway/Open Space	-	-	0.02
1582	668939.0	4280495.0	Roadway/Open Space	-	-	0.02
1583	668949.0	4280495.0	Roadway/Open Space	-	-	0.02
1584	668959.0	4280495.0	Roadway/Open Space	-	-	0.02
1585	668969.0	4280495.0	Roadway/Open Space	-	-	0.02
1586	668979.0	4280495.0	Roadway/Open Space	-	-	0.02
1587	668989.0	4280495.0	Roadway/Open Space	-	-	0.02
1588	668999.0	4280495.0	Roadway/Open Space	-	-	0.02
1589	669009.0	4280495.0	Roadway/Open Space	-	-	0.02
1590	669019.0	4280495.0	Roadway/Open Space	-	-	0.02
1591	669029.0	4280495.0	Roadway/Open Space	-	-	0.02
1592	669039.0	4280495.0	Roadway/Open Space	-	-	0.02
1593	669049.0	4280495.0	Roadway/Open Space	-	-	0.02
1594	669059.0	4280495.0	Roadway/Open Space	-	-	0.02
1595	669069.0	4280495.0	Roadway/Open Space	-	-	0.02
1596	669079.0	4280495.0	Roadway/Open Space	-	-	0.02

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
1597	669089.0	4280495.0	Roadway/Open Space	-	-	0.02
1598	669099.0	4280495.0	Roadway/Open Space	-	-	0.02
1599	669109.0	4280495.0	Roadway/Open Space	-	-	0.02
1600	669119.0	4280495.0	Roadway/Open Space	-	-	0.02
1601	669129.0	4280495.0	Roadway/Open Space	-	-	0.02
1602	669139.0	4280495.0	Roadway/Open Space	-	-	0.02
1603	669149.0	4280495.0	Roadway/Open Space	-	-	0.02
1604	669159.0	4280495.0	Roadway/Open Space	-	-	0.02
1605	669169.0	4280495.0	Roadway/Open Space	-	-	0.02
1606	669179.0	4280495.0	Roadway/Open Space	-	-	0.02
1607	669189.0	4280495.0	Roadway/Open Space	-	-	0.02
1608	669199.0	4280495.0	Roadway/Open Space	-	-	0.02
1609	669209.0	4280495.0	Roadway/Open Space	-	-	0.02
1610	669219.0	4280495.0	Roadway/Open Space	-	-	0.02
1611	669229.0	4280495.0	Roadway/Open Space	-	-	0.02
1612	669239.0	4280495.0	Roadway/Open Space	-	-	0.02
1613	669249.0	4280495.0	Roadway/Open Space	-	-	0.02
1614	669259.0	4280495.0	Roadway/Open Space	-	-	0.02
1615	669269.0	4280495.0	Roadway/Open Space	-	-	0.02
1616	669279.0	4280495.0	Roadway/Open Space	-	-	0.02
1617	669289.0	4280495.0	Roadway/Open Space	-	-	0.02
1618	669299.0	4280495.0	Roadway/Open Space	-	-	0.02
1619	669309.0	4280495.0	Roadway/Open Space	-	-	0.02
1620	669319.0	4280495.0	Roadway/Open Space	-	-	0.02
1621	669329.0	4280495.0	Roadway/Open Space	-	-	0.02
1622	669339.0	4280495.0	Roadway/Open Space	-	-	0.02
1623	669349.0	4280495.0	Roadway/Open Space	-	-	0.02
1624	669359.0	4280495.0	Roadway/Open Space	-	-	0.02
1625	669369.0	4280495.0	Roadway/Open Space	-	-	0.02
1626	669379.0	4280495.0	Roadway/Open Space	-	-	0.02
1627	669389.0	4280495.0	Roadway/Open Space	-	-	0.02
1628	669399.0	4280495.0	Roadway/Open Space	-	-	0.02
1629	669409.0	4280495.0	Roadway/Open Space	-	-	0.02
1630	669419.0	4280495.0	Roadway/Open Space	-	-	0.02
1631	669429.0	4280495.0	Roadway/Open Space	-	-	0.02
1632	669439.0	4280495.0	Roadway/Open Space	-	-	0.02
1633	669449.0	4280495.0	Roadway/Open Space	-	-	0.02
1634	669459.0	4280495.0	Roadway/Open Space	-	-	0.02
1635	669469.0	4280495.0	Roadway/Open Space	-	-	0.02
1636	669479.0	4280495.0	Roadway/Open Space	-	-	0.02
1637	669489.0	4280495.0	Roadway/Open Space	-	-	0.02
1638	669499.0	4280495.0	Roadway/Open Space	-	-	0.02
1639	669509.0	4280495.0	Roadway/Open Space	-	-	0.02
1640	668649.0	4280505.0	Roadway/Open Space	-	-	0.02
1641	668659.0	4280505.0	Roadway/Open Space	-	-	0.02
1642	668669.0	4280505.0	Roadway/Open Space	-	-	0.02
1643	668679.0	4280505.0	Roadway/Open Space	-	-	0.02
1644	668689.0	4280505.0	Roadway/Open Space	-	-	0.02
1645	668699.0	4280505.0	Roadway/Open Space	-	-	0.02
1646	668709.0	4280505.0	Roadway/Open Space	-	-	0.02
1647	668719.0	4280505.0	Roadway/Open Space	-	-	0.02
1648	668729.0	4280505.0	Roadway/Open Space	-	-	0.02
1649	668739.0	4280505.0	Roadway/Open Space	-	-	0.02
1650	668749.0	4280505.0	Roadway/Open Space	-	-	0.02
1651	668759.0	4280505.0	Roadway/Open Space	-	-	0.02
1652	668769.0	4280505.0	Roadway/Open Space	-	-	0.02
1653	668779.0	4280505.0	Roadway/Open Space	-	-	0.02
1654	668789.0	4280505.0	Roadway/Open Space	-	-	0.02
1655	668799.0	4280505.0	Roadway/Open Space	-	-	0.02
1656	668809.0	4280505.0	Roadway/Open Space	-	-	0.02
1657	668819.0	4280505.0	Roadway/Open Space	-	-	0.02
1658	668829.0	4280505.0	Roadway/Open Space	-	-	0.02
1659	668839.0	4280505.0	Roadway/Open Space	-	-	0.02
1660	668849.0	4280505.0	Roadway/Open Space	-	-	0.02
1661	668859.0	4280505.0	Roadway/Open Space	-	-	0.02
1662	668869.0	4280505.0	Roadway/Open Space	-	-	0.02
1663	668879.0	4280505.0	Roadway/Open Space	-	-	0.02
1664	668889.0	4280505.0	Roadway/Open Space	-	-	0.02
1665	668899.0	4280505.0	Roadway/Open Space	-	-	0.02
1666	668909.0	4280505.0	Roadway/Open Space	-	-	0.02
1667	668919.0	4280505.0	Roadway/Open Space	-	-	0.02
1668	668929.0	4280505.0	Roadway/Open Space	-	-	0.02
1669	668939.0	4280505.0	Roadway/Open Space	-	-	0.02
1670	668949.0	4280505.0	Roadway/Open Space	-	-	0.02
1671	668959.0	4280505.0	Roadway/Open Space	-	-	0.02
1672	668969.0	4280505.0	Roadway/Open Space	-	-	0.02
1673	668979.0	4280505.0	Roadway/Open Space	-	-	0.02
1674	668989.0	4280505.0	Roadway/Open Space	-	-	0.02
1675	668999.0	4280505.0	Roadway/Open Space	-	-	0.02
1676	669009.0	4280505.0	Roadway/Open Space	-	-	0.02
1677	669019.0	4280505.0	Roadway/Open Space	-	-	0.02
1678	669029.0	4280505.0	Roadway/Open Space	-	-	0.02
1679	669039.0	4280505.0	Roadway/Open Space	-	-	0.02
1680	669049.0	4280505.0	Roadway/Open Space	-	-	0.02

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
1681	669059.0	4280505.0	Roadway/Open Space	-	-	0.02
1682	669069.0	4280505.0	Roadway/Open Space	-	-	0.02
1683	669079.0	4280505.0	Roadway/Open Space	-	-	0.02
1684	669089.0	4280505.0	Roadway/Open Space	-	-	0.02
1685	669099.0	4280505.0	Roadway/Open Space	-	-	0.02
1686	669109.0	4280505.0	Roadway/Open Space	-	-	0.02
1687	669119.0	4280505.0	Roadway/Open Space	-	-	0.02
1688	669129.0	4280505.0	Roadway/Open Space	-	-	0.02
1689	669139.0	4280505.0	Roadway/Open Space	-	-	0.02
1690	669149.0	4280505.0	Roadway/Open Space	-	-	0.02
1691	669159.0	4280505.0	Roadway/Open Space	-	-	0.02
1692	669169.0	4280505.0	Roadway/Open Space	-	-	0.02
1693	669179.0	4280505.0	Roadway/Open Space	-	-	0.02
1694	669189.0	4280505.0	Roadway/Open Space	-	-	0.02
1695	669199.0	4280505.0	Roadway/Open Space	-	-	0.02
1696	669209.0	4280505.0	Roadway/Open Space	-	-	0.02
1697	669219.0	4280505.0	Roadway/Open Space	-	-	0.02
1698	669229.0	4280505.0	Roadway/Open Space	-	-	0.02
1699	669239.0	4280505.0	Roadway/Open Space	-	-	0.02
1700	669249.0	4280505.0	Roadway/Open Space	-	-	0.02
1701	669259.0	4280505.0	Roadway/Open Space	-	-	0.02
1702	669269.0	4280505.0	Roadway/Open Space	-	-	0.02
1703	669279.0	4280505.0	Roadway/Open Space	-	-	0.02
1704	669289.0	4280505.0	Roadway/Open Space	-	-	0.02
1705	669299.0	4280505.0	Roadway/Open Space	-	-	0.02
1706	669309.0	4280505.0	Roadway/Open Space	-	-	0.02
1707	669319.0	4280505.0	Roadway/Open Space	-	-	0.02
1708	669329.0	4280505.0	Roadway/Open Space	-	-	0.02
1709	669339.0	4280505.0	Roadway/Open Space	-	-	0.02
1710	669349.0	4280505.0	Roadway/Open Space	-	-	0.02
1711	669359.0	4280505.0	Roadway/Open Space	-	-	0.02
1712	669369.0	4280505.0	Roadway/Open Space	-	-	0.02
1713	669379.0	4280505.0	Roadway/Open Space	-	-	0.02
1714	669389.0	4280505.0	Roadway/Open Space	-	-	0.02
1715	669399.0	4280505.0	Roadway/Open Space	-	-	0.02
1716	669409.0	4280505.0	Roadway/Open Space	-	-	0.02
1717	669419.0	4280505.0	Roadway/Open Space	-	-	0.02
1718	669429.0	4280505.0	Roadway/Open Space	-	-	0.02
1719	669439.0	4280505.0	Roadway/Open Space	-	-	0.02
1720	669449.0	4280505.0	Roadway/Open Space	-	-	0.02
1721	669459.0	4280505.0	Roadway/Open Space	-	-	0.02
1722	669469.0	4280505.0	Roadway/Open Space	-	-	0.02
1723	669479.0	4280505.0	Roadway/Open Space	-	-	0.02
1724	669489.0	4280505.0	Roadway/Open Space	-	-	0.02
1725	669499.0	4280505.0	Roadway/Open Space	-	-	0.02
1726	669509.0	4280505.0	Roadway/Open Space	-	-	0.02
1727	669519.0	4280505.0	Roadway/Open Space	-	-	0.02
1728	668649.0	4280515.0	Roadway/Open Space	-	-	0.02
1729	668659.0	4280515.0	Roadway/Open Space	-	-	0.02
1730	668669.0	4280515.0	Roadway/Open Space	-	-	0.02
1731	668679.0	4280515.0	Roadway/Open Space	-	-	0.02
1732	668689.0	4280515.0	Roadway/Open Space	-	-	0.02
1733	668699.0	4280515.0	Roadway/Open Space	-	-	0.02
1734	668709.0	4280515.0	Roadway/Open Space	-	-	0.02
1735	668719.0	4280515.0	Roadway/Open Space	-	-	0.02
1736	668729.0	4280515.0	Roadway/Open Space	-	-	0.02
1737	668739.0	4280515.0	Roadway/Open Space	-	-	0.02
1738	668749.0	4280515.0	Roadway/Open Space	-	-	0.02
1739	668759.0	4280515.0	Roadway/Open Space	-	-	0.02
1740	668769.0	4280515.0	Roadway/Open Space	-	-	0.02
1741	668779.0	4280515.0	Roadway/Open Space	-	-	0.02
1742	668789.0	4280515.0	Roadway/Open Space	-	-	0.02
1743	668799.0	4280515.0	Roadway/Open Space	-	-	0.02
1744	668809.0	4280515.0	Roadway/Open Space	-	-	0.02
1745	668819.0	4280515.0	Roadway/Open Space	-	-	0.02
1746	668829.0	4280515.0	Roadway/Open Space	-	-	0.02
1747	668839.0	4280515.0	Roadway/Open Space	-	-	0.02
1748	668849.0	4280515.0	Roadway/Open Space	-	-	0.02
1749	668859.0	4280515.0	Roadway/Open Space	-	-	0.02
1750	668869.0	4280515.0	Roadway/Open Space	-	-	0.02
1751	668879.0	4280515.0	Roadway/Open Space	-	-	0.02
1752	668889.0	4280515.0	Roadway/Open Space	-	-	0.02
1753	668899.0	4280515.0	Roadway/Open Space	-	-	0.02
1754	668909.0	4280515.0	Roadway/Open Space	-	-	0.02
1755	668919.0	4280515.0	Roadway/Open Space	-	-	0.02
1756	668929.0	4280515.0	Roadway/Open Space	-	-	0.02
1757	668939.0	4280515.0	Roadway/Open Space	-	-	0.02
1758	668949.0	4280515.0	Roadway/Open Space	-	-	0.02
1759	668959.0	4280515.0	Roadway/Open Space	-	-	0.02
1760	668969.0	4280515.0	Roadway/Open Space	-	-	0.02
1761	668979.0	4280515.0	Roadway/Open Space	-	-	0.02
1762	668989.0	4280515.0	Roadway/Open Space	-	-	0.02
1763	668999.0	4280515.0	Roadway/Open Space	-	-	0.03
1764	669009.0	4280515.0	Roadway/Open Space	-	-	0.03

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
1765	669019.0	4280515.0	Roadway/Open Space	-	-	0.03
1766	669029.0	4280515.0	Roadway/Open Space	-	-	0.03
1767	669039.0	4280515.0	Roadway/Open Space	-	-	0.03
1768	669049.0	4280515.0	Roadway/Open Space	-	-	0.03
1769	669059.0	4280515.0	Roadway/Open Space	-	-	0.02
1770	669069.0	4280515.0	Roadway/Open Space	-	-	0.02
1771	669079.0	4280515.0	Roadway/Open Space	-	-	0.02
1772	669089.0	4280515.0	Roadway/Open Space	-	-	0.02
1773	669099.0	4280515.0	Roadway/Open Space	-	-	0.02
1774	669109.0	4280515.0	Roadway/Open Space	-	-	0.02
1775	669119.0	4280515.0	Roadway/Open Space	-	-	0.02
1776	669129.0	4280515.0	Roadway/Open Space	-	-	0.02
1777	669139.0	4280515.0	Roadway/Open Space	-	-	0.02
1778	669149.0	4280515.0	Roadway/Open Space	-	-	0.02
1779	669159.0	4280515.0	Roadway/Open Space	-	-	0.02
1780	669169.0	4280515.0	Roadway/Open Space	-	-	0.02
1781	669179.0	4280515.0	Roadway/Open Space	-	-	0.02
1782	669189.0	4280515.0	Roadway/Open Space	-	-	0.02
1783	669199.0	4280515.0	Roadway/Open Space	-	-	0.02
1784	669209.0	4280515.0	Roadway/Open Space	-	-	0.02
1785	669219.0	4280515.0	Roadway/Open Space	-	-	0.02
1786	669229.0	4280515.0	Roadway/Open Space	-	-	0.02
1787	669239.0	4280515.0	Roadway/Open Space	-	-	0.02
1788	669249.0	4280515.0	Roadway/Open Space	-	-	0.03
1789	669259.0	4280515.0	Roadway/Open Space	-	-	0.03
1790	669269.0	4280515.0	Roadway/Open Space	-	-	0.03
1791	669279.0	4280515.0	Roadway/Open Space	-	-	0.03
1792	669289.0	4280515.0	Roadway/Open Space	-	-	0.02
1793	669299.0	4280515.0	Roadway/Open Space	-	-	0.02
1794	669309.0	4280515.0	Roadway/Open Space	-	-	0.03
1795	669319.0	4280515.0	Roadway/Open Space	-	-	0.03
1796	669329.0	4280515.0	Roadway/Open Space	-	-	0.03
1797	669339.0	4280515.0	Roadway/Open Space	-	-	0.02
1798	669349.0	4280515.0	Roadway/Open Space	-	-	0.02
1799	669359.0	4280515.0	Roadway/Open Space	-	-	0.02
1800	669369.0	4280515.0	Roadway/Open Space	-	-	0.02
1801	669379.0	4280515.0	Roadway/Open Space	-	-	0.02
1802	669389.0	4280515.0	Roadway/Open Space	-	-	0.02
1803	669399.0	4280515.0	Roadway/Open Space	-	-	0.02
1804	669409.0	4280515.0	Roadway/Open Space	-	-	0.02
1805	669419.0	4280515.0	Roadway/Open Space	-	-	0.02
1806	669429.0	4280515.0	Roadway/Open Space	-	-	0.02
1807	669439.0	4280515.0	Roadway/Open Space	-	-	0.02
1808	669449.0	4280515.0	Roadway/Open Space	-	-	0.02
1809	669459.0	4280515.0	Roadway/Open Space	-	-	0.02
1810	669469.0	4280515.0	Roadway/Open Space	-	-	0.02
1811	669479.0	4280515.0	Roadway/Open Space	-	-	0.02
1812	669489.0	4280515.0	Roadway/Open Space	-	-	0.02
1813	669499.0	4280515.0	Roadway/Open Space	-	-	0.02
1814	669509.0	4280515.0	Roadway/Open Space	-	-	0.02
1815	669519.0	4280515.0	Roadway/Open Space	-	-	0.02
1816	669529.0	4280515.0	Roadway/Open Space	-	-	0.02
1817	668649.0	4280525.0	Roadway/Open Space	-	-	0.02
1818	668659.0	4280525.0	Roadway/Open Space	-	-	0.02
1819	668669.0	4280525.0	Roadway/Open Space	-	-	0.02
1820	668679.0	4280525.0	Roadway/Open Space	-	-	0.02
1821	668689.0	4280525.0	Roadway/Open Space	-	-	0.02
1822	668699.0	4280525.0	Roadway/Open Space	-	-	0.02
1823	668709.0	4280525.0	Roadway/Open Space	-	-	0.02
1824	668719.0	4280525.0	Roadway/Open Space	-	-	0.02
1825	668729.0	4280525.0	Roadway/Open Space	-	-	0.02
1826	668739.0	4280525.0	Roadway/Open Space	-	-	0.02
1827	668749.0	4280525.0	Roadway/Open Space	-	-	0.02
1828	668759.0	4280525.0	Roadway/Open Space	-	-	0.02
1829	668769.0	4280525.0	Roadway/Open Space	-	-	0.02
1830	668779.0	4280525.0	Roadway/Open Space	-	-	0.02
1831	668789.0	4280525.0	Roadway/Open Space	-	-	0.02
1832	668799.0	4280525.0	Roadway/Open Space	-	-	0.02
1833	668809.0	4280525.0	Roadway/Open Space	-	-	0.02
1834	668819.0	4280525.0	Roadway/Open Space	-	-	0.02
1835	668829.0	4280525.0	Roadway/Open Space	-	-	0.02
1836	668839.0	4280525.0	Roadway/Open Space	-	-	0.02
1837	668849.0	4280525.0	Roadway/Open Space	-	-	0.02
1838	668859.0	4280525.0	Roadway/Open Space	-	-	0.02
1839	668869.0	4280525.0	Roadway/Open Space	-	-	0.02
1840	668879.0	4280525.0	Roadway/Open Space	-	-	0.02
1841	668889.0	4280525.0	Roadway/Open Space	-	-	0.02
1842	668899.0	4280525.0	Roadway/Open Space	-	-	0.02
1843	668909.0	4280525.0	Roadway/Open Space	-	-	0.02
1844	668919.0	4280525.0	Roadway/Open Space	-	-	0.02
1845	668929.0	4280525.0	Roadway/Open Space	-	-	0.02
1846	668939.0	4280525.0	Roadway/Open Space	-	-	0.02
1847	668949.0	4280525.0	Roadway/Open Space	-	-	0.02
1848	668959.0	4280525.0	Roadway/Open Space	-	-	0.03

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
1849	668969.0	4280525.0	Roadway/Open Space	-	-	0.03
1850	668979.0	4280525.0	Roadway/Open Space	-	-	0.03
1851	668989.0	4280525.0	Roadway/Open Space	-	-	0.03
1852	668999.0	4280525.0	Roadway/Open Space	-	-	0.03
1853	669009.0	4280525.0	Roadway/Open Space	-	-	0.03
1854	669019.0	4280525.0	Roadway/Open Space	-	-	0.03
1855	669029.0	4280525.0	Roadway/Open Space	-	-	0.03
1856	669039.0	4280525.0	Roadway/Open Space	-	-	0.03
1857	669049.0	4280525.0	Roadway/Open Space	-	-	0.03
1858	669059.0	4280525.0	Roadway/Open Space	-	-	0.03
1859	669069.0	4280525.0	Roadway/Open Space	-	-	0.03
1860	669079.0	4280525.0	Roadway/Open Space	-	-	0.02
1861	669089.0	4280525.0	Roadway/Open Space	-	-	0.02
1862	669099.0	4280525.0	Roadway/Open Space	-	-	0.02
1863	669109.0	4280525.0	Roadway/Open Space	-	-	0.02
1864	669119.0	4280525.0	Roadway/Open Space	-	-	0.02
1865	669129.0	4280525.0	Roadway/Open Space	-	-	0.02
1866	669139.0	4280525.0	Roadway/Open Space	-	-	0.02
1867	669149.0	4280525.0	Roadway/Open Space	-	-	0.02
1868	669159.0	4280525.0	Roadway/Open Space	-	-	0.02
1869	669169.0	4280525.0	Roadway/Open Space	-	-	0.02
1870	669179.0	4280525.0	Roadway/Open Space	-	-	0.02
1871	669189.0	4280525.0	Roadway/Open Space	-	-	0.02
1872	669199.0	4280525.0	Roadway/Open Space	-	-	0.02
1873	669209.0	4280525.0	Roadway/Open Space	-	-	0.02
1874	669219.0	4280525.0	Roadway/Open Space	-	-	0.02
1875	669229.0	4280525.0	Roadway/Open Space	-	-	0.03
1876	669239.0	4280525.0	Roadway/Open Space	-	-	0.03
1877	669249.0	4280525.0	Roadway/Open Space	-	-	0.03
1878	669259.0	4280525.0	Roadway/Open Space	-	-	0.03
1879	669269.0	4280525.0	Roadway/Open Space	-	-	0.03
1880	669279.0	4280525.0	Roadway/Open Space	-	-	0.03
1881	669289.0	4280525.0	Roadway/Open Space	-	-	0.03
1882	669299.0	4280525.0	Roadway/Open Space	-	-	0.03
1883	669309.0	4280525.0	Roadway/Open Space	-	-	0.03
1884	669319.0	4280525.0	Roadway/Open Space	-	-	0.03
1885	669329.0	4280525.0	Roadway/Open Space	-	-	0.03
1886	669339.0	4280525.0	Roadway/Open Space	-	-	0.03
1887	669349.0	4280525.0	Roadway/Open Space	-	-	0.02
1888	669359.0	4280525.0	Roadway/Open Space	-	-	0.02
1889	669369.0	4280525.0	Roadway/Open Space	-	-	0.02
1890	669379.0	4280525.0	Roadway/Open Space	-	-	0.02
1891	669389.0	4280525.0	Roadway/Open Space	-	-	0.02
1892	669399.0	4280525.0	Roadway/Open Space	-	-	0.02
1893	669409.0	4280525.0	Roadway/Open Space	-	-	0.02
1894	669419.0	4280525.0	Roadway/Open Space	-	-	0.02
1895	669429.0	4280525.0	Roadway/Open Space	-	-	0.02
1896	669439.0	4280525.0	Roadway/Open Space	-	-	0.02
1897	669449.0	4280525.0	Roadway/Open Space	-	-	0.02
1898	669459.0	4280525.0	Roadway/Open Space	-	-	0.02
1899	669469.0	4280525.0	Roadway/Open Space	-	-	0.02
1900	669479.0	4280525.0	Roadway/Open Space	-	-	0.02
1901	669489.0	4280525.0	Roadway/Open Space	-	-	0.02
1902	669499.0	4280525.0	Roadway/Open Space	-	-	0.02
1903	669509.0	4280525.0	Roadway/Open Space	-	-	0.02
1904	669519.0	4280525.0	Roadway/Open Space	-	-	0.02
1905	669529.0	4280525.0	Roadway/Open Space	-	-	0.02
1906	669539.0	4280525.0	Roadway/Open Space	-	-	0.02
1907	668639.0	4280535.0	Roadway/Open Space	-	-	0.02
1908	668649.0	4280535.0	Roadway/Open Space	-	-	0.02
1909	668659.0	4280535.0	Roadway/Open Space	-	-	0.02
1910	668669.0	4280535.0	Roadway/Open Space	-	-	0.02
1911	668679.0	4280535.0	Roadway/Open Space	-	-	0.02
1912	668689.0	4280535.0	Roadway/Open Space	-	-	0.02
1913	668699.0	4280535.0	Roadway/Open Space	-	-	0.02
1914	668709.0	4280535.0	Roadway/Open Space	-	-	0.02
1915	668719.0	4280535.0	Roadway/Open Space	-	-	0.02
1916	668729.0	4280535.0	Roadway/Open Space	-	-	0.02
1917	668739.0	4280535.0	Roadway/Open Space	-	-	0.02
1918	668749.0	4280535.0	Roadway/Open Space	-	-	0.02
1919	668759.0	4280535.0	Roadway/Open Space	-	-	0.02
1920	668769.0	4280535.0	Roadway/Open Space	-	-	0.02
1921	668779.0	4280535.0	Roadway/Open Space	-	-	0.02
1922	668789.0	4280535.0	Roadway/Open Space	-	-	0.02
1923	668799.0	4280535.0	Roadway/Open Space	-	-	0.02
1924	668809.0	4280535.0	Roadway/Open Space	-	-	0.02
1925	668819.0	4280535.0	Roadway/Open Space	-	-	0.02
1926	668829.0	4280535.0	Roadway/Open Space	-	-	0.02
1927	668839.0	4280535.0	Roadway/Open Space	-	-	0.02
1928	668849.0	4280535.0	Roadway/Open Space	-	-	0.02
1929	668859.0	4280535.0	Roadway/Open Space	-	-	0.02
1930	668869.0	4280535.0	Roadway/Open Space	-	-	0.02
1931	668879.0	4280535.0	Roadway/Open Space	-	-	0.02
1932	668889.0	4280535.0	Roadway/Open Space	-	-	0.02

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
1933	668899.0	4280535.0	Roadway/Open Space	-	-	0.02
1934	668909.0	4280535.0	Roadway/Open Space	-	-	0.02
1935	668919.0	4280535.0	Roadway/Open Space	-	-	0.02
1936	668929.0	4280535.0	Roadway/Open Space	-	-	0.02
1937	668939.0	4280535.0	Roadway/Open Space	-	-	0.02
1938	668949.0	4280535.0	Roadway/Open Space	-	-	0.03
1939	668959.0	4280535.0	Roadway/Open Space	-	-	0.03
1940	668969.0	4280535.0	Roadway/Open Space	-	-	0.03
1941	668979.0	4280535.0	Roadway/Open Space	-	-	0.03
1942	668989.0	4280535.0	Roadway/Open Space	-	-	0.03
1943	668999.0	4280535.0	Roadway/Open Space	-	-	0.03
1944	669009.0	4280535.0	Roadway/Open Space	-	-	0.03
1945	669019.0	4280535.0	Roadway/Open Space	-	-	0.03
1946	669029.0	4280535.0	Roadway/Open Space	-	-	0.03
1947	669039.0	4280535.0	Roadway/Open Space	-	-	0.03
1948	669049.0	4280535.0	Roadway/Open Space	-	-	0.03
1949	669059.0	4280535.0	Roadway/Open Space	-	-	0.03
1950	669069.0	4280535.0	Roadway/Open Space	-	-	0.03
1951	669079.0	4280535.0	Roadway/Open Space	-	-	0.03
1952	669089.0	4280535.0	Roadway/Open Space	-	-	0.03
1953	669099.0	4280535.0	Roadway/Open Space	-	-	0.02
1954	669109.0	4280535.0	Roadway/Open Space	-	-	0.02
1955	669119.0	4280535.0	Roadway/Open Space	-	-	0.02
1956	669129.0	4280535.0	Roadway/Open Space	-	-	0.02
1957	669139.0	4280535.0	Roadway/Open Space	-	-	0.02
1958	669149.0	4280535.0	Roadway/Open Space	-	-	0.02
1959	669159.0	4280535.0	Roadway/Open Space	-	-	0.03
1960	669169.0	4280535.0	Roadway/Open Space	-	-	0.03
1961	669179.0	4280535.0	Roadway/Open Space	-	-	0.03
1962	669189.0	4280535.0	Roadway/Open Space	-	-	0.03
1963	669199.0	4280535.0	Roadway/Open Space	-	-	0.03
1964	669209.0	4280535.0	Roadway/Open Space	-	-	0.03
1965	669219.0	4280535.0	Roadway/Open Space	-	-	0.03
1966	669229.0	4280535.0	Roadway/Open Space	-	-	0.03
1967	669239.0	4280535.0	Roadway/Open Space	-	-	0.03
1968	669249.0	4280535.0	Roadway/Open Space	-	-	0.03
1969	669259.0	4280535.0	Roadway/Open Space	-	-	0.03
1970	669269.0	4280535.0	Roadway/Open Space	-	-	0.03
1971	669279.0	4280535.0	Roadway/Open Space	-	-	0.03
1972	669289.0	4280535.0	Roadway/Open Space	-	-	0.03
1973	669299.0	4280535.0	Roadway/Open Space	-	-	0.03
1974	669309.0	4280535.0	Roadway/Open Space	-	-	0.03
1975	669319.0	4280535.0	Roadway/Open Space	-	-	0.03
1976	669329.0	4280535.0	Roadway/Open Space	-	-	0.03
1977	669339.0	4280535.0	Roadway/Open Space	-	-	0.03
1978	669349.0	4280535.0	Roadway/Open Space	-	-	0.02
1979	669359.0	4280535.0	Roadway/Open Space	-	-	0.02
1980	669369.0	4280535.0	Roadway/Open Space	-	-	0.02
1981	669379.0	4280535.0	Roadway/Open Space	-	-	0.02
1982	669389.0	4280535.0	Roadway/Open Space	-	-	0.02
1983	669399.0	4280535.0	Roadway/Open Space	-	-	0.02
1984	669409.0	4280535.0	Roadway/Open Space	-	-	0.02
1985	669419.0	4280535.0	Roadway/Open Space	-	-	0.02
1986	669429.0	4280535.0	Roadway/Open Space	-	-	0.02
1987	669439.0	4280535.0	Roadway/Open Space	-	-	0.02
1988	669449.0	4280535.0	Roadway/Open Space	-	-	0.02
1989	669459.0	4280535.0	Roadway/Open Space	-	-	0.02
1990	669469.0	4280535.0	Roadway/Open Space	-	-	0.02
1991	669479.0	4280535.0	Roadway/Open Space	-	-	0.02
1992	669489.0	4280535.0	Roadway/Open Space	-	-	0.02
1993	669499.0	4280535.0	Roadway/Open Space	-	-	0.02
1994	669509.0	4280535.0	Roadway/Open Space	-	-	0.02
1995	669519.0	4280535.0	Roadway/Open Space	-	-	0.02
1996	669529.0	4280535.0	Roadway/Open Space	-	-	0.02
1997	669539.0	4280535.0	Roadway/Open Space	-	-	0.02
1998	669549.0	4280535.0	Roadway/Open Space	-	-	0.02
1999	668639.0	4280545.0	Roadway/Open Space	-	-	0.02
2000	668649.0	4280545.0	Roadway/Open Space	-	-	0.02
2001	668659.0	4280545.0	Roadway/Open Space	-	-	0.02
2002	668669.0	4280545.0	Roadway/Open Space	-	-	0.02
2003	668679.0	4280545.0	Roadway/Open Space	-	-	0.02
2004	668689.0	4280545.0	Roadway/Open Space	-	-	0.02
2005	668699.0	4280545.0	Roadway/Open Space	-	-	0.02
2006	668709.0	4280545.0	Roadway/Open Space	-	-	0.02
2007	668719.0	4280545.0	Roadway/Open Space	-	-	0.02
2008	668729.0	4280545.0	Roadway/Open Space	-	-	0.02
2009	668739.0	4280545.0	Roadway/Open Space	-	-	0.02
2010	668749.0	4280545.0	Roadway/Open Space	-	-	0.02
2011	668759.0	4280545.0	Roadway/Open Space	-	-	0.02
2012	668769.0	4280545.0	Roadway/Open Space	-	-	0.03
2013	668779.0	4280545.0	Roadway/Open Space	-	-	0.03
2014	668789.0	4280545.0	Roadway/Open Space	-	-	0.03
2015	668799.0	4280545.0	Roadway/Open Space	-	-	0.03
2016	668809.0	4280545.0	Roadway/Open Space	-	-	0.03

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
2017	668819.0	4280545.0	Roadway/Open Space	-	-	0.03
2018	668829.0	4280545.0	Roadway/Open Space	-	-	0.03
2019	668839.0	4280545.0	Roadway/Open Space	-	-	0.02
2020	668849.0	4280545.0	Roadway/Open Space	-	-	0.03
2021	668859.0	4280545.0	Roadway/Open Space	-	-	0.03
2022	668869.0	4280545.0	Roadway/Open Space	-	-	0.02
2023	668879.0	4280545.0	Roadway/Open Space	-	-	0.02
2024	668889.0	4280545.0	Roadway/Open Space	-	-	0.02
2025	668899.0	4280545.0	Roadway/Open Space	-	-	0.02
2026	668909.0	4280545.0	Roadway/Open Space	-	-	0.02
2027	668919.0	4280545.0	Roadway/Open Space	-	-	0.02
2028	668929.0	4280545.0	Roadway/Open Space	-	-	0.02
2029	668939.0	4280545.0	Roadway/Open Space	-	-	0.03
2030	668949.0	4280545.0	Roadway/Open Space	-	-	0.03
2031	668959.0	4280545.0	Roadway/Open Space	-	-	0.03
2032	668969.0	4280545.0	Roadway/Open Space	-	-	0.03
2033	668979.0	4280545.0	Roadway/Open Space	-	-	0.03
2034	668989.0	4280545.0	Roadway/Open Space	-	-	0.03
2035	668999.0	4280545.0	Roadway/Open Space	-	-	0.03
2036	669009.0	4280545.0	Roadway/Open Space	-	-	0.03
2037	669019.0	4280545.0	Roadway/Open Space	-	-	0.03
2038	669029.0	4280545.0	Roadway/Open Space	-	-	0.03
2039	669039.0	4280545.0	Roadway/Open Space	-	-	0.03
2040	669049.0	4280545.0	Roadway/Open Space	-	-	0.03
2041	669059.0	4280545.0	Roadway/Open Space	-	-	0.03
2042	669069.0	4280545.0	Roadway/Open Space	-	-	0.03
2043	669079.0	4280545.0	Roadway/Open Space	-	-	0.03
2044	669089.0	4280545.0	Roadway/Open Space	-	-	0.03
2045	669099.0	4280545.0	Roadway/Open Space	-	-	0.03
2046	669109.0	4280545.0	Roadway/Open Space	-	-	0.03
2047	669119.0	4280545.0	Roadway/Open Space	-	-	0.03
2048	669129.0	4280545.0	Roadway/Open Space	-	-	0.03
2049	669139.0	4280545.0	Roadway/Open Space	-	-	0.03
2050	669149.0	4280545.0	Roadway/Open Space	-	-	0.03
2051	669159.0	4280545.0	Roadway/Open Space	-	-	0.03
2052	669169.0	4280545.0	Roadway/Open Space	-	-	0.03
2053	669179.0	4280545.0	Roadway/Open Space	-	-	0.03
2054	669189.0	4280545.0	Roadway/Open Space	-	-	0.03
2055	669199.0	4280545.0	Roadway/Open Space	-	-	0.03
2056	669209.0	4280545.0	Roadway/Open Space	-	-	0.03
2057	669219.0	4280545.0	Roadway/Open Space	-	-	0.03
2058	669229.0	4280545.0	Roadway/Open Space	-	-	0.03
2059	669239.0	4280545.0	Roadway/Open Space	-	-	0.03
2060	669249.0	4280545.0	Roadway/Open Space	-	-	0.03
2061	669259.0	4280545.0	Roadway/Open Space	-	-	0.03
2062	669269.0	4280545.0	Roadway/Open Space	-	-	0.03
2063	669279.0	4280545.0	Roadway/Open Space	-	-	0.03
2064	669289.0	4280545.0	Roadway/Open Space	-	-	0.03
2065	669299.0	4280545.0	Roadway/Open Space	-	-	0.03
2066	669309.0	4280545.0	Roadway/Open Space	-	-	0.03
2067	669319.0	4280545.0	Roadway/Open Space	-	-	0.03
2068	669329.0	4280545.0	Roadway/Open Space	-	-	0.03
2069	669339.0	4280545.0	Roadway/Open Space	-	-	0.03
2070	669349.0	4280545.0	Roadway/Open Space	-	-	0.03
2071	669359.0	4280545.0	Roadway/Open Space	-	-	0.02
2072	669369.0	4280545.0	Roadway/Open Space	-	-	0.02
2073	669379.0	4280545.0	Roadway/Open Space	-	-	0.02
2074	669389.0	4280545.0	Roadway/Open Space	-	-	0.02
2075	669399.0	4280545.0	Roadway/Open Space	-	-	0.02
2076	669409.0	4280545.0	Roadway/Open Space	-	-	0.02
2077	669419.0	4280545.0	Roadway/Open Space	-	-	0.02
2078	669429.0	4280545.0	Roadway/Open Space	-	-	0.02
2079	669439.0	4280545.0	Roadway/Open Space	-	-	0.02
2080	669449.0	4280545.0	Roadway/Open Space	-	-	0.02
2081	669459.0	4280545.0	Roadway/Open Space	-	-	0.02
2082	669469.0	4280545.0	Roadway/Open Space	-	-	0.02
2083	669479.0	4280545.0	Roadway/Open Space	-	-	0.02
2084	669489.0	4280545.0	Roadway/Open Space	-	-	0.02
2085	669499.0	4280545.0	Roadway/Open Space	-	-	0.02
2086	669509.0	4280545.0	Roadway/Open Space	-	-	0.02
2087	669519.0	4280545.0	Roadway/Open Space	-	-	0.02
2088	669529.0	4280545.0	Roadway/Open Space	-	-	0.02
2089	669539.0	4280545.0	Roadway/Open Space	-	-	0.02
2090	669549.0	4280545.0	Roadway/Open Space	-	-	0.02
2091	668629.0	4280555.0	Roadway/Open Space	-	-	0.02
2092	668639.0	4280555.0	Roadway/Open Space	-	-	0.02
2093	668649.0	4280555.0	Roadway/Open Space	-	-	0.02
2094	668659.0	4280555.0	Roadway/Open Space	-	-	0.02
2095	668669.0	4280555.0	Roadway/Open Space	-	-	0.02
2096	668679.0	4280555.0	Roadway/Open Space	-	-	0.02
2097	668689.0	4280555.0	Roadway/Open Space	-	-	0.02
2098	668699.0	4280555.0	Roadway/Open Space	-	-	0.02
2099	668709.0	4280555.0	Roadway/Open Space	-	-	0.02
2100	668719.0	4280555.0	Roadway/Open Space	-	-	0.02

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
2101	668729.0	4280555.0	Roadway/Open Space	-	-	0.02
2102	668739.0	4280555.0	Roadway/Open Space	-	-	0.02
2103	668749.0	4280555.0	Roadway/Open Space	-	-	0.02
2104	668759.0	4280555.0	Roadway/Open Space	-	-	0.02
2105	668769.0	4280555.0	Roadway/Open Space	-	-	0.03
2106	668779.0	4280555.0	Roadway/Open Space	-	-	0.03
2107	668789.0	4280555.0	Roadway/Open Space	-	-	0.03
2108	668799.0	4280555.0	Roadway/Open Space	-	-	0.03
2109	668809.0	4280555.0	Roadway/Open Space	-	-	0.03
2110	668819.0	4280555.0	Roadway/Open Space	-	-	0.03
2111	668829.0	4280555.0	Roadway/Open Space	-	-	0.03
2112	668839.0	4280555.0	Roadway/Open Space	-	-	0.03
2113	668849.0	4280555.0	Roadway/Open Space	-	-	0.03
2114	668859.0	4280555.0	Roadway/Open Space	-	-	0.03
2115	668869.0	4280555.0	Roadway/Open Space	-	-	0.03
2116	668879.0	4280555.0	Roadway/Open Space	-	-	0.02
2117	668889.0	4280555.0	Roadway/Open Space	-	-	0.02
2118	668899.0	4280555.0	Roadway/Open Space	-	-	0.02
2119	668909.0	4280555.0	Roadway/Open Space	-	-	0.02
2120	668919.0	4280555.0	Roadway/Open Space	-	-	0.02
2121	668929.0	4280555.0	Roadway/Open Space	-	-	0.02
2122	668939.0	4280555.0	Roadway/Open Space	-	-	0.03
2123	668949.0	4280555.0	Roadway/Open Space	-	-	0.03
2124	668959.0	4280555.0	Roadway/Open Space	-	-	0.03
2125	668969.0	4280555.0	Roadway/Open Space	-	-	0.03
2126	668979.0	4280555.0	Roadway/Open Space	-	-	0.03
2127	668989.0	4280555.0	Roadway/Open Space	-	-	0.03
2128	668999.0	4280555.0	Roadway/Open Space	-	-	0.03
2129	669009.0	4280555.0	Roadway/Open Space	-	-	0.03
2130	669019.0	4280555.0	Roadway/Open Space	-	-	0.03
2131	669029.0	4280555.0	Roadway/Open Space	-	-	0.03
2132	669039.0	4280555.0	Roadway/Open Space	-	-	0.03
2133	669049.0	4280555.0	Roadway/Open Space	-	-	0.03
2134	669059.0	4280555.0	Roadway/Open Space	-	-	0.03
2135	669069.0	4280555.0	Roadway/Open Space	-	-	0.03
2136	669079.0	4280555.0	Roadway/Open Space	-	-	0.03
2137	669089.0	4280555.0	Roadway/Open Space	-	-	0.03
2138	669099.0	4280555.0	Roadway/Open Space	-	-	0.03
2139	669109.0	4280555.0	Roadway/Open Space	-	-	0.03
2140	669119.0	4280555.0	Roadway/Open Space	-	-	0.03
2141	669129.0	4280555.0	Roadway/Open Space	-	-	0.03
2142	669139.0	4280555.0	Roadway/Open Space	-	-	0.03
2143	669149.0	4280555.0	Roadway/Open Space	-	-	0.03
2144	669159.0	4280555.0	Roadway/Open Space	-	-	0.03
2145	669169.0	4280555.0	Roadway/Open Space	-	-	0.03
2146	669179.0	4280555.0	Roadway/Open Space	-	-	0.03
2147	669189.0	4280555.0	Roadway/Open Space	-	-	0.03
2148	669199.0	4280555.0	Roadway/Open Space	-	-	0.03
2149	669209.0	4280555.0	Roadway/Open Space	-	-	0.03
2150	669219.0	4280555.0	Roadway/Open Space	-	-	0.03
2151	669229.0	4280555.0	Roadway/Open Space	-	-	0.03
2152	669239.0	4280555.0	Roadway/Open Space	-	-	0.03
2153	669249.0	4280555.0	Roadway/Open Space	-	-	0.03
2154	669259.0	4280555.0	Roadway/Open Space	-	-	0.03
2155	669269.0	4280555.0	Roadway/Open Space	-	-	0.03
2156	669279.0	4280555.0	Roadway/Open Space	-	-	0.03
2157	669289.0	4280555.0	Roadway/Open Space	-	-	0.03
2158	669299.0	4280555.0	Roadway/Open Space	-	-	0.03
2159	669309.0	4280555.0	Roadway/Open Space	-	-	0.03
2160	669319.0	4280555.0	Roadway/Open Space	-	-	0.03
2161	669329.0	4280555.0	Roadway/Open Space	-	-	0.03
2162	669339.0	4280555.0	Roadway/Open Space	-	-	0.03
2163	669349.0	4280555.0	Roadway/Open Space	-	-	0.03
2164	669359.0	4280555.0	Roadway/Open Space	-	-	0.03
2165	669369.0	4280555.0	Roadway/Open Space	-	-	0.02
2166	669379.0	4280555.0	Roadway/Open Space	-	-	0.02
2167	669389.0	4280555.0	Roadway/Open Space	-	-	0.02
2168	669399.0	4280555.0	Roadway/Open Space	-	-	0.02
2169	669409.0	4280555.0	Roadway/Open Space	-	-	0.02
2170	669419.0	4280555.0	Roadway/Open Space	-	-	0.02
2171	669429.0	4280555.0	Roadway/Open Space	-	-	0.02
2172	669439.0	4280555.0	Roadway/Open Space	-	-	0.02
2173	669449.0	4280555.0	Roadway/Open Space	-	-	0.02
2174	669459.0	4280555.0	Roadway/Open Space	-	-	0.02
2175	669469.0	4280555.0	Roadway/Open Space	-	-	0.02
2176	669479.0	4280555.0	Roadway/Open Space	-	-	0.02
2177	669489.0	4280555.0	Roadway/Open Space	-	-	0.02
2178	669499.0	4280555.0	Roadway/Open Space	-	-	0.02
2179	669509.0	4280555.0	Roadway/Open Space	-	-	0.02
2180	669519.0	4280555.0	Roadway/Open Space	-	-	0.02
2181	669529.0	4280555.0	Roadway/Open Space	-	-	0.02
2182	669539.0	4280555.0	Roadway/Open Space	-	-	0.02
2183	669549.0	4280555.0	Roadway/Open Space	-	-	0.02
2184	669559.0	4280555.0	Roadway/Open Space	-	-	0.02

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
2185	668629.0	4280565.0	Roadway/Open Space	-	-	0.02
2186	668639.0	4280565.0	Roadway/Open Space	-	-	0.02
2187	668649.0	4280565.0	Roadway/Open Space	-	-	0.02
2188	668659.0	4280565.0	Roadway/Open Space	-	-	0.02
2189	668669.0	4280565.0	Roadway/Open Space	-	-	0.02
2190	668679.0	4280565.0	Roadway/Open Space	-	-	0.02
2191	668689.0	4280565.0	Roadway/Open Space	-	-	0.02
2192	668699.0	4280565.0	Roadway/Open Space	-	-	0.02
2193	668709.0	4280565.0	Roadway/Open Space	-	-	0.02
2194	668719.0	4280565.0	Roadway/Open Space	-	-	0.02
2195	668729.0	4280565.0	Roadway/Open Space	-	-	0.02
2196	668739.0	4280565.0	Roadway/Open Space	-	-	0.02
2197	668749.0	4280565.0	Roadway/Open Space	-	-	0.02
2198	668759.0	4280565.0	Roadway/Open Space	-	-	0.02
2199	668769.0	4280565.0	Roadway/Open Space	-	-	0.03
2200	668779.0	4280565.0	Roadway/Open Space	-	-	0.03
2201	668789.0	4280565.0	Roadway/Open Space	-	-	0.03
2202	668799.0	4280565.0	Roadway/Open Space	-	-	0.03
2203	668809.0	4280565.0	Roadway/Open Space	-	-	0.03
2204	668819.0	4280565.0	Roadway/Open Space	-	-	0.03
2205	668829.0	4280565.0	Roadway/Open Space	-	-	0.03
2206	668839.0	4280565.0	Roadway/Open Space	-	-	0.03
2207	668849.0	4280565.0	Roadway/Open Space	-	-	0.03
2208	668859.0	4280565.0	Roadway/Open Space	-	-	0.03
2209	668869.0	4280565.0	Roadway/Open Space	-	-	0.03
2210	668879.0	4280565.0	Roadway/Open Space	-	-	0.03
2211	668889.0	4280565.0	Roadway/Open Space	-	-	0.03
2212	668899.0	4280565.0	Roadway/Open Space	-	-	0.03
2213	668909.0	4280565.0	Roadway/Open Space	-	-	0.03
2214	668919.0	4280565.0	Roadway/Open Space	-	-	0.03
2215	668929.0	4280565.0	Roadway/Open Space	-	-	0.03
2216	668939.0	4280565.0	Roadway/Open Space	-	-	0.03
2217	668949.0	4280565.0	Roadway/Open Space	-	-	0.03
2218	668959.0	4280565.0	Roadway/Open Space	-	-	0.03
2219	668969.0	4280565.0	Roadway/Open Space	-	-	0.03
2220	668979.0	4280565.0	Roadway/Open Space	-	-	0.03
2221	668989.0	4280565.0	Roadway/Open Space	-	-	0.03
2222	668999.0	4280565.0	Roadway/Open Space	-	-	0.03
2223	669009.0	4280565.0	Roadway/Open Space	-	-	0.03
2224	669019.0	4280565.0	Roadway/Open Space	-	-	0.03
2225	669029.0	4280565.0	Roadway/Open Space	-	-	0.03
2226	669039.0	4280565.0	Roadway/Open Space	-	-	0.03
2227	669049.0	4280565.0	Roadway/Open Space	-	-	0.03
2228	669059.0	4280565.0	Roadway/Open Space	-	-	0.03
2229	669069.0	4280565.0	Roadway/Open Space	-	-	0.03
2230	669079.0	4280565.0	Roadway/Open Space	-	-	0.03
2231	669089.0	4280565.0	Roadway/Open Space	-	-	0.03
2232	669099.0	4280565.0	Roadway/Open Space	-	-	0.03
2233	669109.0	4280565.0	Roadway/Open Space	-	-	0.03
2234	669119.0	4280565.0	Roadway/Open Space	-	-	0.03
2235	669129.0	4280565.0	Roadway/Open Space	-	-	0.03
2236	669139.0	4280565.0	Roadway/Open Space	-	-	0.03
2237	669149.0	4280565.0	Roadway/Open Space	-	-	0.03
2238	669159.0	4280565.0	Roadway/Open Space	-	-	0.03
2239	669169.0	4280565.0	Roadway/Open Space	-	-	0.03
2240	669179.0	4280565.0	Roadway/Open Space	-	-	0.03
2241	669189.0	4280565.0	Roadway/Open Space	-	-	0.03
2242	669199.0	4280565.0	Roadway/Open Space	-	-	0.03
2243	669209.0	4280565.0	Roadway/Open Space	-	-	0.03
2244	669219.0	4280565.0	Roadway/Open Space	-	-	0.03
2245	669229.0	4280565.0	Roadway/Open Space	-	-	0.03
2246	669239.0	4280565.0	Roadway/Open Space	-	-	0.03
2247	669249.0	4280565.0	Roadway/Open Space	-	-	0.03
2248	669259.0	4280565.0	Roadway/Open Space	-	-	0.03
2249	669269.0	4280565.0	Roadway/Open Space	-	-	0.03
2250	669279.0	4280565.0	Roadway/Open Space	-	-	0.03
2251	669289.0	4280565.0	Roadway/Open Space	-	-	0.03
2252	669299.0	4280565.0	Roadway/Open Space	-	-	0.03
2253	669309.0	4280565.0	Roadway/Open Space	-	-	0.03
2254	669319.0	4280565.0	Roadway/Open Space	-	-	0.03
2255	669329.0	4280565.0	Roadway/Open Space	-	-	0.03
2256	669339.0	4280565.0	Roadway/Open Space	-	-	0.03
2257	669349.0	4280565.0	Roadway/Open Space	-	-	0.03
2258	669359.0	4280565.0	Roadway/Open Space	-	-	0.03
2259	669369.0	4280565.0	Roadway/Open Space	-	-	0.02
2260	669379.0	4280565.0	Roadway/Open Space	-	-	0.02
2261	669389.0	4280565.0	Roadway/Open Space	-	-	0.02
2262	669399.0	4280565.0	Roadway/Open Space	-	-	0.02
2263	669409.0	4280565.0	Roadway/Open Space	-	-	0.02
2264	669419.0	4280565.0	Roadway/Open Space	-	-	0.02
2265	669429.0	4280565.0	Roadway/Open Space	-	-	0.02
2266	669439.0	4280565.0	Roadway/Open Space	-	-	0.02
2267	669449.0	4280565.0	Roadway/Open Space	-	-	0.02
2268	669459.0	4280565.0	Roadway/Open Space	-	-	0.02

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
2269	669469.0	4280565.0	Roadway/Open Space	-	-	0.02
2270	669479.0	4280565.0	Roadway/Open Space	-	-	0.02
2271	669489.0	4280565.0	Roadway/Open Space	-	-	0.02
2272	669499.0	4280565.0	Roadway/Open Space	-	-	0.02
2273	669509.0	4280565.0	Roadway/Open Space	-	-	0.02
2274	669519.0	4280565.0	Roadway/Open Space	-	-	0.02
2275	669529.0	4280565.0	Roadway/Open Space	-	-	0.02
2276	669539.0	4280565.0	Roadway/Open Space	-	-	0.02
2277	669549.0	4280565.0	Roadway/Open Space	-	-	0.02
2278	669559.0	4280565.0	Roadway/Open Space	-	-	0.02
2279	669569.0	4280565.0	Roadway/Open Space	-	-	0.02
2280	668619.0	4280575.0	Roadway/Open Space	-	-	0.02
2281	668629.0	4280575.0	Roadway/Open Space	-	-	0.02
2282	668639.0	4280575.0	Roadway/Open Space	-	-	0.02
2283	668649.0	4280575.0	Roadway/Open Space	-	-	0.02
2284	668659.0	4280575.0	Roadway/Open Space	-	-	0.02
2285	668669.0	4280575.0	Roadway/Open Space	-	-	0.02
2286	668679.0	4280575.0	Roadway/Open Space	-	-	0.02
2287	668689.0	4280575.0	Roadway/Open Space	-	-	0.02
2288	668699.0	4280575.0	Roadway/Open Space	-	-	0.02
2289	668709.0	4280575.0	Roadway/Open Space	-	-	0.02
2290	668719.0	4280575.0	Roadway/Open Space	-	-	0.02
2291	668729.0	4280575.0	Roadway/Open Space	-	-	0.02
2292	668739.0	4280575.0	Roadway/Open Space	-	-	0.02
2293	668749.0	4280575.0	Roadway/Open Space	-	-	0.02
2294	668759.0	4280575.0	Roadway/Open Space	-	-	0.03
2295	668769.0	4280575.0	Roadway/Open Space	-	-	0.03
2296	668779.0	4280575.0	Roadway/Open Space	-	-	0.03
2297	668789.0	4280575.0	Roadway/Open Space	-	-	0.03
2298	668799.0	4280575.0	Roadway/Open Space	-	-	0.03
2299	668809.0	4280575.0	Roadway/Open Space	-	-	0.03
2300	668819.0	4280575.0	Roadway/Open Space	-	-	0.03
2301	668829.0	4280575.0	Roadway/Open Space	-	-	0.03
2302	668839.0	4280575.0	Roadway/Open Space	-	-	0.03
2303	668849.0	4280575.0	Roadway/Open Space	-	-	0.03
2304	668859.0	4280575.0	Roadway/Open Space	-	-	0.03
2305	668869.0	4280575.0	Roadway/Open Space	-	-	0.03
2306	668879.0	4280575.0	Roadway/Open Space	-	-	0.03
2307	668889.0	4280575.0	Roadway/Open Space	-	-	0.03
2308	668899.0	4280575.0	Roadway/Open Space	-	-	0.03
2309	668909.0	4280575.0	Roadway/Open Space	-	-	0.03
2310	668919.0	4280575.0	Roadway/Open Space	-	-	0.03
2311	668929.0	4280575.0	Roadway/Open Space	-	-	0.03
2312	668939.0	4280575.0	Roadway/Open Space	-	-	0.03
2313	668949.0	4280575.0	Roadway/Open Space	-	-	0.03
2314	668959.0	4280575.0	Roadway/Open Space	-	-	0.03
2315	668969.0	4280575.0	Roadway/Open Space	-	-	0.03
2316	668979.0	4280575.0	Roadway/Open Space	-	-	0.03
2317	668989.0	4280575.0	Roadway/Open Space	-	-	0.03
2318	668999.0	4280575.0	Roadway/Open Space	-	-	0.03
2319	669009.0	4280575.0	Roadway/Open Space	-	-	0.03
2320	669019.0	4280575.0	Roadway/Open Space	-	-	0.03
2321	669029.0	4280575.0	Roadway/Open Space	-	-	0.03
2322	669039.0	4280575.0	Roadway/Open Space	-	-	0.03
2323	669049.0	4280575.0	Roadway/Open Space	-	-	0.03
2324	669059.0	4280575.0	Roadway/Open Space	-	-	0.03
2325	669069.0	4280575.0	Roadway/Open Space	-	-	0.03
2326	669079.0	4280575.0	Roadway/Open Space	-	-	0.03
2327	669089.0	4280575.0	Roadway/Open Space	-	-	0.03
2328	669099.0	4280575.0	Roadway/Open Space	-	-	0.03
2329	669109.0	4280575.0	Roadway/Open Space	-	-	0.03
2330	669119.0	4280575.0	Roadway/Open Space	-	-	0.03
2331	669129.0	4280575.0	Roadway/Open Space	-	-	0.03
2332	669139.0	4280575.0	Roadway/Open Space	-	-	0.03
2333	669149.0	4280575.0	Roadway/Open Space	-	-	0.03
2334	669159.0	4280575.0	Roadway/Open Space	-	-	0.03
2335	669169.0	4280575.0	Roadway/Open Space	-	-	0.03
2336	669179.0	4280575.0	Roadway/Open Space	-	-	0.03
2337	669189.0	4280575.0	Roadway/Open Space	-	-	0.03
2338	669199.0	4280575.0	Roadway/Open Space	-	-	0.03
2339	669209.0	4280575.0	Roadway/Open Space	-	-	0.03
2340	669219.0	4280575.0	Roadway/Open Space	-	-	0.03
2341	669229.0	4280575.0	Roadway/Open Space	-	-	0.03
2342	669239.0	4280575.0	Roadway/Open Space	-	-	0.03
2343	669249.0	4280575.0	Roadway/Open Space	-	-	0.03
2344	669259.0	4280575.0	Roadway/Open Space	-	-	0.03
2345	669269.0	4280575.0	Roadway/Open Space	-	-	0.03
2346	669279.0	4280575.0	Roadway/Open Space	-	-	0.03
2347	669289.0	4280575.0	Roadway/Open Space	-	-	0.03
2348	669299.0	4280575.0	Roadway/Open Space	-	-	0.03
2349	669309.0	4280575.0	Roadway/Open Space	-	-	0.04
2350	669319.0	4280575.0	Roadway/Open Space	-	-	0.04
2351	669329.0	4280575.0	Roadway/Open Space	-	-	0.03
2352	669339.0	4280575.0	Roadway/Open Space	-	-	0.03

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
2353	669349.0	4280575.0	Roadway/Open Space	-	-	0.03
2354	669359.0	4280575.0	Roadway/Open Space	-	-	0.03
2355	669369.0	4280575.0	Roadway/Open Space	-	-	0.02
2356	669379.0	4280575.0	Roadway/Open Space	-	-	0.02
2357	669389.0	4280575.0	Roadway/Open Space	-	-	0.02
2358	669399.0	4280575.0	Roadway/Open Space	-	-	0.02
2359	669409.0	4280575.0	Roadway/Open Space	-	-	0.02
2360	669419.0	4280575.0	Roadway/Open Space	-	-	0.02
2361	669429.0	4280575.0	Roadway/Open Space	-	-	0.02
2362	669439.0	4280575.0	Roadway/Open Space	-	-	0.02
2363	669449.0	4280575.0	Roadway/Open Space	-	-	0.02
2364	669459.0	4280575.0	Roadway/Open Space	-	-	0.02
2365	669469.0	4280575.0	Roadway/Open Space	-	-	0.02
2366	669479.0	4280575.0	Roadway/Open Space	-	-	0.02
2367	669489.0	4280575.0	Roadway/Open Space	-	-	0.02
2368	669499.0	4280575.0	Roadway/Open Space	-	-	0.02
2369	669509.0	4280575.0	Roadway/Open Space	-	-	0.02
2370	669519.0	4280575.0	Roadway/Open Space	-	-	0.02
2371	669529.0	4280575.0	Roadway/Open Space	-	-	0.02
2372	669539.0	4280575.0	Roadway/Open Space	-	-	0.02
2373	669549.0	4280575.0	Roadway/Open Space	-	-	0.02
2374	669559.0	4280575.0	Roadway/Open Space	-	-	0.02
2375	669569.0	4280575.0	Roadway/Open Space	-	-	0.02
2376	668619.0	4280585.0	Roadway/Open Space	-	-	0.02
2377	668629.0	4280585.0	Roadway/Open Space	-	-	0.02
2378	668639.0	4280585.0	Roadway/Open Space	-	-	0.02
2379	668649.0	4280585.0	Roadway/Open Space	-	-	0.02
2380	668659.0	4280585.0	Roadway/Open Space	-	-	0.02
2381	668669.0	4280585.0	Roadway/Open Space	-	-	0.02
2382	668679.0	4280585.0	Roadway/Open Space	-	-	0.02
2383	668689.0	4280585.0	Roadway/Open Space	-	-	0.02
2384	668699.0	4280585.0	Roadway/Open Space	-	-	0.02
2385	668709.0	4280585.0	Roadway/Open Space	-	-	0.02
2386	668719.0	4280585.0	Roadway/Open Space	-	-	0.02
2387	668729.0	4280585.0	Roadway/Open Space	-	-	0.02
2388	668739.0	4280585.0	Roadway/Open Space	-	-	0.02
2389	668749.0	4280585.0	Roadway/Open Space	-	-	0.03
2390	668759.0	4280585.0	Roadway/Open Space	-	-	0.03
2391	668769.0	4280585.0	Roadway/Open Space	-	-	0.03
2392	668779.0	4280585.0	Roadway/Open Space	-	-	0.03
2393	668789.0	4280585.0	Roadway/Open Space	-	-	0.03
2394	668799.0	4280585.0	Roadway/Open Space	-	-	0.03
2395	668809.0	4280585.0	Roadway/Open Space	-	-	0.03
2396	668819.0	4280585.0	Roadway/Open Space	-	-	0.03
2397	668829.0	4280585.0	Roadway/Open Space	-	-	0.03
2398	668839.0	4280585.0	Roadway/Open Space	-	-	0.03
2399	668849.0	4280585.0	Roadway/Open Space	-	-	0.03
2400	668859.0	4280585.0	Roadway/Open Space	-	-	0.03
2401	668869.0	4280585.0	Roadway/Open Space	-	-	0.03
2402	668879.0	4280585.0	Roadway/Open Space	-	-	0.03
2403	668889.0	4280585.0	Roadway/Open Space	-	-	0.03
2404	668899.0	4280585.0	Roadway/Open Space	-	-	0.03
2405	668909.0	4280585.0	Roadway/Open Space	-	-	0.03
2406	668919.0	4280585.0	Roadway/Open Space	-	-	0.03
2407	668929.0	4280585.0	Roadway/Open Space	-	-	0.03
2408	668939.0	4280585.0	Roadway/Open Space	-	-	0.03
2409	668949.0	4280585.0	Roadway/Open Space	-	-	0.03
2410	668959.0	4280585.0	Roadway/Open Space	-	-	0.03
2411	668969.0	4280585.0	Roadway/Open Space	-	-	0.03
2412	668979.0	4280585.0	Roadway/Open Space	-	-	0.03
2413	668989.0	4280585.0	Roadway/Open Space	-	-	0.03
2414	668999.0	4280585.0	Roadway/Open Space	-	-	0.03
2415	669009.0	4280585.0	Roadway/Open Space	-	-	0.03
2416	669019.0	4280585.0	Roadway/Open Space	-	-	0.03
2417	669029.0	4280585.0	Roadway/Open Space	-	-	0.03
2418	669039.0	4280585.0	Roadway/Open Space	-	-	0.03
2419	669049.0	4280585.0	Roadway/Open Space	-	-	0.03
2420	669059.0	4280585.0	Roadway/Open Space	-	-	0.03
2421	669069.0	4280585.0	Roadway/Open Space	-	-	0.03
2422	669079.0	4280585.0	Roadway/Open Space	-	-	0.03
2423	669089.0	4280585.0	Roadway/Open Space	-	-	0.03
2424	669099.0	4280585.0	Roadway/Open Space	-	-	0.03
2425	669109.0	4280585.0	Roadway/Open Space	-	-	0.03
2426	669119.0	4280585.0	Roadway/Open Space	-	-	0.03
2427	669129.0	4280585.0	Roadway/Open Space	-	-	0.03
2428	669139.0	4280585.0	Roadway/Open Space	-	-	0.03
2429	669149.0	4280585.0	Roadway/Open Space	-	-	0.03
2430	669159.0	4280585.0	Roadway/Open Space	-	-	0.03
2431	669169.0	4280585.0	Roadway/Open Space	-	-	0.03
2432	669179.0	4280585.0	Roadway/Open Space	-	-	0.03
2433	669189.0	4280585.0	Roadway/Open Space	-	-	0.03
2434	669199.0	4280585.0	Roadway/Open Space	-	-	0.03
2435	669209.0	4280585.0	Roadway/Open Space	-	-	0.03
2436	669219.0	4280585.0	Roadway/Open Space	-	-	0.03

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
2437	669229.0	4280585.0	Roadway/Open Space	-	-	0.03
2438	669239.0	4280585.0	Roadway/Open Space	-	-	0.03
2439	669249.0	4280585.0	Roadway/Open Space	-	-	0.03
2440	669259.0	4280585.0	Roadway/Open Space	-	-	0.03
2441	669269.0	4280585.0	Roadway/Open Space	-	-	0.03
2442	669279.0	4280585.0	Roadway/Open Space	-	-	0.03
2443	669289.0	4280585.0	Roadway/Open Space	-	-	0.04
2444	669299.0	4280585.0	Roadway/Open Space	-	-	0.04
2445	669309.0	4280585.0	Roadway/Open Space	-	-	0.04
2446	669319.0	4280585.0	Roadway/Open Space	-	-	0.04
2447	669329.0	4280585.0	Roadway/Open Space	-	-	0.04
2448	669339.0	4280585.0	Roadway/Open Space	-	-	0.03
2449	669349.0	4280585.0	Roadway/Open Space	-	-	0.03
2450	669359.0	4280585.0	Roadway/Open Space	-	-	0.03
2451	669369.0	4280585.0	Roadway/Open Space	-	-	0.02
2452	669379.0	4280585.0	Roadway/Open Space	-	-	0.02
2453	669389.0	4280585.0	Roadway/Open Space	-	-	0.02
2454	669399.0	4280585.0	Roadway/Open Space	-	-	0.02
2455	669409.0	4280585.0	Roadway/Open Space	-	-	0.02
2456	669419.0	4280585.0	Roadway/Open Space	-	-	0.02
2457	669429.0	4280585.0	Roadway/Open Space	-	-	0.02
2458	669439.0	4280585.0	Roadway/Open Space	-	-	0.02
2459	669449.0	4280585.0	Roadway/Open Space	-	-	0.02
2460	669459.0	4280585.0	Roadway/Open Space	-	-	0.02
2461	669469.0	4280585.0	Roadway/Open Space	-	-	0.02
2462	669479.0	4280585.0	Roadway/Open Space	-	-	0.02
2463	669489.0	4280585.0	Roadway/Open Space	-	-	0.02
2464	669499.0	4280585.0	Roadway/Open Space	-	-	0.02
2465	669509.0	4280585.0	Roadway/Open Space	-	-	0.02
2466	669519.0	4280585.0	Roadway/Open Space	-	-	0.02
2467	669529.0	4280585.0	Roadway/Open Space	-	-	0.02
2468	669539.0	4280585.0	Roadway/Open Space	-	-	0.02
2469	669549.0	4280585.0	Roadway/Open Space	-	-	0.02
2470	669559.0	4280585.0	Roadway/Open Space	-	-	0.02
2471	669569.0	4280585.0	Roadway/Open Space	-	-	0.02
2472	669579.0	4280585.0	Roadway/Open Space	-	-	0.02
2473	668609.0	4280595.0	Roadway/Open Space	-	-	0.02
2474	668619.0	4280595.0	Roadway/Open Space	-	-	0.02
2475	668629.0	4280595.0	Roadway/Open Space	-	-	0.02
2476	668639.0	4280595.0	Roadway/Open Space	-	-	0.02
2477	668649.0	4280595.0	Roadway/Open Space	-	-	0.02
2478	668659.0	4280595.0	Roadway/Open Space	-	-	0.02
2479	668669.0	4280595.0	Roadway/Open Space	-	-	0.02
2480	668679.0	4280595.0	Roadway/Open Space	-	-	0.02
2481	668689.0	4280595.0	Roadway/Open Space	-	-	0.02
2482	668699.0	4280595.0	Roadway/Open Space	-	-	0.02
2483	668709.0	4280595.0	Roadway/Open Space	-	-	0.02
2484	668719.0	4280595.0	Roadway/Open Space	-	-	0.02
2485	668729.0	4280595.0	Roadway/Open Space	-	-	0.02
2486	668739.0	4280595.0	Roadway/Open Space	-	-	0.03
2487	668749.0	4280595.0	Roadway/Open Space	-	-	0.03
2488	668759.0	4280595.0	Roadway/Open Space	-	-	0.03
2489	668769.0	4280595.0	Roadway/Open Space	-	-	0.03
2490	668779.0	4280595.0	Roadway/Open Space	-	-	0.03
2491	668789.0	4280595.0	Roadway/Open Space	-	-	0.03
2492	668799.0	4280595.0	Roadway/Open Space	-	-	0.03
2493	668809.0	4280595.0	Roadway/Open Space	-	-	0.03
2494	668819.0	4280595.0	Roadway/Open Space	-	-	0.03
2495	668829.0	4280595.0	Roadway/Open Space	-	-	0.03
2496	668839.0	4280595.0	Roadway/Open Space	-	-	0.03
2497	668849.0	4280595.0	Roadway/Open Space	-	-	0.03
2498	668859.0	4280595.0	Roadway/Open Space	-	-	0.03
2499	668869.0	4280595.0	Roadway/Open Space	-	-	0.03
2500	668879.0	4280595.0	Roadway/Open Space	-	-	0.03
2501	668889.0	4280595.0	Roadway/Open Space	-	-	0.03
2502	668899.0	4280595.0	Roadway/Open Space	-	-	0.03
2503	668909.0	4280595.0	Roadway/Open Space	-	-	0.03
2504	668919.0	4280595.0	Roadway/Open Space	-	-	0.03
2505	668929.0	4280595.0	Roadway/Open Space	-	-	0.03
2506	668939.0	4280595.0	Roadway/Open Space	-	-	0.03
2507	668949.0	4280595.0	Roadway/Open Space	-	-	0.03
2508	668959.0	4280595.0	Roadway/Open Space	-	-	0.03
2509	668969.0	4280595.0	Roadway/Open Space	-	-	0.03
2510	668979.0	4280595.0	Roadway/Open Space	-	-	0.03
2511	668989.0	4280595.0	Roadway/Open Space	-	-	0.03
2512	668999.0	4280595.0	Roadway/Open Space	-	-	0.03
2513	669009.0	4280595.0	Roadway/Open Space	-	-	0.03
2514	669019.0	4280595.0	Roadway/Open Space	-	-	0.03
2515	669029.0	4280595.0	Roadway/Open Space	-	-	0.03
2516	669039.0	4280595.0	Roadway/Open Space	-	-	0.03
2517	669049.0	4280595.0	Roadway/Open Space	-	-	0.03
2518	669059.0	4280595.0	Roadway/Open Space	-	-	0.03
2519	669069.0	4280595.0	Roadway/Open Space	-	-	0.03
2520	669079.0	4280595.0	Roadway/Open Space	-	-	0.03

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
2521	669089.0	4280595.0	Roadway/Open Space	-	-	0.03
2522	669099.0	4280595.0	Roadway/Open Space	-	-	0.03
2523	669109.0	4280595.0	Roadway/Open Space	-	-	0.03
2524	669119.0	4280595.0	Roadway/Open Space	-	-	0.03
2525	669129.0	4280595.0	Roadway/Open Space	-	-	0.03
2526	669139.0	4280595.0	Roadway/Open Space	-	-	0.03
2527	669149.0	4280595.0	Roadway/Open Space	-	-	0.03
2528	669159.0	4280595.0	Roadway/Open Space	-	-	0.03
2529	669169.0	4280595.0	Roadway/Open Space	-	-	0.03
2530	669179.0	4280595.0	Roadway/Open Space	-	-	0.03
2531	669189.0	4280595.0	Roadway/Open Space	-	-	0.03
2532	669199.0	4280595.0	Roadway/Open Space	-	-	0.03
2533	669209.0	4280595.0	Roadway/Open Space	-	-	0.03
2534	669219.0	4280595.0	Roadway/Open Space	-	-	0.03
2535	669229.0	4280595.0	Roadway/Open Space	-	-	0.03
2536	669239.0	4280595.0	Roadway/Open Space	-	-	0.03
2537	669249.0	4280595.0	Roadway/Open Space	-	-	0.03
2538	669259.0	4280595.0	Roadway/Open Space	-	-	0.03
2539	669269.0	4280595.0	Roadway/Open Space	-	-	0.03
2540	669279.0	4280595.0	Roadway/Open Space	-	-	0.04
2541	669289.0	4280595.0	Roadway/Open Space	-	-	0.04
2542	669299.0	4280595.0	Roadway/Open Space	-	-	0.04
2543	669309.0	4280595.0	Roadway/Open Space	-	-	0.04
2544	669319.0	4280595.0	Roadway/Open Space	-	-	0.04
2545	669329.0	4280595.0	Roadway/Open Space	-	-	0.04
2546	669339.0	4280595.0	Roadway/Open Space	-	-	0.03
2547	669349.0	4280595.0	Roadway/Open Space	-	-	0.03
2548	669359.0	4280595.0	Roadway/Open Space	-	-	0.03
2549	669369.0	4280595.0	Roadway/Open Space	-	-	0.03
2550	669379.0	4280595.0	Roadway/Open Space	-	-	0.02
2551	669389.0	4280595.0	Roadway/Open Space	-	-	0.02
2552	669399.0	4280595.0	Roadway/Open Space	-	-	0.02
2553	669409.0	4280595.0	Roadway/Open Space	-	-	0.02
2554	669419.0	4280595.0	Roadway/Open Space	-	-	0.02
2555	669429.0	4280595.0	Roadway/Open Space	-	-	0.02
2556	669439.0	4280595.0	Roadway/Open Space	-	-	0.02
2557	669449.0	4280595.0	Roadway/Open Space	-	-	0.02
2558	669459.0	4280595.0	Roadway/Open Space	-	-	0.02
2559	669469.0	4280595.0	Roadway/Open Space	-	-	0.02
2560	669479.0	4280595.0	Roadway/Open Space	-	-	0.02
2561	669489.0	4280595.0	Roadway/Open Space	-	-	0.02
2562	669499.0	4280595.0	Roadway/Open Space	-	-	0.02
2563	669509.0	4280595.0	Roadway/Open Space	-	-	0.02
2564	669519.0	4280595.0	Roadway/Open Space	-	-	0.02
2565	669529.0	4280595.0	Roadway/Open Space	-	-	0.02
2566	669539.0	4280595.0	Roadway/Open Space	-	-	0.02
2567	669549.0	4280595.0	Roadway/Open Space	-	-	0.02
2568	669559.0	4280595.0	Roadway/Open Space	-	-	0.02
2569	669569.0	4280595.0	Roadway/Open Space	-	-	0.02
2570	669579.0	4280595.0	Roadway/Open Space	-	-	0.02
2571	668609.0	4280605.0	Roadway/Open Space	-	-	0.02
2572	668619.0	4280605.0	Roadway/Open Space	-	-	0.02
2573	668629.0	4280605.0	Roadway/Open Space	-	-	0.02
2574	668639.0	4280605.0	Roadway/Open Space	-	-	0.02
2575	668649.0	4280605.0	Roadway/Open Space	-	-	0.02
2576	668659.0	4280605.0	Roadway/Open Space	-	-	0.02
2577	668669.0	4280605.0	Roadway/Open Space	-	-	0.02
2578	668679.0	4280605.0	Roadway/Open Space	-	-	0.02
2579	668689.0	4280605.0	Roadway/Open Space	-	-	0.02
2580	668699.0	4280605.0	Roadway/Open Space	-	-	0.02
2581	668709.0	4280605.0	Roadway/Open Space	-	-	0.02
2582	668719.0	4280605.0	Roadway/Open Space	-	-	0.02
2583	668729.0	4280605.0	Roadway/Open Space	-	-	0.02
2584	668739.0	4280605.0	Roadway/Open Space	-	-	0.03
2585	668749.0	4280605.0	Roadway/Open Space	-	-	0.03
2586	668759.0	4280605.0	Roadway/Open Space	-	-	0.03
2587	668769.0	4280605.0	Roadway/Open Space	-	-	0.03
2588	668779.0	4280605.0	Roadway/Open Space	-	-	0.03
2589	668789.0	4280605.0	Roadway/Open Space	-	-	0.03
2590	668799.0	4280605.0	Roadway/Open Space	-	-	0.03
2591	668809.0	4280605.0	Roadway/Open Space	-	-	0.03
2592	668819.0	4280605.0	Roadway/Open Space	-	-	0.03
2593	668829.0	4280605.0	Roadway/Open Space	-	-	0.03
2594	668839.0	4280605.0	Roadway/Open Space	-	-	0.03
2595	668849.0	4280605.0	Roadway/Open Space	-	-	0.03
2596	668859.0	4280605.0	Roadway/Open Space	-	-	0.03
2597	668869.0	4280605.0	Roadway/Open Space	-	-	0.03
2598	668879.0	4280605.0	Roadway/Open Space	-	-	0.03
2599	668889.0	4280605.0	Roadway/Open Space	-	-	0.03
2600	668899.0	4280605.0	Roadway/Open Space	-	-	0.03
2601	668909.0	4280605.0	Roadway/Open Space	-	-	0.03
2602	668919.0	4280605.0	Roadway/Open Space	-	-	0.03
2603	668929.0	4280605.0	Roadway/Open Space	-	-	0.03
2604	668939.0	4280605.0	Roadway/Open Space	-	-	0.03

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
2605	668949.0	4280605.0	Roadway/Open Space	-	-	0.03
2606	668959.0	4280605.0	Roadway/Open Space	-	-	0.03
2607	668969.0	4280605.0	Roadway/Open Space	-	-	0.03
2608	668979.0	4280605.0	Roadway/Open Space	-	-	0.03
2609	668989.0	4280605.0	Roadway/Open Space	-	-	0.03
2610	668999.0	4280605.0	Roadway/Open Space	-	-	0.03
2611	669009.0	4280605.0	Roadway/Open Space	-	-	0.03
2612	669019.0	4280605.0	Roadway/Open Space	-	-	0.03
2613	669029.0	4280605.0	Roadway/Open Space	-	-	0.03
2614	669039.0	4280605.0	Roadway/Open Space	-	-	0.03
2615	669049.0	4280605.0	Roadway/Open Space	-	-	0.03
2616	669059.0	4280605.0	Roadway/Open Space	-	-	0.03
2617	669069.0	4280605.0	Roadway/Open Space	-	-	0.03
2618	669079.0	4280605.0	Roadway/Open Space	-	-	0.03
2619	669089.0	4280605.0	Roadway/Open Space	-	-	0.03
2620	669099.0	4280605.0	Roadway/Open Space	-	-	0.03
2621	669109.0	4280605.0	Roadway/Open Space	-	-	0.03
2622	669119.0	4280605.0	Roadway/Open Space	-	-	0.03
2623	669129.0	4280605.0	Roadway/Open Space	-	-	0.03
2624	669139.0	4280605.0	Roadway/Open Space	-	-	0.03
2625	669149.0	4280605.0	Roadway/Open Space	-	-	0.03
2626	669159.0	4280605.0	Roadway/Open Space	-	-	0.03
2627	669169.0	4280605.0	Roadway/Open Space	-	-	0.03
2628	669179.0	4280605.0	Roadway/Open Space	-	-	0.03
2629	669189.0	4280605.0	Roadway/Open Space	-	-	0.03
2630	669199.0	4280605.0	Roadway/Open Space	-	-	0.03
2631	669209.0	4280605.0	Roadway/Open Space	-	-	0.03
2632	669219.0	4280605.0	Roadway/Open Space	-	-	0.03
2633	669229.0	4280605.0	Roadway/Open Space	-	-	0.03
2634	669239.0	4280605.0	Roadway/Open Space	-	-	0.03
2635	669249.0	4280605.0	Roadway/Open Space	-	-	0.03
2636	669259.0	4280605.0	Roadway/Open Space	-	-	0.03
2637	669269.0	4280605.0	Roadway/Open Space	-	-	0.03
2638	669279.0	4280605.0	Roadway/Open Space	-	-	0.04
2639	669289.0	4280605.0	Roadway/Open Space	-	-	0.04
2640	669299.0	4280605.0	Roadway/Open Space	-	-	0.04
2641	669309.0	4280605.0	Roadway/Open Space	-	-	0.04
2642	669319.0	4280605.0	Roadway/Open Space	-	-	0.04
2643	669329.0	4280605.0	Roadway/Open Space	-	-	0.04
2644	669339.0	4280605.0	Roadway/Open Space	-	-	0.03
2645	669349.0	4280605.0	Roadway/Open Space	-	-	0.03
2646	669359.0	4280605.0	Roadway/Open Space	-	-	0.03
2647	669369.0	4280605.0	Roadway/Open Space	-	-	0.03
2648	669379.0	4280605.0	Roadway/Open Space	-	-	0.03
2649	669389.0	4280605.0	Roadway/Open Space	-	-	0.02
2650	669399.0	4280605.0	Roadway/Open Space	-	-	0.02
2651	669409.0	4280605.0	Roadway/Open Space	-	-	0.02
2652	669419.0	4280605.0	Roadway/Open Space	-	-	0.02
2653	669429.0	4280605.0	Roadway/Open Space	-	-	0.02
2654	669439.0	4280605.0	Roadway/Open Space	-	-	0.02
2655	669449.0	4280605.0	Roadway/Open Space	-	-	0.02
2656	669459.0	4280605.0	Roadway/Open Space	-	-	0.02
2657	669469.0	4280605.0	Roadway/Open Space	-	-	0.02
2658	669479.0	4280605.0	Roadway/Open Space	-	-	0.02
2659	669489.0	4280605.0	Roadway/Open Space	-	-	0.02
2660	669499.0	4280605.0	Roadway/Open Space	-	-	0.02
2661	669509.0	4280605.0	Roadway/Open Space	-	-	0.02
2662	669519.0	4280605.0	Roadway/Open Space	-	-	0.02
2663	669529.0	4280605.0	Roadway/Open Space	-	-	0.02
2664	669539.0	4280605.0	Roadway/Open Space	-	-	0.02
2665	669549.0	4280605.0	Roadway/Open Space	-	-	0.02
2666	669559.0	4280605.0	Roadway/Open Space	-	-	0.02
2667	669569.0	4280605.0	Roadway/Open Space	-	-	0.02
2668	669579.0	4280605.0	Roadway/Open Space	-	-	0.02
2669	669589.0	4280605.0	Roadway/Open Space	-	-	0.02
2670	668609.0	4280615.0	Roadway/Open Space	-	-	0.03
2671	668619.0	4280615.0	Roadway/Open Space	-	-	0.02
2672	668629.0	4280615.0	Roadway/Open Space	-	-	0.02
2673	668639.0	4280615.0	Roadway/Open Space	-	-	0.02
2674	668649.0	4280615.0	Roadway/Open Space	-	-	0.02
2675	668659.0	4280615.0	Roadway/Open Space	-	-	0.02
2676	668669.0	4280615.0	Roadway/Open Space	-	-	0.02
2677	668679.0	4280615.0	Roadway/Open Space	-	-	0.02
2678	668689.0	4280615.0	Roadway/Open Space	-	-	0.02
2679	668699.0	4280615.0	Roadway/Open Space	-	-	0.02
2680	668709.0	4280615.0	Roadway/Open Space	-	-	0.02
2681	668719.0	4280615.0	Roadway/Open Space	-	-	0.03
2682	668729.0	4280615.0	Roadway/Open Space	-	-	0.03
2683	668739.0	4280615.0	Roadway/Open Space	-	-	0.03
2684	668749.0	4280615.0	Roadway/Open Space	-	-	0.03
2685	668759.0	4280615.0	Roadway/Open Space	-	-	0.03
2686	668769.0	4280615.0	Roadway/Open Space	-	-	0.03
2687	668779.0	4280615.0	Roadway/Open Space	-	-	0.03
2688	668789.0	4280615.0	Roadway/Open Space	-	-	0.03

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
2689	668799.0	4280615.0	Roadway/Open Space	-	-	0.03
2690	668809.0	4280615.0	Roadway/Open Space	-	-	0.03
2691	668819.0	4280615.0	Roadway/Open Space	-	-	0.03
2692	668829.0	4280615.0	Roadway/Open Space	-	-	0.03
2693	668839.0	4280615.0	Roadway/Open Space	-	-	0.03
2694	668849.0	4280615.0	Roadway/Open Space	-	-	0.03
2695	668859.0	4280615.0	Roadway/Open Space	-	-	0.03
2696	668869.0	4280615.0	Roadway/Open Space	-	-	0.03
2697	668879.0	4280615.0	Roadway/Open Space	-	-	0.03
2698	668889.0	4280615.0	Roadway/Open Space	-	-	0.03
2699	668899.0	4280615.0	Roadway/Open Space	-	-	0.03
2700	668909.0	4280615.0	Roadway/Open Space	-	-	0.03
2701	668919.0	4280615.0	Roadway/Open Space	-	-	0.03
2702	668929.0	4280615.0	Roadway/Open Space	-	-	0.03
2703	668939.0	4280615.0	Roadway/Open Space	-	-	0.03
2704	668949.0	4280615.0	Roadway/Open Space	-	-	0.03
2705	668959.0	4280615.0	Roadway/Open Space	-	-	0.03
2706	668969.0	4280615.0	Roadway/Open Space	-	-	0.03
2707	668979.0	4280615.0	Roadway/Open Space	-	-	0.03
2708	668989.0	4280615.0	Roadway/Open Space	-	-	0.03
2709	668999.0	4280615.0	Roadway/Open Space	-	-	0.03
2710	669009.0	4280615.0	Roadway/Open Space	-	-	0.03
2711	669019.0	4280615.0	Roadway/Open Space	-	-	0.03
2712	669029.0	4280615.0	Roadway/Open Space	-	-	0.03
2713	669039.0	4280615.0	Roadway/Open Space	-	-	0.03
2714	669049.0	4280615.0	Roadway/Open Space	-	-	0.03
2715	669059.0	4280615.0	Roadway/Open Space	-	-	0.03
2716	669069.0	4280615.0	Roadway/Open Space	-	-	0.03
2717	669079.0	4280615.0	Roadway/Open Space	-	-	0.03
2718	669089.0	4280615.0	Roadway/Open Space	-	-	0.03
2719	669099.0	4280615.0	Roadway/Open Space	-	-	0.03
2720	669109.0	4280615.0	Roadway/Open Space	-	-	0.03
2721	669119.0	4280615.0	Roadway/Open Space	-	-	0.03
2722	669129.0	4280615.0	Roadway/Open Space	-	-	0.03
2723	669139.0	4280615.0	Roadway/Open Space	-	-	0.03
2724	669149.0	4280615.0	Roadway/Open Space	-	-	0.03
2725	669159.0	4280615.0	Roadway/Open Space	-	-	0.03
2726	669169.0	4280615.0	Roadway/Open Space	-	-	0.03
2727	669179.0	4280615.0	Roadway/Open Space	-	-	0.03
2728	669189.0	4280615.0	Roadway/Open Space	-	-	0.03
2729	669199.0	4280615.0	Roadway/Open Space	-	-	0.03
2730	669209.0	4280615.0	Roadway/Open Space	-	-	0.03
2731	669219.0	4280615.0	Roadway/Open Space	-	-	0.03
2732	669229.0	4280615.0	Roadway/Open Space	-	-	0.03
2733	669239.0	4280615.0	Roadway/Open Space	-	-	0.03
2734	669249.0	4280615.0	Roadway/Open Space	-	-	0.03
2735	669259.0	4280615.0	Roadway/Open Space	-	-	0.03
2736	669269.0	4280615.0	Roadway/Open Space	-	-	0.03
2737	669279.0	4280615.0	Roadway/Open Space	-	-	0.03
2738	669289.0	4280615.0	Roadway/Open Space	-	-	0.03
2739	669299.0	4280615.0	Roadway/Open Space	-	-	0.03
2740	669309.0	4280615.0	Roadway/Open Space	-	-	0.04
2741	669319.0	4280615.0	Roadway/Open Space	-	-	0.04
2742	669329.0	4280615.0	Roadway/Open Space	-	-	0.04
2743	669339.0	4280615.0	Roadway/Open Space	-	-	0.03
2744	669349.0	4280615.0	Roadway/Open Space	-	-	0.03
2745	669359.0	4280615.0	Roadway/Open Space	-	-	0.03
2746	669369.0	4280615.0	Roadway/Open Space	-	-	0.03
2747	669379.0	4280615.0	Roadway/Open Space	-	-	0.03
2748	669389.0	4280615.0	Roadway/Open Space	-	-	0.02
2749	669399.0	4280615.0	Roadway/Open Space	-	-	0.02
2750	669409.0	4280615.0	Roadway/Open Space	-	-	0.02
2751	669419.0	4280615.0	Roadway/Open Space	-	-	0.02
2752	669429.0	4280615.0	Roadway/Open Space	-	-	0.02
2753	669439.0	4280615.0	Roadway/Open Space	-	-	0.02
2754	669449.0	4280615.0	Roadway/Open Space	-	-	0.02
2755	669459.0	4280615.0	Roadway/Open Space	-	-	0.02
2756	669469.0	4280615.0	Roadway/Open Space	-	-	0.02
2757	669479.0	4280615.0	Roadway/Open Space	-	-	0.02
2758	669489.0	4280615.0	Roadway/Open Space	-	-	0.02
2759	669499.0	4280615.0	Roadway/Open Space	-	-	0.02
2760	669509.0	4280615.0	Roadway/Open Space	-	-	0.02
2761	669519.0	4280615.0	Roadway/Open Space	-	-	0.02
2762	669529.0	4280615.0	Roadway/Open Space	-	-	0.02
2763	669539.0	4280615.0	Roadway/Open Space	-	-	0.02
2764	669549.0	4280615.0	Roadway/Open Space	-	-	0.02
2765	669559.0	4280615.0	Roadway/Open Space	-	-	0.02
2766	669569.0	4280615.0	Roadway/Open Space	-	-	0.02
2767	669579.0	4280615.0	Roadway/Open Space	-	-	0.02
2768	669589.0	4280615.0	Roadway/Open Space	-	-	0.02
2769	668599.0	4280625.0	Roadway/Open Space	-	-	0.03
2770	668609.0	4280625.0	Roadway/Open Space	-	-	0.03
2771	668619.0	4280625.0	Roadway/Open Space	-	-	0.02
2772	668629.0	4280625.0	Roadway/Open Space	-	-	0.02

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
2773	668639.0	4280625.0	Roadway/Open Space	-	-	0.02
2774	668649.0	4280625.0	Roadway/Open Space	-	-	0.02
2775	668659.0	4280625.0	Roadway/Open Space	-	-	0.02
2776	668669.0	4280625.0	Roadway/Open Space	-	-	0.02
2777	668679.0	4280625.0	Roadway/Open Space	-	-	0.02
2778	668689.0	4280625.0	Roadway/Open Space	-	-	0.02
2779	668699.0	4280625.0	Roadway/Open Space	-	-	0.02
2780	668709.0	4280625.0	Roadway/Open Space	-	-	0.03
2781	668719.0	4280625.0	Roadway/Open Space	-	-	0.03
2782	668729.0	4280625.0	Roadway/Open Space	-	-	0.03
2783	668739.0	4280625.0	Roadway/Open Space	-	-	0.03
2784	668749.0	4280625.0	Roadway/Open Space	-	-	0.03
2785	668759.0	4280625.0	Roadway/Open Space	-	-	0.03
2786	668769.0	4280625.0	Roadway/Open Space	-	-	0.03
2787	668779.0	4280625.0	Roadway/Open Space	-	-	0.03
2788	668789.0	4280625.0	Roadway/Open Space	-	-	0.03
2789	668799.0	4280625.0	Roadway/Open Space	-	-	0.03
2790	668809.0	4280625.0	Roadway/Open Space	-	-	0.03
2791	668819.0	4280625.0	Roadway/Open Space	-	-	0.03
2792	668829.0	4280625.0	Roadway/Open Space	-	-	0.03
2793	668839.0	4280625.0	Roadway/Open Space	-	-	0.03
2794	668849.0	4280625.0	Roadway/Open Space	-	-	0.03
2795	668859.0	4280625.0	Roadway/Open Space	-	-	0.03
2796	668869.0	4280625.0	Roadway/Open Space	-	-	0.03
2797	668879.0	4280625.0	Roadway/Open Space	-	-	0.03
2798	668889.0	4280625.0	Roadway/Open Space	-	-	0.03
2799	668899.0	4280625.0	Roadway/Open Space	-	-	0.03
2800	668909.0	4280625.0	Roadway/Open Space	-	-	0.03
2801	668919.0	4280625.0	Roadway/Open Space	-	-	0.03
2802	668929.0	4280625.0	Roadway/Open Space	-	-	0.03
2803	668939.0	4280625.0	Roadway/Open Space	-	-	0.03
2804	668949.0	4280625.0	Roadway/Open Space	-	-	0.03
2805	668959.0	4280625.0	Roadway/Open Space	-	-	0.03
2806	668969.0	4280625.0	Roadway/Open Space	-	-	0.03
2807	668979.0	4280625.0	Roadway/Open Space	-	-	0.03
2808	668989.0	4280625.0	Roadway/Open Space	-	-	0.03
2809	668999.0	4280625.0	Roadway/Open Space	-	-	0.03
2810	669009.0	4280625.0	Roadway/Open Space	-	-	0.03
2811	669019.0	4280625.0	Roadway/Open Space	-	-	0.03
2812	669029.0	4280625.0	Roadway/Open Space	-	-	0.03
2813	669039.0	4280625.0	Roadway/Open Space	-	-	0.03
2815	669059.0	4280625.0	Roadway/Open Space	-	-	0.03
2816	669069.0	4280625.0	Roadway/Open Space	-	-	0.03
2817	669079.0	4280625.0	Roadway/Open Space	-	-	0.03
2818	669089.0	4280625.0	Roadway/Open Space	-	-	0.03
2819	669099.0	4280625.0	Roadway/Open Space	-	-	0.03
2820	669109.0	4280625.0	Roadway/Open Space	-	-	0.03
2821	669119.0	4280625.0	Roadway/Open Space	-	-	0.03
2822	669129.0	4280625.0	Roadway/Open Space	-	-	0.03
2823	669139.0	4280625.0	Roadway/Open Space	-	-	0.03
2824	669149.0	4280625.0	Roadway/Open Space	-	-	0.03
2825	669159.0	4280625.0	Roadway/Open Space	-	-	0.03
2826	669169.0	4280625.0	Roadway/Open Space	-	-	0.03
2827	669179.0	4280625.0	Roadway/Open Space	-	-	0.03
2828	669189.0	4280625.0	Roadway/Open Space	-	-	0.03
2829	669199.0	4280625.0	Roadway/Open Space	-	-	0.03
2830	669209.0	4280625.0	Roadway/Open Space	-	-	0.04
2831	669219.0	4280625.0	Roadway/Open Space	-	-	0.03
2832	669229.0	4280625.0	Roadway/Open Space	-	-	0.04
2833	669239.0	4280625.0	Roadway/Open Space	-	-	0.03
2834	669249.0	4280625.0	Roadway/Open Space	-	-	0.03
2835	669259.0	4280625.0	Roadway/Open Space	-	-	0.03
2836	669269.0	4280625.0	Roadway/Open Space	-	-	0.03
2837	669279.0	4280625.0	Roadway/Open Space	-	-	0.03
2838	669289.0	4280625.0	Roadway/Open Space	-	-	0.03
2839	669299.0	4280625.0	Roadway/Open Space	-	-	0.03
2840	669309.0	4280625.0	Roadway/Open Space	-	-	0.03
2841	669319.0	4280625.0	Roadway/Open Space	-	-	0.04
2842	669329.0	4280625.0	Roadway/Open Space	-	-	0.03
2843	669339.0	4280625.0	Roadway/Open Space	-	-	0.03
2844	669349.0	4280625.0	Roadway/Open Space	-	-	0.03
2845	669359.0	4280625.0	Roadway/Open Space	-	-	0.03
2846	669369.0	4280625.0	Roadway/Open Space	-	-	0.03
2847	669379.0	4280625.0	Roadway/Open Space	-	-	0.03
2848	669389.0	4280625.0	Roadway/Open Space	-	-	0.02
2849	669399.0	4280625.0	Roadway/Open Space	-	-	0.02
2850	669409.0	4280625.0	Roadway/Open Space	-	-	0.02
2851	669419.0	4280625.0	Roadway/Open Space	-	-	0.02
2852	669429.0	4280625.0	Roadway/Open Space	-	-	0.02
2853	669439.0	4280625.0	Roadway/Open Space	-	-	0.02
2854	669449.0	4280625.0	Roadway/Open Space	-	-	0.02
2855	669459.0	4280625.0	Roadway/Open Space	-	-	0.02
2856	669469.0	4280625.0	Roadway/Open Space	-	-	0.02
2857	669479.0	4280625.0	Roadway/Open Space	-	-	0.02

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
2858	669489.0	4280625.0	Roadway/Open Space	-	-	0.02
2859	669499.0	4280625.0	Roadway/Open Space	-	-	0.02
2860	669509.0	4280625.0	Roadway/Open Space	-	-	0.02
2861	669519.0	4280625.0	Roadway/Open Space	-	-	0.02
2862	669529.0	4280625.0	Roadway/Open Space	-	-	0.02
2863	669539.0	4280625.0	Roadway/Open Space	-	-	0.02
2864	669549.0	4280625.0	Roadway/Open Space	-	-	0.02
2865	669559.0	4280625.0	Roadway/Open Space	-	-	0.02
2866	669569.0	4280625.0	Roadway/Open Space	-	-	0.02
2867	669579.0	4280625.0	Roadway/Open Space	-	-	0.02
2868	669589.0	4280625.0	Roadway/Open Space	-	-	0.02
2869	669599.0	4280625.0	Roadway/Open Space	-	-	0.02
2870	668599.0	4280635.0	Roadway/Open Space	-	-	0.03
2871	668609.0	4280635.0	Roadway/Open Space	-	-	0.03
2872	668619.0	4280635.0	Roadway/Open Space	-	-	0.02
2873	668629.0	4280635.0	Roadway/Open Space	-	-	0.02
2874	668639.0	4280635.0	Roadway/Open Space	-	-	0.02
2875	668649.0	4280635.0	Roadway/Open Space	-	-	0.02
2876	668659.0	4280635.0	Roadway/Open Space	-	-	0.02
2877	668669.0	4280635.0	Roadway/Open Space	-	-	0.02
2878	668679.0	4280635.0	Roadway/Open Space	-	-	0.02
2879	668689.0	4280635.0	Roadway/Open Space	-	-	0.02
2880	668699.0	4280635.0	Roadway/Open Space	-	-	0.02
2881	668709.0	4280635.0	Roadway/Open Space	-	-	0.03
2882	668719.0	4280635.0	Roadway/Open Space	-	-	0.03
2883	668729.0	4280635.0	Roadway/Open Space	-	-	0.03
2884	668739.0	4280635.0	Roadway/Open Space	-	-	0.03
2885	668749.0	4280635.0	Roadway/Open Space	-	-	0.03
2886	668759.0	4280635.0	Roadway/Open Space	-	-	0.03
2887	668769.0	4280635.0	Roadway/Open Space	-	-	0.03
2888	668779.0	4280635.0	Roadway/Open Space	-	-	0.03
2889	668789.0	4280635.0	Roadway/Open Space	-	-	0.03
2890	668799.0	4280635.0	Roadway/Open Space	-	-	0.03
2891	668809.0	4280635.0	Roadway/Open Space	-	-	0.03
2892	668819.0	4280635.0	Roadway/Open Space	-	-	0.03
2893	668829.0	4280635.0	Roadway/Open Space	-	-	0.03
2894	668839.0	4280635.0	Roadway/Open Space	-	-	0.03
2895	668849.0	4280635.0	Roadway/Open Space	-	-	0.03
2896	668859.0	4280635.0	Roadway/Open Space	-	-	0.03
2897	668869.0	4280635.0	Roadway/Open Space	-	-	0.03
2898	668879.0	4280635.0	Roadway/Open Space	-	-	0.03
2899	668889.0	4280635.0	Roadway/Open Space	-	-	0.03
2900	668899.0	4280635.0	Roadway/Open Space	-	-	0.03
2901	668909.0	4280635.0	Roadway/Open Space	-	-	0.03
2902	668919.0	4280635.0	Roadway/Open Space	-	-	0.03
2903	668929.0	4280635.0	Roadway/Open Space	-	-	0.03
2904	668939.0	4280635.0	Roadway/Open Space	-	-	0.03
2905	668949.0	4280635.0	Roadway/Open Space	-	-	0.03
2906	668959.0	4280635.0	Roadway/Open Space	-	-	0.03
2907	668969.0	4280635.0	Roadway/Open Space	-	-	0.03
2908	668979.0	4280635.0	Roadway/Open Space	-	-	0.03
2909	668989.0	4280635.0	Roadway/Open Space	-	-	0.03
2910	668999.0	4280635.0	Roadway/Open Space	-	-	0.03
2911	669009.0	4280635.0	Roadway/Open Space	-	-	0.03
2912	669019.0	4280635.0	Roadway/Open Space	-	-	0.03
2913	669029.0	4280635.0	Roadway/Open Space	-	-	0.03
2917	669069.0	4280635.0	Roadway/Open Space	-	-	0.03
2918	669079.0	4280635.0	Roadway/Open Space	-	-	0.03
2919	669089.0	4280635.0	Roadway/Open Space	-	-	0.04
2920	669099.0	4280635.0	Roadway/Open Space	-	-	0.03
2921	669109.0	4280635.0	Roadway/Open Space	-	-	0.04
2922	669119.0	4280635.0	Roadway/Open Space	-	-	0.03
2923	669129.0	4280635.0	Roadway/Open Space	-	-	0.04
2924	669139.0	4280635.0	Roadway/Open Space	-	-	0.04
2925	669149.0	4280635.0	Roadway/Open Space	-	-	0.04
2926	669159.0	4280635.0	Roadway/Open Space	-	-	0.04
2927	669169.0	4280635.0	Roadway/Open Space	-	-	0.03
2928	669179.0	4280635.0	Roadway/Open Space	-	-	0.04
2929	669189.0	4280635.0	Roadway/Open Space	-	-	0.04
2930	669199.0	4280635.0	Roadway/Open Space	-	-	0.04
2931	669209.0	4280635.0	Roadway/Open Space	-	-	0.04
2932	669219.0	4280635.0	Roadway/Open Space	-	-	0.04
2933	669229.0	4280635.0	Roadway/Open Space	-	-	0.04
2934	669239.0	4280635.0	Roadway/Open Space	-	-	0.04
2935	669249.0	4280635.0	Roadway/Open Space	-	-	0.03
2936	669259.0	4280635.0	Roadway/Open Space	-	-	0.04
2937	669269.0	4280635.0	Roadway/Open Space	-	-	0.04
2938	669279.0	4280635.0	Roadway/Open Space	-	-	0.03
2939	669289.0	4280635.0	Roadway/Open Space	-	-	0.03
2940	669299.0	4280635.0	Roadway/Open Space	-	-	0.03
2941	669309.0	4280635.0	Roadway/Open Space	-	-	0.03
2942	669319.0	4280635.0	Roadway/Open Space	-	-	0.03
2943	669329.0	4280635.0	Roadway/Open Space	-	-	0.03
2944	669339.0	4280635.0	Roadway/Open Space	-	-	0.03

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
2945	669349.0	4280635.0	Roadway/Open Space	-	-	0.03
2946	669359.0	4280635.0	Roadway/Open Space	-	-	0.03
2947	669369.0	4280635.0	Roadway/Open Space	-	-	0.03
2948	669379.0	4280635.0	Roadway/Open Space	-	-	0.03
2949	669389.0	4280635.0	Roadway/Open Space	-	-	0.03
2950	669399.0	4280635.0	Roadway/Open Space	-	-	0.02
2951	669409.0	4280635.0	Roadway/Open Space	-	-	0.02
2952	669419.0	4280635.0	Roadway/Open Space	-	-	0.02
2953	669429.0	4280635.0	Roadway/Open Space	-	-	0.02
2954	669439.0	4280635.0	Roadway/Open Space	-	-	0.02
2955	669449.0	4280635.0	Roadway/Open Space	-	-	0.02
2956	669459.0	4280635.0	Roadway/Open Space	-	-	0.02
2957	669469.0	4280635.0	Roadway/Open Space	-	-	0.02
2958	669479.0	4280635.0	Roadway/Open Space	-	-	0.02
2959	669489.0	4280635.0	Roadway/Open Space	-	-	0.02
2960	669499.0	4280635.0	Roadway/Open Space	-	-	0.02
2961	669509.0	4280635.0	Roadway/Open Space	-	-	0.02
2962	669519.0	4280635.0	Roadway/Open Space	-	-	0.02
2963	669529.0	4280635.0	Roadway/Open Space	-	-	0.02
2964	669539.0	4280635.0	Roadway/Open Space	-	-	0.02
2965	669549.0	4280635.0	Roadway/Open Space	-	-	0.02
2966	669559.0	4280635.0	Roadway/Open Space	-	-	0.02
2967	669569.0	4280635.0	Roadway/Open Space	-	-	0.02
2968	669579.0	4280635.0	Roadway/Open Space	-	-	0.02
2969	669589.0	4280635.0	Roadway/Open Space	-	-	0.02
2970	669599.0	4280635.0	Roadway/Open Space	-	-	0.02
2971	668589.0	4280645.0	Roadway/Open Space	-	-	0.03
2972	668599.0	4280645.0	Roadway/Open Space	-	-	0.03
2973	668609.0	4280645.0	Roadway/Open Space	-	-	0.03
2974	668619.0	4280645.0	Roadway/Open Space	-	-	0.02
2975	668629.0	4280645.0	Roadway/Open Space	-	-	0.02
2976	668639.0	4280645.0	Roadway/Open Space	-	-	0.02
2977	668649.0	4280645.0	Roadway/Open Space	-	-	0.02
2978	668659.0	4280645.0	Roadway/Open Space	-	-	0.02
2979	668669.0	4280645.0	Roadway/Open Space	-	-	0.02
2980	668679.0	4280645.0	Roadway/Open Space	-	-	0.02
2981	668689.0	4280645.0	Roadway/Open Space	-	-	0.02
2982	668699.0	4280645.0	Roadway/Open Space	-	-	0.03
2983	668709.0	4280645.0	Roadway/Open Space	-	-	0.03
2984	668719.0	4280645.0	Roadway/Open Space	-	-	0.03
2985	668729.0	4280645.0	Roadway/Open Space	-	-	0.03
2986	668739.0	4280645.0	Roadway/Open Space	-	-	0.03
2987	668749.0	4280645.0	Roadway/Open Space	-	-	0.03
2988	668759.0	4280645.0	Roadway/Open Space	-	-	0.03
2989	668769.0	4280645.0	Roadway/Open Space	-	-	0.03
2990	668779.0	4280645.0	Roadway/Open Space	-	-	0.03
2991	668789.0	4280645.0	Roadway/Open Space	-	-	0.03
2992	668799.0	4280645.0	Roadway/Open Space	-	-	0.03
2993	668809.0	4280645.0	Roadway/Open Space	-	-	0.03
2994	668819.0	4280645.0	Roadway/Open Space	-	-	0.04
2995	668829.0	4280645.0	Roadway/Open Space	-	-	0.04
2996	668839.0	4280645.0	Roadway/Open Space	-	-	0.04
2997	668849.0	4280645.0	Roadway/Open Space	-	-	0.04
2998	668859.0	4280645.0	Roadway/Open Space	-	-	0.04
2999	668869.0	4280645.0	Roadway/Open Space	-	-	0.03
3000	668879.0	4280645.0	Roadway/Open Space	-	-	0.03
3001	668889.0	4280645.0	Roadway/Open Space	-	-	0.03
3002	668899.0	4280645.0	Roadway/Open Space	-	-	0.03
3003	668909.0	4280645.0	Roadway/Open Space	-	-	0.03
3004	668919.0	4280645.0	Roadway/Open Space	-	-	0.03
3005	668929.0	4280645.0	Roadway/Open Space	-	-	0.03
3006	668939.0	4280645.0	Roadway/Open Space	-	-	0.03
3007	668949.0	4280645.0	Roadway/Open Space	-	-	0.03
3008	668959.0	4280645.0	Roadway/Open Space	-	-	0.03
3009	668969.0	4280645.0	Roadway/Open Space	-	-	0.03
3010	668979.0	4280645.0	Roadway/Open Space	-	-	0.04
3011	668989.0	4280645.0	Roadway/Open Space	-	-	0.04
3012	668999.0	4280645.0	Roadway/Open Space	-	-	0.04
3013	669009.0	4280645.0	Roadway/Open Space	-	-	0.03
3014	669019.0	4280645.0	Roadway/Open Space	-	-	0.04
3015	669029.0	4280645.0	Roadway/Open Space	-	-	0.04
3020	669079.0	4280645.0	Roadway/Open Space	-	-	0.04
3021	669089.0	4280645.0	Roadway/Open Space	-	-	0.04
3022	669099.0	4280645.0	Roadway/Open Space	-	-	0.04
3023	669109.0	4280645.0	Roadway/Open Space	-	-	0.04
3024	669119.0	4280645.0	Roadway/Open Space	-	-	0.04
3025	669129.0	4280645.0	Roadway/Open Space	-	-	0.04
3026	669139.0	4280645.0	Roadway/Open Space	-	-	0.04
3027	669149.0	4280645.0	Roadway/Open Space	-	-	0.04
3028	669159.0	4280645.0	Roadway/Open Space	-	-	0.04
3029	669169.0	4280645.0	Roadway/Open Space	-	-	0.04
3030	669179.0	4280645.0	Roadway/Open Space	-	-	0.04
3031	669189.0	4280645.0	Roadway/Open Space	-	-	0.04
3032	669199.0	4280645.0	Roadway/Open Space	-	-	0.04

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
3033	669209.0	4280645.0	Roadway/Open Space	-	-	0.04
3034	669219.0	4280645.0	Roadway/Open Space	-	-	0.04
3035	669229.0	4280645.0	Roadway/Open Space	-	-	0.04
3036	669239.0	4280645.0	Roadway/Open Space	-	-	0.04
3037	669249.0	4280645.0	Roadway/Open Space	-	-	0.04
3038	669259.0	4280645.0	Roadway/Open Space	-	-	0.04
3039	669269.0	4280645.0	Roadway/Open Space	-	-	0.04
3040	669279.0	4280645.0	Roadway/Open Space	-	-	0.04
3041	669289.0	4280645.0	Roadway/Open Space	-	-	0.04
3042	669299.0	4280645.0	Roadway/Open Space	-	-	0.03
3043	669309.0	4280645.0	Roadway/Open Space	-	-	0.03
3044	669319.0	4280645.0	Roadway/Open Space	-	-	0.03
3045	669329.0	4280645.0	Roadway/Open Space	-	-	0.03
3046	669339.0	4280645.0	Roadway/Open Space	-	-	0.03
3047	669349.0	4280645.0	Roadway/Open Space	-	-	0.03
3048	669359.0	4280645.0	Roadway/Open Space	-	-	0.03
3049	669369.0	4280645.0	Roadway/Open Space	-	-	0.03
3050	669379.0	4280645.0	Roadway/Open Space	-	-	0.03
3051	669389.0	4280645.0	Roadway/Open Space	-	-	0.03
3052	669399.0	4280645.0	Roadway/Open Space	-	-	0.02
3053	669409.0	4280645.0	Roadway/Open Space	-	-	0.02
3054	669419.0	4280645.0	Roadway/Open Space	-	-	0.02
3055	669429.0	4280645.0	Roadway/Open Space	-	-	0.02
3056	669439.0	4280645.0	Roadway/Open Space	-	-	0.02
3057	669449.0	4280645.0	Roadway/Open Space	-	-	0.02
3058	669459.0	4280645.0	Roadway/Open Space	-	-	0.02
3059	669469.0	4280645.0	Roadway/Open Space	-	-	0.02
3060	669479.0	4280645.0	Roadway/Open Space	-	-	0.02
3061	669489.0	4280645.0	Roadway/Open Space	-	-	0.02
3062	669499.0	4280645.0	Roadway/Open Space	-	-	0.02
3063	669509.0	4280645.0	Roadway/Open Space	-	-	0.02
3064	669519.0	4280645.0	Roadway/Open Space	-	-	0.02
3065	669529.0	4280645.0	Roadway/Open Space	-	-	0.02
3066	669539.0	4280645.0	Roadway/Open Space	-	-	0.02
3067	669549.0	4280645.0	Roadway/Open Space	-	-	0.02
3068	669559.0	4280645.0	Roadway/Open Space	-	-	0.02
3069	669569.0	4280645.0	Roadway/Open Space	-	-	0.02
3070	669579.0	4280645.0	Roadway/Open Space	-	-	0.02
3071	669589.0	4280645.0	Roadway/Open Space	-	-	0.02
3072	669599.0	4280645.0	Roadway/Open Space	-	-	0.02
3073	668589.0	4280655.0	Roadway/Open Space	-	-	0.03
3074	668599.0	4280655.0	Roadway/Open Space	-	-	0.03
3075	668609.0	4280655.0	Roadway/Open Space	-	-	0.03
3076	668619.0	4280655.0	Roadway/Open Space	-	-	0.02
3077	668629.0	4280655.0	Roadway/Open Space	-	-	0.02
3078	668639.0	4280655.0	Roadway/Open Space	-	-	0.02
3079	668649.0	4280655.0	Roadway/Open Space	-	-	0.02
3080	668659.0	4280655.0	Roadway/Open Space	-	-	0.02
3081	668669.0	4280655.0	Roadway/Open Space	-	-	0.02
3082	668679.0	4280655.0	Roadway/Open Space	-	-	0.03
3083	668689.0	4280655.0	Roadway/Open Space	-	-	0.03
3084	668699.0	4280655.0	Roadway/Open Space	-	-	0.03
3085	668709.0	4280655.0	Roadway/Open Space	-	-	0.03
3086	668719.0	4280655.0	Roadway/Open Space	-	-	0.03
3087	668729.0	4280655.0	Roadway/Open Space	-	-	0.03
3088	668739.0	4280655.0	Roadway/Open Space	-	-	0.04
3089	668749.0	4280655.0	Roadway/Open Space	-	-	0.04
3090	668759.0	4280655.0	Roadway/Open Space	-	-	0.04
3091	668769.0	4280655.0	Roadway/Open Space	-	-	0.03
3092	668779.0	4280655.0	Roadway/Open Space	-	-	0.03
3093	668789.0	4280655.0	Roadway/Open Space	-	-	0.03
3094	668799.0	4280655.0	Roadway/Open Space	-	-	0.03
3095	668809.0	4280655.0	Roadway/Open Space	-	-	0.04
3096	668819.0	4280655.0	Roadway/Open Space	-	-	0.04
3097	668829.0	4280655.0	Roadway/Open Space	-	-	0.04
3098	668839.0	4280655.0	Roadway/Open Space	-	-	0.04
3099	668849.0	4280655.0	Roadway/Open Space	-	-	0.04
3100	668859.0	4280655.0	Roadway/Open Space	-	-	0.04
3101	668869.0	4280655.0	Roadway/Open Space	-	-	0.04
3102	668879.0	4280655.0	Roadway/Open Space	-	-	0.03
3103	668889.0	4280655.0	Roadway/Open Space	-	-	0.03
3104	668899.0	4280655.0	Roadway/Open Space	-	-	0.03
3105	668909.0	4280655.0	Roadway/Open Space	-	-	0.03
3106	668919.0	4280655.0	Roadway/Open Space	-	-	0.03
3107	668929.0	4280655.0	Roadway/Open Space	-	-	0.03
3108	668939.0	4280655.0	Roadway/Open Space	-	-	0.03
3109	668949.0	4280655.0	Roadway/Open Space	-	-	0.03
3110	668959.0	4280655.0	Roadway/Open Space	-	-	0.03
3111	668969.0	4280655.0	Roadway/Open Space	-	-	0.04
3112	668979.0	4280655.0	Roadway/Open Space	-	-	0.04
3113	668989.0	4280655.0	Roadway/Open Space	-	-	0.04
3114	668999.0	4280655.0	Roadway/Open Space	-	-	0.04
3115	669009.0	4280655.0	Roadway/Open Space	-	-	0.04
3116	669019.0	4280655.0	Roadway/Open Space	-	-	0.04

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
3123	669089.0	4280655.0	Roadway/Open Space	-	-	0.04
3124	669099.0	4280655.0	Roadway/Open Space	-	-	0.04
3125	669109.0	4280655.0	Roadway/Open Space	-	-	0.04
3126	669119.0	4280655.0	Roadway/Open Space	-	-	0.04
3127	669129.0	4280655.0	Roadway/Open Space	-	-	0.04
3128	669139.0	4280655.0	Roadway/Open Space	-	-	0.04
3129	669149.0	4280655.0	Roadway/Open Space	-	-	0.04
3130	669159.0	4280655.0	Roadway/Open Space	-	-	0.04
3131	669169.0	4280655.0	Roadway/Open Space	-	-	0.04
3132	669179.0	4280655.0	Roadway/Open Space	-	-	0.04
3133	669189.0	4280655.0	Roadway/Open Space	-	-	0.04
3134	669199.0	4280655.0	Roadway/Open Space	-	-	0.04
3135	669209.0	4280655.0	Roadway/Open Space	-	-	0.04
3136	669219.0	4280655.0	Roadway/Open Space	-	-	0.04
3137	669229.0	4280655.0	Roadway/Open Space	-	-	0.04
3138	669239.0	4280655.0	Roadway/Open Space	-	-	0.04
3139	669249.0	4280655.0	Roadway/Open Space	-	-	0.04
3140	669259.0	4280655.0	Roadway/Open Space	-	-	0.04
3141	669269.0	4280655.0	Roadway/Open Space	-	-	0.04
3142	669279.0	4280655.0	Roadway/Open Space	-	-	0.04
3143	669289.0	4280655.0	Roadway/Open Space	-	-	0.04
3144	669299.0	4280655.0	Roadway/Open Space	-	-	0.04
3145	669309.0	4280655.0	Roadway/Open Space	-	-	0.04
3146	669319.0	4280655.0	Roadway/Open Space	-	-	0.04
3147	669329.0	4280655.0	Roadway/Open Space	-	-	0.03
3148	669339.0	4280655.0	Roadway/Open Space	-	-	0.03
3149	669349.0	4280655.0	Roadway/Open Space	-	-	0.03
3150	669359.0	4280655.0	Roadway/Open Space	-	-	0.03
3151	669369.0	4280655.0	Roadway/Open Space	-	-	0.03
3152	669379.0	4280655.0	Roadway/Open Space	-	-	0.03
3153	669389.0	4280655.0	Roadway/Open Space	-	-	0.03
3154	669399.0	4280655.0	Roadway/Open Space	-	-	0.03
3155	669409.0	4280655.0	Roadway/Open Space	-	-	0.02
3156	669419.0	4280655.0	Roadway/Open Space	-	-	0.02
3157	669429.0	4280655.0	Roadway/Open Space	-	-	0.03
3158	669439.0	4280655.0	Roadway/Open Space	-	-	0.03
3159	669449.0	4280655.0	Roadway/Open Space	-	-	0.02
3160	669459.0	4280655.0	Roadway/Open Space	-	-	0.02
3161	669469.0	4280655.0	Roadway/Open Space	-	-	0.02
3162	669479.0	4280655.0	Roadway/Open Space	-	-	0.02
3163	669489.0	4280655.0	Roadway/Open Space	-	-	0.02
3164	669499.0	4280655.0	Roadway/Open Space	-	-	0.02
3165	669509.0	4280655.0	Roadway/Open Space	-	-	0.02
3166	669519.0	4280655.0	Roadway/Open Space	-	-	0.02
3167	669529.0	4280655.0	Roadway/Open Space	-	-	0.02
3168	669539.0	4280655.0	Roadway/Open Space	-	-	0.02
3169	669549.0	4280655.0	Roadway/Open Space	-	-	0.02
3170	669559.0	4280655.0	Roadway/Open Space	-	-	0.02
3171	669569.0	4280655.0	Roadway/Open Space	-	-	0.02
3172	669579.0	4280655.0	Roadway/Open Space	-	-	0.02
3173	669589.0	4280655.0	Roadway/Open Space	-	-	0.02
3174	669599.0	4280655.0	Roadway/Open Space	-	-	0.02
3175	669609.0	4280655.0	Roadway/Open Space	-	-	0.02
3176	668579.0	4280665.0	Roadway/Open Space	-	-	0.03
3177	668589.0	4280665.0	Roadway/Open Space	-	-	0.03
3178	668599.0	4280665.0	Roadway/Open Space	-	-	0.03
3179	668609.0	4280665.0	Roadway/Open Space	-	-	0.03
3180	668619.0	4280665.0	Roadway/Open Space	-	-	0.02
3181	668629.0	4280665.0	Roadway/Open Space	-	-	0.02
3182	668639.0	4280665.0	Roadway/Open Space	-	-	0.02
3183	668649.0	4280665.0	Roadway/Open Space	-	-	0.02
3184	668659.0	4280665.0	Roadway/Open Space	-	-	0.03
3185	668669.0	4280665.0	Roadway/Open Space	-	-	0.03
3186	668679.0	4280665.0	Roadway/Open Space	-	-	0.03
3187	668689.0	4280665.0	Roadway/Open Space	-	-	0.03
3188	668699.0	4280665.0	Roadway/Open Space	-	-	0.03
3189	668709.0	4280665.0	Residential	0.30	0.001	0.03
3190	668719.0	4280665.0	Residential	0.31	0.001	0.03
3191	668729.0	4280665.0	Residential	0.32	0.001	0.03
3192	668739.0	4280665.0	Residential	0.34	0.001	0.04
3193	668749.0	4280665.0	Roadway/Open Space	-	-	0.04
3194	668759.0	4280665.0	Roadway/Open Space	-	-	0.04
3195	668769.0	4280665.0	Roadway/Open Space	-	-	0.04
3196	668779.0	4280665.0	Roadway/Open Space	-	-	0.03
3197	668789.0	4280665.0	Roadway/Open Space	-	-	0.03
3198	668799.0	4280665.0	Roadway/Open Space	-	-	0.03
3199	668809.0	4280665.0	Roadway/Open Space	-	-	0.04
3200	668819.0	4280665.0	Roadway/Open Space	-	-	0.04
3201	668829.0	4280665.0	Roadway/Open Space	-	-	0.04
3202	668839.0	4280665.0	Roadway/Open Space	-	-	0.04
3203	668849.0	4280665.0	Roadway/Open Space	-	-	0.04
3204	668859.0	4280665.0	Roadway/Open Space	-	-	0.04
3205	668869.0	4280665.0	Roadway/Open Space	-	-	0.04
3206	668879.0	4280665.0	Roadway/Open Space	-	-	0.04

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
3207	668889.0	4280665.0	Roadway/Open Space	-	-	0.04
3208	668899.0	4280665.0	Roadway/Open Space	-	-	0.04
3209	668909.0	4280665.0	Roadway/Open Space	-	-	0.04
3210	668919.0	4280665.0	Roadway/Open Space	-	-	0.04
3211	668929.0	4280665.0	Roadway/Open Space	-	-	0.03
3212	668939.0	4280665.0	Roadway/Open Space	-	-	0.03
3213	668949.0	4280665.0	Roadway/Open Space	-	-	0.03
3214	668959.0	4280665.0	Roadway/Open Space	-	-	0.03
3215	668969.0	4280665.0	Roadway/Open Space	-	-	0.04
3216	668979.0	4280665.0	Roadway/Open Space	-	-	0.04
3217	668989.0	4280665.0	Roadway/Open Space	-	-	0.04
3218	668999.0	4280665.0	Roadway/Open Space	-	-	0.04
3219	669009.0	4280665.0	Roadway/Open Space	-	-	0.04
3228	669099.0	4280665.0	Roadway/Open Space	-	-	0.04
3229	669109.0	4280665.0	Roadway/Open Space	-	-	0.04
3230	669119.0	4280665.0	Roadway/Open Space	-	-	0.04
3231	669129.0	4280665.0	Roadway/Open Space	-	-	0.04
3232	669139.0	4280665.0	Roadway/Open Space	-	-	0.04
3233	669149.0	4280665.0	Roadway/Open Space	-	-	0.04
3234	669159.0	4280665.0	Roadway/Open Space	-	-	0.04
3235	669169.0	4280665.0	Roadway/Open Space	-	-	0.04
3236	669179.0	4280665.0	Roadway/Open Space	-	-	0.04
3237	669189.0	4280665.0	Roadway/Open Space	-	-	0.04
3238	669199.0	4280665.0	Roadway/Open Space	-	-	0.04
3239	669209.0	4280665.0	Roadway/Open Space	-	-	0.04
3240	669219.0	4280665.0	Roadway/Open Space	-	-	0.04
3241	669229.0	4280665.0	Roadway/Open Space	-	-	0.04
3242	669239.0	4280665.0	Roadway/Open Space	-	-	0.04
3243	669249.0	4280665.0	Roadway/Open Space	-	-	0.05
3244	669259.0	4280665.0	Roadway/Open Space	-	-	0.05
3245	669269.0	4280665.0	Roadway/Open Space	-	-	0.05
3246	669279.0	4280665.0	Roadway/Open Space	-	-	0.05
3247	669289.0	4280665.0	Roadway/Open Space	-	-	0.04
3248	669299.0	4280665.0	Roadway/Open Space	-	-	0.04
3249	669309.0	4280665.0	Roadway/Open Space	-	-	0.04
3250	669319.0	4280665.0	Roadway/Open Space	-	-	0.04
3251	669329.0	4280665.0	Roadway/Open Space	-	-	0.04
3252	669339.0	4280665.0	Roadway/Open Space	-	-	0.04
3253	669349.0	4280665.0	Roadway/Open Space	-	-	0.03
3254	669359.0	4280665.0	Roadway/Open Space	-	-	0.03
3255	669369.0	4280665.0	Roadway/Open Space	-	-	0.03
3256	669379.0	4280665.0	Roadway/Open Space	-	-	0.03
3257	669389.0	4280665.0	Roadway/Open Space	-	-	0.03
3258	669399.0	4280665.0	Roadway/Open Space	-	-	0.03
3259	669409.0	4280665.0	Roadway/Open Space	-	-	0.03
3260	669419.0	4280665.0	Roadway/Open Space	-	-	0.03
3261	669429.0	4280665.0	Roadway/Open Space	-	-	0.03
3262	669439.0	4280665.0	Roadway/Open Space	-	-	0.03
3263	669449.0	4280665.0	Roadway/Open Space	-	-	0.03
3264	669459.0	4280665.0	Roadway/Open Space	-	-	0.03
3265	669469.0	4280665.0	Roadway/Open Space	-	-	0.03
3266	669479.0	4280665.0	Roadway/Open Space	-	-	0.02
3267	669489.0	4280665.0	Roadway/Open Space	-	-	0.02
3268	669499.0	4280665.0	Roadway/Open Space	-	-	0.02
3269	669509.0	4280665.0	Roadway/Open Space	-	-	0.02
3270	669519.0	4280665.0	Roadway/Open Space	-	-	0.02
3271	669529.0	4280665.0	Roadway/Open Space	-	-	0.02
3272	669539.0	4280665.0	Roadway/Open Space	-	-	0.02
3273	669549.0	4280665.0	Roadway/Open Space	-	-	0.02
3274	669559.0	4280665.0	Roadway/Open Space	-	-	0.02
3275	669569.0	4280665.0	Roadway/Open Space	-	-	0.02
3276	669579.0	4280665.0	Roadway/Open Space	-	-	0.02
3277	669589.0	4280665.0	Roadway/Open Space	-	-	0.02
3278	669599.0	4280665.0	Roadway/Open Space	-	-	0.02
3279	669609.0	4280665.0	Roadway/Open Space	-	-	0.02
3280	668579.0	4280675.0	Roadway/Open Space	-	-	0.03
3281	668589.0	4280675.0	Roadway/Open Space	-	-	0.03
3282	668599.0	4280675.0	Roadway/Open Space	-	-	0.03
3283	668609.0	4280675.0	Roadway/Open Space	-	-	0.03
3284	668619.0	4280675.0	Roadway/Open Space	-	-	0.02
3285	668629.0	4280675.0	Roadway/Open Space	-	-	0.02
3286	668639.0	4280675.0	Roadway/Open Space	-	-	0.02
3287	668649.0	4280675.0	Roadway/Open Space	-	-	0.03
3288	668659.0	4280675.0	Roadway/Open Space	-	-	0.03
3289	668669.0	4280675.0	Roadway/Open Space	-	-	0.03
3290	668679.0	4280675.0	Roadway/Open Space	-	-	0.03
3291	668689.0	4280675.0	Roadway/Open Space	-	-	0.03
3292	668699.0	4280675.0	Residential	0.28	0.001	0.03
3293	668709.0	4280675.0	Residential	0.28	0.001	0.03
3294	668719.0	4280675.0	Residential	0.29	0.001	0.03
3295	668729.0	4280675.0	Residential	0.31	0.001	0.03
3296	668739.0	4280675.0	Residential	0.33	0.001	0.04
3297	668749.0	4280675.0	Residential	0.36	0.001	0.04
3298	668759.0	4280675.0	Residential	0.39	0.001	0.04

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
3299	668769.0	4280675.0	Roadway/Open Space	-	-	0.04
3300	668779.0	4280675.0	Roadway/Open Space	-	-	0.04
3301	668789.0	4280675.0	Roadway/Open Space	-	-	0.03
3302	668799.0	4280675.0	Roadway/Open Space	-	-	0.03
3303	668809.0	4280675.0	Roadway/Open Space	-	-	0.04
3304	668819.0	4280675.0	Roadway/Open Space	-	-	0.04
3305	668829.0	4280675.0	Roadway/Open Space	-	-	0.04
3306	668839.0	4280675.0	Roadway/Open Space	-	-	0.04
3307	668849.0	4280675.0	Roadway/Open Space	-	-	0.04
3308	668859.0	4280675.0	Roadway/Open Space	-	-	0.04
3309	668869.0	4280675.0	Roadway/Open Space	-	-	0.04
3310	668879.0	4280675.0	Roadway/Open Space	-	-	0.04
3311	668889.0	4280675.0	Roadway/Open Space	-	-	0.04
3312	668899.0	4280675.0	Roadway/Open Space	-	-	0.04
3313	668909.0	4280675.0	Roadway/Open Space	-	-	0.04
3314	668919.0	4280675.0	Roadway/Open Space	-	-	0.04
3315	668929.0	4280675.0	Roadway/Open Space	-	-	0.04
3316	668939.0	4280675.0	Roadway/Open Space	-	-	0.04
3317	668949.0	4280675.0	Roadway/Open Space	-	-	0.04
3318	668959.0	4280675.0	Roadway/Open Space	-	-	0.04
3319	668969.0	4280675.0	Roadway/Open Space	-	-	0.04
3320	668979.0	4280675.0	Roadway/Open Space	-	-	0.04
3321	668989.0	4280675.0	Roadway/Open Space	-	-	0.04
3322	668999.0	4280675.0	Roadway/Open Space	-	-	0.04
3323	669009.0	4280675.0	Roadway/Open Space	-	-	0.04
3333	669109.0	4280675.0	Roadway/Open Space	-	-	0.04
3334	669119.0	4280675.0	Roadway/Open Space	-	-	0.04
3335	669129.0	4280675.0	Roadway/Open Space	-	-	0.04
3336	669139.0	4280675.0	Roadway/Open Space	-	-	0.04
3337	669149.0	4280675.0	Roadway/Open Space	-	-	0.04
3338	669159.0	4280675.0	Roadway/Open Space	-	-	0.04
3339	669169.0	4280675.0	Roadway/Open Space	-	-	0.04
3340	669179.0	4280675.0	Roadway/Open Space	-	-	0.04
3341	669189.0	4280675.0	Roadway/Open Space	-	-	0.04
3342	669199.0	4280675.0	Roadway/Open Space	-	-	0.04
3343	669209.0	4280675.0	Roadway/Open Space	-	-	0.04
3344	669219.0	4280675.0	Roadway/Open Space	-	-	0.04
3345	669229.0	4280675.0	Roadway/Open Space	-	-	0.04
3346	669239.0	4280675.0	Roadway/Open Space	-	-	0.04
3347	669249.0	4280675.0	Roadway/Open Space	-	-	0.05
3348	669259.0	4280675.0	Roadway/Open Space	-	-	0.05
3349	669269.0	4280675.0	Roadway/Open Space	-	-	0.05
3350	669279.0	4280675.0	Roadway/Open Space	-	-	0.05
3351	669289.0	4280675.0	Roadway/Open Space	-	-	0.04
3352	669299.0	4280675.0	Roadway/Open Space	-	-	0.04
3353	669309.0	4280675.0	Roadway/Open Space	-	-	0.04
3354	669319.0	4280675.0	Roadway/Open Space	-	-	0.04
3355	669329.0	4280675.0	Roadway/Open Space	-	-	0.04
3356	669339.0	4280675.0	Roadway/Open Space	-	-	0.04
3357	669349.0	4280675.0	Roadway/Open Space	-	-	0.03
3358	669359.0	4280675.0	Roadway/Open Space	-	-	0.03
3359	669369.0	4280675.0	Roadway/Open Space	-	-	0.03
3360	669379.0	4280675.0	Roadway/Open Space	-	-	0.03
3361	669389.0	4280675.0	Roadway/Open Space	-	-	0.03
3362	669399.0	4280675.0	Roadway/Open Space	-	-	0.03
3363	669409.0	4280675.0	Roadway/Open Space	-	-	0.03
3364	669419.0	4280675.0	Roadway/Open Space	-	-	0.03
3365	669429.0	4280675.0	Roadway/Open Space	-	-	0.03
3366	669439.0	4280675.0	Roadway/Open Space	-	-	0.03
3367	669449.0	4280675.0	Roadway/Open Space	-	-	0.03
3368	669459.0	4280675.0	Roadway/Open Space	-	-	0.03
3369	669469.0	4280675.0	Roadway/Open Space	-	-	0.03
3370	669479.0	4280675.0	Roadway/Open Space	-	-	0.02
3371	669489.0	4280675.0	Roadway/Open Space	-	-	0.02
3372	669499.0	4280675.0	Roadway/Open Space	-	-	0.02
3373	669509.0	4280675.0	Roadway/Open Space	-	-	0.02
3374	669519.0	4280675.0	Roadway/Open Space	-	-	0.02
3375	669529.0	4280675.0	Roadway/Open Space	-	-	0.02
3376	669539.0	4280675.0	Roadway/Open Space	-	-	0.02
3377	669549.0	4280675.0	Roadway/Open Space	-	-	0.02
3378	669559.0	4280675.0	Roadway/Open Space	-	-	0.02
3379	669569.0	4280675.0	Roadway/Open Space	-	-	0.02
3380	669579.0	4280675.0	Roadway/Open Space	-	-	0.02
3381	669589.0	4280675.0	Roadway/Open Space	-	-	0.02
3382	669599.0	4280675.0	Roadway/Open Space	-	-	0.02
3383	669609.0	4280675.0	Roadway/Open Space	-	-	0.02
3384	668569.0	4280685.0	Roadway/Open Space	-	-	0.03
3385	668579.0	4280685.0	Roadway/Open Space	-	-	0.03
3386	668589.0	4280685.0	Roadway/Open Space	-	-	0.03
3387	668599.0	4280685.0	Roadway/Open Space	-	-	0.03
3388	668609.0	4280685.0	Roadway/Open Space	-	-	0.02
3389	668619.0	4280685.0	Roadway/Open Space	-	-	0.02
3390	668629.0	4280685.0	Roadway/Open Space	-	-	0.02
3391	668639.0	4280685.0	Roadway/Open Space	-	-	0.03

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
3392	668649.0	4280685.0	Roadway/Open Space	-	-	0.03
3393	668659.0	4280685.0	Roadway/Open Space	-	-	0.03
3394	668669.0	4280685.0	Roadway/Open Space	-	-	0.03
3395	668679.0	4280685.0	Roadway/Open Space	-	-	0.03
3396	668689.0	4280685.0	Residential	0.26	0.001	0.03
3397	668699.0	4280685.0	Residential	0.26	0.001	0.03
3398	668709.0	4280685.0	Residential	0.27	0.001	0.03
3399	668719.0	4280685.0	Residential	0.28	0.001	0.03
3400	668729.0	4280685.0	Residential	0.30	0.001	0.03
3401	668739.0	4280685.0	Residential	0.32	0.001	0.03
3402	668749.0	4280685.0	Residential	0.35	0.001	0.04
3403	668759.0	4280685.0	Residential	0.38	0.001	0.04
3404	668769.0	4280685.0	Residential	0.43	0.002	0.04
3405	668779.0	4280685.0	Roadway/Open Space	-	-	0.04
3406	668789.0	4280685.0	Roadway/Open Space	-	-	0.04
3407	668799.0	4280685.0	Roadway/Open Space	-	-	0.03
3408	668809.0	4280685.0	Roadway/Open Space	-	-	0.04
3409	668819.0	4280685.0	Roadway/Open Space	-	-	0.04
3410	668829.0	4280685.0	Roadway/Open Space	-	-	0.04
3411	668839.0	4280685.0	Roadway/Open Space	-	-	0.04
3412	668849.0	4280685.0	Roadway/Open Space	-	-	0.04
3413	668859.0	4280685.0	Roadway/Open Space	-	-	0.04
3414	668869.0	4280685.0	Roadway/Open Space	-	-	0.04
3415	668879.0	4280685.0	Roadway/Open Space	-	-	0.04
3416	668889.0	4280685.0	Roadway/Open Space	-	-	0.04
3417	668899.0	4280685.0	Roadway/Open Space	-	-	0.04
3418	668909.0	4280685.0	Roadway/Open Space	-	-	0.04
3419	668919.0	4280685.0	Roadway/Open Space	-	-	0.04
3420	668929.0	4280685.0	Roadway/Open Space	-	-	0.04
3421	668939.0	4280685.0	Roadway/Open Space	-	-	0.04
3422	668949.0	4280685.0	Roadway/Open Space	-	-	0.04
3423	668959.0	4280685.0	Roadway/Open Space	-	-	0.04
3424	668969.0	4280685.0	Roadway/Open Space	-	-	0.04
3425	668979.0	4280685.0	Roadway/Open Space	-	-	0.04
3426	668989.0	4280685.0	Roadway/Open Space	-	-	0.04
3427	668999.0	4280685.0	Roadway/Open Space	-	-	0.04
3439	669119.0	4280685.0	Roadway/Open Space	-	-	0.04
3440	669129.0	4280685.0	Roadway/Open Space	-	-	0.04
3441	669139.0	4280685.0	Roadway/Open Space	-	-	0.04
3442	669149.0	4280685.0	Roadway/Open Space	-	-	0.04
3443	669159.0	4280685.0	Roadway/Open Space	-	-	0.04
3444	669169.0	4280685.0	Roadway/Open Space	-	-	0.04
3445	669179.0	4280685.0	Roadway/Open Space	-	-	0.04
3446	669189.0	4280685.0	Roadway/Open Space	-	-	0.04
3447	669199.0	4280685.0	Roadway/Open Space	-	-	0.04
3448	669209.0	4280685.0	Roadway/Open Space	-	-	0.04
3449	669219.0	4280685.0	Roadway/Open Space	-	-	0.04
3450	669229.0	4280685.0	Roadway/Open Space	-	-	0.04
3451	669239.0	4280685.0	Roadway/Open Space	-	-	0.04
3452	669249.0	4280685.0	Roadway/Open Space	-	-	0.05
3453	669259.0	4280685.0	Roadway/Open Space	-	-	0.05
3454	669269.0	4280685.0	Roadway/Open Space	-	-	0.05
3455	669279.0	4280685.0	Roadway/Open Space	-	-	0.05
3456	669289.0	4280685.0	Roadway/Open Space	-	-	0.04
3457	669299.0	4280685.0	Roadway/Open Space	-	-	0.04
3458	669309.0	4280685.0	Roadway/Open Space	-	-	0.04
3459	669319.0	4280685.0	Roadway/Open Space	-	-	0.04
3460	669329.0	4280685.0	Roadway/Open Space	-	-	0.04
3461	669339.0	4280685.0	Roadway/Open Space	-	-	0.04
3462	669349.0	4280685.0	Roadway/Open Space	-	-	0.03
3463	669359.0	4280685.0	Roadway/Open Space	-	-	0.03
3464	669369.0	4280685.0	Roadway/Open Space	-	-	0.03
3465	669379.0	4280685.0	Roadway/Open Space	-	-	0.03
3466	669389.0	4280685.0	Roadway/Open Space	-	-	0.03
3467	669399.0	4280685.0	Roadway/Open Space	-	-	0.03
3468	669409.0	4280685.0	Roadway/Open Space	-	-	0.03
3469	669419.0	4280685.0	Roadway/Open Space	-	-	0.03
3470	669429.0	4280685.0	Roadway/Open Space	-	-	0.03
3471	669439.0	4280685.0	Roadway/Open Space	-	-	0.03
3472	669449.0	4280685.0	Roadway/Open Space	-	-	0.03
3473	669459.0	4280685.0	Roadway/Open Space	-	-	0.03
3474	669469.0	4280685.0	Roadway/Open Space	-	-	0.03
3475	669479.0	4280685.0	Roadway/Open Space	-	-	0.03
3476	669489.0	4280685.0	Roadway/Open Space	-	-	0.02
3477	669499.0	4280685.0	Roadway/Open Space	-	-	0.02
3478	669509.0	4280685.0	Roadway/Open Space	-	-	0.02
3479	669519.0	4280685.0	Roadway/Open Space	-	-	0.02
3480	669529.0	4280685.0	Roadway/Open Space	-	-	0.02
3481	669539.0	4280685.0	Roadway/Open Space	-	-	0.02
3482	669549.0	4280685.0	Roadway/Open Space	-	-	0.02
3483	669559.0	4280685.0	Roadway/Open Space	-	-	0.02
3484	669569.0	4280685.0	Roadway/Open Space	-	-	0.02
3485	669579.0	4280685.0	Roadway/Open Space	-	-	0.02
3486	669589.0	4280685.0	Roadway/Open Space	-	-	0.02

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
3487	669599.0	4280685.0	Roadway/Open Space	-	-	0.02
3488	669609.0	4280685.0	Roadway/Open Space	-	-	0.02
3489	668569.0	4280695.0	Roadway/Open Space	-	-	0.03
3490	668579.0	4280695.0	Roadway/Open Space	-	-	0.03
3491	668589.0	4280695.0	Roadway/Open Space	-	-	0.03
3492	668599.0	4280695.0	Roadway/Open Space	-	-	0.03
3493	668609.0	4280695.0	Roadway/Open Space	-	-	0.02
3494	668619.0	4280695.0	Roadway/Open Space	-	-	0.02
3495	668629.0	4280695.0	Roadway/Open Space	-	-	0.03
3496	668639.0	4280695.0	Roadway/Open Space	-	-	0.03
3497	668649.0	4280695.0	Roadway/Open Space	-	-	0.03
3498	668659.0	4280695.0	Roadway/Open Space	-	-	0.03
3499	668669.0	4280695.0	Roadway/Open Space	-	-	0.03
3500	668679.0	4280695.0	Residential	0.24	0.001	0.03
3501	668689.0	4280695.0	Residential	0.25	0.001	0.03
3502	668699.0	4280695.0	Residential	0.25	0.001	0.03
3503	668709.0	4280695.0	Residential	0.26	0.001	0.03
3504	668719.0	4280695.0	Residential	0.27	0.001	0.03
3505	668729.0	4280695.0	Residential	0.29	0.001	0.03
3506	668739.0	4280695.0	Residential	0.31	0.001	0.04
3507	668749.0	4280695.0	Residential	0.34	0.001	0.04
3508	668759.0	4280695.0	Residential	0.38	0.001	0.04
3509	668769.0	4280695.0	Residential	0.42	0.002	0.04
3510	668779.0	4280695.0	Roadway/Open Space	-	-	0.04
3511	668789.0	4280695.0	Roadway/Open Space	-	-	0.04
3512	668799.0	4280695.0	Roadway/Open Space	-	-	0.04
3513	668809.0	4280695.0	Roadway/Open Space	-	-	0.04
3514	668819.0	4280695.0	Roadway/Open Space	-	-	0.04
3515	668829.0	4280695.0	Roadway/Open Space	-	-	0.04
3516	668839.0	4280695.0	Roadway/Open Space	-	-	0.04
3517	668849.0	4280695.0	Roadway/Open Space	-	-	0.04
3518	668859.0	4280695.0	Roadway/Open Space	-	-	0.04
3519	668869.0	4280695.0	Roadway/Open Space	-	-	0.05
3520	668879.0	4280695.0	Roadway/Open Space	-	-	0.04
3521	668889.0	4280695.0	Roadway/Open Space	-	-	0.04
3522	668899.0	4280695.0	Roadway/Open Space	-	-	0.04
3523	668909.0	4280695.0	Roadway/Open Space	-	-	0.04
3524	668919.0	4280695.0	Roadway/Open Space	-	-	0.04
3525	668929.0	4280695.0	Roadway/Open Space	-	-	0.04
3526	668939.0	4280695.0	Roadway/Open Space	-	-	0.04
3527	668949.0	4280695.0	Roadway/Open Space	-	-	0.04
3528	668959.0	4280695.0	Roadway/Open Space	-	-	0.04
3529	668969.0	4280695.0	Roadway/Open Space	-	-	0.04
3530	668979.0	4280695.0	Roadway/Open Space	-	-	0.04
3531	668989.0	4280695.0	Roadway/Open Space	-	-	0.04
3532	668999.0	4280695.0	Roadway/Open Space	-	-	0.04
3545	669129.0	4280695.0	Roadway/Open Space	-	-	0.04
3546	669139.0	4280695.0	Roadway/Open Space	-	-	0.04
3547	669149.0	4280695.0	Roadway/Open Space	-	-	0.04
3548	669159.0	4280695.0	Roadway/Open Space	-	-	0.04
3549	669169.0	4280695.0	Roadway/Open Space	-	-	0.04
3550	669179.0	4280695.0	Roadway/Open Space	-	-	0.04
3551	669189.0	4280695.0	Roadway/Open Space	-	-	0.04
3552	669199.0	4280695.0	Roadway/Open Space	-	-	0.04
3553	669209.0	4280695.0	Roadway/Open Space	-	-	0.04
3554	669219.0	4280695.0	Roadway/Open Space	-	-	0.04
3555	669229.0	4280695.0	Roadway/Open Space	-	-	0.04
3556	669239.0	4280695.0	Roadway/Open Space	-	-	0.04
3557	669249.0	4280695.0	Roadway/Open Space	-	-	0.05
3558	669259.0	4280695.0	Roadway/Open Space	-	-	0.05
3559	669269.0	4280695.0	Roadway/Open Space	-	-	0.05
3560	669279.0	4280695.0	Roadway/Open Space	-	-	0.05
3561	669289.0	4280695.0	Roadway/Open Space	-	-	0.04
3562	669299.0	4280695.0	Roadway/Open Space	-	-	0.04
3563	669309.0	4280695.0	Roadway/Open Space	-	-	0.04
3564	669319.0	4280695.0	Roadway/Open Space	-	-	0.04
3565	669329.0	4280695.0	Roadway/Open Space	-	-	0.04
3566	669339.0	4280695.0	Roadway/Open Space	-	-	0.04
3567	669349.0	4280695.0	Roadway/Open Space	-	-	0.03
3568	669359.0	4280695.0	Roadway/Open Space	-	-	0.03
3569	669369.0	4280695.0	Roadway/Open Space	-	-	0.03
3570	669379.0	4280695.0	Roadway/Open Space	-	-	0.03
3571	669389.0	4280695.0	Roadway/Open Space	-	-	0.03
3572	669399.0	4280695.0	Roadway/Open Space	-	-	0.03
3573	669409.0	4280695.0	Roadway/Open Space	-	-	0.03
3574	669419.0	4280695.0	Roadway/Open Space	-	-	0.03
3575	669429.0	4280695.0	Roadway/Open Space	-	-	0.03
3576	669439.0	4280695.0	Roadway/Open Space	-	-	0.03
3577	669449.0	4280695.0	Roadway/Open Space	-	-	0.03
3578	669459.0	4280695.0	Roadway/Open Space	-	-	0.03
3579	669469.0	4280695.0	Roadway/Open Space	-	-	0.03
3580	669479.0	4280695.0	Roadway/Open Space	-	-	0.03
3581	669489.0	4280695.0	Roadway/Open Space	-	-	0.03
3582	669499.0	4280695.0	Roadway/Open Space	-	-	0.02

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
3583	669509.0	4280695.0	Roadway/Open Space	-	-	0.02
3584	669519.0	4280695.0	Roadway/Open Space	-	-	0.02
3585	669529.0	4280695.0	Roadway/Open Space	-	-	0.02
3586	669539.0	4280695.0	Roadway/Open Space	-	-	0.02
3587	669549.0	4280695.0	Roadway/Open Space	-	-	0.02
3588	669559.0	4280695.0	Roadway/Open Space	-	-	0.02
3589	669569.0	4280695.0	Roadway/Open Space	-	-	0.02
3590	669579.0	4280695.0	Roadway/Open Space	-	-	0.02
3591	669589.0	4280695.0	Roadway/Open Space	-	-	0.02
3592	669599.0	4280695.0	Roadway/Open Space	-	-	0.02
3593	669609.0	4280695.0	Roadway/Open Space	-	-	0.02
3594	669619.0	4280695.0	Roadway/Open Space	-	-	0.02
3595	668569.0	4280705.0	Roadway/Open Space	-	-	0.03
3596	668579.0	4280705.0	Roadway/Open Space	-	-	0.03
3597	668589.0	4280705.0	Roadway/Open Space	-	-	0.03
3598	668599.0	4280705.0	Roadway/Open Space	-	-	0.03
3599	668609.0	4280705.0	Roadway/Open Space	-	-	0.02
3600	668619.0	4280705.0	Roadway/Open Space	-	-	0.03
3601	668629.0	4280705.0	Roadway/Open Space	-	-	0.03
3602	668639.0	4280705.0	Roadway/Open Space	-	-	0.03
3603	668649.0	4280705.0	Roadway/Open Space	-	-	0.03
3604	668659.0	4280705.0	Roadway/Open Space	-	-	0.03
3605	668669.0	4280705.0	Roadway/Open Space	-	-	0.03
3606	668679.0	4280705.0	Residential	0.23	0.001	0.03
3607	668689.0	4280705.0	Residential	0.23	0.001	0.03
3608	668699.0	4280705.0	Residential	0.24	0.001	0.03
3609	668709.0	4280705.0	Residential	0.25	0.001	0.03
3610	668719.0	4280705.0	Roadway/Open Space	-	-	0.03
3611	668729.0	4280705.0	Roadway/Open Space	-	-	0.03
3612	668739.0	4280705.0	Residential	0.30	0.001	0.04
3613	668749.0	4280705.0	Residential	0.33	0.001	0.04
3614	668759.0	4280705.0	Residential	0.37	0.001	0.04
3615	668769.0	4280705.0	Residential	0.40	0.001	0.04
3616	668779.0	4280705.0	Roadway/Open Space	-	-	0.04
3617	668789.0	4280705.0	Roadway/Open Space	-	-	0.04
3618	668799.0	4280705.0	Roadway/Open Space	-	-	0.04
3619	668809.0	4280705.0	Roadway/Open Space	-	-	0.04
3620	668819.0	4280705.0	Roadway/Open Space	-	-	0.04
3621	668829.0	4280705.0	Roadway/Open Space	-	-	0.04
3622	668839.0	4280705.0	Roadway/Open Space	-	-	0.04
3623	668849.0	4280705.0	Roadway/Open Space	-	-	0.04
3624	668859.0	4280705.0	Roadway/Open Space	-	-	0.05
3625	668869.0	4280705.0	Roadway/Open Space	-	-	0.05
3626	668879.0	4280705.0	Roadway/Open Space	-	-	0.05
3627	668889.0	4280705.0	Roadway/Open Space	-	-	0.04
3628	668899.0	4280705.0	Roadway/Open Space	-	-	0.04
3629	668909.0	4280705.0	Roadway/Open Space	-	-	0.04
3630	668919.0	4280705.0	Roadway/Open Space	-	-	0.04
3631	668929.0	4280705.0	Roadway/Open Space	-	-	0.04
3632	668939.0	4280705.0	Roadway/Open Space	-	-	0.04
3633	668949.0	4280705.0	Roadway/Open Space	-	-	0.04
3634	668959.0	4280705.0	Roadway/Open Space	-	-	0.04
3635	668969.0	4280705.0	Roadway/Open Space	-	-	0.04
3636	668979.0	4280705.0	Roadway/Open Space	-	-	0.04
3637	668989.0	4280705.0	Roadway/Open Space	-	-	0.04
3638	668999.0	4280705.0	Roadway/Open Space	-	-	0.04
3651	669129.0	4280705.0	Roadway/Open Space	-	-	0.05
3652	669139.0	4280705.0	Roadway/Open Space	-	-	0.05
3653	669149.0	4280705.0	Roadway/Open Space	-	-	0.04
3654	669159.0	4280705.0	Roadway/Open Space	-	-	0.05
3655	669169.0	4280705.0	Roadway/Open Space	-	-	0.05
3656	669179.0	4280705.0	Roadway/Open Space	-	-	0.05
3657	669189.0	4280705.0	Roadway/Open Space	-	-	0.05
3658	669199.0	4280705.0	Roadway/Open Space	-	-	0.05
3659	669209.0	4280705.0	Roadway/Open Space	-	-	0.05
3660	669219.0	4280705.0	Roadway/Open Space	-	-	0.04
3661	669229.0	4280705.0	Roadway/Open Space	-	-	0.04
3662	669239.0	4280705.0	Roadway/Open Space	-	-	0.05
3663	669249.0	4280705.0	Roadway/Open Space	-	-	0.05
3664	669259.0	4280705.0	Roadway/Open Space	-	-	0.05
3665	669269.0	4280705.0	Roadway/Open Space	-	-	0.05
3666	669279.0	4280705.0	Roadway/Open Space	-	-	0.05
3667	669289.0	4280705.0	Roadway/Open Space	-	-	0.05
3668	669299.0	4280705.0	Roadway/Open Space	-	-	0.04
3669	669309.0	4280705.0	Roadway/Open Space	-	-	0.04
3670	669319.0	4280705.0	Roadway/Open Space	-	-	0.04
3671	669329.0	4280705.0	Roadway/Open Space	-	-	0.04
3672	669339.0	4280705.0	Roadway/Open Space	-	-	0.04
3673	669349.0	4280705.0	Roadway/Open Space	-	-	0.03
3674	669359.0	4280705.0	Roadway/Open Space	-	-	0.03
3675	669369.0	4280705.0	Roadway/Open Space	-	-	0.03
3676	669379.0	4280705.0	Roadway/Open Space	-	-	0.03
3677	669389.0	4280705.0	Roadway/Open Space	-	-	0.03
3678	669399.0	4280705.0	Roadway/Open Space	-	-	0.03

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
3679	669409.0	4280705.0	Roadway/Open Space	-	-	0.03
3680	669419.0	4280705.0	Roadway/Open Space	-	-	0.03
3681	669429.0	4280705.0	Roadway/Open Space	-	-	0.03
3682	669439.0	4280705.0	Roadway/Open Space	-	-	0.03
3683	669449.0	4280705.0	Roadway/Open Space	-	-	0.03
3684	669459.0	4280705.0	Roadway/Open Space	-	-	0.03
3685	669469.0	4280705.0	Roadway/Open Space	-	-	0.03
3686	669479.0	4280705.0	Roadway/Open Space	-	-	0.03
3687	669489.0	4280705.0	Roadway/Open Space	-	-	0.03
3688	669499.0	4280705.0	Roadway/Open Space	-	-	0.03
3689	669509.0	4280705.0	Roadway/Open Space	-	-	0.03
3690	669519.0	4280705.0	Roadway/Open Space	-	-	0.02
3691	669529.0	4280705.0	Roadway/Open Space	-	-	0.02
3692	669539.0	4280705.0	Roadway/Open Space	-	-	0.02
3693	669549.0	4280705.0	Roadway/Open Space	-	-	0.02
3694	669559.0	4280705.0	Roadway/Open Space	-	-	0.02
3695	669569.0	4280705.0	Roadway/Open Space	-	-	0.02
3696	669579.0	4280705.0	Roadway/Open Space	-	-	0.02
3697	669589.0	4280705.0	Roadway/Open Space	-	-	0.02
3698	669599.0	4280705.0	Roadway/Open Space	-	-	0.02
3699	669609.0	4280705.0	Roadway/Open Space	-	-	0.03
3700	669619.0	4280705.0	Roadway/Open Space	-	-	0.03
3701	668559.0	4280715.0	Roadway/Open Space	-	-	0.03
3702	668569.0	4280715.0	Roadway/Open Space	-	-	0.03
3703	668579.0	4280715.0	Roadway/Open Space	-	-	0.03
3704	668589.0	4280715.0	Roadway/Open Space	-	-	0.03
3705	668599.0	4280715.0	Roadway/Open Space	-	-	0.03
3706	668609.0	4280715.0	Roadway/Open Space	-	-	0.03
3707	668619.0	4280715.0	Roadway/Open Space	-	-	0.03
3708	668629.0	4280715.0	Roadway/Open Space	-	-	0.03
3709	668639.0	4280715.0	Roadway/Open Space	-	-	0.03
3710	668649.0	4280715.0	Roadway/Open Space	-	-	0.03
3711	668659.0	4280715.0	Roadway/Open Space	-	-	0.03
3712	668669.0	4280715.0	Roadway/Open Space	-	-	0.03
3713	668679.0	4280715.0	Residential	0.22	0.001	0.03
3714	668689.0	4280715.0	Residential	0.22	0.001	0.03
3715	668699.0	4280715.0	Residential	0.23	0.001	0.03
3716	668709.0	4280715.0	Residential	0.24	0.001	0.03
3717	668719.0	4280715.0	Roadway/Open Space	-	-	0.03
3718	668729.0	4280715.0	Roadway/Open Space	-	-	0.03
3719	668739.0	4280715.0	Residential	0.29	0.001	0.03
3720	668749.0	4280715.0	Residential	0.32	0.001	0.04
3721	668759.0	4280715.0	Residential	0.36	0.001	0.04
3722	668769.0	4280715.0	Residential	0.39	0.001	0.04
3723	668779.0	4280715.0	Roadway/Open Space	-	-	0.04
3724	668789.0	4280715.0	Roadway/Open Space	-	-	0.04
3725	668799.0	4280715.0	Roadway/Open Space	-	-	0.04
3726	668809.0	4280715.0	Roadway/Open Space	-	-	0.04
3727	668819.0	4280715.0	Roadway/Open Space	-	-	0.04
3728	668829.0	4280715.0	Roadway/Open Space	-	-	0.04
3729	668839.0	4280715.0	Roadway/Open Space	-	-	0.04
3730	668849.0	4280715.0	Roadway/Open Space	-	-	0.04
3731	668859.0	4280715.0	Roadway/Open Space	-	-	0.05
3732	668869.0	4280715.0	Roadway/Open Space	-	-	0.05
3733	668879.0	4280715.0	Roadway/Open Space	-	-	0.05
3734	668889.0	4280715.0	Roadway/Open Space	-	-	0.05
3735	668899.0	4280715.0	Roadway/Open Space	-	-	0.04
3736	668909.0	4280715.0	Roadway/Open Space	-	-	0.04
3737	668919.0	4280715.0	Roadway/Open Space	-	-	0.04
3738	668929.0	4280715.0	Roadway/Open Space	-	-	0.04
3739	668939.0	4280715.0	Roadway/Open Space	-	-	0.04
3740	668949.0	4280715.0	Roadway/Open Space	-	-	0.04
3741	668959.0	4280715.0	Roadway/Open Space	-	-	0.04
3742	668969.0	4280715.0	Roadway/Open Space	-	-	0.04
3743	668979.0	4280715.0	Roadway/Open Space	-	-	0.04
3744	668989.0	4280715.0	Roadway/Open Space	-	-	0.04
3759	669139.0	4280715.0	Roadway/Open Space	-	-	0.05
3760	669149.0	4280715.0	Roadway/Open Space	-	-	0.05
3761	669159.0	4280715.0	Roadway/Open Space	-	-	0.05
3762	669169.0	4280715.0	Roadway/Open Space	-	-	0.05
3763	669179.0	4280715.0	Roadway/Open Space	-	-	0.05
3764	669189.0	4280715.0	Roadway/Open Space	-	-	0.05
3765	669199.0	4280715.0	Roadway/Open Space	-	-	0.05
3766	669209.0	4280715.0	Roadway/Open Space	-	-	0.05
3767	669219.0	4280715.0	Roadway/Open Space	-	-	0.05
3768	669229.0	4280715.0	Roadway/Open Space	-	-	0.05
3769	669239.0	4280715.0	Roadway/Open Space	-	-	0.05
3770	669249.0	4280715.0	Roadway/Open Space	-	-	0.05
3771	669259.0	4280715.0	Roadway/Open Space	-	-	0.05
3772	669269.0	4280715.0	Roadway/Open Space	-	-	0.05
3773	669279.0	4280715.0	Roadway/Open Space	-	-	0.05
3774	669289.0	4280715.0	Roadway/Open Space	-	-	0.05
3775	669299.0	4280715.0	Roadway/Open Space	-	-	0.04
3776	669309.0	4280715.0	Roadway/Open Space	-	-	0.04

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
3777	669319.0	4280715.0	Roadway/Open Space	-	-	0.04
3778	669329.0	4280715.0	Roadway/Open Space	-	-	0.04
3779	669339.0	4280715.0	Roadway/Open Space	-	-	0.04
3780	669349.0	4280715.0	Roadway/Open Space	-	-	0.03
3781	669359.0	4280715.0	Roadway/Open Space	-	-	0.03
3782	669369.0	4280715.0	Roadway/Open Space	-	-	0.03
3783	669379.0	4280715.0	Roadway/Open Space	-	-	0.03
3784	669389.0	4280715.0	Roadway/Open Space	-	-	0.03
3785	669399.0	4280715.0	Roadway/Open Space	-	-	0.03
3786	669409.0	4280715.0	Roadway/Open Space	-	-	0.03
3787	669419.0	4280715.0	Roadway/Open Space	-	-	0.03
3788	669429.0	4280715.0	Roadway/Open Space	-	-	0.03
3789	669439.0	4280715.0	Roadway/Open Space	-	-	0.03
3790	669449.0	4280715.0	Roadway/Open Space	-	-	0.03
3791	669459.0	4280715.0	Roadway/Open Space	-	-	0.03
3792	669469.0	4280715.0	Roadway/Open Space	-	-	0.03
3793	669479.0	4280715.0	Roadway/Open Space	-	-	0.03
3794	669489.0	4280715.0	Roadway/Open Space	-	-	0.03
3795	669499.0	4280715.0	Roadway/Open Space	-	-	0.03
3796	669509.0	4280715.0	Roadway/Open Space	-	-	0.03
3797	669519.0	4280715.0	Roadway/Open Space	-	-	0.03
3798	669529.0	4280715.0	Roadway/Open Space	-	-	0.03
3799	669539.0	4280715.0	Roadway/Open Space	-	-	0.02
3800	669549.0	4280715.0	Roadway/Open Space	-	-	0.02
3801	669559.0	4280715.0	Roadway/Open Space	-	-	0.02
3802	669569.0	4280715.0	Roadway/Open Space	-	-	0.02
3803	669579.0	4280715.0	Roadway/Open Space	-	-	0.03
3804	669589.0	4280715.0	Roadway/Open Space	-	-	0.03
3805	669599.0	4280715.0	Roadway/Open Space	-	-	0.03
3806	669609.0	4280715.0	Roadway/Open Space	-	-	0.03
3807	669619.0	4280715.0	Roadway/Open Space	-	-	0.03
3808	668559.0	4280725.0	Residential	0.20	0.001	0.03
3809	668569.0	4280725.0	Residential	0.21	0.001	0.03
3810	668579.0	4280725.0	Residential	0.23	0.001	0.03
3811	668589.0	4280725.0	Residential	0.24	0.001	0.03
3812	668599.0	4280725.0	Roadway/Open Space	-	-	0.03
3813	668609.0	4280725.0	Roadway/Open Space	-	-	0.03
3814	668619.0	4280725.0	Roadway/Open Space	-	-	0.03
3815	668629.0	4280725.0	Roadway/Open Space	-	-	0.03
3816	668639.0	4280725.0	Roadway/Open Space	-	-	0.03
3817	668649.0	4280725.0	Roadway/Open Space	-	-	0.03
3818	668659.0	4280725.0	Roadway/Open Space	-	-	0.03
3819	668669.0	4280725.0	Residential	0.20	0.001	0.03
3820	668679.0	4280725.0	Residential	0.21	0.001	0.03
3821	668689.0	4280725.0	Residential	0.22	0.001	0.03
3822	668699.0	4280725.0	Residential	0.22	0.001	0.03
3823	668709.0	4280725.0	Residential	0.24	0.001	0.03
3824	668719.0	4280725.0	Roadway/Open Space	-	-	0.03
3825	668729.0	4280725.0	Residential	0.27	0.001	0.03
3826	668739.0	4280725.0	Residential	0.29	0.001	0.03
3827	668749.0	4280725.0	Residential	0.31	0.001	0.04
3828	668759.0	4280725.0	Residential	0.35	0.001	0.04
3829	668769.0	4280725.0	Residential	0.38	0.001	0.04
3830	668779.0	4280725.0	Roadway/Open Space	-	-	0.04
3831	668789.0	4280725.0	Roadway/Open Space	-	-	0.04
3832	668799.0	4280725.0	Roadway/Open Space	-	-	0.04
3833	668809.0	4280725.0	Roadway/Open Space	-	-	0.04
3834	668819.0	4280725.0	Roadway/Open Space	-	-	0.04
3835	668829.0	4280725.0	Roadway/Open Space	-	-	0.04
3836	668839.0	4280725.0	Roadway/Open Space	-	-	0.04
3837	668849.0	4280725.0	Roadway/Open Space	-	-	0.05
3838	668859.0	4280725.0	Roadway/Open Space	-	-	0.05
3839	668869.0	4280725.0	Roadway/Open Space	-	-	0.05
3840	668879.0	4280725.0	Roadway/Open Space	-	-	0.05
3841	668889.0	4280725.0	Roadway/Open Space	-	-	0.05
3842	668899.0	4280725.0	Roadway/Open Space	-	-	0.05
3843	668909.0	4280725.0	Roadway/Open Space	-	-	0.04
3844	668919.0	4280725.0	Roadway/Open Space	-	-	0.04
3845	668929.0	4280725.0	Roadway/Open Space	-	-	0.04
3846	668939.0	4280725.0	Roadway/Open Space	-	-	0.04
3847	668949.0	4280725.0	Roadway/Open Space	-	-	0.04
3848	668959.0	4280725.0	Roadway/Open Space	-	-	0.04
3849	668969.0	4280725.0	Roadway/Open Space	-	-	0.04
3850	668979.0	4280725.0	Roadway/Open Space	-	-	0.05
3851	668989.0	4280725.0	Roadway/Open Space	-	-	0.05
3867	669149.0	4280725.0	Roadway/Open Space	-	-	0.05
3868	669159.0	4280725.0	Roadway/Open Space	-	-	0.05
3869	669169.0	4280725.0	Roadway/Open Space	-	-	0.05
3870	669179.0	4280725.0	Roadway/Open Space	-	-	0.05
3871	669189.0	4280725.0	Roadway/Open Space	-	-	0.05
3872	669199.0	4280725.0	Roadway/Open Space	-	-	0.05
3873	669209.0	4280725.0	Roadway/Open Space	-	-	0.05
3874	669219.0	4280725.0	Roadway/Open Space	-	-	0.05
3875	669229.0	4280725.0	Roadway/Open Space	-	-	0.05

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
3876	669239.0	4280725.0	Roadway/Open Space	-	-	0.05
3877	669249.0	4280725.0	Roadway/Open Space	-	-	0.05
3878	669259.0	4280725.0	Roadway/Open Space	-	-	0.05
3879	669269.0	4280725.0	Roadway/Open Space	-	-	0.05
3880	669279.0	4280725.0	Roadway/Open Space	-	-	0.05
3881	669289.0	4280725.0	Roadway/Open Space	-	-	0.05
3882	669299.0	4280725.0	Roadway/Open Space	-	-	0.05
3883	669309.0	4280725.0	Roadway/Open Space	-	-	0.05
3884	669319.0	4280725.0	Roadway/Open Space	-	-	0.04
3885	669329.0	4280725.0	Roadway/Open Space	-	-	0.04
3886	669339.0	4280725.0	Roadway/Open Space	-	-	0.04
3887	669349.0	4280725.0	Roadway/Open Space	-	-	0.04
3888	669359.0	4280725.0	Roadway/Open Space	-	-	0.04
3889	669369.0	4280725.0	Roadway/Open Space	-	-	0.03
3890	669379.0	4280725.0	Roadway/Open Space	-	-	0.03
3891	669389.0	4280725.0	Roadway/Open Space	-	-	0.03
3892	669399.0	4280725.0	Roadway/Open Space	-	-	0.03
3893	669409.0	4280725.0	Roadway/Open Space	-	-	0.03
3894	669419.0	4280725.0	Roadway/Open Space	-	-	0.03
3895	669429.0	4280725.0	Roadway/Open Space	-	-	0.03
3896	669439.0	4280725.0	Roadway/Open Space	-	-	0.03
3897	669449.0	4280725.0	Roadway/Open Space	-	-	0.03
3898	669459.0	4280725.0	Roadway/Open Space	-	-	0.03
3899	669469.0	4280725.0	Roadway/Open Space	-	-	0.03
3900	669479.0	4280725.0	Roadway/Open Space	-	-	0.03
3901	669489.0	4280725.0	Roadway/Open Space	-	-	0.03
3902	669499.0	4280725.0	Roadway/Open Space	-	-	0.03
3903	669509.0	4280725.0	Roadway/Open Space	-	-	0.03
3904	669519.0	4280725.0	Roadway/Open Space	-	-	0.03
3905	669529.0	4280725.0	Roadway/Open Space	-	-	0.03
3906	669539.0	4280725.0	Roadway/Open Space	-	-	0.02
3907	669549.0	4280725.0	Roadway/Open Space	-	-	0.02
3908	669559.0	4280725.0	Roadway/Open Space	-	-	0.02
3909	669569.0	4280725.0	Roadway/Open Space	-	-	0.03
3910	669579.0	4280725.0	Roadway/Open Space	-	-	0.03
3911	669589.0	4280725.0	Roadway/Open Space	-	-	0.03
3912	669599.0	4280725.0	Roadway/Open Space	-	-	0.03
3913	669609.0	4280725.0	Roadway/Open Space	-	-	0.03
3914	669619.0	4280725.0	Roadway/Open Space	-	-	0.03
3915	668559.0	4280735.0	Residential	0.21	0.001	0.03
3916	668569.0	4280735.0	Residential	0.21	0.001	0.03
3917	668579.0	4280735.0	Residential	0.22	0.001	0.03
3918	668589.0	4280735.0	Residential	0.23	0.001	0.03
3919	668599.0	4280735.0	Residential	0.23	0.001	0.03
3920	668609.0	4280735.0	Residential	0.24	0.001	0.03
3921	668619.0	4280735.0	Roadway/Open Space	-	-	0.03
3922	668629.0	4280735.0	Roadway/Open Space	-	-	0.03
3923	668639.0	4280735.0	Roadway/Open Space	-	-	0.03
3924	668649.0	4280735.0	Roadway/Open Space	-	-	0.03
3925	668659.0	4280735.0	Residential	0.19	0.001	0.03
3926	668669.0	4280735.0	Residential	0.20	0.001	0.03
3927	668679.0	4280735.0	Residential	0.20	0.001	0.03
3928	668689.0	4280735.0	Residential	0.21	0.001	0.03
3929	668699.0	4280735.0	Residential	0.22	0.001	0.03
3930	668709.0	4280735.0	Roadway/Open Space	-	-	0.03
3931	668719.0	4280735.0	Residential	0.25	0.001	0.03
3932	668729.0	4280735.0	Residential	0.26	0.001	0.03
3933	668739.0	4280735.0	Residential	0.28	0.001	0.03
3934	668749.0	4280735.0	Residential	0.30	0.001	0.03
3935	668759.0	4280735.0	Residential	0.34	0.001	0.04
3936	668769.0	4280735.0	Residential	0.37	0.001	0.04
3937	668779.0	4280735.0	Roadway/Open Space	-	-	0.04
3938	668789.0	4280735.0	Roadway/Open Space	-	-	0.04
3939	668799.0	4280735.0	Roadway/Open Space	-	-	0.05
3940	668809.0	4280735.0	Roadway/Open Space	-	-	0.05
3941	668819.0	4280735.0	Roadway/Open Space	-	-	0.05
3942	668829.0	4280735.0	Roadway/Open Space	-	-	0.04
3943	668839.0	4280735.0	Roadway/Open Space	-	-	0.04
3944	668849.0	4280735.0	Roadway/Open Space	-	-	0.05
3945	668859.0	4280735.0	Roadway/Open Space	-	-	0.05
3946	668869.0	4280735.0	Roadway/Open Space	-	-	0.05
3947	668879.0	4280735.0	Roadway/Open Space	-	-	0.05
3948	668889.0	4280735.0	Roadway/Open Space	-	-	0.05
3949	668899.0	4280735.0	Roadway/Open Space	-	-	0.05
3950	668909.0	4280735.0	Roadway/Open Space	-	-	0.05
3951	668919.0	4280735.0	Roadway/Open Space	-	-	0.04
3952	668929.0	4280735.0	Roadway/Open Space	-	-	0.04
3953	668939.0	4280735.0	Roadway/Open Space	-	-	0.04
3954	668949.0	4280735.0	Roadway/Open Space	-	-	0.04
3955	668959.0	4280735.0	Roadway/Open Space	-	-	0.04
3956	668969.0	4280735.0	Roadway/Open Space	-	-	0.05
3957	668979.0	4280735.0	Roadway/Open Space	-	-	0.05
3975	669159.0	4280735.0	Roadway/Open Space	-	-	0.05
3976	669169.0	4280735.0	Roadway/Open Space	-	-	0.05

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
3977	669179.0	4280735.0	Roadway/Open Space	-	-	0.05
3978	669189.0	4280735.0	Roadway/Open Space	-	-	0.05
3979	669199.0	4280735.0	Roadway/Open Space	-	-	0.05
3980	669209.0	4280735.0	Roadway/Open Space	-	-	0.05
3981	669219.0	4280735.0	Roadway/Open Space	-	-	0.05
3982	669229.0	4280735.0	Roadway/Open Space	-	-	0.06
3983	669239.0	4280735.0	Roadway/Open Space	-	-	0.06
3984	669249.0	4280735.0	Roadway/Open Space	-	-	0.06
3985	669259.0	4280735.0	Roadway/Open Space	-	-	0.05
3986	669269.0	4280735.0	Roadway/Open Space	-	-	0.05
3987	669279.0	4280735.0	Roadway/Open Space	-	-	0.05
3988	669289.0	4280735.0	Roadway/Open Space	-	-	0.05
3989	669299.0	4280735.0	Roadway/Open Space	-	-	0.05
3990	669309.0	4280735.0	Roadway/Open Space	-	-	0.05
3991	669319.0	4280735.0	Roadway/Open Space	-	-	0.04
3992	669329.0	4280735.0	Roadway/Open Space	-	-	0.04
3993	669339.0	4280735.0	Roadway/Open Space	-	-	0.04
3994	669349.0	4280735.0	Roadway/Open Space	-	-	0.04
3995	669359.0	4280735.0	Roadway/Open Space	-	-	0.04
3996	669369.0	4280735.0	Roadway/Open Space	-	-	0.03
3997	669379.0	4280735.0	Roadway/Open Space	-	-	0.03
3998	669389.0	4280735.0	Roadway/Open Space	-	-	0.03
3999	669399.0	4280735.0	Roadway/Open Space	-	-	0.03
4000	669409.0	4280735.0	Roadway/Open Space	-	-	0.03
4001	669419.0	4280735.0	Roadway/Open Space	-	-	0.03
4002	669429.0	4280735.0	Roadway/Open Space	-	-	0.03
4003	669439.0	4280735.0	Roadway/Open Space	-	-	0.03
4004	669449.0	4280735.0	Roadway/Open Space	-	-	0.03
4005	669459.0	4280735.0	Roadway/Open Space	-	-	0.03
4006	669469.0	4280735.0	Roadway/Open Space	-	-	0.03
4007	669479.0	4280735.0	Roadway/Open Space	-	-	0.03
4008	669489.0	4280735.0	Roadway/Open Space	-	-	0.03
4009	669499.0	4280735.0	Roadway/Open Space	-	-	0.03
4010	669509.0	4280735.0	Roadway/Open Space	-	-	0.03
4011	669519.0	4280735.0	Roadway/Open Space	-	-	0.03
4012	669529.0	4280735.0	Roadway/Open Space	-	-	0.03
4013	669539.0	4280735.0	Roadway/Open Space	-	-	0.02
4014	669549.0	4280735.0	Roadway/Open Space	-	-	0.02
4015	669559.0	4280735.0	Roadway/Open Space	-	-	0.03
4016	669569.0	4280735.0	Roadway/Open Space	-	-	0.03
4017	669579.0	4280735.0	Worker	0.04	0.002	0.03
4018	669589.0	4280735.0	Roadway/Open Space	-	-	0.03
4019	669599.0	4280735.0	Roadway/Open Space	-	-	0.03
4020	669609.0	4280735.0	Roadway/Open Space	-	-	0.03
4021	669619.0	4280735.0	Roadway/Open Space	-	-	0.03
4022	668549.0	4280745.0	Residential	0.20	0.001	0.03
4023	668559.0	4280745.0	Residential	0.21	0.001	0.03
4024	668569.0	4280745.0	Residential	0.21	0.001	0.03
4025	668579.0	4280745.0	Residential	0.21	0.001	0.03
4026	668589.0	4280745.0	Residential	0.22	0.001	0.03
4027	668599.0	4280745.0	Residential	0.22	0.001	0.03
4028	668609.0	4280745.0	Residential	0.22	0.001	0.03
4029	668619.0	4280745.0	Residential	0.22	0.001	0.03
4030	668629.0	4280745.0	Roadway/Open Space	-	-	0.03
4031	668639.0	4280745.0	Residential	0.20	0.001	0.03
4032	668649.0	4280745.0	Residential	0.19	0.001	0.02
4033	668659.0	4280745.0	Residential	0.19	0.001	0.02
4034	668669.0	4280745.0	Residential	0.19	0.001	0.02
4035	668679.0	4280745.0	Residential	0.20	0.001	0.03
4036	668689.0	4280745.0	Residential	0.21	0.001	0.03
4037	668699.0	4280745.0	Residential	0.22	0.001	0.03
4038	668709.0	4280745.0	Roadway/Open Space	-	-	0.03
4039	668719.0	4280745.0	Residential	0.24	0.001	0.03
4040	668729.0	4280745.0	Residential	0.26	0.001	0.03
4041	668739.0	4280745.0	Residential	0.28	0.001	0.03
4042	668749.0	4280745.0	Residential	0.30	0.001	0.03
4043	668759.0	4280745.0	Residential	0.33	0.001	0.04
4044	668769.0	4280745.0	Roadway/Open Space	-	-	0.04
4045	668779.0	4280745.0	Roadway/Open Space	-	-	0.04
4046	668789.0	4280745.0	Roadway/Open Space	-	-	0.04
4047	668799.0	4280745.0	Roadway/Open Space	-	-	0.05
4048	668809.0	4280745.0	Roadway/Open Space	-	-	0.05
4049	668819.0	4280745.0	Roadway/Open Space	-	-	0.05
4050	668829.0	4280745.0	Roadway/Open Space	-	-	0.04
4051	668839.0	4280745.0	Roadway/Open Space	-	-	0.04
4052	668849.0	4280745.0	Roadway/Open Space	-	-	0.05
4053	668859.0	4280745.0	Roadway/Open Space	-	-	0.05
4054	668869.0	4280745.0	Roadway/Open Space	-	-	0.05
4055	668879.0	4280745.0	Roadway/Open Space	-	-	0.05
4056	668889.0	4280745.0	Roadway/Open Space	-	-	0.05
4057	668899.0	4280745.0	Roadway/Open Space	-	-	0.05
4058	668909.0	4280745.0	Roadway/Open Space	-	-	0.05
4059	668919.0	4280745.0	Roadway/Open Space	-	-	0.05
4060	668929.0	4280745.0	Roadway/Open Space	-	-	0.05

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
4061	668939.0	4280745.0	Roadway/Open Space	-	-	0.05
4062	668949.0	4280745.0	Roadway/Open Space	-	-	0.05
4063	668959.0	4280745.0	Roadway/Open Space	-	-	0.05
4064	668969.0	4280745.0	Roadway/Open Space	-	-	0.05
4065	668979.0	4280745.0	Roadway/Open Space	-	-	0.05
4085	669179.0	4280745.0	Roadway/Open Space	-	-	0.05
4086	669189.0	4280745.0	Roadway/Open Space	-	-	0.05
4087	669199.0	4280745.0	Roadway/Open Space	-	-	0.05
4088	669209.0	4280745.0	Roadway/Open Space	-	-	0.05
4089	669219.0	4280745.0	Roadway/Open Space	-	-	0.05
4090	669229.0	4280745.0	Roadway/Open Space	-	-	0.06
4091	669239.0	4280745.0	Roadway/Open Space	-	-	0.06
4092	669249.0	4280745.0	Roadway/Open Space	-	-	0.06
4093	669259.0	4280745.0	Roadway/Open Space	-	-	0.05
4094	669269.0	4280745.0	Roadway/Open Space	-	-	0.05
4095	669279.0	4280745.0	Roadway/Open Space	-	-	0.05
4096	669289.0	4280745.0	Roadway/Open Space	-	-	0.05
4097	669299.0	4280745.0	Roadway/Open Space	-	-	0.05
4098	669309.0	4280745.0	Roadway/Open Space	-	-	0.04
4099	669319.0	4280745.0	Roadway/Open Space	-	-	0.04
4100	669329.0	4280745.0	Roadway/Open Space	-	-	0.05
4101	669339.0	4280745.0	Roadway/Open Space	-	-	0.04
4102	669349.0	4280745.0	Roadway/Open Space	-	-	0.04
4103	669359.0	4280745.0	Roadway/Open Space	-	-	0.04
4104	669369.0	4280745.0	Roadway/Open Space	-	-	0.04
4105	669379.0	4280745.0	Roadway/Open Space	-	-	0.03
4106	669389.0	4280745.0	Roadway/Open Space	-	-	0.03
4107	669399.0	4280745.0	Roadway/Open Space	-	-	0.03
4108	669409.0	4280745.0	Roadway/Open Space	-	-	0.03
4109	669419.0	4280745.0	Roadway/Open Space	-	-	0.03
4110	669429.0	4280745.0	Roadway/Open Space	-	-	0.03
4111	669439.0	4280745.0	Roadway/Open Space	-	-	0.03
4112	669449.0	4280745.0	Roadway/Open Space	-	-	0.03
4113	669459.0	4280745.0	Roadway/Open Space	-	-	0.03
4114	669469.0	4280745.0	Roadway/Open Space	-	-	0.03
4115	669479.0	4280745.0	Roadway/Open Space	-	-	0.03
4116	669489.0	4280745.0	Roadway/Open Space	-	-	0.03
4117	669499.0	4280745.0	Roadway/Open Space	-	-	0.03
4118	669509.0	4280745.0	Roadway/Open Space	-	-	0.03
4119	669519.0	4280745.0	Roadway/Open Space	-	-	0.03
4120	669529.0	4280745.0	Roadway/Open Space	-	-	0.03
4121	669539.0	4280745.0	Roadway/Open Space	-	-	0.02
4122	669549.0	4280745.0	Worker	0.04	0.002	0.02
4123	669559.0	4280745.0	Worker	0.04	0.002	0.03
4124	669569.0	4280745.0	Worker	0.04	0.002	0.03
4125	669579.0	4280745.0	Worker	0.04	0.002	0.03
4126	669589.0	4280745.0	Worker	0.03	0.002	0.03
4127	669599.0	4280745.0	Worker	0.03	0.002	0.03
4128	669609.0	4280745.0	Roadway/Open Space	-	-	0.03
4129	669619.0	4280745.0	Roadway/Open Space	-	-	0.03
4130	668549.0	4280755.0	Residential	0.19	0.001	0.03
4131	668559.0	4280755.0	Residential	0.20	0.001	0.03
4132	668569.0	4280755.0	Residential	0.20	0.001	0.03
4133	668579.0	4280755.0	Residential	0.20	0.001	0.03
4134	668589.0	4280755.0	Residential	0.20	0.001	0.03
4135	668599.0	4280755.0	Residential	0.21	0.001	0.03
4136	668609.0	4280755.0	Residential	0.21	0.001	0.03
4137	668619.0	4280755.0	Residential	0.20	0.001	0.03
4138	668629.0	4280755.0	Residential	0.19	0.001	0.03
4139	668639.0	4280755.0	Roadway/Open Space	-	-	0.03
4140	668649.0	4280755.0	Residential	0.18	0.001	0.02
4141	668659.0	4280755.0	Residential	0.18	0.001	0.02
4142	668669.0	4280755.0	Residential	0.18	0.001	0.02
4143	668679.0	4280755.0	Residential	0.19	0.001	0.02
4144	668689.0	4280755.0	Residential	0.20	0.001	0.02
4145	668699.0	4280755.0	Roadway/Open Space	-	-	0.03
4146	668709.0	4280755.0	Residential	0.23	0.001	0.03
4147	668719.0	4280755.0	Residential	0.24	0.001	0.03
4148	668729.0	4280755.0	Residential	0.26	0.001	0.03
4149	668739.0	4280755.0	Residential	0.28	0.001	0.03
4150	668749.0	4280755.0	Residential	0.30	0.001	0.03
4151	668759.0	4280755.0	Residential	0.33	0.001	0.04
4152	668769.0	4280755.0	Roadway/Open Space	-	-	0.04
4153	668779.0	4280755.0	Roadway/Open Space	-	-	0.04
4154	668789.0	4280755.0	Roadway/Open Space	-	-	0.04
4155	668799.0	4280755.0	Roadway/Open Space	-	-	0.05
4156	668809.0	4280755.0	Roadway/Open Space	-	-	0.05
4157	668819.0	4280755.0	Roadway/Open Space	-	-	0.05
4158	668829.0	4280755.0	Roadway/Open Space	-	-	0.04
4159	668839.0	4280755.0	Roadway/Open Space	-	-	0.04
4160	668849.0	4280755.0	Roadway/Open Space	-	-	0.05
4161	668859.0	4280755.0	Roadway/Open Space	-	-	0.05
4162	668869.0	4280755.0	Roadway/Open Space	-	-	0.05
4163	668879.0	4280755.0	Roadway/Open Space	-	-	0.05

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
4164	668889.0	4280755.0	Roadway/Open Space	-	-	0.05
4165	668899.0	4280755.0	Roadway/Open Space	-	-	0.05
4166	668909.0	4280755.0	Roadway/Open Space	-	-	0.05
4167	668919.0	4280755.0	Roadway/Open Space	-	-	0.05
4168	668929.0	4280755.0	Roadway/Open Space	-	-	0.05
4169	668939.0	4280755.0	Roadway/Open Space	-	-	0.05
4170	668949.0	4280755.0	Roadway/Open Space	-	-	0.05
4171	668959.0	4280755.0	Roadway/Open Space	-	-	0.05
4172	668969.0	4280755.0	Roadway/Open Space	-	-	0.05
4195	669199.0	4280755.0	Roadway/Open Space	-	-	0.05
4196	669209.0	4280755.0	Roadway/Open Space	-	-	0.05
4197	669219.0	4280755.0	Roadway/Open Space	-	-	0.06
4198	669229.0	4280755.0	Roadway/Open Space	-	-	0.06
4199	669239.0	4280755.0	Roadway/Open Space	-	-	0.06
4200	669249.0	4280755.0	Roadway/Open Space	-	-	0.06
4201	669259.0	4280755.0	Roadway/Open Space	-	-	0.05
4202	669269.0	4280755.0	Roadway/Open Space	-	-	0.05
4203	669279.0	4280755.0	Roadway/Open Space	-	-	0.05
4204	669289.0	4280755.0	Roadway/Open Space	-	-	0.05
4205	669299.0	4280755.0	Roadway/Open Space	-	-	0.05
4206	669309.0	4280755.0	Roadway/Open Space	-	-	0.04
4207	669319.0	4280755.0	Roadway/Open Space	-	-	0.05
4208	669329.0	4280755.0	Roadway/Open Space	-	-	0.05
4209	669339.0	4280755.0	Roadway/Open Space	-	-	0.05
4210	669349.0	4280755.0	Roadway/Open Space	-	-	0.04
4211	669359.0	4280755.0	Roadway/Open Space	-	-	0.04
4212	669369.0	4280755.0	Roadway/Open Space	-	-	0.04
4213	669379.0	4280755.0	Roadway/Open Space	-	-	0.04
4214	669389.0	4280755.0	Roadway/Open Space	-	-	0.03
4215	669399.0	4280755.0	Roadway/Open Space	-	-	0.03
4216	669409.0	4280755.0	Roadway/Open Space	-	-	0.03
4217	669419.0	4280755.0	Roadway/Open Space	-	-	0.03
4218	669429.0	4280755.0	Roadway/Open Space	-	-	0.03
4219	669439.0	4280755.0	Roadway/Open Space	-	-	0.03
4220	669449.0	4280755.0	Roadway/Open Space	-	-	0.03
4221	669459.0	4280755.0	Roadway/Open Space	-	-	0.03
4222	669469.0	4280755.0	Roadway/Open Space	-	-	0.03
4223	669479.0	4280755.0	Roadway/Open Space	-	-	0.03
4224	669489.0	4280755.0	Roadway/Open Space	-	-	0.03
4225	669499.0	4280755.0	Roadway/Open Space	-	-	0.03
4226	669509.0	4280755.0	Roadway/Open Space	-	-	0.03
4227	669519.0	4280755.0	Roadway/Open Space	-	-	0.03
4228	669529.0	4280755.0	Roadway/Open Space	-	-	0.03
4229	669539.0	4280755.0	Roadway/Open Space	-	-	0.02
4230	669549.0	4280755.0	Worker	0.04	0.002	0.03
4231	669559.0	4280755.0	Worker	0.04	0.002	0.03
4232	669569.0	4280755.0	Worker	0.04	0.002	0.03
4233	669579.0	4280755.0	Worker	0.04	0.002	0.03
4234	669589.0	4280755.0	Worker	0.03	0.002	0.03
4235	669599.0	4280755.0	Worker	0.03	0.002	0.03
4236	669609.0	4280755.0	Roadway/Open Space	-	-	0.03
4237	669619.0	4280755.0	Roadway/Open Space	-	-	0.03
4238	668549.0	4280765.0	Residential	0.18	0.001	0.03
4239	668559.0	4280765.0	Residential	0.19	0.001	0.03
4240	668569.0	4280765.0	Residential	0.19	0.001	0.03
4241	668579.0	4280765.0	Residential	0.19	0.001	0.03
4242	668589.0	4280765.0	Residential	0.19	0.001	0.03
4243	668599.0	4280765.0	Residential	0.19	0.001	0.03
4244	668609.0	4280765.0	Residential	0.19	0.001	0.03
4245	668619.0	4280765.0	Residential	0.19	0.001	0.03
4246	668629.0	4280765.0	Residential	0.18	0.001	0.03
4247	668639.0	4280765.0	Roadway/Open Space	-	-	0.02
4248	668649.0	4280765.0	Residential	0.18	0.001	0.02
4249	668659.0	4280765.0	Residential	0.18	0.001	0.02
4250	668669.0	4280765.0	Residential	0.18	0.001	0.02
4251	668679.0	4280765.0	Residential	0.19	0.001	0.02
4252	668689.0	4280765.0	Roadway/Open Space	-	-	0.02
4253	668699.0	4280765.0	Residential	0.21	0.001	0.02
4254	668709.0	4280765.0	Residential	0.22	0.001	0.03
4255	668719.0	4280765.0	Residential	0.24	0.001	0.03
4256	668729.0	4280765.0	Residential	0.25	0.001	0.03
4257	668739.0	4280765.0	Residential	0.28	0.001	0.03
4258	668749.0	4280765.0	Residential	0.29	0.001	0.03
4259	668759.0	4280765.0	Roadway/Open Space	-	-	0.03
4260	668769.0	4280765.0	Roadway/Open Space	-	-	0.04
4261	668779.0	4280765.0	Roadway/Open Space	-	-	0.04
4262	668789.0	4280765.0	Roadway/Open Space	-	-	0.04
4263	668799.0	4280765.0	Roadway/Open Space	-	-	0.05
4264	668809.0	4280765.0	Roadway/Open Space	-	-	0.05
4265	668819.0	4280765.0	Roadway/Open Space	-	-	0.05
4266	668829.0	4280765.0	Roadway/Open Space	-	-	0.04
4267	668839.0	4280765.0	Roadway/Open Space	-	-	0.04
4268	668849.0	4280765.0	Roadway/Open Space	-	-	0.05
4269	668859.0	4280765.0	Roadway/Open Space	-	-	0.05

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
4270	668869.0	4280765.0	Roadway/Open Space	-	-	0.05
4271	668879.0	4280765.0	Roadway/Open Space	-	-	0.05
4272	668889.0	4280765.0	Roadway/Open Space	-	-	0.05
4273	668899.0	4280765.0	Roadway/Open Space	-	-	0.05
4274	668909.0	4280765.0	Roadway/Open Space	-	-	0.05
4275	668919.0	4280765.0	Roadway/Open Space	-	-	0.05
4276	668929.0	4280765.0	Roadway/Open Space	-	-	0.05
4277	668939.0	4280765.0	Roadway/Open Space	-	-	0.05
4278	668949.0	4280765.0	Roadway/Open Space	-	-	0.05
4279	668959.0	4280765.0	Roadway/Open Space	-	-	0.05
4280	668969.0	4280765.0	Roadway/Open Space	-	-	0.05
4305	669219.0	4280765.0	Roadway/Open Space	-	-	0.06
4306	669229.0	4280765.0	Roadway/Open Space	-	-	0.06
4307	669239.0	4280765.0	Roadway/Open Space	-	-	0.06
4308	669249.0	4280765.0	Roadway/Open Space	-	-	0.06
4309	669259.0	4280765.0	Roadway/Open Space	-	-	0.05
4310	669269.0	4280765.0	Roadway/Open Space	-	-	0.05
4311	669279.0	4280765.0	Roadway/Open Space	-	-	0.05
4312	669289.0	4280765.0	Roadway/Open Space	-	-	0.05
4313	669299.0	4280765.0	Roadway/Open Space	-	-	0.05
4314	669309.0	4280765.0	Roadway/Open Space	-	-	0.05
4315	669319.0	4280765.0	Roadway/Open Space	-	-	0.05
4316	669329.0	4280765.0	Roadway/Open Space	-	-	0.05
4317	669339.0	4280765.0	Roadway/Open Space	-	-	0.05
4318	669349.0	4280765.0	Roadway/Open Space	-	-	0.04
4319	669359.0	4280765.0	Roadway/Open Space	-	-	0.04
4320	669369.0	4280765.0	Roadway/Open Space	-	-	0.04
4321	669379.0	4280765.0	Roadway/Open Space	-	-	0.04
4322	669389.0	4280765.0	Roadway/Open Space	-	-	0.03
4323	669399.0	4280765.0	Roadway/Open Space	-	-	0.03
4324	669409.0	4280765.0	Roadway/Open Space	-	-	0.03
4325	669419.0	4280765.0	Roadway/Open Space	-	-	0.03
4326	669429.0	4280765.0	Roadway/Open Space	-	-	0.03
4327	669439.0	4280765.0	Roadway/Open Space	-	-	0.03
4328	669449.0	4280765.0	Roadway/Open Space	-	-	0.03
4329	669459.0	4280765.0	Roadway/Open Space	-	-	0.03
4330	669469.0	4280765.0	Roadway/Open Space	-	-	0.03
4331	669479.0	4280765.0	Roadway/Open Space	-	-	0.03
4332	669489.0	4280765.0	Roadway/Open Space	-	-	0.03
4333	669499.0	4280765.0	Roadway/Open Space	-	-	0.03
4334	669509.0	4280765.0	Roadway/Open Space	-	-	0.03
4335	669519.0	4280765.0	Roadway/Open Space	-	-	0.03
4336	669529.0	4280765.0	Roadway/Open Space	-	-	0.03
4337	669539.0	4280765.0	Worker	0.04	0.002	0.03
4338	669549.0	4280765.0	Worker	0.04	0.002	0.03
4339	669559.0	4280765.0	Worker	0.04	0.002	0.03
4340	669569.0	4280765.0	Worker	0.04	0.002	0.03
4341	669579.0	4280765.0	Worker	0.04	0.002	0.03
4342	669589.0	4280765.0	Worker	0.03	0.002	0.03
4343	669599.0	4280765.0	Worker	0.03	0.002	0.03
4344	669609.0	4280765.0	Roadway/Open Space	-	-	0.03
4345	669619.0	4280765.0	Roadway/Open Space	-	-	0.03
4346	668549.0	4280775.0	Residential	0.17	0.001	0.03
4347	668559.0	4280775.0	Residential	0.17	0.001	0.03
4348	668569.0	4280775.0	Residential	0.17	0.001	0.03
4349	668579.0	4280775.0	Residential	0.18	0.001	0.03
4350	668589.0	4280775.0	Residential	0.18	0.001	0.03
4351	668599.0	4280775.0	Residential	0.18	0.001	0.03
4352	668609.0	4280775.0	Residential	0.18	0.001	0.03
4353	668619.0	4280775.0	Residential	0.18	0.001	0.03
4354	668629.0	4280775.0	Residential	0.18	0.001	0.02
4355	668639.0	4280775.0	Roadway/Open Space	-	-	0.02
4356	668649.0	4280775.0	Residential	0.17	0.001	0.02
4357	668659.0	4280775.0	Residential	0.17	0.001	0.02
4358	668669.0	4280775.0	Roadway/Open Space	-	-	0.02
4359	668679.0	4280775.0	Residential	0.18	0.001	0.02
4360	668689.0	4280775.0	Residential	0.19	0.001	0.02
4361	668699.0	4280775.0	Residential	0.21	0.001	0.02
4362	668709.0	4280775.0	Residential	0.22	0.001	0.02
4363	668719.0	4280775.0	Residential	0.22	0.001	0.03
4364	668729.0	4280775.0	Residential	0.24	0.001	0.03
4365	668739.0	4280775.0	Residential	0.27	0.001	0.03
4366	668749.0	4280775.0	Residential	0.30	0.001	0.03
4367	668759.0	4280775.0	Roadway/Open Space	-	-	0.04
4368	668769.0	4280775.0	Roadway/Open Space	-	-	0.04
4369	668779.0	4280775.0	Roadway/Open Space	-	-	0.04
4370	668789.0	4280775.0	Roadway/Open Space	-	-	0.05
4371	668799.0	4280775.0	Roadway/Open Space	-	-	0.05
4372	668809.0	4280775.0	Roadway/Open Space	-	-	0.05
4373	668819.0	4280775.0	Roadway/Open Space	-	-	0.05
4374	668829.0	4280775.0	Roadway/Open Space	-	-	0.04
4375	668839.0	4280775.0	Roadway/Open Space	-	-	0.05
4376	668849.0	4280775.0	Roadway/Open Space	-	-	0.05
4377	668859.0	4280775.0	Roadway/Open Space	-	-	0.05

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
4378	668869.0	4280775.0	Roadway/Open Space	-	-	0.05
4379	668879.0	4280775.0	Roadway/Open Space	-	-	0.05
4380	668889.0	4280775.0	Roadway/Open Space	-	-	0.05
4381	668899.0	4280775.0	Roadway/Open Space	-	-	0.05
4382	668909.0	4280775.0	Roadway/Open Space	-	-	0.05
4383	668919.0	4280775.0	Roadway/Open Space	-	-	0.05
4384	668929.0	4280775.0	Roadway/Open Space	-	-	0.05
4385	668939.0	4280775.0	Roadway/Open Space	-	-	0.05
4386	668949.0	4280775.0	Roadway/Open Space	-	-	0.05
4387	668959.0	4280775.0	Roadway/Open Space	-	-	0.05
4414	669229.0	4280775.0	Roadway/Open Space	-	-	0.06
4415	669239.0	4280775.0	Roadway/Open Space	-	-	0.06
4416	669249.0	4280775.0	Roadway/Open Space	-	-	0.06
4417	669259.0	4280775.0	Roadway/Open Space	-	-	0.05
4418	669269.0	4280775.0	Roadway/Open Space	-	-	0.05
4419	669279.0	4280775.0	Roadway/Open Space	-	-	0.05
4420	669289.0	4280775.0	Roadway/Open Space	-	-	0.05
4421	669299.0	4280775.0	Roadway/Open Space	-	-	0.05
4422	669309.0	4280775.0	Roadway/Open Space	-	-	0.05
4423	669319.0	4280775.0	Roadway/Open Space	-	-	0.05
4424	669329.0	4280775.0	Roadway/Open Space	-	-	0.05
4425	669339.0	4280775.0	Roadway/Open Space	-	-	0.05
4426	669349.0	4280775.0	Roadway/Open Space	-	-	0.05
4427	669359.0	4280775.0	Roadway/Open Space	-	-	0.04
4428	669369.0	4280775.0	Roadway/Open Space	-	-	0.04
4429	669379.0	4280775.0	Roadway/Open Space	-	-	0.04
4430	669389.0	4280775.0	Roadway/Open Space	-	-	0.04
4431	669399.0	4280775.0	Roadway/Open Space	-	-	0.03
4432	669409.0	4280775.0	Roadway/Open Space	-	-	0.03
4433	669419.0	4280775.0	Roadway/Open Space	-	-	0.03
4434	669429.0	4280775.0	Roadway/Open Space	-	-	0.03
4435	669439.0	4280775.0	Roadway/Open Space	-	-	0.03
4436	669449.0	4280775.0	Roadway/Open Space	-	-	0.03
4437	669459.0	4280775.0	Roadway/Open Space	-	-	0.03
4438	669469.0	4280775.0	Roadway/Open Space	-	-	0.03
4439	669479.0	4280775.0	Roadway/Open Space	-	-	0.03
4440	669489.0	4280775.0	Roadway/Open Space	-	-	0.03
4441	669499.0	4280775.0	Roadway/Open Space	-	-	0.03
4442	669509.0	4280775.0	Roadway/Open Space	-	-	0.03
4443	669519.0	4280775.0	Roadway/Open Space	-	-	0.03
4444	669529.0	4280775.0	Roadway/Open Space	-	-	0.03
4445	669539.0	4280775.0	Worker	0.04	0.002	0.03
4446	669549.0	4280775.0	Worker	0.04	0.002	0.03
4447	669559.0	4280775.0	Worker	0.04	0.002	0.03
4448	669569.0	4280775.0	Worker	0.04	0.002	0.03
4449	669579.0	4280775.0	Worker	0.03	0.002	0.03
4450	669589.0	4280775.0	Worker	0.03	0.002	0.03
4451	669599.0	4280775.0	Worker	0.03	0.002	0.03
4452	669609.0	4280775.0	Roadway/Open Space	-	-	0.03
4453	669619.0	4280775.0	Roadway/Open Space	-	-	0.03
4454	668539.0	4280785.0	Residential	0.15	0.001	0.02
4455	668549.0	4280785.0	Residential	0.15	0.001	0.02
4456	668559.0	4280785.0	Residential	0.16	0.001	0.02
4457	668569.0	4280785.0	Residential	0.16	0.001	0.02
4458	668579.0	4280785.0	Residential	0.16	0.001	0.02
4459	668589.0	4280785.0	Residential	0.17	0.001	0.02
4460	668599.0	4280785.0	Residential	0.17	0.001	0.02
4461	668609.0	4280785.0	Residential	0.17	0.001	0.02
4462	668619.0	4280785.0	Residential	0.17	0.001	0.02
4463	668629.0	4280785.0	Residential	0.17	0.001	0.02
4464	668639.0	4280785.0	Roadway/Open Space	-	-	0.02
4465	668649.0	4280785.0	Roadway/Open Space	-	-	0.02
4466	668659.0	4280785.0	Residential	0.16	0.001	0.02
4467	668669.0	4280785.0	Residential	0.17	0.001	0.02
4468	668679.0	4280785.0	Residential	0.17	0.001	0.02
4469	668689.0	4280785.0	Residential	0.19	0.001	0.02
4470	668699.0	4280785.0	Residential	0.20	0.001	0.02
4471	668709.0	4280785.0	Residential	0.21	0.001	0.02
4472	668719.0	4280785.0	Residential	0.23	0.001	0.02
4473	668729.0	4280785.0	Residential	0.25	0.001	0.03
4474	668739.0	4280785.0	Residential	0.27	0.001	0.03
4475	668749.0	4280785.0	Roadway/Open Space	-	-	0.03
4476	668759.0	4280785.0	Roadway/Open Space	-	-	0.04
4477	668769.0	4280785.0	Roadway/Open Space	-	-	0.04
4478	668779.0	4280785.0	Roadway/Open Space	-	-	0.04
4479	668789.0	4280785.0	Roadway/Open Space	-	-	0.05
4480	668799.0	4280785.0	Roadway/Open Space	-	-	0.05
4481	668809.0	4280785.0	Roadway/Open Space	-	-	0.05
4482	668819.0	4280785.0	Roadway/Open Space	-	-	0.04
4483	668829.0	4280785.0	Roadway/Open Space	-	-	0.04
4484	668839.0	4280785.0	Roadway/Open Space	-	-	0.05
4485	668849.0	4280785.0	Roadway/Open Space	-	-	0.05
4486	668859.0	4280785.0	Roadway/Open Space	-	-	0.05
4487	668869.0	4280785.0	Roadway/Open Space	-	-	0.05

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
4488	668879.0	4280785.0	Roadway/Open Space	-	-	0.05
4489	668889.0	4280785.0	Roadway/Open Space	-	-	0.05
4490	668899.0	4280785.0	Roadway/Open Space	-	-	0.05
4491	668909.0	4280785.0	Roadway/Open Space	-	-	0.05
4492	668919.0	4280785.0	Roadway/Open Space	-	-	0.05
4493	668929.0	4280785.0	Roadway/Open Space	-	-	0.05
4494	668939.0	4280785.0	Roadway/Open Space	-	-	0.05
4495	668949.0	4280785.0	Roadway/Open Space	-	-	0.06
4496	668959.0	4280785.0	Roadway/Open Space	-	-	0.05
4523	669229.0	4280785.0	Roadway/Open Space	-	-	0.06
4524	669239.0	4280785.0	Roadway/Open Space	-	-	0.06
4525	669249.0	4280785.0	Roadway/Open Space	-	-	0.06
4526	669259.0	4280785.0	Roadway/Open Space	-	-	0.06
4527	669269.0	4280785.0	Roadway/Open Space	-	-	0.05
4528	669279.0	4280785.0	Roadway/Open Space	-	-	0.05
4529	669289.0	4280785.0	Roadway/Open Space	-	-	0.05
4530	669299.0	4280785.0	Roadway/Open Space	-	-	0.05
4531	669309.0	4280785.0	Roadway/Open Space	-	-	0.05
4532	669319.0	4280785.0	Roadway/Open Space	-	-	0.05
4533	669329.0	4280785.0	Roadway/Open Space	-	-	0.05
4534	669339.0	4280785.0	Roadway/Open Space	-	-	0.05
4535	669349.0	4280785.0	Roadway/Open Space	-	-	0.05
4536	669359.0	4280785.0	Roadway/Open Space	-	-	0.05
4537	669369.0	4280785.0	Roadway/Open Space	-	-	0.04
4538	669379.0	4280785.0	Roadway/Open Space	-	-	0.04
4539	669389.0	4280785.0	Roadway/Open Space	-	-	0.04
4540	669399.0	4280785.0	Roadway/Open Space	-	-	0.04
4541	669409.0	4280785.0	Roadway/Open Space	-	-	0.03
4542	669419.0	4280785.0	Roadway/Open Space	-	-	0.03
4543	669429.0	4280785.0	Roadway/Open Space	-	-	0.03
4544	669439.0	4280785.0	Roadway/Open Space	-	-	0.03
4545	669449.0	4280785.0	Roadway/Open Space	-	-	0.03
4546	669459.0	4280785.0	Roadway/Open Space	-	-	0.03
4547	669469.0	4280785.0	Roadway/Open Space	-	-	0.03
4548	669479.0	4280785.0	Roadway/Open Space	-	-	0.03
4549	669489.0	4280785.0	Roadway/Open Space	-	-	0.03
4550	669499.0	4280785.0	Roadway/Open Space	-	-	0.03
4551	669509.0	4280785.0	Roadway/Open Space	-	-	0.03
4552	669519.0	4280785.0	Roadway/Open Space	-	-	0.03
4553	669529.0	4280785.0	Roadway/Open Space	-	-	0.03
4554	669539.0	4280785.0	Worker	0.04	0.002	0.03
4555	669549.0	4280785.0	Worker	0.04	0.002	0.03
4556	669559.0	4280785.0	Worker	0.04	0.002	0.03
4557	669569.0	4280785.0	Worker	0.04	0.002	0.03
4558	669579.0	4280785.0	Worker	0.03	0.002	0.03
4559	669589.0	4280785.0	Worker	0.03	0.002	0.03
4560	669599.0	4280785.0	Worker	0.03	0.002	0.03
4561	669609.0	4280785.0	Roadway/Open Space	-	-	0.03
4562	669619.0	4280785.0	Roadway/Open Space	-	-	0.03
4563	668539.0	4280795.0	Residential	0.14	0.001	0.02
4564	668549.0	4280795.0	Residential	0.14	0.001	0.02
4565	668559.0	4280795.0	Residential	0.15	0.001	0.02
4566	668569.0	4280795.0	Residential	0.15	0.001	0.02
4567	668579.0	4280795.0	Residential	0.15	0.001	0.02
4568	668589.0	4280795.0	Residential	0.16	0.001	0.02
4569	668599.0	4280795.0	Residential	0.16	0.001	0.02
4570	668609.0	4280795.0	Residential	0.16	0.001	0.02
4571	668619.0	4280795.0	Residential	0.16	0.001	0.02
4572	668629.0	4280795.0	Residential	0.15	0.001	0.02
4573	668639.0	4280795.0	Residential	0.15	0.001	0.02
4574	668649.0	4280795.0	Residential	0.15	0.001	0.02
4575	668659.0	4280795.0	Residential	0.16	0.001	0.02
4576	668669.0	4280795.0	Residential	0.16	0.001	0.02
4577	668679.0	4280795.0	Residential	0.17	0.001	0.02
4578	668689.0	4280795.0	Residential	0.18	0.001	0.02
4579	668699.0	4280795.0	Residential	0.19	0.001	0.02
4580	668709.0	4280795.0	Residential	0.21	0.001	0.02
4581	668719.0	4280795.0	Residential	0.23	0.001	0.02
4582	668729.0	4280795.0	Residential	0.26	0.001	0.03
4583	668739.0	4280795.0	Roadway/Open Space	-	-	0.03
4584	668749.0	4280795.0	Roadway/Open Space	-	-	0.04
4585	668759.0	4280795.0	Roadway/Open Space	-	-	0.04
4586	668769.0	4280795.0	Roadway/Open Space	-	-	0.04
4587	668779.0	4280795.0	Roadway/Open Space	-	-	0.05
4588	668789.0	4280795.0	Roadway/Open Space	-	-	0.05
4589	668799.0	4280795.0	Roadway/Open Space	-	-	0.05
4590	668809.0	4280795.0	Roadway/Open Space	-	-	0.05
4591	668819.0	4280795.0	Roadway/Open Space	-	-	0.04
4592	668829.0	4280795.0	Roadway/Open Space	-	-	0.05
4593	668839.0	4280795.0	Roadway/Open Space	-	-	0.05
4594	668849.0	4280795.0	Roadway/Open Space	-	-	0.05
4595	668859.0	4280795.0	Roadway/Open Space	-	-	0.05
4596	668869.0	4280795.0	Roadway/Open Space	-	-	0.05
4597	668879.0	4280795.0	Roadway/Open Space	-	-	0.05

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
4598	668889.0	4280795.0	Roadway/Open Space	-	-	0.05
4599	668899.0	4280795.0	Roadway/Open Space	-	-	0.05
4600	668909.0	4280795.0	Roadway/Open Space	-	-	0.05
4601	668919.0	4280795.0	Roadway/Open Space	-	-	0.05
4602	668929.0	4280795.0	Roadway/Open Space	-	-	0.06
4603	668939.0	4280795.0	Roadway/Open Space	-	-	0.06
4604	668949.0	4280795.0	Roadway/Open Space	-	-	0.06
4605	668959.0	4280795.0	Roadway/Open Space	-	-	0.06
4631	669219.0	4280795.0	Roadway/Open Space	-	-	0.07
4632	669229.0	4280795.0	Roadway/Open Space	-	-	0.06
4633	669239.0	4280795.0	Roadway/Open Space	-	-	0.06
4634	669249.0	4280795.0	Roadway/Open Space	-	-	0.06
4635	669259.0	4280795.0	Roadway/Open Space	-	-	0.06
4636	669269.0	4280795.0	Roadway/Open Space	-	-	0.05
4637	669279.0	4280795.0	Roadway/Open Space	-	-	0.05
4638	669289.0	4280795.0	Roadway/Open Space	-	-	0.05
4639	669299.0	4280795.0	Roadway/Open Space	-	-	0.05
4640	669309.0	4280795.0	Roadway/Open Space	-	-	0.05
4641	669319.0	4280795.0	Roadway/Open Space	-	-	0.05
4642	669329.0	4280795.0	Roadway/Open Space	-	-	0.05
4643	669339.0	4280795.0	Roadway/Open Space	-	-	0.06
4644	669349.0	4280795.0	Roadway/Open Space	-	-	0.05
4645	669359.0	4280795.0	Roadway/Open Space	-	-	0.05
4646	669369.0	4280795.0	Roadway/Open Space	-	-	0.04
4647	669379.0	4280795.0	Roadway/Open Space	-	-	0.04
4648	669389.0	4280795.0	Roadway/Open Space	-	-	0.04
4649	669399.0	4280795.0	Roadway/Open Space	-	-	0.04
4650	669409.0	4280795.0	Roadway/Open Space	-	-	0.04
4651	669419.0	4280795.0	Roadway/Open Space	-	-	0.03
4652	669429.0	4280795.0	Roadway/Open Space	-	-	0.03
4653	669439.0	4280795.0	Roadway/Open Space	-	-	0.03
4654	669449.0	4280795.0	Roadway/Open Space	-	-	0.03
4655	669459.0	4280795.0	Roadway/Open Space	-	-	0.03
4656	669469.0	4280795.0	Roadway/Open Space	-	-	0.03
4657	669479.0	4280795.0	Roadway/Open Space	-	-	0.03
4658	669489.0	4280795.0	Roadway/Open Space	-	-	0.03
4659	669499.0	4280795.0	Roadway/Open Space	-	-	0.03
4660	669509.0	4280795.0	Roadway/Open Space	-	-	0.03
4661	669519.0	4280795.0	Worker	0.05	0.003	0.03
4662	669529.0	4280795.0	Worker	0.04	0.003	0.03
4663	669539.0	4280795.0	Worker	0.04	0.002	0.03
4664	669549.0	4280795.0	Worker	0.04	0.002	0.03
4665	669559.0	4280795.0	Worker	0.04	0.002	0.03
4666	669569.0	4280795.0	Worker	0.04	0.002	0.03
4667	669579.0	4280795.0	Worker	0.03	0.002	0.03
4668	669589.0	4280795.0	Worker	0.03	0.002	0.03
4669	669599.0	4280795.0	Worker	0.03	0.002	0.03
4670	669609.0	4280795.0	Roadway/Open Space	-	-	0.03
4671	669619.0	4280795.0	Roadway/Open Space	-	-	0.03
4672	668539.0	4280805.0	Residential	0.13	0.000	0.02
4673	668549.0	4280805.0	Residential	0.13	0.000	0.02
4674	668559.0	4280805.0	Residential	0.14	0.001	0.02
4675	668569.0	4280805.0	Residential	0.14	0.001	0.02
4676	668579.0	4280805.0	Residential	0.14	0.001	0.02
4677	668589.0	4280805.0	Residential	0.14	0.001	0.02
4678	668599.0	4280805.0	Residential	0.15	0.001	0.02
4679	668609.0	4280805.0	Residential	0.15	0.001	0.02
4680	668619.0	4280805.0	Residential	0.15	0.001	0.02
4681	668629.0	4280805.0	Residential	0.15	0.001	0.02
4682	668639.0	4280805.0	Residential	0.15	0.001	0.02
4683	668649.0	4280805.0	Roadway/Open Space	-	-	0.02
4684	668659.0	4280805.0	Residential	0.15	0.001	0.02
4685	668669.0	4280805.0	Residential	0.16	0.001	0.02
4686	668679.0	4280805.0	Residential	0.16	0.001	0.02
4687	668689.0	4280805.0	Residential	0.18	0.001	0.02
4688	668699.0	4280805.0	Residential	0.19	0.001	0.02
4689	668709.0	4280805.0	Residential	0.21	0.001	0.02
4690	668719.0	4280805.0	Residential	0.24	0.001	0.03
4691	668729.0	4280805.0	Roadway/Open Space	-	-	0.03
4692	668739.0	4280805.0	Roadway/Open Space	-	-	0.03
4693	668749.0	4280805.0	Roadway/Open Space	-	-	0.04
4694	668759.0	4280805.0	Roadway/Open Space	-	-	0.04
4695	668769.0	4280805.0	Roadway/Open Space	-	-	0.05
4696	668779.0	4280805.0	Roadway/Open Space	-	-	0.05
4697	668789.0	4280805.0	Roadway/Open Space	-	-	0.05
4698	668799.0	4280805.0	Roadway/Open Space	-	-	0.05
4699	668809.0	4280805.0	Roadway/Open Space	-	-	0.04
4700	668819.0	4280805.0	Roadway/Open Space	-	-	0.04
4701	668829.0	4280805.0	Roadway/Open Space	-	-	0.05
4702	668839.0	4280805.0	Roadway/Open Space	-	-	0.05
4703	668849.0	4280805.0	Roadway/Open Space	-	-	0.05
4704	668859.0	4280805.0	Roadway/Open Space	-	-	0.05
4705	668869.0	4280805.0	Roadway/Open Space	-	-	0.05
4706	668879.0	4280805.0	Roadway/Open Space	-	-	0.05

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
4707	668889.0	4280805.0	Roadway/Open Space	-	-	0.05
4708	668899.0	4280805.0	Roadway/Open Space	-	-	0.05
4709	668909.0	4280805.0	Roadway/Open Space	-	-	0.05
4710	668919.0	4280805.0	Roadway/Open Space	-	-	0.06
4711	668929.0	4280805.0	Roadway/Open Space	-	-	0.06
4712	668939.0	4280805.0	Roadway/Open Space	-	-	0.06
4713	668949.0	4280805.0	Roadway/Open Space	-	-	0.06
4740	669219.0	4280805.0	Roadway/Open Space	-	-	0.07
4741	669229.0	4280805.0	Roadway/Open Space	-	-	0.07
4742	669239.0	4280805.0	Roadway/Open Space	-	-	0.06
4743	669249.0	4280805.0	Roadway/Open Space	-	-	0.06
4744	669259.0	4280805.0	Roadway/Open Space	-	-	0.06
4745	669269.0	4280805.0	Roadway/Open Space	-	-	0.06
4746	669279.0	4280805.0	Roadway/Open Space	-	-	0.05
4747	669289.0	4280805.0	Roadway/Open Space	-	-	0.05
4748	669299.0	4280805.0	Roadway/Open Space	-	-	0.05
4749	669309.0	4280805.0	Roadway/Open Space	-	-	0.05
4750	669319.0	4280805.0	Roadway/Open Space	-	-	0.06
4751	669329.0	4280805.0	Roadway/Open Space	-	-	0.06
4752	669339.0	4280805.0	Roadway/Open Space	-	-	0.06
4753	669349.0	4280805.0	Roadway/Open Space	-	-	0.05
4754	669359.0	4280805.0	Roadway/Open Space	-	-	0.05
4755	669369.0	4280805.0	Roadway/Open Space	-	-	0.04
4756	669379.0	4280805.0	Roadway/Open Space	-	-	0.04
4757	669389.0	4280805.0	Roadway/Open Space	-	-	0.04
4758	669399.0	4280805.0	Roadway/Open Space	-	-	0.04
4759	669409.0	4280805.0	Roadway/Open Space	-	-	0.04
4760	669419.0	4280805.0	Roadway/Open Space	-	-	0.03
4761	669429.0	4280805.0	Roadway/Open Space	-	-	0.03
4762	669439.0	4280805.0	Roadway/Open Space	-	-	0.03
4763	669449.0	4280805.0	Roadway/Open Space	-	-	0.03
4764	669459.0	4280805.0	Roadway/Open Space	-	-	0.03
4765	669469.0	4280805.0	Roadway/Open Space	-	-	0.03
4766	669479.0	4280805.0	Roadway/Open Space	-	-	0.03
4767	669489.0	4280805.0	Roadway/Open Space	-	-	0.03
4768	669499.0	4280805.0	Roadway/Open Space	-	-	0.03
4769	669509.0	4280805.0	Roadway/Open Space	-	-	0.03
4770	669519.0	4280805.0	Worker	0.05	0.003	0.03
4771	669529.0	4280805.0	Worker	0.04	0.003	0.03
4772	669539.0	4280805.0	Worker	0.04	0.002	0.03
4773	669549.0	4280805.0	Worker	0.04	0.002	0.03
4774	669559.0	4280805.0	Worker	0.04	0.002	0.03
4775	669569.0	4280805.0	Worker	0.04	0.002	0.03
4776	669579.0	4280805.0	Worker	0.03	0.002	0.03
4777	669589.0	4280805.0	Worker	0.03	0.002	0.03
4778	669599.0	4280805.0	Roadway/Open Space	-	-	0.03
4779	669609.0	4280805.0	Roadway/Open Space	-	-	0.03
4780	669619.0	4280805.0	Roadway/Open Space	-	-	0.03
4781	668539.0	4280815.0	Residential	0.12	0.000	0.02
4782	668549.0	4280815.0	Residential	0.12	0.000	0.02
4783	668559.0	4280815.0	Residential	0.13	0.000	0.02
4784	668569.0	4280815.0	Residential	0.13	0.000	0.02
4785	668579.0	4280815.0	Residential	0.13	0.000	0.02
4786	668589.0	4280815.0	Residential	0.13	0.000	0.02
4787	668599.0	4280815.0	Residential	0.14	0.001	0.02
4788	668609.0	4280815.0	Residential	0.14	0.001	0.02
4789	668619.0	4280815.0	Residential	0.14	0.001	0.02
4790	668629.0	4280815.0	Residential	0.14	0.001	0.02
4791	668639.0	4280815.0	Residential	0.14	0.001	0.02
4792	668649.0	4280815.0	Roadway/Open Space	-	-	0.02
4793	668659.0	4280815.0	Residential	0.15	0.001	0.02
4794	668669.0	4280815.0	Residential	0.15	0.001	0.02
4795	668679.0	4280815.0	Residential	0.16	0.001	0.02
4796	668689.0	4280815.0	Residential	0.18	0.001	0.02
4797	668699.0	4280815.0	Residential	0.19	0.001	0.02
4798	668709.0	4280815.0	Residential	0.22	0.001	0.02
4799	668719.0	4280815.0	Residential	0.25	0.001	0.03
4800	668729.0	4280815.0	Roadway/Open Space	-	-	0.03
4801	668739.0	4280815.0	Roadway/Open Space	-	-	0.03
4802	668749.0	4280815.0	Roadway/Open Space	-	-	0.04
4803	668759.0	4280815.0	Roadway/Open Space	-	-	0.04
4804	668769.0	4280815.0	Roadway/Open Space	-	-	0.05
4805	668779.0	4280815.0	Roadway/Open Space	-	-	0.05
4806	668789.0	4280815.0	Roadway/Open Space	-	-	0.05
4807	668799.0	4280815.0	Roadway/Open Space	-	-	0.05
4808	668809.0	4280815.0	Roadway/Open Space	-	-	0.04
4809	668819.0	4280815.0	Roadway/Open Space	-	-	0.05
4810	668829.0	4280815.0	Roadway/Open Space	-	-	0.05
4811	668839.0	4280815.0	Roadway/Open Space	-	-	0.05
4812	668849.0	4280815.0	Roadway/Open Space	-	-	0.05
4813	668859.0	4280815.0	Roadway/Open Space	-	-	0.05
4814	668869.0	4280815.0	Roadway/Open Space	-	-	0.05
4815	668879.0	4280815.0	Roadway/Open Space	-	-	0.05
4816	668889.0	4280815.0	Roadway/Open Space	-	-	0.05

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
4817	668899.0	4280815.0	Roadway/Open Space	-	-	0.05
4818	668909.0	4280815.0	Roadway/Open Space	-	-	0.05
4819	668919.0	4280815.0	Roadway/Open Space	-	-	0.06
4820	668929.0	4280815.0	Roadway/Open Space	-	-	0.06
4821	668939.0	4280815.0	Roadway/Open Space	-	-	0.06
4822	668949.0	4280815.0	Roadway/Open Space	-	-	0.06
4848	669209.0	4280815.0	Roadway/Open Space	-	-	0.07
4849	669219.0	4280815.0	Roadway/Open Space	-	-	0.07
4850	669229.0	4280815.0	Roadway/Open Space	-	-	0.07
4851	669239.0	4280815.0	Roadway/Open Space	-	-	0.06
4852	669249.0	4280815.0	Roadway/Open Space	-	-	0.06
4853	669259.0	4280815.0	Roadway/Open Space	-	-	0.06
4854	669269.0	4280815.0	Roadway/Open Space	-	-	0.06
4855	669279.0	4280815.0	Roadway/Open Space	-	-	0.06
4856	669289.0	4280815.0	Roadway/Open Space	-	-	0.05
4857	669299.0	4280815.0	Roadway/Open Space	-	-	0.05
4858	669309.0	4280815.0	Roadway/Open Space	-	-	0.06
4859	669319.0	4280815.0	Roadway/Open Space	-	-	0.06
4860	669329.0	4280815.0	Roadway/Open Space	-	-	0.06
4861	669339.0	4280815.0	Roadway/Open Space	-	-	0.06
4862	669349.0	4280815.0	Roadway/Open Space	-	-	0.05
4863	669359.0	4280815.0	Roadway/Open Space	-	-	0.05
4864	669369.0	4280815.0	Roadway/Open Space	-	-	0.05
4865	669379.0	4280815.0	Roadway/Open Space	-	-	0.04
4866	669389.0	4280815.0	Roadway/Open Space	-	-	0.04
4867	669399.0	4280815.0	Roadway/Open Space	-	-	0.04
4868	669409.0	4280815.0	Roadway/Open Space	-	-	0.04
4869	669419.0	4280815.0	Roadway/Open Space	-	-	0.04
4870	669429.0	4280815.0	Roadway/Open Space	-	-	0.03
4871	669439.0	4280815.0	Roadway/Open Space	-	-	0.03
4872	669449.0	4280815.0	Roadway/Open Space	-	-	0.03
4873	669459.0	4280815.0	Roadway/Open Space	-	-	0.03
4874	669469.0	4280815.0	Roadway/Open Space	-	-	0.03
4875	669479.0	4280815.0	Roadway/Open Space	-	-	0.03
4876	669489.0	4280815.0	Roadway/Open Space	-	-	0.03
4877	669499.0	4280815.0	Roadway/Open Space	-	-	0.03
4878	669509.0	4280815.0	Roadway/Open Space	-	-	0.03
4879	669519.0	4280815.0	Roadway/Open Space	-	-	0.03
4880	669529.0	4280815.0	Worker	0.04	0.003	0.03
4881	669539.0	4280815.0	Worker	0.04	0.002	0.03
4882	669549.0	4280815.0	Worker	0.04	0.002	0.02
4883	669559.0	4280815.0	Worker	0.04	0.002	0.03
4884	669569.0	4280815.0	Worker	0.04	0.002	0.03
4885	669579.0	4280815.0	Worker	0.03	0.002	0.03
4886	669589.0	4280815.0	Worker	0.03	0.002	0.03
4887	669599.0	4280815.0	Roadway/Open Space	-	-	0.03
4888	669609.0	4280815.0	Roadway/Open Space	-	-	0.03
4889	669619.0	4280815.0	Roadway/Open Space	-	-	0.03
4890	668529.0	4280825.0	Residential	0.11	0.000	0.02
4891	668539.0	4280825.0	Residential	0.11	0.000	0.02
4892	668549.0	4280825.0	Residential	0.11	0.000	0.02
4893	668559.0	4280825.0	Residential	0.12	0.000	0.02
4894	668569.0	4280825.0	Residential	0.12	0.000	0.02
4895	668579.0	4280825.0	Residential	0.12	0.000	0.02
4896	668589.0	4280825.0	Residential	0.13	0.000	0.02
4897	668599.0	4280825.0	Residential	0.13	0.000	0.02
4898	668609.0	4280825.0	Residential	0.13	0.000	0.02
4899	668619.0	4280825.0	Residential	0.13	0.000	0.02
4900	668629.0	4280825.0	Residential	0.13	0.000	0.02
4901	668639.0	4280825.0	Residential	0.13	0.000	0.02
4902	668649.0	4280825.0	Roadway/Open Space	-	-	0.01
4903	668659.0	4280825.0	Residential	0.14	0.001	0.01
4904	668669.0	4280825.0	Residential	0.15	0.001	0.02
4905	668679.0	4280825.0	Residential	0.16	0.001	0.02
4906	668689.0	4280825.0	Residential	0.18	0.001	0.02
4907	668699.0	4280825.0	Residential	0.20	0.001	0.02
4908	668709.0	4280825.0	Residential	0.22	0.001	0.02
4909	668719.0	4280825.0	Roadway/Open Space	-	-	0.03
4910	668729.0	4280825.0	Roadway/Open Space	-	-	0.03
4911	668739.0	4280825.0	Roadway/Open Space	-	-	0.04
4912	668749.0	4280825.0	Roadway/Open Space	-	-	0.04
4913	668759.0	4280825.0	Roadway/Open Space	-	-	0.05
4914	668769.0	4280825.0	Roadway/Open Space	-	-	0.05
4915	668779.0	4280825.0	Roadway/Open Space	-	-	0.05
4916	668789.0	4280825.0	Roadway/Open Space	-	-	0.05
4917	668799.0	4280825.0	Roadway/Open Space	-	-	0.05
4918	668809.0	4280825.0	Roadway/Open Space	-	-	0.05
4919	668819.0	4280825.0	Roadway/Open Space	-	-	0.05
4920	668829.0	4280825.0	Roadway/Open Space	-	-	0.05
4921	668839.0	4280825.0	Roadway/Open Space	-	-	0.05
4922	668849.0	4280825.0	Roadway/Open Space	-	-	0.05
4923	668859.0	4280825.0	Roadway/Open Space	-	-	0.05
4924	668869.0	4280825.0	Roadway/Open Space	-	-	0.05
4925	668879.0	4280825.0	Roadway/Open Space	-	-	0.05

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
4926	668889.0	4280825.0	Roadway/Open Space	-	-	0.05
4927	668899.0	4280825.0	Roadway/Open Space	-	-	0.05
4928	668909.0	4280825.0	Roadway/Open Space	-	-	0.06
4929	668919.0	4280825.0	Roadway/Open Space	-	-	0.06
4930	668929.0	4280825.0	Roadway/Open Space	-	-	0.06
4931	668939.0	4280825.0	Roadway/Open Space	-	-	0.06
4958	669209.0	4280825.0	Roadway/Open Space	-	-	0.07
4959	669219.0	4280825.0	Roadway/Open Space	-	-	0.07
4960	669229.0	4280825.0	Roadway/Open Space	-	-	0.07
4961	669239.0	4280825.0	Roadway/Open Space	-	-	0.07
4962	669249.0	4280825.0	Roadway/Open Space	-	-	0.06
4963	669259.0	4280825.0	Roadway/Open Space	-	-	0.06
4964	669269.0	4280825.0	Roadway/Open Space	-	-	0.06
4965	669279.0	4280825.0	Roadway/Open Space	-	-	0.06
4966	669289.0	4280825.0	Roadway/Open Space	-	-	0.06
4967	669299.0	4280825.0	Roadway/Open Space	-	-	0.06
4968	669309.0	4280825.0	Roadway/Open Space	-	-	0.06
4969	669319.0	4280825.0	Roadway/Open Space	-	-	0.06
4970	669329.0	4280825.0	Roadway/Open Space	-	-	0.06
4971	669339.0	4280825.0	Roadway/Open Space	-	-	0.06
4972	669349.0	4280825.0	Roadway/Open Space	-	-	0.06
4973	669359.0	4280825.0	Roadway/Open Space	-	-	0.05
4974	669369.0	4280825.0	Roadway/Open Space	-	-	0.05
4975	669379.0	4280825.0	Roadway/Open Space	-	-	0.05
4976	669389.0	4280825.0	Roadway/Open Space	-	-	0.04
4977	669399.0	4280825.0	Roadway/Open Space	-	-	0.04
4978	669409.0	4280825.0	Roadway/Open Space	-	-	0.04
4979	669419.0	4280825.0	Roadway/Open Space	-	-	0.04
4980	669429.0	4280825.0	Roadway/Open Space	-	-	0.03
4981	669439.0	4280825.0	Roadway/Open Space	-	-	0.03
4982	669449.0	4280825.0	Roadway/Open Space	-	-	0.03
4983	669459.0	4280825.0	Roadway/Open Space	-	-	0.03
4984	669469.0	4280825.0	Roadway/Open Space	-	-	0.03
4985	669479.0	4280825.0	Roadway/Open Space	-	-	0.03
4986	669489.0	4280825.0	Roadway/Open Space	-	-	0.03
4987	669499.0	4280825.0	Roadway/Open Space	-	-	0.03
4988	669509.0	4280825.0	Roadway/Open Space	-	-	0.03
4989	669519.0	4280825.0	Roadway/Open Space	-	-	0.03
4990	669529.0	4280825.0	Worker	0.04	0.003	0.03
4991	669539.0	4280825.0	Worker	0.04	0.002	0.03
4992	669549.0	4280825.0	Worker	0.04	0.002	0.02
4993	669559.0	4280825.0	Worker	0.04	0.002	0.03
4994	669569.0	4280825.0	Worker	0.04	0.002	0.03
4995	669579.0	4280825.0	Worker	0.03	0.002	0.03
4996	669589.0	4280825.0	Worker	0.03	0.002	0.03
4997	669599.0	4280825.0	Roadway/Open Space	-	-	0.03
4998	669609.0	4280825.0	Roadway/Open Space	-	-	0.03
4999	669619.0	4280825.0	Roadway/Open Space	-	-	0.03
5000	668529.0	4280835.0	Residential	0.10	0.0004	0.02
5001	668539.0	4280835.0	Residential	0.11	0.0004	0.02
5002	668549.0	4280835.0	Residential	0.11	0.0004	0.01
5003	668559.0	4280835.0	Residential	0.11	0.0004	0.01
5004	668569.0	4280835.0	Residential	0.11	0.000	0.01
5005	668579.0	4280835.0	Residential	0.11	0.000	0.01
5006	668589.0	4280835.0	Residential	0.12	0.000	0.01
5007	668599.0	4280835.0	Residential	0.12	0.000	0.01
5008	668609.0	4280835.0	Residential	0.12	0.000	0.01
5009	668619.0	4280835.0	Residential	0.12	0.000	0.01
5010	668629.0	4280835.0	Residential	0.13	0.000	0.01
5011	668639.0	4280835.0	Residential	0.13	0.000	0.01
5012	668649.0	4280835.0	Roadway/Open Space	-	-	0.01
5013	668659.0	4280835.0	Residential	0.14	0.001	0.01
5014	668669.0	4280835.0	Residential	0.15	0.001	0.02
5015	668679.0	4280835.0	Residential	0.16	0.001	0.02
5016	668689.0	4280835.0	Residential	0.18	0.001	0.02
5017	668699.0	4280835.0	Residential	0.20	0.001	0.02
5018	668709.0	4280835.0	Roadway/Open Space	-	-	0.02
5019	668719.0	4280835.0	Roadway/Open Space	-	-	0.03
5020	668729.0	4280835.0	Roadway/Open Space	-	-	0.03
5021	668739.0	4280835.0	Roadway/Open Space	-	-	0.04
5022	668749.0	4280835.0	Roadway/Open Space	-	-	0.04
5023	668759.0	4280835.0	Roadway/Open Space	-	-	0.05
5024	668769.0	4280835.0	Roadway/Open Space	-	-	0.05
5025	668779.0	4280835.0	Roadway/Open Space	-	-	0.05
5026	668789.0	4280835.0	Roadway/Open Space	-	-	0.05
5027	668799.0	4280835.0	Roadway/Open Space	-	-	0.05
5028	668809.0	4280835.0	Roadway/Open Space	-	-	0.05
5029	668819.0	4280835.0	Roadway/Open Space	-	-	0.05
5030	668829.0	4280835.0	Roadway/Open Space	-	-	0.05
5031	668839.0	4280835.0	Roadway/Open Space	-	-	0.05
5032	668849.0	4280835.0	Roadway/Open Space	-	-	0.05
5033	668859.0	4280835.0	Roadway/Open Space	-	-	0.05
5034	668869.0	4280835.0	Roadway/Open Space	-	-	0.05
5035	668879.0	4280835.0	Roadway/Open Space	-	-	0.05

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
5036	668889.0	4280835.0	Roadway/Open Space	-	-	0.05
5037	668899.0	4280835.0	Roadway/Open Space	-	-	0.05
5038	668909.0	4280835.0	Roadway/Open Space	-	-	0.06
5039	668919.0	4280835.0	Roadway/Open Space	-	-	0.06
5040	668929.0	4280835.0	Roadway/Open Space	-	-	0.06
5041	668939.0	4280835.0	Roadway/Open Space	-	-	0.07
5068	669209.0	4280835.0	Roadway/Open Space	-	-	0.07
5069	669219.0	4280835.0	Roadway/Open Space	-	-	0.07
5070	669229.0	4280835.0	Roadway/Open Space	-	-	0.07
5071	669239.0	4280835.0	Roadway/Open Space	-	-	0.07
5072	669249.0	4280835.0	Roadway/Open Space	-	-	0.06
5073	669259.0	4280835.0	Roadway/Open Space	-	-	0.06
5074	669269.0	4280835.0	Roadway/Open Space	-	-	0.06
5075	669279.0	4280835.0	Roadway/Open Space	-	-	0.06
5076	669289.0	4280835.0	Roadway/Open Space	-	-	0.06
5077	669299.0	4280835.0	Roadway/Open Space	-	-	0.06
5078	669309.0	4280835.0	Roadway/Open Space	-	-	0.06
5079	669319.0	4280835.0	Roadway/Open Space	-	-	0.06
5080	669329.0	4280835.0	Roadway/Open Space	-	-	0.06
5081	669339.0	4280835.0	Roadway/Open Space	-	-	0.06
5082	669349.0	4280835.0	Roadway/Open Space	-	-	0.06
5083	669359.0	4280835.0	Roadway/Open Space	-	-	0.05
5084	669369.0	4280835.0	Roadway/Open Space	-	-	0.05
5085	669379.0	4280835.0	Roadway/Open Space	-	-	0.05
5086	669389.0	4280835.0	Roadway/Open Space	-	-	0.04
5087	669399.0	4280835.0	Roadway/Open Space	-	-	0.04
5088	669409.0	4280835.0	Roadway/Open Space	-	-	0.04
5089	669419.0	4280835.0	Roadway/Open Space	-	-	0.04
5090	669429.0	4280835.0	Roadway/Open Space	-	-	0.04
5091	669439.0	4280835.0	Roadway/Open Space	-	-	0.03
5092	669449.0	4280835.0	Roadway/Open Space	-	-	0.03
5093	669459.0	4280835.0	Roadway/Open Space	-	-	0.03
5094	669469.0	4280835.0	Roadway/Open Space	-	-	0.03
5095	669479.0	4280835.0	Roadway/Open Space	-	-	0.03
5096	669489.0	4280835.0	Roadway/Open Space	-	-	0.03
5097	669499.0	4280835.0	Roadway/Open Space	-	-	0.03
5098	669509.0	4280835.0	Roadway/Open Space	-	-	0.03
5099	669519.0	4280835.0	Roadway/Open Space	-	-	0.03
5100	669529.0	4280835.0	Roadway/Open Space	-	-	0.03
5101	669539.0	4280835.0	Roadway/Open Space	-	-	0.02
5102	669549.0	4280835.0	Roadway/Open Space	-	-	0.02
5103	669559.0	4280835.0	Worker	0.04	0.002	0.03
5104	669569.0	4280835.0	Worker	0.04	0.002	0.03
5105	669579.0	4280835.0	Worker	0.03	0.002	0.03
5106	669589.0	4280835.0	Worker	0.03	0.002	0.03
5107	669599.0	4280835.0	Roadway/Open Space	-	-	0.03
5108	669609.0	4280835.0	Roadway/Open Space	-	-	0.03
5109	669619.0	4280835.0	Roadway/Open Space	-	-	0.03
5110	668529.0	4280845.0	Residential	0.10	0.0004	0.01
5111	668539.0	4280845.0	Residential	0.10	0.0004	0.01
5112	668549.0	4280845.0	Residential	0.10	0.0004	0.01
5113	668559.0	4280845.0	Residential	0.10	0.0004	0.01
5114	668569.0	4280845.0	Residential	0.10	0.0004	0.01
5115	668579.0	4280845.0	Residential	0.11	0.0004	0.01
5116	668589.0	4280845.0	Residential	0.11	0.0004	0.01
5117	668599.0	4280845.0	Residential	0.11	0.000	0.01
5118	668609.0	4280845.0	Residential	0.11	0.000	0.01
5119	668619.0	4280845.0	Residential	0.12	0.000	0.01
5120	668629.0	4280845.0	Residential	0.13	0.000	0.01
5121	668639.0	4280845.0	Residential	0.13	0.000	0.01
5122	668649.0	4280845.0	Roadway/Open Space	-	-	0.01
5123	668659.0	4280845.0	Residential	0.14	0.001	0.02
5124	668669.0	4280845.0	Residential	0.15	0.001	0.02
5125	668679.0	4280845.0	Residential	0.16	0.001	0.02
5126	668689.0	4280845.0	Residential	0.18	0.001	0.02
5127	668699.0	4280845.0	Residential	0.20	0.001	0.02
5128	668709.0	4280845.0	Roadway/Open Space	-	-	0.02
5129	668719.0	4280845.0	Roadway/Open Space	-	-	0.03
5130	668729.0	4280845.0	Roadway/Open Space	-	-	0.03
5131	668739.0	4280845.0	Roadway/Open Space	-	-	0.04
5132	668749.0	4280845.0	Roadway/Open Space	-	-	0.04
5133	668759.0	4280845.0	Roadway/Open Space	-	-	0.05
5134	668769.0	4280845.0	Roadway/Open Space	-	-	0.05
5135	668779.0	4280845.0	Roadway/Open Space	-	-	0.05
5136	668789.0	4280845.0	Roadway/Open Space	-	-	0.06
5137	668799.0	4280845.0	Roadway/Open Space	-	-	0.05
5138	668809.0	4280845.0	Roadway/Open Space	-	-	0.05
5139	668819.0	4280845.0	Roadway/Open Space	-	-	0.05
5140	668829.0	4280845.0	Roadway/Open Space	-	-	0.05
5141	668839.0	4280845.0	Roadway/Open Space	-	-	0.05
5142	668849.0	4280845.0	Roadway/Open Space	-	-	0.05
5143	668859.0	4280845.0	Roadway/Open Space	-	-	0.05
5144	668869.0	4280845.0	Roadway/Open Space	-	-	0.05
5145	668879.0	4280845.0	Roadway/Open Space	-	-	0.05

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
5146	668889.0	4280845.0	Roadway/Open Space	-	-	0.05
5147	668899.0	4280845.0	Roadway/Open Space	-	-	0.05
5148	668909.0	4280845.0	Roadway/Open Space	-	-	0.06
5149	668919.0	4280845.0	Roadway/Open Space	-	-	0.06
5150	668929.0	4280845.0	Roadway/Open Space	-	-	0.07
5177	669199.0	4280845.0	Roadway/Open Space	-	-	0.08
5178	669209.0	4280845.0	Roadway/Open Space	-	-	0.07
5179	669219.0	4280845.0	Roadway/Open Space	-	-	0.07
5180	669229.0	4280845.0	Roadway/Open Space	-	-	0.07
5181	669239.0	4280845.0	Roadway/Open Space	-	-	0.07
5182	669249.0	4280845.0	Roadway/Open Space	-	-	0.07
5183	669259.0	4280845.0	Roadway/Open Space	-	-	0.06
5184	669269.0	4280845.0	Roadway/Open Space	-	-	0.06
5185	669279.0	4280845.0	Roadway/Open Space	-	-	0.06
5186	669289.0	4280845.0	Roadway/Open Space	-	-	0.06
5187	669299.0	4280845.0	Roadway/Open Space	-	-	0.06
5188	669309.0	4280845.0	Roadway/Open Space	-	-	0.06
5189	669319.0	4280845.0	Roadway/Open Space	-	-	0.06
5190	669329.0	4280845.0	Roadway/Open Space	-	-	0.06
5191	669339.0	4280845.0	Roadway/Open Space	-	-	0.06
5192	669349.0	4280845.0	Roadway/Open Space	-	-	0.06
5193	669359.0	4280845.0	Roadway/Open Space	-	-	0.06
5194	669369.0	4280845.0	Roadway/Open Space	-	-	0.05
5195	669379.0	4280845.0	Roadway/Open Space	-	-	0.05
5196	669389.0	4280845.0	Roadway/Open Space	-	-	0.05
5197	669399.0	4280845.0	Roadway/Open Space	-	-	0.04
5198	669409.0	4280845.0	Roadway/Open Space	-	-	0.04
5199	669419.0	4280845.0	Roadway/Open Space	-	-	0.04
5200	669429.0	4280845.0	Roadway/Open Space	-	-	0.04
5201	669439.0	4280845.0	Roadway/Open Space	-	-	0.03
5202	669449.0	4280845.0	Roadway/Open Space	-	-	0.03
5203	669459.0	4280845.0	Roadway/Open Space	-	-	0.03
5204	669469.0	4280845.0	Roadway/Open Space	-	-	0.03
5205	669479.0	4280845.0	Roadway/Open Space	-	-	0.03
5206	669489.0	4280845.0	Roadway/Open Space	-	-	0.03
5207	669499.0	4280845.0	Roadway/Open Space	-	-	0.03
5208	669509.0	4280845.0	Roadway/Open Space	-	-	0.03
5209	669519.0	4280845.0	Roadway/Open Space	-	-	0.03
5210	669529.0	4280845.0	Roadway/Open Space	-	-	0.03
5211	669539.0	4280845.0	Roadway/Open Space	-	-	0.03
5212	669549.0	4280845.0	Roadway/Open Space	-	-	0.02
5213	669559.0	4280845.0	Worker	0.04	0.002	0.02
5214	669569.0	4280845.0	Worker	0.04	0.002	0.03
5215	669579.0	4280845.0	Worker	0.03	0.002	0.03
5216	669589.0	4280845.0	Worker	0.03	0.002	0.03
5217	669599.0	4280845.0	Roadway/Open Space	-	-	0.03
5218	669609.0	4280845.0	Roadway/Open Space	-	-	0.03
5219	669619.0	4280845.0	Roadway/Open Space	-	-	0.03
5220	668529.0	4280855.0	Residential	0.09	0.0003	0.01
5221	668539.0	4280855.0	Residential	0.09	0.0003	0.01
5222	668549.0	4280855.0	Residential	0.09	0.0003	0.01
5223	668559.0	4280855.0	Residential	0.09	0.0003	0.01
5224	668569.0	4280855.0	Residential	0.10	0.0004	0.01
5225	668579.0	4280855.0	Residential	0.10	0.0004	0.01
5226	668589.0	4280855.0	Residential	0.10	0.0004	0.01
5227	668599.0	4280855.0	Residential	0.11	0.0004	0.01
5228	668609.0	4280855.0	Residential	0.11	0.0004	0.01
5229	668619.0	4280855.0	Residential	0.12	0.000	0.01
5230	668629.0	4280855.0	Residential	0.12	0.000	0.01
5231	668639.0	4280855.0	Residential	0.13	0.000	0.01
5232	668649.0	4280855.0	Roadway/Open Space	-	-	0.01
5233	668659.0	4280855.0	Residential	0.14	0.001	0.01
5234	668669.0	4280855.0	Residential	0.15	0.001	0.02
5235	668679.0	4280855.0	Residential	0.17	0.001	0.02
5236	668689.0	4280855.0	Residential	0.19	0.001	0.02
5237	668699.0	4280855.0	Residential	0.21	0.001	0.02
5238	668709.0	4280855.0	Roadway/Open Space	-	-	0.03
5239	668719.0	4280855.0	Roadway/Open Space	-	-	0.03
5240	668729.0	4280855.0	Roadway/Open Space	-	-	0.03
5241	668739.0	4280855.0	Roadway/Open Space	-	-	0.04
5242	668749.0	4280855.0	Roadway/Open Space	-	-	0.04
5243	668759.0	4280855.0	Roadway/Open Space	-	-	0.05
5244	668769.0	4280855.0	Roadway/Open Space	-	-	0.05
5245	668779.0	4280855.0	Roadway/Open Space	-	-	0.06
5246	668789.0	4280855.0	Roadway/Open Space	-	-	0.06
5247	668799.0	4280855.0	Roadway/Open Space	-	-	0.05
5248	668809.0	4280855.0	Roadway/Open Space	-	-	0.05
5249	668819.0	4280855.0	Roadway/Open Space	-	-	0.05
5250	668829.0	4280855.0	Roadway/Open Space	-	-	0.05
5251	668839.0	4280855.0	Roadway/Open Space	-	-	0.05
5252	668849.0	4280855.0	Roadway/Open Space	-	-	0.05
5253	668859.0	4280855.0	Roadway/Open Space	-	-	0.05
5254	668869.0	4280855.0	Roadway/Open Space	-	-	0.05
5255	668879.0	4280855.0	Roadway/Open Space	-	-	0.05

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
5256	668889.0	4280855.0	Roadway/Open Space	-	-	0.05
5257	668899.0	4280855.0	Roadway/Open Space	-	-	0.06
5258	668909.0	4280855.0	Roadway/Open Space	-	-	0.06
5259	668919.0	4280855.0	Roadway/Open Space	-	-	0.07
5260	668929.0	4280855.0	Roadway/Open Space	-	-	0.07
5287	669199.0	4280855.0	Roadway/Open Space	-	-	0.08
5288	669209.0	4280855.0	Roadway/Open Space	-	-	0.08
5289	669219.0	4280855.0	Roadway/Open Space	-	-	0.07
5290	669229.0	4280855.0	Roadway/Open Space	-	-	0.07
5291	669239.0	4280855.0	Roadway/Open Space	-	-	0.07
5292	669249.0	4280855.0	Roadway/Open Space	-	-	0.07
5293	669259.0	4280855.0	Roadway/Open Space	-	-	0.06
5294	669269.0	4280855.0	Roadway/Open Space	-	-	0.06
5295	669279.0	4280855.0	Roadway/Open Space	-	-	0.06
5296	669289.0	4280855.0	Roadway/Open Space	-	-	0.06
5297	669299.0	4280855.0	Roadway/Open Space	-	-	0.06
5298	669309.0	4280855.0	Roadway/Open Space	-	-	0.06
5299	669319.0	4280855.0	Roadway/Open Space	-	-	0.06
5300	669329.0	4280855.0	Roadway/Open Space	-	-	0.06
5301	669339.0	4280855.0	Roadway/Open Space	-	-	0.06
5302	669349.0	4280855.0	Roadway/Open Space	-	-	0.06
5303	669359.0	4280855.0	Roadway/Open Space	-	-	0.06
5304	669369.0	4280855.0	Roadway/Open Space	-	-	0.06
5305	669379.0	4280855.0	Roadway/Open Space	-	-	0.05
5306	669389.0	4280855.0	Roadway/Open Space	-	-	0.05
5307	669399.0	4280855.0	Roadway/Open Space	-	-	0.04
5308	669409.0	4280855.0	Roadway/Open Space	-	-	0.04
5309	669419.0	4280855.0	Roadway/Open Space	-	-	0.04
5310	669429.0	4280855.0	Roadway/Open Space	-	-	0.04
5311	669439.0	4280855.0	Roadway/Open Space	-	-	0.03
5312	669449.0	4280855.0	Roadway/Open Space	-	-	0.03
5313	669459.0	4280855.0	Roadway/Open Space	-	-	0.03
5314	669469.0	4280855.0	Roadway/Open Space	-	-	0.03
5315	669479.0	4280855.0	Roadway/Open Space	-	-	0.03
5316	669489.0	4280855.0	Roadway/Open Space	-	-	0.03
5317	669499.0	4280855.0	Roadway/Open Space	-	-	0.03
5318	669509.0	4280855.0	Roadway/Open Space	-	-	0.03
5319	669519.0	4280855.0	Roadway/Open Space	-	-	0.03
5320	669529.0	4280855.0	Roadway/Open Space	-	-	0.03
5321	669539.0	4280855.0	Roadway/Open Space	-	-	0.03
5322	669549.0	4280855.0	Roadway/Open Space	-	-	0.02
5323	669559.0	4280855.0	Roadway/Open Space	-	-	0.02
5324	669569.0	4280855.0	Roadway/Open Space	-	-	0.03
5325	669579.0	4280855.0	Worker	0.03	0.002	0.03
5326	669589.0	4280855.0	Worker	0.03	0.002	0.03
5327	669599.0	4280855.0	Roadway/Open Space	-	-	0.03
5328	669609.0	4280855.0	Roadway/Open Space	-	-	0.03
5329	669619.0	4280855.0	Roadway/Open Space	-	-	0.03
5330	668519.0	4280865.0	Roadway/Open Space	-	-	0.01
5331	668529.0	4280865.0	Residential	0.09	0.0003	0.01
5332	668539.0	4280865.0	Residential	0.09	0.0003	0.01
5333	668549.0	4280865.0	Residential	0.09	0.0003	0.01
5334	668559.0	4280865.0	Residential	0.09	0.0003	0.01
5335	668569.0	4280865.0	Residential	0.09	0.0003	0.01
5336	668579.0	4280865.0	Residential	0.10	0.0004	0.01
5337	668589.0	4280865.0	Residential	0.10	0.0004	0.01
5338	668599.0	4280865.0	Residential	0.10	0.0004	0.01
5339	668609.0	4280865.0	Residential	0.11	0.0004	0.01
5340	668619.0	4280865.0	Residential	0.12	0.000	0.01
5341	668629.0	4280865.0	Residential	0.12	0.000	0.01
5342	668639.0	4280865.0	Residential	0.13	0.000	0.01
5343	668649.0	4280865.0	Roadway/Open Space	-	-	0.01
5344	668659.0	4280865.0	Residential	0.14	0.001	0.01
5345	668669.0	4280865.0	Residential	0.15	0.001	0.02
5346	668679.0	4280865.0	Residential	0.17	0.001	0.02
5347	668689.0	4280865.0	Residential	0.19	0.001	0.02
5348	668699.0	4280865.0	Residential	0.22	0.001	0.02
5349	668709.0	4280865.0	Roadway/Open Space	-	-	0.03
5350	668719.0	4280865.0	Roadway/Open Space	-	-	0.03
5351	668729.0	4280865.0	Roadway/Open Space	-	-	0.03
5352	668739.0	4280865.0	Roadway/Open Space	-	-	0.04
5353	668749.0	4280865.0	Roadway/Open Space	-	-	0.05
5354	668759.0	4280865.0	Roadway/Open Space	-	-	0.05
5355	668769.0	4280865.0	Roadway/Open Space	-	-	0.06
5356	668779.0	4280865.0	Roadway/Open Space	-	-	0.06
5357	668789.0	4280865.0	Roadway/Open Space	-	-	0.06
5358	668799.0	4280865.0	Roadway/Open Space	-	-	0.05
5359	668809.0	4280865.0	Roadway/Open Space	-	-	0.05
5360	668819.0	4280865.0	Roadway/Open Space	-	-	0.05
5361	668829.0	4280865.0	Roadway/Open Space	-	-	0.05
5362	668839.0	4280865.0	Roadway/Open Space	-	-	0.05
5363	668849.0	4280865.0	Roadway/Open Space	-	-	0.05
5364	668859.0	4280865.0	Roadway/Open Space	-	-	0.05
5365	668869.0	4280865.0	Roadway/Open Space	-	-	0.05

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
5366	668879.0	4280865.0	Roadway/Open Space	-	-	0.05
5367	668889.0	4280865.0	Roadway/Open Space	-	-	0.05
5368	668899.0	4280865.0	Roadway/Open Space	-	-	0.06
5369	668909.0	4280865.0	Roadway/Open Space	-	-	0.06
5370	668919.0	4280865.0	Roadway/Open Space	-	-	0.07
5371	668929.0	4280865.0	Roadway/Open Space	-	-	0.07
5397	669189.0	4280865.0	Roadway/Open Space	-	-	0.08
5398	669199.0	4280865.0	Roadway/Open Space	-	-	0.08
5399	669209.0	4280865.0	Roadway/Open Space	-	-	0.08
5400	669219.0	4280865.0	Roadway/Open Space	-	-	0.07
5401	669229.0	4280865.0	Roadway/Open Space	-	-	0.07
5402	669249.0	4280865.0	Roadway/Open Space	-	-	0.06
5403	669259.0	4280865.0	Roadway/Open Space	-	-	0.06
5404	669269.0	4280865.0	Roadway/Open Space	-	-	0.06
5405	669299.0	4280865.0	Roadway/Open Space	-	-	0.06
5406	669309.0	4280865.0	Roadway/Open Space	-	-	0.06
5407	669319.0	4280865.0	Roadway/Open Space	-	-	0.06
5408	669329.0	4280865.0	Roadway/Open Space	-	-	0.06
5409	669339.0	4280865.0	Roadway/Open Space	-	-	0.06
5410	669349.0	4280865.0	Roadway/Open Space	-	-	0.06
5411	669359.0	4280865.0	Roadway/Open Space	-	-	0.06
5412	669369.0	4280865.0	Roadway/Open Space	-	-	0.06
5413	669379.0	4280865.0	Roadway/Open Space	-	-	0.06
5414	669389.0	4280865.0	Roadway/Open Space	-	-	0.05
5415	669399.0	4280865.0	Roadway/Open Space	-	-	0.05
5416	669409.0	4280865.0	Roadway/Open Space	-	-	0.04
5417	669419.0	4280865.0	Roadway/Open Space	-	-	0.04
5418	669429.0	4280865.0	Roadway/Open Space	-	-	0.04
5419	669439.0	4280865.0	Roadway/Open Space	-	-	0.03
5420	669449.0	4280865.0	Roadway/Open Space	-	-	0.03
5421	669459.0	4280865.0	Roadway/Open Space	-	-	0.03
5422	669469.0	4280865.0	Roadway/Open Space	-	-	0.03
5423	669479.0	4280865.0	Roadway/Open Space	-	-	0.03
5424	669489.0	4280865.0	Roadway/Open Space	-	-	0.03
5425	669499.0	4280865.0	Roadway/Open Space	-	-	0.03
5426	669509.0	4280865.0	Roadway/Open Space	-	-	0.03
5427	669519.0	4280865.0	Roadway/Open Space	-	-	0.03
5428	669529.0	4280865.0	Roadway/Open Space	-	-	0.03
5429	669539.0	4280865.0	Roadway/Open Space	-	-	0.03
5430	669549.0	4280865.0	Roadway/Open Space	-	-	0.02
5431	669559.0	4280865.0	Roadway/Open Space	-	-	0.02
5432	669569.0	4280865.0	Roadway/Open Space	-	-	0.03
5433	669579.0	4280865.0	Roadway/Open Space	-	-	0.03
5434	669589.0	4280865.0	Roadway/Open Space	-	-	0.03
5435	669599.0	4280865.0	Roadway/Open Space	-	-	0.03
5436	669609.0	4280865.0	Roadway/Open Space	-	-	0.03
5437	668519.0	4280875.0	Residential	0.08	0.0003	0.01
5438	668529.0	4280875.0	Roadway/Open Space	-	-	0.01
5439	668539.0	4280875.0	Residential	0.08	0.0003	0.01
5440	668549.0	4280875.0	Residential	0.08	0.0003	0.01
5441	668559.0	4280875.0	Residential	0.09	0.0003	0.01
5442	668569.0	4280875.0	Residential	0.09	0.0003	0.01
5443	668579.0	4280875.0	Residential	0.09	0.0003	0.01
5444	668589.0	4280875.0	Residential	0.10	0.0004	0.01
5445	668599.0	4280875.0	Residential	0.10	0.0004	0.01
5446	668609.0	4280875.0	Residential	0.11	0.0004	0.01
5447	668619.0	4280875.0	Residential	0.12	0.0004	0.01
5448	668629.0	4280875.0	Residential	0.12	0.000	0.01
5449	668639.0	4280875.0	Residential	0.13	0.000	0.01
5450	668649.0	4280875.0	Roadway/Open Space	-	-	0.01
5451	668659.0	4280875.0	Residential	0.14	0.001	0.01
5452	668669.0	4280875.0	Residential	0.16	0.001	0.02
5453	668679.0	4280875.0	Residential	0.18	0.001	0.02
5454	668689.0	4280875.0	Residential	0.20	0.001	0.02
5455	668699.0	4280875.0	Residential	0.23	0.001	0.02
5456	668709.0	4280875.0	Roadway/Open Space	-	-	0.03
5457	668719.0	4280875.0	Roadway/Open Space	-	-	0.03
5458	668729.0	4280875.0	Roadway/Open Space	-	-	0.04
5459	668739.0	4280875.0	Roadway/Open Space	-	-	0.04
5460	668749.0	4280875.0	Roadway/Open Space	-	-	0.05
5461	668759.0	4280875.0	Roadway/Open Space	-	-	0.05
5462	668769.0	4280875.0	Roadway/Open Space	-	-	0.06
5463	668779.0	4280875.0	Roadway/Open Space	-	-	0.06
5464	668789.0	4280875.0	Roadway/Open Space	-	-	0.06
5465	668799.0	4280875.0	Roadway/Open Space	-	-	0.05
5466	668809.0	4280875.0	Roadway/Open Space	-	-	0.05
5467	668819.0	4280875.0	Roadway/Open Space	-	-	0.06
5468	668829.0	4280875.0	Roadway/Open Space	-	-	0.06
5469	668839.0	4280875.0	Roadway/Open Space	-	-	0.06
5470	668849.0	4280875.0	Roadway/Open Space	-	-	0.05
5471	668859.0	4280875.0	Roadway/Open Space	-	-	0.05
5472	668869.0	4280875.0	Roadway/Open Space	-	-	0.05
5473	668879.0	4280875.0	Roadway/Open Space	-	-	0.05
5474	668889.0	4280875.0	Roadway/Open Space	-	-	0.06

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
5475	668899.0	4280875.0	Roadway/Open Space	-	-	0.06
5476	668909.0	4280875.0	Roadway/Open Space	-	-	0.06
5477	668919.0	4280875.0	Roadway/Open Space	-	-	0.07
5478	668929.0	4280875.0	Roadway/Open Space	-	-	0.08
5503	669179.0	4280875.0	Roadway/Open Space	-	-	0.09
5504	669189.0	4280875.0	Roadway/Open Space	-	-	0.08
5505	669199.0	4280875.0	Roadway/Open Space	-	-	0.08
5506	669209.0	4280875.0	Roadway/Open Space	-	-	0.08
5507	669219.0	4280875.0	Roadway/Open Space	-	-	0.07
5508	669299.0	4280875.0	Roadway/Open Space	-	-	0.06
5509	669309.0	4280875.0	Roadway/Open Space	-	-	0.06
5510	669319.0	4280875.0	Roadway/Open Space	-	-	0.06
5511	669329.0	4280875.0	Roadway/Open Space	-	-	0.06
5512	669339.0	4280875.0	Roadway/Open Space	-	-	0.06
5513	669349.0	4280875.0	Roadway/Open Space	-	-	0.06
5514	669359.0	4280875.0	Roadway/Open Space	-	-	0.06
5515	669369.0	4280875.0	Roadway/Open Space	-	-	0.06
5516	669379.0	4280875.0	Roadway/Open Space	-	-	0.05
5517	669389.0	4280875.0	Roadway/Open Space	-	-	0.05
5518	669399.0	4280875.0	Roadway/Open Space	-	-	0.05
5519	669409.0	4280875.0	Roadway/Open Space	-	-	0.04
5520	669419.0	4280875.0	Roadway/Open Space	-	-	0.04
5521	669429.0	4280875.0	Roadway/Open Space	-	-	0.04
5522	669439.0	4280875.0	Roadway/Open Space	-	-	0.03
5523	669449.0	4280875.0	Roadway/Open Space	-	-	0.03
5524	669459.0	4280875.0	Roadway/Open Space	-	-	0.03
5525	669469.0	4280875.0	Roadway/Open Space	-	-	0.03
5526	669479.0	4280875.0	Roadway/Open Space	-	-	0.03
5527	669489.0	4280875.0	Roadway/Open Space	-	-	0.03
5528	669499.0	4280875.0	Roadway/Open Space	-	-	0.03
5529	669509.0	4280875.0	Roadway/Open Space	-	-	0.03
5530	669519.0	4280875.0	Roadway/Open Space	-	-	0.03
5531	669529.0	4280875.0	Roadway/Open Space	-	-	0.03
5532	669539.0	4280875.0	Roadway/Open Space	-	-	0.03
5533	669549.0	4280875.0	Roadway/Open Space	-	-	0.02
5534	669559.0	4280875.0	Roadway/Open Space	-	-	0.02
5535	669569.0	4280875.0	Roadway/Open Space	-	-	0.03
5536	669579.0	4280875.0	Roadway/Open Space	-	-	0.03
5537	669589.0	4280875.0	Roadway/Open Space	-	-	0.03
5538	669599.0	4280875.0	Roadway/Open Space	-	-	0.03
5539	669609.0	4280875.0	Roadway/Open Space	-	-	0.03
5540	668519.0	4280885.0	Residential	0.08	0.0003	0.01
5541	668529.0	4280885.0	Residential	0.08	0.0003	0.01
5542	668539.0	4280885.0	Roadway/Open Space	-	-	0.01
5543	668549.0	4280885.0	Residential	0.08	0.0003	0.01
5544	668559.0	4280885.0	Residential	0.09	0.0003	0.01
5545	668569.0	4280885.0	Residential	0.09	0.0003	0.01
5546	668579.0	4280885.0	Residential	0.09	0.0003	0.01
5547	668589.0	4280885.0	Residential	0.10	0.0004	0.01
5548	668599.0	4280885.0	Residential	0.10	0.0004	0.01
5549	668609.0	4280885.0	Residential	0.11	0.0004	0.01
5550	668619.0	4280885.0	Residential	0.12	0.0004	0.01
5551	668629.0	4280885.0	Residential	0.12	0.000	0.01
5552	668639.0	4280885.0	Residential	0.13	0.000	0.01
5553	668649.0	4280885.0	Roadway/Open Space	-	-	0.01
5554	668659.0	4280885.0	Residential	0.15	0.001	0.01
5555	668669.0	4280885.0	Residential	0.17	0.001	0.02
5556	668679.0	4280885.0	Residential	0.19	0.001	0.02
5557	668689.0	4280885.0	Residential	0.22	0.001	0.02
5558	668699.0	4280885.0	Residential	0.25	0.001	0.03
5559	668709.0	4280885.0	Roadway/Open Space	-	-	0.03
5560	668719.0	4280885.0	Roadway/Open Space	-	-	0.04
5561	668729.0	4280885.0	Roadway/Open Space	-	-	0.04
5562	668739.0	4280885.0	Roadway/Open Space	-	-	0.05
5563	668749.0	4280885.0	Roadway/Open Space	-	-	0.05
5564	668759.0	4280885.0	Roadway/Open Space	-	-	0.06
5565	668769.0	4280885.0	Roadway/Open Space	-	-	0.06
5566	668779.0	4280885.0	Roadway/Open Space	-	-	0.06
5567	668789.0	4280885.0	Roadway/Open Space	-	-	0.05
5568	668799.0	4280885.0	Roadway/Open Space	-	-	0.06
5569	668809.0	4280885.0	Roadway/Open Space	-	-	0.06
5570	668819.0	4280885.0	Roadway/Open Space	-	-	0.06
5571	668829.0	4280885.0	Roadway/Open Space	-	-	0.06
5572	668839.0	4280885.0	Roadway/Open Space	-	-	0.06
5573	668849.0	4280885.0	Roadway/Open Space	-	-	0.05
5574	668859.0	4280885.0	Roadway/Open Space	-	-	0.05
5575	668869.0	4280885.0	Roadway/Open Space	-	-	0.05
5576	668879.0	4280885.0	Roadway/Open Space	-	-	0.06
5577	668889.0	4280885.0	Roadway/Open Space	-	-	0.06
5578	668899.0	4280885.0	Roadway/Open Space	-	-	0.06
5579	668909.0	4280885.0	Roadway/Open Space	-	-	0.07
5580	668919.0	4280885.0	Roadway/Open Space	-	-	0.07
5605	669169.0	4280885.0	Roadway/Open Space	-	-	0.10
5606	669179.0	4280885.0	Roadway/Open Space	-	-	0.09

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
5607	669189.0	4280885.0	Roadway/Open Space	-	-	0.09
5608	669199.0	4280885.0	Roadway/Open Space	-	-	0.08
5609	669209.0	4280885.0	Roadway/Open Space	-	-	0.07
5610	669299.0	4280885.0	Roadway/Open Space	-	-	0.06
5611	669309.0	4280885.0	Roadway/Open Space	-	-	0.06
5612	669319.0	4280885.0	Roadway/Open Space	-	-	0.06
5613	669329.0	4280885.0	Roadway/Open Space	-	-	0.06
5614	669339.0	4280885.0	Roadway/Open Space	-	-	0.06
5615	669349.0	4280885.0	Roadway/Open Space	-	-	0.06
5616	669359.0	4280885.0	Roadway/Open Space	-	-	0.06
5617	669369.0	4280885.0	Roadway/Open Space	-	-	0.06
5618	669379.0	4280885.0	Roadway/Open Space	-	-	0.05
5619	669389.0	4280885.0	Roadway/Open Space	-	-	0.05
5620	669399.0	4280885.0	Roadway/Open Space	-	-	0.05
5621	669409.0	4280885.0	Roadway/Open Space	-	-	0.05
5622	669419.0	4280885.0	Roadway/Open Space	-	-	0.04
5623	669429.0	4280885.0	Roadway/Open Space	-	-	0.04
5624	669439.0	4280885.0	Roadway/Open Space	-	-	0.03
5625	669449.0	4280885.0	Roadway/Open Space	-	-	0.03
5626	669459.0	4280885.0	Roadway/Open Space	-	-	0.03
5627	669469.0	4280885.0	Roadway/Open Space	-	-	0.03
5628	669479.0	4280885.0	Roadway/Open Space	-	-	0.03
5629	669489.0	4280885.0	Roadway/Open Space	-	-	0.03
5630	669499.0	4280885.0	Roadway/Open Space	-	-	0.03
5631	669509.0	4280885.0	Roadway/Open Space	-	-	0.03
5632	669519.0	4280885.0	Roadway/Open Space	-	-	0.03
5633	669529.0	4280885.0	Roadway/Open Space	-	-	0.03
5634	669539.0	4280885.0	Roadway/Open Space	-	-	0.03
5635	669549.0	4280885.0	Roadway/Open Space	-	-	0.03
5636	669559.0	4280885.0	Roadway/Open Space	-	-	0.02
5637	669569.0	4280885.0	Roadway/Open Space	-	-	0.03
5638	669579.0	4280885.0	Roadway/Open Space	-	-	0.03
5639	669589.0	4280885.0	Roadway/Open Space	-	-	0.03
5640	669599.0	4280885.0	Roadway/Open Space	-	-	0.03
5641	669609.0	4280885.0	Roadway/Open Space	-	-	0.03
5642	668519.0	4280895.0	Residential	0.08	0.0003	0.01
5643	668529.0	4280895.0	Residential	0.08	0.0003	0.01
5644	668539.0	4280895.0	Roadway/Open Space	-	-	0.01
5645	668549.0	4280895.0	Residential	0.08	0.0003	0.01
5646	668559.0	4280895.0	Residential	0.09	0.0003	0.01
5647	668569.0	4280895.0	Residential	0.09	0.0003	0.01
5648	668579.0	4280895.0	Residential	0.09	0.0003	0.01
5649	668589.0	4280895.0	Residential	0.10	0.0004	0.01
5650	668599.0	4280895.0	Residential	0.10	0.0004	0.01
5651	668609.0	4280895.0	Residential	0.11	0.0004	0.01
5652	668619.0	4280895.0	Residential	0.12	0.0004	0.01
5653	668629.0	4280895.0	Residential	0.13	0.000	0.01
5654	668639.0	4280895.0	Residential	0.13	0.000	0.01
5655	668649.0	4280895.0	Roadway/Open Space	-	-	0.01
5656	668659.0	4280895.0	Residential	0.15	0.001	0.01
5657	668669.0	4280895.0	Residential	0.17	0.001	0.02
5658	668679.0	4280895.0	Residential	0.20	0.001	0.02
5659	668689.0	4280895.0	Residential	0.23	0.001	0.02
5660	668699.0	4280895.0	Residential	0.27	0.001	0.03
5661	668709.0	4280895.0	Roadway/Open Space	-	-	0.03
5662	668719.0	4280895.0	Roadway/Open Space	-	-	0.04
5663	668729.0	4280895.0	Roadway/Open Space	-	-	0.04
5664	668739.0	4280895.0	Roadway/Open Space	-	-	0.05
5665	668749.0	4280895.0	Roadway/Open Space	-	-	0.05
5666	668759.0	4280895.0	Roadway/Open Space	-	-	0.06
5667	668769.0	4280895.0	Roadway/Open Space	-	-	0.06
5668	668779.0	4280895.0	Roadway/Open Space	-	-	0.05
5669	668789.0	4280895.0	Roadway/Open Space	-	-	0.05
5670	668799.0	4280895.0	Roadway/Open Space	-	-	0.06
5671	668809.0	4280895.0	Roadway/Open Space	-	-	0.06
5672	668819.0	4280895.0	Roadway/Open Space	-	-	0.06
5673	668829.0	4280895.0	Roadway/Open Space	-	-	0.06
5674	668839.0	4280895.0	Roadway/Open Space	-	-	0.06
5675	668849.0	4280895.0	Roadway/Open Space	-	-	0.05
5676	668859.0	4280895.0	Roadway/Open Space	-	-	0.06
5677	668869.0	4280895.0	Roadway/Open Space	-	-	0.05
5678	668879.0	4280895.0	Roadway/Open Space	-	-	0.06
5679	668889.0	4280895.0	Roadway/Open Space	-	-	0.06
5680	668899.0	4280895.0	Roadway/Open Space	-	-	0.06
5681	668909.0	4280895.0	Roadway/Open Space	-	-	0.07
5682	668919.0	4280895.0	Roadway/Open Space	-	-	0.08
5707	669169.0	4280895.0	Roadway/Open Space	-	-	0.10
5708	669179.0	4280895.0	Roadway/Open Space	-	-	0.09
5709	669189.0	4280895.0	Roadway/Open Space	-	-	0.09
5710	669199.0	4280895.0	Roadway/Open Space	-	-	0.08
5711	669209.0	4280895.0	Roadway/Open Space	-	-	0.07
5712	669299.0	4280895.0	Roadway/Open Space	-	-	0.06
5713	669309.0	4280895.0	Roadway/Open Space	-	-	0.06
5714	669319.0	4280895.0	Roadway/Open Space	-	-	0.06

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
5715	669329.0	4280895.0	Roadway/Open Space	-	-	0.06
5716	669339.0	4280895.0	Roadway/Open Space	-	-	0.06
5717	669349.0	4280895.0	Roadway/Open Space	-	-	0.06
5718	669359.0	4280895.0	Roadway/Open Space	-	-	0.06
5719	669369.0	4280895.0	Roadway/Open Space	-	-	0.06
5720	669379.0	4280895.0	Roadway/Open Space	-	-	0.05
5721	669389.0	4280895.0	Roadway/Open Space	-	-	0.05
5722	669399.0	4280895.0	Roadway/Open Space	-	-	0.05
5723	669409.0	4280895.0	Roadway/Open Space	-	-	0.05
5724	669419.0	4280895.0	Roadway/Open Space	-	-	0.04
5725	669429.0	4280895.0	Roadway/Open Space	-	-	0.04
5726	669439.0	4280895.0	Roadway/Open Space	-	-	0.03
5727	669449.0	4280895.0	Roadway/Open Space	-	-	0.03
5728	669459.0	4280895.0	Roadway/Open Space	-	-	0.03
5729	669469.0	4280895.0	Roadway/Open Space	-	-	0.03
5730	669479.0	4280895.0	Roadway/Open Space	-	-	0.03
5731	669489.0	4280895.0	Roadway/Open Space	-	-	0.03
5732	669499.0	4280895.0	Roadway/Open Space	-	-	0.03
5733	669509.0	4280895.0	Roadway/Open Space	-	-	0.03
5734	669519.0	4280895.0	Roadway/Open Space	-	-	0.03
5735	669529.0	4280895.0	Roadway/Open Space	-	-	0.03
5736	669539.0	4280895.0	Roadway/Open Space	-	-	0.03
5737	669549.0	4280895.0	Roadway/Open Space	-	-	0.03
5738	669559.0	4280895.0	Roadway/Open Space	-	-	0.02
5739	669569.0	4280895.0	Roadway/Open Space	-	-	0.03
5740	669579.0	4280895.0	Roadway/Open Space	-	-	0.03
5741	669589.0	4280895.0	Roadway/Open Space	-	-	0.03
5742	669599.0	4280895.0	Roadway/Open Space	-	-	0.03
5743	669609.0	4280895.0	Roadway/Open Space	-	-	0.03
5744	668519.0	4280905.0	Residential	0.07	0.0003	0.01
5745	668529.0	4280905.0	Residential	0.08	0.0003	0.01
5746	668539.0	4280905.0	Residential	0.08	0.0003	0.01
5747	668549.0	4280905.0	Roadway/Open Space	-	-	0.01
5748	668559.0	4280905.0	Residential	0.09	0.0003	0.01
5749	668569.0	4280905.0	Residential	0.09	0.0003	0.01
5750	668579.0	4280905.0	Residential	0.09	0.0003	0.01
5751	668589.0	4280905.0	Residential	0.10	0.0004	0.01
5752	668599.0	4280905.0	Residential	0.11	0.0004	0.01
5753	668609.0	4280905.0	Residential	0.11	0.0004	0.01
5754	668619.0	4280905.0	Residential	0.12	0.0004	0.01
5755	668629.0	4280905.0	Residential	0.12	0.000	0.01
5756	668639.0	4280905.0	Residential	0.13	0.000	0.01
5757	668649.0	4280905.0	Roadway/Open Space	-	-	0.01
5758	668659.0	4280905.0	Residential	0.16	0.001	0.02
5759	668669.0	4280905.0	Residential	0.18	0.001	0.02
5760	668679.0	4280905.0	Residential	0.21	0.001	0.02
5761	668689.0	4280905.0	Residential	0.25	0.001	0.03
5762	668699.0	4280905.0	Residential	0.29	0.001	0.03
5763	668709.0	4280905.0	Roadway/Open Space	-	-	0.04
5764	668719.0	4280905.0	Roadway/Open Space	-	-	0.04
5765	668729.0	4280905.0	Roadway/Open Space	-	-	0.04
5766	668739.0	4280905.0	Roadway/Open Space	-	-	0.05
5767	668749.0	4280905.0	Roadway/Open Space	-	-	0.05
5768	668759.0	4280905.0	Roadway/Open Space	-	-	0.06
5769	668769.0	4280905.0	Roadway/Open Space	-	-	0.06
5770	668779.0	4280905.0	Roadway/Open Space	-	-	0.05
5771	668789.0	4280905.0	Roadway/Open Space	-	-	0.05
5772	668799.0	4280905.0	Roadway/Open Space	-	-	0.06
5773	668809.0	4280905.0	Roadway/Open Space	-	-	0.06
5774	668819.0	4280905.0	Roadway/Open Space	-	-	0.06
5775	668829.0	4280905.0	Roadway/Open Space	-	-	0.06
5776	668839.0	4280905.0	Roadway/Open Space	-	-	0.06
5777	668849.0	4280905.0	Roadway/Open Space	-	-	0.06
5778	668859.0	4280905.0	Roadway/Open Space	-	-	0.06
5779	668869.0	4280905.0	Roadway/Open Space	-	-	0.06
5780	668879.0	4280905.0	Roadway/Open Space	-	-	0.06
5781	668889.0	4280905.0	Roadway/Open Space	-	-	0.06
5782	668899.0	4280905.0	Roadway/Open Space	-	-	0.07
5783	668909.0	4280905.0	Roadway/Open Space	-	-	0.07
5784	668919.0	4280905.0	Roadway/Open Space	-	-	0.08
5808	669159.0	4280905.0	Roadway/Open Space	-	-	0.11
5809	669169.0	4280905.0	Roadway/Open Space	-	-	0.10
5810	669179.0	4280905.0	Roadway/Open Space	-	-	0.09
5811	669189.0	4280905.0	Roadway/Open Space	-	-	0.08
5812	669199.0	4280905.0	Roadway/Open Space	-	-	0.08
5813	669299.0	4280905.0	Roadway/Open Space	-	-	0.06
5814	669309.0	4280905.0	Roadway/Open Space	-	-	0.06
5815	669319.0	4280905.0	Roadway/Open Space	-	-	0.06
5816	669329.0	4280905.0	Roadway/Open Space	-	-	0.06
5817	669339.0	4280905.0	Roadway/Open Space	-	-	0.06
5818	669349.0	4280905.0	Roadway/Open Space	-	-	0.06
5819	669359.0	4280905.0	Roadway/Open Space	-	-	0.06
5820	669369.0	4280905.0	Roadway/Open Space	-	-	0.05
5821	669379.0	4280905.0	Roadway/Open Space	-	-	0.05

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
5822	669389.0	4280905.0	Roadway/Open Space	-	-	0.05
5823	669399.0	4280905.0	Roadway/Open Space	-	-	0.05
5824	669409.0	4280905.0	Roadway/Open Space	-	-	0.05
5825	669419.0	4280905.0	Roadway/Open Space	-	-	0.04
5826	669429.0	4280905.0	Roadway/Open Space	-	-	0.04
5827	669439.0	4280905.0	Roadway/Open Space	-	-	0.03
5828	669449.0	4280905.0	Roadway/Open Space	-	-	0.03
5829	669459.0	4280905.0	Roadway/Open Space	-	-	0.03
5830	669469.0	4280905.0	Roadway/Open Space	-	-	0.03
5831	669479.0	4280905.0	Roadway/Open Space	-	-	0.03
5832	669489.0	4280905.0	Roadway/Open Space	-	-	0.03
5833	669499.0	4280905.0	Roadway/Open Space	-	-	0.03
5834	669509.0	4280905.0	Roadway/Open Space	-	-	0.03
5835	669519.0	4280905.0	Roadway/Open Space	-	-	0.03
5836	669529.0	4280905.0	Roadway/Open Space	-	-	0.03
5837	669539.0	4280905.0	Roadway/Open Space	-	-	0.03
5838	669549.0	4280905.0	Roadway/Open Space	-	-	0.03
5839	669559.0	4280905.0	Roadway/Open Space	-	-	0.02
5840	669569.0	4280905.0	Roadway/Open Space	-	-	0.03
5841	669579.0	4280905.0	Roadway/Open Space	-	-	0.03
5842	669589.0	4280905.0	Roadway/Open Space	-	-	0.03
5843	669599.0	4280905.0	Roadway/Open Space	-	-	0.03
5844	668509.0	4280915.0	Residential	0.07	0.0003	0.01
5845	668519.0	4280915.0	Residential	0.07	0.0003	0.01
5846	668529.0	4280915.0	Residential	0.07	0.0003	0.01
5847	668539.0	4280915.0	Residential	0.08	0.0003	0.01
5848	668549.0	4280915.0	Roadway/Open Space	-	-	0.01
5849	668559.0	4280915.0	Residential	0.09	0.0003	0.01
5850	668569.0	4280915.0	Residential	0.09	0.0003	0.01
5851	668579.0	4280915.0	Residential	0.09	0.0003	0.01
5852	668589.0	4280915.0	Residential	0.10	0.0004	0.01
5853	668599.0	4280915.0	Residential	0.10	0.0004	0.01
5854	668609.0	4280915.0	Residential	0.11	0.0004	0.01
5855	668619.0	4280915.0	Residential	0.12	0.0004	0.01
5856	668629.0	4280915.0	Residential	0.13	0.000	0.01
5857	668639.0	4280915.0	Residential	0.14	0.000	0.01
5858	668649.0	4280915.0	Roadway/Open Space	-	-	0.01
5859	668659.0	4280915.0	Residential	0.17	0.001	0.02
5860	668669.0	4280915.0	Residential	0.19	0.001	0.02
5861	668679.0	4280915.0	Residential	0.22	0.001	0.02
5862	668689.0	4280915.0	Residential	0.26	0.001	0.03
5863	668699.0	4280915.0	Residential	0.31	0.001	0.03
5864	668709.0	4280915.0	Roadway/Open Space	-	-	0.04
5865	668719.0	4280915.0	Roadway/Open Space	-	-	0.04
5866	668729.0	4280915.0	Roadway/Open Space	-	-	0.05
5867	668739.0	4280915.0	Roadway/Open Space	-	-	0.05
5868	668749.0	4280915.0	Roadway/Open Space	-	-	0.05
5869	668759.0	4280915.0	Roadway/Open Space	-	-	0.05
5870	668769.0	4280915.0	Roadway/Open Space	-	-	0.05
5871	668779.0	4280915.0	Roadway/Open Space	-	-	0.05
5872	668789.0	4280915.0	Roadway/Open Space	-	-	0.05
5873	668799.0	4280915.0	Roadway/Open Space	-	-	0.05
5874	668809.0	4280915.0	Roadway/Open Space	-	-	0.05
5875	668819.0	4280915.0	Roadway/Open Space	-	-	0.06
5876	668829.0	4280915.0	Roadway/Open Space	-	-	0.06
5877	668839.0	4280915.0	Roadway/Open Space	-	-	0.06
5878	668849.0	4280915.0	Roadway/Open Space	-	-	0.06
5879	668859.0	4280915.0	Roadway/Open Space	-	-	0.06
5880	668869.0	4280915.0	Roadway/Open Space	-	-	0.06
5881	668879.0	4280915.0	Roadway/Open Space	-	-	0.06
5882	668889.0	4280915.0	Roadway/Open Space	-	-	0.06
5883	668899.0	4280915.0	Roadway/Open Space	-	-	0.07
5884	668909.0	4280915.0	Roadway/Open Space	-	-	0.08
5885	668919.0	4280915.0	Roadway/Open Space	-	-	0.08
5908	669149.0	4280915.0	Roadway/Open Space	-	-	0.13
5909	669159.0	4280915.0	Roadway/Open Space	-	-	0.11
5910	669169.0	4280915.0	Roadway/Open Space	-	-	0.10
5911	669179.0	4280915.0	Roadway/Open Space	-	-	0.09
5912	669189.0	4280915.0	Roadway/Open Space	-	-	0.08
5913	669299.0	4280915.0	Roadway/Open Space	-	-	0.05
5914	669309.0	4280915.0	Roadway/Open Space	-	-	0.06
5915	669319.0	4280915.0	Roadway/Open Space	-	-	0.06
5916	669329.0	4280915.0	Roadway/Open Space	-	-	0.06
5917	669339.0	4280915.0	Roadway/Open Space	-	-	0.06
5918	669349.0	4280915.0	Roadway/Open Space	-	-	0.05
5919	669359.0	4280915.0	Roadway/Open Space	-	-	0.05
5920	669369.0	4280915.0	Roadway/Open Space	-	-	0.05
5921	669379.0	4280915.0	Roadway/Open Space	-	-	0.05
5922	669389.0	4280915.0	Roadway/Open Space	-	-	0.05
5923	669399.0	4280915.0	Roadway/Open Space	-	-	0.05
5924	669409.0	4280915.0	Roadway/Open Space	-	-	0.05
5925	669419.0	4280915.0	Roadway/Open Space	-	-	0.04
5926	669429.0	4280915.0	Roadway/Open Space	-	-	0.04
5927	669439.0	4280915.0	Roadway/Open Space	-	-	0.03

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
5928	669449.0	4280915.0	Roadway/Open Space	-	-	0.03
5929	669459.0	4280915.0	Roadway/Open Space	-	-	0.03
5930	669469.0	4280915.0	Roadway/Open Space	-	-	0.03
5931	669479.0	4280915.0	Roadway/Open Space	-	-	0.03
5932	669489.0	4280915.0	Roadway/Open Space	-	-	0.03
5933	669499.0	4280915.0	Roadway/Open Space	-	-	0.03
5934	669509.0	4280915.0	Roadway/Open Space	-	-	0.03
5935	669519.0	4280915.0	Roadway/Open Space	-	-	0.03
5936	669529.0	4280915.0	Roadway/Open Space	-	-	0.03
5937	669539.0	4280915.0	Roadway/Open Space	-	-	0.03
5938	669549.0	4280915.0	Roadway/Open Space	-	-	0.03
5939	669559.0	4280915.0	Roadway/Open Space	-	-	0.03
5940	669569.0	4280915.0	Roadway/Open Space	-	-	0.03
5941	669579.0	4280915.0	Roadway/Open Space	-	-	0.03
5942	669589.0	4280915.0	Roadway/Open Space	-	-	0.03
5943	669599.0	4280915.0	Roadway/Open Space	-	-	0.03
5944	668509.0	4280925.0	Residential	0.07	0.0002	0.01
5945	668519.0	4280925.0	Residential	0.07	0.0003	0.01
5946	668529.0	4280925.0	Residential	0.07	0.0003	0.01
5947	668539.0	4280925.0	Residential	0.08	0.0003	0.01
5948	668549.0	4280925.0	Roadway/Open Space	-	-	0.01
5949	668559.0	4280925.0	Residential	0.09	0.0003	0.01
5950	668569.0	4280925.0	Residential	0.09	0.0003	0.01
5951	668579.0	4280925.0	Residential	0.09	0.0003	0.01
5952	668589.0	4280925.0	Residential	0.10	0.0003	0.01
5953	668599.0	4280925.0	Residential	0.10	0.0004	0.01
5954	668609.0	4280925.0	Residential	0.11	0.0004	0.01
5955	668619.0	4280925.0	Residential	0.12	0.000	0.01
5956	668629.0	4280925.0	Residential	0.13	0.000	0.01
5957	668639.0	4280925.0	Residential	0.14	0.001	0.01
5958	668649.0	4280925.0	Roadway/Open Space	-	-	0.02
5959	668659.0	4280925.0	Residential	0.18	0.001	0.02
5960	668669.0	4280925.0	Residential	0.20	0.001	0.02
5961	668679.0	4280925.0	Residential	0.24	0.001	0.02
5962	668689.0	4280925.0	Residential	0.28	0.001	0.03
5963	668699.0	4280925.0	Roadway/Open Space	-	-	0.03
5964	668709.0	4280925.0	Roadway/Open Space	-	-	0.04
5965	668719.0	4280925.0	Roadway/Open Space	-	-	0.04
5966	668729.0	4280925.0	Roadway/Open Space	-	-	0.05
5967	668739.0	4280925.0	Roadway/Open Space	-	-	0.05
5968	668749.0	4280925.0	Roadway/Open Space	-	-	0.05
5969	668759.0	4280925.0	Roadway/Open Space	-	-	0.04
5970	668769.0	4280925.0	Roadway/Open Space	-	-	0.05
5971	668779.0	4280925.0	Roadway/Open Space	-	-	0.05
5972	668789.0	4280925.0	Roadway/Open Space	-	-	0.05
5973	668799.0	4280925.0	Roadway/Open Space	-	-	0.05
5974	668809.0	4280925.0	Roadway/Open Space	-	-	0.05
5975	668819.0	4280925.0	Roadway/Open Space	-	-	0.05
5976	668829.0	4280925.0	Roadway/Open Space	-	-	0.05
5977	668839.0	4280925.0	Roadway/Open Space	-	-	0.06
5978	668849.0	4280925.0	Roadway/Open Space	-	-	0.06
5979	668859.0	4280925.0	Roadway/Open Space	-	-	0.06
5980	668869.0	4280925.0	Roadway/Open Space	-	-	0.06
5981	668879.0	4280925.0	Roadway/Open Space	-	-	0.06
5982	668889.0	4280925.0	Roadway/Open Space	-	-	0.07
5983	668899.0	4280925.0	Roadway/Open Space	-	-	0.07
5984	668909.0	4280925.0	Roadway/Open Space	-	-	0.08
6007	669139.0	4280925.0	Roadway/Open Space	-	-	0.14
6008	669149.0	4280925.0	Roadway/Open Space	-	-	0.13
6009	669159.0	4280925.0	Roadway/Open Space	-	-	0.12
6010	669169.0	4280925.0	Roadway/Open Space	-	-	0.10
6011	669179.0	4280925.0	Roadway/Open Space	-	-	0.08
6012	669299.0	4280925.0	Roadway/Open Space	-	-	0.05
6013	669309.0	4280925.0	Roadway/Open Space	-	-	0.05
6014	669319.0	4280925.0	Roadway/Open Space	-	-	0.05
6015	669329.0	4280925.0	Roadway/Open Space	-	-	0.05
6016	669339.0	4280925.0	Roadway/Open Space	-	-	0.05
6017	669349.0	4280925.0	Roadway/Open Space	-	-	0.05
6018	669359.0	4280925.0	Roadway/Open Space	-	-	0.05
6019	669369.0	4280925.0	Roadway/Open Space	-	-	0.05
6020	669379.0	4280925.0	Roadway/Open Space	-	-	0.05
6021	669389.0	4280925.0	Roadway/Open Space	-	-	0.05
6022	669399.0	4280925.0	Roadway/Open Space	-	-	0.05
6023	669409.0	4280925.0	Roadway/Open Space	-	-	0.05
6024	669419.0	4280925.0	Roadway/Open Space	-	-	0.05
6025	669429.0	4280925.0	Roadway/Open Space	-	-	0.04
6026	669439.0	4280925.0	Roadway/Open Space	-	-	0.04
6027	669449.0	4280925.0	Roadway/Open Space	-	-	0.03
6028	669459.0	4280925.0	Roadway/Open Space	-	-	0.03
6029	669469.0	4280925.0	Roadway/Open Space	-	-	0.03
6030	669479.0	4280925.0	Roadway/Open Space	-	-	0.03
6031	669489.0	4280925.0	Roadway/Open Space	-	-	0.03
6032	669499.0	4280925.0	Roadway/Open Space	-	-	0.03
6033	669509.0	4280925.0	Roadway/Open Space	-	-	0.03

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
6034	669519.0	4280925.0	Roadway/Open Space	-	-	0.03
6035	669529.0	4280925.0	Roadway/Open Space	-	-	0.03
6036	669539.0	4280925.0	Roadway/Open Space	-	-	0.03
6037	669549.0	4280925.0	Roadway/Open Space	-	-	0.03
6038	669559.0	4280925.0	Roadway/Open Space	-	-	0.03
6039	669569.0	4280925.0	Roadway/Open Space	-	-	0.02
6040	669579.0	4280925.0	Roadway/Open Space	-	-	0.03
6041	669589.0	4280925.0	Roadway/Open Space	-	-	0.03
6042	668509.0	4280935.0	Residential	0.07	0.0002	0.01
6043	668519.0	4280935.0	Residential	0.07	0.0003	0.01
6044	668529.0	4280935.0	Residential	0.07	0.0003	0.01
6045	668539.0	4280935.0	Residential	0.08	0.0003	0.01
6046	668549.0	4280935.0	Roadway/Open Space	-	-	0.01
6047	668559.0	4280935.0	Residential	0.08	0.0003	0.01
6048	668569.0	4280935.0	Residential	0.09	0.0003	0.01
6049	668579.0	4280935.0	Residential	0.09	0.0003	0.01
6050	668589.0	4280935.0	Residential	0.10	0.0004	0.01
6051	668599.0	4280935.0	Residential	0.11	0.0004	0.01
6052	668609.0	4280935.0	Residential	0.12	0.000	0.01
6053	668619.0	4280935.0	Residential	0.13	0.000	0.01
6054	668629.0	4280935.0	Residential	0.14	0.001	0.01
6055	668639.0	4280935.0	Residential	0.15	0.001	0.01
6056	668649.0	4280935.0	Roadway/Open Space	-	-	0.02
6057	668659.0	4280935.0	Residential	0.19	0.001	0.02
6058	668669.0	4280935.0	Residential	0.22	0.001	0.02
6059	668679.0	4280935.0	Residential	0.25	0.001	0.03
6060	668689.0	4280935.0	Residential	0.29	0.001	0.03
6061	668699.0	4280935.0	Roadway/Open Space	-	-	0.04
6062	668709.0	4280935.0	Roadway/Open Space	-	-	0.04
6063	668719.0	4280935.0	Roadway/Open Space	-	-	0.04
6064	668729.0	4280935.0	Roadway/Open Space	-	-	0.04
6065	668739.0	4280935.0	Roadway/Open Space	-	-	0.04
6066	668749.0	4280935.0	Roadway/Open Space	-	-	0.04
6067	668759.0	4280935.0	Roadway/Open Space	-	-	0.04
6068	668769.0	4280935.0	Roadway/Open Space	-	-	0.04
6069	668779.0	4280935.0	Roadway/Open Space	-	-	0.05
6070	668789.0	4280935.0	Roadway/Open Space	-	-	0.05
6071	668799.0	4280935.0	Roadway/Open Space	-	-	0.05
6072	668809.0	4280935.0	Roadway/Open Space	-	-	0.05
6073	668819.0	4280935.0	Roadway/Open Space	-	-	0.05
6074	668829.0	4280935.0	Roadway/Open Space	-	-	0.05
6075	668839.0	4280935.0	Roadway/Open Space	-	-	0.05
6076	668849.0	4280935.0	Roadway/Open Space	-	-	0.06
6077	668859.0	4280935.0	Roadway/Open Space	-	-	0.06
6078	668869.0	4280935.0	Roadway/Open Space	-	-	0.07
6079	668879.0	4280935.0	Roadway/Open Space	-	-	0.07
6080	668889.0	4280935.0	Roadway/Open Space	-	-	0.07
6081	668899.0	4280935.0	Roadway/Open Space	-	-	0.08
6082	668909.0	4280935.0	Roadway/Open Space	-	-	0.08
6103	669119.0	4280935.0	Roadway/Open Space	-	-	0.16
6104	669129.0	4280935.0	Roadway/Open Space	-	-	0.14
6105	669139.0	4280935.0	Roadway/Open Space	-	-	0.15
6106	669149.0	4280935.0	Roadway/Open Space	-	-	0.13
6107	669159.0	4280935.0	Roadway/Open Space	-	-	0.12
6108	669169.0	4280935.0	Roadway/Open Space	-	-	0.10
6109	669299.0	4280935.0	Roadway/Open Space	-	-	0.05
6110	669309.0	4280935.0	Roadway/Open Space	-	-	0.05
6111	669319.0	4280935.0	Roadway/Open Space	-	-	0.05
6112	669329.0	4280935.0	Roadway/Open Space	-	-	0.05
6113	669339.0	4280935.0	Roadway/Open Space	-	-	0.05
6114	669349.0	4280935.0	Roadway/Open Space	-	-	0.05
6115	669359.0	4280935.0	Roadway/Open Space	-	-	0.05
6116	669369.0	4280935.0	Roadway/Open Space	-	-	0.05
6117	669379.0	4280935.0	Roadway/Open Space	-	-	0.05
6118	669389.0	4280935.0	Roadway/Open Space	-	-	0.05
6119	669399.0	4280935.0	Roadway/Open Space	-	-	0.05
6120	669409.0	4280935.0	Roadway/Open Space	-	-	0.05
6121	669419.0	4280935.0	Roadway/Open Space	-	-	0.05
6122	669429.0	4280935.0	Roadway/Open Space	-	-	0.04
6123	669439.0	4280935.0	Roadway/Open Space	-	-	0.04
6124	669449.0	4280935.0	Roadway/Open Space	-	-	0.03
6125	669459.0	4280935.0	Roadway/Open Space	-	-	0.03
6126	669469.0	4280935.0	Roadway/Open Space	-	-	0.03
6127	669479.0	4280935.0	Roadway/Open Space	-	-	0.03
6128	669489.0	4280935.0	Roadway/Open Space	-	-	0.03
6129	669499.0	4280935.0	Roadway/Open Space	-	-	0.03
6130	669509.0	4280935.0	Roadway/Open Space	-	-	0.03
6131	669519.0	4280935.0	Roadway/Open Space	-	-	0.03
6132	669529.0	4280935.0	Roadway/Open Space	-	-	0.03
6133	669539.0	4280935.0	Roadway/Open Space	-	-	0.03
6134	669549.0	4280935.0	Roadway/Open Space	-	-	0.03
6135	669559.0	4280935.0	Roadway/Open Space	-	-	0.03
6136	669569.0	4280935.0	Roadway/Open Space	-	-	0.02
6137	669579.0	4280935.0	Roadway/Open Space	-	-	0.03

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
6138	669589.0	4280935.0	Roadway/Open Space	-	-	0.03
6139	668509.0	4280945.0	Residential	0.07	0.0002	0.01
6140	668519.0	4280945.0	Residential	0.07	0.0003	0.01
6141	668529.0	4280945.0	Residential	0.07	0.0003	0.01
6142	668539.0	4280945.0	Residential	0.08	0.0003	0.01
6143	668549.0	4280945.0	Roadway/Open Space	-	-	0.01
6144	668559.0	4280945.0	Residential	0.08	0.0003	0.01
6145	668569.0	4280945.0	Residential	0.09	0.0003	0.01
6146	668579.0	4280945.0	Residential	0.10	0.0003	0.01
6147	668589.0	4280945.0	Roadway/Open Space	-	-	0.01
6148	668599.0	4280945.0	Roadway/Open Space	-	-	0.01
6149	668609.0	4280945.0	Roadway/Open Space	-	-	0.01
6150	668619.0	4280945.0	Roadway/Open Space	-	-	0.02
6151	668629.0	4280945.0	Roadway/Open Space	-	-	0.02
6152	668639.0	4280945.0	Roadway/Open Space	-	-	0.02
6153	668649.0	4280945.0	Residential	0.19	0.001	0.02
6154	668659.0	4280945.0	Residential	0.21	0.001	0.02
6155	668669.0	4280945.0	Residential	0.24	0.001	0.03
6156	668679.0	4280945.0	Residential	0.28	0.001	0.03
6157	668689.0	4280945.0	Residential	0.32	0.001	0.03
6158	668699.0	4280945.0	Roadway/Open Space	-	-	0.04
6159	668709.0	4280945.0	Roadway/Open Space	-	-	0.04
6160	668719.0	4280945.0	Roadway/Open Space	-	-	0.04
6161	668729.0	4280945.0	Roadway/Open Space	-	-	0.04
6162	668739.0	4280945.0	Roadway/Open Space	-	-	0.03
6163	668749.0	4280945.0	Roadway/Open Space	-	-	0.04
6164	668759.0	4280945.0	Roadway/Open Space	-	-	0.04
6165	668769.0	4280945.0	Roadway/Open Space	-	-	0.04
6166	668779.0	4280945.0	Roadway/Open Space	-	-	0.04
6167	668789.0	4280945.0	Roadway/Open Space	-	-	0.04
6168	668799.0	4280945.0	Roadway/Open Space	-	-	0.05
6169	668809.0	4280945.0	Roadway/Open Space	-	-	0.05
6170	668819.0	4280945.0	Roadway/Open Space	-	-	0.05
6171	668829.0	4280945.0	Roadway/Open Space	-	-	0.05
6172	668839.0	4280945.0	Roadway/Open Space	-	-	0.06
6173	668849.0	4280945.0	Roadway/Open Space	-	-	0.06
6174	668859.0	4280945.0	Roadway/Open Space	-	-	0.06
6175	668869.0	4280945.0	Roadway/Open Space	-	-	0.07
6176	668879.0	4280945.0	Roadway/Open Space	-	-	0.07
6177	668889.0	4280945.0	Roadway/Open Space	-	-	0.08
6178	668899.0	4280945.0	Roadway/Open Space	-	-	0.08
6179	668909.0	4280945.0	Roadway/Open Space	-	-	0.09
6199	669109.0	4280945.0	Roadway/Open Space	-	-	0.19
6200	669119.0	4280945.0	Roadway/Open Space	-	-	0.17
6201	669129.0	4280945.0	Roadway/Open Space	-	-	0.17
6202	669139.0	4280945.0	Roadway/Open Space	-	-	0.15
6203	669149.0	4280945.0	Roadway/Open Space	-	-	0.14
6204	669159.0	4280945.0	Roadway/Open Space	-	-	0.12
6205	669299.0	4280945.0	Roadway/Open Space	-	-	0.05
6206	669309.0	4280945.0	Roadway/Open Space	-	-	0.05
6207	669319.0	4280945.0	Roadway/Open Space	-	-	0.05
6208	669329.0	4280945.0	Roadway/Open Space	-	-	0.05
6209	669339.0	4280945.0	Roadway/Open Space	-	-	0.05
6210	669349.0	4280945.0	Roadway/Open Space	-	-	0.05
6211	669359.0	4280945.0	Roadway/Open Space	-	-	0.05
6212	669369.0	4280945.0	Roadway/Open Space	-	-	0.05
6213	669379.0	4280945.0	Roadway/Open Space	-	-	0.05
6214	669389.0	4280945.0	Roadway/Open Space	-	-	0.05
6215	669399.0	4280945.0	Roadway/Open Space	-	-	0.05
6216	669409.0	4280945.0	Roadway/Open Space	-	-	0.05
6217	669419.0	4280945.0	Roadway/Open Space	-	-	0.05
6218	669429.0	4280945.0	Roadway/Open Space	-	-	0.05
6219	669439.0	4280945.0	Roadway/Open Space	-	-	0.04
6220	669449.0	4280945.0	Roadway/Open Space	-	-	0.03
6221	669459.0	4280945.0	Roadway/Open Space	-	-	0.03
6222	669469.0	4280945.0	Roadway/Open Space	-	-	0.03
6223	669479.0	4280945.0	Roadway/Open Space	-	-	0.03
6224	669489.0	4280945.0	Roadway/Open Space	-	-	0.03
6225	669499.0	4280945.0	Roadway/Open Space	-	-	0.03
6226	669509.0	4280945.0	Roadway/Open Space	-	-	0.03
6227	669519.0	4280945.0	Roadway/Open Space	-	-	0.03
6228	669529.0	4280945.0	Roadway/Open Space	-	-	0.03
6229	669539.0	4280945.0	Roadway/Open Space	-	-	0.03
6230	669549.0	4280945.0	Roadway/Open Space	-	-	0.03
6231	669559.0	4280945.0	Roadway/Open Space	-	-	0.03
6232	669569.0	4280945.0	Roadway/Open Space	-	-	0.03
6233	669579.0	4280945.0	Roadway/Open Space	-	-	0.03
6234	669589.0	4280945.0	Roadway/Open Space	-	-	0.03
6235	668509.0	4280955.0	Residential	0.07	0.0002	0.01
6236	668519.0	4280955.0	Residential	0.07	0.0003	0.01
6237	668529.0	4280955.0	Residential	0.07	0.0003	0.01
6238	668539.0	4280955.0	Residential	0.08	0.0003	0.01
6239	668549.0	4280955.0	Roadway/Open Space	-	-	0.01
6240	668559.0	4280955.0	Residential	0.09	0.0003	0.01

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
6241	668569.0	4280955.0	Residential	0.09	0.0003	0.01
6242	668579.0	4280955.0	Residential	0.10	0.0004	0.01
6243	668589.0	4280955.0	Roadway/Open Space	-	-	0.01
6244	668599.0	4280955.0	Roadway/Open Space	-	-	0.01
6245	668609.0	4280955.0	Roadway/Open Space	-	-	0.02
6246	668619.0	4280955.0	Roadway/Open Space	-	-	0.02
6247	668629.0	4280955.0	Roadway/Open Space	-	-	0.02
6248	668639.0	4280955.0	Roadway/Open Space	-	-	0.02
6249	668649.0	4280955.0	Residential	0.21	0.001	0.02
6250	668659.0	4280955.0	Residential	0.24	0.001	0.03
6251	668669.0	4280955.0	Residential	0.27	0.001	0.03
6252	668679.0	4280955.0	Residential	0.30	0.001	0.03
6253	668689.0	4280955.0	Residential	0.35	0.001	0.04
6254	668699.0	4280955.0	Roadway/Open Space	-	-	0.04
6255	668709.0	4280955.0	Roadway/Open Space	-	-	0.04
6256	668719.0	4280955.0	Roadway/Open Space	-	-	0.04
6257	668729.0	4280955.0	Roadway/Open Space	-	-	0.04
6258	668739.0	4280955.0	Roadway/Open Space	-	-	0.03
6259	668749.0	4280955.0	Roadway/Open Space	-	-	0.04
6260	668759.0	4280955.0	Roadway/Open Space	-	-	0.04
6261	668769.0	4280955.0	Roadway/Open Space	-	-	0.04
6262	668779.0	4280955.0	Roadway/Open Space	-	-	0.04
6263	668789.0	4280955.0	Roadway/Open Space	-	-	0.04
6264	668799.0	4280955.0	Roadway/Open Space	-	-	0.04
6265	668809.0	4280955.0	Roadway/Open Space	-	-	0.05
6266	668819.0	4280955.0	Roadway/Open Space	-	-	0.05
6267	668829.0	4280955.0	Roadway/Open Space	-	-	0.05
6268	668839.0	4280955.0	Roadway/Open Space	-	-	0.06
6269	668849.0	4280955.0	Roadway/Open Space	-	-	0.06
6270	668859.0	4280955.0	Roadway/Open Space	-	-	0.07
6271	668869.0	4280955.0	Roadway/Open Space	-	-	0.07
6272	668879.0	4280955.0	Roadway/Open Space	-	-	0.07
6273	668889.0	4280955.0	Roadway/Open Space	-	-	0.08
6274	668899.0	4280955.0	Roadway/Open Space	-	-	0.08
6275	668909.0	4280955.0	Roadway/Open Space	-	-	0.09
6294	669099.0	4280955.0	Roadway/Open Space	-	-	0.22
6295	669109.0	4280955.0	Roadway/Open Space	-	-	0.20
6296	669119.0	4280955.0	Roadway/Open Space	-	-	0.18
6297	669129.0	4280955.0	Roadway/Open Space	-	-	0.18
6298	669139.0	4280955.0	Roadway/Open Space	-	-	0.16
6299	669149.0	4280955.0	Roadway/Open Space	-	-	0.14
6300	669299.0	4280955.0	Roadway/Open Space	-	-	0.05
6301	669309.0	4280955.0	Roadway/Open Space	-	-	0.05
6302	669319.0	4280955.0	Roadway/Open Space	-	-	0.05
6303	669329.0	4280955.0	Roadway/Open Space	-	-	0.05
6304	669339.0	4280955.0	Roadway/Open Space	-	-	0.05
6305	669349.0	4280955.0	Roadway/Open Space	-	-	0.05
6306	669359.0	4280955.0	Roadway/Open Space	-	-	0.05
6307	669369.0	4280955.0	Roadway/Open Space	-	-	0.05
6308	669379.0	4280955.0	Roadway/Open Space	-	-	0.05
6309	669389.0	4280955.0	Roadway/Open Space	-	-	0.05
6310	669399.0	4280955.0	Roadway/Open Space	-	-	0.05
6311	669409.0	4280955.0	Roadway/Open Space	-	-	0.05
6312	669419.0	4280955.0	Roadway/Open Space	-	-	0.05
6313	669429.0	4280955.0	Roadway/Open Space	-	-	0.05
6314	669439.0	4280955.0	Roadway/Open Space	-	-	0.04
6315	669449.0	4280955.0	Roadway/Open Space	-	-	0.04
6316	669459.0	4280955.0	Roadway/Open Space	-	-	0.03
6317	669469.0	4280955.0	Roadway/Open Space	-	-	0.03
6318	669479.0	4280955.0	Roadway/Open Space	-	-	0.03
6319	669489.0	4280955.0	Roadway/Open Space	-	-	0.03
6320	669499.0	4280955.0	Roadway/Open Space	-	-	0.03
6321	669509.0	4280955.0	Roadway/Open Space	-	-	0.03
6322	669519.0	4280955.0	Roadway/Open Space	-	-	0.03
6323	669529.0	4280955.0	Roadway/Open Space	-	-	0.03
6324	669539.0	4280955.0	Roadway/Open Space	-	-	0.03
6325	669549.0	4280955.0	Roadway/Open Space	-	-	0.03
6326	669559.0	4280955.0	Roadway/Open Space	-	-	0.03
6327	669569.0	4280955.0	Roadway/Open Space	-	-	0.03
6328	669579.0	4280955.0	Roadway/Open Space	-	-	0.02
6329	669589.0	4280955.0	Roadway/Open Space	-	-	0.03
6330	668509.0	4280965.0	Residential	0.07	0.0002	0.01
6331	668519.0	4280965.0	Residential	0.07	0.0003	0.01
6332	668529.0	4280965.0	Residential	0.07	0.0003	0.01
6333	668539.0	4280965.0	Residential	0.08	0.0003	0.01
6334	668549.0	4280965.0	Roadway/Open Space	-	-	0.01
6335	668559.0	4280965.0	Residential	0.09	0.0003	0.01
6336	668569.0	4280965.0	Residential	0.09	0.0003	0.01
6337	668579.0	4280965.0	Residential	0.10	0.0004	0.01
6338	668589.0	4280965.0	Roadway/Open Space	-	-	0.01
6339	668599.0	4280965.0	Roadway/Open Space	-	-	0.01
6340	668609.0	4280965.0	Roadway/Open Space	-	-	0.02
6341	668619.0	4280965.0	Roadway/Open Space	-	-	0.02
6342	668629.0	4280965.0	Roadway/Open Space	-	-	0.02

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
6343	668639.0	4280965.0	Residential	0.20	0.001	0.02
6344	668649.0	4280965.0	Residential	0.23	0.001	0.03
6345	668659.0	4280965.0	Residential	0.26	0.001	0.03
6346	668669.0	4280965.0	Residential	0.30	0.001	0.03
6347	668679.0	4280965.0	Residential	0.33	0.001	0.04
6348	668689.0	4280965.0	Roadway/Open Space	-	-	0.04
6349	668699.0	4280965.0	Roadway/Open Space	-	-	0.04
6350	668709.0	4280965.0	Roadway/Open Space	-	-	0.04
6351	668719.0	4280965.0	Roadway/Open Space	-	-	0.04
6352	668729.0	4280965.0	Roadway/Open Space	-	-	0.03
6353	668739.0	4280965.0	Roadway/Open Space	-	-	0.04
6354	668749.0	4280965.0	Roadway/Open Space	-	-	0.04
6355	668759.0	4280965.0	Roadway/Open Space	-	-	0.04
6356	668769.0	4280965.0	Roadway/Open Space	-	-	0.04
6357	668779.0	4280965.0	Roadway/Open Space	-	-	0.04
6358	668789.0	4280965.0	Roadway/Open Space	-	-	0.04
6359	668799.0	4280965.0	Roadway/Open Space	-	-	0.04
6360	668809.0	4280965.0	Roadway/Open Space	-	-	0.05
6361	668819.0	4280965.0	Roadway/Open Space	-	-	0.05
6362	668829.0	4280965.0	Roadway/Open Space	-	-	0.05
6363	668839.0	4280965.0	Roadway/Open Space	-	-	0.06
6364	668849.0	4280965.0	Roadway/Open Space	-	-	0.06
6365	668859.0	4280965.0	Roadway/Open Space	-	-	0.07
6366	668869.0	4280965.0	Roadway/Open Space	-	-	0.07
6367	668879.0	4280965.0	Roadway/Open Space	-	-	0.07
6368	668889.0	4280965.0	Roadway/Open Space	-	-	0.08
6369	668899.0	4280965.0	Roadway/Open Space	-	-	0.08
6387	669079.0	4280965.0	Roadway/Open Space	-	-	0.25
6388	669089.0	4280965.0	Roadway/Open Space	-	-	0.25
6389	669099.0	4280965.0	Roadway/Open Space	-	-	0.23
6390	669109.0	4280965.0	Roadway/Open Space	-	-	0.21
6391	669119.0	4280965.0	Roadway/Open Space	-	-	0.19
6392	669129.0	4280965.0	Roadway/Open Space	-	-	0.19
6393	669299.0	4280965.0	Roadway/Open Space	-	-	0.05
6394	669309.0	4280965.0	Roadway/Open Space	-	-	0.05
6395	669319.0	4280965.0	Roadway/Open Space	-	-	0.05
6396	669329.0	4280965.0	Roadway/Open Space	-	-	0.05
6397	669339.0	4280965.0	Roadway/Open Space	-	-	0.05
6398	669349.0	4280965.0	Roadway/Open Space	-	-	0.05
6399	669359.0	4280965.0	Roadway/Open Space	-	-	0.05
6400	669369.0	4280965.0	Roadway/Open Space	-	-	0.05
6401	669379.0	4280965.0	Roadway/Open Space	-	-	0.05
6402	669389.0	4280965.0	Roadway/Open Space	-	-	0.05
6403	669399.0	4280965.0	Roadway/Open Space	-	-	0.05
6404	669409.0	4280965.0	Roadway/Open Space	-	-	0.05
6405	669419.0	4280965.0	Roadway/Open Space	-	-	0.05
6406	669429.0	4280965.0	Roadway/Open Space	-	-	0.05
6407	669439.0	4280965.0	Roadway/Open Space	-	-	0.04
6408	669449.0	4280965.0	Roadway/Open Space	-	-	0.04
6409	669459.0	4280965.0	Roadway/Open Space	-	-	0.03
6410	669469.0	4280965.0	Roadway/Open Space	-	-	0.03
6411	669479.0	4280965.0	Roadway/Open Space	-	-	0.03
6412	669489.0	4280965.0	Roadway/Open Space	-	-	0.03
6413	669499.0	4280965.0	Roadway/Open Space	-	-	0.03
6414	669509.0	4280965.0	Roadway/Open Space	-	-	0.03
6415	669519.0	4280965.0	Roadway/Open Space	-	-	0.03
6416	669529.0	4280965.0	Roadway/Open Space	-	-	0.03
6417	669539.0	4280965.0	Roadway/Open Space	-	-	0.03
6418	669549.0	4280965.0	Roadway/Open Space	-	-	0.03
6419	669559.0	4280965.0	Roadway/Open Space	-	-	0.03
6420	669569.0	4280965.0	Roadway/Open Space	-	-	0.03
6421	669579.0	4280965.0	Roadway/Open Space	-	-	0.02
6422	668499.0	4280975.0	Residential	0.07	0.0002	0.01
6423	668509.0	4280975.0	Residential	0.07	0.0002	0.01
6424	668519.0	4280975.0	Residential	0.07	0.0003	0.01
6425	668529.0	4280975.0	Residential	0.07	0.0003	0.01
6426	668539.0	4280975.0	Roadway/Open Space	-	-	0.01
6427	668549.0	4280975.0	Residential	0.08	0.0003	0.01
6428	668559.0	4280975.0	Residential	0.09	0.0003	0.01
6429	668569.0	4280975.0	Residential	0.10	0.0003	0.01
6430	668579.0	4280975.0	Residential	0.11	0.0004	0.01
6431	668589.0	4280975.0	Roadway/Open Space	-	-	0.01
6432	668599.0	4280975.0	Roadway/Open Space	-	-	0.02
6433	668609.0	4280975.0	Roadway/Open Space	-	-	0.02
6434	668619.0	4280975.0	Roadway/Open Space	-	-	0.02
6435	668629.0	4280975.0	Roadway/Open Space	-	-	0.02
6436	668639.0	4280975.0	Residential	0.23	0.001	0.03
6437	668649.0	4280975.0	Residential	0.26	0.001	0.03
6438	668659.0	4280975.0	Residential	0.29	0.001	0.03
6439	668669.0	4280975.0	Residential	0.33	0.001	0.04
6440	668679.0	4280975.0	Residential	0.36	0.001	0.04
6441	668689.0	4280975.0	Roadway/Open Space	-	-	0.04
6442	668699.0	4280975.0	Roadway/Open Space	-	-	0.04
6443	668709.0	4280975.0	Roadway/Open Space	-	-	0.04

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
6444	668719.0	4280975.0	Roadway/Open Space	-	-	0.03
6445	668729.0	4280975.0	Roadway/Open Space	-	-	0.03
6446	668739.0	4280975.0	Roadway/Open Space	-	-	0.04
6447	668749.0	4280975.0	Roadway/Open Space	-	-	0.04
6448	668759.0	4280975.0	Roadway/Open Space	-	-	0.04
6449	668769.0	4280975.0	Roadway/Open Space	-	-	0.04
6450	668779.0	4280975.0	Roadway/Open Space	-	-	0.04
6451	668789.0	4280975.0	Roadway/Open Space	-	-	0.04
6452	668799.0	4280975.0	Roadway/Open Space	-	-	0.04
6453	668809.0	4280975.0	Roadway/Open Space	-	-	0.05
6454	668819.0	4280975.0	Roadway/Open Space	-	-	0.05
6455	668829.0	4280975.0	Roadway/Open Space	-	-	0.05
6456	668839.0	4280975.0	Roadway/Open Space	-	-	0.06
6457	668849.0	4280975.0	Roadway/Open Space	-	-	0.06
6458	668859.0	4280975.0	Roadway/Open Space	-	-	0.07
6459	668869.0	4280975.0	Roadway/Open Space	-	-	0.07
6460	668879.0	4280975.0	Roadway/Open Space	-	-	0.08
6461	668889.0	4280975.0	Roadway/Open Space	-	-	0.08
6462	668899.0	4280975.0	Roadway/Open Space	-	-	0.09
6478	669059.0	4280975.0	Roadway/Open Space	-	-	0.28
6479	669069.0	4280975.0	Roadway/Open Space	-	-	0.29
6480	669079.0	4280975.0	Roadway/Open Space	-	-	0.29
6481	669089.0	4280975.0	Roadway/Open Space	-	-	0.28
6482	669099.0	4280975.0	Roadway/Open Space	-	-	0.25
6483	669109.0	4280975.0	Roadway/Open Space	-	-	0.23
6484	669119.0	4280975.0	Roadway/Open Space	-	-	0.20
6485	669299.0	4280975.0	Roadway/Open Space	-	-	0.05
6486	669309.0	4280975.0	Roadway/Open Space	-	-	0.05
6487	669319.0	4280975.0	Roadway/Open Space	-	-	0.05
6488	669329.0	4280975.0	Roadway/Open Space	-	-	0.05
6489	669339.0	4280975.0	Roadway/Open Space	-	-	0.05
6490	669349.0	4280975.0	Roadway/Open Space	-	-	0.05
6491	669359.0	4280975.0	Roadway/Open Space	-	-	0.05
6492	669369.0	4280975.0	Roadway/Open Space	-	-	0.05
6493	669379.0	4280975.0	Roadway/Open Space	-	-	0.05
6494	669389.0	4280975.0	Roadway/Open Space	-	-	0.05
6495	669399.0	4280975.0	Roadway/Open Space	-	-	0.05
6496	669409.0	4280975.0	Roadway/Open Space	-	-	0.05
6497	669419.0	4280975.0	Roadway/Open Space	-	-	0.05
6498	669429.0	4280975.0	Roadway/Open Space	-	-	0.05
6499	669439.0	4280975.0	Roadway/Open Space	-	-	0.04
6500	669449.0	4280975.0	Roadway/Open Space	-	-	0.04
6501	669459.0	4280975.0	Roadway/Open Space	-	-	0.03
6502	669469.0	4280975.0	Roadway/Open Space	-	-	0.03
6503	669479.0	4280975.0	Roadway/Open Space	-	-	0.04
6504	669489.0	4280975.0	Roadway/Open Space	-	-	0.04
6505	669499.0	4280975.0	Roadway/Open Space	-	-	0.04
6506	669509.0	4280975.0	Roadway/Open Space	-	-	0.03
6507	669519.0	4280975.0	Roadway/Open Space	-	-	0.03
6508	669529.0	4280975.0	Roadway/Open Space	-	-	0.03
6509	669539.0	4280975.0	Roadway/Open Space	-	-	0.03
6510	669549.0	4280975.0	Roadway/Open Space	-	-	0.03
6511	669559.0	4280975.0	Roadway/Open Space	-	-	0.03
6512	669569.0	4280975.0	Roadway/Open Space	-	-	0.03
6513	669579.0	4280975.0	Roadway/Open Space	-	-	0.02
6514	668499.0	4280985.0	Residential	0.07	0.0002	0.01
6515	668509.0	4280985.0	Residential	0.07	0.0002	0.01
6516	668519.0	4280985.0	Residential	0.07	0.0003	0.01
6517	668529.0	4280985.0	Residential	0.07	0.0003	0.01
6518	668539.0	4280985.0	Roadway/Open Space	-	-	0.01
6519	668549.0	4280985.0	Residential	0.08	0.0003	0.01
6520	668559.0	4280985.0	Residential	0.09	0.0003	0.01
6521	668569.0	4280985.0	Residential	0.10	0.0004	0.01
6522	668579.0	4280985.0	Residential	0.11	0.0004	0.01
6523	668589.0	4280985.0	Roadway/Open Space	-	-	0.01
6524	668599.0	4280985.0	Roadway/Open Space	-	-	0.02
6525	668609.0	4280985.0	Roadway/Open Space	-	-	0.02
6526	668619.0	4280985.0	Roadway/Open Space	-	-	0.02
6527	668629.0	4280985.0	Residential	0.20	0.001	0.02
6528	668639.0	4280985.0	Residential	0.24	0.001	0.03
6529	668649.0	4280985.0	Residential	0.28	0.001	0.03
6530	668659.0	4280985.0	Residential	0.32	0.001	0.04
6531	668669.0	4280985.0	Residential	0.36	0.001	0.04
6532	668679.0	4280985.0	Roadway/Open Space	-	-	0.04
6533	668689.0	4280985.0	Roadway/Open Space	-	-	0.04
6534	668699.0	4280985.0	Roadway/Open Space	-	-	0.04
6535	668709.0	4280985.0	Roadway/Open Space	-	-	0.03
6536	668719.0	4280985.0	Roadway/Open Space	-	-	0.03
6537	668729.0	4280985.0	Roadway/Open Space	-	-	0.04
6538	668739.0	4280985.0	Roadway/Open Space	-	-	0.04
6539	668749.0	4280985.0	Roadway/Open Space	-	-	0.04
6540	668759.0	4280985.0	Roadway/Open Space	-	-	0.04
6541	668769.0	4280985.0	Roadway/Open Space	-	-	0.04
6542	668779.0	4280985.0	Roadway/Open Space	-	-	0.04

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
6543	668789.0	4280985.0	Roadway/Open Space	-	-	0.04
6544	668799.0	4280985.0	Roadway/Open Space	-	-	0.04
6545	668809.0	4280985.0	Roadway/Open Space	-	-	0.05
6546	668819.0	4280985.0	Roadway/Open Space	-	-	0.05
6547	668829.0	4280985.0	Roadway/Open Space	-	-	0.05
6548	668839.0	4280985.0	Roadway/Open Space	-	-	0.06
6549	668849.0	4280985.0	Roadway/Open Space	-	-	0.06
6550	668859.0	4280985.0	Roadway/Open Space	-	-	0.07
6551	668869.0	4280985.0	Roadway/Open Space	-	-	0.07
6552	668879.0	4280985.0	Roadway/Open Space	-	-	0.08
6553	668889.0	4280985.0	Roadway/Open Space	-	-	0.08
6554	668899.0	4280985.0	Roadway/Open Space	-	-	0.09
6568	669039.0	4280985.0	Roadway/Open Space	-	-	0.30
6569	669049.0	4280985.0	Roadway/Open Space	-	-	0.32
6570	669059.0	4280985.0	Roadway/Open Space	-	-	0.32
6571	669069.0	4280985.0	Roadway/Open Space	-	-	0.34
6572	669079.0	4280985.0	Roadway/Open Space	-	-	0.32
6573	669089.0	4280985.0	Roadway/Open Space	-	-	0.29
6574	669099.0	4280985.0	Roadway/Open Space	-	-	0.27
6575	669109.0	4280985.0	Roadway/Open Space	-	-	0.24
6577	669299.0	4280985.0	Roadway/Open Space	-	-	0.05
6578	669309.0	4280985.0	Roadway/Open Space	-	-	0.05
6579	669319.0	4280985.0	Roadway/Open Space	-	-	0.05
6580	669329.0	4280985.0	Roadway/Open Space	-	-	0.05
6581	669339.0	4280985.0	Roadway/Open Space	-	-	0.05
6582	669349.0	4280985.0	Roadway/Open Space	-	-	0.06
6583	669359.0	4280985.0	Roadway/Open Space	-	-	0.06
6584	669369.0	4280985.0	Roadway/Open Space	-	-	0.06
6585	669379.0	4280985.0	Roadway/Open Space	-	-	0.06
6586	669389.0	4280985.0	Roadway/Open Space	-	-	0.05
6587	669399.0	4280985.0	Roadway/Open Space	-	-	0.05
6588	669409.0	4280985.0	Roadway/Open Space	-	-	0.05
6589	669419.0	4280985.0	Roadway/Open Space	-	-	0.05
6590	669429.0	4280985.0	Roadway/Open Space	-	-	0.05
6591	669439.0	4280985.0	Roadway/Open Space	-	-	0.04
6592	669449.0	4280985.0	Roadway/Open Space	-	-	0.04
6593	669459.0	4280985.0	Roadway/Open Space	-	-	0.03
6594	669469.0	4280985.0	Roadway/Open Space	-	-	0.04
6595	669479.0	4280985.0	Roadway/Open Space	-	-	0.04
6596	669489.0	4280985.0	Roadway/Open Space	-	-	0.04
6597	669499.0	4280985.0	Roadway/Open Space	-	-	0.04
6598	669509.0	4280985.0	Roadway/Open Space	-	-	0.04
6599	669519.0	4280985.0	Roadway/Open Space	-	-	0.03
6600	669529.0	4280985.0	Roadway/Open Space	-	-	0.03
6601	669539.0	4280985.0	Roadway/Open Space	-	-	0.03
6602	669549.0	4280985.0	Roadway/Open Space	-	-	0.03
6603	669559.0	4280985.0	Roadway/Open Space	-	-	0.03
6604	669569.0	4280985.0	Roadway/Open Space	-	-	0.03
6605	668499.0	4280995.0	Residential	0.07	0.0002	0.01
6606	668509.0	4280995.0	Residential	0.07	0.0002	0.01
6607	668519.0	4280995.0	Residential	0.07	0.0003	0.01
6608	668529.0	4280995.0	Roadway/Open Space	-	-	0.01
6609	668539.0	4280995.0	Residential	0.08	0.0003	0.01
6610	668549.0	4280995.0	Residential	0.09	0.0003	0.01
6611	668559.0	4280995.0	Residential	0.09	0.0003	0.01
6612	668569.0	4280995.0	Residential	0.10	0.0004	0.01
6613	668579.0	4280995.0	Roadway/Open Space	-	-	0.01
6614	668589.0	4280995.0	Roadway/Open Space	-	-	0.01
6615	668599.0	4280995.0	Roadway/Open Space	-	-	0.02
6616	668609.0	4280995.0	Roadway/Open Space	-	-	0.02
6617	668619.0	4280995.0	Roadway/Open Space	-	-	0.02
6618	668629.0	4280995.0	Residential	0.21	0.001	0.02
6619	668639.0	4280995.0	Residential	0.25	0.001	0.03
6620	668649.0	4280995.0	Residential	0.29	0.001	0.03
6621	668659.0	4280995.0	Residential	0.34	0.001	0.04
6622	668669.0	4280995.0	Residential	0.39	0.001	0.04
6623	668679.0	4280995.0	Roadway/Open Space	-	-	0.04
6624	668689.0	4280995.0	Roadway/Open Space	-	-	0.04
6625	668699.0	4280995.0	Roadway/Open Space	-	-	0.03
6626	668709.0	4280995.0	Roadway/Open Space	-	-	0.03
6627	668719.0	4280995.0	Roadway/Open Space	-	-	0.04
6628	668729.0	4280995.0	Roadway/Open Space	-	-	0.04
6629	668739.0	4280995.0	Roadway/Open Space	-	-	0.04
6630	668749.0	4280995.0	Roadway/Open Space	-	-	0.04
6631	668759.0	4280995.0	Roadway/Open Space	-	-	0.04
6632	668769.0	4280995.0	Roadway/Open Space	-	-	0.04
6633	668779.0	4280995.0	Roadway/Open Space	-	-	0.04
6634	668789.0	4280995.0	Roadway/Open Space	-	-	0.04
6635	668799.0	4280995.0	Roadway/Open Space	-	-	0.05
6636	668809.0	4280995.0	Roadway/Open Space	-	-	0.05
6637	668819.0	4280995.0	Roadway/Open Space	-	-	0.05
6638	668829.0	4280995.0	Roadway/Open Space	-	-	0.05
6639	668839.0	4280995.0	Roadway/Open Space	-	-	0.06
6640	668849.0	4280995.0	Roadway/Open Space	-	-	0.06

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
6641	668859.0	4280995.0	Roadway/Open Space	-	-	0.07
6642	668869.0	4280995.0	Roadway/Open Space	-	-	0.07
6643	668879.0	4280995.0	Roadway/Open Space	-	-	0.08
6644	668889.0	4280995.0	Roadway/Open Space	-	-	0.08
6645	668899.0	4280995.0	Roadway/Open Space	-	-	0.09
6657	669019.0	4280995.0	Roadway/Open Space	-	-	0.32
6658	669029.0	4280995.0	Roadway/Open Space	-	-	0.32
6659	669039.0	4280995.0	Roadway/Open Space	-	-	0.34
6660	669049.0	4280995.0	Roadway/Open Space	-	-	0.36
6661	669059.0	4280995.0	Roadway/Open Space	-	-	0.37
6662	669069.0	4280995.0	Roadway/Open Space	-	-	0.40
6663	669079.0	4280995.0	Roadway/Open Space	-	-	0.36
6664	669089.0	4280995.0	Roadway/Open Space	-	-	0.33
6668	669299.0	4280995.0	Roadway/Open Space	-	-	0.05
6669	669309.0	4280995.0	Roadway/Open Space	-	-	0.05
6670	669319.0	4280995.0	Roadway/Open Space	-	-	0.06
6671	669329.0	4280995.0	Roadway/Open Space	-	-	0.06
6672	669339.0	4280995.0	Roadway/Open Space	-	-	0.06
6673	669349.0	4280995.0	Roadway/Open Space	-	-	0.06
6674	669359.0	4280995.0	Roadway/Open Space	-	-	0.06
6675	669369.0	4280995.0	Roadway/Open Space	-	-	0.06
6676	669379.0	4280995.0	Roadway/Open Space	-	-	0.06
6677	669389.0	4280995.0	Roadway/Open Space	-	-	0.05
6678	669399.0	4280995.0	Roadway/Open Space	-	-	0.05
6679	669409.0	4280995.0	Roadway/Open Space	-	-	0.05
6680	669419.0	4280995.0	Roadway/Open Space	-	-	0.05
6681	669429.0	4280995.0	Roadway/Open Space	-	-	0.05
6682	669439.0	4280995.0	Roadway/Open Space	-	-	0.04
6683	669449.0	4280995.0	Roadway/Open Space	-	-	0.04
6684	669459.0	4280995.0	Roadway/Open Space	-	-	0.04
6685	669469.0	4280995.0	Roadway/Open Space	-	-	0.04
6686	669479.0	4280995.0	Roadway/Open Space	-	-	0.04
6687	669489.0	4280995.0	Roadway/Open Space	-	-	0.04
6688	669499.0	4280995.0	Roadway/Open Space	-	-	0.04
6689	669509.0	4280995.0	Roadway/Open Space	-	-	0.04
6690	669519.0	4280995.0	Roadway/Open Space	-	-	0.03
6691	669529.0	4280995.0	Roadway/Open Space	-	-	0.03
6692	669539.0	4280995.0	Roadway/Open Space	-	-	0.03
6693	669549.0	4280995.0	Roadway/Open Space	-	-	0.03
6694	669559.0	4280995.0	Roadway/Open Space	-	-	0.03
6695	669569.0	4280995.0	Roadway/Open Space	-	-	0.03
6696	668499.0	4281005.0	Residential	0.06	0.0002	0.01
6697	668509.0	4281005.0	Residential	0.07	0.0002	0.01
6698	668519.0	4281005.0	Roadway/Open Space	-	-	0.01
6699	668529.0	4281005.0	Residential	0.08	0.0003	0.01
6700	668539.0	4281005.0	Residential	0.08	0.0003	0.01
6701	668549.0	4281005.0	Residential	0.09	0.0003	0.01
6702	668559.0	4281005.0	Residential	0.10	0.0003	0.01
6703	668569.0	4281005.0	Residential	0.10	0.0004	0.01
6704	668579.0	4281005.0	Roadway/Open Space	-	-	0.01
6705	668589.0	4281005.0	Roadway/Open Space	-	-	0.01
6706	668599.0	4281005.0	Roadway/Open Space	-	-	0.02
6707	668609.0	4281005.0	Roadway/Open Space	-	-	0.02
6708	668619.0	4281005.0	Residential	0.18	0.001	0.02
6709	668629.0	4281005.0	Residential	0.21	0.001	0.03
6710	668639.0	4281005.0	Residential	0.25	0.001	0.03
6711	668649.0	4281005.0	Residential	0.30	0.001	0.04
6712	668659.0	4281005.0	Residential	0.36	0.001	0.04
6713	668669.0	4281005.0	Roadway/Open Space	-	-	0.04
6714	668679.0	4281005.0	Roadway/Open Space	-	-	0.04
6715	668689.0	4281005.0	Roadway/Open Space	-	-	0.03
6716	668699.0	4281005.0	Roadway/Open Space	-	-	0.03
6717	668709.0	4281005.0	Roadway/Open Space	-	-	0.03
6718	668719.0	4281005.0	Roadway/Open Space	-	-	0.03
6719	668729.0	4281005.0	Roadway/Open Space	-	-	0.04
6720	668739.0	4281005.0	Roadway/Open Space	-	-	0.04
6721	668749.0	4281005.0	Roadway/Open Space	-	-	0.04
6722	668759.0	4281005.0	Roadway/Open Space	-	-	0.04
6723	668769.0	4281005.0	Roadway/Open Space	-	-	0.04
6724	668779.0	4281005.0	Roadway/Open Space	-	-	0.04
6725	668789.0	4281005.0	Roadway/Open Space	-	-	0.04
6726	668799.0	4281005.0	Roadway/Open Space	-	-	0.05
6727	668809.0	4281005.0	Roadway/Open Space	-	-	0.05
6728	668819.0	4281005.0	Roadway/Open Space	-	-	0.05
6729	668829.0	4281005.0	Roadway/Open Space	-	-	0.06
6730	668839.0	4281005.0	Roadway/Open Space	-	-	0.06
6731	668849.0	4281005.0	Roadway/Open Space	-	-	0.06
6732	668859.0	4281005.0	Roadway/Open Space	-	-	0.07
6733	668869.0	4281005.0	Roadway/Open Space	-	-	0.07
6734	668879.0	4281005.0	Roadway/Open Space	-	-	0.07
6735	668889.0	4281005.0	Roadway/Open Space	-	-	0.08
6736	668899.0	4281005.0	Roadway/Open Space	-	-	0.09
6745	668989.0	4281005.0	Roadway/Open Space	-	-	0.27
6746	668999.0	4281005.0	Roadway/Open Space	-	-	0.32

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
6747	669009.0	4281005.0	Roadway/Open Space	-	-	0.35
6748	669019.0	4281005.0	Roadway/Open Space	-	-	0.36
6749	669029.0	4281005.0	Roadway/Open Space	-	-	0.38
6750	669039.0	4281005.0	Roadway/Open Space	-	-	0.40
6751	669049.0	4281005.0	Roadway/Open Space	-	-	0.42
6752	669059.0	4281005.0	Roadway/Open Space	-	-	0.44
6753	669069.0	4281005.0	Roadway/Open Space	-	-	0.46
6760	669299.0	4281005.0	Roadway/Open Space	-	-	0.06
6761	669309.0	4281005.0	Roadway/Open Space	-	-	0.06
6762	669319.0	4281005.0	Roadway/Open Space	-	-	0.06
6763	669329.0	4281005.0	Roadway/Open Space	-	-	0.06
6764	669339.0	4281005.0	Roadway/Open Space	-	-	0.06
6765	669349.0	4281005.0	Roadway/Open Space	-	-	0.06
6766	669359.0	4281005.0	Roadway/Open Space	-	-	0.06
6767	669369.0	4281005.0	Roadway/Open Space	-	-	0.06
6768	669379.0	4281005.0	Roadway/Open Space	-	-	0.06
6769	669389.0	4281005.0	Roadway/Open Space	-	-	0.06
6770	669399.0	4281005.0	Roadway/Open Space	-	-	0.05
6771	669409.0	4281005.0	Roadway/Open Space	-	-	0.05
6772	669419.0	4281005.0	Roadway/Open Space	-	-	0.05
6773	669429.0	4281005.0	Roadway/Open Space	-	-	0.05
6774	669439.0	4281005.0	Roadway/Open Space	-	-	0.04
6775	669449.0	4281005.0	Roadway/Open Space	-	-	0.04
6776	669459.0	4281005.0	Roadway/Open Space	-	-	0.04
6777	669469.0	4281005.0	Roadway/Open Space	-	-	0.04
6778	669479.0	4281005.0	Roadway/Open Space	-	-	0.04
6779	669489.0	4281005.0	Roadway/Open Space	-	-	0.04
6780	669499.0	4281005.0	Roadway/Open Space	-	-	0.04
6781	669509.0	4281005.0	Roadway/Open Space	-	-	0.04
6782	669519.0	4281005.0	Roadway/Open Space	-	-	0.04
6783	669529.0	4281005.0	Roadway/Open Space	-	-	0.03
6784	669539.0	4281005.0	Roadway/Open Space	-	-	0.03
6785	669549.0	4281005.0	Roadway/Open Space	-	-	0.03
6786	669559.0	4281005.0	Roadway/Open Space	-	-	0.03
6787	668499.0	4281015.0	Residential	0.07	0.0002	0.01
6788	668509.0	4281015.0	Roadway/Open Space	-	-	0.01
6789	668519.0	4281015.0	Roadway/Open Space	-	-	0.01
6790	668529.0	4281015.0	Residential	0.08	0.0003	0.01
6791	668539.0	4281015.0	Residential	0.08	0.0003	0.01
6792	668549.0	4281015.0	Residential	0.09	0.0003	0.01
6793	668559.0	4281015.0	Residential	0.10	0.0004	0.01
6794	668569.0	4281015.0	Residential	0.11	0.0004	0.01
6795	668579.0	4281015.0	Roadway/Open Space	-	-	0.01
6796	668589.0	4281015.0	Roadway/Open Space	-	-	0.01
6797	668599.0	4281015.0	Roadway/Open Space	-	-	0.02
6798	668609.0	4281015.0	Roadway/Open Space	-	-	0.02
6799	668619.0	4281015.0	Residential	0.18	0.001	0.02
6800	668629.0	4281015.0	Residential	0.22	0.001	0.02
6801	668639.0	4281015.0	Residential	0.26	0.001	0.03
6802	668649.0	4281015.0	Residential	0.31	0.001	0.04
6803	668659.0	4281015.0	Residential	0.37	0.001	0.04
6804	668669.0	4281015.0	Roadway/Open Space	-	-	0.04
6805	668679.0	4281015.0	Roadway/Open Space	-	-	0.04
6806	668689.0	4281015.0	Roadway/Open Space	-	-	0.03
6807	668699.0	4281015.0	Roadway/Open Space	-	-	0.03
6808	668709.0	4281015.0	Roadway/Open Space	-	-	0.03
6809	668719.0	4281015.0	Roadway/Open Space	-	-	0.03
6810	668729.0	4281015.0	Roadway/Open Space	-	-	0.03
6811	668739.0	4281015.0	Roadway/Open Space	-	-	0.04
6812	668749.0	4281015.0	Roadway/Open Space	-	-	0.04
6813	668759.0	4281015.0	Roadway/Open Space	-	-	0.04
6814	668769.0	4281015.0	Roadway/Open Space	-	-	0.04
6815	668779.0	4281015.0	Roadway/Open Space	-	-	0.04
6816	668789.0	4281015.0	Roadway/Open Space	-	-	0.05
6817	668799.0	4281015.0	Roadway/Open Space	-	-	0.05
6818	668809.0	4281015.0	Roadway/Open Space	-	-	0.05
6819	668819.0	4281015.0	Roadway/Open Space	-	-	0.06
6820	668829.0	4281015.0	Roadway/Open Space	-	-	0.06
6821	668839.0	4281015.0	Roadway/Open Space	-	-	0.06
6822	668849.0	4281015.0	Roadway/Open Space	-	-	0.07
6823	668859.0	4281015.0	Roadway/Open Space	-	-	0.07
6824	668869.0	4281015.0	Roadway/Open Space	-	-	0.07
6825	668879.0	4281015.0	Roadway/Open Space	-	-	0.07
6826	668889.0	4281015.0	Roadway/Open Space	-	-	0.08
6834	668969.0	4281015.0	Roadway/Open Space	-	-	0.23
6835	668979.0	4281015.0	Roadway/Open Space	-	-	0.24
6836	668989.0	4281015.0	Roadway/Open Space	-	-	0.26
6837	668999.0	4281015.0	Roadway/Open Space	-	-	0.31
6838	669009.0	4281015.0	Roadway/Open Space	-	-	0.39
6839	669019.0	4281015.0	Roadway/Open Space	-	-	0.42
6840	669029.0	4281015.0	Roadway/Open Space	-	-	0.43
6841	669039.0	4281015.0	Roadway/Open Space	-	-	0.47
6842	669049.0	4281015.0	Roadway/Open Space	-	-	0.47
6851	669299.0	4281015.0	Roadway/Open Space	-	-	0.06

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
6852	669309.0	4281015.0	Roadway/Open Space	-	-	0.06
6853	669319.0	4281015.0	Roadway/Open Space	-	-	0.06
6854	669329.0	4281015.0	Roadway/Open Space	-	-	0.06
6855	669339.0	4281015.0	Roadway/Open Space	-	-	0.06
6856	669349.0	4281015.0	Roadway/Open Space	-	-	0.06
6857	669359.0	4281015.0	Roadway/Open Space	-	-	0.06
6858	669369.0	4281015.0	Roadway/Open Space	-	-	0.06
6859	669379.0	4281015.0	Roadway/Open Space	-	-	0.06
6860	669389.0	4281015.0	Roadway/Open Space	-	-	0.06
6861	669399.0	4281015.0	Roadway/Open Space	-	-	0.05
6862	669409.0	4281015.0	Roadway/Open Space	-	-	0.05
6863	669419.0	4281015.0	Roadway/Open Space	-	-	0.05
6864	669429.0	4281015.0	Roadway/Open Space	-	-	0.05
6865	669439.0	4281015.0	Roadway/Open Space	-	-	0.05
6866	669449.0	4281015.0	Roadway/Open Space	-	-	0.04
6867	669459.0	4281015.0	Roadway/Open Space	-	-	0.04
6868	669469.0	4281015.0	Roadway/Open Space	-	-	0.04
6869	669479.0	4281015.0	Roadway/Open Space	-	-	0.04
6870	669489.0	4281015.0	Roadway/Open Space	-	-	0.04
6871	669499.0	4281015.0	Roadway/Open Space	-	-	0.04
6872	669509.0	4281015.0	Roadway/Open Space	-	-	0.04
6873	669519.0	4281015.0	Roadway/Open Space	-	-	0.04
6874	669529.0	4281015.0	Roadway/Open Space	-	-	0.04
6875	669539.0	4281015.0	Roadway/Open Space	-	-	0.03
6876	669549.0	4281015.0	Roadway/Open Space	-	-	0.03
6877	669559.0	4281015.0	Roadway/Open Space	-	-	0.03
6878	668499.0	4281025.0	Residential	0.07	0.0002	0.01
6879	668509.0	4281025.0	Roadway/Open Space	-	-	0.01
6880	668519.0	4281025.0	Residential	0.07	0.0003	0.01
6881	668529.0	4281025.0	Residential	0.08	0.0003	0.01
6882	668539.0	4281025.0	Residential	0.09	0.0003	0.01
6883	668549.0	4281025.0	Residential	0.09	0.0003	0.01
6884	668559.0	4281025.0	Residential	0.10	0.0004	0.01
6885	668569.0	4281025.0	Roadway/Open Space	-	-	0.01
6886	668579.0	4281025.0	Roadway/Open Space	-	-	0.01
6887	668589.0	4281025.0	Roadway/Open Space	-	-	0.01
6888	668599.0	4281025.0	Roadway/Open Space	-	-	0.02
6889	668609.0	4281025.0	Residential	0.17	0.001	0.02
6890	668619.0	4281025.0	Residential	0.19	0.001	0.02
6891	668629.0	4281025.0	Residential	0.22	0.001	0.03
6892	668639.0	4281025.0	Residential	0.26	0.001	0.03
6893	668649.0	4281025.0	Residential	0.31	0.001	0.04
6894	668659.0	4281025.0	Roadway/Open Space	-	-	0.04
6895	668669.0	4281025.0	Roadway/Open Space	-	-	0.04
6896	668679.0	4281025.0	Roadway/Open Space	-	-	0.04
6897	668689.0	4281025.0	Roadway/Open Space	-	-	0.03
6898	668699.0	4281025.0	Roadway/Open Space	-	-	0.03
6899	668709.0	4281025.0	Roadway/Open Space	-	-	0.03
6900	668719.0	4281025.0	Roadway/Open Space	-	-	0.03
6901	668729.0	4281025.0	Roadway/Open Space	-	-	0.03
6902	668739.0	4281025.0	Roadway/Open Space	-	-	0.04
6903	668749.0	4281025.0	Roadway/Open Space	-	-	0.04
6904	668759.0	4281025.0	Roadway/Open Space	-	-	0.04
6905	668769.0	4281025.0	Roadway/Open Space	-	-	0.04
6906	668779.0	4281025.0	Roadway/Open Space	-	-	0.05
6907	668789.0	4281025.0	Roadway/Open Space	-	-	0.05
6908	668799.0	4281025.0	Roadway/Open Space	-	-	0.05
6909	668809.0	4281025.0	Roadway/Open Space	-	-	0.05
6910	668819.0	4281025.0	Roadway/Open Space	-	-	0.06
6911	668829.0	4281025.0	Roadway/Open Space	-	-	0.06
6912	668839.0	4281025.0	Roadway/Open Space	-	-	0.06
6913	668849.0	4281025.0	Roadway/Open Space	-	-	0.07
6914	668859.0	4281025.0	Roadway/Open Space	-	-	0.07
6915	668869.0	4281025.0	Roadway/Open Space	-	-	0.07
6916	668879.0	4281025.0	Roadway/Open Space	-	-	0.08
6917	668889.0	4281025.0	Roadway/Open Space	-	-	0.08
6922	668939.0	4281025.0	Roadway/Open Space	-	-	0.15
6923	668949.0	4281025.0	Roadway/Open Space	-	-	0.18
6924	668959.0	4281025.0	Roadway/Open Space	-	-	0.21
6925	668969.0	4281025.0	Roadway/Open Space	-	-	0.24
6926	668979.0	4281025.0	Roadway/Open Space	-	-	0.27
6927	668989.0	4281025.0	Roadway/Open Space	-	-	0.30
6928	668999.0	4281025.0	Roadway/Open Space	-	-	0.32
6929	669009.0	4281025.0	Roadway/Open Space	-	-	0.39
6930	669019.0	4281025.0	Roadway/Open Space	-	-	0.45
6931	669029.0	4281025.0	Roadway/Open Space	-	-	0.50
6942	669299.0	4281025.0	Roadway/Open Space	-	-	0.06
6943	669309.0	4281025.0	Roadway/Open Space	-	-	0.06
6944	669319.0	4281025.0	Roadway/Open Space	-	-	0.06
6945	669329.0	4281025.0	Roadway/Open Space	-	-	0.06
6946	669339.0	4281025.0	Roadway/Open Space	-	-	0.06
6947	669349.0	4281025.0	Roadway/Open Space	-	-	0.06
6948	669359.0	4281025.0	Roadway/Open Space	-	-	0.06
6949	669369.0	4281025.0	Roadway/Open Space	-	-	0.06

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
6950	669379.0	4281025.0	Roadway/Open Space	-	-	0.06
6951	669389.0	4281025.0	Roadway/Open Space	-	-	0.06
6952	669399.0	4281025.0	Roadway/Open Space	-	-	0.05
6953	669409.0	4281025.0	Roadway/Open Space	-	-	0.05
6954	669419.0	4281025.0	Roadway/Open Space	-	-	0.05
6955	669429.0	4281025.0	Roadway/Open Space	-	-	0.05
6956	669439.0	4281025.0	Roadway/Open Space	-	-	0.05
6957	669449.0	4281025.0	Roadway/Open Space	-	-	0.04
6958	669459.0	4281025.0	Roadway/Open Space	-	-	0.04
6959	669469.0	4281025.0	Roadway/Open Space	-	-	0.04
6960	669479.0	4281025.0	Roadway/Open Space	-	-	0.04
6961	669489.0	4281025.0	Roadway/Open Space	-	-	0.04
6962	669499.0	4281025.0	Roadway/Open Space	-	-	0.04
6963	669509.0	4281025.0	Roadway/Open Space	-	-	0.04
6964	669519.0	4281025.0	Roadway/Open Space	-	-	0.04
6965	669529.0	4281025.0	Roadway/Open Space	-	-	0.04
6966	669539.0	4281025.0	Roadway/Open Space	-	-	0.03
6967	669549.0	4281025.0	Roadway/Open Space	-	-	0.03
6968	668499.0	4281035.0	Roadway/Open Space	-	-	0.01
6969	668509.0	4281035.0	Residential	0.07	0.0003	0.01
6970	668519.0	4281035.0	Residential	0.08	0.0003	0.01
6971	668529.0	4281035.0	Residential	0.08	0.0003	0.01
6972	668539.0	4281035.0	Residential	0.09	0.0003	0.01
6973	668549.0	4281035.0	Residential	0.10	0.0003	0.01
6974	668559.0	4281035.0	Roadway/Open Space	-	-	0.01
6975	668569.0	4281035.0	Roadway/Open Space	-	-	0.01
6976	668579.0	4281035.0	Roadway/Open Space	-	-	0.01
6977	668589.0	4281035.0	Roadway/Open Space	-	-	0.01
6978	668599.0	4281035.0	Roadway/Open Space	-	-	0.02
6979	668609.0	4281035.0	Residential	0.18	0.001	0.02
6980	668619.0	4281035.0	Residential	0.20	0.001	0.02
6981	668629.0	4281035.0	Residential	0.24	0.001	0.03
6982	668639.0	4281035.0	Residential	0.28	0.001	0.03
6983	668649.0	4281035.0	Residential	0.32	0.001	0.04
6984	668659.0	4281035.0	Roadway/Open Space	-	-	0.04
6985	668669.0	4281035.0	Roadway/Open Space	-	-	0.04
6986	668679.0	4281035.0	Roadway/Open Space	-	-	0.04
6987	668689.0	4281035.0	Roadway/Open Space	-	-	0.03
6988	668699.0	4281035.0	Roadway/Open Space	-	-	0.03
6989	668709.0	4281035.0	Roadway/Open Space	-	-	0.03
6990	668719.0	4281035.0	Roadway/Open Space	-	-	0.03
6991	668729.0	4281035.0	Roadway/Open Space	-	-	0.03
6992	668739.0	4281035.0	Roadway/Open Space	-	-	0.04
6993	668749.0	4281035.0	Roadway/Open Space	-	-	0.04
6994	668759.0	4281035.0	Roadway/Open Space	-	-	0.04
6995	668769.0	4281035.0	Roadway/Open Space	-	-	0.04
6996	668779.0	4281035.0	Roadway/Open Space	-	-	0.05
6997	668789.0	4281035.0	Roadway/Open Space	-	-	0.05
6998	668799.0	4281035.0	Roadway/Open Space	-	-	0.05
6999	668809.0	4281035.0	Roadway/Open Space	-	-	0.06
7000	668819.0	4281035.0	Roadway/Open Space	-	-	0.06
7001	668829.0	4281035.0	Roadway/Open Space	-	-	0.06
7002	668839.0	4281035.0	Roadway/Open Space	-	-	0.07
7003	668849.0	4281035.0	Roadway/Open Space	-	-	0.07
7004	668859.0	4281035.0	Roadway/Open Space	-	-	0.07
7005	668869.0	4281035.0	Roadway/Open Space	-	-	0.08
7006	668879.0	4281035.0	Roadway/Open Space	-	-	0.08
7007	668889.0	4281035.0	Roadway/Open Space	-	-	0.09
7010	668919.0	4281035.0	Roadway/Open Space	-	-	0.11
7011	668929.0	4281035.0	Roadway/Open Space	-	-	0.12
7012	668939.0	4281035.0	Roadway/Open Space	-	-	0.14
7013	668949.0	4281035.0	Roadway/Open Space	-	-	0.17
7014	668959.0	4281035.0	Roadway/Open Space	-	-	0.20
7015	668969.0	4281035.0	Roadway/Open Space	-	-	0.24
7016	668979.0	4281035.0	Roadway/Open Space	-	-	0.28
7017	668989.0	4281035.0	Roadway/Open Space	-	-	0.33
7018	668999.0	4281035.0	Roadway/Open Space	-	-	0.37
7032	669299.0	4281035.0	Roadway/Open Space	-	-	0.06
7033	669309.0	4281035.0	Roadway/Open Space	-	-	0.06
7034	669319.0	4281035.0	Roadway/Open Space	-	-	0.06
7035	669329.0	4281035.0	Roadway/Open Space	-	-	0.06
7036	669339.0	4281035.0	Roadway/Open Space	-	-	0.06
7037	669349.0	4281035.0	Roadway/Open Space	-	-	0.06
7038	669359.0	4281035.0	Roadway/Open Space	-	-	0.06
7039	669369.0	4281035.0	Roadway/Open Space	-	-	0.06
7040	669379.0	4281035.0	Roadway/Open Space	-	-	0.06
7041	669389.0	4281035.0	Roadway/Open Space	-	-	0.06
7042	669399.0	4281035.0	Roadway/Open Space	-	-	0.05
7043	669409.0	4281035.0	Roadway/Open Space	-	-	0.05
7044	669419.0	4281035.0	Roadway/Open Space	-	-	0.05
7045	669429.0	4281035.0	Roadway/Open Space	-	-	0.05
7046	669439.0	4281035.0	Roadway/Open Space	-	-	0.05
7047	669449.0	4281035.0	Roadway/Open Space	-	-	0.05
7048	669459.0	4281035.0	Roadway/Open Space	-	-	0.04

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
7049	669469.0	4281035.0	Roadway/Open Space	-	-	0.04
7050	669479.0	4281035.0	Roadway/Open Space	-	-	0.04
7051	669489.0	4281035.0	Roadway/Open Space	-	-	0.04
7052	669499.0	4281035.0	Roadway/Open Space	-	-	0.04
7053	669509.0	4281035.0	Roadway/Open Space	-	-	0.04
7054	669519.0	4281035.0	Roadway/Open Space	-	-	0.04
7055	669529.0	4281035.0	Roadway/Open Space	-	-	0.04
7056	669539.0	4281035.0	Roadway/Open Space	-	-	0.04
7057	669549.0	4281035.0	Roadway/Open Space	-	-	0.04
7058	668499.0	4281045.0	Residential	0.07	0.0002	0.01
7059	668509.0	4281045.0	Residential	0.07	0.0003	0.01
7060	668519.0	4281045.0	Residential	0.08	0.0003	0.01
7061	668529.0	4281045.0	Residential	0.08	0.0003	0.01
7062	668539.0	4281045.0	Residential	0.09	0.0003	0.01
7063	668549.0	4281045.0	Residential	0.10	0.0004	0.01
7064	668559.0	4281045.0	Roadway/Open Space	-	-	0.01
7065	668569.0	4281045.0	Roadway/Open Space	-	-	0.01
7066	668579.0	4281045.0	Roadway/Open Space	-	-	0.01
7067	668589.0	4281045.0	Roadway/Open Space	-	-	0.01
7068	668599.0	4281045.0	Residential	0.17	0.001	0.02
7069	668609.0	4281045.0	Residential	0.19	0.001	0.02
7070	668619.0	4281045.0	Residential	0.22	0.001	0.03
7071	668629.0	4281045.0	Residential	0.25	0.001	0.03
7072	668639.0	4281045.0	Residential	0.29	0.001	0.03
7073	668649.0	4281045.0	Roadway/Open Space	-	-	0.04
7074	668659.0	4281045.0	Roadway/Open Space	-	-	0.04
7075	668669.0	4281045.0	Roadway/Open Space	-	-	0.04
7076	668679.0	4281045.0	Roadway/Open Space	-	-	0.03
7077	668689.0	4281045.0	Roadway/Open Space	-	-	0.03
7078	668699.0	4281045.0	Roadway/Open Space	-	-	0.03
7079	668709.0	4281045.0	Roadway/Open Space	-	-	0.03
7080	668719.0	4281045.0	Roadway/Open Space	-	-	0.03
7081	668729.0	4281045.0	Roadway/Open Space	-	-	0.03
7082	668739.0	4281045.0	Roadway/Open Space	-	-	0.04
7083	668749.0	4281045.0	Roadway/Open Space	-	-	0.04
7084	668759.0	4281045.0	Roadway/Open Space	-	-	0.04
7085	668769.0	4281045.0	Roadway/Open Space	-	-	0.04
7086	668779.0	4281045.0	Roadway/Open Space	-	-	0.05
7087	668789.0	4281045.0	Roadway/Open Space	-	-	0.05
7088	668799.0	4281045.0	Roadway/Open Space	-	-	0.05
7089	668809.0	4281045.0	Roadway/Open Space	-	-	0.06
7090	668819.0	4281045.0	Roadway/Open Space	-	-	0.06
7091	668829.0	4281045.0	Roadway/Open Space	-	-	0.06
7092	668839.0	4281045.0	Roadway/Open Space	-	-	0.07
7093	668849.0	4281045.0	Roadway/Open Space	-	-	0.07
7094	668859.0	4281045.0	Roadway/Open Space	-	-	0.08
7095	668869.0	4281045.0	Roadway/Open Space	-	-	0.08
7096	668879.0	4281045.0	Roadway/Open Space	-	-	0.08
7097	668889.0	4281045.0	Roadway/Open Space	-	-	0.09
7098	668899.0	4281045.0	Roadway/Open Space	-	-	0.10
7099	668909.0	4281045.0	Roadway/Open Space	-	-	0.11
7100	668919.0	4281045.0	Roadway/Open Space	-	-	0.11
7101	668929.0	4281045.0	Roadway/Open Space	-	-	0.13
7102	668939.0	4281045.0	Roadway/Open Space	-	-	0.15
7103	668949.0	4281045.0	Roadway/Open Space	-	-	0.17
7104	668959.0	4281045.0	Roadway/Open Space	-	-	0.20
7105	668969.0	4281045.0	Roadway/Open Space	-	-	0.24
7106	668979.0	4281045.0	Roadway/Open Space	-	-	0.28
7122	669299.0	4281045.0	Roadway/Open Space	-	-	0.06
7123	669309.0	4281045.0	Roadway/Open Space	-	-	0.06
7124	669319.0	4281045.0	Roadway/Open Space	-	-	0.06
7125	669329.0	4281045.0	Roadway/Open Space	-	-	0.06
7126	669339.0	4281045.0	Roadway/Open Space	-	-	0.06
7127	669349.0	4281045.0	Roadway/Open Space	-	-	0.06
7128	669359.0	4281045.0	Roadway/Open Space	-	-	0.06
7129	669369.0	4281045.0	Roadway/Open Space	-	-	0.06
7130	669379.0	4281045.0	Roadway/Open Space	-	-	0.06
7131	669389.0	4281045.0	Roadway/Open Space	-	-	0.06
7132	669399.0	4281045.0	Roadway/Open Space	-	-	0.05
7133	669409.0	4281045.0	Roadway/Open Space	-	-	0.05
7134	669419.0	4281045.0	Roadway/Open Space	-	-	0.05
7135	669429.0	4281045.0	Roadway/Open Space	-	-	0.05
7136	669439.0	4281045.0	Roadway/Open Space	-	-	0.05
7137	669449.0	4281045.0	Roadway/Open Space	-	-	0.05
7138	669459.0	4281045.0	Roadway/Open Space	-	-	0.04
7139	669469.0	4281045.0	Roadway/Open Space	-	-	0.04
7140	669479.0	4281045.0	Roadway/Open Space	-	-	0.04
7141	669489.0	4281045.0	Roadway/Open Space	-	-	0.04
7142	669499.0	4281045.0	Roadway/Open Space	-	-	0.04
7143	669509.0	4281045.0	Roadway/Open Space	-	-	0.04
7144	669519.0	4281045.0	Roadway/Open Space	-	-	0.04
7145	669529.0	4281045.0	Roadway/Open Space	-	-	0.04
7146	669539.0	4281045.0	Roadway/Open Space	-	-	0.04
7147	668499.0	4281055.0	Residential	0.07	0.0002	0.01

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
7148	668509.0	4281055.0	Residential	0.07	0.0003	0.01
7149	668519.0	4281055.0	Residential	0.08	0.0003	0.01
7150	668529.0	4281055.0	Residential	0.08	0.0003	0.01
7151	668539.0	4281055.0	Residential	0.09	0.0003	0.01
7152	668549.0	4281055.0	Roadway/Open Space	-	-	0.01
7153	668559.0	4281055.0	Roadway/Open Space	-	-	0.01
7154	668569.0	4281055.0	Roadway/Open Space	-	-	0.01
7155	668579.0	4281055.0	Roadway/Open Space	-	-	0.01
7156	668589.0	4281055.0	Residential	0.15	0.001	0.02
7157	668599.0	4281055.0	Residential	0.17	0.001	0.02
7158	668609.0	4281055.0	Residential	0.20	0.001	0.02
7159	668619.0	4281055.0	Residential	0.23	0.001	0.03
7160	668629.0	4281055.0	Residential	0.27	0.001	0.03
7161	668639.0	4281055.0	Residential	0.31	0.001	0.03
7162	668649.0	4281055.0	Roadway/Open Space	-	-	0.04
7163	668659.0	4281055.0	Roadway/Open Space	-	-	0.04
7164	668669.0	4281055.0	Roadway/Open Space	-	-	0.04
7165	668679.0	4281055.0	Roadway/Open Space	-	-	0.03
7166	668689.0	4281055.0	Roadway/Open Space	-	-	0.03
7167	668699.0	4281055.0	Roadway/Open Space	-	-	0.03
7168	668709.0	4281055.0	Roadway/Open Space	-	-	0.03
7169	668719.0	4281055.0	Roadway/Open Space	-	-	0.03
7170	668729.0	4281055.0	Roadway/Open Space	-	-	0.03
7171	668739.0	4281055.0	Roadway/Open Space	-	-	0.04
7172	668749.0	4281055.0	Roadway/Open Space	-	-	0.04
7173	668759.0	4281055.0	Roadway/Open Space	-	-	0.04
7174	668769.0	4281055.0	Roadway/Open Space	-	-	0.04
7175	668779.0	4281055.0	Roadway/Open Space	-	-	0.05
7176	668789.0	4281055.0	Roadway/Open Space	-	-	0.05
7177	668799.0	4281055.0	Roadway/Open Space	-	-	0.05
7178	668809.0	4281055.0	Roadway/Open Space	-	-	0.05
7179	668819.0	4281055.0	Roadway/Open Space	-	-	0.06
7180	668829.0	4281055.0	Roadway/Open Space	-	-	0.06
7181	668839.0	4281055.0	Roadway/Open Space	-	-	0.07
7182	668849.0	4281055.0	Roadway/Open Space	-	-	0.07
7183	668859.0	4281055.0	Roadway/Open Space	-	-	0.07
7184	668869.0	4281055.0	Roadway/Open Space	-	-	0.08
7185	668879.0	4281055.0	Roadway/Open Space	-	-	0.08
7186	668889.0	4281055.0	Roadway/Open Space	-	-	0.09
7187	668899.0	4281055.0	Roadway/Open Space	-	-	0.10
7188	668909.0	4281055.0	Roadway/Open Space	-	-	0.11
7189	668919.0	4281055.0	Roadway/Open Space	-	-	0.12
7190	668929.0	4281055.0	Roadway/Open Space	-	-	0.13
7191	668939.0	4281055.0	Roadway/Open Space	-	-	0.15
7192	668949.0	4281055.0	Roadway/Open Space	-	-	0.17
7193	668959.0	4281055.0	Roadway/Open Space	-	-	0.20
7211	669299.0	4281055.0	Roadway/Open Space	-	-	0.06
7212	669309.0	4281055.0	Roadway/Open Space	-	-	0.06
7213	669319.0	4281055.0	Roadway/Open Space	-	-	0.06
7214	669329.0	4281055.0	Roadway/Open Space	-	-	0.06
7215	669339.0	4281055.0	Roadway/Open Space	-	-	0.06
7216	669349.0	4281055.0	Roadway/Open Space	-	-	0.06
7217	669359.0	4281055.0	Roadway/Open Space	-	-	0.06
7218	669369.0	4281055.0	Roadway/Open Space	-	-	0.06
7219	669379.0	4281055.0	Roadway/Open Space	-	-	0.06
7220	669389.0	4281055.0	Roadway/Open Space	-	-	0.05
7221	669399.0	4281055.0	Roadway/Open Space	-	-	0.05
7222	669409.0	4281055.0	Roadway/Open Space	-	-	0.05
7223	669419.0	4281055.0	Roadway/Open Space	-	-	0.05
7224	669429.0	4281055.0	Roadway/Open Space	-	-	0.05
7225	669439.0	4281055.0	Roadway/Open Space	-	-	0.05
7226	669449.0	4281055.0	Roadway/Open Space	-	-	0.05
7227	669459.0	4281055.0	Roadway/Open Space	-	-	0.04
7228	669469.0	4281055.0	Roadway/Open Space	-	-	0.04
7229	669479.0	4281055.0	Roadway/Open Space	-	-	0.04
7230	669489.0	4281055.0	Roadway/Open Space	-	-	0.04
7231	669499.0	4281055.0	Roadway/Open Space	-	-	0.04
7232	669509.0	4281055.0	Roadway/Open Space	-	-	0.04
7233	669519.0	4281055.0	Roadway/Open Space	-	-	0.04
7234	669529.0	4281055.0	Roadway/Open Space	-	-	0.04
7235	669539.0	4281055.0	Roadway/Open Space	-	-	0.03
7236	668499.0	4281065.0	Residential	0.07	0.0003	0.01
7237	668509.0	4281065.0	Residential	0.08	0.0003	0.01
7238	668519.0	4281065.0	Residential	0.08	0.0003	0.01
7239	668529.0	4281065.0	Residential	0.09	0.0003	0.01
7240	668539.0	4281065.0	Roadway/Open Space	-	-	0.01
7241	668549.0	4281065.0	Roadway/Open Space	-	-	0.01
7242	668559.0	4281065.0	Roadway/Open Space	-	-	0.01
7243	668569.0	4281065.0	Roadway/Open Space	-	-	0.01
7244	668579.0	4281065.0	Roadway/Open Space	-	-	0.01
7245	668589.0	4281065.0	Residential	0.15	0.001	0.01
7246	668599.0	4281065.0	Residential	0.18	0.001	0.02
7247	668609.0	4281065.0	Residential	0.20	0.001	0.02
7248	668619.0	4281065.0	Residential	0.24	0.001	0.03

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
7249	668629.0	4281065.0	Residential	0.28	0.001	0.03
7250	668639.0	4281065.0	Roadway/Open Space	-	-	0.04
7251	668649.0	4281065.0	Roadway/Open Space	-	-	0.04
7252	668659.0	4281065.0	Roadway/Open Space	-	-	0.04
7253	668669.0	4281065.0	Roadway/Open Space	-	-	0.03
7254	668679.0	4281065.0	Roadway/Open Space	-	-	0.03
7255	668689.0	4281065.0	Roadway/Open Space	-	-	0.03
7256	668699.0	4281065.0	Roadway/Open Space	-	-	0.03
7257	668709.0	4281065.0	Roadway/Open Space	-	-	0.03
7258	668719.0	4281065.0	Roadway/Open Space	-	-	0.03
7259	668729.0	4281065.0	Roadway/Open Space	-	-	0.03
7260	668739.0	4281065.0	Roadway/Open Space	-	-	0.04
7261	668749.0	4281065.0	Roadway/Open Space	-	-	0.04
7262	668759.0	4281065.0	Roadway/Open Space	-	-	0.04
7263	668769.0	4281065.0	Roadway/Open Space	-	-	0.04
7264	668779.0	4281065.0	Roadway/Open Space	-	-	0.05
7265	668789.0	4281065.0	Roadway/Open Space	-	-	0.05
7266	668799.0	4281065.0	Roadway/Open Space	-	-	0.05
7267	668809.0	4281065.0	Roadway/Open Space	-	-	0.05
7268	668819.0	4281065.0	Roadway/Open Space	-	-	0.06
7269	668829.0	4281065.0	Roadway/Open Space	-	-	0.06
7270	668839.0	4281065.0	Roadway/Open Space	-	-	0.06
7271	668849.0	4281065.0	Roadway/Open Space	-	-	0.07
7272	668859.0	4281065.0	Roadway/Open Space	-	-	0.07
7273	668869.0	4281065.0	Roadway/Open Space	-	-	0.08
7274	668879.0	4281065.0	Roadway/Open Space	-	-	0.08
7275	668889.0	4281065.0	Roadway/Open Space	-	-	0.09
7276	668899.0	4281065.0	Roadway/Open Space	-	-	0.10
7277	668909.0	4281065.0	Roadway/Open Space	-	-	0.10
7278	668919.0	4281065.0	Roadway/Open Space	-	-	0.12
7279	668929.0	4281065.0	Roadway/Open Space	-	-	0.13
7280	668939.0	4281065.0	Roadway/Open Space	-	-	0.14
7300	669299.0	4281065.0	Roadway/Open Space	-	-	0.07
7301	669309.0	4281065.0	Roadway/Open Space	-	-	0.06
7302	669319.0	4281065.0	Roadway/Open Space	-	-	0.06
7303	669329.0	4281065.0	Roadway/Open Space	-	-	0.06
7304	669339.0	4281065.0	Roadway/Open Space	-	-	0.06
7305	669349.0	4281065.0	Roadway/Open Space	-	-	0.06
7306	669359.0	4281065.0	Roadway/Open Space	-	-	0.06
7307	669369.0	4281065.0	Roadway/Open Space	-	-	0.06
7308	669379.0	4281065.0	Roadway/Open Space	-	-	0.05
7309	669389.0	4281065.0	Roadway/Open Space	-	-	0.05
7310	669399.0	4281065.0	Roadway/Open Space	-	-	0.05
7311	669409.0	4281065.0	Roadway/Open Space	-	-	0.05
7312	669419.0	4281065.0	Roadway/Open Space	-	-	0.05
7313	669429.0	4281065.0	Roadway/Open Space	-	-	0.05
7314	669439.0	4281065.0	Roadway/Open Space	-	-	0.05
7315	669449.0	4281065.0	Roadway/Open Space	-	-	0.05
7316	669459.0	4281065.0	Roadway/Open Space	-	-	0.04
7317	669469.0	4281065.0	Roadway/Open Space	-	-	0.04
7318	669479.0	4281065.0	Roadway/Open Space	-	-	0.04
7319	669489.0	4281065.0	Roadway/Open Space	-	-	0.04
7320	669499.0	4281065.0	Roadway/Open Space	-	-	0.04
7321	669509.0	4281065.0	Roadway/Open Space	-	-	0.04
7322	669519.0	4281065.0	Roadway/Open Space	-	-	0.04
7323	669529.0	4281065.0	Roadway/Open Space	-	-	0.03
7324	668499.0	4281075.0	Residential	0.07	0.0003	0.01
7325	668509.0	4281075.0	Residential	0.08	0.0003	0.01
7326	668519.0	4281075.0	Residential	0.08	0.0003	0.01
7327	668529.0	4281075.0	Residential	0.09	0.0003	0.01
7328	668539.0	4281075.0	Roadway/Open Space	-	-	0.01
7329	668549.0	4281075.0	Roadway/Open Space	-	-	0.01
7330	668559.0	4281075.0	Roadway/Open Space	-	-	0.01
7331	668569.0	4281075.0	Roadway/Open Space	-	-	0.01
7332	668579.0	4281075.0	Residential	0.14	0.001	0.01
7333	668589.0	4281075.0	Residential	0.16	0.001	0.01
7334	668599.0	4281075.0	Residential	0.18	0.001	0.02
7335	668609.0	4281075.0	Residential	0.21	0.001	0.02
7336	668619.0	4281075.0	Residential	0.25	0.001	0.03
7337	668629.0	4281075.0	Residential	0.29	0.001	0.03
7338	668639.0	4281075.0	Roadway/Open Space	-	-	0.04
7339	668649.0	4281075.0	Roadway/Open Space	-	-	0.04
7340	668659.0	4281075.0	Roadway/Open Space	-	-	0.04
7341	668669.0	4281075.0	Roadway/Open Space	-	-	0.03
7342	668679.0	4281075.0	Roadway/Open Space	-	-	0.03
7343	668689.0	4281075.0	Roadway/Open Space	-	-	0.03
7344	668699.0	4281075.0	Roadway/Open Space	-	-	0.03
7345	668709.0	4281075.0	Roadway/Open Space	-	-	0.03
7346	668719.0	4281075.0	Roadway/Open Space	-	-	0.03
7347	668729.0	4281075.0	Roadway/Open Space	-	-	0.03
7348	668739.0	4281075.0	Roadway/Open Space	-	-	0.04
7349	668749.0	4281075.0	Roadway/Open Space	-	-	0.04
7350	668759.0	4281075.0	Roadway/Open Space	-	-	0.04
7351	668769.0	4281075.0	Roadway/Open Space	-	-	0.04

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
7352	668779.0	4281075.0	Roadway/Open Space	-	-	0.05
7353	668789.0	4281075.0	Roadway/Open Space	-	-	0.05
7354	668799.0	4281075.0	Roadway/Open Space	-	-	0.05
7355	668809.0	4281075.0	Roadway/Open Space	-	-	0.05
7356	668819.0	4281075.0	Roadway/Open Space	-	-	0.06
7357	668829.0	4281075.0	Roadway/Open Space	-	-	0.06
7358	668839.0	4281075.0	Roadway/Open Space	-	-	0.06
7359	668849.0	4281075.0	Roadway/Open Space	-	-	0.07
7360	668859.0	4281075.0	Roadway/Open Space	-	-	0.07
7361	668869.0	4281075.0	Roadway/Open Space	-	-	0.08
7362	668879.0	4281075.0	Roadway/Open Space	-	-	0.08
7363	668889.0	4281075.0	Roadway/Open Space	-	-	0.09
7364	668899.0	4281075.0	Roadway/Open Space	-	-	0.10
7365	668909.0	4281075.0	Roadway/Open Space	-	-	0.10
7366	668919.0	4281075.0	Roadway/Open Space	-	-	0.11
7385	669299.0	4281075.0	Roadway/Open Space	-	-	0.06
7386	669309.0	4281075.0	Roadway/Open Space	-	-	0.06
7387	669319.0	4281075.0	Roadway/Open Space	-	-	0.06
7388	669329.0	4281075.0	Roadway/Open Space	-	-	0.06
7389	669339.0	4281075.0	Roadway/Open Space	-	-	0.06
7390	669349.0	4281075.0	Roadway/Open Space	-	-	0.06
7391	669359.0	4281075.0	Roadway/Open Space	-	-	0.06
7392	669369.0	4281075.0	Roadway/Open Space	-	-	0.06
7393	669379.0	4281075.0	Roadway/Open Space	-	-	0.05
7394	669389.0	4281075.0	Roadway/Open Space	-	-	0.05
7395	669399.0	4281075.0	Roadway/Open Space	-	-	0.05
7396	669409.0	4281075.0	Roadway/Open Space	-	-	0.05
7397	669419.0	4281075.0	Roadway/Open Space	-	-	0.05
7398	669429.0	4281075.0	Roadway/Open Space	-	-	0.05
7399	669439.0	4281075.0	Roadway/Open Space	-	-	0.05
7400	669449.0	4281075.0	Roadway/Open Space	-	-	0.05
7401	669459.0	4281075.0	Roadway/Open Space	-	-	0.04
7402	669469.0	4281075.0	Roadway/Open Space	-	-	0.04
7403	669479.0	4281075.0	Roadway/Open Space	-	-	0.04
7404	669489.0	4281075.0	Roadway/Open Space	-	-	0.04
7405	669499.0	4281075.0	Roadway/Open Space	-	-	0.04
7406	669509.0	4281075.0	Roadway/Open Space	-	-	0.04
7407	669519.0	4281075.0	Roadway/Open Space	-	-	0.04
7408	669529.0	4281075.0	Roadway/Open Space	-	-	0.03
7409	668499.0	4281085.0	Residential	0.07	0.0003	0.01
7410	668509.0	4281085.0	Residential	0.08	0.0003	0.01
7411	668519.0	4281085.0	Residential	0.08	0.0003	0.01
7412	668529.0	4281085.0	Roadway/Open Space	-	-	0.01
7413	668539.0	4281085.0	Roadway/Open Space	-	-	0.01
7414	668549.0	4281085.0	Roadway/Open Space	-	-	0.01
7415	668559.0	4281085.0	Roadway/Open Space	-	-	0.01
7416	668569.0	4281085.0	Roadway/Open Space	-	-	0.01
7417	668579.0	4281085.0	Residential	0.14	0.001	0.01
7418	668589.0	4281085.0	Residential	0.16	0.001	0.02
7419	668599.0	4281085.0	Residential	0.18	0.001	0.02
7420	668609.0	4281085.0	Residential	0.21	0.001	0.02
7421	668619.0	4281085.0	Residential	0.25	0.001	0.03
7422	668629.0	4281085.0	Roadway/Open Space	-	-	0.03
7423	668639.0	4281085.0	Roadway/Open Space	-	-	0.04
7424	668649.0	4281085.0	Roadway/Open Space	-	-	0.04
7425	668659.0	4281085.0	Roadway/Open Space	-	-	0.04
7426	668669.0	4281085.0	Roadway/Open Space	-	-	0.03
7427	668679.0	4281085.0	Roadway/Open Space	-	-	0.03
7428	668689.0	4281085.0	Roadway/Open Space	-	-	0.03
7429	668699.0	4281085.0	Roadway/Open Space	-	-	0.03
7430	668709.0	4281085.0	Roadway/Open Space	-	-	0.03
7431	668719.0	4281085.0	Roadway/Open Space	-	-	0.03
7432	668729.0	4281085.0	Roadway/Open Space	-	-	0.03
7433	668739.0	4281085.0	Roadway/Open Space	-	-	0.04
7434	668749.0	4281085.0	Roadway/Open Space	-	-	0.04
7435	668759.0	4281085.0	Roadway/Open Space	-	-	0.04
7436	668769.0	4281085.0	Roadway/Open Space	-	-	0.04
7437	668779.0	4281085.0	Roadway/Open Space	-	-	0.04
7438	668789.0	4281085.0	Roadway/Open Space	-	-	0.05
7439	668799.0	4281085.0	Roadway/Open Space	-	-	0.05
7440	668809.0	4281085.0	Roadway/Open Space	-	-	0.05
7441	668819.0	4281085.0	Roadway/Open Space	-	-	0.05
7442	668829.0	4281085.0	Roadway/Open Space	-	-	0.06
7443	668839.0	4281085.0	Roadway/Open Space	-	-	0.06
7444	668849.0	4281085.0	Roadway/Open Space	-	-	0.07
7445	668859.0	4281085.0	Roadway/Open Space	-	-	0.07
7446	668869.0	4281085.0	Roadway/Open Space	-	-	0.08
7447	668879.0	4281085.0	Roadway/Open Space	-	-	0.08
7448	668889.0	4281085.0	Roadway/Open Space	-	-	0.09
7449	668899.0	4281085.0	Roadway/Open Space	-	-	0.10
7468	669289.0	4281085.0	Roadway/Open Space	-	-	0.06
7469	669299.0	4281085.0	Roadway/Open Space	-	-	0.06
7470	669309.0	4281085.0	Roadway/Open Space	-	-	0.06
7471	669319.0	4281085.0	Roadway/Open Space	-	-	0.06

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
7472	669329.0	4281085.0	Roadway/Open Space	-	-	0.06
7473	669339.0	4281085.0	Roadway/Open Space	-	-	0.06
7474	669349.0	4281085.0	Roadway/Open Space	-	-	0.06
7475	669359.0	4281085.0	Roadway/Open Space	-	-	0.05
7476	669369.0	4281085.0	Roadway/Open Space	-	-	0.05
7477	669379.0	4281085.0	Roadway/Open Space	-	-	0.05
7478	669389.0	4281085.0	Roadway/Open Space	-	-	0.05
7479	669399.0	4281085.0	Roadway/Open Space	-	-	0.05
7480	669409.0	4281085.0	Roadway/Open Space	-	-	0.05
7481	669419.0	4281085.0	Roadway/Open Space	-	-	0.05
7482	669429.0	4281085.0	Roadway/Open Space	-	-	0.05
7483	669439.0	4281085.0	Roadway/Open Space	-	-	0.05
7484	669449.0	4281085.0	Roadway/Open Space	-	-	0.04
7485	669459.0	4281085.0	Roadway/Open Space	-	-	0.04
7486	669469.0	4281085.0	Roadway/Open Space	-	-	0.04
7487	669479.0	4281085.0	Roadway/Open Space	-	-	0.04
7488	669489.0	4281085.0	Roadway/Open Space	-	-	0.04
7489	669499.0	4281085.0	Roadway/Open Space	-	-	0.04
7490	669509.0	4281085.0	Roadway/Open Space	-	-	0.04
7491	669519.0	4281085.0	Roadway/Open Space	-	-	0.03
7492	669529.0	4281085.0	Roadway/Open Space	-	-	0.03
7493	668499.0	4281095.0	Residential	0.08	0.0003	0.01
7494	668509.0	4281095.0	Residential	0.08	0.0003	0.01
7495	668519.0	4281095.0	Roadway/Open Space	-	-	0.01
7496	668529.0	4281095.0	Roadway/Open Space	-	-	0.01
7497	668539.0	4281095.0	Roadway/Open Space	-	-	0.01
7498	668549.0	4281095.0	Roadway/Open Space	-	-	0.01
7499	668559.0	4281095.0	Roadway/Open Space	-	-	0.01
7500	668569.0	4281095.0	Residential	0.13	0.000	0.01
7501	668579.0	4281095.0	Residential	0.15	0.001	0.01
7502	668589.0	4281095.0	Residential	0.17	0.001	0.02
7503	668599.0	4281095.0	Residential	0.19	0.001	0.02
7504	668609.0	4281095.0	Residential	0.22	0.001	0.02
7505	668619.0	4281095.0	Residential	0.26	0.001	0.03
7506	668629.0	4281095.0	Roadway/Open Space	-	-	0.03
7507	668639.0	4281095.0	Roadway/Open Space	-	-	0.04
7508	668649.0	4281095.0	Roadway/Open Space	-	-	0.04
7509	668659.0	4281095.0	Roadway/Open Space	-	-	0.04
7510	668669.0	4281095.0	Roadway/Open Space	-	-	0.03
7511	668679.0	4281095.0	Roadway/Open Space	-	-	0.03
7512	668689.0	4281095.0	Roadway/Open Space	-	-	0.03
7513	668699.0	4281095.0	Roadway/Open Space	-	-	0.03
7514	668709.0	4281095.0	Roadway/Open Space	-	-	0.03
7515	668719.0	4281095.0	Roadway/Open Space	-	-	0.03
7516	668729.0	4281095.0	Roadway/Open Space	-	-	0.03
7517	668739.0	4281095.0	Roadway/Open Space	-	-	0.04
7518	668749.0	4281095.0	Roadway/Open Space	-	-	0.04
7519	668759.0	4281095.0	Roadway/Open Space	-	-	0.04
7520	668769.0	4281095.0	Roadway/Open Space	-	-	0.04
7521	668779.0	4281095.0	Roadway/Open Space	-	-	0.04
7522	668789.0	4281095.0	Roadway/Open Space	-	-	0.05
7523	668799.0	4281095.0	Roadway/Open Space	-	-	0.05
7524	668809.0	4281095.0	Roadway/Open Space	-	-	0.05
7525	668819.0	4281095.0	Roadway/Open Space	-	-	0.05
7526	668829.0	4281095.0	Roadway/Open Space	-	-	0.06
7527	668839.0	4281095.0	Roadway/Open Space	-	-	0.06
7528	668849.0	4281095.0	Roadway/Open Space	-	-	0.07
7529	668859.0	4281095.0	Roadway/Open Space	-	-	0.07
7530	668869.0	4281095.0	Roadway/Open Space	-	-	0.08
7531	668879.0	4281095.0	Roadway/Open Space	-	-	0.08
7532	668889.0	4281095.0	Roadway/Open Space	-	-	0.09
7547	669289.0	4281095.0	Roadway/Open Space	-	-	0.06
7548	669299.0	4281095.0	Roadway/Open Space	-	-	0.06
7549	669309.0	4281095.0	Roadway/Open Space	-	-	0.06
7550	669319.0	4281095.0	Roadway/Open Space	-	-	0.06
7551	669329.0	4281095.0	Roadway/Open Space	-	-	0.06
7552	669339.0	4281095.0	Roadway/Open Space	-	-	0.05
7553	669349.0	4281095.0	Roadway/Open Space	-	-	0.05
7554	669359.0	4281095.0	Roadway/Open Space	-	-	0.05
7555	669369.0	4281095.0	Roadway/Open Space	-	-	0.05
7556	669379.0	4281095.0	Roadway/Open Space	-	-	0.05
7557	669389.0	4281095.0	Roadway/Open Space	-	-	0.05
7558	669399.0	4281095.0	Roadway/Open Space	-	-	0.05
7559	669409.0	4281095.0	Roadway/Open Space	-	-	0.05
7560	669419.0	4281095.0	Roadway/Open Space	-	-	0.05
7561	669429.0	4281095.0	Roadway/Open Space	-	-	0.05
7562	669439.0	4281095.0	Roadway/Open Space	-	-	0.04
7563	669449.0	4281095.0	Roadway/Open Space	-	-	0.04
7564	669459.0	4281095.0	Roadway/Open Space	-	-	0.04
7565	669469.0	4281095.0	Roadway/Open Space	-	-	0.04
7566	669479.0	4281095.0	Roadway/Open Space	-	-	0.04
7567	669489.0	4281095.0	Roadway/Open Space	-	-	0.04
7568	669499.0	4281095.0	Roadway/Open Space	-	-	0.04
7569	669509.0	4281095.0	Roadway/Open Space	-	-	0.03

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
7570	669519.0	4281095.0	Roadway/Open Space	-	-	0.03
7571	669529.0	4281095.0	Roadway/Open Space	-	-	0.03
7572	668509.0	4281105.0	Roadway/Open Space	-	-	0.01
7573	668519.0	4281105.0	Roadway/Open Space	-	-	0.01
7574	668529.0	4281105.0	Roadway/Open Space	-	-	0.01
7575	668539.0	4281105.0	Roadway/Open Space	-	-	0.01
7576	668549.0	4281105.0	Roadway/Open Space	-	-	0.01
7577	668559.0	4281105.0	Roadway/Open Space	-	-	0.01
7578	668569.0	4281105.0	Residential	0.14	0.000	0.01
7579	668579.0	4281105.0	Residential	0.15	0.001	0.02
7580	668589.0	4281105.0	Residential	0.17	0.001	0.02
7581	668599.0	4281105.0	Residential	0.20	0.001	0.02
7582	668609.0	4281105.0	Residential	0.23	0.001	0.02
7583	668619.0	4281105.0	Roadway/Open Space	-	-	0.03
7584	668629.0	4281105.0	Roadway/Open Space	-	-	0.03
7585	668639.0	4281105.0	Roadway/Open Space	-	-	0.04
7586	668649.0	4281105.0	Roadway/Open Space	-	-	0.04
7587	668659.0	4281105.0	Roadway/Open Space	-	-	0.04
7588	668669.0	4281105.0	Roadway/Open Space	-	-	0.03
7589	668679.0	4281105.0	Roadway/Open Space	-	-	0.03
7590	668689.0	4281105.0	Roadway/Open Space	-	-	0.03
7591	668699.0	4281105.0	Roadway/Open Space	-	-	0.03
7592	668709.0	4281105.0	Roadway/Open Space	-	-	0.03
7593	668719.0	4281105.0	Roadway/Open Space	-	-	0.03
7594	668729.0	4281105.0	Roadway/Open Space	-	-	0.03
7595	668739.0	4281105.0	Roadway/Open Space	-	-	0.04
7596	668749.0	4281105.0	Roadway/Open Space	-	-	0.04
7597	668759.0	4281105.0	Roadway/Open Space	-	-	0.04
7598	668769.0	4281105.0	Roadway/Open Space	-	-	0.04
7599	668779.0	4281105.0	Roadway/Open Space	-	-	0.04
7600	668789.0	4281105.0	Roadway/Open Space	-	-	0.05
7601	668799.0	4281105.0	Roadway/Open Space	-	-	0.05
7602	668809.0	4281105.0	Roadway/Open Space	-	-	0.05
7603	668819.0	4281105.0	Roadway/Open Space	-	-	0.05
7604	668829.0	4281105.0	Roadway/Open Space	-	-	0.06
7605	668839.0	4281105.0	Roadway/Open Space	-	-	0.06
7606	668849.0	4281105.0	Roadway/Open Space	-	-	0.07
7607	668859.0	4281105.0	Roadway/Open Space	-	-	0.07
7608	668869.0	4281105.0	Roadway/Open Space	-	-	0.07
7609	668879.0	4281105.0	Roadway/Open Space	-	-	0.08
7621	669289.0	4281105.0	Roadway/Open Space	-	-	0.06
7622	669299.0	4281105.0	Roadway/Open Space	-	-	0.06
7623	669309.0	4281105.0	Roadway/Open Space	-	-	0.06
7624	669319.0	4281105.0	Roadway/Open Space	-	-	0.06
7625	669329.0	4281105.0	Roadway/Open Space	-	-	0.06
7626	669339.0	4281105.0	Roadway/Open Space	-	-	0.05
7627	669349.0	4281105.0	Roadway/Open Space	-	-	0.05
7628	669359.0	4281105.0	Roadway/Open Space	-	-	0.05
7629	669369.0	4281105.0	Roadway/Open Space	-	-	0.05
7630	669379.0	4281105.0	Roadway/Open Space	-	-	0.05
7631	669389.0	4281105.0	Roadway/Open Space	-	-	0.05
7632	669399.0	4281105.0	Roadway/Open Space	-	-	0.05
7633	669409.0	4281105.0	Roadway/Open Space	-	-	0.05
7634	669419.0	4281105.0	Roadway/Open Space	-	-	0.05
7635	669429.0	4281105.0	Roadway/Open Space	-	-	0.05
7636	669439.0	4281105.0	Roadway/Open Space	-	-	0.04
7637	669449.0	4281105.0	Roadway/Open Space	-	-	0.04
7638	669459.0	4281105.0	Roadway/Open Space	-	-	0.04
7639	669469.0	4281105.0	Roadway/Open Space	-	-	0.04
7640	669479.0	4281105.0	Roadway/Open Space	-	-	0.04
7641	669489.0	4281105.0	Roadway/Open Space	-	-	0.04
7642	669499.0	4281105.0	Roadway/Open Space	-	-	0.04
7643	669509.0	4281105.0	Roadway/Open Space	-	-	0.03
7644	669519.0	4281105.0	Roadway/Open Space	-	-	0.03
7645	669529.0	4281105.0	Roadway/Open Space	-	-	0.03
7646	668509.0	4281115.0	Roadway/Open Space	-	-	0.01
7647	668519.0	4281115.0	Roadway/Open Space	-	-	0.01
7648	668529.0	4281115.0	Roadway/Open Space	-	-	0.01
7649	668539.0	4281115.0	Roadway/Open Space	-	-	0.01
7650	668549.0	4281115.0	Roadway/Open Space	-	-	0.01
7651	668559.0	4281115.0	Residential	0.13	0.000	0.01
7652	668569.0	4281115.0	Residential	0.14	0.001	0.01
7653	668579.0	4281115.0	Residential	0.16	0.001	0.02
7654	668589.0	4281115.0	Residential	0.18	0.001	0.02
7655	668599.0	4281115.0	Residential	0.20	0.001	0.02
7656	668609.0	4281115.0	Roadway/Open Space	-	-	0.02
7657	668619.0	4281115.0	Roadway/Open Space	-	-	0.03
7658	668629.0	4281115.0	Roadway/Open Space	-	-	0.03
7659	668639.0	4281115.0	Roadway/Open Space	-	-	0.04
7660	668649.0	4281115.0	Roadway/Open Space	-	-	0.04
7661	668659.0	4281115.0	Roadway/Open Space	-	-	0.03
7662	668669.0	4281115.0	Roadway/Open Space	-	-	0.03
7663	668679.0	4281115.0	Roadway/Open Space	-	-	0.03
7664	668689.0	4281115.0	Roadway/Open Space	-	-	0.03

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
7665	668699.0	4281115.0	Roadway/Open Space	-	-	0.03
7666	668709.0	4281115.0	Roadway/Open Space	-	-	0.03
7667	668719.0	4281115.0	Roadway/Open Space	-	-	0.03
7668	668729.0	4281115.0	Roadway/Open Space	-	-	0.03
7669	668739.0	4281115.0	Roadway/Open Space	-	-	0.04
7670	668749.0	4281115.0	Roadway/Open Space	-	-	0.04
7671	668759.0	4281115.0	Roadway/Open Space	-	-	0.04
7672	668769.0	4281115.0	Roadway/Open Space	-	-	0.04
7673	668779.0	4281115.0	Roadway/Open Space	-	-	0.04
7674	668789.0	4281115.0	Roadway/Open Space	-	-	0.05
7675	668799.0	4281115.0	Roadway/Open Space	-	-	0.05
7676	668809.0	4281115.0	Roadway/Open Space	-	-	0.05
7677	668819.0	4281115.0	Roadway/Open Space	-	-	0.05
7678	668829.0	4281115.0	Roadway/Open Space	-	-	0.06
7679	668839.0	4281115.0	Roadway/Open Space	-	-	0.06
7680	668849.0	4281115.0	Roadway/Open Space	-	-	0.06
7681	668859.0	4281115.0	Roadway/Open Space	-	-	0.07
7682	668869.0	4281115.0	Roadway/Open Space	-	-	0.07
7683	668879.0	4281115.0	Roadway/Open Space	-	-	0.08
7693	669289.0	4281115.0	Roadway/Open Space	-	-	0.06
7694	669299.0	4281115.0	Roadway/Open Space	-	-	0.05
7695	669309.0	4281115.0	Roadway/Open Space	-	-	0.05
7696	669319.0	4281115.0	Roadway/Open Space	-	-	0.05
7697	669329.0	4281115.0	Roadway/Open Space	-	-	0.05
7698	669339.0	4281115.0	Roadway/Open Space	-	-	0.05
7699	669349.0	4281115.0	Roadway/Open Space	-	-	0.05
7700	669359.0	4281115.0	Roadway/Open Space	-	-	0.05
7701	669369.0	4281115.0	Roadway/Open Space	-	-	0.05
7702	669379.0	4281115.0	Roadway/Open Space	-	-	0.05
7703	669389.0	4281115.0	Roadway/Open Space	-	-	0.05
7704	669399.0	4281115.0	Roadway/Open Space	-	-	0.05
7705	669409.0	4281115.0	Roadway/Open Space	-	-	0.05
7706	669419.0	4281115.0	Roadway/Open Space	-	-	0.05
7707	669429.0	4281115.0	Roadway/Open Space	-	-	0.04
7708	669439.0	4281115.0	Roadway/Open Space	-	-	0.04
7709	669449.0	4281115.0	Roadway/Open Space	-	-	0.04
7710	669459.0	4281115.0	Roadway/Open Space	-	-	0.04
7711	669469.0	4281115.0	Roadway/Open Space	-	-	0.04
7712	669479.0	4281115.0	Roadway/Open Space	-	-	0.04
7713	669489.0	4281115.0	Roadway/Open Space	-	-	0.04
7714	669499.0	4281115.0	Roadway/Open Space	-	-	0.03
7715	669509.0	4281115.0	Roadway/Open Space	-	-	0.03
7716	669519.0	4281115.0	Roadway/Open Space	-	-	0.03
7717	669529.0	4281115.0	Roadway/Open Space	-	-	0.03
7718	668509.0	4281125.0	Roadway/Open Space	-	-	0.01
7719	668519.0	4281125.0	Roadway/Open Space	-	-	0.01
7720	668529.0	4281125.0	Roadway/Open Space	-	-	0.01
7721	668539.0	4281125.0	Roadway/Open Space	-	-	0.01
7722	668549.0	4281125.0	Roadway/Open Space	-	-	0.01
7723	668559.0	4281125.0	Residential	0.13	0.000	0.01
7724	668569.0	4281125.0	Residential	0.15	0.001	0.02
7725	668579.0	4281125.0	Residential	0.17	0.001	0.02
7726	668589.0	4281125.0	Residential	0.19	0.001	0.02
7727	668599.0	4281125.0	Residential	0.21	0.001	0.02
7728	668609.0	4281125.0	Roadway/Open Space	-	-	0.03
7729	668619.0	4281125.0	Roadway/Open Space	-	-	0.03
7730	668629.0	4281125.0	Roadway/Open Space	-	-	0.03
7731	668639.0	4281125.0	Roadway/Open Space	-	-	0.04
7732	668649.0	4281125.0	Roadway/Open Space	-	-	0.04
7733	668659.0	4281125.0	Roadway/Open Space	-	-	0.03
7734	668669.0	4281125.0	Roadway/Open Space	-	-	0.03
7735	668679.0	4281125.0	Roadway/Open Space	-	-	0.03
7736	668689.0	4281125.0	Roadway/Open Space	-	-	0.03
7737	668699.0	4281125.0	Roadway/Open Space	-	-	0.03
7738	668709.0	4281125.0	Roadway/Open Space	-	-	0.03
7739	668719.0	4281125.0	Roadway/Open Space	-	-	0.03
7740	668729.0	4281125.0	Roadway/Open Space	-	-	0.03
7741	668739.0	4281125.0	Roadway/Open Space	-	-	0.04
7742	668749.0	4281125.0	Roadway/Open Space	-	-	0.04
7743	668759.0	4281125.0	Roadway/Open Space	-	-	0.04
7744	668769.0	4281125.0	Roadway/Open Space	-	-	0.04
7745	668779.0	4281125.0	Roadway/Open Space	-	-	0.04
7746	668789.0	4281125.0	Roadway/Open Space	-	-	0.04
7747	668799.0	4281125.0	Roadway/Open Space	-	-	0.06
7748	668809.0	4281125.0	Roadway/Open Space	-	-	0.06
7749	668819.0	4281125.0	Roadway/Open Space	-	-	0.06
7750	668829.0	4281125.0	Roadway/Open Space	-	-	0.07
7751	668839.0	4281125.0	Roadway/Open Space	-	-	0.06
7752	668849.0	4281125.0	Roadway/Open Space	-	-	0.06
7753	668859.0	4281125.0	Roadway/Open Space	-	-	0.07
7754	668869.0	4281125.0	Roadway/Open Space	-	-	0.07
7755	668879.0	4281125.0	Roadway/Open Space	-	-	0.08
7761	669289.0	4281125.0	Roadway/Open Space	-	-	0.05
7762	669299.0	4281125.0	Roadway/Open Space	-	-	0.05

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
7763	669309.0	4281125.0	Residential	1.24	0.005	0.05
7764	669319.0	4281125.0	Residential	1.17	0.004	0.05
7765	669329.0	4281125.0	Residential	1.12	0.004	0.05
7766	669339.0	4281125.0	Residential	1.05	0.004	0.04
7767	669349.0	4281125.0	Roadway/Open Space	-	-	0.04
7768	669359.0	4281125.0	Roadway/Open Space	-	-	0.04
7769	669369.0	4281125.0	Roadway/Open Space	-	-	0.04
7770	669379.0	4281125.0	Roadway/Open Space	-	-	0.05
7771	669389.0	4281125.0	Roadway/Open Space	-	-	0.05
7772	669399.0	4281125.0	Roadway/Open Space	-	-	0.05
7773	669409.0	4281125.0	Roadway/Open Space	-	-	0.05
7774	669419.0	4281125.0	Roadway/Open Space	-	-	0.05
7775	669429.0	4281125.0	Roadway/Open Space	-	-	0.04
7776	669439.0	4281125.0	Roadway/Open Space	-	-	0.04
7777	669449.0	4281125.0	Roadway/Open Space	-	-	0.04
7778	669459.0	4281125.0	Roadway/Open Space	-	-	0.04
7779	669469.0	4281125.0	Roadway/Open Space	-	-	0.04
7780	669479.0	4281125.0	Roadway/Open Space	-	-	0.04
7781	669489.0	4281125.0	Roadway/Open Space	-	-	0.04
7782	669499.0	4281125.0	Roadway/Open Space	-	-	0.03
7783	669509.0	4281125.0	Roadway/Open Space	-	-	0.03
7784	669519.0	4281125.0	Roadway/Open Space	-	-	0.03
7785	669529.0	4281125.0	Roadway/Open Space	-	-	0.03
7786	668509.0	4281135.0	Roadway/Open Space	-	-	0.01
7787	668519.0	4281135.0	Roadway/Open Space	-	-	0.01
7788	668529.0	4281135.0	Roadway/Open Space	-	-	0.01
7789	668539.0	4281135.0	Roadway/Open Space	-	-	0.01
7790	668549.0	4281135.0	Residential	0.13	0.000	0.01
7791	668559.0	4281135.0	Residential	0.14	0.001	0.02
7792	668569.0	4281135.0	Residential	0.16	0.001	0.02
7793	668579.0	4281135.0	Residential	0.18	0.001	0.02
7794	668589.0	4281135.0	Residential	0.20	0.001	0.02
7795	668599.0	4281135.0	Roadway/Open Space	-	-	0.02
7796	668609.0	4281135.0	Roadway/Open Space	-	-	0.03
7797	668619.0	4281135.0	Roadway/Open Space	-	-	0.03
7798	668629.0	4281135.0	Roadway/Open Space	-	-	0.03
7799	668639.0	4281135.0	Roadway/Open Space	-	-	0.04
7800	668649.0	4281135.0	Roadway/Open Space	-	-	0.04
7801	668659.0	4281135.0	Roadway/Open Space	-	-	0.03
7802	668669.0	4281135.0	Roadway/Open Space	-	-	0.03
7803	668679.0	4281135.0	Roadway/Open Space	-	-	0.03
7804	668689.0	4281135.0	Roadway/Open Space	-	-	0.03
7805	668699.0	4281135.0	Roadway/Open Space	-	-	0.03
7806	668709.0	4281135.0	Roadway/Open Space	-	-	0.03
7807	668719.0	4281135.0	Roadway/Open Space	-	-	0.03
7808	668729.0	4281135.0	Roadway/Open Space	-	-	0.03
7809	668739.0	4281135.0	Roadway/Open Space	-	-	0.04
7810	668749.0	4281135.0	Roadway/Open Space	-	-	0.04
7811	668759.0	4281135.0	Roadway/Open Space	-	-	0.04
7812	668769.0	4281135.0	Roadway/Open Space	-	-	0.04
7813	668779.0	4281135.0	Roadway/Open Space	-	-	0.04
7814	668789.0	4281135.0	Roadway/Open Space	-	-	0.06
7815	668799.0	4281135.0	Roadway/Open Space	-	-	0.06
7816	668809.0	4281135.0	Roadway/Open Space	-	-	0.06
7817	668819.0	4281135.0	Roadway/Open Space	-	-	0.07
7818	668829.0	4281135.0	Roadway/Open Space	-	-	0.07
7819	668839.0	4281135.0	Roadway/Open Space	-	-	0.06
7820	668849.0	4281135.0	Roadway/Open Space	-	-	0.06
7821	668859.0	4281135.0	Roadway/Open Space	-	-	0.07
7822	668869.0	4281135.0	Roadway/Open Space	-	-	0.07
7823	668879.0	4281135.0	Roadway/Open Space	-	-	0.08
7826	669289.0	4281135.0	Roadway/Open Space	-	-	0.05
7827	669299.0	4281135.0	Roadway/Open Space	-	-	0.05
7828	669309.0	4281135.0	Residential	1.19	0.004	0.04
7829	669319.0	4281135.0	Residential	1.12	0.004	0.04
7830	669329.0	4281135.0	Residential	1.05	0.004	0.04
7831	669339.0	4281135.0	Residential	0.99	0.004	0.04
7832	669349.0	4281135.0	Residential	0.95	0.003	0.04
7833	669359.0	4281135.0	Roadway/Open Space	-	-	0.04
7834	669369.0	4281135.0	Residential	0.91	0.003	0.04
7835	669379.0	4281135.0	Residential	0.90	0.003	0.04
7836	669389.0	4281135.0	Residential	0.89	0.003	0.05
7837	669399.0	4281135.0	Residential	0.88	0.003	0.05
7838	669409.0	4281135.0	Residential	0.84	0.003	0.05
7839	669419.0	4281135.0	Residential	0.79	0.003	0.04
7840	669429.0	4281135.0	Residential	0.74	0.003	0.04
7841	669439.0	4281135.0	Roadway/Open Space	-	-	0.04
7842	669449.0	4281135.0	Roadway/Open Space	-	-	0.04
7843	669459.0	4281135.0	Roadway/Open Space	-	-	0.04
7844	669469.0	4281135.0	Roadway/Open Space	-	-	0.04
7845	669479.0	4281135.0	Roadway/Open Space	-	-	0.04
7846	669489.0	4281135.0	Roadway/Open Space	-	-	0.03
7847	669499.0	4281135.0	Roadway/Open Space	-	-	0.03
7848	669509.0	4281135.0	Roadway/Open Space	-	-	0.03

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
7849	669519.0	4281135.0	Roadway/Open Space	-	-	0.03
7850	669529.0	4281135.0	Roadway/Open Space	-	-	0.02
7851	668509.0	4281145.0	Roadway/Open Space	-	-	0.01
7852	668519.0	4281145.0	Roadway/Open Space	-	-	0.01
7853	668529.0	4281145.0	Roadway/Open Space	-	-	0.01
7854	668539.0	4281145.0	Roadway/Open Space	-	-	0.01
7855	668549.0	4281145.0	Residential	0.13	0.000	0.01
7856	668559.0	4281145.0	Residential	0.15	0.001	0.02
7857	668569.0	4281145.0	Residential	0.17	0.001	0.02
7858	668579.0	4281145.0	Residential	0.19	0.001	0.02
7859	668589.0	4281145.0	Residential	0.21	0.001	0.02
7860	668599.0	4281145.0	Roadway/Open Space	-	-	0.03
7861	668609.0	4281145.0	Roadway/Open Space	-	-	0.03
7862	668619.0	4281145.0	Roadway/Open Space	-	-	0.03
7863	668629.0	4281145.0	Roadway/Open Space	-	-	0.03
7864	668639.0	4281145.0	Roadway/Open Space	-	-	0.03
7865	668649.0	4281145.0	Roadway/Open Space	-	-	0.03
7866	668659.0	4281145.0	Roadway/Open Space	-	-	0.03
7867	668669.0	4281145.0	Roadway/Open Space	-	-	0.03
7868	668679.0	4281145.0	Roadway/Open Space	-	-	0.03
7869	668689.0	4281145.0	Roadway/Open Space	-	-	0.03
7870	668699.0	4281145.0	Roadway/Open Space	-	-	0.03
7871	668709.0	4281145.0	Roadway/Open Space	-	-	0.03
7872	668719.0	4281145.0	Roadway/Open Space	-	-	0.03
7873	668729.0	4281145.0	Roadway/Open Space	-	-	0.03
7874	668739.0	4281145.0	Roadway/Open Space	-	-	0.04
7875	668749.0	4281145.0	Roadway/Open Space	-	-	0.04
7876	668759.0	4281145.0	Roadway/Open Space	-	-	0.04
7877	668769.0	4281145.0	Roadway/Open Space	-	-	0.04
7878	668779.0	4281145.0	Roadway/Open Space	-	-	0.05
7879	668789.0	4281145.0	Roadway/Open Space	-	-	0.06
7880	668799.0	4281145.0	Roadway/Open Space	-	-	0.06
7881	668809.0	4281145.0	Roadway/Open Space	-	-	0.06
7882	668819.0	4281145.0	Roadway/Open Space	-	-	0.06
7883	668829.0	4281145.0	Roadway/Open Space	-	-	0.07
7884	668839.0	4281145.0	Roadway/Open Space	-	-	0.07
7885	668849.0	4281145.0	Roadway/Open Space	-	-	0.06
7886	668859.0	4281145.0	Roadway/Open Space	-	-	0.06
7887	668869.0	4281145.0	Roadway/Open Space	-	-	0.07
7888	668879.0	4281145.0	Roadway/Open Space	-	-	0.08
7889	669289.0	4281145.0	Roadway/Open Space	-	-	0.05
7890	669299.0	4281145.0	Roadway/Open Space	-	-	0.05
7891	669309.0	4281145.0	Residential	1.17	0.004	0.04
7892	669319.0	4281145.0	Residential	1.09	0.004	0.04
7893	669329.0	4281145.0	Residential	1.02	0.004	0.04
7894	669339.0	4281145.0	Residential	0.96	0.003	0.04
7895	669349.0	4281145.0	Residential	0.91	0.003	0.04
7896	669359.0	4281145.0	Roadway/Open Space	-	-	0.04
7897	669369.0	4281145.0	Residential	0.87	0.003	0.04
7898	669379.0	4281145.0	Residential	0.86	0.003	0.04
7899	669389.0	4281145.0	Residential	0.85	0.003	0.04
7900	669399.0	4281145.0	Residential	0.84	0.003	0.04
7901	669409.0	4281145.0	Residential	0.81	0.003	0.04
7902	669419.0	4281145.0	Residential	0.77	0.003	0.04
7903	669429.0	4281145.0	Residential	0.73	0.003	0.04
7904	669439.0	4281145.0	Residential	0.70	0.003	0.04
7905	669449.0	4281145.0	Roadway/Open Space	-	-	0.04
7906	669459.0	4281145.0	Roadway/Open Space	-	-	0.04
7907	669469.0	4281145.0	Roadway/Open Space	-	-	0.04
7908	669479.0	4281145.0	Roadway/Open Space	-	-	0.04
7909	669489.0	4281145.0	Roadway/Open Space	-	-	0.03
7910	669499.0	4281145.0	Roadway/Open Space	-	-	0.03
7911	669509.0	4281145.0	Roadway/Open Space	-	-	0.03
7912	669519.0	4281145.0	Roadway/Open Space	-	-	0.02
7913	668519.0	4281155.0	Roadway/Open Space	-	-	0.01
7914	668529.0	4281155.0	Roadway/Open Space	-	-	0.01
7915	668539.0	4281155.0	Residential	0.12	0.000	0.01
7916	668549.0	4281155.0	Residential	0.13	0.000	0.01
7917	668559.0	4281155.0	Residential	0.15	0.001	0.02
7918	668569.0	4281155.0	Residential	0.18	0.001	0.02
7919	668579.0	4281155.0	Residential	0.20	0.001	0.02
7920	668589.0	4281155.0	Roadway/Open Space	-	-	0.02
7921	668599.0	4281155.0	Roadway/Open Space	-	-	0.03
7922	668609.0	4281155.0	Roadway/Open Space	-	-	0.03
7923	668619.0	4281155.0	Roadway/Open Space	-	-	0.03
7924	668629.0	4281155.0	Roadway/Open Space	-	-	0.03
7925	668639.0	4281155.0	Roadway/Open Space	-	-	0.03
7926	668649.0	4281155.0	Roadway/Open Space	-	-	0.03
7927	668659.0	4281155.0	Roadway/Open Space	-	-	0.03
7928	668669.0	4281155.0	Roadway/Open Space	-	-	0.03
7929	668679.0	4281155.0	Roadway/Open Space	-	-	0.03
7930	668689.0	4281155.0	Roadway/Open Space	-	-	0.03
7931	668699.0	4281155.0	Roadway/Open Space	-	-	0.03
7932	668709.0	4281155.0	Roadway/Open Space	-	-	0.03

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
7933	668719.0	4281155.0	Roadway/Open Space	-	-	0.03
7934	668729.0	4281155.0	Roadway/Open Space	-	-	0.03
7935	668739.0	4281155.0	Roadway/Open Space	-	-	0.04
7936	668749.0	4281155.0	Roadway/Open Space	-	-	0.04
7937	668759.0	4281155.0	Roadway/Open Space	-	-	0.04
7938	668769.0	4281155.0	Roadway/Open Space	-	-	0.05
7939	668779.0	4281155.0	Roadway/Open Space	-	-	0.05
7940	668789.0	4281155.0	Roadway/Open Space	-	-	0.06
7941	668799.0	4281155.0	Roadway/Open Space	-	-	0.06
7942	668809.0	4281155.0	Roadway/Open Space	-	-	0.06
7943	668819.0	4281155.0	Roadway/Open Space	-	-	0.06
7944	668829.0	4281155.0	Roadway/Open Space	-	-	0.07
7945	668839.0	4281155.0	Roadway/Open Space	-	-	0.07
7946	668849.0	4281155.0	Roadway/Open Space	-	-	0.07
7947	668859.0	4281155.0	Roadway/Open Space	-	-	0.07
7948	668869.0	4281155.0	Roadway/Open Space	-	-	0.07
7949	668879.0	4281155.0	Roadway/Open Space	-	-	0.08
7950	669289.0	4281155.0	Roadway/Open Space	-	-	0.05
7951	669299.0	4281155.0	Residential	1.25	0.005	0.05
7952	669309.0	4281155.0	Residential	1.16	0.004	0.04
7953	669319.0	4281155.0	Residential	1.07	0.004	0.04
7954	669329.0	4281155.0	Residential	1.00	0.004	0.04
7955	669339.0	4281155.0	Residential	0.94	0.003	0.03
7956	669349.0	4281155.0	Roadway/Open Space	-	-	0.03
7957	669359.0	4281155.0	Roadway/Open Space	-	-	0.03
7958	669369.0	4281155.0	Residential	0.84	0.003	0.04
7959	669379.0	4281155.0	Residential	0.83	0.003	0.04
7960	669389.0	4281155.0	Residential	0.82	0.003	0.04
7961	669399.0	4281155.0	Residential	0.80	0.003	0.04
7962	669409.0	4281155.0	Residential	0.78	0.003	0.04
7963	669419.0	4281155.0	Residential	0.74	0.003	0.04
7964	669429.0	4281155.0	Residential	0.72	0.003	0.04
7965	669439.0	4281155.0	Residential	0.69	0.003	0.04
7966	669449.0	4281155.0	Roadway/Open Space	-	-	0.04
7967	669459.0	4281155.0	Roadway/Open Space	-	-	0.04
7968	669469.0	4281155.0	Roadway/Open Space	-	-	0.04
7969	669479.0	4281155.0	Roadway/Open Space	-	-	0.03
7970	669489.0	4281155.0	Roadway/Open Space	-	-	0.03
7971	669499.0	4281155.0	Roadway/Open Space	-	-	0.03
7972	669509.0	4281155.0	Roadway/Open Space	-	-	0.02
7973	669519.0	4281155.0	Roadway/Open Space	-	-	0.02
7974	668519.0	4281165.0	Roadway/Open Space	-	-	0.01
7975	668529.0	4281165.0	Roadway/Open Space	-	-	0.01
7976	668539.0	4281165.0	Residential	0.12	0.000	0.01
7977	668549.0	4281165.0	Residential	0.14	0.001	0.02
7978	668559.0	4281165.0	Residential	0.16	0.001	0.02
7979	668569.0	4281165.0	Residential	0.18	0.001	0.02
7980	668579.0	4281165.0	Residential	0.21	0.001	0.02
7981	668589.0	4281165.0	Roadway/Open Space	-	-	0.03
7982	668599.0	4281165.0	Roadway/Open Space	-	-	0.03
7983	668609.0	4281165.0	Roadway/Open Space	-	-	0.03
7984	668619.0	4281165.0	Roadway/Open Space	-	-	0.03
7985	668629.0	4281165.0	Roadway/Open Space	-	-	0.03
7986	668639.0	4281165.0	Roadway/Open Space	-	-	0.03
7987	668649.0	4281165.0	Roadway/Open Space	-	-	0.02
7988	668659.0	4281165.0	Roadway/Open Space	-	-	0.03
7989	668669.0	4281165.0	Roadway/Open Space	-	-	0.03
7990	668679.0	4281165.0	Roadway/Open Space	-	-	0.03
7991	668689.0	4281165.0	Roadway/Open Space	-	-	0.03
7992	668699.0	4281165.0	Roadway/Open Space	-	-	0.03
7993	668709.0	4281165.0	Roadway/Open Space	-	-	0.03
7994	668719.0	4281165.0	Roadway/Open Space	-	-	0.03
7995	668729.0	4281165.0	Roadway/Open Space	-	-	0.03
7996	668739.0	4281165.0	Roadway/Open Space	-	-	0.03
7997	668749.0	4281165.0	Roadway/Open Space	-	-	0.04
7998	668759.0	4281165.0	Roadway/Open Space	-	-	0.04
7999	668769.0	4281165.0	Roadway/Open Space	-	-	0.05
8000	668779.0	4281165.0	Roadway/Open Space	-	-	0.05
8001	668789.0	4281165.0	Roadway/Open Space	-	-	0.05
8002	668799.0	4281165.0	Roadway/Open Space	-	-	0.06
8003	668809.0	4281165.0	Roadway/Open Space	-	-	0.06
8004	668819.0	4281165.0	Roadway/Open Space	-	-	0.06
8005	668829.0	4281165.0	Roadway/Open Space	-	-	0.07
8006	668839.0	4281165.0	Roadway/Open Space	-	-	0.07
8007	668849.0	4281165.0	Roadway/Open Space	-	-	0.07
8008	668859.0	4281165.0	Roadway/Open Space	-	-	0.07
8009	668869.0	4281165.0	Roadway/Open Space	-	-	0.07
8010	668879.0	4281165.0	Roadway/Open Space	-	-	0.08
8011	669289.0	4281165.0	Roadway/Open Space	-	-	0.05
8012	669299.0	4281165.0	Residential	1.23	0.005	0.05
8013	669309.0	4281165.0	Residential	1.14	0.004	0.05
8014	669319.0	4281165.0	Residential	1.06	0.004	0.04
8015	669329.0	4281165.0	Residential	0.98	0.004	0.04
8016	669339.0	4281165.0	Residential	0.92	0.003	0.03

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
8017	669349.0	4281165.0	Roadway/Open Space	-	-	0.03
8018	669359.0	4281165.0	Residential	0.84	0.003	0.03
8019	669369.0	4281165.0	Residential	0.82	0.003	0.03
8020	669379.0	4281165.0	Residential	0.81	0.003	0.03
8021	669389.0	4281165.0	Residential	0.79	0.003	0.04
8022	669399.0	4281165.0	Residential	0.77	0.003	0.04
8023	669409.0	4281165.0	Residential	0.75	0.003	0.04
8024	669419.0	4281165.0	Residential	0.72	0.003	0.04
8025	669429.0	4281165.0	Residential	0.69	0.003	0.04
8026	669439.0	4281165.0	Residential	0.66	0.002	0.04
8027	669449.0	4281165.0	Roadway/Open Space	-	-	0.04
8028	669459.0	4281165.0	Roadway/Open Space	-	-	0.03
8029	669469.0	4281165.0	Roadway/Open Space	-	-	0.03
8030	669479.0	4281165.0	Roadway/Open Space	-	-	0.03
8031	669489.0	4281165.0	Roadway/Open Space	-	-	0.03
8032	669499.0	4281165.0	Roadway/Open Space	-	-	0.03
8033	669509.0	4281165.0	Roadway/Open Space	-	-	0.02
8034	669519.0	4281165.0	Roadway/Open Space	-	-	0.02
8035	668519.0	4281175.0	Roadway/Open Space	-	-	0.01
8036	668529.0	4281175.0	Residential	0.12	0.000	0.01
8037	668539.0	4281175.0	Residential	0.13	0.000	0.01
8038	668549.0	4281175.0	Residential	0.14	0.001	0.02
8039	668559.0	4281175.0	Residential	0.17	0.001	0.02
8040	668569.0	4281175.0	Residential	0.19	0.001	0.02
8041	668579.0	4281175.0	Roadway/Open Space	-	-	0.02
8042	668589.0	4281175.0	Roadway/Open Space	-	-	0.03
8043	668599.0	4281175.0	Roadway/Open Space	-	-	0.03
8044	668609.0	4281175.0	Roadway/Open Space	-	-	0.03
8045	668619.0	4281175.0	Roadway/Open Space	-	-	0.03
8046	668629.0	4281175.0	Roadway/Open Space	-	-	0.03
8047	668639.0	4281175.0	Roadway/Open Space	-	-	0.03
8048	668649.0	4281175.0	Roadway/Open Space	-	-	0.02
8049	668659.0	4281175.0	Roadway/Open Space	-	-	0.03
8050	668669.0	4281175.0	Roadway/Open Space	-	-	0.03
8051	668679.0	4281175.0	Roadway/Open Space	-	-	0.03
8052	668689.0	4281175.0	Roadway/Open Space	-	-	0.03
8053	668699.0	4281175.0	Roadway/Open Space	-	-	0.03
8054	668709.0	4281175.0	Roadway/Open Space	-	-	0.03
8055	668719.0	4281175.0	Roadway/Open Space	-	-	0.03
8056	668729.0	4281175.0	Roadway/Open Space	-	-	0.03
8057	668739.0	4281175.0	Roadway/Open Space	-	-	0.03
8058	668749.0	4281175.0	Roadway/Open Space	-	-	0.04
8059	668759.0	4281175.0	Roadway/Open Space	-	-	0.05
8060	668769.0	4281175.0	Roadway/Open Space	-	-	0.05
8061	668779.0	4281175.0	Roadway/Open Space	-	-	0.05
8062	668789.0	4281175.0	Roadway/Open Space	-	-	0.05
8063	668799.0	4281175.0	Roadway/Open Space	-	-	0.06
8064	668809.0	4281175.0	Roadway/Open Space	-	-	0.06
8065	668819.0	4281175.0	Roadway/Open Space	-	-	0.06
8066	668829.0	4281175.0	Roadway/Open Space	-	-	0.07
8067	668839.0	4281175.0	Roadway/Open Space	-	-	0.07
8068	668849.0	4281175.0	Roadway/Open Space	-	-	0.08
8069	668859.0	4281175.0	Roadway/Open Space	-	-	0.08
8070	668869.0	4281175.0	Roadway/Open Space	-	-	0.08
8071	668879.0	4281175.0	Roadway/Open Space	-	-	0.08
8072	669289.0	4281175.0	Residential	1.30	0.005	0.05
8073	669299.0	4281175.0	Residential	1.21	0.004	0.05
8074	669309.0	4281175.0	Residential	1.12	0.004	0.05
8075	669319.0	4281175.0	Residential	1.05	0.004	0.04
8076	669329.0	4281175.0	Residential	0.98	0.004	0.04
8077	669339.0	4281175.0	Residential	0.92	0.003	0.04
8078	669349.0	4281175.0	Roadway/Open Space	-	-	0.03
8079	669359.0	4281175.0	Residential	0.83	0.003	0.03
8080	669369.0	4281175.0	Residential	0.81	0.003	0.03
8081	669379.0	4281175.0	Residential	0.79	0.003	0.03
8082	669389.0	4281175.0	Residential	0.78	0.003	0.03
8083	669399.0	4281175.0	Residential	0.76	0.003	0.04
8084	669409.0	4281175.0	Residential	0.73	0.003	0.04
8085	669419.0	4281175.0	Residential	0.70	0.003	0.03
8086	669429.0	4281175.0	Residential	0.67	0.002	0.03
8087	669439.0	4281175.0	Roadway/Open Space	-	-	0.03
8088	669449.0	4281175.0	Roadway/Open Space	-	-	0.03
8089	669459.0	4281175.0	Roadway/Open Space	-	-	0.03
8090	669469.0	4281175.0	Roadway/Open Space	-	-	0.03
8091	669479.0	4281175.0	Roadway/Open Space	-	-	0.03
8092	669489.0	4281175.0	Roadway/Open Space	-	-	0.03
8093	669499.0	4281175.0	Roadway/Open Space	-	-	0.03
8094	669509.0	4281175.0	Roadway/Open Space	-	-	0.02
8095	669519.0	4281175.0	Roadway/Open Space	-	-	0.02
8096	668519.0	4281185.0	Roadway/Open Space	-	-	0.01
8097	668529.0	4281185.0	Residential	0.12	0.000	0.01
8098	668539.0	4281185.0	Residential	0.14	0.001	0.02
8099	668549.0	4281185.0	Residential	0.15	0.001	0.02
8100	668559.0	4281185.0	Residential	0.17	0.001	0.02

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
8101	668569.0	4281185.0	Residential	0.20	0.001	0.02
8102	668579.0	4281185.0	Roadway/Open Space	-	-	0.02
8103	668589.0	4281185.0	Roadway/Open Space	-	-	0.03
8104	668599.0	4281185.0	Roadway/Open Space	-	-	0.03
8105	668609.0	4281185.0	Roadway/Open Space	-	-	0.03
8106	668619.0	4281185.0	Roadway/Open Space	-	-	0.03
8107	668629.0	4281185.0	Roadway/Open Space	-	-	0.03
8108	668639.0	4281185.0	Roadway/Open Space	-	-	0.03
8109	668649.0	4281185.0	Roadway/Open Space	-	-	0.02
8110	668659.0	4281185.0	Roadway/Open Space	-	-	0.03
8111	668669.0	4281185.0	Roadway/Open Space	-	-	0.03
8112	668679.0	4281185.0	Roadway/Open Space	-	-	0.03
8113	668689.0	4281185.0	Roadway/Open Space	-	-	0.03
8114	668699.0	4281185.0	Roadway/Open Space	-	-	0.03
8115	668709.0	4281185.0	Roadway/Open Space	-	-	0.03
8116	668719.0	4281185.0	Roadway/Open Space	-	-	0.03
8117	668729.0	4281185.0	Roadway/Open Space	-	-	0.03
8118	668739.0	4281185.0	Roadway/Open Space	-	-	0.03
8119	668749.0	4281185.0	Roadway/Open Space	-	-	0.04
8120	668759.0	4281185.0	Roadway/Open Space	-	-	0.05
8121	668769.0	4281185.0	Roadway/Open Space	-	-	0.05
8122	668779.0	4281185.0	Roadway/Open Space	-	-	0.05
8123	668789.0	4281185.0	Roadway/Open Space	-	-	0.05
8124	668799.0	4281185.0	Roadway/Open Space	-	-	0.06
8125	668809.0	4281185.0	Other Sensitive	1.25	0.005	0.06
8126	668819.0	4281185.0	Other Sensitive	1.35	0.005	0.06
8127	668829.0	4281185.0	Roadway/Open Space	-	-	0.07
8128	668839.0	4281185.0	Roadway/Open Space	-	-	0.07
8129	668849.0	4281185.0	Roadway/Open Space	-	-	0.08
8130	668859.0	4281185.0	Roadway/Open Space	-	-	0.08
8131	668869.0	4281185.0	Roadway/Open Space	-	-	0.07
8132	668879.0	4281185.0	Roadway/Open Space	-	-	0.08
8133	669289.0	4281185.0	Residential	1.28	0.005	0.05
8134	669299.0	4281185.0	Residential	1.19	0.004	0.05
8135	669309.0	4281185.0	Residential	1.11	0.004	0.05
8136	669319.0	4281185.0	Residential	1.04	0.004	0.04
8137	669329.0	4281185.0	Residential	0.97	0.004	0.04
8138	669339.0	4281185.0	Roadway/Open Space	-	-	0.04
8139	669349.0	4281185.0	Residential	0.86	0.003	0.04
8140	669359.0	4281185.0	Residential	0.83	0.003	0.03
8141	669369.0	4281185.0	Residential	0.80	0.003	0.03
8142	669379.0	4281185.0	Residential	0.78	0.003	0.03
8143	669389.0	4281185.0	Residential	0.76	0.003	0.04
8144	669399.0	4281185.0	Residential	0.75	0.003	0.04
8145	669409.0	4281185.0	Residential	0.71	0.003	0.03
8146	669419.0	4281185.0	Residential	0.67	0.002	0.03
8147	669429.0	4281185.0	Residential	0.64	0.002	0.03
8148	669439.0	4281185.0	Roadway/Open Space	-	-	0.03
8149	669449.0	4281185.0	Roadway/Open Space	-	-	0.03
8150	669459.0	4281185.0	Roadway/Open Space	-	-	0.03
8151	669469.0	4281185.0	Roadway/Open Space	-	-	0.03
8152	669479.0	4281185.0	Roadway/Open Space	-	-	0.03
8153	669489.0	4281185.0	Roadway/Open Space	-	-	0.03
8154	669499.0	4281185.0	Roadway/Open Space	-	-	0.03
8155	669509.0	4281185.0	Roadway/Open Space	-	-	0.02
8156	668519.0	4281195.0	Residential	0.12	0.000	0.01
8157	668529.0	4281195.0	Residential	0.13	0.000	0.01
8158	668539.0	4281195.0	Residential	0.15	0.001	0.02
8159	668549.0	4281195.0	Residential	0.16	0.001	0.02
8160	668559.0	4281195.0	Residential	0.18	0.001	0.02
8161	668569.0	4281195.0	Roadway/Open Space	-	-	0.02
8162	668579.0	4281195.0	Roadway/Open Space	-	-	0.03
8163	668589.0	4281195.0	Roadway/Open Space	-	-	0.03
8164	668599.0	4281195.0	Roadway/Open Space	-	-	0.03
8165	668609.0	4281195.0	Roadway/Open Space	-	-	0.03
8166	668619.0	4281195.0	Roadway/Open Space	-	-	0.03
8167	668629.0	4281195.0	Roadway/Open Space	-	-	0.03
8168	668639.0	4281195.0	Roadway/Open Space	-	-	0.03
8169	668649.0	4281195.0	Roadway/Open Space	-	-	0.02
8170	668659.0	4281195.0	Roadway/Open Space	-	-	0.03
8171	668669.0	4281195.0	Roadway/Open Space	-	-	0.03
8172	668679.0	4281195.0	Roadway/Open Space	-	-	0.03
8173	668689.0	4281195.0	Roadway/Open Space	-	-	0.03
8174	668699.0	4281195.0	Roadway/Open Space	-	-	0.03
8175	668709.0	4281195.0	Roadway/Open Space	-	-	0.03
8176	668719.0	4281195.0	Roadway/Open Space	-	-	0.03
8177	668729.0	4281195.0	Roadway/Open Space	-	-	0.03
8178	668739.0	4281195.0	Roadway/Open Space	-	-	0.03
8179	668749.0	4281195.0	Roadway/Open Space	-	-	0.04
8180	668759.0	4281195.0	Roadway/Open Space	-	-	0.05
8181	668769.0	4281195.0	Roadway/Open Space	-	-	0.05
8182	668779.0	4281195.0	Roadway/Open Space	-	-	0.05
8183	668789.0	4281195.0	Roadway/Open Space	-	-	0.05
8184	668799.0	4281195.0	Other Sensitive	1.15	0.004	0.06

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
8185	668809.0	4281195.0	Other Sensitive	1.24	0.005	0.06
8186	668819.0	4281195.0	Other Sensitive	1.34	0.005	0.07
8187	668829.0	4281195.0	Other Sensitive	1.45	0.005	0.07
8188	668839.0	4281195.0	Roadway/Open Space	-	-	0.07
8189	668849.0	4281195.0	Roadway/Open Space	-	-	0.08
8190	668859.0	4281195.0	Roadway/Open Space	-	-	0.08
8191	668869.0	4281195.0	Roadway/Open Space	-	-	0.08
8192	668879.0	4281195.0	Roadway/Open Space	-	-	0.07
8193	669289.0	4281195.0	Residential	1.26	0.005	0.05
8194	669299.0	4281195.0	Residential	1.17	0.004	0.04
8195	669309.0	4281195.0	Residential	1.10	0.004	0.04
8196	669319.0	4281195.0	Residential	1.03	0.004	0.04
8197	669329.0	4281195.0	Residential	0.97	0.004	0.04
8198	669339.0	4281195.0	Roadway/Open Space	-	-	0.04
8199	669349.0	4281195.0	Residential	0.86	0.003	0.04
8200	669359.0	4281195.0	Residential	0.82	0.003	0.04
8201	669369.0	4281195.0	Residential	0.79	0.003	0.03
8202	669379.0	4281195.0	Residential	0.77	0.003	0.03
8203	669389.0	4281195.0	Residential	0.75	0.003	0.03
8204	669399.0	4281195.0	Residential	0.73	0.003	0.04
8205	669409.0	4281195.0	Residential	0.69	0.003	0.03
8206	669419.0	4281195.0	Residential	0.65	0.002	0.03
8207	669429.0	4281195.0	Residential	0.62	0.002	0.03
8208	669439.0	4281195.0	Roadway/Open Space	-	-	0.03
8209	669449.0	4281195.0	Roadway/Open Space	-	-	0.03
8210	669459.0	4281195.0	Roadway/Open Space	-	-	0.03
8211	669469.0	4281195.0	Roadway/Open Space	-	-	0.03
8212	669479.0	4281195.0	Roadway/Open Space	-	-	0.03
8213	669489.0	4281195.0	Roadway/Open Space	-	-	0.03
8214	669499.0	4281195.0	Roadway/Open Space	-	-	0.03
8215	669509.0	4281195.0	Roadway/Open Space	-	-	0.02
8216	668529.0	4281205.0	Residential	0.14	0.001	0.01
8217	668539.0	4281205.0	Residential	0.16	0.001	0.02
8218	668549.0	4281205.0	Residential	0.18	0.001	0.02
8219	668559.0	4281205.0	Residential	0.20	0.001	0.02
8220	668569.0	4281205.0	Roadway/Open Space	-	-	0.02
8221	668579.0	4281205.0	Roadway/Open Space	-	-	0.03
8222	668589.0	4281205.0	Roadway/Open Space	-	-	0.03
8223	668599.0	4281205.0	Roadway/Open Space	-	-	0.03
8224	668609.0	4281205.0	Roadway/Open Space	-	-	0.03
8225	668619.0	4281205.0	Roadway/Open Space	-	-	0.03
8226	668629.0	4281205.0	Roadway/Open Space	-	-	0.03
8227	668639.0	4281205.0	Roadway/Open Space	-	-	0.02
8228	668649.0	4281205.0	Roadway/Open Space	-	-	0.02
8229	668659.0	4281205.0	Roadway/Open Space	-	-	0.03
8230	668669.0	4281205.0	Roadway/Open Space	-	-	0.03
8231	668679.0	4281205.0	Roadway/Open Space	-	-	0.03
8232	668689.0	4281205.0	Roadway/Open Space	-	-	0.03
8233	668699.0	4281205.0	Roadway/Open Space	-	-	0.03
8234	668709.0	4281205.0	Roadway/Open Space	-	-	0.03
8235	668719.0	4281205.0	Roadway/Open Space	-	-	0.03
8236	668729.0	4281205.0	Roadway/Open Space	-	-	0.03
8237	668739.0	4281205.0	Roadway/Open Space	-	-	0.03
8238	668749.0	4281205.0	Roadway/Open Space	-	-	0.04
8239	668759.0	4281205.0	Roadway/Open Space	-	-	0.05
8240	668769.0	4281205.0	Roadway/Open Space	-	-	0.05
8241	668779.0	4281205.0	Roadway/Open Space	-	-	0.05
8242	668789.0	4281205.0	Other Sensitive	1.07	0.004	0.06
8243	668799.0	4281205.0	Other Sensitive	1.15	0.004	0.06
8244	668809.0	4281205.0	Other Sensitive	1.23	0.005	0.06
8245	668819.0	4281205.0	Other Sensitive	1.32	0.005	0.07
8246	668829.0	4281205.0	Other Sensitive	1.42	0.005	0.07
8247	668839.0	4281205.0	Other Sensitive	1.53	0.006	0.07
8248	668849.0	4281205.0	Roadway/Open Space	-	-	0.08
8249	668859.0	4281205.0	Roadway/Open Space	-	-	0.08
8250	668869.0	4281205.0	Roadway/Open Space	-	-	0.08
8251	668879.0	4281205.0	Roadway/Open Space	-	-	0.08
8252	669289.0	4281205.0	Roadway/Open Space	-	-	0.05
8253	669299.0	4281205.0	Residential	1.16	0.004	0.04
8254	669309.0	4281205.0	Residential	1.09	0.004	0.04
8255	669319.0	4281205.0	Residential	1.02	0.004	0.04
8256	669329.0	4281205.0	Roadway/Open Space	-	-	0.04
8257	669339.0	4281205.0	Residential	0.91	0.003	0.04
8258	669349.0	4281205.0	Residential	0.85	0.003	0.04
8259	669359.0	4281205.0	Residential	0.81	0.003	0.04
8260	669369.0	4281205.0	Residential	0.78	0.003	0.03
8261	669379.0	4281205.0	Residential	0.76	0.003	0.03
8262	669389.0	4281205.0	Residential	0.74	0.003	0.03
8263	669399.0	4281205.0	Residential	0.72	0.003	0.03
8264	669409.0	4281205.0	Residential	0.68	0.002	0.03
8265	669419.0	4281205.0	Residential	0.64	0.002	0.03
8266	669429.0	4281205.0	Residential	0.61	0.002	0.03
8267	669439.0	4281205.0	Roadway/Open Space	-	-	0.03
8268	669449.0	4281205.0	Roadway/Open Space	-	-	0.03

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
8269	669459.0	4281205.0	Roadway/Open Space	-	-	0.03
8270	669469.0	4281205.0	Roadway/Open Space	-	-	0.03
8271	669479.0	4281205.0	Roadway/Open Space	-	-	0.03
8272	669489.0	4281205.0	Roadway/Open Space	-	-	0.03
8273	669499.0	4281205.0	Roadway/Open Space	-	-	0.03
8274	669509.0	4281205.0	Roadway/Open Space	-	-	0.02
8275	668529.0	4281215.0	Residential	0.15	0.001	0.01
8276	668539.0	4281215.0	Residential	0.17	0.001	0.02
8277	668549.0	4281215.0	Residential	0.18	0.001	0.02
8278	668559.0	4281215.0	Roadway/Open Space	-	-	0.02
8279	668569.0	4281215.0	Roadway/Open Space	-	-	0.02
8280	668579.0	4281215.0	Roadway/Open Space	-	-	0.03
8281	668589.0	4281215.0	Roadway/Open Space	-	-	0.03
8282	668599.0	4281215.0	Roadway/Open Space	-	-	0.03
8283	668609.0	4281215.0	Roadway/Open Space	-	-	0.03
8284	668619.0	4281215.0	Roadway/Open Space	-	-	0.03
8285	668629.0	4281215.0	Roadway/Open Space	-	-	0.03
8286	668639.0	4281215.0	Roadway/Open Space	-	-	0.02
8287	668649.0	4281215.0	Roadway/Open Space	-	-	0.02
8288	668659.0	4281215.0	Roadway/Open Space	-	-	0.02
8289	668669.0	4281215.0	Roadway/Open Space	-	-	0.02
8290	668679.0	4281215.0	Roadway/Open Space	-	-	0.03
8291	668689.0	4281215.0	Roadway/Open Space	-	-	0.03
8292	668699.0	4281215.0	Roadway/Open Space	-	-	0.03
8293	668709.0	4281215.0	Roadway/Open Space	-	-	0.03
8294	668719.0	4281215.0	Roadway/Open Space	-	-	0.03
8295	668729.0	4281215.0	Roadway/Open Space	-	-	0.03
8296	668739.0	4281215.0	Roadway/Open Space	-	-	0.04
8297	668749.0	4281215.0	Roadway/Open Space	-	-	0.04
8298	668759.0	4281215.0	Roadway/Open Space	-	-	0.05
8299	668769.0	4281215.0	Roadway/Open Space	-	-	0.05
8300	668779.0	4281215.0	Roadway/Open Space	-	-	0.05
8301	668789.0	4281215.0	Other Sensitive	1.06	0.004	0.06
8302	668799.0	4281215.0	Other Sensitive	1.14	0.004	0.06
8303	668809.0	4281215.0	Other Sensitive	1.22	0.005	0.06
8304	668819.0	4281215.0	Other Sensitive	1.30	0.005	0.07
8305	668829.0	4281215.0	Other Sensitive	1.39	0.005	0.07
8306	668839.0	4281215.0	Other Sensitive	1.48	0.006	0.07
8307	668849.0	4281215.0	Other Sensitive	1.60	0.006	0.07
8308	668859.0	4281215.0	Other Sensitive	1.73	0.007	0.08
8309	668869.0	4281215.0	Roadway/Open Space	-	-	0.08
8310	668879.0	4281215.0	Roadway/Open Space	-	-	0.08
8311	669289.0	4281215.0	Roadway/Open Space	-	-	0.05
8312	669299.0	4281215.0	Roadway/Open Space	-	-	0.05
8313	669309.0	4281215.0	Residential	1.08	0.004	0.04
8314	669319.0	4281215.0	Roadway/Open Space	-	-	0.04
8315	669329.0	4281215.0	Roadway/Open Space	-	-	0.04
8316	669339.0	4281215.0	Residential	0.90	0.003	0.03
8317	669349.0	4281215.0	Residential	0.85	0.003	0.03
8318	669359.0	4281215.0	Residential	0.80	0.003	0.03
8319	669369.0	4281215.0	Residential	0.76	0.003	0.03
8320	669379.0	4281215.0	Residential	0.75	0.003	0.03
8321	669389.0	4281215.0	Residential	0.73	0.003	0.03
8322	669399.0	4281215.0	Residential	0.71	0.003	0.03
8323	669409.0	4281215.0	Residential	0.67	0.002	0.03
8324	669419.0	4281215.0	Residential	0.63	0.002	0.03
8325	669429.0	4281215.0	Residential	0.60	0.002	0.03
8326	669439.0	4281215.0	Roadway/Open Space	-	-	0.03
8327	669449.0	4281215.0	Roadway/Open Space	-	-	0.03
8328	669459.0	4281215.0	Roadway/Open Space	-	-	0.03
8329	669469.0	4281215.0	Roadway/Open Space	-	-	0.03
8330	669479.0	4281215.0	Roadway/Open Space	-	-	0.03
8331	669489.0	4281215.0	Roadway/Open Space	-	-	0.03
8332	669499.0	4281215.0	Roadway/Open Space	-	-	0.03
8333	668529.0	4281225.0	Residential	0.15	0.001	0.01
8334	668539.0	4281225.0	Residential	0.17	0.001	0.02
8335	668549.0	4281225.0	Residential	0.19	0.001	0.02
8336	668559.0	4281225.0	Roadway/Open Space	-	-	0.02
8337	668569.0	4281225.0	Roadway/Open Space	-	-	0.03
8338	668579.0	4281225.0	Roadway/Open Space	-	-	0.03
8339	668589.0	4281225.0	Roadway/Open Space	-	-	0.03
8340	668599.0	4281225.0	Roadway/Open Space	-	-	0.03
8341	668609.0	4281225.0	Roadway/Open Space	-	-	0.03
8342	668619.0	4281225.0	Roadway/Open Space	-	-	0.03
8343	668629.0	4281225.0	Roadway/Open Space	-	-	0.03
8344	668639.0	4281225.0	Roadway/Open Space	-	-	0.02
8345	668649.0	4281225.0	Roadway/Open Space	-	-	0.02
8346	668659.0	4281225.0	Roadway/Open Space	-	-	0.02
8347	668669.0	4281225.0	Roadway/Open Space	-	-	0.02
8348	668679.0	4281225.0	Roadway/Open Space	-	-	0.03
8349	668689.0	4281225.0	Roadway/Open Space	-	-	0.03
8350	668699.0	4281225.0	Roadway/Open Space	-	-	0.03
8351	668709.0	4281225.0	Roadway/Open Space	-	-	0.03
8352	668719.0	4281225.0	Roadway/Open Space	-	-	0.03

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
8353	668729.0	4281225.0	Roadway/Open Space	-	-	0.03
8354	668739.0	4281225.0	Roadway/Open Space	-	-	0.04
8355	668749.0	4281225.0	Roadway/Open Space	-	-	0.05
8356	668759.0	4281225.0	Roadway/Open Space	-	-	0.05
8357	668769.0	4281225.0	Roadway/Open Space	-	-	0.05
8358	668779.0	4281225.0	Other Sensitive	0.99	0.004	0.06
8359	668789.0	4281225.0	Other Sensitive	1.06	0.004	0.06
8360	668799.0	4281225.0	Other Sensitive	1.13	0.004	0.06
8361	668809.0	4281225.0	Other Sensitive	1.20	0.005	0.06
8362	668819.0	4281225.0	Other Sensitive	1.28	0.005	0.07
8363	668829.0	4281225.0	Other Sensitive	1.36	0.005	0.07
8364	668839.0	4281225.0	Other Sensitive	1.44	0.005	0.07
8365	668849.0	4281225.0	Other Sensitive	1.55	0.006	0.07
8366	668859.0	4281225.0	Other Sensitive	1.68	0.006	0.07
8367	668869.0	4281225.0	Other Sensitive	1.81	0.007	0.08
8368	668879.0	4281225.0	Roadway/Open Space	-	-	0.08
8369	668889.0	4281225.0	Roadway/Open Space	-	-	0.08
8370	668899.0	4281225.0	Roadway/Open Space	-	-	0.09
8371	668909.0	4281225.0	Roadway/Open Space	-	-	0.09
8372	668919.0	4281225.0	Roadway/Open Space	-	-	0.09
8373	668929.0	4281225.0	Roadway/Open Space	-	-	0.09
8374	669289.0	4281225.0	Roadway/Open Space	-	-	0.05
8375	669299.0	4281225.0	Roadway/Open Space	-	-	0.05
8376	669309.0	4281225.0	Roadway/Open Space	-	-	0.04
8377	669319.0	4281225.0	Roadway/Open Space	-	-	0.04
8378	669329.0	4281225.0	Residential	0.95	0.003	0.04
8379	669339.0	4281225.0	Residential	0.89	0.003	0.04
8380	669349.0	4281225.0	Residential	0.84	0.003	0.03
8381	669359.0	4281225.0	Residential	0.79	0.003	0.03
8382	669369.0	4281225.0	Residential	0.75	0.003	0.03
8383	669379.0	4281225.0	Residential	0.73	0.003	0.03
8384	669389.0	4281225.0	Residential	0.72	0.003	0.03
8385	669399.0	4281225.0	Residential	0.70	0.003	0.03
8386	669409.0	4281225.0	Residential	0.66	0.002	0.03
8387	669419.0	4281225.0	Residential	0.62	0.002	0.03
8388	669429.0	4281225.0	Residential	0.59	0.002	0.03
8389	669439.0	4281225.0	Roadway/Open Space	-	-	0.03
8390	669449.0	4281225.0	Residential	0.55	0.002	0.03
8391	669459.0	4281225.0	Residential	0.54	0.002	0.03
8392	669469.0	4281225.0	Residential	0.52	0.002	0.03
8393	669479.0	4281225.0	Residential	0.51	0.002	0.03
8394	669489.0	4281225.0	Roadway/Open Space	-	-	0.03
8395	669499.0	4281225.0	Roadway/Open Space	-	-	0.03
8396	668539.0	4281235.0	Residential	0.17	0.001	0.02
8397	668549.0	4281235.0	Roadway/Open Space	-	-	0.02
8398	668559.0	4281235.0	Roadway/Open Space	-	-	0.02
8399	668569.0	4281235.0	Roadway/Open Space	-	-	0.03
8400	668579.0	4281235.0	Roadway/Open Space	-	-	0.03
8401	668589.0	4281235.0	Roadway/Open Space	-	-	0.03
8402	668599.0	4281235.0	Roadway/Open Space	-	-	0.03
8403	668609.0	4281235.0	Roadway/Open Space	-	-	0.03
8404	668619.0	4281235.0	Roadway/Open Space	-	-	0.03
8405	668629.0	4281235.0	Roadway/Open Space	-	-	0.02
8406	668639.0	4281235.0	Roadway/Open Space	-	-	0.02
8407	668649.0	4281235.0	Roadway/Open Space	-	-	0.02
8408	668659.0	4281235.0	Roadway/Open Space	-	-	0.02
8409	668669.0	4281235.0	Roadway/Open Space	-	-	0.02
8410	668679.0	4281235.0	Roadway/Open Space	-	-	0.03
8411	668689.0	4281235.0	Roadway/Open Space	-	-	0.03
8412	668699.0	4281235.0	Roadway/Open Space	-	-	0.03
8413	668709.0	4281235.0	Roadway/Open Space	-	-	0.03
8414	668719.0	4281235.0	Roadway/Open Space	-	-	0.03
8415	668729.0	4281235.0	Roadway/Open Space	-	-	0.03
8416	668739.0	4281235.0	Roadway/Open Space	-	-	0.04
8417	668749.0	4281235.0	Roadway/Open Space	-	-	0.05
8418	668759.0	4281235.0	Roadway/Open Space	-	-	0.05
8419	668769.0	4281235.0	Other Sensitive	0.93	0.003	0.05
8420	668779.0	4281235.0	Other Sensitive	0.99	0.004	0.06
8421	668789.0	4281235.0	Other Sensitive	1.05	0.004	0.06
8422	668799.0	4281235.0	Other Sensitive	1.12	0.004	0.06
8423	668809.0	4281235.0	Other Sensitive	1.18	0.004	0.06
8424	668819.0	4281235.0	Other Sensitive	1.25	0.005	0.06
8425	668829.0	4281235.0	Other Sensitive	1.32	0.005	0.06
8426	668839.0	4281235.0	Other Sensitive	1.41	0.005	0.07
8427	668849.0	4281235.0	Other Sensitive	1.51	0.006	0.07
8428	668859.0	4281235.0	Other Sensitive	1.63	0.006	0.07
8429	668869.0	4281235.0	Other Sensitive	1.75	0.007	0.07
8430	668879.0	4281235.0	Other Sensitive	1.87	0.007	0.08
8431	668889.0	4281235.0	Other Sensitive	1.99	0.008	0.08
8432	668899.0	4281235.0	Roadway/Open Space	-	-	0.08
8433	668909.0	4281235.0	Roadway/Open Space	-	-	0.09
8434	668919.0	4281235.0	Roadway/Open Space	-	-	0.09
8435	668929.0	4281235.0	Roadway/Open Space	-	-	0.08
8436	668939.0	4281235.0	Roadway/Open Space	-	-	0.10

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
8437	668949.0	4281235.0	Roadway/Open Space	-	-	0.13
8438	668959.0	4281235.0	Roadway/Open Space	-	-	0.14
8439	668969.0	4281235.0	Roadway/Open Space	-	-	0.14
8440	668979.0	4281235.0	Residential	3.56	0.014	0.14
8441	668989.0	4281235.0	Residential	3.66	0.015	0.15
8442	668999.0	4281235.0	Residential	3.73	0.015	0.14
8443	669009.0	4281235.0	Residential	3.77	0.015	0.14
8444	669019.0	4281235.0	Residential	3.77	0.015	0.14
8445	669029.0	4281235.0	Residential	3.78	0.015	0.13
8446	669039.0	4281235.0	Residential	3.84	0.015	0.13
8447	669049.0	4281235.0	Residential	3.90	0.016	0.13
8448	669059.0	4281235.0	Residential	3.93	0.016	0.12
8449	669069.0	4281235.0	Residential	4.04	0.016	0.12
8450	669079.0	4281235.0	Residential	4.13	0.017	0.12
8451	669089.0	4281235.0	Residential	4.10	0.017	0.12
8452	669099.0	4281235.0	Residential	4.02	0.016	0.11
8453	669109.0	4281235.0	Residential	3.90	0.016	0.11
8454	669119.0	4281235.0	Residential	3.78	0.015	0.11
8455	669129.0	4281235.0	Residential	3.60	0.015	0.09
8456	669139.0	4281235.0	Residential	3.41	0.014	0.09
8457	669149.0	4281235.0	Residential	3.21	0.013	0.09
8458	669159.0	4281235.0	Residential	3.00	0.012	0.09
8459	669169.0	4281235.0	Residential	2.79	0.011	0.08
8460	669179.0	4281235.0	Residential	2.59	0.010	0.07
8461	669289.0	4281235.0	Roadway/Open Space	-	-	0.04
8462	669299.0	4281235.0	Roadway/Open Space	-	-	0.04
8463	669309.0	4281235.0	Roadway/Open Space	-	-	0.04
8464	669319.0	4281235.0	Residential	0.99	0.004	0.04
8465	669329.0	4281235.0	Residential	0.93	0.003	0.04
8466	669339.0	4281235.0	Residential	0.88	0.003	0.04
8467	669349.0	4281235.0	Residential	0.83	0.003	0.03
8468	669359.0	4281235.0	Residential	0.78	0.003	0.03
8469	669369.0	4281235.0	Residential	0.74	0.003	0.03
8470	669379.0	4281235.0	Residential	0.72	0.003	0.03
8471	669389.0	4281235.0	Residential	0.71	0.003	0.03
8472	669399.0	4281235.0	Residential	0.68	0.002	0.03
8473	669409.0	4281235.0	Residential	0.65	0.002	0.03
8474	669419.0	4281235.0	Residential	0.61	0.002	0.03
8475	669429.0	4281235.0	Residential	0.58	0.002	0.03
8476	669439.0	4281235.0	Roadway/Open Space	-	-	0.03
8477	669449.0	4281235.0	Residential	0.54	0.002	0.03
8478	669459.0	4281235.0	Residential	0.52	0.002	0.03
8479	669469.0	4281235.0	Residential	0.50	0.002	0.03
8480	669479.0	4281235.0	Residential	0.49	0.002	0.03
8481	669489.0	4281235.0	Residential	0.47	0.002	0.03
8482	668539.0	4281245.0	Residential	0.17	0.001	0.02
8483	668549.0	4281245.0	Roadway/Open Space	-	-	0.02
8484	668559.0	4281245.0	Roadway/Open Space	-	-	0.02
8485	668569.0	4281245.0	Roadway/Open Space	-	-	0.03
8486	668579.0	4281245.0	Roadway/Open Space	-	-	0.03
8487	668589.0	4281245.0	Roadway/Open Space	-	-	0.03
8488	668599.0	4281245.0	Roadway/Open Space	-	-	0.03
8489	668609.0	4281245.0	Roadway/Open Space	-	-	0.03
8490	668619.0	4281245.0	Roadway/Open Space	-	-	0.03
8491	668629.0	4281245.0	Roadway/Open Space	-	-	0.02
8492	668639.0	4281245.0	Roadway/Open Space	-	-	0.02
8493	668649.0	4281245.0	Roadway/Open Space	-	-	0.02
8494	668659.0	4281245.0	Roadway/Open Space	-	-	0.02
8495	668669.0	4281245.0	Roadway/Open Space	-	-	0.02
8496	668679.0	4281245.0	Roadway/Open Space	-	-	0.03
8497	668689.0	4281245.0	Roadway/Open Space	-	-	0.03
8498	668699.0	4281245.0	Roadway/Open Space	-	-	0.03
8499	668709.0	4281245.0	Roadway/Open Space	-	-	0.03
8500	668719.0	4281245.0	Roadway/Open Space	-	-	0.03
8501	668729.0	4281245.0	Roadway/Open Space	-	-	0.04
8502	668739.0	4281245.0	Roadway/Open Space	-	-	0.04
8503	668749.0	4281245.0	Roadway/Open Space	-	-	0.05
8504	668759.0	4281245.0	Roadway/Open Space	-	-	0.05
8505	668769.0	4281245.0	Other Sensitive	0.93	0.003	0.05
8506	668779.0	4281245.0	Other Sensitive	0.98	0.004	0.06
8507	668789.0	4281245.0	Other Sensitive	1.04	0.004	0.06
8508	668799.0	4281245.0	Other Sensitive	1.10	0.004	0.06
8509	668809.0	4281245.0	Other Sensitive	1.16	0.004	0.06
8510	668819.0	4281245.0	Other Sensitive	1.22	0.005	0.06
8511	668829.0	4281245.0	Other Sensitive	1.28	0.005	0.06
8512	668839.0	4281245.0	Other Sensitive	1.37	0.005	0.06
8513	668849.0	4281245.0	Other Sensitive	1.47	0.006	0.07
8514	668859.0	4281245.0	Other Sensitive	1.58	0.006	0.07
8515	668869.0	4281245.0	Other Sensitive	1.69	0.006	0.07
8516	668879.0	4281245.0	Other Sensitive	1.80	0.007	0.08
8517	668889.0	4281245.0	Other Sensitive	1.92	0.007	0.08
8518	668899.0	4281245.0	Other Sensitive	2.05	0.008	0.08
8519	668909.0	4281245.0	Other Sensitive	2.20	0.008	0.08
8520	668919.0	4281245.0	Other Sensitive	2.36	0.009	0.09

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
8521	668929.0	4281245.0	Other Sensitive	2.57	0.010	0.08
8522	668939.0	4281245.0	Other Sensitive	2.75	0.011	0.10
8523	668949.0	4281245.0	Other Sensitive	2.90	0.011	0.13
8524	668959.0	4281245.0	Other Sensitive	3.06	0.012	0.13
8525	668969.0	4281245.0	Roadway/Open Space	-	-	0.13
8526	668979.0	4281245.0	Residential	3.30	0.013	0.14
8527	668989.0	4281245.0	Residential	3.35	0.013	0.14
8528	668999.0	4281245.0	Residential	3.39	0.014	0.13
8529	669009.0	4281245.0	Residential	3.43	0.014	0.13
8530	669019.0	4281245.0	Residential	3.42	0.014	0.13
8531	669029.0	4281245.0	Residential	3.41	0.014	0.12
8532	669039.0	4281245.0	Residential	3.45	0.014	0.12
8533	669049.0	4281245.0	Residential	3.49	0.014	0.12
8534	669059.0	4281245.0	Residential	3.55	0.014	0.11
8535	669069.0	4281245.0	Residential	3.68	0.015	0.11
8536	669079.0	4281245.0	Residential	3.76	0.015	0.11
8537	669089.0	4281245.0	Residential	3.72	0.015	0.11
8538	669099.0	4281245.0	Residential	3.67	0.015	0.10
8539	669109.0	4281245.0	Residential	3.59	0.015	0.10
8540	669119.0	4281245.0	Residential	3.49	0.014	0.10
8541	669129.0	4281245.0	Residential	3.37	0.014	0.09
8542	669139.0	4281245.0	Residential	3.21	0.013	0.09
8543	669149.0	4281245.0	Residential	3.04	0.012	0.08
8544	669159.0	4281245.0	Residential	2.86	0.011	0.08
8545	669169.0	4281245.0	Residential	2.67	0.011	0.08
8546	669179.0	4281245.0	Residential	2.49	0.010	0.07
8547	669189.0	4281245.0	Residential	2.33	0.009	0.06
8548	669199.0	4281245.0	Residential	2.17	0.008	0.06
8549	669209.0	4281245.0	Residential	2.02	0.008	0.06
8550	669219.0	4281245.0	Residential	1.88	0.007	0.06
8551	669229.0	4281245.0	Residential	1.76	0.007	0.05
8552	669239.0	4281245.0	Residential	1.63	0.006	0.05
8553	669249.0	4281245.0	Roadway/Open Space	-	-	0.05
8554	669259.0	4281245.0	Roadway/Open Space	-	-	0.05
8555	669269.0	4281245.0	Roadway/Open Space	-	-	0.04
8556	669279.0	4281245.0	Roadway/Open Space	-	-	0.04
8557	669289.0	4281245.0	Roadway/Open Space	-	-	0.04
8558	669299.0	4281245.0	Roadway/Open Space	-	-	0.04
8559	669309.0	4281245.0	Residential	1.03	0.004	0.04
8560	669319.0	4281245.0	Residential	0.97	0.004	0.04
8561	669329.0	4281245.0	Residential	0.91	0.003	0.04
8562	669339.0	4281245.0	Residential	0.86	0.003	0.04
8563	669349.0	4281245.0	Residential	0.81	0.003	0.03
8564	669359.0	4281245.0	Residential	0.77	0.003	0.03
8565	669369.0	4281245.0	Residential	0.73	0.003	0.03
8566	669379.0	4281245.0	Residential	0.71	0.003	0.03
8567	669389.0	4281245.0	Residential	0.68	0.003	0.03
8568	669399.0	4281245.0	Residential	0.66	0.002	0.03
8569	669409.0	4281245.0	Residential	0.62	0.002	0.03
8570	669419.0	4281245.0	Residential	0.59	0.002	0.03
8571	669429.0	4281245.0	Roadway/Open Space	-	-	0.03
8572	669439.0	4281245.0	Roadway/Open Space	-	-	0.03
8573	669449.0	4281245.0	Residential	0.52	0.002	0.03
8574	669459.0	4281245.0	Residential	0.50	0.002	0.03
8575	669469.0	4281245.0	Residential	0.48	0.002	0.02
8576	669479.0	4281245.0	Residential	0.46	0.002	0.02
8577	669489.0	4281245.0	Residential	0.45	0.002	0.02
8578	668549.0	4281255.0	Roadway/Open Space	-	-	0.02
8579	668559.0	4281255.0	Roadway/Open Space	-	-	0.02
8580	668569.0	4281255.0	Roadway/Open Space	-	-	0.03
8581	668579.0	4281255.0	Roadway/Open Space	-	-	0.03
8582	668589.0	4281255.0	Roadway/Open Space	-	-	0.03
8583	668599.0	4281255.0	Roadway/Open Space	-	-	0.03
8584	668609.0	4281255.0	Roadway/Open Space	-	-	0.03
8585	668619.0	4281255.0	Roadway/Open Space	-	-	0.03
8586	668629.0	4281255.0	Roadway/Open Space	-	-	0.02
8587	668639.0	4281255.0	Roadway/Open Space	-	-	0.02
8588	668649.0	4281255.0	Roadway/Open Space	-	-	0.02
8589	668659.0	4281255.0	Roadway/Open Space	-	-	0.02
8590	668669.0	4281255.0	Roadway/Open Space	-	-	0.03
8591	668679.0	4281255.0	Roadway/Open Space	-	-	0.03
8592	668689.0	4281255.0	Roadway/Open Space	-	-	0.03
8593	668699.0	4281255.0	Roadway/Open Space	-	-	0.03
8594	668709.0	4281255.0	Roadway/Open Space	-	-	0.03
8595	668719.0	4281255.0	Roadway/Open Space	-	-	0.04
8596	668729.0	4281255.0	Roadway/Open Space	-	-	0.04
8597	668739.0	4281255.0	Roadway/Open Space	-	-	0.05
8598	668749.0	4281255.0	Roadway/Open Space	-	-	0.05
8599	668759.0	4281255.0	Other Sensitive	0.88	0.003	0.05
8600	668769.0	4281255.0	Other Sensitive	0.92	0.003	0.05
8601	668779.0	4281255.0	Other Sensitive	0.97	0.004	0.05
8602	668789.0	4281255.0	Other Sensitive	1.02	0.004	0.05
8603	668799.0	4281255.0	Other Sensitive	1.08	0.004	0.06
8604	668809.0	4281255.0	Other Sensitive	1.14	0.004	0.06

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
8605	668819.0	4281255.0	Other Sensitive	1.19	0.005	0.06
8606	668829.0	4281255.0	Other Sensitive	1.25	0.005	0.06
8607	668839.0	4281255.0	Other Sensitive	1.33	0.005	0.06
8608	668849.0	4281255.0	Other Sensitive	1.43	0.005	0.07
8609	668859.0	4281255.0	Other Sensitive	1.53	0.006	0.07
8610	668869.0	4281255.0	Other Sensitive	1.62	0.006	0.07
8611	668879.0	4281255.0	Other Sensitive	1.73	0.007	0.07
8612	668889.0	4281255.0	Other Sensitive	1.85	0.007	0.07
8613	668899.0	4281255.0	Other Sensitive	1.98	0.008	0.08
8614	668909.0	4281255.0	Other Sensitive	2.11	0.008	0.08
8615	668919.0	4281255.0	Other Sensitive	2.27	0.009	0.08
8616	668929.0	4281255.0	Other Sensitive	2.46	0.010	0.09
8617	668939.0	4281255.0	Other Sensitive	2.61	0.010	0.11
8618	668949.0	4281255.0	Other Sensitive	2.75	0.011	0.12
8619	668959.0	4281255.0	Other Sensitive	2.89	0.011	0.12
8620	668969.0	4281255.0	Other Sensitive	2.98	0.012	0.13
8621	668979.0	4281255.0	Residential	3.05	0.012	0.13
8622	668989.0	4281255.0	Residential	3.08	0.012	0.13
8623	668999.0	4281255.0	Residential	3.09	0.012	0.12
8624	669009.0	4281255.0	Residential	3.10	0.012	0.12
8625	669019.0	4281255.0	Residential	3.08	0.012	0.12
8626	669029.0	4281255.0	Residential	3.07	0.012	0.11
8627	669039.0	4281255.0	Residential	3.10	0.012	0.11
8628	669049.0	4281255.0	Residential	3.13	0.012	0.10
8629	669059.0	4281255.0	Residential	3.23	0.013	0.10
8630	669069.0	4281255.0	Residential	3.37	0.014	0.11
8631	669079.0	4281255.0	Residential	3.44	0.014	0.11
8632	669089.0	4281255.0	Residential	3.40	0.014	0.10
8633	669099.0	4281255.0	Residential	3.37	0.014	0.10
8634	669109.0	4281255.0	Residential	3.33	0.013	0.09
8635	669119.0	4281255.0	Residential	3.24	0.013	0.09
8636	669129.0	4281255.0	Residential	3.14	0.013	0.09
8637	669139.0	4281255.0	Residential	3.01	0.012	0.08
8638	669149.0	4281255.0	Residential	2.87	0.011	0.08
8639	669159.0	4281255.0	Residential	2.72	0.011	0.07
8640	669169.0	4281255.0	Residential	2.56	0.010	0.07
8641	669179.0	4281255.0	Residential	2.40	0.009	0.07
8642	669189.0	4281255.0	Residential	2.25	0.009	0.06
8643	669199.0	4281255.0	Residential	2.10	0.008	0.06
8644	669209.0	4281255.0	Residential	1.96	0.008	0.05
8645	669219.0	4281255.0	Residential	1.83	0.007	0.05
8646	669229.0	4281255.0	Residential	1.71	0.007	0.05
8647	669239.0	4281255.0	Residential	1.59	0.006	0.05
8648	669249.0	4281255.0	Residential	1.49	0.006	0.04
8649	669259.0	4281255.0	Roadway/Open Space	-	-	0.04
8650	669269.0	4281255.0	Roadway/Open Space	-	-	0.04
8651	669279.0	4281255.0	Roadway/Open Space	-	-	0.04
8652	669289.0	4281255.0	Roadway/Open Space	-	-	0.04
8653	669299.0	4281255.0	Residential	1.08	0.004	0.04
8654	669309.0	4281255.0	Roadway/Open Space	-	-	0.04
8655	669319.0	4281255.0	Residential	0.96	0.004	0.03
8656	669329.0	4281255.0	Residential	0.90	0.003	0.03
8657	669339.0	4281255.0	Residential	0.84	0.003	0.03
8658	669349.0	4281255.0	Residential	0.80	0.003	0.03
8659	669359.0	4281255.0	Residential	0.76	0.003	0.03
8660	669369.0	4281255.0	Residential	0.72	0.003	0.03
8661	669379.0	4281255.0	Residential	0.69	0.003	0.03
8662	669389.0	4281255.0	Residential	0.66	0.002	0.03
8663	669399.0	4281255.0	Residential	0.63	0.002	0.03
8664	669409.0	4281255.0	Residential	0.60	0.002	0.03
8665	669419.0	4281255.0	Residential	0.57	0.002	0.03
8666	669429.0	4281255.0	Roadway/Open Space	-	-	0.03
8667	669439.0	4281255.0	Residential	0.52	0.002	0.02
8668	669449.0	4281255.0	Residential	0.50	0.002	0.02
8669	669459.0	4281255.0	Residential	0.48	0.002	0.02
8670	669469.0	4281255.0	Residential	0.46	0.002	0.02
8671	669479.0	4281255.0	Residential	0.44	0.002	0.02
8672	668549.0	4281265.0	Roadway/Open Space	-	-	0.02
8673	668559.0	4281265.0	Roadway/Open Space	-	-	0.02
8674	668569.0	4281265.0	Roadway/Open Space	-	-	0.03
8675	668579.0	4281265.0	Roadway/Open Space	-	-	0.03
8676	668589.0	4281265.0	Roadway/Open Space	-	-	0.03
8677	668599.0	4281265.0	Roadway/Open Space	-	-	0.03
8678	668609.0	4281265.0	Roadway/Open Space	-	-	0.03
8679	668619.0	4281265.0	Roadway/Open Space	-	-	0.03
8680	668629.0	4281265.0	Roadway/Open Space	-	-	0.02
8681	668639.0	4281265.0	Roadway/Open Space	-	-	0.02
8682	668649.0	4281265.0	Roadway/Open Space	-	-	0.02
8683	668659.0	4281265.0	Roadway/Open Space	-	-	0.02
8684	668669.0	4281265.0	Roadway/Open Space	-	-	0.03
8685	668679.0	4281265.0	Roadway/Open Space	-	-	0.03
8686	668689.0	4281265.0	Roadway/Open Space	-	-	0.03
8687	668699.0	4281265.0	Roadway/Open Space	-	-	0.03
8688	668709.0	4281265.0	Roadway/Open Space	-	-	0.03

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
8689	668719.0	4281265.0	Roadway/Open Space	-	-	0.04
8690	668729.0	4281265.0	Roadway/Open Space	-	-	0.04
8691	668739.0	4281265.0	Roadway/Open Space	-	-	0.05
8692	668749.0	4281265.0	Other Sensitive	0.83	0.003	0.05
8693	668759.0	4281265.0	Other Sensitive	0.87	0.003	0.05
8694	668769.0	4281265.0	Other Sensitive	0.91	0.003	0.05
8695	668779.0	4281265.0	Other Sensitive	0.95	0.004	0.05
8696	668789.0	4281265.0	Other Sensitive	1.00	0.004	0.05
8697	668799.0	4281265.0	Other Sensitive	1.06	0.004	0.05
8698	668809.0	4281265.0	Other Sensitive	1.11	0.004	0.06
8699	668819.0	4281265.0	Other Sensitive	1.16	0.004	0.06
8700	668829.0	4281265.0	Other Sensitive	1.23	0.005	0.06
8701	668839.0	4281265.0	Other Sensitive	1.30	0.005	0.06
8702	668849.0	4281265.0	Other Sensitive	1.39	0.005	0.06
8703	668859.0	4281265.0	Other Sensitive	1.48	0.006	0.07
8704	668869.0	4281265.0	Other Sensitive	1.57	0.006	0.07
8705	668879.0	4281265.0	Other Sensitive	1.67	0.006	0.07
8706	668889.0	4281265.0	Other Sensitive	1.79	0.007	0.07
8707	668899.0	4281265.0	Other Sensitive	1.91	0.007	0.07
8708	668909.0	4281265.0	Other Sensitive	2.04	0.008	0.08
8709	668919.0	4281265.0	Other Sensitive	2.19	0.008	0.08
8710	668929.0	4281265.0	Other Sensitive	2.36	0.009	0.09
8711	668939.0	4281265.0	Other Sensitive	2.48	0.010	0.11
8712	668949.0	4281265.0	Other Sensitive	2.61	0.010	0.12
8713	668959.0	4281265.0	Other Sensitive	2.72	0.011	0.12
8714	668969.0	4281265.0	Other Sensitive	2.78	0.011	0.12
8715	668979.0	4281265.0	Residential	2.81	0.011	0.12
8716	668989.0	4281265.0	Residential	2.83	0.011	0.12
8717	668999.0	4281265.0	Residential	2.80	0.011	0.11
8718	669009.0	4281265.0	Residential	2.78	0.011	0.11
8719	669019.0	4281265.0	Residential	2.75	0.011	0.10
8720	669029.0	4281265.0	Residential	2.74	0.011	0.10
8721	669039.0	4281265.0	Residential	2.78	0.011	0.09
8722	669049.0	4281265.0	Residential	2.84	0.011	0.09
8723	669059.0	4281265.0	Residential	2.97	0.012	0.10
8724	669069.0	4281265.0	Residential	3.11	0.012	0.10
8725	669079.0	4281265.0	Residential	3.17	0.013	0.10
8726	669089.0	4281265.0	Residential	3.15	0.013	0.10
8727	669099.0	4281265.0	Residential	3.13	0.013	0.09
8728	669109.0	4281265.0	Residential	3.10	0.012	0.09
8729	669119.0	4281265.0	Residential	3.03	0.012	0.08
8730	669129.0	4281265.0	Residential	2.93	0.012	0.08
8731	669139.0	4281265.0	Residential	2.83	0.011	0.08
8732	669149.0	4281265.0	Residential	2.70	0.011	0.07
8733	669159.0	4281265.0	Residential	2.57	0.010	0.07
8734	669169.0	4281265.0	Residential	2.44	0.010	0.07
8735	669179.0	4281265.0	Residential	2.30	0.009	0.07
8736	669189.0	4281265.0	Residential	2.16	0.008	0.06
8737	669199.0	4281265.0	Residential	2.03	0.008	0.05
8738	669209.0	4281265.0	Residential	1.90	0.007	0.05
8739	669219.0	4281265.0	Residential	1.78	0.007	0.05
8740	669229.0	4281265.0	Residential	1.67	0.006	0.05
8741	669239.0	4281265.0	Residential	1.56	0.006	0.05
8742	669249.0	4281265.0	Residential	1.45	0.006	0.04
8743	669259.0	4281265.0	Roadway/Open Space	-	-	0.04
8744	669269.0	4281265.0	Roadway/Open Space	-	-	0.04
8745	669279.0	4281265.0	Residential	1.19	0.004	0.04
8746	669289.0	4281265.0	Residential	1.13	0.004	0.04
8747	669299.0	4281265.0	Residential	1.07	0.004	0.03
8748	669309.0	4281265.0	Residential	1.00	0.004	0.03
8749	669319.0	4281265.0	Roadway/Open Space	-	-	0.03
8750	669329.0	4281265.0	Residential	0.88	0.003	0.03
8751	669339.0	4281265.0	Residential	0.83	0.003	0.03
8752	669349.0	4281265.0	Residential	0.78	0.003	0.03
8753	669359.0	4281265.0	Residential	0.74	0.003	0.03
8754	669369.0	4281265.0	Residential	0.71	0.003	0.03
8755	669379.0	4281265.0	Residential	0.67	0.002	0.03
8756	669389.0	4281265.0	Residential	0.64	0.002	0.03
8757	669399.0	4281265.0	Residential	0.61	0.002	0.03
8758	669409.0	4281265.0	Residential	0.58	0.002	0.03
8759	669419.0	4281265.0	Roadway/Open Space	-	-	0.03
8760	669429.0	4281265.0	Roadway/Open Space	-	-	0.02
8761	669439.0	4281265.0	Residential	0.50	0.002	0.02
8762	669449.0	4281265.0	Residential	0.48	0.002	0.02
8763	669459.0	4281265.0	Residential	0.46	0.002	0.02
8764	669469.0	4281265.0	Residential	0.44	0.002	0.02
8765	669479.0	4281265.0	Residential	0.43	0.002	0.02
8766	668559.0	4281275.0	Roadway/Open Space	-	-	0.02
8767	668569.0	4281275.0	Roadway/Open Space	-	-	0.03
8768	668579.0	4281275.0	Roadway/Open Space	-	-	0.03
8769	668589.0	4281275.0	Roadway/Open Space	-	-	0.03
8770	668599.0	4281275.0	Roadway/Open Space	-	-	0.03
8771	668609.0	4281275.0	Roadway/Open Space	-	-	0.03
8772	668619.0	4281275.0	Roadway/Open Space	-	-	0.02

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
8773	668629.0	4281275.0	Roadway/Open Space	-	-	0.02
8774	668639.0	4281275.0	Roadway/Open Space	-	-	0.02
8775	668649.0	4281275.0	Roadway/Open Space	-	-	0.02
8776	668659.0	4281275.0	Roadway/Open Space	-	-	0.03
8777	668669.0	4281275.0	Roadway/Open Space	-	-	0.03
8778	668679.0	4281275.0	Roadway/Open Space	-	-	0.03
8779	668689.0	4281275.0	Roadway/Open Space	-	-	0.03
8780	668699.0	4281275.0	Roadway/Open Space	-	-	0.03
8781	668709.0	4281275.0	Roadway/Open Space	-	-	0.04
8782	668719.0	4281275.0	Roadway/Open Space	-	-	0.04
8783	668729.0	4281275.0	Roadway/Open Space	-	-	0.04
8784	668739.0	4281275.0	Roadway/Open Space	-	-	0.05
8785	668749.0	4281275.0	Other Sensitive	0.82	0.003	0.05
8786	668759.0	4281275.0	Other Sensitive	0.86	0.003	0.05
8787	668769.0	4281275.0	Other Sensitive	0.90	0.003	0.05
8788	668779.0	4281275.0	Other Sensitive	0.93	0.004	0.05
8789	668789.0	4281275.0	Other Sensitive	0.98	0.004	0.05
8790	668799.0	4281275.0	Other Sensitive	1.03	0.004	0.05
8791	668809.0	4281275.0	Other Sensitive	1.07	0.004	0.05
8792	668819.0	4281275.0	Other Sensitive	1.13	0.004	0.06
8793	668829.0	4281275.0	Other Sensitive	1.19	0.005	0.06
8794	668839.0	4281275.0	Other Sensitive	1.27	0.005	0.06
8795	668849.0	4281275.0	Other Sensitive	1.35	0.005	0.06
8796	668859.0	4281275.0	Other Sensitive	1.43	0.005	0.07
8797	668869.0	4281275.0	Other Sensitive	1.52	0.006	0.07
8798	668879.0	4281275.0	Other Sensitive	1.62	0.006	0.07
8799	668889.0	4281275.0	Other Sensitive	1.74	0.007	0.07
8800	668899.0	4281275.0	Other Sensitive	1.85	0.007	0.07
8801	668909.0	4281275.0	Other Sensitive	1.97	0.008	0.08
8802	668919.0	4281275.0	Other Sensitive	2.12	0.008	0.08
8803	668929.0	4281275.0	Other Sensitive	2.26	0.009	0.09
8804	668939.0	4281275.0	Other Sensitive	2.37	0.009	0.11
8805	668949.0	4281275.0	Other Sensitive	2.48	0.010	0.11
8806	668959.0	4281275.0	Other Sensitive	2.56	0.010	0.11
8807	668969.0	4281275.0	Other Sensitive	2.60	0.010	0.12
8808	668979.0	4281275.0	Roadway/Open Space	-	-	0.12
8809	668989.0	4281275.0	Roadway/Open Space	-	-	0.11
8810	668999.0	4281275.0	Residential	2.54	0.010	0.10
8811	669009.0	4281275.0	Residential	2.49	0.010	0.10
8812	669019.0	4281275.0	Residential	2.47	0.010	0.09
8813	669029.0	4281275.0	Residential	2.47	0.010	0.09
8814	669039.0	4281275.0	Residential	2.51	0.010	0.08
8815	669049.0	4281275.0	Residential	2.58	0.010	0.09
8816	669059.0	4281275.0	Residential	2.71	0.011	0.09
8817	669069.0	4281275.0	Residential	2.85	0.011	0.09
8818	669079.0	4281275.0	Residential	2.93	0.012	0.09
8819	669089.0	4281275.0	Residential	2.93	0.012	0.09
8820	669099.0	4281275.0	Residential	2.91	0.012	0.09
8821	669109.0	4281275.0	Residential	2.88	0.012	0.08
8822	669119.0	4281275.0	Residential	2.83	0.011	0.08
8823	669129.0	4281275.0	Residential	2.76	0.011	0.08
8824	669139.0	4281275.0	Residential	2.66	0.011	0.07
8825	669149.0	4281275.0	Residential	2.55	0.010	0.07
8826	669159.0	4281275.0	Residential	2.44	0.010	0.07
8827	669169.0	4281275.0	Residential	2.32	0.009	0.06
8828	669179.0	4281275.0	Residential	2.20	0.009	0.06
8829	669189.0	4281275.0	Residential	2.08	0.008	0.06
8830	669199.0	4281275.0	Residential	1.95	0.008	0.05
8831	669209.0	4281275.0	Residential	1.84	0.007	0.05
8832	669219.0	4281275.0	Residential	1.73	0.007	0.05
8833	669229.0	4281275.0	Roadway/Open Space	-	-	0.05
8834	669239.0	4281275.0	Roadway/Open Space	-	-	0.04
8835	669249.0	4281275.0	Roadway/Open Space	-	-	0.04
8836	669259.0	4281275.0	Residential	1.33	0.005	0.04
8837	669269.0	4281275.0	Residential	1.25	0.005	0.04
8838	669279.0	4281275.0	Residential	1.17	0.004	0.04
8839	669289.0	4281275.0	Residential	1.10	0.004	0.03
8840	669299.0	4281275.0	Residential	1.04	0.004	0.03
8841	669309.0	4281275.0	Residential	0.98	0.004	0.03
8842	669319.0	4281275.0	Residential	0.92	0.003	0.03
8843	669329.0	4281275.0	Roadway/Open Space	-	-	0.03
8844	669339.0	4281275.0	Residential	0.81	0.003	0.03
8845	669349.0	4281275.0	Residential	0.76	0.003	0.03
8846	669359.0	4281275.0	Residential	0.72	0.003	0.03
8847	669369.0	4281275.0	Residential	0.69	0.003	0.03
8848	669379.0	4281275.0	Residential	0.66	0.002	0.03
8849	669389.0	4281275.0	Residential	0.63	0.002	0.03
8850	669399.0	4281275.0	Residential	0.60	0.002	0.03
8851	669409.0	4281275.0	Residential	0.57	0.002	0.03
8852	669419.0	4281275.0	Roadway/Open Space	-	-	0.03
8853	669429.0	4281275.0	Residential	0.52	0.002	0.02
8854	669439.0	4281275.0	Residential	0.49	0.002	0.02
8855	669449.0	4281275.0	Residential	0.47	0.002	0.02
8856	669459.0	4281275.0	Residential	0.45	0.002	0.02

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
8857	669469.0	4281275.0	Residential	0.43	0.002	0.02
8858	668559.0	4281285.0	Roadway/Open Space	-	-	0.02
8859	668569.0	4281285.0	Roadway/Open Space	-	-	0.03
8860	668579.0	4281285.0	Roadway/Open Space	-	-	0.03
8861	668589.0	4281285.0	Roadway/Open Space	-	-	0.03
8862	668599.0	4281285.0	Roadway/Open Space	-	-	0.03
8863	668609.0	4281285.0	Roadway/Open Space	-	-	0.03
8864	668619.0	4281285.0	Roadway/Open Space	-	-	0.02
8865	668629.0	4281285.0	Roadway/Open Space	-	-	0.02
8866	668639.0	4281285.0	Roadway/Open Space	-	-	0.02
8867	668649.0	4281285.0	Roadway/Open Space	-	-	0.03
8868	668659.0	4281285.0	Roadway/Open Space	-	-	0.03
8869	668669.0	4281285.0	Roadway/Open Space	-	-	0.03
8870	668679.0	4281285.0	Roadway/Open Space	-	-	0.03
8871	668689.0	4281285.0	Roadway/Open Space	-	-	0.03
8872	668699.0	4281285.0	Roadway/Open Space	-	-	0.04
8873	668709.0	4281285.0	Roadway/Open Space	-	-	0.04
8874	668719.0	4281285.0	Roadway/Open Space	-	-	0.04
8875	668729.0	4281285.0	Roadway/Open Space	-	-	0.04
8876	668739.0	4281285.0	Other Sensitive	0.76	0.003	0.04
8877	668749.0	4281285.0	Other Sensitive	0.80	0.003	0.05
8878	668759.0	4281285.0	Other Sensitive	0.84	0.003	0.05
8879	668769.0	4281285.0	Other Sensitive	0.88	0.003	0.05
8880	668779.0	4281285.0	Other Sensitive	0.91	0.003	0.05
8881	668789.0	4281285.0	Other Sensitive	0.97	0.004	0.05
8882	668799.0	4281285.0	Other Sensitive	1.01	0.004	0.05
8883	668809.0	4281285.0	Other Sensitive	1.04	0.004	0.05
8884	668819.0	4281285.0	Other Sensitive	1.10	0.004	0.06
8885	668829.0	4281285.0	Other Sensitive	1.16	0.004	0.06
8886	668839.0	4281285.0	Other Sensitive	1.23	0.005	0.06
8887	668849.0	4281285.0	Other Sensitive	1.31	0.005	0.06
8888	668859.0	4281285.0	Other Sensitive	1.39	0.005	0.06
8889	668869.0	4281285.0	Other Sensitive	1.47	0.006	0.06
8890	668879.0	4281285.0	Other Sensitive	1.58	0.006	0.07
8891	668889.0	4281285.0	Other Sensitive	1.69	0.006	0.07
8892	668899.0	4281285.0	Other Sensitive	1.80	0.007	0.07
8893	668909.0	4281285.0	Other Sensitive	1.91	0.007	0.08
8894	668919.0	4281285.0	Other Sensitive	2.05	0.008	0.08
8895	668929.0	4281285.0	Other Sensitive	2.15	0.008	0.10
8896	668939.0	4281285.0	Other Sensitive	2.26	0.009	0.10
8897	668949.0	4281285.0	Other Sensitive	2.35	0.009	0.11
8898	668959.0	4281285.0	Other Sensitive	2.41	0.010	0.11
8899	668969.0	4281285.0	Residential	2.43	0.010	0.11
8900	668979.0	4281285.0	Residential	2.43	0.010	0.11
8901	668989.0	4281285.0	Residential	2.40	0.010	0.10
8902	668999.0	4281285.0	Roadway/Open Space	-	-	0.09
8903	669009.0	4281285.0	Roadway/Open Space	-	-	0.09
8904	669019.0	4281285.0	Residential	2.23	0.009	0.08
8905	669029.0	4281285.0	Residential	2.25	0.009	0.08
8906	669039.0	4281285.0	Residential	2.29	0.009	0.08
8907	669049.0	4281285.0	Residential	2.36	0.009	0.08
8908	669059.0	4281285.0	Roadway/Open Space	-	-	0.08
8909	669069.0	4281285.0	Roadway/Open Space	-	-	0.09
8910	669079.0	4281285.0	Roadway/Open Space	-	-	0.09
8911	669089.0	4281285.0	Roadway/Open Space	-	-	0.09
8912	669099.0	4281285.0	Roadway/Open Space	-	-	0.09
8913	669109.0	4281285.0	Roadway/Open Space	-	-	0.08
8914	669119.0	4281285.0	Roadway/Open Space	-	-	0.08
8915	669129.0	4281285.0	Roadway/Open Space	-	-	0.08
8916	669139.0	4281285.0	Roadway/Open Space	-	-	0.07
8917	669149.0	4281285.0	Roadway/Open Space	-	-	0.07
8918	669159.0	4281285.0	Roadway/Open Space	-	-	0.06
8919	669169.0	4281285.0	Roadway/Open Space	-	-	0.06
8920	669179.0	4281285.0	Roadway/Open Space	-	-	0.06
8921	669189.0	4281285.0	Roadway/Open Space	-	-	0.06
8922	669199.0	4281285.0	Roadway/Open Space	-	-	0.05
8923	669209.0	4281285.0	Roadway/Open Space	-	-	0.05
8924	669219.0	4281285.0	Roadway/Open Space	-	-	0.04
8925	669229.0	4281285.0	Residential	1.57	0.006	0.04
8926	669239.0	4281285.0	Residential	1.48	0.006	0.04
8927	669249.0	4281285.0	Residential	1.39	0.005	0.04
8928	669259.0	4281285.0	Residential	1.31	0.005	0.04
8929	669269.0	4281285.0	Residential	1.22	0.005	0.03
8930	669279.0	4281285.0	Residential	1.15	0.004	0.03
8931	669289.0	4281285.0	Residential	1.08	0.004	0.03
8932	669299.0	4281285.0	Residential	1.01	0.004	0.03
8933	669309.0	4281285.0	Residential	0.95	0.004	0.03
8934	669319.0	4281285.0	Residential	0.90	0.003	0.03
8935	669329.0	4281285.0	Residential	0.84	0.003	0.03
8936	669339.0	4281285.0	Roadway/Open Space	-	-	0.03
8937	669349.0	4281285.0	Roadway/Open Space	-	-	0.03
8938	669359.0	4281285.0	Residential	0.70	0.003	0.02
8939	669369.0	4281285.0	Residential	0.67	0.002	0.03
8940	669379.0	4281285.0	Residential	0.64	0.002	0.03

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
8941	669389.0	4281285.0	Residential	0.61	0.002	0.03
8942	669399.0	4281285.0	Residential	0.59	0.002	0.03
8943	669409.0	4281285.0	Roadway/Open Space	-	-	0.02
8944	669419.0	4281285.0	Residential	0.53	0.002	0.02
8945	669429.0	4281285.0	Residential	0.51	0.002	0.02
8946	669439.0	4281285.0	Residential	0.48	0.002	0.02
8947	669449.0	4281285.0	Residential	0.46	0.002	0.02
8948	669459.0	4281285.0	Residential	0.43	0.002	0.02
8949	668569.0	4281295.0	Roadway/Open Space	-	-	0.03
8950	668579.0	4281295.0	Roadway/Open Space	-	-	0.03
8951	668589.0	4281295.0	Roadway/Open Space	-	-	0.03
8952	668599.0	4281295.0	Roadway/Open Space	-	-	0.03
8953	668609.0	4281295.0	Roadway/Open Space	-	-	0.03
8954	668619.0	4281295.0	Roadway/Open Space	-	-	0.02
8955	668629.0	4281295.0	Roadway/Open Space	-	-	0.02
8956	668639.0	4281295.0	Roadway/Open Space	-	-	0.03
8957	668649.0	4281295.0	Roadway/Open Space	-	-	0.03
8958	668659.0	4281295.0	Roadway/Open Space	-	-	0.03
8959	668669.0	4281295.0	Roadway/Open Space	-	-	0.03
8960	668679.0	4281295.0	Roadway/Open Space	-	-	0.03
8961	668689.0	4281295.0	Roadway/Open Space	-	-	0.03
8962	668699.0	4281295.0	Roadway/Open Space	-	-	0.04
8963	668709.0	4281295.0	Roadway/Open Space	-	-	0.04
8964	668719.0	4281295.0	Roadway/Open Space	-	-	0.04
8965	668729.0	4281295.0	Roadway/Open Space	-	-	0.04
8966	668739.0	4281295.0	Other Sensitive	0.75	0.003	0.04
8967	668749.0	4281295.0	Other Sensitive	0.79	0.003	0.04
8968	668759.0	4281295.0	Other Sensitive	0.82	0.003	0.05
8969	668769.0	4281295.0	Other Sensitive	0.85	0.003	0.05
8970	668779.0	4281295.0	Other Sensitive	0.89	0.003	0.05
8971	668789.0	4281295.0	Other Sensitive	0.94	0.004	0.05
8972	668799.0	4281295.0	Other Sensitive	0.98	0.004	0.05
8973	668809.0	4281295.0	Other Sensitive	1.01	0.004	0.05
8974	668819.0	4281295.0	Other Sensitive	1.07	0.004	0.05
8975	668829.0	4281295.0	Other Sensitive	1.13	0.004	0.06
8976	668839.0	4281295.0	Other Sensitive	1.20	0.005	0.06
8977	668849.0	4281295.0	Other Sensitive	1.27	0.005	0.06
8978	668859.0	4281295.0	Other Sensitive	1.35	0.005	0.06
8979	668869.0	4281295.0	Other Sensitive	1.43	0.005	0.06
8980	668879.0	4281295.0	Other Sensitive	1.53	0.006	0.06
8981	668889.0	4281295.0	Other Sensitive	1.64	0.006	0.07
8982	668899.0	4281295.0	Other Sensitive	1.74	0.007	0.07
8983	668909.0	4281295.0	Other Sensitive	1.85	0.007	0.08
8984	668919.0	4281295.0	Other Sensitive	1.96	0.008	0.09
8985	668929.0	4281295.0	Other Sensitive	2.07	0.008	0.10
8986	668939.0	4281295.0	Other Sensitive	2.16	0.009	0.10
8987	668949.0	4281295.0	Other Sensitive	2.23	0.009	0.10
8988	668959.0	4281295.0	Other Sensitive	2.27	0.009	0.11
8989	668969.0	4281295.0	Residential	2.28	0.009	0.11
8990	668979.0	4281295.0	Residential	2.27	0.009	0.10
8991	668989.0	4281295.0	Residential	2.23	0.009	0.10
8992	668999.0	4281295.0	Residential	2.15	0.008	0.09
8993	669009.0	4281295.0	Roadway/Open Space	-	-	0.08
8994	669019.0	4281295.0	Roadway/Open Space	-	-	0.07
8995	669029.0	4281295.0	Residential	2.06	0.008	0.07
8996	669039.0	4281295.0	Roadway/Open Space	-	-	0.07
8997	669049.0	4281295.0	Roadway/Open Space	-	-	0.07
8998	669059.0	4281295.0	Roadway/Open Space	-	-	0.08
8999	669069.0	4281295.0	Residential	2.39	0.009	0.08
9000	669079.0	4281295.0	Residential	2.51	0.010	0.08
9001	669089.0	4281295.0	Residential	2.55	0.010	0.08
9002	669099.0	4281295.0	Residential	2.55	0.010	0.08
9003	669109.0	4281295.0	Residential	2.53	0.010	0.08
9004	669119.0	4281295.0	Residential	2.50	0.010	0.07
9005	669129.0	4281295.0	Residential	2.44	0.010	0.07
9006	669139.0	4281295.0	Residential	2.37	0.009	0.07
9007	669149.0	4281295.0	Residential	2.28	0.009	0.06
9008	669159.0	4281295.0	Residential	2.19	0.009	0.06
9009	669169.0	4281295.0	Residential	2.10	0.008	0.06
9010	669179.0	4281295.0	Residential	2.00	0.008	0.05
9011	669189.0	4281295.0	Residential	1.91	0.008	0.05
9012	669199.0	4281295.0	Residential	1.81	0.007	0.05
9013	669209.0	4281295.0	Residential	1.71	0.007	0.05
9014	669219.0	4281295.0	Residential	1.62	0.006	0.04
9015	669229.0	4281295.0	Residential	1.53	0.006	0.04
9016	669239.0	4281295.0	Residential	1.44	0.006	0.04
9017	669249.0	4281295.0	Residential	1.36	0.005	0.04
9018	669259.0	4281295.0	Residential	1.28	0.005	0.04
9019	669269.0	4281295.0	Residential	1.20	0.005	0.03
9020	669279.0	4281295.0	Residential	1.12	0.004	0.03
9021	669289.0	4281295.0	Residential	1.05	0.004	0.03
9022	669299.0	4281295.0	Residential	0.99	0.004	0.03
9023	669309.0	4281295.0	Residential	0.93	0.003	0.03
9024	669319.0	4281295.0	Residential	0.87	0.003	0.03

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
9025	669329.0	4281295.0	Residential	0.82	0.003	0.03
9026	669339.0	4281295.0	Residential	0.77	0.003	0.02
9027	669349.0	4281295.0	Roadway/Open Space	-	-	0.02
9028	669359.0	4281295.0	Roadway/Open Space	-	-	0.02
9029	669369.0	4281295.0	Residential	0.65	0.002	0.02
9030	669379.0	4281295.0	Residential	0.62	0.002	0.02
9031	669389.0	4281295.0	Residential	0.60	0.002	0.02
9032	669399.0	4281295.0	Roadway/Open Space	-	-	0.02
9033	669409.0	4281295.0	Residential	0.55	0.002	0.02
9034	669419.0	4281295.0	Residential	0.52	0.002	0.02
9035	669429.0	4281295.0	Residential	0.50	0.002	0.02
9036	669439.0	4281295.0	Residential	0.47	0.002	0.02
9037	669449.0	4281295.0	Residential	0.45	0.002	0.02
9038	669459.0	4281295.0	Residential	0.42	0.002	0.02
9039	668579.0	4281305.0	Roadway/Open Space	-	-	0.03
9040	668589.0	4281305.0	Roadway/Open Space	-	-	0.03
9041	668599.0	4281305.0	Roadway/Open Space	-	-	0.03
9042	668609.0	4281305.0	Roadway/Open Space	-	-	0.02
9043	668619.0	4281305.0	Roadway/Open Space	-	-	0.02
9044	668629.0	4281305.0	Roadway/Open Space	-	-	0.03
9045	668639.0	4281305.0	Roadway/Open Space	-	-	0.03
9046	668649.0	4281305.0	Roadway/Open Space	-	-	0.03
9047	668659.0	4281305.0	Roadway/Open Space	-	-	0.03
9048	668669.0	4281305.0	Roadway/Open Space	-	-	0.03
9049	668679.0	4281305.0	Roadway/Open Space	-	-	0.03
9050	668689.0	4281305.0	Roadway/Open Space	-	-	0.04
9051	668699.0	4281305.0	Roadway/Open Space	-	-	0.04
9052	668709.0	4281305.0	Roadway/Open Space	-	-	0.04
9053	668719.0	4281305.0	Roadway/Open Space	-	-	0.04
9054	668729.0	4281305.0	Other Sensitive	0.71	0.003	0.04
9055	668739.0	4281305.0	Other Sensitive	0.74	0.003	0.04
9056	668749.0	4281305.0	Other Sensitive	0.76	0.003	0.04
9057	668759.0	4281305.0	Other Sensitive	0.79	0.003	0.05
9058	668769.0	4281305.0	Other Sensitive	0.82	0.003	0.05
9059	668779.0	4281305.0	Other Sensitive	0.86	0.003	0.05
9060	668789.0	4281305.0	Other Sensitive	0.90	0.003	0.05
9061	668799.0	4281305.0	Other Sensitive	0.94	0.004	0.05
9062	668809.0	4281305.0	Other Sensitive	0.98	0.004	0.05
9063	668819.0	4281305.0	Other Sensitive	1.04	0.004	0.05
9064	668829.0	4281305.0	Other Sensitive	1.10	0.004	0.06
9065	668839.0	4281305.0	Other Sensitive	1.16	0.004	0.06
9066	668849.0	4281305.0	Other Sensitive	1.23	0.005	0.06
9067	668859.0	4281305.0	Other Sensitive	1.31	0.005	0.06
9068	668869.0	4281305.0	Other Sensitive	1.39	0.005	0.06
9069	668879.0	4281305.0	Other Sensitive	1.49	0.006	0.06
9070	668889.0	4281305.0	Other Sensitive	1.59	0.006	0.06
9071	668899.0	4281305.0	Other Sensitive	1.69	0.007	0.07
9072	668909.0	4281305.0	Other Sensitive	1.78	0.007	0.09
9073	668919.0	4281305.0	Other Sensitive	1.88	0.007	0.09
9074	668929.0	4281305.0	Other Sensitive	1.98	0.008	0.09
9075	668939.0	4281305.0	Other Sensitive	2.06	0.008	0.10
9076	668949.0	4281305.0	Other Sensitive	2.12	0.008	0.10
9077	668959.0	4281305.0	Residential	2.15	0.009	0.10
9078	668969.0	4281305.0	Residential	2.16	0.009	0.10
9079	668979.0	4281305.0	Residential	2.14	0.008	0.10
9080	668989.0	4281305.0	Residential	2.08	0.008	0.09
9081	668999.0	4281305.0	Residential	2.01	0.008	0.08
9082	669009.0	4281305.0	Residential	1.94	0.008	0.08
9083	669019.0	4281305.0	Roadway/Open Space	-	-	0.07
9084	669029.0	4281305.0	Roadway/Open Space	-	-	0.07
9085	669039.0	4281305.0	Residential	1.96	0.008	0.07
9086	669049.0	4281305.0	Residential	2.03	0.008	0.07
9087	669059.0	4281305.0	Residential	2.11	0.008	0.07
9088	669069.0	4281305.0	Residential	2.21	0.009	0.07
9089	669079.0	4281305.0	Residential	2.31	0.009	0.08
9090	669089.0	4281305.0	Residential	2.38	0.009	0.08
9091	669099.0	4281305.0	Residential	2.39	0.010	0.08
9092	669109.0	4281305.0	Residential	2.38	0.010	0.08
9093	669119.0	4281305.0	Residential	2.35	0.009	0.07
9094	669129.0	4281305.0	Residential	2.30	0.009	0.07
9095	669139.0	4281305.0	Residential	2.23	0.009	0.07
9096	669149.0	4281305.0	Residential	2.16	0.009	0.06
9097	669159.0	4281305.0	Residential	2.08	0.008	0.06
9098	669169.0	4281305.0	Residential	2.00	0.008	0.05
9099	669179.0	4281305.0	Residential	1.91	0.008	0.05
9100	669189.0	4281305.0	Residential	1.83	0.007	0.05
9101	669199.0	4281305.0	Residential	1.74	0.007	0.05
9102	669209.0	4281305.0	Residential	1.65	0.006	0.05
9103	669219.0	4281305.0	Residential	1.56	0.006	0.04
9104	669229.0	4281305.0	Residential	1.48	0.006	0.04
9105	669239.0	4281305.0	Residential	1.40	0.005	0.04
9106	669249.0	4281305.0	Residential	1.32	0.005	0.04
9107	669259.0	4281305.0	Residential	1.25	0.005	0.04
9108	669269.0	4281305.0	Residential	1.18	0.004	0.03

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
9109	669279.0	4281305.0	Residential	1.10	0.004	0.03
9110	669289.0	4281305.0	Residential	1.03	0.004	0.03
9111	669299.0	4281305.0	Residential	0.97	0.004	0.03
9112	669309.0	4281305.0	Residential	0.91	0.003	0.03
9113	669319.0	4281305.0	Residential	0.85	0.003	0.03
9114	669329.0	4281305.0	Residential	0.80	0.003	0.02
9115	669339.0	4281305.0	Residential	0.75	0.003	0.02
9116	669349.0	4281305.0	Residential	0.71	0.003	0.02
9117	669359.0	4281305.0	Roadway/Open Space	-	-	0.02
9118	669369.0	4281305.0	Residential	0.64	0.002	0.02
9119	669379.0	4281305.0	Residential	0.61	0.002	0.02
9120	669389.0	4281305.0	Roadway/Open Space	-	-	0.02
9121	669399.0	4281305.0	Residential	0.57	0.002	0.02
9122	669409.0	4281305.0	Residential	0.55	0.002	0.02
9123	669419.0	4281305.0	Residential	0.52	0.002	0.02
9124	669429.0	4281305.0	Residential	0.49	0.002	0.02
9125	669439.0	4281305.0	Residential	0.46	0.002	0.02
9126	669449.0	4281305.0	Residential	0.43	0.002	0.02
9127	668579.0	4281315.0	Roadway/Open Space	-	-	0.03
9128	668589.0	4281315.0	Roadway/Open Space	-	-	0.03
9129	668599.0	4281315.0	Roadway/Open Space	-	-	0.03
9130	668609.0	4281315.0	Roadway/Open Space	-	-	0.02
9131	668619.0	4281315.0	Roadway/Open Space	-	-	0.02
9132	668629.0	4281315.0	Roadway/Open Space	-	-	0.03
9133	668639.0	4281315.0	Roadway/Open Space	-	-	0.03
9134	668649.0	4281315.0	Roadway/Open Space	-	-	0.03
9135	668659.0	4281315.0	Roadway/Open Space	-	-	0.03
9136	668669.0	4281315.0	Roadway/Open Space	-	-	0.03
9137	668679.0	4281315.0	Roadway/Open Space	-	-	0.03
9138	668689.0	4281315.0	Roadway/Open Space	-	-	0.04
9139	668699.0	4281315.0	Roadway/Open Space	-	-	0.04
9140	668709.0	4281315.0	Roadway/Open Space	-	-	0.04
9141	668719.0	4281315.0	Roadway/Open Space	-	-	0.04
9142	668729.0	4281315.0	Other Sensitive	0.69	0.003	0.04
9143	668739.0	4281315.0	Other Sensitive	0.72	0.003	0.04
9144	668749.0	4281315.0	Other Sensitive	0.74	0.003	0.04
9145	668759.0	4281315.0	Other Sensitive	0.77	0.003	0.04
9146	668769.0	4281315.0	Other Sensitive	0.79	0.003	0.05
9147	668779.0	4281315.0	Other Sensitive	0.82	0.003	0.05
9148	668789.0	4281315.0	Other Sensitive	0.86	0.003	0.05
9149	668799.0	4281315.0	Other Sensitive	0.90	0.003	0.05
9150	668809.0	4281315.0	Other Sensitive	0.95	0.004	0.05
9151	668819.0	4281315.0	Other Sensitive	1.01	0.004	0.05
9152	668829.0	4281315.0	Other Sensitive	1.07	0.004	0.05
9153	668839.0	4281315.0	Other Sensitive	1.13	0.004	0.05
9154	668849.0	4281315.0	Other Sensitive	1.20	0.005	0.06
9155	668859.0	4281315.0	Other Sensitive	1.28	0.005	0.06
9156	668869.0	4281315.0	Other Sensitive	1.36	0.005	0.06
9157	668879.0	4281315.0	Other Sensitive	1.44	0.006	0.06
9158	668889.0	4281315.0	Other Sensitive	1.54	0.006	0.06
9159	668899.0	4281315.0	Other Sensitive	1.63	0.006	0.08
9160	668909.0	4281315.0	Other Sensitive	1.71	0.007	0.09
9161	668919.0	4281315.0	Other Sensitive	1.80	0.007	0.09
9162	668929.0	4281315.0	Other Sensitive	1.89	0.007	0.09
9163	668939.0	4281315.0	Other Sensitive	1.97	0.008	0.09
9164	668949.0	4281315.0	Residential	2.03	0.008	0.10
9165	668959.0	4281315.0	Residential	2.05	0.008	0.10
9166	668969.0	4281315.0	Residential	2.04	0.008	0.10
9167	668979.0	4281315.0	Residential	2.01	0.008	0.09
9168	668989.0	4281315.0	Residential	1.95	0.008	0.09
9169	668999.0	4281315.0	Residential	1.91	0.008	0.08
9170	669009.0	4281315.0	Roadway/Open Space	-	-	0.08
9171	669019.0	4281315.0	Roadway/Open Space	-	-	0.07
9172	669029.0	4281315.0	Roadway/Open Space	-	-	0.07
9173	669039.0	4281315.0	Residential	1.83	0.007	0.06
9174	669049.0	4281315.0	Residential	1.89	0.007	0.07
9175	669059.0	4281315.0	Residential	1.97	0.008	0.07
9176	669069.0	4281315.0	Residential	2.06	0.008	0.07
9177	669079.0	4281315.0	Residential	2.14	0.008	0.07
9178	669089.0	4281315.0	Residential	2.22	0.009	0.07
9179	669099.0	4281315.0	Residential	2.25	0.009	0.07
9180	669109.0	4281315.0	Residential	2.24	0.009	0.07
9181	669119.0	4281315.0	Residential	2.22	0.009	0.07
9182	669129.0	4281315.0	Residential	2.18	0.009	0.06
9183	669139.0	4281315.0	Residential	2.11	0.008	0.06
9184	669149.0	4281315.0	Residential	2.05	0.008	0.06
9185	669159.0	4281315.0	Residential	1.98	0.008	0.06
9186	669169.0	4281315.0	Residential	1.90	0.008	0.05
9187	669179.0	4281315.0	Residential	1.82	0.007	0.05
9188	669189.0	4281315.0	Residential	1.74	0.007	0.05
9189	669199.0	4281315.0	Residential	1.67	0.007	0.04
9190	669209.0	4281315.0	Residential	1.59	0.006	0.04
9191	669219.0	4281315.0	Residential	1.51	0.006	0.04
9192	669229.0	4281315.0	Residential	1.43	0.006	0.04

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
9193	669239.0	4281315.0	Residential	1.35	0.005	0.04
9194	669249.0	4281315.0	Residential	1.28	0.005	0.03
9195	669259.0	4281315.0	Residential	1.21	0.005	0.03
9196	669269.0	4281315.0	Residential	1.14	0.004	0.03
9197	669279.0	4281315.0	Residential	1.07	0.004	0.03
9198	669289.0	4281315.0	Residential	1.01	0.004	0.03
9199	669299.0	4281315.0	Residential	0.95	0.004	0.03
9200	669309.0	4281315.0	Residential	0.89	0.003	0.03
9201	669319.0	4281315.0	Residential	0.84	0.003	0.02
9202	669329.0	4281315.0	Residential	0.79	0.003	0.02
9203	669339.0	4281315.0	Residential	0.74	0.003	0.02
9204	669349.0	4281315.0	Residential	0.70	0.003	0.02
9205	669359.0	4281315.0	Residential	0.66	0.002	0.02
9206	669369.0	4281315.0	Roadway/Open Space	-	-	0.02
9207	669379.0	4281315.0	Roadway/Open Space	-	-	0.02
9208	669389.0	4281315.0	Residential	0.58	0.002	0.02
9209	669399.0	4281315.0	Residential	0.56	0.002	0.02
9210	669409.0	4281315.0	Residential	0.54	0.002	0.02
9211	669419.0	4281315.0	Residential	0.51	0.002	0.02
9212	669429.0	4281315.0	Residential	0.48	0.002	0.02
9213	669439.0	4281315.0	Residential	0.45	0.002	0.02
9214	668589.0	4281325.0	Roadway/Open Space	-	-	0.03
9215	668599.0	4281325.0	Roadway/Open Space	-	-	0.03
9216	668609.0	4281325.0	Roadway/Open Space	-	-	0.02
9217	668619.0	4281325.0	Roadway/Open Space	-	-	0.02
9218	668629.0	4281325.0	Roadway/Open Space	-	-	0.03
9219	668639.0	4281325.0	Roadway/Open Space	-	-	0.03
9220	668649.0	4281325.0	Roadway/Open Space	-	-	0.03
9221	668659.0	4281325.0	Roadway/Open Space	-	-	0.03
9222	668669.0	4281325.0	Roadway/Open Space	-	-	0.03
9223	668679.0	4281325.0	Roadway/Open Space	-	-	0.03
9224	668689.0	4281325.0	Roadway/Open Space	-	-	0.03
9225	668699.0	4281325.0	Roadway/Open Space	-	-	0.04
9226	668709.0	4281325.0	Roadway/Open Space	-	-	0.04
9227	668719.0	4281325.0	Other Sensitive	0.66	0.003	0.04
9228	668729.0	4281325.0	Other Sensitive	0.68	0.003	0.04
9229	668739.0	4281325.0	Other Sensitive	0.70	0.003	0.04
9230	668749.0	4281325.0	Other Sensitive	0.72	0.003	0.04
9231	668759.0	4281325.0	Other Sensitive	0.75	0.003	0.04
9232	668769.0	4281325.0	Other Sensitive	0.77	0.003	0.04
9233	668779.0	4281325.0	Other Sensitive	0.79	0.003	0.04
9234	668789.0	4281325.0	Other Sensitive	0.83	0.003	0.05
9235	668799.0	4281325.0	Other Sensitive	0.87	0.003	0.05
9236	668809.0	4281325.0	Other Sensitive	0.93	0.004	0.05
9237	668819.0	4281325.0	Other Sensitive	0.98	0.004	0.05
9238	668829.0	4281325.0	Other Sensitive	1.04	0.004	0.05
9239	668839.0	4281325.0	Other Sensitive	1.11	0.004	0.05
9240	668849.0	4281325.0	Other Sensitive	1.17	0.004	0.05
9241	668859.0	4281325.0	Other Sensitive	1.24	0.005	0.06
9242	668869.0	4281325.0	Other Sensitive	1.31	0.005	0.06
9243	668879.0	4281325.0	Other Sensitive	1.40	0.005	0.06
9244	668889.0	4281325.0	Other Sensitive	1.49	0.006	0.07
9245	668899.0	4281325.0	Other Sensitive	1.57	0.006	0.08
9246	668909.0	4281325.0	Other Sensitive	1.64	0.006	0.08
9247	668919.0	4281325.0	Other Sensitive	1.73	0.007	0.08
9248	668929.0	4281325.0	Other Sensitive	1.81	0.007	0.09
9249	668939.0	4281325.0	Other Sensitive	1.88	0.007	0.09
9250	668949.0	4281325.0	Residential	1.94	0.008	0.10
9251	668959.0	4281325.0	Residential	1.95	0.008	0.10
9252	668969.0	4281325.0	Residential	1.93	0.008	0.09
9253	668979.0	4281325.0	Residential	1.89	0.008	0.09
9254	668989.0	4281325.0	Residential	1.85	0.007	0.08
9255	668999.0	4281325.0	Roadway/Open Space	-	-	0.08
9256	669009.0	4281325.0	Residential	1.77	0.007	0.08
9257	669019.0	4281325.0	Residential	1.74	0.007	0.07
9258	669029.0	4281325.0	Roadway/Open Space	-	-	0.07
9259	669039.0	4281325.0	Roadway/Open Space	-	-	0.06
9260	669049.0	4281325.0	Residential	1.77	0.007	0.06
9261	669059.0	4281325.0	Residential	1.85	0.007	0.07
9262	669069.0	4281325.0	Residential	1.93	0.008	0.07
9263	669079.0	4281325.0	Residential	2.01	0.008	0.07
9264	669089.0	4281325.0	Residential	2.07	0.008	0.07
9265	669099.0	4281325.0	Residential	2.11	0.008	0.07
9266	669109.0	4281325.0	Residential	2.12	0.008	0.07
9267	669119.0	4281325.0	Residential	2.10	0.008	0.07
9268	669129.0	4281325.0	Residential	2.05	0.008	0.06
9269	669139.0	4281325.0	Residential	2.00	0.008	0.06
9270	669149.0	4281325.0	Residential	1.94	0.008	0.06
9271	669159.0	4281325.0	Residential	1.87	0.007	0.05
9272	669169.0	4281325.0	Residential	1.80	0.007	0.05
9273	669179.0	4281325.0	Residential	1.74	0.007	0.05
9274	669189.0	4281325.0	Residential	1.67	0.007	0.05
9275	669199.0	4281325.0	Residential	1.60	0.006	0.04
9276	669209.0	4281325.0	Residential	1.53	0.006	0.04

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
9277	669219.0	4281325.0	Residential	1.46	0.006	0.04
9278	669229.0	4281325.0	Residential	1.38	0.005	0.04
9279	669239.0	4281325.0	Residential	1.31	0.005	0.03
9280	669249.0	4281325.0	Residential	1.24	0.005	0.03
9281	669259.0	4281325.0	Residential	1.17	0.004	0.03
9282	669269.0	4281325.0	Residential	1.11	0.004	0.03
9283	669279.0	4281325.0	Residential	1.04	0.004	0.03
9284	669289.0	4281325.0	Residential	0.98	0.004	0.03
9285	669299.0	4281325.0	Residential	0.93	0.003	0.02
9286	669309.0	4281325.0	Residential	0.87	0.003	0.02
9287	669319.0	4281325.0	Residential	0.82	0.003	0.02
9288	669329.0	4281325.0	Residential	0.77	0.003	0.02
9289	669339.0	4281325.0	Residential	0.73	0.003	0.02
9290	669349.0	4281325.0	Residential	0.68	0.003	0.02
9291	669359.0	4281325.0	Roadway/Open Space	-	-	0.02
9292	669369.0	4281325.0	Roadway/Open Space	-	-	0.02
9293	669379.0	4281325.0	Roadway/Open Space	-	-	0.02
9294	669389.0	4281325.0	Residential	0.57	0.002	0.02
9295	669399.0	4281325.0	Residential	0.56	0.002	0.02
9296	669409.0	4281325.0	Residential	0.54	0.002	0.02
9297	669419.0	4281325.0	Residential	0.51	0.002	0.02
9298	669429.0	4281325.0	Residential	0.47	0.002	0.02
9299	668599.0	4281335.0	Roadway/Open Space	-	-	0.03
9300	668609.0	4281335.0	Roadway/Open Space	-	-	0.02
9301	668619.0	4281335.0	Roadway/Open Space	-	-	0.02
9302	668629.0	4281335.0	Roadway/Open Space	-	-	0.02
9303	668639.0	4281335.0	Roadway/Open Space	-	-	0.03
9304	668649.0	4281335.0	Roadway/Open Space	-	-	0.03
9305	668659.0	4281335.0	Roadway/Open Space	-	-	0.03
9306	668669.0	4281335.0	Roadway/Open Space	-	-	0.03
9307	668679.0	4281335.0	Roadway/Open Space	-	-	0.03
9308	668689.0	4281335.0	Roadway/Open Space	-	-	0.03
9309	668699.0	4281335.0	Roadway/Open Space	-	-	0.04
9310	668709.0	4281335.0	Roadway/Open Space	-	-	0.04
9311	668719.0	4281335.0	Other Sensitive	0.66	0.002	0.04
9312	668729.0	4281335.0	Other Sensitive	0.67	0.003	0.04
9313	668739.0	4281335.0	Other Sensitive	0.69	0.003	0.04
9314	668749.0	4281335.0	Other Sensitive	0.71	0.003	0.04
9315	668759.0	4281335.0	Other Sensitive	0.73	0.003	0.04
9316	668769.0	4281335.0	Other Sensitive	0.75	0.003	0.04
9317	668779.0	4281335.0	Other Sensitive	0.77	0.003	0.04
9318	668789.0	4281335.0	Other Sensitive	0.81	0.003	0.04
9319	668799.0	4281335.0	Other Sensitive	0.85	0.003	0.05
9320	668809.0	4281335.0	Other Sensitive	0.90	0.003	0.05
9321	668819.0	4281335.0	Other Sensitive	0.96	0.004	0.05
9322	668829.0	4281335.0	Other Sensitive	1.02	0.004	0.05
9323	668839.0	4281335.0	Other Sensitive	1.08	0.004	0.05
9324	668849.0	4281335.0	Other Sensitive	1.14	0.004	0.05
9325	668859.0	4281335.0	Other Sensitive	1.20	0.005	0.05
9326	668869.0	4281335.0	Other Sensitive	1.27	0.005	0.06
9327	668879.0	4281335.0	Other Sensitive	1.36	0.005	0.06
9328	668889.0	4281335.0	Other Sensitive	1.43	0.006	0.07
9329	668899.0	4281335.0	Other Sensitive	1.51	0.006	0.08
9330	668909.0	4281335.0	Other Sensitive	1.58	0.006	0.08
9331	668919.0	4281335.0	Other Sensitive	1.66	0.007	0.08
9332	668929.0	4281335.0	Other Sensitive	1.73	0.007	0.09
9333	668939.0	4281335.0	Residential	1.80	0.007	0.09
9334	668949.0	4281335.0	Residential	1.84	0.007	0.09
9335	668959.0	4281335.0	Residential	1.85	0.007	0.09
9336	668969.0	4281335.0	Residential	1.82	0.007	0.09
9337	668979.0	4281335.0	Residential	1.79	0.007	0.08
9338	668989.0	4281335.0	Roadway/Open Space	-	-	0.08
9339	668999.0	4281335.0	Residential	1.72	0.007	0.08
9340	669009.0	4281335.0	Residential	1.69	0.007	0.07
9341	669019.0	4281335.0	Residential	1.66	0.007	0.07
9342	669029.0	4281335.0	Residential	1.64	0.006	0.07
9343	669039.0	4281335.0	Roadway/Open Space	-	-	0.06
9344	669049.0	4281335.0	Residential	1.66	0.007	0.06
9345	669059.0	4281335.0	Residential	1.73	0.007	0.06
9346	669069.0	4281335.0	Residential	1.82	0.007	0.06
9347	669079.0	4281335.0	Residential	1.89	0.007	0.07
9348	669089.0	4281335.0	Residential	1.95	0.008	0.07
9349	669099.0	4281335.0	Residential	1.99	0.008	0.07
9350	669109.0	4281335.0	Residential	2.00	0.008	0.07
9351	669119.0	4281335.0	Residential	1.98	0.008	0.06
9352	669129.0	4281335.0	Residential	1.94	0.008	0.06
9353	669139.0	4281335.0	Residential	1.89	0.007	0.06
9354	669149.0	4281335.0	Residential	1.83	0.007	0.06
9355	669159.0	4281335.0	Residential	1.78	0.007	0.05
9356	669169.0	4281335.0	Residential	1.72	0.007	0.05
9357	669179.0	4281335.0	Residential	1.66	0.007	0.04
9358	669189.0	4281335.0	Residential	1.60	0.006	0.04
9359	669199.0	4281335.0	Residential	1.54	0.006	0.04
9360	669209.0	4281335.0	Residential	1.47	0.006	0.04

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
9361	669219.0	4281335.0	Residential	1.40	0.005	0.04
9362	669229.0	4281335.0	Residential	1.34	0.005	0.04
9363	669239.0	4281335.0	Residential	1.27	0.005	0.03
9364	669249.0	4281335.0	Residential	1.20	0.005	0.03
9365	669259.0	4281335.0	Residential	1.13	0.004	0.03
9366	669269.0	4281335.0	Residential	1.07	0.004	0.03
9367	669279.0	4281335.0	Residential	1.02	0.004	0.03
9368	669289.0	4281335.0	Residential	0.96	0.004	0.03
9369	669299.0	4281335.0	Residential	0.90	0.003	0.02
9370	669309.0	4281335.0	Residential	0.85	0.003	0.02
9371	669319.0	4281335.0	Residential	0.81	0.003	0.02
9372	669329.0	4281335.0	Residential	0.76	0.003	0.02
9373	669339.0	4281335.0	Residential	0.71	0.003	0.02
9374	669349.0	4281335.0	Roadway/Open Space	-	-	0.02
9375	669359.0	4281335.0	Roadway/Open Space	-	-	0.02
9376	669369.0	4281335.0	Residential	0.60	0.002	0.02
9377	669379.0	4281335.0	Roadway/Open Space	-	-	0.02
9378	669389.0	4281335.0	Roadway/Open Space	-	-	0.02
9379	669399.0	4281335.0	Residential	0.55	0.002	0.02
9380	669409.0	4281335.0	Residential	0.54	0.002	0.02
9381	669419.0	4281335.0	Residential	0.51	0.002	0.02
9382	669429.0	4281335.0	Residential	0.47	0.002	0.02
9383	668599.0	4281345.0	Roadway/Open Space	-	-	0.02
9384	668609.0	4281345.0	Roadway/Open Space	-	-	0.02
9385	668619.0	4281345.0	Roadway/Open Space	-	-	0.02
9386	668629.0	4281345.0	Roadway/Open Space	-	-	0.02
9387	668639.0	4281345.0	Roadway/Open Space	-	-	0.03
9388	668649.0	4281345.0	Roadway/Open Space	-	-	0.03
9389	668659.0	4281345.0	Roadway/Open Space	-	-	0.03
9390	668669.0	4281345.0	Roadway/Open Space	-	-	0.03
9391	668679.0	4281345.0	Roadway/Open Space	-	-	0.03
9392	668689.0	4281345.0	Roadway/Open Space	-	-	0.03
9393	668699.0	4281345.0	Roadway/Open Space	-	-	0.03
9394	668709.0	4281345.0	Roadway/Open Space	-	-	0.04
9395	668719.0	4281345.0	Other Sensitive	0.65	0.002	0.04
9396	668729.0	4281345.0	Other Sensitive	0.67	0.003	0.04
9397	668739.0	4281345.0	Other Sensitive	0.68	0.003	0.04
9398	668749.0	4281345.0	Other Sensitive	0.70	0.003	0.04
9399	668759.0	4281345.0	Other Sensitive	0.71	0.003	0.04
9400	668769.0	4281345.0	Other Sensitive	0.73	0.003	0.04
9401	668779.0	4281345.0	Other Sensitive	0.75	0.003	0.04
9402	668789.0	4281345.0	Other Sensitive	0.79	0.003	0.04
9403	668799.0	4281345.0	Other Sensitive	0.83	0.003	0.05
9404	668809.0	4281345.0	Other Sensitive	0.88	0.003	0.05
9405	668819.0	4281345.0	Other Sensitive	0.93	0.004	0.05
9406	668829.0	4281345.0	Other Sensitive	0.99	0.004	0.05
9407	668839.0	4281345.0	Other Sensitive	1.04	0.004	0.05
9408	668849.0	4281345.0	Other Sensitive	1.10	0.004	0.05
9409	668859.0	4281345.0	Other Sensitive	1.16	0.004	0.05
9410	668869.0	4281345.0	Other Sensitive	1.24	0.005	0.06
9411	668879.0	4281345.0	Other Sensitive	1.31	0.005	0.06
9412	668889.0	4281345.0	Other Sensitive	1.38	0.005	0.07
9413	668899.0	4281345.0	Other Sensitive	1.45	0.006	0.08
9414	668909.0	4281345.0	Other Sensitive	1.52	0.006	0.08
9415	668919.0	4281345.0	Other Sensitive	1.59	0.006	0.08
9416	668929.0	4281345.0	Residential	1.66	0.007	0.08
9417	668939.0	4281345.0	Residential	1.71	0.007	0.09
9418	668949.0	4281345.0	Residential	1.74	0.007	0.09
9419	668959.0	4281345.0	Residential	1.74	0.007	0.09
9420	668969.0	4281345.0	Residential	1.72	0.007	0.08
9421	668979.0	4281345.0	Roadway/Open Space	-	-	0.08
9422	668989.0	4281345.0	Residential	1.65	0.007	0.08
9423	668999.0	4281345.0	Residential	1.63	0.006	0.08
9424	669009.0	4281345.0	Residential	1.60	0.006	0.07
9425	669019.0	4281345.0	Residential	1.58	0.006	0.07
9426	669029.0	4281345.0	Residential	1.56	0.006	0.06
9427	669039.0	4281345.0	Residential	1.55	0.006	0.06
9428	669049.0	4281345.0	Roadway/Open Space	-	-	0.06
9429	669059.0	4281345.0	Residential	1.62	0.006	0.06
9430	669069.0	4281345.0	Residential	1.70	0.007	0.06
9431	669079.0	4281345.0	Residential	1.78	0.007	0.06
9432	669089.0	4281345.0	Residential	1.84	0.007	0.06
9433	669099.0	4281345.0	Residential	1.88	0.007	0.06
9434	669109.0	4281345.0	Residential	1.89	0.007	0.06
9435	669119.0	4281345.0	Residential	1.86	0.007	0.06
9436	669129.0	4281345.0	Residential	1.83	0.007	0.06
9437	669139.0	4281345.0	Residential	1.78	0.007	0.05
9438	669149.0	4281345.0	Residential	1.74	0.007	0.05
9439	669159.0	4281345.0	Residential	1.68	0.007	0.05
9440	669169.0	4281345.0	Residential	1.63	0.006	0.05
9441	669179.0	4281345.0	Residential	1.58	0.006	0.04
9442	669189.0	4281345.0	Residential	1.53	0.006	0.04
9443	669199.0	4281345.0	Residential	1.47	0.006	0.04
9444	669209.0	4281345.0	Residential	1.41	0.006	0.04

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
9445	669219.0	4281345.0	Residential	1.35	0.005	0.04
9446	669229.0	4281345.0	Residential	1.29	0.005	0.03
9447	669239.0	4281345.0	Residential	1.22	0.005	0.03
9448	669249.0	4281345.0	Residential	1.16	0.004	0.03
9449	669259.0	4281345.0	Residential	1.10	0.004	0.03
9450	669269.0	4281345.0	Residential	1.04	0.004	0.03
9451	669279.0	4281345.0	Residential	0.98	0.004	0.03
9452	669289.0	4281345.0	Residential	0.93	0.004	0.02
9453	669299.0	4281345.0	Residential	0.88	0.003	0.02
9454	669309.0	4281345.0	Residential	0.84	0.003	0.02
9455	669319.0	4281345.0	Residential	0.79	0.003	0.02
9456	669329.0	4281345.0	Roadway/Open Space	-	-	0.02
9457	669339.0	4281345.0	Roadway/Open Space	-	-	0.02
9458	669349.0	4281345.0	Residential	0.66	0.002	0.02
9459	669359.0	4281345.0	Residential	0.63	0.002	0.02
9460	669369.0	4281345.0	Residential	0.59	0.002	0.02
9461	669379.0	4281345.0	Residential	0.57	0.002	0.02
9462	669389.0	4281345.0	Roadway/Open Space	-	-	0.02
9463	669399.0	4281345.0	Residential	0.54	0.002	0.02
9464	669409.0	4281345.0	Residential	0.53	0.002	0.02
9465	669419.0	4281345.0	Residential	0.50	0.002	0.02
9466	668609.0	4281355.0	Roadway/Open Space	-	-	0.02
9467	668619.0	4281355.0	Roadway/Open Space	-	-	0.02
9468	668629.0	4281355.0	Roadway/Open Space	-	-	0.02
9469	668639.0	4281355.0	Roadway/Open Space	-	-	0.02
9470	668649.0	4281355.0	Roadway/Open Space	-	-	0.03
9471	668659.0	4281355.0	Roadway/Open Space	-	-	0.03
9472	668669.0	4281355.0	Roadway/Open Space	-	-	0.03
9473	668679.0	4281355.0	Roadway/Open Space	-	-	0.03
9474	668689.0	4281355.0	Roadway/Open Space	-	-	0.03
9475	668699.0	4281355.0	Roadway/Open Space	-	-	0.03
9476	668709.0	4281355.0	Roadway/Open Space	-	-	0.04
9477	668719.0	4281355.0	Roadway/Open Space	-	-	0.04
9478	668729.0	4281355.0	Other Sensitive	0.65	0.002	0.04
9479	668739.0	4281355.0	Other Sensitive	0.67	0.003	0.04
9480	668749.0	4281355.0	Other Sensitive	0.68	0.003	0.04
9481	668759.0	4281355.0	Other Sensitive	0.70	0.003	0.04
9482	668769.0	4281355.0	Other Sensitive	0.72	0.003	0.04
9483	668779.0	4281355.0	Other Sensitive	0.74	0.003	0.04
9484	668789.0	4281355.0	Other Sensitive	0.77	0.003	0.04
9485	668799.0	4281355.0	Other Sensitive	0.82	0.003	0.04
9486	668809.0	4281355.0	Other Sensitive	0.87	0.003	0.04
9487	668819.0	4281355.0	Other Sensitive	0.92	0.004	0.05
9488	668829.0	4281355.0	Other Sensitive	0.97	0.004	0.05
9489	668839.0	4281355.0	Other Sensitive	1.02	0.004	0.05
9490	668849.0	4281355.0	Other Sensitive	1.08	0.004	0.05
9491	668859.0	4281355.0	Other Sensitive	1.15	0.004	0.05
9492	668869.0	4281355.0	Other Sensitive	1.21	0.005	0.06
9493	668879.0	4281355.0	Other Sensitive	1.27	0.005	0.07
9494	668889.0	4281355.0	Other Sensitive	1.33	0.005	0.07
9495	668899.0	4281355.0	Other Sensitive	1.40	0.005	0.07
9496	668909.0	4281355.0	Other Sensitive	1.46	0.006	0.07
9497	668919.0	4281355.0	Residential	1.53	0.006	0.08
9498	668929.0	4281355.0	Residential	1.59	0.006	0.08
9499	668939.0	4281355.0	Residential	1.63	0.006	0.08
9500	668949.0	4281355.0	Residential	1.65	0.007	0.08
9501	668959.0	4281355.0	Residential	1.64	0.007	0.08
9502	668969.0	4281355.0	Roadway/Open Space	-	-	0.08
9503	668979.0	4281355.0	Roadway/Open Space	-	-	0.08
9504	668989.0	4281355.0	Residential	1.57	0.006	0.07
9505	668999.0	4281355.0	Residential	1.54	0.006	0.07
9506	669009.0	4281355.0	Residential	1.52	0.006	0.07
9507	669019.0	4281355.0	Residential	1.50	0.006	0.07
9508	669029.0	4281355.0	Residential	1.48	0.006	0.06
9509	669039.0	4281355.0	Residential	1.48	0.006	0.06
9510	669049.0	4281355.0	Roadway/Open Space	-	-	0.06
9511	669059.0	4281355.0	Residential	1.53	0.006	0.06
9512	669069.0	4281355.0	Residential	1.60	0.006	0.06
9513	669079.0	4281355.0	Residential	1.66	0.007	0.06
9514	669089.0	4281355.0	Residential	1.72	0.007	0.06
9515	669099.0	4281355.0	Residential	1.76	0.007	0.06
9516	669109.0	4281355.0	Residential	1.76	0.007	0.06
9517	669119.0	4281355.0	Residential	1.75	0.007	0.06
9518	669129.0	4281355.0	Residential	1.72	0.007	0.05
9519	669139.0	4281355.0	Residential	1.68	0.007	0.05
9520	669149.0	4281355.0	Residential	1.64	0.006	0.05
9521	669159.0	4281355.0	Residential	1.59	0.006	0.05
9522	669169.0	4281355.0	Residential	1.55	0.006	0.04
9523	669179.0	4281355.0	Residential	1.50	0.006	0.04
9524	669189.0	4281355.0	Residential	1.46	0.006	0.04
9525	669199.0	4281355.0	Residential	1.41	0.006	0.04
9526	669209.0	4281355.0	Residential	1.36	0.005	0.04
9527	669219.0	4281355.0	Residential	1.30	0.005	0.04
9528	669229.0	4281355.0	Residential	1.24	0.005	0.03

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
9529	669239.0	4281355.0	Residential	1.18	0.005	0.03
9530	669249.0	4281355.0	Residential	1.12	0.004	0.03
9531	669259.0	4281355.0	Residential	1.07	0.004	0.03
9532	669269.0	4281355.0	Residential	1.01	0.004	0.03
9533	669279.0	4281355.0	Residential	0.96	0.004	0.02
9534	669289.0	4281355.0	Residential	0.90	0.003	0.02
9535	669299.0	4281355.0	Residential	0.86	0.003	0.02
9536	669309.0	4281355.0	Roadway/Open Space	-	-	0.02
9537	669319.0	4281355.0	Roadway/Open Space	-	-	0.02
9538	669329.0	4281355.0	Residential	0.74	0.003	0.02
9539	669339.0	4281355.0	Residential	0.69	0.003	0.02
9540	669349.0	4281355.0	Residential	0.65	0.002	0.02
9541	669359.0	4281355.0	Residential	0.62	0.002	0.02
9542	669369.0	4281355.0	Residential	0.59	0.002	0.02
9543	669379.0	4281355.0	Residential	0.56	0.002	0.02
9544	669389.0	4281355.0	Residential	0.54	0.002	0.02
9545	669399.0	4281355.0	Roadway/Open Space	-	-	0.02
9546	669409.0	4281355.0	Residential	0.51	0.002	0.02
9547	668619.0	4281365.0	Roadway/Open Space	-	-	0.02
9548	668629.0	4281365.0	Roadway/Open Space	-	-	0.02
9549	668639.0	4281365.0	Roadway/Open Space	-	-	0.02
9550	668649.0	4281365.0	Roadway/Open Space	-	-	0.02
9551	668659.0	4281365.0	Roadway/Open Space	-	-	0.02
9552	668669.0	4281365.0	Roadway/Open Space	-	-	0.03
9553	668679.0	4281365.0	Roadway/Open Space	-	-	0.03
9554	668689.0	4281365.0	Roadway/Open Space	-	-	0.03
9555	668699.0	4281365.0	Roadway/Open Space	-	-	0.03
9556	668709.0	4281365.0	Roadway/Open Space	-	-	0.04
9557	668719.0	4281365.0	Roadway/Open Space	-	-	0.04
9558	668729.0	4281365.0	Roadway/Open Space	-	-	0.04
9559	668739.0	4281365.0	Roadway/Open Space	-	-	0.04
9560	668749.0	4281365.0	Roadway/Open Space	-	-	0.04
9561	668759.0	4281365.0	Other Sensitive	0.68	0.003	0.04
9562	668769.0	4281365.0	Other Sensitive	0.71	0.003	0.04
9563	668779.0	4281365.0	Other Sensitive	0.73	0.003	0.04
9564	668789.0	4281365.0	Other Sensitive	0.76	0.003	0.04
9565	668799.0	4281365.0	Other Sensitive	0.81	0.003	0.04
9566	668809.0	4281365.0	Other Sensitive	0.85	0.003	0.04
9567	668819.0	4281365.0	Other Sensitive	0.90	0.003	0.05
9568	668829.0	4281365.0	Other Sensitive	0.95	0.004	0.05
9569	668839.0	4281365.0	Other Sensitive	1.00	0.004	0.05
9570	668849.0	4281365.0	Other Sensitive	1.06	0.004	0.05
9571	668859.0	4281365.0	Other Sensitive	1.13	0.004	0.05
9572	668869.0	4281365.0	Other Sensitive	1.18	0.005	0.06
9573	668879.0	4281365.0	Other Sensitive	1.23	0.005	0.07
9574	668889.0	4281365.0	Other Sensitive	1.29	0.005	0.07
9575	668899.0	4281365.0	Other Sensitive	1.35	0.005	0.07
9576	668909.0	4281365.0	Other Sensitive	1.41	0.006	0.07
9577	668919.0	4281365.0	Residential	1.46	0.006	0.08
9578	668929.0	4281365.0	Residential	1.50	0.006	0.08
9579	668939.0	4281365.0	Residential	1.54	0.006	0.08
9580	668949.0	4281365.0	Residential	1.55	0.006	0.08
9581	668959.0	4281365.0	Roadway/Open Space	-	-	0.08
9582	668969.0	4281365.0	Roadway/Open Space	-	-	0.07
9583	668979.0	4281365.0	Residential	1.51	0.006	0.07
9584	668989.0	4281365.0	Residential	1.48	0.006	0.07
9585	668999.0	4281365.0	Residential	1.45	0.006	0.07
9586	669009.0	4281365.0	Residential	1.43	0.006	0.07
9587	669019.0	4281365.0	Residential	1.41	0.006	0.06
9588	669029.0	4281365.0	Residential	1.41	0.006	0.06
9589	669039.0	4281365.0	Residential	1.41	0.006	0.06
9590	669049.0	4281365.0	Residential	1.41	0.006	0.05
9591	669059.0	4281365.0	Roadway/Open Space	-	-	0.05
9592	669069.0	4281365.0	Residential	1.49	0.006	0.05
9593	669079.0	4281365.0	Residential	1.54	0.006	0.05
9594	669089.0	4281365.0	Residential	1.59	0.006	0.06
9595	669099.0	4281365.0	Residential	1.62	0.006	0.06
9596	669109.0	4281365.0	Residential	1.63	0.006	0.05
9597	669119.0	4281365.0	Residential	1.63	0.006	0.05
9598	669129.0	4281365.0	Residential	1.61	0.006	0.05
9599	669139.0	4281365.0	Residential	1.58	0.006	0.05
9600	669149.0	4281365.0	Residential	1.54	0.006	0.05
9601	669159.0	4281365.0	Residential	1.50	0.006	0.04
9602	669169.0	4281365.0	Residential	1.47	0.006	0.04
9603	669179.0	4281365.0	Residential	1.43	0.006	0.04
9604	669189.0	4281365.0	Residential	1.39	0.005	0.04
9605	669199.0	4281365.0	Residential	1.35	0.005	0.04
9606	669209.0	4281365.0	Residential	1.30	0.005	0.04
9607	669219.0	4281365.0	Residential	1.25	0.005	0.03
9608	669229.0	4281365.0	Residential	1.19	0.005	0.03
9609	669239.0	4281365.0	Residential	1.14	0.004	0.03
9610	669249.0	4281365.0	Residential	1.08	0.004	0.03
9611	669259.0	4281365.0	Residential	1.03	0.004	0.03
9612	669269.0	4281365.0	Residential	0.98	0.004	0.02

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
9613	669279.0	4281365.0	Roadway/Open Space	-	-	0.02
9614	669289.0	4281365.0	Roadway/Open Space	-	-	0.02
9615	669299.0	4281365.0	Roadway/Open Space	-	-	0.02
9616	669309.0	4281365.0	Residential	0.79	0.003	0.02
9617	669319.0	4281365.0	Residential	0.76	0.003	0.02
9618	669329.0	4281365.0	Residential	0.72	0.003	0.02
9619	669339.0	4281365.0	Residential	0.68	0.003	0.02
9620	669349.0	4281365.0	Residential	0.64	0.002	0.02
9621	669359.0	4281365.0	Residential	0.60	0.002	0.02
9622	669369.0	4281365.0	Residential	0.57	0.002	0.01
9623	669379.0	4281365.0	Residential	0.55	0.002	0.01
9624	669389.0	4281365.0	Residential	0.53	0.002	0.02
9625	668619.0	4281375.0	Roadway/Open Space	-	-	0.02
9626	668629.0	4281375.0	Roadway/Open Space	-	-	0.02
9627	668639.0	4281375.0	Roadway/Open Space	-	-	0.02
9628	668649.0	4281375.0	Roadway/Open Space	-	-	0.02
9629	668659.0	4281375.0	Roadway/Open Space	-	-	0.02
9630	668669.0	4281375.0	Roadway/Open Space	-	-	0.03
9631	668679.0	4281375.0	Roadway/Open Space	-	-	0.03
9632	668689.0	4281375.0	Roadway/Open Space	-	-	0.03
9633	668699.0	4281375.0	Roadway/Open Space	-	-	0.03
9634	668709.0	4281375.0	Roadway/Open Space	-	-	0.04
9635	668719.0	4281375.0	Other Sensitive	0.62	0.002	0.04
9636	668729.0	4281375.0	Other Sensitive	0.63	0.002	0.04
9637	668739.0	4281375.0	Other Sensitive	0.64	0.002	0.04
9638	668749.0	4281375.0	Other Sensitive	0.66	0.002	0.04
9639	668759.0	4281375.0	Roadway/Open Space	-	-	0.04
9640	668769.0	4281375.0	Roadway/Open Space	-	-	0.04
9641	668779.0	4281375.0	Roadway/Open Space	-	-	0.04
9642	668789.0	4281375.0	Other Sensitive	0.75	0.003	0.04
9643	668799.0	4281375.0	Other Sensitive	0.79	0.003	0.04
9644	668809.0	4281375.0	Other Sensitive	0.84	0.003	0.04
9645	668819.0	4281375.0	Other Sensitive	0.88	0.003	0.04
9646	668829.0	4281375.0	Other Sensitive	0.93	0.004	0.05
9647	668839.0	4281375.0	Other Sensitive	0.98	0.004	0.05
9648	668849.0	4281375.0	Other Sensitive	1.04	0.004	0.05
9649	668859.0	4281375.0	Other Sensitive	1.10	0.004	0.05
9650	668869.0	4281375.0	Other Sensitive	1.15	0.004	0.06
9651	668879.0	4281375.0	Other Sensitive	1.19	0.005	0.07
9652	668889.0	4281375.0	Other Sensitive	1.24	0.005	0.07
9653	668899.0	4281375.0	Other Sensitive	1.30	0.005	0.07
9654	668909.0	4281375.0	Residential	1.34	0.005	0.07
9655	668919.0	4281375.0	Residential	1.38	0.005	0.07
9656	668929.0	4281375.0	Residential	1.41	0.006	0.08
9657	668939.0	4281375.0	Residential	1.44	0.006	0.08
9658	668949.0	4281375.0	Residential	1.45	0.006	0.08
9659	668959.0	4281375.0	Roadway/Open Space	-	-	0.07
9660	668969.0	4281375.0	Residential	1.44	0.006	0.07
9661	668979.0	4281375.0	Residential	1.42	0.006	0.07
9662	668989.0	4281375.0	Residential	1.40	0.006	0.07
9663	668999.0	4281375.0	Residential	1.38	0.005	0.07
9664	669009.0	4281375.0	Residential	1.35	0.005	0.06
9665	669019.0	4281375.0	Residential	1.33	0.005	0.06
9666	669029.0	4281375.0	Residential	1.33	0.005	0.06
9667	669039.0	4281375.0	Residential	1.33	0.005	0.05
9668	669049.0	4281375.0	Residential	1.34	0.005	0.05
9669	669059.0	4281375.0	Roadway/Open Space	-	-	0.05
9670	669069.0	4281375.0	Roadway/Open Space	-	-	0.05
9671	669079.0	4281375.0	Residential	1.43	0.006	0.05
9672	669089.0	4281375.0	Residential	1.46	0.006	0.05
9673	669099.0	4281375.0	Residential	1.48	0.006	0.05
9674	669109.0	4281375.0	Residential	1.50	0.006	0.05
9675	669119.0	4281375.0	Roadway/Open Space	-	-	0.05
9676	669129.0	4281375.0	Roadway/Open Space	-	-	0.05
9677	669139.0	4281375.0	Roadway/Open Space	-	-	0.04
9678	669149.0	4281375.0	Roadway/Open Space	-	-	0.04
9679	669159.0	4281375.0	Residential	1.43	0.006	0.04
9680	669169.0	4281375.0	Residential	1.40	0.006	0.04
9681	669179.0	4281375.0	Residential	1.37	0.005	0.04
9682	669189.0	4281375.0	Residential	1.33	0.005	0.04
9683	669199.0	4281375.0	Residential	1.29	0.005	0.04
9684	669209.0	4281375.0	Residential	1.25	0.005	0.03
9685	669219.0	4281375.0	Residential	1.20	0.005	0.03
9686	669229.0	4281375.0	Roadway/Open Space	-	-	0.03
9687	669239.0	4281375.0	Roadway/Open Space	-	-	0.03
9688	669249.0	4281375.0	Roadway/Open Space	-	-	0.03
9689	669259.0	4281375.0	Roadway/Open Space	-	-	0.02
9690	669269.0	4281375.0	Roadway/Open Space	-	-	0.02
9691	669279.0	4281375.0	Residential	0.90	0.003	0.02
9692	669289.0	4281375.0	Residential	0.85	0.003	0.02
9693	669299.0	4281375.0	Residential	0.81	0.003	0.02
9694	669309.0	4281375.0	Residential	0.77	0.003	0.02
9695	669319.0	4281375.0	Residential	0.73	0.003	0.02
9696	669329.0	4281375.0	Residential	0.70	0.003	0.02

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
9697	669339.0	4281375.0	Residential	0.66	0.002	0.02
9698	669349.0	4281375.0	Residential	0.62	0.002	0.02
9699	669359.0	4281375.0	Residential	0.59	0.002	0.01
9700	669369.0	4281375.0	Residential	0.56	0.002	0.01
9701	669379.0	4281375.0	Residential	0.53	0.002	0.01
9702	668629.0	4281385.0	Roadway/Open Space	-	-	0.02
9703	668639.0	4281385.0	Roadway/Open Space	-	-	0.02
9704	668649.0	4281385.0	Roadway/Open Space	-	-	0.02
9705	668659.0	4281385.0	Roadway/Open Space	-	-	0.03
9706	668669.0	4281385.0	Roadway/Open Space	-	-	0.03
9707	668679.0	4281385.0	Roadway/Open Space	-	-	0.03
9708	668689.0	4281385.0	Roadway/Open Space	-	-	0.03
9709	668699.0	4281385.0	Roadway/Open Space	-	-	0.03
9710	668709.0	4281385.0	Roadway/Open Space	-	-	0.04
9711	668719.0	4281385.0	Other Sensitive	0.61	0.002	0.04
9712	668729.0	4281385.0	Other Sensitive	0.62	0.002	0.04
9713	668739.0	4281385.0	Other Sensitive	0.63	0.002	0.04
9714	668749.0	4281385.0	Other Sensitive	0.64	0.002	0.04
9715	668759.0	4281385.0	Other Sensitive	0.66	0.003	0.04
9716	668769.0	4281385.0	Other Sensitive	0.69	0.003	0.04
9717	668779.0	4281385.0	Other Sensitive	0.71	0.003	0.04
9718	668789.0	4281385.0	Roadway/Open Space	-	-	0.04
9719	668799.0	4281385.0	Roadway/Open Space	-	-	0.04
9720	668809.0	4281385.0	Roadway/Open Space	-	-	0.04
9721	668819.0	4281385.0	Other Sensitive	0.86	0.003	0.04
9722	668829.0	4281385.0	Other Sensitive	0.91	0.004	0.05
9723	668839.0	4281385.0	Other Sensitive	0.96	0.004	0.05
9724	668849.0	4281385.0	Other Sensitive	1.01	0.004	0.05
9725	668859.0	4281385.0	Other Sensitive	1.06	0.004	0.06
9726	668869.0	4281385.0	Other Sensitive	1.11	0.004	0.06
9727	668879.0	4281385.0	Other Sensitive	1.15	0.004	0.06
9728	668889.0	4281385.0	Other Sensitive	1.20	0.005	0.07
9729	668899.0	4281385.0	Other Sensitive	1.24	0.005	0.07
9730	668909.0	4281385.0	Residential	1.27	0.005	0.07
9731	668919.0	4281385.0	Residential	1.30	0.005	0.07
9732	668929.0	4281385.0	Residential	1.33	0.005	0.07
9733	668939.0	4281385.0	Residential	1.34	0.005	0.07
9734	668949.0	4281385.0	Roadway/Open Space	-	-	0.07
9735	668959.0	4281385.0	Roadway/Open Space	-	-	0.07
9736	668969.0	4281385.0	Residential	1.34	0.005	0.07
9737	668979.0	4281385.0	Residential	1.33	0.005	0.07
9738	668989.0	4281385.0	Residential	1.32	0.005	0.07
9739	668999.0	4281385.0	Residential	1.31	0.005	0.06
9740	669009.0	4281385.0	Residential	1.29	0.005	0.06
9741	669019.0	4281385.0	Residential	1.27	0.005	0.06
9742	669029.0	4281385.0	Residential	1.26	0.005	0.06
9743	669039.0	4281385.0	Residential	1.26	0.005	0.05
9744	669049.0	4281385.0	Residential	1.27	0.005	0.05
9745	669059.0	4281385.0	Residential	1.29	0.005	0.05
9746	669069.0	4281385.0	Roadway/Open Space	-	-	0.05
9747	669079.0	4281385.0	Roadway/Open Space	-	-	0.05
9748	669089.0	4281385.0	Roadway/Open Space	-	-	0.05
9749	669099.0	4281385.0	Roadway/Open Space	-	-	0.05
9750	669109.0	4281385.0	Roadway/Open Space	-	-	0.04
9751	669119.0	4281385.0	Roadway/Open Space	-	-	0.04
9752	669129.0	4281385.0	Residential	1.38	0.005	0.04
9753	669139.0	4281385.0	Residential	1.38	0.005	0.04
9754	669149.0	4281385.0	Roadway/Open Space	-	-	0.04
9755	669159.0	4281385.0	Roadway/Open Space	-	-	0.04
9756	669169.0	4281385.0	Roadway/Open Space	-	-	0.04
9757	669179.0	4281385.0	Roadway/Open Space	-	-	0.04
9758	669189.0	4281385.0	Roadway/Open Space	-	-	0.04
9759	669199.0	4281385.0	Roadway/Open Space	-	-	0.03
9760	669209.0	4281385.0	Roadway/Open Space	-	-	0.03
9761	669219.0	4281385.0	Roadway/Open Space	-	-	0.03
9762	669229.0	4281385.0	Residential	1.10	0.004	0.03
9763	669239.0	4281385.0	Residential	1.05	0.004	0.03
9764	669249.0	4281385.0	Residential	1.00	0.004	0.03
9765	669259.0	4281385.0	Residential	0.96	0.004	0.02
9766	669269.0	4281385.0	Residential	0.92	0.004	0.02
9767	669279.0	4281385.0	Residential	0.87	0.003	0.02
9768	669289.0	4281385.0	Residential	0.83	0.003	0.02
9769	669299.0	4281385.0	Residential	0.78	0.003	0.02
9770	669309.0	4281385.0	Residential	0.74	0.003	0.02
9771	669319.0	4281385.0	Residential	0.70	0.003	0.02
9772	669329.0	4281385.0	Residential	0.67	0.003	0.02
9773	669339.0	4281385.0	Residential	0.64	0.002	0.02
9774	669349.0	4281385.0	Residential	0.61	0.002	0.01
9775	669359.0	4281385.0	Residential	0.57	0.002	0.01
9776	669369.0	4281385.0	Residential	0.55	0.002	0.01
9777	668639.0	4281395.0	Roadway/Open Space	-	-	0.02
9778	668649.0	4281395.0	Roadway/Open Space	-	-	0.02
9779	668659.0	4281395.0	Roadway/Open Space	-	-	0.03
9780	668669.0	4281395.0	Roadway/Open Space	-	-	0.03

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
9781	668679.0	4281395.0	Roadway/Open Space	-	-	0.03
9782	668689.0	4281395.0	Roadway/Open Space	-	-	0.03
9783	668699.0	4281395.0	Roadway/Open Space	-	-	0.03
9784	668709.0	4281395.0	Roadway/Open Space	-	-	0.03
9785	668719.0	4281395.0	Other Sensitive	0.59	0.002	0.04
9786	668729.0	4281395.0	Other Sensitive	0.60	0.002	0.04
9787	668739.0	4281395.0	Other Sensitive	0.62	0.002	0.04
9788	668749.0	4281395.0	Other Sensitive	0.63	0.002	0.04
9789	668759.0	4281395.0	Other Sensitive	0.65	0.002	0.04
9790	668769.0	4281395.0	Other Sensitive	0.68	0.003	0.04
9791	668779.0	4281395.0	Other Sensitive	0.70	0.003	0.04
9792	668789.0	4281395.0	Other Sensitive	0.73	0.003	0.04
9793	668799.0	4281395.0	Other Sensitive	0.77	0.003	0.04
9794	668809.0	4281395.0	Other Sensitive	0.81	0.003	0.04
9795	668819.0	4281395.0	Roadway/Open Space	-	-	0.04
9796	668829.0	4281395.0	Roadway/Open Space	-	-	0.04
9797	668839.0	4281395.0	Roadway/Open Space	-	-	0.05
9798	668849.0	4281395.0	Other Sensitive	0.98	0.004	0.05
9799	668859.0	4281395.0	Other Sensitive	1.03	0.004	0.06
9800	668869.0	4281395.0	Other Sensitive	1.07	0.004	0.06
9801	668879.0	4281395.0	Other Sensitive	1.11	0.004	0.06
9802	668889.0	4281395.0	Other Sensitive	1.15	0.005	0.06
9803	668899.0	4281395.0	Other Sensitive	1.18	0.005	0.07
9804	668909.0	4281395.0	Residential	1.21	0.005	0.07
9805	668919.0	4281395.0	Residential	1.22	0.005	0.07
9806	668929.0	4281395.0	Residential	1.24	0.005	0.07
9807	668939.0	4281395.0	Residential	1.26	0.005	0.07
9808	668949.0	4281395.0	Roadway/Open Space	-	-	0.07
9809	668959.0	4281395.0	Residential	1.26	0.005	0.06
9810	668969.0	4281395.0	Residential	1.26	0.005	0.06
9811	668979.0	4281395.0	Residential	1.27	0.005	0.06
9812	668989.0	4281395.0	Residential	1.26	0.005	0.06
9813	668999.0	4281395.0	Residential	1.24	0.005	0.06
9814	669009.0	4281395.0	Residential	1.23	0.005	0.06
9815	669019.0	4281395.0	Residential	1.21	0.005	0.06
9816	669029.0	4281395.0	Residential	1.20	0.005	0.05
9817	669039.0	4281395.0	Residential	1.20	0.005	0.05
9818	669049.0	4281395.0	Residential	1.20	0.005	0.05
9819	669059.0	4281395.0	Residential	1.21	0.005	0.05
9820	669069.0	4281395.0	Roadway/Open Space	-	-	0.04
9821	669079.0	4281395.0	Roadway/Open Space	-	-	0.04
9822	669089.0	4281395.0	Residential	1.22	0.005	0.04
9823	669099.0	4281395.0	Residential	1.24	0.005	0.04
9824	669109.0	4281395.0	Residential	1.26	0.005	0.04
9825	669119.0	4281395.0	Residential	1.27	0.005	0.04
9826	669129.0	4281395.0	Residential	1.28	0.005	0.04
9827	669139.0	4281395.0	Residential	1.29	0.005	0.04
9828	669149.0	4281395.0	Residential	1.30	0.005	0.04
9829	669159.0	4281395.0	Residential	1.29	0.005	0.04
9830	669169.0	4281395.0	Residential	1.27	0.005	0.04
9831	669179.0	4281395.0	Residential	1.25	0.005	0.04
9832	669189.0	4281395.0	Residential	1.22	0.005	0.04
9833	669199.0	4281395.0	Residential	1.18	0.005	0.03
9834	669209.0	4281395.0	Residential	1.14	0.004	0.03
9835	669219.0	4281395.0	Residential	1.09	0.004	0.03
9836	669229.0	4281395.0	Residential	1.05	0.004	0.03
9837	669239.0	4281395.0	Residential	1.00	0.004	0.03
9838	669249.0	4281395.0	Residential	0.96	0.004	0.03
9839	669259.0	4281395.0	Residential	0.92	0.004	0.02
9840	669269.0	4281395.0	Residential	0.89	0.003	0.02
9841	669279.0	4281395.0	Residential	0.84	0.003	0.02
9842	669289.0	4281395.0	Residential	0.80	0.003	0.02
9843	669299.0	4281395.0	Residential	0.75	0.003	0.02
9844	669309.0	4281395.0	Residential	0.71	0.003	0.02
9845	669319.0	4281395.0	Residential	0.68	0.003	0.02
9846	669329.0	4281395.0	Residential	0.65	0.002	0.02
9847	669339.0	4281395.0	Residential	0.62	0.002	0.01
9848	669349.0	4281395.0	Residential	0.59	0.002	0.01
9849	669359.0	4281395.0	Residential	0.56	0.002	0.01
9850	668649.0	4281405.0	Roadway/Open Space	-	-	0.03
9851	668659.0	4281405.0	Roadway/Open Space	-	-	0.03
9852	668669.0	4281405.0	Roadway/Open Space	-	-	0.03
9853	668679.0	4281405.0	Roadway/Open Space	-	-	0.03
9854	668689.0	4281405.0	Roadway/Open Space	-	-	0.03
9855	668699.0	4281405.0	Roadway/Open Space	-	-	0.03
9856	668709.0	4281405.0	Other Sensitive	0.57	0.002	0.03
9857	668719.0	4281405.0	Other Sensitive	0.58	0.002	0.03
9858	668729.0	4281405.0	Other Sensitive	0.59	0.002	0.04
9859	668739.0	4281405.0	Other Sensitive	0.60	0.002	0.04
9860	668749.0	4281405.0	Other Sensitive	0.62	0.002	0.04
9861	668759.0	4281405.0	Other Sensitive	0.64	0.002	0.04
9862	668769.0	4281405.0	Other Sensitive	0.67	0.003	0.04
9863	668779.0	4281405.0	Other Sensitive	0.69	0.003	0.04
9864	668789.0	4281405.0	Other Sensitive	0.72	0.003	0.04

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
9865	668799.0	4281405.0	Other Sensitive	0.76	0.003	0.04
9866	668809.0	4281405.0	Other Sensitive	0.80	0.003	0.04
9867	668819.0	4281405.0	Other Sensitive	0.84	0.003	0.04
9868	668829.0	4281405.0	Other Sensitive	0.87	0.003	0.04
9869	668839.0	4281405.0	Other Sensitive	0.91	0.004	0.05
9870	668849.0	4281405.0	Roadway/Open Space	-	-	0.05
9871	668859.0	4281405.0	Roadway/Open Space	-	-	0.06
9872	668869.0	4281405.0	Roadway/Open Space	-	-	0.06
9873	668879.0	4281405.0	Other Sensitive	1.07	0.004	0.06
9874	668889.0	4281405.0	Other Sensitive	1.09	0.004	0.06
9875	668899.0	4281405.0	Residential	1.13	0.004	0.06
9876	668909.0	4281405.0	Residential	1.15	0.005	0.07
9877	668919.0	4281405.0	Residential	1.15	0.005	0.07
9878	668929.0	4281405.0	Residential	1.16	0.005	0.07
9879	668939.0	4281405.0	Roadway/Open Space	-	-	0.07
9880	668949.0	4281405.0	Roadway/Open Space	-	-	0.06
9881	668959.0	4281405.0	Residential	1.18	0.005	0.06
9882	668969.0	4281405.0	Residential	1.19	0.005	0.06
9883	668979.0	4281405.0	Residential	1.20	0.005	0.06
9884	668989.0	4281405.0	Residential	1.20	0.005	0.06
9885	668999.0	4281405.0	Residential	1.19	0.005	0.06
9886	669009.0	4281405.0	Residential	1.18	0.005	0.06
9887	669019.0	4281405.0	Residential	1.17	0.005	0.06
9888	669029.0	4281405.0	Residential	1.15	0.005	0.05
9889	669039.0	4281405.0	Residential	1.15	0.004	0.05
9890	669049.0	4281405.0	Residential	1.15	0.004	0.05
9891	669059.0	4281405.0	Roadway/Open Space	-	-	0.05
9892	669069.0	4281405.0	Roadway/Open Space	-	-	0.04
9893	669079.0	4281405.0	Residential	1.13	0.004	0.04
9894	669089.0	4281405.0	Residential	1.13	0.004	0.04
9895	669099.0	4281405.0	Residential	1.15	0.005	0.04
9896	669109.0	4281405.0	Residential	1.16	0.005	0.04
9897	669119.0	4281405.0	Residential	1.18	0.005	0.04
9898	669129.0	4281405.0	Residential	1.20	0.005	0.04
9899	669139.0	4281405.0	Residential	1.22	0.005	0.04
9900	669149.0	4281405.0	Residential	1.23	0.005	0.04
9901	669159.0	4281405.0	Residential	1.23	0.005	0.04
9902	669169.0	4281405.0	Residential	1.22	0.005	0.04
9903	669179.0	4281405.0	Residential	1.20	0.005	0.04
9904	669189.0	4281405.0	Residential	1.17	0.005	0.03
9905	669199.0	4281405.0	Residential	1.13	0.004	0.03
9906	669209.0	4281405.0	Residential	1.08	0.004	0.03
9907	669219.0	4281405.0	Residential	1.04	0.004	0.03
9908	669229.0	4281405.0	Residential	1.00	0.004	0.03
9909	669239.0	4281405.0	Residential	0.96	0.004	0.03
9910	669249.0	4281405.0	Residential	0.92	0.004	0.03
9911	669259.0	4281405.0	Residential	0.89	0.003	0.02
9912	669269.0	4281405.0	Residential	0.85	0.003	0.02
9913	669279.0	4281405.0	Residential	0.81	0.003	0.02
9914	669289.0	4281405.0	Residential	0.76	0.003	0.02
9915	669299.0	4281405.0	Residential	0.72	0.003	0.02
9916	669309.0	4281405.0	Residential	0.69	0.003	0.02
9917	669319.0	4281405.0	Residential	0.65	0.002	0.01
9918	669329.0	4281405.0	Residential	0.62	0.002	0.01
9919	669339.0	4281405.0	Residential	0.60	0.002	0.01
9920	668659.0	4281415.0	Roadway/Open Space	-	-	0.03
9921	668669.0	4281415.0	Roadway/Open Space	-	-	0.03
9922	668679.0	4281415.0	Roadway/Open Space	-	-	0.03
9923	668689.0	4281415.0	Roadway/Open Space	-	-	0.03
9924	668699.0	4281415.0	Roadway/Open Space	-	-	0.03
9925	668709.0	4281415.0	Other Sensitive	0.57	0.002	0.03
9926	668719.0	4281415.0	Other Sensitive	0.57	0.002	0.03
9927	668729.0	4281415.0	Other Sensitive	0.58	0.002	0.04
9928	668739.0	4281415.0	Other Sensitive	0.60	0.002	0.03
9929	668749.0	4281415.0	Other Sensitive	0.62	0.002	0.04
9930	668759.0	4281415.0	Other Sensitive	0.64	0.002	0.04
9931	668769.0	4281415.0	Other Sensitive	0.66	0.003	0.04
9932	668779.0	4281415.0	Other Sensitive	0.68	0.003	0.04
9933	668789.0	4281415.0	Other Sensitive	0.71	0.003	0.04
9934	668799.0	4281415.0	Other Sensitive	0.75	0.003	0.04
9935	668809.0	4281415.0	Other Sensitive	0.78	0.003	0.04
9936	668819.0	4281415.0	Other Sensitive	0.82	0.003	0.04
9937	668829.0	4281415.0	Other Sensitive	0.85	0.003	0.04
9938	668839.0	4281415.0	Other Sensitive	0.88	0.003	0.05
9939	668849.0	4281415.0	Other Sensitive	0.92	0.004	0.05
9940	668859.0	4281415.0	Other Sensitive	0.96	0.004	0.06
9941	668869.0	4281415.0	Other Sensitive	0.99	0.004	0.06
9942	668879.0	4281415.0	Roadway/Open Space	-	-	0.06
9943	668889.0	4281415.0	Roadway/Open Space	-	-	0.06
9944	668899.0	4281415.0	Residential	1.08	0.004	0.06
9945	668909.0	4281415.0	Residential	1.09	0.004	0.06
9946	668919.0	4281415.0	Residential	1.09	0.004	0.06
9947	668929.0	4281415.0	Residential	1.11	0.004	0.06
9948	668939.0	4281415.0	Roadway/Open Space	-	-	0.06

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
9949	668949.0	4281415.0	Residential	1.13	0.004	0.06
9950	668959.0	4281415.0	Residential	1.13	0.004	0.06
9951	668969.0	4281415.0	Residential	1.13	0.004	0.06
9952	668979.0	4281415.0	Residential	1.13	0.004	0.06
9953	668989.0	4281415.0	Residential	1.14	0.005	0.06
9954	668999.0	4281415.0	Residential	1.14	0.004	0.06
9955	669009.0	4281415.0	Residential	1.13	0.004	0.06
9956	669019.0	4281415.0	Residential	1.12	0.004	0.05
9957	669029.0	4281415.0	Residential	1.10	0.004	0.05
9958	669039.0	4281415.0	Residential	1.09	0.004	0.05
9959	669049.0	4281415.0	Roadway/Open Space	-	-	0.04
9960	669059.0	4281415.0	Residential	1.07	0.004	0.04
9961	669069.0	4281415.0	Residential	1.06	0.004	0.04
9962	669079.0	4281415.0	Residential	1.06	0.004	0.04
9963	669089.0	4281415.0	Residential	1.06	0.004	0.04
9964	669099.0	4281415.0	Residential	1.07	0.004	0.04
9965	669109.0	4281415.0	Residential	1.08	0.004	0.03
9966	669119.0	4281415.0	Residential	1.10	0.004	0.03
9967	669129.0	4281415.0	Residential	1.13	0.004	0.04
9968	669139.0	4281415.0	Residential	1.15	0.005	0.04
9969	669149.0	4281415.0	Residential	1.16	0.005	0.04
9970	669159.0	4281415.0	Residential	1.17	0.005	0.04
9971	669169.0	4281415.0	Residential	1.16	0.005	0.03
9972	669179.0	4281415.0	Residential	1.15	0.004	0.03
9973	669189.0	4281415.0	Residential	1.12	0.004	0.03
9974	669199.0	4281415.0	Residential	1.07	0.004	0.03
9975	669209.0	4281415.0	Residential	1.03	0.004	0.03
9976	669219.0	4281415.0	Residential	0.99	0.004	0.03
9977	669229.0	4281415.0	Residential	0.95	0.004	0.03
9978	669239.0	4281415.0	Residential	0.92	0.004	0.02
9979	669249.0	4281415.0	Residential	0.89	0.003	0.02
9980	669259.0	4281415.0	Residential	0.85	0.003	0.02
9981	669269.0	4281415.0	Residential	0.81	0.003	0.02
9982	669279.0	4281415.0	Residential	0.77	0.003	0.02
9983	669289.0	4281415.0	Residential	0.73	0.003	0.02
9984	669299.0	4281415.0	Residential	0.69	0.003	0.02
9985	669309.0	4281415.0	Residential	0.66	0.003	0.02
9986	669319.0	4281415.0	Residential	0.63	0.002	0.01
9987	668669.0	4281425.0	Roadway/Open Space	-	-	0.03
9988	668679.0	4281425.0	Roadway/Open Space	-	-	0.03
9989	668689.0	4281425.0	Roadway/Open Space	-	-	0.03
9990	668699.0	4281425.0	Roadway/Open Space	-	-	0.03
9991	668709.0	4281425.0	Other Sensitive	0.56	0.002	0.03
9992	668719.0	4281425.0	Other Sensitive	0.57	0.002	0.03
9993	668729.0	4281425.0	Other Sensitive	0.58	0.002	0.03
9994	668739.0	4281425.0	Other Sensitive	0.59	0.002	0.03
9995	668749.0	4281425.0	Other Sensitive	0.61	0.002	0.03
9996	668759.0	4281425.0	Other Sensitive	0.63	0.002	0.04
9997	668769.0	4281425.0	Other Sensitive	0.65	0.002	0.04
9998	668779.0	4281425.0	Other Sensitive	0.67	0.003	0.04
9999	668789.0	4281425.0	Other Sensitive	0.70	0.003	0.04
10000	668799.0	4281425.0	Other Sensitive	0.74	0.003	0.04
10001	668809.0	4281425.0	Other Sensitive	0.77	0.003	0.04
10002	668819.0	4281425.0	Other Sensitive	0.80	0.003	0.04
10003	668829.0	4281425.0	Other Sensitive	0.83	0.003	0.04
10004	668839.0	4281425.0	Other Sensitive	0.86	0.003	0.05
10005	668849.0	4281425.0	Other Sensitive	0.89	0.003	0.05
10006	668859.0	4281425.0	Other Sensitive	0.92	0.004	0.05
10007	668869.0	4281425.0	Other Sensitive	0.95	0.004	0.05
10008	668879.0	4281425.0	Other Sensitive	0.98	0.004	0.06
10009	668889.0	4281425.0	Roadway/Open Space	-	-	0.06
10010	668899.0	4281425.0	Residential	1.03	0.004	0.06
10011	668909.0	4281425.0	Residential	1.03	0.004	0.06
10012	668919.0	4281425.0	Residential	1.04	0.004	0.06
10013	668929.0	4281425.0	Residential	1.06	0.004	0.06
10014	668939.0	4281425.0	Roadway/Open Space	-	-	0.06
10015	668949.0	4281425.0	Residential	1.08	0.004	0.06
10016	668959.0	4281425.0	Residential	1.08	0.004	0.06
10017	668969.0	4281425.0	Residential	1.08	0.004	0.06
10018	668979.0	4281425.0	Residential	1.08	0.004	0.06
10019	668989.0	4281425.0	Residential	1.08	0.004	0.06
10020	668999.0	4281425.0	Residential	1.08	0.004	0.06
10021	669009.0	4281425.0	Residential	1.08	0.004	0.05
10022	669019.0	4281425.0	Residential	1.06	0.004	0.05
10023	669029.0	4281425.0	Residential	1.05	0.004	0.05
10024	669039.0	4281425.0	Roadway/Open Space	-	-	0.04
10025	669049.0	4281425.0	Residential	1.02	0.004	0.04
10026	669059.0	4281425.0	Residential	1.01	0.004	0.04
10027	669069.0	4281425.0	Residential	1.01	0.004	0.04
10028	669079.0	4281425.0	Residential	1.00	0.004	0.04
10029	669089.0	4281425.0	Residential	1.00	0.004	0.03
10030	669099.0	4281425.0	Residential	1.00	0.004	0.03
10031	669109.0	4281425.0	Residential	1.01	0.004	0.03
10032	669119.0	4281425.0	Residential	1.03	0.004	0.03

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
10033	669129.0	4281425.0	Residential	1.06	0.004	0.03
10034	669139.0	4281425.0	Residential	1.09	0.004	0.03
10035	669149.0	4281425.0	Residential	1.11	0.004	0.03
10036	669159.0	4281425.0	Residential	1.11	0.004	0.03
10037	669169.0	4281425.0	Residential	1.11	0.004	0.03
10038	669179.0	4281425.0	Residential	1.09	0.004	0.03
10039	669189.0	4281425.0	Residential	1.06	0.004	0.03
10040	669199.0	4281425.0	Residential	1.02	0.004	0.03
10041	669209.0	4281425.0	Residential	0.98	0.004	0.03
10042	669219.0	4281425.0	Residential	0.94	0.004	0.03
10043	669229.0	4281425.0	Residential	0.91	0.004	0.02
10044	669239.0	4281425.0	Residential	0.88	0.003	0.02
10045	669249.0	4281425.0	Roadway/Open Space	-	-	0.02
10046	669259.0	4281425.0	Roadway/Open Space	-	-	0.02
10047	669269.0	4281425.0	Roadway/Open Space	-	-	0.02
10048	669279.0	4281425.0	Roadway/Open Space	-	-	0.02
10049	669289.0	4281425.0	Roadway/Open Space	-	-	0.02
10050	669299.0	4281425.0	Roadway/Open Space	-	-	0.02
10051	669309.0	4281425.0	Roadway/Open Space	-	-	0.02
10052	668679.0	4281435.0	Roadway/Open Space	-	-	0.03
10053	668689.0	4281435.0	Roadway/Open Space	-	-	0.03
10054	668699.0	4281435.0	Other Sensitive	0.55	0.002	0.03
10055	668709.0	4281435.0	Other Sensitive	0.55	0.002	0.03
10056	668719.0	4281435.0	Other Sensitive	0.56	0.002	0.03
10057	668729.0	4281435.0	Other Sensitive	0.57	0.002	0.03
10058	668739.0	4281435.0	Other Sensitive	0.59	0.002	0.03
10059	668749.0	4281435.0	Other Sensitive	0.60	0.002	0.03
10060	668759.0	4281435.0	Other Sensitive	0.62	0.002	0.04
10061	668769.0	4281435.0	Other Sensitive	0.64	0.002	0.04
10062	668779.0	4281435.0	Other Sensitive	0.67	0.003	0.04
10063	668789.0	4281435.0	Other Sensitive	0.70	0.003	0.04
10064	668799.0	4281435.0	Other Sensitive	0.73	0.003	0.04
10065	668809.0	4281435.0	Other Sensitive	0.76	0.003	0.04
10066	668819.0	4281435.0	Other Sensitive	0.78	0.003	0.04
10067	668829.0	4281435.0	Other Sensitive	0.81	0.003	0.05
10068	668839.0	4281435.0	Other Sensitive	0.83	0.003	0.05
10069	668849.0	4281435.0	Other Sensitive	0.86	0.003	0.05
10070	668859.0	4281435.0	Other Sensitive	0.89	0.003	0.05
10071	668869.0	4281435.0	Other Sensitive	0.92	0.004	0.05
10072	668879.0	4281435.0	Other Sensitive	0.95	0.004	0.05
10073	668889.0	4281435.0	Residential	0.97	0.004	0.06
10074	668899.0	4281435.0	Residential	0.99	0.004	0.06
10075	668909.0	4281435.0	Residential	0.99	0.004	0.06
10076	668919.0	4281435.0	Residential	0.99	0.004	0.06
10077	668929.0	4281435.0	Roadway/Open Space	-	-	0.06
10078	668939.0	4281435.0	Roadway/Open Space	-	-	0.06
10079	668949.0	4281435.0	Residential	1.04	0.004	0.06
10080	668959.0	4281435.0	Residential	1.04	0.004	0.06
10081	668969.0	4281435.0	Residential	1.04	0.004	0.06
10082	668979.0	4281435.0	Residential	1.04	0.004	0.06
10083	668989.0	4281435.0	Residential	1.03	0.004	0.06
10084	668999.0	4281435.0	Residential	1.03	0.004	0.05
10085	669009.0	4281435.0	Residential	1.02	0.004	0.05
10086	669019.0	4281435.0	Residential	1.01	0.004	0.05
10087	669029.0	4281435.0	Residential	0.99	0.004	0.05
10088	669039.0	4281435.0	Roadway/Open Space	-	-	0.04
10089	669049.0	4281435.0	Residential	0.97	0.004	0.04
10090	669059.0	4281435.0	Residential	0.96	0.004	0.04
10091	669069.0	4281435.0	Residential	0.96	0.004	0.04
10092	669079.0	4281435.0	Residential	0.95	0.004	0.03
10093	669089.0	4281435.0	Residential	0.95	0.004	0.03
10094	669099.0	4281435.0	Residential	0.95	0.004	0.03
10095	669109.0	4281435.0	Residential	0.95	0.004	0.03
10096	669119.0	4281435.0	Residential	0.97	0.004	0.03
10097	669129.0	4281435.0	Residential	0.99	0.004	0.03
10098	669139.0	4281435.0	Residential	1.02	0.004	0.03
10099	669149.0	4281435.0	Residential	1.04	0.004	0.03
10100	669159.0	4281435.0	Residential	1.04	0.004	0.03
10101	669169.0	4281435.0	Residential	1.04	0.004	0.03
10102	669179.0	4281435.0	Residential	1.02	0.004	0.03
10103	669189.0	4281435.0	Residential	0.99	0.004	0.03
10104	669199.0	4281435.0	Residential	0.96	0.004	0.03
10105	669209.0	4281435.0	Residential	0.93	0.004	0.03
10106	669219.0	4281435.0	Residential	0.90	0.003	0.02
10107	669229.0	4281435.0	Residential	0.87	0.003	0.02
10108	669239.0	4281435.0	Residential	0.84	0.003	0.02
10109	669249.0	4281435.0	Roadway/Open Space	-	-	0.02
10110	669259.0	4281435.0	Roadway/Open Space	-	-	0.02
10111	669269.0	4281435.0	Roadway/Open Space	-	-	0.02
10112	669279.0	4281435.0	Roadway/Open Space	-	-	0.02
10113	668689.0	4281445.0	Roadway/Open Space	-	-	0.03
10114	668699.0	4281445.0	Other Sensitive	0.54	0.002	0.03
10115	668709.0	4281445.0	Other Sensitive	0.55	0.002	0.03
10116	668719.0	4281445.0	Other Sensitive	0.56	0.002	0.03

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
10117	668729.0	4281445.0	Other Sensitive	0.57	0.002	0.03
10118	668739.0	4281445.0	Other Sensitive	0.58	0.002	0.03
10119	668749.0	4281445.0	Other Sensitive	0.60	0.002	0.03
10120	668759.0	4281445.0	Other Sensitive	0.62	0.002	0.03
10121	668769.0	4281445.0	Other Sensitive	0.64	0.002	0.03
10122	668779.0	4281445.0	Other Sensitive	0.67	0.003	0.04
10123	668789.0	4281445.0	Other Sensitive	0.69	0.003	0.04
10124	668799.0	4281445.0	Other Sensitive	0.72	0.003	0.04
10125	668809.0	4281445.0	Other Sensitive	0.74	0.003	0.04
10126	668819.0	4281445.0	Other Sensitive	0.76	0.003	0.04
10127	668829.0	4281445.0	Other Sensitive	0.78	0.003	0.05
10128	668839.0	4281445.0	Other Sensitive	0.80	0.003	0.05
10129	668849.0	4281445.0	Other Sensitive	0.83	0.003	0.05
10130	668859.0	4281445.0	Other Sensitive	0.86	0.003	0.05
10131	668869.0	4281445.0	Other Sensitive	0.89	0.003	0.05
10132	668879.0	4281445.0	Other Sensitive	0.92	0.004	0.05
10133	668889.0	4281445.0	Residential	0.94	0.004	0.06
10134	668899.0	4281445.0	Residential	0.94	0.004	0.06
10135	668909.0	4281445.0	Residential	0.94	0.004	0.06
10136	668919.0	4281445.0	Residential	0.96	0.004	0.06
10137	668929.0	4281445.0	Roadway/Open Space	-	-	0.05
10138	668939.0	4281445.0	Residential	0.98	0.004	0.05
10139	668949.0	4281445.0	Residential	0.98	0.004	0.05
10140	668959.0	4281445.0	Residential	0.99	0.004	0.05
10141	668969.0	4281445.0	Residential	0.99	0.004	0.05
10142	668979.0	4281445.0	Residential	0.99	0.004	0.05
10143	668989.0	4281445.0	Residential	0.99	0.004	0.05
10144	668999.0	4281445.0	Residential	0.98	0.004	0.05
10145	669009.0	4281445.0	Residential	0.97	0.004	0.05
10146	669019.0	4281445.0	Residential	0.96	0.004	0.05
10147	669029.0	4281445.0	Roadway/Open Space	-	-	0.04
10148	669039.0	4281445.0	Residential	0.94	0.004	0.04
10149	669049.0	4281445.0	Residential	0.92	0.004	0.04
10150	669059.0	4281445.0	Residential	0.91	0.004	0.04
10151	669069.0	4281445.0	Residential	0.91	0.004	0.03
10152	669079.0	4281445.0	Residential	0.91	0.004	0.03
10153	669089.0	4281445.0	Residential	0.90	0.004	0.03
10154	669099.0	4281445.0	Residential	0.90	0.004	0.03
10155	669109.0	4281445.0	Residential	0.90	0.004	0.03
10156	669119.0	4281445.0	Residential	0.91	0.004	0.03
10157	669129.0	4281445.0	Residential	0.93	0.004	0.03
10158	669139.0	4281445.0	Residential	0.94	0.004	0.03
10159	669149.0	4281445.0	Residential	0.96	0.004	0.03
10160	669159.0	4281445.0	Residential	0.96	0.004	0.03
10161	669169.0	4281445.0	Residential	0.96	0.004	0.03
10162	669179.0	4281445.0	Residential	0.94	0.004	0.03
10163	669189.0	4281445.0	Residential	0.93	0.004	0.03
10164	669199.0	4281445.0	Residential	0.90	0.004	0.03
10165	669209.0	4281445.0	Residential	0.88	0.003	0.03
10166	669219.0	4281445.0	Residential	0.86	0.003	0.02
10167	669229.0	4281445.0	Residential	0.83	0.003	0.02
10168	669239.0	4281445.0	Roadway/Open Space	-	-	0.02
10169	669249.0	4281445.0	Roadway/Open Space	-	-	0.02
10170	669259.0	4281445.0	Roadway/Open Space	-	-	0.02
10171	668699.0	4281455.0	Other Sensitive	0.54	0.002	0.03
10172	668709.0	4281455.0	Other Sensitive	0.54	0.002	0.03
10173	668719.0	4281455.0	Other Sensitive	0.55	0.002	0.03
10174	668729.0	4281455.0	Other Sensitive	0.57	0.002	0.03
10175	668739.0	4281455.0	Other Sensitive	0.58	0.002	0.03
10176	668749.0	4281455.0	Other Sensitive	0.61	0.002	0.03
10177	668759.0	4281455.0	Other Sensitive	0.63	0.002	0.03
10178	668769.0	4281455.0	Other Sensitive	0.65	0.002	0.03
10179	668779.0	4281455.0	Other Sensitive	0.67	0.003	0.04
10180	668789.0	4281455.0	Other Sensitive	0.69	0.003	0.04
10181	668799.0	4281455.0	Other Sensitive	0.70	0.003	0.04
10182	668809.0	4281455.0	Other Sensitive	0.72	0.003	0.04
10183	668819.0	4281455.0	Other Sensitive	0.74	0.003	0.04
10184	668829.0	4281455.0	Other Sensitive	0.76	0.003	0.05
10185	668839.0	4281455.0	Other Sensitive	0.78	0.003	0.05
10186	668849.0	4281455.0	Other Sensitive	0.80	0.003	0.05
10187	668859.0	4281455.0	Other Sensitive	0.83	0.003	0.05
10188	668869.0	4281455.0	Other Sensitive	0.86	0.003	0.05
10189	668879.0	4281455.0	Roadway/Open Space	-	-	0.05
10190	668889.0	4281455.0	Residential	0.90	0.004	0.05
10191	668899.0	4281455.0	Residential	0.91	0.004	0.05
10192	668909.0	4281455.0	Residential	0.91	0.004	0.06
10193	668919.0	4281455.0	Residential	0.92	0.004	0.05
10194	668929.0	4281455.0	Roadway/Open Space	-	-	0.05
10195	668939.0	4281455.0	Residential	0.94	0.004	0.05
10196	668949.0	4281455.0	Residential	0.94	0.004	0.05
10197	668959.0	4281455.0	Residential	0.95	0.004	0.05
10198	668969.0	4281455.0	Residential	0.95	0.004	0.05
10199	668979.0	4281455.0	Residential	0.96	0.004	0.05
10200	668989.0	4281455.0	Residential	0.96	0.004	0.05

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
10201	668999.0	4281455.0	Residential	0.95	0.004	0.05
10202	669009.0	4281455.0	Residential	0.93	0.004	0.05
10203	669019.0	4281455.0	Residential	0.92	0.004	0.05
10204	669029.0	4281455.0	Roadway/Open Space	-	-	0.04
10205	669039.0	4281455.0	Residential	0.89	0.003	0.04
10206	669049.0	4281455.0	Residential	0.88	0.003	0.04
10207	669059.0	4281455.0	Residential	0.87	0.003	0.04
10208	669069.0	4281455.0	Residential	0.86	0.003	0.03
10209	669079.0	4281455.0	Residential	0.86	0.003	0.03
10210	669089.0	4281455.0	Residential	0.86	0.003	0.03
10211	669099.0	4281455.0	Residential	0.86	0.003	0.03
10212	669109.0	4281455.0	Residential	0.85	0.003	0.03
10213	669119.0	4281455.0	Residential	0.86	0.003	0.03
10214	669129.0	4281455.0	Residential	0.86	0.003	0.03
10215	669139.0	4281455.0	Residential	0.87	0.003	0.03
10216	669149.0	4281455.0	Residential	0.88	0.003	0.03
10217	669159.0	4281455.0	Residential	0.88	0.003	0.03
10218	669169.0	4281455.0	Residential	0.88	0.003	0.03
10219	669179.0	4281455.0	Residential	0.87	0.003	0.03
10220	669189.0	4281455.0	Residential	0.86	0.003	0.03
10221	669199.0	4281455.0	Residential	0.85	0.003	0.03
10222	669209.0	4281455.0	Residential	0.84	0.003	0.02
10223	669219.0	4281455.0	Residential	0.82	0.003	0.02
10224	669229.0	4281455.0	Roadway/Open Space	-	-	0.02
10225	669239.0	4281455.0	Roadway/Open Space	-	-	0.02
10226	668709.0	4281465.0	Other Sensitive	0.54	0.002	0.03
10227	668719.0	4281465.0	Other Sensitive	0.55	0.002	0.03
10228	668729.0	4281465.0	Other Sensitive	0.57	0.002	0.03
10229	668739.0	4281465.0	Other Sensitive	0.59	0.002	0.03
10230	668749.0	4281465.0	Other Sensitive	0.61	0.002	0.03
10231	668759.0	4281465.0	Other Sensitive	0.63	0.002	0.03
10232	668769.0	4281465.0	Other Sensitive	0.64	0.002	0.03
10233	668779.0	4281465.0	Other Sensitive	0.66	0.003	0.03
10234	668789.0	4281465.0	Other Sensitive	0.67	0.003	0.04
10235	668799.0	4281465.0	Other Sensitive	0.69	0.003	0.04
10236	668809.0	4281465.0	Other Sensitive	0.71	0.003	0.04
10237	668819.0	4281465.0	Other Sensitive	0.72	0.003	0.04
10238	668829.0	4281465.0	Other Sensitive	0.74	0.003	0.05
10239	668839.0	4281465.0	Other Sensitive	0.76	0.003	0.05
10240	668849.0	4281465.0	Other Sensitive	0.78	0.003	0.05
10241	668859.0	4281465.0	Other Sensitive	0.80	0.003	0.05
10242	668869.0	4281465.0	Other Sensitive	0.83	0.003	0.05
10243	668879.0	4281465.0	Residential	0.85	0.003	0.05
10244	668889.0	4281465.0	Residential	0.86	0.003	0.05
10245	668899.0	4281465.0	Residential	0.87	0.003	0.05
10246	668909.0	4281465.0	Residential	0.88	0.003	0.05
10247	668919.0	4281465.0	Roadway/Open Space	-	-	0.05
10248	668929.0	4281465.0	Residential	0.89	0.004	0.05
10249	668939.0	4281465.0	Residential	0.90	0.004	0.05
10250	668949.0	4281465.0	Residential	0.90	0.004	0.05
10251	668959.0	4281465.0	Residential	0.90	0.004	0.05
10252	668969.0	4281465.0	Residential	0.91	0.004	0.05
10253	668979.0	4281465.0	Residential	0.92	0.004	0.05
10254	668989.0	4281465.0	Residential	0.92	0.004	0.05
10255	668999.0	4281465.0	Residential	0.91	0.004	0.05
10256	669009.0	4281465.0	Residential	0.90	0.004	0.05
10257	669019.0	4281465.0	Roadway/Open Space	-	-	0.05
10258	669029.0	4281465.0	Roadway/Open Space	-	-	0.04
10259	669039.0	4281465.0	Residential	0.85	0.003	0.04
10260	669049.0	4281465.0	Residential	0.84	0.003	0.04
10261	669059.0	4281465.0	Residential	0.83	0.003	0.03
10262	669069.0	4281465.0	Residential	0.82	0.003	0.03
10263	669079.0	4281465.0	Residential	0.82	0.003	0.03
10264	669089.0	4281465.0	Residential	0.82	0.003	0.03
10265	669099.0	4281465.0	Residential	0.82	0.003	0.03
10266	669109.0	4281465.0	Residential	0.82	0.003	0.03
10267	669119.0	4281465.0	Residential	0.81	0.003	0.03
10268	669129.0	4281465.0	Residential	0.81	0.003	0.02
10269	669139.0	4281465.0	Residential	0.81	0.003	0.03
10270	669149.0	4281465.0	Residential	0.81	0.003	0.03
10271	669159.0	4281465.0	Residential	0.81	0.003	0.03
10272	669169.0	4281465.0	Residential	0.80	0.003	0.02
10273	669179.0	4281465.0	Residential	0.80	0.003	0.02
10274	669189.0	4281465.0	Residential	0.80	0.003	0.02
10275	669199.0	4281465.0	Residential	0.81	0.003	0.02
10276	669209.0	4281465.0	Residential	0.80	0.003	0.02
10277	668729.0	4281475.0	Other Sensitive	0.57	0.002	0.03
10278	668739.0	4281475.0	Other Sensitive	0.58	0.002	0.03
10279	668749.0	4281475.0	Other Sensitive	0.60	0.002	0.03
10280	668759.0	4281475.0	Other Sensitive	0.62	0.002	0.03
10281	668769.0	4281475.0	Other Sensitive	0.63	0.002	0.03
10282	668779.0	4281475.0	Other Sensitive	0.64	0.002	0.03
10283	668789.0	4281475.0	Other Sensitive	0.66	0.003	0.03
10284	668799.0	4281475.0	Other Sensitive	0.68	0.003	0.04

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
10285	668809.0	4281475.0	Other Sensitive	0.69	0.003	0.04
10286	668819.0	4281475.0	Other Sensitive	0.71	0.003	0.04
10287	668829.0	4281475.0	Other Sensitive	0.72	0.003	0.04
10288	668839.0	4281475.0	Other Sensitive	0.73	0.003	0.04
10289	668849.0	4281475.0	Other Sensitive	0.76	0.003	0.04
10290	668859.0	4281475.0	Other Sensitive	0.78	0.003	0.05
10291	668869.0	4281475.0	Other Sensitive	0.80	0.003	0.05
10292	668879.0	4281475.0	Residential	0.81	0.003	0.05
10293	668889.0	4281475.0	Residential	0.83	0.003	0.05
10294	668899.0	4281475.0	Residential	0.84	0.003	0.05
10295	668909.0	4281475.0	Residential	0.84	0.003	0.05
10296	668919.0	4281475.0	Roadway/Open Space	-	-	0.05
10297	668929.0	4281475.0	Residential	0.86	0.003	0.05
10298	668939.0	4281475.0	Residential	0.86	0.003	0.05
10299	668949.0	4281475.0	Residential	0.87	0.003	0.05
10300	668959.0	4281475.0	Residential	0.87	0.003	0.05
10301	668969.0	4281475.0	Residential	0.87	0.003	0.05
10302	668979.0	4281475.0	Residential	0.88	0.003	0.05
10303	668989.0	4281475.0	Residential	0.88	0.003	0.05
10304	668999.0	4281475.0	Residential	0.88	0.003	0.05
10305	669009.0	4281475.0	Residential	0.87	0.003	0.05
10306	669019.0	4281475.0	Roadway/Open Space	-	-	0.04
10307	669029.0	4281475.0	Roadway/Open Space	-	-	0.04
10308	669039.0	4281475.0	Roadway/Open Space	-	-	0.04
10309	669049.0	4281475.0	Roadway/Open Space	-	-	0.03
10310	669059.0	4281475.0	Residential	0.79	0.003	0.03
10311	669069.0	4281475.0	Residential	0.79	0.003	0.03
10312	669079.0	4281475.0	Residential	0.78	0.003	0.03
10313	669089.0	4281475.0	Residential	0.78	0.003	0.03
10314	669099.0	4281475.0	Residential	0.78	0.003	0.03
10315	669109.0	4281475.0	Residential	0.77	0.003	0.03
10316	669119.0	4281475.0	Residential	0.77	0.003	0.02
10317	669129.0	4281475.0	Residential	0.76	0.003	0.02
10318	669139.0	4281475.0	Residential	0.76	0.003	0.02
10319	669149.0	4281475.0	Residential	0.75	0.003	0.02
10320	669159.0	4281475.0	Residential	0.75	0.003	0.02
10321	669169.0	4281475.0	Residential	0.75	0.003	0.02
10322	669179.0	4281475.0	Residential	0.75	0.003	0.02
10323	669189.0	4281475.0	Residential	0.76	0.003	0.02
10324	668749.0	4281485.0	Other Sensitive	0.59	0.002	0.03
10325	668759.0	4281485.0	Other Sensitive	0.60	0.002	0.03
10326	668769.0	4281485.0	Other Sensitive	0.62	0.002	0.03
10327	668779.0	4281485.0	Other Sensitive	0.63	0.002	0.03
10328	668789.0	4281485.0	Other Sensitive	0.65	0.002	0.04
10329	668799.0	4281485.0	Other Sensitive	0.66	0.003	0.04
10330	668809.0	4281485.0	Other Sensitive	0.68	0.003	0.04
10331	668819.0	4281485.0	Other Sensitive	0.69	0.003	0.04
10332	668829.0	4281485.0	Other Sensitive	0.70	0.003	0.04
10333	668839.0	4281485.0	Other Sensitive	0.71	0.003	0.04
10334	668849.0	4281485.0	Other Sensitive	0.73	0.003	0.04
10335	668859.0	4281485.0	Other Sensitive	0.75	0.003	0.04
10336	668869.0	4281485.0	Roadway/Open Space	-	-	0.05
10337	668879.0	4281485.0	Residential	0.78	0.003	0.05
10338	668889.0	4281485.0	Residential	0.79	0.003	0.05
10339	668899.0	4281485.0	Residential	0.80	0.003	0.05
10340	668909.0	4281485.0	Residential	0.81	0.003	0.05
10341	668919.0	4281485.0	Roadway/Open Space	-	-	0.05
10342	668929.0	4281485.0	Residential	0.83	0.003	0.05
10343	668939.0	4281485.0	Residential	0.83	0.003	0.05
10344	668949.0	4281485.0	Residential	0.83	0.003	0.05
10345	668959.0	4281485.0	Residential	0.83	0.003	0.05
10346	668969.0	4281485.0	Residential	0.83	0.003	0.05
10347	668979.0	4281485.0	Residential	0.83	0.003	0.05
10348	668989.0	4281485.0	Residential	0.84	0.003	0.05
10349	668999.0	4281485.0	Residential	0.84	0.003	0.05
10350	669009.0	4281485.0	Residential	0.83	0.003	0.04
10351	669019.0	4281485.0	Roadway/Open Space	-	-	0.04
10352	669029.0	4281485.0	Residential	0.80	0.003	0.04
10353	669039.0	4281485.0	Residential	0.78	0.003	0.04
10354	669049.0	4281485.0	Residential	0.77	0.003	0.03
10355	669059.0	4281485.0	Roadway/Open Space	-	-	0.03
10356	669069.0	4281485.0	Roadway/Open Space	-	-	0.03
10357	669079.0	4281485.0	Roadway/Open Space	-	-	0.03
10358	669089.0	4281485.0	Residential	0.75	0.003	0.03
10359	669099.0	4281485.0	Residential	0.75	0.003	0.03
10360	669109.0	4281485.0	Residential	0.74	0.003	0.02
10361	669119.0	4281485.0	Residential	0.73	0.003	0.02
10362	669129.0	4281485.0	Residential	0.72	0.003	0.02
10363	669139.0	4281485.0	Residential	0.71	0.003	0.02
10364	669149.0	4281485.0	Residential	0.71	0.003	0.02
10365	669159.0	4281485.0	Residential	0.71	0.003	0.02
10366	668759.0	4281495.0	Roadway/Open Space	-	-	0.03
10367	668769.0	4281495.0	Roadway/Open Space	-	-	0.03
10368	668779.0	4281495.0	Roadway/Open Space	-	-	0.03

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
10369	668789.0	4281495.0	Roadway/Open Space	-	-	0.04
10370	668799.0	4281495.0	Other Sensitive	0.65	0.003	0.04
10371	668809.0	4281495.0	Other Sensitive	0.66	0.003	0.04
10372	668819.0	4281495.0	Other Sensitive	0.67	0.003	0.04
10373	668829.0	4281495.0	Other Sensitive	0.68	0.003	0.04
10374	668839.0	4281495.0	Other Sensitive	0.69	0.003	0.04
10375	668849.0	4281495.0	Other Sensitive	0.70	0.003	0.04
10376	668859.0	4281495.0	Other Sensitive	0.72	0.003	0.04
10377	668869.0	4281495.0	Residential	0.74	0.003	0.05
10378	668879.0	4281495.0	Residential	0.75	0.003	0.05
10379	668889.0	4281495.0	Residential	0.76	0.003	0.05
10380	668899.0	4281495.0	Residential	0.78	0.003	0.05
10381	668909.0	4281495.0	Roadway/Open Space	-	-	0.05
10382	668919.0	4281495.0	Residential	0.79	0.003	0.05
10383	668929.0	4281495.0	Residential	0.79	0.003	0.05
10384	668939.0	4281495.0	Residential	0.80	0.003	0.04
10385	668949.0	4281495.0	Residential	0.79	0.003	0.05
10386	668959.0	4281495.0	Residential	0.79	0.003	0.05
10387	668969.0	4281495.0	Residential	0.79	0.003	0.05
10388	668979.0	4281495.0	Residential	0.79	0.003	0.05
10389	668989.0	4281495.0	Residential	0.79	0.003	0.04
10390	668999.0	4281495.0	Residential	0.79	0.003	0.04
10391	669009.0	4281495.0	Roadway/Open Space	-	-	0.04
10392	669019.0	4281495.0	Residential	0.77	0.003	0.04
10393	669029.0	4281495.0	Residential	0.76	0.003	0.04
10394	669039.0	4281495.0	Residential	0.75	0.003	0.03
10395	669049.0	4281495.0	Residential	0.75	0.003	0.03
10396	669059.0	4281495.0	Residential	0.74	0.003	0.03
10397	669069.0	4281495.0	Residential	0.73	0.003	0.03
10398	669079.0	4281495.0	Residential	0.73	0.003	0.03
10399	669089.0	4281495.0	Roadway/Open Space	-	-	0.03
10400	669099.0	4281495.0	Roadway/Open Space	-	-	0.03
10401	669109.0	4281495.0	Roadway/Open Space	-	-	0.02
10402	669119.0	4281495.0	Residential	0.70	0.003	0.02
10403	669129.0	4281495.0	Residential	0.69	0.003	0.02
10404	669139.0	4281495.0	Residential	0.68	0.003	0.02
10405	668779.0	4281505.0	Roadway/Open Space	-	-	0.03
10406	668789.0	4281505.0	Roadway/Open Space	-	-	0.04
10407	668799.0	4281505.0	Roadway/Open Space	-	-	0.04
10408	668809.0	4281505.0	Roadway/Open Space	-	-	0.04
10409	668819.0	4281505.0	Roadway/Open Space	-	-	0.04
10410	668829.0	4281505.0	Roadway/Open Space	-	-	0.04
10411	668839.0	4281505.0	Other Sensitive	0.66	0.003	0.04
10412	668849.0	4281505.0	Other Sensitive	0.67	0.003	0.04
10413	668859.0	4281505.0	Other Sensitive	0.69	0.003	0.04
10414	668869.0	4281505.0	Residential	0.71	0.003	0.04
10415	668879.0	4281505.0	Residential	0.72	0.003	0.05
10416	668889.0	4281505.0	Residential	0.74	0.003	0.05
10417	668899.0	4281505.0	Residential	0.75	0.003	0.05
10418	668909.0	4281505.0	Roadway/Open Space	-	-	0.04
10419	668919.0	4281505.0	Residential	0.76	0.003	0.04
10420	668929.0	4281505.0	Residential	0.77	0.003	0.04
10421	668939.0	4281505.0	Residential	0.76	0.003	0.04
10422	668949.0	4281505.0	Residential	0.76	0.003	0.04
10423	668959.0	4281505.0	Residential	0.75	0.003	0.04
10424	668969.0	4281505.0	Residential	0.75	0.003	0.04
10425	668979.0	4281505.0	Residential	0.75	0.003	0.04
10426	668989.0	4281505.0	Residential	0.74	0.003	0.04
10427	668999.0	4281505.0	Residential	0.74	0.003	0.04
10428	669009.0	4281505.0	Roadway/Open Space	-	-	0.04
10429	669019.0	4281505.0	Residential	0.73	0.003	0.04
10430	669029.0	4281505.0	Residential	0.72	0.003	0.04
10431	669039.0	4281505.0	Residential	0.72	0.003	0.03
10432	669049.0	4281505.0	Residential	0.72	0.003	0.03
10433	669059.0	4281505.0	Residential	0.72	0.003	0.03
10434	669069.0	4281505.0	Residential	0.72	0.003	0.03
10435	669079.0	4281505.0	Residential	0.72	0.003	0.03
10436	669089.0	4281505.0	Residential	0.73	0.003	0.03
10437	669099.0	4281505.0	Residential	0.72	0.003	0.03
10438	669109.0	4281505.0	Residential	0.70	0.003	0.02
10439	669119.0	4281505.0	Roadway/Open Space	-	-	0.02
10440	668809.0	4281515.0	Roadway/Open Space	-	-	0.04
10441	668819.0	4281515.0	Roadway/Open Space	-	-	0.04
10442	668829.0	4281515.0	Roadway/Open Space	-	-	0.04
10443	668839.0	4281515.0	Roadway/Open Space	-	-	0.04
10444	668849.0	4281515.0	Roadway/Open Space	-	-	0.04
10445	668859.0	4281515.0	Roadway/Open Space	-	-	0.04
10446	668869.0	4281515.0	Residential	0.67	0.003	0.04
10447	668879.0	4281515.0	Residential	0.69	0.003	0.04
10448	668889.0	4281515.0	Residential	0.71	0.003	0.04
10449	668899.0	4281515.0	Residential	0.72	0.003	0.04
10450	668909.0	4281515.0	Roadway/Open Space	-	-	0.04
10451	668919.0	4281515.0	Residential	0.74	0.003	0.04
10452	668929.0	4281515.0	Residential	0.74	0.003	0.04

Table E-2. Health Risk Assessment Results for All Receptors - Mitigated Project Construction and Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Receptor ID [1]	UTM X	UTM Y	Receptor Type	Cancer Risk [2] (in a million)	Chronic Hazard Index [2]	Acute Hazard Index
10453	668939.0	4281515.0	Residential	0.73	0.003	0.04
10454	668949.0	4281515.0	Residential	0.72	0.003	0.04
10455	668959.0	4281515.0	Residential	0.72	0.003	0.04
10456	668969.0	4281515.0	Residential	0.71	0.003	0.04
10457	668979.0	4281515.0	Residential	0.71	0.003	0.04
10458	668989.0	4281515.0	Residential	0.70	0.003	0.04
10459	668999.0	4281515.0	Residential	0.70	0.003	0.04
10460	669009.0	4281515.0	Roadway/Open Space	-	-	0.04
10461	669019.0	4281515.0	Residential	0.69	0.003	0.04
10462	669029.0	4281515.0	Residential	0.69	0.003	0.03
10463	669039.0	4281515.0	Residential	0.69	0.003	0.03
10464	669049.0	4281515.0	Residential	0.69	0.003	0.03
10465	669059.0	4281515.0	Residential	0.70	0.003	0.03
10466	669069.0	4281515.0	Residential	0.71	0.003	0.03
10467	669079.0	4281515.0	Residential	0.72	0.003	0.03
10468	669089.0	4281515.0	Residential	0.72	0.003	0.03
10469	668839.0	4281525.0	Roadway/Open Space	-	-	0.04
10470	668849.0	4281525.0	Roadway/Open Space	-	-	0.04
10471	668859.0	4281525.0	Roadway/Open Space	-	-	0.04
10472	668869.0	4281525.0	Roadway/Open Space	-	-	0.04
10473	668879.0	4281525.0	Residential	0.66	0.003	0.04
10474	668889.0	4281525.0	Residential	0.68	0.003	0.04
10475	668899.0	4281525.0	Roadway/Open Space	-	-	0.04
10476	668909.0	4281525.0	Roadway/Open Space	-	-	0.04
10477	668919.0	4281525.0	Residential	0.72	0.003	0.04
10478	668929.0	4281525.0	Residential	0.71	0.003	0.04
10479	668939.0	4281525.0	Residential	0.70	0.003	0.04
10480	668949.0	4281525.0	Residential	0.69	0.003	0.04
10481	668959.0	4281525.0	Residential	0.69	0.003	0.04
10482	668969.0	4281525.0	Residential	0.68	0.003	0.04
10483	668979.0	4281525.0	Residential	0.67	0.003	0.04
10484	668989.0	4281525.0	Residential	0.67	0.003	0.04
10485	668999.0	4281525.0	Roadway/Open Space	-	-	0.04
10486	669009.0	4281525.0	Residential	0.66	0.003	0.03
10487	669019.0	4281525.0	Residential	0.65	0.003	0.03
10488	669029.0	4281525.0	Residential	0.65	0.003	0.03
10489	669039.0	4281525.0	Residential	0.66	0.003	0.03
10490	669049.0	4281525.0	Residential	0.66	0.003	0.03
10491	669059.0	4281525.0	Residential	0.67	0.003	0.03
10492	668879.0	4281535.0	Roadway/Open Space	-	-	0.04
10493	668889.0	4281535.0	Roadway/Open Space	-	-	0.04
10494	668899.0	4281535.0	Roadway/Open Space	-	-	0.04
10495	668909.0	4281535.0	Residential	0.69	0.003	0.04
10496	668919.0	4281535.0	Residential	0.69	0.003	0.04
10497	668929.0	4281535.0	Residential	0.69	0.003	0.04
10498	668939.0	4281535.0	Residential	0.68	0.003	0.04
10499	668949.0	4281535.0	Residential	0.67	0.003	0.04
10500	668959.0	4281535.0	Residential	0.66	0.003	0.04
10501	668969.0	4281535.0	Residential	0.65	0.003	0.04
10502	668979.0	4281535.0	Residential	0.64	0.003	0.04
10503	668989.0	4281535.0	Residential	0.63	0.002	0.03
10504	668999.0	4281535.0	Roadway/Open Space	-	-	0.03
10505	669009.0	4281535.0	Residential	0.62	0.002	0.03
10506	669019.0	4281535.0	Residential	0.62	0.002	0.03

Notes:
[1] The receptors with the maximum estimated cancer risk, chronic hazard index, and acute hazard index for each receptor type are highlighted in light grey.
[2] Cancer risk and chronic hazard index are not assessed for Roadway/Open Space receptors, as long term exposures are not expected at these locations.

North Site Remainder Area
Technical Report

Prepared for
Ascent Environmental, Inc.
Sacramento, California

Prepared by
Ramboll Americas Engineering Solutions, Inc.
Irvine, California

Project Number
1940110459

Date
October 2025

EDH COSTCO PROJECT
NORTH SITE REMAINDER AREA
TECHNICAL REPORT
EL DORADO HILLS, CALIFORNIA

Ramboll Americas Engineering Solutions, Inc.
2211 Michelson Drive, Suite 400
Irvine, California 92612
(949) 261-5151

RAMBOLL

CONTENTS

		Page
1.	**INTRODUCTION**	**1**
1.1	Existing Conditions	1
1.2	Potential Development in the North Site Remainder Area	1
2.	**SIGNIFICANCE THRESHOLDS**	**2**
2.1	Approach to Significance	2
3.	**EMISSIONS INVENTORIES AND ENERGY PROJECTIONS**	**5**
3.1	Construction Emission Inventories and Energy Projection	5
3.2	Operational Emission Inventories and Energy Projection	8
4.	**PROGRAM-LEVEL AIR QUALITY IMPACT ANALYSIS**	**11**
4.1	Threshold AQ-1: Would the Project conflict with or obstruct implementation of the applicable air quality plan?	11
4.2	Threshold AQ-2: Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?	12
4.3	Threshold AQ-3: Would the Project expose sensitive receptors to substantial pollutant concentrations?	13
4.3.1	CO Hotspots	13
4.3.2	Health Risk Thresholds	13
4.4	Threshold AQ-4: Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	14
4.4.1	Construction Odors	14
4.4.2	Operational Odors	14
5.	**PROGRAM-LEVEL GREENHOUSE GAS EMISSIONS IMPACT ANALYSIS**	**15**
5.1	Threshold GHG-1: Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?	15
5.2	Threshold GHG-2: Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?	15
5.2.1	2022 Scoping Plan Update	16
5.2.2	SACOG 2020 MTP/SCS	17
5.2.3	El Dorado County RTP 2020-2040	18
5.3	Summary	19
6.	**PROGRAM-LEVEL ENERGY IMPACT ANALYSIS**	**20**
6.1	Threshold ENE-1: Would the Project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?	20
6.1.1	Energy Requirements and Energy Use Efficiencies	20
6.1.2	Local and Regional Energy Supplies	20
6.1.3	Peak and Base Period Demands	21
6.1.4	Existing Energy Standards	22
6.1.5	Energy Resources	22
6.1.6	Transportation Energy Use	23
6.1.7	Summary	23
6.2	Threshold ENE-2: Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	23

CONTENTS *(Continued)*

TABLES

Table 3-1: Unmitigated Average Daily CAP Emissions for Construction of North Site Remainder Area
Table 3-2: Unmitigated Combined Average Daily CAP Emissions for Construction of North Site Remainder Area and Operation of Costco EDH Project
Table 3-3: Mitigated Average Daily CAP Emissions for Construction of North Site Remainder Area
Table 3-4: Mitigated Combined Average Daily CAP Emissions for Construction of North Site Remainder Area and Operation of Costco EDH Project
Table 3-5: Summary of Construction Greenhouse Gas Emissions - North Site Remainder Area
Table 3-6: Energy Resource Summary for Proposed Project Construction
Table 3-7: Maximum Daily Criteria Air Pollutant Emissions for Operations of the Proposed Project
Table 3-8: Summary of Greenhouse Gas Emissions for Proposed Project Operations
Table 3-9: Energy Resource Summary for Proposed Project Operation

APPENDICES

Appendix A: North Site Remainder Area CalEEMod Model Run
Appendix B: Construction Inputs
Appendix C: Construction Emission Calculation Tables
Appendix D: Construction Energy Calculations
Appendix E: Operational Inputs
Appendix F: Operational Energy Calculations

ACRONYMS AND ABBREVIATIONS

Acronym	Definition
AQ	air quality
CalEEMod	California Emissions Estimator Model®
CAP	criteria air pollutants
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CO	carbon monoxide
CO_2e	carbon dioxide equivalent
DPM	diesel particulate matter
EDCAQMD	El Dorado County Air Quality Management District
EDH	El Dorado Hills
EPA	Environmental Protection Agency
EV	electric vehicle
GHG	greenhouse gas
H_2S	hydrogen sulfide
HI	hazard index
hp	horsepower
lb	pound
MT	metric tonne
MTP/SCS	Metropolitan Transportation Plan & Sustainable Communities Strategy
MW	megawatts
NOA	naturally occurring asbestos
NO_X	nitrogen oxides
O_3	ozone
PCAPCD	Placer County Air Pollution Control District
PG&E	Pacific Gas and Electric Company
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
ROG	reactive organic gases
RTP	Regional Transportation Plan
SACOG	Sacramento Area Council of Governments
SO_2	sulfur dioxide
SO_X	sulfur oxides
TAC	toxic air contaminant
TDM	Transportation Demand Management
VMT	vehicle miles travelled
VOC	volatile organic compound

1. INTRODUCTION

Ramboll Americas Engineering Solutions, Inc. (Ramboll) was retained to prepare a Technical Report on the air quality (AQ), greenhouse gas (GHG), and energy impacts for potential future development in the North Site Remainder Area ("Remainder Area Development"), in addition to the AQ, GHG, and Energy technical reports for the proposed El Dorado Hills (EDH) Costco Project located north of the Silva Valley Parkway/US 50 interchange in the El Dorado Hills community area of the unincorporated El Dorado County in California. For simplicity, the North Site Remainder Area and the proposed EDH Costco Project are collectively referred to hereafter as the proposed Project.

This Technical Report analyzes the AQ, GHG, and energy impacts of the potential Remainder Area Development at a program/plan level. Specifically, it describes the maximum development assumptions for the Remainder Area Development and estimates criteria air pollutant emissions, GHG emissions, and energy use associated with the construction and operations of this development. Additionally, this report evaluates the potential aggregate AQ, GHG, and energy impacts of the proposed Project (both the North Site Remainder Area and the EDH Costco Project).

1.1 Existing Conditions

The Project site is currently vacant grassland with scattered oak trees and seasonal drainage features. There are no permanent structures on the site. The southern edge of the property directly abuts the US 50 right-of-way, while the western boundary is adjacent to Clarksville Crossing. An approximate 7.75-acre portion of the northern site is reserved for a planned future extension of Country Club Drive, which is not part of the proposed Project.

Surrounding land uses include:

- North: Single-family residential uses and Oak Meadow Elementary School
- East: Vacant land, Tong Road, and single-family residential uses
- South: U.S. Highway 50 and Tong Road
- West: Clarksville Crossing roadway, open space, and undeveloped land

1.2 Potential Development in the North Site Remainder Area

An approximately 13.79-acre out-parcel on the North Site would remain undeveloped at this time (North Site Remainder Area). The EDH Costco Project proposes no development for the North Site Remainder Area. However, future development of the North Site Remainder Area would be made more reasonably foreseeable by the proposed annexation of the entire North Site into the El Dorado Irrigation District and the El Dorado Hills Fire Department service areas. Since such annexations are assumed to facilitate possible future development of the North Site Remainder Area, even though there is not even a conceptual or contemplated plan for build out of that land, this analysis conservatively assumes that such land would be developed consistent with the General Plan and zoning designations and density. The assumed potential commercial development of the North Site Remainder Area is approximately 138,000 square feet and 316 employees. The future extension of Country Club Drive (County Capital Improvement Project No. 36105008), when constructed by the County, would occupy a portion of the North Site near its northern edge, though the future extension is an independent project proposed by, and to be undertaken by, the County and is not analyzed as a part of the proposed Project.

2. SIGNIFICANCE THRESHOLDS

The Remainder Area Development would be adjacent to the EDH Costco Project and is subject to the identical regulatory settings and significance thresholds previously described for the EDH Costco Project in the technical reports.[1,2,3] The analysis provided in this technical memorandum evaluates whether the Project would result in any potentially significant impacts regarding the following questions:

Threshold AQ-1. Would the Project conflict with or obstruct implementation of the applicable air quality plan?

Threshold AQ-2. Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?

Threshold AQ-3. Would the Project expose sensitive receptors to substantial pollutant concentrations?

Threshold AQ-4. Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Threshold GHG-1. Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Threshold GHG-2. Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

Threshold ENE-1. Would the Project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?

Threshold ENE-2. Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

2.1 Approach to Significance

As described in Section 3.2 of the EDH Costco Project Air Quality Technical Report, the El Dorado County Air Quality Management District (EDCAQMD) has established significance thresholds to assess the impacts of project-related construction and operational emissions, in its California Environmental Quality Act (CEQA) Guide. Table 3-1 in the EDH Costco Project Air Quality Technical Report shows the quantitative mass daily thresholds for construction and operation as adopted by the EDCAQMD reactive organic gases (ROG) and nitrogen oxides (NO_X) emissions. The analysis summarized in this report estimates program/plan level construction and operational mass emissions for the proposed Project and compares the emissions to these significance thresholds.

EDCAQMD has also established significance thresholds for other criteria air pollutants (CAPs) including carbon monoxide (CO), particulate matter less than 10 microns in diameter (PM_{10}), sulfur dioxide (SO_2), nitrogen dioxide, sulfates, lead, hydrogen sulfide (H_2S), and visibility-reducing particles. Project-related emissions of these pollutants are considered to

[1] Ramboll. 2025. EDH Costco Project Air Quality Technical Report.

[2] Ramboll. 2025. EDH Costco Project Greenhouse Gas Technical Report.

[3] Ramboll. 2025. EDH Costco Project Energy Technical Report.

have significant impacts if these emissions will cause or contribute to a violation of the applicable national or state ambient air quality standard. The EDCAQMD provides screening techniques to evaluate if a project's CAP emissions would have a less-than-significant impact in Chapters 4 and 6 of the EDCAQMD CEQA Guide.[4] This analysis in this report estimates the program/plan level construction and operational mass emissions of CO, PM_{10}, sulfur oxides (SO_X), and NO_X for the proposed Project and evaluates the significance of their impacts using these screening techniques established in the EDCAQMD CEQA Guide.[5]

The EDCAQMD has also established significance thresholds to assess health risk impacts of TACs from project-related emission sources on nearby sensitive receptors including residents and other human populations, which are applicable to the program-level impact analysis in this report.[6] These include a maximum incremental cancer risk of one-in-a-million (or ten-in-a-million if best available control technology for toxics (T-BACT) is applied), and incremental chronic and acute hazard indices (HIs) of 1. The analysis summarized in this report evaluates the human health risk impacts from on-site construction and operational emissions against these significance thresholds established by EDCAQMD.

This Technical Report also performs a qualitative assessment of odors from the proposed Project to evaluate if they would have the potential to generate odorous emissions that would meet the statutory definition for nuisance, in accordance with the EDCAQMD CEQA Guide.[7]

This report, relative to Threshold AQ-1, evaluates whether the proposed Project would conflict with applicable plans related to emissions, including the regional air quality attainment plans. This report, relative to Threshold AQ-2, quantifies the proposed Project's emissions during construction and operations and compares those results to the applicable EDCAQMD thresholds. Relative to Threshold AQ-3, this report includes a CO hotspots analysis and a semi-quantitative assessment of the potential health risk impacts to sensitive receptors. This report, relative to Threshold AQ-4, evaluates the potential for odor-generating activities from the proposed Project.

As discussed in Section 3.2 of the EDH Costco Greenhouse Gas Technical Report, El Dorado County provides some basic information on climate change including an overview of GHG regulations and local, state, and national efforts to address climate change; however, it has not established a quantitative or qualitative guidance to evaluate GHG emission impacts of development projects under CEQA.[8] Additionally, EDCAQMD has also not set quantitative GHG significance thresholds. In the absence of a quantitative GHG threshold from El Dorado County and EDCAQMD, this Technical Report assessed significance of GHG impacts for Threshold GHG-1 against the Placer County Air Pollution Control District (PCAPCD) GHG significance thresholds (Table 3-1 of the EDH Costco Greenhouse Gas Technical Report), in consultation with EDCAQMD and El Dorado County.

[4] EDCAQMD. 2002. Guide to Air Quality Assessment. February. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

[5] Ibid.

[6] Ibid.

[7] Ibid.

[8] Ibid.

PCAPCD's GHG significance thresholds are reasonable to assess significance in the absence of a quantitative threshold from EDCAQMD because Placer County is similar to El Dorado County demographically, geographically, and meteorologically. Both Placer County and El Dorado County have similar land use patterns (i.e., they are both heavily made up of rural and suburban areas), with similar rates of population growth. Additionally, both counties have similar terrain and lie within the same air basin. Because of this, PCAPCD's quantitative GHG thresholds were used to assess significance against the Project relative to Threshold GHG-1.

Relative to Threshold GHG-2, this report evaluates whether the Project would conflict with the 2022 Scoping Plan Update,[9] Sacramento Area Council of Governments' (SACOG's) 2020 future Metropolitan Transportation Plan & Sustainable Communities Strategy (MTP/SCS),[10] and the El Dorado County Regional Transportation Plan (RTP) 2020-2040.[11]

This report evaluates the proposed Project's energy consumption against the six categories of potential energy-related environmental impacts from Appendix F of the CEQA Guidelines:

1. The Project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the Project including construction, operation, maintenance and/or removal. If appropriate the energy intensiveness of materials may be discussed.
2. The effects of the Project on local and regional energy supplies and on requirements for additional capacity.
3. The effects of the Project on peak and base period demands for electricity and other forms of energy.
4. The degree to which the Project complies with existing energy standards.
5. The effects of the Project on energy resources.
6. The Project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

This report, relative to Threshold ENE-1, assesses the proposed Project's electricity, natural gas, and fossil fuel consumption during construction and operation by way of the six questions above. This report, relative to Threshold ENE-2, evaluates whether the proposed Project would conflict with applicable plans related to renewable energy and energy efficiency.

[9] CARB. 2022. 2022 CARB Scoping Plan Update - Appendix D, Local Actions. Available at: https://ww2.arb.ca.gov/sites/default/files/2022-11/2022-sp-appendix-d-local-actions.pdf. Accessed: October 2025.

[10] SACOG. 2020. 2020 SACOG MTP/SCS. Available at: https://www.sacog.org/home/showpublisheddocument/76/638212804736270000. Accessed: October 2025.

[11] El Dorado County Transportation Commission. 2020. El Dorado County Regional Transportation Plan 2020-2040. November 5. Available at: https://www.edctc.org/files/2859e4e3f/RTP+2040.pdf. Accessed: October 2025.

3. EMISSIONS INVENTORIES AND ENERGY PROJECTIONS

This section provides a brief description of the methodology that Ramboll used to develop CAP, GHG, and energy inventories associated with the Remainder Area Development, which include one-time emissions from construction and long-term operational emissions. This section also presents the CAP, GHG, and energy inventories of the North Site Remainder Area and the proposed Project.

The analysis in this report utilized the California Emissions Estimator Model (CalEEMod) version 2022.1 methodology to quantify CAP and GHG emissions for the Remainder Area Development (**Appendix A**). This report presents assumptions only when they differ from the analysis for the EDH Costco Project, detailed in the EDH Costco Project's technical reports. Unless otherwise stated, CalEEMod default parameters were used to estimate the emission inventories.

As presented in **Section 1**, the Remainder Area Development would, at a maximum, develop 138,000 square feet of commercial/retail land uses, categorized as regional shopping center in CalEEMod. The remaining area of the parcel is conservatively assumed to be developed into asphalt-paved parking lots, totaling approximately 10.6 acres. The land use assumptions used to generate CalEEMod default construction and operational activities are included in **Appendix A**.

Construction of the North Site Remainder Area is assumed to start as early as May 2027, immediately after the EDH Costco Project construction concludes. Operation of the North Site Remainder Area is assumed to start as soon as the construction concludes.

3.1 Construction Emission Inventories and Energy Projection

Construction schedule, off-road equipment activities and on-road vehicle trip assumptions are provided in **Appendix B**. Because the material movement volumes required to construct in the Remainder Area are currently unknown, they are conservatively assumed to be the same as EDH Costco Project's Construction Scenario 2.

Criteria Air Pollutant Inventory

Average daily construction emissions for each quarter of the North Site Remainder Area construction are calculated based on CalEEMod outputs and are included in **Appendix C**.

Table 3-1 summarizes the average daily criteria pollutant emissions from construction of the North Site Remainder Area as compared to the applicable EDCAQMD thresholds. As shown in this table, the average daily unmitigated emissions of ROG and NO_X from the construction of the Remainder Area Development are below EDCAQMD's thresholds for construction. While EDCAQMD has not adopted mass daily numerical thresholds for other CAP emissions from construction, the EDCAQMD CEQA Guide[12] states that if ROG and NO_X exhaust emissions from construction are deemed not significant, then exhaust emissions of CO and PM_{10} may also be deemed not significant. Hence, air quality impacts of all CAPs (ROG, NO_X, CO, and

[12] EDCAQMD. 2002. Guide to Air Quality Assessment. February. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

PM_{10}) from the exhaust of construction equipment and on-road vehicles associated with the construction of the North Site Remainder Area are less than significant.

The EDCAQMD CEQA Guide[13] states that fugitive dust PM_{10} emissions may be assumed to be not significant, if the project complies with EDCAQMD Rule 223 and Rule 223-1 for fugitive dust control by implementing control measures that will prevent visible dust beyond the project property lines. The proposed Project will comply with these fugitive dust control rules. Hence, the air quality impacts of fugitive dust emissions from the construction North Site Remainder Area are less than significant.

North Site Remainder Area construction activities are expected to generate negligible emissions of SO_2, sulfates, lead, and H_2S. Therefore, the air quality impacts of these emissions from the construction of the North Site Remainder Area are also less than significant.

Although EDCAQMD has established separate daily mass significance thresholds for short-term construction and long-term operational phases of development projects, this analysis conservatively compares the combined average daily emissions from the construction of the Remainder Area land and the EDH Costco Project operation to EDCAQMD's mass daily construction thresholds. As shown in **Table 3-2**, these combined unmitigated average daily emissions exceed EDCAQMD's construction threshold for ROG but remain below the threshold for NO_X.

Mitigated Criteria Air Pollutant Inventory

In order to ensure that the combined average daily ROG emissions from the construction of the Remainder Area Development and the EDH Costco Project operation are below the EDCAQMD's mass daily construction thresholds, the following mitigation measure will be implemented during the construction of the Remainder Area.

- **Mitigation Measure 3.2-2: Architectural Coating Volatile Organic Compound (VOC) Limits for Development of the North Site Remainder Area**

  Future building construction of the North Site Remainder Area shall only use architectural coatings with a VOC content not exceeding 100 grams per liter during construction for all interior and exterior spaces. This requirement shall be included in plans submitted for review by the County prior to the issuance of building permits.

Additionally, the following mitigation measures that will be implemented during the construction of the EDH Costco Project to address health risk impacts and asbestos dust will also apply to the construction of the Remainder Area Development:

- **Mitigation Measure 3.2-4a: Apply Tier-4 Emission Standards to Diesel-Powered Off-Road Equipment**

  Construction equipment greater than 50 horsepower (hp) used at the site shall meet Environmental Protection Agency (EPA) Tier 4 Final emission standards for PM_{10} and particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), if available. If Tier 4 Final equipment is not available, all construction equipment larger than 50 hp used at the site shall meet EPA emission standards for Tier 3 engines and include particulate matter emissions control equivalent to California Air Resources Board (CARB) Level 3 verifiable

[13] Ibid.

diesel emission control devices. This requirement shall apply to the construction of the Costco project and construction of the North Site Remainder Area.

- **Mitigation Measure 3.2-4b: Implement Asbestos Dust Mitigation Consistent with EDCAQMD Rule 223-1**

  An Asbestos Dust Mitigation Plan shall be prepared and submitted to the EDCAQMD and the County for review and approval by EDCAQMD for implementation during construction on the Costco project, future development of the North Site Remainder Area, and for off-site roadway improvements (if the presence of naturally occurring asbestos (NOA) is confirmed). The Asbestos Dust Mitigation Plan shall comply with the El Dorado County Code Chapter 8.44 (Asbestos and Dust Protection) and EDCAQMD Rule 223-2, which provides performance standards for ensuring that adverse impacts do not result from asbestos dust during construction.

Table 3-3 summarizes the average daily mitigated criteria pollutant emissions from construction of the North Site Remainder Area as compared to the applicable EDCAQMD thresholds. As shown in this table, the average daily unmitigated emissions of ROG and NO_X from the construction of the Remainder Area Development are below EDCAQMD's thresholds for construction. While EDCAQMD has not adopted mass daily numerical thresholds for other CAP emissions from construction, the EDCAQMD CEQA Guide[14] states that if ROG and NO_X exhaust emissions from construction are deemed not significant, then exhaust emissions of CO and PM_{10} may also be deemed not significant. Hence, air quality impacts of all CAPs (ROG, NO_X, CO, and PM_{10}) from the exhaust of construction equipment and on-road vehicles associated with the construction of the North Site Remainder Area are less than significant.

The EDCAQMD CEQA Guide[15] states that fugitive dust PM_{10} emissions may be assumed to be not significant, if the project complies with EDCAQMD Rule 223 and Rule 223-1 for fugitive dust control by implementing control measures that will prevent visible dust beyond the project property lines. The proposed Project will comply with these fugitive dust control rules. Hence, the air quality impacts of fugitive dust emissions from the construction North Site Remainder Area are less than significant.

North Site Remainder Area construction activities are expected to generate negligible emissions of SO_2, sulfates, lead, and H_2S. Therefore, the air quality impacts of these emissions from the construction of the North Site Remainder Area are also less than significant.

Although EDCAQMD has established separate daily mass significance thresholds for short-term construction and long-term operational phases of development projects, this analysis conservatively compares the combined average daily mitigated emissions from the construction of the Remainder Area land and the EDH Costco Project operation to EDCAQMD's mass daily construction thresholds. As shown in **Table 3-4,** with the inclusion of **Mitigation Measure 3.2-2**, which involves using low VOC paints during construction of the Remainder Area land uses, the combined average daily construction and operation emissions are below EDCAQMD's construction mass daily significance thresholds for both ROG and NO_X.

[14] EDCAQMD. 2002. Guide to Air Quality Assessment. February. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

[15] Ibid.

Greenhouse Gas Emissions Inventory

GHG emissions associated with the construction of the North Site Remainder Area are estimated using CalEEMod (**Appendix A**) and summarized in **Table 3-5**. As shown in **Table 3-5**, the annual GHG emissions associated with the construction of the North Site Remainder Area are less than the PCAPCD's GHG significance threshold for construction.[16]

Energy Projection

Energy consumption associated with the construction of the North Site Remainder Area are estimated using methodologies described in Section 4.1 of the EDH Costco Energy Technical Report and summarized in **Table 3-6**. Additional details on the fuel consumption of off-road construction equipment and on-road vehicle use during the North Site Remainder Area construction are provided in **Appendix D**.

3.2 Operational Emission Inventories and Energy Projection

A summary of the key assumptions associated with the operation of the North Site Remainder Area including mobile source activity, County-specific consumer product emission factors, and GHG emission factors for electricity are provided in **Appendix E**. These assumptions were incorporated into the CalEEMod model run in **Appendix A**.

Criteria Air Pollutant Inventory

Table 3-7 summarizes the maximum daily criteria air pollutant emissions associated with the operation of the North Site Remainder Area and the EDH Costco Project. As shown in this table, the maximum daily ROG and NO_X emissions associated with proposed Project (North Site Remainder Area and EDH Costco Project) operation are below EDCAQMD's mass daily significance thresholds for operation.

While EDCAQMD has not adopted mass daily numerical thresholds for other CAP emissions, it considers a project to have a significant impact on air quality if it will cause or contribute significantly to a violation of the National Ambient Air Quality Standards or California Ambient Air Quality Standards for CO, PM_{10}, SO_2, sulfates, lead, H_2S.

The EDCAQMD CEQA Guide[17] states that development projects, with land use types similar to the proposed Project, that are deemed less than significant for ROG and NO_X emissions based on land use size screening criteria, can also be considered less than significant for CO emissions. Using this screening approach, we can consider the air quality impacts of CO emissions from the proposed Project operation to be less than significant because the proposed Project's ROG and NO_X emissions are less than EDCAQMD's mass daily significance thresholds. Hence, the air quality impacts of operational CO emissions from the proposed Project are less than significant.

The EDCAQMD CEQA Guide[18] states that PM_{10} emissions from land development projects primarily associated with gasoline-powered vehicles may be assumed to be insignificant if the projects do not generate heavy-duty diesel vehicle trips in greater proportion than the

[16] PCAPCD CEQA Handbook. 2017. Chapter 2 Thresholds of Significance. Available at: https://www.placerair.org/DocumentCenter/View/2047/Chapter-2-Thresholds-of-Significance-PDF. Accessed: October 2025.

[17] EDCAQMD. 2002. Guide to Air Quality Assessment. February. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

[18] Ibid.

general mix of such trips in public roadways. The proposed Project is not expected to generate heavy-duty diesel vehicle trips in greater proportion than the general mix of such trips in public roadways in the vicinity of the Project site and the air quality impacts of operational PM_{10} emissions from the proposed Project are less than significant.[19]

The EDCAQMD CEQA Guide[20] states that emissions associated with project operations that are less than 10 pounds per day of a pollutant may be presumed to have impacts that are not significant for that pollutant. Since SO_X emissions associated with the proposed Project operation are less than 10 pounds per day (**Table 3-7**), emissions of these pollutants are less than significant.

The proposed Project is a development project that is not a significant source of lead, sulfates, and H_2S. Hence, the emissions of these pollutants are less than significant.

Finally, according to the EDCAQMD CEQA Guide,[21] visibility impacts from development projects can be considered less than significant. Therefore, the proposed Project impacts on visibility are less then significant.

Greenhouse Gas Emissions Inventory

Table 3-8 summarizes the annual operational GHG emissions associated with the operation of the proposed Project (3,954 metric tonnes of carbon dioxide equivalent emissions per year (MT CO_2e per year) for the North Site Remainder Area and the EDH Costco Project). Because the exact energy efficiency and sustainability features of the North Site Remainder Area are not known at the time of preparation of this report, GHG reduction features of EDH Costco Project were not assumed for the Remainder Area Development.

PCAPCD CEQA Guidelines[22] have a three-tiered approach for assessing GHG emissions from land use projects. For projects with annual operational GHG emissions between 1,100 and 10,000 MT CO_2e per year, PCAPCD recommends applying its GHG Efficiency Matrix to determine significance.

As shown in **Table 3-8**, the proposed Project's estimated annual operational emissions fall within this range. Based on a total building square footage of 303,200 square feet (138,000 square feet for the North Site Remainder Area and 165,200 square feet for the EDH Costco Project), the calculated GHG efficiency for the proposed Project is 13.04 MT CO_2e per 1,000 square feet.[23] This is below the applicable conservative threshold of 26.5 MT CO_2e per 1,000 square feet for nonresidential projects located in urban areas, as defined by PCAPCD.

[19] As noted in Section 4.3.6 of the Air Quality Technical Report, the heavy-duty diesel vehicle trips generated by the EDH Costco Project are less than 0.25% of the total Project trips. Additionally, for purposes of this analysis the heavy-duty diesel vehicle trips generated by the Remainder Area as assumed to be similar to the general fleet mix in El Dorado County, based on the default fleet mix in CalEEMod. Hence, the fraction of heavy-duty diesel vehicle trips generated by the proposed Project (EDH Costco and North Site Remainder Area) will be lower than the approximately 6% of heavy-duty diesel trucks operating on the roads in El Dorado County.

[20] Ibid.

[21] Ibid.

[22] PCAPCD CEQA Handbook. 2017. Chapter 2 Thresholds of Significance. Available at: https://www.placerair.org/DocumentCenter/View/2047/Chapter-2-Thresholds-of-Significance-PDF. Accessed: October 2025.

[23] Note, the Proposed Project GHG efficiency would be 16.94 MT CO_2e per 1,000 square feet if the analysis accounted for the greenhouse gas emission benefits associated with only the mandatory electric vehicle charging requirements (1,097 kW total power) in the 2025 California Green Building Standards Code. This value is also below the applicable conservative threshold of 26.5 MT CO_2e per 1,000 square feet for non-residential projects located in urban areas, as defined by PCAPCD.

Therefore, the proposed Project's operational GHG emissions are considered to be less than significant.

Energy Projection

Energy consumption associated with the operation of the North Site Remainder Area are estimated using methodologies described in Section 4.2 of the EDH Costco Energy Technical Report and summarized in **Table 3-9**. Additional details on the operational electricity, natural gas, diesel and gasoline consumption are provided in **Appendix F**.

4. PROGRAM-LEVEL AIR QUALITY IMPACT ANALYSIS

This section assesses the significance of the proposed Project's air pollutant emissions for purposes of CEQA.

4.1 Threshold AQ-1: Would the Project conflict with or obstruct implementation of the applicable air quality plan?

According to the EDCAQMD CEQA Guide,[24] development projects in the Mountain Counties Air Basin portion of the County are considered consistent with the applicable air quality plan if:

1. The Project does not require a change in the existing land use designation (e.g., a general plan amendment or rezone), and projected emissions of ROG and NO_X from the Project are equal or less than the emissions anticipated for the site if developed under the existing land use designation;
2. The Project does not exceed the "project alone" significance criteria;
3. The lead agency for the Project requires the Project to implement any applicable emission reduction measures contained in and/or derived from the air quality attainment plan; and
4. The Project complies with all applicable district rules and regulations.

El Dorado County's General Plan designates the Project site as Commercial (C). Zoning includes Commercial Regional–Planned Development (CR-PD), with smaller areas of Commercial Limited and Transportation Corridor. Once operational, the proposed Project would be a regional commercial center, which is consistent with the existing designation of the County's General Plan and zoning. Hence, the anticipated growth associated with the Project is generally accounted for in the 2023 Ozone Plan[25] and would be accounted for in forthcoming attainment plans.

As described in **Section 3.1** and **Section 3.2**, the air quality impacts of CAPs associated with the proposed Project construction and operation are less than significant. Therefore, the proposed Project does not exceed the "project alone" significance criteria.

The applicable air quality attainment plans for the Project area are the Sacramento Regional 8-hour Ozone Attainment and Reasonable Further Progress Plan[26] and $PM_{2.5}$ Maintenance Plan and Redesignation Request.[27] As such the proposed Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under these plans (see **Section 4.2** below for further details). Hence, the

[24] EDCAQMD. 2002. Guide to Air Quality Assessment. February. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

[25] Sacramento Region Air Quality Plans. Available at: https://ww2.arb.ca.gov/our-work/programs/california-state-implementation-plans/nonattainment-area-plans/sacramento-region. Accessed: October 2025.

[26] Ibid.

[27] EDCAQMD, Placer County Air Pollution Control District, SMAQMD, and Yolo-Solano Air Quality Management District. $PM_{2.5}$ Implementation/Maintenance Plan and Redesignation Request for Sacramento $PM_{2.5}$ Nonattainment Area. October 24. Available at: http://www.airquality.org/ProgramCoordination/Documents/PM2.5%20Imp%20and%20Redesignation%202013.pdf. Accessed: October 2025.

proposed Project is not required to implement any additional mitigation measures contained in these plans.

As described in **Section 3.1** of this report and Sections 4.2.3 and 5.1.1 of the EDH Costco Project Air Quality Technical Report the proposed Project would comply with EDCAQMD Rules 223-1 and 223-2 for fugitive dust control[28] and asbestos hazard mitigation[29] during construction. The proposed Project is located in an area where NOA could be present.[30] Although the proposed Project's Geotechnical Study[31] concluded that the potential for NOA to be encountered at levels at or exceeding regulatory threshold level is considered low, the proposed Project would implement asbestos dust mitigation measures consistent with EDCAQMD Rule 223-1 through the implementation of **Mitigation Measure 3.2-4b**. The proposed Project would also comply with all other applicable EDCAQMD rules.

Therefore, the proposed Project would not conflict with or obstruct implementation of the applicable air quality plans for the Project region.

4.2 Threshold AQ-2: Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?

As discussed in the EDH Costco Project Air Quality Technical Report, the Project region is currently designated as non-attainment for the State 1-hour ozone (O_3) standard, the federal and the State 8-hour O_3 standard, the State PM_{10} standards, and the federal 24-hour $PM_{2.5}$ standard.

The two primary precursors for O_3 formation are ROG and NO_X. Table 4-12 of the EDH Costco Air Quality Report, and **Table 3-1** and **Table 3-7** of this report present the average daily and maximum daily ROG and NO_X emissions associated with the proposed Project construction and operation. Emissions of these O_3 precursors (ROG and NO_X) are below the EDCAQMD mass daily significance thresholds. Additionally, as described in Section 4.2.6 of the EDH Costco Air Quality Report and **Section 3** of this report, impacts of particulate matter emissions from the proposed Project construction and operation are less than significant. Hence, the proposed Project would not result in a cumulatively considerable net increase in any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard.

[28] EDCAQMD. 2005. Rule 223-1 Fugitive Dust – Construction, Bulk Material Handling, Blasting, Other Earthmoving Activities and Carryout and Trackout Prevention. Available at: https://ww2.arb.ca.gov/sites/default/files/classic/technology-clearinghouse/rules/RuleID809.pdf. Accessed: October 2025.

[29] EDCAQMD. 2005. Rule 223-2 Fugitive Dust – Asbestos Hazard Mitigation. Available at: https://ww2.arb.ca.gov/sites/default/files/classic/technology-clearinghouse/rules/RuleID810.pdf. Accessed: October 2025.

[30] El Dorado County. Asbestos Review Areas, Western Slope, County of El Dorado, State of California. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/construction-dust-rules/asbestos-review-map-8-22-18.pdf. Accessed: October 2025.

[31] Kleinfelder, 2024. Geotechnical Study, Proposed Costco Fuel Facility, Silva Valley Parkway, El Dorado Hills, California, CW# 18-0487. December 2024.

4.3 Threshold AQ-3: Would the Project expose sensitive receptors to substantial pollutant concentrations?

4.3.1 CO Hotspots

As discussed in Section 6.2 of the AQ Technical Report, according to the PCAPCD guidance, the CO emissions from a proposed Project's operations would be less than significant if CO emissions from vehicle operations are less than 550 pounds per day (lbs/day). As shown in **Table 3-7**, the CO emissions from mobile sources associated with the proposed Project are less than 550 lbs/day. Thus, the increase in CO emissions from the project-related increased traffic volumes at affected intersections and the on-site gasoline fueling station are less than significant and the proposed Project would not expose sensitive receptors to substantial concentrations of localized CO.

4.3.2 Health Risk Thresholds

As described in Section 7.3.1 of the EDH Costco Project Air Quality Technical Report, the cancer risk, non-cancer chronic and acute HIs at the maximally impacted residential and other sensitive receptors associated with the mitigated toxic air contaminant (TAC) emissions from the EDH Costco Project construction and operation are below EDCAQMD significance thresholds. Specifically, the maximum incremental cancer risk, non-cancer chronic and acute HIs for the Costco EDH Project are estimated to be 4.13 in a million, 0.02, and 0.50 respectively (Refer to Table 5-5 in the EDH Costco Project Air Quality Technical Report).

The primary sources of TAC emissions associated with the North Site Remainder Parcel are diesel particulate matter (DPM) emissions from construction equipment, construction trucks, and operational trucks. The construction equipment, construction truck activity, and operational truck activity associated with the development of the North Site Remainder Parcel are generally expected to be similar/lower than that of the EDH Costco Project as maximum square footage of the of commercial/retail land uses that would be developed on the North Site Remainder Area (138,000 square feet) is lower than the square footage of the warehouse that would be developed by the EDH Costco Project (165,000 square foot). Hence, the DPM emissions from the North Site Remainder Parcel and its associated cancer and chronic impacts will be similar or less than that associated with the EDH Costco Project. As a result, the maximum cancer risk and chronic HI associated with the proposed Project (North Site Remainder Area and EDH Costco Project) are expected to be less than 8.5 in a million and 0.05 respectively which are below EDCAQMD significance thresholds.

Additionally, since the North Site Remainder Parcel is expected to be developed as general retail land uses, we do not expect it to be a significant source of TACs that have acute impacts. Therefore, the acute HI for the proposed Project (North Site Remainder Area and EDH Costco Project) is expected to be similar to that of the EDH Costco Project which is below EDCAQMD significance threshold.

Therefore, the Project is not expected to expose sensitive receptors to substantial TAC concentrations.

4.4 Threshold AQ-4: Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

According to the EDCAQMD CEQA Guide,[32] common types of facilities known to produce odors include wastewater treatment plants, landfills and composting facilities, petroleum refineries, manufacturing plants such as asphalt batch plants and chemical/fiberglass manufacturing, painting and coating operations, food processing plants, rendering plants, and coffee roasters. The proposed Project would not include any of these land uses that have been identified by the EDCAQMD as being associated with odor generation and thus would not result in odors adversely affecting a substantial number of people. In addition, the proposed Project does not propose to locate any sensitive receptors near an existing source of objectional odors.

4.4.1 Construction Odors

Construction activities associated with potential odor include equipment exhaust (i.e., from off-road construction equipment), paving, and architectural coating. There are no unusual Project characteristics or construction processes that would require the use of equipment that would be more fuel intensive than is used for comparable construction activities, nor equipment that would not conform to current emission standards. It is expected that these impacts would be short-term in duration and typical of comparable activities, therefore the impacts would not adversely affect a substantial number of people and would be less than significant.

4.4.2 Operational Odors

As discussed above, the proposed Project is a commercial and retail development and does not propose any odor-generating facilities identified by the EDCAQMD. However, the proposed Project does include a gasoline fueling station. During the operation of the Project, VOCs released at the gasoline station due to refueling, spillage, and hose permeation would be controlled to minimize odors (i.e., nozzles equipped with Phase II Enhanced Vapor Recovery systems). Therefore, odor impact from the gasoline fueling station would not affect a substantial number of people and would be less than significant.

There may be some potential for other small-scale, localized odor issues to emerge around some of the proposed Project sources, such as solid waste collection, wastewater or stormwater collection/conveyance, or food preparation. However, these localized short-term odors would not affect a substantial number of people. Therefore, the proposed Project's operational odor impact is considered less than significant.

[32] EDCAQMD. 2002. Guide to Air Quality Assessment. February. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

5. PROGRAM-LEVEL GREENHOUSE GAS EMISSIONS IMPACT ANALYSIS

This section discusses the assessment of the proposed Project's GHG emissions against the CEQA significance thresholds outlined in **Section 2**.

5.1 Threshold GHG-1: Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

As noted in **Section 2.1**, in the absence of a quantitative GHG threshold from El Dorado County and EDCAQMD, this Technical Report assesses significance of the proposed Project's GHG impacts for Threshold 1 against the PCAPCD's GHG significance thresholds.

Total GHG emissions for each year of the proposed Project construction are summarized in Table 4-13 of the EDH Costco Project Greenhouse Gas Technical Report and **Table 3-5** of this report. As shown in these tables, the annual GHG emissions associated with the construction of the proposed Project (1,708 MT CO_2e in 2026, 1,866 MT CO_2e in 2027, and 197 MT CO_2e in 2028) are less than the PCAPCD's bright-line GHG significance threshold of 10,000 MT CO_2e/year for construction.

The proposed Project's annual operational GHG emissions were estimated to be 3,954 MT CO_2e per year (**Table 3-8**). These emissions are between PCAPCD's de minimis GHG emissions level (1,100 MT CO_2e/yr) and bright-line GHG significance threshold (10,000 MT CO_2e/yr) for project operation. Therefore, to evaluate the GHG impacts we estimated the proposed Project's efficiency metric in accordance with the PCAPCD's Air Quality Handbook.[33] This calculated efficiency metric (13.04 MT CO_2e per 1,000 square feet) shown in **Table 3-8**, is less than the lower of the two applicable efficiency matrix thresholds in PCAPCD's Air Quality Handbook for the operational phase of land use projects:

1. 26.5 MT CO2e/1,000 square feet for a project in an urban land use setting; and
2. 27.3 MT CO2e/1,000 square feet for a project in rural land use setting.

Therefore, the GHG emissions associated with the construction and operation of the proposed Project would not have a significant impact on the environment.

5.2 Threshold GHG-2: Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

As noted in **Section 2.1**, this Technical Report assesses the significance of the proposed Project's GHG impacts for Threshold 2 based on whether it would conflict with the 2022 Scoping Plan Update,[34] SACOG's 2020 MTP/SCS,[35] and El Dorado County RTP 2020-2040.[36]

[33] PCAPCD. 2017. 2017 CEQA Handbook Chapters. Available at: https://www.placerair.org/1801/CEQA-Handbook. Accessed: October 2025.

[34] CARB. 2022. 2022 CARB Scoping Plan Update - Appendix D, Local Actions. Available at: https://ww2.arb.ca.gov/sites/default/files/2022-11/2022-sp-appendix-d-local-actions.pdf. Accessed: October 2025.

[35] SACOG. 2020. 2020 SACOG MTP/SCS. Available at: https://www.sacog.org/home/showpublisheddocument/76/638212804736270000. Accessed: October 2025.

[36] El Dorado County Transportation Commission. 2020. El Dorado County Regional Transportation Plan 2020-2040. November 5. Available at: https://www.edctc.org/files/2859e4e3f/RTP+2040.pdf. Accessed: October 2025.

5.2.1 2022 Scoping Plan Update

The 2022 Scoping Plan Update has a table of priority GHG reduction strategies that can be utilized by local governments. The three main priority areas addressed in this table are "Transportation Electrification", "vehicle miles travelled (VMT) Reduction", and "Building Decarbonization".[37] These measures represent the core strategies that local jurisdictions in California can implement to reduce GHGs in alignment with State goals.

The proposed Project would not conflict with the implementation of the 2022 Scoping Plan Update and Statewide Emission Reduction Targets and includes the several features and mitigation measures that support the three main priority areas for GHG reduction as described below.

While project-level design features and details are not available for the potential developments in the North Site Remainder Area at the time of preparation of this program-level analysis, the North Site Remainder Area would introduce retail/commercial land uses that are consistent with the zoning designation in a highway hub. Hence, the proposed Project, i.e., the North Site Remainder Area and the Costco EDH Project, would create new employment opportunities. Additionally, the Project site is an infill development located near an El Dorado Transit bus route (50 Express) and bus stop (El Dorado Transit Park & Ride), therefore placing jobs that are accessible via public transit. The El Dorado bus route connects to the larger Sacramento Metropolitan transit network and encourages use of local transit and rail to commute to the proposed Project. Furthermore, the proposed Project is located adjacent to homes, therefore the proposed Project would provide retail and jobs near a housing-rich area served by El Dorado Transit. Lastly, the proposed Project will implement **Mitigation Measure 3.14-2c: Develop a Transportation Demand Management (TDM) Program and Implement VMT Reduction Measures for Subsequent Developments in the North Site Remainder Area** which requires each project applicant of future proposed projects located within the North Site Remainder Area to either demonstrate through a technical analysis that its project would not exceed County VMT thresholds or implement VMT-reducing infrastructure and/or strategies within the commercial facility to mitigate those impacts. If VMT thresholds are exceeded, the applicant shall prepare and submit a TDM Plan to the County for approval, which shall include a series of measures to reduce project-related VMT. Measures may include strategies such as ridesharing initiatives (e.g., carpooling), subsidizing employee use of public transit, and promoting bicycling, walking, and the use of public transit. As noted in Section 5.2.1 of the GHG Technical Report, the EDH Costco Project will meet the Voluntary Tier 1 Electric Vehicle Charging Standards as defined in the 2025 California Green Building Standards Code[38] by installing ten direct current fast chargers that provide a total power of 1,800 kW. Additionally, these chargers will be powered by 100% renewable electrical power supplied by Pacific Gas & Electric (PG&E), as Costco has a Clean Energy Contract with PG&E. Furthermore, the Remainder Area will be required to meet the Mandatory Electric Vehicle Charging Standards as defined in the California Green Building Standards Code.

[37] CARB. 2022. Final 2022 Scoping Plan Update and Appendices. December. Available at: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents. Accessed: October 2025.

[38] 2025 California Green Building Standards Code, Title 24, Part 11. Available online at: https://codes.iccsafe.org/content/CAGBC2025P1. Accessed: October 2025.

Additionally, as noted in Section 5.2.1 of the GHG Technical Report, the EDH Costco Project will incorporate several sustainability and energy efficiency measures including green building practices as required by the 2025 California Green Building Standards Code.[39] Refer to Section 1.2 of the GHG Technical Report for a detailed listing of these measures. Notably, the EDH Costco Project operations will be powered 100% renewable electrical power supplied by PG&E, as Costco has a Clean Energy Contract with PG&E. Furthermore, the Remainder Area will be required to meet the California Green Building Standards Code, which includes a number of energy-saving requirements for new developments.

Based on the proposed Project elements described above, the Project would not interfere with the implementation of the 2022 Scoping Plan Update and would include elements that support the goals of the plan.

5.2.2 SACOG 2020 MTP/SCS

The proposed Project would not conflict with the State's GHG reduction goals and strategies as discussed in the SACOG's 2020 MTP/SCS,[40] which fall into four priority policy areas:

1. Build vibrant places for today's and tomorrow's residents;
2. Foster the next generation of mobility solutions;
3. Modernize the way we pay for transportation infrastructure; and
4. Build and maintain a safe, reliable, and multimodal transportation system.

The proposed Project would not conflict with the implementation of the SACOG's 2020 MTP/SCS and has several elements that are expected to support the main priority policy in SACOG's 2020 MTP/SCS. As noted in **Section 5.2.1**, the Project is an infill development that would create new employment opportunities and is located near an El Dorado Transit bus route (50 Express) and bus stop (El Dorado Transit Park & Ride), therefore placing jobs that are accessible via public transit. The El Dorado bus route connects to the larger Sacramento Metropolitan transit network and encourages use of local transit and rail to commute to the Project. Furthermore, the Project is located adjacent to homes, therefore the Project would provide retail and jobs near a housing-rich area served by El Dorado Transit.

Moreover, as noted in **Section 5.2.1**, the proposed Project will implement **Mitigation Measure 3.14-2c: Develop a TDM Program and Implement VMT Reduction Measures for Subsequent Developments in the North Site Remainder Area** which requires each project applicant of future proposed projects located within the North Site Remainder Area to either demonstrate through a technical analysis that its project would not exceed County VMT thresholds or implement VMT-reducing infrastructure and/or strategies within the commercial facility to mitigate those impacts. If VMT thresholds are exceeded, the applicant shall prepare and submit a TDM Plan to the County for approval, which shall include a series of measures to reduce project-related VMT. Measures may include strategies such as ridesharing initiatives (e.g., carpooling), subsidizing employee use of public transit, and promoting bicycling, walking, and the use of public transit.

[39] 2025 California Green Building Standards Code, Title 24, Part 11. Available online at: https://codes.iccsafe.org/content/CAGBC2025P1. Accessed: October 2025.

[40] SACOG. 2020. Metropolitan Transportation Plan/Sustainable Communities Strategy. Available at: https://www.sacog.org/home/showpublisheddocument/76/638212804736270000. Accessed: October 2025.

Additionally, as noted in Section 5.2.2 of the GHG Technical Report, the EDH Costco Project would implement pedestrian network improvements as part of **Mitigation Measure 3.14-2b**, and would implement several off-site transportation improvements in coordination with the County to address the existing and future needs of the region in the immediate vicinity of the Project site.

Based on the proposed Project elements described above, the Project would not interfere with the implementation of the SACOG's 2020 MTP/SCS and would include elements that support the goals of the plan.

5.2.3 El Dorado County RTP 2020-2040

The proposed Project would not conflict with the El Dorado County 2020-2040 RTP,[41] which includes the following main goals: to improve highways, streets, and regional/inter-regional roadways, public transit, aviation, freight movement, non-motorized transportation, transportation systems management, integrated land use, air quality, and transportation planning, and funding.

The Project supports the objectives of the El Dorado County Regional Transportation Plan by providing sidewalks, bike lanes, and pedestrian connections. As noted in **Section 5.2.1**, the Project is an infill development that would create new employment opportunities and is located near an El Dorado Transit bus route (50 Express) and bus stop (El Dorado Transit Park & Ride), thereby creating jobs that are accessible via public transit. The El Dorado bus route connects to the larger Sacramento Metropolitan transit network and encourages use of local transit and rail to commute to the Project. Furthermore, the Project is located adjacent to homes, therefore the Project would provide retail and jobs near a housing-rich area served by El Dorado Transit.

Additionally, as noted in **Section 5.2.1**, the proposed Project will implement **Mitigation Measure 3.14-2c: Develop a TDM Program and Implement VMT Reduction Measures for Subsequent Developments in the North Site Remainder Area** which requires each project applicant of future proposed projects located within the North Site Remainder Area to either demonstrate through a technical analysis that its project would not exceed County VMT thresholds or implement VMT-reducing infrastructure and/or strategies within the commercial facility to mitigate those impacts. If VMT thresholds are exceeded, the applicant shall prepare and submit a TDM Plan to the County for approval, which shall include a series of measures to reduce project-related VMT. Measures may include strategies such as ridesharing initiatives (e.g., carpooling), subsidizing employee use of public transit, and promoting bicycling, walking, and the use of public transit.

Further, as described in Section 5.2.2 of the GHG Technical Report, the Project would include pedestrian network improvements as part of **Mitigation Measure 3.14-2b**, and would implement several off-site transportation improvements in coordination with the County to address the existing and future needs of the region in the immediate vicinity of the Project site.

Based on the proposed Project elements described above, the proposed Project would not interfere with the implementation of the El Dorado County 2020-2040 RTP and would include elements that support the goals of the plan.

[41] El Dorado County Transportation Commission. 2020. El Dorado County Regional Transportation Plan 2020-2040. November 5. Available at: https://www.edctc.org/files/2859e4e3f/RTP+2040.pdf. Accessed: October 2025.

5.3 Summary

As discussed in **Section 5.1**, the proposed Project is expected to result in GHG emissions that are below PCAPCD GHG thresholds for operation and construction. Additionally, as described in **Section 5.2**, the proposed Project would not conflict with the 2022 Scoping Plan Update, SACOG's 2020 MTP/SCS, or the El Dorado County RTP 2020-2040. Therefore, the proposed Project's GHG emissions will be less than significant in the context of Threshold 1 and Threshold 2. Based on the analysis above, the proposed Project's GHG emissions are not cumulatively considerable, and the proposed Project is less than significant for cumulative GHG impacts.

6. PROGRAM-LEVEL ENERGY IMPACT ANALYSIS

This section discusses the assessment of the Project's energy demand against the CEQA significance thresholds outlined in **Section 2**.

6.1 Threshold ENE-1: Would the Project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?

6.1.1 Energy Requirements and Energy Use Efficiencies

This section addresses the following category of environmental impact described in Appendix F of the CEQA Guidelines:

> *The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance and/or removal. If appropriate the energy intensiveness of materials may be discussed.*

Construction of the proposed Project (North Site Remainder Area and the EDH Costco Project) would result in one-time energy consumption in the form of gasoline and diesel, shown in **Table 3-6**. There are no unusual characteristics that would require the use of equipment that would be more energy intensive than is used for comparable activities, or equipment that would not conform to the current emissions standards (and related fuel efficiencies).

The operational energy use of the proposed Project is summarized in **Table 3-7**. As expected, the program-level energy use would be greater than the energy use from the EDH Costco Project. However, neither the EDH Costco Project nor the Remainder Area Development would have unusual project characteristics that would require electricity, gasoline, natural gas, and diesel consumption that would be more energy intensive than is used for comparable activities, or equipment that would not conform to current emissions standards (and related fuel efficiencies). For example, CARB has adopted an approach to passenger vehicles that combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of standards. The approach also includes efforts to support and accelerate the numbers of plug-in hybrids and zero-emissions vehicles in California. As such, operation of the proposed Project is expected to use decreasing amounts of fuel over time, due to advances in fuel economy.

6.1.2 Local and Regional Energy Supplies

This section addresses the following category of environmental impact described in Appendix F of the CEQA Guidelines:

> *The effects of the project on local and regional energy supplies and on requirements for additional capacity.*

The off-road construction equipment used during Project construction are primarily diesel-fueled. (see **Table D-1** for additional details on construction of the North Site Remainder Area and Table 4-2 of the EDH Costco Project Energy Technical Report for construction of the EDH Costco Project). Additionally, the fleet mix for construction mobile sources is expected to be gasoline-powered and diesel-powered, based on the CalEEMod default fleet mix for worker, vendor, and hauling vehicles (see **Table D-2** for additional

details on the construction of the North Site Remainder Area and Table 4-4 of the EDH Costco Project Energy Technical Report for construction of the EDH Costco Project). Hence, the proposed Project is not expected to use any natural gas during construction.

As shown in **Table 3-6**, relative to annual countywide fuel usage projections, the proposed Project construction would use up to 0.02% of gasoline, 1.23% of diesel, and 0.000004% of electricity in the year when the most construction would occur (2027). Relative to annual statewide fuel usage projections, the proposed Project construction would use up to 0.00010% of gasoline, 0.00405% of diesel, and 0.00000002% of electricity in the year when the most construction would occur (2027). Because construction of the proposed Project is expected to occur in three years, fuel use during construction would also be temporary and negligible.

Table 3-9 summarizes the proposed Project's operational energy use compared to countywide and statewide fuel usage projections. The estimated electricity usage for the proposed Project operations are anticipated to be approximately 0.57% of the projected countywide demand in 2028, and 0.00272% of the statewide energy demand. The natural gas usage of the proposed Project operations are estimated to be 0.08% of the total countywide natural gas consumption and 0.00024% of the total statewide natural gas consumption. The proposed Project's anticipated gasoline usage is anticipated to be 0.68% of the countywide consumption and 0.00323% of the statewide consumption. As far as the proposed Project's diesel consumption goes, it is estimated to be 1.39% of the projected countywide consumption and 0.0045% of the statewide consumption. Based on these relative percentages, the proposed Project's operational energy usage would not have a substantial impact on the local or regional energy supplies or capacity.

6.1.3 Peak and Base Period Demands

This section addresses the following category of environmental impact described in Appendix F of the CEQA Guidelines:

> *The effects of the project on peak and base period demands for electricity and other forms of energy.*

The proposed Project construction would only include minor pieces of electric-powered equipment and hence would not impact the peak and base period demands for electricity.

The proposed Project operation will not have a substantial impact on the peak and base period demands for electricity or other forms of energy. Further details and reasoning on the peak demand are described below.

In 2023, California's peak grid demand was 44,534 megawatts (MW).[42] PG&E recorded a peak demand of 19,995 MW in 2023.[43] In comparison, the Project's maximum demand is

[42] California ISO. California ISO Peak Load History 1998 through 2024. Available at: https://www.caiso.com/documents/californiaisopeakloadhistory.pdf. Accessed: October 2025.

[43] California Energy Commission. 2023. Electricity and Gas Demand Forecast. Available at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=253660&DocumentContentId=88907. Accessed: October 2025.

expected to be approximately 1.9 MW in 2028,[44] Therefore, the proposed Project's operations will have a relatively negligible effect on statewide and PG&E peak demands.

6.1.4 Existing Energy Standards

This section addresses the following category of environmental impact described in Appendix F of the CEQA Guidelines:

The degree to which the project complies with existing energy standards.

The proposed Project construction requires use of on-road trucks for soil hauling and deliveries, and off-road equipment such as excavators, tractors/loaders/backhoes, forklifts, and graders. The construction activities would comply with the five-minute idling limit in the Commercial Motor Vehicle Idling Regulation[45] and the Off-Road Regulation.[46] Additionally, on-road trucks used during Project construction would be compliant with the requirements of the Tractor-Trailer Greenhouse Gas Regulation.[47]

The proposed Project's anticipated operational energy use is summarized in **Table 3-9**. There are no unusual project characteristics that would require the use of gasoline, diesel, natural gas, or electricity that would be more energy intensive than is used for comparable activities, equipment, or vehicles that would not conform to current emissions standards (and related fuel efficiencies). Additionally, as described in Section 5.1.4.2 of the EDH Costco Project Energy Technical Report, the proposed Project would meet or exceed the Title 24 energy efficiency standards in effect at the time of building permit application. Any passenger vehicles and trucks trips generated by the proposed Project would comply with existing and new state-wide vehicle efficiency regulations discussed further in **Section 6.1.6**. Furthermore, the proposed delivery trucks accessing the site would comply with the State's Commercial Motor Vehicle Idling Regulation, similar to the construction vehicles discussed above.

Therefore, the proposed Project will comply with all applicable energy standards and its energy impacts are less than significant.

6.1.5 Energy Resources

This section addresses the following category of environmental impact described in Appendix F of the CEQA Guidelines:

The effects of the project on energy resources.

As discussed in **Sections 6.1.2** and **6.1.3**, the proposed Project's use of energy will not have a substantial effect on statewide or regional energy resources. Hence, the proposed Project will not significantly impact energy resources, and its energy impacts are less than significant.

---

[44] This is a conservative estimate since it was derived by dividing the total electricity energy required for the proposed Project operation by the annual operating hours for the proposed Costco warehouse, though some sources of electricity would operate 24 hours per day for every day of the year.

[45] 13 CCR 2485: Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. Available at: https://www.law.cornell.edu/regulations/california/13-CCR-2485. Accessed: October 2025.

[46] CARB. Frequently Asked Questions: Regulation for In-Use Off-Road Diesel-Fueled Fleets. Available at: https://ww2.arb.ca.gov/sites/default/files/classic/msprog/ordiesel/faq/idlepolicyfaq.pdf. Accessed: October 2025.

[47] CARB. Tractor-Trailer Greenhouse Gas Regulation. Available here: https://ww2.arb.ca.gov/our work/programs/ttghg-regulation/regulatory-and-guidance-documents. Accessed: October 2025.

6.1.6 Transportation Energy Use

This section addresses the following category of environmental impact described in Appendix F of the CEQA Guidelines:

> *The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.*

Conventional gasoline, diesel, and natural gas vehicles consume gasoline, diesel, or natural gas, whereas electric vehicles (EVs) consume electricity that can be sourced by fossil fuels or renewables. EVs, including battery-electric vehicles and plug-in hybrid electric vehicles, comprise a growing fraction of the passenger vehicles on the roads in California. EV adoption is expected to increase over the upcoming decades due in part to improvements in battery technology and public initiatives and goals. This increase in EV adoption will decrease the fuel requirements due to transportation. New statewide regulations have been instated which will reduce emissions and fuel requirements from cars and trucks. Gasoline, diesel, and natural gas usage for the mobile sources associated with the proposed Project operation are expected to decrease over time as fleets become more fuel-efficient and switch to more electric-powered vehicles. Overall, the proposed Project would not result in wasteful, inefficient, or unnecessary consumption of transportation energy.

6.1.7 Summary

Based on the above analysis of each of the environmental impact factors identified in CEQA Guidelines Appendix F, the potential for the proposed Project to result in wasteful, inefficient, or unnecessary consumption of fuel or energy, and conversely to fail to incorporate energy efficiency measures into equipment use, transportation or other project features is less than significant.

6.2 Threshold ENE-2: Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

The proposed Project would comply with any applicable local and state plans, regulations, and policies for renewable energy or energy efficiency to the extent required by law. However, because project-level design features and details are not available for the potential developments in the North Site Remainder Area at the time of preparation of this program-level analysis, specific energy efficiency features for the Remainder Area Development will be described in any future applications filed with the County and the associated project-level review of potential environmental impacts under CEQA.

Furthermore, as show in Appendix A of the EDH Costco Project Energy Technical Report, the EDH Costco Project will commit to specific energy efficiency and renewable energy features, including but not limited to, meeting the Voluntary Tier 1 Electric Vehicle Charging Standards as defined in the 2025 California Green Building Standards Code,[48] installation of efficient irrigation systems and high-efficiency restroom fixtures, use of LED lamps, and use of building surface materials with greater solar reflectivity. Therefore, considered as a whole, the proposed Project would not conflict with or obstruct a state or local Plan for renewable energy or energy efficiency.

[48] 2025 California Green Building Standards Code, Title 24, Part 11. Available online at: https://codes.iccsafe.org/content/CAGBC2025P1. Accessed: October 2025.

TABLES

Table 3-1. Unmitigated Average Daily CAP Emissions for Construction of North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

North Site Remainder Area Construction Time Period	ROG Emissions [1] (lbs/day)	NO_x Emissions [1] (lbs/day)	CO Emissions [1] (lbs/day)	SO_X Emissions [1,2] (lbs/day)	PM_{10} Emissions [1] (lbs/day)	$PM_{2.5}$ Emissions [1] (lbs/day)
First Quarter	2.4	45	24	0.24	13	3.4
Second Quarter	1.2	11	15	0.028	2.1	0.58
Third Quarter	1.2	10	15	0.028	2.1	0.56
Fourth Quarter	21	7.6	12	0.020	1.5	0.40
EDCAQMD Mass Daily Significance Thresholds [3]	**82**	**82**	**-**	**-**	**-**	**-**
Do Emissions Exceed Threshold for any quarter of Construction?	NO	NO	**-**	**-**	**-**	**-**

Notes:

[1] Obtained from **Table C-1**. Average daily emissions per quarter calculated as the total construction emissions, which include construction of the regional shopping center and parking lot, divided by the number of construction days in each quarter. Project construction emissions assume watering control consistent with EDCAQMD Rule 223-1.

[2] For purposes of this analysis SO_X emissions are assumed to be equal to SO_2.

[3] Obtained from EDCAQMD Guide to Air Quality Assessment Determining Significance of Air Quality Impact Under the California Environmental Quality Act. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

Abbreviations:

CAP - Criteria Air Pollutant
CO - carbon monoxide
EDCAQMD - El Dorado County Air Quality Management District
lb - pound
NO_x - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_2 - sulfur dioxide
SO_x - sulfur oxide compounds

Table 3-2. Unmitigated Combined Average Daily CAP Emissions for Construction of North Site Remainder Area and Operation of Costco EDH Project
El Dorado Hills Costco Project
El Dorado Hills, California

North Site Remainder Area Construction Time Period	ROG Emissions [1] (lbs/day)	NO_x Emissions [1] (lbs/day)	CO Emissions [1] (lbs/day)	SO_X Emissions [1,2] (lbs/day)	PM_{10} Emissions [1] (lbs/day)	$PM_{2.5}$ Emissions [1] (lbs/day)
First Quarter	68.9	79.3	205.9	0.5	49.3	10.4
Second Quarter	67.7	44.8	196.8	0.3	38.8	7.5
Third Quarter	67.7	44.5	196.5	0.3	38.8	7.5
Fourth Quarter	87.3	41.8	193.2	0.3	38.1	7.4
EDCAQMD Mass Daily Significance Thresholds [3]	**82**	**82**	**-**	**-**	**-**	**-**
Do Emissions Exceed Threshold for any quarter of Construction?	YES	NO	**-**	**-**	**-**	**-**

Notes:

[1] Estimated as a sum of the average daily construction emissions for the North Site Remainder Area in **Table 3-1** and the maximum daily operational emissions for the Costco EDH Project in Table 4-16 of the EDH Costco Project Air Quality Technical Report.

[2] For purposes of this analysis SO_X emissions are assumed to be equal to SO_2.

[3] Obtained from EDCAQMD Guide to Air Quality Assessment Determining Significance of Air Quality Impact Under the California Environmental Quality Act. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

Abbreviations:

CAP - Criteria Air Pollutant
CO - carbon monoxide
EDCAQMD - El Dorado County Air Quality Management District
EDH - El Dorado Hills
lb - pound
NO_x - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_2 - sulfur dioxide
SO_x - sulfur oxide compounds

Table 3-3. Mitigated Average Daily CAP Emissions for Construction of North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

North Site Remainder Area Construction Time Period	ROG Emissions [1] (lbs/day)	NO_x Emissions [1] (lbs/day)	CO Emissions [1] (lbs/day)	SO_X Emissions [1,2] (lbs/day)	PM_{10} Emissions [1] (lbs/day)	$PM_{2.5}$ Emissions [1] (lbs/day)
First Quarter	1.4	48	28	0.24	12	3.0
Second Quarter	0.81	13	17	0.028	1.9	0.38
Third Quarter	0.79	13	17	0.028	1.9	0.38
Fourth Quarter	14	10	13	0.020	1.3	0.27
EDCAQMD Mass Daily Significance Thresholds [3]	**82**	**82**	**-**	**-**	**-**	**-**
Do Emissions Exceed Threshold for any quarter of Construction?	NO	NO	**-**	**-**	**-**	**-**

Notes:

[1] Obtained from **Table C-2**. Average daily emissions per quarter calculated as the total construction emissions, which include construction of the regional shopping center and parking lot, divided by the number of construction days in each quarter. Project construction emissions assume watering control consistent with EDCAQMD Rule 223-1.

[2] For purposes of this analysis SO_X emissions are assumed to be equal to SO_2.

[3] Obtained from EDCAQMD Guide to Air Quality Assessment Determining Significance of Air Quality Impact Under the California Environmental Quality Act. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

Abbreviations:

CAP - Criteria Air Pollutant
CO - carbon monoxide
EDCAQMD - El Dorado County Air Quality Management District
lb - pound
NO_x - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_2 - sulfur dioxide
SO_x - sulfur oxide compounds

Table 3-4. Mitigated Combined Average Daily CAP Emissions for Construction of North Site Remainder Area and Operation of Costco EDH Project
El Dorado Hills Costco Project
El Dorado Hills, California

North Site Remainder Area Construction Time Period	ROG Emissions [1] (lbs/day)	NO_x Emissions [1] (lbs/day)	CO Emissions [1] (lbs/day)	SO_X Emissions [1,2] (lbs/day)	PM_{10} Emissions [1] (lbs/day)	$PM_{2.5}$ Emissions [1] (lbs/day)
First Quarter	67.9	81.8	209.7	0.5	48.8	9.9
Second Quarter	67.3	47.6	198.9	0.3	38.6	7.3
Third Quarter	67.3	47.5	198.5	0.3	38.6	7.3
Fourth Quarter	80.9	44.1	194.6	0.3	38.0	7.2
EDCAQMD Mass Daily Significance Thresholds [3]	**82**	**82**	**-**	**-**	**-**	**-**
Do Emissions Exceed Threshold for any quarter of Construction?	NO	NO	**-**	**-**	**-**	**-**

Notes:

[1] Estimated as a sum of the average daily construction emissions for the North Site Remainder Area in **Table 3-3** and the maximum daily operational emissions for the Costco EDH Project in Table 4-16 of the EDH Costco Project Air Quality Technical Report.

[2] For purposes of this analysis SO_X emissions are assumed to be equal to SO2.

[3] Obtained from EDCAQMD Guide to Air Quality Assessment Determining Significance of Air Quality Impact Under the California Environmental Quality Act. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

Abbreviations:

CAP - Criteria Air Pollutant
CO - carbon monoxide
EDCAQMD - El Dorado County Air Quality Management District
EDH - El Dorado Hills
lb - pound
NO_x - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_2 - sulfur dioxide
SO_x - sulfur oxide compounds

Table 3-5. Summary of Construction Greenhouse Gas Emissions - North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Emissions Category	Emissions [1,2,3] ($MT CO_2e/yr$)
Construction Emissions (2027)	1,232
Construction Emissions (2028)	197
Construction GHG Threshold [4]	**10,000**
Do Either Year of Construction Exceed the Threshold?	NO

Notes:

[1] Emissions are presented as CO_2e, which include CO_2, CH_4, and N_2O emissions, weighted by their respective global warming potentials.

[2] Emissions totals may not add up due to rounding. Emissions shown as zero may be non-zero values; however, they are below a meaningful reporting level for this analysis.

[3] Obtained from CalEEMod output file for the North Site Remainder Area Development in **Appendix A**.

[4] Placer County Thresholds of Significance - Chapter 2. Available at: https://www.placerair.org/DocumentCenter/View/2047/Chapter-2-Thresholds-of-Significance-PDF. Accessed: October 2025.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

CH_4 - methane

CO_2 - carbon dioxide

CO_2e - carbon dioxide equivalents

GHG - greenhouse gas

MT - metric tons

N_2O - nitrous oxide

yr - year

Table 3-6. Energy Resource Summary for Proposed Project Construction
El Dorado Hills Costco Project
El Dorado Hills, California

Energy Resource	Year	Energy Consumption for the North Site Remainder Area Construction [1]	Energy Consumption for the EDH Costco Project Construction [2]	Total Energy Consumption for Proposed Project Construction [3] (gallons)	El Dorado County Annual Consumption [4,5] (gallons)	Proposed Project Construction Contribution to El Dorado County Annual Consumption (%)	California Annual Consumption [4,5] (gallons)	Proposed Project Construction Contribution to California Annual Consumption (%)
Gasoline (gallons/yr)	2026	-	10,851	10,851	65,259,604	0.02%	13,896,130,020	0.00008%
Diesel (gallons/yr)	2026	-	159,850	159,850	14,555,710	1.10%	4,342,164,261	0.00368%
Electricity (kWh/yr)	2026	-	88	88	1,339,206,633	0.00001%	282,782,592,309	0.00000003%
Gasoline (gallons/yr)	2027	4,906	9,121	14,027	64,229,365	0.02%	13,625,442,497	0.00010%
Diesel (gallons/yr)	2027	118,647	56,712	175,359	14,262,073	1.23%	4,330,293,013	0.00405%
Electricity (kWh/yr)	2027	-	59	59	1,339,206,633	0.000004%	282,782,592,309	0.00000002%
Gasoline (gallons/yr)	2028	2,873	-	2,873	63,126,214	0.00%	13,365,596,850	0.00002%
Diesel (gallons/yr)	2028	17,852	-	17,852	13,968,581	0.13%	4,312,144,863	0.00041%

Conversion Factors:

1,000,000 kWh/GWh

Notes:

[1] Estimated as a sum of the fuel consumption of the off-road construction equipment (**Table D-1**) and on-road vehicles (**Table D-2**) used during construction of the North Site Remainder Area.

[2] Obtained from Table 5-2 in the EDH Costco Energy Technical Report.

[3] Estimated as a sum of the energy consumption for construction of the North Site Remainder Area and the EDH Costco Project.

[4] Fuel consumption data for El Dorado County and the State of California are obtained from EMFAC2021 and OFFROAD2021 for calendar years 2026, 2027, and 2028.

[5] Electricity consumption data for El Dorado County and the State of California are obtained from https://www.energy.ca.gov/files/energy-consumption-data-files for calendar year 2024 as that was the most recent data available. Accessed: October 2025.

Abbreviations:

% - percent

EDH - El Dorado Hills

EMFAC - California Air Resources Board Emissions Factor Model

GWh - gigawatt hour

kWh - kilowatt hour

yr - year

Table 3-7. Maximum Daily Criteria Air Pollutant Emissions for Operations of the Proposed Project
El Dorado Hills Costco Project
El Dorado Hills, California

Proposed Project Land Use	Emission Category [1]	ROG Emissions (lbs/day)	NO_x Emissions (lbs/day)	CO Emissions (lbs/day)	SO_X Emissions [2] (lbs/day)	PM_{10} Emissions (lbs/day)	$PM_{2.5}$ Emissions (lbs/day)
EDH Costco Project	Area [3]	4.7	0.1	11.6	0.00	0.02	0.02
EDH Costco Project	Energy [3]	0.02	0.4	0.3	0.00	0.03	0.03
EDH Costco Project	Mobile [3]	41.7	31	167.5	0.30	36.5	6.8
EDH Costco Project	Stationary Sources [3]	0.8	2.3	2.1	0.00	0.12	0.12
EDH Costco Project	Gasoline Dispensing Facility [3]	19.3	-	-	-	-	-
North Site Remainder Area	Area [4]	3.3	0.05	6.0	0.00	0.01	0.01
North Site Remainder Area	Energy [4]	0.02	0.3	0.3	0.00	0.02	0.02
North Site Remainder Area	Mobile [4]	11.6	7.1	52.3	0.10	16.8	3.0
Total Daily Emissions (lb/day)		**81.4**	**41.7**	**240**	**0.40**	**53.5**	**10.0**
EDCAQMD Mass Daily Significance Thresholds [5]		**82**	**82**	**NA**	**NA**	**NA**	**NA**
Exceeds Threshold?		NO	NO	-	-	-	-

Notes:

[1] Emissions totals may not add up due to rounding. Emissions shown as zero may be non-zero values; however, they are below a meaningful reporting level for this analysis.

[2] For purposes of this analysis SO_X emissions are assumed to be equal to SO_2.

[3] Obtained from Table 4-16 in the EDH Costco Project Air Quality Technical Report.

[4] Obtained from the CalEEMod output file for the North Site Remainder Area Development in **Appendix A**.

[5] EDCAQMD Guide to Air Quality Assessment Determining Significance of Air Quality Impact Under the California Environmental Quality Act. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel
CO - carbon monoxide
EDCAQMD - El Dorado County Air Quality Management District
EDH - El Dorado Hills
lb - pound
NA - not applicable
NO_x - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_2 - sulfur dioxide
SO_x - sulfur oxide compounds

Table 3-8. Summary of Greenhouse Gas Emissions for Proposed Project Operations
El Dorado Hills Costco Project
El Dorado Hills, California

Proposed Project Land Use	Emissions Category	Emissions [1,2]	Unit
EDH Costco Project	Area Sources [3]	3.9	MT CO_2e/yr
EDH Costco Project	Energy Usage [3]	78	MT CO_2e/yr
EDH Costco Project	Mobile [3]	4,731	MT CO_2e/yr
EDH Costco Project	Water [3]	17	MT CO_2e/yr
EDH Costco Project	Waste Disposed [3]	224	MT CO_2e/yr
EDH Costco Project	Refrigerant [3]	0.13	MT CO_2e/yr
EDH Costco Project	Vegetation [3]	11	MT CO_2e/yr
EDH Costco Project	Generators [3]	9.6	MT CO_2e/yr
EDH Costco Project	On-Site Electric Vehicle Chargers [3]	-2,908	MT CO_2e/yr
North Site Remainder Area	Area Sources [4]	2.0	MT CO_2e/yr
North Site Remainder Area	Energy Usage [4]	122.9	MT CO_2e/yr
North Site Remainder Area	Mobile [4]	1,601	MT CO_2e/yr
North Site Remainder Area	Water [4]	15.1	MT CO_2e/yr
North Site Remainder Area	Waste Disposed [4]	45.2	MT CO_2e/yr
North Site Remainder Area	Refrigerant [4]	0.1	MT CO_2e/yr
North Site Remainder Area	Vegetation [4]	0.0	MT CO_2e/yr
Operational Emissions		**3,954**	**MT CO_2e/yr**
Calculated Efficiency Metric [5]		**13.04**	**MT CO_2e/1,000 sqft**
Operational GHG Efficiency Metric Threshold [6]		**26.50**	**MT CO_2e/1,000 sqft**
Exceeds Threshold?		NO	**-**

Notes:

[1] Emissions are presented as CO_2e, which include CO_2, CH_4, and N_2O emissions, weighted by their respective global warming potentials.

[2] Emissions totals may not add up due to rounding. Emissions shown as zero may be non-zero values; however, they are below a meaningful reporting level for this analysis.

[3] Obtained from Table 4-17 in the EDH Costco Project Greenhouse Gas Technical Report.

[4] Obtained from CalEEMod output file for the North Site Remainder Area Development in **Appendix A**.

[5] Efficiency metric is calculated as the total operational emissions divided by the sum of the building square footage of the regional shopping center and the building square footage of the EDH Costco Project (303,200 sqft).

[6] Placer County Thresholds of Significance - Chapter 2. Available at: https://www.placerair.org/DocumentCenter/View/2047/Chapter-2-Thresholds-of-Significance-PDF. Accessed: October 2025.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

CH_4 - methane

CO_2 - carbon dioxide

CO_2e - carbon dioxide equivalents

EDH - El Dorado Hills

GHG - greenhouse gas

MT - metric tons

N_2O - nitrous oxide

sqft - square feet

yr - year

Table 3-9. Energy Resource Summary for Proposed Project Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Energy Resource	Energy Consumption for the North Site Remainder Area Operation [1]	Energy Consumption for the EDH Costco Project Operation [2]	Total Energy Consumption for Proposed Project Operation [3]	El Dorado County Annual Consumption [4,5,6]	Proposed Project Operation Contribution to El Dorado County Annual Consumption (%)	California Annual Consumption [4,5,6]	Proposed Project Operation Contribution to California Annual Consumption (%)
Electricity (kWh/yr)	1,673,392	6,026,405	7,699,797	1,339,206,633	0.57%	282,782,592,309	0.00272%
Natural Gas (kBtu/yr)	1,192,913	1,423,224	2,616,137	3,196,879,463	0.08%	1,110,086,615,369	0.00024%
Gasoline (gallons/yr)	145,697	285,366	431,064	63,126,214	0.68%	13,365,596,850	0.00323%
Diesel (gallons/yr)	24,867	169,371	194,238	13,968,581	1.39%	4,312,144,863	0.00450%

Conversion Factors:

1,000,000 kWh/GWh
99,976.1 Btu/therm
1,000 Btu/kBtu

Notes:

[1] Estimated as a sum of the fuel consumption of Remainder Parcel operational sources listed in **Tables F-1, F-2,** and **F-5** through **F-9**.

[2] Obtained from Table 5-3 in the EDH Costco Energy Technical Report.

[3] Estimated as a sum of the energy consumption for operation of the North Site Remainder Area and the EDH Costco Project.

[4] Diesel and gasoline consumption data for El Dorado County and the State of California are obtained from EMFAC2021 and OFFROAD2021 for calendar year 2028.

[5] Electricity consumption data for El Dorado County and the State of California are obtained from https://www.energy.ca.gov/files/energy-consumption-data-files for calendar year 2024 as that was the most recent data available. Accessed: October 2025.

[6] Natural gas consumption data for El Dorado County and the State of California are obtained from https://www.energy.ca.gov/files/energy-consumption-data-files for calendar year 2024 as that was the most recent data available. Accessed: October 2025.

Abbreviations:

% - percent
Btu - British thermal unit
EDH - El Dorado Hills
EMFAC - EMission FACtors model
GWh - gigawatt hour
kBtu - kilo-British thermal unit
kWh - kilowatt hour
yr - year

APPENDIX A
NORTH SITE REMAINDER AREA CALEEMOD MODEL RUN

North Site Remainder Area Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

2.3. Construction Emissions by Year, Mitigated

2.4. Operations Emissions Compared Against Thresholds

2.5. Operations Emissions by Sector, Unmitigated

2.6. Operations Emissions by Sector, Mitigated

3. Construction Emissions Details

3.1. Site Preparation (2027) - Unmitigated

3.2. Site Preparation (2027) - Mitigated

3.3. Grading (2027) - Unmitigated

3.4. Grading (2027) - Mitigated

3.5. Building Construction (2027) - Unmitigated

3.6. Building Construction (2027) - Mitigated

3.7. Building Construction (2028) - Unmitigated

3.8. Building Construction (2028) - Mitigated

3.9. Paving (2028) - Unmitigated

3.10. Paving (2028) - Mitigated

3.11. Architectural Coating (2028) - Unmitigated

3.12. Architectural Coating (2028) - Mitigated

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.1.2. Mitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.2. Electricity Emissions By Land Use - Mitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.2.4. Natural Gas Emissions By Land Use - Mitigated

4.3. Area Emissions by Source

4.3.1. Unmitigated

4.3.2. Mitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.4.2. Mitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.5.2. Mitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.6.2. Mitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.7.2. Mitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.8.2. Mitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.9.2. Mitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.2.2. Mitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.3.2. Mitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.9.2. Mitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.10.4. Landscape Equipment - Mitigated

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.11.2. Mitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.12.2. Mitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.13.2. Mitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.14.2. Mitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.15.2. Mitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

5.18.2.2. Mitigated

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	North Site Remainder Area
Construction Start Date	5/18/2027
Operational Year	2028
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	9.40
Location	38.659852, -121.056799
County	El Dorado-Mountain County
City	Unincorporated
Air District	El Dorado County AQMD
Air Basin	Mountain Counties
TAZ	406
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Regional Shopping Center	138	1000sqft	3.17	138,000	0.00	—	—	—

Parking Lot	10.6	Acre	10.6	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers
Construction	C-6	Use Diesel Particulate Filters
Construction	C-13	Use Low-VOC Paints for Construction

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	103	103	111	37.9	0.66	1.63	30.4	32.1	1.55	6.29	7.83	—	63,577	63,577	0.61	9.01	85.6	66,363
Mit.	70.6	70.6	115	46.0	0.66	0.80	30.4	31.2	0.78	6.29	7.06	—	63,577	63,577	0.61	9.01	85.6	66,363
% Reduced	31%	31%	-4%	-21%	—	51%	—	3%	50%	—	10%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.43	1.22	10.6	15.0	0.03	0.34	1.75	2.09	0.31	0.26	0.58	—	3,516	3,516	0.11	0.14	0.08	3,561
Mit.	0.87	0.80	13.4	17.0	0.03	0.12	1.75	1.88	0.11	0.26	0.38	—	3,516	3,516	0.11	0.14	0.08	3,561
% Reduced	39%	34%	-26%	-13%	—	63%	—	10%	64%	—	35%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	6.17	6.10	15.6	11.7	0.07	0.34	3.58	3.92	0.32	0.76	1.07	—	7,190	7,190	0.11	0.81	3.72	7,439
Mit.	4.24	4.21	17.3	13.4	0.07	0.13	3.58	3.71	0.13	0.76	0.88	—	7,190	7,190	0.11	0.81	3.72	7,439
% Reduced	31%	31%	-11%	-15%	—	61%	—	5%	60%	—	18%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.13	1.11	2.85	2.13	0.01	0.06	0.65	0.71	0.06	0.14	0.20	—	1,190	1,190	0.02	0.13	0.62	1,232
Mit.	0.77	0.77	3.16	2.44	0.01	0.02	0.65	0.68	0.02	0.14	0.16	—	1,190	1,190	0.02	0.13	0.62	1,232
% Reduced	31%	31%	-11%	-15%	—	61%	—	5%	60%	—	18%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	5.19	4.25	111	37.9	0.66	1.63	30.4	32.1	1.55	6.29	7.83	—	63,577	63,577	0.61	9.01	85.6	66,363
2028	103	103	9.94	15.4	0.03	0.30	1.75	2.06	0.28	0.26	0.54	—	3,538	3,538	0.11	0.14	2.74	3,586
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.43	1.22	10.6	15.0	0.03	0.34	1.75	2.09	0.31	0.26	0.58	—	3,516	3,516	0.11	0.14	0.08	3,561
2028	1.38	1.16	10.0	14.9	0.03	0.30	1.75	2.06	0.28	0.26	0.54	—	3,492	3,492	0.11	0.14	0.07	3,537
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.26	1.06	15.6	11.7	0.07	0.34	3.58	3.92	0.32	0.76	1.07	—	7,190	7,190	0.11	0.81	3.72	7,439
2028	6.17	6.10	3.48	5.24	0.01	0.11	0.57	0.68	0.10	0.09	0.19	—	1,177	1,177	0.04	0.04	0.38	1,192
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.23	0.19	2.85	2.13	0.01	0.06	0.65	0.71	0.06	0.14	0.20	—	1,190	1,190	0.02	0.13	0.62	1,232
2028	1.13	1.11	0.63	0.96	< 0.005	0.02	0.10	0.12	0.02	0.02	0.03	—	195	195	0.01	0.01	0.06	197

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	2.97	2.56	115	46.0	0.66	0.80	30.4	31.2	0.78	6.29	7.06	—	63,577	63,577	0.61	9.01	85.6	66,363
2028	70.6	70.6	13.2	17.4	0.03	0.12	1.75	1.87	0.11	0.26	0.37	—	3,538	3,538	0.11	0.14	2.74	3,586
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.87	0.80	13.4	17.0	0.03	0.12	1.75	1.88	0.11	0.26	0.38	—	3,516	3,516	0.11	0.14	0.08	3,561
2028	0.85	0.77	13.2	16.9	0.03	0.12	1.75	1.87	0.11	0.26	0.37	—	3,492	3,492	0.11	0.14	0.07	3,537
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.72	0.65	17.3	13.4	0.07	0.13	3.58	3.71	0.13	0.76	0.88	—	7,190	7,190	0.11	0.81	3.72	7,439
2028	4.24	4.21	4.55	5.90	0.01	0.04	0.57	0.61	0.04	0.09	0.12	—	1,177	1,177	0.04	0.04	0.38	1,192
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.13	0.12	3.16	2.44	0.01	0.02	0.65	0.68	0.02	0.14	0.16	—	1,190	1,190	0.02	0.13	0.62	1,232
2028	0.77	0.77	0.83	1.08	< 0.005	0.01	0.10	0.11	0.01	0.02	0.02	—	195	195	0.01	0.01	0.06	197

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	15.5	14.9	6.54	58.5	0.10	0.14	16.7	16.8	0.13	2.93	3.06	97.7	10,797	10,895	10.6	0.58	30.1	11,362
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	13.2	12.6	7.46	52.5	0.09	0.13	16.7	16.8	0.12	2.93	3.05	97.7	10,089	10,186	10.7	0.63	1.42	10,644
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	13.8	13.2	7.16	53.2	0.10	0.13	16.4	16.6	0.12	2.89	3.02	97.7	10,231	10,329	10.6	0.61	13.4	10,791
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.52	2.41	1.31	9.70	0.02	0.02	3.00	3.02	0.02	0.53	0.55	16.2	1,694	1,710	1.76	0.10	2.21	1,787

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	12.1	11.6	6.17	52.3	0.10	0.10	16.7	16.8	0.10	2.93	3.02	—	10,033	10,033	0.57	0.52	29.4	10,230
Area	3.36	3.28	0.05	6.00	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.7	24.7	< 0.005	< 0.005	—	24.8
Energy	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	732	732	0.18	0.02	—	742
Water	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Waste	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Total	15.5	14.9	6.54	58.5	0.10	0.14	16.7	16.8	0.13	2.93	3.06	97.7	10,797	10,895	10.6	0.58	30.1	11,362
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	10.9	10.3	7.14	52.2	0.09	0.10	16.7	16.8	0.10	2.93	3.02	—	9,349	9,349	0.69	0.57	0.76	9,536
Area	2.29	2.29	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	732	732	0.18	0.02	—	742
Water	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Waste	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66

Total	13.2	12.6	7.46	52.5	0.09	0.13	16.7	16.8	0.12	2.93	3.05	97.7	10,089	10,186	10.7	0.63	1.42	10,644
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	11.0	10.4	6.81	49.9	0.09	0.10	16.4	16.5	0.10	2.89	2.99	—	9,480	9,480	0.64	0.55	12.7	9,671
Area	2.82	2.78	0.02	2.96	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	12.2	12.2	< 0.005	< 0.005	—	12.2
Energy	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	732	732	0.18	0.02	—	742
Water	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Waste	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Total	13.8	13.2	7.16	53.2	0.10	0.13	16.4	16.6	0.12	2.89	3.02	97.7	10,231	10,329	10.6	0.61	13.4	10,791
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.00	1.90	1.24	9.11	0.02	0.02	3.00	3.02	0.02	0.53	0.55	—	1,569	1,569	0.11	0.09	2.10	1,601
Area	0.51	0.51	< 0.005	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.02	2.02	< 0.005	< 0.005	—	2.02
Energy	0.01	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	121	121	0.03	< 0.005	—	123
Water	—	—	—	—	—	—	—	—	—	—	—	3.24	1.16	4.40	0.33	0.01	—	15.1
Waste	—	—	—	—	—	—	—	—	—	—	—	12.9	0.00	12.9	1.29	0.00	—	45.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11
Total	2.52	2.41	1.31	9.70	0.02	0.02	3.00	3.02	0.02	0.53	0.55	16.2	1,694	1,710	1.76	0.10	2.21	1,787

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	12.1	11.6	6.17	52.3	0.10	0.10	16.7	16.8	0.10	2.93	3.02	—	10,033	10,033	0.57	0.52	29.4	10,230
Area	3.36	3.28	0.05	6.00	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.7	24.7	< 0.005	< 0.005	—	24.8
Energy	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	732	732	0.18	0.02	—	742
Water	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2

Waste	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Total	15.5	14.9	6.54	58.5	0.10	0.14	16.7	16.8	0.13	2.93	3.06	97.7	10,797	10,895	10.6	0.58	30.1	11,362
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	10.9	10.3	7.14	52.2	0.09	0.10	16.7	16.8	0.10	2.93	3.02	—	9,349	9,349	0.69	0.57	0.76	9,536
Area	2.29	2.29	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	732	732	0.18	0.02	—	742
Water	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Waste	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Total	13.2	12.6	7.46	52.5	0.09	0.13	16.7	16.8	0.12	2.93	3.05	97.7	10,089	10,186	10.7	0.63	1.42	10,644
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	11.0	10.4	6.81	49.9	0.09	0.10	16.4	16.5	0.10	2.89	2.99	—	9,480	9,480	0.64	0.55	12.7	9,671
Area	2.82	2.78	0.02	2.96	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	12.2	12.2	< 0.005	< 0.005	—	12.2
Energy	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	732	732	0.18	0.02	—	742
Water	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Waste	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Total	13.8	13.2	7.16	53.2	0.10	0.13	16.4	16.6	0.12	2.89	3.02	97.7	10,231	10,329	10.6	0.61	13.4	10,791
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.00	1.90	1.24	9.11	0.02	0.02	3.00	3.02	0.02	0.53	0.55	—	1,569	1,569	0.11	0.09	2.10	1,601
Area	0.51	0.51	< 0.005	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.02	2.02	< 0.005	< 0.005	—	2.02
Energy	0.01	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	121	121	0.03	< 0.005	—	123
Water	—	—	—	—	—	—	—	—	—	—	—	3.24	1.16	4.40	0.33	0.01	—	15.1
Waste	—	—	—	—	—	—	—	—	—	—	—	12.9	0.00	12.9	1.29	0.00	—	45.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11

Total	2.52	2.41	1.31	9.70	0.02	0.02	3.00	3.02	0.02	0.53	0.55	16.2	1,694	1,710	1.76	0.10	2.21	1,787

3. Construction Emissions Details

3.1. Site Preparation (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.63	3.05	28.0	28.3	0.05	1.17	—	1.17	1.08	—	1.08	—	5,298	5,298	0.21	0.04	—	5,316
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.77	0.77	< 0.005	0.03	—	0.03	0.03	—	0.03	—	145	145	0.01	< 0.005	—	146
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.11	0.11	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.14	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.05	0.97	0.00	0.00	0.54	0.54	0.00	0.08	0.08	—	189	189	< 0.005	0.01	0.63	192
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.77	4.77	< 0.005	< 0.005	0.01	4.84
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.79	0.79	< 0.005	< 0.005	< 0.005	0.80
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Site Preparation (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.90	0.90	24.0	28.3	0.05	0.14	—	0.14	0.13	—	0.13	—	5,298	5,298	0.21	0.04	—	5,316
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.66	0.78	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	145	145	0.01	< 0.005	—	146
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	0.12	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.05	0.97	0.00	0.00	0.54	0.54	0.00	0.08	0.08	—	189	189	< 0.005	0.01	0.63	192
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.77	4.77	< 0.005	< 0.005	0.01	4.84
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.79	0.79	< 0.005	< 0.005	< 0.005	0.80
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.51	2.95	25.6	27.3	0.06	1.04	—	1.04	0.96	—	0.96	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.71	3.71	—	1.44	1.44	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	0.24	2.10	2.24	0.01	0.09	—	0.09	0.08	—	0.08	—	542	542	0.02	< 0.005	—	544
Dust From Material Movement	—	—	—	—	—	—	0.30	0.30	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.38	0.41	< 0.005	0.02	—	0.02	0.01	—	0.01	—	89.8	89.8	< 0.005	< 0.005	—	90.1

Dust From Material Movement	—	—	—	—	—	—	0.06	0.06	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.06	1.10	0.00	0.00	0.62	0.62	0.00	0.09	0.09	—	217	217	< 0.005	0.01	0.72	220
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	1.59	1.22	85.0	9.51	0.60	0.59	26.1	26.7	0.59	4.75	5.34	—	56,762	56,762	0.34	8.95	84.9	59,523
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	16.4	16.4	< 0.005	< 0.005	0.03	16.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.13	0.10	7.33	0.79	0.05	0.05	2.11	2.16	0.05	0.39	0.43	—	4,665	4,665	0.03	0.74	3.01	4,888
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	2.71	2.71	< 0.005	< 0.005	< 0.005	2.75
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	0.02	1.34	0.14	0.01	0.01	0.39	0.39	0.01	0.07	0.08	—	772	772	< 0.005	0.12	0.50	809

3.4. Grading (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.29	1.26	29.7	35.4	0.06	0.21	—	0.21	0.19	—	0.19	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.71	3.71	—	1.44	1.44	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.10	2.44	2.91	0.01	0.02	—	0.02	0.02	—	0.02	—	542	542	0.02	< 0.005	—	544
Dust From Material Movement	—	—	—	—	—	—	0.30	0.30	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.45	0.53	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	89.8	89.8	< 0.005	< 0.005	—	90.1
Dust From Material Movement	—	—	—	—	—	—	0.06	0.06	—	0.02	0.02	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.06	1.10	0.00	0.00	0.62	0.62	0.00	0.09	0.09	—	217	217	< 0.005	0.01	0.72	220
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	1.59	1.22	85.0	9.51	0.60	0.59	26.1	26.7	0.59	4.75	5.34	—	56,762	56,762	0.34	8.95	84.9	59,523
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	16.4	16.4	< 0.005	< 0.005	0.03	16.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.13	0.10	7.33	0.79	0.05	0.05	2.11	2.16	0.05	0.39	0.43	—	4,665	4,665	0.03	0.74	3.01	4,888
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	2.71	2.71	< 0.005	< 0.005	< 0.005	2.75
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	0.02	1.34	0.14	0.01	0.01	0.39	0.39	0.01	0.07	0.08	—	772	772	< 0.005	0.12	0.50	809

3.5. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.63	0.53	4.84	6.66	0.01	0.17	—	0.17	0.16	—	0.16	—	1,235	1,235	0.05	0.01	—	1,239
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.88	1.22	< 0.005	0.03	—	0.03	0.03	—	0.03	—	204	204	0.01	< 0.005	—	205
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.19	0.13	2.44	0.00	0.00	1.38	1.38	0.00	0.20	0.20	—	478	478	0.01	0.02	1.60	485
Vendor	0.02	0.02	0.96	0.17	< 0.005	< 0.005	0.38	0.38	< 0.005	0.07	0.07	—	688	688	< 0.005	0.10	1.42	721

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.17	0.16	1.91	0.00	0.00	1.38	1.38	0.00	0.20	0.20	—	430	430	0.01	0.02	0.04	436
Vendor	0.02	0.02	1.01	0.18	< 0.005	< 0.005	0.38	0.38	< 0.005	0.07	0.07	—	688	688	< 0.005	0.10	0.04	719
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.08	1.00	0.00	0.00	0.69	0.69	0.00	0.10	0.10	—	226	226	0.01	0.01	0.36	230
Vendor	0.01	0.01	0.51	0.09	< 0.005	< 0.005	0.19	0.19	< 0.005	0.03	0.04	—	355	355	< 0.005	0.05	0.32	371
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.18	0.00	0.00	0.13	0.13	0.00	0.02	0.02	—	37.5	37.5	< 0.005	< 0.005	0.06	38.0
Vendor	< 0.005	< 0.005	0.09	0.02	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	58.7	58.7	< 0.005	0.01	0.05	61.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Building Construction (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.61	12.2	15.0	0.02	0.12	—	0.12	0.11	—	0.11	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.61	12.2	15.0	0.02	0.12	—	0.12	0.11	—	0.11	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	0.32	6.27	7.70	0.01	0.06	—	0.06	0.06	—	0.06	—	1,235	1,235	0.05	0.01	—	1,239
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.06	1.15	1.41	< 0.005	0.01	—	0.01	0.01	—	0.01	—	204	204	0.01	< 0.005	—	205
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.19	0.13	2.44	0.00	0.00	1.38	1.38	0.00	0.20	0.20	—	478	478	0.01	0.02	1.60	485
Vendor	0.02	0.02	0.96	0.17	< 0.005	< 0.005	0.38	0.38	< 0.005	0.07	0.07	—	688	688	< 0.005	0.10	1.42	721
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.17	0.16	1.91	0.00	0.00	1.38	1.38	0.00	0.20	0.20	—	430	430	0.01	0.02	0.04	436

Vendor	0.02	0.02	1.01	0.18	< 0.005	< 0.005	0.38	0.38	< 0.005	0.07	0.07	—	688	688	< 0.005	0.10	0.04	719
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.08	1.00	0.00	0.00	0.69	0.69	0.00	0.10	0.10	—	226	226	0.01	0.01	0.36	230
Vendor	0.01	0.01	0.51	0.09	< 0.005	< 0.005	0.19	0.19	< 0.005	0.03	0.04	—	355	355	< 0.005	0.05	0.32	371
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.18	0.00	0.00	0.13	0.13	0.00	0.02	0.02	—	37.5	37.5	< 0.005	< 0.005	0.06	38.0
Vendor	< 0.005	< 0.005	0.09	0.02	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	58.7	58.7	< 0.005	0.01	0.05	61.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18	0.99	8.92	12.9	0.02	0.30	—	0.30	0.28	—	0.28	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18	0.99	8.92	12.9	0.02	0.30	—	0.30	0.28	—	0.28	—	2,397	2,397	0.10	0.02	—	2,406

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.30	2.74	3.97	0.01	0.09	—	0.09	0.08	—	0.08	—	736	736	0.03	0.01	—	738
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.50	0.72	< 0.005	0.02	—	0.02	0.02	—	0.02	—	122	122	< 0.005	< 0.005	—	122
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.19	0.11	2.29	0.00	0.00	1.38	1.38	0.00	0.20	0.20	—	469	469	0.01	0.02	1.45	475
Vendor	0.02	0.02	0.90	0.17	< 0.005	< 0.005	0.38	0.38	< 0.005	0.07	0.07	—	672	672	< 0.005	0.10	1.29	704
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.16	0.15	1.79	0.00	0.00	1.38	1.38	0.00	0.20	0.20	—	422	422	0.01	0.02	0.04	428
Vendor	0.02	0.02	0.95	0.17	< 0.005	< 0.005	0.38	0.38	< 0.005	0.07	0.07	—	672	672	< 0.005	0.10	0.03	703
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.56	0.00	0.00	0.41	0.41	0.00	0.06	0.06	—	132	132	< 0.005	0.01	0.19	134
Vendor	0.01	< 0.005	0.29	0.05	< 0.005	< 0.005	0.11	0.11	< 0.005	0.02	0.02	—	206	206	< 0.005	0.03	0.17	216

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.08	0.08	0.00	0.01	0.01	—	21.9	21.9	< 0.005	< 0.005	0.03	22.2
Vendor	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	34.2	34.2	< 0.005	0.01	0.03	35.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2028) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.65	0.60	12.1	14.9	0.02	0.11	—	0.11	0.10	—	0.10	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.65	0.60	12.1	14.9	0.02	0.11	—	0.11	0.10	—	0.10	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	0.18	3.73	4.59	0.01	0.04	—	0.04	0.03	—	0.03	—	736	736	0.03	0.01	—	738

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.68	0.84	< 0.005	0.01	—	0.01	0.01	—	0.01	—	122	122	< 0.005	< 0.005	—	122
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.19	0.11	2.29	0.00	0.00	1.38	1.38	0.00	0.20	0.20	—	469	469	0.01	0.02	1.45	475
Vendor	0.02	0.02	0.90	0.17	< 0.005	< 0.005	0.38	0.38	< 0.005	0.07	0.07	—	672	672	< 0.005	0.10	1.29	704
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.16	0.15	1.79	0.00	0.00	1.38	1.38	0.00	0.20	0.20	—	422	422	0.01	0.02	0.04	428
Vendor	0.02	0.02	0.95	0.17	< 0.005	< 0.005	0.38	0.38	< 0.005	0.07	0.07	—	672	672	< 0.005	0.10	0.03	703
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.56	0.00	0.00	0.41	0.41	0.00	0.06	0.06	—	132	132	< 0.005	0.01	0.19	134
Vendor	0.01	< 0.005	0.29	0.05	< 0.005	< 0.005	0.11	0.11	< 0.005	0.02	0.02	—	206	206	< 0.005	0.03	0.17	216
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.08	0.08	0.00	0.01	0.01	—	21.9	21.9	< 0.005	< 0.005	0.03	22.2
Vendor	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	34.2	34.2	< 0.005	0.01	0.03	35.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.82	0.69	6.63	9.91	0.01	0.26	—	0.26	0.24	—	0.24	—	1,511	1,511	0.06	0.01	—	1,516
Paving	1.39	1.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.36	0.54	< 0.005	0.01	—	0.01	0.01	—	0.01	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	0.08	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.78	0.00	0.00	0.47	0.47	0.00	0.07	0.07	—	159	159	< 0.005	0.01	0.49	161
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.03	0.03	0.00	< 0.005	< 0.005	—	8.02	8.02	< 0.005	< 0.005	0.01	8.14
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.33	1.33	< 0.005	< 0.005	< 0.005	1.35
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Paving (2028) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.45	8.08	10.6	0.01	0.10	—	0.10	0.09	—	0.09	—	1,511	1,511	0.06	0.01	—	1,516
Paving	1.39	1.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.44	0.58	< 0.005	0.01	—	0.01	0.01	—	0.01	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	0.08	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.78	0.00	0.00	0.47	0.47	0.00	0.07	0.07	—	159	159	< 0.005	0.01	0.49	161
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.03	0.03	0.00	< 0.005	< 0.005	—	8.02	8.02	< 0.005	< 0.005	0.01	8.14

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.33	1.33	< 0.005	< 0.005	< 0.005	1.35
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.81	1.12	< 0.005	0.02	—	0.02	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	102	102	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.32	7.32	< 0.005	< 0.005	—	7.34

Architectural	5.61	5.61	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.21	1.21	< 0.005	< 0.005	—	1.22
Architectural Coatings	1.02	1.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.02	0.46	0.00	0.00	0.28	0.28	0.00	0.04	0.04	—	93.8	93.8	< 0.005	< 0.005	0.29	95.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.72	4.72	< 0.005	< 0.005	0.01	4.79
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.78	0.78	< 0.005	< 0.005	< 0.005	0.79
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Architectural Coating (2028) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.81	1.12	< 0.005	0.02	—	0.02	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	70.4	70.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.32	7.32	< 0.005	< 0.005	—	7.34
Architectural Coatings	3.86	3.86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.21	1.21	< 0.005	< 0.005	—	1.22
Architectural Coatings	0.70	0.70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.02	0.46	0.00	0.00	0.28	0.28	0.00	0.04	0.04	—	93.8	93.8	< 0.005	< 0.005	0.29	95.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.72	4.72	< 0.005	< 0.005	0.01	4.79
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.78	0.78	< 0.005	< 0.005	< 0.005	0.79
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.1.2. Mitigated

Mobile source emissions results are presented in Sections 2.5. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	263	263	0.11	0.01	—	269
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	88.5	88.5	0.04	< 0.005	—	90.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	351	351	0.15	0.02	—	360
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	263	263	0.11	0.01	—	269
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	88.5	88.5	0.04	< 0.005	—	90.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	351	351	0.15	0.02	—	360

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	43.5	43.5	0.02	< 0.005	—	44.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	14.7	14.7	0.01	< 0.005	—	15.0
Total	—	—	—	—	—	—	—	—	—	—	—	—	58.1	58.1	0.02	< 0.005	—	59.6

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	263	263	0.11	0.01	—	269
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	88.5	88.5	0.04	< 0.005	—	90.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	351	351	0.15	0.02	—	360
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	263	263	0.11	0.01	—	269
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	88.5	88.5	0.04	< 0.005	—	90.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	351	351	0.15	0.02	—	360

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	43.5	43.5	0.02	< 0.005	—	44.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	14.7	14.7	0.01	< 0.005	—	15.0
Total	—	—	—	—	—	—	—	—	—	—	—	—	58.1	58.1	0.02	< 0.005	—	59.6

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	381	381	0.03	< 0.005	—	383
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	381	381	0.03	< 0.005	—	383
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	381	381	0.03	< 0.005	—	383
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	381	381	0.03	< 0.005	—	383

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	0.01	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	63.2	63.2	0.01	< 0.005	—	63.3
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	63.2	63.2	0.01	< 0.005	—	63.3

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	381	381	0.03	< 0.005	—	383
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	381	381	0.03	< 0.005	—	383
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	381	381	0.03	< 0.005	—	383
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	381	381	0.03	< 0.005	—	383

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	0.01	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	63.2	63.2	0.01	< 0.005	—	63.3
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	63.2	63.2	0.01	< 0.005	—	63.3

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.73	1.73	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.56	0.56	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.07	0.99	0.05	6.00	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.7	24.7	< 0.005	< 0.005	—	24.8
Total	3.36	3.28	0.05	6.00	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.7	24.7	< 0.005	< 0.005	—	24.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consumer	1.73	1.73	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.56	0.56	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	2.29	2.29	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.32	0.32	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.10	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.10	0.09	< 0.005	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.02	2.02	< 0.005	< 0.005	—	2.02
Total	0.51	0.51	< 0.005	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.02	2.02	< 0.005	< 0.005	—	2.02

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.73	1.73	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.56	0.56	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landsca Equipment	1.07	0.99	0.05	6.00	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.7	24.7	< 0.005	< 0.005	—	24.8
Total	3.36	3.28	0.05	6.00	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.7	24.7	< 0.005	< 0.005	—	24.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.73	1.73	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.56	0.56	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	2.29	2.29	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.32	0.32	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.10	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.10	0.09	< 0.005	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.02	2.02	< 0.005	< 0.005	—	2.02
Total	0.51	0.51	< 0.005	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.02	2.02	< 0.005	< 0.005	—	2.02

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	3.24	1.16	4.40	0.33	0.01	—	15.1
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3.24	1.16	4.40	0.33	0.01	—	15.1

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	3.24	1.16	4.40	0.33	0.01	—	15.1
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3.24	1.16	4.40	0.33	0.01	—	15.1

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	12.9	0.00	12.9	1.29	0.00	—	45.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	12.9	0.00	12.9	1.29	0.00	—	45.2

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	12.9	0.00	12.9	1.29	0.00	—	45.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	12.9	0.00	12.9	1.29	0.00	—	45.2

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	5/18/2027	5/27/2027	7.00	10.0	—
Grading	Grading	5/28/2027	6/26/2027	7.00	30.0	—
Building Construction	Building Construction	6/27/2027	4/21/2028	7.00	300	—
Paving	Paving	4/22/2028	5/11/2028	7.00	20.0	—
Architectural Coating	Architectural Coating	5/12/2028	5/31/2028	7.00	20.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38

Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Tier 3	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 3	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Tier 3	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 3	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Tier 3	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Tier 3	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Tier 3	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Tier 3	1.00	7.00	367	0.29

Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 3	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Tier 3	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 3	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	14.3	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.80	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	14.3	LDA,LDT1,LDT2
Grading	Vendor	—	8.80	HHDT,MHDT
Grading	Hauling	667	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	44.2	14.3	LDA,LDT1,LDT2
Building Construction	Vendor	22.6	8.80	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	14.3	LDA,LDT1,LDT2

Paving	Vendor	—	8.80	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	8.83	14.3	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.80	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	14.3	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.80	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	14.3	LDA,LDT1,LDT2
Grading	Vendor	—	8.80	HHDT,MHDT
Grading	Hauling	667	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	44.2	14.3	LDA,LDT1,LDT2
Building Construction	Vendor	22.6	8.80	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	14.3	LDA,LDT1,LDT2

Paving	Vendor	—	8.80	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	8.83	14.3	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.80	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	207,000	69,000	27,756

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	15.0	0.00	—
Grading	107,000	53,000	90.0	0.00	—
Paving	0.00	0.00	0.00	0.00	10.6

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction

Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Regional Shopping Center	0.00	0%
Parking Lot	10.6	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2027	0.00	204	0.03	< 0.005
2028	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	2,536	2,536	2,536	925,640	11,462	11,462	11,462	4,183,630

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	2,536	2,536	2,536	925,640	11,462	11,462	11,462	4,183,630

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	207,000	69,000	27,756

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Regional Shopping Center	1,202,266	79.7	0.0330	0.0040	1,190,333
Parking Lot	405,244	79.7	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Regional Shopping Center	1,202,266	79.7	0.0330	0.0040	1,190,333
Parking Lot	405,244	79.7	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Regional Shopping Center	10,222,008	0.00
Parking Lot	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Regional Shopping Center	10,222,008	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Regional Shopping Center	145	—
Parking Lot	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Regional Shopping Center	145	—

Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Regional Shopping Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Regional Shopping Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

8. User Changes to Default Data

Screen	Justification
Characteristics: Utility Information	CO2 emission factor estimated based upon RPS compliance.
Land Use	Based on project-specific information.
Construction: Construction Phases	Based on project-specific information
Construction: Dust From Material Movement	Construction material movement based on project-specific information. Watering 2x/day based on Rule 223-1, Table 1.
Construction: Architectural Coatings	Updated the VOC emission factor based on EDCAPCD Rule 215 Limits.
Operations: Consumer Products	Updated based on county specific data, refer to report for further details.
Operations: Architectural Coatings	Updated the VOC emission factor based on EDCAPCD Rule 215 Limits.
Construction: On-Road Fugitive Dust	Percent paved roads updated based on Project-specific information.
Operations: Road Dust	Percent paved roads updated based on Project-specific information.

APPENDIX B
CONSTRUCTION INPUTS

List of Tables

Table B-1: Construction Schedule - North Site Remainder Area
Table B-2: Construction Equipment Assumptions - North Site Remainder Area
Table B-3: Construction Trip Assumptions - North Site Remainder Area
Table B-4: Construction Material Movement - North Site Remainder Area

Table B-1. Construction Schedule - North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name [1]	CalEEMod Phase Type [1]	Start Date [1]	End Date [1]	Phase Duration [2] (days)
Site Preparation	Site Preparation	5/18/2027	5/27/2027	10
Grading	Grading	5/28/2027	6/26/2027	30
Building Construction	Building Construction	6/27/2027	4/21/2028	300
Paving	Paving	4/22/2028	5/11/2028	20
Architectural Coating	Architectural Coating	5/12/2028	5/31/2028	20

Notes:

[1] Construction of the North Side Remainder Area land uses is conservatively assumed to begin immediately after the EDH Costco Project is operational. Construction phases and duration are based on CalEEMod defaults.

[2] The construction work week was assumed to be 7 days per week.

Abbreviations:

CalEEMod - California Emissions Estimator Model

EDH - El Dorado Hills

Table B-2. Construction Equipment Assumptions - North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name	Offroad Equipment Type [1]	Number of Equipment [1]	Usage Hours [1] (hours/ day)	Equipment Horsepower [1] (hp)	Equipment Load Factor [1]	Fuel Type [1]	Engine Tier for Unmitigated Project [1]	Diesel Particulate Filter Level for Unmitigated Project [1]	Engine Tier for Mitigated Project [2]	Diesel Particulate Filter Level for Mitigated Project [2]
Site Preparation	Rubber Tired Dozers	3	8	367	0.40	Diesel	Average	N/A	Tier 3	Level 3
Site Preparation	Tractors/Loaders/ Backhoes	4	8	84	0.37	Diesel	Average	N/A	Tier 3	Level 3
Grading	Excavators	2	8	36	0.38	Diesel	Average	N/A	Average	N/A
Grading	Graders	1	8	148	0.41	Diesel	Average	N/A	Tier 3	Level 3
Grading	Rubber Tired Dozers	1	8	367	0.40	Diesel	Average	N/A	Tier 3	Level 3
Grading	Scrapers	2	8	423	0.48	Diesel	Average	N/A	Tier 3	Level 3
Grading	Tractors/Loaders/ Backhoes	2	8	84	0.37	Diesel	Average	N/A	Tier 3	Level 3
Building Construction	Cranes	1	7	367	0.29	Diesel	Average	N/A	Tier 3	Level 3
Building Construction	Forklifts	3	8	82	0.20	Diesel	Average	N/A	Tier 3	Level 3
Building Construction	Generator Sets	1	8	14	0.74	Diesel	Average	N/A	Average	N/A
Building Construction	Tractors/Loaders/ Backhoes	3	7	84	0.37	Diesel	Average	N/A	Tier 3	Level 3
Building Construction	Welders	1	8	46	0.45	Diesel	Average	N/A	Average	N/A
Paving	Pavers	2	8	81	0.42	Diesel	Average	N/A	Tier 3	Level 3
Paving	Paving Equipment	2	8	89	0.36	Diesel	Average	N/A	Tier 3	Level 3
Paving	Rollers	2	8	36	0.38	Diesel	Average	N/A	Average	N/A
Architectural Coating	Air Compressors	1	6	37	0.48	Diesel	Average	N/A	Average	N/A

Notes:

[1] Based on CalEEMod default values.

[2] The mitigation measure requires that construction equipment greater than 50 hp used at the site shall be mitigated to meet USEPA Tier 4 Final emission standards for PM_{10} and $PM_{2.5}$. If Tier 4 Final equipment is viable but not available, all construction equipment larger than 50 horsepower used at the site shall meet USEPA emission standards for Tier 3 engines and include particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices. To be conservative, this analysis assumed that off-road construction equipment larger than 50 horsepower are equipped with Tier 3 engines and DPFs for the mitigated emissions.

Abbreviations:

CalEEMod - California Emissions Estimator Model
CARB - California Air Resources Board
DPF - Diesel Particulate Filter
hp - horsepower
N/A - not available
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
USEPA - United States Environmental Protection Agency

Table B-3. Construction Trip Assumptions - North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name	Worker Trips per Day [1,2]	Vendor Trips per Day [1,2]	Hauling Trips per Day [1,2]
Site Preparation	18	0	0
Grading	20	0	667
Building Construction	44	23	0
Paving	15	0	0
Architectural Coating	9	0	0

Notes:

[1] Trips are presented as one-way trips per day.

[2] Worker, vendor, and hauling trips are based on CalEEMod defaults. The one-way trip lengths for worker, vendor, and hauling trips are assumed to be the CalEEMod default values of 14.3 miles, 8.8 miles, and 20.0 miles, respectively.

Abbreviations:

CalEEMod - California Emissions Estimator Model

Table B-4. Construction Material Movement - North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name	Material Imported [1] (yd^3)	Material Exported [1] (yd^3)
Grading	107,000	53,000

Notes:

[1] Soil import and export quantities based on project-specific data.

Abbreviations:

yd^3 - cubic yard

APPENDIX C
CONSTRUCTION EMISSION CALCULATION TABLES

List of Tables

Table C-1: Estimating Unmitigated Criteria Air Pollutant Emissions for North Site Remainder Area Construction
Table C-2: Estimating Mitigated Criteria Air Pollutant Emissions for North Site Remainder Area Construction

Table C-1. Estimating Unmitigated Criteria Air Pollutant Emissions for North Site Remainder Area Construction
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phases [1]	Start Date	End Date	Number of Construction Days	Construction Time Period	Season [2]	Daily ROG Emissions [3] (lbs/day)	Daily NO_X Emissions [3] (lbs/day)	Daily CO Emissions [3] (lbs/day)	Daily SO_X Emissions [3,4] (lbs/day)	Daily PM_{10} Emissions [3,5] (lbs/day)	Daily $PM_{2.5}$ Emissions [3,5] (lbs/day)	Total ROG Emissions [6] (lbs)	Total NO_X Emissions [6] (lbs)	Total CO Emissions [6] (lbs)	Total SO_X Emissions [4,6] (lbs)	Total PM_{10} Emissions [5,6] (lbs)	Total $PM_{2.5}$ Emissions [5,6] (lbs)
Site Preparation	5/18/2027	5/27/2027	10	First Quarter	Summer	3.1	28.0	29.2	0.0	9.4	5.1	31	280	292	0.5	94	51
Grading	5/28/2027	6/26/2027	30	First Quarter	Summer	4.3	110.7	37.9	0.7	32.1	7.8	128	3,320	1,137	19.9	962	235
Building Construction	6/27/2027	8/17/2027	52	First Quarter	Summer	1.2	10.5	15.6	0.0	2.1	0.6	64	545	809	1.4	109	30
Building Construction	8/18/2027	9/30/2027	44	Second Quarter	Summer	1.2	10.5	15.6	0.0	2.1	0.6	55	461	684	1.2	92	25
Building Construction	10/1/2027	11/17/2027	48	Second Quarter	Winter	1.2	10.6	15.0	0.0	2.1	0.6	59	507	721	1.3	100	28
Building Construction	11/18/2027	12/31/2027	44	Third Quarter	Winter	1.2	10.6	15.0	0.0	2.1	0.6	54	465	661	1.2	92	25
Building Construction	1/1/2028	2/17/2028	48	Third Quarter	Winter	1.2	10.0	14.9	0.0	2.1	0.5	56	481	715	1.3	99	26
Building Construction	2/18/2028	3/31/2028	43	Fourth Quarter	Winter	1.2	10.0	14.9	0.0	2.1	0.5	50	431	641	1.2	88	23
Building Construction	4/1/2028	4/21/2028	21	Fourth Quarter	Summer	1.2	9.9	15.4	0.0	2.1	0.5	25	209	323	0.6	43	11
Paving	4/22/2028	5/11/2028	20	Fourth Quarter	Summer	2.1	6.7	10.7	0.0	0.7	0.3	43	133	214	0.3	14	6
Architectural Coating	5/12/2028	5/31/2028	20	Fourth Quarter	Summer	102.6	0.8	1.6	0.0	0.3	0.1	2,051	17	32	0.0	6	1

Notes:

[1] Construction phases and duration are based on CalEEMod defaults. Refer to **Appendix B** for further details.

[2] Based on CalEEMod defaults.

[3] Estimated by summing up the maximum daily emissions for the construction phase. Maximum daily emissions for the Site Preparation; Grading; Building Construction; Paving; and Architectural Coating phases are obtained from **Appendix A**.

[4] For purposes of this analysis SO_X emissions are assumed to be equal to SO_2.

[5] Particulate matter emissions include exhaust emissions from off-road construction equipment, fugitive dust emissions from on-site construction activities, and exhaust/tire wear/brake wear/entrained road dust emissions from on-road vehicles associated with project construction. As noted in Section 4.2.3 of the Air Quality Technical Report, fugitive dust emissions will be controlled by watering the construction site twice daily in accordance with the EDCAQMD Rule 223-1. Particulate matter emissions presented here account for these control measures for fugitive dust emissions.

[6] Estimated by multiplying the maximum daily emissions by the number of construction days for each construction phase.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel
CO - carbon monoxide
EDCAQMD - El Dorado County Air Quality Management District
lb - pound
NO_x - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_2 - sulfur dioxide
SO_x - sulfur oxide compounds

Table C-2. Estimating Mitigated Criteria Air Pollutant Emissions for North Site Remainder Area Construction
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phases [1]	Start Date	End Date	Number of Construction Days	Construction Time Period	Season [2]	Daily ROG Emissions [3] (lbs/day)	Daily NO_X Emissions [3] (lbs/day)	Daily CO Emissions [3] (lbs/day)	Daily SO_X Emissions [3,4] (lbs/day)	Daily PM_{10} Emissions [3,5] (lbs/day)	Daily $PM_{2.5}$ Emissions [3,5] (lbs/day)	Total ROG Emissions [6] (lbs)	Total NO_X Emissions [6] (lbs)	Total CO Emissions [6] (lbs)	Total SO_X Emissions [4,6] (lbs)	Total PM_{10} Emissions [5,6] (lbs)	Total $PM_{2.5}$ Emissions [5,6] (lbs)
Site Preparation	5/18/2027	5/27/2027	10	First Quarter	Summer	1.0	24.1	29.3	0.0	8.4	4.1	10	241	293	0.5	84	41
Grading	5/28/2027	6/26/2027	30	First Quarter	Summer	2.6	114.8	46.0	0.7	31.2	7.1	77	3,445	1,381	19.9	937	212
Building Construction	6/27/2027	8/17/2027	52	First Quarter	Summer	0.8	13.3	17.6	0.0	1.9	0.4	43	690	913	1.4	98	20
Building Construction	8/18/2027	9/30/2027	44	Second Quarter	Summer	0.8	13.3	17.6	0.0	1.9	0.4	36	584	773	1.2	83	17
Building Construction	10/1/2027	11/17/2027	48	Second Quarter	Winter	0.8	13.4	17.0	0.0	1.9	0.4	39	641	818	1.3	90	18
Building Construction	11/18/2027	12/31/2027	44	Third Quarter	Winter	0.8	13.4	17.0	0.0	1.9	0.4	35	588	750	1.2	83	17
Building Construction	1/1/2028	2/17/2028	48	Third Quarter	Winter	0.8	13.2	16.9	0.0	1.9	0.4	37	636	811	1.3	90	18
Building Construction	2/18/2028	3/31/2028	43	Fourth Quarter	Winter	0.8	13.2	16.9	0.0	1.9	0.4	33	569	727	1.2	80	16
Building Construction	4/1/2028	4/21/2028	21	Fourth Quarter	Summer	0.8	13.2	17.4	0.0	1.9	0.4	17	276	365	0.6	39	8
Paving	4/22/2028	5/11/2028	20	Fourth Quarter	Summer	1.9	8.1	11.4	0.0	0.6	0.2	38	162	227	0.3	11	3
Architectural Coating	5/12/2028	5/31/2028	20	Fourth Quarter	Summer	70.6	0.8	1.6	0.0	0.3	0.1	1,411	17	32	0.0	6	1

Notes:

[1] Construction phases and duration are based on CalEEMod defaults. Refer to **Appendix B** for further details.

[2] Based on CalEEMod defaults.

[3] Estimated by summing up the maximum daily emissions for the construction phase. Maximum daily emissions for the Site Preparation; Grading; Building Construction; Paving; and Architectural Coating phases are obtained from **Appendix A**.

[4] For purposes of this analysis SO_X emissions are assumed to be equal to SO_2.

[5] Particulate matter emissions include exhaust emissions from off-road construction equipment, fugitive dust emissions from on-site construction activities, and exhaust/tire wear/brake wear/entrained road dust emissions from on-road vehicles associated with project construction. As noted in Section 4.2.3 of the Air Quality Technical Report, fugitive dust emissions will be controlled by watering the construction site twice daily in accordance with the EDCAQMD Rule 223-1. Particulate matter emissions presented here account for these control measures for fugitive dust emissions.

[6] Estimated by multiplying the maximum daily emissions by the number of construction days for each construction phase.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel
CO - carbon monoxide
EDCAQMD - El Dorado County Air Quality Management District
lb - pound
NO_x - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_2 - sulfur dioxide
SO_x - sulfur oxide compounds

APPENDIX D
CONSTRUCTION ENERGY CALCULATIONS

List of Tables

Table D-1: Off-Road Equipment Fuel Consumption During Construction - North Site Remainder Area
Table D-2: On-Road Vehicle Fuel Consumption During Construction - North Site Remainder Area

Table D-1. Off-Road Equipment Fuel Consumption During Construction - North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name	CO_2 Emissions [1] (MT/yr)	Diesel Consumption [2] (gallons/yr)
Site Preparation (2027)	24.0	2,354
Grading (2027)	89.8	8,794
Building Construction (2027)	204.4	20,021
Building Construction (2028)	121.8	11,929
Paving (2028)	13.7	1,343
Architectural Coating (2028)	1.2	119

Constants:

10.21 kg CO_2/gallon diesel consumed in combustion engines [3]

1,000 kg CO_2/MT CO_2

Notes:

[1] Exhaust CO_2 emissions from off-road construction equipment used during the Site Preparation; Grading; Building Construction; Paving; and Architectural Coating construction phases that occur during remainder area development construction are obtained from the CalEEMod model run shown in **Appendix A**.

[2] Diesel consumption of off-road construction equipment during each construction phase is estimated as a ratio of the CO_2 emissions from these equipment to the CO_2 emission factor per gallon of diesel consumed.

[3] Obtained from the USEPA GHG Emission Factors Hub. Available at: https://www.epa.gov/system/files/documents/2025-01/ghg-emission-factors-hub-2025.pdf. Accessed: June 2025.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

CO_2 - carbon dioxide

GHG - greenhouse gas

kg - kilograms

MT - metric ton

USEPA - United States Environmental Protection Agency

yr - year

Table D-2. On-Road Vehicle Fuel Consumption During Construction - North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name [1]	Phase Duration [1] (days)	Worker Trip Rates [2] (one-way trips/day)	Vendor Trip Rates [2] (one-way trips/day)	Hauling Trip Number [2] (one-way trips/day)	Worker Trip Length [3] (miles/one-way trip)	Vendor Trip Length [3] (miles/one-way trip)	Hauling Trip Length [3] (miles/one-way trip)	Worker Vehicle Miles Traveled [4] (miles)	Vendor Vehicle Miles Traveled [4] (miles)	Hauling Vehicle Miles Traveled [4] (miles)	Worker Gasoline Fuel Consumption [5] (gallons)	Vendor Diesel Fuel Consumption [5] (gallons)	Hauling Diesel Fuel Consumption [5] (gallons)
Site Preparation (2027)	10	17.5	-	-	14.3	-	-	2,503	-	-	95	-	-
Grading (2027)	30	20.0	-	667	14.3	-	20.0	8,580	-	400,000	324	-	79,925
Building Construction (2027)	188	44.2	22.6	-	14.3	8.80	-	118,720	37,420	-	4,487	7,554	-
Building Construction (2028)	112	44.2	22.6	-	14.3	8.80	-	70,727	22,292	-	2,621	4,461	-
Paving (2028)	20	15.0	-	-	14.3	-	-	4,290	-	-	159	-	-
Architectural Coating (2028)	20	8.83	-	-	14.3	-	-	2,526	-	-	94	-	-

Notes:

[1] Construction phases and duration (**Table B-1**) are based on CalEEMod defaults. Refer to **Section 3** of the report for further details.

[2] The number of worker and vendor trips represent CalEEMod defaults based on the construction equipment used in each construction phase. The number of hauling trips were estimated by CalEEMod based on volume of soil that would be imported/exported during construction. Refer to **Appendix B** for further details.

[3] The trip lengths for on-road vehicles used during construction are CalEEMod default values.

[4] Estimated based on trip rates, trip length, and phase duration.

[5] Fuel consumption of on-road vehicles used during each construction phase are estimated as a product of the vehicle miles traveled by each vehicle type and its fuel consumption rate in gallons per mile.

[6] Fuel consumption rates for on-road vehicles are calculated using vehicle class-specific fuel consumption data from EMFAC2021 (see the supporting table below, which presents EMFAC2021 outputs for 2027 and 2028 in El Dorado-Mountain County), the fleet mix for each trip type (worker, vendor, and hauling), and vehicle miles traveled. The fleet mix for the worker, vendor, and hauling trucks are based on CalEEMod defaults. Worker vehicles are assumed to be gasoline fueled and include light duty automobiles and trucks (25% LDA, 50% LDT1, 25% LDT2). Vendor vehicles are assumed to be diesel fueled and include heavy heavy-duty trucks and medium heavy duty trucks (50% HHDT and 50% MHDT). Hauling vehicles are assumed to be diesel fueled and include heavy heavy-duty trucks (100% HHDT).

Fuel Consumption Rates by Vehicle Type: [6]

Worker Vehicles in 2027:	0.0378 gallons/mile
Worker Vehicles in 2028:	0.0371 gallons/mile
Vendor Vehicles in 2027:	0.2019 gallons/mile
Vendor Vehicles in 2028:	0.2001 gallons/mile
Haul Trucks in 2027:	0.1998 gallons/mile

Abbreviations:

CalEEMod - California Emissions Estimator Model
EMFAC - EMission FACtors model
HHDT - heavy heavy-duty trucks
LDA - light-duty automobile
LDT - light-duty truck
MHDT - medium heavy-duty trucks

Table D-2. On-Road Vehicle Fuel Consumption During Construction - North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Supporting Table of EMFAC Outputs

Calendar Year	EMFAC Vehicle Class	Fuel Type	EMFAC VMT Output (miles)	EMFAC Fuel Use Output (gallons)	Average Fuel Consumption (gallons/mile)
2027	LDA	Gasoline	1,619,691	51,441	0.0318
2027	LDT1	Gasoline	181,944	7,232	0.0397
2027	LDT2	Gasoline	1,158,122	46,256	0.0399
2027	MHDT	Gasoline	5,957	1,215	0.2039
2027	HHDT	Diesel	28,804	5,755	0.1998
2028	LDA	Gasoline	1,633,311	50,730	0.0311
2028	LDT1	Gasoline	175,495	6,850	0.0390
2028	LDT2	Gasoline	1,170,851	45,776	0.0391
2028	MHDT	Gasoline	6,113	1,237	0.2023
2028	HHDT	Diesel	28,701	5,682	0.1980

Abbreviations:
EMFAC - EMission FACtors model
HHDT - heavy heavy-duty trucks
LDA - light-duty automobile
LDT - light-duty truck
MHDT - medium heavy-duty trucks
VMT - vehicle miles traveled

APPENDIX E
OPERATIONAL INPUTS

List of Tables

Table E-1: Operational Mobile Source Assumptions - North Site Remainder Area
Table E-2: Reactive Organic Gas Emission Factor for Consumer Product Usage in El Dorado County for Calendar Year 2028
Table E-3: Utility GHG Emission Factor Associated with Renewable Portfolio Standard

Table E-1. Operational Mobile Source Assumptions - North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Total daily trips [1,2]	2,536	trips/day
Average trip length [1]	4.52	miles
Daily VMT [1,2]	11,463	miles/day

Notes:

[1] Obtained from the July 2025 El Dorado Costco CEQA Analysis report prepared by Kittelson & Associates, Inc.

[2] For purposes of this analysis the daily trip and VMT assumptions were used for both weekdays and weekends.

Abbreviations:

CEQA - California Environmental Quality Act

VMT - vehicle miles travelled

Table E-2. Reactive Organic Gas Emission Factor for Consumer Product Usage in El Dorado County for Calendar Year 2028

El Dorado Hills Costco Project
El Dorado Hills, California

Countywide ROG Inventory for Consumer Product Usage [1] (tons/day)	County Population [2]	Total Building Square Footage in the County [3] (sqft)	ROG Emission Factors for Consumer Product Usage [4] (lb/sqft/day)
1.354	188,380	220,388,409	1.23E-05

Notes:

[1] ROG consumer products inventory for El Dorado County in calendar year 2028 was obtained from the California Emissions Projection Analysis Model, CEPAM2019v1.04. Available at: https://ww2.arb.ca.gov/applications/cepam2019v1-04-standard-emission-tool. Accessed: May 2025.

[2] Population estimates for El Dorado County in 2020 and 2028 were obtained from the State of California Department of Finance website. Available at: https://dof.ca.gov/forecasting/demographics/projections/. Accessed: May 2025.

[3] Total building square footage in 2028 was estimated as the product of the countywide building square footage per person in 2020 multiplied by the population projection for El Dorado County in calendar Year 2028.

[4] The consumer product ROG emission factor for consumer product usage is calculated as the ratio of the countywide ROG inventory for consumer product usage to the total building square footage in the county.

[5] Total building square footage in El Dorado County for 2020 was obtained from FEMA HAZUS-MH software (version 7.0). Available at: https://msc.fema.gov/portal/resources/hazus. Accessed: May 2025.

Constants:

El Dorado County Population [2] in Calendar Year 2020:	191,522
Total Building Square Footage [5] in El Dorado County in 2020:	224,064,279

Conversion Factor:

2000 lb/ton

Abbreviations:

FEMA - Federal Emergency Management Agency
lb - pound
ROG - reactive organic compounds
sqft - square foot

Table E-3. Utility GHG Emission Factor Associated with Renewable Portfolio Standard
El Dorado Hills Costco Project
El Dorado Hills, California

Energy Generated (MWh)

	2020	2021	2022	Average	Units
CO_2 Intensity Factor per Total Energy Generated [1]	160	98	56	105	lbs CO_2/MWh generated
% of Total Energy From Renewables [2]	35.1%	47.7%	38.5%	40.4%	
CO_2 Intensity Factor per Total Non-Renewable Energy [3]	247	187	91	176	lbs CO_2/MWh generated

Calculated Intensity Factors for Total Energy Delivered [4]

2027 RPS (52% Renewable Energy)	118.3	89.9	43.7	84.3	lbs CO_2/MWh generated
2028	111.8	84.9	41.3	79.7	lbs CO_2/MWh generated
2030 RPS (60% Renewable Energy)	98.6	75.0	36.4	70.3	lbs CO_2/MWh generated

Notes:

[1] Obtained from PG&E's 2024 Corporate Sustainability Reports. Note that 2023 values are not provided because they are subject to regulatory approval and verification at the time of this report preparation.

[2] Obtained from PG&E's 2021, 2022, and 2023 Corporate Sustainability Reports.

[3] The emissions metric presented here is calculated based on the total CO_2 emissions for total energy generated divided by the energy generated from non-renewable sources.

[4] The intensity factors for default RPS assumption are estimated multiplying the maximum allowable percentage of non-renewable energy per RPS and the CO_2 intensity factor per total non-renewable energy calculated above. The RPS minimum targets for renewable energy delivered are 52% for 2027 and 60% for 2030 per Senate Bill 100. The estimate provided here assumes that renewable energy sources do not result in any CO_2 emissions.

Abbreviations:

CO_2 - carbon dioxide

GHG - greenhouse gases

lbs - pounds

MWh - megawatt-hour

PG&E - Pacific Gas and Electric

RPS - Renewable Portfolio Standards

References:

PG&E 2021 Corporate Sustainability Report. Available at: https://www.responsibilityreports.com/HostedData/ResponsibilityReportArchive/p/NYSE_PCG_2021.pdf. Accessed: April 2025.

PG&E 2022 Corporate Sustainability Report. Available at: https://www.pgecorp.com/content/dam/pgecorp/language-masters/en/sustainability/corporate-responsibility-sustainability/reports/2022/assets/PGE_CSR_2022.pdf. Accessed: April 2025.

PG&E 2023 Corporate Sustainability Report. Available at: https://docs.publicnow.com/viewDoc?filename=40923%5CEXT%5C8601693C6F97C394FA0DAB4D67BC4B398DD26C60_C89032E27DAEE65CF45DAE23DAAACEFFC14EE076.PDF. Accessed: April 2025.

PG&E 2024 Corporate Sustainability Report. Available at: https://www.pgecorp.com/assets/pgecorp/csr/csr_2024/assets/pge-csr-2024.pdf. Accessed: April 2025.

Senate Bill 100. Available at: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB100. Accessed: April 2025.

APPENDIX F
OPERATIONAL ENERGY CALCULATIONS

List of Tables

Table F-1: Operational Electricity Consumption for the North Site Remainder Area
Table F-2: Operational Natural Gas Consumption for the North Site Remainder Area
Table F-3: CalEEMod Default Fleet Mix for El Dorado County in Calendar Year 2028
Table F-4: Operational Vehicle Fleet Mix for the North Site Remainder Area
Table F-5: Operational Mobile Source Gasoline Consumption for the North Site Remainder Area
Table F-6: Operational Mobile Source Natural Gas Consumption for the North Site Remainder Area
Table F-7: Operational Mobile Source Diesel Consumption for the North Site Remainder Area
Table F-8: Operational Mobile Source Electricity Consumption for the North Site Remainder Area
Table F-9: Operational Landscape Equipment Gasoline Consumption for the North Site Remainder Area

Table F-1. Operational Electricity Consumption for the North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Project Land Use	Project Electricity Demand [1] (kWh/yr)
Regional Shopping Center	1,202,266
Parking Lot	405,244
Total	**1,607,510**

Notes:

[1] Obtained from CalEEMod model run for the North Site Remainder Area shown in **Appendix A**.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

kWh - kilowatt hours

yr - year

Table F-2. Operational Natural Gas Consumption for the North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Project Land Use	Project Natural Gas Demand [1] (kBTU/yr)
Regional Shopping Center	1,190,333
Parking Lot	0
Total	**1,190,333**

Notes:

[1] Obtained from CalEEMod model run for the North Site Remainder Area shown in **Appendix A**.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

kBTU - kilo British Thermal Unit

yr - year

Table F-3. CalEEMod Default Fleet Mix for El Dorado County in Calendar Year 2028
El Dorado Hills Costco Project
El Dorado Hills, California

Vehicle Category	CalEEMod Default Fleet Mix [1]
LDA	38.10%
LDT1	4.98%
LDT2	26.68%
MDV	17.26%
LHDT1	5.18%
LHDT2	1.23%
MHDT	1.61%
HHDT	0.41%
OBUS	0.07%
UBUS	0.04%
MCY	3.53%
SBUS	0.13%
MH	0.78%

Notes:

[1] CalEEMod default for El Dorado (MC) sub-area, calendar year 2028.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel
HHDT - Heavy heavy-duty truck
LDA - light duty automobiles
LDT - light-duty trucks
LHDT - light heavy-duty trucks
MC - Mountain County
MCY - motorcycles
MDV - medium-duty vehicle
MH - motor homes
MHDT - medium heavy-duty trucks
OBUS - other buses
SBUS - school buses
UBUS - urban buses

Table F-4. Operational Vehicle Fleet Mix for the North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Vehicle Category	Fuel Type	EMFAC VMT Output [1] (miles/day)	Fleet Mix [2]
LDA	Gasoline	1,633,311	33.29%
LDA	Plug-in Hybrid	69,525	1.42%
LDA	Electricity	161,238	3.29%
LDA	Diesel	4,739	0.10%
LDT1	Gasoline	175,495	4.93%
LDT1	Plug-in Hybrid	815	0.02%
LDT1	Electricity	996	0.03%
LDT1	Diesel	8	0.00%
LDT2	Gasoline	1,170,851	25.97%
LDT2	Plug-in Hybrid	16,120	0.36%
LDT2	Electricity	11,154	0.25%
LDT2	Diesel	4,900	0.11%
MDV	Gasoline	660,798	16.38%
MDV	Plug-in Hybrid	9,758	0.24%
MDV	Electricity	11,461	0.28%
MDV	Diesel	14,415	0.36%
LHDT1	Gasoline	96,642	2.52%
LHDT1	Diesel	96,871	2.53%
LHDT1	Electricity	4,871	0.13%
LHDT2	Gasoline	7,595	0.19%
LHDT2	Diesel	40,102	1.01%
LHDT2	Electricity	1,065	0.03%
MHDT	Gasoline	6,113	0.12%
MHDT	Diesel	73,139	1.43%
MHDT	Electricity	3,444	0.07%
HHDT	Gasoline	17	0.00%
HHDT	Diesel	28,701	0.39%
HHDT	Electricity	1,232	0.02%
HHDT	Natural Gas	132	0.00%
OBUS	Gasoline	992	0.02%
OBUS	Diesel	3,160	0.05%
OBUS	Electricity	53	0.00%
OBUS	Natural Gas	38	0.00%
UBUS	Gasoline	1,054	0.01%
UBUS	Diesel	3,484	0.03%
UBUS	Electricity	208	0.00%
MCY	Gasoline	19,584	3.53%
SBUS	Gasoline	681	0.02%
SBUS	Diesel	3,110	0.11%
SBUS	Electricity	112	0.00%
MH	Gasoline	4,455	0.47%
MH	Diesel	2,891	0.31%

Notes:

[1] Default EMFAC2021 output for the El Dorado (MC) sub-area in calendar year 2028.

[2] The fleet mix for the vehicles incorporates the CalEEMod default fleet mix for El Dorado (MC) sub-area, calendar year 2028, weighted by the EMFAC VMT by fuel type.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

EMFAC - EMission FACtors model

HHDT - Heavy heavy-duty truck

LDA - light duty automobiles

LDT - light-duty trucks

LHDT - light heavy-duty trucks

MC - Mountain County

MCY - motorcycles

MDV - medium-duty vehicle

MH - motor homes

MHDT - medium heavy-duty trucks

OBUS - other buses

SBUS - school buses

UBUS - urban buses

VMT - vehicle miles traveled

Table F-5. Operational Mobile Source Gasoline Consumption for the North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Mobile Source Category	Mobile Source Activity [1] (miles/yr)	Mobile Source Activity Associated with Gasoline Combustion [2] (miles/yr)	Gasoline Consumption [3] (gallons/yr)
Gasoline Vehicles	3,658,816	3,658,816	144,096
Plug in Hybrid Vehicles	85,324	38,323	1,372

Constants:

Average fuel efficiency of gasoline vehicles in 2028 [4]	25 miles per gallon
Average fuel efficiency of plug-in hybrid electric vehicles in 2028 [4]	28 miles per gallon

Notes:

[1] The annual vehicle miles travelled by operational mobile sources (obtained from the CalEEMod model run in **Appendix A**) was apportioned into gasoline and plug-in-hybrid vehicle technology categories based on the operational vehicle fleet mix shown in **Table F-4.**

[2] The vehicle miles travelled associated with gasoline combustion for each vehicle technology category was estimated based on EMFAC default assumptions for gasoline and plug-in hybrid vehicles operating in El Dorado (MC) sub-area in calendar year 2028.

[3] Gasoline consumption of vehicles are estimated as a ratio of the vehicle miles traveled associated with gasoline combustion for each vehicle technology category and its average fuel efficiency in miles per gallon.

[4] The average fuel efficiency for each gasoline vehicle technology category operating in for El Dorado (MC) sub-area in calendar year 2028 is obtained from EMFAC2021.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

EMFAC - EMission FACtors model

MC - Mountain County

yr - year

Table F-6. Operational Mobile Source Natural Gas Consumption for the North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Mobile Source Category	Mobile Source Activity [1] (miles/yr)	Natural Gas Consumption [2] (kBtu/yr)
Natural Gas Vehicles	102	2,580

Constants:

Average fuel efficiency of natural gas vehicles [3] 5.73 miles per diesel equivalent gallon

Conversion Factors:[4,5]

139.3 scf of CNG per diesel equivalent gallon

1.039 kBtu per cubic foot of NG

Notes:

[1] The annual vehicle miles travelled by operational mobile sources (obtained from the CalEEMod model run in **Appendix A**) was apportioned into natural gas vehicle technology based on the operational vehicle fleet mix shown in **Table F-4**.

[2] Fuel consumption for natural gas vehicles is estimated as a ratio of vehicle miles traveled to the average fuel efficiency of natural gas vehicles.

[3] The average fuel efficiency for natural gas vehicles operating in El Dorado (MC) sub-area in calendar year 2028 is obtained from EMFAC2021.

[4] Scf of CNG per diesel equivalent gallon was obtained from the Alternative Fuels Data Center Gasoline and Diesel Gallon Equivalency Methodology. Available at: https://afdc.energy.gov/fuels/equivalency-methodology. Accessed: June 2025.

[5] kBtu per cubic foot of NG was obtained from the NRG Energy Conversion Calculator. Available at: https://www.nrg.com/resources/energy-tools/energy-conversion-calculator.html. Accessed: June 2025.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel
CNG - compressed natural gas
EMFAC - EMission FACtors model
kBtu - kilo-British thermal unit
MC - Mountain County
NG - natural gas
scf - standard cubic feet
yr - year

Table F-7. Operational Mobile Source Diesel Consumption for the North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Mobile Source Category	Mobile Source Activity [1] (miles/yr)	Diesel Consumption [2] (gallons/yr)
Diesel Vehicles	268,259	24,867

Constants:

Average fuel efficiency of diesel vehicles [3] 10.79 miles per gallon

Notes:

[1] The annual vehicle miles travelled by operational mobile sources (obtained from the CalEEMod model run in **Appendix A**) was apportioned into diesel vehicle technology based on the operational vehicle fleet mix shown in **Table F-4**.

[2] Fuel consumption for diesel vehicles is estimated as a ratio of vehicle miles traveled to the average fuel efficiency of diesel vehicles.

[3] The average fuel efficiency for diesel vehicles operating in El Dorado (MC) sub-area in calendar year 2028 is obtained from EMFAC2021.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

EMFAC - EMission FACtors model

MC - Mountain County

yr - year

Table F-8. Operational Mobile Source Electricity Consumption for the North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Mobile Source Category	Mobile Source Activity [1] (miles/yr)	Mobile Source Activity Associated with Electricity Consumption [2] (electric miles/yr)	Electricity Consumption [3] (kWh/yr)
Battery Electric Vehicles	171,129	171,129	51,686
Plug in Hybrid Vehicles	85,324	47,000	14,195

Constants:

Average fuel efficiency for plug-in hybrid electric vehicles in 2028 [4]	3.31 miles per kWh
Average fuel efficiency for electric vehicles in 2028 [4]	2.39 miles per kWh

Notes:

[1] The annual vehicle miles travelled by operational mobile sources (obtained from the CalEEMod model run in **Appendix A**) was apportioned into battery electric and plug-in-hybrid vehicle technology categories based on the operational vehicle fleet mix shown in **Table F-4**.

[2] The fraction of electric vehicle miles traveled by plug-in hybrid vehicles was estimated based on EMFAC default assumptions for plug-in hybrid vehicles operating in El Dorado (MC) sub-area in calendar year 2028.

[3] The electricity consumption is estimated as the ratio of the electric miles traveled to the average fuel efficiency of each vehicle technology in miles per kilowatt-hour.

[4] The average fuel efficiencies of battery electric and plug-in hybrid vehicles operating in El Dorado (MC) sub-area in calendar year 2028 are obtained from EMFAC2021.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

EMFAC - EMission FACtors model

GDF - gasoline dispensing facility

kWh - kilowatt-hour

MC - Mountain County

yr - year

Table F-9. Operational Landscape Equipment Gasoline Consumption for the North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Area Source Category	CO_2 Emissions [1] (MT/yr)	Gasoline Consumption [2] (gallons/yr)
Landscape equipment	2.02	230

Conversion Factors:

8.78 kg CO_2/gallon gasoline consumed in combustion engines [3]

1,000 kg CO_2/MT CO_2

Notes:

[1] Exhaust CO_2 emissions from landscaping equipment are obtained from the CalEEMod model run in **Appendix A**.

[2] Gasoline consumption of landscaping equipment is estimated as a ratio of the CO_2 emissions from these equipment to the CO_2 emission factor per gallon of gasoline consumed.

[3] Obtained from the USEPA GHG Emission Factors Hub. Available at: https://www.epa.gov/system/files/documents/2025-01/ghg-emission-factors-hub-2025.pdf. Accessed: June 2025.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

CO_2 - carbon dioxide

GHG - greenhouse gas

kg - kilograms

MT - metric ton

USEPA - United States Environmental Protection Agency

yr - year

Appendix C

Biological Resources Assessment, Aquatic Resources Delineation Report, and Oak Resources Technical Report

Biological Resources Assessment

Costco El Dorado Hills Project

Biological Resources Assessment

August 2025 | 03605.00005.001

Prepared for:

Costco Wholesale
49 Corporate Park, Suite 230
Irvine, CA 92602

Prepared by:

HELIX Environmental Planning, Inc.
1677 Eureka Road, Suite 100
Roseville, CA 95661

This page intentionally left blank

TABLE OF CONTENTS

Section **Page**

EXECUTIVE SUMMARY ES-1

1.0 INTRODUCTION 1

1.1 Project Location 1
1.2 Project Description 1

2.0 REGULATORY SETTING 1

2.1 Federal Regulations 1
2.1.1 Federal Endangered Species Act 1
2.1.2 Migratory Bird Treaty Act 2
2.1.3 The Bald and Golden Eagle Protection Act 2
2.2 State Jurisdiction 2
2.2.1 California Endangered Species Act 2
2.2.2 California Department of Fish and Game Codes 3
2.2.3 Native Plant Protection Act 3
2.2.4 California Environmental Quality Act 3
2.2.5 Nesting Birds 3
2.3 Jurisdictional Waters 4
2.3.1 Federal Jurisdiction 4
2.3.2 State Jurisdiction 5
2.4 CEQA Significance 6
2.4.1 California Native Plant Society 7
2.4.2 California Department of Fish and Wildlife Species of Concern 8
2.5 El Dorado County Policies and Regulations 8
2.5.1 General Plan 8
2.5.2 Oak Resources Management Plan 9

3.0 METHODS 10

3.1 Database and Literature Review 10
3.2 Biological Surveys 12

4.0 RESULTS 13

4.1 Site Location and Description 13
4.2 Physical Features 13
4.2.1 Topography and Drainage 13
4.2.2 Soils 13
4.2.3 Climate 14
4.3 Vegetation Communities 14
4.3.1 Non-Native Annual Grassland 14
4.3.2 Purple Needlegrass Grassland 14
4.3.3 Valley Foothill Riparian 15

TABLE OF CONTENTS (cont.)

Section **Page**

4.3.4 Valley Oak Woodland 15
4.3.5 Ruderal/Disturbed 15
4.4 Special-Status Species 16
4.4.1 Listed and Special-Status Plants 17
4.4.2 Listed and Special-Status Wildlife 18
4.5 Sensitive Habitats 32
4.5.1 Aquatic Habitats 32
4.5.2 Valley Foothill Riparian Habitat 35
4.5.3 Protected Trees and Oak Woodland 35
4.5.4 Wildlife Migration Corridors 35
4.5.5 Important Biological Corridors 35

5.0 CONCLUSIONS AND RECOMMENDATIONS 36

5.1 Special-Status Plants 36
5.2 Special-Status Invertebrates 38
5.2.1 Crotch's Bumble Bee 38
5.2.2 Monarch Butterfly 39
5.3 Special-Status Amphibians and Reptiles 39
5.3.1 Coast Horned Lizard 39
5.3.2 Western Spadefoot 40
5.3.3 Northwestern Pond Turtle 41
5.4 Special-Status Birds and Nesting Migratory Birds and Raptors 42
5.4.1 Burrowing Owl 42
5.4.2 Special-Status Birds and Other Nesting Birds 43
5.5 Special-Status Mammals 44
5.5.1 Pallid Bat 44
5.5.2 American Badger 45
5.6 Purple Needlegrass Grassland 46
5.7 Oak Trees and Oak Woodland 47
5.8 Aquatic Resources and Riparian Habitat 47
5.8.1 Aquatic Resources 47
5.8.2 Riparian Habitat 48
5.9 Summary of Avoidance and Minimization Measures 49

6.0 REFERENCES 51

TABLE OF CONTENTS (cont.)

LIST OF APPENDICES

A CNDDB, CNPS, and USFWS Lists of Regionally Occurring Special-Status Species
B Potential for Special-Status Species in the Region to Occur in the Study Area
C Plant and Animal Species Observed in the Study Area
D Representative Site Photographs

LIST OF FIGURES

No.	Title	Follows Page
1	Site and Vicinity Map	2
2	USGS Topographic Map	14
3	Aerial Map	14
4	Soils Map	14
5	Biological Communities	14

LIST OF TABLES

No.	Title	Page
1	Oak Woodland Mitigation	10
2	Oak Tree Replacement Quantities	10

This page intentionally left blank

ACRONYMS AND ABBREVIATIONS

AMSL	Above Mean Sea Level
APN	Assessor's Parcel Number
BMPs	Best Management Practices
BRA	Biological Resources Assessment
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	County of El Dorado
CRPR	California Rare Plant Rank
CSA	California Special Animal
CWA	Clean Water Act
DBH	Diameter at Breast Height
F	Fahrenheit
FESA	Federal Endangered Species Act
FGC	Fish and Game Code
GPS	Global Positioning System
HCP	Habitat Conservation Plan
HELIX	HELIX Environmental Planning, Inc.
HUC	Hydrologic Unit Code
IBC	Important Biological Corridor
IPaC	Information for Planning and Consultation
ITP	Incidental Take Permit
MBTA	Migratory Bird Treaty Act
NCCP	Natural Community Conservation Plan
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NPDES	National Pollution Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service

ACRONYMS AND ABBREVIATIONS (cont.)

ORMP	Oak Resources Management Plan
PCEs	Primary Constituent Elements
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SAIC	Science Applications International Corporation
SSC	Species of Special Concern
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
U.S.	United States
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WQC	Water Quality Certification

EXECUTIVE SUMMARY

HELIX Environmental Planning, Inc. (HELIX) conducted a Biological Resources Assessment (BRA) on January 9, 2025, for the Costco El Dorado Hills Project located within the unincorporated town of El Dorado Hills, El Dorado County, California. The 36.94-acre Study Area is situated in Township 9 North, Range 8 East, Sections 1 and 2, and is depicted on the U.S. Geological Survey (USGS) *Clarksville*, *California* 7.5-minute quadrangle map. The approximate center of the Study Area is at latitude 38.66200160 and longitude -121.0570744 (Study Area).

The purpose of this BRA is to assess general biological resources that occur within the Study Area, the suitability of habitats to support special-status plant and wildlife species, the presence of sensitive vegetation communities and/or habitats, and to provide recommendations for regulatory permitting and/or further analysis that may be required to facilitate the initiation of development activities planned for the Study Area.

Biological communities present within the Study Area include annual grassland (29.45 acres), purple needlegrass grassland (0.86 acre), valley foothill riparian (1.45 acres), valley oak woodland (0.34 acre), ruderal/disturbed (3.82 acres), seasonal wetland (0.19 acre), seep (0.01 acre), wetland swale (0.01 acre), ephemeral drainage (0.23 acre), intermittent drainage (0.36 acre), and perennial drainage (0.22 acre).The Study Area is separated into three portions by Silva Valley Parkway and Clarksville Road. A former home site is located on the southern portion of the Study Area and a large part of the northern portion was used to stockpile soil during the construction of the adjacent Silva Valley Parkway – U.S. Highway 50 Interchange Project. Land uses surrounding the Study Area include an elementary school, residential housing, and U.S. Highway 50.

Known or potential biological constraints in the Study Area include the following:

- Potential habitat for special-status plants including Sanford's arrowhead (*Sagittaria sanfordii*);
- Potential habitat for special-status invertebrates including Crotch's bumble bee (*Bombus crotchii*) and monarch butterfly (*Danaus plexippus*);
- Potential habitat for special-status amphibians including western spadefoot (*Spea hammondii*);
- Potential habitat for special-status reptiles including northwestern pond turtle (*Actinemys marmorata*) and coast horned lizard (*Phrynosoma blainvillii*);
- Potential habitat for migratory birds and raptors such as Cooper's hawk (*Astur cooperii*), tricolored blackbird (*Agelaius tricolor*), grasshopper sparrow (*Ammodramus savannarum*), burrowing owl (*Athene cunicularia*), Swainson's hawk (*Buteo swainsoni*), white-tailed kite (*Elanus leucurus*), California black rail (*Laterallus jamaicensis coturniculus*), and purple martin (*Progne subis*);
- Potential roosting habitat for special-status bats including pallid bat (*Antrozous pallidus*);
- Potential habitat for special-status mammals including American badger (*Taxidea taxus*);

- Purple needlegrass grassland sensitive natural community;
- Protected oak trees and oak woodland canopy; and
- Aquatic resources and riparian habitat that may be considered waters of the U.S. and/or State or regulated under California Department of Fish and Wildlife (CDFW) Section 1600.

1.0 INTRODUCTION

This report summarizes the findings of a Biological Resources Assessment (BRA) completed by HELIX Environmental Planning, Inc. (HELIX) for the 36.94-acre Costco El Dorado Hills Study Area located in the unincorporated town of El Dorado Hills, El Dorado County, California. This document addresses physical features, plant communities present, and common plant and wildlife species occurring or potentially occurring in the Study Area. Habitats within the Study Area are assessed for their suitability to support special-status species, sensitive habitats are identified and quantified, and recommendations are provided for regulatory permitting and/or further analysis required before development activities.

1.1 PROJECT LOCATION

The 36.94-acre Study Area is located in El Dorado County adjacent to U.S. Highway 50 immediately east of Silva Valley Parkway and north of Tong Road. The Study Area is located in Township 9 North, Range 8 East, Sections 1 and 2, and is depicted on the U.S. Geological Survey (USGS) *Clarksville*, *California* 7.5-minute quadrangle map. (Figure 1, *Site and Vicinity Map*). The approximate center of the Study Area is at latitude 38.6600160 and longitude -121.0570744. The 20.34-acre Study Area is contained within the Study Area.

1.2 PROJECT DESCRIPTION

The proposed project would include the construction of a Costco Wholesale Warehouse and Costco Fuel Station including associated parking, utilities, and storm water management facilities as well as multiple points of access, and a new traffic signal on Silva Valley Parkway. The fuel station will be situated within a portion of the north site. The remainder of the north site is not currently proposed for development.

The Study Area is comprised of portions of Assessor's Parcel Numbers (APNs) 122-720-002, 122-720-003, 122-720-018, 122-720-019, 122-720-020, and 122-720-021.

2.0 REGULATORY SETTING

Federal, state, and local environmental laws, regulations, and policies relevant to the California Environmental Quality Act (CEQA) review process are summarized below. The applicable CEQA significance criteria are also included in this section.

2.1 FEDERAL REGULATIONS

2.1.1 Federal Endangered Species Act

The U.S. Congress passed the Federal Endangered Species Act (FESA) in 1973 to protect those species that are endangered or threatened with extinction. FESA is intended to operate with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

FESA prohibits the "take" of endangered or threatened wildlife species. "Take" is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting

wildlife species or any attempt to engage in such conduct (FESA Section 3 [(3) (19)]). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 Code of Federal Regulations [CFR] §17.3). Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR §17.3). Actions that result in take can result in civil or criminal penalties.

In the context of the proposed project, FESA consultation with the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS) would be initiated if development resulted in take of a threatened or endangered species or if issuance of a Section 404 permit or other federal agency action could result in take of an endangered species or adversely modify critical habitat of such a species.

2.1.2 Migratory Bird Treaty Act

Raptors (birds of prey), migratory birds, and other avian species are protected by several state and federal laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior.

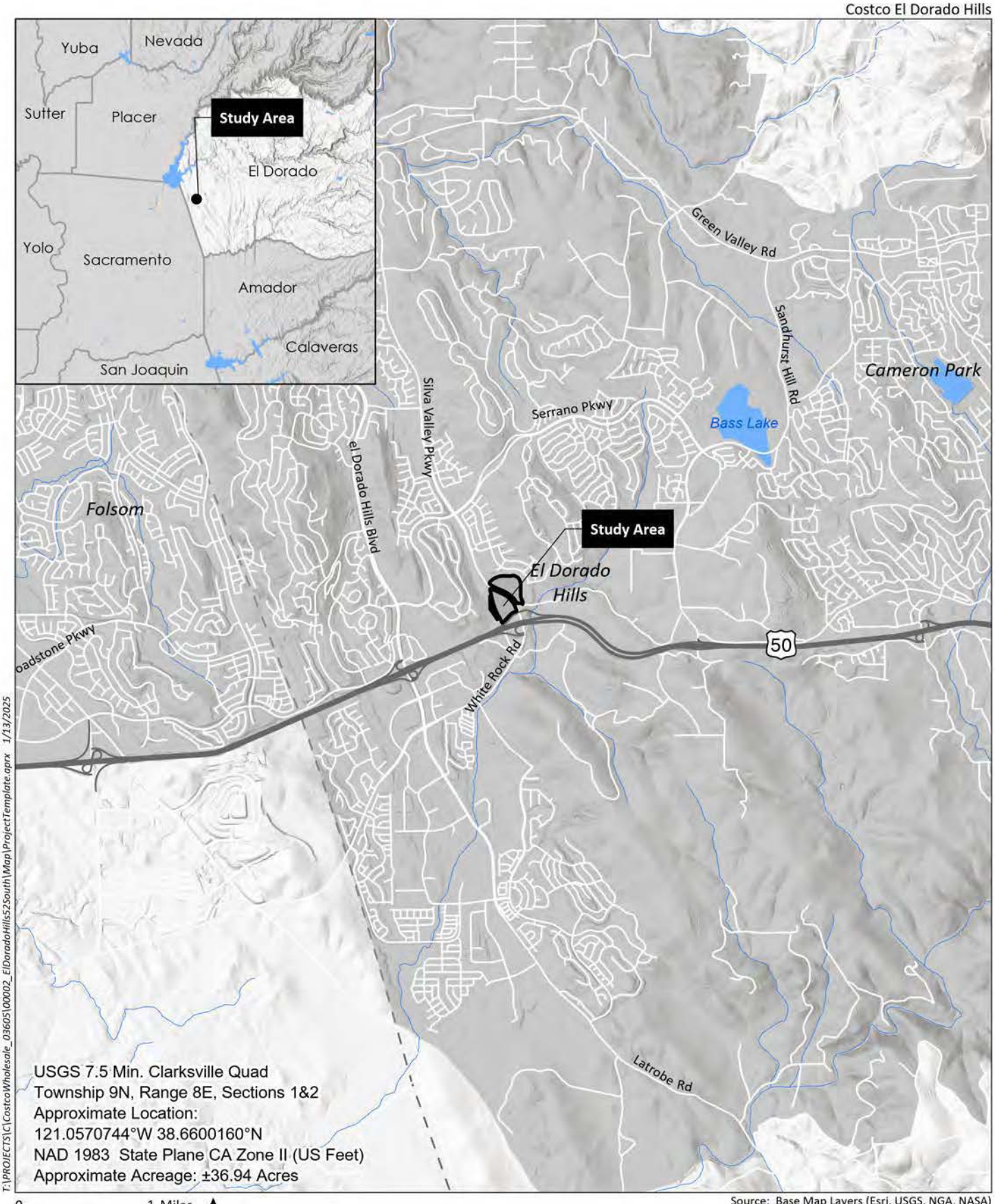
2.1.3 The Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (Eagle Act) prohibits the taking or possession of and commerce in bald and golden eagles with limited exceptions. Under the Eagle Act, it is a violation to "*take, possess, sell, purchase, barter, offer to sell, transport, export or import, at any time or in any manner, any bald eagle commonly known as the American eagle, or golden eagle, alive or dead, or any part, nest, or egg, thereof.*" Take is defined to include pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, and disturb. Disturb is further defined in 50 CFR Part 22.3 as "*to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.*"

2.2 STATE JURISDICTION

2.2.1 California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA is similar to the FESA but pertains to State-listed endangered and threatened species. CESA requires state agencies to consult with the California Department of Fish and Wildlife (CDFW), when preparing CEQA documents. The purpose is to ensure that the State lead agency actions do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available (Fish and Game Code [FGC] §2080). CESA directs agencies to consult with CDFW on projects or actions that could affect listed species, directs CDFW to determine whether jeopardy would occur, and allows CDFW to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. CESA allows CDFW to authorize exceptions to the State's prohibition against take of a listed species if the "take" of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (FGC § 2081).



T:\PROJECTS\C\CostcoWholesale_03605\00002_ElDoradoHills52South\Map\ProjectTemplate.aprx 1/13/2025

HELIX Environmental Planning

Site and Vicinity Map

Figure 1

2.2.2 California Department of Fish and Game Codes

California Fish and Game Code Sections 3503 and 3800 prohibit the possession, take, or needless destruction of birds, their nests, and eggs, and the salvage of dead nongame birds. California Fish and Game Code Subsection 3503.5 protects all birds in the orders of Falconiformes and Strigiformes (birds of prey). Fish and Game Code Section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act. The Attorney General of California has released an opinion that the Fish and Game Code prohibits incidental take.

2.2.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA), enacted in 1977, allows the Fish and Game Commission to designate plants as rare or endangered. There are 64 species, subspecies, and varieties of plants protected under the NPPA. The NPPA prohibits take of endangered or rare native plants, with some exceptions for agricultural and nursery operations and emergencies. Vegetation removal from canals, roads, and other sites, changes in land use, and certain other situations require proper advance notification to CDFW.

2.2.4 California Environmental Quality Act

Under the California Environmental Quality Act of 1970 (CEQA; Public Resources Code Section 21000 et seq.), lead agencies analyze whether projects would have a substantial adverse effect on a candidate, sensitive, or special-status species (Public Resources Code Section 21001[c]). These "special-status" species generally include those listed under FESA and CESA, and species that are not currently protected by statute or regulation but would be considered rare, threatened, or endangered under the criteria included in CEQA Guidelines Section 15380. Therefore, species that are considered rare are addressed under CEQA regardless of whether they are afforded protection through any other statute or regulation. The California Native Plant Society (CNPS) inventories the native flora of California and ranks species according to rarity; plants ranked as 1A, 1B, 2A, 2B, and 3 are generally considered special-status species under CEQA.[1]

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines Section 15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare if it can be shown to meet certain specified criteria. These criteria have been modeled after the definition in FESA and the section of the California Fish and Game Code dealing with rare or endangered plants and animals.

2.2.5 Nesting Birds

California Fish and Game Code Sections 3503 and 3800 prohibit the possession, take, or needless destruction of birds, their nests, and eggs, and the salvage of dead nongame birds. California Fish and Game Code Subsection 3503.5 protects all birds in the orders of Falconiformes and Strigiformes (birds of prey). Fish and Game Code Section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame

[1] The California Rare Plant Rank system can be found at: http://www.cnps.org/cnps/rareplants/ranking.php.

bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act. The Attorney General of California has released an opinion that the Fish and Game Code prohibits incidental take.

2.3 JURISDICTIONAL WATERS

2.3.1 Federal Jurisdiction

On May 25, 2023, the United States (U.S.) Supreme Court issued a decision in the case of *Sackett v. Environmental Protection Agency* (Supreme Court of the United States 2023), which will ultimately influence how federal waters are defined. The May 25, 2023, Supreme Court decision in *Sackett v. Environmental Protection Agency* determined that "the CWA extends to only those 'wetlands with a continuous surface connection to bodies that are "waters of the U.S." in their own right,' so that they are 'indistinguishable' from those waters." The U.S. Environmental Protection Agency (USEPA) and the U.S. Army Corps of Engineers (USACE) after review of the decision issued a final rule to replace the 2023 rule that amends the "Revised Definition of "Waters of the U.S." to conform key aspects of the regulatory text to the U.S. Supreme Court's May 25, 2023, decision in the case of *Sackett v. Environmental Protection Agency*.

Unless considered an exempt activity under Section 404(f) of the Federal Clean Water Act, any person, firm, or agency planning to alter or work in "waters of the U.S.," including the discharge of dredged or fill material, must first obtain authorization from the USACE under Section 404 of the Clean Water Act (CWA; 33 United States Code [USC] 1344). Permits, licenses, variances, or similar authorization may also be required by other federal, state, and local statutes. Section 10 of the Rivers and Harbors Act prohibits the obstruction or alteration of navigable waters of the U.S. without a permit from USACE (33 USC 403). Activities exempted under Section 404(f) are not exempted within navigable waters under Section 10.

The Clean Water Act (33 USC 1251-1376) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters.

Section 401 requires that an applicant for a federal license or permit that allows activities resulting in a discharge to waters of the U.S. obtain a state certification that the discharge complies with other provisions of CWA. The Regional Water Quality Control Board (RWQCB) administers the certification program in California and may require State Water Quality Certification before other permits are issued.

Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the U.S.

Section 404 establishes a permit program administered by USACE that regulates the discharge of dredged or fill material into waters of the U.S. (including wetlands). Implementing regulations by USACE are found at 33 CFR Parts 320-332. The Section 404 (b)(1) Guidelines were developed by the USEPA in conjunction with USACE (40 CFR Part 230), allowing the discharge of dredged or fill material for non-water dependent uses into special aquatic sites only if there were no practicable alternative that would have less adverse impacts.

2.3.2 State Jurisdiction

2.3.2.1 Regional Water Quality Control Board

Any action requiring a CWA Section 404 permit, or a Rivers and Harbors Act Section 10 permit, must also obtain a CWA Section 401 Water Quality Certification. The State of California Water Quality Certification (WQC) Program was formally initiated by the State Water Resources Control Board (SWRCB) in 1990 under the requirements stipulated by section 401 of the Federal CWA. Although the CWA is a Federal law, Section 401 of the CWA recognizes that states have the primary authority and responsibility for setting water quality standards. In California, under Section 401, the State and Regional Water Boards are the authorities that certify that the issuance of a federal license or permit does not violate California's water quality standards (i.e., that they do not violate Porter-Cologne and the Water Code). The WQC Program currently issues the WQC for discharges requiring USACE's permits for fill and dredge discharges within waters of the U.S. and now also implements the State's wetland protection and hydromodification regulation program under the Porter-Cologne Water Quality Control Act.

On May 28, 2020, the SWRCB implemented the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures) for inclusion in the forthcoming Water Quality Control Plan for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California (SWRCB 2019). The Procedures consist of four major elements:

I. A wetland definition;

II. A framework for determining if a feature that meets the wetland definition is a water of the State;

III. Wetland delineation procedures; and

IV. Procedures for the submittal, review, and approval of applications for Water Quality Certifications and Waste Discharge Requirements for dredge or fill activities.

Under the Procedures and the State Water Code (Water Code §13050[e]), "waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the State." Unless excluded by the Procedures, any activity that could result in discharge of dredged or fill material to waters of the State, which includes waters of the U.S. and non-federal waters of the State, requires filing of an application under the Procedures.

More specifically, a wetland is defined as: "*An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation*." The wetland definition encompasses the full range of wetland types commonly recognized in California, including some features not protected under federal law, and reflects current scientific understanding of the formation and functioning of wetlands (SWRCB 2019).

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act, Water Code Section 13000 *et seq*.) is California's statutory authority for the protection of water quality in conjunction with the federal CWA. The Porter-Cologne Act requires the SWRCB and RWQCBs under CWA to adopt and periodically update water quality control plans or basin plans. Basin plans are plans in which beneficial uses, water quality objectives, and implementation programs are established for each of the nine regions in California. The

Porter-Cologne Act also requires dischargers of pollutants or dredged or fill material to notify the RWQCBs of such activities by filing Reports of Waste Discharge and authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements, National Pollution Discharge Elimination System (NPDES) permits, Section 401 water quality certifications, or other approvals.

2.3.2.2 California Department of Fish and Wildlife

CDFW is a trustee agency that has jurisdiction under Section 1600 *et seq.* of the California FGC. Under Sections 1602 and 1603, a private party must notify CDFW if a proposed project will "*substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds…except when the department has been notified pursuant to Section 1601.*" Additionally, CDFW asserts jurisdiction over native riparian habitat adjacent to aquatic features, including native trees over four inches in diameter at breast height (DBH). If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFW may propose reasonable measures that will allow the protection of those resources. If these measures are agreeable to the parties involved, they may enter into an agreement with CDFW identifying the approved activities and associated mitigation measures. Generally, CDFW recommends submitting an application for a Streambed Alteration Agreement (SAA) for any work done within the lateral limit of water flow or the edge of riparian vegetation, whichever is greater.

2.4 CEQA SIGNIFICANCE

Section 15064.7 of the State CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely on the guidance provided by the expanded Initial Study Checklist, contained in Appendix G of the State CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS;

- Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and

- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional or state habitat conservation plan.

An evaluation of whether or not an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant, according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of, an important resource on a population-wide or region-wide basis.

2.4.1 California Native Plant Society

The CNPS maintains a rank of plant species native to California that have low population numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the *Inventory of Rare and Endangered Vascular Plants of California*. Potential impacts to populations of CNPS-ranked plants receive consideration under CEQA review. The following identifies the definitions of the CNPS Rare Plant Ranking System:

Rank 1A: Plants presumed Extinct in California and either rare or extinct elsewhere

Rank 1B: Plants Rare, Threatened, or Endangered in California and elsewhere

Rank 2A: Plants presumed extirpated in California but common elsewhere

Rank 2B: Plants Rare, Threatened, or Endangered in California, but more common elsewhere

Rank 3: Plants about which we need more information – A Review List

Rank 4: Plants of limited distribution – A Watch List

All plants appearing on CNPS Rank 1 or 2 are considered to meet CEQA Guidelines Section 15380 criteria. While only some of the plants ranked 3 and 4 meet the definitions of threatened or endangered species, the CNPS recommends that all Rank 3 and Rank 4 plants be evaluated for consideration under CEQA. Furthermore, the CNPS Rare Plant Rankings include levels of threat for each species. These threat ranks include the following:

0.1 -Seriously threatened in California (over 80 percent of occurrences threatened/high degree and immediacy of threat);

0.2 - Moderately threatened in California (20 to 80 percent occurrences threatened/moderate degree and immediacy of threat); and

0.3 - Not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known).

Threat ranks do not designate a change of environmental protections, so that each species (i.e., California Rare Plant Rank [CRPR] 1B.1, CRPR 1B.2, CRPR 1B.3, etc.) should be fully considered during preparation of environmental documents under the CEQA process.

2.4.2 California Department of Fish and Wildlife Species of Concern

Some additional fish, amphibian, reptile, bird, and mammal species may receive consideration by CDFW and lead agencies during the CEQA process, in addition to species that are formally listed under FESA and CESA or are fully protected. These species are included on the *Special Animals List*, which is maintained by CDFW. This list tracks species in California whose numbers, reproductive success, or habitat may be in decline. In addition to "Species of Special Concern" (SSC), the *Special Animals List* includes species that are tracked in the California Natural Diversity Database (CNDDB) but warrant no legal protection. These species are identified as "California Special Animals" (CSA).

2.5 EL DORADO COUNTY POLICIES AND REGULATIONS

2.5.1 General Plan

In addition to federal and State regulations described above, the El Dorado County Adopted General Plan (General Plan) includes goals, objectives, and policies regarding biological resources within the County limits (El Dorado County 2018). Sections of the General Plan regarding biological resources can be found under the Conservation and Open Space Element and applicable sections to the Project are included below:

Conservation Of Biological Resources

Goal 7.4: Wildlife and Vegetation Resources

Identify, conserve, and manage wildlife, wildlife habitat, fisheries, and vegetation resources of significant biological, ecological, and recreational value.

Objective 7.4.2: Identify and Protect Resources

Identification and protection, where feasible, of critical fish and wildlife habitat including deer winter, summer, and fawning ranges; deer migration routes; stream and river riparian habitat; lake shore habitat; fish spawning areas; wetlands; wildlife corridors; and diverse wildlife habitat.

- **Policy 7.4.2.1:** The County will coordinate wildlife and vegetation protection programs with appropriate Federal and State agencies.

- **Policy 7.4.2.2:** The County shall continue to support the Noxious Weed Management Group in its efforts to reduce and eliminate noxious weed infestations to protect native habitats and to reduce fire hazards.

- **Policy 7.4.2.3:** Consistent with Policy 9.1.3.1 of the Parks and Recreation Element, low impact uses such as trails and linear parks may be provided within river and stream buffers if all applicable mitigation measures are incorporated into the design.

- **Policy 7.4.2.4:** Protect and preserve wildlife habitat corridors within public parks and natural resource protection areas to allow for wildlife use. Recreational uses within these areas shall be limited to those activities that do not require grading or vegetation removal.

- **Policy 7.4.2.5:** Setbacks from all rivers, streams, and lakes shall be included in the Zoning Ordinance for all ministerial and discretionary development projects.

- **Policy 7.4.2.8:** Conserve contiguous blocks of important habitat to offset the effects of increased habitat loss and fragmentation elsewhere in the County through a Biological Resource Mitigation Program (Program). The Program will result in the conservation of:

    1. Habitats that support special status species;
    2. Aquatic environments including streams, rivers, and lakes;
    3. Wetland and riparian habitat;
    4. Important habitat for migratory deer herds; and
    5. Large expanses of native vegetation.

2.5.2 Oak Resources Management Plan

The County of El Dorado (County) adopted the Oak Resources Management Plan (ORMP) on October 24, 2017, and the ORMP went into effect on November 24, 2017. The ORMP designates three classes of protected oak resources:

1. Oak stands with a greater than 10 percent canopy cover or that may have historically supported greater than 10 percent canopy cover;

2. Heritage Trees, defined as any live native oak tree of the genus *Quercus* (including blue oak [*Quercus douglasii*], valley oak [*Quercus lobata*], California black oak [*Quercus kelloggii*], interior live oak [*Quercus wislizeni*], canyon live oak [*Quercus chrysolepis*], Oregon oak [*Quercus garryana*], oracle oak [*Quercus x morehus*], or hybrids thereof) with a single main trunk measuring 36 inches DBH or greater, or with a multiple trunk with an aggregate trunk diameter measuring 36 inches or greater (a tree removal permit shall be required for removal of any Heritage Tree, regardless of location within or outside of an oak woodland); and

3. Individual oak trees, defined as native oak trees with a single main trunk measuring greater than six but less than 36 inches DBH or with a multiple trunk with an aggregate trunk diameter measuring greater than ten inches DBH and is not a Heritage Tree.

The ORMP recognizes six oak woodland types: blue oak woodland, blue oak-foothill pine, coastal oak woodland, montane hardwood, montane hardwood-conifer, and valley oak woodland. An oak woodland removal permit is required prior to removal of oak trees that are part of an oak woodland and an oak tree removal permit is required prior to removal of Heritage Trees and individual oak trees. Mitigation for impacts to oak woodlands is based on the total area impacted, mitigation ratios are outlined in Table 1, *Oak Woodland Mitigation*.

Table 1
OAK WOODLAND MITIGATION

Percent of Oak Woodland Impact	Oak Woodland Mitigation Ratio
0-50 %	1:1
50.1-75%	1.5:1
75.1-100%	2:1

Mitigation for removal of Heritage Trees or individual oak trees requires on- or off-site replacement planting or payment of in-lieu fees, respectively, to the number of trunk inches removed. Replacement requirements are outlined in Table 2, *Oak Tree Replacement Quantities,* for impacts to individual oak trees.

Table 2
OAK TREE REPLACEMENT QUANTITIES

Replacement Tree Size	# of Trees Required Per Inch of Trunk Diameter Removed
Acorn	3
1-gallon/Tree Pot 4	2
5-gallon	1.5
15-gallon	1

Mitigation may be completed with a combination of the following options: acquisition of an off-site conservation easement, payment of in-lieu fees, or either on- or off-site replacement planting of up to 50 percent of the required mitigation area. Any oak woodland preserved on-site and all mitigation planting areas must be protected in perpetuity through deed restrictions or a conservation easement.

3.0 METHODS

3.1 DATABASE AND LITERATURE REVIEW

Before performing the field survey for this BRA, background research was conducted to inform and create target lists to focus the survey efforts. Accessible information in public databases pertaining to natural resources in the region of the Study Area was queried. The following site-specific published information was reviewed for this BRA:

- California Department of Fish and Wildlife (CDFW). 2025. *California Natural Diversity Database* (CNDDB). For *Clarksville, Rocklin, Pilot Hill, Coloma, Shingle Springs, Latrobe, Folsom SE, Buffalo Creek,* and *Folsom* USGS 7.5-minute series quadrangles, Sacramento, CA. [Accessed January 2, 2025];

- California Native Plant Society (CNPS). 2025. *Inventory of Rare and Endangered Plants* (online edition, v8-03 0.39) For *Clarksville, Rocklin, Pilot Hill, Coloma, Shingle Springs, Latrobe, Folsom SE, Buffalo Creek,* and *Folsom* USGS 7.5-minute series quadrangles, Sacramento, CA. [Accessed January 2, 2025];

- U.S. Fish and Wildlife Service (USFWS). 2025a. *Information for Planning and Consultation* (IPaC) for *Costco El Dorado Hills Project.* [Accessed January 2, 2025];

- U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS). 2025. *Web Soil Survey*. Available online at: http://websoilsurvey.sc.egov.usda.gov. [Accessed January 2, 2025];

- USFWS 2025b. National Wetlands Inventory. Available online at: https://www.fws.gov/program/national-wetlands-inventory. [Accessed January 2, 2025]; and

- Biological reports and associated documents previously prepared for the Study Area.

The results of the database query and a five-mile radius CNDDB query for the Study Area are included in Appendix A, *CNDDB, CNPS, and USFWS Lists of Regionally Occurring Special-Status Species*.

Special-status species are plant and wildlife species that have been afforded special recognition by federal, State, or local resource agencies or organizations. They are generally of relatively limited distribution and may require specialized habitat conditions. Special-status species are defined as meeting one or more of the following criteria:

- Listed or proposed for listing under CESA or FESA;
- Protected under other regulations (e.g., Migratory Bird Treaty Act);
- Included on the CDFW Special Animals List;
- Identified as Rare Plant Rank 1 to 4 by CNPS; or
- Receive consideration during environmental review under CEQA.

General field surveys of the Study Area, excluding the portion to the west of Clarksville Road, were conducted on April 5, 2013; August 8, 2017; and October 13, 2020. A general field survey of the entire Study Area was conducted on January 9, 2025. The Study Area was systematically surveyed on foot with binoculars to ensure total search coverage, with special attention given to identifying those portions of the Study Area with the potential for supporting special-status species and sensitive habitats. During the field surveys, biologists recorded plant and animal species observed (Appendix C), as well as characterized biological communities occurring on-site. Following the site survey, the potential for each species identified in the records search to occur in the Study Area was determined based on the site surveys, soils, and species-specific information, as shown in Appendix B. Representative photos of the Study Area are provided in Appendix D.

A wetland delineation was performed on October 13, 2020, which did not include the portion of the Study Area located west of Clarksville Road. A follow up wetland delineation was conducted on January 9, 2025, by HELIX biologist Christine Gonzales to identify and delineate potential jurisdictional wetlands and other waters of the U.S. and State within the additional portion of the Study Area, verify the previous wetland delineations, adjust potential wetland boundaries as applicable, and update regulatory requirements according to current standards, policies and regulations. The results of the aquatic resource delineation are summarized herein and are discussed in detail under a separate cover (HELIX 2025a). The results are considered preliminary until USACE verifies the findings.

Botanical inventories of the Study Area, excluding the portion west of Clarksville Road, were conducted on April 24, May 26, and June 16, 2015. The botanical inventories were conducted in accordance with CDFW's protocol plant surveys. The results of the botanical surveys are summarized herein and are discussed in detail under a separate cover (Foothill Associates 2016a). A complete list of plants observed within the Study Area is provided in Appendix C.

Protocol-level burrowing owl surveys were conducted within the Study Area, excluding the portion west of Clarksville Road, on March 12, April 24, May 26, and June 16, 2015. The surveys were conducted in accordance with the *Staff Report on Burrowing Owl Mitigation* (CDFW 2012). The results of the burrowing owl surveys are summarized herein and are discussed in detail under a separate cover (Foothill Associates 2016b).

Protocol-level breeding and non-breeding season California red-legged frog surveys were conducted within the Study Area, excluding the portion to the west of Clarksville Road, on January 12 and 26, 2016, and February 2 and 9, 2016. The protocol-level breeding season surveys were conducted in accordance with the *Revised Guidance on Site Assessment and Field Surveys for the California Red-legged Frog* (USFWS 2005). The results of the protocol-level breeding season surveys are summarized herein and are discussed in detail under a separate cover (Foothill Associates 2016c).

An oak woodland analysis was performed to document the extent of the existing oak trees in the Study Area and anticipated impacts from the proposed project. The Oak Resources Technical Report is contained under separate cover (HELIX 2025b).

3.2 BIOLOGICAL SURVEYS

The biological field survey was conducted on January 9, 2025, by HELIX biologists Christine Gonzalez and Nicole German. The weather during the field survey was sunny with an average temperature of 60°F. The Study Area was systematically surveyed on foot to ensure total search coverage, with special attention given to portions of the Study Area with the potential to support special-status species and sensitive habitats. Binoculars were used to further extend site coverage and identify species observed. All plant and animal species observed were recorded, and all biological communities occurring on-site were characterized. An additional biological field survey was conducted on August 8, 2025, by HELIX biologist Patrick Martin to map the current extent of purple needlegrass grassland within the Study Area. All resources of interest were mapped with Global Positioning System (GPS)-capable tablets equipped with GPS receivers running ESRI Field Maps for ArcGIS with sub-meter accuracy.

Following the field survey and review of database queries, the potential for each species identified in the database query to occur within the Study Area was determined based on the field survey, soils, habitats present within the Study Area, and species-specific information, as shown in Appendix B, *Potential for Special-Status Species to Occur in the Study Area*. Species observed within the Study Area during the survey are included in Appendix C, *Plant and Wildlife Species Observed in the Study Area* and photographs taken during the survey are included in Appendix D, *Representative Site Photographs.*

4.0 RESULTS

4.1 SITE LOCATION AND DESCRIPTION

The 36.94-acre Study Area is located in El Dorado County adjacent to U.S. Highway 50 immediately east of Silva Valley Parkway and north of Tong Road. Land uses surrounding the Study Area include residential development to the north and paved roads, oak woodland, and annual grassland to the east, west, and south. The Study Area is located in Township 9 North, Range 8 East, Sections 1 and 2, and is depicted on the USGS *Clarksville*, *California* 7.5-minute quadrangle map. The approximate location of the center of the Study Area is at latitude 38.662023 and longitude -121.055946, NAD 83, and is located at an elevation between 695 feet and 795 feet above mean sea level (AMSL).

A site and vicinity map of the Study Area is included as Figure 1; a topographic map of the Study Area is included as Figure 2, *USGS Topographic Map*; and an aerial image of the Study Area is included as Figure 3, *Aerial Map*.

4.2 PHYSICAL FEATURES

4.2.1 Topography and Drainage

Topography within the Study Area ranges from relatively level to moderately sloped with elevations ranging from approximately 695 to 795 feet AMSL (211 to 242 meters).

The Study Area is in the Upper Cosumnes River watershed (USGS Hydrologic Unit Code [HUC] 18040013). The hydrologic regime on the Study Area is predominantly year-round irrigation runoff from the adjacent development to the north, seasonal stormwater runoff, direct precipitation, which primarily falls between October and June, and groundwater. Surface water runoff runs in a general northeast to southwest direction along the gently sloped topography. The intermittent and ephemeral drainages within the Study Area accumulate water and flow southwest into culverts at Clarksville Crossing Road. The perennial drainage flows south through the Study Area and is a direct tributary to Carson Creek. Carson Creek meets with Deer Creek which flows into the Cosumnes River, a traditional navigable water.

4.2.2 Soils

One soil map unit is mapped within the Study Area: Auburn silt loam, 2 to 30 percent slopes (Figure 4, *Soils Map*). The general characteristics and properties associated with this soil type are described below (NRCS 2025a).

Auburn silt loam, 2 to 30 percent slopes: This soil unit has a parent material of residuum weathered from basic igneous rock and/or basic residuum weathered from metamorphic rock. It is typical of hills and ridges. A general soil profile is silt loam (0 to 14 inches), un-weathered bedrock (14 to 18 inches), and a restrictive layer at 18 inches of lithic bedrock. It is well-drained, has a low runoff class, and has no frequency of flooding or ponding. The hydric soils list for El Dorado County does not identify this soil type as hydric.

4.2.3 Climate

The climate of El Dorado County is Mediterranean, characterized by wet, cool winters and dry, hot summers. The nearest weather station with complete data to the Study Area is located in Auburn, California, approximately 14 miles north of the Study Area. Average daily maximum and minimum temperatures are 92° and 63° Fahrenheit (F) in July and 55° and 37° F in December and January. The mean annual precipitation is 34.68 inches, with 100 percent occurring as rain from October through June. The weather station received approximately 11.84 inches of rainfall from October 2024 through January 9, 2024, which is 90 percent of the average rain for this time of year (NRCS 2025b).

4.3 VEGETATION COMMUNITIES

Five upland vegetation communities occur in the Study Area, including non-native annual grassland (29.45 acres), purple needlegrass grassland (0.86 acre), valley foothill riparian (1.45 acres), valley oak woodland (0.34 acre), and ruderal/disturbed (3.82 acres). These habitat types are discussed below. A comprehensive list of all plant and wildlife species observed within the Study Area is provided in Appendix C. Representative site photographs are included in Appendix D.

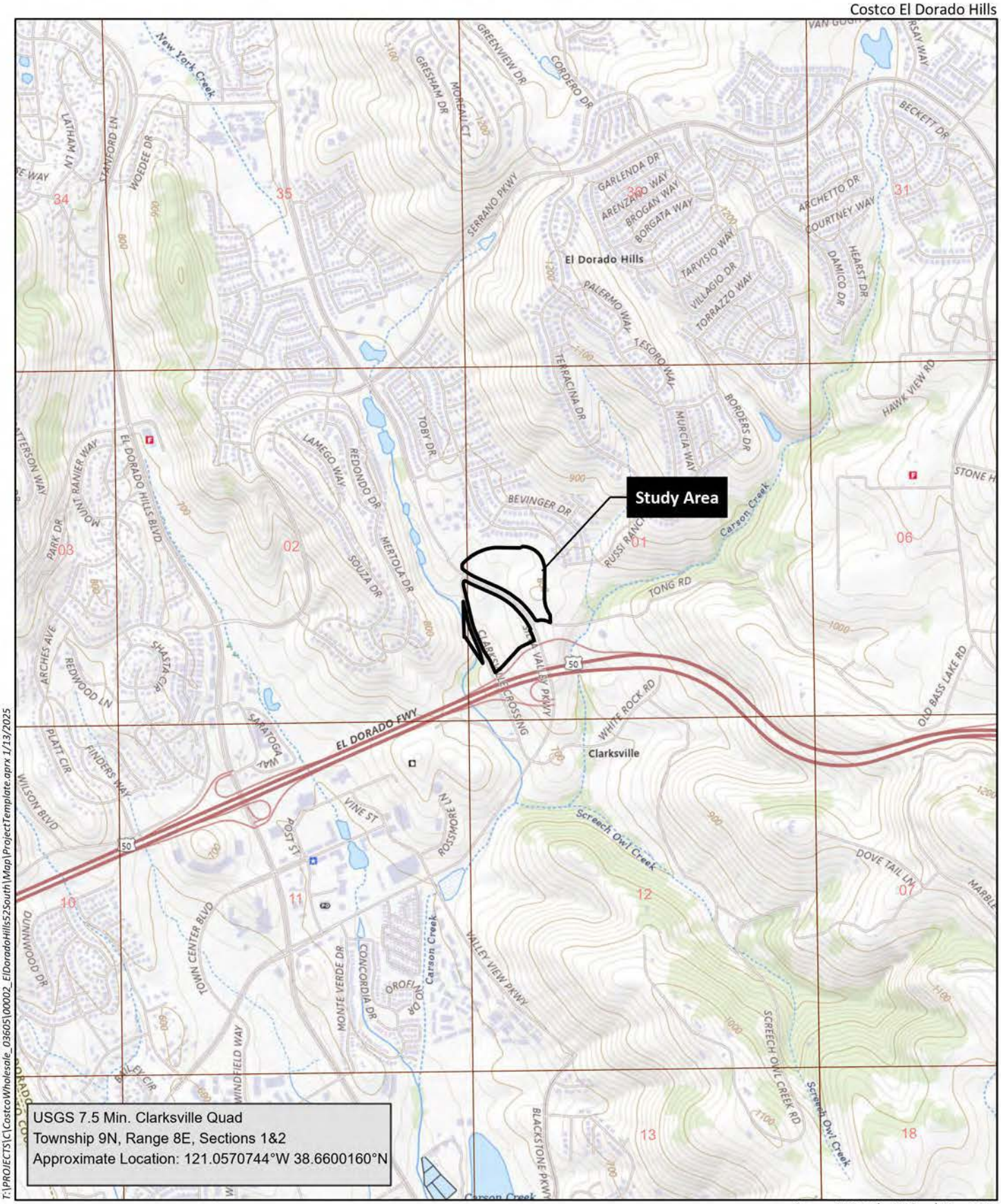
4.3.1 Non-Native Annual Grassland

This vegetation community is comprised of disturbed non-native annual grassland, which is characterized primarily by an assemblage of non-native grasses and herbaceous species.

Approximately 29.45 acres of non-native annual grassland occur within the Study Area (Figure 5, *Biological Communities*). Non-native annual grassland dominates both the northern and southern portions of the Study Area. This vegetation community is characterized primarily by an assemblage of non-native annual grasses and forbs. Dominant vegetation includes ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), and wild oat (*Avena fatua*) intermixed with red-stemmed filaree (*Erodium cicutarium*), popcornflower (*Plagiobothrys* sp.), black mustard (*Brassica nigra*), winter vetch (*Vicia villosa*), scarlet pimpernel (*Anagallis arvensis*), St. John's wort (*Hypericum perforatum*), brodiaea (*Brodiaea elegans*), fiddleneck (*Amsinckia* sp.), rose clover (*Trifolium hirtum*), and milk-thistle (*Silybum marianum*).

4.3.2 Purple Needlegrass Grassland

Approximately 0.86 acre of purple needlegrass (*Stipa pulchra*) is interspersed within the annual grassland in the southern portion of the Study Area (Figure 5). Purple needlegrass grassland (Needle grass - Melic grass grassland) is listed as a sensitive plant community on the CDFW Natural Communities List and is required to be considered in CEQA documents. In order for purple needlegrass grassland to be considered a natural community at least five percent absolute cover of the species is required as a characteristic to dominant species in the herbaceous layer; the species is greater than 10 percent relative cover of the herbaceous layer; the species is characteristically present in the herbaceous layer with at least two percent absolute cover; and/or the species has a clear presence in the stand with greater than five percent absolute cover in the herbaceous layer (Sawyer *et al.* 2009). The mapped areas contain greater than 10 percent relative cover within the herbaceous layer. Therefore, the purple needlegrass patches within the Study Area are considered a sensitive habitat, since the acreage meets the minimum percentage criteria necessary to be considered a purple needlegrass grassland natural community. The purple needlegrass is interspersed with annual willow herb (*Epilobium brachycarpum*),



T:\PROJECTS\C\CostcoWholesale_03605\00002_ElDoradoHills52South\Map\ProjectTemplate.aprx 1/13/2025

HELIX Environmental Planning

USGS Topographic Map

Figure 2



T:\PROJECTS\C\Costco Wholesale_03605\00002_ElDoradoHills52South\Map\ElDoradoHills52.aprx 2/5/2025

0 250 Feet

Source: Aerial (NearMap, 6/28/2024)

HELIX Environmental Planning

Aerial Map

Figure 3

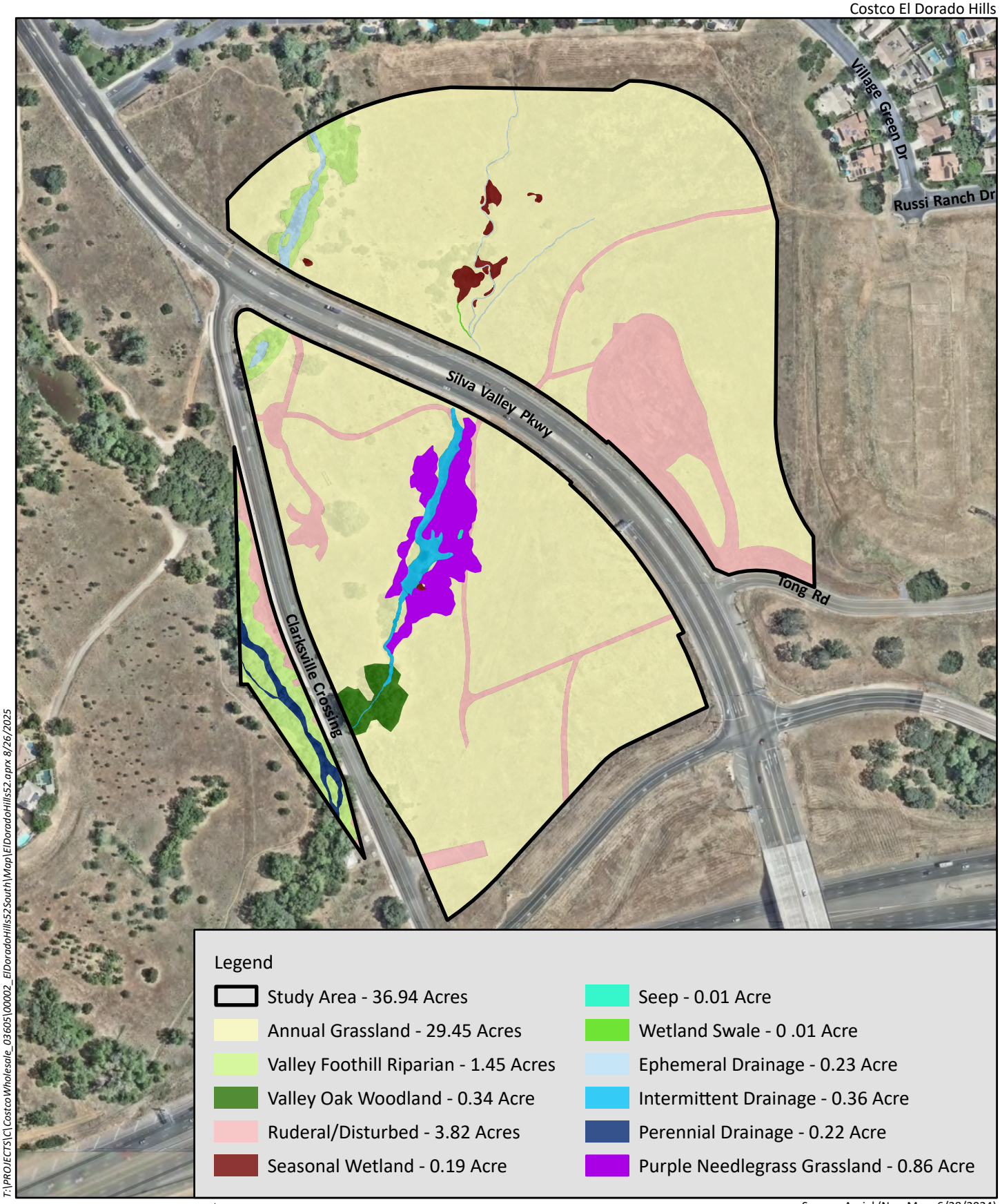


Source: NRCS, 2025; (NearMap, 6/28/2024)

HELIX Environmental Planning

Soils Map

Figure 4



T:\PROJECTS\C\Costco Wholesale_03605\00002_ElDoradoHills52South\Map\ElDoradoHills52.aprx 8/26/2025

Source: Aerial (NearMap, 6/28/2024)

HELIX Environmental Planning

Biological Communities

Figure 5

narrow tarweed (*Holocarpha virgata*), Spanish lotus (*Acmispon americanus*), ripgut brome, soft chess, and wild oat.

4.3.3 Valley Foothill Riparian

Valley foothill riparian habitats are found in valleys bordered by sloping alluvial fans, slightly dissected terraces, lower foothills, and coastal plains. This habitat often has a canopy layer of cottonwood (*Populus* spp.), California sycamore (*Platanus racemosa*), and valley oak (*Quercus lobata*). Subcanopy trees are white alder (*Alnus rhombifolia*), boxelder (*Acer negundo*), and Oregon ash (*Fraxinus latifolia*). The understory is comprised of wild grape (*Vitis californica*), wild rose (*Rosa californica*), blackberry (*Rubus* spp.), elderberry (*Sambucus* spp.), poison oak, willows (*Salix* spp.), herbaceous species such as sedges, and grasses. This habitat is associated with riverine habitat and often has an abrupt transition to adjacent upland habitat (Mayer and Laudenslayer 1988).

Approximately 1.45 acres of valley foothill riparian habitat occurs within the Study Area and is associated with an ephemeral drainage on the northwestern portion of the Study Area as well as a perennial drainage on the southwestern portion of the Study Area (see Figure 5). Dominant vegetation within this community includes broadleaf cattail (*Typha latifolia*), willow, spike rush (*Eleocharis macrostachya*), pennyroyal (*Mentha pulegium*), Himalayan blackberry (*Rubus armeniacus*), and valley oak.

4.3.4 Valley Oak Woodland

Valley oak woodland is a common vegetation community in the local region and is typically dominated by valley oaks, with other species such as sycamore, black walnut, interior live oak, boxelder, and blue oak also occurring. The shrub layer is best developed along natural drainages, becoming insignificant in the uplands with more open stands of oaks. The understory of this community is often an extension of annual grassland habitat (Mayer and Laudenslayer 1988).

Approximately 0.34 acre of valley oak woodland occurs within the Study Area (see Figure 5). Valley oak woodland is found in a small area on the southwest boundary of the Study Area where a small stand of mature valley oak trees overhangs a small intermittent drainage. The understory is primarily annual grassland with small areas of milkweed (*Asclepias fascicularis*) and pennyroyal immediately adjacent to the drainage.

4.3.5 Ruderal/Disturbed

Ruderal habitats are characterized by an assemblage of non-native and invasive plant species that readily colonize disturbed landscapes. Roadsides, construction sites, and vacant lots are all sites ruderal plant species typically occur in. Disturbed habitats typically retain a soil substrate, but the vegetation communities are either lacking or are comprised of mostly ruderal plant species.

Approximately 3.82 acres of ruderal/disturbed habitat occur within the Study Area (see Figure 5). This vegetation community in the Study Area and is largely comprised of open space adjacent to the road, and low, sparse, weedy vegetation. Ruderal/disturbed areas in the Study Area include graded roads and a stockpile area.

Dominant plant species observed in this community within the Study Area include medusahead, soft chess, yellow star-thistle (*Centaurea solstitialis*), red-stemmed filaree, and winter vetch.

4.4 SPECIAL-STATUS SPECIES

Sensitive plant and wildlife species identified during database queries were evaluated for their potential to occur within the Study Area based on the results of the field survey and the criteria described below.

The likelihood for a species to occur was classified as having either no, low, moderate, or high potential to occur within the Study Area by evaluating criteria based on the distance of the nearest documented occurrence, the presence and condition of suitable habitat, the age of the most recent documented occurrence, and the presence of mapped critical habitat.

No Potential:

- The Study Area is outside the known distribution of the species; or,
- There is no suitable habitat present for the species; or,
- The species is not known to occur within five miles of the Study Area boundary, and its dispersal capability is less than five miles.

Low Potential:

- There are no documented occurrences within five miles of the Study Area boundary, and the existing habitat is of low or marginal quality, or
- All documented occurrences within five miles of the Study Area line are believed to be extirpated, and existing habitat is of low or marginal quality, or
- Extant occurrences are documented within five miles of the Study Area, and the most recent occurrence is greater than or equal to 25 years old.

Moderate Potential:

- Documented occurrences are reported within five miles of the Study Area, the most recent occurrence is less than 25 but greater than 10 years old, and suitable habitat is present; or
- Critical habitat is mapped within the Study Area, all Primary Constituent Elements (PCEs) are present within the Study Area, and suitable habitat is present.

High Potential:

- There are extant occurrences within one mile of the Study Area, the most recent occurrence is less than 10 years old, and there is suitable habitat within the Study Area; or
- Critical habitat is mapped within the Study Area, documented occurrences are present within one mile of the Study Area, suitable habitat is present, and all PCEs are present within the Study Area.

The potential for each species to occur was determined and is summarized in Table 1 provided in Appendix B. Detailed descriptions of the species for which a high, moderate, or low potential to occur was assigned are discussed in greater detail below.

4.4.1 Listed and Special-Status Plants

According to the database query, 21 listed and/or special-status plants have the potential to occur on-site or in the vicinity of the Study Area (CDFW 2025; CNPS 2025). Based on field observations, published information, and literature review, one special-status plant, Sanford's arrowhead (*Sagittaria sanfordii*), was determined to have potential to occur within the Study Area. The remaining regional special-status plants identified in the query occur on serpentine or gabbro soils, within vernal pools, or within other habitats which do not occur in the Study Area. Additionally, focused botanical surveys were conducted within the Study Area in 2015 (Foothill Associates 2016a) and no special-status plant species were found. Special-status plants with potential to occur in the Study Area are discussed below.

Sanford's Arrowhead

Federal status – none
State status – none
CNPS Ranking – 1B.2

Species Description

Sanford's arrowhead is a perennial, rhizomatous emergent herb that is endemic to California. This aquatic plant can grow up to four feet tall, although it is usually shorter, and grows from a spherical tuber. The leaves are often submerged, variable in shape, and are long and strap-shaped or narrowly lanceolate. The leaves may grow up to nine inches long from the underwater stem. Sanford's arrowhead is monoecious, with individuals bearing both male and female flowers. The inflorescence is a raceme made up of several whorls of white flowers, with the lowest node bearing female flowers and upper nodes bearing male flowers. This species is found in freshwater marshes, swamps, ponds, and slow-moving drainages from 0 to 605 meters elevation. It blooms from May to October (CNPS 2025).

Survey History

This species was not observed in the Study Area during focused botanical surveys conducted on April 24, May 25, and June 16, 2015 (Foothill Associates 2016a) or biological field surveys conducted on October 13, 2020, and January 9, 2025. There is one documented occurrence within five miles of the Study Area. This occurrence is from 2005 and documents fewer than 100 plants growing in a wetland swale and ephemeral stream channel habitats tributary to Carson Creek, south of White Rock Road and east of Malby Crossing, approximately 2.4 miles away from the Study Area (CDFW 2025).

Habitat Suitability

The perennial drainage within the Study Area provides suitable habitat for this species; however, this species was not found during focused botanical surveys conducted within the Study Area in 2015 during the bloom period of this species (Foothill Associates 2016a) or during the January 9, 2025, field survey. Therefore, this species has a low potential to occur.

Potential for Adverse Effects

The project could impact this species if stormwater improvements are constructed within the perennial drainage. If Sanford's arrowhead is present, potential project related impacts could include an accumulation of fugitive dust or debris on leaves which could result in reduced photosynthesis or

disrupting potential pollinators by the presence and disturbance of construction equipment or crews. More direct impacts could include removal of individual plants by vegetation clearing, elimination of habitat through dewatering, crushing of plants by crews or equipment, disrupted soil quality as a result of spills or erosion, and the establishment of noxious and invasive weed species during construction and operation. However, with the implementation of recommended avoidance and minimization measures included in Section 5.1, potential project-related impacts to Sanford's arrowhead are expected to be reduced to less than significant.

4.4.2 Listed and Special-Status Wildlife

According to the database query, 31 listed and/or special-status wildlife species have the potential to occur on-site or in the vicinity of the Study Area (CDFW 2025; USFWS 2025a). Based on field observations, published information, and literature review, 20 special-status wildlife species have the potential to occur within the Study Area: Crotch's bumble bee (*Bombus crotchii*), monarch butterfly (*Danaus plexippus*), western spadefoot (*Spea hammondii*), northwestern pond turtle (*Actinemys marmorata*), coast horned lizard (*Phrynosoma blainvillii*), Cooper's hawk (*Astur cooperii*), tricolored blackbird (*Agelaius tricolor*), grasshopper sparrow (*Ammodramus savannarum*), golden eagle (*Aquila chrysaetos*), burrowing owl (*Athene cunicularia*), ferruginous hawk (*Buteo regalis*), Swainson's hawk (*Buteo swainsoni*), white-tailed kite (*Elanus leucurus*), merlin (*Falco columbarius*), bald eagle (*Haliaeetus leucocephalus*), California black rail (*Laterallus jamaicensis coturniculus*), osprey (*Pandion haliaetus*), purple martin (*Progne subis*), pallid bat (*Antrozous pallidus*), and American badger (*Taxidea taxus*).

However, the following species only have a low potential to pass through the Study Area during migration or other movements and are not expected to occur or use the Study Area in any substantial way: golden eagle, ferruginous hawk, merlin, bald eagle, and osprey. The rationale for this determination for each species is included in Appendix B. Because these species are not expected to occur or may only temporarily pass through the Study Area, no avoidance and minimization measures are recommended for these species, and they are not discussed further in this report.

The remaining nine special-status species with potential to occur in the Study Area are discussed in more detail below. In addition to these special-status wildlife species, other migratory birds and raptors protected under federal, State, and local laws/policies also have the potential to occur within the Study Area.

4.4.2.1 Invertebrates

Crotch's Bumble Bee

Federal status – None
State status – Candidate Endangered

Species Description

This species occurs in grassland and scrub habitats. New colonies are initiated by solitary queens, generally in the early spring, which typically occupy abandoned rodent burrows (CDFW 2019). This species is a generalist forager and has been reported visiting a wide variety of flowering plants. This species is a short-tongued bumble bee and food plants include *Asclepias* spp., *Antirrhinum* spp., *Clarkia* spp., *Eschscholzia* spp., *Eriogonum* spp., *Chaenactis* spp., *Lupinus* spp., *Medicago* spp., *Phacelia* spp., and *Salvia* spp. (Koch et al. 2012). The flight period for queens in California is from February to October. New

queens hibernate over the winter and initiate a new colony the following spring (CDFW 2019). Crotch's bumble bees are rare throughout their range and are in decline in the Central Valley and southern California (CDFW 2019). The most current known range of this species follows a small strip from western Trinity County south to Tehama County and along the entire Central Valley and coast south of Monterey to the southernmost portions of the State. The range is generally bound on the east by the high Sierra Nevada range and areas east of Bishop, Ridgecrest, and the Salton Sea (CDFW 2023).

Survey History

This species was not observed in the Study Area during biological field surveys conducted on October 13, 2020, and January 9, 2025. There are no documented occurrences within five miles of the Study Area (CDFW 2025).

Habitat Suitability

This species may occur within annual grassland habitat in the Study; however, no small mammal burrows or other underground refuge sites for this species to use as nests or overwintering sites were observed in the Study Area. A variety of flowering plants were observed within Study Area which could be used as food sources for this species. Based on the lack of documented occurrences of Crotch's bumble bee in the vicinity of the Study Area, and the fact that this species is currently rare across its range and is in decline in the foothills of California, Crotch's bumble bee has a low potential to occur on-site.

Potential for Adverse Effects

The proposed project is located in suitable habitat for this species. Implementation of the project has the potential for adverse effects to Crotch's bumble bee through colony disturbance, leading to the destruction of the colony if this species is present in the Study Area or the immediate surroundings during construction. Vegetation removal and ground disturbance may also remove potential foraging habitat for this species, contributing to the decline throughout the State. With the implementation of recommended avoidance and minimization measures included in Section 5.2, potential project-related impacts to Crotch's bumble bee are expected to be reduced to less than significant.

Monarch Butterfly

Federal status – Proposed Threatened
State status – None

Species Description

Monarch butterflies roost in wind-protected tree groves, especially with Eucalyptus spp., and species of pine or cypress with nectar and water sources nearby. Winter roost sites extend along the coast from Mendocino County to Baja California. As caterpillars, monarchs feed exclusively on the leaves of milkweed (*Asclepias* sp.) (Nial et al. 2019; USFWS 2020). Monarch butterfly migration routes pass east over the Sierra Nevada in the fall and back to the California coast in the spring. The overwintering population is located along the California coast, while summer breeding areas occur in interior California and North America, with spring breeding areas located further east (USFWS 2020).

Survey History

This species was not observed in the Study Area during biological field surveys conducted on October 13, 2020, and January 9, 2025. There are no documented occurrences within five miles of the Study Area, and most records are located along the California coast (CDFW 2025).

Habitat Suitability

Narrow-leaf milkweed, a larval host plant, was observed in the Study Area and could provide larval habitat for the Monarch butterfly during summer migration. However, the Study Area is in the summer breeding range of the Monarch butterfly and not in the coastal overwintering range (USFWS 2020). Large, overwintering populations will not occur in the Study Area. However, this species could pass through the Study Area during summer migration and could also utilize milkweed patches within the Study Area as larval habitat. This species has a low potential to occur in the Study Area.

Potential for Adverse Effects

Milkweed plants are present in the Study Area that could support this species. Implementation of the project could impact Monarch butterfly if the milkweed plants are found to support this species and are disturbed/removed. However, with the implementation of proposed avoidance and minimization measures included in Section 5.2, potential project-related impacts to Monarch butterfly are expected to be reduced to less than significant.

4.4.2.2 Amphibians

Western Spadefoot

Federal status – Proposed Threatened
State status – Species of Special Concern

Species Description

Western spadefoot occurs in a variety of habitats, including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, and playas. It breeds in vernal pools, depressional wetlands, puddles, and other ephemeral water features, including altered or constructed features, often after heavy rains. Breeding sites must remain inundated for at least 3 to 11 weeks for larvae to mature with water temperatures between 48 and 86 degrees Fahrenheit. Spadefoots are primarily terrestrial and require upland habitats for feeding and for constructing burrows for long, dry-season dormancy. Spadefoots typically occupy burrows up to three feet below the surface and require sandy or friable soils, which facilitate digging and water absorption. Dispersal through uplands may vary between wet and dry years but is considered to be up to 262 meters in a dry year and up to 605 meters in a wet year but is typically less (USFWS 2023).

Survey History

This species was not observed in the Study Area during biological field surveys conducted on October 13, 2020, and January 9, 2025. There is one documented occurrence of this species within five miles of the Study Area, approximately 3.60 miles from the Study Area. This occurrence documents one western

spadefoot calling at night within the vicinity of Upper Blue Ravine in the Mormon Island Wetland Preserve in 2008 (CDFW 2025).

Habitat Suitability

The seasonal wetlands within the Study Area may provide suitable habitat for this species; however, the wetlands are very shallow and may not remain inundated long enough to support the breeding cycle of this species. Sandy, gravelly soils are absent from the Study Area which may further reduce the potential this species could occur. Therefore, this species has a low potential to occur in the Study Area.

Potential for Adverse Effects

The proposed project is located in marginally suitable habitat for this species. If western spadefoot is present in the work area during construction, impacts could occur through injury or mortality caused by construction workers or construction equipment. With the implementation of recommended avoidance and minimization measures included in Section 5.3, potential project-related impacts to western spadefoot are expected to be reduced to less than significant.

4.4.2.3 Reptiles

Northwestern Pond Turtle

Federal status – Proposed Threatened
State status – Species of Special Concern

Species Description

This species occurs in a variety of aquatic habitats; typically, permanent ponds, lakes, streams, irrigation ditches, canals, marshes, or pools in intermittent drainages. It appears to prefer areas lined with abundant vegetation and either rocky or muddy substrates. Basking sites such as logs, rocks, cattail mats or exposed banks are required for this species. The active season is from February to November, and breeding occurs from April to May. Overwintering occurs in upland terrestrial habitats close to water sources (approximately 300 feet), in which they will bury themselves under loose soil (CDFW 2025). Nesting sites in uplands may be as far as 400 meters (1,312 feet) or more from the aquatic habitat, although the distance is usually much less and is generally around 100 meters (328 feet) (Yolo HCP/NCCP 2018). In nonriverine habitats that experience little water level fluctuation, this species may overwinter underwater (Thomson et al. 2016).

Survey History

This species was not observed in the Study Area during biological field surveys conducted on October 13, 2020, and January 9, 2025. There are seven documented occurrences within five miles of the Study Area, with the closest approximately 0.25 mile away. This occurrence documents two adult turtles basking in a wetland area upstream of the perennial drainage in the Study Area along Silva Valley Parkway in 2012. Other occurrences in the area are documented from downstream of the Study Area along Carson Creek (CDFW 2025).

Habitat Suitability

The perennial drainage within the Study Area provides suitable habitat for this species and northwestern pond turtle is known to occur in this drainage system. The intermittent drainage, seasonal wetlands, and other aquatic features on-site may also provide suitable habitat when inundated and could be used for dispersal or as temporary habitat. This species could nest or overwinter in the annual grassland, valley oak woodland, and riparian habitats within the Study Area. The perennial drainage is downstream and upstream from known occurrences in the area. This species has a high potential to occur in the Study Area.

Potential for Adverse Effects

The proposed project is located in suitable habitat for this species. If northwestern pond turtle is present in the work area during construction, impacts could occur through injury or mortality caused by construction workers or construction equipment. With the implementation of recommended avoidance and minimization measures included in Section 5.3, potential project-related impacts to northwestern pond turtle are expected to be reduced to less than significant.

Coast Horned Lizard

Federal status – None
State status – Species of Special Concern

Species Description

This species occurs in the Coast Ranges and southwestern Sierra Nevada, Transverse and Peninsular Ranges, and the southern deserts. Habitat types include chaparral, cismontane woodland, coastal scrub, desert washes, and grasslands. It is most common in lowlands along sandy washes with scattered low bushes. It requires open areas for sunning, bushes for cover, patches of loose soil, and an abundant supply of ants and other insects (CDFW 2025).

Survey History

This species was not observed in the Study Area during biological field surveys conducted on October 13, 2020, and January 9, 2025. There are four documented occurrences within five miles of the Study Area, with the closest approximately 3.81 miles away. This occurrence documents one adult observed in 2007 (CDFW 2025).

Habitat Suitability

This species has a moderate potential to occur in the valley oak woodland, annual grassland, and ruderal habitats in the Study Area. However, soils within the Study Area are mostly compacted, which may be unsuitable for this species. No obvious ant hills were observed in the Study Area during the field survey which would provide foraging options for this species, but ants and other insects suitable for foraging are likely to be present in the Study Area.

Potential for Adverse Effects

The proposed project is located in suitable habitat for this species. If coast horned lizard is present in the work area during construction, impacts could occur through injury or mortality caused by construction workers or construction equipment. With the implementation of recommended avoidance and minimization measures included in Section 5.3, potential project-related impacts to coast horned lizard are expected to be reduced to less than significant.

4.4.2.4 Birds

Cooper's Hawk

Federal status – None
State status – Watch List

Species Description

This species occurs in open woodlands, riparian forests, montane coniferous forests, and other open woodland habitats. It may also occur in wooded suburban habitats. This species nests high within large trees and preys on medium-sized birds and small mammals (Zeiner et al. 1990).

Survey History

This species was not observed in the Study Area during biological field surveys conducted on October 13, 2020, and January 9, 2025. Cooper's hawk is not regularly tracked by the CNDDB but is a common species in El Dorado County and the vicinity of the Study Area (eBird 2025).

Habitat Suitability

This species has a high potential to occur in the Study Area. The valley oak woodland and valley foothill riparian habitats within the Study Ara provide suitable nesting and foraging habitat for this species. No active or abandoned nests were observed in the Study Area, but this species could nest in trees within or surrounding the Study Area. This species is known to occur in wooded suburban habitats such as those surrounding the Study Area.

Potential for Adverse Effects

The proposed project has the potential for adverse effects to Cooper's hawk through nest disturbance, leading to the destruction of eggs or nestlings if this species nests in the Study Area or the immediate surroundings. Non-breeding adults could readily avoid contact with construction equipment or personnel by moving out of the construction area. Displacement of non-breeding adults would not have a significant impact. Eggs and young still dependent on the nest would be susceptible to injury or mortality through physical contact or through nest abandonment caused by the displacement of adults. Needless destruction of eggs or young would be a violation of the Fish and Game Code and would be a significant impact. With the implementation of recommended avoidance and minimization measures included in Section 5.4, potential project-related impacts to Cooper's hawk are expected to be reduced to less than significant.

Tricolored Blackbird

Federal status – None
State status – Threatened and Species of Special Concern

Species Description

This species nests and seeks cover in emergent wetland vegetation and thorny vegetation such as Himalayan blackberry as well as cattails and tules. The nesting area must be large enough to support a minimum colony of 50 pairs as they are a highly colonial species. Typical nesting areas are in large wetlands, marshes, and large brambles of thorny vegetation near suitable foraging habitat. This species forages on the ground in croplands, grassy fields, flooded land, and edges of ponds for insects (Shuford and Gardali 2008).

Survey History

This species was not observed in the Study Area during biological field surveys conducted on October 13, 2020, and January 9, 2025. There are 10 documented occurrences within five miles of the Study Area, with the closest approximately 2.25 miles away. This occurrence documents a nesting colony observed along Carson Creek in 2014. Other occurrences in the area are also along Carson Creek and areas near Latrobe Road (CDFW 2025).

Habitat Suitability

Although some emergent wetland vegetation and Himalayan blackberry brambles are present along the intermittent and ephemeral drainages in the Study Area, they are likely too small to support a nesting colony and are fragmented in the overall landscape. This species could forage in the annual grassland habitat on-site if it nests within the Study Area or at an off-site location. Based on the presence of marginally suitable nesting habitat, suitable foraging habitat within the Study Area, and nearby known documented occurrences, this species has a moderate potential to occur in the Study Area.

Potential for Adverse Effects

Proposed construction activities are not expected to impact foraging tricolored blackbirds; however, the proposed project has the potential for adverse effects to tricolored blackbirds if this species nests within the Study Area. Individual birds foraging or otherwise occurring within the Study Area could readily avoid construction areas or contact with construction equipment or personnel. Therefore, no impacts to individual tricolored blackbirds are anticipated unless this species nests on the site. In the unlikely event this species nests on-site, impacts could occur through nest disturbance, leading to the destruction of eggs or nestlings. Eggs and young still dependent on the nest would be susceptible to injury or mortality through physical contact or through nest abandonment caused by the displacement of adults. Needless destruction of eggs or young would be a violation of the Fish and Game Code and be considered a significant impact. With the implementation of recommended avoidance and minimization measures included in Section 5.4, potential project-related impacts to tricolored blackbird are expected to be reduced to less than significant.

Grasshopper Sparrow

Federal status – None
State status – Species of Special Concern

Species Description

This species is a summer resident of foothills and lowlands west of the Cascade-Sierra Nevada crest. Grasshopper sparrow occurs in grasslands with scattered shrubs or other tall structures which it utilizes as singing perches. It nests on the ground in dense grass with overhanging taller grasses and forbs (Zeiner et al. 1990).

Survey History

This species was not observed in the Study Area during biological field surveys conducted on October 13, 2020, and January 9, 2025. There are no documented occurrences within five miles of the Study Area (CDFW 2025).

Habitat Suitability

The annual grassland habitat within the Study Area provides suitable habitat for this species; however, the Study Area is on the far eastern edge of the known range of this species. Therefore, this species has a low potential to occur in the Study Area.

Potential for Adverse Effects

The proposed project has the potential for adverse effects to grasshopper sparrow through nest disturbance, leading to the destruction of eggs or nestlings if this species nests in the Study Area or the immediate surroundings. Non-breeding adults could readily avoid contact with construction equipment or personnel by moving out of the construction area. Displacement of non-breeding adults would not have a significant impact. Eggs and young still dependent on the nest would be susceptible to injury or mortality through physical contact or through nest abandonment caused by the displacement of adults. Needless destruction of eggs or young would be a violation of the Fish and Game Code and be considered a significant impact. With the implementation of recommended avoidance and minimization measures included in Section 5.4, potential project-related impacts to grasshopper sparrow are expected to be reduced to less than significant

Burrowing Owl

Federal status – None
State status – Candidate Endangered; Species of Special Concern

Species Description

This species occurs in a variety of open habitats; typically grasslands, desert scrub, agricultural fields, washes, and disturbed areas such as golf courses or vacant lots. Burrowing owls forage on the ground in areas with low, sparse vegetation and with an abundance of small mammal burrows. It nests in burrows, especially those of California ground squirrel (*Otospermophilus beecheyi*) but will also use other sites

such as rubble piles, pipes, and culverts. In the Central Valley of California, most foraging occurs within a 600-meter radius of the burrow (Gervais et al. 2003).

Survey History

This species was not observed in the Study Area during protocol-level surveys in 2015 (Foothill Associates 2016b) or during the biological field surveys on October 13, 2020, and January 9, 2024. There are three documented occurrences within five miles of the Study Area, with the closest approximately 1.84 miles away. This occurrence documents two adults observed at a burrow site in grassland habitat south of Highway 50 near the Sacramento/El Dorado County line (CDFW 2025).

Habitat Suitability

The annual grassland and open, ruderal/disturbed habitat in the Study Area provide potential habitat for this species; however, no small mammal burrows or other suitable nesting/refuge sites were observed in the Study Area. In addition, soils within the Study Area are very hard and compact, which likely limits the potential this species or other fossorial animals could burrow on-site. Therefore, this species has a low potential to occur on-site.

Potential for Adverse Effects

The proposed project has the potential for adverse effects to burrowing owl through nest disturbance, leading to the destruction of eggs or nestlings if this species nests in the Study Area or the immediate surroundings. Non-breeding adults could readily avoid contact with construction equipment or personnel by moving out of the construction area. Displacement of non-breeding adults would not have a significant impact. Eggs and young still dependent on the nest would be susceptible to injury or mortality through physical contact or through nest abandonment caused by the displacement of adults. Needless destruction of eggs or young would be a violation of the Fish and Game Code and be considered a significant impact. With the implementation of recommended avoidance and minimization measures included in Section 5.4, potential project-related impacts to burrowing owl are expected to be reduced to less than significant.

Swainson's Hawk

Federal status – None
State status – Threatened

Species Description

Swainson's hawks are long-distance migrants with nesting grounds in western North America, and wintering grounds in Mexico and South America. Swainson's hawks typically arrive in the California Central Valley between March and early April to establish breeding territories. Breeding occurs from late March to August, peaking in late May through July (Zeiner et al. 1990). In the Central Valley, Swainson's hawks generally nest in isolated trees, small groves of trees in agricultural land, or in large woodlands next to open grasslands or agricultural fields. This species typically nests near riparian areas; however, it has been known to nest in urban areas as well. In the Central Valley, the most commonly used trees include Fremont's cottonwood, sycamores (*Platanus* spp.), valley oaks, walnut (*Juglans* spp.), and occasionally gum trees (*Eucalyptus* spp.), redwood (*Sequoia* spp.) and pine (*Pinus* spp.) (Woodbridge 1998). Nest locations are usually in close proximity to suitable foraging habitats, which include fallow

fields, all types of grasslands, irrigated pastures, alfalfa and other hay crops, and low-growing row crops, especially post-harvest when the height of the vegetation is short and easy to observe prey (Bechard et al. 2010; SAIC 2012). Swainson's hawks leave their breeding grounds to return to their wintering grounds in late August or early September (Bloom and Van De Water 1994).

Survey History

This species was not observed in the Study Area during biological field surveys conducted on October 13, 2020, and January 9, 2025. However, these surveys occurred when this species is not expected to be present in the region. There are two documented occurrences within five miles of the Study Area, with the closest approximately 3.86 miles away. This occurrence documents one adult near the intersection of White Rock and Scott Road in 1982 (CDFW 2025).

Habitat Suitability

The non-native annual grassland and open, ruderal/disturbed habitat in the Study Area provide suitable foraging habitat for this species and several trees within the Study Area could support nesting. However, the Study Area is at the easternmost edge of this species' known range. Swainson's hawk has historically been documented in the vicinity of the Study Area and could potentially occur, but would generally be expected to occur in habitats within and closer to the Central Valley. Therefore, Swainson's hawk has a low potential to occur.

Potential for Adverse Effects

The proposed project has the potential for adverse effects to Swainson's hawk through nest disturbance, leading to the destruction of eggs or nestlings if this species nests in the Study Area or the immediate surroundings. Non-breeding adults could readily avoid contact with construction equipment or personnel by moving out of the construction area. Displacement of non-breeding adults would not have a significant impact. Eggs and young still dependent on the nest would be susceptible to injury or mortality through physical contact or through nest abandonment caused by the displacement of adults. Needless destruction of eggs or young would be a violation of the Fish and Game Code and be considered a significant impact. With the implementation of recommended avoidance and minimization measures included in Section 5.4, potential project-related impacts to Swainson's hawk are expected to be reduced to less than significant.

White-Tailed Kite

Federal status – None
State status – Fully Protected

Species Description

White-tailed kite is a year-round resident in California in coastal areas and lowlands in the Central Valley. Population sizes increase during the non-breeding season due to over-wintering migrants. It occurs in a variety of habitats including grasslands, savannah, oak woodland, riparian woodland, open suburban areas, and agriculture fields. Nest trees typically have a dense canopy or are within a dense group of trees, such as riparian forest or oak woodland. Foraging occurs within un-grazed or lightly-grazed fields, agricultural areas, and open grasslands (CDFW 2025).

Survey History

This species was not observed in the Study Area during biological field surveys conducted on October 13, 2020, and January 9, 2025. There are two documented occurrences within five miles of the Study Area, with the closest approximately 2.48 miles away. This occurrence documents a nest near Sophia Parkway in 2008 (CDFW 2025).

Habitat Suitability

The valley foothill riparian and valley oak woodland provide suitable nesting habitat, and suitable foraging habitat is present in the annual grassland and open areas of the ruderal/disturbed habitat. No active or abandoned nests were observed in the Study Area, but this species could nest in trees within or surrounding the Study Area. This species is known to forage in nearby open spaces in the vicinity of the Study Area and could occur nesting in or near the Study Area. Therefore, this species has a high potential to occur.

Potential for Adverse Effects

The proposed project has the potential for adverse effects to white-tailed kite through nest disturbance, leading to the destruction of eggs or nestlings if this species nests in the Study Area or the immediate surroundings. Non-breeding adults could readily avoid contact with construction equipment or personnel by moving out of the construction area. Displacement of non-breeding adults would not have a significant impact. Eggs and young still dependent on the nest would be susceptible to injury or mortality through physical contact or through nest abandonment caused by the displacement of adults. Needless destruction of eggs or young would be a violation of the Fish and Game Code and be considered a significant impact. With the implementation of recommended avoidance and minimization measures included in Section 5.4, potential project-related impacts to white-tailed kite are expected to be reduced to less than significant.

California Black Rail

Federal status – None
State status – Threatened and Fully Protected

Species Description

The largest concentrations of this species are found in the tidal salt marshes of the northern San Francisco Bay region, primarily in San Pablo and Suisun Bays. Smaller populations also occur in San Francisco Bay, the Outer Coast of Marin County, freshwater marshes in the foothills of the Sierra Nevada, and in the Colorado River Area (Spautz et. al. 2005). This species inhabits brackish marsh habitats, primarily in the upper marsh zone dominated by alkali heath (*Frankenia salina*), cattail (*Typha* spp.), and rush (*Juncus* spp.), and prefers lower salinity environments. In the Sierra Nevada foothills, this species is a year-round resident along wetland edges where water is generally 1.2 inches or less and is typically found in wetlands 0.25 acre or larger. This species is typically associated with perennial wetlands associated with flowing water such as irrigation canals, perennial streams, and springs with dense vegetation in the Sierra Nevada foothills. It forages on the ground, under cover of dense vegetation (Richmond et al. 2010).

Survey History

This species was not observed in the Study Area during biological field surveys conducted on October 13, 2020, and January 9, 2025. There is one documented occurrence within five miles of the Study Area, approximately 1.86 miles from the Study Area. The occurrence documents a breeding pair with chicks observed in 2017 (CDFW 2025).

Habitat Suitability

This species has a moderate potential to occur in the Study Area. The perennial drainage and associated riparian corridor provide suitable habitat for this species. California black rail could also potentially occur in the intermittent and ephemeral drainage corridors. Additionally, the closest occurrence is less than two miles away and is located downstream of the Study Area. Because this species is generally rare in the Sierra Nevada foothills, it has a moderate potential to occur instead of a high potential to occur.

Potential for Adverse Effects

The proposed project is located in suitable habitat for this species. The project could impact this species if it's nesting on-site during construction through nest disturbance of adjacent construction, leading to the destruction of eggs or nestlings. Non-breeding adults could readily avoid contact with construction equipment or personnel by moving out of the construction area. Displacement of non-breeding adults would not have a significant impact. Eggs and young still dependent on the nest would be susceptible to injury or mortality through physical contact or through nest abandonment caused by the displacement of adults. Needless destruction of eggs or young would be a violation of the Fish and Game Code and be considered a significant impact. With the implementation of recommended avoidance and minimization measures included in Section 5.4, potential project-related impacts to California black rail are expected to be reduced to less than significant.

Purple Martin

Federal status – None
State status – Species of Special Concern

Species Description

The purple martin occurs as an uncommon summer resident and migrant, primarily from mid-March to late September, and breeds from May to mid-August. Martins are most abundant in mesic regions, near large wetlands and other water bodies, and at upper slopes and ridges, which likely concentrate aerial insects (Shuford and Gardali 2008). This species nests in cavities in open areas with low canopy cover at the height of the nest, near large bodies of water that support high densities of large insects. Martins use a variety of cavities including bridges, large tree snags, and collapsed lava tubes. This species is very sensitive to competition from European starlings (*Sturnus vulgaris*) and is extirpated from most low-elevation areas by starlings (Shuford and Gardali 2008).

Survey History

This species was not observed in the Study Area during biological field surveys conducted on October 13, 2020, and January 9, 2025. There are no documented occurrences within five miles of the Study Area. The closest documented occurrence is approximately 12.86 miles from the Study Area and documents a nesting pair observed in 2007 (CDFW 2025).

Habitat Suitability

The Study Area provides suitable foraging habitat for this species and some tree cavities that could support nesting were observed within the Study Area. However, this species is uncommon in California and there are no documented occurrences in the vicinity of the Study Area. Therefore, purple martin has a low potential to occur.

Potential for Adverse Effects

The proposed project has the potential for adverse effects to purple martin through nest disturbance, leading to the destruction of eggs or nestlings if this species nests in the Study Area or the immediate surroundings during construction. Non-breeding adults could readily avoid contact with construction equipment or personnel by moving out of the construction area. Displacement of non-breeding adults would not have a significant impact. Eggs and young still dependent on the nest would be susceptible to injury or mortality through physical contact or through nest abandonment caused by the displacement of adults. Needless destruction of eggs or young would be a violation of the Fish and Game Code and be considered a significant impact. With the implementation of recommended avoidance and minimization measures included in Section 5.4, potential project-related impacts to purple martin are expected to be reduced to less than significant.

4.4.2.5 Other Nesting Migratory Birds and Raptors

Migratory birds are protected under the MBTA of 1918 (16 USC 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed under 50 CFR 10; this also includes feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Additionally, Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (i.e., hawks, owls, eagles, and falcons), including their nests or eggs; Section 3513 specifically states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

A number of migratory birds and raptors, in addition to the species listed in Section 4.4.2, have the potential to nest in or adjacent to the Study Area. Suitable nest locations within and adjacent to the Study Area include trees, grass, artificial structures, and bare ground. With the implementation of recommended avoidance and minimization measures included in Section 5.4, potential project-related impacts to nesting birds are expected to be reduced to less than significant.

4.4.2.6 Mammals

Pallid Bat

Federal status – None
State status – Species of Special Concern

Species Description

Pallid bat occurs throughout California except for the high Sierra Nevada and the northern Coast Ranges. Suitable habitats include grasslands, shrublands, woodlands, and forests from sea level to 6,000 feet AMSL. This species is most common in open, dry habitats with rocky areas for roosting; roosts also include cliffs, abandoned buildings, bird boxes, hollow trees and under bridges. This species is primarily a crevice dweller, but recent studies have shown that they are also dependent upon tree roosts. Particularly in northern California, pallid bat is more dependent upon oak woodland and oak savannah in lower elevations and may be found in coniferous forest, including redwoods at mid to higher elevations. This species is also intolerant of roost disturbance and it has a high loyalty to roosting sites. If this species experiences frequent disturbance at a roost site, it will abandon the roost (Bolster ed. 1998).

Survey History

This species was not observed in the Study Area during biological field surveys conducted on October 13, 2020, and January 9, 2025. There are no documented occurrences within five miles of the Study Area (CDFW 2025).

Habitat Suitability

Suitable habitat is present for this species within the valley oak woodland and riparian habitats, as well as isolated trees within the annual grassland. Trees with cavities/hollows were observed in the Study Area that could provide roosting habitat and this species could forage throughout the Study Area. Although there are no documented occurrences within five miles of the Study Area, because this species is known to utilize oak woodlands in lower elevations of northern California, pallid bat has a low potential to occur in the Study Area.

Potential for Adverse Effects

If trees are removed or trimmed, the project has the potential for adverse effects to pallid bat through disturbance of day roosts or maternity colonies leading to destruction of maternity colonies and/or abandonment of roost sites if this species were to roost or nest in or adjacent to the Study Area during construction. Removal of these structures may result in injury or mortality to individual bats and/or maternity colonies. Construction activities near active roost sites may also result in roost abandonment. If roost abandonment occurs during daylight hours when bats are vulnerable, bats would be subject to a higher degree of predation risk. Destruction of bats and maternity colonies would be a violation of the Fish and Game Code and be considered a significant impact. With the implementation of recommended avoidance and minimization measures included in Section 5.5, potential project-related impacts to pallid bat are expected to be reduced to less than significant.

American Badger

Federal status – None
State status – Species of Special Concern

Species Description

American badgers are found in dry, open habitats including grassland and open woodland. Suitable burrowing habitat requires dry, sandy soil. Breeding occurs in summer and early fall, with young being born from March to April.

Survey History

This species was not observed in the Study Area during biological field surveys conducted on October 13, 2020, and January 9, 2025. There is one documented occurrence within five miles of the Study, approximately 4.9 miles from the Study Area. This occurrence documents an individual badger killed on the road in 2015. CDFW considers this species to be extant in the region; however, there are no other nearby records of this species near the Study Area (CDFW 2025).

Habitat Suitability

The annual grassland within the Study Area provides suitable habitat for this species; however, friable soils are lacking in the Study Area and no dens or burrows were observed during the 2020 or 2025 field surveys. Aside from the one documented occurrence in 2015, there are no other records nearby. Therefore, this species has a low potential to occur within the Study Area.

Potential for Adverse Effects

The proposed project is located in suitable habitat for this species. If American badger is present in the work area during construction, impacts could occur through injury or mortality caused by construction workers or construction equipment. With the implementation of recommended avoidance and minimization measures included in Section 5.5, potential project-related impacts to American badger are expected to be reduced to less than significant.

4.5 SENSITIVE HABITATS

Sensitive habitats include those that are of special concern to resource agencies or those that are protected under CEQA, Section 1600 of the California Fish and Game Code (i.e., riparian areas) and/or Sections 401 and 404 of the CWA, which include wetlands and other waters of the U.S. Additionally, sensitive habitats, including native trees and oak woodland habitat, are protected under the specific policies outlined in the El Dorado County Oak Resources Management Plan. Sensitive habitats identified within the Study Area are discussed below.

4.5.1 Aquatic Habitats

Aquatic habitats that occur in the Study Area include seasonal wetland (0.19 acre), seep (0.01 acre), wetland swale (0.01 acre), ephemeral drainage (0.23 acre), intermittent drainage (0.36 acre), and perennial drainage (0.22 acre). These habitat types are discussed below.

4.5.1.1 Seasonal Wetland

A total of 0.19 acre of seasonal wetlands occurs in the Study Area (see Figure 5). Seasonal wetlands are often depressions or topographic folds within the landscape that inundate for short periods of time following intense rains, but do not maintain seasonal aquatic or saturated soil conditions for durations long enough for colonization by perennial, obligate plant species. As such, plant species in seasonal wetlands are generally of two types: species that can tolerate short periods of inundation but have not adapted to withstand sustained aquatic or saturated soil conditions, and short-lived (primarily annual) species that take advantage of ephemeral aquatic and/or saturated soil conditions. The majority of seasonal wetlands within the Study Area are adjacent to an ephemeral drainage on the northern portion of the Study Area and one is adjacent to the intermittent drainage. There are also two depressional seasonal wetlands on the Study Area that appear to have formed as a result of historic excavation as they are located next to large, steep mounds. Most are associated with the ephemeral drainage in the northern portion of the Study Area. Dominant vegetation in the seasonal wetlands includes rabbitsfoot grass (*Polypogon monspeliensis*), spike rush (*Eleocharis macrostachya*), nutsedge (*Cyperus eragrostis*), curly dock (*Rumex crispus*), pennyroyal, coyote-thistle (*Eryngium vaseyi*), brome fescue (*Festuca bromoides*), ryegrass, annual hair grass (*Deschampsia danthonioides*), and rye grass (*Festuca perennis*).

4.5.1.2 Seep

A total of 0.01 acre of seep occurs in the Study Area (see Figure 5). Seeps are characterized as areas where groundwater intersects the soil surface. Typically, water flows from seeps persist for some period after the rainy season or, more rarely, nearly year-round. Seeps accessing sufficient amounts of subsurface water can support isolated wetland vegetation (such as on a hillside) or they may form the headwaters of other jurisdictional drainage or wetland features, such as wetland swales. Vegetation in seeps often consists of plant species associated with seasonal and semipermanent marsh habitats. When seeps are active for only short periods beyond the rainy season and into the warm season, herbaceous perennial wetland species typically dominate. Vegetation observed in the seep within the Study Area consisted almost entirely of iris-leaved rush (*Juncus xiphioides*).

4.5.1.3 Wetland Swale

A total of 0.01 acre of wetland swale occurs in the Study Area (see Figure 5). Seasonal wetland swales are shallow, seasonally inundated low areas within the local topography that form in soils with a subsurface layer that restricts the downward flow of water, causing water to flow over the surface or subsurface for extended and variable periods of time. Swales generally do not exhibit a defined bed/bank with an ordinary high-water mark but often drain or are connected to other aquatic features. Depending on common factors such as daily average temperatures and the amount and frequency of seasonal precipitation, swales may be saturated or flooded for days, weeks, or even months. The wetland swale within the Study Area is associated with a seasonal wetland in the northern portion of the Study Area and conveys water from that feature to an ephemeral drainage during high flow events. Dominant vegetation occurring within the wetland swale includes curly dock (*Rumex crispus*), pennyroyal, coyote-thistle (*Eryngium vaseyi*), brome fescue, rye grass, annual hair grass, and rabbitsfoot grass.

4.5.1.4 Ephemeral Drainage

A total of 0.23 acre of ephemeral drainages occurs in the Study Area (see Figure 5). Ephemeral drainages are not wetlands as they do not meet the three-parameter criteria for vegetation, hydrology, and soils but do convey water and exhibit an ordinary high water mark. Water flows within ephemeral drainages are fed primarily by precipitation and surface water runoff. These features convey water during and immediately after storm events, but do not flow continuously throughout the winter and spring. Typically, these features exhibit a defined bed and bank and show signs of scouring as a result of rapid flow events. Although the channels of the ephemeral drainages within the Study Area are largely unvegetated, what vegetation is present includes winter vetch, ripgut brome, Italian ryegrass, phacelia (*Phacelia cicutaria*), and medusahead (*Elymus caput-medusae*).

4.5.1.5 Intermittent Drainage

A total of 0.36 acre of intermittent drainage occurs in the Study Area (see Figure 5). Intermittent drainages receive substantial seasonal flows of significant velocity and may appear as perennial features during the normal wet season. These seasonal flows often scour the channel of vegetation. Intermittent drainages may support fringe wetland vegetation types, such as seasonal or semi-permanent marsh or riparian wetlands. Conversely, intermittent drainages may be associated with hydrophytic vegetation communities that lack further wetland indicators. A typical hydroperiod of intermittent drainages is one that begins with the onset of substantial rains in the normal wet season and persists for an extended, variable amount of time into summer.

A brick check dam has been constructed across a portion of the intermittent drainage. This check dam has resulted in periods of water backing up during flow events that have supported the establishment of hydrophytic emergent vegetation upstream. The area containing emergent vegetation is dominated by common knotweed (*Persicaria lapathifolia*) and curly dock, with areas of cattails, Himalayan blackberry, and a small clump of willows. This area is entirely within the ordinary high water mark of the intermittent drainage.

4.5.1.6 Perennial Drainage

A total of 0.22 acre of perennial drainage occurs in the Study Area (Figure 5). Perennial drainages may not meet the three-parameter wetland criteria for vegetation, hydrology, and soils, but do convey water and exhibit an OHWM. Perennial drainages convey water flows throughout the entire year. These drainages typically consist of a channel, bed, and bank and are devoid of wetland vegetation due to the scouring effect of flowing water. Perennial drainages are often bordered by wetland and riparian communities of various composition and cover depending on flow rates, duration of flows, and soil types.

The perennial drainage is located in the western portion of the Study Area and flows north to south. This feature originates north of the Study Area and is a direct tributary to Carson Creek. Two high-flow channels are present along the western portion of the main channel and contained flowing water during the site assessment on January 9, 2025. The perennial drainage is generally devoid of vegetation, but emergent wetland vegetation and riparian vegetation are present along the upper bank of the drainage and form a swath of valley foothill riparian habitat.

4.5.2 Valley Foothill Riparian Habitat

Valley foothill riparian habitat, as described in Section 4.3.2, is considered a sensitive habitat that may be regulated by CDFW under Section 1600 of the California Fish and Game Code. CDFW asserts jurisdiction over native riparian habitat adjacent to aquatic features, including native trees over four inches in DBH. If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFW may propose reasonable measures that will allow the protection of those resources. If these measures are agreeable to the parties involved, they may enter into an agreement with CDFW identifying the approved activities and associated mitigation measures. Generally, CDFW recommends submitting an application for a SAA for any work done within the lateral limit of water flow or the edge of riparian vegetation, whichever is greater. Valley foothill riparian habitat is planned to be removed or impacted as part of the proposed project as currently described.

4.5.3 Protected Trees and Oak Woodland

As discussed in Section 2.5.2, if oak trees or oak woodland are anticipated to be removed or impacted, an oak woodland removal permit is required prior to removal of oak trees that are part of an oak woodland and an oak tree removal permit is required prior to removal of Heritage Trees and individual oak trees. Mitigation for impacts to oak woodlands is based on the total area impacted, and mitigation ratios are outlined in Table 1, *Oak Woodland Mitigation*.

4.5.4 Wildlife Migration Corridors

Wildlife corridors link areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. This fragmentation of habitat can also occur when a portion of one or more habitats is converted into another habitat; for instance, when woodland or scrub habitat is altered or converted into grasslands after a disturbance such as fire, mudslide, or construction activities. Wildlife corridors mitigate the effects of this fragmentation by (1) allowing animals to move between remaining habitats thereby permitting depleted populations to be replenished and promoting genetic exchange; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk of catastrophic events (such as fire or disease) on population or local species extinction; and (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs.

The Study Area is located in an area surrounded by residential development and roads. Although some wildlife may travel through the Study Area on a local level, especially along the perennial drainage, the Study Area is not considered a wildlife migration corridor.

4.5.5 Important Biological Corridors

The *El Dorado County General Plan* identifies a number of Important Biological Corridors (IBC). The Study Area is not located within a designated IBC. The proposed project will not cause a significant reduction in the ecological functions or current ability to facilitate wildlife movement.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The 36.94-acre Study Area is split into three portions by Silva Valley Parkway and Clarksville Road and consists primarily of annual grassland. Biological communities present within the Study Area include annual grassland (29.45 acres), purple needlegrass grassland (0.86 acre), valley foothill riparian (1.45 acre), valley oak woodland (0.34 acre), ruderal/disturbed (3.82 acre), seasonal wetland (0.19 acre), seep (0.01 acre), wetland swale (0.01 acre), ephemeral drainage (0.23 acre), intermittent drainage (0.36 acre), and a perennial drainage (0.22 acre).

No special-status plant or wildlife species were observed in the Study Area during the field survey on January 9, 2025. Suitable habitats for special-status plants, special-status wildlife species, and nesting migratory birds and raptors are present in the Study Area. In addition, sensitive habitats, including valley oak woodland and individual oak trees, aquatic habitat, and riparian habitat, are present in the Study Area. Recommendations, including avoidance and minimization measures to limit or avoid impacts to special-status species, nesting birds, and sensitive habitats, are included below.

Known or potential biological constraints in the Study Area include the following:

- Potential habitat for special-status plants, including Sanford's arrowhead;
- Potential habitat for special-status invertebrates, including Crotch's bumble bee and monarch butterfly;
- Potential habitat for special-status amphibians, including western spadefoot;
- Potential habitat for special-status reptiles, including northwestern pond turtle and coast horned lizard;
- Potential habitat for migratory birds and raptors such as Cooper's hawk, tricolored blackbird, grasshopper sparrow, burrowing owl, Swainson's hawk, white-tailed kite, California black rail, and purple martin;
- Potential roosting habitat for special-status mammals, including pallid bat and American badger;
- Purple needlegrass grassland sensitive natural community;
- Protected oak trees and oak woodland; and
- Aquatic resources and riparian habitat that may be considered waters of the U.S. and/or State or regulated under CDFW Section 1600.

5.1 SPECIAL-STATUS PLANTS

The Study Area provides suitable habitat for Sanford's arrowhead within the perennial drainage and the proposed project may impact the perennial drainage to construct stormwater improvements. Botanical inventories of the Study Area, excluding the portion west of Clarksville Road, were conducted on April 24, May 26, and June 16, 2015. No special-status plants were documented to occur within the Study Area during these surveys. However, construction did not commence within two years of the 2015

botanical inventories, therefore additional botanical inventories are recommended to ensure that populations have not established in the intervening years, in accordance with CDFW's plant protocols.

To avoid potential impacts on special-status plant species with potential to occur in the Study Area, the following measures are recommended:

- Prior to implementation of project activities and during the blooming period for the special-status plant species with potential to occur on the project site, a qualified botanist shall conduct protocol-level surveys for special-status plants within the Study Area following survey methods from CDFW's *Protocols for Surveying and Evaluating Impacts on Special-Status Native Plant Populations and Natural Communities* (CDFW 2018 or most recent version). The qualified botanist shall: (1) be knowledgeable about plant taxonomy, (2) be familiar with plants of the Sierra Nevada region, including special-status plants and sensitive natural communities, (3) have experience conducting floristic botanical field surveys as described in CDFW 2018, (4) be familiar with the California Manual of Vegetation (Sawyer et al. 2009 or current version, including updated natural communities data at http://vegetation.cnps.org/), and (5) be familiar with federal and state statutes and regulations related to plants and plant collecting.

- If special-status plants are not found, the botanist shall document the findings in a report to the applicant and El Dorado County, and no further mitigation shall be required.

- If special-status plants are found during special-status plant surveys and cannot be avoided, the applicant shall, in consultation with CDFW or USFWS, as appropriate depending on species status, develop and implement a site-specific mitigation strategy to compensate for loss of occupied habitat or individuals. Mitigation measures may include preserving and enhancing existing populations, establishing populations through seed collection or transplantation from the site that is to be affected, and/or restoring or creating habitat in sufficient quantities to offset loss of occupied habitat or individuals. Potential mitigation sites could include suitable locations within or outside of the project site. Habitat and individual plants lost shall be mitigated at a minimum 1:1 ratio, considering acreage as well as function and value. Success criteria for preserved and compensatory populations shall include:

    - The extent of occupied area and plant density (number of plants per unit area) in compensatory populations shall be equal to or greater than the affected occupied habitat.

    - Compensatory and preserved populations shall be self-producing. Populations would be considered self-producing when:

        - plants reestablish annually for a minimum of five years with no human intervention such as supplemental seeding; and

        - reestablished and preserved habitats contain an occupied area and flower density comparable to existing occupied habitat areas in similar habitat types in the project vicinity.

If off-site mitigation includes dedication of conservation easements, purchase of mitigation credits, or other off-site conservation measures, the details of these measures shall be included in the mitigation plan, including information on responsible parties for long-term management, conservation easement

holders, long-term management requirements, success criteria such as those listed above and other details, as appropriate to target the preservation of long-term viable populations.

Documentation of the completion of the mitigation strategy and coordination/consultation process with CDFW or USFWS shall be provided to El Dorado County before commencement of any project construction activities.

5.2 SPECIAL-STATUS INVERTEBRATES

5.2.1 Crotch's Bumble Bee

Crotch's bumble bee has potential to occur in the annual grassland habitat within the Study Area. Implementation of the proposed project has the potential for adverse effects to this species.

The following measures are recommended to avoid or reduce potential impacts to Crotch's bumble bee.

- Initial ground-disturbing work (e.g., grading, vegetation removal, staging) shall take place between August 15 and March 15, if feasible, to avoid impacts on nesting Crotch's bumble bees.

- Regardless of the feasibility of the above limited operating period, a qualified biologist familiar with bumble bees of California and experienced using survey methods for bumble bees shall conduct a habitat assessment and focused survey for Crotch's bumble bee before the start of any ground-disturbing activities. Surveys shall be performed when Crotch's bumble bee is most likely to be identified, typically from April through August (i.e., the colony active period) when floral resources and ideal weather conditions are present, and shall follow the methods in Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species (CDFW 2023). Surveys shall be conducted during the colony active period closest to the start of planned construction activities. Survey results shall be submitted to the applicant and El Dorado County no less than seven days before construction begins.

- The applicant shall submit a survey report to CDFW within one month of survey completion and shall notify CDFW and El Dorado County within 24 hours if Crotch's bumble bees are detected.

- If Crotch's bumble bees are detected during the focused survey, appropriate avoidance measures shall be implemented. Avoidance measures shall include, but not be limited to, the following:

    - Protective buffers shall be implemented around active nesting colonies or overwintering queens until these sites are no longer active. A qualified biologist, in coordination with CDFW, shall determine the appropriate buffer size to protect nesting colonies or overwintering queens; however, the buffer shall be a minimum of 50 feet.

        - If impacts on Crotch's bumble bee cannot be avoided, the applicant shall obtain an incidental take permit (ITP) from CDFW and shall implement all avoidance measures included in the ITP.

- Documentation of compliance with this mitigation measure and any required coordination with CDFW or acquisition of an ITP shall be provided to El Dorado County before commencement of any project construction activities.

5.2.2 Monarch Butterfly

Narrow-leaf milkweed was observed in the Study Area that could provide larval habitat for Monarch butterfly during the summer breeding season (March 16 through October 31 [USFWS 2021]). As feasible, any construction activities within 25 feet of milkweed should occur outside of the summer breeding season (from approximately November 1 through March 15 [USFWS 2021]). This would reduce potential impacts on larval butterflies.

- If construction activities (e.g., ground disturbance, vegetation removal, staging) in the Study Area occur during the period when milkweed plants may host monarch eggs or caterpillars (approximately mid-March through late September) a qualified biologist shall survey the Study Area for milkweed plants. If milkweed plants are found, a qualified biologist shall inspect the milkweed plants for the presence of monarch eggs or caterpillars no more than 14 days before plant removal. If monarch eggs or caterpillars are detected, the milkweed plants shall be avoided until they are no longer being used by monarch caterpillars, as confirmed by a qualified biologist, if feasible. If no eggs or caterpillars are detected, no additional protection measures are necessary.

- Documentation of compliance with this mitigation measure shall be provided to El Dorado County before commencement of any project construction activities.

5.3 SPECIAL-STATUS AMPHIBIANS AND REPTILES

Northwestern pond turtle may utilize the perennial drainage and other aquatic features within the Study Area and may occur in upland areas in the annual grassland, valley oak woodland, and valley foothill riparian habitats. Western spadefoot may utilize the seasonal wetlands within the Study Area. USFWS may consult on the project's impacts on northwestern pond turtle during Section 7 consultation during the permitting process for impacts to waters of the U.S. Coast horned lizard may occur throughout the entire upland communities of the Study Area. To avoid potential impacts to these species, the following measures are recommended in addition to any measures required by the USFWS.

5.3.1 Coast Horned Lizard

- Within 14 days before the initiation of any construction activity, a qualified biologist familiar with the life history of coast horned lizard shall conduct a focused visual survey of habitat suitable for this species on the project site, which shall include walking linear transects of the site.

- If coast horned lizards are not detected during the focused survey, the qualified biologist shall submit a report summarizing the results of the survey to the applicant and El Dorado County, and further mitigation shall not be required.

- If coast horned lizards are detected, a qualified biologist with an appropriate CDFW Scientific Collecting Permit that allows handling of reptiles shall be present during initial ground

disturbance activities and shall inspect the project site before initiation of project activities. If coast horned lizards are detected, the qualified biologist shall move individuals into nearby suitable habitat that will not be disturbed by project activities.

- Documentation of compliance with this mitigation measure shall be provided to El Dorado County before commencement of any project construction activities.

5.3.2 Western Spadefoot

- Within 48 hours prior to project implementation, a qualified biologist shall conduct focused surveys in aquatic (i.e., wetlands) and upland (i.e., annual grassland) habitats within approximately 860 feet (262 meters) of aquatic habitat (Baumberger et al. 2019) suitable for the species. Burrows considered potentially suitable for western spadefoot shall be identified and further examined by a qualified biologist (e.g., with a burrow scope, through hand excavation) to determine whether adult western spadefoot is present in the burrow.

- If western spadefoot is not found, the qualified biologist shall submit a report summarizing the results of the survey to the applicant and El Dorado County, and further mitigation will not be required.

- If western spadefoot is detected during focused surveys, adults, tadpoles, and egg masses shall be relocated by a qualified biologist with a valid CDFW scientific collecting permit to nearby suitable habitat that will not be disturbed by project activities.

- Because western spadefoot is proposed for listing under FESA, if the species is listed before project construction activities begin that could result in injury to or mortality of western spadefoot toads (i.e., ground disturbance, grading, land conversion), then the project applicant may be required to consult with USFWS under Section 7 or Section 10 of FESA. USACE is presumed to be the federal action agency because it has jurisdiction over the aquatic habitat on the project site (see Impact 3.4-4). If it is determined, in consultation with USFWS, that take of this species could occur after implementation of the measures described above, then the project applicant may be required to obtain incidental take authorization through Section 7 consultation or a Section 10 permit pursuant to FESA. In this case, the project shall not proceed until a biological opinion is issued by USFWS.

    - Any conservation measures developed in coordination with USFWS during the course of formal or informal consultation under Section 7 or during Section 10 consultation would supersede the measures listed here.

    - Such conservation measures could include, but would not be limited to, seasonal work restrictions for initial ground disturbance, pre-construction surveys by a qualified biologist, installation of wildlife exclusion fencing, biological monitoring, and worker environmental awareness training. Additional measures could include preservation, restoration, or enhancement of habitat on- or off-site; purchase of habitat credits from an agency-approved mitigation/conservation bank; work with a local land trust to preserve land; or any other method acceptable to USFWS.

- If USFWS determines that listing of western spadefoot under FESA is not warranted, or the species is not listed prior to project completion, then the above measures related to consultation with USFWS would not be applicable. Documentation of compliance with this mitigation measure shall be provided to El Dorado County before commencement of any project construction activities.

5.3.3 Northwestern Pond Turtle

- Within 14 days prior to the initiation of any construction activities, a qualified biologist shall conduct pre-construction surveys for northwestern pond turtle in habitats for this species (i.e., the pond and suitable upland areas within 0.3 mile of the pond) that will be disturbed by construction activity.

- If northwestern pond turtles are found prior to the initiation of, or during, construction activities, a qualified biologist with an appropriate CDFW Scientific Collecting Permit that allows handling of reptiles shall relocate the turtle to a suitable habitat area outside of the project site.

- If a northwestern pond turtle nest is observed within the proposed impact area during the pre-construction survey, the nest shall be fenced off and avoided until the eggs hatch or the nest is no longer active as determined by a qualified biologist. The fenced area shall be open on one side with the opening facing the nearest aquatic habitat so that hatchling turtles can freely travel from the nest to the aquatic habitat. A qualified biologist shall monitor to ensure that hatchlings do not disperse into the construction area. If any hatchlings are observed within the project area, relocation of hatchlings shall occur as described in the encounter protocol below.

- If a northwestern pond turtle is encountered, work shall be suspended in a 100-foot radius of the animal until the animal leaves the project site on its own volition. If necessary, a qualified biologist shall notify CDFW to determine the appropriate procedures related to relocation. Any worker who inadvertently injures or kills a northwestern pond turtle or who finds a northwestern pond turtle dead, injured, or entrapped must immediately report the incident to the applicant, who must immediately notify CDFW.

- Because northwestern pond turtle is proposed for listing under FESA, if the species is listed before the completion of project construction activities that could result in injury to or mortality of turtles (i.e., ground disturbance, grading, land conversion), then the project applicant may be required to consult with USFWS under Section 7 or Section 10 of FESA. USACE is presumed to be the federal action agency because it has jurisdiction over the aquatic habitat on the project site (see Impact 3.4-4). If it is determined, in consultation with USFWS, that take of this species could occur after implementation of the measures described above, then the project applicant may be required to obtain incidental take authorization through Section 7 consultation or a Section 10 permit pursuant to FESA. In this case, the project shall not proceed until a Biological Opinion is issued by USFWS.

    - Any conservation measures developed in coordination with USFWS during the course of formal or informal consultation under Section 7 or during Section 10 consultation would supersede the measures listed here.

    - Such conservation measures could include, but would not be limited to, seasonal work restrictions for initial ground disturbance, pre-construction surveys by a qualified biologist,

installation of wildlife exclusion fencing, biological monitoring, and worker environmental awareness training. Additional measures could include preservation, restoration, or enhancement of habitat on- or off-site; purchase of habitat credits from an agency-approved mitigation/conservation bank; work with a local land trust to preserve land; or any other method acceptable to USFWS.

- If USFWS determines that listing of northwestern pond turtle under FESA is not warranted, or the species is not listed prior to project completion, then the above measures related to consultation with USFWS would not be applicable. CDFW may require mitigation for potential impacts on northwestern pond turtle as part of a streambed alteration agreement. If CDFW assigns mitigation that is more stringent than the measures proposed above, the CDFW measure shall take precedence.

- Documentation of compliance with this mitigation measure and the coordination/consultation process with CDFW and USFWS shall be provided to El Dorado County before commencement of any project construction activities.

5.4 SPECIAL-STATUS BIRDS AND NESTING MIGRATORY BIRDS AND RAPTORS

Special-status birds and migratory birds and raptors protected under federal, State, and/or local laws and policies have potential to nest and forage within the Study Area including Cooper's hawk, tricolored blackbird, grasshopper sparrow, burrowing owl, white-tailed kite, California black rail, and purple martin. The Study Area and adjacent land contain suitable habitat to support a variety of nesting birds within trees, shrubs, structures, and on bare ground.

5.4.1 Burrowing Owl

- A qualified biologist shall conduct a focused survey for burrowing owls in areas of habitat suitable for the species on and within 1,640 feet (500 meters) of the Study Area no less than 14 days before initiating ground disturbance activities using survey methods described in Appendix D of the CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012). Inaccessible areas (e.g., adjacent private property) will not be surveyed directly, but the biologist may use binoculars or a spotting scope to survey these areas.

- If no occupied burrows are found, the qualified biologist shall submit a report documenting the survey methods and results to the applicant and El Dorado County, and no further mitigation shall be required.

- If an active burrow is found within 1,640 feet of pending construction activities that would occur during the nonbreeding season (September 1 through January 31), the applicant shall establish and maintain a minimum protection buffer of 1,640 feet (500 meters) around the occupied burrow and any identified satellite burrows (i.e., non-nesting burrows that burrowing owls use to escape predators or move young into after hatching) to prevent take of the burrowing owls throughout construction. The protection buffer may be adjusted if, in consultation with CDFW, a qualified biologist determines that an alternative buffer would not disturb burrowing owl use of the burrow because of particular site features (e.g., topography, natural line-of-sight barriers), level of project disturbance, or other considerations. If the buffer is reduced, a

qualified biologist shall monitor the behavior of the burrowing owls during all project activities within 1,640 feet of the burrow. If the owls are disturbed or agitated (e.g., vocalizations, bill snaps, fluffing feathers to increase body size appearance, drooping wings and rotating them forward, crouching and weaving back and forth) by the project activities, the biologist shall have the authority to halt the activities and re-establish a buffer consistent with the first bullet until the agitated behavior ceases and normal behavior resumes.

- The buffer shall remain in place around the occupied burrow and associated satellite burrows until a qualified biologist has determined through noninvasive methods that the burrows are no longer occupied by burrowing owl. A previously occupied burrow will be considered unoccupied if surveys demonstrate that no owls have used the burrow for seven consecutive days.

- If implementation of a buffer to prevent take of burrowing owl is not feasible, the project applicant shall consult with CDFW and obtain an ITP prior to commencing project related ground-disturbing activities. The impacts of taking burrowing owl shall be minimized and fully mitigated.

- The project applicant shall compensate for the loss of burrowing owl by establishing permanent protection and perpetual management on land that provides burrowing owl habitat. Habitat management lands for burrowing owl may be established by conservation easement or fee title or credits may be purchased from a CDFW-approved conservation or mitigation bank. The compensatory mitigation shall satisfy permit conditions and all other permit conditions shall be implemented.

- Documentation of compliance with this mitigation measure and the coordination process with CDFW shall be provided to El Dorado County before commencement of any project construction activities.

5.4.2 Special-Status Birds and Other Nesting Birds

Active nests and nesting birds are protected by the California Fish and Game Code Sections 3503, 3503.5, and 3513 and the MBTA. Ground-disturbing and other development activities including grading, vegetation clearing, tree removal/trim, and construction could impact nesting birds if these activities occur during the nesting season (generally February 1 to August 31). To avoid impacts to nesting birds, all ground disturbing activity should be completed between September 1 and January 31, if feasible. If construction cannot occur outside of the nesting season, the following measures are recommended:

- To minimize the potential for loss of special-status bird species, raptors, and other native birds, project activities (e.g., tree removal, vegetation clearing, ground disturbance, staging) shall be conducted during the nonbreeding season (approximately September 1 through January 31, as determined by a qualified biologist), if feasible. If project activities are conducted during the nonbreeding season, no further mitigation shall be required.

- Within 14 days before the onset of project activities during the breeding season (approximately February 1 through August 31, as determined by a qualified biologist), a qualified biologist familiar with birds of California and with experience conducting nesting bird surveys shall conduct focused surveys for special-status birds, other nesting raptors, and other native birds. Surveys shall be conducted in accessible areas within 0.25 mile of the Study Area for Swainson's

hawk, within 500 feet of the Study Area for other raptor species and special-status birds, and within 50 feet of the Study Area for non-raptor common native bird nests.

- If no active nests are found, the qualified biologist shall submit a report documenting the survey methods and results to the applicant and El Dorado County, and no further mitigation shall be required.

- If active nests are found, impacts on nesting birds shall be avoided by establishing appropriate buffers around active nest sites identified during focused surveys to prevent disturbance to the nest. Project activity shall not commence within the buffer areas until a qualified biologist has determined that the young have fledged, the nest is no longer active, or reducing the buffer would not likely result in nest abandonment. Buffers typically shall be 0.25 mile for Swainson's hawk and 500 feet for other raptors. Buffer size for non-raptor bird species shall be determined by a qualified biologist. Factors to be considered for determining buffer size shall include presence of natural buffers provided by vegetation or topography, nest height above ground, baseline levels of noise and human activity, species sensitivity, and proposed project activities. Generally, buffer size for these species shall be at least 20 feet. The size of the buffer may be adjusted if a qualified biologist determines that such an adjustment shall not be likely to adversely affect the nest. Any buffer reduction for a special-status species shall require consultation with CDFW. Periodic monitoring of the nest by a qualified biologist during project activities shall be required if the activity has potential to adversely affect the nest, the buffer has been reduced, or if birds within active nests are showing behavioral signs of agitation (e.g., standing up from a brooding position, flying off the nest) during project activities, as determined by the qualified biologist.

- Documentation of compliance with this mitigation measure and any required coordination with CDFW shall be provided to El Dorado County before commencement of any project construction activities.

5.5 SPECIAL-STATUS MAMMALS

5.5.1 Pallid Bat

Pallid bat has potential to roost within trees in the Study Area. If trees are removed as part of the proposed project, bat roosts and maternity roosts may be impacted. The following measures are recommended to avoid potential impacts to pallid bat and other bat species:

- Prior to the start of project activities, a qualified biologist familiar with bats and bat ecology, and experienced in conducting bat surveys, shall conduct surveys for bat roosts in suitable habitat (e.g., large trees, crevices, cavities, exfoliating bark, foliage) within and adjacent to the project site.

- If no evidence of bat roosts is found, the qualified biologist shall submit a report summarizing the results of the survey to the applicant and El Dorado County, and no further study shall be required.

- If evidence of bat maternity roosts or hibernacula is observed, the species and number of bats using the roost shall be determined by a qualified biologist using noninvasive methods. Bat detectors (i.e.,

acoustic monitoring) or evening emergence surveys shall be used if deemed necessary to supplement survey efforts by the qualified biologist.

- A no-disturbance buffer of 250 feet shall be established around active pallid bat maternity roosts or hibernacula, as well as substantial maternity roosts or hibernacula of other bat species considered to be a wildlife nursery by the qualified biologist, and project activities shall not occur within this buffer until after the roosts are unoccupied as determined by a qualified biologist.

- If roosts of pallid bat are determined to be present and must be removed, the bats shall be excluded from the roosting site before the tree is removed. A program addressing compensation, exclusion methods, and roost removal procedures shall be developed in consultation with CDFW before implementation. Exclusion methods may include use of one-way doors at roost entrances (bats may leave but not reenter) or sealing roost entrances when the site can be confirmed to contain no bats. Exclusion efforts may be restricted during periods of sensitive activity (e.g., during hibernation or while females in maternity colonies are nursing young). The loss of each roost (if any) shall be replaced in consultation with CDFW and may require construction and installation of bat boxes suitable to the bat species and colony size excluded from the original roosting site. If determined necessary during consultation with CDFW, replacement roosts shall be implemented before bats are excluded from the original roost sites. Once the replacement roosts are constructed and it is confirmed that bats are not present in the original roost site by a qualified biologist, the roost tree may be removed.

- Documentation of compliance with this mitigation measure shall be provided to El Dorado County before commencement of any project construction activities.

5.5.2 American Badger

The annual grassland provides habitat for American badger. The following measures are recommended to avoid potential impacts to American badger:

- Within 14 days before commencement of project activities, a qualified wildlife biologist familiar with American badger and experience using survey methods for the species shall conduct focused surveys of habitat suitable for the species within the project site to identify any American badger dens.

- If occupied dens are not found, the qualified biologist shall submit a report summarizing the results of the survey to the applicant and El Dorado County, and further mitigation shall not be required.

- If occupied dens are found, impacts on active badger dens shall be avoided by establishing exclusion zones around all active badger dens, the size of which shall be determined by the qualified biologist such that the active badger den is not disturbed by project activities. No project activities (e.g., vegetation removal, ground disturbance, staging) shall occur within the exclusion zone until denning activities are complete or the den is abandoned, as confirmed by a qualified biologist. The qualified biologist shall monitor each den once per week to track the status of the den and to determine when it is no longer occupied. When it is no longer occupied, project activities within the exclusion zone may occur.

- If occupied dens cannot be avoided during construction, passive exclusion such as installing one-way doors on the occupied den(s) may be considered. Passive relocation shall only occur outside of the cub rearing season (generally March 1 to July 31, passive relocation could occur August 1 to February 28) to avoid impacts to cubs still dependent on the den. CDFW shall be consulted prior to performing passive relocation and an exclusion plan shall be prepared and approved by CDFW. The project proponent shall work with a qualified biologist during the CDFW consultation process, if necessary, and passive relocation shall be performed by a qualified biologist.

- Documentation of compliance with this mitigation measure shall be provided to El Dorado County before commencement of any project construction activities.

5.6 PURPLE NEEDLEGRASS GRASSLAND

The proposed project would result in the removal of purple needlegrass grassland. The following measures are recommended to compensate for loss of the purple needlegrass grassland sensitive natural community:

- The applicant shall compensate for unavoidable loss of purple needlegrass grassland such that no net loss of habitat function occurs by:

    - restoring degraded purple needlegrass grassland outside of the project site at a sufficient ratio to offset the loss of habitat function (at least 1:1); or

    - preserving existing purple needlegrass grassland of equal or better value to the sensitive natural community affected through a conservation easement at a sufficient ratio to offset the loss of habitat function (at least 1:1).

- Prepare and implement a Compensatory Mitigation Plan that includes the following:

    - For preserving existing habitat outside of the project site in perpetuity, the Compensatory Mitigation Plan shall include a summary of the proposed compensation lands (e.g., the number and type of credits, location of mitigation bank or easement), parties responsible for the long-term management of the land, and the legal and funding mechanism for long-term conservation (e.g., holder of conservation easement or fee title). The applicant shall provide evidence in the plan that the necessary mitigation has been implemented or that the applicant has entered into a legal agreement to implement it and that compensatory habitat shall be preserved in perpetuity.

    - For restoring or enhancing habitat outside of the project site, the Compensatory Mitigation Plan shall include a description of the proposed habitat improvements, success criteria that demonstrate the performance standard of maintained habitat function has been met, legal and funding mechanisms, and parties responsible for long-term management and monitoring of the restored or enhanced habitat.

    - Success criteria required to maintain habitat function for preserved and compensatory populations shall include:

- The extent of occupied area and density of plants associated with the sensitive natural community (number of plants per unit area) in compensatory habitats shall be equal to or greater than the affected occupied habitat.

- Compensatory and preserved sensitive natural communities shall be self-producing. Populations would be considered self-producing when:

  - Plants associated with sensitive natural communities reestablish annually for a minimum of five years with no human intervention such as supplemental seeding; and

  - Reestablished and preserved habitats contain an occupied area and density comparable to existing occupied habitat areas in similar habitat types in the project vicinity.

5.7 OAK TREES AND OAK WOODLAND

If impacts to oak trees or oak woodland canopy are anticipated as part of the proposed project, the appropriate tree removal permit shall be obtained and all measures included in the ORMP as outlined in Section 2.5.2 shall be followed. The Oak Resources Technical Report (HELIX 2025b) for the proposed project provides oak resource preservation recommendations and describes mitigation requirements.

5.8 AQUATIC RESOURCES AND RIPARIAN HABITAT

Approximately 0.19 acre of seasonal wetland, 0.01 acre of seep, 0.01 acre of wetland swale, 0.23 acre of ephemeral drainage, 0.36 acre of intermittent drainage, 0.22 acre of perennial drainage, and 1.45 acres of valley foothill riparian habitat were mapped within the Study Area. If impacts to these habitats are anticipated, the following measures are recommended.

5.8.1 Aquatic Resources

- The 2025 aquatic resources delineation report shall be submitted by the applicant to USACE, with a request for preliminary jurisdictional determination.

- Authorization for fill or waters of the United States shall be secured from USACE and the RWQCB through the Clean Water Act Sections 401 and 404 permitting processes. In association with the Section 404 and prior to the issuance of any grading permit, Section 401 Water Quality Certification from the Central Valley RWQCB shall be obtained. For impacts on waters of the state that are not also waters of the United States and are therefore not covered by the 401 Water Quality Certification, the applicant shall apply to the RWQCB for Waste Discharge Requirements following the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (State Water Resources Control Board 2021). Any waters of the United States or waters of the state that are affected by the project shall be replaced on a no-net-loss basis in accordance with the applicable USACE and California Water Board mitigation standards in place at the time of construction.

- Prior to commencing activity that may divert the natural flow or otherwise alter the bed or bank, of any lake or stream on the project site, the applicant shall notify CDFW, through

issuance of a Lake and Streambed Alteration Notification (notification). If CDFW determines, based on the notification, project activities trigger the need for a Lake and Streambed Alteration Agreement, the proponent shall obtain an agreement from CDFW before the activity commences. The applicant shall conduct project construction activities in accordance with the agreement, including implementing reasonable measures in the agreement necessary to protect fish and wildlife resources, when working within the bed or bank of waterways or in riparian habitats associated with those waterways. These measures may include but not be limited to demarcation of the construction area, biological monitoring, environmental awareness training for construction crews, and compensatory measures (e.g., restoration, long-term habitat management).

- Documentation of compliance with this mitigation measure and receipt of a Lake and Streambed Alteration Agreement from CDFW, as well as wetland permitting from USACE, shall be provided to El Dorado County before commencement of any project construction activities.

5.8.2 Riparian Habitat

- A Streambed Alteration Notification shall be submitted to CDFW, pursuant to Section 1602 of the California Fish and Game Code. If proposed project activities are determined to be subject to CDFW jurisdiction, the applicant shall abide by the measures to protect fish and wildlife resources required by any executed agreement prior to any vegetation removal or activity that may affect the resource. Measures to protect fish and wildlife resources shall include, at a minimum, a combination of the following mitigation.

- The applicant shall compensate for the loss of riparian habitat such that no net loss of habitat function and values occurs by:

    - restoring degraded riparian habitat outside of the project site;

    - purchasing riparian habitat credits at a CDFW-approved mitigation bank;

    - or preserving existing riparian habitat of equal or better value to the affected riparian habitat through a conservation easement at a sufficient ratio to offset the loss of riparian habitat function (at least 1:1).

- The applicant shall prepare and implement a Compensatory Mitigation Plan that includes the following:

    - For preserving existing riparian habitat outside of the project site in perpetuity, the Compensatory Mitigation Plan shall include a summary of the proposed compensation lands (e.g., the number and type of credits, location of mitigation bank or easement), parties responsible for the long-term management of the land, and the legal and funding mechanism for long-term conservation (e.g., holder of conservation easement or fee title). The applicant shall provide evidence in the plan that the necessary mitigation has been implemented or that the applicant has entered into a legal agreement to implement it and that compensatory habitat shall be preserved in perpetuity.

    - For restoring or enhancing riparian habitat outside of the project site, the Compensatory Mitigation Plan shall include a description of the proposed habitat improvements, success

criteria that demonstrate the performance standard of maintained habitat function has been met, legal and funding mechanisms, and parties responsible for long-term management and monitoring of the restored or enhanced habitat.

- Compensatory mitigation may be satisfied through compliance with permit conditions, or other authorizations obtained by the applicant (e.g., Lake and Streambed Alteration Agreement), if these requirements are equally or more effective than the mitigation identified above.

- Documentation of compliance with this mitigation measure and receipt of a Lake and Streambed Alteration Agreement from CDFW (or a letter from CDFW stating that such an Agreement is not required) shall be provided to El Dorado County before commencement of any project construction activities.

5.9 SUMMARY OF AVOIDANCE AND MINIMIZATION MEASURES

- Install wildlife exclusion fencing around the project area perimeter before construction.

- Conduct a special-status plant survey(s) between May and October to determine the presence or absence of special-status plants in the Study Area.

- Conduct a pre-construction survey for monarch butterfly within 14 days of the start of construction, if construction activities occur during the breeding season (approximately March 16 through October 31) and directly or indirectly impact milkweed.

- Conduct a habitat assessment and focused survey for Crotch's bumble bee during the colony active period (April through August).

- Conduct a pre-construction survey for western spadefoot within 48 hours of the start of construction and northwestern pond turtle and coast horned lizard within 14 hours of the start of construction. USFWS may consult on project-related effects on western spadefoot and northwestern pond turtle during the Section 7 consultation process for impacts to waters of the U.S.

- Conduct a pre-construction survey for burrowing owl and nesting birds within 14 days of the start of construction if work begins between February 1 and August 31.

- Conduct a pre-construction survey for roosting bats prior to the start of construction.

- Conduct a pre-construction survey for American badger within 14 days of the start of construction.

- Conduct an environmental awareness training for all project-related personnel before the initiation of work.

- Mitigate for the removal of purple needlegrass grassland at a 1:1 ratio and prepare a mitigation and monitoring plan.

- Obtain an applicable tree permit if oak trees or oak woodland are planned to be removed or impacted as part of the proposed project.

- If impacts to aquatic resources or riparian habitat are anticipated, submit the aquatic resources delineation report to USACE for verification, and obtain all applicable permits for fill/impact of aquatic resources and/or riparian habitat.

6.0 REFERENCES

Baumberger, K.L., M.V. Eitzel, M.E. Kirby, and M.H. Horn. 2019. "Movement and Habitat Selection of the Western Spadefoot (*Spea hammondii*) in Southern California." *PLoS ONE* 14: e0222532.

Bechard, Marc J., C. Stuart Houston, Jose H. Sarasola, and A. Sidney England. 2010. Swainson's Hawk (Buteo swainsoni). The Birds of North America (P.G. Rodewald, editor). Cornell Lab of Ornithology. Ithaca, New York. Available at: https://birdsna.org/Species-Account/bna/species/swahaw/introduction.

Bloom, P., and D. Van De Water. 1994. Swainson's Hawk in Life on the Edge: A Guide to California's Endangered Natural Resources: Wildlife. BioSystems Books, Santa Cruz, California.

Bolster, B.C., editor. 1998. Terrestrial Mammal Species of Special Concern in California. Draft Final Report prepared by P.V. Brylski, P.W. Collins, E.D. Pierson, W.E. Rainey and T.E. Kucera. Report submitted to California Department of Fish and Game Wildlife Management Division, Nongame Bird and Mammal Conservation Program for Contract No. FG3146WM.

California Department of Fish and Wildlife (CDFW). 2025. *California Natural Diversity Database* (CNDDB). For *Clarksville, Rocklin, Pilot Hill, Coloma, Shingle Springs, Latrobe, Folsom SE, Buffalo Creek,* and *Folsom* USGS 7.5-minute series quadrangles, Sacramento, CA. [Accessed January 2, 2025].

2023. Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species. California Department of Fish and Wildlife. Sacramento, CA.

2019. Report to the Fish and Game Commission: Evaluation of the Petition from the Xerces Society, Defenders of Wildlife and the Center for Food Safety to List Four Species of Bumble Bees as Endangered Under the California Endangered Species Act. April 2019. Special California Department of Fish and Wildlife, Sacramento, California, USA.

2018. *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities*. Available: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline. Accessed March 6, 2025.

2012. Staff Report on Burrowing Owl Mitigation. State of California Natural Resources Agency Department of Fish and Game. March 7, 2012.

California Native Plant Society (CNPS). 2025. Inventory of Rare and Endangered Plants (online edition, v8-03 0.39) For: *Clarksville, Rocklin, Pilot Hill, Coloma, Shingle Springs, Latrobe, Folsom SE, Buffalo Creek, and Folsom USGS 7.5-minute series quadrangles, Sacramento, CA*. [Accessed January 2, 2025].

eBird. 2025. Explore Species or Explore Regions. Available online at: https://ebird.org/explore.

El Dorado County. 2018. *County of El Dorado Adopted General Plan*. Available at: https://www.edcgov.us/Government/planning/Pages/adopted_general_plan.aspx.

2017. *El Dorado County Oak Resources Management Plan*. Available at: https://www.edcgov.us/Government/longrangeplanning/environmental/Documents/Reso-129-2017-Exhibit-A-ORMP-10-24-2017.pdf. Dated September 2017. 208 pages.

Foothill Associates. 2016a. *Results of the Protocol-Level Special-Status Plant Surveys Letter Report for the El Dorado Hills 52 Project, El Dorado County, California*. February 25, 2016.

2016b. *Results of the Protocol-Level Burrowing Owl Surveys Letter Report for the El Dorado Hills 52 Project, El Dorado County, California*. February 22, 2016.

2016c. *California Red-Legged Frog (Rana draytonii) Protocol-Level Survey Report for the 32-Acre El Dorado Hills 52 Project, El Dorado County, California*. August 30, 2016.

Gervais, J.A., D.K. Rosenberg, and R.G. Anthony. 2003. Space use and pesticide exposure risk of male Burrowing Owls in an agricultural landscape. J. Wildl. Mgmt. 67:156–165.

HELIX Environmental Planning Inc. (HELIX). 2025a. *Costco El Dorado Hills Project Aquatic Resources Delineation Report*. Dated February 2025.

2025b. *Costco El Dorado Hills Oak Resources Technical Report*. Dated February 2025.

Helm, B.P. and J.E. Vollmar. 2002. Chapter 4: Vernal Pool Large Branchiopods. In J.E. Vollmar, ed. Wildlife and Rare Plant Ecology of Eastern Merced County's Vernal Pool Grasslands. Vollmar Consulting, Berkeley, California.

Jennings, M.R. and M.P. Hayes. 1994. Amphibian and Reptile Species of Special Concern in California. Final Report submitted to the California Department of Fish and [Wildlife], Inland Fisheries Division.

Koch, J., J. Strange, and P. Williams. 2012. Bumble bees of the Western United States. USDA-Forest Service, Pollinator Partnership. Washington, DC. 144 pp.

Mayer, K.E. and W.F. Laudenslayer. 1988. A Guide to Wildlife Habitats of California. State of California, Resources Agency, Department of Fish and Game, Sacramento, CA. 166 pp.

Nial K.R., L. Drizd, and K.J. Voorhies. 2019. Butterflies Across the Globe: A Synthesis of the Current Status and Characteristics of Monarch (Danaus plexippus) Populations Worldwide. Front. Ecol. Evol. 7:362. Doi: 10.3389/fevo.2019.00362.

Richmond, O.W., S.K. Chen, B.B. Risk, J. Tecklin, and S.R. Beissinger. 2010. California Black Rails Depend on Irrigation-fed Wetlands in the Sierra Nevada Foothills. California Agriculture: Volume 2, Number 2.

Sawyer, J.O., T. Keeler-Wolf, and J. M. Evens. 2009. *A Manual of California Vegetation*. Second edition. California Native Plant Society Press, Sacramento, California, USA.

Science Applications International Corporation (SAIC). 2012. *Preliminary Public Draft Report for the Butte Regional Habitat Conservation Plan/Natural Community Conservation Plan*. Appendix A: Covered Species Accounts. Prepared for: Butte County Association of Governments, Chico, California. November 30, 2012.

Shuford, W.D., and T. Gardali, editors. 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento, CA.

Spautz, Hildie, Nadav Nur, and Diana Stralberg. 2005. California Black Rail (*Laterallus jamaicensis coturniculus*) Distribution and Abundance in Relation to Habitat and Landscape Features in the San Francisco Bay Estuary. In: Ralph, C. John and Terrell D. Rich, editors. 2005. Bird Conservation Implementation and Integration in the Americas: Proceedings of the Third International Partners in Flight Conference. 2002 March 20-24; Asilomar, California, Volume 1 Gen. Tech. Rep. PSW-GTR-191. Albany, CA: U.S. Dept. of Agriculture, Forest Service, Pacific Southwest Research Station: p. 465-468.

State Water Resources Control Board (SWRCB). 2021. *State Policy for Water Quality Control: State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*. Available at: https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/2021/procedures.pdf.

2019. *State Policy for Water Quality Control: State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State.* Available at: https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/2021/procedures.pdf.

Supreme Court of the United States. 2023. *Sacket et ux. v. Environmental Protection Agency et al.* Available at https://www.supremecourt.gov/opinions/22pdf/21-454_4g15.pdf.

Thomson, R.C., Wright, A.N., and H.B. Shaffer. 2016. California Amphibian and Reptile Species of Special Concern. Oakland, California: University of California Press.

U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS). 2025a. Web Soil Survey: Area of Interest (AOI). Available at: http://websoilsurvey.sc.egov.usda.gov.

2025b. AgACIS. Available at: https://agacis.rcc-acis.org/

U.S. Fish and Wildlife Service (USFWS). 2025a. Information for Planning and Consultation (IPaC) Trust Resource Report: Costco El Dorado Hills Project. [Accessed January 2, 2025].

2025b. National Wetlands Inventory. Available online at: https://www.fws.gov/program/national-wetlands-inventory. [Accessed January 2, 2025].

2023. Species Status Assessment Report for the Western Spadefoot (*Spea hammondii*), Version 1.1. May 2023. U.S. Fish and Wildlife Service, Sacramento Fish and Wildlife Office, Sacramento, California.

U.S. Fish and Wildlife Service (USFWS) (cont.).
2021. Western Monarch Butterfly Conservation Recommendations. October 15, 2021. Accessed January 15, 2025: https://xerces.org/sites/default/files/publications/21-015_02_USFWSWesternMonarchSec7ConsRecs_10.15.2021.pdf.

2020. Monarch (*Danaus plexippus*) Species Status Assessment Report. V2.1 96 pp + appendices.

2017a. Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*). U.S. Fish and Wildlife Service; Sacramento, California. 28 pp.

2017b. Species Information, California Red-Legged Frog. Available online at: https://www.fws.gov/species/california-red-legged-frog-rana-draytonii.

2014. 50 CFR Part 17 RIN–1018–AV29 Endangered and Threatened Wildlife and Plants; Withdrawal of the Proposed Rule to Remove the Valley Elderberry Longhorn Beetle from the Federal List of Endangered and Threatened Wildlife. Federal Register Vol. 79, No. 180. September 17.

2005. Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog. August 2005. Available online at: https://www.fws.gov/media/revised-guidance-site-assessments-and-field-surveys-california-red-legged-frog.

1999. Conservation Guidelines for the Valley Elderberry Longhorn Beetle: Sacramento, California.

U.S. Geological Survey (USGS). 2025. *Clarksville, California*. 7.5 -minute series topographic quadrangle. U.S. Department of the Interior.

Woodbridge, B. 1998. Swainson's Hawk (*Buteo swainsoni*). The Riparian Bird Conservation Plan: A Strategy for Reversing the Decline of Riparian-associated Birds in California. California Partners in Flight. Available at: http://www.elkhornsloughctp.org/uploads/files/1381276129Riparain%20Joint%20Venture%202004%20Riparian_Bird_Conservation_Plan.pdf.

Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP). 2018. Appendix A, Covered Species Accounts. Available at: https://www.yolohabitatconservancy.org/_files/ugd/8f41bd_fe2dbace4f6941ea985e64df9ce9bd72.pdf.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1988-1990. *California's Wildlife: California Wildlife Habitat Relationships*. Volumes I-III. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Game. Available online at: https://wildlife.ca.gov/Data/CWHR.

Appendix A

CNDDB, CNPS, and USFWS Lists of Regionally Occurring Special-Status Species

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Latrobe (3812058) OR Shingle Springs (3812068) OR Coloma (3812078) OR Folsom SE (3812151) OR Folsom (3812162) OR Clarksville (3812161) OR Pilot Hill (3812171) OR Rocklin (3812172) OR Buffalo Creek (3812152))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Accipiter cooperii Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
Actinemys marmorata northwestern pond turtle	ARAAD02031	Proposed Threatened	None	G2	SNR	SSC
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S2	SSC
Allium jepsonii Jepson's onion	PMLIL022V0	None	None	G2	S2	1B.2
Ammodramus savannarum grasshopper sparrow	ABPBXA0020	None	None	G5	S3	SSC
Andrena blennospermatis Blennosperma vernal pool andrenid bee	IIHYM35030	None	None	G2	S1	
Antrozous pallidus pallid bat	AMACC10010	None	None	G4	S3	SSC
Aquila chrysaetos golden eagle	ABNKC22010	None	None	G5	S3	FP
Ardea alba great egret	ABNGA04040	None	None	G5	S4	
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Athene cunicularia burrowing owl	ABNSB10010	None	Candidate Endangered	G4	S2	SSC
Balsamorhiza macrolepis big-scale balsamroot	PDAST11061	None	None	G2	S2	1B.2
Banksula californica Alabaster Cave harvestman	ILARA14020	None	None	GH	SH	
Bombus crotchii Crotch's bumble bee	IIHYM24480	None	Candidate Endangered	G2	S2	
Bombus occidentalis western bumble bee	IIHYM24252	None	Candidate Endangered	G3	S1	
Bombus pensylvanicus American bumble bee	IIHYM24260	None	None	G3G4	S2	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Branchinecta mesovallensis midvalley fairy shrimp	ICBRA03150	None	None	G2	S2S3	
Buteo regalis ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S4	
Calycadenia spicata spicate calycadenia	PDAST1P090	None	None	G3?	S3	1B.3
Calystegia stebbinsii Stebbins' morning-glory	PDCON040H0	Endangered	Endangered	G1	S1	1B.1
Carex xerophila chaparral sedge	PMCYP03M60	None	None	G2	S2	1B.2
Ceanothus roderickii Pine Hill ceanothus	PDRHA04190	Endangered	Rare	G1	S1	1B.1
Central Valley Drainage Hardhead/Squawfish Stream Central Valley Drainage Hardhead/Squawfish Stream	CARA2443CA	None	None	GNR	SNR	
Chlorogalum grandiflorum Red Hills soaproot	PMLIL0G020	None	None	G3	S3	1B.2
Clarkia biloba ssp. brandegeeae Brandegee's clarkia	PDONA05053	None	None	G4G5T4	S4	4.2
Cosumnoperla hypocrena Cosumnes stripetail	IIPLE23020	None	None	G2	S2	
Crocanthemum suffrutescens Bisbee Peak rush-rose	PDCIS020F0	None	None	G2?Q	S2?	3.2
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T3	S3	
Downingia pusilla dwarf downingia	PDCAM060C0	None	None	GU	S2	2B.2
Dumontia oregonensis hairy water flea	ICBRA23010	None	None	G1G3	S1	
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Erethizon dorsatum North American porcupine	AMAFJ01010	None	None	G5	S3	
Eryngium pinnatisectum Tuolumne button-celery	PDAPI0Z0P0	None	None	G2	S2	1B.2
Falco columbarius merlin	ABNKD06030	None	None	G5	S3S4	WL
Fremontodendron decumbens Pine Hill flannelbush	PDSTE03030	Endangered	Rare	G1	S1	1B.2
Galium californicum ssp. sierrae El Dorado bedstraw	PDRUB0N0E7	Endangered	Rare	G5T1	S1	1B.2
Gratiola heterosepala Boggs Lake hedge-hyssop	PDSCR0R060	None	Endangered	G2	S2	1B.2
Haliaeetus leucocephalus bald eagle	ABNKC10010	Delisted	Endangered	G5	S3	FP

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Hydrochara rickseckeri Ricksecker's water scavenger beetle	IICOL5V010	None	None	G2?	S2?	
Juncus leiospermus var. ahartii Ahart's dwarf rush	PMJUN011L1	None	None	G2T1	S1	1B.2
Lasionycteris noctivagans silver-haired bat	AMACC02010	None	None	G3G4	S3S4	
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G3T1	S2	FP
Legenere limosa legenere	PDCAM0C010	None	None	G2	S2	1B.1
Lepidurus packardi vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G3	S3	
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Nannopterum auritum double-crested cormorant	ABNFD01020	None	None	G5	S4	WL
Navarretia myersii ssp. myersii pincushion navarretia	PDPLM0C0X1	None	None	G2T2	S2	1B.1
Northern Hardpan Vernal Pool Northern Hardpan Vernal Pool	CTT44110CA	None	None	G3	S3.1	
Northern Volcanic Mud Flow Vernal Pool Northern Volcanic Mud Flow Vernal Pool	CTT44132CA	None	None	G1	S1.1	
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	SSC
Orcuttia tenuis slender Orcutt grass	PMPOA4G050	Threatened	Endangered	G2	S2	1B.1
Orcuttia viscida Sacramento Orcutt grass	PMPOA4G070	Endangered	Endangered	G1	S1	1B.1
Packera layneae Layne's ragwort	PDAST8H1V0	Threatened	Rare	G2	S2	1B.2
Pandion haliaetus osprey	ABNKC01010	None	None	G5	S4	WL
Pekania pennanti Fisher	AMAJF01020	None	None	G5	S2S3	SSC
Phrynosoma blainvillii coast horned lizard	ARACF12100	None	None	G4	S4	SSC
Progne subis purple martin	ABPAU01010	None	None	G5	S3	SSC
Rana boylii pop. 5 foothill yellow-legged frog - south Sierra DPS	AAABH01055	Endangered	Endangered	G3T2	S2	
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S3	
Sagittaria sanfordii Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
Spea hammondii western spadefoot	AAABF02020	Proposed Threatened	None	G2G3	S3S4	SSC
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Thamnophis gigas giant gartersnake	ARADB36150	Threatened	Threatened	G2	S2	
Valley Needlegrass Grassland Valley Needlegrass Grassland	CTT42110CA	None	None	G3	S3.1	
Wyethia reticulata El Dorado County mule ears	PDAST9X0D0	None	None	G2	S2	1B.2

Record Count: 68

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To: 01/02/2025 16:58:33 UTC
Project Code: 2025-0037289
Project Name: Costco El Dorado Hills

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

PROJECT SUMMARY

Project Code: 2025-0037289
Project Name: Costco El Dorado Hills
Project Type: Commercial Development
Project Description: Costco warehouse and gas station
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.66049985,-121.05649905837478,14z



Counties: El Dorado County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 13 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

REPTILES

NAME	STATUS
Northwestern Pond Turtle *Actinemys marmorata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1111	Proposed Threatened

AMPHIBIANS

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
Foothill Yellow-legged Frog *Rana boylii* Population: South Sierra Distinct Population Segment (South Sierra DPS) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5133	Endangered
Western Spadefoot *Spea hammondii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5425	Proposed Threatened

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

CRUSTACEANS

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

FLOWERING PLANTS

NAME	STATUS
El Dorado Bedstraw *Galium californicum ssp. sierrae* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5209	Endangered
Layne's Butterweed *Senecio layneae* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4062	Threatened
Pine Hill Ceanothus *Ceanothus roderickii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3293	Endangered
Pine Hill Flannelbush *Fremontodendron californicum ssp. decumbens* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4818	Endangered
Stebbins' Morning-glory *Calystegia stebbinsii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3991	Endangered

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: HELIX Environmental Planning, Inc.
Name: Nicole German
Address: 1677 Eureka Road, Suite 100
City: Roseville
State: CA
Zip: 95661
Email nicolet@helixepi.com
Phone: 9164351202

CALIFORNIA NATIVE PLANT SOCIETY

CNPS Rare Plant Inventory

Search Results

7 matches found. Click on scientific name for details

Search Criteria: , CRPR is one of [1A:1B:2A:2B:3:4] , Fed List is one of [FE:FT:FC] and State List is one of [CE:CT:CR:CC] , 9-Quad include [3812058:3812068:3812078:3812151:3812162:3812161:3812171:3812172:3812152]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	CA ENDEMIC	DATE ADDED	PHOTO
Calystegia stebbinsii	Stebbins' morning-glory	Convolvulaceae	perennial rhizomatous herb	Apr-Jul	FE	CE	G1	S1	1B.1	Yes	1980-01-01	No Photo Available
Ceanothus roderickii	Pine Hill ceanothus	Rhamnaceae	perennial evergreen shrub	Apr-Jun	FE	CR	G1	S1	1B.1	Yes	1974-01-01	No Photo Available
Fremontodendron decumbens	Pine Hill flannelbush	Malvaceae	perennial evergreen shrub	Apr-Jul	FE	CR	G1	S1	1B.2	Yes	1974-01-01	No Photo Available
Galium californicum ssp. *sierrae*	El Dorado bedstraw	Rubiaceae	perennial herb	May-Jun	FE	CR	G5T1	S1	1B.2	Yes	1974-01-01	 © 2019 John Doyen
Orcuttia tenuis	slender Orcutt grass	Poaceae	annual herb	May-Sep(Oct)	FT	CE	G2	S2	1B.1	Yes	1974-01-01	 © 2013 Justy Leppert

Orcuttia viscida	Sacramento Orcutt grass	Poaceae	annual herb	Apr-Jul(Sep)	FE	CE	G1	S1	1B.1	Yes	1974-01-01



© Rick York and CNPS

Packera layneae	Layne's ragwort	Asteraceae	perennial herb	Apr-Aug	FT	CR	G2	S2	1B.2	Yes	1974-01-01

No Photo Available

Showing 1 to 7 of 7 entries

Go to top

Suggested Citation:
California Native Plant Society, Rare Plant Program. 2025. Rare Plant Inventory (online edition, v9.5.1). Website https://www.rareplants.cnps.org [accessed 2 January 2025].
}

Appendix B

Potential for Special-Status Species in the Region to Occur in the Study Area

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur[3]
Plants			
Allium jepsonii Jepson's onion	1B.2	A perennial bulbiferous herb found on serpentine or volcanic soils in chaparral, lower montane coniferous forest, and cismontane woodlands from 984 – 4,331 feet elevation. This species blooms from April – August (CNPS 2025).	**No Potential.** Serpentine or volcanic soils do not occur in the Study Area and the Study Area is below the known elevational range of this species. There are no documented occurrences of this species within five miles of the Study Area (CDFW 2025).
Balsamorhiza macrolepis Big-scale balsamroot	1B.2	A perennial herb found on serpentine soils within chaparral, cismontane woodland, and valley and foothill grassland habitats from 295 – 5,085 feet elevation. This species blooms from March – June (CNPS 2025).	**No Potential**. Serpentine soils do not occur in the Study Area. In addition, this species was not observed during focused botanical surveys in 2015 (Foothill Associates 2016a) or biological surveys in 2020 or 2025. There are no documented occurrences of this species within five miles of the Study Area (CDFW 2025).
Calycadenia spicata Spicate calycadenia	1B.3	An annual herb found in valley and foothill grasslands and cismontane woodlands. Occurs on dry, adobe or clay soils that are gravelly or rocky; often in disturbed areas, openings, and roadsides from 131 – 4,593 feet elevation. This species blooms from May – September (CNPS 2025).	**No Potential.** Adobe or clay soils do not occur in the Study Area. One historical documented occurrence from 1910 within five miles of the Study Area (CDFW 2025).
Calystegia stebbinsii Stebbins' morning-glory	FE, SE, 1B.1	A perennial rhizomatous herb found on gabbro or serpentine soils in chaparral and cismontane woodlands from 607 – 3,576 feet elevation. This species blooms from April – July (CNPS 2025).	**No Potential.** Gabbro or serpentine soils do not occur in the Study Area. Two documented occurrences within five miles of the Study Area (CDFW 2025).
Carex xerophila Chaparral sedge	1B.2	A perennial herb found on serpentine and gabbro soils in chaparral, cismontane woodland, and lower montane coniferous forest habitats from 1,445 – 2,525 feet elevation. This species blooms from March – June (CNPS 2025).	**No Potential.** Serpentine or gabbro soils do not occur in the Study Area and the Study Area is just below the known elevational range of this species. There are three documented occurrences within five miles of the Study Area (CDFW 2025).

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur[3]
Ceanothus roderickii Pine Hill ceanothus	FE, SR, 1B.1	A perennial evergreen shrub found on serpentine or gabbro soils in cismontane woodland and chaparral habitats from 804 – 3,576 feet elevation. This species blooms from April – June (CNPS 2025).	**No Potential.** Serpentine or gabbro soils do not occur in the Study Area and the Study Area is just below the known elevational range of this species. Additionally, this species would have been identifiable during the survey if it were present since it is an evergreen shrub. There are four documented occurrences within five miles of the Study Area (CDFW 2025).
Chlorogalum grandiflorum Red Hills soaproot	1B.2	A perennial bulbiferous herb found on serpentine and gabbro soils in lower montane coniferous forest, cismontane woodland, and chaparral habitats from 804 – 5,545 feet elevation. This species blooms from April – May (CNPS 2025).	**No Potential.** Serpentine or gabbro soils do not occur in the Study Area and the Study Area is just below the known elevational range of this species. There are four documented occurrences within five miles of the Study Area (CDFW 2025).
Crocanthemum suffrutescens Bisbee Peak rush-rose	3.2	Shrub that occurs on serpentine, gabbro, or Ione formation soils in openings of chaparral habitat from 148 - 2,756 feet elevation. This species blooms from April – June (CNPS 2025).	**No Potential.** Suitable soil types or chaparral habitat do not occur in the Study Area. There are eight documented occurrences within five miles of the Study Area (CDFW 2025).
Downingia pusilla Dwarf downingia	2B.2	An annual herb found in vernal pools within valley and foothill grassland habitats from 3 to 1,493 feet elevation. This species blooms from March – May (CNPS 2025).	**No Potential.** Vernal pools do not occur in the Study Area. In addition, this species was not observed in the Study Area during focused botanical surveys conducted in 2015 (Foothill Associates 2016a) or during biological surveys conducted in 2020 and 2025. There are no documented occurrences within five miles of the Study Area (CDFW 2025).

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur[3]
Eryngium pinnatisectum Tuolumne button-celery	1B.2	An annual herb that occurs in vernal pools within grassland and cismontane woodland habitats from 105 – 5,577 feet elevation. Generally restricted to volcanic soils. This species blooms from May – August (CNPS 2025).	**No Potential.** Vernal pools or volcanic soils do not occur in the Study Area. In addition, this species was not observed in the Study Area during focused botanical surveys conducted in 2015 (Foothill Associates 2016a) or during biological surveys conducted in 2020 and 2025. There are no documented occurrences within five miles of the Study Area (CDFW 2025).
Fremontodendron decumbens Pine Hill flannelbush	FE, 1B.2	A perennial shrub that occurs on serpentine or gabbro soils in chaparral and cismontane woodland habitats. This species is often found in dry, sandy washes. Occurs from 1,296 – 6,598 feet elevation and blooms from April – July (CNPS 2025).	**No Potential.** Suitable soil types do not occur in the Study Area and the Study Area is below the known elevational range of this species. Additionally, this species would have been identifiable during the survey if it were present since it is a perennial shrub. There are three documented occurrences within five miles of the Study Area (CDFW 2025).
Galium californicum ssp. *sierrae* El Dorado bedstraw	FE, 1B.2	A perennial herb found on gabbro soils in chaparral, lower montane coniferous forest, and cismontane woodland habitats from 328 – 1,919 feet elevation. This species blooms from May – June (CNPS 2025).	**No Potential.** Gabbro soils do not occur in the Study Area. There are two documented occurrences within five miles of the Study Area (CDFW 2025).
Gratiola heterosepala Boggs Lake hedge-hyssop	SE, 1B.2	An annual herb that is restricted to clay soils in or near shallow water such as at the margins of lakes, marshes, swamps, and vernal pools from 30 to 7,545 feet elevation. This species blooms from April – August (CNPS 2025).	**No Potential**. Clay soils and suitable aquatic habitats do not occur in the Study Area. There are no documented occurrences within five miles of the Study Area (CDFW 2025).

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur[3]
Juncus leiospermus var. *ahartii* Ahart's dwarf rush	1B.2	An annual herb found in vernal pools and vernally mesic valley and foothill grassland habitats from 98 to 751 feet elevation. This species blooms from March – May (CNPS 2025).	**No Potential.** Vernal pools and vernally mesic grasslands do not occur in the Study Area. In addition, this species was not observed in the Study Area during focused botanical surveys conducted in 2015 (Foothill Associates 2016a) or during biological surveys conducted in 2020 and 2025. There are no documented occurrences within five miles of the Study Area (CDFW 2025).
Legenere limosa Legenere	1B.1	An annual herb found in vernal pools from 3 – 2,890 feet elevation. This species blooms from April – June (CNPS 2025).	**No Potential**. Vernal pools do not occur in the Study Area. In addition, this species was not observed in the Study Area during focused botanical surveys conducted in 2015 (Foothill Associates 2016a) or during biological surveys conducted in 2020 and 2025. There are no documented occurrences within five miles of the Study Area (CDFW 2025).
Navarretia myersii ssp. *myersii* Pincushion navarretia	1B.1	An annual herb found in vernal pools often on acidic, clay soils from 65 – 1,083 feet elevation. This species blooms from April – May (CNPS 2025).	**No Potential**. Vernal pools and clay soils do not occur in the Study Area. In addition, this species was not observed in the Study Area during focused botanical surveys conducted in 2015 (Foothill Associates 2016a) or during biological surveys conducted in 2020 and 2025. There are no documented occurrences within five miles of the Study Area (CDFW 2025).

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur[3]
Orcuttia tenuis Slender Orcutt grass	FT, SE, 1B.1	An annual grass that occurs in vernal pools within valley grassland and foothill woodland habitats from 32 – 4,920 feet elevation. This species blooms from May – September (CNPS 2025).	**No Potential**. Vernal pools do not occur in the Study Area. In addition, this species was not observed in the Study Area during focused botanical surveys conducted in 2015 (Foothill Associates 2016a) or during biological surveys conducted in 2020 and 2025. There are no documented occurrences within five miles of the Study Area (CDFW 2025).
Orcuttia viscida Sacramento Orcutt grass	FE, SE, 1B.1	An annual herb found in vernal pools from 49 – 278 feet elevation. This species blooms from April – July (CNPS 2025).	**No Potential**. Vernal pools do not occur in the Study Area and the Study Area is above the known elevational range of this species. There are no documented occurrences within five miles of the Study Area (CDFW 2025).
Packera layneae Layne's ragwort	FT, 1B.2	An annual herb found on rocky serpentine or gabbro soils in chaparral and cismontane woodland habitats from 656 – 3,560 feet elevation. This species blooms from April – August (CNPS 2025).	**No Potential.** Serpentine or gabbro soils do not occur in the Study Area. There are six documented occurrences within five miles of the Study Area (CDFW 2025).
Sagittaria sanfordii Sanford's arrowhead	1B.2	An emergent perennial rhizomatous herb that occurs in marshes, swamps, ponds, and slow-moving drainages from 0 to 2,132 feet elevation. This species blooms from May – October (CNPS 2025).	**Low Potential**. The perennial drainage provides suitable habitat for this species; however, it was not observed in the Study Area during focused botanical surveys conducted in 2015 (Foothill Associates 2016a) or biological surveys conducted in 2020 and 2025. If there is a population of this species upstream from the Study Area, it could be washed downstream to the Study Area and establish a population. There is one documented occurrence within five miles of the Study Area (CDFW 2025).

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur[3]
Wyethia reticulata El Dorado County mule ears	1B.2	A perennial herb found on clay or gabbro soils in chaparral, cismontane woodland, and lower montane coniferous forest habitats from 605 – 2,066 feet elevation. This species blooms from April – August (CNPS 2025).	**No Potential.** Clay or gabbro soils do not occur in the Study Area. There are twelve documented occurrences within five miles of the Study Area (CDFW 2025).
Wildlife			
Invertebrates			
Bombus crotchii Crotch's bumble bee	SCE	This species occurs in grassland and scrub habitats. New colonies are initiated by solitary queens, generally in the early spring, which typically occupy abandoned rodent burrows (CDFW 2019). This species is a generalist forager and has been reported visiting a wide variety of flowering plants. The flight period for queens in California is from February to October. New queens hibernate over the winter and initiate a new colony the following spring. Crotch's bumble bees are rare throughout their range and are in decline in the Central Valley and southern California (CDFW 2019). The most current known range of this species follows a small strip from western Trinity County south to Tehama County and along the entire Central Valley and coast south of Monterey to the southernmost portions of the State. The range is generally bound on the east by the high Sierra Nevada range and areas east of Bishop, Ridgecrest, and the Salton Sea (CDFW 2023).	**Low Potential.** This species could occur in the annual grassland habitat within the Study Area. The Study Area contains floral resources and natural habitat that may provide foraging, breeding, and overwintering habitat suitable for Crotch's bumble bee. The Study Area is within the current range of this species. Because the population of this species has declined significantly, it is considered rare throughout its range. There are no documented occurrences within five miles of the Study Area (CDFW 2025).

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur[3]
Bombus occidentalis Western bumble bee	SCE	This species lives in underground colonies made up of one queen, female workers, and reproductive members of the colony. New colonies are initiated by solitary queens, generally in the early spring, which typically occupy abandoned rodent burrows (Thorp et al. 1983). This species occurs in meadows and grasslands with an abundance of floral resources (CDFW 2019). The western bumble bee is a generalist forager and has been reported visiting a wide variety of flowering plants. The flight period for queens in California is from early February to late November, peaking in late June and late September. New queens hibernate over the winter and initiate a new colony the following spring (Thorp et al. 1983). Rare throughout its range and in decline west of the Sierra Nevada crest. The most current known range of this species is limited to areas near the Klamath and northern Coast Range mountains as well as mountain areas in Shasta, Plumas, Sierra, Nevada, Placer, El Dorado, Lassen, Amador, Alpine, and Calaveras counties (CDFW 2023).	**No Potential.** The range of this species includes high elevation areas in the Sierra Nevada and some areas along the northern California coast (CDFW 2023). The Study Area is outside of the current range for western bumble bee. There are no documented occurrences within five miles of the Study Area (CDFW 2025).
Branchinecta lynchi Vernal pool fairy shrimp	FT	This species generally occurs in vernal pools but may also be found in seasonal wetlands, swales, and alkali pools. Typically found in turbid water but also occurs in clear water with abundant aquatic vegetation (CDFW 2025).	**No Potential**. Vernal pools do not occur in the Study Area. Furthermore, the seasonal wetlands onsite do not provide adequate habitat for this species; the seasonal wetlands do not pond at a depth and duration for vernal pool fairy shrimp to complete their cycle. There is one documented occurrence within five miles of the Study Area (CDFW 2025).

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur[3]
Danaus plexippus Monarch butterfly	FPT	Overwintering populations of monarch butterflies roost in wind protected tree groves, especially *Eucalyptus* spp., and species of pine or cypress with nectar and water sources nearby. Winter roost sites extend along the coast from Mendocino County to Baja California. As caterpillars, monarchs feed exclusively on the leaves of milkweed (*Asclepias* sp.; Nial *et al*. 2019 and USFWS 2020). Monarch butterfly migration routes pass east over the Sierra Nevada in the fall and back to the California coast in the spring. The overwintering population is located along the Coast while summer breeding areas occur in interior California and North America with spring breeding areas located further east (USFWS 2020).	**Low Potential**. Plant species necessary for development (i.e., milkweed) were observed in the Study Area which could support monarch butterflies during migration. However, the Study Area is not located in a winter roost zone, which is the primary habitat element for the proposed threatened population of this species and proposed critical habitat. Individual butterflies may pass through the Study Area during migration and utilize milkweed, but large, overwintering populations will not occur in the Study Area. There are no documented occurrences within five miles of the Study Area (CDFW 2025).
Desmocerus californicus dimorphus Valley elderberry longhorn beetle	FT	Depends on elderberry shrubs (*Sambucus* spp.) and typically occurs near rivers or streams. Stems at least a 1-inch diameter or greater are necessary for larvae and pupae development. Adults emerge in spring until early summer and exit holes are visible on shrub stems year-round (CDFW 2025).	**No Potential**. Elderberry shrubs are present in the Study Area; however, the Study Area is located outside of the expected elevation range of this species (500 feet; USFWS 2023). There is one documented occurrence within five miles of the Study Area (CDFW 2025).
Lepidurus packardi Vernal pool tadpole shrimp	FE	This species occurs in a variety of seasonally inundated habitats, particularly low-alkalinity seasonal pools in grasslands. Known to occur in vernal pools, wetlands, and other freshwater habitats. Generally occurs in larger, deeper features where dissolved oxygen levels are higher and features remain inundated for longer periods (CDFW 2025).	**No Potential**. Vernal pools do not occur in the Study Area. Furthermore, the seasonal wetlands onsite do not provide adequate habitat for this species; the seasonal wetlands do not pond at a depth and duration for vernal pool tadpole shrimp to complete their cycle. There are no documented occurrences within five miles of the Study Area (CDFW 2025).

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur[3]
Fishes			
Oncorhynchus mykiss irideus Steelhead, Central Valley DPS	FT	This distinct population segment includes all naturally spawned anadromous steelhead populations below impassable barriers in the Sacramento and San Joaquin rivers and their tributaries, excluding steelhead from San Francisco and San Pablo Bays and their tributaries, as well as two artificial propagation programs: the Coleman NFH, and Feather River Hatchery steelhead hatchery programs. Steelhead spawn in rivers and streams with cool, clear, water and suitable silt free substrate (NMFS 2016).	**No Potential**. There is no suitable aquatic habitat for this species within the Study Area. Although the perennial drainage could potentially support this species, there are known passage barriers downstream of the Study Area. Latrobe Falls is the lowest known barrier along the Consumnes River that would inhibit migration to the Study Area. Culverts, log jams, and other natural barriers are also present that would impede migration to the Study Area. There are no documented occurrences within five miles of the Study Area (CDFW 2025).
Amphibians			
Rana boylii pop. *5* Foothill yellow-legged frog	FE	This population of foothill yellow-legged frog occurs in the Sierra Nevada from the South Fork American River subbasin in El Dorado County south to the Tehachapi Mountains in Kern County. Occurs in perennial rocky streams in a wide variety of habitats up to 6,400 feet elevation. This species rarely ventures far from water, and is usually found basking in the water, under surface debris, or underground within 165 feet of water. Eggs are laid in clusters attached to gravel or rocks along stream margins in flowing water. Tadpoles typically require up to four months to complete aquatic development. Breeding typically follows winter rainfall and snowmelt, which varies based upon location (Jennings and Hayes 1994).	**No Potential.** The perennial drainage within the Study Area would provide only marginally suitable habitat for this species. The ephemeral and intermittent drainages within the Study Area are hydrologically connected to the perennial drainage on the west side of Clarksville Road; however, these features do not provide breeding habitat suitable for this species. Furthermore, protocol breeding and nonbreeding surveys for California red-legged frog were conducted in the Study Area in 2015, and no evidence of California red-legged frog or foothill yellow-legged frog was observed (Foothill Associates 2016b). There are two documented occurrences within five miles of the Study Area; however, one is from 1972 and is considered extirpated (CDFW 2025).

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur[3]
Rana draytonii California red-legged frog	FT, SSC	Adult California red-legged frogs require dense, shrubby, or emergent riparian vegetation closely associated with deep, still, or slow-moving water. Aquatic habitat typically includes slow-moving streams, ponds, stock ponds or marsh communities with emergent vegetation. Small standing pools (less than 3 feet deep) are typically used for breeding. Nearby upland habitat with downed debris for refuge is also required for this species. They are typically found in or within 300 feet of aquatic habitat but may disperse up to two miles away from aquatic habitats. The elevational range extends from sea level to about 5,000 ft., but this species typically occurs below 3,935 ft. (CDFW 2025). This species has been extirpated from nearly 70% of its historic range and now is primarily found in coastal drainages of central California, from Marin County, south to northern Baja California, Mexico, and a few isolated populations in the foothills south of Redding and north of Fresno (USFWS 2025a).	**No Potential**. The perennial drainage within the Study Area provides marginally suitable habitat for this species; however, the Study Area is at the far western edge of the known range of this species along the Sierra Nevada foothills and there are no known nearby populations. Protocol breeding and nonbreeding surveys were conducted in the Study Area in 2015, and no evidence of this species was observed (Foothill Associates 2016b). There are no documented occurrences within five miles of the Study Area (CDFW 2025).
Spea hammondii Western spadefoot	FPT; SSC	This species occurs in a variety of open habitats including grasslands, coastal sage scrub, chaparral, sandy washes, and playas. It can also be found in valley-foothill woodlands and appears to prefer open areas with sandy or gravelly soils. This species spends the majority of its life underground and typically emerges between October and May to breed. Breeding occurs in vernal pools, depressional wetlands, and sometimes puddles. Breeding sites must remain inundated for at least 30 days for larvae to mature (CDFW 2025).	**Low Potential**. Seasonal wetlands onsite could provide suitable breeding habitat for this species; however, the wetlands are very shallow and may not remain inundated long enough to support this species. Sandy, gravelly soils are absent from the Study Area which may further reduce the potential this species could occur. There is one documented occurrence within five miles of the Study Area (CDFW 2025).

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur[3]
Reptiles			
Actinemys marmorata Northwestern pond turtle	FPT; SSC	This species occurs in a variety of aquatic habitats; typically, permanent ponds, lakes, streams, irrigation ditches, canals, marshes, or pools in intermittent drainages. It appears to prefer areas lined with abundant vegetation and either rocky or muddy substrates. This species requires basking sites such as logs, rocks, cattail mats or exposed banks. The active season is from February to November, and breeding occurs from April to May. Overwintering occurs in upland terrestrial habitats close to water sources (approximately 300 feet), in which they will bury themselves under loose soil (CDFW 2025). Nesting sites in uplands may be as far as 400 meters (1,312 feet) or more from the aquatic habitat, although the distance is usually much less and is generally around 100 meters (328 feet) (Yolo HCP/NCCP 2018). In nonriverine habitats that experience little water level fluctuation, this species may overwinter underwater (Thomson *et al.* 2016).	**High Potential.** The perennial drainage provides suitable habitat for this species. The intermittent drainage, seasonal wetlands, and other aquatic features onsite may also provide suitable habitat when inundated and would likely be used for dispersal or as temporary habitat. This species could nest or overwinter in the annual grassland, valley oak woodland, and riparian habitats. There are seven documented occurrences within five miles of the Study Area, with one of the occurrences within the perennial drainage just north of the Study Area (CDFW 2025).
Phrynosoma blainvillii Coast horned lizard	SSC	This species occurs in the Coast Ranges, southwestern Sierra Nevada, Transverse and Peninsular Ranges, and the southern deserts of California. Suitable habitat types include chaparral, cismontane woodland, coastal scrub, desert washes, and grasslands. This species is most common in lowlands along sandy washes with scattered low bushes. It requires open areas for sunning, bushes for cover, patches of loose soil, and an abundant supply of ants and other insects (CDFW 2025).	**Moderate Potential.** This species may occur in the valley oak woodland, annual grassland, and ruderal habitats within the Study Area but the soil within the Study Area was hard and compact which may be unsuitable for this species. No obvious ant hills were observed in the Study Area. There are four documented occurrences within five miles of the Study Area (CDFW 2025).

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur[3]
Thamnophis gigas Giant garter snake	FT; ST	Endemic to the San Joaquin and Sacramento Valley floors. Inhabits agricultural wetlands and other waterways such as irrigation and drainage canals, sloughs, ponds, small lakes, low gradient streams, and adjacent uplands. Requires adequate water during its active season (early spring through mid-fall) to provide food and cover, emergent, herbaceous wetland vegetation for foraging and cover, grassy banks and openings in waterside vegetation for basking, and higher elevation uplands for cover and refuge from flood waters during its dormant season (winter). Inhabits small mammal burrows and other soil crevices with sunny exposure along south and west facing slopes, above prevailing flood elevations when dormant. Primarily found in marshes and sloughs as well as slow-moving creeks but absent from large rivers (USFWS 2025b).	**No Potential**. The Study Area is outside of the current known range of this species. There are no documented occurrences within five miles of the Study Area (CDFW 2025).
Birds			
Astur cooperii Cooper's hawk	WL	This species occurs in open woodlands, riparian forests, montane coniferous forests, and other open woodland habitats. May also occur in wooded suburban habitats. Nests high within a large tree and preys on medium-sized birds and small mammals (Zeiner *et al.* 1990).	**High Potential**. Suitable nesting and foraging habitat are present in the Study Area, especially in the valley oak woodland and riparian habitats. There are no documented occurrences within five miles of the Study Area (CDFW 2025). However, Cooper's hawk is not regularly tracked by the CNDDB and is a common species in El Dorado County and the vicinity of the Study Area (eBird 2025).

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur[3]
Agelaius tricolor tricolored blackbird	ST; SSC	This species is common locally throughout central California. It nests and seeks cover in emergent wetland vegetation and thorny vegetation such as Himalayan blackberry (*Rubus armeniacus*). The nesting area must be large enough to support a minimum colony of 50 pairs as they are a highly colonial species. Typical nesting areas are in large wetlands, marshes, and large brambles of thorny vegetation in suitable foraging habitat. This species forages on the ground in croplands, grassy fields, flooded land, and edges of ponds for insects (Shuford and Gardali 2008).	**Moderate Potential**. Suitable nesting habitat is present along the intermittent and ephemeral drainages within the Study Area but it may be too small and fragmented to support a nesting colony. This species could forage in the annual grassland habitat onsite if it nests within the Study Area or at an offsite location. There are ten documented occurrences within five miles of the Study Area (CDFW 2025).
Ammodramus savannarum Grasshopper sparrow	SSC	This species is a summer resident of foothills and lowlands west of the Cascade-Sierra Nevada crest. It occurs in grasslands with scattered shrubs or other tall structures which it utilizes as singing perches. Nests on the ground in dense grass with overhanging taller grasses and forbs (Zeiner *et al.* 1990).	**Low Potential**. The annual grassland habitat within the Study Area provides suitable habitat for this species. However, the Study Area is on the far eastern edge of the known range of this species. There are no documented occurrences within five miles of the Study Area (CDFW 2025).
Aquila chrysaetos Golden eagle	FP	This species occurs in a variety of open and semi-open habitats; generally rolling foothills, mountain areas, sage-juniper flats, deserts, and other open habitats up to 3,822 meters elevation. Typically nests in canyons, along cliffs, and in large trees in canyons. Will occasionally use other tall structures for nesting in suitable habitats, such as electrical transmission towers. Generally avoids areas with human activity. Prey consists mostly of rodents, carrion, birds, reptiles, and occasionally small livestock; and foraging habitat is generally large, open, expanses of land (Zeiner *et al.* 1990).	**Low Potential.** Suitable nesting areas such as cliffs and canyons do not occur in or near the Study Area. This species is known to nest and forage in nearby open spaces in the vicinity of the Study Area. Golden eagles typically require nesting locations with a commanding view of the surrounding terrain, which is not present in the Study Area. This species may soar over the Study Area but is not expected to be impacted by the project as suitable large, tall nest structures are absent from the Study Area. There are two documented occurrences within five miles of the Study Area (CDFW 2025).

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur[3]
Athene cunicularia Burrowing owl	SCE; SSC	This species occurs in a variety of open habitats; typically grasslands, desert scrub, agricultural fields, washes, and disturbed areas such as golf courses or vacant lots. Burrowing owls forage on the ground in areas with low, sparse vegetation and with an abundance of small mammal burrows. They nest in burrows, especially those of California ground squirrel (*Otospermophilus beecheyi*), but will also use other sites such as rubble piles, pipes, and culverts. In the Central Valley of California, most foraging occurs within a 600-meter radius of the burrow (Gervais *et al.* 2003).	**Low Potential.** The annual grassland within the Study Area provides potential habitat for this species; however, no small mammal burrows or other suitable nesting/refuge sites were observed in the Study Area. In addition, soils within the Study Area are very hard and compact which likely limits the potential this species or other fossorial animals could burrow onsite. Burrowing owl was not observed during protocol level surveys conducted within the Study Area in 2015 (Foothill Associates 2016c) or during biological surveys conducted in 2020 and 2025. There are three documented occurrences within five miles of the Study Area (CDFW 2025).
Buteo regalis Ferruginous hawk	WL	This species occurs in a variety of habitats including open grasslands, sagebrush flats, desert scrub, foothills, and fringes of pinyon and juniper habitats. Ferruginous hawk mainly winters in California except for portions of the far northeast where it is also known to breed and nest. Nests on cliffs, rocky outcrops, large trees, or utility structures (CDFW 2025).	**Low Potential.** The annual grassland habitat within the Study Area provides foraging habitat for this species. This species may pass through the Study Area in winter but nesting will not occur as the Study Area is outside of the known nesting range of this species. There is one documented occurrence within five miles of the Study Area (CDFW 2025).

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur[3]
Buteo swainsoni Swainson's hawk	ST	This species occurs in a variety of open habitats including expansive grasslands, agricultural areas, and open woodlands. Breeds in California and winters in Mexico and South America. Swainson's hawks usually arrive in the Central Valley between March 1 and April 1 and migrate south between September and October. This species usually nests in trees adjacent to suitable foraging habitat but is known to forage in areas away from the nest. Nests are usually located in trees near the edges of riparian stands, in lone trees or groves of trees in agricultural fields, and in mature roadside trees. Mature oak and riparian trees are the most used nest trees, typically associated with high quality foraging habitat (CDFW 2025). Suitable foraging areas for Swainson's hawk include native grasslands or lightly grazed pastures, alfalfa and other hay crops, idle land, certain grain and row croplands, and ruderal lands. Swainson's hawks primarily feed on voles; but will take a variety of prey including small mammals, birds, and insects (CDFW 1994).	**Low Potential**. The Study Area is at the easternmost edge of this species' known range but provides suitable nesting and foraging habitat. Swainson's hawk has historically been documented in the vicinity of the Study Area and could potentially occur but would generally be expected to occur in habitats within and closer to the Central Valley. There are two documented occurrences within five miles of the Study Area (CDFW 2025).
Elanus leucurus White-tailed kite	FP	White-tailed kite is a year-round resident in California in coastal areas and lowlands in the Central Valley. Population sizes increase during the non-breeding season due to over-wintering migrants. Occurs in a variety of habitats including grasslands, savannah, oak woodland, riparian woodland, open suburban areas, and agriculture fields. Nest trees typically have a dense canopy or are within a dense group of trees, such as riparian forest or oak woodland. Foraging occurs within un-grazed or lightly-grazed fields, agricultural areas, and open grasslands (CDFW 2025).	**High Potential.** The valley foothill riparian and valley oak woodland in the Study Area provide suitable nesting habitat and the annual grassland and open areas of the Study Area provide suitable foraging habitat. This species is known to forage in nearby open spaces in the vicinity of the Study Area and could nest in or near the Study Area. There are two documented occurrences within five miles of the Study Area (CDFW 2025).

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur[3]
Falco columbarius Merlin	WL	This species is an uncommon winter migrant in California that breeds in Alaska and Canada. It occurs in a variety of habitats during winter including estuaries, Great Basin grassland, and valley and foothill grasslands. This species does not breed or nest within California (CDFW 2025).	**Low Potential.** The annual grassland habitat within the Study Area provides foraging habitat for this species. This species may pass through the Study Area in winter but nesting will not occur as the Study Area is outside of the known nesting range of this species. There are no documented occurrences within five miles of the Study Area (CDFW 2025).
Haliaeetus leucocephalus Bald eagle	SE, FP	Occurs in a variety of habitats near large aquatic resources such as rivers or lakes. Nests in mature trees or snags, often in remote mixed stands adjacent to water. Typically nests in the largest tree in a stand and forages near water (CDFW 2025).	**Low Potential.** There are no suitable nest trees in the Study Area and suitable foraging habitat is absent. This species is known to occur in areas surrounding Folsom Lake and may soar over the Study Area but is not expected to be impacted by the project. There are two documented occurrences within five miles of the Study Area (CDFW 2025).

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur[3]
Laterallus jamaicensis coturniculus California black rail	FP, ST	The largest concentrations of this species are found in the tidal salt marshes of the northern San Francisco Bay region, primarily in San Pablo and Suisun Bays. Smaller populations also occur in San Francisco Bay, the Outer Coast of Marin County, freshwater marshes in the foothills of the Sierra Nevada, and in the Colorado River Area (Spautz et. al. 2005). This species inhabits brackish marsh habitats, primarily in the upper marsh zone dominated by alkali heath (*Frankenia salina*), cattail (*Typha* spp.), and rush (*Juncus* spp.); and prefers lower salinity environments. In the Sierra Nevada foothills, this species is a year-round resident along wetland edges where water is generally 1.2 inches or less and is typically found in wetlands 0.25 acre or larger. This species is typically associated with perennial wetlands associated with flowing water such as irrigation canals, perennial streams, and springs with dense vegetation in the Sierra Nevada foothills. It forages on the ground, under cover of dense vegetation (Richmond et al. 2010).	**Moderate Potential**. The perennial drainage and adjacent riparian corridor provide suitable habitat for this species. California black rail could also potentially occur in the intermittent and ephemeral drainage corridors. There is one documented occurrence within five miles of the Study Area that documents a breeding pair downstream of the Study Area (CDFW 2025).
Pandion haliaetus Osprey	WL	Osprey breed in Northern California from the Cascade Ranges southward to Lake Tahoe, and along the coast south to Marin County. They prey primarily on fish but also predate small mammals, birds, reptiles, and invertebrates. Foraging areas include open, clear waters of rivers, lakes, reservoirs, bays, estuaries, and surf zones. Habitat and nesting requirements include large trees, snags, and dead-topped trees in open forest habitats for cover and nesting (Zeiner *et al.* 1990).	**Low Potential**. There are no suitable nest trees or structures in the Study Area that would support this species nesting and suitable foraging habitat is absent. This species is known to occur in areas surrounding Folsom Lake and may soar over the Study Area but is not expected to be impacted by the proposed project. There are no documented occurrences within five miles of the Study Area (CDFW 2025).

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur[3]
Phalacrocorax auratus Double-crested cormorant	WL	This species is a yearlong resident along the entire coast of California and at inland lakes, in fresh, salt, and estuarine waters. Rests in daytime and roosts overnight beside water on offshore rocks, islands, steep cliffs, dead branches of tall trees, wharfs, jetties, or even transmission lines. Nests in colonies along coastal cliffs, islands, and along lake margins in the interior of the state (CDFW 2025).	**No Potential.** Suitable nesting or roosting habitats are absent from the Study Area. There are no documented occurrences within five miles of the Study Area (CDFW 2025).
Progne subis Purple martin	SSC	This species occurs as an uncommon summer resident and migrant, primarily from mid-March to late September, and breeds from May to mid-August. Martins are most abundant in mesic regions, near large wetlands and other water bodies, and at upper slopes and ridges, which likely concentrate aerial insects (Shuford and Gardali 2008). This species nests in cavities in open areas with low canopy cover at the height of the nest, near large bodies of water that support high densities of large insects. Martins use a variety of cavities including in bridges, large tree snags, and collapsed lava tubes. This species is very sensitive to competition from European starlings and is extirpated from most low-elevation areas by starlings (Shuford and Gardali 2008).	**Low Potential.** The entire Study Area provides suitable foraging habitat for this species and some tree cavities that could support nesting were observed. Other suitable nesting cavities such as large tree snags, lava tubes, or artificial cavities do not occur in the Study Area. There are no documented occurrences within five miles of the Study Area (CDFW 2025).
Riparia riparia Bank swallow	ST	This species is found primarily in riparian and lowland habitats in California. They nest in colonies along cliffs or steep riverbanks in holes. In California, a majority of the population is situated along the Sacramento River and the Feather River. Other smaller populations persist near Monterey and north of Shasta counties (Zeiner *et al*. 1990).	**No Potential.** Suitable nesting habitat does not occur in the Study Area and the Study Area is not located near the Sacramento or Feather rivers. There are no documented occurrences within five miles of the Study Area (CDFW 2025).

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur[3]
Mammals			
Antrozous pallidus Pallid bat	SSC	Pallid bat occurs throughout California except for the high Sierra Nevada and the northern Coast Ranges. Suitable habitats include grasslands, shrublands, woodlands, and forests from sea level to 6,000 feet. This species is most common in open, dry habitats with rocky areas for roosting; roosts also include cliffs, abandoned buildings, bird boxes, hollow trees and under bridges. This species is primarily a crevice dweller, but recent studies have shown that they are also dependent upon tree roosts. Particularly, in northern California pallid bat is more dependent upon oak woodland and oak savannah in lower elevations and may be found in coniferous forest, including redwoods at mid to higher elevations. This species is intolerant of roost disturbance and it has a high loyalty to roosting sites. If this species experiences frequent disturbance at a roost site, they will abandon the roost (Bolster ed. 1998).	**Low Potential.** Trees within the valley oak woodland and riparian habitats, as well as isolated trees within the annual grassland could provide roosting habitat for this species. Other roost sites such as cliffs, abandoned buildings, and bridges are absent from the Study Area. This species could forage throughout the Study Area. There are no documented occurrences within five miles of the Study Area (CDFW 2025).
Pekania pennanti Fisher	SSC	This species is found in in large, mature, dense forest stands with snags and greater than 50% canopy closure. It is typically found at elevations from 3,510 – 7,000 feet elevation. This species dens in a variety of protected cavities such as hollow logs, trees, rock outcrops, and snags. Typically avoids areas with human activity (CDFW 2025).	**No Potential**. Suitable forest habitat does not occur in the Study Area and the Study area is below the known elevational range of this species. There are no documented occurrences within five miles of the Study Area (CDFW 2025).

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur[3]
Taxidea taxus American badger	SSC	This species occurs in a variety of dry, open habitats including grasslands, open woodlands, shrublands, and open chaparral. Loose, friable soil is required for this species to dig den sites. Badgers need sufficient food, friable soils, and open, uncultivated ground. They are typically found in areas away from human activity (CDFW 2025).	**Low Potential**. Annual grassland within the Study Area provides suitable habitat for this species; however, friable soils are lacking in the Study Area and no dens or burrows were observed during the site survey on January 9, 2025. There is a nearby CNDDB recorded occurrence from 2015 located 4.9 miles northwest of the Study Area and documents an individual badger killed on the road. CDFW considers this species to be extant in the region; however, there are no other nearby records of this species near the Study Area (CDFW 2025).

[1] Sensitive species reported in CNDDB or CNPS on the "*Clarksville*" USGS quads, or in USFWS lists for the project site.

[2] Status is as follows: Federal (ESA) listing/State (CESA) listing/other CDFW status or CRPR. F = Federal; S = State of California; E = Endangered; T = Threatened; C = Candidate; P = Proposed; FP = Fully Protected; SSC = Species of Special Concern; WL = Watch List.

[3] Status in the Project site is assessed as follows. **No Potential:** The Study Area is outside the known distribution of the species; or there is no suitable habitat present for the species; or, the species is not known to occur within five miles of the Study Area boundary, and its dispersal capability is less than five miles. **Low Potential:** There are no documented occurrences within five miles of the Study Area boundary, and the existing habitat is of low or marginal quality, or all documented occurrences within five miles of the Study Area line are believed to be extirpated, and existing habitat is of low or marginal quality, or extant occurrences are documented within five miles of the Study Area, and the most recent occurrence is greater than or equal to 25 years old. **Moderate Potential:** Documented occurrences are reported within five miles of the Study Area, the most recent occurrence is less than 25 but greater than 10 years old, and suitable habitat is present; or critical habitat is mapped within the Study Area, all PCEs are present within the Study Area, and suitable habitat is present. **High Potential:** There are extant occurrences within one mile of the Study Area, the most recent occurrence is less than 10 years old, and there is suitable habitat within the Study Area; or critical habitat is mapped within the Study Area, documented occurrences are present within one mile of the Study Area, suitable habitat is present, and all PCEs are present within the Study Area.

CRPR = California Rare Plant Rank: 1B – rare, threatened, or endangered in California and elsewhere; 2B – rare, threatened, or endangered in California but more common elsewhere. Extension codes: .1 – seriously endangered; .2 – moderately endangered.

REFERENCES

Bolster, B.C., editor. 1998. Terrestrial Mammal Species of Special Concern in California. Draft Final Report prepared by P.V. Brylski, P.W. Collins, E.D. Pierson, W.E. Rainey and T.E. Kucera. Report submitted to California Department of Fish and Game Wildlife Management Division, Nongame Bird and Mammal Conservation Program for Contract No. FG3146WM.

California Department of Fish and Wildlife (CDFW). 2025. California Natural Diversity Database (CNDDB). Special Animals List. California Department of Fish and Wildlife. Sacramento, CA.

2023. Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species. California Department of Fish and Wildlife. Sacramento, CA.

2019. Report to the Fish and Game Commission: Evaluation of the Petition from the Xerces Society, Defenders of Wildlife and the Center for Food Safety to List Four Species of Bumble Bees as Endangered Under the California Endangered Species Act. April 2019. Special California Department of Fish and Wildlife, Sacramento, California, USA.

1994. Staff report regarding mitigation for impacts to Swainson's hawk (*Buteo swainsoni*) in the Central Valley of California. November 1.

California Native Plant Society (CNPS). 2025. Inventory of Rare and Endangered Plants (online edition, v8-03 0.39) For: *Clarksville, Rocklin, Pilot Hill, Coloma, Shingle Springs, Latrobe, Folsom SE, Buffalo Creek, and Folsom USGS 7.5-minute series quadrangles, Sacramento, CA*. [Accessed January 2, 2025].

eBird. 2025. eBird, Explore. Cooper's hawk. Available at: https://ebird.org/species/coohaw.

Foothill Associates. 2016a. *Results of the Protocol-Level Special-Status Plant Surveys Letter Report for the El Dorado Hills 52 Project, El Dorado County, California*. February 25.

2016b. *California Red-Legged Frog (Rana draytonii) Protocol-Level Survey Report for the 32-Acre El Dorado Hills 52 Project, El Dorado County, California*. August 30.

2016c. *Results of the Protocol-Level Burrowing Owl Surveys Letter Report for the El Dorado Hills 52 Project, El Dorado County, California*. February 22.

Gervais, J.A., D.K. Rosenberg, and R.G. Anthony. 2003. Space use and pesticide exposure risk of male Burrowing Owls in an agricultural landscape. J. Wildl. Mgmt. 67:156–165.

Jennings, M.R. and M.P. Hayes. 1994. Amphibian and Reptile Species of Special Concern in California. Final Report submitted to the California Department of Fish and [Wildlife], Inland Fisheries Division.

National Marine Fisheries Service (NMFS). 2016. California Central Valley Steelhead Distinct Population Segment: 5-year Review. California Central Valley Area Office.

Nial K.R., L. Drizd, and K.J. Voorhies. 2019. Butterflies Across the Globe: A Synthesis of the Current Status and Characteristics of Monarch (Danaus plexippus) Populations Worldwide. Front. Ecol. Evol. 7:362. Doi: 10.3389/fevo.2019.00362.

Richmond, O.W., S.K. Chen, B.B. Risk, J. Tecklin, and S.R. Beissinger. 2010. California Black Rails Depend on Irrigation-fed Wetlands in the Sierra Nevada Foothills. California Agriculture: Volume 2, Number 2.

Shuford, W.D., and T. Gardali, editors. 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.

Spautz, Hildie, Nadav Nur, and Diana Stralberg. 2005. California Black Rail (*Laterallus jamaicensis coturniculus*) Distribution and Abundance in Relation to Habitat and Landscape Features in the San Francisco Bay Estuary. In: Ralph, C. John and Terrell D. Rich, editors. 2005. Bird Conservation Implementation and Integration in the Americas: Proceedings of the Third International Partners in Flight Conference. 2002 March 20-24; Asilomar, California, Volume 1 Gen. Tech. Rep. PSW-GTR-191. Albany, CA: U.S. Dept. of Agriculture, Forest Service, Pacific Southwest Research Station: p. 465-468.

Thomson, R.C., A.N. Wright, and H.B. Shaffer. 2016. California Amphibian and Reptile Species of Special Concern. Oakland, California: University of California Press.

Thorp, R.W., D.S. Horning, and L.L. Dunning. 1983. Bumble bees and cuckoo bumble bees of California (Hymenoptera, Apidae) (Vol. 23). Univ of California Press.

United States Fish and Wildlife Service (USFWS). 2025a. Environmental Conservation Online System. California Red-Legged Frog. Available at: https://ecos.fws.gov/ecp/species/2891.

2025b. Species Account for Giant Garter Snake. Available at: https://www.fws.gov/species/giant-garter-snake-thamnophis-gigas.

2023. *5-Year Review Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*).* Available: https://www.fws.gov/node/259536. Accessed January 2, 2025.

2020. Monarch (*Danaus plexippus*) Species Status Assessment Report. V2.1 96 pp + appendices.

Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP). 2018. Appendix A, Covered Species Accounts. Available at: https://www.yolohabitatconservancy.org/_files/ugd/8f41bd_fe2dbace4f6941ea985e64df9ce9bd72.pdf.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1990. California's Wildlife. Vol. I-III. California Depart. of Fish and Game, Sacramento, California.

Appendix C

Plant and Animal Species Observed in the Study Area

Family	Scientific Name	Common Name
Native		
Agavaceae	*Chlorogalum pomeridianum* var. *pomeridianum*	Common soaproot
Asteraceae	*Baccharis pilularis* ssp. *consanguinea*	Coyote brush
	Centromadia fitchii	Spikeweed
	Holocarpha virgata ssp. *virgata*	Narrow tarplant
	Lasthenia fremontii	Vernal pool goldfields
Apiaceae	*Daucus pusillus*	Wild carrot
	Eryngium castrense	Great Valley button-celery
Apocynaceae	*Asclepias fascicularis*	Narrow leaf milkweed
Boraginaceae	*Plagiobothrys stipitatus*	Stalked popcorn-flower
Brassicaceae	*Rorippa curvisiliqua*	Curvepod yellow cress
Campanulaceae	*Downingia* spp.	Downingia
Convolvulaceae	*Cuscuta californica*	California dodder
Cyperaceae	*Carex praegracilis*	Field sedge
	Cyperus eragrostis	Tall flatsedge
	Eleocharis acicularis	Needle spikerush
	Eleocharis macrostachya	Pale spikerush
	Schoenoplectus californicus	California bulrush
Euphorbiaceae	*Croton setiger*	Turkey mullein
Fabaceae	*Acmispon americanus* var. *americanus*	American bird's foot trefoil
	Trifolium variegatum	Variegated clover
Fagaceae	*Quercus douglasii*	Blue oak
	Quercus lobata	Valley oak
	Quercus wislizeni	Interior live oak
Gentianaceae	*Zeltnera muehlenbergii*	Muehlenberg's centaury
Juncaceae	*Juncus bufonius*	Toad rush
	Juncus effusus	Common bog rush
	Juncus cf. *mexicanus*	Mexican rush
	Juncus cf. *tenuis*	Slender rush
	Juncus xiphioides	Iris leaved rush
Lamiaceae	*Pogogyne zizyphoroides*	Sacramento Mesa-mint
	Trichostema lanceolata	Vinegar weed
Onagraceae	*Epilobium brachycarpum*	Autumn willow weed
	Epilobium cf. *ciliatum*	Fringed willowherb
	Epilobium densiflorum	Denseflower willowherb
Phrymaceae	*Erythranthe guttata* (*Mimulus guttatus*)	Yellow monkey flower
Pinaceae	*Pinus ponderosa*	Ponderosa pine
Plantaginaceae	*Veronica* cf. *americana*	American brooklime
Poaceae	*Deschampsia danthonioides*	Annual hair grass
	Deschampsia elongata	Slender hair grass
	Festuca microstachys	Small fescue
	Muhlenbergia rigens	Deer grass
	Pleuropogon californicus	Semaphore grass
	Stipa pulchra	Purple needle grass
Polemoniaceae	*Navarretia intertexta*	Interwoven navarretia
Ranunculaceae	*Ranunculus bonariensis* var. *trisepalus*	Vernal pool buttercup
Rhamnaceae	*Frangula californica* ssp. *tomentella*	Hoary coffeeberry

Family	Scientific Name	Common Name
Rubiaceae	*Galium* sp.	Bedstraw
Rubus	*Rubus ursinus*	California blackberry
Salicaceae	*Populus fremontii [deltoides]* ssp. *fremontii*	Fremont's cottonwood
	Salix exigua	Narrow leaved willow
	Salix cf. *lasiolepis*	Arroyo willow
Themidaceae	*Brodiaea elegans*	Harvest brodiaea
	Dichelostemma capitatum ssp. *capitatum*	Wild hyacinth
Typhaceae	*Typha latifolia*	Broadleaf cattail
Viburnaceae	*Sambucus mexicana*	Elderberry
Non-Native		
Asteraceae	*Carduus pycnocephalus*	Italian thistle
	Centaurea solstitialis	Yellow star-thistle
	Cirsium vulgare	Bull thistle
	Dittrichia graveolens	Stinkwort
	Helminthotheca echioides	Bristly ox-tongue
	Hypochaeris glabra	Smooth cat's-ear
	Lactuca serriola	Prickly lettuce
	Leontodon saxatilis	Hairy hawkbit
	Senecio vulgaris	Common groundsel
	Sonchus asper	Prickly sow thistle
Lamiaceae	*Mentha pulegium*	Pennyroyal
Linaceae	*Linum usitatissimum*	Common flax
Lunulariaceae	*Lunularia cruciata*	Crescent-cup liverwort
Lythraceae	*Lythrum hyssopifolia*	Hyssop loosestrife
Fabaceae	*Vicia sativa*	Spring vetch
Geraniaceae	*Erodium botrys*	Big heron bill
	Erodium cicutarium	Coastal heron's bill
	Geranium dissectum	Cutleaf geranium
	Geranium molle	Crane's bill geranium
Haloragaceae	*Myriophyllum aquaticum*	Parrot feather watermilfoil
Hypericaceae	*Hypericum perforatum* ssp. *perforatum*	Klamathweed
Juncaceae	*Juncus capitatus*	Leafy bracted dwarf rush
Moraceae	*Ficus carica*	Edible fig
Poaceae	*Aegilops cylindrica*	Jointed goat grass
	Avena fatua	Wild oats
	Briza minor	Little rattlesnake grass
	Bromus diandrus	Ripgut brome
	Bromus hordeaceus	Soft brome
	Cynodon dactylon	Bermuda grass
	Elymus caput-medusae	Medusahead
	Festuca myuros	Rattail sixweeks grass
	Festuca perennis	Italian rye grass
	Gastridium phleoides	Nit grass
	Glyceria declinata	Low manna grass
	Hordeum marinum	Barley

Family	Scientific Name	Common Name
Poaceae (cont.)	*Paspalum dilatatum*	Dallis grass
	Poa annua	Annual blue grass
	Polypogon monspeliensis	Rabbitsfoot grass
Polygonaceae	*Persicaria* sp.	Smartweed
	Rumex crispus	Curly dock
	Rumex pulcher	Fiddle dock
Ranunculaceae	*Ranunculus muricatus*	Spiny buttercup
Rosaceae	*Prunus* sp.	Cherry tree
	Rubus armeniacus	Himalayan blackberry
Scrophulariaceae	*Verbascum blattaria*	Moth mullein

Family	Scientific Name	Common Name
Mammals		
Sciuridae	*Sciurus niger*	Eastern fox squirrel
Birds		
Accipitridae	*Buteo jamaicensis*	Red-tailed hawk
Anatidae	*Branta canadensis*	Canada goose
Columbidae	*Zenaida macroura*	Mourning dove
Corvidae	*Aphelocoma californica*	California scrub-jay
Fringillidae	*Haemorhous mexicanus*	House finch
	Spinus psaltria	Lesser goldfinch
Odontophoridae	*Callipepla californica*	California quail
	Melozone crissalis	California towhee
Paridae	*Baeolophus inornatus*	Oak titmouse
Parulidae	*Setophaga coronata*	Yellow-rumped warbler
Passerellidae	*Junco hyemalis*	Dark-eyed junco
	Pipilo maculatus	Spotted towhee
	Melozone crissalis	California towhee
	Zonotrichia leucophrys	White-crowned sparrow
Picidae	*Colaptes auratus*	Northern flicker
Sittidae	*Sitta carolinensis*	White-breasted nuthatch
Trochilidae	*Calypte anna*	Anna’s hummingbird
Troglodytidae	*Thryomanes bewickii*	Bewick’s wren
Turdidae	*Sialia mexicana*	Western bluebird
Tyrannidae	*Sayornis nigricans*	Black phoebe

Appendix D

Representative Site Photographs



Photo 1. Representative view of Study Area; facing north from the southern portion of the Study Area. Photo taken 1/9/2025.



Photo 2. Representative view of Study Area; facing south from the northern portion of the Study Area. Photo taken 1/9/2025.

\\RosevilleFS\HERocklin\PROJECTS\C\CostcoWholesale_03605\00005_CostcoElDoradoHills52UpdatedReport_Reports\BRA\Appendices\AppD_Photos



Photo 3. Valley oak woodland habitat and the intermittent drainage within the southern portion of the Study Area; facing southwest. Photo taken 1/9/2025.



Photo 4. Annual grassland and valley oak woodland habitat within the southern portion of the Study Area with an existing structure in background; facing west. Photo taken 1/9/2025.

\\RosevilleFS\HERocklin\PROJECTS\C\CostcoWholesale_03605\00005_CostcoElDoradoHills52UpdatedReport_Reports\BRA\Appendices\AppD_Photos



Photo 5. Valley foothill riparian habitat and the perennial stream within the portion of the Study Area west of Clarksville Road; facing south. Photo taken 1/9/2025.



Photo 6. Valley foothill riparian habitat and the perennial stream within the portion of the Study Area west of Clarksville Road; facing north. Photo taken 1/9/2025.

\\RosevilleFS\HERocklin\PROJECTS\C\CostcoWholesale_03605\00005_CostcoElDoradoHills52UpdatedReport_Reports\BRA\Appendices\AppD_Photos



Photo 7. Valley foothill riparian habitat and the perennial stream within the portion of the Study Area west of Clarksville Road; facing north. Photo taken 1/9/2025.



Photo 8. Ruderal/disturbed and valley foothill riparian habitat within the Study Area and adjacent to Clarksville Road; facing northwest. Photo taken 1/9/2025.

\\RosevilleFS\HERocklin\PROJECTS\C\CostcoWholesale_03605\00005_CostcoElDoradoHills52UpdatedReport_Reports\BRA\Appendices\AppD_Photos



Photo 9. Valley foothill riparian habitat within the northern portion of the Study Area; facing north. Photo taken 1/9/2025.



Photo 10. Valley foothill riparian habitat and ephemeral drainage within the northern portion of the Study Area; facing west. Photo taken 1/9/2025.

\\RosevilleFS\HERocklin\PROJECTS\C\CostcoWholesale_03605\00005_CostcoElDoradoHills52UpdatedReport_Reports\BRA\Appendices\AppD_Photos



Photo 11. Beginning of the intermittent drainage within the northern portion of the Study Area; facing northeast. Photo taken 1/9/2025.



Photo 12. Annual grassland habitat and the intermittent drainage within the northern portion of the Study Area; facing south. Photo taken 1/9/2025.

\\RosevilleFS\HERocklin\PROJECTS\C\CostcoWholesale_03605\00005_CostcoElDoradoHills52UpdatedReport_Reports\BRA\Appendices\AppD_Photos



Photo 13. Annual grassland habitat including areas of purple needlegrass adjacent to the intermittent stream within the southern portion of the Study Area; facing northeast. Photo taken 1/9/2025.

\\RosevilleFS\HERocklin\PROJECTS\C\CostcoWholesale_03605\00005_CostcoElDoradoHills52UpdatedReport_Reports\BRA\Appendices\AppD_Photos

Aquatic Resources Delineation Report

Costco El Dorado Hills Project

Aquatic Resources Delineation Report

March 2025 | Project # 03605.00005.001

Prepared for:

Costco Wholesale
9 Corporate Park, Suite 230
Irvine, CA 92602

Prepared by:

HELIX Environmental Planning, Inc.
1677 Eureka Road, Suite 100
Roseville, CA 95661

This page intentionally left blank

TABLE OF CONTENTS

Section **Page**

EXECUTIVE SUMMARY ES-1

1.0 INTRODUCTION 1

1.1 Project Location 1
1.2 Driving Directions 1
1.3 Agent Contact information 1
1.4 Regulatory Setting 2
1.4.1 Waters of the U.S. 2
1.4.2 Waters of the State 2

2.0 ENVIRONMENTAL SETTING 3

2.1 Existing Conditions 3
2.2 Field Conditions 4
2.3 Interstate or Foreign Commerce Connection 4

3.0 METHODS 4

3.1 Data Gathering 4
3.2 Boundaries of the Delineation 4
3.3 Determination Procedures 4
3.3.1 Delineation Methods 4
3.3.2 Plant/Habitat Nomenclature 6

4.0 RESULTS 6

4.1 Vegetation Communities/Habitat Types 6
4.1.1 Non-Native Annual Grassland 6
4.1.2 Valley Foothill Riparian 6
4.1.3 Valley Oak Woodland 7
4.1.4 Ruderal/Disturbed 7
4.2 Climate 7
4.3 Soils 7
4.4 Hydrology 8
4.5 USFWS National Wetlands Inventory 8

5.0 AQUATIC RESOURCES 8

5.1.1 Seasonal Wetland 8
5.1.2 Seep 9
5.1.3 Wetland Swale 9
5.1.4 Ephemeral Drainage 9
5.1.5 Intermittent Drainage 9
5.1.6 Perennial Drainage 10
5.2 Potential Waters of the U.S. 11
5.3 Potential Waters of the State 11

TABLE OF CONTENTS (cont.)

Section		Page
6.0	SUMMARY	12
7.0	REFERENCES	13

LIST OF APPENDICES

A	Figures
B	Aquatic Resources Delineation Map
C	List of Plants Observed in the Study Area
D	Data Sheets
E	Representative Site Photos

LIST OF TABLES

No.	Title	Page
1	Aquatic Resources in the Study Area	11

ACRONYMS AND ABBREVIATIONS

APN	Assessor's Parcel Number
CVRWQCB	Central Valley Regional Water Quality Control Board
CWA	Clean Water Act
FAC	Facultative Plants
FACU	Facultative upland plants
FACW	Facultative wetland plants
HELIX	HELIX Environmental Planning, Inc.
msl	mean sea level
NRCS	Natural Resource Conservation Service
OBL	obligate wetland plants
OHWM	Ordinary High Water Mark
RWQCB	Regional Water Quality Control Board
SWRCB	State Water Resources Control Board
UPL	Upland
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WQC	Water Quality Certification

This page intentionally left blank

EXECUTIVE SUMMARY

This report presents the results of a delineation of the aquatic resources at the ±36.94-acre Costco El Dorado Hills (formerly titled El Dorado Hills 52) site (Study Area), located in western El Dorado County, California. The potential presence of aquatic resources was assessed and re-verified following the technical guidelines provided by the U.S. Army Corps of Engineers (USACE) in the *Corps of Engineers Wetlands Delineation Manual* (USACE Manual), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0; Supplement), *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Field Guide), and the *National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams* (Interim Version). These technical guidelines present wetland and ordinary high-water mark (OHWM) indicators, delineation guidance, and other information that pertains to the Arid West Region.

A total of 1.021 acres of aquatic resources and other waters of the U.S. were mapped within the Study Area. This acreage consists of 0.193 acre of seasonal wetlands, 0.007 acre of seep, 0.006 acre of wetland swale, 0.234 acre of ephemeral drainages, 0.360 acre of intermittent drainage, and 0.221 acre of perennial drainage. Approximately 17.9 acres of the northern portion of the Study Area was previously verified by the USACE in August of 2019 to contain 0.19 acre of waters of the U.S. (SPK-2013-00090). This acreage was carried forward in this delineation.

This page intentionally left blank

1.0 INTRODUCTION

HELIX Environmental Planning, Inc. (HELIX) has prepared this aquatic resources delineation report in support of the Costco El Dorado Hills Project (Project; formerly titled El Dorado Hills 52) to delineate potential jurisdictional wetlands and other waters of the U.S. and State on a ±36.94-acre Study Area located in western El Dorado County, California. The purpose of this delineation was to identify aquatic resources in the Study Area that would potentially qualify as waters of the U.S. and/or waters of the State. Waters of the U.S. are subject to regulatory jurisdiction by both the U.S. Army Corps of Engineers (USACE) and the applicable Regional Water Quality Control Board (RWQCB) (collectively referred to as "Agencies"). Waters of the State are subject to the jurisdiction of the RWQCB. If present, impacts to aquatic resources would potentially require obtaining regulatory permits and authorizations from one or both Agencies. Approximately 17.9 acres of the northern portion of the Study Area was previously verified by the USACE in August of 2019 to contain 0.19 acre of waters of the U.S. (SPK-2013-00090). This acreage was carried forward in this delineation. The remainder of the Study Area results presented in this document are preliminary and subject to verification by the USACE.

1.1 PROJECT LOCATION

The ±36.94-acre Study Area is located in El Dorado County north of U.S. Highway 50. It is bifurcated by Silva Valley Parkway and bordered on the west by Clarksville Crossing and on the southeast by Tong Road. The Study Area is located within Township 9 North, Range 8 East, Section 1 and 2 of the *Clarksvill*e United States Geological Survey (USGS) 7.5-minute series quadrangle (Appendix A, Figure 1, *Site and Vicinity Map* and Figure 2, *USGS Topographic Map*). The approximate center of the Study Area is at latitude 38.6600160° and longitude -121.0570744°, NAD 83, and is located at elevations between 705 feet and 795 feet above mean sea level (msl). The 20.34-acre project site is contained within the Study Area.

1.2 DRIVING DIRECTIONS

From downtown Sacramento, travel east on U.S. Highway 50 for approximately 25 miles toward El Dorado Hills and exit on Silva Valley Parkway (Exit 31) and turn right (south). Travel south on Silva Valley Parkway for approximately 0.2 mile and turn right (north) on Old Silva Valley Parkway and travel approximately 0.3 mile. The Study Area is located on the east side of the road and parking is available on the side of the road or on turnouts.

1.3 AGENT CONTACT INFORMATION

Property Owner:
Costco Wholesale
9 Corporate Park, Suite 230
Irvine, CA 92602
Phone: (916) 383-2500
Email: mokuma@costco.com
Contact: Michael Okuma

Agent/Delineator:
HELIX Environmental Planning, Inc.
1677 Eureka Road, Suite 100
Roseville, CA 95661
Phone: (916) 432-1202
Email: ChristineG@helixepi.com
Contact: Christine Gonzalez

1.4 REGULATORY SETTING

1.4.1 Waters of the U.S.

On May 25, 2023, the U.S. Supreme Court issued a decision in the case of Sackett v. Environmental Protection Agency (Supreme Court of the United States 2023), which will ultimately influence how federal waters are defined. The May 25, 2023, Supreme Court decision in Sackett v. Environmental Protection Agency determined that "the CWA extends to only those 'wetlands with a continuous surface connection to bodies that are "waters of the U.S." in their own right,' so that they are 'indistinguishable' from those waters." The U.S. Environmental Protection Agency (USEPA) and the U.S. Army Corps of Engineers (USACE) after review issued a final rule to replace the 2023 rule that amends the "Revised Definition of "Waters of the U.S." to conform key aspects of the regulatory text to the U.S. Supreme Court's May 25, 2023 decision in the case of Sackett v. Environmental Protection Agency.

Unless considered an exempt activity under Section 404(f) of the Federal Clean Water Act (CWA), any person, firm, or agency planning to alter or work in "waters of the U.S.," including the discharge of dredged or fill material, must first obtain authorization from the USACE under Section 404 of the Clean Water Act (CWA; 33 USC 1344). Permits, licenses, variances, or similar authorization may also be required by other federal, state, and local statutes. Section 10 of the Rivers and Harbors Act prohibits the obstruction or alteration of navigable waters of the U.S. without a permit from USACE (33 USC 403). Activities exempted under Section 404(f) are not exempted within navigable waters under Section 10.

The Clean Water Act (33 United States Code (USC) 1251-1376) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters.

Section 401 requires that an applicant for a federal license or permit that allows activities resulting in a discharge to waters of the U.S. obtain state certification that the discharge complies with other provisions of CWA. The Regional Water Quality Control Board (RWQCB) administers the certification program in California and may require State Water Quality Certification before other permits are issued.

Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the U.S.

Section 404 establishes a permit program administered by USACE that regulates the discharge of dredged or fill material into waters of the U.S. (including wetlands). Implementing regulations by USACE are found at 33 CFR Parts 320-332. The Section 404 (b)(1) Guidelines were developed by the USEPA in conjunction with USACE (40 CFR Part 230), allowing the discharge of dredged or fill material for non-water dependent uses into special aquatic sites only if there were no practicable alternative that would have less adverse impacts.

1.4.2 Waters of the State

Any action requiring a CWA Section 404 permit, or a Rivers and Harbors Act Section 10 permit, must also obtain a CWA Section 401 Water Quality Certification. The State of California Water Quality Certification (WQC) Program was formally initiated by the State Water Resources Control Board (SWRCB) in 1990 under the requirements stipulated by Section 401 of the Clean Water Act. Although the Clean Water Act is a federal law, Section 401 of the CWA recognizes that states have the primary authority and responsibility for setting water quality standards. In California, under Section 401, the State and

Regional Water Boards are the authorities that certify that issuance of a federal license or permit does not violate California's water quality standards (i.e., that they do not violate Porter-Cologne and the Water Code). The WQC Program currently issues the WQC for discharges requiring USACE permits for fill and dredge discharges within Waters of the United States, and now also implements the State's wetland protection and hydromodification regulation program under the Porter-Cologne Water Quality Control Act.

On May 28, 2020, the SWRCB implemented the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures) for inclusion in the forthcoming Water Quality Control Plan for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California (SWRCB 2019). The Procedures consist of four major elements:

I. A wetland definition;

II. A framework for determining if a feature that meets the wetland definition is a water of the state;

III. Wetland delineation procedures; and,

IV. Procedures for the submittal, review, and approval of applications for Water Quality Certifications and Waste Discharge Requirements for dredge or fill activities.

Under the Procedures and the State Water Code (Water Code §13050(e)), "waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state." "Waters of the State" includes all "waters of the U.S."

More specifically, a wetland is defined as: "An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation." The wetland definition encompasses the full range of wetland types commonly recognized in California, including some features not protected under federal law, and reflects current scientific understanding of the formation and functioning of wetlands (SWRCB 2019).

Unless excluded by the Procedures, any activity that could result in discharge of dredged or fill material to waters of the State, which includes waters of the U.S. and non-federal waters of the State, requires filing of an application under the Procedures.

2.0 ENVIRONMENTAL SETTING

2.1 EXISTING CONDITIONS

The Study Area is split into three sections: a northern portion and a southern portion which are bisected by Silva Valley Parkway, and a western portion that is bisected from the southern portion by Clarksville Crossing Road (Appendix A, Figure 3, *Aerial Map*). Land uses surrounding the Study Area include residential development and an elementary school to the north, open space and residential development to the west, Highway 50 and open space to the south, and a church and open space to the east.

2.2 FIELD CONDITIONS

Fieldwork for the aquatic resource delineation was conducted on January 9, 2025. Weather during the site visit was sunny, with temperatures ranging between 55 and 63 degrees Fahrenheit.

2.3 INTERSTATE OR FOREIGN COMMERCE CONNECTION

Aquatic resources in the Study Area are not used for any interstate or foreign commerce.

3.0 METHODS

3.1 DATA GATHERING

The following sources were used in preparation of this jurisdictional delineation:

- Aerial photography taken June 28, 2024, downloaded from NearMap,
- U.S. Fish and Wildlife Service's (USFWS) National Wetland Inventory online wetland mapper (USFWS 2025),
- Natural Resources Conservation Service (NRCS) web soil survey (NRCS 2025a),
- Corps of Engineers Wetlands Delineation Manual (USACE 1987),
- Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0; USACE 2008),
- A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States (Field Guide; Lichvar and McColley 2008),
- National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams (Interim Version; USACE 2022),
- Field Indicators of Hydric Soils in the United States (Version 8.2; NRCS 2018), and
- USACE 2020 National Wetland Plant List for the Arid West (USACE 2020).

3.2 BOUNDARIES OF THE DELINEATION

The delineation area includes the entire 36.94-acre Study Area. Refer to the delineation map in Appendix B for the limits of the delineation.

3.3 DETERMINATION PROCEDURES

3.3.1 Delineation Methods

Criteria for determining the presence of wetlands or other waters subject to USACE jurisdiction are presented in the USACE *Wetlands Delineation Manual* (USACE 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0; USACE 2008), *A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western*

United States (Lichvar and McColley 2008), and the *National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams* (Interim Version; USACE 2022).

Key criteria for determining the presence of wetlands subject to USACE jurisdiction (USACE 1987) are:

a) The presence of inundated or saturated soil conditions resulting from permanent or periodic inundation by groundwater or surface water.

b) A prevalence of vegetation typically adapted for life in saturated soil conditions (hydrophytic vegetation).

To assess whether wetlands are present, USACE requires that data be recorded on three environmental parameters: hydrology, soil, and vegetation. Positive wetland indicators for all three parameters are generally required for USACE to assert jurisdiction.

Fieldwork for the aquatic resources delineation was conducted by HELIX biologist Christine Gonzalez on January 9, 2025, in accordance with the Corps of Engineers Wetlands Delineation Manual (USACE 1987), the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West (Version 2.0; USACE 2008), A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States (Lichvar and McColley 2008), and the National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams (Interim Version; USACE 2022). Vegetation, soils, and hydrologic characteristics were visually assessed by conducting meandering transects through the entire Study Area to obtain 100 percent visual coverage. Previous delineations of the Study Area were reviewed prior to the field assessment (Foothill Associates 2017, HELIX 2020, and ECORP Consulting, Inc. 2024). For portions of the Study Area that have previously been delineated, Ms. Gonzalez ground truthed the extent of aquatic resources but did not collect any additional three-parameter or OHWM data. Results of previous delineations including datasheets are incorporated into this report.

Plant species identifiable at the time of the survey were recorded in the field and are included in Appendix C. Plants observed within the Study Area were categorized with the wetland indicator status for each species, as shown in Table 1.

Table 1
WETLAND INDICATOR STATUS RATING

Indicator Status (abbreviation)	Characterization
Obligate (OBL)	Almost always occur in wetlands
Facultative Wetland (FACW)	Usually occur in wetlands, but may occur in non-wetlands
Facultative (FAC)	Occur in wetlands and non-wetlands
Facultative Upland (FACU)	Usually occur in non-wetlands, but may occur in wetlands
Upland (UPL)	Almost never occur in wetlands

The Munsell Color chart (Gretag Macbeth 2000) is used to determine moist soil colors and thus, hydric soils, if present. Data was taken at representative sample points within the Study Area to classify the site's soils, vegetation, and hydrologic characteristics. Wetland/OHWM determination data form(s) are provided in Appendix D.

Geographic coordinates of aquatic resources boundaries and locations of sample points were recorded in the field with an electronic tablet wirelessly connected to a Juniper Geode® (Global Navigation Satellite System [GNSS]) receiver unit with sub-meter accuracy. These data were exported into ArcGIS Pro 3.1.2® and used to produce the Aquatic Resources Delineation Map included as Appendix B. Representative photographs of the Study Area, and the associated sampling locations, are included as Appendix E.

3.3.2 Plant/Habitat Nomenclature

Habitat nomenclature is generally derived from *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988). Plant nomenclature is taken from The Jepson Manual: Vascular Plants of California, second edition (Baldwin et al. 2012).

4.0 RESULTS

4.1 VEGETATION COMMUNITIES/HABITAT TYPES

Terrestrial biological habitats and land covers present within the Study Area include non-native annual grassland, valley foothill riparian, valley oak woodland, and ruderal/disturbed, which are described in detail below. Aquatic resources are described in Section 5.0.

4.1.1 Non-Native Annual Grassland

Non-native annual grassland dominates the northern and southern portions of the Study Area. This vegetation community is characterized primarily by an assemblage of non-native annual grasses and forbs. Dominant vegetation observed in the Study Area includes medusahead (*Elymus caput-medusae*), ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), and wild oat (*Avena fatua*) intermixed with red-stemmed filaree (*Erodium cicutarium*), black mustard (*Brassica nigra*), winter vetch (*Vicia villosa*), St. John's wort (*Hypericum perforatum*), fiddleneck (*Amsinckia* sp.), rose clover (*Trifolium hirtum*), and milk-thistle (*Silybum marianum*). Isolated valley oak (*Quercus lobata*) trees also occur in the non-native annual grassland.

4.1.2 Valley Foothill Riparian

Valley foothill riparian habitats are found in valleys bordered by sloping alluvial fans, slightly dissected terraces, lower foothills, and coastal plains. This habitat typically has a canopy layer of cottonwood (*Populus* spp.), California sycamore (*Platanus racemosa*), and valley oak. Subcanopy trees are white alder (*Alnus rhombifolia*), boxelder (*Acer negundo*), and Oregon ash (*Fraxinus latifolia*). The understory is comprised of wild grape (*Vitis californica*), wild rose (*Rosa californica*), blackberry (*Rubus* spp.), elderberry (*Sambucus* spp.), poison oak (*Toxicodendron pubescens*), willows (*Salix* spp.), herbaceous species such as sedges, and grasses. This habitat is associated with riverine habitat and often has an abrupt transition to adjacent upland habitat (Mayer and Laudenslayer 1988).

Valley foothill riparian habitat occurs within the Study Area and is associated with an ephemeral drainage in the northwestern portion of the Study Area as well as a perennial drainage in the southwestern portion of the Study Area. Dominant vegetation observed includes Fremont's cottonwood (*Populus fremontii*), valley oak (*Quercus lobata*), Himalayan blackberry (*Rubus armeniacus*), broadleaf

cattail (*Typha latifolia*), California bulrush (*Schoenoplectus californicus*), narrow leaved willow (*Salix exigua*), and Mexican rush (*Juncus* cf. *mexicanus*).

4.1.3 Valley Oak Woodland

Valley oak woodland is a common habitat type in the local region and is typically dominated by valley oaks, with other species such as California sycamore, black walnut (*Juglans nigra*), interior live oak (*Quercus wislizeni*), boxelder, and blue oak (*Quercus douglasii*) also occurring. The shrub layer is best developed along natural drainages, becoming insignificant in the uplands with more open stands of oaks. The understory of this community is often an extension of annual grassland habitat (Mayer and Laudenslayer 1988).

Valley oak woodland habitat is located in the southwest boundary of the Study Area where a small stand of mature valley oak trees overhangs an intermittent drainage. The understory is primarily non-native annual grassland with small areas of milkweed (*Asclepias fascicularis*) and pennyroyal (*Mentha pulegium*) immediately adjacent to the drainage.

4.1.4 Ruderal/Disturbed

Ruderal habitats are characterized by an assemblage of non-native and invasive plant species that readily colonize disturbed landscapes. Roadsides, construction sites, and vacant lots are all sites ruderal plant species typically occur in. Disturbed habitats typically retain a soil substrate, but the vegetation communities are either lacking or are comprised of mostly ruderal plant species.

Ruderal/disturbed habitat occurs within the Study Area and is comprised of weedy open space adjacent to road shoulders, graded dirt roads, a paved driveway, and a stockpile area.

Dominant plant species observed in this habitat within the Study Area include medusahead, soft chess, yellow star-thistle (*Centaurea solstitialis*), red-stemmed filaree, and winter vetch.

4.2 CLIMATE

The climate of El Dorado County is Mediterranean, characterized by wet, cool winters and dry, hot summers. The nearest weather station with complete data is located in Auburn, California, approximately 15 miles north of the Study Area. Average daily maximum and minimum temperatures are 92° and 63° Fahrenheit (F) in July and 55° and 37° F in December and January. The mean annual precipitation is 34.68 inches, with 100 percent occurring as rain from October through June. This weather station received approximately 11.84 inches of rainfall from October 1, 2024, through January 9, 2025, which is 34 percent of the annual rainfall for the year (NRCS 2025a).

4.3 SOILS

The Natural Resources Conservation Service (NRCS) has mapped one soil unit within the Study Area, Auburn Silt Loam, 2 to 30 Percent Slopes (Appendix A, Figure 4, *Soils Map*). The general characteristics associated with this soil type are described below (USDA, NRCS 2025b).

Auburn Silt Loam, 2 to 30 Percent Slopes (AwD): this soil unit has a parent material of residuum weathered from basic igneous rock and/or basic residuum weathered from metamorphic rock and is

typical of hills. A typical soil profile is silt loam (0-14 inches) and weathered bedrock (14-18 inches). This soil unit is well drained, has a low runoff class, and no frequency of flooding or ponding. Vegetation associated with this soil series includes annual grasses, forbs, and oaks. The hydric soils list for El Dorado County does not identify this soil as hydric (USDA, NRCS 2025c).

4.4 HYDROLOGY

The Study Area is located in the Upper Cosumnes River watershed (HUC8 18040013). The hydrologic regime on the Study Area is predominantly year-round irrigation runoff from the adjacent development to the north, seasonal stormwater runoff, direct precipitation, which primarily falls between October and June, and groundwater. Surface water runoff runs in a general northeast to southwest direction along the gently sloped topography. The intermittent and ephemeral drainages within the Study Area accumulate water and flow southwest into culverts at Clarksville Crossing Road. The perennial drainage flows south through the Study Area and is a direct tributary to Carson Creek. Carson Creek meets with Deer Creek which flows into the Consumnes River, a traditional navigable water.

4.5 USFWS NATIONAL WETLANDS INVENTORY

The USFWS National Wetlands Inventory (NWI) online database was reviewed to determine if there are any wetlands or other waters of the U.S. mapped by the USFWS in the Study Area or vicinity. The NWI identifies the perennial drainage as freshwater emergent wetland and riverine (Appendix A, Figure 5, *National Wetlands Inventory Map*). No other features are identified by the NWI within or adjacent to the Study Area.

5.0 AQUATIC RESOURCES

A total of 1.021 acres of aquatic resources have been delineated within the Study Area. This acreage consists of 0.193 acre of seasonal wetlands, 0.007 acre of seep, 0.006 acre of wetland swale, 0.234 acre of ephemeral drainages, 0.360 acre of intermittent drainage, and 0.221 acre of perennial drainage (Appendix B). This acreage includes 0.19 acre of waters of the U.S. that was previously verified by the USACE within a 17.9-acre portion of the northern portion of the Study Area (SPK-2013-00090). This previously verified acreage was carried forward in this delineation. A description of all of the features delineated within the Study Area are provided in the following sections.

5.1.1 Seasonal Wetland

A total of 0.193 acre of seasonal wetlands has been delineated within the Study Area (Appendix B). Seasonal wetlands are often depressions or topographic folds within the landscape that inundate for short periods of time following intense rains, but do not maintain seasonal aquatic or saturated soil conditions for durations long enough for colonization by perennial, obligate plant species. As such, plant species in seasonal wetlands are generally of two types: species that can tolerate short periods of inundation but have not adapted to withstand sustained aquatic or saturated soil conditions, and short-lived (primarily annual) species that take advantage of ephemeral aquatic and/or saturated soil conditions. The majority of seasonal wetlands within the Study Area are adjacent to an ephemeral drainage in the northern portion of the Study Area and one is adjacent to the intermittent drainage. There are also two depressional seasonal wetlands within the Study Area that appear to have formed as a result of historic excavation as they are located next to large, steep mounds. Dominant vegetation

observed in seasonal wetlands includes iris leaved rush (*Juncus xiphioides*), Italian rye grass (*Festuca perennis*), needle spikerush (*Eleocharis acicularis*), and tall cyperus (*Cyperus eragrostis*).

5.1.2 Seep

A total of 0.007 acre of seep has been delineated within the Study Area (Appendix B). Seeps are characterized as areas where subsurface flows intersect the soil surface. Typically, water flows from seeps persist for some period after the rainy season or, more rarely, nearly year-round. Seeps accessing sufficient amounts of subsurface water can support isolated wetland vegetation (such as on a hillside) or they may form the headwaters of other jurisdictional drainage or wetland features, such as wetland swales. Vegetation in seeps often consists of plant species associated with seasonal and semi-permanent marsh habitats. When seeps are active for only short periods beyond the rainy season and into the warm season, herbaceous perennial wetland species typically dominate. Vegetation observed in the seep within the Study Area consisted almost entirely of iris leaved rush. Hydric soil indicators in the seep included a redox dark surface with distinct or prominent redoximorphic features located along root channels of living roots and as concentrations in the matrix. Wetland hydrology requirements were met by oxidized rhizospheres, saturation visible on aerial imagery, and the FAC-neutral test.

5.1.3 Wetland Swale

A total of 0.006 acre of wetland swale was delineated within the Study Area (Appendix B). The wetland swale within the Study Area is associated with SW-3 on the northern portion of the Study Area and conveys water from that feature to ED-16 and during high flow events. Dominant vegetation observed in the wetland swale within the Study Area includes curly dock (*Rumex crispus*), pennyroyal (*Mentha pulegium*), coyote-thistle (*Eryngium vaseyi*), brome fescue (*Festuca bromoides*), Italian rye grass, and annual hair grass (*Deschampsia danthonioides*).

5.1.4 Ephemeral Drainage

A total of 0.234 acre of ephemeral drainages have been delineated within the Study Area (Appendix B). Ephemeral drainages are not wetlands as they do not meet the three-parameter criteria for vegetation, hydrology, and soils but do convey water and exhibit an ordinary high water mark. Water flows within ephemeral drainages are fed primarily by precipitation and surface water runoff. These features convey water during and immediately after storm events, but do not flow continuously throughout the winter and spring. Typically, these features exhibit a defined bed and bank and show signs of scouring as a result of rapid flow events. Although the channels of the ephemeral drainages within the Study Area are largely unvegetated, what vegetation is present includes winter vetch, ripgut brome, Italian rye grass, phacelia (*Phacelia cicutaria*), and medusahead.

5.1.5 Intermittent Drainage

A total of 0.360 acre of intermittent drainage has been delineated within the Study Area (Appendix B). Intermittent drainages receive substantial seasonal flows of significant velocity and may appear as perennial features during the normal wet season. These seasonal flows often scour the channel of vegetation. Intermittent drainages may support fringe wetland vegetation types, such as seasonal or semi-permanent marsh or riparian wetlands. Conversely, intermittent drainages may be associated with hydrophytic vegetation communities that lack further wetland indicators. A typical hydroperiod of

intermittent drainages is one that begins with the onset of substantial rains in the normal wet season and persists for an extended, variable amount of time into the summer.

A brick check dam has been constructed across a portion of the intermittent drainage within the Study Area near datapoint 4a (Appendix B). This check dam has resulted in water backing up during flow events that has allowed for the establishment of hydrophytic, emergent vegetation upstream of datapoint 4a. The area containing emergent vegetation is dominated by common knotweed (*Persicaria lapathifolia*) and curly dock, with some areas of cattails, Himalayan blackberry, and a small clump of willows. This area is entirely within the OHWM of the intermittent drainage.

5.1.6 Perennial Drainage

A total of 0.221 acre of perennial drainage has been delineated within the Study Area (Appendix B). Perennial drainages may not meet the three-parameter wetland criteria for vegetation, hydrology, and soils, but do convey water and exhibit an OHWM. Perennial drainages convey water flows throughout the entire year. These drainages typically consist of a channel, bed, and bank and are devoid of wetland vegetation due to the scouring effect of flowing water. Perennial drainages are often bordered by wetland and riparian communities of various composition and cover depending on flow rates, duration of flows, and soil types.

The perennial drainage is located in the western portion of the Study Area and flows north to south. This feature originates north of the Study Area and is a direct tributary to Carson Creek. Two high-flow channels are present along the western portion of the main channel and contained flowing water during the site assessment on January 9, 2025. The perennial drainage is generally devoid of vegetation, but emergent wetland vegetation and riparian vegetation are present along the upper bank of the drainage and form a swath of valley foothill riparian habitat.

Table 1 below provides a summary of aquatic resources mapped within the Study Area.

Table 1
AQUATIC RESOURCES IN THE STUDY AREA

Feature	Lat./Long.	Cowardin Classification[1]	Area (ac.)	Area (sq. ft.)	Length (ft.)
Wetlands					
SW-1	38.66254651 / -121.05641250	PEM2	0.008	348.48	--
SW-2	38.66215585 / -121.05823323	PEM2	0.007	304.92	--
SW-3	38.66203095 / -121.05697570	PEM2	0.075	3,267.00	--
SW-4	38.66253163/ -121.05684286	PEM2	0.003	130.68	--
SW-5	38.66255280 / -121.05676900	PEM2	0.039	1,698.84	--
SW-6	38.66235351/ -121.05679440	PEM2	0.010	435.60	--
SW-7	38.66209801/ -121.05682029	PEM2	0.004	174.24	--
SW-8	38.66212055/ -121.05677157	PEM2	0.034	1,481.04	--
SW-9	38.66196011/ -121.05679728	PEM2	0.004	174.24	--
SW-10	38.66189125/ -121.05691083	PEM2	0.002	87.12	--
SW-11	38.66012735/ -121.05735888	PEM2	0.007	304.92	--
		Seasonal Wetlands Total	0.193	8,407.08	--
SP-12	38.66045627/ -121.0570439	PEM1	0.007	304.92	--
		Seep Total	0.007	304.92	--
WS-13	38.66178493/ -121.0570147	PEM2	0.006	261.36	88
		Wetland Swale Total	0.006	261.36	88
		Wetlands Total	**0.206**	**8,973.36**	**88**
Other Waters					
ED-14	38.66159320/ -121.05862271	R4SB	0.028	1,219.68	73
ED-15	38.66240344/ -121.05678065	R4SB	0.036	1,568.16	724
ED-16	38.66209325/ -121.05649429	R4SB	0.018	784.08	398
ED-17	38.66247255/ -121.05828419	R4SB	0.151	6,577.56	333
		Ephemeral Drainage Total	0.233	10,149.48	1,528
ID-18	38.66044381/ -121.0573095	R4SB	0.360	15,681.60	982
		Intermittent Drainage Total	0.360	15,681.60	982
P-19	38.65935419/ -121.0583792	R5RB	0.221	9,626.76	573
		Perennial Drainage Total	0.221	9,626.76	573
		Other Waters Total	**0.814**	**35,457.84**	**3,083**
		Total Aquatic Resources	**1.021**	**44,431.20**	**3,171**

[1] Cowardin Codes for Wetlands: System (P = Palustrine; R = Riverine), Subsystem (4 = Intermittent; 5 = Perennial), – Class (EM = Emergent; SB = Streambed; RB = Rock bottom), – Subclass (1 = Persistent; 2 = Non-persistent).

5.2 POTENTIAL WATERS OF THE U.S.

A total of 1.021 acre of aquatic resources have been delineated within the Study Area. All aquatic resources within the Study Area are expected to qualify as waters of the U.S. as they either have a physical hydrologic connection or abut a traditional navigable water. The perennial drainage is a direct tributary to Carson Creek, which is ultimately tributary to the Consumnes River, a traditional navigable water. The intermittent and ephemeral drainages within the Study Area flow into storm drains which also appear hydrologically connected to Carson Creek. The seasonal wetlands, seep, and wetland swale either abut or appear to have a physical connection to the drainages.

5.3 POTENTIAL WATERS OF THE STATE

All aquatic resources in the Study Area (1.021 acres) are potential waters of the U.S.; therefore, they are potential waters of the State as well (see Section 1.4.1). There are no other aquatic resources in the Study Area that would be potential waters of the State.

6.0 SUMMARY

HELIX conducted an aquatic resources delineation of the ±36.94-acre Study Area for the Costco El Dorado Hills Project located in El Dorado Hills, California. A total of 1.021 acres of aquatic resources and other waters of the U.S. were mapped within the Study Area. This acreage consists of 0.193 acre of seasonal wetlands, 0.007 acre of seep, 0.006 acre of wetland swale, 0.234 acre of ephemeral drainage, 0.360 acre of intermittent drainage, and 0.221 acre of perennial drainage. The findings above represent a calculated estimation of the extent of aquatic resources within the Study Area and are subject to modification following USACE review and/or the verification process.

7.0 REFERENCES

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, D.H. Wilken, editors. 2012. The Jepson Manual: Vascular Plants of California, second edition. University of California Press, Berkeley.

ECORP Consulting, Inc. 2024. Biological Review Technical Memorandum for the Proposed El Dorado Hills-52 Development Project in El Dorado County, California.

Environmental Laboratory. 1987. Wetlands Research Program Technical Report Y-87-1 Corps of Engineers Wetland Delineation Manual. January 1987.

Foothill Associates. 2017. Assessment of Aquatic Resource Function on El Dorado Hills 52 Study Area (Regulatory ID SPK-2013-00090).

Gretag Macbeth. 2000. Munsell Soil Color Charts. New Windsor, NY.

HELIX. 2020. El Dorado Hills 52 Project, Aquatic Resources Delineation Report.

Lichvar, Robert W. and Shawn McColley. 2008. *A Field Guide to the Identification of the Ordinary High-Water Mark (OHWM) in the Arid West Region of the Western United States*. Vicksburg, MS: U.S. Army Corps of Engineers Research and Development Center.

Mayer, K.E. and W.F. Laudenslayer. 1988. A Guide to Wildlife Habitats of California. State of California, Resources Agency, Department of Fish and Game, Sacramento, CA 166pp.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture (NRCS). 2018. Field Indicators of Hydric Soils in the United States, Version 8.2. L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.

2025a. Climate Data and Summary Reports from AgACIS. Available at: http://agacis.rcc-acis.org/?fips= 06067.

2025b. Web Soil Survey. Available at: http://websoilsurvey.nrcs.usda.gov/.

2025c. National List of Hydric Soils. Available online at: https://www.nrcs.usda.gov/publications/query-by-ssa.html.

State Water Resources Control Board (SWRCB). 2019. *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*. Available online at: https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/2021/procedures.pdf.

U.S. Army Corps of Engineers (USACE). 2018. Arid West 2018 Regional Wetland Plant List.

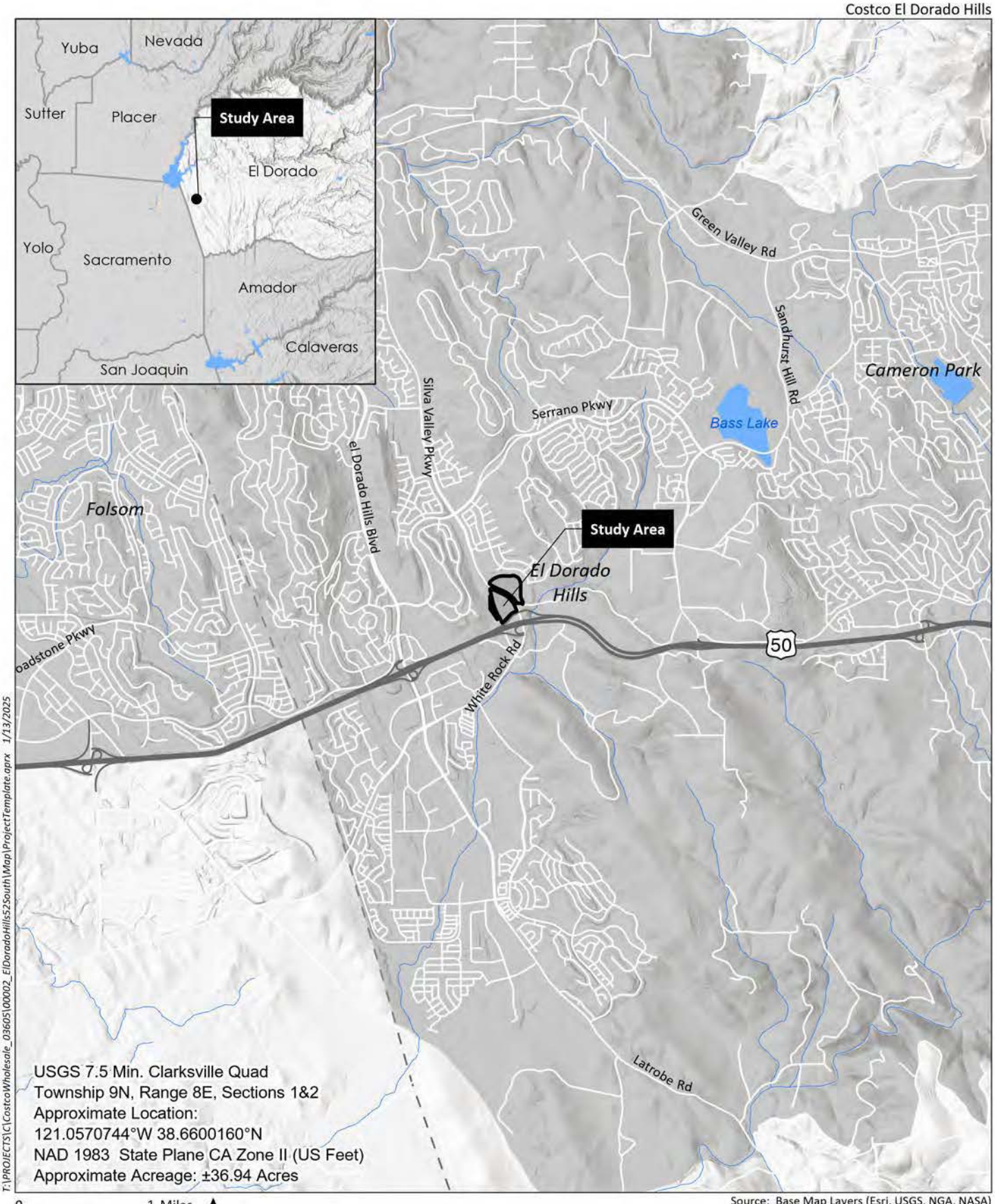
2016. Minimum Standards for Acceptance of Aquatic Resource Delineation Reports (Sacramento District).

2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). J.S. Wakeley, R.W. Lichvar, and C.V. Noble, eds., Technical Report prepared for the U.S. Army Engineer Research and Development Center, Vicksburg, MS.

U.S. Fish and Wildlife Service (USFWS). 2025. National Wetlands Inventory. Available at: https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper.

Appendix A

Figures

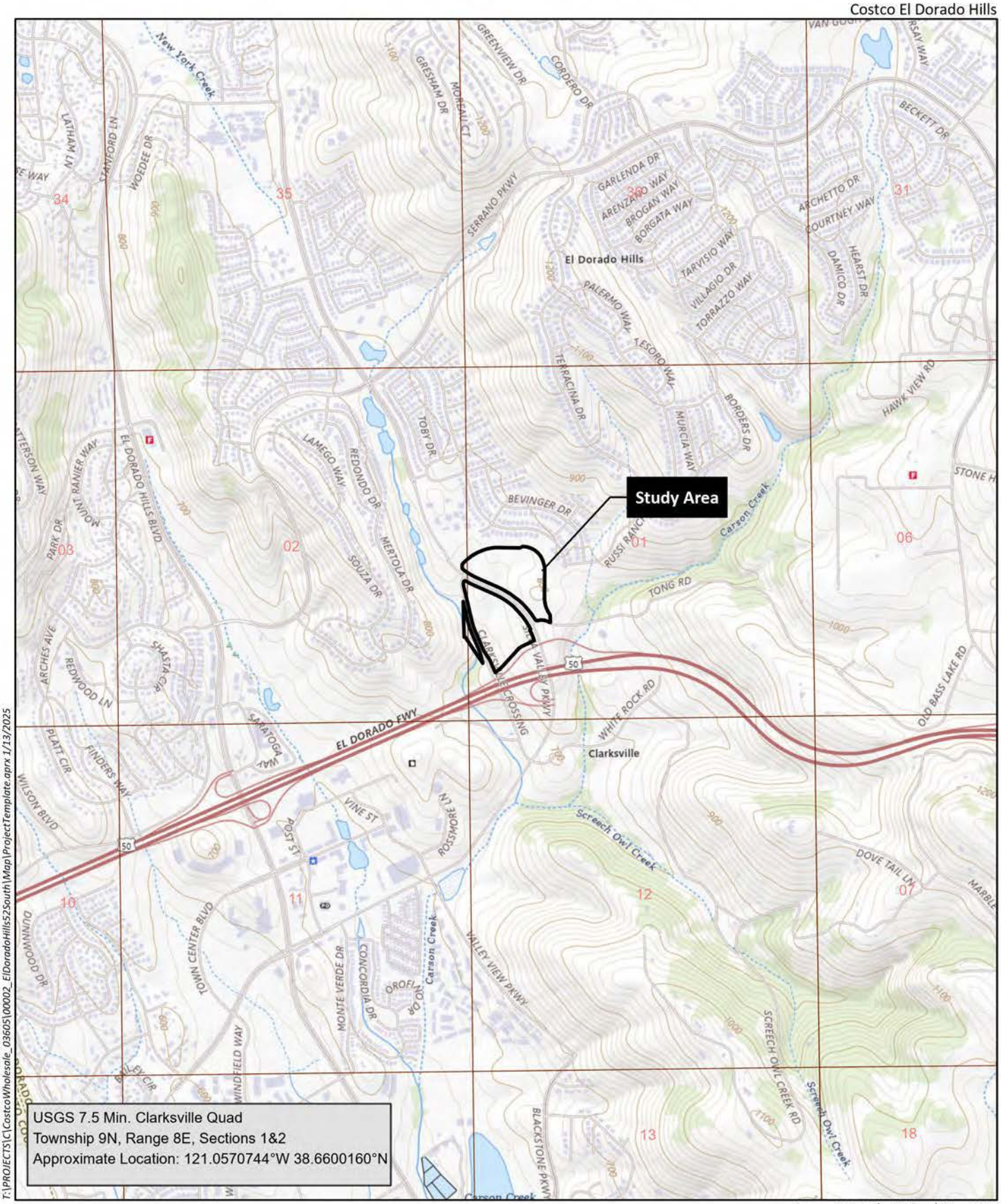


T:\PROJECTS\C\CostcoWholesale_03605\00002_ElDoradoHills52South\Map\ProjectTemplate.aprx 1/13/2025

HELIX Environmental Planning

Site and Vicinity Map

Figure 1



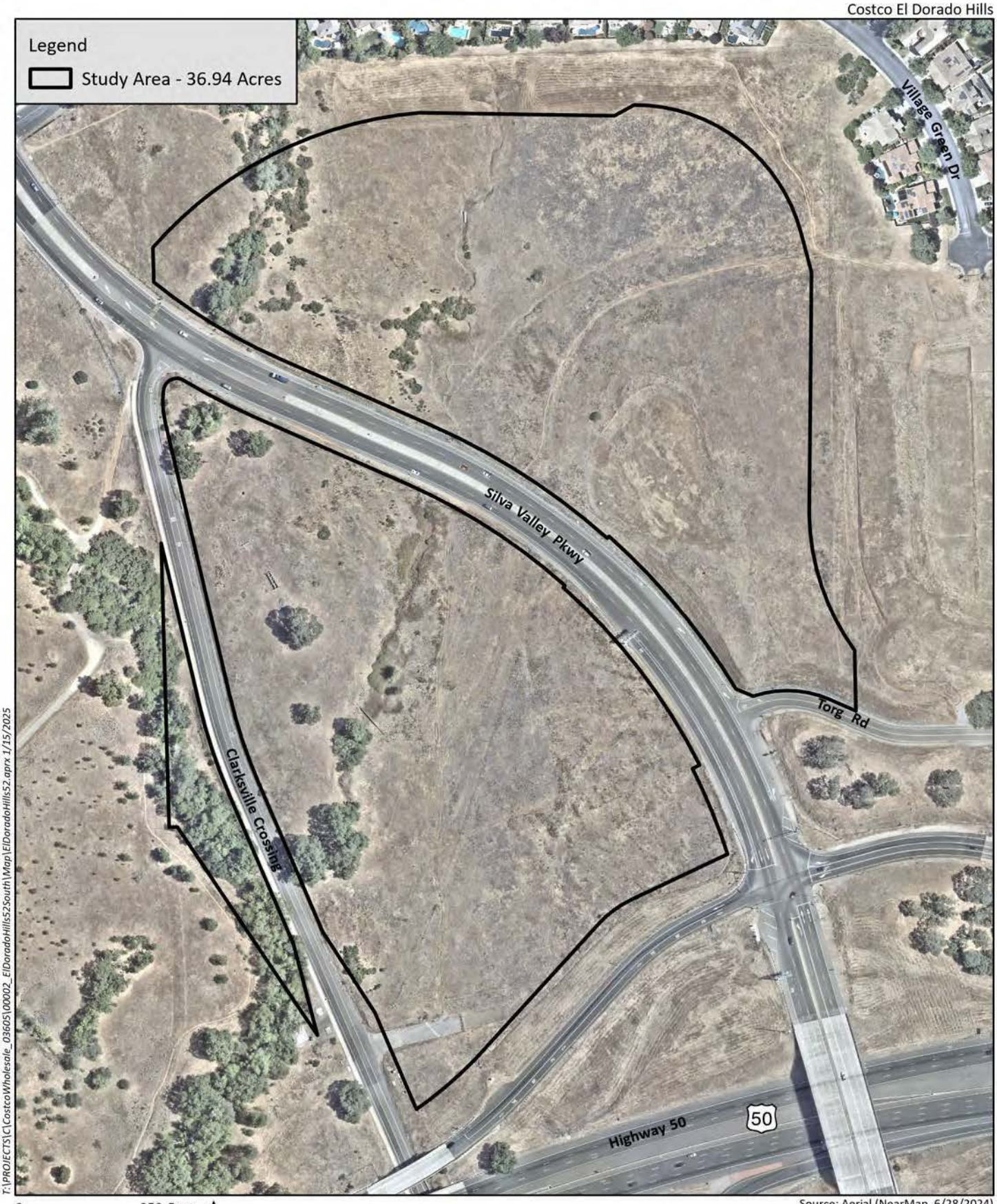
T:\PROJECTS\C\CostcoWholesale_03605\00002_ElDoradoHills52South\Map\ProjectTemplate.aprx 1/13/2025

HELIX Environmental Planning

USGS Topographic Map

Figure 2

Costco El Dorado Hills



T:\PROJECTS\C\CostcoWholesale_03605\00002_ElDoradoHills52South\Map\ElDoradoHills52.aprx 1/15/2025

0 250 Feet

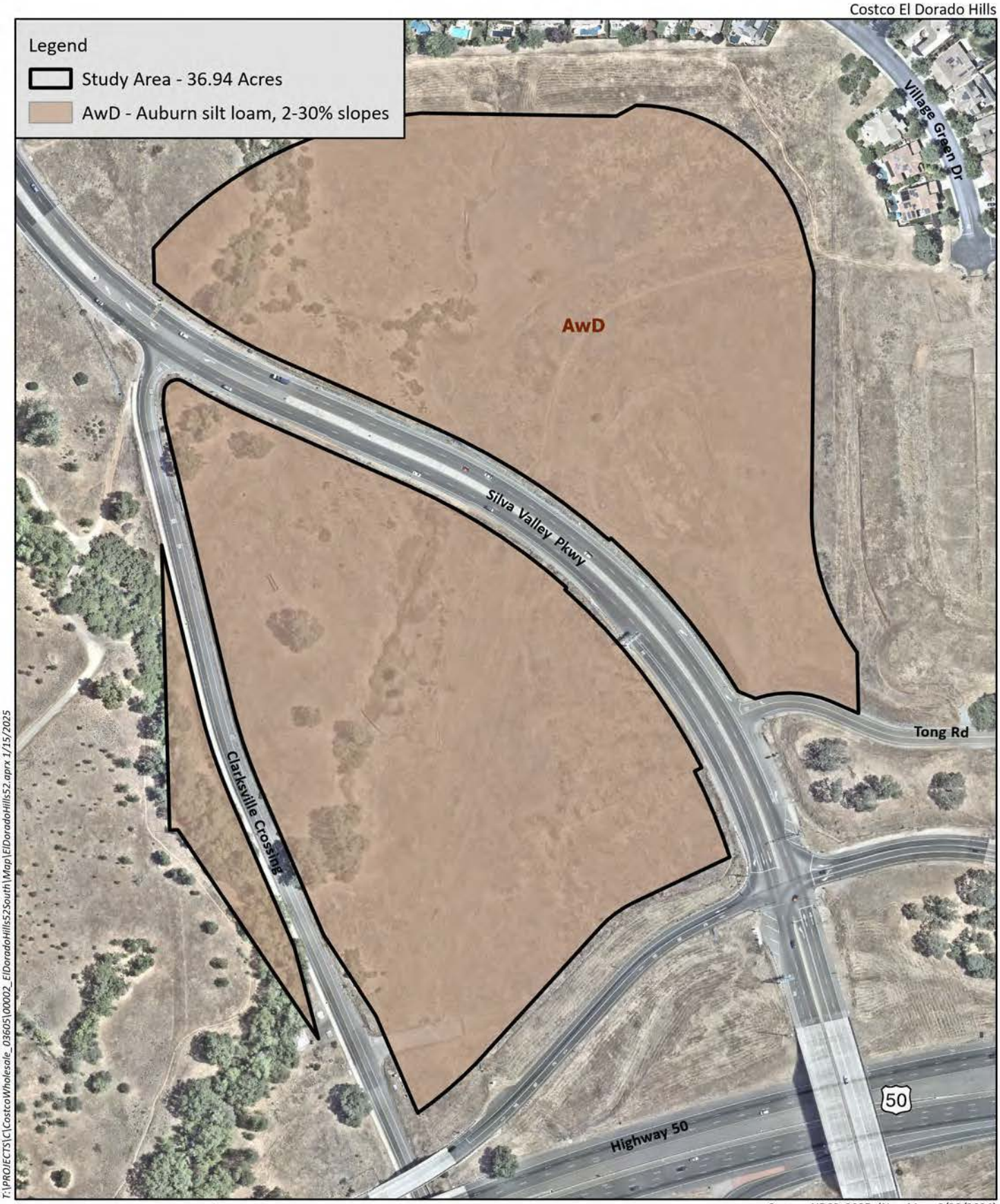
Source: Aerial (NearMap, 6/28/2024)

HELIX Environmental Planning

Aerial Map

Figure 3

Costco El Dorado Hills



T:\PROJECTS\C\CostcoWholesale_03605\00002_ElDoradoHills52South\Map\ElDoradoHills52.aprx 1/15/2025

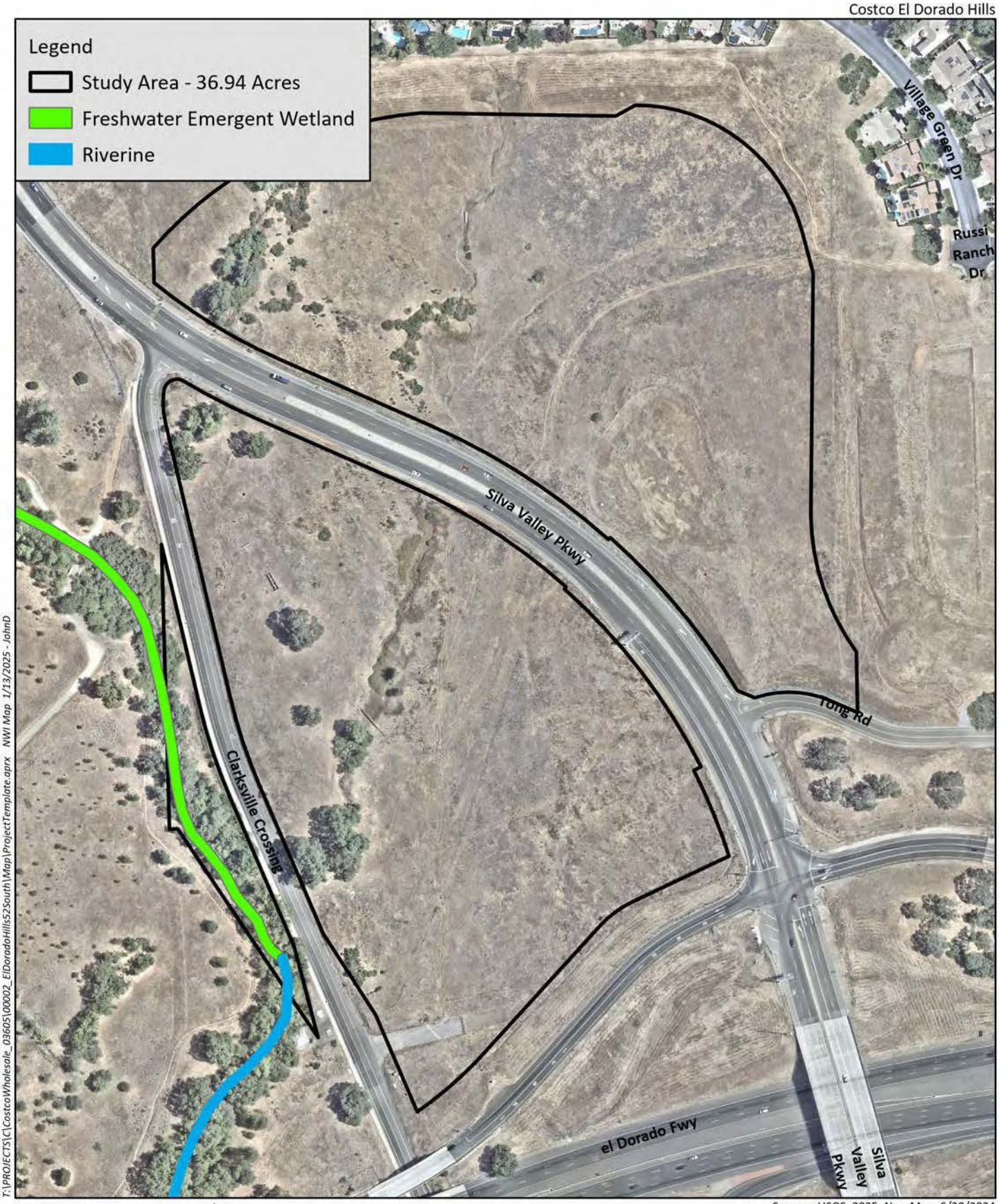
0 250 Feet

Source: NRCS, 2025; (NearMap, 6/28/2024)

HELIX Environmental Planning

Soils Map

Figure 4



Source: USGS, 2025; NearMap, 6/28/2024

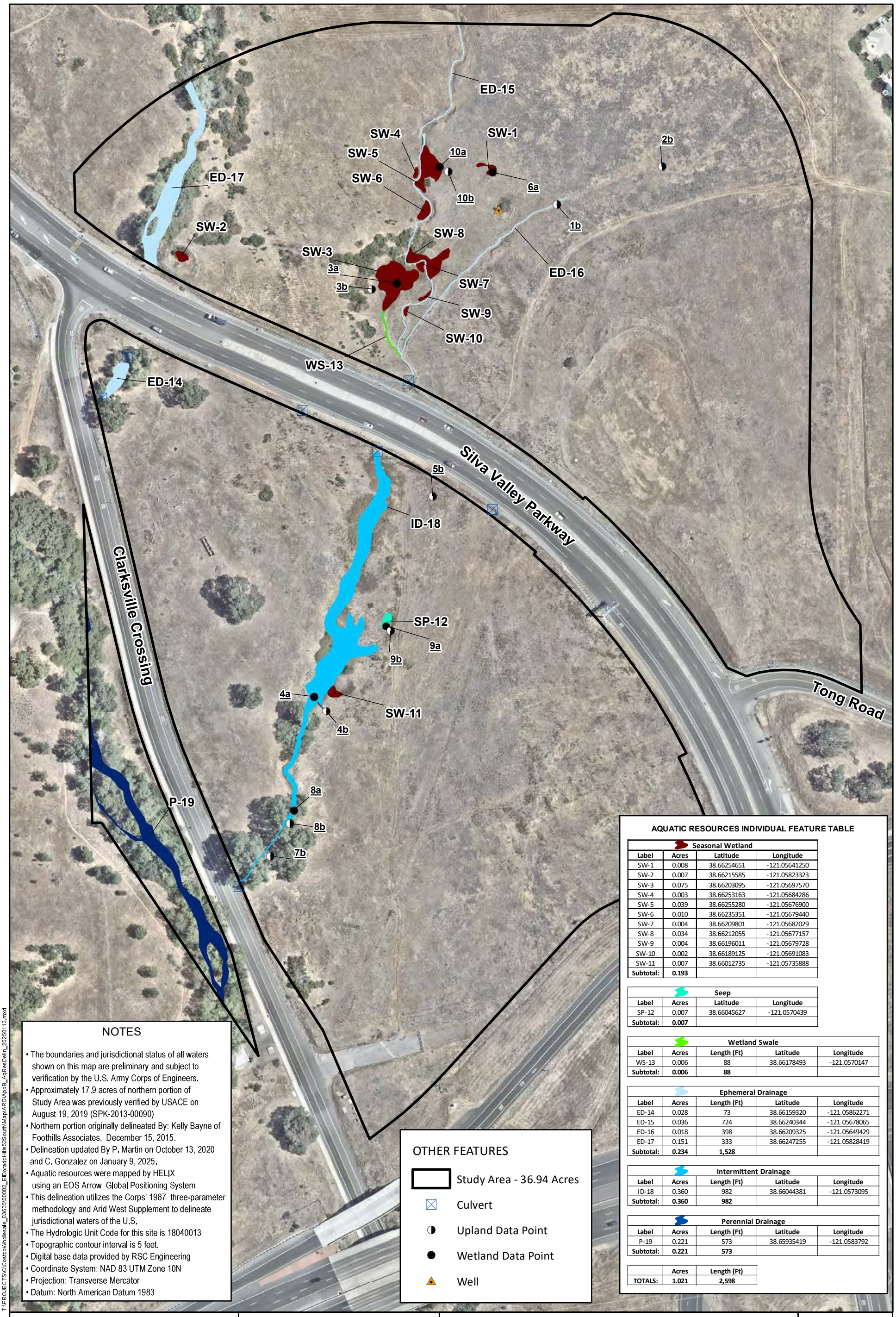
HELIX Environmental Planning

National Wetlands Inventory Map

Figure 5

Appendix B

Aquatic Resources Delineation Map



AQUATIC RESOURCES INDIVIDUAL FEATURE TABLE

Seasonal Wetland

Label	Acres	Latitude	Longitude
SW-1	0.008	38.66254651	-121.05641250
SW-2	0.007	38.66215585	-121.05823323
SW-3	0.075	38.66203095	-121.05697570
SW-4	0.003	38.66253163	-121.05684286
SW-5	0.039	38.66255280	-121.05676900
SW-6	0.010	38.66235351	-121.05679440
SW-7	0.004	38.66209801	-121.05682029
SW-8	0.034	38.66212055	-121.05677157
SW-9	0.004	38.66196011	-121.05679728
SW-10	0.002	38.66189125	-121.05691083
SW-11	0.007	38.66012735	-121.05735888
Subtotal:	**0.193**		

Seep

Label	Acres	Latitude	Longitude
SP-12	0.007	38.66045627	-121.0570439
Subtotal:	**0.007**		

Wetland Swale

Label	Acres	Length (Ft)	Latitude	Longitude
WS-13	0.006	88	38.66178493	-121.0570147
Subtotal:	**0.006**	**88**		

Ephemeral Drainage

Label	Acres	Length (Ft)	Latitude	Longitude
ED-14	0.028	73	38.66159320	-121.05862271
ED-15	0.036	724	38.66240344	-121.05678065
ED-16	0.018	398	38.66209325	-121.05649429
ED-17	0.151	333	38.66247255	-121.05828419
Subtotal:	**0.234**	**1,528**		

Intermittent Drainage

Label	Acres	Length (Ft)	Latitude	Longitude
ID-18	0.360	982	38.66044381	-121.0573095
Subtotal:	**0.360**	**982**		

Perennial Drainage

Label	Acres	Length (Ft)	Latitude	Longitude
P-19	0.221	573	38.65935419	-121.0583792
Subtotal:	**0.221**	**573**		

	Acres	Length (Ft)
TOTALS:	**1.021**	**2,598**

NOTES

- The boundaries and jurisdictional status of all waters shown on this map are preliminary and subject to verification by the U.S. Army Corps of Engineers.
- Approximately 17.9 acres of northern portion of Study Area was previously verified by USACE on August 19, 2019 (SPK-2013-00090)
- Northern portion originally delineated By: Kelly Bayne of Foothills Associates, December 15, 2015.
- Delineation updated By P. Martin on October 13, 2020 and C. Gonzalez on January 9, 2025.
- Aquatic resources were mapped by HELIX using an EOS Arrow Global Positioning System
- This delineation utilizes the Corps' 1987 three-parameter methodology and Arid West Supplement to delineate jurisdictional waters of the U.S.
- The Hydrologic Unit Code for this site is 18040013
- Topographic contour interval is 5 feet.
- Digital base data provided by RSC Engineering
- Coordinate System: NAD 83 UTM Zone 10N
- Projection: Transverse Mercator
- Datum: North American Datum 1983

OTHER FEATURES

- Study Area - 36.94 Acres
- Culvert
- Upland Data Point
- Wetland Data Point
- Well

T:\PROJECTS\C\CostcoWholesale_03605\00002_ElDoradoHills52South\Map\ARD\AppB_AqResDelin_20250113.mxd

HELIX Environmental Planning

USACE REGULATORY FILE #:
VERIFIED BY: TBD
DATE OF VERIFICATION: TBD

REVISIONS

DATE	DESCRIPTION	BY

0 150 300
Feet

1 inch = 150 feet

N

AQUATIC RESOURCES DELINEATION MAP

Costco El Dorado Hills

El Dorado Hills, El Dorado County, California

January 24, 2025

Appendix B

Appendix C

List of Plants Observed in the Study Area

Family	Scientific Name	Common Name	Indicator Status*
Fabaceae	*Acmispon americanus* var. *americanus*	American bird's foot trefoil	UPL
Poaceae	*Aegilops cylindrica*	Jointed goat grass	--
Apocynaceae	*Asclepias fascicularis*	Narrow leaf milkweed	--
Poaceae	*Avena fatua*	Wild oats	--
Asteraceae	*Baccharis pilularis* ssp. *consanguinea*	Coyote brush	--
Poaceae	*Briza minor*	Little rattlesnake grass	FAC
Themidaceae	*Brodiaea elegans*	Harvest brodiaea	FACU
Poaceae	*Bromus diandrus*	Ripgut brome	--
Poaceae	*Bromus hordeaceus*	Soft brome	FACU
Asteraceae	*Carduus pycnocephalus*	Italian thistle	--
Cyperaceae	*Carex praegracilis*	Field sedge	FACW
Cyperaceae	*Cyperus eragrostis*	Tall flatsedge	FACW
Asteraceae	*Centaurea solstitialis*	Yellow star-thistle	--
Asteraceae	*Centromadia fitchii*	Spikeweed	FACU
Agavaceae	*Chlorogalum pomeridianum* var. *pomeridianum*	Common soaproot	--
Asteraceae	*Cirsium vulgare*	Bull thistle	FACU
Euphorbiaceae	*Croton setiger*	Turkey mullein	--
Convolvulaceae	*Cuscuta californica*	California dodder	--
Poaceae	*Cynodon dactylon*	Bermuda grass	FACU
Cyperaceae	*Cyperus eragrostis*	Tall cyperus	FACW
Apiaceae	*Daucus pusillus*	Wild carrot	UPL
Poaceae	*Deschampsia danthonioides*	Annual hair grass	FACW
Poaceae	*Deschampsia elongata*	Slender hair grass	FACW
Themidaceae	*Dichelostemma capitatum* ssp. *capitatum*	Wild hyacinth	FACU
Asteraceae	*Dittrichia graveolens*	Stinkwort	--
Campanulaceae	*Downingia* spp.	Downingia	OBL
Cyperaceae	*Eleocharis acicularis*	Needle spikerush	OBL
Cyperaceae	*Eleocharis macrostachya*	Pale spikerush	OBL
Poaceae	*Elymus caput-medusae*	Medusahead	--
Onagraceae	*Epilobium brachycarpum*	annual willowherb	FAC
Onagraceae	*Epilobium* cf. *ciliatum*	Fringed willowherb	FACW
Onagraceae	*Epilobium densiflorum*	Denseflower willowherb	FACW
Geraniaceae	*Erodium botrys*	Big heron bill	FACU
Geraniaceae	*Erodium cicutarium*	Coastal heron's bill	--
Apiaceae	*Eryngium castrense*	Great Valley button-celery	OBL
Phrymaceae	*Erythranthe guttata* (*Mimulus guttatus*)	Yellow monkey flower	OBL
Poaceae	*Festuca microstachys*	Small fescue	--
Poaceae	*Festuca myuros*	Rattail sixweeks grass	FACU
Poaceae	*Festuca perennis*	Italian rye grass	FAC
Moraceae	*Ficus carica*	Edible fig	FACU
Rhamnaceae	*Frangula californica* ssp. *tomentella*	Hoary coffeeberry	--
Poaceae	*Gastridium phleoides*	Nit grass	FACU
Geraniaceae	*Geranium dissectum*	Cutleaf geranium	--
Geraniaceae	*Geranium molle*	Crane's bill geranium	--
Poaceae	*Glyceria declinata*	Low manna grass	FACW
Asteraceae	*Helminthotheca echioides*	Bristly ox-tongue	--
Asteraceae	*Holocarpha virgata* ssp. *virgata*	Narrow tarplant	--

Family	Scientific Name	Common Name	Indicator Status*
Poaceae	*Hordeum marinum*	Barley	FAC
Hypericaceae	*Hypericum perforatum* ssp. *perforatum*	Klamathweed	FACU
Asteraceae	*Hypochaeris glabra*	Smooth cat's-ear	--
Juncaceae	*Juncus bufonius*	Toad rush	FACW
Juncaceae	*Juncus effusus*	Common bog rush	FACW
Juncaceae	*Juncus capitatus*	Leafy bracted dwarf rush	FACU
Juncaceae	*Juncus* cf. *mexicanus*	Mexican rush	FACW
Juncaceae	*Juncus* cf. *tenuis*	Slender rush	FACW
Juncaceae	*Juncus xiphioides*	Iris leaved rush	OBL
Asteraceae	*Lactuca serriola*	Prickly lettuce	FACU
Asteraceae	*Lasthenia fremontii*	Vernal pool goldfields	OBL
Asteraceae	*Leontodon saxatilis*	Hairy hawkbit	FACU
Linaceae	*Linum usitatissimum*	Common flax	--
Lunulariaceae	*Lunularia cruciata*	Crescent-cup liverwort	--
Lythraceae	*Lythrum hyssopifolia*	Hyssop loosestrife	OBL
Lamiaceae	*Mentha pulegium*	Pennyroyal	OBL
Poaceae	*Muhlenbergia rigens*	Deer grass	FAC
Haloragaceae	*Myriophyllum aquaticum*	Parrot feather watermilfoil	OBL
Polemoniaceae	*Navarretia intertexta*	Interwoven navarretia	FACW
Poaceae	*Paspalum dilatatum*	Dallis grass	FAC
Polygonaceae	*Persicaria* sp.	Smartweed	OBL
Boraginaceae	*Plagiobothrys stipitatus*	Stalked popcorn-flower	FACW
Poaceae	*Pleuropogon californicus*	Semaphore grass	OBL
Poaceae	*Poa annua*	Annual blue grass	FAC
Lamiaceae	*Pogogyne zizyphoroides*	Sacramento Mesa-mint	OBL
Poaceae	*Polypogon monspeliensis*	Rabbitsfoot grass	FACW
Salicaceae	*Populus fremontii*	Fremont's cottonwood	FAC
Rosaceae	*Prunus* sp.	Cherry tree	FACU
Fagaceae	*Quercus douglasii*	Blue oak	--
Fagaceae	*Quercus lobata*	Valley oak	FACU
Fagaceae	*Quercus wislizeni*	Interior live oak	--
Ranunculaceae	*Ranunculus bonariensis* var. *trisepalus*	Vernal pool buttercup	OBL
Ranunculaceae	*Ranunculus muricatus*	Spiny buttercup	FACW
Brassicaceae	*Rorippa curvisiliqua*	Curvepod yellow cress	OBL
Rosaceae	*Rubus armeniacus*	Himalayan blackberry	FAC
Polygonaceae	*Rumex crispus*	Curly dock	FAC
Polygonaceae	*Rumex pulcher*	Fiddle dock	FAC
Salicaceae	*Salix exigua*	Narrow leaved willow	FACW
Salicaceae	*Salix* cf. *lasiolepis*	Arroyo willow	FACW
Viburnaceae	*Sambucus mexicana*	Elderberry	--
Cyperaceae	*Schoenoplectus californicus*	California bulrush	OBL
Asteraceae	*Senecio vulgaris*	Common groundsel	FACU
Asteraceae	*Sonchus asper*	Prickly sow thistle	FAC
Poaceae	*Stipa pulchra*	Purple needle grass	--
Lamiaceae	*Trichostema lanceolata*	Vinegar weed	FACU
Fabaceae	*Trifolium variegatum*	Variegated clover	FAC
Typhaceae	*Typha latifolia*	Narrow leaved cattail	OBL
Scrophulariaceae	*Verbascum blattaria*	Moth mullein	UPL

Family	Scientific Name	Common Name	Indicator Status*
Plantaginaceae	*Veronica* cf. *americana*	American brooklime	OBL
Fabaceae	*Vicia sativa*	Spring vetch	FACU
Gentianaceae	*Zeltnera muehlenbergii*	Muehlenberg's centaury	FAC

Scientific and common names from:

Baldwin, B.G.. D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, D.H. Wilken, editors. 2012. The Jepson Manual: Vascular Plants of California, second edition. University of California Press, Berkley

or

U.S. Army Corps of Engineers Cold Regions Research and Engineering Laboratory, *Arid West 2022 Regional Wetland Plant List*

* Acronyms: FAC – facultative, FACU – facultative upland, FACW – facultative wetland, OBL – obligate, UPL – upland; -- Not Listed (considered upland) (USACE 2018)

Appendix D

Data Sheets

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Dec. 15, 2015

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 1B

Investigator(s): Kelly Bayne and Charlotte Marks Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 38 39 44.15"N Long: 121 03 22.66"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Ephemeral drainage; although the soils do not meet the definition of a wetland, the feature has an OHWM. Therefore, it is considered an ephemeral drainage.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Festuca perennis	5	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	5 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 95 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 1B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	7.5YR 3/2	100	None				Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ **No** ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✓ Water Marks (B1) (**Riverine**)
- ✓ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Dec. 15, 2015

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 2B

Investigator(s): Kelly Bayne and Charlotte Marks Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR): C Lat: 38 39 45.19"N Long: 121 03 19.74"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Erodium botrys	40	Yes	FACU
2. Holocarpha virgata	20	Yes	UPL
3. Hordeum murinum	40	Yes	FACU
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species 80	x 4 =	320
UPL species 20	x 5 =	100
Column Totals: 100 (A)		420 (B)

Prevalence Index = B/A = 4.2

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 2B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 3/4	100	None				Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Dec. 15, 2015

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 3A

Investigator(s): Kelly Bayne and Charlotte Marks Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 3

Subregion (LRR): C Lat: 38 39 42.86"N Long: 121 03 24.91"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Eleocharis macrostachya	100	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 3A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 3/2	80	7.5YR 4/6	20	C	PL	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Dec. 15, 2015

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 3B

Investigator(s): Kelly Bayne and Charlotte Marks Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): none Slope (%): 3

Subregion (LRR): C Lat: 38 39 43.18"N Long: 121 03 25.71"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Erodium botrys	40	Yes	FACU
2. Holocarpha virgata	20	Yes	UPL
3. Hordeum murinum	40	Yes	FACU
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species _____	x 1 =	_____
FACW species _____	x 2 =	_____
FAC species _____	x 3 =	_____
FACU species 80	x 4 =	320
UPL species 20	x 5 =	100
Column Totals: 100 (A)		420 (B)

Prevalence Index = B/A = 4.2

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 3B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 3/4	100	None				Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Dec. 15, 2015

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 4A

Investigator(s): Kelly Bayne and Charlotte Marks Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Perennial marsh Local relief (concave, convex, none): concave Slope (%): 3

Subregion (LRR): C Lat: 38 39 36.82"N Long: 121 03 26.80"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Eleocharis macrostachya	95	Yes	FACW
2. Typha sp.	5	No	OBL
3.			
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 4A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/2	80	10YR4/6	20	C	PL	Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✓ **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 3

Water Table Present? Yes ✓ No ___ Depth (inches): 1

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 6

Wetland Hydrology Present? Yes ✓ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Dec. 15, 2015

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 4B

Investigator(s): Kelly Bayne and Charlotte Marks Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 2

Subregion (LRR): C Lat: 38 39 36.25"N Long: 121 03 26.29"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Eleocharis macrostachya	91	Yes	FACW
2. Erodium cicutarium	5	N	UPL
3. Geranium molle	2	N	UPL
4. Hypericum perforatum	2	N	FACU
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	(A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 4B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/3	100	None				Loam	Roots

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Dec. 15, 2015

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 5B

Investigator(s): Kelly Bayne and Charlotte Marks Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 2

Subregion (LRR): C Lat: 38 39 36.25"N Long: 121 03 26.29"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Avena fatua	70	Yes	UPL
2. Erodium cicutarium	5	No	UPL
3. Geranium molle	2	No	UPL
4. Holocarpha virgata	5	No	UPL
5. Bromus hordeaceus	18	No	FACU
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species 18	x 4 =	72
UPL species 82	x 5 =	410
Column Totals: 100 (A)		482 (B)

Prevalence Index = B/A = 4.82

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 5B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/3	100	None				Loam	Roots

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Dec. 15, 2015

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 6A

Investigator(s): Kelly Bayne and Charlotte Marks Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 38 39 37.64"N Long: 121 03 25.63"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation ✓, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Appears man-made; depressional with perimeter mound. No vegetation at time of sampling.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

no vegetation present at time of survey; assumed to be wet.

SOIL

Sampling Point: 6A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	7.5YR 3/2	95	7.5YR 5/8	5	C	PL	Loam	Distinct mottles

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Oct. 13, 2020

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 7B

Investigator(s): Patrick Martin, Halie Goeman Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 38 39 37.64"N Long: 121 03 25.63"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation ✓, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Low area along ephemeral stream with hydrophytes, but supports a dominance of upland vegetation and lacks other wetland criteria. This is likely a floodplain in uplands that rarely floods.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1. Quercus lobata	5	Y	FACU
2.			
3.			
4.			
5.			
	5	= Total Cover	
Herb Stratum (Plot size: _____)			
1. Carex praegracilis	40	Y	FACW
2. Avena fatua	10	N	--
3. Stipa pulchra	12	Y	--
4. Deschampsia danthonioides	10	N	FACW
5. Bromus madritensis	8	N	UPL
6. Torilis arvensis	5	N	--
7. Bromus diandrus	10	N	--
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

Dominated by upland species and supports some hydrophytes.

SOIL

Sampling Point: 7B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/4	100					silt Loam	rocky

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

No hydric soil indicators detected.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Oct. 13, 2020

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 8A

Investigator(s): Patrick Martin, Halie Goeman Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 38 39 37.64"N Long: 121 03 25.63"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation ✓, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Herbaceous riparian wetland along ephemeral stream.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Deschampsia danthonioides	15	Y	FACW
2. Eleocharis macrostachya	20	Y	OBL
3. Torilis arvensis	5	N	--
4. Bromus diandrus	10	N	--
5. Stipa pulchra	5	N	--
6.			
7.			
8.			
	55 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 45 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Dominated by hydrophytes.

SOIL

Sampling Point: 8A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 4/2	90	7.5YR 4/6	10	C	M	silt Loam	rocky

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

Prominent redoximorphic features in the matrix and pore linings in depleted soil support the hydric soil indicator Depleted Matrix (F3).

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ✓ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Low area likely floods during precipitation events and likely has a high water table during the growing season.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Oct. 13, 2020

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 8B

Investigator(s): Patrick Martin, Halie Goeman Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 38 39 37.64"N Long: 121 03 25.63"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation ✓, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Low floodplain dominated by upland vegetation.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Quercus lobata	8	Y	FACU
2.			
3.			
4.			
5.			
	8 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Bromus diandrus	40	Y	--
2. Carduus pycnocephalus ssp. pycnocephalus	10	Y	--
3.			
4.			
5.			
6.			
7.			
8.			
	50 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 50 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species 8	x 4 = 32
UPL species 50	x 5 = 250
Column Totals: 58 (A)	282 (B)

Prevalence Index = B/A = 4.9

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

Dominated by upland vegetation.

SOIL

Sampling Point: 8B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 4/2	90	7.5YR 4/6	10	C	M/PL	silt Loam	rocky

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

Prominent redoximorphic features in the matrix and pore linings in depleted soil support the hydric soil indicator Depleted Matrix (F3).

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Low area likely floods during precipitation events and likely stays saturated enough to form oxidized rhizospheres along the living root channels.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Oct. 13, 2020

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 9A

Investigator(s): Patrick Martin, Halie Goeman Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 38 39 37.64"N Long: 121 03 25.63"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation ✓, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Seep spring dominated by obligate wetland plant Juncus xiphioides.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Baccharis pilularis	10	Y	--
2.			
3.			
4.			
5.			
	10 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Juncus xiphioides	90	Y	OBL
2. Stipa pulchra	10	N	--
3.			
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species 90	x 1 =	90
FACW species _____	x 2 =	_____
FAC species _____	x 3 =	_____
FACU species _____	x 4 =	_____
UPL species 20	x 5 =	100
Column Totals: 110 (A)		190 (B)

Prevalence Index = B/A = 1.7

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Isolated patch of Juncus xiphioides represents a seep spring. Occurs in annual grassland where perennial bunchgrass Stipa pulchra is encroaching on this seep spring.

SOIL

Sampling Point: 9A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	7.5YR 3/2	90	7.5YR 4/6	10	C	M/PL	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

Prominent redoximorphic features in the matrix and pore linings on a dark surface support the hydric soil indicator Redox Dark Surface (F6).

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Seep spring dominated by obligate wetland plants likely has a high water table during the growing season.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Oct. 13, 2020

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 9B

Investigator(s): Patrick Martin, Halie Goeman Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 38 39 37.64"N Long: 121 03 25.63"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation ✓, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Seep spring dominated by obligate wetland plant Juncus xiphioides.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Stipa pulchra	90	Y	--
2. Epilobium brachycarpum	10	N	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

Stipa pulchra perennial grassland on edge of seep spring.

SOIL

Sampling Point: 9B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	7.5YR 3/3	100					Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ **No** ✓

Remarks:

No hydric soil indicators detected.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No wetland hydrology indicators detected.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Oct. 13, 2020

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 10A

Investigator(s): Patrick Martin, Halie Goeman Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 38 39 37.64"N Long: 121 03 25.63"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation ✓, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Herbaceous seasonal wetland along stream.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Epilobium brachycarpum	25	Y	FAC
2. Lythrum hyssopifolium	20	Y	OBL
3. Briza minor	10	N	FAC
4. Polygon monspeliensis	20	Y	FACW
5. Mentha pulegium	25	Y	OBL
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Dominated entirely by hydrophytes.

SOIL

Sampling Point: 10A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 3/2	90	7.5YR 4/6	10	C	M/PL	clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** _____

Remarks:

Prominent redoximorphic features on a dark surface fulfill hydric soil criteria for Redox Dark Surface (F6).

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Seasonal wetland along drainage is very wet. Soil is damp in the soil pit but it is not saturated. During the growing season, this data point likely has a high water table.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Oct. 13, 2020

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 10B

Investigator(s): Patrick Martin, Halie Goeman Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 38 39 37.64"N Long: 121 03 25.63"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation ✓, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Upland area along seasonal wetland near stream.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Acmispon americanus	25	Y	UPL
2. Lactuca seriola	20	Y	FACU
3. Epilobium brachycarpum	20	Y	FAC
4. Bromus hordeaceus	20	Y	FACU
5.			
6.			
7.			
8.			
	85 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 15 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species 20	x 3 = 60
FACU species 40	x 4 = 160
UPL species 25	x 5 = 250
Column Totals: 85 (A)	345 (B)

Prevalence Index = B/A = 4.1

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

Dominated by upland vegetation.

SOIL

Sampling Point: 10B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5YR 3/4	100					clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Hardpan

Depth (inches): 4

Hydric Soil Present? Yes _____ No ✓

Remarks:

No hydric soil indicators detected. Hard layer at 4 inches.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No wetland hydrology detected.

U.S. Army Corps of Engineers (USACE)

RAPID ORDINARY HIGH WATER MARK (OHWM) FIELD IDENTIFICATION DATA SHEET

The proponent agency is Headquarters USACE CECW-COR.

Form Approved -
OMB No. 0710-0024
Expires: 2027-09-30

The Agency Disclosure Notice (ADN)

The Public reporting burden for this collection of information, 0710-0024, is estimated to average 30 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

Project ID #: 03605.00005.001	Site Name: Costco El Dorado Hills	Date and Time: 1/9/25; 0900
Location (lat/long): 38.659489, -121.058405	Investigator(s): C. Gonzalez	

Step 1 Site overview from remote and online resources.
Check boxes for online resources used to evaluate site:

- [ ] gage data
- [X] LiDAR
- [X] geologic maps
- [X] climatic data
- [X] satellite imagery
- [ ] land use maps
- [X] aerial photos
- [X] topographic maps
- [ ] Other: _____

Describe land use and flow conditions from online resources.
Were there any recent extreme events (floods or drought)?

The site is currently an undeveloped annual grassland with several aquatic resources that have previously been delineated. No recent extreme weather events prior to the survey.

Step 2 Site conditions during field assessment. First look for changes in channel shape, depositional and erosional features, and changes in vegetation and sediment type, size, density, and distribution. Make note of natural or human-made disturbances that would affect flow and channel form, such as bridges, riprap, landslides, rockfalls, etc.

Evidence of high flows observed along the perennial drainage (bent vegetation and wracking) and secondary high-flow channels contained some flowing water. The width and depth of the main branch of the drainage is slightly varied. No human-made disturbances observed along branch of the drainage in the Study Area.

Step 3 Mark the boxes next to the indicators used to help identify the location of the OHWM.

OHWM is at a transition point, therefore some indicators used to identify the location of the OHWM may be just below or above the OHWM. Make a slash in boxes next to indicators that are helpful in identifying the OHWM. After the initial assessment, those indicators identified at the OHWM elevation should be changed from slashes to x's. Note, it is not necessary to mark indicators that are present but do not help inform identification of the OHWM.

Go to page 2 to describe overall rationale for location of OHWM, write any additional observations, and attach a photo log.

Geomorphic indicators

- [X] **Break in slope**
  - [X] *on the bank*
  - [ ] *undercut bank*
  - [ ] *valley bottom*
  - [ ] Other: _____
- [X] **Shelving**
  - [X] *shelf at top of bank*
  - [ ] *natural levee*
  - [ ] *human-made berms or levees*
  - [ ] *other berms:* _____
- [X] **Secondary channels**
- [X] **Channel bar**
  - *shelving (berms) on bar*
  - *unvegetated*
  - [X] *vegetation transition (go to veg. indicators)*
  - *sediment transition (go to sed. indicators)*
  - *upper limit of deposition on bar*
- [X] **Instream bedforms and other bedload transport evidence**
  - *deposition bedload indicators (e.g., imbricated clasts, gravel sheets, etc.)*
  - [X] *bedforms (e.g., pools, riffles, steps, etc.)*
  - *Weathered clasts or bedrock*
  - *erosional bedload indicators (e.g., obstacle marks, scour, smoothing, etc.)*

Sediment indicators

- [X] **Soil development**
- **Changes in character of soil**
- **Mudcracks**
- **Changes in particle-sized distribution**
  - *transition from* _____ to _____
  - *upper limit of sand-sized particles*
  - [X] *silt deposits*

Vegetation indicators (*Consider the vegetation transition looking from the middle of the channel, up the banks, and into the floodplain*)

- [X] **Change in vegetation type from** h **to** u
- [X] **Change in density of vegetation**
- **Exposed roots below intact soil layer**
- [X] **Vegetation matted down and/or bent**
- **Other vegetation observations**

Other physical indicators

- [X] **Sediment deposited on vegetation or structures**
- [X] **Wracking/presence of organic litter**
- [X] **Presence of large wood**
- [X] **Leaf litter disturbed or washed away**
- [X] **Water staining**

Other observed indicators? Describe:

Main branch of drainage is devoid of vegetation within the channel. The high-flow channels contain emergent wetland vegetation in the channel and at the OHWM. Vegetation here was bent and matted down.

Project ID #: 03605.00005.001

Step 4 Was additional information used to support identification of the OHWM? Yes [X] No

If yes, describe and attach information to data sheet:

Step 5 Is an OHWM present at this site? [X] Yes No

Describe rationale for location of OHWM or lack thereof by describing any observed indicators (at, above, and/or below the OHWM location).

The OHWM was delineated through observations in vegetation changes, soil/sediment changes, and active hydrology. The main branch and high-flow channels of the drainage contained flowing water and some evidence of recent high flows were observed. The OHWM appears as a prominent line along this drainage.

Additional observations or notes

Unknown minnows observed in the drainage.

Attach an imagery log of the site.

Imagery log attached? [X] Yes No If no, explain why not: _____

List photographs, or other imagery/sketches, and include descriptions in the table below.

Number photographs in the order that they are taken. Attach imagery and include annotations of features.

Imagery Number	Imagery description

OHWM Field Identification Data Sheet Instructions and Field Procedure

Step 1 Site overview from remote and online resources (Chapter 5) **Complete Step 1 prior to site visit.**

Online Resources: Identify what information is available for the site. Check boxes on data sheet next to the resources used to assess this site.

a. gage data
b. aerial photos
c. satellite imagery
d. LiDAR
e. topographic maps
f. geologic maps
g. land use maps
h. climatic data (precipitation and temperature)

Landscape context: Use the online resources to put the site in the context of the surrounding landscape. (Chapter 4)

a. **Note on the data sheet under Step 1:**
   i. Overall land use and change if known
   ii. Recent extreme events if known (e.g., flood, drought, landslides, debris flows, wildfires)
   iii. Erosional and depositional environments
b. Consider the following to inform weighting of evidence observed during field visit.
   i. What physical characteristics are likely to be observed in specific environments?
   ii. Was there a recent flood or drought? Are you expecting to see recently formed or obscured indicators?
   iii. How will land use affect specific stream characteristics? How natural is the hydrologic regime? How stable has the landscape been over the last year, decade, century?

Step 2 Site conditions during the field assessment (assemble evidence) (Chapter 1 and 3)

a. Identify the assessment area.
b. Walk up and down the assessment area noting all the potential OHWM indicators.
c. Note broad trends in channel shape, vegetation, and sediment characteristics.
   i. Is this a single thread or multi-thread system? Is this a stream-wetland complex?
   ii. Are there any secondary and/or floodplain channels?
   iii. Are there obvious human-made alterations to the system?
   iv. Are there man-made (e.g., bridges, dams, culverts) or natural structures (e.g., bedrock outcrops, Large Wood jams) that will influence or control flow?
d. Look for signs of recurring fluvial action.
   i. Where does the flow converge on the landscape?
   ii. Are there signs of fluvial action (sediment sorting, bedforms, etc.) at the convergence zone?
e. Look for indicators on both banks. If the opposite bank is not accessible, then look across the channel at the bank.
f. **In Step 2 of the data sheet,** describe any adjacent land use or flow conditions that may influence interpretation of each line of evidence.
   i. What land use and flow conditions may be affecting your ability to observe indicators at the site?
   ii. What recent extreme events may have caused changes to the site and affected your ability to observe indicators?

Step 3a List evidence (Chapter 2 and 3)

Assemble evidence by marking each box with a slash next to each line of evidence.

If using fillable form, then follow the instructions for filling in the fillable form.

Context is important when assembling evidence. For instance, pool development may be an indicator of interest on the bed of a dry stream, but may not be a useful indicator to take note of in a flowing stream. On the other hand, if the pool is found in a secondary channel adjacent to the main channel, it could provide a line of evidence for a minimum elevation of high flows. Therefore, consider the site context when deciding which indicators provide evidence for identifying the OHWM. Explain reasoning in Step 5.

Questions to consider while making observations and listing evidence at a site:

Geomorphic indicators	**Sediment and soil indicators**	**Vegetation indicators**	**Other physical indicators**
Where are the breaks in slope?	Where does evidence of soil formation appear?	Where are the significant transitions in vegetation species, density, and age?	Is there organic litter present?
Are there identifiable banks?		Is there vegetation growing on the channel bed?	
Is there an easily identifiable top of bank?	Are there mudcracks present?	If no, how long does it take for the non-tolerant vegetation to establish relative to how often flows occur in the channel?	Is there any leaf litter disturbed or washed away?
Are the banks actively eroding?			
Are the banks undercut?	Is there evidence of sediment sorting by grain size?	Where are the significant transitions in vegetation?	Is there large wood deposition?
Are the banks armored?			
Is the channel confined by the surrounding hillslopes?		Is the vegetation tolerant of flowing water?	
Are there natural or man-made berms and levees?		Has any vegetation been flattened by flowing water?	Is there evidence of water staining?
Are there fluvial terraces?			
Are there channel bars?			

Are the following features of fluvial transport present?

Evidence of erosion: obstacle marks, scour, armoring
Bedforms; riffles, pools, steps, knickpoints/headcuts
Evidence of deposition: imbricated clasts, gravel sheets, etc.

In some cases, it may be helpful to explain why an indicator was NOT at the OHWM elevation, but found above or below. It can also be useful to note if specific indicators (e.g., vegetation) are NOT present. For instance, note if the site has no clear vegetation zonation.

OHWM Field Identification Data Sheet Instructions and Field Procedure

Step 3b Weight each line of evidence (Chapter 1 and 3)

Consider importance of each indicator by assessing the following:

a. Relevance:

i. Is this indicator left by low, high, or extreme flows? Did recent extreme events and/or land use affect this indicator?

ii. Consider the elevation of the indicator relative to the channel bed. What is the current flow level based on season or nearby gages?

iii. Consider the elevation of the indicator relative to the current flow. If the stream is currently at baseflow and indicator is adjacent to that, then it is likely a low-flow indicator. The difference between high-and extreme-flow indicators can sometimes be difficult to determine.

***Landscape context from Step 1 (Chapter 4) can help determine the relevance, strength, and reliability of the indicators observed in the field.**

***In Chapter 2 of the OHWM field manual provides information on specific indicators that can assist in putting these in context and determining relevance, strength, and reliability.**

iv. Recent floods may have left many extreme-flow indicators, or temporarily altered channel form. Other resources will likely be needed to support any OHWM identification at this site. Field evidence of the OHWM may have to wait for the site to recover from the recent flood.

v. Droughts may cause field evidence of OHWM to be obscured because there has been an extended time since the last high-flow event. There can be overgrowth of vegetation or deposition of material from surrounding landscape that can obscure indicators.

vi. Both human-made (e.g., dams, construction, mining activities, urbanization, agriculture, grazing) and natural (e.g., fires, floods, debris flows, beaver dams) disturbances can alter how indicators are expected to appear at a site. Chapter 6 and Chapter 7 of the OHWM field manual provide specific case-studies that can help in interpreting evidence at these sites.

b. Strength:

i. Is this indicator persistent across the landscape?

1. Look up and downstream and across the channel to see if you see the same indicator at multiple locations.
2. Does the indicator occur at the same elevation as other indicators?

c. Reliability:

i. Is this indicator persistent on the landscape over time? Will this indicator still persist across seasons?

1. This can be difficult to determine for some indicators and may be specific to climatic region (in terms of persistence of vegetation) and history of land use or other natural disturbances.
2. Chapter 2, Chapter 6, and Chapter 7 of the OHWM field manual describe each indicator in detail and provide examples of areas where indicators are difficult to interpret.

Step 4 Was additional information used to support identification of the OHWM? Are other resources used to support the lines of evidence observed in the field?

a. If additional resources are needed, then repeat steps 3a and 3b for the resources selected in Step 1 of assembling and weighting evidence collected from online resources. Chapter 5 of the OHWM field manual provides information on using online resources.

b. Any data collected from online tools have strengths and weaknesses. Make sure these are clear when determining relevance, strength, and reliability of the remotely collected data. Clearly describe why other resources were used to support the lines of evidence observed in the field, as well as the relevance, strength, and reliability of the supporting data and/or resources.

c. Attach any remote data and data analysis to the data sheet.

Step 5 Describe rationale for location of OHWM: (Chapter 1 and Chapter 3)

a. Weigh body of evidence:

Combine information from Step 3b: Why do the combination of indicators represent the OHWM?

i. Integrate the lines of evidence (relevance, strength, and reliability) of each indicator.

ii. Consider which indicators are high value indicators that co-occur along the stream reach. Which indicators are most relevant to identifying high flow elevations, which are most persistent across the landscape, and which are most persistent over time?

iii. Which indicators that are found above and below the location of the OHWM were helpful in identifying the elevation of the OHWM?

b. If there is more than one possible location, explain why, Include any relevant discussion on why specific indicators were not included in the final decision.

c. If needed, add additional site notes on page 2 of the data sheet under Step 5 or attach additional sketches and field observations to the data sheet.

d. Take photographs of indicators and attach an imagery log using page 2 of data sheet or another method of logging images.

i. Annotate images with descriptions of indicators.

Appendix E

Representative Site Photos



Photo 1: View of wetland data point 7B. Taken 10/13/20.



Photo 2: View of wetland data point 8A. Taken 10/13/20.

M:\PROJECTS\C\CostcoWholesale_03605\00005_CostcoElDoradoHills2UpdatedReport_Reports\ARD\Appendices\App D_Photos\2025 Photos to add to App D



Photo 3: View of upland data point 8B. Taken 10/13/20.



Photo 4: View of wetland data point 9A. Taken 10/13/20.

M:\PROJECTS\C\CostcoWholesale_03605\00005_CostcoElDoradoHills2UpdatedReport_Reports\ARD\Appendices\App D_Photos\2025 Photos to add to App D



Photo 5. View of upland data point 9B. Taken 10/13/20.



Photo 6. View of wetland data point 10A. Taken 10/13/20.

M:\PROJECTS\C\CostcoWholesale_03605\00005_CostcoElDoradoHills2UpdatedReport_Reports\ARD\Appendices\App D_Photos\2025 Photos to add to App D



Photo 7. View of upland data point 10B. Taken 10/13/20.



Photo 8. Representative view of perennial drainage facing upstream (north). Photo taken 1/9/2025.

M:\PROJECTS\C\CostcoWholesale_03605\00005_CostcoElDoradoHills2UpdatedReport_Reports\ARD\Appendices\App D_Photos\2025 Photos to add to App D



Photo 9. Representative view of perennial drainage facing downstream (south). Photo taken 1/9/2025.



Photo 10. Representative view of high-flow channel facing upstream (north). Photo taken 1/9/2025.

M:\PROJECTS\C\CostcoWholesale_03605\00005_CostcoElDoradoHills2UpdatedReport_Reports\ARD\Appendices\App D_Photos\2025 Photos to add to App D



Photo 11. View of high-flow channel and main channel of perennial drainage facing upstream (north). Photo taken 1/9/2025.



Photo 12. Cross-section view of the perennial drainage facing the east bank. Boulders have been installed along the bank at a sewer line on the west side of Clarksville Crossing Road adjacent the culvert the intermittent drainage flows into. Photo taken 1/9/2025.

M:\PROJECTS\C\CostcoWholesale_03605\00005_CostcoElDoradoHills2UpdatedReport_Reports\ARD\Appendices\App D_Photos\2025 Photos to add to App D

Oak Resources Technical Report

HELIX Environmental Planning, Inc.
1677 Eureka Road, Suite 100
Roseville, CA 95661
916.435.1202 tel
619.462.0552 fax
www.helixepi.com

March 5, 2025 Project # 03605.00005.001

Michael Okuma
AVP Real Estate Development
Costco Wholesale
9 Corporate Park, Suite 230
Irvine, CA 92602

Subject: Costco El Dorado Hills Oak Resources Technical Report

Dear Mr. Okuma:

This report presents the results of an updated survey of oak resources on the Costco El Dorado Hills Study Area (Study Area), assesses estimated impacts to oak woodland canopy and oak trees, identifies proposed mitigation measures, and provides recommendations for tree protection measures for trees to be preserved onsite.

BACKGROUND

Oak Resources Management Plan

The County of El Dorado (County) adopted the *El Dorado County Oak Resources Management Plan* (ORMP) on October 24, 2017, and the ORMP went into effect on November 24, 2017. The ORMP designates three classes of protected oak resources: oak woodlands that have at least 10 percent oak canopy; Heritage Trees, defined as native oaks with a total trunk diameter at breast height of 36 inches or greater; and individual oak trees, defined as native oak trees with a trunk diameter at breast height of six inches or greater that are not located in oak woodlands. An oak woodland removal permit is required prior to removal of oak trees that are part of an oak woodland, and an oak tree removal permit is required prior to removal of Heritage Trees and individual oak trees. Mitigation for impacts to oak woodlands is based on the total area impacted ranging from 1:1 mitigation for zero to 50 percent removal to 2:1 mitigation for more than 75 percent removal. Mitigation may be completed with a combination of the following options: acquisition of an off-site conservation easement, payment of in-lieu fees, or either on- or off-site replacement planting of up to 50 percent of the required mitigation area. Mitigation for removal of Heritage or individual oak trees requires on- or off-site replacement planting or payment of in-lieu fees at a 3:1 or 1:1 ratio, respectively, to the number of trunk inches removed. Any oak woodland preserved on site and all mitigation planting areas must be protected in perpetuity through deed restrictions or a conservation easement.

PROPOSED PROJECT

The approximately 36.94-acre Study Area is located northeast of the intersection of old Tong Road and Silva Valley Parkway, just north of U.S. Highway 50. The Study Area is bifurcated by Silva Valley Parkway. The 20.34-acre project site is contained within the Study Area. The proposed project would include the construction of a Costco Wholesale Warehouse and Costco Fuel Station including associated parking, utilities, and storm water management facilities, as well as multiple points of access and a new traffic signal on Silva Valley Parkway. The fuel station will be situated within a portion of the north site. The remainder of the north site is not currently proposed for development. A site and vicinity map is shown in Figure 1. Representative photos can be found in Attachment A.

METHODOLOGY

Oak trees within the Study Area were originally surveyed by International Society of Arboriculture (ISA)-Certified Arborist Meredith Branstad (WE-5727A) on December 16, 2013, and re-inspected on January 12, 2015. An additional extension of the Study Area in the northwest corner was inspected by ISA-Certified Arborist Zachary Neider (WE-11615A) on October 15, 2020. The entire study area and an additional extension of the Study Area in the western area were re-surveyed by ISA-Certified Arborist Dena Elimelech (WE-15122A) on January 9, 2025. A diameter tape or calipers were used to verify each trunk diameter at breast height (DBH), defined as 4.5 feet above grade. The measurement from the trunk to the end of the longest lateral limb was used as the drip line radius (DLR). A majority of the trees had already been tagged with a pre-printed aluminum tags, which corresponds to the numbering in Table 2 and Figure 2. Trees that were inaccessible to the arborist were left untagged and assigned an arbitrary number (1, 2, and 5).

The health and structural condition of all inventoried trees were rated according to Table 1, *Tree Rating Guidelines*. The health rating considers factors such as the size, color, and density of the foliage; the amount of deadwood within the canopy; bud viability; evidence of wound closure; and the presence or evidence of stress, disease, nutrient deficiency, and/or insect infestation. The structural rating reflects the trunk and branch configuration, canopy balance, the presence of included bark and other structural defects such as decay, and the potential for structural failure. In cases where conditions fall between the Good, Fair, and Poor ratings, intermediate ratings Fair-Good and Poor-Fair were used.

For trees within an oak woodland that were not classified as heritage trees, the oak canopy was mapped using field data and aerial photography.

Table 1
TREE RATING GUIDELINES

Rating	Tree Health
Good	There is an average or below-average amount of deadwood/dieback with respect to the tree's size and growing environment; leaf size, color, and density are typical for the species; buds are normal size, viable, abundant, and uniform throughout the canopy; current and past growth increments are generally average or better; any callusing is vigorous. This health rating indicates that there is very little, if any, evidence of stress, disease, nutrient deficiency, and/or insect infestation.

Rating	Tree Health
Fair	There is an above-average amount of deadwood/dieback with respect to the tree's size and growing environment; leaf size, color, and density may be below what is typically expected for the species; buds are normal size and viable, but slightly sparse throughout the canopy; current and past growth increments may be below average; tree may be slow to callus around old wounds. This health rating indicates that there is moderate evidence of stress, disease, nutrient deficiency, and/or insect infestation.
Poor	There is an extreme amount of deadwood/dieback with respect to the tree's size and growing environment; leaf size, color, and density are clearly compromised; very few viable buds are present throughout the canopy; current and past growth increments are meager; no evidence of callusing around old wounds. This health rating indicates that there is widespread evidence of stress, disease, nutrient deficiency, and/or insect infestation.
	Tree Structure and Form
Good	No wounds, cavities, decay, or indication of hollowness are evident in the root crown, trunk, or primary and secondary limbs; no anchor roots are exposed; no codominant branching or multiple trunk attachments are present; very little included bark at branch attachments exists; no dead primary or secondary limbs are present in canopy; there have been no major limb failures; limbs are not overburdened; branching structure is appropriate for species; any decay is limited to small dead branches/stubs. This structure rating represents a low potential for failure.
Fair	With respect to the size of the tree, small to moderate wounds, cavities, decay, and indication of hollowness may be evident in the root crown, trunk, and/or primary and secondary limbs; some anchor roots may be exposed; codominant branching or multiple trunk attachments may be present, but included bark does not exist or is not well developed; minor to moderate amounts of included bark at branch attachments may exist; there may be small to moderate amounts of large dead limbs in canopy, but there is no evidence of large limb failures; limbs may be slightly overburdened; branching structure and/or canopy balance may be moderately altered by the tree's growing environment. This structure rating represents a moderate potential for failure.
Poor	With respect to the size of the tree, significant wounds, cavities, decay, and/or indication of hollowness may be evident in the root crown, trunk, and/or primary and secondary limbs; anchor roots may be exposed and/or the tree may have lost anchorage; codominant branching or multiple trunk attachments may be present; significant amounts of included bark may exist in trunk and branch attachments; there may be significant amounts of large dead limbs in the canopy; there may be evidence of trunk or large limb failures; limbs may be severely overburdened; branching structure and/or canopy balance may be drastically altered by the tree's growing environment. This structure rating represents a high potential for failure.

EXISTING CONDITIONS

In total, there are 1.45 acres of valley oak woodland located in the Study Area (Figure 2). The majority of the valley oak woodland is located on the western boundary of the Study Area, west of Clarksville Crossing, on either side of a perennial stream. A 0.35-acre portion of valley oak woodland is located along a small perennial drainage bordering the eastern side of Clarksville Crossing. The understory is composed of willows (*Salix sp.*), broadleaf cattail (*Typha latifolia*), spike rush (*Eleocharis macrostachya*), pennyroyal (*Mentha pulegium*), and Himalayan blackberry (*Rubus armeniacus*).

Five heritage trees were mapped and assessed throughout the Study Area. The remainder of the oak resources within the Study Area is composed of protected valley oak woodland canopy and five individual oaks.

A total of 10 protected individual oak trees consisting of seven valley oaks (*Quercus lobata*), two interior live oaks (*Quercus wislizeni*), and one blue oak (*Quercus douglasii*) are present within the Study Area outside of oak woodland canopy. Five trees (5, 3378, 3385, 1390, and 3386) are Heritage Trees. Tree data is shown in Table 2 and tree locations are shown in Figure 2.

Table 2
TREE DATA

Tree #	Species	DBH (in)	DLR (ft)	Approximate Height (ft)	Health	Structure	Comments
1	Valley oak	9, 8	15	40	Fair	Fair	No tag, heavy blackberry, codominant stems.
2	Interior live oak	9, 8, 8	15	30	Fair	Fair	No tag, heavy blackberry, codominant stems.
5	Interior live oak	38.3	40	40	Poor	Poor	Heavy dieback, insect activity, dead branches, growing across the ephemeral drainage on the bank. Epicormic growth, dead wood on a main lead. Multi-stem at six feet.
3378	Valley oak	40.4	35	40	Good-Fair	Good-Fair	Some dieback, good structure, decent canopy. Galls, dead branches.
3384	Valley oak	13.5	15	20	Fair	Fair	Codominant stems at eight feet, epicormic growth, decent canopy.
3383	Valley oak	27.9	20	35	Fair	Fair	Uneven canopy, dieback, and snarled growth.
3385	Blue oak	50.1	40	60	Good-Fair	Fair	Lean, cavity on trunk with CODIT, decent canopy, and strong branch attachments.
1390	Valley oak	49.3	20	35	Poor	Poor	Potential nesting habitat, granary, epicormic growth, dead leads, and fallen old branches.
3386	Valley oak	44.2	40	40	Good-Fair	Good-Fair	Codominant stems at 15 feet, dieback, dead branches, old CODIT, nesting cavities present.
1393	Valley oak	25.2	20	50	Good-Fair	Good-Fair	Dieback, decent structure.

Note: Tree numbers in **bold** are Heritage Trees.
CODIT = compartmentalization of decay in trees

IMPACT ASSESSMENT

The proposed project will remove 0.35 acre of valley oak woodland, which is 24 percent of the total oak woodland in the Study Area. Additionally, five individual trees outside of oak woodland canopy, including four heritage trees, are planned for removal. A total of 292.6 trunk inches, composed of 108.6 inches of individual trees and 184 inches of Heritage Trees, will be removed. Estimated impacts are shown in Figure 3.

OAK RESOURCE PRESERVATION RECOMMENDATIONS

The oak canopy located west of Clarksville Crossing may or may not be impacted by construction. Mitigation will be required for any oak canopy removal in this area according to County requirements should it occur. As of the date of this document, no oak canopy impacts are known for the oak canopy to the west of Clarksville Crossing. Oaks to remain should be adequately protected by following the protection measures listed below. At present, none of the trees surveyed in the area east of Clarksville Crossing will be preserved. However, in the case that any trees are planned for preservation, the following protection measures should be integrated into the project construction documents as applicable to the preserved tree:

- Tree protection fencing, consisting of four-foot-tall, high-visibility plastic fencing, shall be placed around the perimeter of the tree protection zone (TPZ) (dripline radius plus one foot). The TPZ is the minimum distance for placing protective fencing. Tree protection fencing should be placed as far outside of the TPZ as possible. Two-foot square signs shall be placed along the fence denoting this as a Tree Protection Zone that shall not be moved until construction is complete. In cases where proposed work infringes on the TPZ, fencing shall be placed at edge of work.

- Whenever possible, fence multiple trees together in a single TPZ.

- Tree protection fencing shall not be moved without prior authorization from the County of El Dorado.

- No parking, portable toilets, dumping or storage of any construction materials, grading, excavation, trenching, or other infringement by workers or domesticated animals is allowed in the TPZ.

- No signs, ropes, cables, or any other item shall be attached to a protected tree, unless recommended by an ISA-Certified Arborist.

- Underground utilities should be avoided in the TPZ but, if necessary, shall be bored or drilled. If boring is impossible, all trenching will be done by hand under the supervision of an ISA-Certified Arborist.

- No cut or fill within the dripline of protected trees is permitted. If cut or fill within the dripline is unavoidable, any mitigation requirements shall be determined by the County of El Dorado.

- Pruning of living limbs or roots over two inches in diameter shall be done under the supervision of an ISA-Certified Arborist.

- All wood plant material less than six inches in diameter shall be mulched on site. Resulting mulch shall be spread in a layer four to six inches deep in the TPZ of preserved trees. Mulch shall not be placed touching the trunk of preserved trees.

- At the discretion of the Project Proponent and Project Arborist, indirectly impacted trees should be deep watered once per month in July, August, September, and October to a soil saturation depth of 16 to 18 inches.

- Appropriate fire prevention techniques shall be employed around all protected trees to be preserved. This includes cutting tall grass, removing flammable debris within the TPZ, and prohibiting the use of tools that may cause sparks, such as metal-bladed trimmers or mowers.

MITIGATION

As previously discussed, mitigation may be implemented through payment of in-lieu fees, on- or off-site planting, or acquisition of an off-site conservation easement. The project proponent is responsible for all oak resource mitigation requirements.

Currently, mitigation is expected to be fulfilled through the payment of in-lieu fees. Table 3 summarizes the mitigation fees based on the ORMP.

Oak tree #1390 does not require mitigation due to its poor health and structure. The valley oak has old fallen branches and dead major leads with no signs of new growth. Although the tree provides good nesting habitat and is a granary, it is dead/dying and does not need to be considered in the mitigation fees.

Table 3
MITIGATION FEES

Oak Resource	Impact	Mitigation Ratio	ORMP Fee	Total Fee
Oak Woodland	0.35 acre	1:1	$8,285/acre	$2,900
Individual Oak Trees	108.6 cumulative trunk inches	1:1	$153	$16,616
Heritage Trees	134.7 cumulative inches	3:1	$459 ($459 includes 3:1 ratio)	$61,827
			TOTAL	**$81,343**

If onsite planting will be used to mitigate for any portion of oak tree and oak canopy impacts, then a planting, maintenance, and monitoring plan and conservation easement or deed restriction should be prepared in accordance with the ORMP. Oak trees and canopy to remain onsite will be required to be placed in a conservation easement or deed restriction to prevent future impacts.

If you have any questions, please do not hesitate to contact me at (818) 568-8400 or email DenaE@helixepi.com regarding this report.

Sincerely,

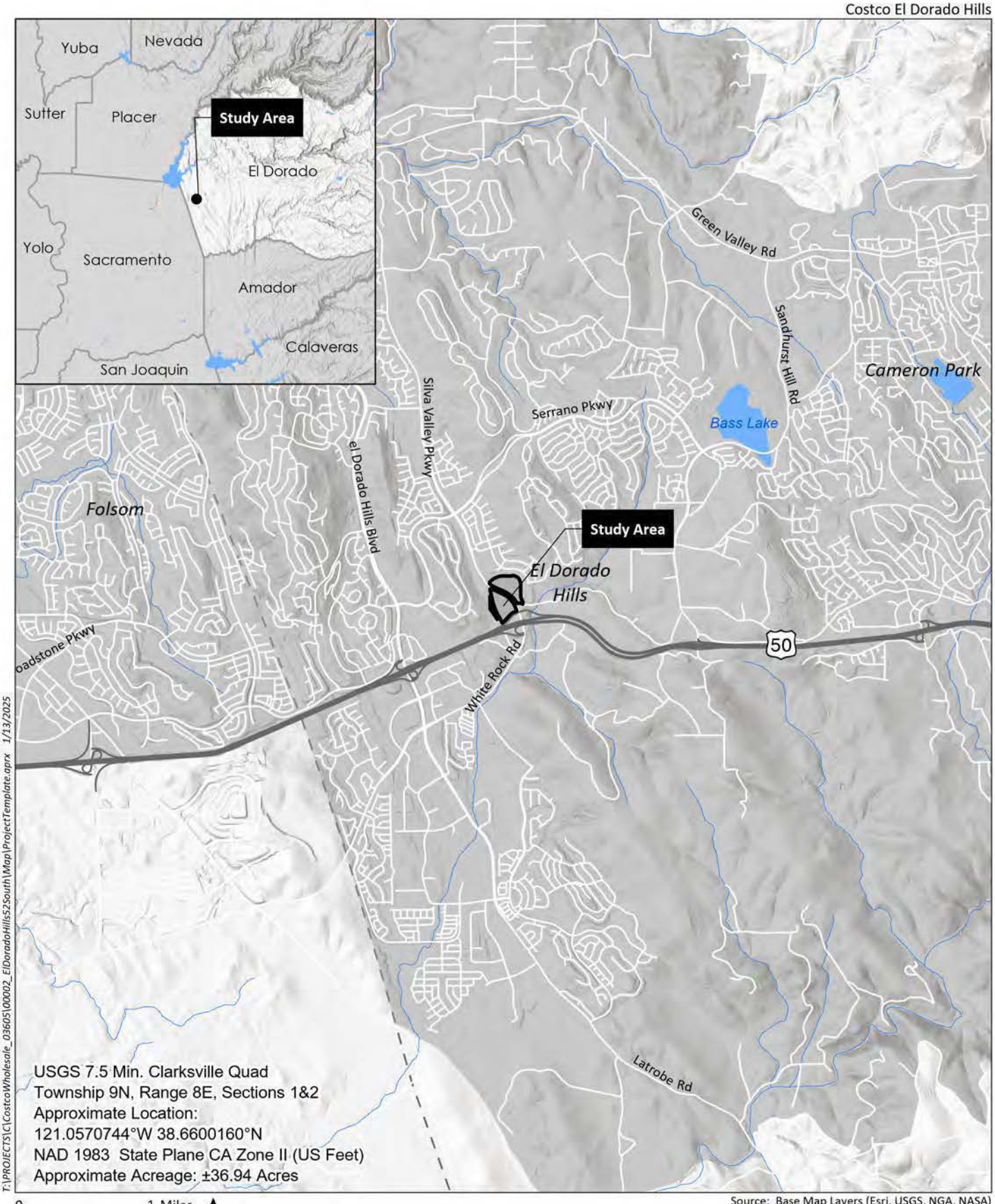


Dena Elimelech
Biologist and ISA-Certified Arborist (WE-15122A)

Attachments

Figure 1: Site and Vicinity Map
Figure 2: Approximate Tree Locations
Figure 3: Estimated Impacts
Attachment A: Representative Site Photos

Figures



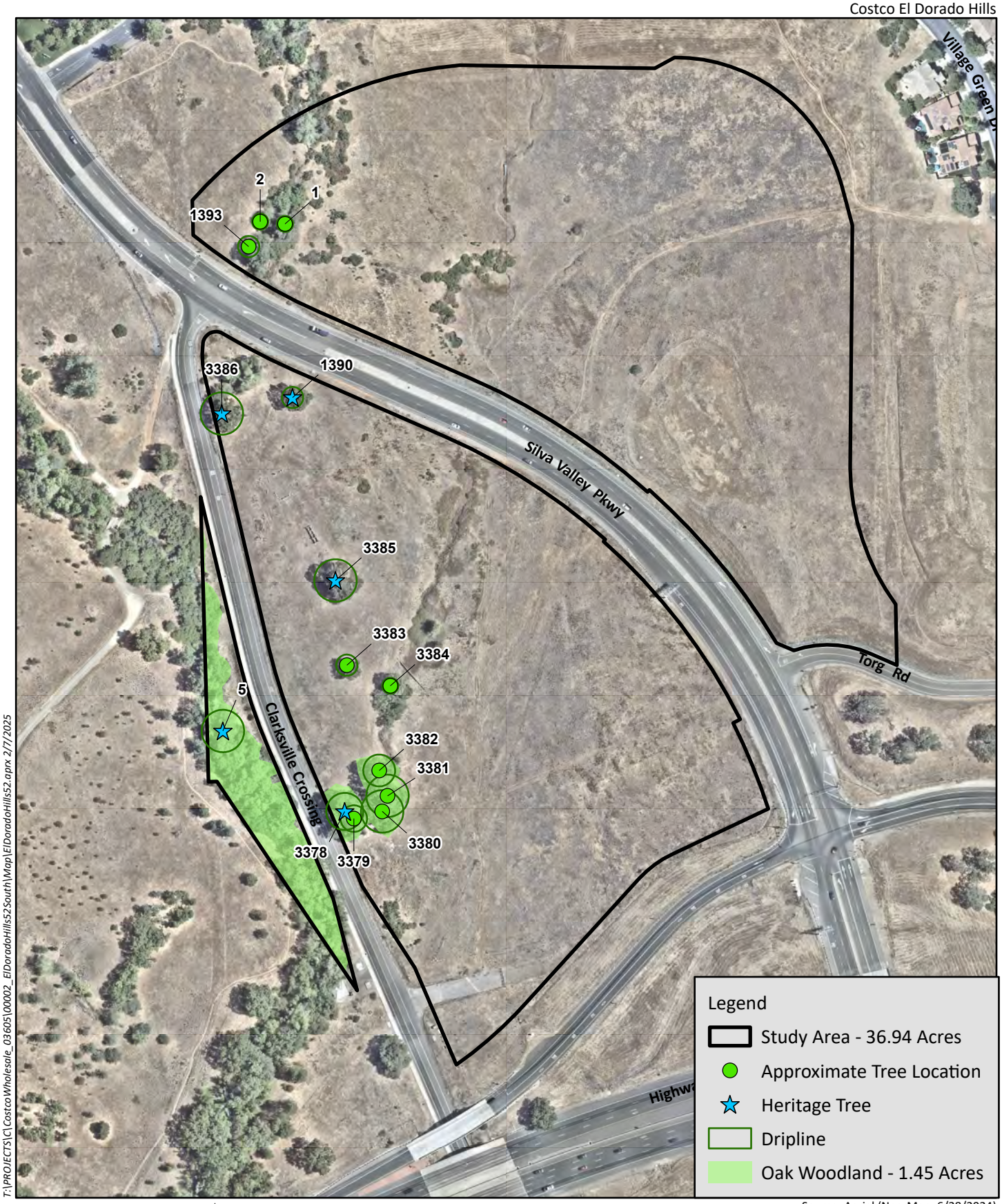
T:\PROJECTS\C\CostcoWholesale_03605\00002_ElDoradoHills52South\Map\ProjectTemplate.aprx 1/13/2025

Source: Base Map Layers (Esri, USGS, NGA, NASA)

HELIX Environmental Planning

Site and Vicinity Map

Figure 1



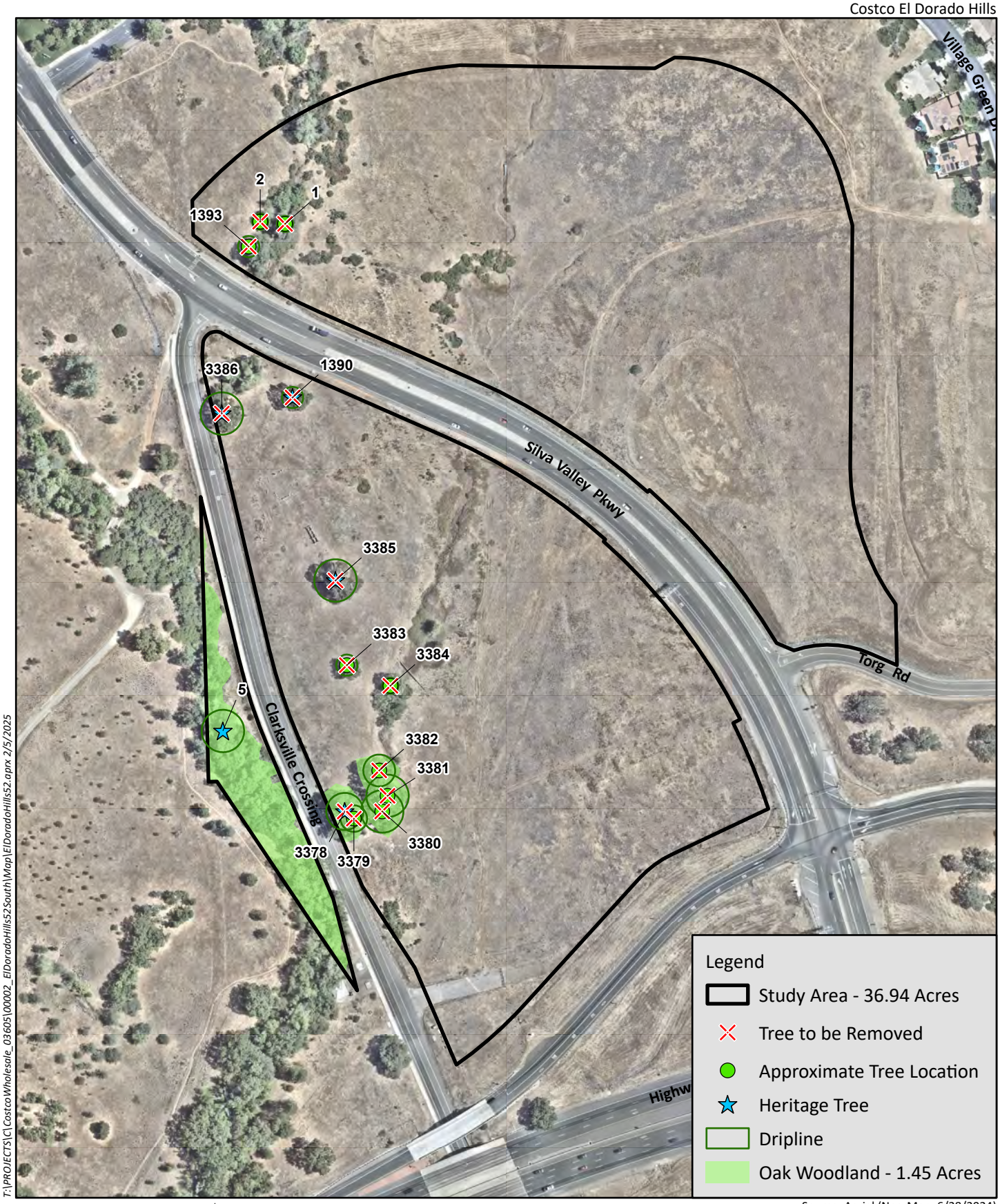
T:\PROJECTS\C\Costco Wholesale_03605\00002_ElDoradoHills52South\Map\ElDoradoHills52.aprx 2/7/2025

Source: Aerial (NearMap, 6/28/2024)

HELIX Environmental Planning

Approximate Tree Locations

Figure 2



Source: Aerial (NearMap, 6/28/2024)

HELIX Environmental Planning

Estimated Impacts

Figure 3

Attachment A

Representative Site Photos



Photograph 1: View of the western portion of the Study Area from the southernmost tip, facing northwest.

Date: January 9, 2025 Photographer: Dena Elimelech



Photograph 2: View of oak canopy in the western portion of the Study Area, facing west.

Date: January 9, 2025 Photographer: Dena Elimelech

\\RosevilleFS\HERocklin\PROJECTS\C\CostcoWholesale_03605\00005_CostcoElDoradoHills52UpdatedReport_Reports\2025 ORTR\Photos\PhotosforPhotoPage



Photograph 3: Image of oak canopy on the eastern edge of the creek, facing west.

Date: January 9, 2025 Photographer: Dena Elimelech



Photograph 4: Representative image of trees in the buffer area just outside the northernmost point of the western portion of the Study Area.

Date: January 9, 2025 Photographer: Dena Elimelech

\\RosevilleFS\HERocklin\PROJECTS\C\CostcoWholesale_03605\00005_CostcoElDoradoHills52UpdatedReport_Reports\2025 ORTR\Photos\PhotosforPhotoPage



Photograph 5: Representative image of the creek that runs through the western portion of the Study Area.

Date: January 9, 2025 Photographer: Dena Elimelech



Photograph 6: Heritage tree #5 located adjacent to the creek in the western portion of the Study Area.

Date: January 9, 2025 Photographer: Dena Elimelech

\\RosevilleFS\HERocklin\PROJECTS\C\CostcoWholesale_03605\00005_CostcoElDoradoHills52UpdatedReport_Reports\2025 ORTR\Photos\PhotosforPhotoPage



Photograph 7: Image of tree #3385 within the eastern portion of the Study Area.

Date: January 9, 2025 Photographer: Dena Elimelech



Photograph 8: Representative image of the oaks in the eastern portion of the Study Area, facing southeast.

Date: January 9, 2025 Photographer: Dena Elimelech

\\RosevilleFS\HERocklin\PROJECTS\C\CostcoWholesale_03605\00005_CostcoElDoradoHills52UpdatedReport_Reports\2025 ORTR\Photos\PhotosforPhotoPage

Appendix D

North Site Remainder Area Technical Report and Energy Technical Report

North Site Remainder Area
Technical Report

Prepared for
Ascent Environmental, Inc.
Sacramento, California

Prepared by
Ramboll Americas Engineering Solutions, Inc.
Irvine, California

Project Number
1940110459

Date
October 2025

EDH COSTCO PROJECT
NORTH SITE REMAINDER AREA
TECHNICAL REPORT
EL DORADO HILLS, CALIFORNIA

Ramboll Americas Engineering Solutions, Inc.
2211 Michelson Drive, Suite 400
Irvine, California 92612
(949) 261-5151

RAMBOLL

CONTENTS

		Page
1.	**INTRODUCTION**	**1**
1.1	Existing Conditions	1
1.2	Potential Development in the North Site Remainder Area	1
2.	**SIGNIFICANCE THRESHOLDS**	**2**
2.1	Approach to Significance	2
3.	**EMISSIONS INVENTORIES AND ENERGY PROJECTIONS**	**5**
3.1	Construction Emission Inventories and Energy Projection	5
3.2	Operational Emission Inventories and Energy Projection	8
4.	**PROGRAM-LEVEL AIR QUALITY IMPACT ANALYSIS**	**11**
4.1	Threshold AQ-1: Would the Project conflict with or obstruct implementation of the applicable air quality plan?	11
4.2	Threshold AQ-2: Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?	12
4.3	Threshold AQ-3: Would the Project expose sensitive receptors to substantial pollutant concentrations?	13
4.3.1	CO Hotspots	13
4.3.2	Health Risk Thresholds	13
4.4	Threshold AQ-4: Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	14
4.4.1	Construction Odors	14
4.4.2	Operational Odors	14
5.	**PROGRAM-LEVEL GREENHOUSE GAS EMISSIONS IMPACT ANALYSIS**	**15**
5.1	Threshold GHG-1: Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?	15
5.2	Threshold GHG-2: Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?	15
5.2.1	2022 Scoping Plan Update	16
5.2.2	SACOG 2020 MTP/SCS	17
5.2.3	El Dorado County RTP 2020-2040	18
5.3	Summary	19
6.	**PROGRAM-LEVEL ENERGY IMPACT ANALYSIS**	**20**
6.1	Threshold ENE-1: Would the Project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?	20
6.1.1	Energy Requirements and Energy Use Efficiencies	20
6.1.2	Local and Regional Energy Supplies	20
6.1.3	Peak and Base Period Demands	21
6.1.4	Existing Energy Standards	22
6.1.5	Energy Resources	22
6.1.6	Transportation Energy Use	23
6.1.7	Summary	23
6.2	Threshold ENE-2: Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	23

CONTENTS *(Continued)*

TABLES

Table 3-1: Unmitigated Average Daily CAP Emissions for Construction of North Site Remainder Area
Table 3-2: Unmitigated Combined Average Daily CAP Emissions for Construction of North Site Remainder Area and Operation of Costco EDH Project
Table 3-3: Mitigated Average Daily CAP Emissions for Construction of North Site Remainder Area
Table 3-4: Mitigated Combined Average Daily CAP Emissions for Construction of North Site Remainder Area and Operation of Costco EDH Project
Table 3-5: Summary of Construction Greenhouse Gas Emissions - North Site Remainder Area
Table 3-6: Energy Resource Summary for Proposed Project Construction
Table 3-7: Maximum Daily Criteria Air Pollutant Emissions for Operations of the Proposed Project
Table 3-8: Summary of Greenhouse Gas Emissions for Proposed Project Operations
Table 3-9: Energy Resource Summary for Proposed Project Operation

APPENDICES

Appendix A: North Site Remainder Area CalEEMod Model Run
Appendix B: Construction Inputs
Appendix C: Construction Emission Calculation Tables
Appendix D: Construction Energy Calculations
Appendix E: Operational Inputs
Appendix F: Operational Energy Calculations

ACRONYMS AND ABBREVIATIONS

Acronym	Definition
AQ	air quality
CalEEMod	California Emissions Estimator Model®
CAP	criteria air pollutants
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CO	carbon monoxide
CO_2e	carbon dioxide equivalent
DPM	diesel particulate matter
EDCAQMD	El Dorado County Air Quality Management District
EDH	El Dorado Hills
EPA	Environmental Protection Agency
EV	electric vehicle
GHG	greenhouse gas
H_2S	hydrogen sulfide
HI	hazard index
hp	horsepower
lb	pound
MT	metric tonne
MTP/SCS	Metropolitan Transportation Plan & Sustainable Communities Strategy
MW	megawatts
NOA	naturally occurring asbestos
NO_X	nitrogen oxides
O_3	ozone
PCAPCD	Placer County Air Pollution Control District
PG&E	Pacific Gas and Electric Company
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
ROG	reactive organic gases
RTP	Regional Transportation Plan
SACOG	Sacramento Area Council of Governments
SO_2	sulfur dioxide
SO_X	sulfur oxides
TAC	toxic air contaminant
TDM	Transportation Demand Management
VMT	vehicle miles travelled
VOC	volatile organic compound

1. INTRODUCTION

Ramboll Americas Engineering Solutions, Inc. (Ramboll) was retained to prepare a Technical Report on the air quality (AQ), greenhouse gas (GHG), and energy impacts for potential future development in the North Site Remainder Area ("Remainder Area Development"), in addition to the AQ, GHG, and Energy technical reports for the proposed El Dorado Hills (EDH) Costco Project located north of the Silva Valley Parkway/US 50 interchange in the El Dorado Hills community area of the unincorporated El Dorado County in California. For simplicity, the North Site Remainder Area and the proposed EDH Costco Project are collectively referred to hereafter as the proposed Project.

This Technical Report analyzes the AQ, GHG, and energy impacts of the potential Remainder Area Development at a program/plan level. Specifically, it describes the maximum development assumptions for the Remainder Area Development and estimates criteria air pollutant emissions, GHG emissions, and energy use associated with the construction and operations of this development. Additionally, this report evaluates the potential aggregate AQ, GHG, and energy impacts of the proposed Project (both the North Site Remainder Area and the EDH Costco Project).

1.1 Existing Conditions

The Project site is currently vacant grassland with scattered oak trees and seasonal drainage features. There are no permanent structures on the site. The southern edge of the property directly abuts the US 50 right-of-way, while the western boundary is adjacent to Clarksville Crossing. An approximate 7.75-acre portion of the northern site is reserved for a planned future extension of Country Club Drive, which is not part of the proposed Project.

Surrounding land uses include:

- North: Single-family residential uses and Oak Meadow Elementary School
- East: Vacant land, Tong Road, and single-family residential uses
- South: U.S. Highway 50 and Tong Road
- West: Clarksville Crossing roadway, open space, and undeveloped land

1.2 Potential Development in the North Site Remainder Area

An approximately 13.79-acre out-parcel on the North Site would remain undeveloped at this time (North Site Remainder Area). The EDH Costco Project proposes no development for the North Site Remainder Area. However, future development of the North Site Remainder Area would be made more reasonably foreseeable by the proposed annexation of the entire North Site into the El Dorado Irrigation District and the El Dorado Hills Fire Department service areas. Since such annexations are assumed to facilitate possible future development of the North Site Remainder Area, even though there is not even a conceptual or contemplated plan for build out of that land, this analysis conservatively assumes that such land would be developed consistent with the General Plan and zoning designations and density. The assumed potential commercial development of the North Site Remainder Area is approximately 138,000 square feet and 316 employees. The future extension of Country Club Drive (County Capital Improvement Project No. 36105008), when constructed by the County, would occupy a portion of the North Site near its northern edge, though the future extension is an independent project proposed by, and to be undertaken by, the County and is not analyzed as a part of the proposed Project.

2. SIGNIFICANCE THRESHOLDS

The Remainder Area Development would be adjacent to the EDH Costco Project and is subject to the identical regulatory settings and significance thresholds previously described for the EDH Costco Project in the technical reports.[1,2,3] The analysis provided in this technical memorandum evaluates whether the Project would result in any potentially significant impacts regarding the following questions:

Threshold AQ-1. Would the Project conflict with or obstruct implementation of the applicable air quality plan?

Threshold AQ-2. Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?

Threshold AQ-3. Would the Project expose sensitive receptors to substantial pollutant concentrations?

Threshold AQ-4. Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Threshold GHG-1. Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Threshold GHG-2. Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

Threshold ENE-1. Would the Project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?

Threshold ENE-2. Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

2.1 Approach to Significance

As described in Section 3.2 of the EDH Costco Project Air Quality Technical Report, the El Dorado County Air Quality Management District (EDCAQMD) has established significance thresholds to assess the impacts of project-related construction and operational emissions, in its California Environmental Quality Act (CEQA) Guide. Table 3-1 in the EDH Costco Project Air Quality Technical Report shows the quantitative mass daily thresholds for construction and operation as adopted by the EDCAQMD reactive organic gases (ROG) and nitrogen oxides (NO_X) emissions. The analysis summarized in this report estimates program/plan level construction and operational mass emissions for the proposed Project and compares the emissions to these significance thresholds.

EDCAQMD has also established significance thresholds for other criteria air pollutants (CAPs) including carbon monoxide (CO), particulate matter less than 10 microns in diameter (PM_{10}), sulfur dioxide (SO_2), nitrogen dioxide, sulfates, lead, hydrogen sulfide (H_2S), and visibility-reducing particles. Project-related emissions of these pollutants are considered to

[1] Ramboll. 2025. EDH Costco Project Air Quality Technical Report.

[2] Ramboll. 2025. EDH Costco Project Greenhouse Gas Technical Report.

[3] Ramboll. 2025. EDH Costco Project Energy Technical Report.

have significant impacts if these emissions will cause or contribute to a violation of the applicable national or state ambient air quality standard. The EDCAQMD provides screening techniques to evaluate if a project's CAP emissions would have a less-than-significant impact in Chapters 4 and 6 of the EDCAQMD CEQA Guide.[4] This analysis in this report estimates the program/plan level construction and operational mass emissions of CO, PM_{10}, sulfur oxides (SO_X), and NO_X for the proposed Project and evaluates the significance of their impacts using these screening techniques established in the EDCAQMD CEQA Guide.[5]

The EDCAQMD has also established significance thresholds to assess health risk impacts of TACs from project-related emission sources on nearby sensitive receptors including residents and other human populations, which are applicable to the program-level impact analysis in this report.[6] These include a maximum incremental cancer risk of one-in-a-million (or ten-in-a-million if best available control technology for toxics (T-BACT) is applied), and incremental chronic and acute hazard indices (HIs) of 1. The analysis summarized in this report evaluates the human health risk impacts from on-site construction and operational emissions against these significance thresholds established by EDCAQMD.

This Technical Report also performs a qualitative assessment of odors from the proposed Project to evaluate if they would have the potential to generate odorous emissions that would meet the statutory definition for nuisance, in accordance with the EDCAQMD CEQA Guide.[7]

This report, relative to Threshold AQ-1, evaluates whether the proposed Project would conflict with applicable plans related to emissions, including the regional air quality attainment plans. This report, relative to Threshold AQ-2, quantifies the proposed Project's emissions during construction and operations and compares those results to the applicable EDCAQMD thresholds. Relative to Threshold AQ-3, this report includes a CO hotspots analysis and a semi-quantitative assessment of the potential health risk impacts to sensitive receptors. This report, relative to Threshold AQ-4, evaluates the potential for odor-generating activities from the proposed Project.

As discussed in Section 3.2 of the EDH Costco Greenhouse Gas Technical Report, El Dorado County provides some basic information on climate change including an overview of GHG regulations and local, state, and national efforts to address climate change; however, it has not established a quantitative or qualitative guidance to evaluate GHG emission impacts of development projects under CEQA.[8] Additionally, EDCAQMD has also not set quantitative GHG significance thresholds. In the absence of a quantitative GHG threshold from El Dorado County and EDCAQMD, this Technical Report assessed significance of GHG impacts for Threshold GHG-1 against the Placer County Air Pollution Control District (PCAPCD) GHG significance thresholds (Table 3-1 of the EDH Costco Greenhouse Gas Technical Report), in consultation with EDCAQMD and El Dorado County.

[4] EDCAQMD. 2002. Guide to Air Quality Assessment. February. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

[5] Ibid.

[6] Ibid.

[7] Ibid.

[8] Ibid.

PCAPCD's GHG significance thresholds are reasonable to assess significance in the absence of a quantitative threshold from EDCAQMD because Placer County is similar to El Dorado County demographically, geographically, and meteorologically. Both Placer County and El Dorado County have similar land use patterns (i.e., they are both heavily made up of rural and suburban areas), with similar rates of population growth. Additionally, both counties have similar terrain and lie within the same air basin. Because of this, PCAPCD's quantitative GHG thresholds were used to assess significance against the Project relative to Threshold GHG-1.

Relative to Threshold GHG-2, this report evaluates whether the Project would conflict with the 2022 Scoping Plan Update,[9] Sacramento Area Council of Governments' (SACOG's) 2020 future Metropolitan Transportation Plan & Sustainable Communities Strategy (MTP/SCS),[10] and the El Dorado County Regional Transportation Plan (RTP) 2020-2040.[11]

This report evaluates the proposed Project's energy consumption against the six categories of potential energy-related environmental impacts from Appendix F of the CEQA Guidelines:

1. The Project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the Project including construction, operation, maintenance and/or removal. If appropriate the energy intensiveness of materials may be discussed.
2. The effects of the Project on local and regional energy supplies and on requirements for additional capacity.
3. The effects of the Project on peak and base period demands for electricity and other forms of energy.
4. The degree to which the Project complies with existing energy standards.
5. The effects of the Project on energy resources.
6. The Project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

This report, relative to Threshold ENE-1, assesses the proposed Project's electricity, natural gas, and fossil fuel consumption during construction and operation by way of the six questions above. This report, relative to Threshold ENE-2, evaluates whether the proposed Project would conflict with applicable plans related to renewable energy and energy efficiency.

[9] CARB. 2022. 2022 CARB Scoping Plan Update - Appendix D, Local Actions. Available at: https://ww2.arb.ca.gov/sites/default/files/2022-11/2022-sp-appendix-d-local-actions.pdf. Accessed: October 2025.

[10] SACOG. 2020. 2020 SACOG MTP/SCS. Available at: https://www.sacog.org/home/showpublisheddocument/76/638212804736270000. Accessed: October 2025.

[11] El Dorado County Transportation Commission. 2020. El Dorado County Regional Transportation Plan 2020-2040. November 5. Available at: https://www.edctc.org/files/2859e4e3f/RTP+2040.pdf. Accessed: October 2025.

3. EMISSIONS INVENTORIES AND ENERGY PROJECTIONS

This section provides a brief description of the methodology that Ramboll used to develop CAP, GHG, and energy inventories associated with the Remainder Area Development, which include one-time emissions from construction and long-term operational emissions. This section also presents the CAP, GHG, and energy inventories of the North Site Remainder Area and the proposed Project.

The analysis in this report utilized the California Emissions Estimator Model (CalEEMod) version 2022.1 methodology to quantify CAP and GHG emissions for the Remainder Area Development (**Appendix A**). This report presents assumptions only when they differ from the analysis for the EDH Costco Project, detailed in the EDH Costco Project's technical reports. Unless otherwise stated, CalEEMod default parameters were used to estimate the emission inventories.

As presented in **Section 1**, the Remainder Area Development would, at a maximum, develop 138,000 square feet of commercial/retail land uses, categorized as regional shopping center in CalEEMod. The remaining area of the parcel is conservatively assumed to be developed into asphalt-paved parking lots, totaling approximately 10.6 acres. The land use assumptions used to generate CalEEMod default construction and operational activities are included in **Appendix A**.

Construction of the North Site Remainder Area is assumed to start as early as May 2027, immediately after the EDH Costco Project construction concludes. Operation of the North Site Remainder Area is assumed to start as soon as the construction concludes.

3.1 Construction Emission Inventories and Energy Projection

Construction schedule, off-road equipment activities and on-road vehicle trip assumptions are provided in **Appendix B**. Because the material movement volumes required to construct in the Remainder Area are currently unknown, they are conservatively assumed to be the same as EDH Costco Project's Construction Scenario 2.

Criteria Air Pollutant Inventory

Average daily construction emissions for each quarter of the North Site Remainder Area construction are calculated based on CalEEMod outputs and are included in **Appendix C**.

Table 3-1 summarizes the average daily criteria pollutant emissions from construction of the North Site Remainder Area as compared to the applicable EDCAQMD thresholds. As shown in this table, the average daily unmitigated emissions of ROG and NO_X from the construction of the Remainder Area Development are below EDCAQMD's thresholds for construction. While EDCAQMD has not adopted mass daily numerical thresholds for other CAP emissions from construction, the EDCAQMD CEQA Guide[12] states that if ROG and NO_X exhaust emissions from construction are deemed not significant, then exhaust emissions of CO and PM_{10} may also be deemed not significant. Hence, air quality impacts of all CAPs (ROG, NO_X, CO, and

[12] EDCAQMD. 2002. Guide to Air Quality Assessment. February. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

PM_{10}) from the exhaust of construction equipment and on-road vehicles associated with the construction of the North Site Remainder Area are less than significant.

The EDCAQMD CEQA Guide[13] states that fugitive dust PM_{10} emissions may be assumed to be not significant, if the project complies with EDCAQMD Rule 223 and Rule 223-1 for fugitive dust control by implementing control measures that will prevent visible dust beyond the project property lines. The proposed Project will comply with these fugitive dust control rules. Hence, the air quality impacts of fugitive dust emissions from the construction North Site Remainder Area are less than significant.

North Site Remainder Area construction activities are expected to generate negligible emissions of SO_2, sulfates, lead, and H_2S. Therefore, the air quality impacts of these emissions from the construction of the North Site Remainder Area are also less than significant.

Although EDCAQMD has established separate daily mass significance thresholds for short-term construction and long-term operational phases of development projects, this analysis conservatively compares the combined average daily emissions from the construction of the Remainder Area land and the EDH Costco Project operation to EDCAQMD's mass daily construction thresholds. As shown in **Table 3-2**, these combined unmitigated average daily emissions exceed EDCAQMD's construction threshold for ROG but remain below the threshold for NO_X.

Mitigated Criteria Air Pollutant Inventory

In order to ensure that the combined average daily ROG emissions from the construction of the Remainder Area Development and the EDH Costco Project operation are below the EDCAQMD's mass daily construction thresholds, the following mitigation measure will be implemented during the construction of the Remainder Area.

- **Mitigation Measure 3.2-2: Architectural Coating Volatile Organic Compound (VOC) Limits for Development of the North Site Remainder Area**

  Future building construction of the North Site Remainder Area shall only use architectural coatings with a VOC content not exceeding 100 grams per liter during construction for all interior and exterior spaces. This requirement shall be included in plans submitted for review by the County prior to the issuance of building permits.

Additionally, the following mitigation measures that will be implemented during the construction of the EDH Costco Project to address health risk impacts and asbestos dust will also apply to the construction of the Remainder Area Development:

- **Mitigation Measure 3.2-4a: Apply Tier-4 Emission Standards to Diesel-Powered Off-Road Equipment**

  Construction equipment greater than 50 horsepower (hp) used at the site shall meet Environmental Protection Agency (EPA) Tier 4 Final emission standards for PM_{10} and particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), if available. If Tier 4 Final equipment is not available, all construction equipment larger than 50 hp used at the site shall meet EPA emission standards for Tier 3 engines and include particulate matter emissions control equivalent to California Air Resources Board (CARB) Level 3 verifiable

[13] Ibid.

diesel emission control devices. This requirement shall apply to the construction of the Costco project and construction of the North Site Remainder Area.

- **Mitigation Measure 3.2-4b: Implement Asbestos Dust Mitigation Consistent with EDCAQMD Rule 223-1**

  An Asbestos Dust Mitigation Plan shall be prepared and submitted to the EDCAQMD and the County for review and approval by EDCAQMD for implementation during construction on the Costco project, future development of the North Site Remainder Area, and for off-site roadway improvements (if the presence of naturally occurring asbestos (NOA) is confirmed). The Asbestos Dust Mitigation Plan shall comply with the El Dorado County Code Chapter 8.44 (Asbestos and Dust Protection) and EDCAQMD Rule 223-2, which provides performance standards for ensuring that adverse impacts do not result from asbestos dust during construction.

Table 3-3 summarizes the average daily mitigated criteria pollutant emissions from construction of the North Site Remainder Area as compared to the applicable EDCAQMD thresholds. As shown in this table, the average daily unmitigated emissions of ROG and NO_X from the construction of the Remainder Area Development are below EDCAQMD's thresholds for construction. While EDCAQMD has not adopted mass daily numerical thresholds for other CAP emissions from construction, the EDCAQMD CEQA Guide[14] states that if ROG and NO_X exhaust emissions from construction are deemed not significant, then exhaust emissions of CO and PM_{10} may also be deemed not significant. Hence, air quality impacts of all CAPs (ROG, NO_X, CO, and PM_{10}) from the exhaust of construction equipment and on-road vehicles associated with the construction of the North Site Remainder Area are less than significant.

The EDCAQMD CEQA Guide[15] states that fugitive dust PM_{10} emissions may be assumed to be not significant, if the project complies with EDCAQMD Rule 223 and Rule 223-1 for fugitive dust control by implementing control measures that will prevent visible dust beyond the project property lines. The proposed Project will comply with these fugitive dust control rules. Hence, the air quality impacts of fugitive dust emissions from the construction North Site Remainder Area are less than significant.

North Site Remainder Area construction activities are expected to generate negligible emissions of SO_2, sulfates, lead, and H_2S. Therefore, the air quality impacts of these emissions from the construction of the North Site Remainder Area are also less than significant.

Although EDCAQMD has established separate daily mass significance thresholds for short-term construction and long-term operational phases of development projects, this analysis conservatively compares the combined average daily mitigated emissions from the construction of the Remainder Area land and the EDH Costco Project operation to EDCAQMD's mass daily construction thresholds. As shown in **Table 3-4,** with the inclusion of **Mitigation Measure 3.2-2**, which involves using low VOC paints during construction of the Remainder Area land uses, the combined average daily construction and operation emissions are below EDCAQMD's construction mass daily significance thresholds for both ROG and NO_X.

[14] EDCAQMD. 2002. Guide to Air Quality Assessment. February. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

[15] Ibid.

Greenhouse Gas Emissions Inventory

GHG emissions associated with the construction of the North Site Remainder Area are estimated using CalEEMod (**Appendix A**) and summarized in **Table 3-5**. As shown in **Table 3-5**, the annual GHG emissions associated with the construction of the North Site Remainder Area are less than the PCAPCD's GHG significance threshold for construction.[16]

Energy Projection

Energy consumption associated with the construction of the North Site Remainder Area are estimated using methodologies described in Section 4.1 of the EDH Costco Energy Technical Report and summarized in **Table 3-6**. Additional details on the fuel consumption of off-road construction equipment and on-road vehicle use during the North Site Remainder Area construction are provided in **Appendix D**.

3.2 Operational Emission Inventories and Energy Projection

A summary of the key assumptions associated with the operation of the North Site Remainder Area including mobile source activity, County-specific consumer product emission factors, and GHG emission factors for electricity are provided in **Appendix E**. These assumptions were incorporated into the CalEEMod model run in **Appendix A**.

Criteria Air Pollutant Inventory

Table 3-7 summarizes the maximum daily criteria air pollutant emissions associated with the operation of the North Site Remainder Area and the EDH Costco Project. As shown in this table, the maximum daily ROG and NO_X emissions associated with proposed Project (North Site Remainder Area and EDH Costco Project) operation are below EDCAQMD's mass daily significance thresholds for operation.

While EDCAQMD has not adopted mass daily numerical thresholds for other CAP emissions, it considers a project to have a significant impact on air quality if it will cause or contribute significantly to a violation of the National Ambient Air Quality Standards or California Ambient Air Quality Standards for CO, PM_{10}, SO_2, sulfates, lead, H_2S.

The EDCAQMD CEQA Guide[17] states that development projects, with land use types similar to the proposed Project, that are deemed less than significant for ROG and NO_X emissions based on land use size screening criteria, can also be considered less than significant for CO emissions. Using this screening approach, we can consider the air quality impacts of CO emissions from the proposed Project operation to be less than significant because the proposed Project's ROG and NO_X emissions are less than EDCAQMD's mass daily significance thresholds. Hence, the air quality impacts of operational CO emissions from the proposed Project are less than significant.

The EDCAQMD CEQA Guide[18] states that PM_{10} emissions from land development projects primarily associated with gasoline-powered vehicles may be assumed to be insignificant if the projects do not generate heavy-duty diesel vehicle trips in greater proportion than the

[16] PCAPCD CEQA Handbook. 2017. Chapter 2 Thresholds of Significance. Available at: https://www.placerair.org/DocumentCenter/View/2047/Chapter-2-Thresholds-of-Significance-PDF. Accessed: October 2025.

[17] EDCAQMD. 2002. Guide to Air Quality Assessment. February. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

[18] Ibid.

general mix of such trips in public roadways. The proposed Project is not expected to generate heavy-duty diesel vehicle trips in greater proportion than the general mix of such trips in public roadways in the vicinity of the Project site and the air quality impacts of operational PM_{10} emissions from the proposed Project are less than significant.[19]

The EDCAQMD CEQA Guide[20] states that emissions associated with project operations that are less than 10 pounds per day of a pollutant may be presumed to have impacts that are not significant for that pollutant. Since SO_X emissions associated with the proposed Project operation are less than 10 pounds per day (**Table 3-7**), emissions of these pollutants are less than significant.

The proposed Project is a development project that is not a significant source of lead, sulfates, and H_2S. Hence, the emissions of these pollutants are less than significant.

Finally, according to the EDCAQMD CEQA Guide,[21] visibility impacts from development projects can be considered less than significant. Therefore, the proposed Project impacts on visibility are less then significant.

Greenhouse Gas Emissions Inventory

Table 3-8 summarizes the annual operational GHG emissions associated with the operation of the proposed Project (3,954 metric tonnes of carbon dioxide equivalent emissions per year (MT CO_2e per year) for the North Site Remainder Area and the EDH Costco Project). Because the exact energy efficiency and sustainability features of the North Site Remainder Area are not known at the time of preparation of this report, GHG reduction features of EDH Costco Project were not assumed for the Remainder Area Development.

PCAPCD CEQA Guidelines[22] have a three-tiered approach for assessing GHG emissions from land use projects. For projects with annual operational GHG emissions between 1,100 and 10,000 MT CO_2e per year, PCAPCD recommends applying its GHG Efficiency Matrix to determine significance.

As shown in **Table 3-8**, the proposed Project's estimated annual operational emissions fall within this range. Based on a total building square footage of 303,200 square feet (138,000 square feet for the North Site Remainder Area and 165,200 square feet for the EDH Costco Project), the calculated GHG efficiency for the proposed Project is 13.04 MT CO_2e per 1,000 square feet.[23] This is below the applicable conservative threshold of 26.5 MT CO_2e per 1,000 square feet for nonresidential projects located in urban areas, as defined by PCAPCD.

[19] As noted in Section 4.3.6 of the Air Quality Technical Report, the heavy-duty diesel vehicle trips generated by the EDH Costco Project are less than 0.25% of the total Project trips. Additionally, for purposes of this analysis the heavy-duty diesel vehicle trips generated by the Remainder Area as assumed to be similar to the general fleet mix in El Dorado County, based on the default fleet mix in CalEEMod. Hence, the fraction of heavy-duty diesel vehicle trips generated by the proposed Project (EDH Costco and North Site Remainder Area) will be lower than the approximately 6% of heavy-duty diesel trucks operating on the roads in El Dorado County.

[20] Ibid.

[21] Ibid.

[22] PCAPCD CEQA Handbook. 2017. Chapter 2 Thresholds of Significance. Available at: https://www.placerair.org/DocumentCenter/View/2047/Chapter-2-Thresholds-of-Significance-PDF. Accessed: October 2025.

[23] Note, the Proposed Project GHG efficiency would be 16.94 MT CO_2e per 1,000 square feet if the analysis accounted for the greenhouse gas emission benefits associated with only the mandatory electric vehicle charging requirements (1,097 kW total power) in the 2025 California Green Building Standards Code. This value is also below the applicable conservative threshold of 26.5 MT CO_2e per 1,000 square feet for non-residential projects located in urban areas, as defined by PCAPCD.

Therefore, the proposed Project's operational GHG emissions are considered to be less than significant.

Energy Projection

Energy consumption associated with the operation of the North Site Remainder Area are estimated using methodologies described in Section 4.2 of the EDH Costco Energy Technical Report and summarized in **Table 3-9**. Additional details on the operational electricity, natural gas, diesel and gasoline consumption are provided in **Appendix F**.

4. PROGRAM-LEVEL AIR QUALITY IMPACT ANALYSIS

This section assesses the significance of the proposed Project's air pollutant emissions for purposes of CEQA.

4.1 Threshold AQ-1: Would the Project conflict with or obstruct implementation of the applicable air quality plan?

According to the EDCAQMD CEQA Guide,[24] development projects in the Mountain Counties Air Basin portion of the County are considered consistent with the applicable air quality plan if:

1. The Project does not require a change in the existing land use designation (e.g., a general plan amendment or rezone), and projected emissions of ROG and NO_X from the Project are equal or less than the emissions anticipated for the site if developed under the existing land use designation;
2. The Project does not exceed the "project alone" significance criteria;
3. The lead agency for the Project requires the Project to implement any applicable emission reduction measures contained in and/or derived from the air quality attainment plan; and
4. The Project complies with all applicable district rules and regulations.

El Dorado County's General Plan designates the Project site as Commercial (C). Zoning includes Commercial Regional–Planned Development (CR-PD), with smaller areas of Commercial Limited and Transportation Corridor. Once operational, the proposed Project would be a regional commercial center, which is consistent with the existing designation of the County's General Plan and zoning. Hence, the anticipated growth associated with the Project is generally accounted for in the 2023 Ozone Plan[25] and would be accounted for in forthcoming attainment plans.

As described in **Section 3.1** and **Section 3.2**, the air quality impacts of CAPs associated with the proposed Project construction and operation are less than significant. Therefore, the proposed Project does not exceed the "project alone" significance criteria.

The applicable air quality attainment plans for the Project area are the Sacramento Regional 8-hour Ozone Attainment and Reasonable Further Progress Plan[26] and $PM_{2.5}$ Maintenance Plan and Redesignation Request.[27] As such the proposed Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under these plans (see **Section 4.2** below for further details). Hence, the

[24] EDCAQMD. 2002. Guide to Air Quality Assessment. February. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

[25] Sacramento Region Air Quality Plans. Available at: https://ww2.arb.ca.gov/our-work/programs/california-state-implementation-plans/nonattainment-area-plans/sacramento-region. Accessed: October 2025.

[26] Ibid.

[27] EDCAQMD, Placer County Air Pollution Control District, SMAQMD, and Yolo-Solano Air Quality Management District. $PM_{2.5}$ Implementation/Maintenance Plan and Redesignation Request for Sacramento $PM_{2.5}$ Nonattainment Area. October 24. Available at: http://www.airquality.org/ProgramCoordination/Documents/PM2.5%20Imp%20and%20Redesignation%202013.pdf. Accessed: October 2025.

proposed Project is not required to implement any additional mitigation measures contained in these plans.

As described in **Section 3.1** of this report and Sections 4.2.3 and 5.1.1 of the EDH Costco Project Air Quality Technical Report the proposed Project would comply with EDCAQMD Rules 223-1 and 223-2 for fugitive dust control[28] and asbestos hazard mitigation[29] during construction. The proposed Project is located in an area where NOA could be present.[30] Although the proposed Project's Geotechnical Study[31] concluded that the potential for NOA to be encountered at levels at or exceeding regulatory threshold level is considered low, the proposed Project would implement asbestos dust mitigation measures consistent with EDCAQMD Rule 223-1 through the implementation of **Mitigation Measure 3.2-4b**. The proposed Project would also comply with all other applicable EDCAQMD rules.

Therefore, the proposed Project would not conflict with or obstruct implementation of the applicable air quality plans for the Project region.

4.2 Threshold AQ-2: Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?

As discussed in the EDH Costco Project Air Quality Technical Report, the Project region is currently designated as non-attainment for the State 1-hour ozone (O_3) standard, the federal and the State 8-hour O_3 standard, the State PM_{10} standards, and the federal 24-hour $PM_{2.5}$ standard.

The two primary precursors for O_3 formation are ROG and NO_X. Table 4-12 of the EDH Costco Air Quality Report, and **Table 3-1** and **Table 3-7** of this report present the average daily and maximum daily ROG and NO_X emissions associated with the proposed Project construction and operation. Emissions of these O_3 precursors (ROG and NO_X) are below the EDCAQMD mass daily significance thresholds. Additionally, as described in Section 4.2.6 of the EDH Costco Air Quality Report and **Section 3** of this report, impacts of particulate matter emissions from the proposed Project construction and operation are less than significant. Hence, the proposed Project would not result in a cumulatively considerable net increase in any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard.

[28] EDCAQMD. 2005. Rule 223-1 Fugitive Dust – Construction, Bulk Material Handling, Blasting, Other Earthmoving Activities and Carryout and Trackout Prevention. Available at: https://ww2.arb.ca.gov/sites/default/files/classic/technology-clearinghouse/rules/RuleID809.pdf. Accessed: October 2025.

[29] EDCAQMD. 2005. Rule 223-2 Fugitive Dust – Asbestos Hazard Mitigation. Available at: https://ww2.arb.ca.gov/sites/default/files/classic/technology-clearinghouse/rules/RuleID810.pdf. Accessed: October 2025.

[30] El Dorado County. Asbestos Review Areas, Western Slope, County of El Dorado, State of California. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/construction-dust-rules/asbestos-review-map-8-22-18.pdf. Accessed: October 2025.

[31] Kleinfelder, 2024. Geotechnical Study, Proposed Costco Fuel Facility, Silva Valley Parkway, El Dorado Hills, California, CW# 18-0487. December 2024.

4.3 Threshold AQ-3: Would the Project expose sensitive receptors to substantial pollutant concentrations?

4.3.1 CO Hotspots

As discussed in Section 6.2 of the AQ Technical Report, according to the PCAPCD guidance, the CO emissions from a proposed Project's operations would be less than significant if CO emissions from vehicle operations are less than 550 pounds per day (lbs/day). As shown in **Table 3-7**, the CO emissions from mobile sources associated with the proposed Project are less than 550 lbs/day. Thus, the increase in CO emissions from the project-related increased traffic volumes at affected intersections and the on-site gasoline fueling station are less than significant and the proposed Project would not expose sensitive receptors to substantial concentrations of localized CO.

4.3.2 Health Risk Thresholds

As described in Section 7.3.1 of the EDH Costco Project Air Quality Technical Report, the cancer risk, non-cancer chronic and acute HIs at the maximally impacted residential and other sensitive receptors associated with the mitigated toxic air contaminant (TAC) emissions from the EDH Costco Project construction and operation are below EDCAQMD significance thresholds. Specifically, the maximum incremental cancer risk, non-cancer chronic and acute HIs for the Costco EDH Project are estimated to be 4.13 in a million, 0.02, and 0.50 respectively (Refer to Table 5-5 in the EDH Costco Project Air Quality Technical Report).

The primary sources of TAC emissions associated with the North Site Remainder Parcel are diesel particulate matter (DPM) emissions from construction equipment, construction trucks, and operational trucks. The construction equipment, construction truck activity, and operational truck activity associated with the development of the North Site Remainder Parcel are generally expected to be similar/lower than that of the EDH Costco Project as maximum square footage of the of commercial/retail land uses that would be developed on the North Site Remainder Area (138,000 square feet) is lower than the square footage of the warehouse that would be developed by the EDH Costco Project (165,000 square foot). Hence, the DPM emissions from the North Site Remainder Parcel and its associated cancer and chronic impacts will be similar or less than that associated with the EDH Costco Project. As a result, the maximum cancer risk and chronic HI associated with the proposed Project (North Site Remainder Area and EDH Costco Project) are expected to be less than 8.5 in a million and 0.05 respectively which are below EDCAQMD significance thresholds.

Additionally, since the North Site Remainder Parcel is expected to be developed as general retail land uses, we do not expect it to be a significant source of TACs that have acute impacts. Therefore, the acute HI for the proposed Project (North Site Remainder Area and EDH Costco Project) is expected to be similar to that of the EDH Costco Project which is below EDCAQMD significance threshold.

Therefore, the Project is not expected to expose sensitive receptors to substantial TAC concentrations.

4.4 Threshold AQ-4: Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

According to the EDCAQMD CEQA Guide,[32] common types of facilities known to produce odors include wastewater treatment plants, landfills and composting facilities, petroleum refineries, manufacturing plants such as asphalt batch plants and chemical/fiberglass manufacturing, painting and coating operations, food processing plants, rendering plants, and coffee roasters. The proposed Project would not include any of these land uses that have been identified by the EDCAQMD as being associated with odor generation and thus would not result in odors adversely affecting a substantial number of people. In addition, the proposed Project does not propose to locate any sensitive receptors near an existing source of objectional odors.

4.4.1 Construction Odors

Construction activities associated with potential odor include equipment exhaust (i.e., from off-road construction equipment), paving, and architectural coating. There are no unusual Project characteristics or construction processes that would require the use of equipment that would be more fuel intensive than is used for comparable construction activities, nor equipment that would not conform to current emission standards. It is expected that these impacts would be short-term in duration and typical of comparable activities, therefore the impacts would not adversely affect a substantial number of people and would be less than significant.

4.4.2 Operational Odors

As discussed above, the proposed Project is a commercial and retail development and does not propose any odor-generating facilities identified by the EDCAQMD. However, the proposed Project does include a gasoline fueling station. During the operation of the Project, VOCs released at the gasoline station due to refueling, spillage, and hose permeation would be controlled to minimize odors (i.e., nozzles equipped with Phase II Enhanced Vapor Recovery systems). Therefore, odor impact from the gasoline fueling station would not affect a substantial number of people and would be less than significant.

There may be some potential for other small-scale, localized odor issues to emerge around some of the proposed Project sources, such as solid waste collection, wastewater or stormwater collection/conveyance, or food preparation. However, these localized short-term odors would not affect a substantial number of people. Therefore, the proposed Project's operational odor impact is considered less than significant.

[32] EDCAQMD. 2002. Guide to Air Quality Assessment. February. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

5. PROGRAM-LEVEL GREENHOUSE GAS EMISSIONS IMPACT ANALYSIS

This section discusses the assessment of the proposed Project's GHG emissions against the CEQA significance thresholds outlined in **Section 2**.

5.1 Threshold GHG-1: Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

As noted in **Section 2.1**, in the absence of a quantitative GHG threshold from El Dorado County and EDCAQMD, this Technical Report assesses significance of the proposed Project's GHG impacts for Threshold 1 against the PCAPCD's GHG significance thresholds.

Total GHG emissions for each year of the proposed Project construction are summarized in Table 4-13 of the EDH Costco Project Greenhouse Gas Technical Report and **Table 3-5** of this report. As shown in these tables, the annual GHG emissions associated with the construction of the proposed Project (1,708 MT CO_2e in 2026, 1,866 MT CO_2e in 2027, and 197 MT CO_2e in 2028) are less than the PCAPCD's bright-line GHG significance threshold of 10,000 MT CO_2e/year for construction.

The proposed Project's annual operational GHG emissions were estimated to be 3,954 MT CO_2e per year (**Table 3-8**). These emissions are between PCAPCD's de minimis GHG emissions level (1,100 MT CO_2e/yr) and bright-line GHG significance threshold (10,000 MT CO_2e/yr) for project operation. Therefore, to evaluate the GHG impacts we estimated the proposed Project's efficiency metric in accordance with the PCAPCD's Air Quality Handbook.[33] This calculated efficiency metric (13.04 MT CO_2e per 1,000 square feet) shown in **Table 3-8**, is less than the lower of the two applicable efficiency matrix thresholds in PCAPCD's Air Quality Handbook for the operational phase of land use projects:

1. 26.5 MT CO2e/1,000 square feet for a project in an urban land use setting; and
2. 27.3 MT CO2e/1,000 square feet for a project in rural land use setting.

Therefore, the GHG emissions associated with the construction and operation of the proposed Project would not have a significant impact on the environment.

5.2 Threshold GHG-2: Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

As noted in **Section 2.1**, this Technical Report assesses the significance of the proposed Project's GHG impacts for Threshold 2 based on whether it would conflict with the 2022 Scoping Plan Update,[34] SACOG's 2020 MTP/SCS,[35] and El Dorado County RTP 2020-2040.[36]

[33] PCAPCD. 2017. 2017 CEQA Handbook Chapters. Available at: https://www.placerair.org/1801/CEQA-Handbook. Accessed: October 2025.

[34] CARB. 2022. 2022 CARB Scoping Plan Update - Appendix D, Local Actions. Available at: https://ww2.arb.ca.gov/sites/default/files/2022-11/2022-sp-appendix-d-local-actions.pdf. Accessed: October 2025.

[35] SACOG. 2020. 2020 SACOG MTP/SCS. Available at: https://www.sacog.org/home/showpublisheddocument/76/638212804736270000. Accessed: October 2025.

[36] El Dorado County Transportation Commission. 2020. El Dorado County Regional Transportation Plan 2020-2040. November 5. Available at: https://www.edctc.org/files/2859e4e3f/RTP+2040.pdf. Accessed: October 2025.

5.2.1 2022 Scoping Plan Update

The 2022 Scoping Plan Update has a table of priority GHG reduction strategies that can be utilized by local governments. The three main priority areas addressed in this table are "Transportation Electrification", "vehicle miles travelled (VMT) Reduction", and "Building Decarbonization".[37] These measures represent the core strategies that local jurisdictions in California can implement to reduce GHGs in alignment with State goals.

The proposed Project would not conflict with the implementation of the 2022 Scoping Plan Update and Statewide Emission Reduction Targets and includes the several features and mitigation measures that support the three main priority areas for GHG reduction as described below.

While project-level design features and details are not available for the potential developments in the North Site Remainder Area at the time of preparation of this program-level analysis, the North Site Remainder Area would introduce retail/commercial land uses that are consistent with the zoning designation in a highway hub. Hence, the proposed Project, i.e., the North Site Remainder Area and the Costco EDH Project, would create new employment opportunities. Additionally, the Project site is an infill development located near an El Dorado Transit bus route (50 Express) and bus stop (El Dorado Transit Park & Ride), therefore placing jobs that are accessible via public transit. The El Dorado bus route connects to the larger Sacramento Metropolitan transit network and encourages use of local transit and rail to commute to the proposed Project. Furthermore, the proposed Project is located adjacent to homes, therefore the proposed Project would provide retail and jobs near a housing-rich area served by El Dorado Transit. Lastly, the proposed Project will implement **Mitigation Measure 3.14-2c: Develop a Transportation Demand Management (TDM) Program and Implement VMT Reduction Measures for Subsequent Developments in the North Site Remainder Area** which requires each project applicant of future proposed projects located within the North Site Remainder Area to either demonstrate through a technical analysis that its project would not exceed County VMT thresholds or implement VMT-reducing infrastructure and/or strategies within the commercial facility to mitigate those impacts. If VMT thresholds are exceeded, the applicant shall prepare and submit a TDM Plan to the County for approval, which shall include a series of measures to reduce project-related VMT. Measures may include strategies such as ridesharing initiatives (e.g., carpooling), subsidizing employee use of public transit, and promoting bicycling, walking, and the use of public transit. As noted in Section 5.2.1 of the GHG Technical Report, the EDH Costco Project will meet the Voluntary Tier 1 Electric Vehicle Charging Standards as defined in the 2025 California Green Building Standards Code[38] by installing ten direct current fast chargers that provide a total power of 1,800 kW. Additionally, these chargers will be powered by 100% renewable electrical power supplied by Pacific Gas & Electric (PG&E), as Costco has a Clean Energy Contract with PG&E. Furthermore, the Remainder Area will be required to meet the Mandatory Electric Vehicle Charging Standards as defined in the California Green Building Standards Code.

[37] CARB. 2022. Final 2022 Scoping Plan Update and Appendices. December. Available at: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents. Accessed: October 2025.

[38] 2025 California Green Building Standards Code, Title 24, Part 11. Available online at: https://codes.iccsafe.org/content/CAGBC2025P1. Accessed: October 2025.

Additionally, as noted in Section 5.2.1 of the GHG Technical Report, the EDH Costco Project will incorporate several sustainability and energy efficiency measures including green building practices as required by the 2025 California Green Building Standards Code.[39] Refer to Section 1.2 of the GHG Technical Report for a detailed listing of these measures. Notably, the EDH Costco Project operations will be powered 100% renewable electrical power supplied by PG&E, as Costco has a Clean Energy Contract with PG&E. Furthermore, the Remainder Area will be required to meet the California Green Building Standards Code, which includes a number of energy-saving requirements for new developments.

Based on the proposed Project elements described above, the Project would not interfere with the implementation of the 2022 Scoping Plan Update and would include elements that support the goals of the plan.

5.2.2 SACOG 2020 MTP/SCS

The proposed Project would not conflict with the State's GHG reduction goals and strategies as discussed in the SACOG's 2020 MTP/SCS,[40] which fall into four priority policy areas:

1. Build vibrant places for today's and tomorrow's residents;
2. Foster the next generation of mobility solutions;
3. Modernize the way we pay for transportation infrastructure; and
4. Build and maintain a safe, reliable, and multimodal transportation system.

The proposed Project would not conflict with the implementation of the SACOG's 2020 MTP/SCS and has several elements that are expected to support the main priority policy in SACOG's 2020 MTP/SCS. As noted in **Section 5.2.1**, the Project is an infill development that would create new employment opportunities and is located near an El Dorado Transit bus route (50 Express) and bus stop (El Dorado Transit Park & Ride), therefore placing jobs that are accessible via public transit. The El Dorado bus route connects to the larger Sacramento Metropolitan transit network and encourages use of local transit and rail to commute to the Project. Furthermore, the Project is located adjacent to homes, therefore the Project would provide retail and jobs near a housing-rich area served by El Dorado Transit.

Moreover, as noted in **Section 5.2.1**, the proposed Project will implement **Mitigation Measure 3.14-2c: Develop a TDM Program and Implement VMT Reduction Measures for Subsequent Developments in the North Site Remainder Area** which requires each project applicant of future proposed projects located within the North Site Remainder Area to either demonstrate through a technical analysis that its project would not exceed County VMT thresholds or implement VMT-reducing infrastructure and/or strategies within the commercial facility to mitigate those impacts. If VMT thresholds are exceeded, the applicant shall prepare and submit a TDM Plan to the County for approval, which shall include a series of measures to reduce project-related VMT. Measures may include strategies such as ridesharing initiatives (e.g., carpooling), subsidizing employee use of public transit, and promoting bicycling, walking, and the use of public transit.

[39] 2025 California Green Building Standards Code, Title 24, Part 11. Available online at: https://codes.iccsafe.org/content/CAGBC2025P1. Accessed: October 2025.

[40] SACOG. 2020. Metropolitan Transportation Plan/Sustainable Communities Strategy. Available at: https://www.sacog.org/home/showpublisheddocument/76/638212804736270000. Accessed: October 2025.

Additionally, as noted in Section 5.2.2 of the GHG Technical Report, the EDH Costco Project would implement pedestrian network improvements as part of **Mitigation Measure 3.14-2b**, and would implement several off-site transportation improvements in coordination with the County to address the existing and future needs of the region in the immediate vicinity of the Project site.

Based on the proposed Project elements described above, the Project would not interfere with the implementation of the SACOG's 2020 MTP/SCS and would include elements that support the goals of the plan.

5.2.3 El Dorado County RTP 2020-2040

The proposed Project would not conflict with the El Dorado County 2020-2040 RTP,[41] which includes the following main goals: to improve highways, streets, and regional/inter-regional roadways, public transit, aviation, freight movement, non-motorized transportation, transportation systems management, integrated land use, air quality, and transportation planning, and funding.

The Project supports the objectives of the El Dorado County Regional Transportation Plan by providing sidewalks, bike lanes, and pedestrian connections. As noted in **Section 5.2.1**, the Project is an infill development that would create new employment opportunities and is located near an El Dorado Transit bus route (50 Express) and bus stop (El Dorado Transit Park & Ride), thereby creating jobs that are accessible via public transit. The El Dorado bus route connects to the larger Sacramento Metropolitan transit network and encourages use of local transit and rail to commute to the Project. Furthermore, the Project is located adjacent to homes, therefore the Project would provide retail and jobs near a housing-rich area served by El Dorado Transit.

Additionally, as noted in **Section 5.2.1**, the proposed Project will implement **Mitigation Measure 3.14-2c: Develop a TDM Program and Implement VMT Reduction Measures for Subsequent Developments in the North Site Remainder Area** which requires each project applicant of future proposed projects located within the North Site Remainder Area to either demonstrate through a technical analysis that its project would not exceed County VMT thresholds or implement VMT-reducing infrastructure and/or strategies within the commercial facility to mitigate those impacts. If VMT thresholds are exceeded, the applicant shall prepare and submit a TDM Plan to the County for approval, which shall include a series of measures to reduce project-related VMT. Measures may include strategies such as ridesharing initiatives (e.g., carpooling), subsidizing employee use of public transit, and promoting bicycling, walking, and the use of public transit.

Further, as described in Section 5.2.2 of the GHG Technical Report, the Project would include pedestrian network improvements as part of **Mitigation Measure 3.14-2b**, and would implement several off-site transportation improvements in coordination with the County to address the existing and future needs of the region in the immediate vicinity of the Project site.

Based on the proposed Project elements described above, the proposed Project would not interfere with the implementation of the El Dorado County 2020-2040 RTP and would include elements that support the goals of the plan.

[41] El Dorado County Transportation Commission. 2020. El Dorado County Regional Transportation Plan 2020-2040. November 5. Available at: https://www.edctc.org/files/2859e4e3f/RTP+2040.pdf. Accessed: October 2025.

5.3 Summary

As discussed in **Section 5.1**, the proposed Project is expected to result in GHG emissions that are below PCAPCD GHG thresholds for operation and construction. Additionally, as described in **Section 5.2**, the proposed Project would not conflict with the 2022 Scoping Plan Update, SACOG's 2020 MTP/SCS, or the El Dorado County RTP 2020-2040. Therefore, the proposed Project's GHG emissions will be less than significant in the context of Threshold 1 and Threshold 2. Based on the analysis above, the proposed Project's GHG emissions are not cumulatively considerable, and the proposed Project is less than significant for cumulative GHG impacts.

6. PROGRAM-LEVEL ENERGY IMPACT ANALYSIS

This section discusses the assessment of the Project's energy demand against the CEQA significance thresholds outlined in **Section 2**.

6.1 Threshold ENE-1: Would the Project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?

6.1.1 Energy Requirements and Energy Use Efficiencies

This section addresses the following category of environmental impact described in Appendix F of the CEQA Guidelines:

> *The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance and/or removal. If appropriate the energy intensiveness of materials may be discussed.*

Construction of the proposed Project (North Site Remainder Area and the EDH Costco Project) would result in one-time energy consumption in the form of gasoline and diesel, shown in **Table 3-6**. There are no unusual characteristics that would require the use of equipment that would be more energy intensive than is used for comparable activities, or equipment that would not conform to the current emissions standards (and related fuel efficiencies).

The operational energy use of the proposed Project is summarized in **Table 3-7**. As expected, the program-level energy use would be greater than the energy use from the EDH Costco Project. However, neither the EDH Costco Project nor the Remainder Area Development would have unusual project characteristics that would require electricity, gasoline, natural gas, and diesel consumption that would be more energy intensive than is used for comparable activities, or equipment that would not conform to current emissions standards (and related fuel efficiencies). For example, CARB has adopted an approach to passenger vehicles that combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of standards. The approach also includes efforts to support and accelerate the numbers of plug-in hybrids and zero-emissions vehicles in California. As such, operation of the proposed Project is expected to use decreasing amounts of fuel over time, due to advances in fuel economy.

6.1.2 Local and Regional Energy Supplies

This section addresses the following category of environmental impact described in Appendix F of the CEQA Guidelines:

> *The effects of the project on local and regional energy supplies and on requirements for additional capacity.*

The off-road construction equipment used during Project construction are primarily diesel-fueled. (see **Table D-1** for additional details on construction of the North Site Remainder Area and Table 4-2 of the EDH Costco Project Energy Technical Report for construction of the EDH Costco Project). Additionally, the fleet mix for construction mobile sources is expected to be gasoline-powered and diesel-powered, based on the CalEEMod default fleet mix for worker, vendor, and hauling vehicles (see **Table D-2** for additional

details on the construction of the North Site Remainder Area and Table 4-4 of the EDH Costco Project Energy Technical Report for construction of the EDH Costco Project). Hence, the proposed Project is not expected to use any natural gas during construction.

As shown in **Table 3-6**, relative to annual countywide fuel usage projections, the proposed Project construction would use up to 0.02% of gasoline, 1.23% of diesel, and 0.000004% of electricity in the year when the most construction would occur (2027). Relative to annual statewide fuel usage projections, the proposed Project construction would use up to 0.00010% of gasoline, 0.00405% of diesel, and 0.00000002% of electricity in the year when the most construction would occur (2027). Because construction of the proposed Project is expected to occur in three years, fuel use during construction would also be temporary and negligible.

Table 3-9 summarizes the proposed Project's operational energy use compared to countywide and statewide fuel usage projections. The estimated electricity usage for the proposed Project operations are anticipated to be approximately 0.57% of the projected countywide demand in 2028, and 0.00272% of the statewide energy demand. The natural gas usage of the proposed Project operations are estimated to be 0.08% of the total countywide natural gas consumption and 0.00024% of the total statewide natural gas consumption. The proposed Project's anticipated gasoline usage is anticipated to be 0.68% of the countywide consumption and 0.00323% of the statewide consumption. As far as the proposed Project's diesel consumption goes, it is estimated to be 1.39% of the projected countywide consumption and 0.0045% of the statewide consumption. Based on these relative percentages, the proposed Project's operational energy usage would not have a substantial impact on the local or regional energy supplies or capacity.

6.1.3 Peak and Base Period Demands

This section addresses the following category of environmental impact described in Appendix F of the CEQA Guidelines:

> *The effects of the project on peak and base period demands for electricity and other forms of energy.*

The proposed Project construction would only include minor pieces of electric-powered equipment and hence would not impact the peak and base period demands for electricity.

The proposed Project operation will not have a substantial impact on the peak and base period demands for electricity or other forms of energy. Further details and reasoning on the peak demand are described below.

In 2023, California's peak grid demand was 44,534 megawatts (MW).[42] PG&E recorded a peak demand of 19,995 MW in 2023.[43] In comparison, the Project's maximum demand is

[42] California ISO. California ISO Peak Load History 1998 through 2024. Available at: https://www.caiso.com/documents/californiaisopeakloadhistory.pdf. Accessed: October 2025.

[43] California Energy Commission. 2023. Electricity and Gas Demand Forecast. Available at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=253660&DocumentContentId=88907. Accessed: October 2025.

expected to be approximately 1.9 MW in 2028,[44] Therefore, the proposed Project's operations will have a relatively negligible effect on statewide and PG&E peak demands.

6.1.4 Existing Energy Standards

This section addresses the following category of environmental impact described in Appendix F of the CEQA Guidelines:

The degree to which the project complies with existing energy standards.

The proposed Project construction requires use of on-road trucks for soil hauling and deliveries, and off-road equipment such as excavators, tractors/loaders/backhoes, forklifts, and graders. The construction activities would comply with the five-minute idling limit in the Commercial Motor Vehicle Idling Regulation[45] and the Off-Road Regulation.[46] Additionally, on-road trucks used during Project construction would be compliant with the requirements of the Tractor-Trailer Greenhouse Gas Regulation.[47]

The proposed Project's anticipated operational energy use is summarized in **Table 3-9**. There are no unusual project characteristics that would require the use of gasoline, diesel, natural gas, or electricity that would be more energy intensive than is used for comparable activities, equipment, or vehicles that would not conform to current emissions standards (and related fuel efficiencies). Additionally, as described in Section 5.1.4.2 of the EDH Costco Project Energy Technical Report, the proposed Project would meet or exceed the Title 24 energy efficiency standards in effect at the time of building permit application. Any passenger vehicles and trucks trips generated by the proposed Project would comply with existing and new state-wide vehicle efficiency regulations discussed further in **Section 6.1.6**. Furthermore, the proposed delivery trucks accessing the site would comply with the State's Commercial Motor Vehicle Idling Regulation, similar to the construction vehicles discussed above.

Therefore, the proposed Project will comply with all applicable energy standards and its energy impacts are less than significant.

6.1.5 Energy Resources

This section addresses the following category of environmental impact described in Appendix F of the CEQA Guidelines:

The effects of the project on energy resources.

As discussed in **Sections 6.1.2** and **6.1.3**, the proposed Project's use of energy will not have a substantial effect on statewide or regional energy resources. Hence, the proposed Project will not significantly impact energy resources, and its energy impacts are less than significant.

---

[44] This is a conservative estimate since it was derived by dividing the total electricity energy required for the proposed Project operation by the annual operating hours for the proposed Costco warehouse, though some sources of electricity would operate 24 hours per day for every day of the year.

[45] 13 CCR 2485: Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. Available at: https://www.law.cornell.edu/regulations/california/13-CCR-2485. Accessed: October 2025.

[46] CARB. Frequently Asked Questions: Regulation for In-Use Off-Road Diesel-Fueled Fleets. Available at: https://ww2.arb.ca.gov/sites/default/files/classic/msprog/ordiesel/faq/idlepolicyfaq.pdf. Accessed: October 2025.

[47] CARB. Tractor-Trailer Greenhouse Gas Regulation. Available here: https://ww2.arb.ca.gov/our work/programs/ttghg-regulation/regulatory-and-guidance-documents. Accessed: October 2025.

6.1.6 Transportation Energy Use

This section addresses the following category of environmental impact described in Appendix F of the CEQA Guidelines:

> *The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.*

Conventional gasoline, diesel, and natural gas vehicles consume gasoline, diesel, or natural gas, whereas electric vehicles (EVs) consume electricity that can be sourced by fossil fuels or renewables. EVs, including battery-electric vehicles and plug-in hybrid electric vehicles, comprise a growing fraction of the passenger vehicles on the roads in California. EV adoption is expected to increase over the upcoming decades due in part to improvements in battery technology and public initiatives and goals. This increase in EV adoption will decrease the fuel requirements due to transportation. New statewide regulations have been instated which will reduce emissions and fuel requirements from cars and trucks. Gasoline, diesel, and natural gas usage for the mobile sources associated with the proposed Project operation are expected to decrease over time as fleets become more fuel-efficient and switch to more electric-powered vehicles. Overall, the proposed Project would not result in wasteful, inefficient, or unnecessary consumption of transportation energy.

6.1.7 Summary

Based on the above analysis of each of the environmental impact factors identified in CEQA Guidelines Appendix F, the potential for the proposed Project to result in wasteful, inefficient, or unnecessary consumption of fuel or energy, and conversely to fail to incorporate energy efficiency measures into equipment use, transportation or other project features is less than significant.

6.2 Threshold ENE-2: Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

The proposed Project would comply with any applicable local and state plans, regulations, and policies for renewable energy or energy efficiency to the extent required by law. However, because project-level design features and details are not available for the potential developments in the North Site Remainder Area at the time of preparation of this program-level analysis, specific energy efficiency features for the Remainder Area Development will be described in any future applications filed with the County and the associated project-level review of potential environmental impacts under CEQA.

Furthermore, as show in Appendix A of the EDH Costco Project Energy Technical Report, the EDH Costco Project will commit to specific energy efficiency and renewable energy features, including but not limited to, meeting the Voluntary Tier 1 Electric Vehicle Charging Standards as defined in the 2025 California Green Building Standards Code,[48] installation of efficient irrigation systems and high-efficiency restroom fixtures, use of LED lamps, and use of building surface materials with greater solar reflectivity. Therefore, considered as a whole, the proposed Project would not conflict with or obstruct a state or local Plan for renewable energy or energy efficiency.

[48] 2025 California Green Building Standards Code, Title 24, Part 11. Available online at: https://codes.iccsafe.org/content/CAGBC2025P1. Accessed: October 2025.

TABLES

Table 3-1. Unmitigated Average Daily CAP Emissions for Construction of North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

North Site Remainder Area Construction Time Period	ROG Emissions [1] (lbs/day)	NO_x Emissions [1] (lbs/day)	CO Emissions [1] (lbs/day)	SO_X Emissions [1,2] (lbs/day)	PM_{10} Emissions [1] (lbs/day)	$PM_{2.5}$ Emissions [1] (lbs/day)
First Quarter	2.4	45	24	0.24	13	3.4
Second Quarter	1.2	11	15	0.028	2.1	0.58
Third Quarter	1.2	10	15	0.028	2.1	0.56
Fourth Quarter	21	7.6	12	0.020	1.5	0.40
EDCAQMD Mass Daily Significance Thresholds [3]	**82**	**82**	**-**	**-**	**-**	**-**
Do Emissions Exceed Threshold for any quarter of Construction?	NO	NO	**-**	**-**	**-**	**-**

Notes:

[1] Obtained from **Table C-1**. Average daily emissions per quarter calculated as the total construction emissions, which include construction of the regional shopping center and parking lot, divided by the number of construction days in each quarter. Project construction emissions assume watering control consistent with EDCAQMD Rule 223-1.

[2] For purposes of this analysis SO_X emissions are assumed to be equal to SO_2.

[3] Obtained from EDCAQMD Guide to Air Quality Assessment Determining Significance of Air Quality Impact Under the California Environmental Quality Act. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

Abbreviations:

CAP - Criteria Air Pollutant
CO - carbon monoxide
EDCAQMD - El Dorado County Air Quality Management District
lb - pound
NO_x - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_2 - sulfur dioxide
SO_x - sulfur oxide compounds

Table 3-2. Unmitigated Combined Average Daily CAP Emissions for Construction of North Site Remainder Area and Operation of Costco EDH Project
El Dorado Hills Costco Project
El Dorado Hills, California

North Site Remainder Area Construction Time Period	ROG Emissions [1] (lbs/day)	NO_x Emissions [1] (lbs/day)	CO Emissions [1] (lbs/day)	SO_X Emissions [1,2] (lbs/day)	PM_{10} Emissions [1] (lbs/day)	$PM_{2.5}$ Emissions [1] (lbs/day)
First Quarter	68.9	79.3	205.9	0.5	49.3	10.4
Second Quarter	67.7	44.8	196.8	0.3	38.8	7.5
Third Quarter	67.7	44.5	196.5	0.3	38.8	7.5
Fourth Quarter	87.3	41.8	193.2	0.3	38.1	7.4
EDCAQMD Mass Daily Significance Thresholds [3]	**82**	**82**	**-**	**-**	**-**	**-**
Do Emissions Exceed Threshold for any quarter of Construction?	YES	NO	**-**	**-**	**-**	**-**

Notes:

[1] Estimated as a sum of the average daily construction emissions for the North Site Remainder Area in **Table 3-1** and the maximum daily operational emissions for the Costco EDH Project in Table 4-16 of the EDH Costco Project Air Quality Technical Report.

[2] For purposes of this analysis SO_X emissions are assumed to be equal to SO_2.

[3] Obtained from EDCAQMD Guide to Air Quality Assessment Determining Significance of Air Quality Impact Under the California Environmental Quality Act. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

Abbreviations:

CAP - Criteria Air Pollutant
CO - carbon monoxide
EDCAQMD - El Dorado County Air Quality Management District
EDH - El Dorado Hills
lb - pound
NO_x - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_2 - sulfur dioxide
SO_x - sulfur oxide compounds

Table 3-3. Mitigated Average Daily CAP Emissions for Construction of North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

North Site Remainder Area Construction Time Period	ROG Emissions [1] (lbs/day)	NO_x Emissions [1] (lbs/day)	CO Emissions [1] (lbs/day)	SO_X Emissions [1,2] (lbs/day)	PM_{10} Emissions [1] (lbs/day)	$PM_{2.5}$ Emissions [1] (lbs/day)
First Quarter	1.4	48	28	0.24	12	3.0
Second Quarter	0.81	13	17	0.028	1.9	0.38
Third Quarter	0.79	13	17	0.028	1.9	0.38
Fourth Quarter	14	10	13	0.020	1.3	0.27
EDCAQMD Mass Daily Significance Thresholds [3]	**82**	**82**	**-**	**-**	**-**	**-**
Do Emissions Exceed Threshold for any quarter of Construction?	NO	NO	**-**	**-**	**-**	**-**

Notes:

[1] Obtained from **Table C-2**. Average daily emissions per quarter calculated as the total construction emissions, which include construction of the regional shopping center and parking lot, divided by the number of construction days in each quarter. Project construction emissions assume watering control consistent with EDCAQMD Rule 223-1.

[2] For purposes of this analysis SO_X emissions are assumed to be equal to SO_2.

[3] Obtained from EDCAQMD Guide to Air Quality Assessment Determining Significance of Air Quality Impact Under the California Environmental Quality Act. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

Abbreviations:

CAP - Criteria Air Pollutant
CO - carbon monoxide
EDCAQMD - El Dorado County Air Quality Management District
lb - pound
NO_x - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_2 - sulfur dioxide
SO_x - sulfur oxide compounds

Table 3-4. Mitigated Combined Average Daily CAP Emissions for Construction of North Site Remainder Area and Operation of Costco EDH Project
El Dorado Hills Costco Project
El Dorado Hills, California

North Site Remainder Area Construction Time Period	ROG Emissions [1] (lbs/day)	NO_x Emissions [1] (lbs/day)	CO Emissions [1] (lbs/day)	SO_X Emissions [1,2] (lbs/day)	PM_{10} Emissions [1] (lbs/day)	$PM_{2.5}$ Emissions [1] (lbs/day)
First Quarter	67.9	81.8	209.7	0.5	48.8	9.9
Second Quarter	67.3	47.6	198.9	0.3	38.6	7.3
Third Quarter	67.3	47.5	198.5	0.3	38.6	7.3
Fourth Quarter	80.9	44.1	194.6	0.3	38.0	7.2
EDCAQMD Mass Daily Significance Thresholds [3]	**82**	**82**	**-**	**-**	**-**	**-**
Do Emissions Exceed Threshold for any quarter of Construction?	NO	NO	**-**	**-**	**-**	**-**

Notes:

[1] Estimated as a sum of the average daily construction emissions for the North Site Remainder Area in **Table 3-3** and the maximum daily operational emissions for the Costco EDH Project in Table 4-16 of the EDH Costco Project Air Quality Technical Report.

[2] For purposes of this analysis SO_X emissions are assumed to be equal to SO2.

[3] Obtained from EDCAQMD Guide to Air Quality Assessment Determining Significance of Air Quality Impact Under the California Environmental Quality Act. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

Abbreviations:

CAP - Criteria Air Pollutant
CO - carbon monoxide
EDCAQMD - El Dorado County Air Quality Management District
EDH - El Dorado Hills
lb - pound
NO_x - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_2 - sulfur dioxide
SO_x - sulfur oxide compounds

Table 3-5. Summary of Construction Greenhouse Gas Emissions - North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Emissions Category	Emissions [1,2,3] ($MT CO_2e/yr$)
Construction Emissions (2027)	1,232
Construction Emissions (2028)	197
Construction GHG Threshold [4]	**10,000**
Do Either Year of Construction Exceed the Threshold?	NO

Notes:

[1] Emissions are presented as CO_2e, which include CO_2, CH_4, and N_2O emissions, weighted by their respective global warming potentials.

[2] Emissions totals may not add up due to rounding. Emissions shown as zero may be non-zero values; however, they are below a meaningful reporting level for this analysis.

[3] Obtained from CalEEMod output file for the North Site Remainder Area Development in **Appendix A**.

[4] Placer County Thresholds of Significance - Chapter 2. Available at: https://www.placerair.org/DocumentCenter/View/2047/Chapter-2-Thresholds-of-Significance-PDF. Accessed: October 2025.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

CH_4 - methane

CO_2 - carbon dioxide

CO_2e - carbon dioxide equivalents

GHG - greenhouse gas

MT - metric tons

N_2O - nitrous oxide

yr - year

Table 3-6. Energy Resource Summary for Proposed Project Construction
El Dorado Hills Costco Project
El Dorado Hills, California

Energy Resource	Year	Energy Consumption for the North Site Remainder Area Construction [1]	Energy Consumption for the EDH Costco Project Construction [2]	Total Energy Consumption for Proposed Project Construction [3] (gallons)	El Dorado County Annual Consumption [4,5] (gallons)	Proposed Project Construction Contribution to El Dorado County Annual Consumption (%)	California Annual Consumption [4,5] (gallons)	Proposed Project Construction Contribution to California Annual Consumption (%)
Gasoline (gallons/yr)	2026	-	10,851	10,851	65,259,604	0.02%	13,896,130,020	0.00008%
Diesel (gallons/yr)	2026	-	159,850	159,850	14,555,710	1.10%	4,342,164,261	0.00368%
Electricity (kWh/yr)	2026	-	88	88	1,339,206,633	0.00001%	282,782,592,309	0.00000003%
Gasoline (gallons/yr)	2027	4,906	9,121	14,027	64,229,365	0.02%	13,625,442,497	0.00010%
Diesel (gallons/yr)	2027	118,647	56,712	175,359	14,262,073	1.23%	4,330,293,013	0.00405%
Electricity (kWh/yr)	2027	-	59	59	1,339,206,633	0.000004%	282,782,592,309	0.00000002%
Gasoline (gallons/yr)	2028	2,873	-	2,873	63,126,214	0.00%	13,365,596,850	0.00002%
Diesel (gallons/yr)	2028	17,852	-	17,852	13,968,581	0.13%	4,312,144,863	0.00041%

Conversion Factors:

1,000,000 kWh/GWh

Notes:

[1] Estimated as a sum of the fuel consumption of the off-road construction equipment (**Table D-1**) and on-road vehicles (**Table D-2**) used during construction of the North Site Remainder Area.

[2] Obtained from Table 5-2 in the EDH Costco Energy Technical Report.

[3] Estimated as a sum of the energy consumption for construction of the North Site Remainder Area and the EDH Costco Project.

[4] Fuel consumption data for El Dorado County and the State of California are obtained from EMFAC2021 and OFFROAD2021 for calendar years 2026, 2027, and 2028.

[5] Electricity consumption data for El Dorado County and the State of California are obtained from https://www.energy.ca.gov/files/energy-consumption-data-files for calendar year 2024 as that was the most recent data available. Accessed: October 2025.

Abbreviations:

% - percent

EDH - El Dorado Hills

EMFAC - California Air Resources Board Emissions Factor Model

GWh - gigawatt hour

kWh - kilowatt hour

yr - year

Table 3-7. Maximum Daily Criteria Air Pollutant Emissions for Operations of the Proposed Project
El Dorado Hills Costco Project
El Dorado Hills, California

Proposed Project Land Use	Emission Category [1]	ROG Emissions (lbs/day)	NO_x Emissions (lbs/day)	CO Emissions (lbs/day)	SO_X Emissions [2] (lbs/day)	PM_{10} Emissions (lbs/day)	$PM_{2.5}$ Emissions (lbs/day)
EDH Costco Project	Area [3]	4.7	0.1	11.6	0.00	0.02	0.02
EDH Costco Project	Energy [3]	0.02	0.4	0.3	0.00	0.03	0.03
EDH Costco Project	Mobile [3]	41.7	31	167.5	0.30	36.5	6.8
EDH Costco Project	Stationary Sources [3]	0.8	2.3	2.1	0.00	0.12	0.12
EDH Costco Project	Gasoline Dispensing Facility [3]	19.3	-	-	-	-	-
North Site Remainder Area	Area [4]	3.3	0.05	6.0	0.00	0.01	0.01
North Site Remainder Area	Energy [4]	0.02	0.3	0.3	0.00	0.02	0.02
North Site Remainder Area	Mobile [4]	11.6	7.1	52.3	0.10	16.8	3.0
Total Daily Emissions (lb/day)		**81.4**	**41.7**	**240**	**0.40**	**53.5**	**10.0**
EDCAQMD Mass Daily Significance Thresholds [5]		**82**	**82**	**NA**	**NA**	**NA**	**NA**
Exceeds Threshold?		NO	NO	-	-	-	-

Notes:

[1] Emissions totals may not add up due to rounding. Emissions shown as zero may be non-zero values; however, they are below a meaningful reporting level for this analysis.

[2] For purposes of this analysis SO_X emissions are assumed to be equal to SO_2.

[3] Obtained from Table 4-16 in the EDH Costco Project Air Quality Technical Report.

[4] Obtained from the CalEEMod output file for the North Site Remainder Area Development in **Appendix A**.

[5] EDCAQMD Guide to Air Quality Assessment Determining Significance of Air Quality Impact Under the California Environmental Quality Act. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel
CO - carbon monoxide
EDCAQMD - El Dorado County Air Quality Management District
EDH - El Dorado Hills
lb - pound
NA - not applicable
NO_x - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_2 - sulfur dioxide
SO_x - sulfur oxide compounds

Table 3-8. Summary of Greenhouse Gas Emissions for Proposed Project Operations
El Dorado Hills Costco Project
El Dorado Hills, California

Proposed Project Land Use	Emissions Category	Emissions [1,2]	Unit
EDH Costco Project	Area Sources [3]	3.9	MT CO_2e/yr
EDH Costco Project	Energy Usage [3]	78	MT CO_2e/yr
EDH Costco Project	Mobile [3]	4,731	MT CO_2e/yr
EDH Costco Project	Water [3]	17	MT CO_2e/yr
EDH Costco Project	Waste Disposed [3]	224	MT CO_2e/yr
EDH Costco Project	Refrigerant [3]	0.13	MT CO_2e/yr
EDH Costco Project	Vegetation [3]	11	MT CO_2e/yr
EDH Costco Project	Generators [3]	9.6	MT CO_2e/yr
EDH Costco Project	On-Site Electric Vehicle Chargers [3]	-2,908	MT CO_2e/yr
North Site Remainder Area	Area Sources [4]	2.0	MT CO_2e/yr
North Site Remainder Area	Energy Usage [4]	122.9	MT CO_2e/yr
North Site Remainder Area	Mobile [4]	1,601	MT CO_2e/yr
North Site Remainder Area	Water [4]	15.1	MT CO_2e/yr
North Site Remainder Area	Waste Disposed [4]	45.2	MT CO_2e/yr
North Site Remainder Area	Refrigerant [4]	0.1	MT CO_2e/yr
North Site Remainder Area	Vegetation [4]	0.0	MT CO_2e/yr
Operational Emissions		**3,954**	**MT CO_2e/yr**
Calculated Efficiency Metric [5]		**13.04**	**MT CO_2e/1,000 sqft**
Operational GHG Efficiency Metric Threshold [6]		**26.50**	**MT CO_2e/1,000 sqft**
Exceeds Threshold?		NO	**-**

Notes:

[1] Emissions are presented as CO_2e, which include CO_2, CH_4, and N_2O emissions, weighted by their respective global warming potentials.

[2] Emissions totals may not add up due to rounding. Emissions shown as zero may be non-zero values; however, they are below a meaningful reporting level for this analysis.

[3] Obtained from Table 4-17 in the EDH Costco Project Greenhouse Gas Technical Report.

[4] Obtained from CalEEMod output file for the North Site Remainder Area Development in **Appendix A**.

[5] Efficiency metric is calculated as the total operational emissions divided by the sum of the building square footage of the regional shopping center and the building square footage of the EDH Costco Project (303,200 sqft).

[6] Placer County Thresholds of Significance - Chapter 2. Available at: https://www.placerair.org/DocumentCenter/View/2047/Chapter-2-Thresholds-of-Significance-PDF. Accessed: October 2025.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

CH_4 - methane

CO_2 - carbon dioxide

CO_2e - carbon dioxide equivalents

EDH - El Dorado Hills

GHG - greenhouse gas

MT - metric tons

N_2O - nitrous oxide

sqft - square feet

yr - year

Table 3-9. Energy Resource Summary for Proposed Project Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Energy Resource	Energy Consumption for the North Site Remainder Area Operation [1]	Energy Consumption for the EDH Costco Project Operation [2]	Total Energy Consumption for Proposed Project Operation [3]	El Dorado County Annual Consumption [4,5,6]	Proposed Project Operation Contribution to El Dorado County Annual Consumption (%)	California Annual Consumption [4,5,6]	Proposed Project Operation Contribution to California Annual Consumption (%)
Electricity (kWh/yr)	1,673,392	6,026,405	7,699,797	1,339,206,633	0.57%	282,782,592,309	0.00272%
Natural Gas (kBtu/yr)	1,192,913	1,423,224	2,616,137	3,196,879,463	0.08%	1,110,086,615,369	0.00024%
Gasoline (gallons/yr)	145,697	285,366	431,064	63,126,214	0.68%	13,365,596,850	0.00323%
Diesel (gallons/yr)	24,867	169,371	194,238	13,968,581	1.39%	4,312,144,863	0.00450%

Conversion Factors:

1,000,000 kWh/GWh
99,976.1 Btu/therm
1,000 Btu/kBtu

Notes:

[1] Estimated as a sum of the fuel consumption of Remainder Parcel operational sources listed in **Tables F-1, F-2,** and **F-5** through **F-9**.

[2] Obtained from Table 5-3 in the EDH Costco Energy Technical Report.

[3] Estimated as a sum of the energy consumption for operation of the North Site Remainder Area and the EDH Costco Project.

[4] Diesel and gasoline consumption data for El Dorado County and the State of California are obtained from EMFAC2021 and OFFROAD2021 for calendar year 2028.

[5] Electricity consumption data for El Dorado County and the State of California are obtained from https://www.energy.ca.gov/files/energy-consumption-data-files for calendar year 2024 as that was the most recent data available. Accessed: October 2025.

[6] Natural gas consumption data for El Dorado County and the State of California are obtained from https://www.energy.ca.gov/files/energy-consumption-data-files for calendar year 2024 as that was the most recent data available. Accessed: October 2025.

Abbreviations:

% - percent
Btu - British thermal unit
EDH - El Dorado Hills
EMFAC - EMission FACtors model
GWh - gigawatt hour
kBtu - kilo-British thermal unit
kWh - kilowatt hour
yr - year

APPENDIX A
NORTH SITE REMAINDER AREA CALEEMOD MODEL RUN

North Site Remainder Area Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

2.3. Construction Emissions by Year, Mitigated

2.4. Operations Emissions Compared Against Thresholds

2.5. Operations Emissions by Sector, Unmitigated

2.6. Operations Emissions by Sector, Mitigated

3. Construction Emissions Details

3.1. Site Preparation (2027) - Unmitigated

3.2. Site Preparation (2027) - Mitigated

3.3. Grading (2027) - Unmitigated

3.4. Grading (2027) - Mitigated

3.5. Building Construction (2027) - Unmitigated

3.6. Building Construction (2027) - Mitigated

3.7. Building Construction (2028) - Unmitigated

3.8. Building Construction (2028) - Mitigated

3.9. Paving (2028) - Unmitigated

3.10. Paving (2028) - Mitigated

3.11. Architectural Coating (2028) - Unmitigated

3.12. Architectural Coating (2028) - Mitigated

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.1.2. Mitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.2. Electricity Emissions By Land Use - Mitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.2.4. Natural Gas Emissions By Land Use - Mitigated

4.3. Area Emissions by Source

4.3.1. Unmitigated

4.3.2. Mitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.4.2. Mitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.5.2. Mitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.6.2. Mitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.7.2. Mitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.8.2. Mitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.9.2. Mitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.2.2. Mitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.3.2. Mitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.9.2. Mitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.10.4. Landscape Equipment - Mitigated

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.11.2. Mitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.12.2. Mitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.13.2. Mitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.14.2. Mitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.15.2. Mitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

5.18.2.2. Mitigated

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	North Site Remainder Area
Construction Start Date	5/18/2027
Operational Year	2028
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	9.40
Location	38.659852, -121.056799
County	El Dorado-Mountain County
City	Unincorporated
Air District	El Dorado County AQMD
Air Basin	Mountain Counties
TAZ	406
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Regional Shopping Center	138	1000sqft	3.17	138,000	0.00	—	—	—

Parking Lot	10.6	Acre	10.6	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers
Construction	C-6	Use Diesel Particulate Filters
Construction	C-13	Use Low-VOC Paints for Construction

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	103	103	111	37.9	0.66	1.63	30.4	32.1	1.55	6.29	7.83	—	63,577	63,577	0.61	9.01	85.6	66,363
Mit.	70.6	70.6	115	46.0	0.66	0.80	30.4	31.2	0.78	6.29	7.06	—	63,577	63,577	0.61	9.01	85.6	66,363
% Reduced	31%	31%	-4%	-21%	—	51%	—	3%	50%	—	10%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.43	1.22	10.6	15.0	0.03	0.34	1.75	2.09	0.31	0.26	0.58	—	3,516	3,516	0.11	0.14	0.08	3,561
Mit.	0.87	0.80	13.4	17.0	0.03	0.12	1.75	1.88	0.11	0.26	0.38	—	3,516	3,516	0.11	0.14	0.08	3,561
% Reduced	39%	34%	-26%	-13%	—	63%	—	10%	64%	—	35%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	6.17	6.10	15.6	11.7	0.07	0.34	3.58	3.92	0.32	0.76	1.07	—	7,190	7,190	0.11	0.81	3.72	7,439
Mit.	4.24	4.21	17.3	13.4	0.07	0.13	3.58	3.71	0.13	0.76	0.88	—	7,190	7,190	0.11	0.81	3.72	7,439
% Reduced	31%	31%	-11%	-15%	—	61%	—	5%	60%	—	18%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.13	1.11	2.85	2.13	0.01	0.06	0.65	0.71	0.06	0.14	0.20	—	1,190	1,190	0.02	0.13	0.62	1,232
Mit.	0.77	0.77	3.16	2.44	0.01	0.02	0.65	0.68	0.02	0.14	0.16	—	1,190	1,190	0.02	0.13	0.62	1,232
% Reduced	31%	31%	-11%	-15%	—	61%	—	5%	60%	—	18%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	5.19	4.25	111	37.9	0.66	1.63	30.4	32.1	1.55	6.29	7.83	—	63,577	63,577	0.61	9.01	85.6	66,363
2028	103	103	9.94	15.4	0.03	0.30	1.75	2.06	0.28	0.26	0.54	—	3,538	3,538	0.11	0.14	2.74	3,586
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.43	1.22	10.6	15.0	0.03	0.34	1.75	2.09	0.31	0.26	0.58	—	3,516	3,516	0.11	0.14	0.08	3,561
2028	1.38	1.16	10.0	14.9	0.03	0.30	1.75	2.06	0.28	0.26	0.54	—	3,492	3,492	0.11	0.14	0.07	3,537
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.26	1.06	15.6	11.7	0.07	0.34	3.58	3.92	0.32	0.76	1.07	—	7,190	7,190	0.11	0.81	3.72	7,439
2028	6.17	6.10	3.48	5.24	0.01	0.11	0.57	0.68	0.10	0.09	0.19	—	1,177	1,177	0.04	0.04	0.38	1,192
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.23	0.19	2.85	2.13	0.01	0.06	0.65	0.71	0.06	0.14	0.20	—	1,190	1,190	0.02	0.13	0.62	1,232
2028	1.13	1.11	0.63	0.96	< 0.005	0.02	0.10	0.12	0.02	0.02	0.03	—	195	195	0.01	0.01	0.06	197

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	2.97	2.56	115	46.0	0.66	0.80	30.4	31.2	0.78	6.29	7.06	—	63,577	63,577	0.61	9.01	85.6	66,363
2028	70.6	70.6	13.2	17.4	0.03	0.12	1.75	1.87	0.11	0.26	0.37	—	3,538	3,538	0.11	0.14	2.74	3,586
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.87	0.80	13.4	17.0	0.03	0.12	1.75	1.88	0.11	0.26	0.38	—	3,516	3,516	0.11	0.14	0.08	3,561
2028	0.85	0.77	13.2	16.9	0.03	0.12	1.75	1.87	0.11	0.26	0.37	—	3,492	3,492	0.11	0.14	0.07	3,537
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.72	0.65	17.3	13.4	0.07	0.13	3.58	3.71	0.13	0.76	0.88	—	7,190	7,190	0.11	0.81	3.72	7,439
2028	4.24	4.21	4.55	5.90	0.01	0.04	0.57	0.61	0.04	0.09	0.12	—	1,177	1,177	0.04	0.04	0.38	1,192
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.13	0.12	3.16	2.44	0.01	0.02	0.65	0.68	0.02	0.14	0.16	—	1,190	1,190	0.02	0.13	0.62	1,232
2028	0.77	0.77	0.83	1.08	< 0.005	0.01	0.10	0.11	0.01	0.02	0.02	—	195	195	0.01	0.01	0.06	197

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	15.5	14.9	6.54	58.5	0.10	0.14	16.7	16.8	0.13	2.93	3.06	97.7	10,797	10,895	10.6	0.58	30.1	11,362
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	13.2	12.6	7.46	52.5	0.09	0.13	16.7	16.8	0.12	2.93	3.05	97.7	10,089	10,186	10.7	0.63	1.42	10,644
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	13.8	13.2	7.16	53.2	0.10	0.13	16.4	16.6	0.12	2.89	3.02	97.7	10,231	10,329	10.6	0.61	13.4	10,791
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.52	2.41	1.31	9.70	0.02	0.02	3.00	3.02	0.02	0.53	0.55	16.2	1,694	1,710	1.76	0.10	2.21	1,787

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	12.1	11.6	6.17	52.3	0.10	0.10	16.7	16.8	0.10	2.93	3.02	—	10,033	10,033	0.57	0.52	29.4	10,230
Area	3.36	3.28	0.05	6.00	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.7	24.7	< 0.005	< 0.005	—	24.8
Energy	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	732	732	0.18	0.02	—	742
Water	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Waste	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Total	15.5	14.9	6.54	58.5	0.10	0.14	16.7	16.8	0.13	2.93	3.06	97.7	10,797	10,895	10.6	0.58	30.1	11,362
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	10.9	10.3	7.14	52.2	0.09	0.10	16.7	16.8	0.10	2.93	3.02	—	9,349	9,349	0.69	0.57	0.76	9,536
Area	2.29	2.29	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	732	732	0.18	0.02	—	742
Water	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Waste	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66

Total	13.2	12.6	7.46	52.5	0.09	0.13	16.7	16.8	0.12	2.93	3.05	97.7	10,089	10,186	10.7	0.63	1.42	10,644
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	11.0	10.4	6.81	49.9	0.09	0.10	16.4	16.5	0.10	2.89	2.99	—	9,480	9,480	0.64	0.55	12.7	9,671
Area	2.82	2.78	0.02	2.96	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	12.2	12.2	< 0.005	< 0.005	—	12.2
Energy	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	732	732	0.18	0.02	—	742
Water	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Waste	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Total	13.8	13.2	7.16	53.2	0.10	0.13	16.4	16.6	0.12	2.89	3.02	97.7	10,231	10,329	10.6	0.61	13.4	10,791
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.00	1.90	1.24	9.11	0.02	0.02	3.00	3.02	0.02	0.53	0.55	—	1,569	1,569	0.11	0.09	2.10	1,601
Area	0.51	0.51	< 0.005	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.02	2.02	< 0.005	< 0.005	—	2.02
Energy	0.01	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	121	121	0.03	< 0.005	—	123
Water	—	—	—	—	—	—	—	—	—	—	—	3.24	1.16	4.40	0.33	0.01	—	15.1
Waste	—	—	—	—	—	—	—	—	—	—	—	12.9	0.00	12.9	1.29	0.00	—	45.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11
Total	2.52	2.41	1.31	9.70	0.02	0.02	3.00	3.02	0.02	0.53	0.55	16.2	1,694	1,710	1.76	0.10	2.21	1,787

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	12.1	11.6	6.17	52.3	0.10	0.10	16.7	16.8	0.10	2.93	3.02	—	10,033	10,033	0.57	0.52	29.4	10,230
Area	3.36	3.28	0.05	6.00	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.7	24.7	< 0.005	< 0.005	—	24.8
Energy	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	732	732	0.18	0.02	—	742
Water	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2

Waste	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Total	15.5	14.9	6.54	58.5	0.10	0.14	16.7	16.8	0.13	2.93	3.06	97.7	10,797	10,895	10.6	0.58	30.1	11,362
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	10.9	10.3	7.14	52.2	0.09	0.10	16.7	16.8	0.10	2.93	3.02	—	9,349	9,349	0.69	0.57	0.76	9,536
Area	2.29	2.29	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	732	732	0.18	0.02	—	742
Water	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Waste	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Total	13.2	12.6	7.46	52.5	0.09	0.13	16.7	16.8	0.12	2.93	3.05	97.7	10,089	10,186	10.7	0.63	1.42	10,644
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	11.0	10.4	6.81	49.9	0.09	0.10	16.4	16.5	0.10	2.89	2.99	—	9,480	9,480	0.64	0.55	12.7	9,671
Area	2.82	2.78	0.02	2.96	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	12.2	12.2	< 0.005	< 0.005	—	12.2
Energy	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	732	732	0.18	0.02	—	742
Water	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Waste	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Total	13.8	13.2	7.16	53.2	0.10	0.13	16.4	16.6	0.12	2.89	3.02	97.7	10,231	10,329	10.6	0.61	13.4	10,791
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.00	1.90	1.24	9.11	0.02	0.02	3.00	3.02	0.02	0.53	0.55	—	1,569	1,569	0.11	0.09	2.10	1,601
Area	0.51	0.51	< 0.005	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.02	2.02	< 0.005	< 0.005	—	2.02
Energy	0.01	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	121	121	0.03	< 0.005	—	123
Water	—	—	—	—	—	—	—	—	—	—	—	3.24	1.16	4.40	0.33	0.01	—	15.1
Waste	—	—	—	—	—	—	—	—	—	—	—	12.9	0.00	12.9	1.29	0.00	—	45.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11

Total	2.52	2.41	1.31	9.70	0.02	0.02	3.00	3.02	0.02	0.53	0.55	16.2	1,694	1,710	1.76	0.10	2.21	1,787

3. Construction Emissions Details

3.1. Site Preparation (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.63	3.05	28.0	28.3	0.05	1.17	—	1.17	1.08	—	1.08	—	5,298	5,298	0.21	0.04	—	5,316
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.77	0.77	< 0.005	0.03	—	0.03	0.03	—	0.03	—	145	145	0.01	< 0.005	—	146
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.11	0.11	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.14	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.05	0.97	0.00	0.00	0.54	0.54	0.00	0.08	0.08	—	189	189	< 0.005	0.01	0.63	192
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.77	4.77	< 0.005	< 0.005	0.01	4.84
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.79	0.79	< 0.005	< 0.005	< 0.005	0.80
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Site Preparation (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.90	0.90	24.0	28.3	0.05	0.14	—	0.14	0.13	—	0.13	—	5,298	5,298	0.21	0.04	—	5,316
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.66	0.78	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	145	145	0.01	< 0.005	—	146
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	0.12	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.05	0.97	0.00	0.00	0.54	0.54	0.00	0.08	0.08	—	189	189	< 0.005	0.01	0.63	192
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.77	4.77	< 0.005	< 0.005	0.01	4.84
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.79	0.79	< 0.005	< 0.005	< 0.005	0.80
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.51	2.95	25.6	27.3	0.06	1.04	—	1.04	0.96	—	0.96	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.71	3.71	—	1.44	1.44	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	0.24	2.10	2.24	0.01	0.09	—	0.09	0.08	—	0.08	—	542	542	0.02	< 0.005	—	544
Dust From Material Movement	—	—	—	—	—	—	0.30	0.30	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.38	0.41	< 0.005	0.02	—	0.02	0.01	—	0.01	—	89.8	89.8	< 0.005	< 0.005	—	90.1

Dust From Material Movement	—	—	—	—	—	—	0.06	0.06	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.06	1.10	0.00	0.00	0.62	0.62	0.00	0.09	0.09	—	217	217	< 0.005	0.01	0.72	220
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	1.59	1.22	85.0	9.51	0.60	0.59	26.1	26.7	0.59	4.75	5.34	—	56,762	56,762	0.34	8.95	84.9	59,523
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	16.4	16.4	< 0.005	< 0.005	0.03	16.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.13	0.10	7.33	0.79	0.05	0.05	2.11	2.16	0.05	0.39	0.43	—	4,665	4,665	0.03	0.74	3.01	4,888
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	2.71	2.71	< 0.005	< 0.005	< 0.005	2.75
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	0.02	1.34	0.14	0.01	0.01	0.39	0.39	0.01	0.07	0.08	—	772	772	< 0.005	0.12	0.50	809

3.4. Grading (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.29	1.26	29.7	35.4	0.06	0.21	—	0.21	0.19	—	0.19	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.71	3.71	—	1.44	1.44	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.10	2.44	2.91	0.01	0.02	—	0.02	0.02	—	0.02	—	542	542	0.02	< 0.005	—	544
Dust From Material Movement	—	—	—	—	—	—	0.30	0.30	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.45	0.53	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	89.8	89.8	< 0.005	< 0.005	—	90.1
Dust From Material Movement	—	—	—	—	—	—	0.06	0.06	—	0.02	0.02	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.06	1.10	0.00	0.00	0.62	0.62	0.00	0.09	0.09	—	217	217	< 0.005	0.01	0.72	220
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	1.59	1.22	85.0	9.51	0.60	0.59	26.1	26.7	0.59	4.75	5.34	—	56,762	56,762	0.34	8.95	84.9	59,523
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	16.4	16.4	< 0.005	< 0.005	0.03	16.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.13	0.10	7.33	0.79	0.05	0.05	2.11	2.16	0.05	0.39	0.43	—	4,665	4,665	0.03	0.74	3.01	4,888
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	2.71	2.71	< 0.005	< 0.005	< 0.005	2.75
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	0.02	1.34	0.14	0.01	0.01	0.39	0.39	0.01	0.07	0.08	—	772	772	< 0.005	0.12	0.50	809

3.5. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.63	0.53	4.84	6.66	0.01	0.17	—	0.17	0.16	—	0.16	—	1,235	1,235	0.05	0.01	—	1,239
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.88	1.22	< 0.005	0.03	—	0.03	0.03	—	0.03	—	204	204	0.01	< 0.005	—	205
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.19	0.13	2.44	0.00	0.00	1.38	1.38	0.00	0.20	0.20	—	478	478	0.01	0.02	1.60	485
Vendor	0.02	0.02	0.96	0.17	< 0.005	< 0.005	0.38	0.38	< 0.005	0.07	0.07	—	688	688	< 0.005	0.10	1.42	721

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.17	0.16	1.91	0.00	0.00	1.38	1.38	0.00	0.20	0.20	—	430	430	0.01	0.02	0.04	436
Vendor	0.02	0.02	1.01	0.18	< 0.005	< 0.005	0.38	0.38	< 0.005	0.07	0.07	—	688	688	< 0.005	0.10	0.04	719
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.08	1.00	0.00	0.00	0.69	0.69	0.00	0.10	0.10	—	226	226	0.01	0.01	0.36	230
Vendor	0.01	0.01	0.51	0.09	< 0.005	< 0.005	0.19	0.19	< 0.005	0.03	0.04	—	355	355	< 0.005	0.05	0.32	371
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.18	0.00	0.00	0.13	0.13	0.00	0.02	0.02	—	37.5	37.5	< 0.005	< 0.005	0.06	38.0
Vendor	< 0.005	< 0.005	0.09	0.02	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	58.7	58.7	< 0.005	0.01	0.05	61.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Building Construction (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.61	12.2	15.0	0.02	0.12	—	0.12	0.11	—	0.11	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.61	12.2	15.0	0.02	0.12	—	0.12	0.11	—	0.11	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	0.32	6.27	7.70	0.01	0.06	—	0.06	0.06	—	0.06	—	1,235	1,235	0.05	0.01	—	1,239
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.06	1.15	1.41	< 0.005	0.01	—	0.01	0.01	—	0.01	—	204	204	0.01	< 0.005	—	205
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.19	0.13	2.44	0.00	0.00	1.38	1.38	0.00	0.20	0.20	—	478	478	0.01	0.02	1.60	485
Vendor	0.02	0.02	0.96	0.17	< 0.005	< 0.005	0.38	0.38	< 0.005	0.07	0.07	—	688	688	< 0.005	0.10	1.42	721
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.17	0.16	1.91	0.00	0.00	1.38	1.38	0.00	0.20	0.20	—	430	430	0.01	0.02	0.04	436

Vendor	0.02	0.02	1.01	0.18	< 0.005	< 0.005	0.38	0.38	< 0.005	0.07	0.07	—	688	688	< 0.005	0.10	0.04	719
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.08	1.00	0.00	0.00	0.69	0.69	0.00	0.10	0.10	—	226	226	0.01	0.01	0.36	230
Vendor	0.01	0.01	0.51	0.09	< 0.005	< 0.005	0.19	0.19	< 0.005	0.03	0.04	—	355	355	< 0.005	0.05	0.32	371
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.18	0.00	0.00	0.13	0.13	0.00	0.02	0.02	—	37.5	37.5	< 0.005	< 0.005	0.06	38.0
Vendor	< 0.005	< 0.005	0.09	0.02	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	58.7	58.7	< 0.005	0.01	0.05	61.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18	0.99	8.92	12.9	0.02	0.30	—	0.30	0.28	—	0.28	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18	0.99	8.92	12.9	0.02	0.30	—	0.30	0.28	—	0.28	—	2,397	2,397	0.10	0.02	—	2,406

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.30	2.74	3.97	0.01	0.09	—	0.09	0.08	—	0.08	—	736	736	0.03	0.01	—	738
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.50	0.72	< 0.005	0.02	—	0.02	0.02	—	0.02	—	122	122	< 0.005	< 0.005	—	122
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.19	0.11	2.29	0.00	0.00	1.38	1.38	0.00	0.20	0.20	—	469	469	0.01	0.02	1.45	475
Vendor	0.02	0.02	0.90	0.17	< 0.005	< 0.005	0.38	0.38	< 0.005	0.07	0.07	—	672	672	< 0.005	0.10	1.29	704
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.16	0.15	1.79	0.00	0.00	1.38	1.38	0.00	0.20	0.20	—	422	422	0.01	0.02	0.04	428
Vendor	0.02	0.02	0.95	0.17	< 0.005	< 0.005	0.38	0.38	< 0.005	0.07	0.07	—	672	672	< 0.005	0.10	0.03	703
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.56	0.00	0.00	0.41	0.41	0.00	0.06	0.06	—	132	132	< 0.005	0.01	0.19	134
Vendor	0.01	< 0.005	0.29	0.05	< 0.005	< 0.005	0.11	0.11	< 0.005	0.02	0.02	—	206	206	< 0.005	0.03	0.17	216

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.08	0.08	0.00	0.01	0.01	—	21.9	21.9	< 0.005	< 0.005	0.03	22.2
Vendor	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	34.2	34.2	< 0.005	0.01	0.03	35.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2028) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.65	0.60	12.1	14.9	0.02	0.11	—	0.11	0.10	—	0.10	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.65	0.60	12.1	14.9	0.02	0.11	—	0.11	0.10	—	0.10	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	0.18	3.73	4.59	0.01	0.04	—	0.04	0.03	—	0.03	—	736	736	0.03	0.01	—	738

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.68	0.84	< 0.005	0.01	—	0.01	0.01	—	0.01	—	122	122	< 0.005	< 0.005	—	122
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.19	0.11	2.29	0.00	0.00	1.38	1.38	0.00	0.20	0.20	—	469	469	0.01	0.02	1.45	475
Vendor	0.02	0.02	0.90	0.17	< 0.005	< 0.005	0.38	0.38	< 0.005	0.07	0.07	—	672	672	< 0.005	0.10	1.29	704
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.16	0.15	1.79	0.00	0.00	1.38	1.38	0.00	0.20	0.20	—	422	422	0.01	0.02	0.04	428
Vendor	0.02	0.02	0.95	0.17	< 0.005	< 0.005	0.38	0.38	< 0.005	0.07	0.07	—	672	672	< 0.005	0.10	0.03	703
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.56	0.00	0.00	0.41	0.41	0.00	0.06	0.06	—	132	132	< 0.005	0.01	0.19	134
Vendor	0.01	< 0.005	0.29	0.05	< 0.005	< 0.005	0.11	0.11	< 0.005	0.02	0.02	—	206	206	< 0.005	0.03	0.17	216
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.08	0.08	0.00	0.01	0.01	—	21.9	21.9	< 0.005	< 0.005	0.03	22.2
Vendor	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	34.2	34.2	< 0.005	0.01	0.03	35.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.82	0.69	6.63	9.91	0.01	0.26	—	0.26	0.24	—	0.24	—	1,511	1,511	0.06	0.01	—	1,516
Paving	1.39	1.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.36	0.54	< 0.005	0.01	—	0.01	0.01	—	0.01	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	0.08	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.78	0.00	0.00	0.47	0.47	0.00	0.07	0.07	—	159	159	< 0.005	0.01	0.49	161
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.03	0.03	0.00	< 0.005	< 0.005	—	8.02	8.02	< 0.005	< 0.005	0.01	8.14
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.33	1.33	< 0.005	< 0.005	< 0.005	1.35
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Paving (2028) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.45	8.08	10.6	0.01	0.10	—	0.10	0.09	—	0.09	—	1,511	1,511	0.06	0.01	—	1,516
Paving	1.39	1.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.44	0.58	< 0.005	0.01	—	0.01	0.01	—	0.01	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	0.08	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.78	0.00	0.00	0.47	0.47	0.00	0.07	0.07	—	159	159	< 0.005	0.01	0.49	161
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.03	0.03	0.00	< 0.005	< 0.005	—	8.02	8.02	< 0.005	< 0.005	0.01	8.14

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.33	1.33	< 0.005	< 0.005	< 0.005	1.35
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.81	1.12	< 0.005	0.02	—	0.02	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	102	102	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.32	7.32	< 0.005	< 0.005	—	7.34

Architectural	5.61	5.61	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.21	1.21	< 0.005	< 0.005	—	1.22
Architectural Coatings	1.02	1.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.02	0.46	0.00	0.00	0.28	0.28	0.00	0.04	0.04	—	93.8	93.8	< 0.005	< 0.005	0.29	95.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.72	4.72	< 0.005	< 0.005	0.01	4.79
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.78	0.78	< 0.005	< 0.005	< 0.005	0.79
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Architectural Coating (2028) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.81	1.12	< 0.005	0.02	—	0.02	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	70.4	70.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.32	7.32	< 0.005	< 0.005	—	7.34
Architectural Coatings	3.86	3.86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.21	1.21	< 0.005	< 0.005	—	1.22
Architectural Coatings	0.70	0.70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.02	0.46	0.00	0.00	0.28	0.28	0.00	0.04	0.04	—	93.8	93.8	< 0.005	< 0.005	0.29	95.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.72	4.72	< 0.005	< 0.005	0.01	4.79
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.78	0.78	< 0.005	< 0.005	< 0.005	0.79
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.1.2. Mitigated

Mobile source emissions results are presented in Sections 2.5. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	263	263	0.11	0.01	—	269
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	88.5	88.5	0.04	< 0.005	—	90.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	351	351	0.15	0.02	—	360
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	263	263	0.11	0.01	—	269
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	88.5	88.5	0.04	< 0.005	—	90.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	351	351	0.15	0.02	—	360

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	43.5	43.5	0.02	< 0.005	—	44.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	14.7	14.7	0.01	< 0.005	—	15.0
Total	—	—	—	—	—	—	—	—	—	—	—	—	58.1	58.1	0.02	< 0.005	—	59.6

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	263	263	0.11	0.01	—	269
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	88.5	88.5	0.04	< 0.005	—	90.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	351	351	0.15	0.02	—	360
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	263	263	0.11	0.01	—	269
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	88.5	88.5	0.04	< 0.005	—	90.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	351	351	0.15	0.02	—	360

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	43.5	43.5	0.02	< 0.005	—	44.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	14.7	14.7	0.01	< 0.005	—	15.0
Total	—	—	—	—	—	—	—	—	—	—	—	—	58.1	58.1	0.02	< 0.005	—	59.6

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	381	381	0.03	< 0.005	—	383
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	381	381	0.03	< 0.005	—	383
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	381	381	0.03	< 0.005	—	383
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	381	381	0.03	< 0.005	—	383

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	0.01	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	63.2	63.2	0.01	< 0.005	—	63.3
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	63.2	63.2	0.01	< 0.005	—	63.3

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	381	381	0.03	< 0.005	—	383
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	381	381	0.03	< 0.005	—	383
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	381	381	0.03	< 0.005	—	383
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	381	381	0.03	< 0.005	—	383

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	0.01	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	63.2	63.2	0.01	< 0.005	—	63.3
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	63.2	63.2	0.01	< 0.005	—	63.3

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.73	1.73	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.56	0.56	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.07	0.99	0.05	6.00	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.7	24.7	< 0.005	< 0.005	—	24.8
Total	3.36	3.28	0.05	6.00	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.7	24.7	< 0.005	< 0.005	—	24.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consumer	1.73	1.73	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.56	0.56	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	2.29	2.29	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.32	0.32	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.10	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.10	0.09	< 0.005	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.02	2.02	< 0.005	< 0.005	—	2.02
Total	0.51	0.51	< 0.005	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.02	2.02	< 0.005	< 0.005	—	2.02

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.73	1.73	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.56	0.56	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landsca Equipment	1.07	0.99	0.05	6.00	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.7	24.7	< 0.005	< 0.005	—	24.8
Total	3.36	3.28	0.05	6.00	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.7	24.7	< 0.005	< 0.005	—	24.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.73	1.73	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.56	0.56	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	2.29	2.29	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.32	0.32	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.10	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.10	0.09	< 0.005	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.02	2.02	< 0.005	< 0.005	—	2.02
Total	0.51	0.51	< 0.005	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.02	2.02	< 0.005	< 0.005	—	2.02

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	3.24	1.16	4.40	0.33	0.01	—	15.1
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3.24	1.16	4.40	0.33	0.01	—	15.1

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	3.24	1.16	4.40	0.33	0.01	—	15.1
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3.24	1.16	4.40	0.33	0.01	—	15.1

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	12.9	0.00	12.9	1.29	0.00	—	45.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	12.9	0.00	12.9	1.29	0.00	—	45.2

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	12.9	0.00	12.9	1.29	0.00	—	45.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	12.9	0.00	12.9	1.29	0.00	—	45.2

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	5/18/2027	5/27/2027	7.00	10.0	—
Grading	Grading	5/28/2027	6/26/2027	7.00	30.0	—
Building Construction	Building Construction	6/27/2027	4/21/2028	7.00	300	—
Paving	Paving	4/22/2028	5/11/2028	7.00	20.0	—
Architectural Coating	Architectural Coating	5/12/2028	5/31/2028	7.00	20.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38

Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Tier 3	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 3	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Tier 3	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 3	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Tier 3	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Tier 3	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Tier 3	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Tier 3	1.00	7.00	367	0.29

Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 3	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Tier 3	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 3	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	14.3	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.80	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	14.3	LDA,LDT1,LDT2
Grading	Vendor	—	8.80	HHDT,MHDT
Grading	Hauling	667	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	44.2	14.3	LDA,LDT1,LDT2
Building Construction	Vendor	22.6	8.80	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	14.3	LDA,LDT1,LDT2

Paving	Vendor	—	8.80	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	8.83	14.3	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.80	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	14.3	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.80	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	14.3	LDA,LDT1,LDT2
Grading	Vendor	—	8.80	HHDT,MHDT
Grading	Hauling	667	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	44.2	14.3	LDA,LDT1,LDT2
Building Construction	Vendor	22.6	8.80	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	14.3	LDA,LDT1,LDT2

Paving	Vendor	—	8.80	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	8.83	14.3	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.80	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	207,000	69,000	27,756

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	15.0	0.00	—
Grading	107,000	53,000	90.0	0.00	—
Paving	0.00	0.00	0.00	0.00	10.6

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction

Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Regional Shopping Center	0.00	0%
Parking Lot	10.6	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2027	0.00	204	0.03	< 0.005
2028	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	2,536	2,536	2,536	925,640	11,462	11,462	11,462	4,183,630

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	2,536	2,536	2,536	925,640	11,462	11,462	11,462	4,183,630

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	207,000	69,000	27,756

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Regional Shopping Center	1,202,266	79.7	0.0330	0.0040	1,190,333
Parking Lot	405,244	79.7	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Regional Shopping Center	1,202,266	79.7	0.0330	0.0040	1,190,333
Parking Lot	405,244	79.7	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Regional Shopping Center	10,222,008	0.00
Parking Lot	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Regional Shopping Center	10,222,008	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Regional Shopping Center	145	—
Parking Lot	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Regional Shopping Center	145	—

Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Regional Shopping Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Regional Shopping Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

8. User Changes to Default Data

Screen	Justification
Characteristics: Utility Information	CO2 emission factor estimated based upon RPS compliance.
Land Use	Based on project-specific information.
Construction: Construction Phases	Based on project-specific information
Construction: Dust From Material Movement	Construction material movement based on project-specific information. Watering 2x/day based on Rule 223-1, Table 1.
Construction: Architectural Coatings	Updated the VOC emission factor based on EDCAPCD Rule 215 Limits.
Operations: Consumer Products	Updated based on county specific data, refer to report for further details.
Operations: Architectural Coatings	Updated the VOC emission factor based on EDCAPCD Rule 215 Limits.
Construction: On-Road Fugitive Dust	Percent paved roads updated based on Project-specific information.
Operations: Road Dust	Percent paved roads updated based on Project-specific information.

APPENDIX B
CONSTRUCTION INPUTS

List of Tables

Table B-1: Construction Schedule - North Site Remainder Area
Table B-2: Construction Equipment Assumptions - North Site Remainder Area
Table B-3: Construction Trip Assumptions - North Site Remainder Area
Table B-4: Construction Material Movement - North Site Remainder Area

Table B-1. Construction Schedule - North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name [1]	CalEEMod Phase Type [1]	Start Date [1]	End Date [1]	Phase Duration [2] (days)
Site Preparation	Site Preparation	5/18/2027	5/27/2027	10
Grading	Grading	5/28/2027	6/26/2027	30
Building Construction	Building Construction	6/27/2027	4/21/2028	300
Paving	Paving	4/22/2028	5/11/2028	20
Architectural Coating	Architectural Coating	5/12/2028	5/31/2028	20

Notes:

[1] Construction of the North Side Remainder Area land uses is conservatively assumed to begin immediately after the EDH Costco Project is operational. Construction phases and duration are based on CalEEMod defaults.

[2] The construction work week was assumed to be 7 days per week.

Abbreviations:

CalEEMod - California Emissions Estimator Model

EDH - El Dorado Hills

Table B-2. Construction Equipment Assumptions - North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name	Offroad Equipment Type [1]	Number of Equipment [1]	Usage Hours [1] (hours/ day)	Equipment Horsepower [1] (hp)	Equipment Load Factor [1]	Fuel Type [1]	Engine Tier for Unmitigated Project [1]	Diesel Particulate Filter Level for Unmitigated Project [1]	Engine Tier for Mitigated Project [2]	Diesel Particulate Filter Level for Mitigated Project [2]
Site Preparation	Rubber Tired Dozers	3	8	367	0.40	Diesel	Average	N/A	Tier 3	Level 3
Site Preparation	Tractors/Loaders/ Backhoes	4	8	84	0.37	Diesel	Average	N/A	Tier 3	Level 3
Grading	Excavators	2	8	36	0.38	Diesel	Average	N/A	Average	N/A
Grading	Graders	1	8	148	0.41	Diesel	Average	N/A	Tier 3	Level 3
Grading	Rubber Tired Dozers	1	8	367	0.40	Diesel	Average	N/A	Tier 3	Level 3
Grading	Scrapers	2	8	423	0.48	Diesel	Average	N/A	Tier 3	Level 3
Grading	Tractors/Loaders/ Backhoes	2	8	84	0.37	Diesel	Average	N/A	Tier 3	Level 3
Building Construction	Cranes	1	7	367	0.29	Diesel	Average	N/A	Tier 3	Level 3
Building Construction	Forklifts	3	8	82	0.20	Diesel	Average	N/A	Tier 3	Level 3
Building Construction	Generator Sets	1	8	14	0.74	Diesel	Average	N/A	Average	N/A
Building Construction	Tractors/Loaders/ Backhoes	3	7	84	0.37	Diesel	Average	N/A	Tier 3	Level 3
Building Construction	Welders	1	8	46	0.45	Diesel	Average	N/A	Average	N/A
Paving	Pavers	2	8	81	0.42	Diesel	Average	N/A	Tier 3	Level 3
Paving	Paving Equipment	2	8	89	0.36	Diesel	Average	N/A	Tier 3	Level 3
Paving	Rollers	2	8	36	0.38	Diesel	Average	N/A	Average	N/A
Architectural Coating	Air Compressors	1	6	37	0.48	Diesel	Average	N/A	Average	N/A

Notes:

[1] Based on CalEEMod default values.

[2] The mitigation measure requires that construction equipment greater than 50 hp used at the site shall be mitigated to meet USEPA Tier 4 Final emission standards for PM_{10} and $PM_{2.5}$. If Tier 4 Final equipment is viable but not available, all construction equipment larger than 50 horsepower used at the site shall meet USEPA emission standards for Tier 3 engines and include particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices. To be conservative, this analysis assumed that off-road construction equipment larger than 50 horsepower are equipped with Tier 3 engines and DPFs for the mitigated emissions.

Abbreviations:

CalEEMod - California Emissions Estimator Model
CARB - California Air Resources Board
DPF - Diesel Particulate Filter
hp - horsepower
N/A - not available
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
USEPA - United States Environmental Protection Agency

Table B-3. Construction Trip Assumptions - North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name	Worker Trips per Day [1,2]	Vendor Trips per Day [1,2]	Hauling Trips per Day [1,2]
Site Preparation	18	0	0
Grading	20	0	667
Building Construction	44	23	0
Paving	15	0	0
Architectural Coating	9	0	0

Notes:

[1] Trips are presented as one-way trips per day.

[2] Worker, vendor, and hauling trips are based on CalEEMod defaults. The one-way trip lengths for worker, vendor, and hauling trips are assumed to be the CalEEMod default values of 14.3 miles, 8.8 miles, and 20.0 miles, respectively.

Abbreviations:

CalEEMod - California Emissions Estimator Model

Table B-4. Construction Material Movement - North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name	Material Imported [1] (yd^3)	Material Exported [1] (yd^3)
Grading	107,000	53,000

Notes:

[1] Soil import and export quantities based on project-specific data.

Abbreviations:

yd^3 - cubic yard

APPENDIX C
CONSTRUCTION EMISSION CALCULATION TABLES

List of Tables

Table C-1: Estimating Unmitigated Criteria Air Pollutant Emissions for North Site Remainder Area Construction
Table C-2: Estimating Mitigated Criteria Air Pollutant Emissions for North Site Remainder Area Construction

Table C-1. Estimating Unmitigated Criteria Air Pollutant Emissions for North Site Remainder Area Construction
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phases [1]	Start Date	End Date	Number of Construction Days	Construction Time Period	Season [2]	Daily ROG Emissions [3] (lbs/day)	Daily NO_X Emissions [3] (lbs/day)	Daily CO Emissions [3] (lbs/day)	Daily SO_X Emissions [3,4] (lbs/day)	Daily PM_{10} Emissions [3,5] (lbs/day)	Daily $PM_{2.5}$ Emissions [3,5] (lbs/day)	Total ROG Emissions [6] (lbs)	Total NO_X Emissions [6] (lbs)	Total CO Emissions [6] (lbs)	Total SO_X Emissions [4,6] (lbs)	Total PM_{10} Emissions [5,6] (lbs)	Total $PM_{2.5}$ Emissions [5,6] (lbs)
Site Preparation	5/18/2027	5/27/2027	10	First Quarter	Summer	3.1	28.0	29.2	0.0	9.4	5.1	31	280	292	0.5	94	51
Grading	5/28/2027	6/26/2027	30	First Quarter	Summer	4.3	110.7	37.9	0.7	32.1	7.8	128	3,320	1,137	19.9	962	235
Building Construction	6/27/2027	8/17/2027	52	First Quarter	Summer	1.2	10.5	15.6	0.0	2.1	0.6	64	545	809	1.4	109	30
Building Construction	8/18/2027	9/30/2027	44	Second Quarter	Summer	1.2	10.5	15.6	0.0	2.1	0.6	55	461	684	1.2	92	25
Building Construction	10/1/2027	11/17/2027	48	Second Quarter	Winter	1.2	10.6	15.0	0.0	2.1	0.6	59	507	721	1.3	100	28
Building Construction	11/18/2027	12/31/2027	44	Third Quarter	Winter	1.2	10.6	15.0	0.0	2.1	0.6	54	465	661	1.2	92	25
Building Construction	1/1/2028	2/17/2028	48	Third Quarter	Winter	1.2	10.0	14.9	0.0	2.1	0.5	56	481	715	1.3	99	26
Building Construction	2/18/2028	3/31/2028	43	Fourth Quarter	Winter	1.2	10.0	14.9	0.0	2.1	0.5	50	431	641	1.2	88	23
Building Construction	4/1/2028	4/21/2028	21	Fourth Quarter	Summer	1.2	9.9	15.4	0.0	2.1	0.5	25	209	323	0.6	43	11
Paving	4/22/2028	5/11/2028	20	Fourth Quarter	Summer	2.1	6.7	10.7	0.0	0.7	0.3	43	133	214	0.3	14	6
Architectural Coating	5/12/2028	5/31/2028	20	Fourth Quarter	Summer	102.6	0.8	1.6	0.0	0.3	0.1	2,051	17	32	0.0	6	1

Notes:

[1] Construction phases and duration are based on CalEEMod defaults. Refer to **Appendix B** for further details.

[2] Based on CalEEMod defaults.

[3] Estimated by summing up the maximum daily emissions for the construction phase. Maximum daily emissions for the Site Preparation; Grading; Building Construction; Paving; and Architectural Coating phases are obtained from **Appendix A**.

[4] For purposes of this analysis SO_X emissions are assumed to be equal to SO_2.

[5] Particulate matter emissions include exhaust emissions from off-road construction equipment, fugitive dust emissions from on-site construction activities, and exhaust/tire wear/brake wear/entrained road dust emissions from on-road vehicles associated with project construction. As noted in Section 4.2.3 of the Air Quality Technical Report, fugitive dust emissions will be controlled by watering the construction site twice daily in accordance with the EDCAQMD Rule 223-1. Particulate matter emissions presented here account for these control measures for fugitive dust emissions.

[6] Estimated by multiplying the maximum daily emissions by the number of construction days for each construction phase.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel
CO - carbon monoxide
EDCAQMD - El Dorado County Air Quality Management District
lb - pound
NO_x - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_2 - sulfur dioxide
SO_x - sulfur oxide compounds

Table C-2. Estimating Mitigated Criteria Air Pollutant Emissions for North Site Remainder Area Construction
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phases [1]	Start Date	End Date	Number of Construction Days	Construction Time Period	Season [2]	Daily ROG Emissions [3] (lbs/day)	Daily NO_X Emissions [3] (lbs/day)	Daily CO Emissions [3] (lbs/day)	Daily SO_X Emissions [3,4] (lbs/day)	Daily PM_{10} Emissions [3,5] (lbs/day)	Daily $PM_{2.5}$ Emissions [3,5] (lbs/day)	Total ROG Emissions [6] (lbs)	Total NO_X Emissions [6] (lbs)	Total CO Emissions [6] (lbs)	Total SO_X Emissions [4,6] (lbs)	Total PM_{10} Emissions [5,6] (lbs)	Total $PM_{2.5}$ Emissions [5,6] (lbs)
Site Preparation	5/18/2027	5/27/2027	10	First Quarter	Summer	1.0	24.1	29.3	0.0	8.4	4.1	10	241	293	0.5	84	41
Grading	5/28/2027	6/26/2027	30	First Quarter	Summer	2.6	114.8	46.0	0.7	31.2	7.1	77	3,445	1,381	19.9	937	212
Building Construction	6/27/2027	8/17/2027	52	First Quarter	Summer	0.8	13.3	17.6	0.0	1.9	0.4	43	690	913	1.4	98	20
Building Construction	8/18/2027	9/30/2027	44	Second Quarter	Summer	0.8	13.3	17.6	0.0	1.9	0.4	36	584	773	1.2	83	17
Building Construction	10/1/2027	11/17/2027	48	Second Quarter	Winter	0.8	13.4	17.0	0.0	1.9	0.4	39	641	818	1.3	90	18
Building Construction	11/18/2027	12/31/2027	44	Third Quarter	Winter	0.8	13.4	17.0	0.0	1.9	0.4	35	588	750	1.2	83	17
Building Construction	1/1/2028	2/17/2028	48	Third Quarter	Winter	0.8	13.2	16.9	0.0	1.9	0.4	37	636	811	1.3	90	18
Building Construction	2/18/2028	3/31/2028	43	Fourth Quarter	Winter	0.8	13.2	16.9	0.0	1.9	0.4	33	569	727	1.2	80	16
Building Construction	4/1/2028	4/21/2028	21	Fourth Quarter	Summer	0.8	13.2	17.4	0.0	1.9	0.4	17	276	365	0.6	39	8
Paving	4/22/2028	5/11/2028	20	Fourth Quarter	Summer	1.9	8.1	11.4	0.0	0.6	0.2	38	162	227	0.3	11	3
Architectural Coating	5/12/2028	5/31/2028	20	Fourth Quarter	Summer	70.6	0.8	1.6	0.0	0.3	0.1	1,411	17	32	0.0	6	1

Notes:

[1] Construction phases and duration are based on CalEEMod defaults. Refer to **Appendix B** for further details.

[2] Based on CalEEMod defaults.

[3] Estimated by summing up the maximum daily emissions for the construction phase. Maximum daily emissions for the Site Preparation; Grading; Building Construction; Paving; and Architectural Coating phases are obtained from **Appendix A**.

[4] For purposes of this analysis SO_X emissions are assumed to be equal to SO_2.

[5] Particulate matter emissions include exhaust emissions from off-road construction equipment, fugitive dust emissions from on-site construction activities, and exhaust/tire wear/brake wear/entrained road dust emissions from on-road vehicles associated with project construction. As noted in Section 4.2.3 of the Air Quality Technical Report, fugitive dust emissions will be controlled by watering the construction site twice daily in accordance with the EDCAQMD Rule 223-1. Particulate matter emissions presented here account for these control measures for fugitive dust emissions.

[6] Estimated by multiplying the maximum daily emissions by the number of construction days for each construction phase.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel
CO - carbon monoxide
EDCAQMD - El Dorado County Air Quality Management District
lb - pound
NO_x - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_2 - sulfur dioxide
SO_x - sulfur oxide compounds

APPENDIX D
CONSTRUCTION ENERGY CALCULATIONS

List of Tables

Table D-1: Off-Road Equipment Fuel Consumption During Construction - North Site Remainder Area
Table D-2: On-Road Vehicle Fuel Consumption During Construction - North Site Remainder Area

Table D-1. Off-Road Equipment Fuel Consumption During Construction - North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name	CO_2 Emissions [1] (MT/yr)	Diesel Consumption [2] (gallons/yr)
Site Preparation (2027)	24.0	2,354
Grading (2027)	89.8	8,794
Building Construction (2027)	204.4	20,021
Building Construction (2028)	121.8	11,929
Paving (2028)	13.7	1,343
Architectural Coating (2028)	1.2	119

Constants:

10.21 kg CO_2/gallon diesel consumed in combustion engines [3]

1,000 kg CO_2/MT CO_2

Notes:

[1] Exhaust CO_2 emissions from off-road construction equipment used during the Site Preparation; Grading; Building Construction; Paving; and Architectural Coating construction phases that occur during remainder area development construction are obtained from the CalEEMod model run shown in **Appendix A**.

[2] Diesel consumption of off-road construction equipment during each construction phase is estimated as a ratio of the CO_2 emissions from these equipment to the CO_2 emission factor per gallon of diesel consumed.

[3] Obtained from the USEPA GHG Emission Factors Hub. Available at: https://www.epa.gov/system/files/documents/2025-01/ghg-emission-factors-hub-2025.pdf. Accessed: June 2025.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

CO_2 - carbon dioxide

GHG - greenhouse gas

kg - kilograms

MT - metric ton

USEPA - United States Environmental Protection Agency

yr - year

Table D-2. On-Road Vehicle Fuel Consumption During Construction - North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name [1]	Phase Duration [1] (days)	Worker Trip Rates [2] (one-way trips/day)	Vendor Trip Rates [2] (one-way trips/day)	Hauling Trip Number [2] (one-way trips/day)	Worker Trip Length [3] (miles/one-way trip)	Vendor Trip Length [3] (miles/one-way trip)	Hauling Trip Length [3] (miles/one-way trip)	Worker Vehicle Miles Traveled [4] (miles)	Vendor Vehicle Miles Traveled [4] (miles)	Hauling Vehicle Miles Traveled [4] (miles)	Worker Gasoline Fuel Consumption [5] (gallons)	Vendor Diesel Fuel Consumption [5] (gallons)	Hauling Diesel Fuel Consumption [5] (gallons)
Site Preparation (2027)	10	17.5	-	-	14.3	-	-	2,503	-	-	95	-	-
Grading (2027)	30	20.0	-	667	14.3	-	20.0	8,580	-	400,000	324	-	79,925
Building Construction (2027)	188	44.2	22.6	-	14.3	8.80	-	118,720	37,420	-	4,487	7,554	-
Building Construction (2028)	112	44.2	22.6	-	14.3	8.80	-	70,727	22,292	-	2,621	4,461	-
Paving (2028)	20	15.0	-	-	14.3	-	-	4,290	-	-	159	-	-
Architectural Coating (2028)	20	8.83	-	-	14.3	-	-	2,526	-	-	94	-	-

Notes:

[1] Construction phases and duration (**Table B-1**) are based on CalEEMod defaults. Refer to **Section 3** of the report for further details.

[2] The number of worker and vendor trips represent CalEEMod defaults based on the construction equipment used in each construction phase. The number of hauling trips were estimated by CalEEMod based on volume of soil that would be imported/exported during construction. Refer to **Appendix B** for further details.

[3] The trip lengths for on-road vehicles used during construction are CalEEMod default values.

[4] Estimated based on trip rates, trip length, and phase duration.

[5] Fuel consumption of on-road vehicles used during each construction phase are estimated as a product of the vehicle miles traveled by each vehicle type and its fuel consumption rate in gallons per mile.

[6] Fuel consumption rates for on-road vehicles are calculated using vehicle class-specific fuel consumption data from EMFAC2021 (see the supporting table below, which presents EMFAC2021 outputs for 2027 and 2028 in El Dorado-Mountain County), the fleet mix for each trip type (worker, vendor, and hauling), and vehicle miles traveled. The fleet mix for the worker, vendor, and hauling trucks are based on CalEEMod defaults. Worker vehicles are assumed to be gasoline fueled and include light duty automobiles and trucks (25% LDA, 50% LDT1, 25% LDT2). Vendor vehicles are assumed to be diesel fueled and include heavy heavy-duty trucks and medium heavy duty trucks (50% HHDT and 50% MHDT). Hauling vehicles are assumed to be diesel fueled and include heavy heavy-duty trucks (100% HHDT).

Fuel Consumption Rates by Vehicle Type: [6]

Worker Vehicles in 2027:	0.0378 gallons/mile
Worker Vehicles in 2028:	0.0371 gallons/mile
Vendor Vehicles in 2027:	0.2019 gallons/mile
Vendor Vehicles in 2028:	0.2001 gallons/mile
Haul Trucks in 2027:	0.1998 gallons/mile

Abbreviations:

CalEEMod - California Emissions Estimator Model
EMFAC - EMission FACtors model
HHDT - heavy heavy-duty trucks
LDA - light-duty automobile
LDT - light-duty truck
MHDT - medium heavy-duty trucks

Table D-2. On-Road Vehicle Fuel Consumption During Construction - North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Supporting Table of EMFAC Outputs

Calendar Year	EMFAC Vehicle Class	Fuel Type	EMFAC VMT Output (miles)	EMFAC Fuel Use Output (gallons)	Average Fuel Consumption (gallons/mile)
2027	LDA	Gasoline	1,619,691	51,441	0.0318
2027	LDT1	Gasoline	181,944	7,232	0.0397
2027	LDT2	Gasoline	1,158,122	46,256	0.0399
2027	MHDT	Gasoline	5,957	1,215	0.2039
2027	HHDT	Diesel	28,804	5,755	0.1998
2028	LDA	Gasoline	1,633,311	50,730	0.0311
2028	LDT1	Gasoline	175,495	6,850	0.0390
2028	LDT2	Gasoline	1,170,851	45,776	0.0391
2028	MHDT	Gasoline	6,113	1,237	0.2023
2028	HHDT	Diesel	28,701	5,682	0.1980

Abbreviations:
EMFAC - EMission FACtors model
HHDT - heavy heavy-duty trucks
LDA - light-duty automobile
LDT - light-duty truck
MHDT - medium heavy-duty trucks
VMT - vehicle miles traveled

APPENDIX E
OPERATIONAL INPUTS

List of Tables

Table E-1: Operational Mobile Source Assumptions - North Site Remainder Area
Table E-2: Reactive Organic Gas Emission Factor for Consumer Product Usage in El Dorado County for Calendar Year 2028
Table E-3: Utility GHG Emission Factor Associated with Renewable Portfolio Standard

Table E-1. Operational Mobile Source Assumptions - North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Total daily trips [1,2]	2,536	trips/day
Average trip length [1]	4.52	miles
Daily VMT [1,2]	11,463	miles/day

Notes:

[1] Obtained from the July 2025 El Dorado Costco CEQA Analysis report prepared by Kittelson & Associates, Inc.

[2] For purposes of this analysis the daily trip and VMT assumptions were used for both weekdays and weekends.

Abbreviations:

CEQA - California Environmental Quality Act

VMT - vehicle miles travelled

Table E-2. Reactive Organic Gas Emission Factor for Consumer Product Usage in El Dorado County for Calendar Year 2028

El Dorado Hills Costco Project
El Dorado Hills, California

Countywide ROG Inventory for Consumer Product Usage [1] (tons/day)	County Population [2]	Total Building Square Footage in the County [3] (sqft)	ROG Emission Factors for Consumer Product Usage [4] (lb/sqft/day)
1.354	188,380	220,388,409	1.23E-05

Notes:

[1] ROG consumer products inventory for El Dorado County in calendar year 2028 was obtained from the California Emissions Projection Analysis Model, CEPAM2019v1.04. Available at: https://ww2.arb.ca.gov/applications/cepam2019v1-04-standard-emission-tool. Accessed: May 2025.

[2] Population estimates for El Dorado County in 2020 and 2028 were obtained from the State of California Department of Finance website. Available at: https://dof.ca.gov/forecasting/demographics/projections/. Accessed: May 2025.

[3] Total building square footage in 2028 was estimated as the product of the countywide building square footage per person in 2020 multiplied by the population projection for El Dorado County in calendar Year 2028.

[4] The consumer product ROG emission factor for consumer product usage is calculated as the ratio of the countywide ROG inventory for consumer product usage to the total building square footage in the county.

[5] Total building square footage in El Dorado County for 2020 was obtained from FEMA HAZUS-MH software (version 7.0). Available at: https://msc.fema.gov/portal/resources/hazus. Accessed: May 2025.

Constants:

El Dorado County Population [2] in Calendar Year 2020:	191,522
Total Building Square Footage [5] in El Dorado County in 2020:	224,064,279

Conversion Factor:

2000 lb/ton

Abbreviations:

FEMA - Federal Emergency Management Agency
lb - pound
ROG - reactive organic compounds
sqft - square foot

Table E-3. Utility GHG Emission Factor Associated with Renewable Portfolio Standard
El Dorado Hills Costco Project
El Dorado Hills, California

Energy Generated (MWh)

	2020	2021	2022	Average	Units
CO_2 Intensity Factor per Total Energy Generated [1]	160	98	56	105	lbs CO_2/MWh generated
% of Total Energy From Renewables [2]	35.1%	47.7%	38.5%	40.4%	
CO_2 Intensity Factor per Total Non-Renewable Energy [3]	247	187	91	176	lbs CO_2/MWh generated

Calculated Intensity Factors for Total Energy Delivered [4]

2027 RPS (52% Renewable Energy)	118.3	89.9	43.7	84.3	lbs CO_2/MWh generated
2028	111.8	84.9	41.3	79.7	lbs CO_2/MWh generated
2030 RPS (60% Renewable Energy)	98.6	75.0	36.4	70.3	lbs CO_2/MWh generated

Notes:

[1] Obtained from PG&E's 2024 Corporate Sustainability Reports. Note that 2023 values are not provided because they are subject to regulatory approval and verification at the time of this report preparation.

[2] Obtained from PG&E's 2021, 2022, and 2023 Corporate Sustainability Reports.

[3] The emissions metric presented here is calculated based on the total CO_2 emissions for total energy generated divided by the energy generated from non-renewable sources.

[4] The intensity factors for default RPS assumption are estimated multiplying the maximum allowable percentage of non-renewable energy per RPS and the CO_2 intensity factor per total non-renewable energy calculated above. The RPS minimum targets for renewable energy delivered are 52% for 2027 and 60% for 2030 per Senate Bill 100. The estimate provided here assumes that renewable energy sources do not result in any CO_2 emissions.

Abbreviations:

CO_2 - carbon dioxide

GHG - greenhouse gases

lbs - pounds

MWh - megawatt-hour

PG&E - Pacific Gas and Electric

RPS - Renewable Portfolio Standards

References:

PG&E 2021 Corporate Sustainability Report. Available at: https://www.responsibilityreports.com/HostedData/ResponsibilityReportArchive/p/NYSE_PCG_2021.pdf. Accessed: April 2025.

PG&E 2022 Corporate Sustainability Report. Available at: https://www.pgecorp.com/content/dam/pgecorp/language-masters/en/sustainability/corporate-responsibility-sustainability/reports/2022/assets/PGE_CSR_2022.pdf. Accessed: April 2025.

PG&E 2023 Corporate Sustainability Report. Available at: https://docs.publicnow.com/viewDoc?filename=40923%5CEXT%5C8601693C6F97C394FA0DAB4D67BC4B398DD26C60_C89032E27DAEE65CF45DAE23DAAACEFFC14EE076.PDF. Accessed: April 2025.

PG&E 2024 Corporate Sustainability Report. Available at: https://www.pgecorp.com/assets/pgecorp/csr/csr_2024/assets/pge-csr-2024.pdf. Accessed: April 2025.

Senate Bill 100. Available at: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB100. Accessed: April 2025.

APPENDIX F
OPERATIONAL ENERGY CALCULATIONS

List of Tables

Table F-1: Operational Electricity Consumption for the North Site Remainder Area
Table F-2: Operational Natural Gas Consumption for the North Site Remainder Area
Table F-3: CalEEMod Default Fleet Mix for El Dorado County in Calendar Year 2028
Table F-4: Operational Vehicle Fleet Mix for the North Site Remainder Area
Table F-5: Operational Mobile Source Gasoline Consumption for the North Site Remainder Area
Table F-6: Operational Mobile Source Natural Gas Consumption for the North Site Remainder Area
Table F-7: Operational Mobile Source Diesel Consumption for the North Site Remainder Area
Table F-8: Operational Mobile Source Electricity Consumption for the North Site Remainder Area
Table F-9: Operational Landscape Equipment Gasoline Consumption for the North Site Remainder Area

Table F-1. Operational Electricity Consumption for the North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Project Land Use	Project Electricity Demand [1] (kWh/yr)
Regional Shopping Center	1,202,266
Parking Lot	405,244
Total	**1,607,510**

Notes:

[1] Obtained from CalEEMod model run for the North Site Remainder Area shown in **Appendix A**.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

kWh - kilowatt hours

yr - year

Table F-2. Operational Natural Gas Consumption for the North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Project Land Use	Project Natural Gas Demand [1] (kBTU/yr)
Regional Shopping Center	1,190,333
Parking Lot	0
Total	**1,190,333**

Notes:

[1] Obtained from CalEEMod model run for the North Site Remainder Area shown in **Appendix A**.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

kBTU - kilo British Thermal Unit

yr - year

Table F-3. CalEEMod Default Fleet Mix for El Dorado County in Calendar Year 2028
El Dorado Hills Costco Project
El Dorado Hills, California

Vehicle Category	CalEEMod Default Fleet Mix [1]
LDA	38.10%
LDT1	4.98%
LDT2	26.68%
MDV	17.26%
LHDT1	5.18%
LHDT2	1.23%
MHDT	1.61%
HHDT	0.41%
OBUS	0.07%
UBUS	0.04%
MCY	3.53%
SBUS	0.13%
MH	0.78%

Notes:

[1] CalEEMod default for El Dorado (MC) sub-area, calendar year 2028.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel
HHDT - Heavy heavy-duty truck
LDA - light duty automobiles
LDT - light-duty trucks
LHDT - light heavy-duty trucks
MC - Mountain County
MCY - motorcycles
MDV - medium-duty vehicle
MH - motor homes
MHDT - medium heavy-duty trucks
OBUS - other buses
SBUS - school buses
UBUS - urban buses

Table F-4. Operational Vehicle Fleet Mix for the North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Vehicle Category	Fuel Type	EMFAC VMT Output [1] (miles/day)	Fleet Mix [2]
LDA	Gasoline	1,633,311	33.29%
LDA	Plug-in Hybrid	69,525	1.42%
LDA	Electricity	161,238	3.29%
LDA	Diesel	4,739	0.10%
LDT1	Gasoline	175,495	4.93%
LDT1	Plug-in Hybrid	815	0.02%
LDT1	Electricity	996	0.03%
LDT1	Diesel	8	0.00%
LDT2	Gasoline	1,170,851	25.97%
LDT2	Plug-in Hybrid	16,120	0.36%
LDT2	Electricity	11,154	0.25%
LDT2	Diesel	4,900	0.11%
MDV	Gasoline	660,798	16.38%
MDV	Plug-in Hybrid	9,758	0.24%
MDV	Electricity	11,461	0.28%
MDV	Diesel	14,415	0.36%
LHDT1	Gasoline	96,642	2.52%
LHDT1	Diesel	96,871	2.53%
LHDT1	Electricity	4,871	0.13%
LHDT2	Gasoline	7,595	0.19%
LHDT2	Diesel	40,102	1.01%
LHDT2	Electricity	1,065	0.03%
MHDT	Gasoline	6,113	0.12%
MHDT	Diesel	73,139	1.43%
MHDT	Electricity	3,444	0.07%
HHDT	Gasoline	17	0.00%
HHDT	Diesel	28,701	0.39%
HHDT	Electricity	1,232	0.02%
HHDT	Natural Gas	132	0.00%
OBUS	Gasoline	992	0.02%
OBUS	Diesel	3,160	0.05%
OBUS	Electricity	53	0.00%
OBUS	Natural Gas	38	0.00%
UBUS	Gasoline	1,054	0.01%
UBUS	Diesel	3,484	0.03%
UBUS	Electricity	208	0.00%
MCY	Gasoline	19,584	3.53%
SBUS	Gasoline	681	0.02%
SBUS	Diesel	3,110	0.11%
SBUS	Electricity	112	0.00%
MH	Gasoline	4,455	0.47%
MH	Diesel	2,891	0.31%

Notes:

[1] Default EMFAC2021 output for the El Dorado (MC) sub-area in calendar year 2028.

[2] The fleet mix for the vehicles incorporates the CalEEMod default fleet mix for El Dorado (MC) sub-area, calendar year 2028, weighted by the EMFAC VMT by fuel type.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

EMFAC - EMission FACtors model

HHDT - Heavy heavy-duty truck

LDA - light duty automobiles

LDT - light-duty trucks

LHDT - light heavy-duty trucks

MC - Mountain County

MCY - motorcycles

MDV - medium-duty vehicle

MH - motor homes

MHDT - medium heavy-duty trucks

OBUS - other buses

SBUS - school buses

UBUS - urban buses

VMT - vehicle miles traveled

Table F-5. Operational Mobile Source Gasoline Consumption for the North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Mobile Source Category	Mobile Source Activity [1] (miles/yr)	Mobile Source Activity Associated with Gasoline Combustion [2] (miles/yr)	Gasoline Consumption [3] (gallons/yr)
Gasoline Vehicles	3,658,816	3,658,816	144,096
Plug in Hybrid Vehicles	85,324	38,323	1,372

Constants:

Average fuel efficiency of gasoline vehicles in 2028 [4]	25 miles per gallon
Average fuel efficiency of plug-in hybrid electric vehicles in 2028 [4]	28 miles per gallon

Notes:

[1] The annual vehicle miles travelled by operational mobile sources (obtained from the CalEEMod model run in **Appendix A**) was apportioned into gasoline and plug-in-hybrid vehicle technology categories based on the operational vehicle fleet mix shown in **Table F-4.**

[2] The vehicle miles travelled associated with gasoline combustion for each vehicle technology category was estimated based on EMFAC default assumptions for gasoline and plug-in hybrid vehicles operating in El Dorado (MC) sub-area in calendar year 2028.

[3] Gasoline consumption of vehicles are estimated as a ratio of the vehicle miles traveled associated with gasoline combustion for each vehicle technology category and its average fuel efficiency in miles per gallon.

[4] The average fuel efficiency for each gasoline vehicle technology category operating in for El Dorado (MC) sub-area in calendar year 2028 is obtained from EMFAC2021.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

EMFAC - EMission FACtors model

MC - Mountain County

yr - year

Table F-6. Operational Mobile Source Natural Gas Consumption for the North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Mobile Source Category	Mobile Source Activity [1] (miles/yr)	Natural Gas Consumption [2] (kBtu/yr)
Natural Gas Vehicles	102	2,580

Constants:

Average fuel efficiency of natural gas vehicles [3] 5.73 miles per diesel equivalent gallon

Conversion Factors:[4,5]

139.3 scf of CNG per diesel equivalent gallon

1.039 kBtu per cubic foot of NG

Notes:

[1] The annual vehicle miles travelled by operational mobile sources (obtained from the CalEEMod model run in **Appendix A**) was apportioned into natural gas vehicle technology based on the operational vehicle fleet mix shown in **Table F-4**.

[2] Fuel consumption for natural gas vehicles is estimated as a ratio of vehicle miles traveled to the average fuel efficiency of natural gas vehicles.

[3] The average fuel efficiency for natural gas vehicles operating in El Dorado (MC) sub-area in calendar year 2028 is obtained from EMFAC2021.

[4] Scf of CNG per diesel equivalent gallon was obtained from the Alternative Fuels Data Center Gasoline and Diesel Gallon Equivalency Methodology. Available at: https://afdc.energy.gov/fuels/equivalency-methodology. Accessed: June 2025.

[5] kBtu per cubic foot of NG was obtained from the NRG Energy Conversion Calculator. Available at: https://www.nrg.com/resources/energy-tools/energy-conversion-calculator.html. Accessed: June 2025.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel
CNG - compressed natural gas
EMFAC - EMission FACtors model
kBtu - kilo-British thermal unit
MC - Mountain County
NG - natural gas
scf - standard cubic feet
yr - year

Table F-7. Operational Mobile Source Diesel Consumption for the North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Mobile Source Category	Mobile Source Activity [1] (miles/yr)	Diesel Consumption [2] (gallons/yr)
Diesel Vehicles	268,259	24,867

Constants:

Average fuel efficiency of diesel vehicles [3] 10.79 miles per gallon

Notes:

[1] The annual vehicle miles travelled by operational mobile sources (obtained from the CalEEMod model run in **Appendix A**) was apportioned into diesel vehicle technology based on the operational vehicle fleet mix shown in **Table F-4**.

[2] Fuel consumption for diesel vehicles is estimated as a ratio of vehicle miles traveled to the average fuel efficiency of diesel vehicles.

[3] The average fuel efficiency for diesel vehicles operating in El Dorado (MC) sub-area in calendar year 2028 is obtained from EMFAC2021.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

EMFAC - EMission FACtors model

MC - Mountain County

yr - year

Table F-8. Operational Mobile Source Electricity Consumption for the North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Mobile Source Category	Mobile Source Activity [1] (miles/yr)	Mobile Source Activity Associated with Electricity Consumption [2] (electric miles/yr)	Electricity Consumption [3] (kWh/yr)
Battery Electric Vehicles	171,129	171,129	51,686
Plug in Hybrid Vehicles	85,324	47,000	14,195

Constants:

Average fuel efficiency for plug-in hybrid electric vehicles in 2028 [4]	3.31 miles per kWh
Average fuel efficiency for electric vehicles in 2028 [4]	2.39 miles per kWh

Notes:

[1] The annual vehicle miles travelled by operational mobile sources (obtained from the CalEEMod model run in **Appendix A**) was apportioned into battery electric and plug-in-hybrid vehicle technology categories based on the operational vehicle fleet mix shown in **Table F-4**.

[2] The fraction of electric vehicle miles traveled by plug-in hybrid vehicles was estimated based on EMFAC default assumptions for plug-in hybrid vehicles operating in El Dorado (MC) sub-area in calendar year 2028.

[3] The electricity consumption is estimated as the ratio of the electric miles traveled to the average fuel efficiency of each vehicle technology in miles per kilowatt-hour.

[4] The average fuel efficiencies of battery electric and plug-in hybrid vehicles operating in El Dorado (MC) sub-area in calendar year 2028 are obtained from EMFAC2021.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

EMFAC - EMission FACtors model

GDF - gasoline dispensing facility

kWh - kilowatt-hour

MC - Mountain County

yr - year

Table F-9. Operational Landscape Equipment Gasoline Consumption for the North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Area Source Category	CO_2 Emissions [1] (MT/yr)	Gasoline Consumption [2] (gallons/yr)
Landscape equipment	2.02	230

Conversion Factors:

8.78 kg CO_2/gallon gasoline consumed in combustion engines [3]

1,000 kg CO_2/MT CO_2

Notes:

[1] Exhaust CO_2 emissions from landscaping equipment are obtained from the CalEEMod model run in **Appendix A**.

[2] Gasoline consumption of landscaping equipment is estimated as a ratio of the CO_2 emissions from these equipment to the CO_2 emission factor per gallon of gasoline consumed.

[3] Obtained from the USEPA GHG Emission Factors Hub. Available at: https://www.epa.gov/system/files/documents/2025-01/ghg-emission-factors-hub-2025.pdf. Accessed: June 2025.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

CO_2 - carbon dioxide

GHG - greenhouse gas

kg - kilograms

MT - metric ton

USEPA - United States Environmental Protection Agency

yr - year

Energy Technical Report

Prepared for
Ascent Environmental, Inc
Sacramento, California

Prepared by
Ramboll Americas Engineering Solutions, Inc.
Irvine, California

Project Number
1940110459

Date
October 2025

EDH COSTCO PROJECT
ENERGY TECHNICAL REPORT
EL DORADO HILLS, CALIFORNIA

Ramboll Americas Engineering Solutions, Inc.
2211 Michelson Drive, Suite 400
Irvine, California 92612
(949) 261-5151

RAMBOLL

CONTENTS

		Page
1.	**INTRODUCTION**	**1**
1.1	Existing Conditions	1
1.2	Proposed Project	1
1.2.1	North Site	1
1.2.2	South Site	2
2.	**ENERGY ENVIRONMENTAL OVERVIEW**	**7**
2.1	Energy Production and Distribution	7
2.2	Energy Consumption	8
3.	**SIGNIFICANCE THRESHOLDS**	**9**
4.	**METHODOLOGY FOR DEVELOPMENT OF ENERGY PROJECTIONS**	**11**
4.1	Construction Equipment & Activities	11
4.2	Operational Energy Requirements	12
4.2.1	Electricity	12
4.2.2	Natural Gas	12
4.2.3	Mobile Source Fuel Usage	12
4.2.4	Landscape Equipment Fuel Usage	13
4.2.5	Stationary Source Fuel Usage	13
5.	**PROJECT INVENTORY IN CONTEXT**	**14**
5.1	Threshold 1	14
5.1.1	Energy Requirements and Energy Use Efficiencies	14
5.1.2	Local and Regional Energy Supplies	15
5.1.3	Peak and Base Period Demands	16
5.1.4	Existing Energy Standards	17
5.1.5	Energy Resources	18
5.1.6	Transportation Energy Use	19
5.1.7	Summary	19
5.2	Threshold 2	19

CONTENTS *(Continued)*

TABLES

Table 4-1: Off-Road Equipment Fuel Consumption During Construction Scenario 1
Table 4-2: Off-Road Equipment Fuel Consumption During Construction Scenario 2
Table 4-3: On-Road Vehicle Fuel Consumption During Construction Scenario 1
Table 4-4: On-Road Vehicle Fuel Consumption During Construction Scenario 2
Table 4-5: Operational Electricity Consumption
Table 4-6: Operational Natural Gas Consumption
Table 4-7: Operational Mobile Source Gasoline Consumption
Table 4-8: Operational Mobile Source Diesel Consumption
Table 4-9: Operational Mobile Source Electricity Consumption
Table 4-10: Operational Landscape Equipment Gasoline Consumption
Table 4-11: Operational Stationary Source Diesel Consumption
Table 5-1: Energy Resource Summary for Proposed Project Construction Scenario 1
Table 5-2: Energy Resource Summary for Proposed Project Construction Scenario 2
Table 5-3: Energy Resource Summary for Proposed Project Operation

APPENDICES

Appendix A: Project Evaluation Against State and Local Plans

ACRONYMS AND ABBREVIATIONS

Acronym	Definition
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CO_2	carbon dioxide
DC	direct current
EDH	El Dorado Hills
EV	electric vehicle
GHG	greenhouse gas
GWh	gigawatt hours
HVAC	heating, ventilation, and air conditioning
kWh	kilowatt hours
MW	megawatt
MWh	megawatt hours
PG&E	Pacific Gas and Electric
TRU	Transport Refrigeration Unit
USEPA	United States Environmental Protection Agency
VMT	vehicle miles traveled

1. INTRODUCTION

Ramboll Americas Engineering Solutions, Inc. (Ramboll) was retained to prepare an Energy Technical Report for the proposed El Dorado Hills (EDH) Costco Project (Project) located north of the Silva Valley Parkway/US 50 interchange in the El Dorado Hills community area of the unincorporated El Dorado County in California. This Energy Technical Report analyzes the energy impacts of the Project's construction and operation activities. In particular, this report describes the existing setting of the Project site, describes the relevant regulatory setting, discusses the methodology used to evaluate energy consumption of the Project, and evaluates potential impacts related to energy that would be affected as a result of implementation of the Project.

1.1 Existing Conditions

The Project site is currently vacant grassland with scattered oak trees and seasonal drainage features. There are no permanent structures on the Project site. The southern edge of the property directly abuts the US 50 right-of-way, while the western boundary is adjacent to Clarksville Crossing. An approximate 7.75-acre portion of the northern site is reserved for a planned future extension of Country Club Drive, which is not part of the proposed Project.

Surrounding land uses include:

- North: Single-family residential uses and Oak Meadow Elementary School
- East: Vacant land, Tong Road, and single-family residential uses
- South: U.S. Highway 50 and Tong Road
- West: Clarksville Crossing roadway, open space, and undeveloped land

1.2 Proposed Project

The 43.26-acre Project site is separated into two components: the North Site of approximately 24.83 acres and the South Site of approximately 18.43 acres. A membership-only Costco fuel facility and employee parking would occupy part of the North Site, while the South Site would accommodate the main Costco warehouse retail building and a partially below-grade parking structure. The majority of the North Site is not proposed to include any development as part of the Project.

1.2.1 North Site

On the North Site, approximately 3.29 acres would be developed with a Costco members-only fuel facility and an employee parking area. The remainder of the North Site would include an approximately 13.79-acre out-parcel that would remain undeveloped at this time (North Site Remainder Area). The Costco Project proposes no development for the North Site Remainder Area. The future extension of Country Club Drive (County Capital Improvement Project No. 36105008), when constructed by the County, would occupy a portion of the North Site near its northern edge, though the future extension is an independent project proposed by, and to be undertaken by, the County and is not analyzed as a part of the project.

The fuel facility would occupy a generally rectangular footprint near Silva Valley Parkway, and the employee parking would be situated immediately west of the canopy, separated by drive aisles and landscaping.

Site Access and Roadway Improvements

Primary access to the North Site would be provided via a new signalized intersection on Silva Valley Parkway, shared with the South Site's main driveway. A secondary right-in/right-out driveway north of that intersection would separate fueling operations from primary traffic flows. Fuel delivery trucks would enter the northern driveway and exit at the signal to allow safe left turns. Sidewalks, bike lanes, and pedestrian connections would be provided along the North Site's frontage, north of the signalized intersection.

Architecture

The proposed fuel facility includes a steel canopy structure of up to 13,000 square feet, covering four fueling bays with four two-sided dispensers each (32 fueling positions total). A small, up to 200-square-foot controller enclosure would house operational equipment. The canopy design features neutral colors with corporate striping to align with Costco's brand, and recessed LED lighting directing illumination downward.

Construction

Construction for the North Site is anticipated to last approximately 11 months once construction begins, which is currently estimated to be July of 2026. Construction would occur 7 days per week, with construction occurring 7:00 a.m. to 7:00 p.m. on weekdays and 8:00 a.m. to 5:00 p.m. on weekends.

Operations

Fuel facility hours would generally be from 5:00 a.m. to 10:00 p.m. The facility is expected to receive approximately four to five fuel truck deliveries per day. These deliveries would be staged in a striped area north of the canopy. Approximately 70 employee parking spaces would serve Costco employees; circulation is designed to keep fuel facility traffic and employee parking separate.

1.2.2 South Site

The South Site would include up to approximately 165,000 square feet of building area planned to be constructed as a Costco Wholesale Member Warehouse retail store. Within the store, Costco would offer, among other product and services, optical exams and optical sales, hearing aid testing and sales, food service preparation and sales, meat preparation and sales, bakery and sales of baked goods, alcohol sales, and tire sales and installation. Temporary outdoor sales may occur within the portion of the parking area adjacent to the warehouse retail building for seasonal sales, such as Christmas tree sales during the months of November and December. The warehouse retail building is proposed to include one customer entrance to the main Costco store, which would be located at the northwest corner of the building. The tire center would have bay doors accessible from outside of the warehouse retail building, though the tire center sales area would be accessible through the building. A promotional vehicle may be on display near the customer entrance to the building. This vehicle would be used to promote online or offsite vehicle sales; no vehicles are proposed to be sold onsite. The South Site would also include a parking structure and surface parking, which are further described below. Development on the South Site would exclude the 1.38-acre area located west of Clarksville Crossing where no development is proposed.

The South Site has been designed to use the existing slope of the site by locating the Costco warehouse retail building in the southeast corner of the site, where the elevation of existing streets adjacent to the site are the highest. Parking would be provided in two at-grade parking lots and one subterranean (below-grade) parking lot structure beneath one of the at-grade lots. Vehicle access to this lower-level parking structure would be provided by a ramp on the north side of the structure from Clarksville Crossing and a ramp on the south side of the structure from the above at-grade parking lot. The below-grade parking structure would include approximately 200 to 230 spaces. A pedestrian ramp and elevators would provide pedestrian access from the below-grade level up to the at-grade parking and entry to the warehouse retail building. The below-grade parking structure and at-grade parking lots together would include approximately 750 to 780 spaces in total parking to serve the South Site.

Site Access and Roadway Improvements

The primary entrance to the South Site would be from the new signalized intersection with Silva Valley Parkway (shared with the North Site). Northbound traffic on Silva Valley Parkway would have a left-turn pocket into Clarksville Crossing, and three driveways off Clarksville Crossing would provide direct access to the South Site. A partial traffic signal would be installed at the intersection of Silva Valley Parkway and Clarksville Crossing. In the future, when Country Club Drive is extended by the County, Clarksville Crossing's connection to Silva Valley Parkway and the traffic signal would be removed. A public access road would be developed on the South Site within the remainder parcel that was taken by the County in connection with the development of Tong Road. A maintenance agreement between the County and Costco would be created to address the maintenance of the new public access road.

Delivery truck access would be allowed at all driveway locations depending on the size of the delivery truck and direction of travel for both the North Site and South Site. Most trucks delivering to the warehouse retail building would access the site at the southwest driveway on Clarksville Crossing near the receiving docks.

Architecture

The warehouse retail building design for the South Site is proposed to be contemporary and would include a variety of massing and appropriate materials for the building. By combining concrete masonry block and architectural metal panels, Costco intends to create a scale and architectural interest to minimize the visual impact of a large retail warehouse retail building. By use of design techniques such as the location of building materials, landscaping, and the incorporation of varying parapet cap heights, Costco proposes to break the long elevations both horizontally and vertically at the appropriate height to conceal roof top mounted mechanical equipment. The proposed colors are warm natural earth tones, which would relate to the proposed surrounding development by utilizing similar building materials and architectural detailing. The tire center would be integrated into the main building, with exterior bay doors and interior retail access for sales and service. Pedestrian entries (main and employee) would be oriented to the northwest for customer convenience and the tire center from the other warehouse retail building operational areas.

The South Site truck loading dock is proposed to be located at the southwest corner of the building adjacent to US 50. The bay doors would be equipped with sealed gaskets to limit noise impacts. A smaller on-grade door would also be located on the south side of the

building. This door is to receive bread deliveries and small delivery vans/trucks. A transformer and two trash compactors would also be located along the south edge of the building proposed for the South Site. Landscape material would provide screening of this area

Parking, Circulation, and Loading

Two at-grade lots and one below-grade lot together provide approximately 750 to 780 parking stalls. Access to the South Site would consist of a signalized intersection on Silva Valley Parkway, as well as driveways provided along Clarksville Road. These driveways would provide customer access to both at-grade and below-grade parking stalls. Delivery trucks would access sealed loading docks at the building's southwest corner.

Construction

As with the North Site, construction for the South Site is anticipated to last approximately 11 months once construction begins, which is currently estimated to be July of 2026. Construction would occur 7 days per week, with construction occurring 7:00 a.m. to 7:00 p.m. on weekdays and 8:00 a.m. to 5:00 p.m. on weekends. In addition to these construction hours, it is anticipated that there would be up to 8 days of nighttime construction activities involving concrete pours for the building foundation.

Operations

The warehouse retail building is proposed to include one member entrance to the main Costco store, which would be located at the northwest corner. The EDH Costco is expected to include, among other features, a bakery and sales of baked goods, meat preparation and sales, alcohol sales, food service preparation and sales, pharmacy, optical center with optical exams and retail optical sales, hearing aid testing center, and food court, along with the sales of approximately 4,000 products. The warehouse retail building would include a five-bay tire center with member access via the inside of the main Costco building, which would include tire sales and a tire installation facility.

It is anticipated that the EDH Costco Project (warehouse retail building and fuel facility) would employ approximately 250 to 300 employees combined. The warehouse retail building would in general be open from 9:00 a.m. to 8:30 p.m. on weekdays and 9:00 a.m. to 7:00 p.m. on weekends. Costco anticipates an average of about 10 to 12 trucks delivering goods per day. The trucks range in size from 26 feet long for single-axle trailers to 70 feet long for double-axle trailers. Receiving time would be from 2:00 a.m. to 1:00 p.m., averaging 2 to 3 trucks per hour, with most of the deliveries completed before 10:00 a.m. Deliveries to the warehouse retail building are made primarily in Costco trucks from its freight consolidation facility in Tracy, California, coming to the site from eastbound US 50. Truck travel routes would use Silva Valley Parkway (from US 50 to Clarksville Road), Clarksville Road (from White Rock Road to Silva Valley Parkway), future Country Club Drive extension west of the South Site to access Clarksville Road, and White Rock Road (from Clarksville Road to US 50).

The tire center receives shipments of tires once or twice a week, with old tires transported offsite for recycling. Seasonal outdoor sales of items such as Christmas trees may occur in the parking area. In addition, promotional vehicle displays may appear outside, but no on-site vehicle sales would occur.

Energy Efficiency Features

As noted above, the South Site would obtain electrical and natural gas services from Pacific Gas & Electric (PG&E). The development would comply with energy efficiency standards under California Code of Regulations Title 24. Additional energy efficiency and sustainability measures incorporated into the Costco Project are noted below.

- Parking lot light standards would be designed in order to provide even light distribution, and utilize less energy compared to a greater number of fixtures at lower heights. The use of LED lamps can provide a higher level of perceived brightness with less energy than other lamps such as high-pressure sodium.
- New and renewable building materials would typically be extracted and manufactured within the region. When masonry and concrete are used, the materials purchased would be local to the Project, minimizing the transportation distances and impact to local road networks.
- The use of pre-manufactured building components, including structural framing and metal panels, would help to minimize waste during construction.
- Pre-manufactured metal wall panels with insulation carry a higher R-Value and greater solar reflectivity to help conserve energy as compared to other materials. Building heat absorption would be further reduced by a decrease in the thermal mass of the metal wall when compared to a typical masonry block wall.
- A substantial amount of the proposed landscaping material for the North Site and South Site is climate adapted to the region and would use less water than other common landscape species.
- The irrigation system proposes to include the use of deep root watering bubblers for parking lot trees to minimize usage and ensure that water goes directly to the intended planting areas.
- Storm water management plans are designed to maintain water quality, minimize erosion, and manage storm water discharge rates based on the County requirements.
- High-efficiency restroom fixtures would be installed.
- Commissioning of mechanical systems would occur to ensure that the heating, ventilation, and air conditioning (HVAC) systems are performing as designed. HVAC comfort systems would be controlled by a computerized building management system to maximize efficiency.
- HVAC units planned for the South Site are high-efficiency direct ducted units, which have phased out the use of hydrochlorofluorocarbons completely.
- Parking lot and exterior lights would be controlled by a photo sensor and time clock.
- 10 electric vehicle (EV) chargers with direct current (DC) fast chargers would be installed.
- Lighting would be controlled by the overall Project energy management system.
- Energy efficient Transformers (i.e., Square D Type EE transformers) would be used.
- Variable speed motors would be used on make-up air units and booster pumps.

- Gas water heaters would be direct vent and 94 percent efficient or greater.
- Reclaim tanks would be used to capture heat released by refrigeration equipment to heat domestic water in lieu of venting heat to the outside.
- The building structure would be a pre-engineered system that uses 100 percent recycled steel materials and would be designed to minimize the amount of material used.
- Construction waste would be recycled whenever possible.
- Floor sealant would be No-volatile organic compound and would represent over 80 percent of the floor area.
- Carbon dioxide (CO_2) would be monitored throughout the warehouse.
- Extensive recycling/reuse program would be implemented including tires, cardboard, grease, plastics, and electronic waste.
- Use of plastic shopping bags would be avoided.
- Suppliers would be required to reduce packaging and consider alternative packaging solutions.
- Distribution facilities would be strategically located to minimize miles traveled for delivery.
- Deliveries would be made in full trucks.
- All Costco trucks would be equipped with an engine idle shut off timers.
- 100 percent renewable electrical power will be supplied by PG&E, as Costco has a Clean Energy Contract with PG&E.

2. ENERGY ENVIRONMENTAL OVERVIEW

2.1 Energy Production and Distribution

Among the states, California ranks eighth in the nation in production of crude oil, fifteenth in production of natural gas, second in generation of conventional hydroelectric power, second in the production of electricity from biomass, and first in the production of electricity from geothermal and solar energy.[1] California produces approximately 10% of the natural gas used in the State and imports approximately 90% from Canada, the Southwest, and the Rocky Mountains region of the United States.[2] Approximately two-thirds of the crude oil refined in California is from foreign countries, including Iraq, Brazil, Guyana, and Ecuador.[3] Additional crude oil is imported from Alaska.[4] One-fifth to one-third of California's electricity supply is from outside the state.[5]

Electricity Supply

The production of electricity requires the combustion, consumption, or conversion of other energy resources, including water, wind, oil, natural gas, coal, solar, geothermal, and nuclear. Of the electricity that was generated within the State in 2024, 40% was generated by natural gas-fired power plants, 23.4% by solar, 13.5% by hydroelectric, 8.5% by nuclear power plants, 7.3% by wind, 4.8% by geothermal, 2.2% by biomass, and a remaining 0.3% by other sources.[6]

For the El Dorado County area, PG&E is the primary supplier of electricity to businesses and residents of the area. PG&E's 70,000-square-mile service area covers central and Northern California. In 2024, approximately 23% of PG&E's electricity provided to its customers came from renewable sources and about 98% came from greenhouse gas (GHG)-free resources.[7]

Transportation Fuels Supply

Most petroleum fuel refined in California is for use in on-road motor vehicles and is refined within California to meet state-specific formulations required by the California Air Resources Board (CARB). The major categories of petroleum fuels are gasoline and diesel for passenger vehicles, transit, and rail vehicles and fuel oil for industry and emergency electrical power generation. Other liquid fuels include kerosene, jet fuel, and residual fuel oil for marine vessels.

---

1 U.S. Energy Information Administration (EIA). 2025. California State Profile and Energy Estimates: Profile Overview. June 20. Available at: http://www.eia.gov/state/?sid=CA. Accessed: October 2025.

2 Ibid.

3 Ibid.

4 Ibid.

5 Ibid.

6 California Energy Commission. 2024. 2024 Total System Electric Generation in Gigawatt Hours. Available at: https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2024-total-system-electric-generation. Accessed: October 2025.

7 Pacific Gas and Electric (PG&E). 2025. 2025 Corporate Sustainability Report: Executive Summary. Available at: https://www.pgecorp.com/assets/pgecorp/csr/csr_2025/assets/PGE-CSR-2025-Executive-Summary.pdf. Accessed: October 2025.

California's oil fields make it the eight-largest petroleum-producing state in the United States, after Texas, New Mexico, North Dakota, Colorado, Alaska, Oklahoma, and Wyoming.[8] Crude oil is transported within California through a network of pipelines that carry it from both onshore and offshore oil wells to the refineries that are located in the San Francisco Bay Area, the Los Angeles area, and the Central Valley. Currently, 13 petroleum refineries operate in California, processing approximately 1.6 million barrels per day of crude oil.[9]

Other transportation fuel sources are alternative fuels, such as methanol and denatured ethanol (alcohol mixtures that contain no less than 70% alcohol), natural gas (compressed or liquefied), liquefied petroleum gas, hydrogen, and fuels derived from biological materials (i.e., biomass).

2.2 Energy Consumption

Electricity Consumption

Californians consumed 282,783 gigawatt hours (GWh) of electricity in 2024.[10,11] Of this total, El Dorado County consumed 1,339 GWh.[12]

Transportation Sector Fuels Consumption

The transportation sector is a major end use of energy in California, accounting for approximately 44.5% of total state-wide energy consumption in 2023, the most recent year for which data is available.[13] In addition, there is energy consumption associated with construction and maintenance of transportation infrastructure, such as streets, highways, freeways, rail lines, and airport runways.

[8] U.S. EIA. 2025. Rankings: Crude Oil Projection, May 2025 (thousand barrels per day). Available at: https://www.eia.gov/state/rankings/?sid=CA#series/46. Accessed: October 2025.

[9] U.S. EIA. 2024. Petroleum & Other Liquids. Number and Capacity of Petroleum Refineries. June 20. Available at: https://www.eia.gov/dnav/pet/PET_PNP_CAP1_DCU_SCA_A.htm. Accessed: October 2025.

[10] A watt hour is a unit of energy equivalent to one watt of power expended for one hour. For example, a typical light bulb is 60 watts, meaning that if it is left on for one hour, 60-watt hours have been used. One kilowatt equals 1,000 watts. The consumption of electrical energy by homes and businesses is usually measured in kilowatt hours (kWh). Some large businesses and institutions also use megawatt hours (MWh), where one MWh equals 1,000 kWh. One gigawatt equals one thousand (1,000) megawatts, or one million (1,000,000) kilowatts. The energy output of large power plants over long periods of time, or the energy consumption of jurisdictions, can be expressed in GWh.

[11] Electricity data for El Dorado County and the State of California in 2024 are obtained from the California Energy Commission, Energy Consumption Data Files. Available at: https://www.energy.ca.gov/files/energy-consumption-data-files. Accessed: October 2025.

[12] Ibid.

[13] U.S. Energy Information Administration. 2025. California State Profile and Energy Estimates: California Energy Consumption by End-Use Sector, 2023. Available at: http://www.eia.gov/state/?sid=CA#tabs-2. Accessed: October 2025.

3. SIGNIFICANCE THRESHOLDS

The analysis provided in this report evaluates whether the Project's energy impacts would be potentially significant. The significance of the Project's energy is assessed relative to the following questions from Section VI, Energy, of Appendix G of the California Environmental Quality Act (CEQA) Guidelines as stated below.

Threshold 1. Would the Project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?

Threshold 2. Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

While no quantitative thresholds related to energy are included in the CEQA Guidelines, Part I of Appendix F of the CEQA Guidelines states as follows:

> "The goal of conserving energy implies the wise and efficient use of energy. The means of achieving this goal include:
>
> 1. decreasing overall per capita energy consumption;
> 2. decreasing reliance on fossil fuels such as coal, natural gas and oil; and
> 3. increasing reliance on renewable energy resources."

Appendix F of the CEQA Guidelines states that an Environmental Impact Report should include a discussion of the potential energy impacts of a project, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy.

For purposes of this analysis, impacts to energy resources will be considered to be significant if the project would result in the wasteful, inefficient or unnecessary consumption of fuel or energy, and conversely if the project would not incorporate renewable energy or energy efficiency measures into building design, equipment use, transportation or other project features.

To determine whether a project would result in the wasteful, inefficient or unnecessary consumption of fuel or energy, and conversely whether the project would fail to incorporate renewable energy or energy efficiency measures into building design, equipment use, transportation or other project features, Appendix F of the CEQA Guidelines identifies six categories of potential energy-related environmental impacts:

1. The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance and/or removal. If appropriate the energy intensiveness of materials may be discussed.
2. The effects of the project on local and regional energy supplies and on requirements for additional capacity.
3. The effects of the project on peak and base period demands for electricity and other forms of energy.
4. The degree to which the project complies with existing energy standards.
5. The effects of the project on energy resources.

6. The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

This report, relative to Threshold 1, assesses the Project's electricity, natural gas, and fossil fuel consumption during construction and operation by way of the six questions above. This report, relative to Threshold 2, evaluates whether the Project would conflict with applicable plans related to renewable energy and energy efficiency (see **Appendix A**, Project Evaluation Against State and Local Plans).

4. METHODOLOGY FOR DEVELOPMENT OF ENERGY PROJECTIONS

This section describes the methodology that Ramboll used to estimate energy consumption associated with the proposed Project, which includes one-time demand from construction and annual operational demand. This section also summarizes the proposed Project's energy consumption based on compliance with applicable regulatory requirements.

Additional information regarding methodology can be found in the Greenhouse Gas Technical Report for the proposed Project;[14] only the methodology specific to energy usage is discussed in this report. California Emissions Estimator Model (CalEEMod) outputs can be found in the appendices of the GHG Technical Report for the proposed Project.

4.1 Construction Equipment & Activities

Project construction is planned to begin in July 2026 and would continue for 11 months.[15] Note, two scenarios are considered for the construction of the proposed Project that have different material movement amounts in the grading phase. Scenario 1 assumes that the excavated material from portions of the Project site will be used as fill during grading. Scenario 2 conservatively assumes that all the excavated material will be exported offsite and soil will be imported for fill during grading.

Construction of the proposed Project requires the use of transportation fuel, including gasoline, and diesel use in construction equipment, material transport and delivery via vendor/hauling trucks, and construction worker vehicles. Fuel consumed by off-road construction equipment would be the primary energy resource expended over the course of construction, while vehicle miles traveled (VMT) associated with the transportation of construction materials and construction worker commutes would also result in fuel consumption. All off-road construction equipment associated with construction activities would use diesel fuel except for signal boards. Construction workers would travel to and from the Project site throughout the duration of construction; this analysis assumed that construction workers would primarily use gasoline-powered passenger vehicles.

Off-road construction equipment of various types would be used during each phase of construction.

Methodology consistent with CalEEMod was used to estimate construction equipment usage, and results are included in the appendices to the GHG Technical Report for the proposed Project. Fuel consumption from off-road construction equipment were estimated by converting the exhaust CO_2 emissions from these equipment in each construction phase to gallons of diesel fuel using United States Environmental Protection Agency's (USEPA's) CO_2 emission factor for diesel engines.[16] While the Project has committed to a construction mitigation measure to mitigate the significant impact of the maximum estimated cancer

[14] Ramboll. 2025. EDH Costco Project Greenhouse Gas Technical Report.

[15] Refer to Section 4.2 of the Greenhouse Gas Technical Report for further details on the construction schedule and activity.

[16] USEPA. 2025. GHG Emission Factors Hub. Available at: https://www.epa.gov/system/files/documents/2025-01/ghg-emission-factors-hub-2025.pdf. Accessed: October 2025.

risk,[17] this mitigation measure does not impact greenhouse gas emissions or the fuel consumption of the construction equipment. The estimated diesel fuel usage from off-road construction equipment for construction Scenario 1 and Scenario 2 are shown in **Table 4-1** and **Table 4-2** respectively.

Fuel consumption from worker, vendor, concrete truck, and hauling trips are estimated by multiplying the trip rate by the trip length to obtain total VMT for each trip type, and then applying the average fuel consumption rate for vehicles used for each trip type to this VMT. Consistent with CalEEMod defaults, worker vehicles are assumed to include light-duty automobiles and trucks, vendor vehicles are assumed to include an equal mix of medium-heavy-duty trucks and heavy-heavy-duty trucks, and hauling vehicles are assumed to include heavy-heavy-duty trucks. Concrete trucks are assumed to be heavy-heavy duty trucks. Estimated on-road fuel usage for construction Scenario 1 and Scenario 2 are shown in **Table 4-3** and **Table 4-4** respectively.

4.2 Operational Energy Requirements

Energy requirements are evaluated for the first year of the proposed Project operations, which would be 2027. The proposed Project's energy consumption was estimated using CalEEMod default methodologies for non-mobile sources, including building energy use, which is assumed to include both natural gas and electricity consumption.

4.2.1 Electricity

Operation of the proposed Project will result in electricity demand for the warehouse, gasoline dispensing facility, parking lot, and on-site EV chargers. The annual electricity usage for each land use is presented in **Table 4-5**. The total electricity use for the Project incorporates 2019 Title 24 standards. Please note that the proposed Project would meet or exceed the Title 24 energy efficiency standards in effect at the time of building permit application, therefore it is conservative to use the 2019 Title 24 standards because newer requirements will be more stringent, leading to greater energy reductions. Additionally, the proposed Project will also meet the California Green Building Code requirements which includes a number of green building practices to reduce energy use. Additionally, the Costco Project will be powered by 100% renewable energy, as Costco has a Clean Energy Contract with PG&E. For additional details on how the electricity consumption for the proposed Project was estimated, refer to Sections 4.3.4 and 4.3.9 of the GHG Technical Report.

4.2.2 Natural Gas

Based on CalEEMod default methodologies, operation of the proposed Project will result in natural gas demand for the warehouse. The CalEEMod default annual natural gas usage for the warehouse is presented in **Table 4-6.**

4.2.3 Mobile Source Fuel Usage

Gasoline, diesel, and electricity consumption for all mobile sources associated with the proposed Project operation are shown in **Table 4-7**, **Table 4-8**, and **Table 4-9** respectively. The following mobile sources are associated with the proposed Project operation: passenger vehicle trips visiting the proposed gasoline dispensing facility and warehouse including employee vehicles, fuel delivery trucks, warehouse and tire center delivery trucks, and Transport Refrigeration Units (TRUs) that are mounted on the trailers of some warehouse

[17] Refer to Section 6 of the EDH Costco Project Air Quality Technical Report for further details on Mitigation Measure 3.2-4a: Apply Tier 4 Emission Standards to Diesel-Powered Off-Road Equipment.

delivery trucks. Refer to Section 4.3.2 of the GHG Technical Report of the proposed Project for a description of the methodology used to develop activity data for these mobile sources.[18] On-road vehicle fuel consumption for the proposed Project operation is calculated by dividing the VMT by each vehicle type with the respective average fuel efficiency of these vehicle types operating in El Dorado-Mountain County in calendar year 2027. TRU fuel consumption is calculated based on the hours of TRU operation and the average fuel consumption rate of TRU trailers operating in El Dorado County in calendar year 2027.

4.2.4 Landscape Equipment Fuel Usage

The proposed Project will result in gasoline usage from landscape equipment used on-site during Project operation. As shown in **Table 4-10**, the proposed Project's landscape equipment fuel consumption was estimated by converting the CO_2 emissions from these equipment to gallons of gasoline using USEPA's CO_2 emission factor for gasoline engines.[19]

4.2.5 Stationary Source Fuel Usage

The proposed Project includes two diesel-powered emergency generators, each rated at 250 horsepower, to support warehouse operations. Testing and maintenance of each generator is not expected to exceed 50 hours per year or 1 hour on any given day. As shown in **Table 4-11**, the proposed Project's emergency generator fuel consumption was estimated by converting the exhaust CO_2 emissions from these emergency generators to gallons of diesel using USEPA's CO_2 emission factor for diesel engines.[20]

[18] As noted in Section 4.3.2 of the GHG Technical Report, this analysis is not affected by Public Laws 119-15 and 119-16 which disapprove the Clean Air Act waivers granted by USEPA for the Advanced Clean Trucks and Advanced Clean Cars II regulations and the fuel consumption reductions associated with these regulations are not included in this analysis.

[19] USEPA. 2025. GHG Emission Factors Hub. Available at: https://www.epa.gov/system/files/documents/2025-01/ghg-emission-factors-hub-2025.pdf. Accessed: October 2025.

[20] Ibid.

5. PROJECT INVENTORY IN CONTEXT

This section discusses the assessment of the proposed Project's energy demand against the CEQA significance thresholds outlined in **Section 3**.

5.1 Threshold 1

Would the Project Result in a Potentially Significant Environmental Impact Due to Wasteful, Inefficient, or Unnecessary Consumption of Energy Resources, During Project Construction or Operation?

5.1.1 Energy Requirements and Energy Use Efficiencies

This section addresses the following category of environmental impact described in Appendix F of the CEQA Guidelines:

> *The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance and/or removal. If appropriate the energy intensiveness of materials may be discussed.*

5.1.1.1 Construction

Construction of the proposed Project would result in fuel usage as shown in **Table 5-1** and **Table 5-2**. There are no unusual project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities, or equipment that would not conform to current emissions standards (and related fuel efficiencies).

5.1.1.2 Operations

Operation of the proposed Project would result in electricity, gasoline, natural gas, and diesel fuel usage, as shown in **Table 5-3**. There are no unusual project characteristics that would require electricity, gasoline, natural gas, and diesel consumption that would be more energy intensive than is used for comparable activities, or equipment that would not conform to current emissions standards (and related fuel efficiencies).

Over the lifetime of the proposed Project, the fuel efficiency of the vehicles being used for Project operation is expected to improve. The amount of fuel consumption from vehicular trips to and from the Project site during operation would correspondingly decrease over time as vehicles become more efficient. Numerous regulations have been adopted that encourage, and require, increased fuel efficiency. For example, CARB has adopted an approach to passenger vehicles that combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of standards. The approach also includes efforts to support and accelerate the numbers of plug-in hybrids and zero-emissions vehicles in California. As such, operation of the proposed Project is expected to use decreasing amounts of fuel over time, due to advances in fuel economy.

5.1.2 Local and Regional Energy Supplies

This section addresses the following category of environmental impact described in Appendix F of the CEQA Guidelines:

> *The effects of the project on local and regional energy supplies and on requirements for additional capacity.*

5.1.2.1 Construction

The proposed Project's fuel consumption during construction is discussed in **Section 4.1**. The off-road construction equipment used during Project construction are primarily diesel-fueled (**Table 4-1** and **Table 4-2**), with the exception of signal boards that would be powered by electricity. Additionally, the fleet mix for construction mobile sources is expected to be gasoline-powered and diesel-powered, based on the CalEEMod default fleet mix for worker, vendor, and hauling vehicles (see **Table 4-3** and **Table 4-4** for additional details). Hence, the Project is not expected to use any natural gas during construction.

Countywide, the proposed Project construction in 2026 would use up to 0.02% of gasoline, 1.1% of diesel, and 0.00001% of electricity fuel. For 2027, it would use up to 0.014% of gasoline, 0.40% of diesel, and 0.000004% of electricity fuel during construction (**Table 5-1** and **Table 5-2**).

Compared to state-wide annual usage projections, the proposed Project construction would use up to 0.000078% of gasoline, 0.0037% of diesel, and 0.00000003% of electricity fuel in 2026. For 2027, it would use up to 0.000067% of gasoline, 0.0013% of diesel, and 0.00000002% of electricity fuel (**Table 5-1** and **Table 5-2**).

Therefore, fuel use during construction would be temporary and negligible. Fuel consumption was estimated using CalEEMod, which utilizes EMFAC2021 for on-road mobile source emissions, and OFFROAD2021 for off-road mobile source emissions for El Dorado County.

5.1.2.2 Operations

Electricity

The Project's electricity demand during operation is discussed in **Section 4.2.1** and **Section 4.2.3**. For comparison, based on 2024 consumption, operation of the proposed Project would equate to 0.45% of the total electricity demand countywide and 0.00213% of the total electricity demand state-wide (**Table 5-3**). Therefore, the Project is not expected to have an impact on the local utility.

In 2024, total in-state electricity consumption was 282,783 GWh.[21] The California Energy Commission (CEC) estimates that state-wide energy demand will increase to 395,870 GWh in 2040.[22] The proposed Project's anticipated electricity usage of 6,026,405 kilowatt hours (kWh)/year is 0.00213% of the state-wide demand in 2024.[23] Given that the State is growing annually, the anticipated state-wide energy demand for the proposed Project's

[21] Electricity data for the El Dorado County and the State of California in 2024 are obtained from the California Energy Commission, Energy Consumption Data Files. Available at: https://www.energy.ca.gov/files/energy-consumption-data-files. Accessed: October 2025.

[22] California Energy Commission. 2024. CEDU 2024 Baseline Forecast – Total State. Available at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=260931. Accessed: October 2025.

[23] Electricity data for the El Dorado County and the State of California in 2024 are obtained from the California Energy Commission, Energy Consumption Data Files. Available at: https://www.energy.ca.gov/files/energy-consumption-data-files. Accessed: October 2025.

operational buildout year of 2027 will likely be greater than that in 2022, and thus the proposed Project's relative percentage contribution to the state-wide energy demand would be even less.

The proposed Project's electricity use projections also represent a small percentage of regional estimates for PG&E. The CEC estimates that PG&E energy demand will increase to about 117,758 GWh in 2027.[24] The proposed Project's anticipated electricity usage of 6,026,405 kWh/year is approximately 0.005% of the projected PG&E planning area demand in 2027.

Overall, the proposed Project's projected electricity demand is consistent with, and a small percentage of, State and regional projections. Therefore, the Project will not require additional generation capacity beyond the general state-wide expansion.

Natural Gas Usage

As described in **Section 4.2.2**, the only natural gas consumption during Project operation is from the warehouse operation, which is approximately 1,423,224 kilo-British thermal units per year. For comparison, based on 2024 consumption, operation of the proposed Project would equate to 0.045% of the total natural gas consumption countywide and 0.00013% of the total natural gas consumption state-wide (**Table 5-3**).[25]

Gasoline Usage

The proposed Project's gasoline usage during operation is discussed in **Section 4.2.3** and **Section 4.2.4**. The proposed Project is expected to result in approximately 285,366 gallons of gasoline consumption per year, which is 0.44% of the countywide consumption and 0.0021% of the state-wide consumption in 2027 (**Table 5-3**).

Diesel Usage

The proposed Project's diesel usage during operation is discussed in **Section 4.2.3** and **Section 4.2.5**. Project operational diesel consumption is approximately 169,371 gallons/year, which is 1.19% of the total diesel that would be used countywide and 0.0039% of the total diesel that would be use state-wide in 2027 (**Table 5-3**).

5.1.2.3 Summary

The proposed Project will not have a substantial impact on the local or regional energy supplies or require additional capacity to be constructed. Hence, the proposed Project's energy impacts on energy supplies and capacity are less than significant.

5.1.3 Peak and Base Period Demands

This section addresses the following category of environmental impact described in Appendix F of the CEQA Guidelines:

> *The effects of the project on peak and base period demands for electricity and other forms of energy.*

[24] California Energy Commission. 2024. CEDU 2024 Baseline Forecast - PGE. Available at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=260927. Accessed: October 2025.

[25] Electricity data for the El Dorado County and the State of California in 2024 are obtained from the California Energy Commission, Energy Consumption Data Files. Available at: https://www.energy.ca.gov/files/energy-consumption-data-files. Accessed: October 2025.

5.1.3.1 Construction

The Project does not include any electric-powered equipment, hence, there is no electricity use during project construction.

5.1.3.2 Operation

The proposed Project operation will not have a substantial impact on the peak and base period demands for electricity or other forms of energy. The proposed Project's base energy consumption compared to regional and state-wide energy consumption is discussed above in **Section 5.1.2**. Further details and reasoning on the peak demand are described below.

In 2023, California's peak grid demand was 48,323 megawatts (MW).[26] PG&E recorded a peak demand of 19,995 MW in 2023.[27] In comparison, the Project's maximum demand is expected to be approximately 1.5 MW in 2027.[28] Thus, the proposed Project will have a relatively negligible effect on state-wide and PG&E peak demands.

5.1.3.3 Summary

As described above, the Project will not have a substantial impact on peak and base period demands for electricity and other forms of energy. Hence, the proposed Project's impacts are less than significant.

5.1.4 Existing Energy Standards

This section addresses the following category of environmental impact described in Appendix F of the CEQA Guidelines:

The degree to which the project complies with existing energy standards.

5.1.4.1 Construction

Project construction requires use of on-road trucks for soil hauling and deliveries, and off-road equipment such as excavators, tractors/loaders/backhoes, forklifts, and graders. The construction activities would comply with the five-minute idling limit in the Commercial Motor Vehicle Idling Regulation[29] and the Off-Road Regulation.[30] Additionally, on-road trucks used during Project construction would be compliant with the requirements of the Tractor-Trailer Greenhouse Gas Regulation.[31]

---

[26] California ISO. California ISO Peak Load History 1998 through 2024. Available at: https://www.caiso.com/documents/californiaisopeakloadhistory.pdf. Accessed: October 2025.

[27] California Energy Commission. 2023. Electricity and Gas Demand Forecast. Available at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=253660&DocumentContentId=88907. Accessed: October 2025.

[28] This is a conservative estimate since it was derived by dividing the total electricity energy required for Project operation by the annual operating hours for the proposed Costco warehouse, though some sources of electricity would operate 24 hours per day for every day of the year.

[29] 13 CCR 2485: Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. Available at: https://www.law.cornell.edu/regulations/california/13-CCR-2485. Accessed: October 2025.

[30] CARB. Frequently Asked Questions: Regulation for In-Use Off-Road Diesel-Fueled Fleets. Available at: https://ww2.arb.ca.gov/sites/default/files/classic/msprog/ordiesel/faq/idlepolicyfaq.pdf. Accessed: October 2025.

[31] CARB. Tractor-Trailer Greenhouse Gas Regulation. Available at: https://ww2.arb.ca.gov/our-work/programs/ttghg-regulation/regulatory-and-guidance-documents. Accessed: October 2025.

5.1.4.2 Operation

The proposed Project's anticipated operational energy use is discussed in **Section 4.2**. There are no unusual project characteristics that would require the use of gasoline, diesel, natural gas, or electricity that would be more energy intensive than is used for comparable activities, equipment, or vehicles that would not conform to current emissions standards (and related fuel efficiencies). Additionally, the proposed Project would meet or exceed the Title 24 energy efficiency standards in effect at the time of building permit application. The proposed Project will include pre-manufactured metal wall panels with insulation which carry a higher R-Value and greater solar reflectivity to help conserve energy as compared to other materials. Building heat absorption is further reduced by a decrease in the thermal mass of the metal wall when compared to a typical masonry block wall. These features align with the El Dorado County General Plan Policy 5.6.2.2. The proposed Project will also incorporate energy conserving landscaping plans, in accordance with the El Dorado County General Plan Policy 5.6.2.1. This includes an irrigation system that uses drip rings to efficiently water the rootball while minimizing water usage and ensuring that water goes directly to the intended planting areas. A substantial amount of the proposed plant material are climate adapted to the region and would use less water than other common landscaping species. Furthermore, the proposed Project will be located in a central location and will serve local customers efficiently, which would result in less transportation energy consumption compared to warehouse locations further away from the populations they serve. Any passenger vehicles and trucks trips generated by the proposed Project would comply with existing and new state-wide vehicle efficiency regulations, such as the Advanced Clean Cars II regulation, discussed further in **Section 5.1.6**. Furthermore, the proposed delivery trucks accessing the site would comply with the State's Commercial Motor Vehicle Idling Regulation, similar to the construction vehicles discussed above. Additional detail on the proposed Project's compliance with existing State and local energy standards and policies is provided in **Appendix A**.

5.1.4.3 Summary

As described above, the proposed Project will comply with all applicable energy standards and its impacts are less than significant.

5.1.5 Energy Resources

This section addresses the following category of environmental impact described in Appendix F of the CEQA Guidelines:

> *The effects of the project on energy resources.*

The proposed Project's energy use is discussed in **Section 4** above, including electricity, gasoline, natural gas, and diesel consumption associated with on-site equipment, mobile operations, and construction activities. The proposed Project's use of energy will not have a substantial effect on state-wide or regional energy resources. Total operational energy use requirements for the proposed Project are summarized in **Table 5-3**. Programs and measures relevant to energy resources are discussed in detail above.

The proposed Project will not significantly impact energy resources and its impacts are less than significant.

5.1.6 Transportation Energy Use

This section addresses the following category of environmental impact described in Appendix F of the CEQA Guidelines:

> *The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.*

Conventional gasoline and diesel vehicles consume gasoline or diesel fuel, whereas EVs consume electricity that can be sourced by fossil fuels or renewables. EVs, including battery-electric vehicles and plug-in hybrid electric vehicles, comprise a growing fraction of the passenger vehicles on the roads in California. EV adoption is expected to increase over the upcoming decades due in part to improvements in battery technology and public initiatives and goals. This increase in EV adoption will decrease the fuel requirements due to transportation.

Gasoline and diesel fuel usage for the Project is expected to decrease over time as fleets become more fuel-efficient and switch to more electric-powered vehicles.

5.1.7 Summary

Based on the above analysis of each of the environmental impact factors identified in CEQA Guidelines Appendix F, the potential for the proposed Project to result in wasteful, inefficient, or unnecessary consumption of fuel or energy, and conversely to fail to incorporate energy efficiency measures into equipment use, transportation or other project features is less than significant.

5.2 Threshold 2

Would the Project Conflict with or Obstruct a State or Local Plan for Renewable Energy or Energy Efficiency?

The proposed Project would comply with any applicable local and State plans, regulations, and policies for renewable energy or energy efficiency to the extent required by law. The proposed Project will also meet the 2025 California Green Building Standards Code Voluntary Tier 1 EV charging requirements[32] by installing ten DC fast chargers that provide a total power of 1,800 kilowatts. Additionally, these chargers will be powered by 100% renewable electrical power supplied by PG&E, as Costco has a Clean Energy Contract with PG&E. Specifically, the proposed Project would not conflict with the goals set forth in the energy efficiency objectives in the El Dorado County General Plan (**Section 2.2.3.1**).[33] The Project's evaluation with the plan is provided in **Table A-1** of **Appendix A** and discussed in **Section 5.1.4.2**. Additionally, the Project would not conflict with State regulations and policies as shown in the evaluation presented in **Table A-2** in **Appendix A**. As such, Project impacts are less than significant.

[32] 2025 California Green Building Standards Code, Title 24, Part 11. Available online at: https://codes.iccsafe.org/content/CAGBC2025P1. Accessed: October 2025.

[33] County of El Dorado. 2004. General Plan. Available at: https://www.eldoradocounty.ca.gov/Land-Use/Planning-and-Building/Planning-Division/Adopted-General-Plan. Accessed: October 2025.

TABLES

Table 4-1. Off-Road Equipment Fuel Consumption During Construction Scenario 1
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name	CO_2 Emissions [1,2] (MT/yr)	Diesel Consumption [3] (gallons/yr)
Site Improvements - Linear, Grubbing & Land Clearing (2026)	7.5	730
Scenario 1 - Site Preparation (2026)	89	8,709
Site Improvements - Linear, Grading & Excavation (2026)	30	2,948
Scenario 1 - Grading (2026)	440	43,093
Scenario 1 - Building Construction (2026)	160	15,656
Site Improvements - Linear, Drainage, Utilities, & Sub-Grade (2026)	61	5,995
Scenario 1 - Grading (2027)	81	7,914
Site Improvements - Linear, Drainage, Utilities, & Sub-Grade (2027)	45	4,410
Scenario 1 - Building Construction (2027)	149	14,590
Scenario 1 - Paving (2027)	54	5,304
Site Improvements - Linear, Paving (2027)	11	1,064
Scenario 1 - Architectural Coating (2027)	3.8	368

Constants:

10.21 kg CO_2/gallon diesel consumed in combustion engines [4]

1,000 kg CO_2/MT CO_2

Notes:

[1] Exhaust CO_2 emissions from off-road construction equipment used during Site Preparation; Grading; Building Construction; Paving; and Architectural Coating construction phases that occur during construction scenario 1 are obtained from the CalEEMod model run shown in Appendix A-1 in the EDH Costco Project Greenhouse Gas Technical Report.

[2] Exhaust CO_2 emissions from off-road construction equipment used during Linear, Grubbing & Land Clearing; Linear, Grading & Excavation; Linear, Drainage, Utilities, & Sub-Grade; and Linear, Paving construction phases that occur during the site access and roadway improvement (site improvements) construction are obtained from the CalEEMod model run Appendix A-4 in the EDH Costco Project Greenhouse Gas Technical Report.

[3] Diesel consumption of off-road construction equipment during each construction phase is estimated as a ratio of the CO_2 emissions from these equipment to the CO_2 emission factor per gallon of diesel consumed.

[4] Obtained from the USEPA GHG Emission Factors Hub. Available at: https://www.epa.gov/system/files/documents/2025-01/ghg-emission-factors-hub-2025.pdf. Accessed: October 2025.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

CO_2 - carbon dioxide

GHG - greenhouse gas

kg - kilograms

MT - metric ton

USEPA - United States Environmental Protection Agency

yr - year

Table 4-2. Off-Road Equipment Fuel Consumption During Construction Scenario 2
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name	CO_2 Emissions [1,2] (MT/yr)	Diesel Consumption [3] (gallons/yr)
Site Improvements - Linear, Grubbing & Land Clearing (2026)	7.5	730
Scenario 2 - Site Preparation (2026)	89	8,709
Site Improvements - Linear, Grading & Excavation (2026)	30	2,948
Scenario 2 - Grading (2026)	440	43,093
Scenario 2 - Building Construction (2026)	160	15,656
Site Improvements - Linear, Drainage, Utilities, & Sub-Grade (2026)	61	5,995
Scenario 2 - Grading (2027)	81	7,914
Site Improvements - Linear, Drainage, Utilities, & Sub-Grade (2027)	45	4,410
Scenario 2 - Building Construction (2027)	149	14,590
Scenario 2 - Paving (2027)	54	5,304
Site Improvements - Linear, Paving (2027)	11	1,064
Scenario 2 - Architectural Coating (2027)	3.8	368

Constants:

10.21 kg CO_2/gallon diesel consumed in combustion engines [4]

1,000 kg CO_2/MT CO_2

Notes:

[1] Exhaust CO_2 emissions from off-road construction equipment used during Site Preparation; Grading; Building Construction; Paving; and Architectural Coating construction phases that occur during construction scenario 2 are obtained from the CalEEMod model run shown in Appendix A-2 in the EDH Costco Project Greenhouse Gas Technical Report.

[2] Exhaust CO_2 emissions from off-road construction equipment used during Linear, Grubbing & Land Clearing; Linear, Grading & Excavation; Linear, Drainage, Utilities, & Sub-Grade; and Linear, Paving construction phases that occur during the site access and roadway improvement (site improvements) construction are obtained from the CalEEMod model run Appendix A-4 in the EDH Costco Project Greenhouse Gas Technical Report.

[3] Diesel consumption of off-road construction equipment during each construction phase is estimated as a ratio of the CO_2 emissions from these equipment to the CO_2 emission factor per gallon of diesel consumed.

[4] Obtained from the USEPA GHG Emission Factors Hub. Available at: https://www.epa.gov/system/files/documents/2025-01/ghg-emission-factors-hub-2025.pdf. Accessed: October 2025.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

CO_2 - carbon dioxide

GHG - greenhouse gas

kg - kilograms

MT - metric ton

USEPA - United States Environmental Protection Agency

yr - year

Table 4-3. On-Road Vehicle Fuel Consumption During Construction Scenario 1
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name [1]	Phase Duration [1] (days)	Worker Trip Rates [2] (one-way trips/day)	Vendor Trip Rates [2] (one-way trips/day)	Hauling Trip Number [2] (one-way trips/day)	Concrete Truck Trips [2] (one-way trips/day)	Worker Trip Length [3] (miles/one-way trip)	Vendor Trip Length [3] (miles/one-way trip)	Hauling Trip Length [3] (miles/one-way trip)	Concrete Truck Trip Length [3] (miles/one-way trip)	Worker Vehicle Miles Traveled [4] (miles)	Vendor Vehicle Miles Traveled [4] (miles)	Hauling Vehicle Miles Traveled [4] (miles)	Concrete Truck Miles Traveled [4] (miles)	Worker Gasoline Fuel Consumption [5] (gallons)	Vendor Diesel Fuel Consumption [5] (gallons)	Hauling Diesel Fuel Consumption [5] (gallons)	Concrete Truck Diesel Fuel Consumption [5] (gallons)
Site Improvements - Linear, Grubbing & Land Clearing (2026)	26	10.0	-	12.3	-	14.3	-	20.0	-	3,718	-	6,420	-	143	-	1,295	-
Scenario 1 - Site Preparation (2026)	37	17.5	-	-	-	14.3	-	-	-	9,259	-	-	-	356	-	-	-
Site Improvements - Linear, Grading & Excavation (2026)	105	10.0	1.00	0.09	-	14.3	8.80	20.0	-	15,015	924	180	-	577	188	36	-
Scenario 1 - Grading (2026)	147	20.0	-	38.8	-	14.3	-	20.0	-	42,042	-	114,052	-	1,617	-	23,009	-
Scenario 1 - Building Construction (2026)	147	95.5	43.8	-	-	14.3	8.80	-	-	200,799	56,665	-	-	7,721	11,547	-	-
Scenario 1 - Concrete Truck Activity during Building Construction (2026)	8	-	-	-	104	-	-	-	8.80	-	-	-	7,322	-	-	-	1,477
Site Improvements - Linear, Drainage, Utilities, & Sub-Grade (2026)	53	15.0	-	-	-	14.3	-	-	-	11,369	-	-	-	437	-	-	-
Scenario 1 - Grading (2027)	27	20.0	-	38.8	-	14.3	-	20.0	-	7,722	-	20,948	-	292	-	4,186	-
Site Improvements - Linear, Drainage, Utilities, & Sub-Grade (2027)	39	15.0	-	-	-	14.3	-	-	-	8,366	-	-	-	316	-	-	-
Scenario 1 - Building Construction (2027)	137	95.5	43.8	-	-	14.3	8.80	-	-	187,139	52,810	-	-	7,074	10,661	-	-
Scenario 1 - Paving (2027)	79	15.0	-	-	-	14.3	-	-	-	16,946	-	-	-	641	-	-	-
Site Improvements - Linear, Paving (2027)	39	7.5	-	-	-	14.3	-	-	-	4,183	-	-	-	158	-	-	-
Scenario 1 - Architectural Coating (2027)	62	19.1	-	-	-	14.3	-	-	-	16,938	-	-	-	640	-	-	-

Notes:

[1] Construction phases and duration are based on Project-specific information. Refer to Section 4.2 in the EDH Costco Project Greenhouse Gas Technical Report for further details.

[2] The number of worker and vendor trips represent CalEEMod defaults based on the construction equipment used in each construction phase. The number of hauling trips were estimated by CalEEMod based on volume of soil that would be imported/exported during construction and the amount of demolition debris generated. The number of concrete truck trips are based on Project-specific information. Refer to Section 4.2.2 of the EDH Costco Project Greenhouse Gas Technical Report for further details.

[3] The trip lengths for on-road vehicles used during construction are CalEEMod default values.

[4] Estimated based on trip rates, trip length, and phase duration.

[5] Fuel consumption of on-road vehicles used during each construction phase are estimated as a product of the vehicle miles traveled by each vehicle type and its fuel consumption rate in gallons per mile.

[6] Fuel consumption rates for on-road vehicles are calculated using vehicle class-specific fuel consumption data from EMFAC2021 (see the supporting table below, which presents EMFAC2021 outputs for 2026 and 2027 in El Dorado-Mountain County), the fleet mix for each trip type (worker, vendor, and hauling), and vehicle miles traveled. The fleet mix for the worker, vendor, and hauling trucks are based on CalEEMod defaults. Worker vehicles are assumed to be gasoline fueled and include light duty automobiles and trucks (25% LDA, 50% LDT1, 25% LDT2). Vendor vehicles are assumed to be diesel fueled and include heavy heavy-duty trucks and medium heavy duty trucks (50% HHDT and 50% MHDT), except for concrete trucks which are all heavy heavy duty-trucks (100% HHDT). Hauling vehicles are assumed to be diesel fueled and include heavy heavy-duty trucks (100% HHDT).

Abbreviations:

CalEEMod - California Emissions Estimator Model
EDH - El Dorado Hills
EMFAC - EMission FACtors model
HHDT - heavy heavy-duty trucks
LDA - light-duty automobile
LDT - light-duty truck
MHDT - medium heavy-duty trucks

Fuel Consumption Rates by Vehicle Type [6]:

Worker Vehicles in 2026:	0.0385 gallons/mile
Worker Vehicles in 2027:	0.0378 gallons/mile
Vendor Vehicles in 2026:	0.2038 gallons/mile
Vendor Vehicles in 2027:	0.2019 gallons/mile
Haul Trucks in 2026:	0.2017 gallons/mile
Haul Trucks in 2027:	0.1998 gallons/mile
Concrete Trucks in 2026:	0.2017 gallons/mile

Table 4-3. On-Road Vehicle Fuel Consumption During Construction Scenario 1
El Dorado Hills Costco Project
El Dorado Hills, California

Supporting Table of EMFAC Outputs

Calendar Year	EMFAC Vehicle Class	Fuel Type	EMFAC VMT Output (miles)	EMFAC Fuel Use Output (gallons)	Average Fuel Consumption (gallons/mile)
2026	LDA	Gasoline	1,606,685	52,091	0.0324
2026	LDT1	Gasoline	188,850	7,618	0.0403
2026	LDT2	Gasoline	1,143,939	46,571	0.0407
2026	MHDT	Gasoline	5,758	1,185	0.2058
2026	HHDT	Diesel	28,781	5,806	0.2017
2027	LDA	Gasoline	1,619,691	51,441	0.0318
2027	LDT1	Gasoline	181,944	7,232	0.0397
2027	LDT2	Gasoline	1,158,122	46,256	0.0399
2027	MHDT	Gasoline	5,957	1,215	0.2039
2027	HHDT	Diesel	28,804	5,755	0.1998

Abbreviations:
EMFAC - EMission FACtors model
HHDT - heavy heavy-duty trucks
LDA - light-duty automobile
LDT - light-duty truck
MHDT - medium heavy-duty trucks
VMT - vehicle miles traveled

Table 4-4. On-Road Vehicle Fuel Consumption During Construction Scenario 2
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name [1]	Phase Duration [1] (days)	Worker Trip Rates [2] (one-way trips/day)	Vendor Trip Rates [2] (one-way trips/day)	Hauling Trip Number [2] (one-way trips/day)	Concrete Truck Trips [2] (one-way trips/day)	Worker Trip Length [3] (miles/one-way trip)	Vendor Trip Length [3] (miles/one-way trip)	Hauling Trip Length [3] (miles/one-way trip)	Concrete Truck Trip Length [3] (miles/one-way trip)	Worker Vehicle Miles Traveled [4] (miles)	Vendor Vehicle Miles Traveled [4] (miles)	Hauling Vehicle Miles Traveled [4] (miles)	Concrete Truck Miles Traveled [4] (miles)	Worker Gasoline Fuel Consumption [5] (gallons)	Vendor Diesel Fuel Consumption [5] (gallons)	Hauling Diesel Fuel Consumption [5] (gallons)	Concrete Truck Diesel Fuel Consumption [5] (gallons)
Site Improvements - Linear, Grubbing & Land Clearing (2026)	26	10.0	-	12.3	-	14.3	-	20.0	-	3,718	-	6,420	-	143	-	1,295	-
Scenario 2 - Site Preparation (2026)	37	17.5	-	-	-	14.3	-	-	-	9,259	-	-	-	356	-	-	-
Site Improvements - Linear, Grading & Excavation (2026)	105	10.0	1.00	0.09	-	14.3	8.80	20.0	-	15,015	924	180	-	577	188	36	-
Scenario 2 - Grading (2026)	147	20.0	-	115	-	14.3	-	20.0	-	42,042	-	337,931	-	1,617	-	68,175	-
Scenario 2 - Building Construction (2026)	147	95.5	43.8	-	-	14.3	8.80	-	-	200,799	56,665	-	-	7,721	11,547	-	-
Scenario 2 - Concrete Truck Activity during Building Construction (2026)	8	-	-	-	104	-	-	-	8.80	-	-	-	7,322	-	-	-	1,477
Site Improvements - Linear, Drainage, Utilities, & Sub-Grade (2026)	53	15.0	-	-	-	14.3	-	-	-	11,369	-	-	-	437	-	-	-
Scenario 2 - Grading (2027)	27	20.0	-	115	-	14.3	-	20.0	-	7,722	-	62,069	-	292	-	12,402	-
Site Improvements - Linear, Drainage, Utilities, & Sub-Grade (2027)	39	15.0	-	-	-	14.3	-	-	-	8,366	-	-	-	316	-	-	-
Scenario 2 - Building Construction (2027)	137	95.5	43.8	-	-	14.3	8.80	-	-	187,139	52,810	-	-	7,074	10,661	-	-
Scenario 2 - Paving (2027)	79	15.0	-	-	-	14.3	-	-	-	16,946	-	-	-	641	-	-	-
Site Improvements - Linear, Paving (2027)	39	7.5	-	-	-	14.3	-	-	-	4,183	-	-	-	158	-	-	-
Scenario 2 - Architectural Coating (2027)	62	19.1	-	-	-	14.3	-	-	-	16,938	-	-	-	640	-	-	-

Notes:

[1] Construction phases and duration are based on Project-specific information. Refer to Section 4.2 in the EDH Costco Project Greenhouse Gas Technical Report for further details.

[2] The number of worker and vendor trips represent CalEEMod defaults based on the construction equipment used in each construction phase. The number of hauling trips were estimated by CalEEMod based on volume of soil that would be imported/exported during construction and the amount of demolition debris generated. The number of concrete truck trips are based on Project-specific information. Refer to Section 4.2.2 of the EDH Costco Project Greenhouse Gas Technical Report for further details.

[3] The trip lengths for on-road vehicles used during construction are CalEEMod default values.

[4] Estimated based on trip rates, trip length, and phase duration.

[5] Fuel consumption of on-road vehicles used during each construction phase are estimated as a product of the vehicle miles traveled by each vehicle type and its fuel consumption rate in gallons per mile.

[6] Fuel consumption rates for on-road vehicles are calculated using vehicle class-specific fuel consumption data from EMFAC2021 (see the supporting table below, which presents EMFAC2021 outputs for 2026 and 2027 in El Dorado-Mountain County), the fleet mix for each trip type (worker, vendor, and hauling), and vehicle miles traveled. The fleet mix for the worker, vendor, and hauling trucks are based on CalEEMod defaults. Worker vehicles are assumed to be gasoline fueled and include light duty automobiles and trucks (25% LDA, 50% LDT1, 25% LDT2). Vendor vehicles are assumed to be diesel fueled and include heavy heavy-duty trucks and medium heavy duty trucks (50% HHDT and 50% MHDT), except for concrete trucks which are all heavy heavy duty-trucks (100% HHDT). Hauling vehicles are assumed to be diesel fueled and include heavy heavy-duty trucks (100% HHDT).

Abbreviations:

CalEEMod - California Emissions Estimator Model
EDH - El Dorado Hills
EMFAC - EMission FACtors model
HHDT - heavy heavy-duty trucks
LDA - light-duty automobile
LDT - light-duty truck
MHDT - medium heavy-duty trucks

Fuel Consumption Rates by Vehicle Type [6]:

Worker Vehicles in 2026:	0.0385 gallons/mile
Worker Vehicles in 2027:	0.0378 gallons/mile
Vendor Vehicles in 2026:	0.2038 gallons/mile
Vendor Vehicles in 2027:	0.2019 gallons/mile
Haul Trucks in 2026:	0.2017 gallons/mile
Haul Trucks in 2027:	0.1998 gallons/mile
Concrete Trucks in 2026:	0.2017 gallons/mile

Table 4-4. On-Road Vehicle Fuel Consumption During Construction Scenario 2
El Dorado Hills Costco Project
El Dorado Hills, California

Supporting Table of EMFAC Outputs

Calendar Year	EMFAC Vehicle Class	Fuel Type	EMFAC VMT Output (miles)	EMFAC Fuel Use Output (gallons)	Average Fuel Consumption (gallons/mile)
2026	LDA	Gasoline	1,606,685	52,091	0.0324
2026	LDT1	Gasoline	188,850	7,618	0.0403
2026	LDT2	Gasoline	1,143,939	46,571	0.0407
2026	MHDT	Gasoline	5,758	1,185	0.2058
2026	HHDT	Diesel	28,781	5,806	0.2017
2027	LDA	Gasoline	1,619,691	51,441	0.0318
2027	LDT1	Gasoline	181,944	7,232	0.0397
2027	LDT2	Gasoline	1,158,122	46,256	0.0399
2027	MHDT	Gasoline	5,957	1,215	0.2039
2027	HHDT	Diesel	28,804	5,755	0.1998

Abbreviations:
EMFAC - EMission FACtors model
HHDT - heavy heavy-duty trucks
LDA - light-duty automobile
LDT - light-duty truck
MHDT - medium heavy-duty trucks
VMT - vehicle miles traveled

Table 4-5. Operational Electricity Consumption
El Dorado Hills Costco Project
El Dorado Hills, California

Project Land Use	Project Electricity Demand (kWh/yr)
Discount Club [1]	1,437,492
Gasoline/Service Station [1]	48,732
Enclosed Parking with Elevator [1]	369,143
Parking Lot [1]	327,400
On-Site EV Chargers [2]	3,705,480
Total	**5,888,248**

Notes:

[1] Obtained from CalEEMod output for the proposed Project operation shown in Appendix B-1 of the EDH Costco Project Greenhouse Gas Technical Report. Refer to Section 4.3.4 of the EDH Costco Project Greenhouse Gas Technical Report for further details.

[2] Obtained from Table 4-16 of the EDH Costco Project Greenhouse Gas Technical Report.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

EDH - El Dorado Hills

kWh - kilowatt hour

yr - year

Table 4-6. Operational Natural Gas Consumption
El Dorado Hills Costco Project
El Dorado Hills, California

Project Land Use	Project Natural Gas Demand [1] (kBTU/yr)
Discount Club	1,423,224
Gasoline/Service Station	0
Enclosed Parking with Elevator	0
Parking Lot	0
Total	**1,423,224**

Notes:

[1] Obtained from CalEEMod output for the proposed Project operation shown in Appendix B-1 of the EDH Costco Project Greenhouse Gas Technical Report. Refer to Section 4.3.2 of the EDH Costco Project Greenhouse Gas Technical Report for further details.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

EDH - El Dorado Hills

kBTU - kilo-British thermal Unit

yr - year

Table 4-7. Operational Mobile Source Gasoline Consumption
El Dorado Hills Costco Project
El Dorado Hills, California

Mobile Source Category	Mobile Source Activity [1] (miles/yr)	Mobile Source Activity Associated with Gasoline Combustion [2] (miles/yr)	Gasoline Consumption [3] (gallons/yr)
GDF Customer Vehicles (Passenger Vehicles) - Gasoline	1,076,311	1,076,311	40,774
GDF Customer Vehicles (Passenger Vehicles) - Plug-in Hybrid [3]	26,211	11,967	427
Warehouse and Employee Vehicles (Passenger Vehicles) - Gasoline	6,368,290	6,368,290	241,248
Warehouse and Employee Vehicles (Passenger Vehicles) - Plug-in Hybrid	151,896	69,347	2,474

Constants:

Average fuel efficiency of gasoline vehicles in 2027 [4]	26 miles per gallon
Average fuel efficiency of plug-in hybrid electric vehicles in 2027 [4]	28 miles per gallon

Notes:

[1] The total miles traveled by gasoline passenger vehicles per year was obtained from Table B-1 of the EDH Costco Project Greenhouse Gas Technical Report. The value was apportioned into gasoline and plug-in-hybrid vehicle technology categories based on the Project-specific fleet mix shown in Table B-3 of the EDH Costco Project Greenhouse Gas Technical Report.

[2] The vehicle miles traveled by passenger vehicles that is associated with gasoline combustion for each vehicle technology category was estimated based on EMFAC default assumptions for gasoline and plug-in hybrid vehicles operating in El Dorado (MC) sub-area in calendar year 2027.

[3] Gasoline consumption of passenger vehicles are estimated as a ratio of the vehicle miles traveled associated with gasoline combustion for each vehicle technology category and its average fuel efficiency in miles per gallon.

[4] The average fuel efficiency for each gasoline vehicle technology category operating in for El Dorado (MC) sub-area in calendar year 2027 is obtained from EMFAC2021.

Abbreviations:

EDH - El Dorado Hills	MC - Mountain County
GDF - gasoline dispensing facility	yr - year

Table 4-8. Operational Mobile Source Diesel Consumption
El Dorado Hills Costco Project
El Dorado Hills, California

Mobile Source Category	Mobile Source Activity [1]	Diesel Consumption [2] (gallons/yr)
Transport Refrigeration Units	6,888 hours per year	4,803
Delivery Trucks	440,060 miles per year	162,002
Warehouse and Employee Passenger Vehicles - Diesel	47,306 miles per year	1,634

Constants:

TRU fuel consumption rate [3]	0.70	gallons per hour
Average fuel efficiency of diesel trucks [4]	5.00	miles per gallon
Average fuel efficiency of passenger vehicles [5]	28.95	miles per gallon

Notes:

[1] Obtained from Table B-1 of the EDH Costco Project Greenhouse Gas Technical Report.

[2] Diesel consumption for TRUs is estimated as a product of the TRU activity and its fuel consumption rate in gallons per hour. Diesel consumption for delivery trucks is estimated as a ratio of vehicle miles traveled to the average fuel efficiency of diesel trucks in miles per gallon. Diesel consumption for diesel warehouse and employee passenger vehicles is estimated as a ratio of vehicle miles traveled to the average fuel efficiency of diesel passenger vehicles in miles per gallon.

[3] Fuel consumption rate for TRUs on trailers operating in El Dorado (MC) sub-area in calendar year 2027 is obtained from OFFROAD2021.

[4] The average fuel efficiency for diesel trucks operating in El Dorado (MC) sub-area in calendar year 2027 is obtained from EMFAC2021.

[5] The average fuel efficiency for diesel passenger vehicles operating in El Dorado (MC) sub-area in calendar year 2027 is obtained from EMFAC2021.

Abbreviations:

EDH - El Dorado Hills

EMFAC - EMission FACtors model

MC - Mountain County

TRU - transport refrigeration unit

yr - year

Table 4-9. Operational Mobile Source Electricity Consumption
El Dorado Hills Costco Project
El Dorado Hills, California

Mobile Source Category	Mobile Source Activity [1] (miles/yr)	Mobile Source Activity Associated with Electricity Consumption [2] (electric miles/yr)	Electricity Consumption [3] (kWh/yr)
GDF Customer Vehicles (Passenger Vehicles) - Plug-in Hybrid	26,211	14,245	4,302
Warehouse and Employee Vehicles (Passenger Vehicles) - Plug-in Hybrid	151,896	82,548	24,932
Warehouse and Employee Vehicles (Passenger Vehicles) - Electric	282,123	282,123	108,923

Constants:

Average fuel efficiency for plug-in hybrid electric vehicles in 2027 [4]	3.31 miles per kWh
Average fuel efficiency for electric vehicles in 2027 [5]	2.59 miles per kWh

Notes:

[1] Obtained from **Table 4-7**.

[2] The fraction of electric vehicle miles traveled by passenger vehicles was estimated based on EMFAC default assumptions for plug-in hybrid vehicles operating in El Dorado (MC) sub-area in calendar year 2027.

[3] The electricity consumption is estimated as the ratio of the electric miles traveled to average efficiency of a plug-in hybrid vehicle in miles per kilowatt-hour.

[4] The average fuel efficiency for plug-in hybrid passenger vehicles operating in El Dorado (MC) sub-area in calendar year 2027 is obtained from EMFAC2021.

[5] The average fuel efficiency for electric passenger vehicles operating in El Dorado (MC) sub-area in calendar year 2027 is obtained from EMFAC2021.

Abbreviations:

EMFAC - EMission FACtors model
GDF - gasoline dispensing facility
kWh - kilowatt hour
MC - Mountain County
yr - year

Table 4-10. Operational Landscape Equipment Gasoline Consumption
El Dorado Hills Costco Project
El Dorado Hills, California

Area Source Category	CO_2 Emissions [1] (MT/yr)	Gasoline Consumption [2] (gallons/yr)
Landscape equipment	3.90	444

Constants:

8.78 kg CO_2/gallon gasoline consumed in combustion engines [3]

1,000 kg CO_2/MT CO_2

Notes:

[1] Exhaust CO_2 emissions from landscaping equipment are obtained from the CalEEMod model run shown in Appendix B-1 in the EDH Costco Project Greenhouse Gas Technical Report.

[2] Gasoline consumption of landscaping equipment is estimated as a ratio of the CO_2 emissions from these equipment to the CO_2 emission factor per gallon of gasoline consumed.

[3] Obtained from the USEPA GHG Emission Factors Hub. Available at: https://www.epa.gov/system/files/documents/2025-01/ghg-emission-factors-hub-2025.pdf. Accessed: October 2025.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

CO_2 - carbon dioxide

EDH - El Dorado Hills

GHG - greenhouse gas

kg - kilograms

MT - metric ton

USEPA - United States Environmental Protection Agency

yr - year

Table 4-11. Operational Stationary Source Diesel Consumption
El Dorado Hills Costco Project
El Dorado Hills, California

Stationary Source Category	CO_2 Emissions [1] (MT/yr)	Diesel Consumption [2] (gallons/yr)
Emergency Generator	9.52	932

Conversions:

10.21 kg CO_2/gallon gasoline consumed in combustion engines [3]

1,000 kg CO_2/MT CO_2

Notes:

[1] Exhaust CO_2 emissions from emergency generators are obtained from the CalEEMod model run shown in Appendix B-1 in the EDH Costco Project Greenhouse Gas Technical Report.

[2] Diesel consumption of emergency generator is estimated as a ratio of the CO_2 emissions from these generators to the CO_2 emission factor per gallon of diesel consumed.

[3] Obtained from the USEPA GHG Emission Factors Hub. Available at: https://www.epa.gov/system/files/documents/2025-01/ghg-emission-factors-hub-2025.pdf. Accessed: October 2025.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

CO_2 - carbon dioxide

EDH - El Dorado Hills

GHG - greenhouse gas

kg - kilograms

MT - metric ton

USEPA - United States Environmental Protection Agency

yr - year

Table 5-1. Energy Resource Summary for Proposed Project Construction Scenario 1
El Dorado Hills Costco Project
El Dorado Hills, California

Energy Resource	Year	Project Construction Energy Consumption [1,2]	El Dorado County Annual Consumption [3,4]	Project Construction Contribution to El Dorado County Annual Consumption (%)	California Annual Consumption [3,4]	Project Construction Contribution to California Annual Consumption (%)
Gasoline (gallons/yr)	2026	10,851	65,259,604	0.02%	13,896,130,020	0.000078%
Diesel (gallons/yr)	2026	114,683	14,555,710	0.8%	4,342,164,261	0.0026%
Electricity (kWh/yr)	2026	88	1,339,206,633	0.00001%	282,782,592,309	0.00000003%
Gasoline (gallons/yr)	2027	9,121	64,229,365	0.014%	13,625,442,497	0.000067%
Diesel (gallons/yr)	2027	48,496	14,262,073	0.34%	4,330,293,013	0.0011%
Electricity (kWh/yr)	2027	59	1,339,206,633	0.000004%	282,782,592,309	0.00000002%

Conversions:

1,000,000 kWh/GWh

Notes:

[1] Gasoline and diesel consumption during construction estimated as a sum of the fuel consumption of the off-road construction equipment (**Table 4-1**) and on-road vehicles (**Table 4-3**) used during construction scenario 1.

[2] Electricity consumption during construction obtained from CalEEMod output for Project Site Access and Roadway Improvements shown in Appendix A-4 of the EDH Costco Project Greenhouse Gas Technical Report. Refer to Section 4.2 of the EDH Costco Project Greenhouse Gas Technical Report for further details.

[3] Fuel consumption data for El Dorado County and the State of California are obtained from EMFAC2021 and OFFROAD2021 for calendar year 2026 and 2027.

[4] Electricity consumption data for El Dorado County and the State of California are obtained from https://www.energy.ca.gov/files/energy-consumption-data-files for calendar year 2024 as that was the most recent data available. Accessed: October 2025.

Abbreviations:

% - percent

EDH - El Dorado Hills

EMFAC - California Air Resources Board Emissions Factor Model

GWh - gigawatt hour

kWh - kilowatt hour

yr - year

Table 5-2. Energy Resource Summary for Proposed Project Construction Scenario 2
El Dorado Hills Costco Project
El Dorado Hills, California

Energy Resource	Year	Project Construction Energy Consumption [1,2]	El Dorado County Annual Consumption [3,4]	Project Construction Contribution to El Dorado County Annual Consumption (%)	California Annual Consumption [3,4]	Project Construction Contribution to California Annual Consumption (%)
Gasoline (gallons/yr)	2026	10,851	65,259,604	0.02%	13,896,130,020	0.000078%
Diesel (gallons/yr)	2026	159,850	14,555,710	1.1%	4,342,164,261	0.0037%
Electricity (kWh/yr)	2026	88	1,339,206,633	0.00001%	282,782,592,309	0.00000003%
Gasoline (gallons/yr)	2027	9,121	64,229,365	0.014%	13,625,442,497	0.000067%
Diesel (gallons/yr)	2027	56,712	14,262,073	0.40%	4,330,293,013	0.0013%
Electricity (kWh/yr)	2027	59	1,339,206,633	0.000004%	282,782,592,309	0.00000002%

Conversions:

1,000,000 kWh/GWh

Notes:

[1] Gasoline and diesel consumption during construction estimated as a sum of the fuel consumption of the off-road construction equipment (**Table 4-2**) and on-road vehicles (**Table 4-4**) used during construction scenario 2.

[2] Electricity consumption during construction obtained from CalEEMod output for Project Site Access and Roadway Improvements shown in Appendix A-4 of the EDH Costco Project Greenhouse Gas Technical Report. Refer to Section 4.2 of the EDH Costco Project Greenhouse Gas Technical Report for further details.

[3] Fuel consumption data for El Dorado County and the State of California are obtained from EMFAC2021 and OFFROAD2021 for calendar year 2026 and 2027.

[4] Electricity consumption data for El Dorado County and the State of California are obtained from https://www.energy.ca.gov/files/energy-consumption-data-files for calendar year 2024 as that was the most recent data available. Accessed: October 2025.

Abbreviations:

% - percent

EDH - El Dorado Hills

EMFAC - California Air Resources Board Emissions Factor Model

GWh - gigawatt hour

kWh - kilowatt hour

yr - year

Table 5-3. Energy Resource Summary for Proposed Project Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Energy Resource	Project Operational Energy Consumption [1]	El Dorado County Annual Consumption [2,3,4]	Project Construction Contribution to El Dorado County Annual Consumption (%)	California Annual Consumption [2,3,4]	Project Construction Contribution to California Annual Consumption (%)
Electricity (kWh/yr)	6,026,405	1,339,206,633	0.45%	282,782,592,309	0.00213%
Natural Gas (kBtu/yr)	1,423,224	3,196,879,463	0.045%	1,110,086,615,369	0.00013%
Gasoline (gallons/yr)	285,366	64,229,365	0.44%	13,625,442,497	0.0021%
Diesel (gallons/yr)	169,371	14,262,073	1.19%	4,330,293,013	0.0039%

Conversions:

1,000,000 kWh/GWh
99,976.1 Btu/therm
1,000 Btu/kBtu

Notes:

[1] Estimated as a sum of the fuel consumption of Project operational sources listed in **Tables 4-5** through **4-11**.

[2] Diesel and gasoline consumption data for El Dorado County and the State of California are obtained from EMFAC2021 and OFFROAD2021 for calendar year 2027.

[3] Electricity consumption data for El Dorado County and the State of California are obtained from http://www.ecdms.energy.ca.gov/elecbycounty.aspx for calendar year 2024 as that was the most recent data available. Accessed: October 2025.

[4] Natural gas consumption data for El Dorado County and the State of California are obtained from http://www.ecdms.energy.ca.gov/gasbycounty.aspx for calendar year 2024 as that was the most recent data available. Accessed: October 2025.

Abbreviations:

% - percent
Btu - British thermal unit
EMFAC - EMission FACtors model
GWh - gigawatt hour
kBtu - kilo-British thermal unit
kWh - kilowatt hour
yr - year

APPENDIX A
PROJECT EVALUATION AGAINST STATE AND LOCAL PLANS

List of Tables

Table A-1: Project Evaluation Against Applicable County of El Dorado General Plan Energy Efficiency Strategies

Table A-2: Project Evaluation Against Applicable State Renewable Energy and Energy Efficiency Strategies

Table A-1. Project Evaluation Against Applicable County of El Dorado General Plan Energy Efficiency Strategies
El Dorado Hills Costco Project
El Dorado Hills, California

Objective [1]	Policy [1]	Does it Conflict?
Objective 5.6.2 - Encourage Energy-Efficient Development: Encourage development of energy-efficient buildings, subdivisions, development, and landscape designs.	**Policy 5.6.2.1** Require energy conserving landscaping plans for all projects requiring design review or other discretionary approval.	**Does Not Conflict.** As described in **Section 1.2** of the **Costco EDH Project Energy Technical Report**, the proposed Project's irrigation system will include the use of drip rings to efficiently water the rootball while minimizing water usage and ensuring that water goes directly to the intended planting areas. Additionally, a substantial amount of the proposed plant material will be climate adapted to the region and would use less water than other common landscaping species. Finally, the Project's storm water management plans are designed to treat all runoff from new impervious surfaces and maintain storm water discharge rates based on County requirements.

Notes:
[1] The applicable goals are obtained from the 2004 County of El Dorado General Plan. Available at: https://www.eldoradocounty.ca.gov/Land-Use/Planning-and-Building/Planning-Division/Adopted-General-Plan. Accessed: September 2025.

Table A-2. Project Evaluation Against Applicable State Renewable Energy and Energy Efficiency Strategies
El Dorado Hills Costco Project
El Dorado Hills, California

#	Plan	Category Description	Does it Conflict?
1	California Renewables Portfolio Standard (RPS) and SB 100	As most recently amended by SB 100 (2018), California's RPS increases the proportion of electricity from renewable sources to 33 percent renewable power by 2020; 50 percent renewable power by 2026; and, 60 percent renewable power by 2030. SB 350 (2015) also requires the State Energy Resources Conservation and Development Commission to double (by 2030) the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.	**Does Not Conflict.** The Project would not conflict with implementation of the state's RPS. The electricity for the operation of the Project would be supplied by Pacific Gas & Electric (PG&E) and powered by 100% renewable energy, as Costco has a Clean Energy Contract with PG&E.
2	California Code of Regulations, Title 24, Part 6	Title 24, Part 6 of the California Code of Regulations establishes energy and water efficiency requirements for residential and non-residential new construction, additions to existing buildings, and alterations to existing buildings. Standards include requirements for water heating, HVAC, lighting, electrical systems, and solar design.	**Consistent.** The Project would meet or exceed the Title 24 energy efficiency standards in effect at the time of building permit application. As noted in **Section 1.2** and listed below, the Project will include a number of energy and water efficiency features: • Parking lot light standards would be designed in order to provide even light distribution, and utilize less energy compared to a greater number of fixtures at lower heights. The use of LED lamps can provide a higher level of perceived brightness with less energy than other lamps such as high-pressure sodium. • Pre-manufactured metal wall panels with insulation carry a higher R-Value and greater solar reflectivity to help conserve energy as compared to other materials. Building heat absorption would be further reduced by a decrease in the thermal mass of the metal wall when compared to a typical masonry block wall. • A substantial amount of the proposed landscaping material for the North Site and South Site is climate adapted to the region and would use less water than other common landscape species. • The irrigation system proposes to include the use of deep root watering bubblers for parking lot trees to minimize usage and ensure that water goes directly to the intended planting areas. • High-efficiency restroom fixtures would be installed. • Commissioning of mechanical systems would occur to ensure that the HVAC systems are performing as designed. HVAC comfort systems would be controlled by a computerized building management system to maximize efficiency. • HVAC units planned for the South Site are high-efficiency direct ducted units, which have phased out the use of hydrochlorofluorocarbons completely. • Parking lot and exterior lights would be controlled by a photo sensor and time clock. • Lighting would be controlled by the overall project energy management system. • Energy efficient Transformers (i.e., Square D Type EE transformers) would be used. • Variable speed motors would be used on make-up air units and booster pumps. • Gas water heaters would be direct vent and 94 percent efficient or greater. • Reclaim tanks would be used to capture heat released by refrigeration equipment to heat domestic water in lieu of venting heat to the outside.
3	Assembly Bill 1109	The Lighting Efficiency And Toxics Reduction Act (AB 1109) requires a reduction in average statewide electrical energy consumption by not less than 50 percent from the 2007 levels for indoor residential lighting and not less than 25 percent from the 2007 levels for indoor commercial and outdoor lighting by 2018.	**Does Not Conflict.** The Project would not conflict with the implementation of AB 1109. Additionally, the proposed Project will incorporate several sustainability and energy efficiency measures including green building practices as required by the 2025 California Green Building Standards Code. Refer to **Section 1.2** for a detailed listing of these measures.
4	California Green (CalGreen) Building Standards Code Requirements	CalGreen establishes green building standards to meet the goals of AB 32. CalGreen includes standards for residential and nonresidential structures such as new buildings or portions of new buildings, additions and alterations, and all occupancies where no other state agency has the authority to adopt green building standards applicable to those occupancies. Standards include requirements for site development, indoor and outdoor water use, construction waste reduction, disposal and recycling and building maintenance and operation.	**Consistent.** The Project will comply with the CalGreen Building Standards Code that is in effect at the time of the building permit application, as applicable. Furthermore, the proposed Project will include several sustainability and energy efficiency measures, including those mandated by California Green Building Standards Code. For a detailed list of these measures, please refer to **Section 1.2**.

Table A-2. Project Evaluation Against Applicable State Renewable Energy and Energy Efficiency Strategies
El Dorado Hills Costco Project
El Dorado Hills, California

#	Plan	Category Description	Does it Conflict?
Mobile Sources			
5	AB 1493 (Pavley Regulations)	Reduces GHG emissions in new passenger vehicles from model years 2012-2016 (Phase I) and model years 2017–2025 (Phase II). Also reduces gasoline consumption to a rate of 31 percent of 1990 gasoline consumption (and associated GHG emissions) by 2020.	**Does Not Conflict.** The Project would not conflict with the implementation of the AB 1493 regulations.
6	Low Carbon Fuel Standard (LCFS)	Establishes protocols for measuring and reducing the life-cycle carbon intensity of transportation fuels and helps to establish use of alternative fuels.	**Does Not Conflict.** The Project would not conflict with implementation of the LCFS.
7	Advanced Clean Cars (ACC) Program	In 2012, the California Air Resources Board (CARB) adopted the ACC program to reduce criteria pollutant emissions and GHG emissions for model year vehicles 2015 through 2025. ACC includes the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulations that require manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles (PHEV) in the 2018 through 2025 model years. In 2022, CARB developed the ACC II regulations which seeks to reduce criteria and greenhouse gas emissions from new light- and medium-duty vehicles beyond the 2025 model year, and increase the number of ZEVs for sale. On December 18, 2024, the U.S. EPA granted a waiver for California's ACC II regulation	**Does Not Conflict.** The Project would not conflict with implementation of the ACC program. Public Law 119-16, enacted on June 12, 2025, is a House joint resolution that disapproves the Clean Air Act waiver granted by USEPA for the ACC II regulation. In response to this action, CARB stated that they "will pursue every remedy available to challenge these actions".
8	Advanced Clean Trucks (ACT)	In 2021, the CARB adopted the ACT regulation to accelerate the market for on-road zero-emission vehicles and to reduce emissions of oxides of nitrogen (NOx), fine particulate matter (PM), other criteria pollutants, toxic air contaminants, and GHG from medium- and heavy-duty on-road vehicles. ACT applies to any manufacturer that certifies on-road vehicles over 8,500 lbs. gross vehicle weight rating for sale in California unless specified as exempt.	**Does Not Conflict.** The Project would not conflict with implementation of the ACT regulation. Public Law 119-15, enacted on June 12, 2025, is a House joint resolution that disapproves the Clean Air Act waiver granted by USEPA for the ACT Regulation. In response to this action, CARB stated that they "will pursue every remedy available to challenge these actions".
9	Advanced Clean Fleets (ACF)	In October 2022, CARB approved the Advanced Clean Fleets (ACF) regulation, which has requirements for fleets to phase in the use of ZEVs from 2024 to 2042 and beyond. The fleets required to comply with the regulation include State and local government agency fleets, high priority and federal fleets, and drayage fleets. The regulation also includes a requirement for manufacturers to only sell zero-emission trucks starting in 2036. The ACF regulation is meant to complement the ACT regulation and will contribute to meeting the goals set out in Governor Newsom's Executive Order N-79-20.	**Does Not Conflict.** The Project would not conflict with implementation of the ACF regulation. In January 2025, CARB withdrew its request for authorization of this rule from the USEPA.
10	Transport Refrigeration Unit (TRU) Air Toxic Control Measure (ATCM)	CARB adopted the ATCM for TRUs, TRU generator sets, and facilities where TRUs and TRU generator sets operate in 2004 (amendments in 2010, 2011, and 2022) to reduce diesel particulate matter emissions from diesel-powered TRUs and TRU generator sets.	**Consistent.** The Project would comply with all applicable requirements of the TRU ATCM. In January 2025, CARB withdrew its request to the USEPA for authorization of parts of this rule that require TRU owners to turnover at least 15 percent of their diesel-fueled truck TRU fleet to ZE TRU by December 31, 2023, and each year thereafter.
11	SB 375	SB 375 establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions. Under SB 375, CARB is required, in consultation with the State's Metropolitan Planning Organizations, to set regional GHG reduction targets for the passenger vehicle and light-duty truck sector for 2020 and 2035.	**Does Not Conflict.** The Project would not conflict with the implementation of SB 375.

Abbreviations:
AB - Assembly Bill
GHG - greenhouse gases
HVAC - heating, ventilation, and air conditioning
LED - light-emitting diode
SB - Senate Bill
USEPA - United States Environmental Protection Agency
ZE - zero emission

Appendix E

Geotechnical Study (December 10, 2024)
and Draft Geotechnical Study
(November 5, 2019)

Geotechnical Study
(December 10, 2024)

December 10, 2024
Kleinfelder Project No. 20193141.002A

Costco Wholesale
9 Corporate Park, Suite 230
Irvine, California 92606

Attention: Mr. Michael Okuma
Director of Real Estate Development

SUBJECT: Geotechnical Study
Proposed Costco Fuel Facility
Silva Valley Parkway
El Dorado Hills, California
CW# 18-0487

Dear Mr. Okuma:

Kleinfelder is pleased to present this report summarizing our geotechnical study for the proposed fuel facility located at Silva Valley Parkway (APN 122-720-019) in El Dorado Hills, California. The purpose of our geotechnical study was to evaluate subsurface soil and groundwater conditions at the project site to provide geotechnical recommendations for design and construction. The conclusions and recommendations presented in this report are subject to the limitations presented in Section 7.

We appreciate the opportunity to provide geotechnical engineering services to you on this project. If you have any questions regarding this report or if we can be of further service, please do not hesitate to contact Andrea Traum at 408.595.3275, or Andy Franks, Kleinfelder's Client Account Manager for Costco, at 480.650.4905.

Sincerely,

KLEINFELDER, INC.

Dan Dockendorf, EIT
Project Engineer

Andrea Traum, PE, LEED AP
Senior Program Manager

© 2024 Kleinfelder

GEOTECHNICAL STUDY
PROPOSED COSTCO FUEL FACILITY
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA
CW# 18-0487
KLEINFELDER PROJECT NO. 20193141.002A

DECEMBER 10, 2024

Copyright 2024 Kleinfelder
All Rights Reserved

ONLY THE CLIENT OR ITS DESIGNATED REPRESENTATIVES MAY USE THIS DOCUMENT AND ONLY FOR THE SPECIFIC PROJECT FOR WHICH THIS REPORT WAS PREPARED.

© 2024 Kleinfelder

A Report Prepared for:

Costco Wholesale
9 Corporate Park, Suite 230
Irvine, California 92606

Geotechnical Study
Proposed Costco Fuel Facility
Silva Valley Parkway
El Dorado Hills, California
CW# 18-0487

Dan Dockendorf, EIT
Project Engineer

Brian E. Crystal, PE, GE
Senior Principal Geotechnical Engineer

KLEINFELDER, INC.
25 Metro Drive, Suite 110
San Jose, CA 95110
Phone: 831.755.7900

December 10, 2024
Kleinfelder Project No. 20193141.002A

© 2024 Kleinfelder

Geotechnical Investigation Summary Checklist for Costco Wholesale Projects

General Information

Costco Real Estate Main Contact: Michael Okuma
Geotechnical Main Contact: Andrea Traum (408-595-3275)
Geotechnical Engineer of Record: Kleinfelder
Project Location: Silva Valley Parkway (APN 122-720-019)
CW#: 18-0487
Warehouse #: New Fuel Facility
Report Date: December 10, 2024
Consultant Project/Document Number: 20193141.002A/SJO24R175733
Addendums (List):

Report Purpose: ☐ Preliminary ☐ Draft ☒ Final ☐ Addendum/Revision

	Yes	No or NA	Describe/ Comments	Report Section
Pre-existing Conditions/Information				
Developer provided geotechnical report (describe):	☐	☒		
Pre-existing development (describe)	☐	☒	The site is undeveloped with rolling hills running from east to west with elevations between 739 to 760 feet. At the time of our field exploration, much of the site was covered by low-lying vegetation (weeds and shrubs) and animal burrows.	2.1
Foundation type (describe):	☐	☒		
Performance Issues (describe):	☐	☒		
Environmental Issues (describe)	☐	☒	NOA not detected upon sampling.	3.4.9
Site Grading Records (stripping, compaction test results, field reports, etc.)	☐	☒		
Typical Building Structural Design Criteria				
Other (describe):	☒	☐	New fuel facility servicing new warehouse to be built on opposite side of Siva Valley Parkway.	1.1
Building size (describe):	☒	☐	Four Gas Refueling Islands, USTs, Controller Enclosure, and Canopy Structure	1.1
Typical wall loading				
3 kips / foot* (Metal Buildings)	☐	☒		
4.5 kips / foot* (CMU or pre-cast)	☐	☒		
Typical column loading				
120 kips in non-snow regions	☐	☒		
150 kips in snow regions	☐	☒		
Typical canopy loading:	☒	☐	~30 kips vertical	1.1
Typical floor slab loading				
500 pounds per square foot, (psf, total)	☐	☒		
250 psf (dead) at rack areas	☐	☒		
150 psf (dead) at non-rack areas	☐	☒		
350 psf (live)	☐	☒		
Paving Design (20 year life)				
Heavy Duty paving shall accommodate 30 trucks per day (Traffic Index of 7.0)	☒	☐	5.0” AC/10.0” AB	4.6.2
Light Duty paving shall accommodate 6,600 cars per day (Traffic Index of 5.0)	☒	☐	4.0” AC/6.0” AB	4.6.2
Performance Grade (PG) binder oil identified for local climate conditions	☒	☐	PG 64-10	4.6.3

© 2024 Kleinfelder

Site Grading Conditions/Assumptions				
Deviations to Typical Criteria (list/describe):	☐	☒		
Design Finished Floor Elevation (FFE) (describe):	☐	☒		
Basis for FFE (assumed, per Civil) (describe):	☐	☒		
Effects of change to assumed FFE (describe):	☐	☒		
Maximum anticipated cuts (describe):	☒	☐	Approximately 5 to 6 feet max on southern entrance roadway.	1.1
Maximum anticipated fills (describe):	☒	☐	Approximately 13 to 18 feet max throughout fueling canopy, queuing areas, and tanks. Approximately 4 to 5 feet of fills on northern entrance roadway.	1.1
Cross sections prepared for sites that are not essentially flat	☒	☐		Figure 3
Amount of import/export anticipated (describe):	☒	☐	Preliminary grading plans have not determined whether site will be balanced with onsite soils or imported.	
Frost Depth (describe):	☐	☒		
Retaining walls	☐	☒		
Number of walls (describe):	☐	☒		
Height/Length of walls (describe):	☐	☒		
Wall construction/type (describe):	☐	☒		
Cut/fill transition in pad (describe):	☐	☒		
Offsite Improvements (describe)	☐	☒		
Fieldwork/Results				
Costco Due Diligence Design Criteria				
Version (describe):	☒	☐	Version 2022, dated October 28, 2022	
Followed Criteria?	☒	☐		
Deviations to standard investigation (describe):	☒	☐	Test Pits utilized due to shallow rock depth and fill conditions.	
Groundwater				
Depth (describe):	☐	☒	None observed during investigation up to 9 feet bgs explored.	3.3
Perched	☒	☐	Perched water will be anticipated at bedrock contact point after periods of rainfall. Seasonal creeks run through the property as seen during our 2019 investigation of the adjacent property.	3.3
Expected seasonal fluctuation (describe):	☒	☐	Perched water will be present seasonally during winter and spring months.	3.3
Piezometers installed?	☐	☒		
Unusual/Challenging Soils conditions encountered				
Moisture-sensitive soils	☒	☐	Wet/soft soils to be removed in seasonal creeks during construction	5.2
Undocumented fill	☐	☒		
Unsuitable soils (require removal)	☒	☐		5.2
Wet soils	☒	☐	Will be present during seasonal rainfall	5.2
Debris	☐	☒		
Bedrock/potential non-rippable conditions	☒	☐	Seismic Refraction Survey found that non-rippable conditions (Vp > 6,000 ft/s) exist around 10 to 15 feet below grade on average.	Appendix C
Refusal	☒	☐	Test Pit Excavations hit refusal on bedrock between 1.3 and 9 feet below grade across site with backhoe.	3.2
Collapsible soils	☐	☒		
Expansive soils	☒	☐	Low to Moderate in upper colluvium layer	3.4.4
Compressible soils	☐	☒		
Liquefaction	☐	☒		4.2.2
Sinkholes	☐	☒		
Other (describe):	☐	☒		

© 2024 Kleinfelder

Potential Contamination Identified				
Soil	☐	☒		
Groundwater	☐	☒		
Restoration of Disturbed Areas				
Backfilled with soil	☒	☐	Test Pits backfilled with excavated soil	
Backfilled with grout	☐	☒		
Other (describe):	☐	☒		
Topsoil samples collected/analyzed	☒	☐	Analyzed in 2019 during previous investigation	Appendix B
Corrosivity testing performed/addressed	☒	☐	Extremely Corrosive to buried ferrous metals as analyzed in 2019	4.7
Report				
Executive summary	☒	☐		
Wet weather construction recommendations	☐	☒		
Pad winterization/pad recommendations	☐	☒		
Frost protection recommendations	☐	☒		
Design Parameters				
Fill material parameters provided				
Structural fill (below foundations, slabs)	☒	☐		5.2
Site grading fill (below pavements, flatwork)	☒	☐		5.2
Select backfill (behind truck dock walls, foundations, grade beams, etc.)	☐	☒		
Trench backfill	☒	☐		5.2
Drainage fill	☐	☒		
Frost resistant fill	☐	☒		
Slab base aggregate	☒	☐		
Limits of debris/unsuitable removal provided	☐	☒		
Over-excavation/recompaction required	☒	☐		5.2
Depth (describe):	☒	☐		5.2
Extent (include cross-section diagram)	☐	☒		
Pad subgrade stabilization required (describe):	☐	☒		
Surcharge	☐	☒		
Height (describe):	☐	☒		
Lateral extent (describe):	☐	☒		
Estimated duration (describe):	☐	☒		
Shallow Foundations	☒	☐		4.3.2
psf allowable soil bearing pressure (describe):	☒	☐	3,000 psf on structural fill	4.3.2
Deep Foundations (Parking Lot Light Poles)	☒	☐		
Type (describe):	☒	☐	Light pole foundations	4.3.3
Options and Value Engineering Matrix provided	☐	☒		
Floor Slabs	☐	☒		
Unreinforced (>2500 psf)	☐	☒		
Reinforced (describe why)	☐	☒		
Subgrade modulus (ksi/in) (describe):	☐	☒		
Base Material thickness (min 6") (describe):	☐	☒		
Seismic Conditions				
Governing Building Code (IBC, UBC, other)	☒	☐	2022 California Building Code	4.2
Geologic Hazard Identified	☐	☒		
Proximity to earthquake fault zone(s)	☐	☒		
Proximity to seismic hazard zone(s)	☐	☒		
Potential for liquefaction	☐	☒	No Hazard	4.2.2
Potential for lateral spreading	☐	☒		
Potential for seismic settlement	☐	☒		4.2.2
Potential for slope stability/landslides	☐	☒		
Potential for groundshaking or geologic hazards	☒	☐	High	
Retaining Walls	☐	☒		

© 2024 Kleinfelder

Recommended Wall Types	☐	☒		
Recommend Kleinfelder Design	☐	☒		
Lateral earth pressure design values	☐	☒		
Active:	☐	☒		
At-rest:	☐	☒		
Passive:	☐	☒		
Seismic:	☐	☒		
Backfill material, placement requirements	☐	☒		
Drainage requirements and cross-section drawing	☐	☒		
Finger Drains	☐	☒		
Required for frost	☐	☒		
Recommended for long term maintenance and constructability	☐	☒		
Pavement				
Pavement subgrade stabilization required (describe):	☒	☐	Proof-roll, scarify, and recompact	5.2.2
Costco asphalt mix design specified	☒	☐	PG 64-10	4.6.3
Heavy and light duty pavement sections specified	☒	☐		4.6.2
Alternative pavement sections identified	☒	☐	Portland Cement Concrete	4.6.4
Specification for offsite pavement sections included	☐	☒		
Data Gaps/Unknowns (describe):	☐	☒		

© 2024 Kleinfelder

TABLE OF CONTENTS

Section			Page
EXECUTIVE SUMMARY			**1**
1	**INTRODUCTION**		**6**
	1.1	PROJECT DESCRIPTION	6
	1.2	SCOPE OF SERVICES	7
		1.2.1 Task 1 – Background Data Review	7
		1.2.2 Task 2 – Field Exploration	7
		1.2.3 Task 4 – Laboratory Testing	8
		1.2.4 Task 5 – Geotechnical Analyses and Report Preparation	8
2	**SITE CONDITIONS**		**10**
	2.1	SITE DESCRIPTION	10
3	**GEOLOGY**		**11**
	3.1	GEOLOGIC SETTING	11
		3.1.1 Regional Geology	11
		3.1.2 Site Geology	11
	3.2	SUBSURFACE CONDITIONS	11
	3.3	GROUNDWATER	12
	3.4	ASSESSMENT OF POTENTIAL GEOLOGIC HAZARDS	13
		3.4.1 Localized Faulting	13
		3.4.2 Landsliding	14
		3.4.3 Liquefaction and Seismic Compression	14
		3.4.4 Expansive Soils	14
		3.4.5 Collapsible Soils	15
		3.4.6 Subsidence	15
		3.4.7 Flooding	15
		3.4.8 Oil and Gas Fields	15
		3.4.9 Naturally Occurring Asbestos	16
4	**CONCLUSIONS AND RECOMMENDATIONS**		**17**
	4.1	GENERAL	17
	4.2	2022 CBC SEISMIC DESIGN PARAMETERS	19
	4.3	FOUNDATIONS	20
		4.3.1 General	20
		4.3.2 Conventional Shallow Foundations	20
		4.3.3 Drilled Pile Foundations	21
	4.4	EXTERIOR FLATWORK	22
	4.5	SITE DRAINAGE	22
	4.6	PAVEMENTS	23
		4.6.1 Costco Design Parameters	23
		4.6.2 Asphalt Concrete Pavement	24
		4.6.3 Asphalt Performance Grade Binder	24
		4.6.4 Portland Cement Concrete Pavement	24
		4.6.5 Aggregate Base	25
	4.7	SOIL CORROSION	25
	4.8	STORM WATER MANAGEMENT	26

© 2024 Kleinfelder

5 CONSTRUCTION RECOMMENDATIONS 27
5.1 GENERAL 27
5.2 EARTHWORK 27
5.2.1 General 27
5.2.2 Site Preparation 27
5.2.3 Permanent Slopes 28
5.2.4 Groundwater Impacts 28
5.2.5 Foundation Excavations 29
5.2.6 Fill Material and Compaction Criteria 30
5.2.7 Excavation Characteristics 31
5.2.8 Temporary Excavations 32
5.2.9 Trench Backfill 32
5.3 UNSTABLE SUBGRADE CONDITIONS 33
5.4 EXTERIOR FLATWORK 34
5.5 PAVEMENTS 34
5.5.1 HMA Design 34
5.5.2 Construction Considerations 34

6 ADDITIONAL SERVICES 36
6.1 PLANS AND SPECIFICATIONS REVIEW 36
6.2 CONSTRUCTION OBSERVATION AND TESTING 36

7 LIMITATIONS 37

8 REFERENCES 39

TABLES

Table 1 Observed Field Rock Conditions
Table 2 2022 CBC Seismic Design Parameters
Table 3 Asphalt Concrete Pavement Sections
Table 4 Corrosion Test Results

FIGURES

Figure 1 Site Vicinity Map
Figure 2 Field Exploraion Map
Figure 3 Cross Sections A-A’ and B-B’

APPENDICES

Appendix A Field Explorations
Appendix B Laboratory Testing
Appendix C Seismic Refraction Survey

© 2024 Kleinfelder

EXECUTIVE SUMMARY

This report presents the results of our geotechnical study for the proposed Costco fuel facility at Silva Valley Parkway (APN 122-720-019) in El Dorado Hills, California. The purpose of our study was to evaluate subsurface soil/bedrock and groundwater conditions to provide geotechnical recommendations for design and construction. We understand Costco had originally planned to have the fuel facility on the same property as the proposed warehouse on parcel (APN 122-720-018) on the west side of Silva Valley Parkway. However, the fuel facility has been relocated east of Silva Valley Parkway onto parcel (APN 122-720-019). Kleinfelder had performed field investigations on this eastern parcel in 2019 for the new warehouse (Kleinfelder, 2019), but the project was moved to the western parcel prior to the completion of fieldwork.

The new fueling facility will consist of four gasoline refueling islands with four pumps at each island, three underground storage tanks (UST), a fuel additive UST, a controller enclosure, and a canopy structure. In addition, asphalt concrete and Portland cement concrete pavements will also be constructed. Our geotechnical study was based generally on the Costco Wholesale Development Requirements (CWDRs), Version 2022, dated October 28, 2022.

The proposed fuel facility site is located northeast side of the Silva Valley Parkway, in El Dorado Hills as shown on Figure 2. The land is zoned as commercial and is located around ¼ mile south of Oak Meadow Elementary school and the Serrano residential development. This site located directly east across Silva Valley Parkway from the proposed warehouse site location. Costco is proposing this site as an alternative to allow additional parking on the warehouse property side.

At the time of our field exploration, the site was an undeveloped field with rolling hills generally sloping from east to west with ground surface elevations ranging from approximately 739 to 770 feet. The majority of the project site is characterized by slope gradients of 5:1 (horizontal to vertical) and shallower (less steep). At the time of our field exploration, much of the site was covered by low-lying vegetation (weeds and shrubs) and animal burrows as well as some native trees. Rock outcrops were also visible throughout the site. Additionally, a seasonal creek runs through the property from east to west. This creek was dry during our July 2024 investigation but was observed to be flowing during our initial field exploration of the property in Spring 2019. Finally, a ditch runs the property boundary along Silva Valley Parkway. The ditch is approximately 5 feet deep and is filled with large angular boulders.

Subsurface conditions at the site were recently explored by excavating 9 test pits across the proposed site. Test pits were excavated by Gulf Shore Excavation of Rancho Cordova, California

© 2024 Kleinfelder

with a John Deere 310 G track excavator to depths ranging from approximately 1½ and 9 feet bgs within the fuel facility area. Kleinfelder also subcontracted a Geophysics company (Gasch Geophysical Services) to perform a seismic refraction survey across the proposed site. The survey was used to evaluate the excavatability (rippability) of the bedrock within the proposed area.

Subsurface materials encountered during the explorations consisted of colluvium/residual soil overlying bedrock. The colluvium/residual soil consisted primarily of sandy silts and lean clays with variable amount of sand and gravel and varied in depth from approximately 1½ to 5 feet bgs. Below the colluvium/residual soil lies bedrock comprised of highly weathered and fractured metavolcanic rock (Vp = 3,000 to 6,000 ft/s) underlain by slightly weathered, intact rock (Vp > 6,000 ft/s). The highly weathered rock was observed to be approximately 10 feet thick. The rock increased in strength and decreased in weathering and fracture amount with depth, as shown in the seismic refraction survey report (Appendix C). Test pits were dug until practical rock refusal was encountered.

Groundwater was not encountered in our explorations to the maximum depth explored of approximately 9 feet. During Kleinfelder's investigation of the adjacent property in 2019, the seasonal creek across the property had been flowing rapidly and all excavated test pits encountered perched water near bedrock contact. Rainfall will infiltrate near surface soils and collect on less permeable soil and rock at shallow depth. Therefore, perched groundwater will likely be present at or near subgrade level across the entire site during and after rainfall events.

Based on the results of our prior field exploration, laboratory testing, and geotechnical analyses, it is our professional opinion that the proposed project is geotechnically feasible, provided the recommendations presented in this geotechnical report are incorporated into the project design and construction. The following key items were developed from our study.

- Based on the results of the seismic refraction lines, the near surface soils are comprised of a thin colluvium/residual soil layer varying in thickness from approximately 1½ to 5 feet thick. Below the colluvium/residual soil lies bedrock comprised of highly weathered and fractured metavolcanic rock (Vp = 3,000 to 6,000 ft/s). The strength of this highly weathered rock layer increases in depth and is approximately 10 feet thick. The highly weather rock layer is underlain by slightly weathered, intact rock (Vp > 6,000 ft/s). The depth to the bottom of this layer varies from approximately 10 to 20 feet bgs.

© 2024 Kleinfelder

- Soils and rock with velocities of less than 3,000 fps can usually be excavated with conventional earth moving equipment. The intermediate material (velocities between 3,000 fps and 6,000 fps) would likely require heavy equipment and possibly localized use of jackhammers, ram-hoes, or selective blasting to provide cost-effective excavation. Where materials with velocities in excess of 6,000 fps are found, blasting would normally be required for efficient fragmentation. However, if the rock is thinly bedded, jointed, or fractured, it may be possible to break the rock with heavy ripping using a single shank ripper or large ram-hoe. The resulting fragments will be of a size consistent with the fracture spacing and the progress of excavation would be very slow.
- Based on the preliminary grading plans provided by Kier and Wright (project civil engineer), the fuel facility area including the canopy, tanks, and queuing aisles will receive fills of approximately 13 to 18 feet across the site to achieve desired grades. The entrance roadway on the north side will have fills of approximately 4 to 5 feet and on the southern roadway cuts of approximately 5 to 6 feet are planned. In discussions with Costco and the project civil engineer, it has not been decided if fills will be achieved using import soils or balancing the site with rock fill. Fuel facility canopy foundations are anticipated to be founded in structural fill and underground storage tanks will likely tip into the highly weathered rock layer (Vp = 3,000 to 6,000 ft/s).
- Due to the composition of the bedrock, it will not reduce to a soil-like material when excavated and will not be suitable for re-use as structural fill. It is anticipated that crushing and processing the harder rock layers will prove challenging and may require soil to be imported onsite. Import materials, if required, should have a Plasticity Index of less than 10 with no less than 70 percent passing the No. 4 sieve, no more than 30 percent of the particles passing the No. 200 sieve, and no particles greater than 3 inches in maximum dimension. The maximum Plasticity Index for imported soils may be modified upon approval by Costco depending on its proposed use. The contractor should provide documentation to Costco that imported fill is free of hazardous materials, including petroleum or petroleum byproducts, chemicals and harmful minerals prior to its transportation and use on site.
- Prior to grading and subgrade preparation, all vegetation should be cut and removed from the site. Roots and vegetative matter in excess of one inch should be removed by screening or raking soils to a minimum depth of 12 inches. Other than plant roots, organic matter in the topsoil is minimal based on our laboratory testing (between one and three percent). The topsoil can be re-used on site in fills.

© 2024 Kleinfelder

- A seasonal creek runs through the property from east to west toward Silva Valley Parkway. Soft and wet soils found at the base of seasonal creeks should be removed and replaced to the satisfaction of Kleinfelder's geotechnical representative during construction. Prior to filling in the seasonal creek, subdrains should be installed within the creek bottom. This creek was observed to be flowing rapidly in April 2019.
- Rainfall will infiltrate near surface soils and collect on less permeable soil and rock at shallow depth. Therefore, perched groundwater will likely be present at or near bedrock contact elevation across the site. Temporary dewatering provisions will likely be required during construction, as discussed in Section 5.2.4.
- The proposed fuel facility canopy may be supported on a conventional shallow foundation system founded on structural fill. Light poles may be supported on short drilled piles.
- For areas with new pavements, we recommend that the exposed subgrade be proof-rolled with heavy construction equipment (e.g., loader or smooth-drum roller) to disclose areas of soft and yielding material after the area has been stripped of soft earth materials and debris. Where soft or yielding material are observed, the material should be overexcavated and replaced with structural fill. The proof-rolling should extend beyond the proposed improvements a horizontal distance of at least 2 feet, if practicable.
- After proof-rolling and/or prior to placement of fill, the subgrade should be scarified to a depth of 6 to 8 inches, moisture conditioned, and compacted in accordance with the compaction criteria presented in section 5.2.6. The proof-rolling should extend beyond the proposed improvements a horizontal distance of at least 2 feet, if practicable.
- Due to poor draining subgrade conditions, we recommend drainage inlets and catch basins include pavement underdrains as shown in Detail 1 6_16 of the CWDRs.
- Resistivity values below 1,000 ohm-cm are considered extremely corrosive to buried ferrous metals (NACE, 2006). The concentrations of soluble sulfates indicate that the subsurface soils represent a Class S0 exposure to sulfate attack on concrete in contact with the soil based on ACI 318-19 Table 19.3.1.1 (ACI, 2019). Therefore, in accordance with ACI Building Code 318-19, no special provisions for selection of cement type are required.

The findings, conclusions, and recommendations presented in this executive summary should not be relied upon without consulting our geotechnical report for more detailed description of the

© 2024 Kleinfelder

geotechnical evaluation performed by Kleinfelder. The conclusions and recommendations presented in this report are subject to the limitations presented in Section 7.

© 2024 Kleinfelder

1 INTRODUCTION

This report presents the results of our geotechnical study for the proposed Costco fuel facility at Silva Valley Parkway (APN 122-720-019) in El Dorado Hills, California. The location of the project site is presented on Figure 1, Site Vicinity Map. The purpose of our study is to evaluate subsurface soil/bedrock and groundwater conditions at the project site to provide geotechnical recommendations for design and construction. The scope of our services was presented in our proposal titled, “Contract Amendment Request No. 2, Geotechnical Study – Relocated Fuel Facility, Proposal Costco Wholesale Warehouse and Fuel Facility, Silva Valley Parkway, El Dorado Hills, California, CW# 18-0487”, dated June 6, 2024.

This report includes a description of the work performed, a discussion of the geotechnical conditions observed at the site, and recommendations developed from our engineering analyses of field and laboratory data.

1.1 PROJECT DESCRIPTION

Kleinfelder understands Costco plans to construct a new fueling facility consisting of four gasoline refueling islands with four pumps at each island, three 40,000-gallon underground storage tanks (UST), a fuel additive UST, a controller enclosure, and a canopy structure. In addition, asphalt concrete and Portland cement concrete pavements will also be constructed. Kleinfelder understands Costco had originally planned to have the fuel facility on the same property as the proposed warehouse on parcel (APN 122-720-018) on the west side of Silva Valley Parkway. However, the fuel facility has been relocated east of Silva Valley Parkway onto parcel (APN 122-720-019). Kleinfelder had performed field investigations on this parcel in 2019 for the new warehouse (Kleinfelder, 2019), but the project was moved to the western parcel prior to the completion of fieldwork. The location of the project site is presented on Figure 1, Site Vicinity Map.

Based on our experience with fuel facilities, the canopy for the service islands is typically founded on spread footings and the design is typically governed by overturning moments from wind and seismic loading. Typical column dead loads are anticipated to be approximately 4 kips and typical live loads are up to approximately 30 kips, which result in bearing pressures of less than 1,000 pounds per square foot (psf).

The tank excavation is anticipated to be approximately 16 to 18 feet deep. The tanks are planned to be placed on gravel bedding and anchored with “deadmen” to resist potential buoyant forces. Based on the preliminary grading plans provided by Kier and Wright (project civil engineer), the fuel facility area including the canopy, tanks, and queuing aisles will receive fills of approximately

© 2024 Kleinfelder

13 to 18 feet across the site to achieve desired grades. The entrance roadway on the north side will have fills of approximately 4 to 5 feet and on the southern roadway cuts of approximately 5 to 6 feet are planned. In discussions with Costco and the project civil engineer, it has not been decided if fills will be achieved via import soils or balancing the site with rock fill. Based on fill volumes, the fuel facility canopy foundations will be founded in structural fill and underground storage tanks will likely tip into bedrock.

1.2 SCOPE OF SERVICES

The scope of our geotechnical study consisted of a literature review, subsurface excavations, seismic refraction lines, geotechnical laboratory testing, engineering evaluation and analysis, and preparation of this report. Studies to assess environmental hazards that may affect the soil and groundwater at the site were beyond our geotechnical scope of work. A description of our scope of services performed for the geotechnical portion of the project follows.

1.2.1 Task 1 – Background Data Review

We reviewed readily available published and unpublished geologic literature in our files and the files of public agencies, including selected publications prepared by the California Geological Survey (formerly known as the California Division of Mines and Geology) and the U.S. Geological Survey (USGS). We also reviewed readily available seismic and faulting information, including data for designated earthquake fault zones as well as our in-house database of faulting in the general site vicinity.

In addition, we reviewed our 2019 geotechnical report for a prior iteration of the Costco development (Kleinfelder, 2019). Data from the previous and current study were used in our geotechnical analysis. Pertinent logs from the previous explorations are noted on Figure 2 and presented in Appendix A.

1.2.2 Task 2 – Field Exploration

Subsurface conditions at the site were recently explored by excavating 9 test pits across the proposed site. Test pits were excavated by Gulf Shore Excavation of Rancho Cordova, California with a John Deere 310 G track excavator to depths ranging from approximately 1½ and 9 feet bgs within the fuel facility area. Kleinfelder also subcontracted a Geophysics company (Gasch Geophysical Services) to perform a seismic refraction survey across the proposed site. The survey was used to evaluate the excavatability (rippability) of the subsurface conditions within the proposed area.

© 2024 Kleinfelder

Prior to commencement of the fieldwork, Underground Service Alert (USA) was notified, and various geophysical techniques were used at the boring and test pit locations to identify potential conflicts with subsurface structures. A Kleinfelder staff engineer supervised the field operations and logged the explorations. Selected samples were retrieved, placed in plastic bags or sealed, and transported to our Sacramento laboratory for evaluation. Descriptions used on the logs result from field observations and data, as well as from laboratory test data. Stratification lines on the logs represent the approximate boundary between soil types, and the actual transition may vary and can be gradual. Appendix A presents a description of the field exploration program, test pit logs and a legend of terms and symbols used on the logs. Appendix C presents the seismic refraction survey.

1.2.3 Task 4 – Laboratory Testing

Laboratory testing was performed on selected samples to evaluate the physical and engineering characteristics of the subsurface soils. Laboratory testing consisted of in-situ moisture content and dry density, wash sieve, Atterberg limits, Modified proctor, and R-Value. In addition, testing for Naturally Occurring Asbestos (NOA) was conducted by ATEM Laboratories. A summary of the laboratory testing and results are presented in Appendix B. Results for the NOA testing will be published separately in Kleinfelder's Phase 2 environmental report (Kleinfelder, 2024). In summary, no NOA was detected during the investigation.

Previous lab results for soil corrosion testing and plant suitability from our previous investigation of this property (Kleinfelder, 2019) are also included in Appendix B.

1.2.4 Task 5 – Geotechnical Analyses and Report Preparation

We analyzed field and laboratory data in conjunction with the finished grades, facility layout, and assumed structural loads to provide geotechnical recommendations for the design and construction. We evaluated feasible foundation systems, including constructability and compatibility constraints, floor slab support, and earthwork. Seismic design parameters based on the 2022 California Building Code (CBC) are also presented.

This report summarizes the work performed, data acquired, and our findings, conclusions, and geotechnical recommendations for the design and construction. Our report includes the following items:

- Site Vicinity Map (Figure 1) and Field Exploration Map (Figure 2) showing the approximate field exploration locations;

© 2024 Kleinfelder

- Cross Section Figures (Figure 3);
- Logs of test pits (Appendix A);
- Results of laboratory tests (Appendix B);
- Results of the seismic refraction survey (Appendix C);
- Discussion of general site conditions;
- Discussion of general subsurface conditions as encountered in our field exploration, including the depth to groundwater (if encountered);
- Discussion of regional and local geology;
- Recommendations for seismic design parameters in accordance 2022 CBC;
- Recommendations for site preparation, earthwork, temporary slope inclinations, fill placement, and compaction specifications;
- Recommendations for foundation design (shallow foundation) under various loading conditions, including allowable bearing pressures, embedment depths, and settlement estimates;
- Recommendations for flexible and ridged pavement structural sections for light and heavy-duty pavement based on the Equivalent Single Axle Loading (ESALs), as stated in the Costco Wholesale Development Requirements (CWDR); and
- Preliminary evaluation of the corrosion potential of the on-site soils.

© 2024 Kleinfelder

2 SITE CONDITIONS

2.1 SITE DESCRIPTION

The proposed fuel facility site is located northeast side of the Silva Valley Parkway in El Dorado Hills, as shown on Figure 2. The land is zoned as commercial and is located around ¼ mile south of Oak Meadow Elementary school and the Serrano residential development. The proposed site is located directly east across Silva Valley Parkway from the proposed warehouse site location. Costco is proposing this site as an alternative to allow additional parking on the warehouse property side.

At the time of our field exploration, the site was an undeveloped field with rolling hills generally sloping from east to west with ground surface elevations ranging from approximately 739 to 760 feet. The majority of the project site is characterized by slope gradients of 5:1 (horizontal to vertical) and shallower (less steep). At the time of our field exploration, much of the site was covered by low-lying vegetation (weeds and shrubs) and animal burrows as well as some native trees. Rock outcrops were also visible throughout the site. Additionally, a seasonal creek runs through the property from east to west. This creek was dry during our July 2024 investigation but was observed to be flowing during our initial field exploration of the adjacent property in Spring 2019. A ditch also runs the property boundary along Silva Valley Parkway. The ditch is approximately 5 feet deep and is filled with large angular boulders. An unfinished portion (~100 feet long) of Tong Road resides on the southwest corner of the property.

© 2024 Kleinfelder

3 GEOLOGY

3.1 GEOLOGIC SETTING

3.1.1 Regional Geology

The subject site is situated in the gently rolling topography that forms the western foothills of the Sierra Nevada Mountains. The western foothills are broadly tilted, dipping westward, and uplifted increasingly to the east, due to maximum uplift of the Sierra Nevada at its eastern edge. The Sierra Nevada is comprised mostly of large, north-south elongated blocks of Mesozoic granitic terrain forming the backbone of California. The foothills in the project vicinity consist of a northwest-trending belt of metamorphosed volcanic and sedimentary rock that separate the Sierran crystalline basement rock (granites) from the Central Valley sediments. These rocks are distributed within three major north-south trending, fault-bounded lithologic terrains that extend along the length of the metamorphic belt. Rocks within these terrains have been isoclinally folded and metamorphosed on a regional scale and represent a “collage” of tectonically accreted blocks emplaced during convergent plate tectonism that occurred during the Early Paleozoic and Late Jurassic. Bedding, foliation, and major faults throughout the metamorphic belt normally trend northwest and dip steeply to the east.

3.1.2 Site Geology

The project area is mapped by Loyd (1983 and 1984) as being underlain by Jurassic and Triassic age metavolcanic rocks (map symbol Kgv). This formation is almost entirely of marine origin and consist mostly of basaltic to andesitic breccias, flows, and tuffs that have been metamorphosed, but with primary volcanic features generally recognizable. The formation also contains minor associated sandstone and conglomerate, although none were encountered during our field investigation. Foliation that developed from regional metamorphism is often evident in the rock structure and typically has a north-trending direction. Locally, schistose fabric may be evident. The rock strength of the in less weathered portions of the formation is typically very high and can result in difficult excavation conditions.

3.2 SUBSURFACE CONDITIONS

Subsurface materials encountered during the explorations consisted of colluvium/residual soil overlying bedrock. The colluvium/residual soil consisted primarily of sandy silts and lean clays with variable amount of sand and gravel and varied in depth from approximately 1½ to 5 feet bgs. Below the colluvium/residual soil, bedrock comprised of highly weathered and fractured metavolcanic rock (Vp = 3,000 to 6,000 ft/s) underlain by slightly weathered, intact rock (Vp >

© 2024 Kleinfelder

6,000 ft/s). The highly weathered rock was observed to be approximately 10 feet thick. The rock increased in strength and decreased in weathering and fracture amount with depth, as shown in the seismic refraction survey report (Appendix C). Test pits were dug until practical rock refusal was encountered. Table 1 below shows rock depths observed and practical refusal depths in the field in relation to approximate elevation.

TABLE 1
OBSERVED FIELD ROCK CONDITIONS

TEST PIT LOCATION	APPROXIMATE SURFACE ELEVATION	APPROXIMATE DEPTH TO ROCK (FT BGS)	PRACTICAL REFUSAL DEPTH (FT BGS)
TP-1	754	1.5	1.91
TP-2	760	1.0	1.3
TP-3	747	1.5	3.25
TP-4	739	2.75	5.0
TP-5	743	2.5	6.0
TP-6	740	2.0	4.0
TP-7	743	1.5	2.25
TP-8	746	2.5	4.25
TP-9	741	5.0	9.0

3.3 GROUNDWATER

Groundwater was not encountered in our explorations to the maximum depth explored of approximately 9 feet. During Kleinfelder's investigation of the property in 2019, the seasonal creek across the property had been flowing rapidly and all excavated test pits encountered perched water near bedrock contact. Rainfall will infiltrate near surface soils and collect on less permeable soil and rock at shallow depth. Therefore, perched groundwater will likely be present at or near bedrock contact elevation across the site.

Localized zones of perched water, increased soil moisture content and fluctuations of the groundwater level, should be anticipated during and following the rainy season. Irrigation of landscaped areas on or adjacent to the site can also cause a fluctuation of local groundwater levels.

© 2024 Kleinfelder

3.4 ASSESSMENT OF POTENTIAL GEOLOGIC HAZARDS

3.4.1 Localized Faulting

According to the California Geological Survey (CGS, 2024), the site is not located within an Alquist-Priolo Earthquake Fault Zone and no mapped active or potentially active fault traces are known to traverse the site. The project area is situated within a region traditionally characterized by few active faults, numerous inactive faults, and low to moderate seismic activity.

An active fault is a fault that has experienced seismic activity during historic time (since roughly 1800) or exhibits evidence of surface displacement during Holocene time (Hart and Bryant, 1997). The definition of "potentially active" varies. A generally accepted definition of "potentially active" is a fault showing evidence of displacement that is older than 11,000 years (Holocene age) and younger than 1.7 million years (Pleistocene age). However, "potentially active" is no longer used as criteria for zoning by the California Geologic Survey (CGS), formerly known as the Division of Mines and Geology. The terms "sufficiently active" and "well-defined" are now used by the CGS as criteria for zoning faults under the Alquist-Priolo Earthquake Fault Act. A "sufficiently active fault" is a fault that shows evidence of Holocene surface displacement along one or more of its segments and branches, while a "well-defined fault" is a fault whose trace is clearly detectable by a trained geologist as a physical feature at or just below the ground surface. The definition "inactive" generally implies that a fault has not been active since the beginning of the Pleistocene Epoch (older than 1.7 million years old).

The nearest well-defined faults to the project are the Genoa and Cordelia faults. Both faults are located over 50 miles from the project site. A major seismic event on either of these faults is anticipated to cause weak ground shaking at the project site.

The nearest fault to the project site is the west trace of the Bear Mountain Fault Zone that strikes northwest-southeast for approximately 84 miles along the Sierra Foothill region. A fault trace within this zone is located approximately 650 feet west of the project and forms a major contact between the metavolcanics rock that underly the project and the younger Copper Hills Volcanics Formation to the west of the fault. Seismically, the mapped fault near the project is mapped as Pre-Quaternary (CGS, 2010). However, current seismic data (ANSS, 2011) shows micro-earthquakes (magnitude less than 2 or 3) are generated along the northern portion of the fault zone and UCEF3 includes the Swain Ravine – Spenceville segment of the Bear Mountains Fault Zone in their probability model (USGS, 2013). This low seismic activity is not expected to impact the project.

© 2024 Kleinfelder

3.4.2 Landsliding

Landslides and other forms of mass wasting, including mud flows, debris flows, soil slips, and rock falls occur as soil or rock moves down slope under the influence of gravity. Landslides are frequently triggered by intense rainfall or seismic shaking. Debris flows are known to travel great distances from their source based on the gradients, channel geometry and amount of fluid within the slide mass.

The majority of the project site is characterized by slope gradients of 5:1 (horizontal to vertical) and shallower (less steep). Given the elevation differential and shallow gradients the potential for slope instability is considered low.

3.4.3 Liquefaction and Seismic Compression

The term liquefaction describes a phenomenon in which saturated, cohesionless soils temporarily lose shear strength (liquefy) due to increased pore water pressures induced by strong, cyclic ground motions during an earthquake. Structures founded on or above potentially liquefiable soils may experience bearing capacity failures due to the temporary loss of foundation support, vertical settlements (both total and differential), and/or undergo lateral spreading. The factors known to influence liquefaction potential include soil type, relative density, grain size, confining pressure, depth to groundwater, and the intensity and duration of the seismic ground shaking. Liquefaction is most prevalent in loose to medium dense, silty, sandy, and gravelly soils below the groundwater table. No groundwater was observed during our field investigation. Based on our review of available groundwater well data, it is our opinion that the regional groundwater is deep. Therefore, based on the results of the subsurface explorations and review data, the potential for liquefaction and its adverse effects (i.e., seismic settlement and lateral spreading) is not considered a hazard at the site.

Seismic compression results from the accumulation of contractive volumetric strains in unsaturated soil during earthquake shaking. Loose to medium dense granular material with no fines or with low plasticity fines are most susceptible to seismic compression. Based on the density and soil composition of the underlying soils, the potential for seismic compression is considered low. We estimate dry seismic settlement potential at this site will be low.

3.4.4 Expansive Soils

Expansive soils are characterized by their ability to undergo significant volume changes (shrink or swell) due to variations in moisture content. Changes in soil moisture content can result from precipitation, landscape irrigation, utility leakage, roof drainage, perched groundwater, drought,

© 2024 Kleinfelder

or other factors and may result in unacceptable settlement or heave of structures or concrete slabs supported on grade. The surficial soils are generally sandy lean clays and sandy silts with gravel overlying rock, the observed expansion potential of these soils are low to moderate.

3.4.5 Collapsible Soils

Collapsible soils are characterized by their ability to undergo significant shrinkage (collapse) during inundation. Inundation in soils can result from precipitation, landscape irrigation, utility leakage, roof drainage, perched groundwater, drought, or other factors and may result in unacceptable settlement or heave of structures or concrete slabs supported on grade. Based on the results of laboratory testing, the soil encountered are not expected to collapse during inundation, so the impact of collapsible soils for this site is considered low.

3.4.6 Subsidence

The site is not located in an area of known significant ground subsidence due to the withdrawal of subsurface fluids. Subsidence may be present but adverse impacts have not been recorded. Therefore, the potential for subsidence occurring at the site due to the withdrawal of oil, gas, or water is considered low.

3.4.7 Flooding

The Flood Insurance Rate Map prepared by the Federal Emergency Management Agency (FEMA) was reviewed to identify the potential flood hazard for the project. This map indicates the site is within Zone X which is defined as being an area with a 0.2-percent-annual-chance-flood and an area of 1-percent-annual-chance flood with average depths of less than 1 foot. Based on this information the potential for the project site to be impacted by regional flooding is considered low. However, the accuracy of this information should be confirmed by a qualified civil engineer/hydrologist. The need and/or method for mitigation of potential flooding should also be addressed.

3.4.8 Oil and Gas Fields

Upon review of the California Division of Oil, Gas & Geothermal Resources (2016) interactive well-finder map accessed at https://maps.conservation.ca.gov/doggr/wellfinder, the El Dorado Hills region does not contain any known abandoned oil wells. Additionally, no active wells are known to exist within the project boundary.

© 2024 Kleinfelder

3.4.9 Naturally Occurring Asbestos

Naturally occurring asbestos (NOA) has been identified as a source of potentially hazardous airborne asbestos fibers when disturbed by mining or earthwork activities, if present (Clinkenbeard et al., 2002). NOA generally occurs within mafic or ultramafic metamorphic rock units in which one of the asbestiform minerals defined by the California Air Resources Board (CARB, 2002) are present. These NOA minerals have unique flexibility and strength characteristics and include asbestiform varieties of the six minerals chrysotile, amosite, crocidolite, tremolite actinolite, and anthophyllite. Kleinfelder gathered asbestos samples within the project alignment and the results were negative for the presence of NOA minerals upon testing. Full results and discussion is published in Kleinfelder's Phase 2 environmental report for this project.

In addition, based on numerous NOA studies Kleinfelder has performed in the project area, typical NOA concentration level ranges (measured as a percent volume using the polarized light microscopy identification method [PLM]) can be identified for the rock types/geologic units present along the project alignment. These typical values can be compared to the threshold limits established by CARB's Airborne Toxic Control Measures (ATCM) for Construction Grading, Quarrying, and Surface Mining Operation (CARB, 2002) to identify whether mitigative measurements need to be implemented during excavation of the foundation towers and how the excavation spoils are to be handled relative to disposal and off-haul. Generally, the metavolcanic rock has concentration levels at or below the threshold level of 0.25 percent. Where NOA levels are at or above 0.25 percent, contractors are required to implement mitigation practices to protect workers and the public from airborne NOA particles generated during earthwork operations. NOA levels at or above 1 percent is considered a hazardous material and will require special handling during transportation and will need to be disposed of at an approved site. The Asbestos Review Areas map (Churchill, 2000) indicates the project site is in an area that has been removed as mappable NOA bearing unit based on geologic evaluation. Based on this data the potential for NOA to be encountered at levels at or exceeding regulatory threshold levels is considered low. However, testing by Costco could be performed to further define NOA concentrations across the project area in order to assist Costco with identifying their risk associated with this hazard. Should levels be equal to or exceed regulatory threshold levels mitigation procedures will need to be implemented. Mitigation alternatives will need to be consistent with guidelines outlined in the CARB's current ATCM and Occupational Safety and Health Administration (OSHA) standards for the handling of NOA.

© 2024 Kleinfelder

4 CONCLUSIONS AND RECOMMENDATIONS

4.1 GENERAL

Based on the results of our field exploration, laboratory testing and engineering analyses conducted during this study, it is our professional opinion that the proposed project is geotechnically feasible, provided the design and construction recommendations presented in this report are incorporated into the project. We identify the following key geotechnical considerations during our study.

- Based on the results of the seismic refraction lines, the near surface soils are comprised of a thin colluvium/residual soil layer varying in thickness from approximately 1½ to 5 feet thick. Below the colluvium/residual soil lies bedrock comprised of highly weathered and fractured metavolcanic rock (Vp = 3,000 to 6,000 ft/s). The strength of this highly weathered rock layer increases in depth and is approximately 10 feet thick. The highly weather rock layer is underlain by slightly weathered, intact rock (Vp > 6,000 ft/s). The depth to the bottom of this layer varies from approximately 10 to 20 feet bgs.
- Soils and rock with velocities of less than 3,000 fps can usually be excavated with conventional earth moving equipment. The intermediate material (velocities between 3,000 fps and 6,000 fps) would likely require heavy equipment and possibly localized use of jackhammers, ram-hoes, or selective blasting to provide cost-effective excavation. Where materials with velocities in excess of 6,000 fps are found, blasting would normally be required for efficient fragmentation. However, if the rock is thinly bedded, jointed, or fractured, it may be possible to break the rock with heavy ripping using a single shank ripper or large ram-hoe. The resulting fragments will be of a size consistent with the fracture spacing and the progress of excavation would be very slow.
- Based on the preliminary grading plans provided by Kier and Wright (project civil engineer), the fuel facility area including the canopy, tanks, and queuing aisles will receive fills of approximately 13 to 18 feet across the site to achieve desired grades. The entrance roadway on the north side will have fills of approximately 4 to 5 feet and on the southern roadway cuts of approximately 5 to 6 feet are planned. In discussions with Costco and the project civil engineer, it has not been decided if fills will be achieved via import soils or balancing the site with rock fill. Fuel facility canopy foundations are anticipated to be founded in structural fill and underground storage tanks will likely tip into the highly weathered rock layer (Vp = 3,000 to 6,000 ft/s).
- Due to the composition of the bedrock, it will not reduce to a soil-like material when excavated and will not be suitable for re-use as structural fill. It is anticipated that crushing

© 2024 Kleinfelder

and processing the harder rock layers will prove challenging and may require soil to be imported onsite. Import materials, if required, should have a Plasticity Index of less than 10 with no less than 70 percent passing the No. 4 sieve, no more than 30 percent of the particles passing the No. 200 sieve, and no particles greater than 3 inches in maximum dimension. The maximum Plasticity Index for imported soils may be modified upon approval by Costco depending on its proposed use. The contractor should provide documentation to Costco that imported fill is free of hazardous materials, including petroleum or petroleum byproducts, chemicals and harmful minerals prior to its transportation and use on site.

- Prior to grading and subgrade preparation, all vegetation should be cut and removed from the site. Roots and vegetative matter in excess of one inch should be removed by screening or raking soils to a minimum depth of 12 inches. Other than plant roots, organic matter in the topsoil is minimal based on our laboratory testing (between one and three percent). The topsoil can be re-used on site in fills.
- A seasonal creek runs through the property from east to west toward Silva Valley Parkway. Soft and wet soils found at the base of seasonal creeks should be removed and replaced to the satisfaction of Kleinfelder's geotechnical representative during construction. Prior to filling in the seasonal creek, subdrains should be installed within the creek bottom. This creek was observed to be flowing rapidly in April 2019.
- Rainfall will infiltrate near surface soils and collect on less permeable soil and rock at shallow depth. Therefore, perched groundwater will likely be present at or near bedrock contact elevation across the site. Temporary dewatering provisions will likely be required during construction, as discussed in Section 5.2.4.
- The proposed fuel facility canopy may be supported on a conventional shallow foundation system founded on structural fill. Light poles may be supported on short drilled piles.
- For areas with new pavements, we recommend that the exposed subgrade be proof-rolled with heavy construction equipment (e.g., loader or smooth-drum roller) to disclose areas of soft and yielding material after the area has been stripped of soft earth materials and debris. Where soft or yielding material are observed, the material should be overexcavated and replaced with structural fill. The proof-rolling should extend beyond the proposed improvements a horizontal distance of at least 2 feet, if practicable.
- After proof-rolling and/or prior to placement of fill, the subgrade should be scarified to a depth of 6 to 8 inches, moisture conditioned, and compacted in accordance with the

© 2024 Kleinfelder

compaction criteria presented in section 5.2.6. The proof-rolling should extend beyond the proposed improvements a horizontal distance of at least 2 feet, if practicable.

- Due to poor draining subgrade conditions, we recommend drainage inlets and catch basins include pavement underdrains as shown in Detail 1 6_16 of the CWDRs.
- Resistivity values below 1,000 ohm-cm are considered extremely corrosive to buried ferrous metals (NACE, 2006). The concentrations of soluble sulfates indicate that the subsurface soils represent a Class S0 exposure to sulfate attack on concrete in contact with the soil based on ACI 318-19 Table 19.3.1.1 (ACI, 2019). Therefore, in accordance with ACI Building Code 318-19, no special provisions for selection of cement type are required.

The following opinions, conclusions, and recommendations are based on the properties of the materials encountered in the borings, the results of the laboratory-testing program, and our engineering analyses performed. Our recommendations regarding the geotechnical aspects of the design and construction of the project are presented in the following sections.

4.2 2022 CBC SEISMIC DESIGN PARAMETERS

According to the 2022 California Building Codes (CBC), every structure, and portion thereof, including non-structural components that are permanently attached to structures and their supports and attachments, shall be designed and constructed to resist the effects of earthquake motions in accordance with ASCE 7-16. The Seismic Design Category for a structure may be determined in accordance with Section 1613 of the 2022 CBC.

Based on information obtained from the investigation, published geologic literature and maps, and on our interpretation of the ASCE 7-16 criteria, it is our opinion that the project site may be classified as Site Class C, Soft Rock. Approximate coordinates for the site are noted below.

Latitude: 38.66208°N
Longitude: 121.05749°W

The Risk-Targeted Maximum Considered Earthquake (MCE_R) mapped spectral accelerations for 0.2 seconds and 1 second periods (S_s and S_1) were estimated using Section 1613 of the 2022 CBC and the Structural Engineering Association (SEA) web based application (available at http:// https://www.seismicmaps.org/). The mapped acceleration values and associated soil amplification factors (F_a and F_v) based on the 2022 CBC and corresponding site modified spectral accelerations (S_{MS} and S_{M1}) and design spectral accelerations (S_{DS} and S_{D1}) are presented in Table 2.

© 2024 Kleinfelder

TABLE 2
2022 CBC SESIMIC DESIGN PARAMETERS

DESIGN PARAMETER	RECOMMENDED VALUE
Site Class	C
S_s (g)	0.404
S_1 (g)	0.207
F_a	1.300
F_v	1.500
S_{MS} (g)	0.526
S_{M1} (g)	0.311
S_{DS} (g)	0.351
S_{D1} (g)	0.207
PGA_M (g)	0.172

4.3 FOUNDATIONS

4.3.1 General

Based on the results of our field exploration, laboratory testing, and geotechnical analyses, the proposed fueling facility canopy may be supported on a conventional shallow foundation system founded on structural fill. New light poles may be supported on short, drilled piles. Recommendations for the design and construction of spread footings and drilled piles are presented below.

4.3.2 Conventional Shallow Foundations

Allowable Soil Bearing Pressure

We understand that new spread footing foundations for the canopies will be embedded approximately 6 to 7 feet below the finished grade. Spread footings founded on structural fill may be designed for a net allowable soil bearing pressure of 3,000 psf for dead plus sustained live loads. A one-third increase in the above bearing pressures can be used for short term load conditions for wind or seismic loads. The footing dimension and reinforcement should be designed by the structural engineer; however, continuous footings should have minimum widths of 18 inches.

© 2024 Kleinfelder

Estimated Settlement

We estimate total static settlement for foundations designed and constructed in accordance with the recommendations presented above to be ½ inch or less. Differential static settlement between similarly loaded footings is estimated to be less than ½ inch over 50 feet. Differential seismic settlement is also estimated to be less than ½ inch over 50 feet.

Lateral Resistance

Lateral load resistance may be derived from passive resistance along the vertical sides of the footings, friction acting at the base of the footing, or a combination of the two. An allowable passive resistance of 250 psf per foot of depth may be used for design. Allowable passive resistance values should not exceed 2,500 psf. An allowable coefficient of friction value of 0.3 between the base of the footings and the engineered fill soils can be used for sliding resistance using the dead load forces. Friction and passive resistance may be combined without reduction. We recommend that the first foot of soil cover be neglected in the passive resistance calculations if the ground surface is not protected from erosion or disturbance by a slab, pavement or in a similar manner.

4.3.3 Drilled Pile Foundations

Axial Capacity

The compressive axial capacity of drilled piles may be estimated based on an allowable skin friction capacity of 200 pounds per square foot. The upper one foot of the skin friction capacity should be ignored. The uplift capacity may be estimated as 70 percent of the allowable compressive axial capacity. A one-third increase in the allowable capacities may be used for transient loading conditions such as wind or seismic loads.

Settlement

Settlement of the proposed canopy supported on drilled piles, as recommended, is estimated to be less than ½ inch.

Lateral Resistance

The drilled pile foundations lateral resistance can be designed in general accordance with Section 1807.3 of the CBC. We recommend a lateral soil bearing pressure of 250 psf per foot of depth below grade. The total lateral soil bearing pressure should not exceed 2,500 psf per pile. Since drilled piles will act as isolated pole foundations, the allowable lateral soil bearing pressure may be increased by

© 2024 Kleinfelder

a factor of 2 for short-term lateral loads provided the structure will not be adversely affected by ½ inch of lateral movement at the ground surface.

4.4 EXTERIOR FLATWORK

Prior to casting exterior flatwork, the subgrade soils should be scarified, moisture conditioned, and recompacted or overexcavated, as recommended in Section 5.2.2. Exterior concrete slabs for pedestrian traffic or landscape should be at least four inches thick. Weakened plane joints should be located at intervals of about 6 feet. Careful control of the water/cement ratio should be performed to avoid shrinkage cracking due to excess water or poor concrete finishing or curing. Unreinforced slabs should not be built in areas where further saturation may occur following construction.

4.5 SITE DRAINAGE

Foundation and slab performance depend greatly on proper irrigation and how well runoff water drains from the site. As such, we recommend that good drainage be provided away from structures and other improvements as discussed below. Drainage should be maintained both during construction and over the entire life of the project. The ground surface around structures should be graded such that water drains rapidly away from structures without ponding. The surface gradient needed to do this depends on the surface type and should follow CWDRs (Costco, 2022).

A seasonal creek is present on the site running east to west, this creek was observed to be flowing rapidly during a previous investigation in 2019. After stripping the site and prior to filling in the creek, subdrains should be installed within the creek bottom.

Due to the presence of shallow rock and because the upper soils are predominately clayey, poor draining subgrade conditions may be present. Accordingly, we recommend drainage inlets and catch basins include pavement underdrains as shown in Detail 16_16 of the CWDRs. Drains should be designed and constructed per Costco's standard details and laterals should extend at least 10 feet from the catch basins. Foundation drains are not necessary.

We recommend that landscape planters either not be located adjacent to buildings and pavement areas or be isolated and properly drained to area drains such that cycles of wetting and drying do not impact pavements, flatwork, and other structures. Drought resistant plants and minimum watering are recommended for planters, if used. No planters should be installed immediately adjacent to structures unless they are water-proofed and have a drainpipe connected to an area drain outlet. Planters should be built such that water exiting from them will not seep into the foundation areas or beneath slabs and pavement. Roof water should be directed to fall on hardscape

© 2024 Kleinfelder

areas sloping to an area drain, or roof gutters and downspouts should be installed and routed to area drains. Roof downspouts and their associated drains should be isolated from other subdrain systems, where used, to avoid flooding. In any event, maintenance personnel should be instructed to keep areas uniformly moist throughout the life of the project (e.g., limit or eliminate cycles of wetting and drying) as cycles of wetting and drying will cause distress in surrounding improvements. Should excessive irrigation, waterline breaks, or unusually high rainfall occur, saturated zones and "perched" groundwater may develop. Consequently, the site should be graded so that water drains away readily without saturating the foundation or landscaped areas. Potential sources of water such as water pipes, drains, and the like should be frequently examined for signs of leakage or damage. Any such leakage or damage should be promptly repaired. Wet utilities should also be designed to be watertight and should be inspected and repaired as needed.

4.6 PAVEMENTS

The required pavement structural sections will depend on the expected wheel loads, volume of traffic, and subgrade soils. We have provided asphalt concrete pavement sections for traffic indices provided in the CWDRs (Costco, 2022). Positive drainage of the paved areas should be provided since moisture infiltration into the subgrade may decrease the life of pavements. Curbing located adjacent to paved areas should be founded in the subgrade, not the aggregate base, in order to provide a cutoff, which reduces water infiltration into the base course.

The following pavement sections are based on the soil conditions encountered during our field investigation, our assumptions regarding final site grades, and limited laboratory testing.

4.6.1 Costco Design Parameters

We developed pavement design recommendations using traffic loading parameters provided in the Costco Wholesale Development Requirements and the following test data:

- A 20-year pavement design life;
- Light-duty pavements subject to 6,600 passenger vehicle trips per year (Traffic Index of 5.0);
- Heavy-duty pavements subject to 30 tractor-trailer truck trips per day (Traffic Index of 7.0);
- For asphalt concrete pavements: an R-value of 15 based on previous laboratory testing results; and
- For Portland cement concrete (PCC) Pavements: a 28-day flexural strength (modulus of rupture determined by the third-point method) of at least 550 pounds per square inch (psi)

© 2024 Kleinfelder

(approximate compressive strength of 4,000 psi); a modulus of subgrade reaction (k value) of 125 pounds per square inch per inch (pci); and interlock at the control joints.

4.6.2 Asphalt Concrete Pavement

We have developed new asphalt concrete pavement, also referred to as Hot Mix Asphalt (HMA) pavements sections in accordance the Caltrans Highway Design Manual in lieu of the Asphalt Institute Manual Series (MS-1) so that the pavement structural sections are somewhat comparable to the existing sections. HMA should conform to requirements of the Costco Wholesale Specification Section 321216, Asphalt Paving. Table 3 presents recommended HMA pavement sections. The designer should select the appropriate pavement sections based on project requirements. Prior to placement of aggregate base, pavement subgrade should be prepared in accordance with Section 5.2.2.

TABLE 3
ASPHALT CONCRETE PAVEMENT SECTIONS

TRAFFIC USE	TRAFFIC INDEX, TI	ASPHALT CONCRETE (INCHES)*	AGGREGATE BASE (INCHES)*
Light-Duty Pavement	5.0	4.0	6.0
Heavy-Duty Pavement	7.0	5.0	10.0

*Rounded to the nearest ½ inch

4.6.3 Asphalt Performance Grade Binder

An asphalt performance grade (PG) binder of 64-10 should be used for the project and is locally available. This recommendation was developed in accordance with Costco Wholesale Asphalt Paving Specification Section 321216. Air temperature data near the project site was used with the MERRA Climate Data option and the PG binder was selected using the FHWA program LTTPBind Online web-based tool based on the AASHTO M323-13 standard. The high-end and low-end temperature rating was selected to provide a reliability of at least 98 and 90 percent, respectively.

4.6.4 Portland Cement Concrete Pavement

We designed PCC pavement in accordance with the Portland Cement Association (PCA) Thickness Design for Concrete Pavements (PCA, 1984) using the design parameters stated above. For heavy-duty pavements, we recommend that PCC pavement should be comprised of

© 2024 Kleinfelder

7.5 inches of PCC with 6.0 inches of aggregate base. Prior to placement of aggregate base, pavement subgrade should be prepared in accordance with Section 5.2.2.

Longitudinal and transverse joint spacing should not exceed 12 feet and 15 feet, respectively. Joint details should conform to PCA guidelines. Expansion joints in concrete slabs should be sealed with petroleum resistant sealant to prevent minor releases from impacting subsurface soil.

4.6.5 Aggregate Base

Aggregate base materials should meet current Caltrans specifications for Class 2 aggregate base and be compacted to at least 95 percent relative compaction (ASTM D1557).

4.7 SOIL CORROSION

A preliminary evaluation of the corrosion potential of the on-site soils to steel and buried concrete was completed during our initial site investigation of the property in 2019. Laboratory testing was performed on two soil samples to evaluate pH, minimum resistivity, chloride, and soluble sulfate content. Results from our samples gathered in 2019 are provided in Table 3 below.

TABLE 4
CORROSION TEST RESULTS

Location	Depth (ft)	Minimum Resistivity (ohm-cm)	pH	Soluble Sulfate Content (ppm)	Soluble Chloride Content (ppm)
TP-1 (2019)	0.5	3,255	6.4	33	34
TP-2 (2019)	0	769	6.6	185	204

These tests are only an indicator of soil corrosivity for the samples tested. Other soils found on site may be more, less, or of a similar corrosive nature. Imported fill materials should be tested to confirm that their corrosion potential is not more severe than those noted.

Resistivity values less than 1,000 ohm-cm are considered extremely corrosive to buried ferrous metals (NACE, 2006). The concentrations of soluble sulfates indicate that the subsurface soils represent a Class S0 exposure to sulfate attack on concrete in contact with the soil based on ACI 318-19 Table 19.3.1.1 (ACI, 2019). Therefore, in accordance with ACI Building Code 318-19, no special provisions for selection of cement type are required.

© 2024 Kleinfelder

Kleinfelder's scope of services does not include corrosion engineering and, therefore, a detailed analysis of the corrosion test results is not included. We understand gasoline station equipment is constructed of corrosion resistant synthetic materials. We recommend the gasoline station designer review these results and consult a corrosion expert for further evaluation, if necessary.

4.8 STORM WATER MANAGEMENT

We have assessed the potential for storm water infiltration into the subgrade soils at the subject project site based on soil type and laboratory testing. Pursuant to the current standard of practice, an infiltration evaluation is a two-step process. The first step is to characterize the site to assess whether infiltration is feasible. If infiltration is feasible, then infiltration testing is needed to provide a design infiltration rate (step two).

Based on visual soil classification and laboratory testing of the soil samples collected during our field exploration, the onsite soils in the upper 5 feet below the existing ground surface at the site are comprised primarily colluvium/residual soil consisted primarily of sandy silts and lean clays underlain by bedrock. Seasonal perched groundwater was also observed within these soils above the bedrock. Given the low infiltration capacity of the on-site soils and observed perched groundwater, we recommend alternatives to infiltration Best Management Practices (BMPs), such as bio filtration/bio-retention systems (bio-swales and planter boxes), be implemented at the project site.

If bio-filtration/bio-retention systems are employed, we recommend that the BMPs be built such that water exiting from them will not seep into the foundation areas or beneath slabs and pavement. If planters are located within 10 feet of the structures, or adjacent to slabs and pavements, then some means of diverting water away from the building, building foundation soils, or soils that support slabs and pavements would be required, such as lining the planters.

© 2024 Kleinfelder

5 CONSTRUCTION RECOMMENDATIONS

5.1 GENERAL

The following recommendations should be used by the contractor for construction of the project.

5.2 EARTHWORK

5.2.1 General

Site preparation and earthwork operations should be performed in accordance with applicable codes, safety regulations and other local, state, or federal specifications, and the recommendations included in this report. References to maximum dry unit weights are established in accordance with the latest version of ASTM Standard Test Method D1557 (modified Proctor). The earthwork operations should be observed and tested by a representative of Kleinfelder.

5.2.2 Site Preparation

Abandoned utilities, existing pavements, foundations, and other existing improvements within the proposed fuel facility area should be removed and the excavation(s) backfilled with engineered fill. Debris produced by demolition operations, including wood, steel, piping, plastics, etc., should be separated and disposed of off-site. Existing utility pipelines or conduits that extend beyond the limits of the proposed construction and are to be abandoned in place, should be plugged with non-shrinking cement grout to prevent migration of soil and/or water. Demolition, disposal, and grading operations should be observed and tested by a representative of Kleinfelder. Areas to receive fill should be stripped of all dry or soft earth materials and unsuitable fill materials to the satisfaction of a representative of Kleinfelder. In addition, a seasonal creek runs through the property from east to west, soft and wet soils at the base of creeks must be removed and replaced with structural fill to the satisfaction of Kleinfelder's Geotechnical representative during construction. Prior to filling in the seasonal creek, subdrains should be installed within the creek bottom.

After the area has been stripped/grubbed of organic material and soft earth materials and debris have been removed and prior to fill placement, we recommend that the exposed subgrade be proof-rolled with heavy construction equipment (e.g., loader or smooth-drum roller) to disclose areas of soft and yielding material. Where soft and yielding material is observed, it should be over excavated and replaced as structural fill. After proof-rolling and/or prior to placement of fill, the subgrade should be scarified to a depth of 8 to 12 inches, moisture conditioned, and compacted

© 2024 Kleinfelder

in accordance with the compaction criteria presented in section 5.2.4. The proof-rolling should extend beyond the proposed improvements a horizontal distance of at least 2 feet, if practicable.

Per our previous investigation in Spring of 2019, perched groundwater may be present at bedrock contact (as shallow as 1-2 feet bgs). The contractor should anticipate that pumping subgrade conditions may be encountered during site grading activities due to shallow perched groundwater, and the subgrade may need to be stabilized with geotextiles and crushed rock. Recommendations to stabilize pumping subgrade are provided in Section 5.3.

5.2.3 Permanent Slopes

Permanent slopes should be constructed at 2:1 (horizontal to vertical) or flatter. Slopes will be subject to erosion and should be planted as soon as practicable. Where new fill slopes are to be constructed on hillsides or existing slopes, the topsoil, colluvial soils, and other materials considered unsuitable should be removed. Where the exposed slope is steeper than 5:1, or where recommended by personnel by our firm, the original ground on which fill is to be placed should be keyed and benched. The benches should extend in the underlying bedrock. Key should be at least 8 feet wide and sloped a minimum of 2 percent towards the slope. Benches should be at least 4 feet wide and not exceed 4 feet in height. Fill slopes should be overbuilt by 2 feet then cut back to facilitate compaction at the face. Fill and cut slopes should be observed by our firm during grading to evaluate the anticipated geologic conditions and make any necessary modifications.

5.2.4 Groundwater Impacts

Rainfall will infiltrate near surface soils and collect on less permeable soil and rock at shallow depth. Perched groundwater above the bedrock was encountered in test pits excavated in Spring 2019 that were advanced following a period of heavy rainfall and may be encountered during construction. This is most likely to occur following periods of rainfall and in the winter and spring months. If encountered, excavations which encounter perched groundwater will need to be temporarily dewatered. In our opinion, dewatering of narrow trench excavations, which penetrate less than a few feet below the groundwater level and do not encounter loose and/or cohesionless soils, may be possible by directing inflow to a sump where water can be removed by a pump. Temporary dewatering of wider, deeper, and/or more extensive excavations may require well points, deep wells, and/or deep sumps. To help maintain bottom stability of wider, deeper, and/or more extensive excavations, groundwater levels should be drawn-down a minimum of 2 feet below the lowest portion of the excavation. Since temporary dewatering will impact and be dependent on construction methods and scheduling, we recommend the contractor be solely

© 2024 Kleinfelder

responsible for the design, installation, maintenance, and performance of all temporary dewatering systems.

Depending on the depth of excavation below perched groundwater, soil conditions encountered along the excavation face, and slope inclination, caving or sloughing of excavation slopes is likely within the vicinity of a sump dewatering system. Sloughing or caving of excavation slopes could endanger personnel working within or adjacent to the excavation as well as nearby equipment, structures, or other existing improvements. The contractor should be aware of the potential for caving and take appropriate precautions to ensure the safety of site personnel as well as the integrity of the excavation slopes and any existing, nearby structures or other improvements.

5.2.5 Foundation Excavations

Shallow Foundations

Following excavation to the foundation subgrade elevations, the exposed subgrade should be observed by a representative of the geotechnical engineer to evaluate the presence of satisfactory materials at design elevations. If unsatisfactory material, such as soft or disturbed soil, debris or otherwise unsuitable soil is present at the base of footing excavations, then unsuitable materials should be overexcavated and replaced (e.g., with structural concrete, 2-sack sand-cement slurry, structural fill) to the depth and extent determined by the geotechnical engineer. As a minimum, the contractor should be prepared to scarify, moisture condition, and re-compact the upper 12 inches of footing subgrade.

Drilled Pile Foundations

The performance and capacities of piles can be influenced significantly by the selected construction methods and procedures used. Construction methods that create large zones of disturbance around the drilled shafts can lead to lower-than-expected skin friction due to excessive stress relief around the shaft length. Drilling of the pile shafts should be accomplished using conventional heavy-duty excavation equipment maintained in good condition. It should be noted that shallow bedrock may be encountered in cut areas and difficult excavation conditions may be encountered. The foundation drilling contractor should select equipment and tooling that is capable of reaching the planned foundation depths in such material.

Concrete should be placed immediately after drilling of the hole is complete. The concrete should be pumped to the bottom of the drilled shaft using a down-hole tremie. If steel casing is used, the

© 2024 Kleinfelder

casing should be removed as the concrete is placed, but the bottom of the casing should be kept at least 5 feet below the top of the concrete.

5.2.6 Fill Material and Compaction Criteria

Materials placed below pavement or structures should be structural fill. The on-site soils, minus any debris, organic matter, or other deleterious materials may be used as structural fill. Rock or other soil fragments greater than 6 inches in size should not be used in the fills and disposed off-site.

We recommend granular (sandy) fill soils and imported material should be compacted to at least 95 percent of the maximum dry unit weight (ASTM D1557) in accordance with the CWDRs. Due to compaction difficulties, we do not recommend compacting the onsite clayey soils to 95 percent relative compaction in accordance with the CWDRs. Clayey fill soils should be compacted to between 92 percent of the soil's maximum dry unit weight (ASTM D1557). Compacting the onsite clayey soils to at least 92 percent relative compaction will achieve the necessary strength assumed in our design recommendations.

Fill should be placed in loose horizontal lifts not more than 8 inches thick (loose measurement). The moisture content of the fill should be maintained at -2 to +2 percent of optimum for sandy soils and +2 percent above of optimum for clayey soils during compaction. The moisture content of the clayey fill is considered very important, and therefore, both relative compaction and moisture content should be used to evaluate compaction acceptance. If both criteria are not within the specified tolerances, the fill should not be accepted, and the contractor should rework the material until the fill is placed within the specified tolerances.

Moisture reduction processing of on-site soil maybe required prior to placement as structural fill. Processing may require ripping the material, disking to break up clumps, and blending to attain uniform moisture contents necessary for compaction. Compaction of mass graded areas should be accomplished with a sheep's foot type roller compactor to aid in moisture conditioning. Utility trench backfill should be mechanically compacted. Flooding should not be permitted.

Import soils, if required, should have no particles greater than 3 inches in maximum dimension, no less than 70 percent of the particles passing the No. 4 sieve, no more than 30 percent of particles passing the No. 200 sieve, and a Plasticity Index (PI) less than 10. The contractor should provide documentation that all imported soil is free of hazardous materials, including petroleum or petroleum byproducts, chemicals and harmful minerals. Test results with the geotechnical and

© 2024 Kleinfelder

analytical properties of the proposed import material should be provided to Costco for approval prior to transportation and use on site.

5.2.7 Excavation Characteristics

Due to the relatively deep site fills anticipated (about 13 to 18 feet), the excavations for the USTs and foundations should be excavatable with conventional heavy-duty construction equipment maintained in good condition. However, if onsite excavations and grading operations extend into the highly weathered bedrock layer, the contractor should expect the following excavation conditions.

Based on the results of the seismic refraction lines, the near surface soils are comprised of a colluvium/residual soil layer varying in thickness from approximately 1½ to 5 feet thick. Below the colluvium/residual soil, bedrock comprised of highly weathered and fractured metavolcanic rock (Vp = 3,000 to 6,000 ft/s). The strength of this highly weathered rock increases in depth and is approximately 10 feet thick. The highly weather rock layer is underlain by slightly weathered, intact rock (Vp > 6,000 ft/s). The depth to the bottom of this layer varies as well but is approximately 10 to 20 feet bgs based on seismic refraction lines SL-1 through SL-3 across the entire site. The results of the seismic refraction survey are presented in Appendix C.

Soils and rock with velocities of less than 3,000 fps can usually be excavated with conventional earth moving equipment. Where materials with velocities in excess of 6,000 fps are found, blasting would normally be required for efficient fragmentation. However, if the rock is thinly bedded, jointed, or fractured, it may be possible to break the rock with heavy ripping using a single shank ripper or large ram-hoe. The resulting fragments will be of a size consistent with the fracture spacing and the progress of excavation would be very slow. The intermediate material (velocities between 3,000 fps and 6,000 fps) would likely require heavy equipment and possibly localized use of jackhammers, ram-hoes, or selective blasting to provide cost-effective excavation. If encountered, locally massive (unfractured) or resistant zones of rock may decrease production and require the use of a rock drill, hydraulic hammer, or other specialized rock excavating attachments. The presence of oversized materials, such as cobbles and boulders, should also be anticipated.

A representative of Kleinfelder should be present during excavation in this area to observe the soil conditions. If soft, loose, or deleterious materials are encountered in the base of the excavation then the materials should be removed and replaced as compacted fill or otherwise remediated to provide competent bearing material under site improvements.

© 2024 Kleinfelder

5.2.8 Temporary Excavations

All excavations must comply with applicable local, state, and federal safety regulations, including OSHA requirements. The responsibility for excavation safety and stability of temporary construction slopes lies solely with the contractor. We are providing this information below solely as a service to our client. Under no circumstances should this information provided be interpreted to mean that Kleinfelder is assuming responsibility for final engineering of excavations or shoring, construction site safety, or the contractors' activities; such responsibility is not being implied and should not be inferred.

Minor sloughing and/or raveling of slopes should be anticipated as they dry out. Where space for sloped embankments is not available, shoring will be necessary. In addition, excavations within a 1:1 plane extending downward from a horizontal distance of 2 feet beyond the bottom outer edge of existing improvements should not be attempted without bracing and/or underpinning the footings, as discussed above. The geotechnical engineer or their field representative should observe the excavations so that modifications can be made to the excavations, as necessary, based on variations in the encountered soil conditions. All applicable excavation safety requirements and regulations, including OSHA requirements, should be met.

All trench excavations should be braced and shored in accordance with good construction practice and all applicable safety ordinances and codes. Stockpiled (excavated) materials should be placed no closer to the edge of an excavation than a distance equal to the depth of the excavation, but no closer than 4 feet.

5.2.9 Trench Backfill

Pipe zone backfill (i.e., material beneath and in the immediate vicinity of the pipe) should consist of imported soil less than ¾-inch in maximum dimension. Trench zone backfill (i.e., material placed between the pipe zone backfill and finished subgrade) may consist of onsite soil or imported fill that meets the requirements for engineered fill provided above.

If imported material is used for trench zone backfill, we recommend it consist of silty sand. In general, gravel and cobble should not be used for trench zone backfill due to the potential for soil migration into the relatively large void spaces present in this type of material and water seepage along trenches backfilled with coarse-grained sand and/or gravel.

Recommendations provided above for pipe zone backfill are minimum requirements only. More stringent material specifications may be required to fulfill local building requirements and/or

© 2024 Kleinfelder

bedding requirements for specific types of pipes. We recommend the project civil engineer develop these material specifications based on planned pipe types, bedding conditions, and other factors beyond the scope of this study.

Trench backfill should be placed and compacted in accordance with recommendations provided for structural fill in Section 5.2.6. Mechanical compaction is recommended; ponding or jetting should be avoided, especially in areas supporting structural loads or beneath concrete slabs supported on grade, pavements, or other improvements.

5.3 UNSTABLE SUBGRADE CONDITIONS

It is common to encounter wet, unstable soils upon removal of site pavements or flatwork as a result of subsurface moisture becoming trapped beneath relatively impervious asphalt concrete or Portland cement concrete surfaces. Pumping subgrade conditions may be encountered during site grading activities, and the subgrade may need to be stabilized with geotextiles and crushed rock or chemical treatment. Additionally, should grading be performed during or following periods of rainfall, the moisture content of the near-surface soils will also be significantly above the optimum moisture content. These conditions could seriously impede grading by causing an unstable subgrade condition. Typical remedial measures include the following:

- Drying: Drying unstable subgrade involves disking or ripping wet subgrade to a depth of approximately 18 to 24 inches and allowing the exposed soil to dry. Multiple passes of the equipment (likely on a daily basis) will be needed because as the surface of the soil dries, a crust forms that reduces further evaporation. Frequent disking will help prevent the formation of a crust and will promote drying. This process could take several days to several weeks depending on the depth of ripping, the number of passes, and the weather.
- Removal and Replacement with Crushed Rock and Geotextile Fabric: Unstable subgrade could be over-excavated 12 to 24 inches below existing grade and replaced with ¾- or 1-inch crushed rock underlain by geotextile fabric. The geotextile fabric should consist of a woven geotextile, such as Mirafi 600HP series or equivalent. The final depth of removal will depend upon the conditions observed in the field once over-excavation begins. The geotextile fabric should be placed in accordance with the manufacturer's recommendations.
- Chemical Treatment: Unstable subgrade could be stabilized by mixing the upper 12 to 18 inches of the subgrade with Portland cement, Class C flyash or lime. For estimating purposes, an application rate of 10 to 12 percent Class C flyash, 3 to 5 percent high

© 2024 Kleinfelder

calcium quick lime, or 4 to 5 percent Portland cement may be used. Final application rates should be determined in the field at the time of construction in consultation with the geotechnical engineer. Chemical treatment should be performed by a specialty contractor experienced in this work. Since soil treatment uses the on-site soil, the expense of importing material can be avoided.

5.4 EXTERIOR FLATWORK

Prior to casting exterior flatwork, the subgrade soils should be moisture conditioned and recompacted or overexcavated, as recommended in Section 5.2.2. The moisture content of the subgrade soils should be maintained at least optimum prior to the placement of any flatwork. In the event that these subgrade soils are allowed to dry out, the exposed subgrade should be re-moisture conditioned.

Exterior concrete slabs for pedestrian traffic or landscape should be at least four inches thick. Weakened plane joints should be located at intervals of about 6 feet. Careful control of the water/cement ratio should be performed to avoid shrinkage cracking due to excess water or poor concrete finishing or curing. Unreinforced slabs should not be built in areas where further saturation may occur following construction.

5.5 PAVEMENTS

5.5.1 HMA Design

Hot Mix Asphalt (HMA) should conform to requirements of the Costco Wholesale Specification Section 321216, Asphalt Paving. Section 1.3.C of the HMA specification requires that the HMA section be placed in at least two lifts. The HMA specification allows the use of ½- or ¾-inch Nominal Maximum Aggregate Size (NMAS) mixes for the base course and ⅜- or ½-inch NMAS mixes for surface course. Maximum and minimum HMA compacted lift thicknesses are provided in Table 3.1 in Section 3.3.B of the HMA specification.

5.5.2 Construction Considerations

The pavement sections provided in Section 4.6 are contingent on the following recommendations being implemented during construction.

- Pavement subgrade should be prepared as recommended in Section 5.2.2.
- Subgrade soils should be in a stable, non-pumping condition at the time the aggregate base materials are placed and compacted.

© 2024 Kleinfelder

- Aggregate base materials should be moisture conditioned to at least the optimum moisture content and compacted to at least 95 percent relative compaction (ASTM D1557).
- Asphalt paving materials and placement methods should meet current Costco Wholesale Specifications Section 321216.
- Adequate drainage (both surface and subsurface) should be provided such that the subgrade soils and aggregate base materials are not allowed to become wet.

Note that pavement materials and construction must be completed in strict accordance with the Costco's specifications that contain very specific pavement material (asphalt, aggregate and concrete) criteria and construction practices to be used (compaction and material sampling). The general contractor and pavement construction subcontractor should be aware that asphalt and concrete mix designs must be submitted to the design architect and Kleinfelder at least 45 days prior to the scheduled production and laydown for review and approval.

© 2024 Kleinfelder

6 ADDITIONAL SERVICES

6.1 PLANS AND SPECIFICATIONS REVIEW

We recommend that Kleinfelder perform a general review of the project plans and specifications before they are finalized to verify that our geotechnical recommendations have been properly interpreted and implemented during design. If we are not accorded the privilege of performing this review, we can assume no responsibility for misinterpretation of our recommendations.

6.2 CONSTRUCTION OBSERVATION AND TESTING

The construction process is an integral design component with respect to the geotechnical aspects of a project. Because geotechnical engineering is an inexact science due to the variability of natural processes, and because we sample only a limited portion of the soils affecting the performance of the proposed structure, unanticipated or changed conditions can be encountered during grading. Proper geotechnical observation and testing during construction are imperative to allow the geotechnical engineer the opportunity to verify assumptions made during the design process. Therefore, we recommend that Kleinfelder be retained during the construction of the proposed improvements to observe compliance with the design concepts and geotechnical recommendations, and to allow design changes in the event that subsurface conditions or methods of construction differ from those assumed while completing this study.

Our services are typically needed at the following stages of grading.

- During grading;
- During the installation of temporary construction shoring;
- After the overexcavation, but prior to scarification;
- During utility trench backfill;
- During base placement and site paving; and
- After excavation for foundations.

© 2024 Kleinfelder

7 LIMITATIONS

This geotechnical study has been prepared for the exclusive use of Costco Wholesale and their agents for specific application to the proposed fuel facility located at Silva Valley Parkway (APN 122-720-019) in El Dorado Hills, California. The findings, conclusions and recommendations presented in this report were prepared in accordance with generally accepted geotechnical engineering practice. No other warranty, express or implied, is made.

The scope of services was limited to a background data review and the field exploration described in Section 1.2. It should be recognized that definition and evaluation of subsurface conditions are difficult. Judgments leading to conclusions and recommendations are generally made with incomplete knowledge of the subsurface conditions present due to the limitations of data from field studies. The conclusions of this assessment are based on our field exploration and laboratory testing programs, and engineering analyses.

Kleinfelder offers various levels of investigative and engineering services to suit the varying needs of different clients. Although risk can never be eliminated, more detailed and extensive studies yield more information, which may help understand and manage the level of risk. Since detailed study and analysis involves greater expense, our clients participate in determining levels of service, which provide information for their purposes at acceptable levels of risk. The client and key members of the design team should discuss the issues covered in this report with Kleinfelder, so that the issues are understood and applied in a manner consistent with the owner's budget, tolerance of risk and expectations for future performance and maintenance.

Recommendations contained in this report are based on our field observations and subsurface explorations, limited laboratory tests, and our present knowledge of the proposed construction. It is possible that soil or groundwater conditions could vary between or beyond the points explored. If soil or groundwater conditions are encountered during construction that differ from those described herein, the client is responsible for ensuring that Kleinfelder is notified immediately so that we may reevaluate the recommendations of this report. If the scope of the proposed construction, including the estimated Traffic Index or locations of the improvements, changes from that described in this report, the conclusions and recommendations contained in this report are not considered valid until the changes are reviewed, and the conclusions of this report are modified or approved in writing, by Kleinfelder.

© 2024 Kleinfelder

The scope of services for this subsurface exploration and geotechnical report did not include environmental assessments or evaluations regarding the presence or absence of wetlands or hazardous substances in the soil, surface water, or groundwater at this site.

Kleinfelder cannot be responsible for interpretation by others of this report or the conditions encountered in the field. Kleinfelder must be retained so that all geotechnical aspects of construction will be monitored on a full-time basis by a representative from Kleinfelder, including site preparation, preparation of foundations, and placement of engineered fill and trench backfill. These services provide Kleinfelder the opportunity to observe the actual soil and groundwater conditions encountered during construction and to evaluate the applicability of the recommendations presented in this report to the site conditions. If Kleinfelder is not retained to provide these services, we will cease to be the engineer of record for this project and will assume no responsibility for any potential claim during or after construction on this project. If changed site conditions affect the recommendations presented herein, Kleinfelder must also be retained to perform a supplemental evaluation and to issue a revision to our original report.

This report, and any future addenda or reports regarding this site, may be made available to bidders to supply them with only the data contained in the report regarding subsurface conditions and laboratory test results at the point and time noted. Bidders may not rely on interpretations, opinion, recommendations, or conclusions contained in the report. Because of the limited nature of any subsurface study, the contractor may encounter conditions during construction which differ from those presented in this report. In such event, the contractor should promptly notify the owner so that Kleinfelder's geotechnical engineer can be contacted to confirm those conditions. We recommend the contractor describe the nature and extent of the differing conditions in writing and that the construction contract include provisions for dealing with differing conditions. Contingency funds should be reserved for potential problems during earthwork and foundation construction.

This report may be used only by the client and only for the purposes stated, within a reasonable time from its issuance, but in no event later than one year from the date of the report. Land use, site conditions (both on site and off site) or other factors may change over time, and additional work may be required with the passage of time. Any party, other than the client who wishes to use this report shall notify Kleinfelder of such intended use. Based on the intended use of this report and the nature of the new project, Kleinfelder may require that additional work be performed and that an updated report be issued. Non-compliance with any of these requirements by the client or anyone else will release Kleinfelder from any liability resulting from the use of this report by any unauthorized party and the client agrees to defend, indemnify, and hold harmless Kleinfelder from any claims or liability associated with such unauthorized use or non-compliance.

© 2024 Kleinfelder

8 REFERENCES

Advanced National Seismic System (ANSS), 2011, http://www.quake.geo.berkeley.edu/cass

American Concrete Institute (ACI), 2019, Building Code Requirements for Structural Concrete (ACI 318-19) and Commentary (ACI 318R-19).

American Society of Civil Engineers (ASCE), 2019. Minimum Design Load for Buildings and Other Structures (ASCE/SEI 7-16) and supplements.

Asphalt Institute, 2001. Thickness Design: Asphalt Pavements for Highways and Streets, Manual Series 1 (MS1), 9th Edition.

California Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR), 2016. interactive oil well location map, available at website: http://maps.conservation.ca.gov/doggr/index.html.

California Department of Water Resources (DWR), 2016, interactive water well location map, available at website: http://well.water.ca.gov/.

California Geological Survey (CGS), 2010, Fault Activity Map of California (2010) available at website: http://maps.conservation.ca.gov/cgs/fam/

California Geological Survey (CGS), 2024, Earthquake Fault Zones – A Guide for Government Agencies, Property Owners/Developers, and Geoscience Practitioners for Assessing Fault Rupture Hazards in California: California Geological Survey Special Publication 42, 83p.

California State Water Resources Control Board, Geo Tracker data management system, accessed via web March 2023 https://geotracker.waterboards.ca.gov/

CARB (California Air Resources Board), (2002), Asbestos Airborne Toxic Control Measures (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations.

Caterpillar, (2000) Caterpillar Performance Handbook, 12th Edition available at website: https://www.wagnerequipment.com/caterpillar-performance-handbook-no-45/

Churchill, R. K., Higgins, C. T., and Hill, B. (2000), Areas More Likely to Contain Natural Occurrences of Asbestos in Western El Dorado County, California, California Geological Survey, Open-File Report 2000-002.

© 2024 Kleinfelder

Clinkenbeard, J.P., Churchill, R.K., and Lee, K. (2002), Special Publication 124 – Guidelines for Geologic Investigations of Naturally Occurring Asbestos in California.

Costco, 2022. Costco Wholesale Development Requirements, Version 2022, dated October 28, 2022.

FEMA Flood Map Service Center accessed in August 2024 at https://msc.fema.gov/portal/home

Hart, E.W. and Bryant, W.A., 1997 (revised), Fault-rupture hazard zones in California: California Department of Conservation, Division of Mines and Geology Special Publication 42, 38 p. (Revised periodically; information on state law and zoning program for regulating development near hazardous faults.)

International Code Council, Inc., 2022, California Building Code.

Jennings, C.W. and Bryant, W.A. (2010). Fault Activity Map of California: California Geological Survey.

Kleinfelder, 2019 “Preliminary Site Preparation Recommendations, Proposed Costco Wholesale Warehouse and Fuel Facility, Silva Valley Parkway, El Dorado Hills, California, CW# 18-0487” dated October 31, 2019.

Kleinfelder, 2024 “Asbestos and Lead Sampling, Proposed Costco Warehouse and Gasoline Station, Silva Valley Parkway, Assessor Parcel Numbers 122-720-002, 122-720-018, 122-720-019, 122-720-020, and 122-720-021, El Dorado Hills, El Dorado County, California, CW# 18-0487” dated October 1, 2024.

Loyd, R., Anderson, T, and Bushnell, et all (1983), Mineral Land Classification of the Placerville 15-minute Quadrangle, El Dorado and Amador Counties, California, California Geological Survey (formerly California Division of Mines and Geology) Open File Report 83-29 SAC.

Loyd, R. (1984) Mineral Land Classification of the Folsom 15-minute Quadrangle, Sacramento, El Dorado Placer, and Amador Counties, California, California Geological Survey (formerly California Division of Mines and Geology) Open File Report 84-50 SAC.

National Association of Corrosion Engineers (NACE), 2006. “Corrosion Basics, An Introduction, 2nd Edition” National Association of Corrosion Engineers.

OSHPD, 2024, Seismic Design Maps website, accessed via web August 2024 https://seismicmaps.org/.

© 2024 Kleinfelder

Portland Cement Association (PCA), 1984, Thickness Design for Concrete Highway and Street Pavements, Skokie, Illinois: Portland Cement Association.

Portland Cement Association, 1988. Design and Control of Concrete Mixtures, Portland Cement Association, Skokie, Illinois.

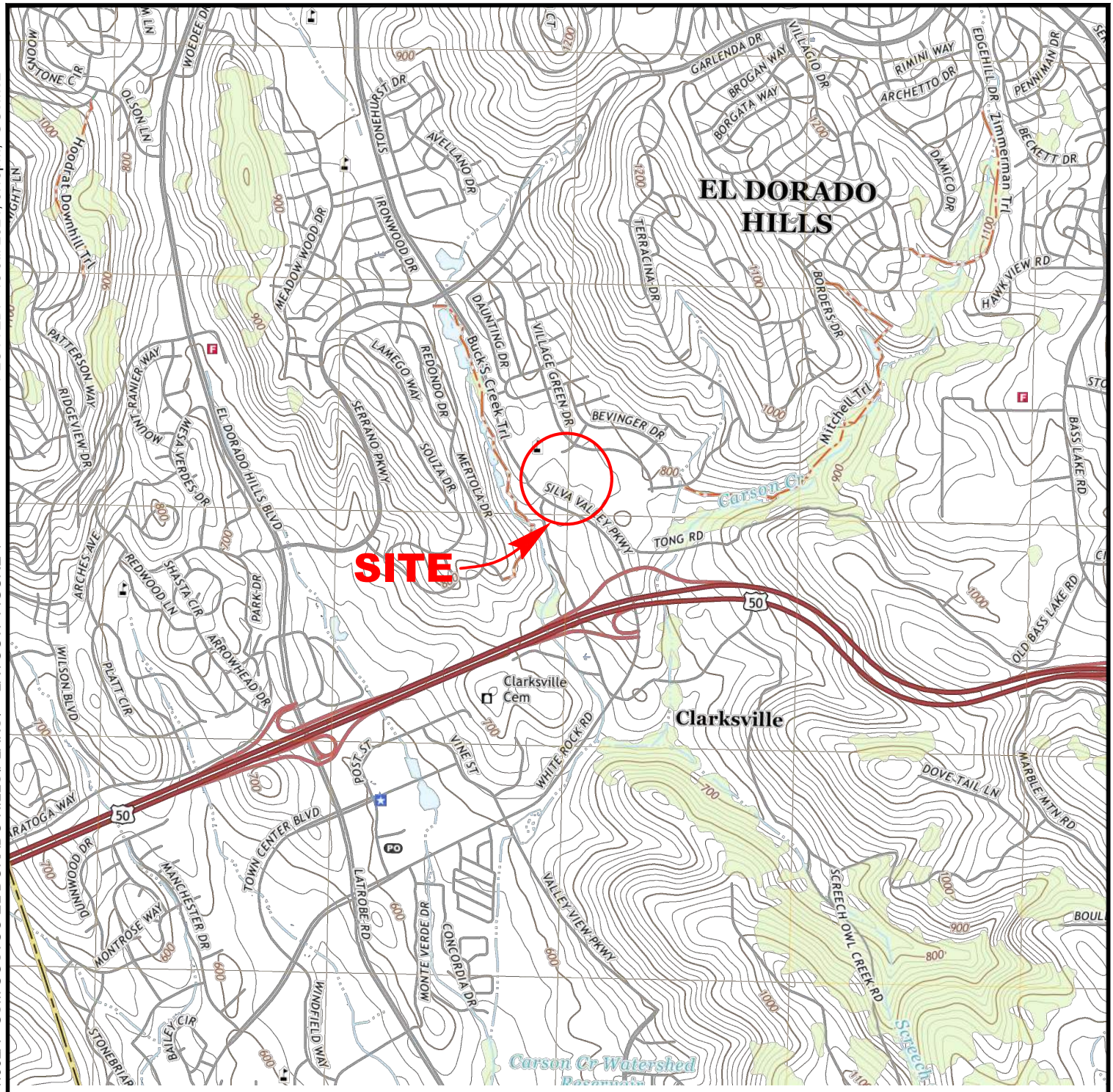
United States Geological Survey (USGS), 2003. National Seismic Hazard Mapping Project https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=regulatorymaps.

© 2024 Kleinfelder

KLEINFELDER

Bright People. Right Solutions.

Figures





0 2000 4000

SCALE: 1" = 2000' SCALE IN FEET

REFERENCE:
Clarksville, ca. Quadrangle California 7.5-Minute Series

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

CAD FILE: W:\2019\20193141.002A - CSM COSTCO EL DORADO HILLS\PLANS\ LAYOUT: FIGURE 1
PLOTTED: 18 Jul 2024, 3:15pm, GGomez

ATTACHED IMAGES:
ATTACHED XREFS:
OFFICE_NAME

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

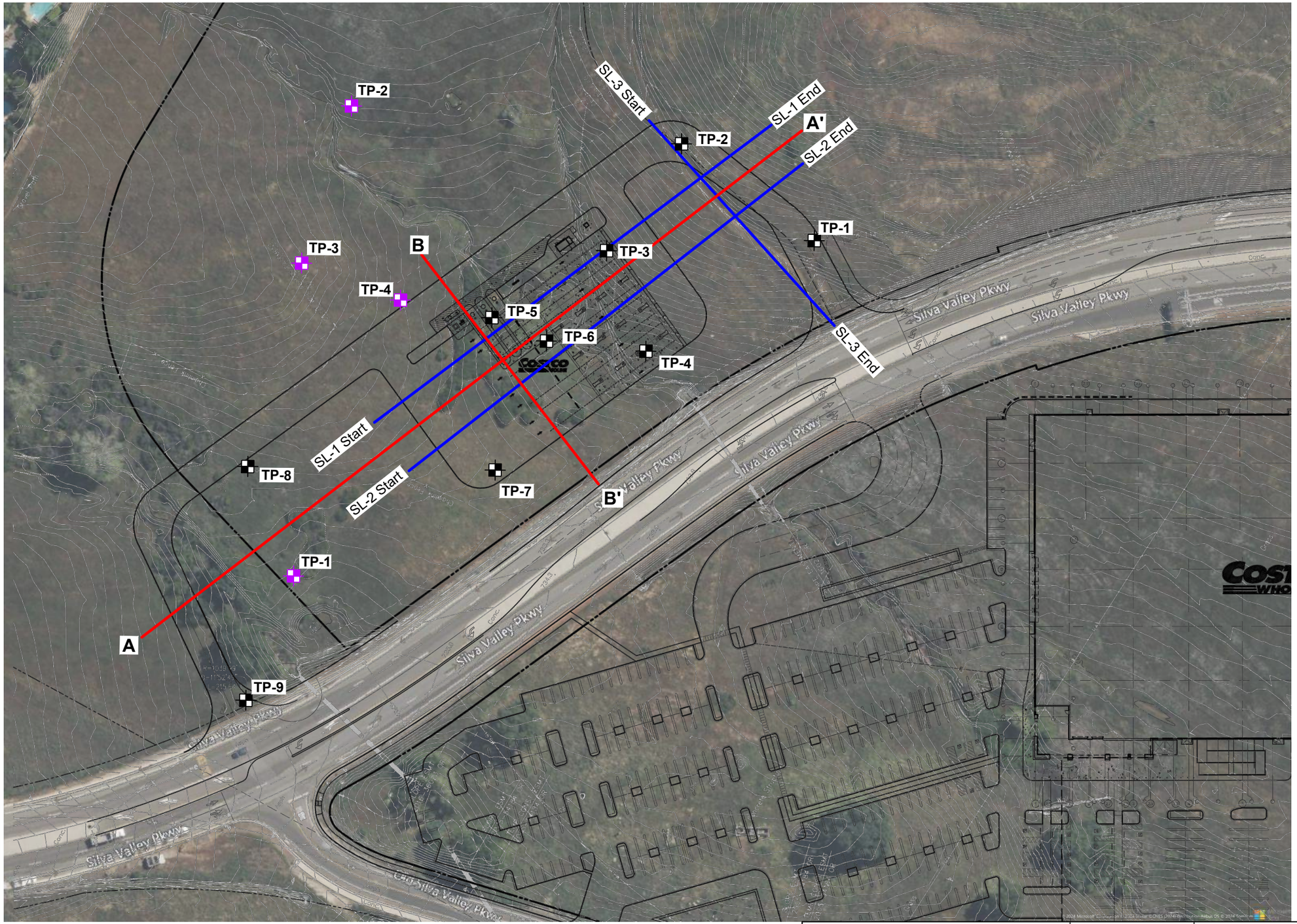
PROJECT NO. 20193141.002A
DRAWN: 7/18/2024
DRAWN BY: GG
CHECKED BY: DA
FILE NAME: STO24D053.CAD

SITE VICINITY MAP

PROPOSED COSTCO FUEL FACILITY
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
1

PLOTTED: 12/10/2024 11:35 AM BY: jeff sala



LEGEND

- CROSS SECTIONS
- SEISMIC LINES
- TEST PIT LOCATIONS (2024)
- TEST PIT LOCATIONS (2019)

0 100 200

SCALE: 1" = 100' SCALE IN FEET

CAD FILE: P:\2025\20193141.002A - Costco El Dorado Hills\20193141.dwg LAYOUT: F2

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

REFERENCE:
PDF FILE: A18655 PRELIM GRADES

KLEINFELDER
Bright People. Right Solutions.

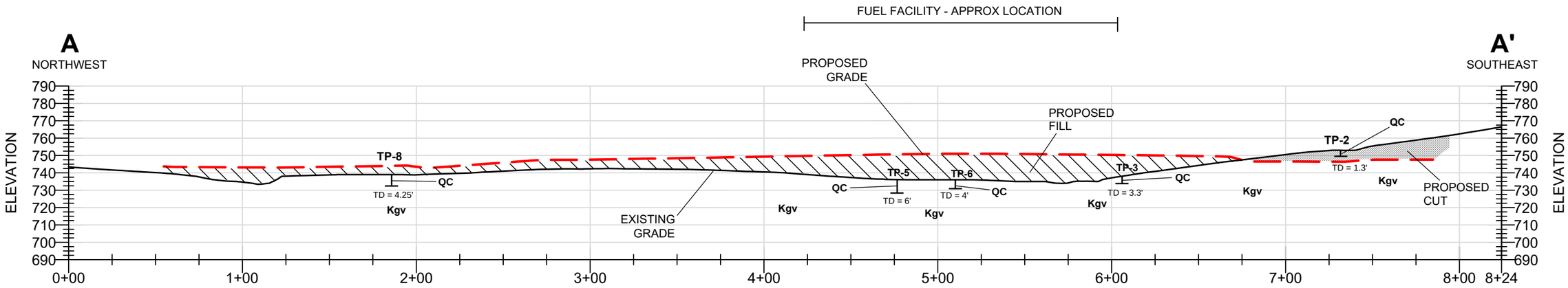
PROJECT NO.	20193141
DRAWN BY	JDS
CHECKED BY	DD
DATE:	12/10/2024
REVISED:	

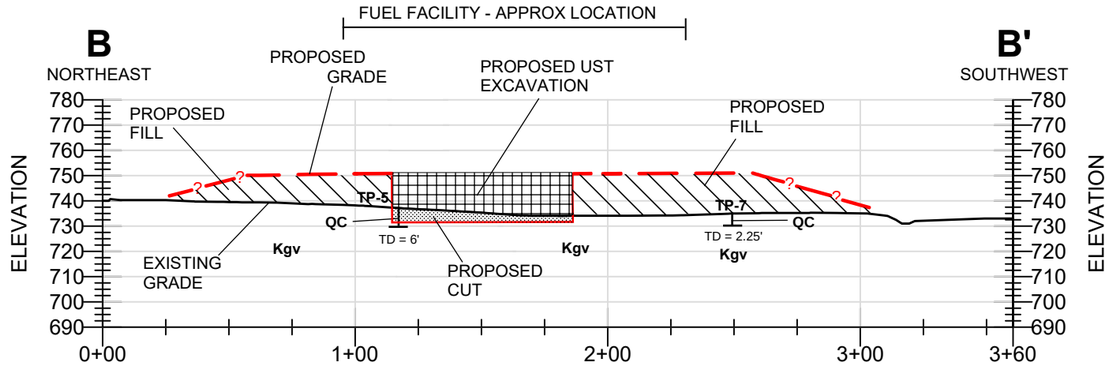
EXPLORATION LOCATION MAP

PROPOSED COSTCO FUEL FACILITY
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
2

PLOTTED: 8/7/2024 11:31 PM BY: dean fahrney





60 30 0 60

APPROXIMATE SCALE (feet)

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

EXPLANATION

QC Colluvial/Residual Soils comprised of sandy silts and lean clays with variable amount of sand and gravel. Observed to be approximately 1 to 5 feet thick.

Kgv Metavolcanic Rock - Highly Weathered within upper 10 feet (Vp = 3,000 to 6,000 ft/s), Slightly Weather intact rock below 10 to 15 feet bgs (Vp > 6,000 ft/s)

**UST excavation location and depth estimated as it was not depicted on grading plans provided by Kier and Wright.

KLEINFELDER
Bright People. Right Solutions.

PROJECT:	20193141
DRAWN BY	DMF
CHECKED BY	DD
DATE:	08/2024
REVISED:	-

CROSS-SECTIONS
A-A' AND B-B'

PROPOSED COSTCO FUEL FACILITY
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
3

CAD FILE: C:\Users\DFahrney\Downloads\20193141\20193141_Costco-El-Dorado.dwg LAYOUT: 1

KLEINFELDER

Bright People. Right Solutions.

Appendix A

APPENDIX A
FIELD EXPLORATIONS

GENERAL

Our field exploration program consisted of excavating nine test pits. The test pits were excavated on July 9, 2024. Prior to commencement of the fieldwork, the test pit locations were cleared for buried utilities through Underground Service Alert (USA).

Nine test pits were excavated by Gulf Shore Exploration of Rancho Cordova, California using a John Deere 50G track-mounted excavator to excavate to depths ranging from 1½ to 9 feet bgs. The logs of the test pits are attached to this appendix. The approximate locations of the test pits are presented on Figure 2.

An explanation to the log is presented as Figure A-1 and A-2. The logs of the test pits are presented on Figures A-3 through A-11. The test pits describe the earth materials encountered, samples obtained and show field and laboratory tests performed. The log also shows the location, test pit number, excavation date and the name of the excavation subcontractor. The test pits were logged by a Kleinfelder engineer using the Unified Soil Classification System (ASTM 2487/2488). The boundaries between soil types shown on the log are approximate where indicated with a dashed line because the transition between different soil layers may be gradual or location of the transition may be unknown. In a few cases the transition was captured within samples obtained from the subsurface exploration or other information enable us to define an approximately exact location as depicted by a solid line on the logs.

Bulk and grab samples of the near-surface soils were directly retrieved from the auger cuttings from the borings and the excavated material in the test pits.

© 2024 Kleinfelder

Current Test Pit Logs (Kleinfelder, 2024)

DRILLING METHOD/SAMPLER TYPE GRAPHICS

BULK SAMPLE

GROUND WATER GRAPHICS

- WATER LEVEL (level where first observed)
- WATER LEVEL (level after stabilizing period)
- WATER LEVEL (additional levels after exploration)
- OBSERVED SEEPAGE

NOTES

- The report and graphics key are an integral part of these logs. All data and interpretations in this log are subject to the explanations and limitations stated in the report.
- Solid lines separating strata on the logs represent approximate boundaries only, dashed lines are inferred or extrapolated boundaries. Actual transitions may be gradual or differ from those represented.
- No warranty is provided as to the continuity of soil or rock conditions between individual sample locations.
- Logs represent general soil or rock conditions observed at the point of exploration on the date indicated.
- In general, Unified Soil Classification System (ASTM D2488/D2487) designations presented on the logs were based on visual classification in the field and were modified where appropriate based on gradation and index property testing.
- Fine grained soils that plot within the hatched area on the Plasticity Chart, and coarse grained soils with between 5% and 12% passing the No. 200 sieve require dual USCS symbols, ie., CL-ML, GW-GM, GP-GM, GW-GC, GP-GC, GC-GM, SW-SM, SP-SM, SW-SC, SP-SC, SC-SM.
- If sampler is not able to be driven at least 6 inches then 50/X indicates number of blows required to drive the identified sampler X inches with a 140 pound hammer falling 30 inches.

ABBREVIATIONS

WOH - Weight of Hammer
WOR - Weight of Rod

REFERENCES

1. American Society for Materials and Testing (ASTM), 2011, ASTM D2487: Classification of Soils for Engineering Purposes (Unified Soil Classification System).

UNIFIED SOIL CLASSIFICATION SYSTEM[1]

COARSE GRAINED SOILS (More than 50% retained on No. 200 Sieve)	**GRAVELS** (More than 50% of coarse fraction retained on No. 4 Sieve)	CLEAN GRAVEL WITH <5% FINES	**GW**	WELL-GRADED GRAVEL, WELL-GRADED GRAVEL WITH SAND
			GP	POORLY GRADED GRAVEL, POORLY GRADED GRAVEL WITH SAND
		GRAVELS WITH 5% TO 12% FINES	**GW-GM**	WELL-GRADED GRAVEL WITH SILT, WELL-GRADED GRAVEL WITH SILT AND SAND
			GW-GC	WELL-GRADED GRAVEL WITH CLAY (OR SILTY CLAY), WELL-GRADED GRAVEL WITH CLAY AND SAND (OR SILT CLAY AND SAND)
			GP-GM	POORLY GRADED GRAVEL WITH SILT, POORLY GRADED GRAVEL WITH SILT AND SAND
			GP-GC	POORLY GRADED GRAVEL WITH CLAY (OR SILTY CLAY), POORLY GRADED GRAVEL WITH CLAY AND (OR SILTY CLAY AND SAND)
		GRAVELS WITH > 12% FINES	**GM**	SILTY GRAVEL, SILTY GRAVEL WITH SAND
			GC	CLAYEY GRAVEL, CLAYEY GRAVEL WITH SAND
			GC-GM	SILTY, CLAYEY GRAVEL SILTY, CLAYEY GRAVEL WITH SAND
	SANDS (50% or more of coarse fraction passes the No. 4 Sieve)	CLEAN SANDS WITH <5% FINES	**SW**	WELL-GRADED SAND, WELL-GRADED SAND WITH GRAVEL
			SP	POORLY GRADED SAND, POORLY GRADED SAND WITH GRAVEL
		SANDS WITH 5% TO 12% FINES	**SW-SM**	WELL-GRADED SAND WITH SILT, WELL-GRADED SAND WITH SILT AND GRAVEL
			SW-SC	WELL-GRADED SAND WITH CLAY (OR SILTY CLAY), WELL-GRADED SAND WITH CLAY AND GRAVEL (OR SILTY CLAY AND GRAVEL)
			SP-SM	POORLY GRADED SAND WITH SILT, POORLY GRADED SAND WITH SILT AND GRAVEL
			SP-SC	POORLY GRADED SAND WITH CLAY, POORLY GRADED SAND WITH CLAY AND GRAVEL (OR SILTY CLAY AND GRAVEL)
		SANDS WITH > 12% FINES	**SM**	SILTY SAND, SILTY SAND WITH GRAVEL
			SC	CLAYEY SAND, CLAYEY SAND WITH GRAVEL
			SC-SM	SILTY, CLAYEY SAND, SILTY, CLAYEY SAND WITH GRAVEL
FINE GRAINED SOILS (50% or more passes the No. #200 sieve)	SILTS AND CLAYS (Liquid Limit less than 50)		**ML**	SILT, SILT WITH SAND, SILT WITH GRAVEL
			CL	LEAN CLAY, LEAN CLAY WITH SAND, LEAN CLAY WITH GRAVEL
			CL-ML	SILTY CLAY, SILTY CLAY WITH SAND, SILTY CLAY WITH GRAVEL
			OL	ORGANIC CLAY, ORGANIC CLAY WITH SAND, ORGANIC CLAY WITH GRAVEL, ORGANIC SILT, ORGANIC SILT WITH SAND, ORGANIC SILT WITH GRAVEL
	SILTS AND CLAYS (Liquid Limit 50 or greater)		**MH**	ELASTIC SILT. ELASTIC SILT WITH SAND, ELASTIC SILT WITH GRAVEL
			CH	FAT CLAY, FAT CLAY WITH SAND, FAT CLAY WITH GRAVEL
			OH	ORGANIC CLAY, ORGANIC CLAY WITH SAND, ORGANIC CLAY WITH GRAVEL, ORGANIC SILT, ORGANIC SILT WITH SAND, ORGANIC SILT WITH GRAVEL

NOTE: USE MATERIAL DESCRIPTION ON THE LOG TO DEFINE A GRAPHIC THAT MAY NOT BE PROVIDED ON THIS LEGEND.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.: 20193141.002A
DRAWN BY: JDS
CHECKED BY: DD
DATE:

GRAPHICS KEY

PROPOSED COSTCO FUEL FACILITY
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-1

gINT FILE: Klf_gint_master_2023
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2023.GLB [_KLF_GEO_LEG1_GRAPHICS_KEY_W_USCS]
PROJECT NUMBER: 20230767.001A
OFFICE FILTER: SAN JOSE
PLOTTED: 06/21/2022 03:53 PM BY: DDockendorf

GRAIN SIZE[1]

DESCRIPTION		SIEVE SIZE	GRAIN SIZE
Boulders		>12 in.	>12 in. (304.8 mm.)
Cobbles		3 - 12 in.	3 - 12 in. (76.2 - 304.8 mm.)
Gravel	coarse	3/4 -3 in.	3/4 -3 in. (19 - 76.2 mm.)
	fine	#4 - 3/4 in.	0.19 - 0.75 in. (4.8 - 19 mm.)
Sand	coarse	#10 - #4	0.079 - 0.19 in. (2 - 4.9 mm.)
	medium	#40 - #10	0.017 - 0.079 in. (0.43 - 2 mm.)
	fine	#200 - #40	0.0029 - 0.017 in. (0.07 - 0.43 mm.)
Fines		Passing #200	<0.0029 in. (<0.07 mm.)

SECONDARY CONSTITUENT[1]

Term of Use	AMOUNT	
	Secondary Constituent is Fine Grained	Secondary Constituent is Coarse Grained
Trace	<5%	<15%
With	≥5 to <15%	≥15 to <30%
Modifier	≥15%	≥30%

PLASTICITY[1]

DESCRIPTION	CRITERIA
Non-Plastic	A 1/8 in. (3 mm) thread cannot be rolled at any water content.
Low	The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit.
High	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit.

MOISTURE CONTENT[1]

DESCRIPTION	FIELD TEST
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

CONSISTENCY - FINE-GRAINED SOIL[2, 3]

CONSISTENCY	SPT - N (# blows / ft)	Pocket Pen (tsf)	UNCONFINED COMPRESSIVE STRENGTH (Q_u)(psf)	VISUAL / MANUAL CRITERIA
Very Soft	<2	PP < 0.25	<500	Easily penetrated several inches by fist
Soft	2 - 4	0.25 ≤ PP <0.5	500 - 1,000	Easily penetrated several inches by thumb
Medium Stiff	4 - 8	0.5 ≤ PP <1	1,000 - 2,000	Can be penetrated several inches by thumb with moderate effort
Stiff	8 - 15	1 ≤ PP <2	2,000 - 4,000	Readily indented by thumb but penetrated only with great effort
Very Stiff	15 - 30	2 ≤ PP <4	4,000 - 8,000	Readily indented by thumbnail
Hard	>30	4 ≤ PP	>8,000	Indented by thumbnail with difficulty

APPARENT DENSITY - COARSE-GRAINED SOIL[2]

APPARENT DENSITY	SPT-N (# blows / ft)
Very Loose	<4
Loose	4 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	>50

STRUCTURE[1]

DESCRIPTION	CRITERIA
Stratified	Alternating layers of varying material or color with layers at least 1/4-in. (6mm) thick, note thickness.
Laminated	Alternating layers of varying material or color with the layers less than 1/4-in. (6 mm) thick, note thickness.
Fissured	Breaks along definite planes of fracture with little resistance to fracturing.
Slickensided	Fracture planes appear polished or glossy, sometimes striated.
Blocky	Cohesive soil that can be broken down into small angular lumps which resist further breakdown.
Lensed	Inclusion of small pockets of different soils, such as small lenses of sand scattered through a mass of clay; note thickness.
Homogeneous	Same color and appearance throughout

ANGULARITY[1]

DESCRIPTION	CRITERIA
Angular	Particles have sharp edges and relatively plane sides with unpolished surfaces.
Subangular	Particles are similar to angular description but have rounded edges.
Subrounded	Particles have nearly plane sides but have well-rounded corners and edges.
Rounded	Particles have smoothly curved sides and no edges.

REACTION WITH HYDROCHLORIC ACID[1]

DESCRIPTION	FIELD TEST
None	No visible reaction
Weak	Some reaction, with bubbles forming slowly
Strong	Violent reaction, with bubbles forming immediately

CEMENTATION[1]

DESCRIPTION	FIELD TEST
Weakly	Crumbles or breaks with handling or little finger pressure
Moderately	Crumbles or breaks with considerable finger pressure
Strongly	Will not crumble or break with finger pressure

REFERENCES

1. American Society for Materials and Testing (ASTM), 2017, ASTM D2488: Standard Practice for Description and Identification of Soils (Visual Manual Procedures).
2. Terzaghi, K and Peck, R., 1948, Soil Mechanics in Engineering Practice, John Wiley & Sons, New York.
3. United States Department of the Interior Bureau of Reclamation (USBR), 1998, Earth Manual, Part I.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.: 20193141.002A

DRAWN BY: JDS

CHECKED BY: DD

DATE:

SOIL DESCRIPTION KEY
(For additional tables, see ASTM D2488)

PROPOSED COSTCO FUEL FACILITY
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE

A-2

PLOTTED: 06/21/2022 03:53 PM BY: DDockendorf
OFFICE FILTER: SAN JOSE
PROJECT NUMBER: 20230767.001A
gINT FILE: Klf_gint_master_2023
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2023.GLB [KLF_GEO_LEG2_SOIL_DESC_KEY]

PLOTTED: 07/29/2024 08:54 AM BY: DArakkal

TEST PIT LOG TP-1

Date Begin - End:	7/09/2024	**Excavation Co.-Lic.#:**	Gulf Shore - #964224
Logged By:	C. Freeman	**Excavation Crew:**	Devin, David
Hor.-Vert. Datum:	Not Available	**Excavation Equip.:**	310 G-Tier Backhoe
Plunge:	N/A degrees	**Excav. Dimensions:**	3'x10.5'x1.9' ft
Weather:	Clear		

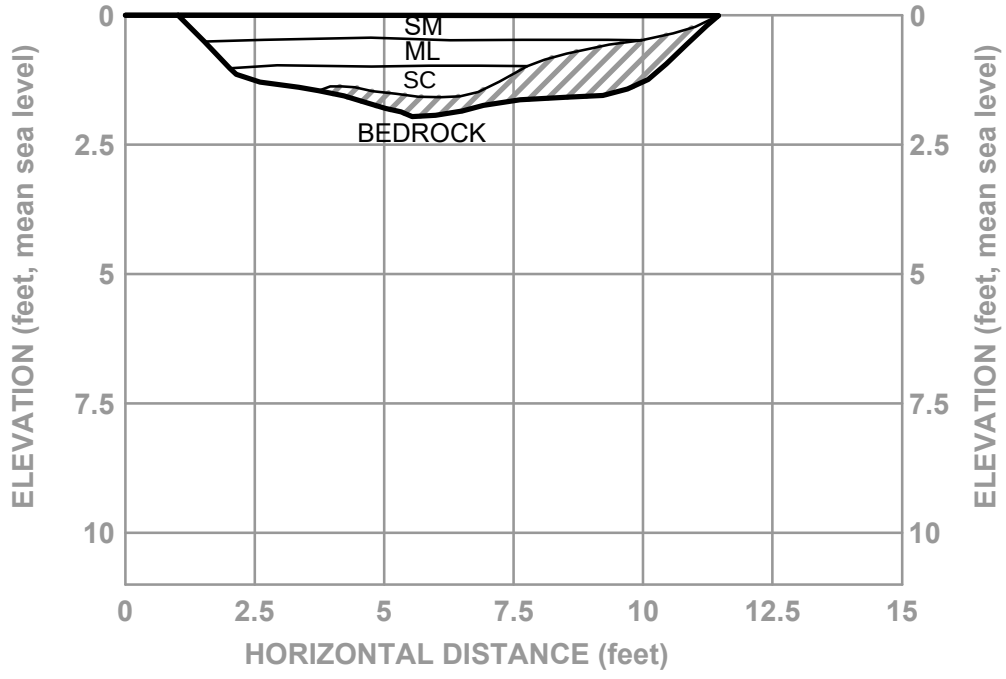
Latitude: 38.66147°
Longitude: -121.05619°
Approximate Ground Surface Elevation (ft.): 754.00
Surface Condition: Grass

Approximate Elevation (feet) / Depth (feet)	Graphical Log	Lithologic Description	Sample Number	Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Silty SAND (SM): fine to medium-grained sand, non-plastic, reddish brown, dry, medium dense										
		Sandy SILT (ML): fine to medium-grained sand, low plasticity, yellowish brown, dry, hard	1			6.5						PP= >4.5 tsf
		Clayey SAND (SC): fine-grained sand, medium plasticity, olive, dry, dense	2						27			PP= >4.5 tsf
		Meta-Volcanic ROCK: olive gray, very weak to strong, moderately to highly weathered, decomposition at soil/rock interface, intensely to medium fractured	3									Refusal at 1'11"

The test pit was terminated at approximately 2 ft. below ground surface. The test pit was backfilled with on July 09, 2024.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during excavation or after completion.

GENERAL NOTES:
The exploration location and elevation are approximate and were estimated by Kleinfelder.



750
745
5

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	DA
CHECKED BY:	DD
DATE:	7/11/2024
REVISED:	7/29/2024

TEST PIT LOG TP-1

PROPOSED COSTCO FUEL FACILITY
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

APPENDIX
A-3
PAGE: 1 of 1

gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [_KLF_BORING/TEST PIT SOIL LOG]
PROJECT NUMBER: 20193141.002A
OFFICE FILTER: SALINAS

Date Begin - End: 7/09/2024 **Excavation Co.-Lic.#:** Gulf Shore - #964224

Logged By: C. Freeman **Excavation Crew:** Devin, David

Hor.-Vert. Datum: Not Available **Excavation Equip.:** 310 G-Tier Backhoe

Plunge: N/A degrees **Excav. Dimensions:** 3'x14'x1.25' ft

Weather: Clear

TEST PIT LOG TP-2

FIELD EXPLORATION

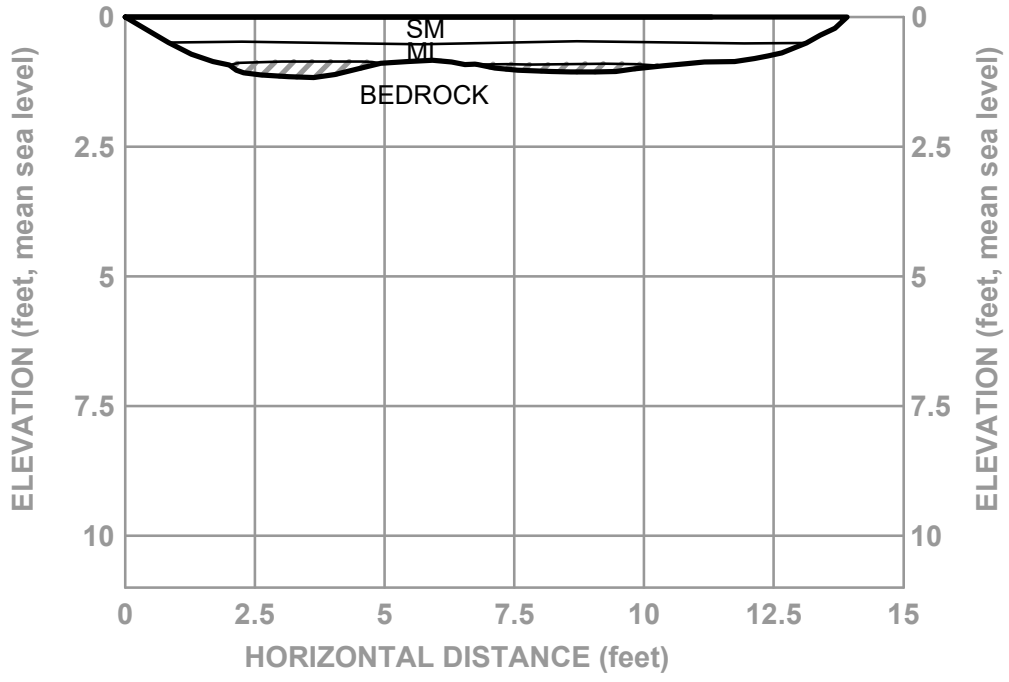
Latitude: 38.66193°
Longitude: -121.05614°
Approximate Ground Surface Elevation (ft.): 760.00
Surface Condition: Grass

Approximate Elevation (feet)	Depth (feet)	Graphical Log	Lithologic Description	Sample Number	Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
			Silty SAND (SM): fine to medium-grained sand, non-plastic, yellowish brown, dry, medium dense										
			Sandy SILT (ML): fine to medium-grained sand, low plasticity, yellowish brown, dry, hard	1 2			6.7						PP= >4.5 tsf
			Saprolitic Meta-Volcanic ROCK: fine-grained, olive, dry, decomposed, extremely weak, intensely fractured below 1.25': Meta-Volcanic Rock, olive, dry, highly weathered, very weak, intensely fractured, Fe-Mn surface staining along joint surfaces	3									Refusal at 1'3"
755	5												

The test pit was terminated at approximately 1.5 ft. below ground surface. The test pit was backfilled with on July 09, 2024.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during excavation or after completion.

GENERAL NOTES:
The exploration location and elevation are approximate and were estimated by Kleinfelder.



KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	DA
CHECKED BY:	DD
DATE:	7/11/2024
REVISED:	7/29/2024

TEST PIT LOG TP-2

PROPOSED COSTCO FUEL FACILITY
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

APPENDIX

A-4

PLOTTED: 07/29/2024 08:54 AM BY: DArakkal
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.002A
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [_KLF_BORING/TEST PIT SOIL LOG]

PLOTTED: 07/29/2024 08:55 AM BY: DArakkal

TEST PIT LOG TP-3

Date Begin - End:	7/09/2024	**Excavation Co.-Lic.#:**	Gulf Shore - #964224
Logged By:	C. Freeman	**Excavation Crew:**	Devin, David
Hor.-Vert. Datum:	Not Available	**Excavation Equip.:**	310 G-Tier Backhoe
Plunge:	N/A degrees	**Excav. Dimensions:**	3'x14'x3.25' ft
Weather:	Clear		

FIELD EXPLORATION

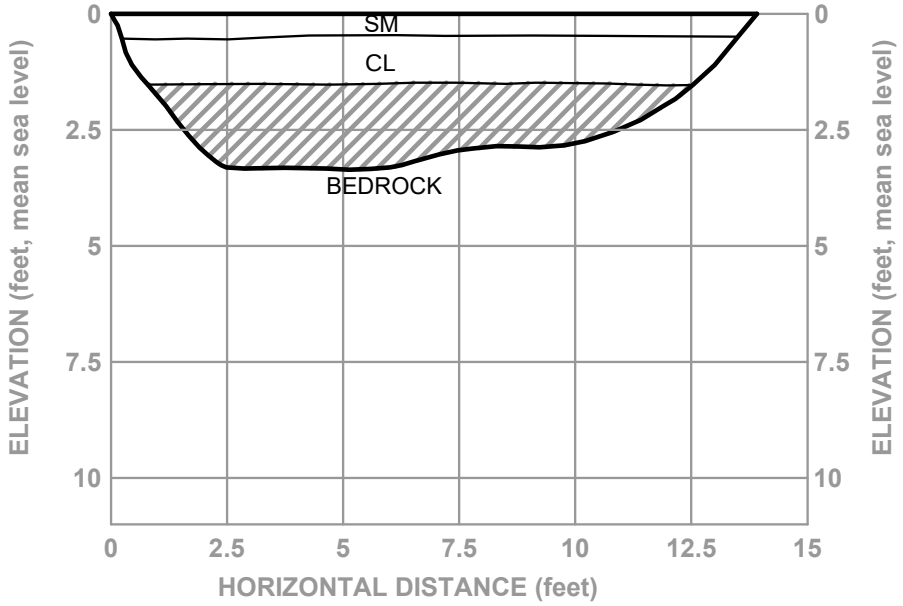
Latitude: 38.66199°
Longitude: -121.05654°
Approximate Ground Surface Elevation (ft.): 747.00
Surface Condition: Grass

Approximate Elevation (feet)	Depth (feet)	Graphical Log	Lithologic Description	Sample Number	Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
			Silty SAND (SM): fine to medium-grained sand, non-plastic, yellowish brown, dry, medium dense, roots										
			Sandy Lean CLAY (CL): fine to medium-grained sand, low plasticity, yellowish brown, dry, hard, trace sub-angular gravel	1			5.1						
				2							28	9	PP= >4.5 tsf
			Saprolitic Meta-Volcanic ROCK: olive gray, dry, R0, intensely fractured										
745			**Meta-Volcanic ROCK**: olive gray, dry, moderately to highly weathered, R1 to R3, highly fractured										
				3									Refusal at 3'3"

The test pit was terminated at approximately 3.5 ft. below ground surface. The test pit was backfilled with on July 09, 2024.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during excavation or after completion.

GENERAL NOTES:
The exploration location and elevation are approximate and were estimated by Kleinfelder.



5

740

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	DA
CHECKED BY:	DD
DATE:	7/11/2024
REVISED:	7/29/2024

TEST PIT LOG TP-3

PROPOSED COSTCO FUEL FACILITY
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

APPENDIX

A-5

gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [_KLF_BORING/TEST PIT SOIL LOG]
PROJECT NUMBER: 20193141.002A
OFFICE FILTER: SALINAS

Date Begin - End:	7/09/2024	**Excavation Co.-Lic.#:**	Gulf Shore - #964224
Logged By:	C. Freeman	**Excavation Crew:**	Devin, David
Hor.-Vert. Datum:	Not Available	**Excavation Equip.:**	310 G-Tier Backhoe
Plunge:	N/A degrees	**Excav. Dimensions:**	3'x12'x5' ft
Weather:	Clear		

TEST PIT LOG TP-4

FIELD EXPLORATION

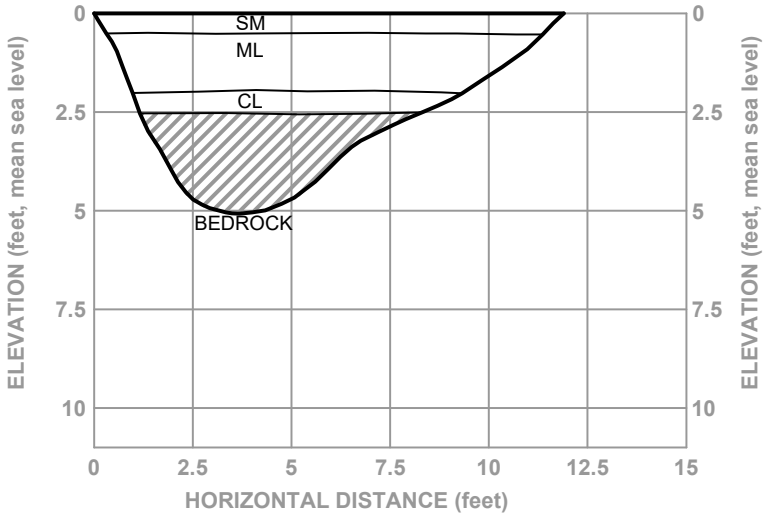
Latitude: 38.66179°
Longitude: -121.05681°
Approximate Ground Surface Elevation (ft.): 739.00
Surface Condition: Grass

Approximate Elevation (feet)	Depth (feet)	Graphical Log	Lithologic Description	Sample Number	Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
			Silty SAND (SM): fine to medium-grained sand, non-plastic, yellowish brown, dry, medium dense, roots										
			Sandy SILT (ML): fine to medium-grained sand, low plasticity, yellowish brown to reddish brown, dry, very stiff	1			7.5						PP= 3.5 tsf
				2			10.7	130.8					
			Sandy Lean CLAY (CL): fine to medium-grained sand, medium plasticity, olive, dry, very stiff										
				3									PP= 3.5 tsf
735			**Saprolitic Meta-Volcanic ROCK**: fine-grained, olive, moist, decomposed to slightly weathered, R0 to R4, highly fractured, similar to gravelly sandy clay with cobble, fine to coarse angular gravel, cobbles up to 12" and small boulders up to 16"										
	5			4									Refusal at 5'
730													

The test pit was terminated at approximately 5 ft. below ground surface. The test pit was backfilled with on July 09, 2024.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during excavation or after completion.

GENERAL NOTES:
The exploration location and elevation are approximate and were estimated by Kleinfelder.



KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	DA
CHECKED BY:	DD
DATE:	7/11/2024
REVISED:	7/29/2024

TEST PIT LOG TP-4

PROPOSED COSTCO FUEL FACILITY
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

APPENDIX
A-6
PAGE: 1 of 1

PLOTTED: 07/29/2024 08:55 AM BY: DArakkal
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.002A
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [_KLF_BORING/TEST PIT SOIL LOG]

TEST PIT LOG TP-5

Date Begin - End:	7/09/2024	**Excavation Co.-Lic.#:**	Gulf Shore - #964224
Logged By:	C. Freeman	**Excavation Crew:**	Devin, David
Hor.-Vert. Datum:	Not Available	**Excavation Equip.:**	310 G-Tier Backhoe
Plunge:	N/A degrees	**Excav. Dimensions:**	3'x14'x6' ft
Weather:	Clear		

FIELD EXPLORATION

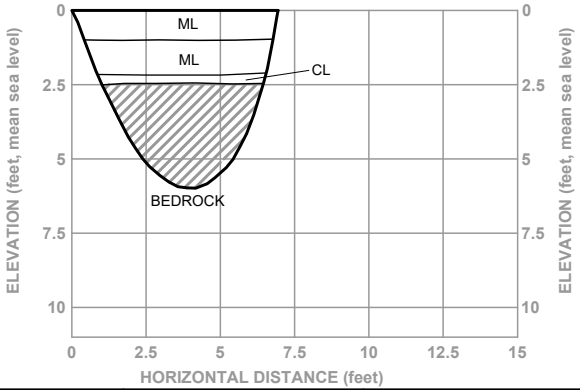
Latitude: 38.66218°
Longitude: -121.05693°
Approximate Ground Surface Elevation (ft.): 743.00
Surface Condition: Grass

Approximate Elevation (feet)	Depth (feet)	Graphical Log	Lithologic Description	Sample Number	Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
			Sandy SILT (ML): fine to medium-grained sand, low plasticity, olive brown, dry, stiff, roots	1			13.5						PP= 1 tsf
			Sandy Elastic SILT (MH): fine to medium-grained sand, medium plasticity, olive, moist, medium stiff	2							61	21	PP= 0.5 tsf
			Sandy Lean CLAY with Gravel (CL): olive yellow, moist, stiff, decomposed and extremely weak saprolitic meta-volcanic rock fragments										
740			**Saprolitic Meta-Volcanic ROCK**: olive, moist, decomposed and extremely weak	3									PP= 1.5 tsf
	5		**Meta-Volcanic ROCK**: olive gray, dry, moderately to highly weathered, R1 to R3, highly fractured	4									Refusal at 6'
735													

The test pit was terminated at approximately 6 ft. below ground surface. The test pit was backfilled with on July 09, 2024.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during excavation or after completion.

GENERAL NOTES:
The exploration location and elevation are approximate and were estimated by Kleinfelder.



KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	DA
CHECKED BY:	DD
DATE:	7/11/2024
REVISED:	7/29/2024

TEST PIT LOG TP-5

PROPOSED COSTCO FUEL FACILITY
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

APPENDIX
A-7
PAGE: 1 of 1

PLOTTED: 07/29/2024 08:55 AM BY: DArakkal
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.002A
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [_KLF_BORING/TEST PIT SOIL LOG]

TEST PIT LOG TP-6

Date Begin - End:	7/09/2024	**Excavation Co.-Lic.#:**	Gulf Shore - #964224
Logged By:	C. Freeman	**Excavation Crew:**	Devin, David
Hor.-Vert. Datum:	Not Available	**Excavation Equip.:**	310 G-Tier Backhoe
Plunge:	N/A degrees	**Excav. Dimensions:**	3'x14'x4' ft
Weather:	Clear		

FIELD EXPLORATION

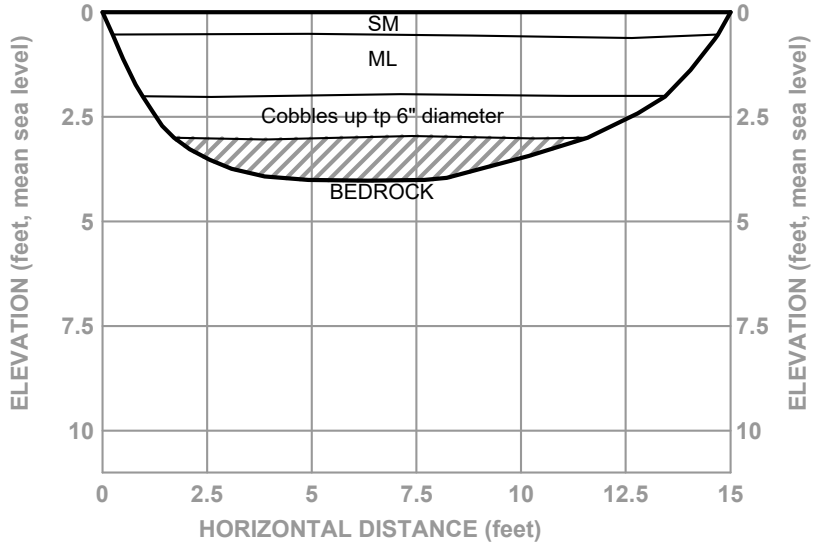
Latitude: 38.66200°
Longitude: -121.05691°
Approximate Ground Surface Elevation (ft.): 740.00
Surface Condition: Grass

Approximate Elevation (feet)	Depth (feet)	Graphical Log	Lithologic Description	Sample Number	Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
			Silty SAND (SM): fine to medium-grained sand, non-plastic, olive brown, dry, medium dense, roots										
			Sandy SILT (ML): fine to medium-grained sand, low plasticity, olive brown, dry, hard	1			14.2						PP= >4.5 tsf
				2						69			
			Saprolitic Meta-Volcanic ROCK: rounded to sub-rounded, olive gray, moist, cobbles, rounded to subrounded, cobbles up to 6" in diameter										
			Meta-Volcanic ROCK: olive gray, dry, moderately to highly weathered, R1 to R3, highly fractured	3									Refusal at 4'
735	5												

The test pit was terminated at approximately 4 ft. below ground surface. The test pit was backfilled with on July 09, 2024.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during excavation or after completion.

GENERAL NOTES:
The exploration location and elevation are approximate and were estimated by Kleinfelder.



KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	DA
CHECKED BY:	DD
DATE:	7/11/2024
REVISED:	7/29/2024

TEST PIT LOG TP-6

PROPOSED COSTCO FUEL FACILITY
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

APPENDIX
A-8
PAGE: 1 of 1

PLOTTED: 07/29/2024 08:55 AM BY: DArakkal
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.002A
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [_KLF_BORING/TEST PIT SOIL LOG]

PLOTTED: 07/29/2024 08:55 AM BY: DArakkal

TEST PIT LOG TP-7

Date Begin - End:	7/09/2024	**Excavation Co.-Lic.#:**	Gulf Shore - #964224
Logged By:	C. Freeman	**Excavation Crew:**	Devin, David
Hor.-Vert. Datum:	Not Available	**Excavation Equip.:**	310 G-Tier Backhoe
Plunge:	N/A degrees	**Excav. Dimensions:**	3'x13.5'x2.3' ft
Weather:	Clear		

FIELD EXPLORATION

Latitude: 38.66195°
Longitude: -121.05738°
Approximate Ground Surface Elevation (ft.): 743.00
Surface Condition: Grass

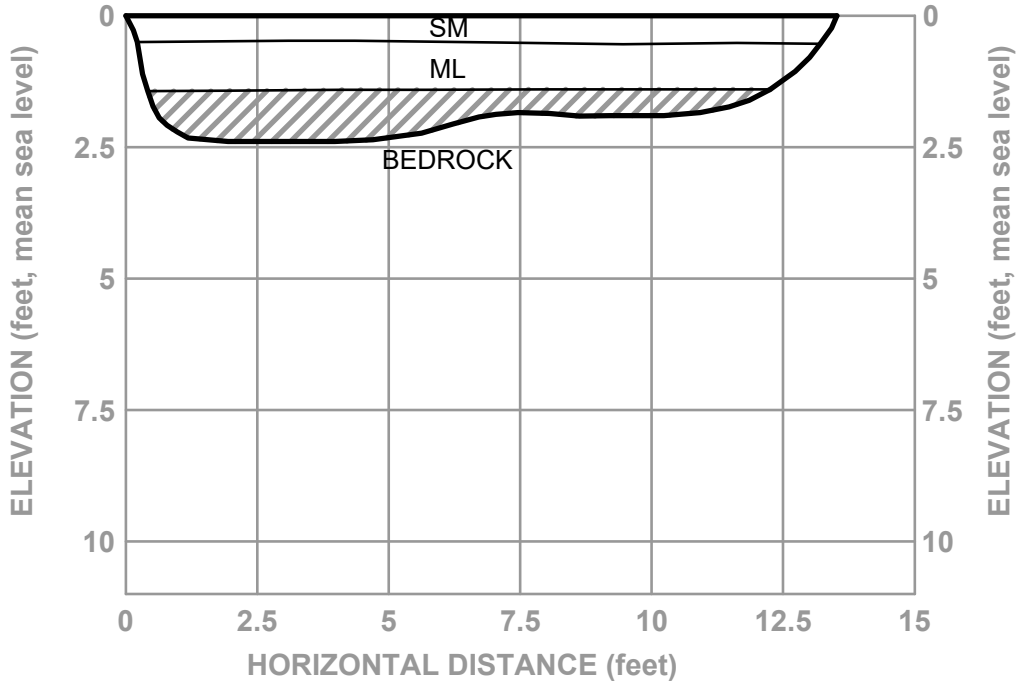
Approximate Elevation (feet)	Depth (feet)	Graphical Log	Lithologic Description	Sample Number	Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
			Silty SAND (SM): fine to medium-grained sand, non-plastic, reddish brown, dry, medium dense, roots										
			SILT (ML): fine to medium-grained sand, low plasticity, reddish brown, dry, very stiff	1									PP= 3.5 tsf
				2			5.9						
			Meta-Volcanic ROCK: fine-grained, medium gray with reddish brown, surface staining, moderately weathered, highly fractured, strong, R1 to R3, grades similar to silty sand										Refusal at 2.3'

740
5
735

The test pit was terminated at approximately 2.5 ft. below ground surface. The test pit was backfilled with on July 09, 2024.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during excavation or after completion.

GENERAL NOTES:
The exploration location and elevation are approximate and were estimated by Kleinfelder.



KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	DA
CHECKED BY:	DD
DATE:	7/11/2024
REVISED:	7/29/2024

TEST PIT LOG TP-7

PROPOSED COSTCO FUEL FACILITY
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

APPENDIX
A-9
PAGE: 1 of 1

gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [_KLF_BORING/TEST PIT SOIL LOG]
PROJECT NUMBER: 20193141.002A
OFFICE FILTER: SALINAS

PLOTTED: 07/29/2024 08:55 AM BY: DArakkal

TEST PIT LOG TP-8

Date Begin - End:	7/09/2024	**Excavation Co.-Lic.#:**	Gulf Shore - #964224
Logged By:	C. Freeman	**Excavation Crew:**	Devin, David
Hor.-Vert. Datum:	Not Available	**Excavation Equip.:**	310 G-Tier Backhoe
Plunge:	N/A degrees	**Excav. Dimensions:**	3'x12'x4.3' ft
Weather:	Clear		

FIELD EXPLORATION | LABORATORY RESULTS

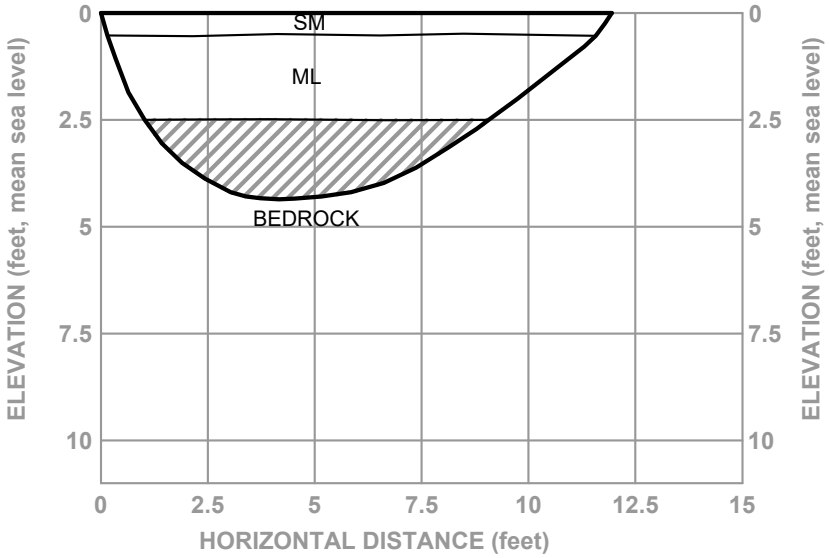
Latitude: 38.66258°
Longitude: -121.05788°
Approximate Ground Surface Elevation (ft.): 746.00
Surface Condition: Grass

Approximate Elevation (feet)	Depth (feet)	Graphical Log	Lithologic Description	Sample Number	Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
			Silty SAND (SM): fine to medium-grained sand, non-plastic, reddish brown, dry, medium dense, roots										
			Sandy SILT (ML): fine to medium-grained sand, low plasticity, reddish brown, dry, very stiff	1			6.9						PP= 3.5 tsf
745				2			16.1	119.0					**R-Value=** 19
			Saprolitic Meta-Volcanic ROCK: fine-grained, olive gray, moist, decomposed, extremely to very weak, intensely fractured	3									PP= >4.5 tsf
			Meta-Volcanic ROCK: olive gray, dry, moderately weathered, R0 to R4	4									Refusal at 4.3'
	5												
740													

The test pit was terminated at approximately 4.5 ft. below ground surface. The test pit was backfilled with on July 09, 2024.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during excavation or after completion.

GENERAL NOTES:
The exploration location and elevation are approximate and were estimated by Kleinfelder.



KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	DA
CHECKED BY:	DD
DATE:	7/11/2024
REVISED:	7/29/2024

TEST PIT LOG TP-8

PROPOSED COSTCO FUEL FACILITY
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

APPENDIX
A-10
PAGE: 1 of 1

gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [_KLF_BORING/TEST PIT SOIL LOG]
PROJECT NUMBER: 20193141.002A
OFFICE FILTER: SALINAS

TEST PIT LOG TP-9

Date Begin - End:	7/09/2024	**Excavation Co.-Lic.#:**	Gulf Shore - #964224
Logged By:	C. Freeman	**Excavation Crew:**	Devin, David
Hor.-Vert. Datum:	Not Available	**Excavation Equip.:**	310 G-Tier Backhoe
Plunge:	N/A degrees	**Excav. Dimensions:**	3'x14'x9' ft
Weather:	Clear		

FIELD EXPLORATION

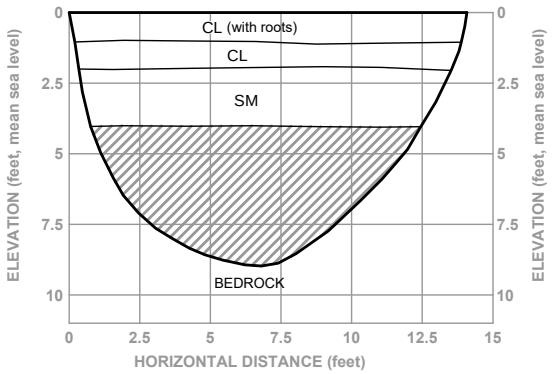
Latitude: 38.66220°
Longitude: -121.05861°
Approximate Ground Surface Elevation (ft.): 741.00
Surface Condition: Grass

Approximate Elevation (feet)	Depth (feet)	Graphical Log	Lithologic Description	Sample Number	Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
740	0		**Sandy Lean CLAY (CL)**: fine to medium-grained sand, medium plasticity, olive brown, dry, very stiff, roots	1									PP= 3.5 tsf
			yellowish brown	2			10.7				32	20	PP= 3.5 tsf
			Lean CLAY with Sand (CL): fine to medium-grained sand, medium plasticity, yellowish brown, moist, very stiff	3			30.1						PP= 3.5 tsf
			Silty SAND (SM): fine-grained, yellowish brown, decomposed, extremely weak, intensely fractured saprolitic meta-volcanic rock fragments										
735	5		**Saprolitic Meta-Volcanic ROCK**: fine-grained, olive gray with yellowish brown, moist, decomposed, extremely weak, intensely fractured, grades similar to silty sand	4									
			Meta-Volcanic ROCK: olive with yellowish brown, highly weathered, weak, highly fractured, R1 to R3	5									
730	10			6									Refusal at 9'

The test pit was terminated at approximately 9 ft. below ground surface. The test pit was backfilled with on July 09, 2024.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during excavation or after completion.

GENERAL NOTES:
The exploration location and elevation are approximate and were estimated by Kleinfelder.



KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	DA
CHECKED BY:	DD
DATE:	7/11/2024
REVISED:	7/29/2024

TEST PIT LOG TP-9

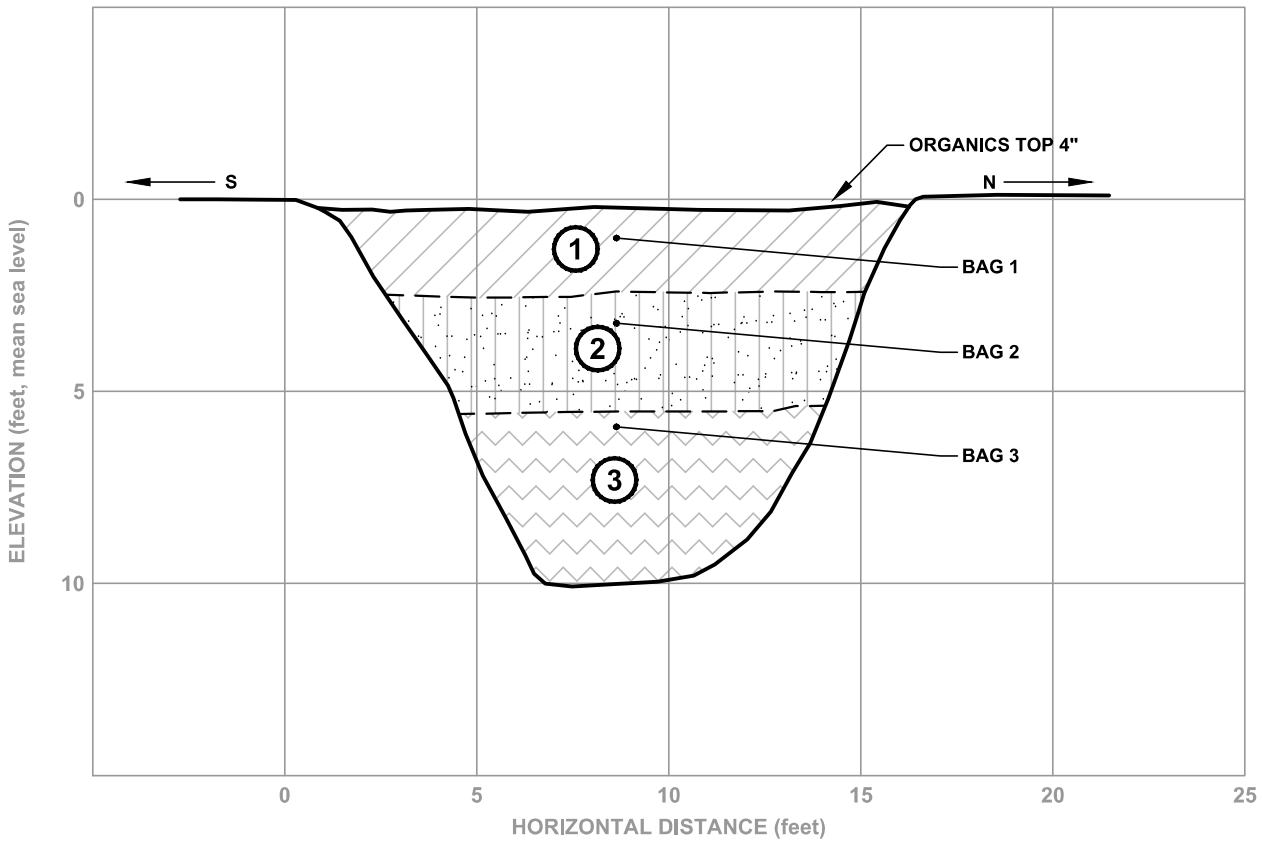
PROPOSED COSTCO FUEL FACILITY
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

APPENDIX
A-11
PAGE: 1 of 1

PLOTTED: 07/29/2024 08:55 AM BY: DArakkal
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.002A
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [_KLF_BORING/TEST PIT SOIL LOG]

Previous Test Pit Logs (Kleinfelder, 2019)

PLOTTED: 2/21/2019 2:24 PM BY: jeff sala



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY (CL) - reddish brown, moist, soft, fine grained sand, medium plasticity, at 2' perched groundwater
2	SILTY SAND WITH GRAVEL (SM) - moist, coarse grained sand, 1/4"-1" angular gravels
3	METAVOLCANIC ROCK - well defined foliation, decomposed to highly weathered, extremely weak to weak, intensely fractured, behaves like silty gravel, at 9' highly fractured, weak
	Latitude: 38.662952 Longitude: -121.05795

LOGGED BY: Dan Dockendorf **DATE:** 2/5/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.	20193141
DRAWN BY:	JDS
CHECKED BY:	DD
DATE:	02/21/2019
REVISED:	

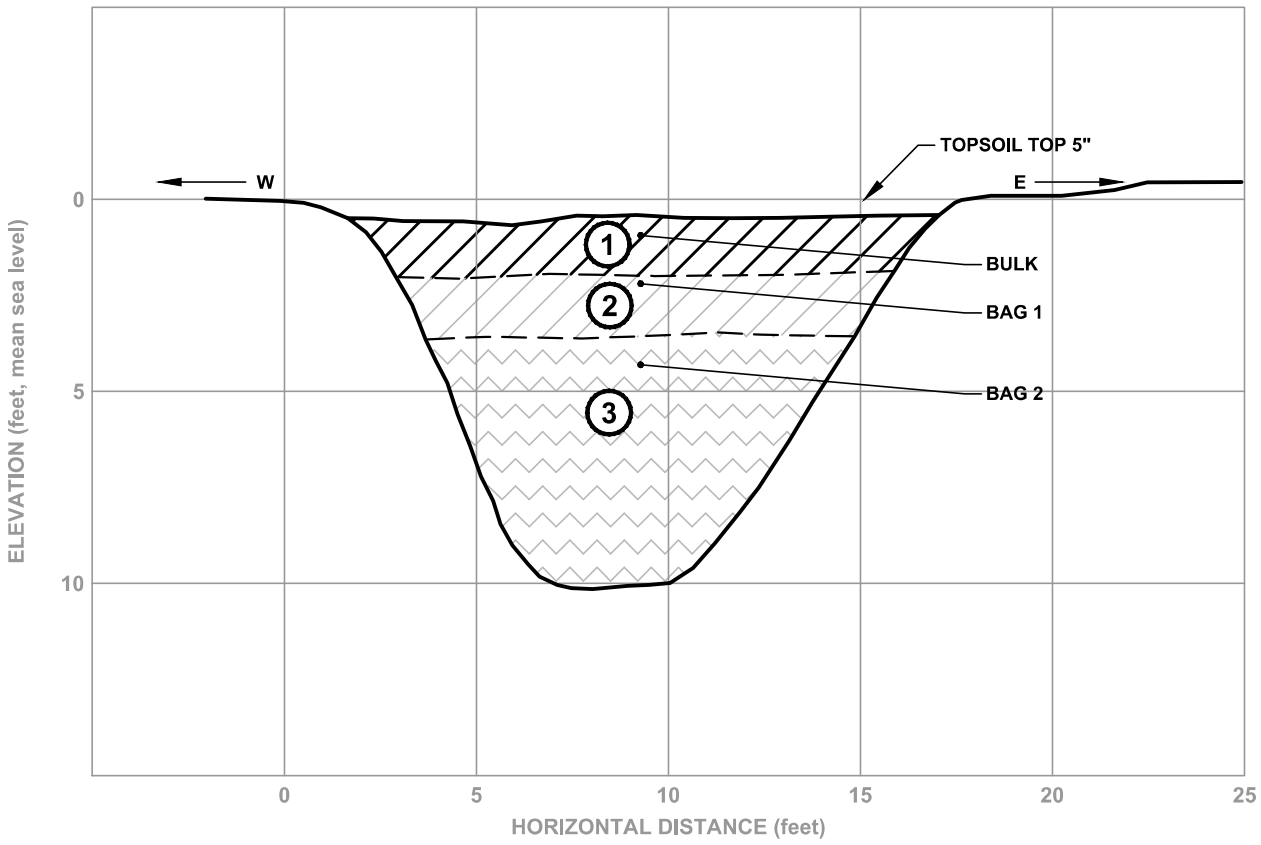
TEST PIT LOG
TP-1

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-1

CAD FILE: W:\20192019193141.001A - Costco El Dorado Hills Wholesale-Gas\TESTPIT Log.dwg

PLOTTED: 2/21/2019 2:25 PM BY: jeff sala



UNIT NO.	MATERIALS DESCRIPTION
1	FAT CLAY WITH SAND (CH) - wet, very soft, fine grained sand, high plasticity, at 2' perched groundwater
2	SANDY LEAN CLAY WITH GRAVEL (CL) - pale olive, moist, medium stiff, fine grained sand, medium plasticity, 1/4" angular gravel
3	METAVOLCANIC ROCK - highly weathered, highly fractured, slight foliation, at 8' pockets of moderately fractured rock but only about 10-20% of total
	Latitude: 38.66314 Longitude: -121.05639

LOGGED BY: Dan Dockendorf **DATE:** 2/5/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.	20193141
DRAWN BY:	JDS
CHECKED BY:	DD
DATE:	02/21/2019
REVISED:	

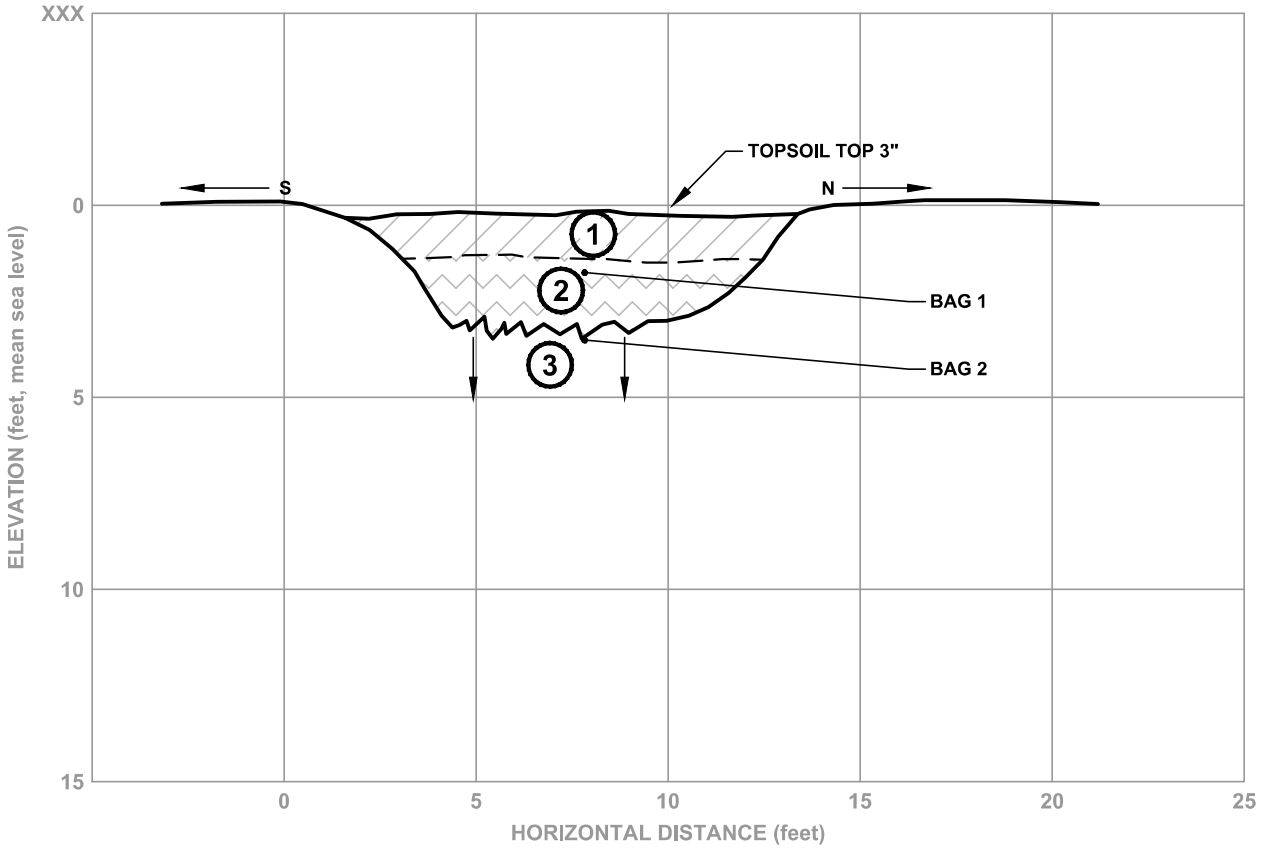
TEST PIT LOG
TP-2

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-2

CAD FILE: W:\20192019193141.001A - Costco El Dorado Hills Wholesale-Gas\TESTPIT Log.dwg

PLOTTED: 2/21/2019 2:26 PM BY: jeff sala



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY (CL) - reddish brown, moist, soft, medium plasticity, PP = 0.5
2	METAVOLCANIC ROCK - highly weathered, strong, highly fractured, well defined foliation's, some pockets of moderately fractured
3	METAVOLCANIC ROCK - moderately weathered, strong, moderately fractured, well defined foliation, 8" pieces observed, refusal at 3'-3" deep
	Latitude: 38.66296 Longitude: -121.05699

LOGGED BY: Dan Dockendorf **DATE:** 2/5/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.	20193141
DRAWN BY:	JDS
CHECKED BY:	DD
DATE:	02/21/2019
REVISED:	

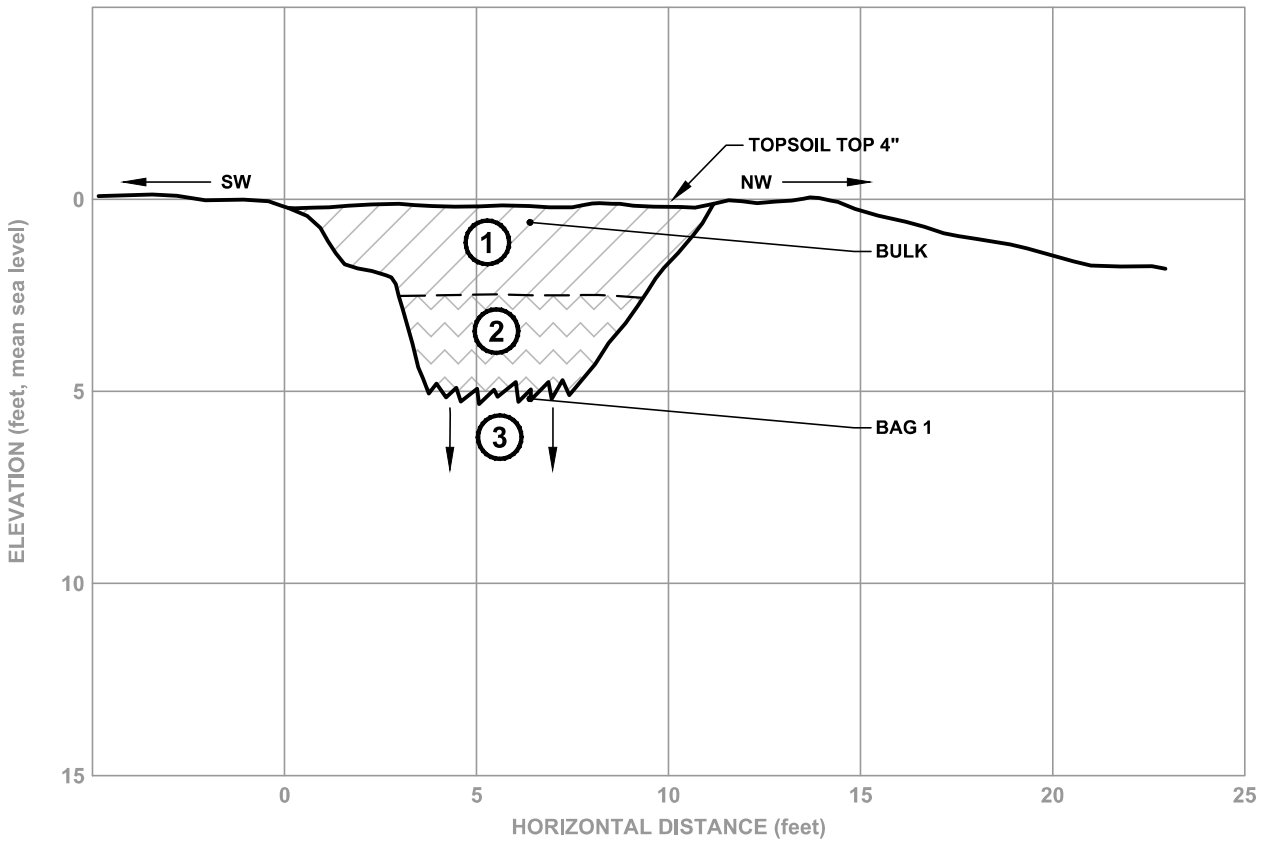
TEST PIT LOG
TP-3

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-3

CAD FILE: W:\20192019193141.001A - Costco El Dorado Hills Wholesale-Gas\TESTPIT Log.dwg

PLOTTED: 2/21/2019 2:26 PM BY: jeff sala



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY (CL) - wet, free flowing water, soft, fine grained sand, medium plasticity, 1/4" gravel
2	METAVOLCANIC ROCK - highly weathered, medium strong, highly fractured, moderately foliated, behaves like poorly graded sand with gravel
3	METAVOLCANIC ROCK - moderately weathered, strong, moderately fractured, refusal at 5' deep
	Latitude: 38.66263 Longitude: -121.05695

LOGGED BY: Dan Dockendorf **DATE:** 2/5/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.	20193141
DRAWN BY:	JDS
CHECKED BY:	DD
DATE:	02/21/2019
REVISED:	

TEST PIT LOG
TP-4

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-4

CAD FILE: W:\20192019314 1.001A - Costco El Dorado Hills Wholesale-Gas\TESTPIT Log.dwg

KLEINFELDER

Bright People. Right Solutions.

Appendix B

APPENDIX B
LABORATORY TESTING

GENERAL

Laboratory tests were performed on selected samples as an aid in classifying the soils and to evaluate physical properties of the soils that may affect foundation design and construction procedures. The tests were performed in general conformance with the current ASTM standards. Laboratory testing was performed by Kleinfelder's laboratory in Sacramento, California. Corrosion testing was performed by Cerco Analytical located in Concord, California. A description of the laboratory-testing program is presented below.

MOISTURE AND UNIT WEIGHT

Moisture content and dry unit weight testing was performed on select samples recovered from our borings. Moisture contents were determined in general accordance with ASTM Test Method D2216; dry unit weight was calculated using the entire weight of the samples collected in general accordance with ASTM Test Method D7263. The test results are presented on the boring log in Appendix A and as an attachment in this appendix.

SIEVE ANALYSES

Sieve analyses were performed on selected samples of the materials encountered at the site to evaluate the grain size distribution characteristics of the soils and to aid in their classification. Sieve analysis was performed in accordance with ASTM Standard Test Method D6913. The results of these tests are presented on the boring logs in Appendix A and as an attachment to this appendix.

WASH SIEVE

Selected soil samples were tested for the percent passing the No. 200 sieve, which was performed by wash sieving in accordance with ASTM Standard Test Method D1140. The test results are presented on the boring logs.

ATTERBERG LIMITS

Atterberg limits testing was performed on a selected soil samples to assist in classification. Testing was performed in general accordance with ASTM D4318. Results of these tests are presented on the boring logs and attached to this appendix.

© 2024 Kleinfelder

MAXIMUM DENSITY AND OPTIMUM MOISTURE

Maximum density and optimum moisture content testing was performed on one bulk sample of the near surface soils to evaluate the compaction characteristics of the onsite soils. Maximum density and optimum moisture content testing was performed in general accordance with ASTM Standard Test Method D1557, Method B. The test result is attached.

R-VALUE TESTS

One resistance value (R-value) test was performed on a bulk soil sample obtained within the proposed fuel facility area to evaluate pavement support characteristics of the near-surface onsite soils. R-value tests were performed in accordance with ASTM Standard Test Method D2844. Results of the testing are attached to this appendix.

SOIL CORROSIVITY TESTS

A series of chemical tests were performed on selected samples of the near-surface soils to estimate pH, resistivity and sulfate and chloride contents. The samples were taken during our 2019 investigation of the property and are provided in this report. The samples were tested for pH and minimum resistivity, soluble chlorides, and soluble sulfates, respectively. Test results may be used by a qualified corrosion engineer to evaluate the general corrosion potential with respect to construction materials. The results of the tests are presented in the body of the report and attached to this appendix.

TOPSOIL ANALYTICAL TESTS

Topsoil analytical testing was performed on one composite sample of the near-surface soils by Waypoint Analytical of Anaheim, California. The composite sample was taken during our 2019 investigation of the property. The composite topsoil sample was tested for percentages of organic matter, percentages of deleterious material, pH, mineral content, micro and macro nutrient content, and herbicide presence in the soil. The test results are presented in the Waypoint Analytical report attached to this appendix.

© 2024 Kleinfelder

Exploration ID	Depth (ft.)	Sample No.	Sample Description	Water Content (%)	Dry Unit Wt. (pcf)	Sieve Analysis (%)			Atterberg Limits			Additional Tests
						Passing 3/4"	Passing #4	Passing #200	Liquid Limit	Plastic Limit	Plasticity Index	
TP-1	0.5	1		6.5								
TP-1	1.0	2	CLAYEY SAND (SC)					27				
TP-2	0.7			6.7								
TP-3	0.5	1		5.1								
TP-3	1.0	2	SANDY LEAN CLAY (CL)						28	19	9	
TP-4	0.5	1		7.5								
TP-4	1.0	2		10.7	130.8							
TP-5	0.5	1		13.5								
TP-5	1.0	2	SANDY ELASTIC SILT (MH)						61	40	21	
TP-6	0.5	1		14.2								
TP-6	1.0	2	SANDY SILT (ML)					69				
TP-7	1.0	2		5.9								
TP-8	0.5	1		6.9								
TP-8	1.0	2		16.1	119.0							**R-Value=** 19
TP-9	1.0	2	SANDY LEAN CLAY (CL)	10.7					32	12	20	
TP-9	2.5	3		30.1								

Refer to the Geotechnical Evaluation Report or the supplemental plates for the method used for the testing performed above.
NP = NonPlastic
NA = Not Available

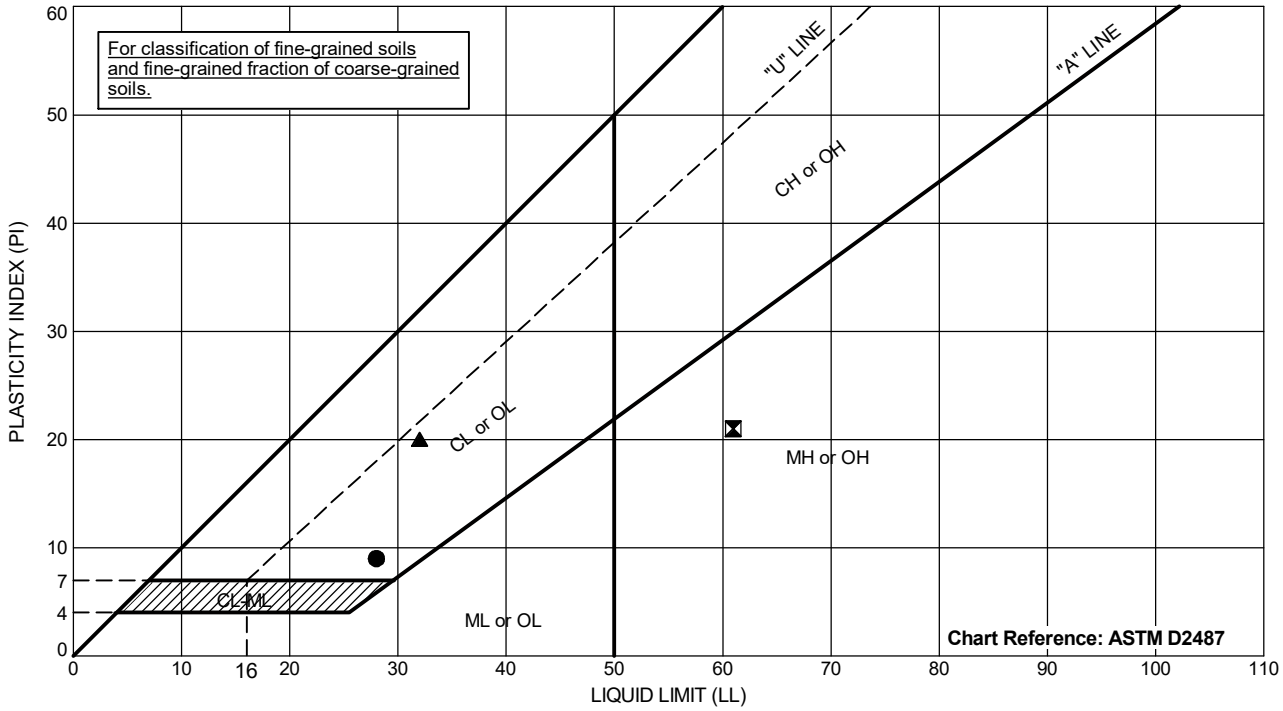
KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.: 20193141
DRAWN BY: DA
CHECKED BY: DD
DATE: 8/6/2024
REVISED: -

LABORATORY TEST RESULT SUMMARY

PROPOSED COSTCO FUEL FACILITY
SILVA VALEY PARKWAY
EL DORADO HILLS, CALIFORNIA

APPENDIX
B-1



Exploration ID		Depth (ft.)	Sample Number	Sample Description	Passing #200	LL	PL	PI
●	TP-3	1	2	SANDY LEAN CLAY (CL)	NM	28	19	9
⊠	TP-5	1	2	SANDY ELASTIC SILT (MH)	NM	61	40	21
▲	TP-9	1	2	SANDY LEAN CLAY (CL)	NM	32	12	20

Testing performed in general accordance with ASTM D4318.
NP = Nonplastic
NA = Not Available
NM = Not Measured

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	DA
CHECKED BY:	DD
DATE:	7/11/2024
REVISED:	7/29/2024

ATTERBERG LIMITS

PROPOSED COSTCO FUEL FACILITY
SILVA VALEY PARKWAY
EL DORADO HILLS, CALIFORNIA

APPENDIX

B-2

PLOTTED: 08/06/2024 09:43 AM BY: DArakkal
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.002A
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [KLF_ATTERBERG (ASTM)]

Laboratory Test Report

Project Name: CSM Costco El Dorado, CA Gas Relo GEO
Project No.: 20193141.002A
Lab No.: 24-SAC-00855
Sample Date: July 9, 2024
Date Received: July 17, 2024
Report Date: July 26, 2024

Visual Classification of Soils (ASTM D2488)

Sample Boring/Number/Depth:	Description:
TP-5 Sample 3 @ 2' 6"	**Olive Yellow Sandy Lean CLAY with Gravel (sCLg) ***
TP-7 Sample 1 @ 6"	**Reddish Brown SILT (ML)**
TP-7 Sample 3 @ 2' 4"	**Yellowish Brown Silty SAND (SM)**
TP-9 Sample 4 @ 5'	**Yellowish Brown Silty SAND (SM)**

Remarks:
* One large gravel (passing 3" retained on 2" sieve) in a half filled gallon size sample b

Reviewed By: M. Lee

Limitations: Pursuant to applicable building codes, the results presented in this report are for the exclusive use of the client and the registered design professional in responsible charge. The results apply only to the samples tested. If changes to the specifications were made and not communicated to Kleinfelder, Kleinfelder assumes no responsibility for pass/fail statements (meets/did not meet), if provided.

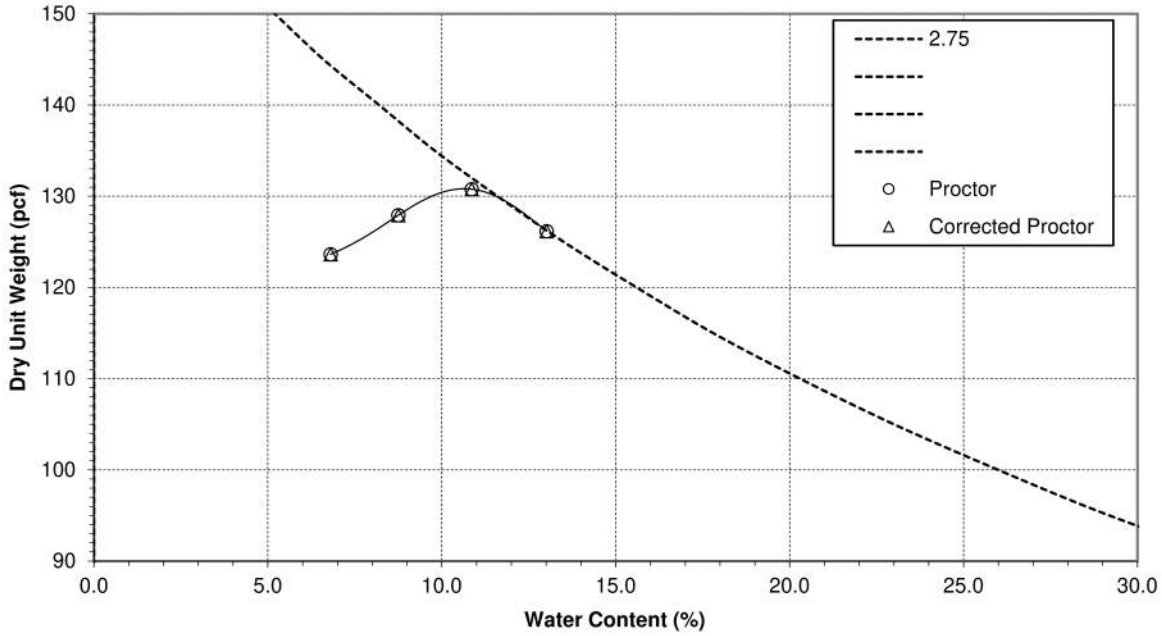
Laboratory Test Report

Client:	**Costco Wholesale**	Report No.:	**24-SAC-00855 Rev. 0**	Issued:	**7/26/2024**
Project:	**20193141.002A**				
	CSM Costco El Dorado, CA Gas Relo GEO	Sampled by:	**Not Provided**	Date:	**7/9/2024**
	01-000L - Laboratory Testing	Submitted by:	**Dan Dockendorf**	Date:	**7/17/2024**

Tested on **7/17/2024** by **I. Khan**

Material Description: **Dark Reddish Brown Sandy Lean CLAY with Gravel**

Location: **TP-4 Sample 2 @ 1-2'**



Test Method: ASTM D1557 B	Uncorrected	Corrected
Maximum Dry Unit Weight (pcf)	**130.8**	**na**
Optimum Water Content (%)	**10.7**	**na**
Oversize Fraction, retained on 3/4 (%)		**<5**
Bulk Specific Gravity of Oversize Fraction		**na**

Rammer Type: Manual

Specimen Preparation: Moist

Reviewed on 7/26/2024 by Marlley Lee,
Senior Technician

Marlley Lee

Limitations: Pursuant to applicable building codes, the results presented in this report are for the exclusive use of the client and the registered design professional in responsible charge. The results apply only to the samples tested. If changes to the specifications were made and not communicated to Kleinfelder, Kleinfelder assumes no responsibility for pass/fail statements (meets/did not meet), if provided. This report may not be reproduced, except in full, without written approval of Kleinfelder.

Laboratory Test Report

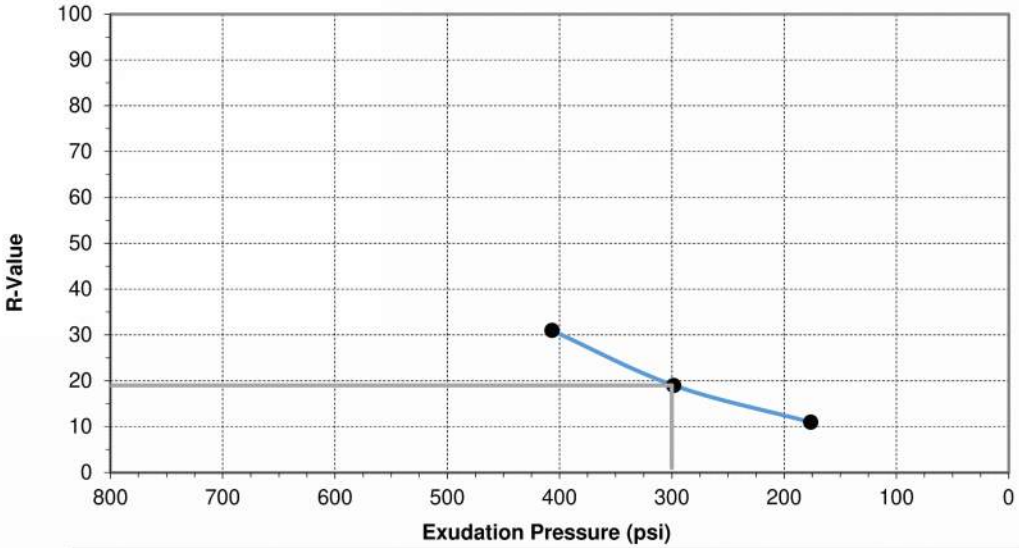
Client:	**Costco Wholesale**	Report No.:	**24-SAC-00855 Rev. 0**	Issued:	**7/26/2024**
Project:	**20193141.002A**				
	CSM Costco El Dorado, CA Gas Relo GEO	Sampled by:	**Not Provided**	Date:	**7/9/2024**
	01-000L - Laboratory Testing	Submitted by:	**Dan Dockendorf**	Date:	**7/17/2024**

Tested on **7/25/2024** by **K. DeSouza**

Test Method: **ASTM D2844**

Material Description: **Dark Reddish Brown Lean CLAY with gravel**

Specific Location: **TP-8-1.0-2.0'**



Briquette No.	A	B	C
Dry Unit Weight at Test (pcf)	116.5	121.1	119.0
Expansion Pressure (psf)	39	104	87
Exudation Pressure (psi)	176	407	298
Moisture at Time of Test (%)	17.1	15.2	16.1
Resistance Value	11	31	19
R - VALUE AT 300 PSI EXUDATION PRESSURE:			**19**

Reviewed on 7/26/2024 by Marlley Lee,
Senior Technician

Marlley Lee

Limitations: Pursuant to applicable building codes, the results presented in this report are for the exclusive use of the client and the registered design professional in responsible charge. The results apply only to the samples tested. If changes to the specifications were made and not communicated to Kleinfelder, Kleinfelder assumes no responsibility for pass/fail statements (meets/did not meet), if provided. This report may not be reproduced, except in full, without written approval of Kleinfelder.

AP Engineering and Testing, Inc.
DBE|MBE|SBE
2607 Pomona Boulevard | Pomona, CA 91768
t. 909.869.6316 | f. 909.869.6318 | www.aplaboratory.com

CORROSION TEST RESULTS

Client Name: Kleinfelder
Project Name: Costco El Dorado Hills New Warehouse
Project No.: 20193141.001A

AP Job No.: 19-0222
Date: 02/15/19

Boring No.	Sample No.	Depth (feet)	Soil Type	Minimum Resistivity (ohm-cm)	pH	Sulfate Content (ppm)	Chloride Content (ppm)
TP-1	1	0.5	CL	3255	6.4	33	34
TP-2	1	0	CH	769	6.6	185	204

NOTES: Resistivity Test and pH: California Test Method 643
Sulfate Content : California Test Method 417
Chloride Content : California Test Method 422
ND = Not Detectable
NA = Not Sufficient Sample
NR = Not Requested

Anaheim Office
February 27, 2019
Report 19-049-0015

Kleinfelder Inc.
75 E. Santa Clara St. Floor 6
San Jose, CA 95132

Attn: Dan Dockendorf

RE: Costco El Dorado Hills New Warehouse, Job # 20192984.001A

Background

One sample was processed on February 18, 2019 identified as sample TP-1 from an area where new landscaping is scheduled for installation. Fertilizer and amendment recommendations were requested. The sample was analyzed for horticultural suitability, fertility, and physical characteristics including organic matter content. The results of the analyses are attached. Heavy metals testing is in process and this data will be sent separately.

Analytical Results and Comments

The reaction of the sample is slightly alkaline at a pH of 7.1 with qualitative lime favorably low. This is within the preferred range for most plants. Salinity (ECe), sodium, chloride and boron are safely low. The sodium adsorption ratio (SAR) indicates that sodium is adequately balanced by soluble calcium and magnesium; this balance is important for soil structure quality, which relates to the rate at which water infiltrates the soil.

According to the USDA Soil Classification system, the texture of the less than 2mm fraction of the soil is classified as sandy clay loam. Organic content is low at 0.3% dry weight. Based on this information, the estimated infiltration rate is a moderate 0.26 inch per hour. Infiltration rates may vary due to potential differences in compaction across the site.

In terms of soil fertility, nitrogen, phosphorus, potassium and sulfate are low and calcium is moderately supplied. Magnesium is abundant but not problematically so and will not require supplementing for some time. Of the micronutrients; copper, zinc, manganese and iron are low.

Recommendations

Incorporation of nitrogen, phosphorus, potassium, calcium and sulfate fertilizers is recommended at the time of planting. Incorporation of a nitrogen stabilized organic amendment or composted greenwaste product is also recommended in order to help improve the soil nutrient holding capacity and porosity. If a composted greenwaste amendment is chosen, that would provide additional phosphorus and potassium as well as supplemental micronutrients.

Boron is safely low for general ornamental plants and may be below optimum levels for plant nutritional purposes. Irrigation water often supplies sufficient boron to meet plant nutritional requirements. However, if boron is low in the irrigation water and/or plants show symptoms of boron deficiency after they are well established, you may consider an application of a product containing boron at the manufacturer's label rate. Boron deficiency symptoms often include stunted or deformed younger growth and tight internodes. Tissue testing can be performed to identify a boron deficiency if it is suspected.

Incorporation of a composted greenwaste amendment may be sufficient to negate this deficiency, product depending.

The primary symptom of zinc, manganese and iron deficiencies is a general yellowing of leaves with veins remaining green. In severe cases, leaves may become pale yellow or whitish, but veins remain green. Brown spots may develop between veins and leaf margins may turn brown. Zinc deficiencies typically appear first on older, interior leaves. Manganese deficiency symptoms appear first on younger leaves. Iron deficiency shows first and more severely on the newer growth at branch tips. If these symptoms are present after plant installation they may be treated with an application of a chelated micronutrient product at the manufacturer's recommended rate. Incorporation of a composted greenwaste amendment would also provide additional micronutrients and may be sufficient to negate any deficiency, product depending.

To Prepare For Mass Planting:
Drainage of the root zone should be improved by first loosening the top 10 inches of any undisturbed or compacted soil. The following materials should then be evenly spread and thoroughly blended with the top 6 inches of soil to form a homogenous layer:

Amount per 1000 Square Feet	
5 cubic yards	Nitrogen Stabilized Organic Amendment*
7 pounds	Ammonium Phosphate (16-20-0)*
14 pounds	Potassium Sulfate (0-0-50)*
50 pounds	Gypsum (Calcium Sulfate)

*The rate may change based on the analysis of the chosen organic amendment. This rate is based on 270 pounds of dry weight of organic matter per cubic yard of amendment. If a composted greenwaste amendment is selected that contains a significant amount of phosphorus or potassium, the ammonium phosphate should be replaced with ammonium sulfate (21-0-0) at a 7 pound rate and the potassium sulfate should be reduced or omitted accordingly.

To Prepare Backfill For Trees and Shrubs:

- Excavate planting pits at least twice as wide as the diameter of the root ball.
- Soil immediately below the root ball should be left undisturbed to provide support but the sides and the bottom around the side should be cultivated to improve porosity.
- The top of the root ball should be at or slightly above final grade.
- The top 12 inches of backfill around the sides of the root ball of trees and shrubs may consist of the above amended soil or may be prepared as follows:

3 parts	Soil Sample
1 part	Nitrogen Stabilized Organic Amendment*

Uniformly blended with:

Amount per Cubic Yard of Backfill	
1/3 pound	Ammonium Phosphate (16-20-0)*
3/4 pound	Potassium Sulfate (0-0-50)*
2 2/3 pounds	Gypsum (Calcium Sulfate)

- Backfill below 12 inches required for 24 inch box or larger material should not contain the organic amendment or ammonium phosphate but should still contain the potassium sulfate and gypsum

at the recommended rates. In order to improve phosphorus levels below 12 inches in depth, triple superphosphate (0-45-0) should be incorporated at a 1/4 pound rate.

- Ideally a weed and turf free zone should be maintained just beyond the diameter of the planting hole. A 2-4 inch deep layer of coarse mulch can be placed around the tree or shrub. Mulch should be kept a minimum 4 inches from the trunk.
- Irrigation of new plantings should take into consideration the differing texture of the rootball substrate and surrounding soil matrix to maintain adequate moisture during this critical period of establishment.

Maintenance

Maintenance fertilization should rely primarily on a nitrogen only program supplemented with a complete fertilizer in the fall and spring. Beginning 45-60 days after planting, ammonium sulfate (21-0-0) should be applied at a rate of 5 pounds per 1000 square feet with reapplication every 45-60 days. Alternatively, slow release Sulfur Coated Urea (43-0-0) may be applied at 6 pounds per 1000 square feet every 90 days. Once plants are performing satisfactorily, the frequency of fertilization may be decreased depending on color and rate of growth desired. In the winter for a quick greening effect, calcium nitrate (15.5-0-0) may be applied at a 6 pound rate if applicable. Early fall and spring, substitute a complete fertilizer such as 15-15-15 to help insure continuing adequate phosphorus and potassium.

Alternatively, Blood Meal (12-0-0) provides available nitrogen fairly rapidly while materials such as Feather Meal (12-0-0), Soybean or Cotton Seed Meal (7-1-1) are slower to provide available nitrogen, but they extend the length of time they make this contribution. In order to provide a good supply of nitrogen for a 3-4 month time frame a good combination would be 6 pounds Blood Meal and 14 pounds Feather Meal per 1000 square feet. In the fall and spring, substitute a complete organic fertilizer such as 5-5-5 applied at the manufacturer's label rate. Or, nutrient rich composted greenwaste may be spread in a 1 to 2 inch layer, which generally carries enough nutrition to boost complete nutrition though a source of nitrogen might also be added at a half rate to assure adequate nitrogen availability.

If we can be of any further assistance, please feel free to contact us.

Annmarie Lucchesi
alucchesi@waypointanalytical.com

Emailed 4 Pages: ddockendorf@kleinfelder.com

Kleinfelder, Inc.
75 E. Santa Clara St, Floor 6

San Jose CA 95132

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Project : Costco - El Dorado Hills - New Warehouse
El Dorado Hills, CA
Job #20193141.001A

COMPREHENSIVE SOIL ANALYSIS

Report No : **19-049-0015**
Purchase Order :
Date Recd : 02/18/2019
Date Printed : 02/27/2019
Page : 1 of 1

Sample Description - Sample ID	Half Sat %	pH	ECe dS/m	NO_3-N ppm	NH_4-N ppm	PO_4-P ppm	K ppm	Ca ppm	Mg ppm	Cu ppm	Zn ppm	Mn ppm	Fe ppm	Organic % dry wt.	Lab No.
	TEC	Qual Lime		Sufficiency Factors											
TP-1 - 0' - 5'	16	7.1	0.3	0	14	4	25	1840	1410	0.5	0.3	2	9	0.3	01770
	210	Low		0.4		0.2	0.1	0.8	4.4	0.3	0	0.1	0.1		

Saturation Extract Values						SAR	Gravel %		Percent of Sample Passing 2 mm Screen					USDA Soil Classification	Lab No.
Ca meq/L	Mg meq/L	Na meq/L	K meq/L	B ppm	SO_4 meq/L		Coarse 5 - 12	Fine 2 - 5	Sand Very Coarse 1 - 2	Sand Coarse 0.5 - 1	Sand Med. to Very Fine 0.05 - 0.5	Silt .002-.05	Clay 0-.002		
1.5	1.7	0.9	0	0.06	1.4	0.7	0.5	3.1	11.4	12.2	33.4	17.5	25.4	Sandy Clay Loam	01770

01770 Chloride (Cl) = 0.470 meq/L

Sufficiency factor (1.0=sufficient for average crop) below each nutrient value. N factor based on 200 ppm constant feed. SAR = Sodium adsorption ratio. Half Saturation %=approx field moisture capacity. Nitrogen(N), Potassium(K), Calcium(Ca) and Magnesium(Mg) by sodium chloride extraction. Phosphorus(P) by sodium bicarbonate extraction. Copper(Cu), Zinc(Zn), Manganese(Mn) & Iron(Fe) by DTPA extraction. Sat. ext. method for salinity (ECe as dS/m),Boron (B), Sulfate(SO_4), Sodium(Na). Gravel fraction expressed as percent by weight of oven-dried sample passing a 12mm(1/2 inch) sieve. Particle sizes in millimeters. Organic percentage determined by Walkley-Black or Loss on Ignition.

* LOW , SUFFICIENT , HIGH

KLEINFELDER

Bright People. Right Solutions.

Appendix C

Refraction Seismic Investigation
at the
Costco El Dorado Hills Fuel Project Site
in El Dorado Hills,
El Dorado County, California

GGSI Project No. 2024-30.01

Prepared by:

Gasch Geophysical Services, Inc.
Rancho Cordova, California 95742-6576

Submitted to:

Mr. Dan Dockendorf
Kleinfelder, Inc.
25 Metro Drive, Suite 110
San Jose, California 95110

July, 2024

GASCH GEOPHYSICAL SERVICES, INC.
WWW.GEOGASCH.COM *Since 1969*

GASCH GEOPHYSICAL SERVICES, INC.
WWW.GEOGASCH.COM

CONSULTANTS IN GEOPHYSICS
FOR THE ENGINEERING,
GROUNDWATER, OIL & GAS
AND BLASTING INDUSTRIES

Since 1969

July 21, 2024

Mr. Dan Dockendorf
Kleinfelder, Inc.
25 Metro Drive, Suite 110
San Jose, California 95110

Re: Refraction Seismic Investigation at the Costco El Dorado Hills Fuel Project Site in El Dorado Hills, El Dorado County, California
GGSI Project No. 2024-30.01
Kleinfelder Project No. 20193141.002A, Task 01-0002

Dear Mr. Dockendorf:

At your request and authorization, Gasch Geophysical Services, Inc. (GGSI) has completed a refraction seismic investigation at Costco El Dorado Hills Fuel Project Site in El Dorado Hills, El Dorado County, California (Figure 1).

Purpose

The purpose of this investigation was to determine the depth to higher velocity material and also define the rippability (excavatability) characteristics of the sub-surface materials at the Costco El Dorado Hills Fuel Project Site.

Method, Instrumentation and Software

The refraction seismic (RS) method was used to evaluate the rock velocities on site, as seismic primary-wave travel times are used to quantify the rock velocities and, as a result, can determine the general competency/rippability in areas of various rock types. The RS method measures the velocity at which a seismic wave propagates through a soil or rock medium. In this case, the primary (i.e. p-wave or compressional) seismic waves were measured. Higher seismic p-wave velocities (measured in feet per second, ft/s) indicate material of higher density, thus quantifying the competency or strength of the soil or rock medium and providing an estimation of the rippability and/or excavatability of the sub-surface materials.

The seismic data acquisition system used for this project by GGSI was a Seistronix EX-6 Explorer, which is a distributed, 24-bit digital instrument with data output to electronic media for subsequent processing. Geophones were single, 28-Hz, digital grade units manufactured by OYO Geospace Corporation. Spread cables were manufactured by Pro-Seismic Services. The energy source for this project was a sixteen-pound sledge hammer with a hardwire connection for system triggering. All data were processed in house, on our data reduction and plotting workstation.

Refraction seismic data processing was carried out using Rayfract® version 4.06. This refraction seismic processing software utilizes Wavepath Eikonal Traveltime (WET) tomography, which models multiple signal propagation paths contributing to one first break (the Fresnel volume approach). Conventional ray tracing tomography is limited to the modeling of just one ray path per first break. The WET inversion method is founded upon a back-projection formula for inverting velocities from travel times computed by a finite-difference solution to the Eikonal equation (Qin, et al. 1992). An Eikonal solver is used for traveltime field computation, which models diffraction in addition to refraction and transmission of acoustic waves. As a result, the velocity anomaly imaging capability is enhanced with the WET tomographic inversion method compared to conventional ray tomography. This software is developed by Intelligent Resources, Inc. of Vancouver, British Colombia, Canada.

A color-coded seismic velocity cross-section of the subsurface has been generated for each RS line, where cool colors (blues) indicate lower seismic velocities and warm colors (reds, purple) indicate higher velocities. Color scaling of these seismic velocity sections is based on the range of seismic velocity values calculated. Velocity scaling has been normalized on all RS velocity sections.

Data Acquisition Parameters

A total of three RS lines were acquired during this investigation. RS Line locations were suggested by Kleinfelder personnel and slightly adjusted in the field to allow for safe and efficient data acquisition. All RS lines were acquired with geophone stations spaced at 20-foot intervals with energy source points located between every third or every other geophone station as well as off the ends of each line. RS Lines 1 & 2 were acquired with 24 active geophone stations for a total of 500 lineal feet each. RS Line was acquired using 12 active geophone stations for a total length of 260 lineal feet. A total of 1,260 lineal feet of data were collected for this investigation. Collection of the field data was carried out on July 16th, 2024. The field crew consisted of Professional Geophysicist Kent Gasch and Professional Engineer Josh Summers. The locations of the RS lines are presented on Figure 2.

Rippability

Rippability is dependent on the physical condition of the rock masses to be excavated. In addition to rock type and degree of weathering, structural features in the rock such as bedding planes, cleavage planes, joints, fractures, consolidation and shear zones also influence rippability. Rock masses tend to be more easily ripped if they have well defined, closely spaced fractures, joints, or other planes of weakness. Massive rock bodies which lack discontinuities may allow for slow and difficult ripping or refusal, even where partially weathered, and may require blasting to break the rock for efficient removal.

The association between the seismic velocity of any given earth material and its rippability varies greatly from one type of earth-moving equipment to another. For example, although a large track laying dozer with a single ripper tooth can sometimes rip material with seismic velocities in excess of 10,000 ft/s. GGSI has experienced a limiting (refusal) velocity for large excavators to range from 3,500 ft/s to 4,500 ft/s, and a standard backhoe may meet refusal at seismic velocities as low as 2,000 to 2,500 ft/s. Ultimately, the relationship between seismic velocity and rippability is dependent on both: site conditions and equipment and/or operator ability.

Seismic p-wave velocities are related to both rock hardness and fracture density. Rippability has been empirically correlated to refraction seismic velocities by Caterpillar Inc., as displayed on Figure 6 for a CAT D8R/D8T (Caterpillar Performance Handbook, Edition 49, September, 2019). According to this chart, metamorphic/sedimentary rock, in this case slates and shales, becomes marginally rippable around 6,000 to 6,300 ft/s and non-rippable around 8,200 ft/s for a D8R/D8T dozer with multiple or single shank No. 8 ripper. These estimations are based on the published values for igneous rocks on the CAT chart; however, site geology and topography may cause some variations of these values.

The Caterpillar Chart of Ripper Performance should be considered as being only one indicator of rippability. Ripper tooth penetration is the key to successful ripping, regardless of seismic velocity. This criterion is particularly true in finer-grained, homogeneous materials and in tightly cemented formations. Ripping success may ultimately be determined by the operator finding the proper combination of factors, such as: number of shanks used, length and depth of shank, tooth angle, direction of travel, and use of throttle. Although low seismic velocities in any rock type indicate probable rippability, it is possible that, if the fractures, bedding and/or joints do not allow tooth penetration, the material still may not be ripped efficiently. In some cases, drilling and blasting may be required to induce sufficient fracturing to allow for excavation.

Seismic Velocities

Generally, seismic p-wave velocities less than 3,000 ft/s indicate native soil, fill material, sand and gravel or highly weathered and/or decomposed rock, while velocities in excess of 10,000 ft/s indicate fresh (essentially non-weathered) rock. Seismic velocities between these two values typically indicate rock with varying degrees of weathering and/or fracturing. Consolidation and cementation, as well as fracture spacing and density, also affect the measured seismic velocities. Moderate velocities may indicate compacted soil, moderately weathered rock or loosely consolidated sediment such as gravel, sand and silt. Saturated sediment below the water table characteristically displays seismic velocities near or slightly above 5,000 ft/s.

Extremes in seismic velocities may range from below 1,000 ft/s to over 20,000 ft/s. Very low seismic velocities usually indicate highly weathered or poorly compacted material, either natural or man-made. Extremely high velocities are rare in the near-

surface, and only possible in certain types of rock. Rock velocities are dependent on the physical condition of the rock masses evaluated, as a result, seismic p-wave velocities are related to rock hardness, fracture density and sediment consolidation, saturation and cementation.

Findings

The results of this refraction seismic investigation are summarized by Figures 3 through 5. These seismic velocity sections, which were created through the inversion process, have very low error and provide a high degree of lateral definition of the seismic velocity horizons found beneath each line. The seismic velocity sections have been scaled from 1,500 ft/s to 20,000 ft/s for the velocity window. Horizontal and vertical axes have been scaled to 40 feet per inch in the horizontal and 20 feet per inch in the vertical.

Test pits performed by Kleinfelder prior to our arrival are shown on the RS Line Location Map (Figure 2) and on the seismic velocity sections when located near a RS Line. Locations are only approximate and based on information provided.

RS Line 1 (Figure 3)

RS Line 1 is located in the northern portion of the project area (see Figure 2). This line is oriented approximately northwest to southeast and located near test pits 2, 3 and 5 and crosses Line 3 near distance station 426 feet. Measured seismic velocities beneath this line grade at a fast rate from low velocities (1,500 ft/s) at the surface to marginally rippable velocities (≈6,200 ft/s) at depths ranging from approximately 10 to 15 feet below ground surface (bgs).

Velocities less than the ≈6,200 ft/s horizon suggest materials that will be rippable with a CAT D8R/D8T or equivalent. Below this horizon, in the areas of moderate-high to high velocities (6,000 to 8,000+ ft/s), ripping will likely become slower or more difficult as higher velocity material is encountered and depending on the maximum depth of excavation in this area.

RS Line 2 (Figure 4)

RS Line 2 is located in the southern portion of the project area and is located near test pits 4, 6 and 7(see Figure 2). This line is also oriented approximately northwest to southeast and crosses Line 3 near distance station 416 feet. Measured seismic velocities at this location grade at a fast rate from low velocities (1,500 ft/s) at the surface to marginally rippable velocities (≈6,200 ft/s) at approximate depths ranging from 8 to 15 feet bgs.

Seismic velocities less than the ≈6,200 ft/s horizon suggest materials that will be rippable with a CAT D8R/D8T or equivalent. Below this horizon, in the areas of moderate-high to high velocities (6,000 to 8,000+ ft/s), ripping will likely become slower

or more difficult as higher velocity material is encountered and depending on the maximum depth of excavation in this area.

RS Line 3 (Figure 5)

RS Line 3 is located in the eastern portion of the project site (see Figure 2). This line is oriented approximately northeast to southwest (see Figure 2). Test pits 1 and 2 are near to this line. Line 3 crosses Line 1 and 2 at distance stations 36 feet and 96 feet, respectively. Measured seismic velocities at this location grade at a moderate rate from low velocities (1,500 ft/s) at the surface to marginally rippable velocities (≈6,200 ft/s) at depths ranging from approximately 11 feet to near 20 feet bgs on the southwestern end of the line.

Velocities less than the ≈6,200 ft/s horizon suggest materials that will be rippable with a CAT D8R/D8T or equivalent. Below this horizon, in the areas of moderate-high to high velocities (6,000 to 8,000+ ft/s), ripping will likely become slower or more difficult as higher velocity material is encountered and depending on the maximum depth of excavation in this area.

Summary

This refraction seismic investigation to provides a good sampling of the subsurface conditions at the Costco El Dorado Hills Fuel Project Site. All three RS Lines show variable gradation of seismic velocities from ground surface to the maximum depth of exploration beneath each line. Velocity correlation between lines was very good and indicates the consistency of the subsurface materials at the site.

This investigation revealed a high degree of variation in the calculated seismic velocities of the subsurface materials, with the highest seismic velocity of greater than 18,000 ft/s measured at the maximum depth of exploration on all three RS Lines. Low velocity material was measured in the near surface material, which suggests highly weathered/fractured rock and soil or fill. The moderate velocity range of 3,000 ft/s to approximately 5,000 ft/s, suggests compacted soil/fill, moderately weathered/fractured rock, or moderately consolidated sediment. The RS Lines show this low to moderate velocity section of material from the surface to varying depths and higher velocity material at the maximum depth of exploration.

In general, rippability with a CAT D8R/D8T (or equivalent) should not be problematic to the depths noted above for each RS Line; however, depending on the maximum depth of excavation, progress may be slower or difficult as zones of higher velocity material are encountered. Should this be the case, drilling and blasting may be the most effective method to fracture the rock for further excavation.

Warranty and Limitations

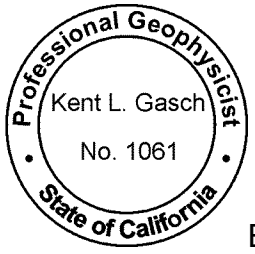
Gasch Geophysical Services, Inc. has performed these services in a manner which is consistent with standards of the profession. Site conditions can cause some variations of the calculated seismic velocities. Refraction seismic velocities assume that velocities increase with depth; therefore, a lower seismic velocity layer beneath a higher seismic velocity layer will not be resolved. No guarantee, with respect to the results and performance of services or products delivered for this project, is express or implied by Gasch Geophysical Services, Inc.

We trust that this is the information you require; however, should you have comments or questions, please contact our Rancho Cordova office at your convenience. Thank you for this opportunity to be of service.

Sincerely,

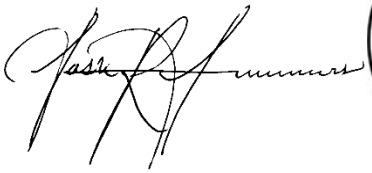
GASCH GEOPHYSICAL SERVICES, INC.





Expires 12/31/2025

Kent L. Gasch
Professional Geophysicist #1061
Blasting Consultant

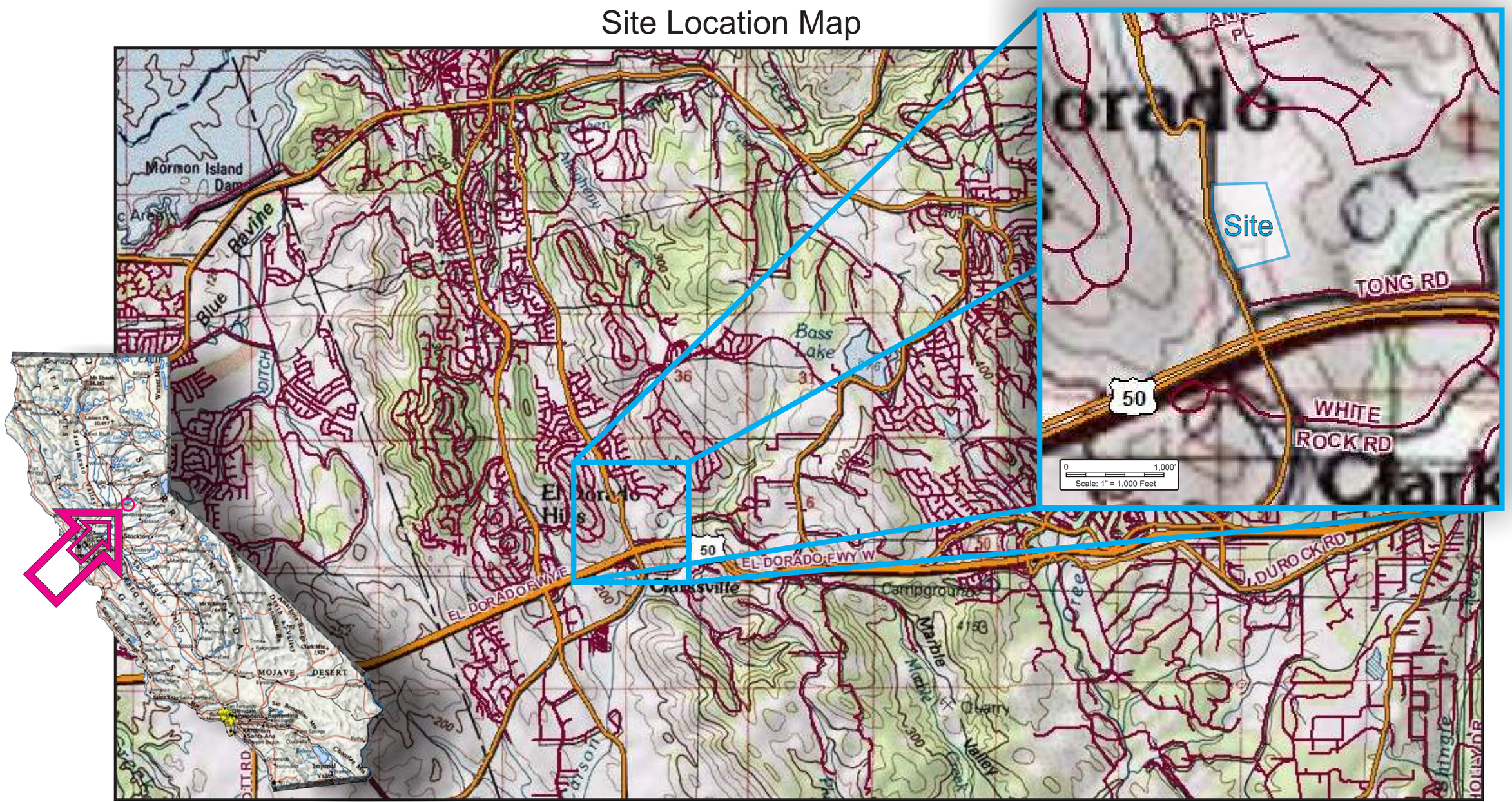




Josh R. Summers
Professional Civil Engineer No. C85240

Expires 6/30/2026

Site Location Map



Base Maps Courtesy of: USGS

0 0.5 1 1.5 2 miles
0 1 2 3 kilometers

North

Figure 1

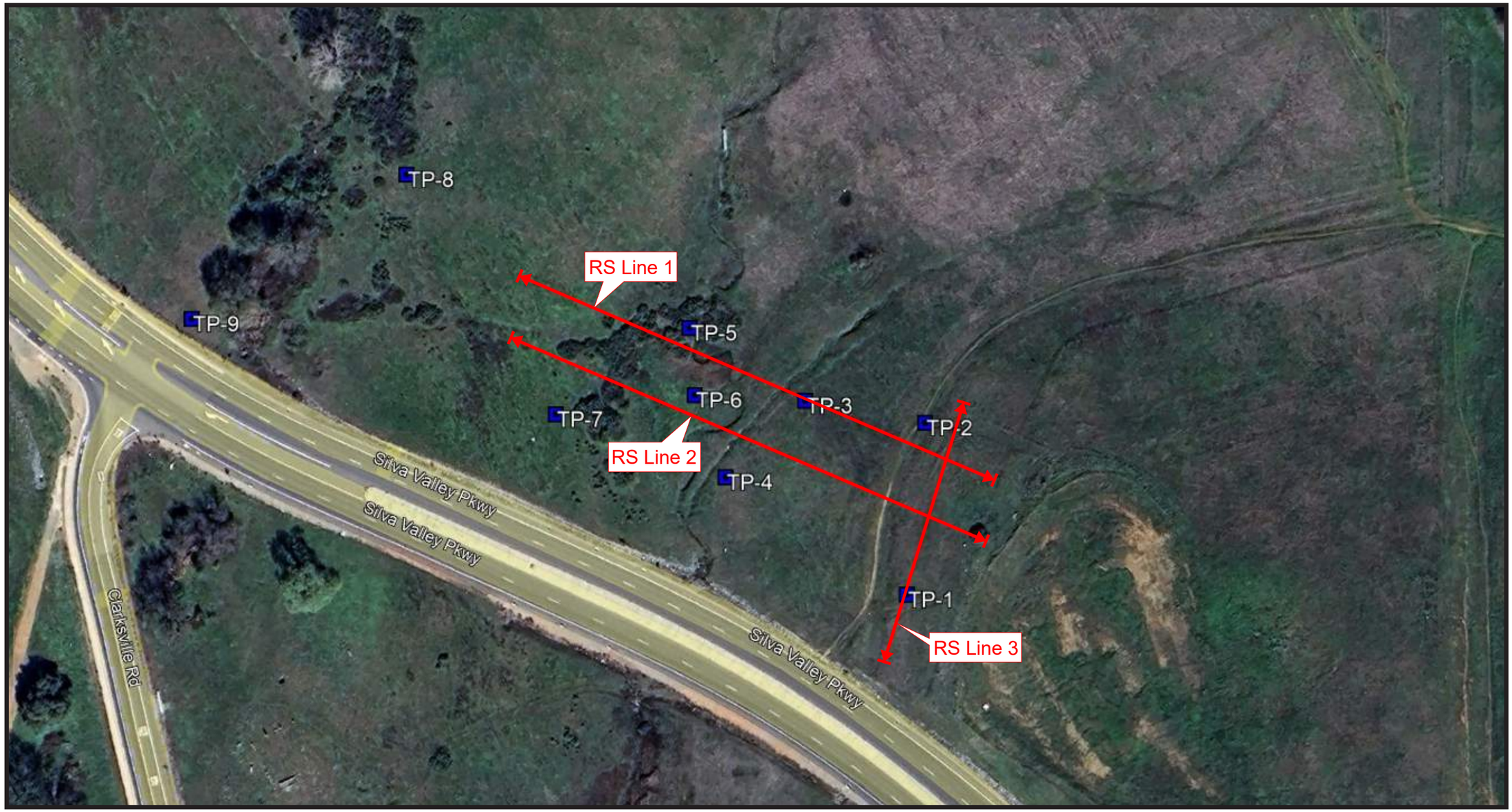
G2S Consultants in Geophysics for the Engineering, Groundwater, Oil & Gas and Blasting Industries
Gasch Geophysical Services, Inc. *Since 1969*
www.geogasch.com
3174 Luyung Drive, Building #2
Rancho Cordova, California 95742 U.S.A.
(916) 635-8906 • FAX (916) 635-8907

Refraction Seismic Investigation:
Costco El Dorado Hills Fuel Project

Prepared for: *Kleinfelder, Inc.*

Project Number: 2024-30.01 ***Date:*** July, 2024

Refraction Seismic Line Location Map



Base photo map courtesy of Google Earth Pro, dated 3/14/2024

Test Pit (TP) locations provided by Kleinfelder, Inc.

Figure 2

N

0’ 50’ 100’ 200’
Scale: 1” = 100’

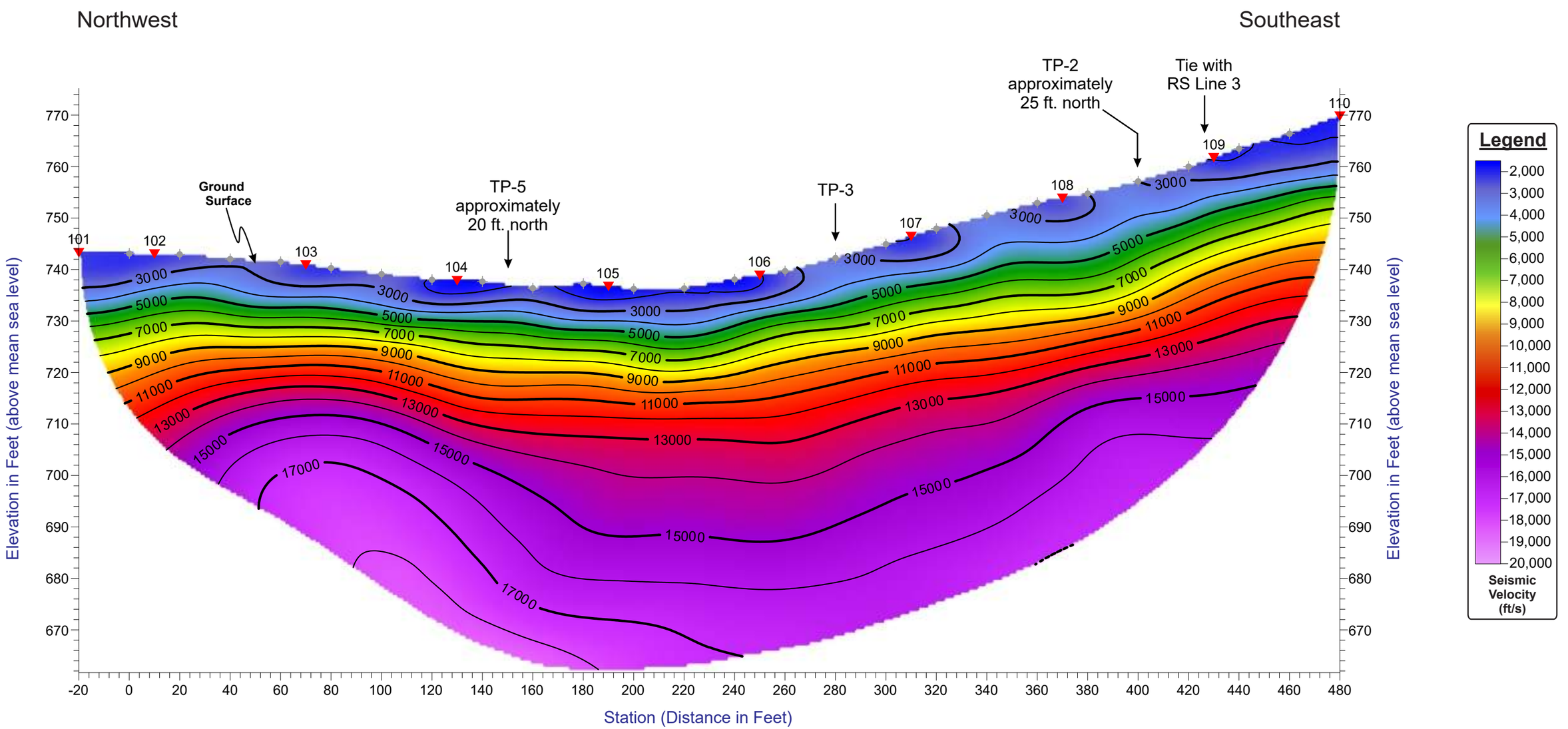
G2S Consultants in Geophysics for the Engineering, Groundwater, Oil & Gas and Blasting Industries
Gasch Geophysical Services, Inc. Since 1969
www.geogasch.com
3174 Luyung Drive, Building #2
Rancho Cordova, California 95742 U.S.A.
(916) 635-8906 • FAX (916) 635-8907

Refraction Seismic Investigation:
Costco El Dorado Hills Fuel Project

Prepared for: *Kleinfelder, Inc.*

Project Number: 2024-30.01 ***Date:*** July, 2024

Seismic Velocity Section • RS Line 1



Scale:
Horizontal: 1” = 40’
Vertical: 1” = 20’

Legend

- Geophone Station
- 101 Energy Source Locations

Figure 3

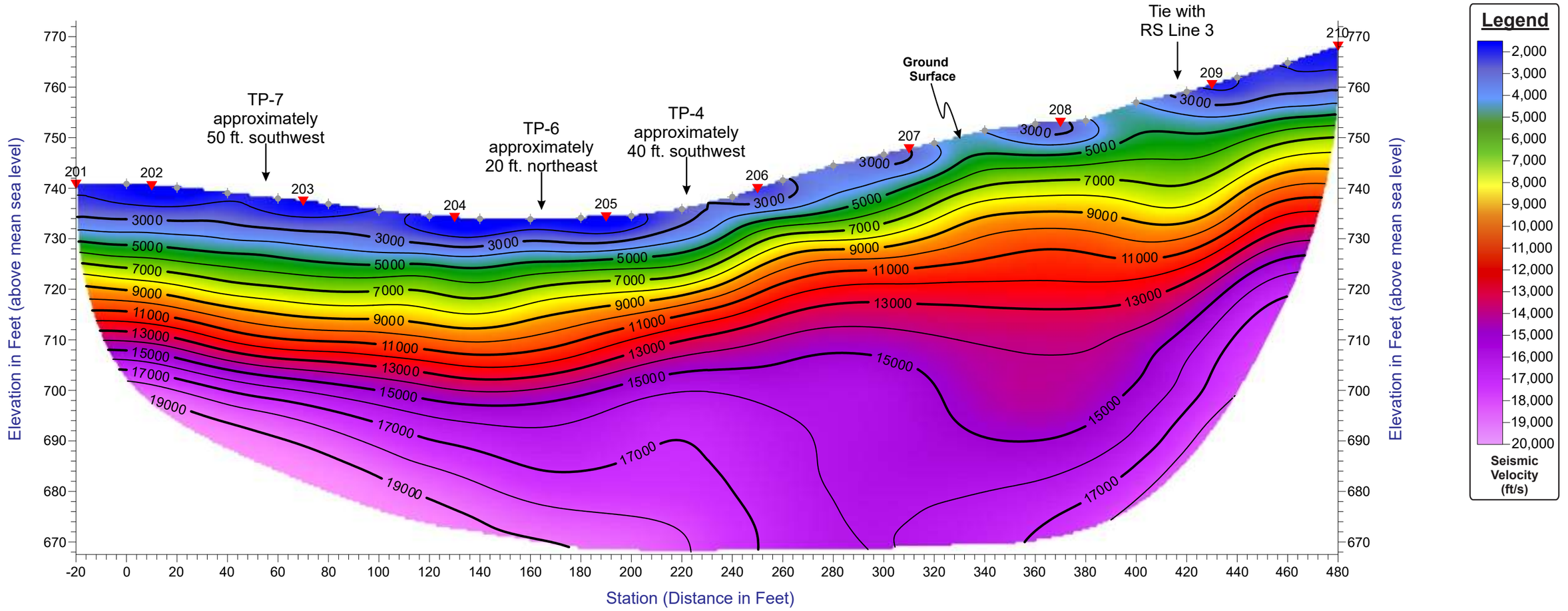
G2S Consultants in Geophysics for the Engineering, Groundwater, Oil & Gas and Blasting Industries
Gasch Geophysical Services, Inc. Since 1969
www.geogasch.com
3174 Luyung Drive, Building #2
Rancho Cordova, California 95742 U.S.A.
(916) 635-8906 • FAX (916) 635-8907

Refraction Seismic Investigation:
Costco El Dorado Hills Fuel Project

Prepared for: ***Kleinfelder, Inc.***

Project Number: 2024-30.01 ***Date:*** July, 2024

Seismic Velocity Section • RS Line 2



Scale:
Horizontal: 1” = 40’
Vertical: 1” = 20’

Legend

Geophone Station

201 Energy Source Locations

Figure 4

GSC Consultants in Geophysics for the Engineering, Groundwater, Oil & Gas and Blasting Industries
Gasch Geophysical Services, Inc. Since 1969
www.geogasch.com
3174 Luyung Drive, Building #2
Rancho Cordova, California 95742 U.S.A.
(916) 635-8906 • FAX (916) 635-8907

Refraction Seismic Investigation:
Costco El Dorado Hills Fuel Project

Prepared for: ***Kleinfelder, Inc.***

Project Number: 2024-30.01 ***Date:*** July, 2024

Seismic Velocity Section • RS Line 3

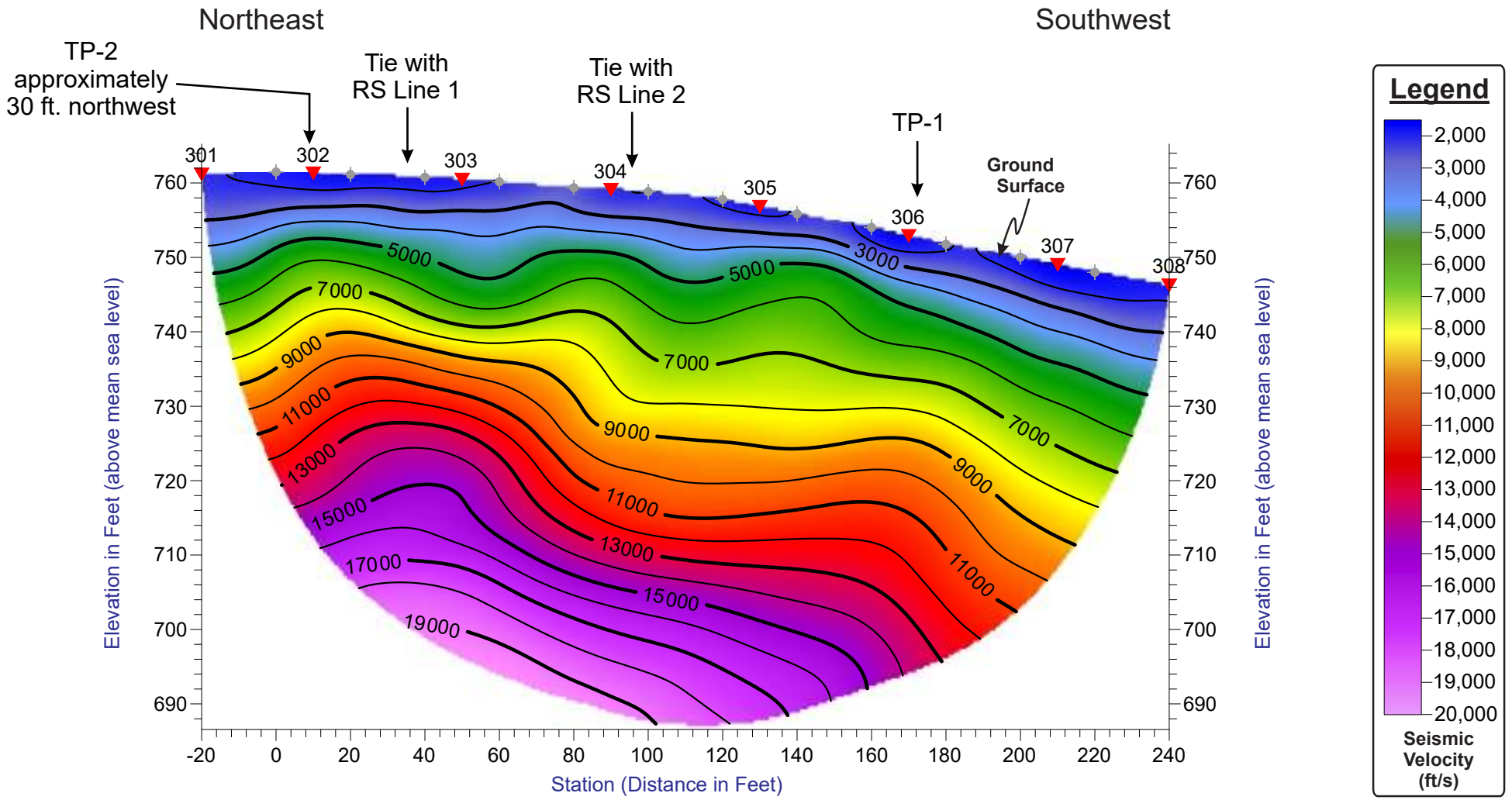


Figure 5

Scale:
Horizontal: 1” = 40’
Vertical: 1” = 20’

Legend

Geophone Station

301 Energy Source Locations

G2S Consultants in Geophysics for the Engineering, Groundwater, Oil & Gas and Blasting Industries

Gasch Geophysical Services, Inc. Since 1969

www.geogasch.com

3174 Luyung Drive, Building #2
Rancho Cordova, California 95742 U.S.A.
(916) 635-8906 • FAX (916) 635-8907

Refraction Seismic Investigation:
Costco El Dorado Hills Fuel Project

Prepared for: ***Kleinfelder, Inc.***

Project Number: 2024-30.01 ***Date:*** July, 2024

Caterpillar D8R/D8T Ripper Performance Chart*

D8R/D8T

Multi or Single Shank No. 8 Ripper
Estimated by Seismic Wave Velocities

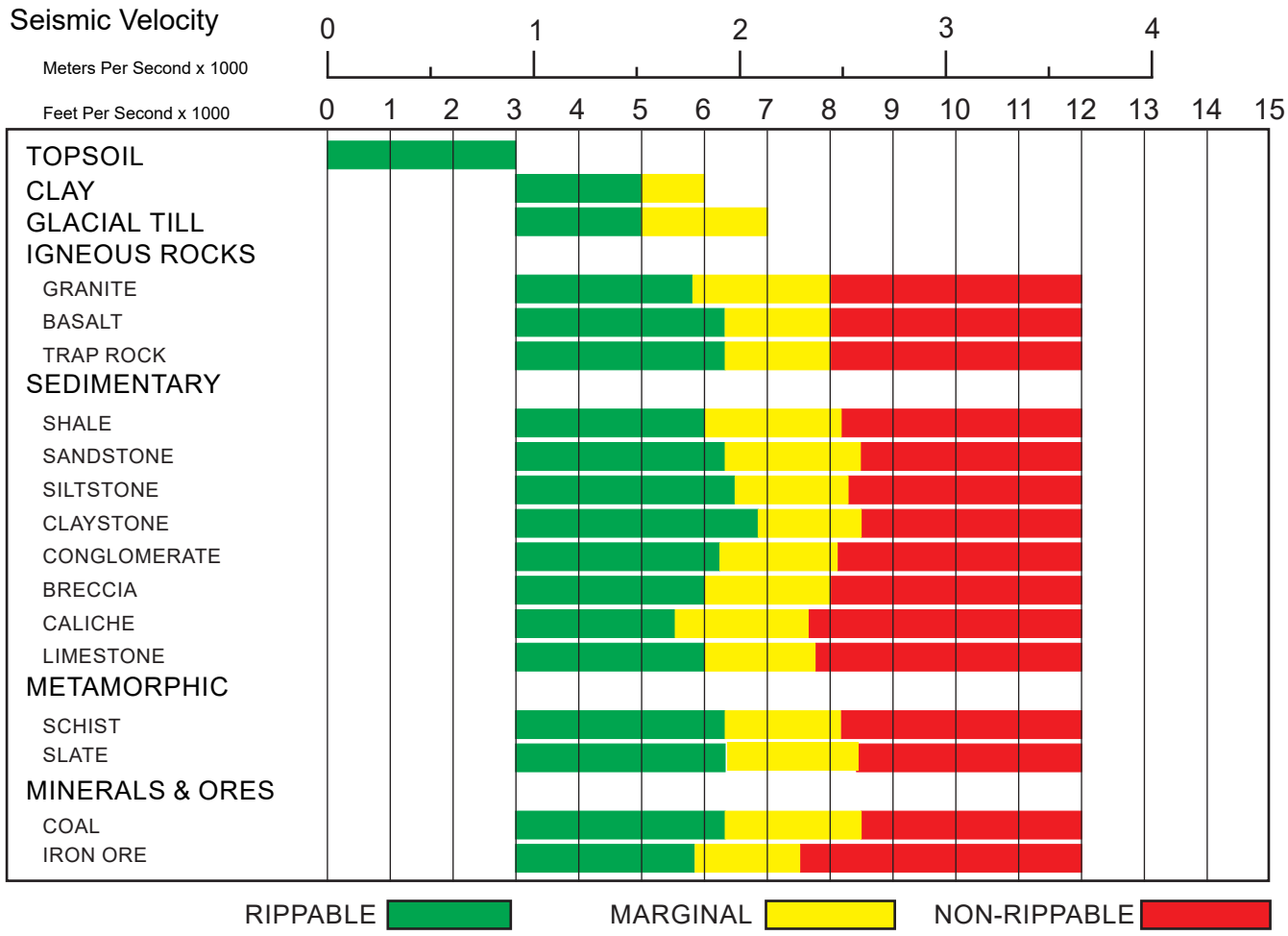


Figure 6

* Based on the Caterpillar Performance Handbook Edition 49 - September, 2019

G2S Consultants in Geophysics for the Engineering, Groundwater, Oil & Gas and Blasting Industries
Gasch Geophysical Services, Inc. Since 1969
www.geogasch.com
3174 Luyung Drive, Building #2
Rancho Cordova, California 95742 U.S.A.
(916) 635-8906 • FAX (916) 635-8907

Refraction Seismic Investigation:
Costco El Dorado Hills Fuel Project

Prepared for: ***Kleinfelder, Inc.***

Project Number: 2024-30.01 **Date:** July, 2024

Draft Geotechnical Study
(November 5, 2019)

November 5, 2019
Kleinfelder Project No. 20193141.001A

Costco Wholesale
9 Corporate Park, Suite 230
Irvine, California 92606

Attention: Mr. Michael Okuma
Director of Real Estate Development

SUBJECT: **DRAFT Geotechnical Study**
Proposed Costco Wholesale Warehouse and Fuel Facility
Silva Valley Parkway
El Dorado Hills, California
CW# 18-0487

Dear Mr. Okuma

Kleinfelder is pleased to present this report summarizing our draft geotechnical study for the proposed Costco Wholesale warehouse and fuel facility located on Silva Valley Parkway in El Dorado Hills, California. The conclusions and recommendations presented in this report are subject to the limitations presented in Section 7.

We appreciate the opportunity to provide geotechnical engineering services to you on this project. If you have any questions regarding this report or if we can be of further service, please do not hesitate to contact Andrea Traum at 408.595.3275, or Andy Franks, Kleinfelder's Client Account Manager for Costco at 480.650.4905.

Sincerely,

KLEINFELDER, INC.

Dan Dockendorf, EIT
Staff Professional

Andrea Traum, PE, LEED AP
Senior Project Manager

© 2019 Kleinfelder
KLEINFELDER 380 North 1st Street, Suite A, San Jose, CA 95112 **p |** 831.755.7900

DRAFT GEOTECHNICAL STUDY
PROPOSED COSTCO WHOLESALE WAREHOUSE AND FUEL FACILITY
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA
CW# 18-0487
KLEINFELDER PROJECT NO. 20193141.001A

NOVEMBER 5, 2019

Copyright 2019 Kleinfelder
All Rights Reserved

ONLY THE CLIENT OR ITS DESIGNATED REPRESENTATIVES MAY USE THIS DOCUMENT AND ONLY FOR THE SPECIFIC PROJECT FOR WHICH THIS REPORT WAS PREPARED.

© 2019 Kleinfelder

A Report Prepared for:

Mr. Michael Okuma
Costco Wholesale
9 Corporate Park, Suite 230
Irvine, California 92606

DRAFT GEOTECHNICAL STUDY
PROPOSED COSTCO WHOLESALE
WAREHOUSE AND FUEL FACILITY
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA
CW# 18-0487

Prepared by:

Dan Dockendorf, EIT
Staff Professional

Reviewed by:

Brian E. Crystal, PE, GE
Principal Geotechnical Engineer

KLEINFELDER
380 North First Street, Suite A
San Jose, CA 95112
Phone: 831.755.7900

November 5, 2019
Kleinfelder Project No. 20193141.001A

© 2019 Kleinfelder

Geotechnical Investigation Summary Checklist for Costco Wholesale Projects

General Information

Costco Real Estate Main Contact: Michael Okuma
Geotechnical Main Contact: Andrea Traum (480-650-4905)
Geotechnical Engineer of Record: Kleinfelder
Project Location: Silva Valley Parkway
El Dorado Hills, CA
CW#: 18-0487
Warehouse #:
Report Date: November 5, 2019
Consultant Project/Document Number: 20193141.001A/SJO19R103500
Addendums (List):

Report Purpose: ☐ Preliminary ☒ Draft ☐ Final ☐ Addendum/Revision

	Yes	No or NA	Describe/ Comments	Report Section
Pre-existing Conditions/Information				
Developer provided geotechnical report (describe):	☐	☒		
Pre-existing development (describe)	☒	☐	Undeveloped land	2.1
Foundation type (describe):	☐	☒		
Performance Issues (describe):	☐	☒		
Environmental Issues (describe)	☐	☒		
Site Grading Records (stripping, compaction test results, field reports, etc.)	☐	☒		
Typical Building Structural Design Criteria				
Other (describe):	☒	☐		1.1
Building size (describe):	☒	☐	152,000 square-foot warehouse, fuel facility and 2 level parking structure	1.1
Typical wall loading				
3 kips / foot* (Metal Buildings)	☐	☒		
4.5 kips / foot* (CMU or pre-cast)	☒	☐		
Typical column loading				
120 kips in non-snow regions	☒	☐		
150 kips in snow regions	☐	☒		
Typical canopy loading:	☐	☒		
Typical floor slab loading				
500 pounds per square foot, (psf, total)	☒	☐		
250 psf (dead) at rack areas	☒	☐		
150 psf (dead) at non-rack areas	☒	☐		
350 psf (live)	☒	☐		
Paving Design (20 year life)				
Heavy Duty paving shall accommodate 30 trucks per day (Traffic Index of 7.0)	☒	☐		
Light Duty paving shall accommodate 6,600 cars per day (Traffic Index of 5.0)	☒	☐		
Performance Grade (PG) binder oil identified for local climate conditions	☒	☐	PG 64-10	4.9.3
Site Grading Conditions/Assumptions				
Deviations to Typical Criteria (list/describe):	☐	☒		
Design Finished Floor Elevation (FFE) (describe):	☒	☐	Approximately 729 feet	Figures 5-10
Basis for FFE (assumed, per Civil) (describe):	☐	☒		
Effects of change to assumed FFE (describe):	☐	☒		
Maximum anticipated cuts (describe):	☒	☐	Approximately 15-20 feet	Figures 5-10
Maximum anticipated fills (describe):	☒	☐	Approximately 20 feet	Figures 5-10
Cross sections prepared for sites that are not essentially flat	☒	☐	Sections A-A' through F-F''	Figures 5-10
Amount of import/export anticipated (describe):	☐	☒		

© 2019 Kleinfelder

	Yes	No or NA	Describe/ Comments	Report Section
Frost Depth (describe):	☐	☒		
Retaining walls	☐	☒		
Number of walls (describe):	☐	☒		
Height/Length of walls (describe):	☐	☒	10-15 feet	4.7
Wall construction/type (describe):	☐	☒	Not provided	4.7
Cut/fill transition in pad (describe):	☒	☐		Figures 5-10
Offsite Improvements (describe)	☐	☒		
Fieldwork/Results				
Costco Due Diligence Design Criteria				
Version (describe):	☒	☐	Version 2018, dated October 26, 2018	
Followed Criteria?	☒	☐		
Deviations to standard investigation (describe):	☐	☒		
Groundwater				
Depth (describe):	☐	☒	Perched GW encountered in TP-4/TP-6	3.3
Perched	☒	☐	Perched above rock contact anticipated	3.3
Expected seasonal fluctuation (describe):	☐	☒		
Piezometers installed?	☐	☒		
Unusual/Challenging Soils conditions encountered				
Moisture-sensitive soils	☒	☐		5.2.4
Undocumented fill	☐	☒		
Unsuitable soils (require removal)	☐	☒		
Wet soils	☒	☐		5.3
Debris	☐	☒		
Bedrock/potential non-rippable conditions	☒	☐		5.2.7
Refusal	☒	☐		Appendix A
Collapsible soils	☐	☒		3.4.5
Expansive soils	☐	☒		3.4.4
Compressible soils	☐	☒		
Liquefaction	☐	☒		3.4.3
Sinkholes	☐	☒		
Other (describe):	☐	☒		
Potential Contamination Identified				
Soil	☐	☒		
Groundwater	☐	☒		
Restoration of Disturbed Areas				
Backfilled with soil	☒	☐	Test pits backfilled with soil	Appendix A
Backfilled with grout	☒	☐	Borings Backfilled with grout	Appendix A
Other (describe):	☐	☐		
Topsoil samples collected/analyzed	☒	☐		Appendix B
Corrosivity testing performed/addressed	☒	☐		4.10
Report				
Executive summary	☒	☐		E-1
Wet weather construction recommendations	☒	☐		5.3
Pad winterization/pad recommendations	☐	☒		
Frost protection recommendations	☐	☒		
Design Parameters				
Fill material parameters provided				
Structural fill (below foundations, slabs)	☒	☐		5.2.5
Site grading fill (below pavements, flatwork)	☒	☐		5.2.6
Select backfill	☐	☒		
Trench backfill	☒	☐		5.2.10
Drainage fill	☐	☒		
Frost resistant fill	☐	☒		
Slab base aggregate	☒	☐	6” minimum	4.4

© 2019 Kleinfelder

	Yes	No or NA	Describe/ Comments	Report Section
Limits of debris/unsuitable removal provided	☒	☐		
Over-excavation/recompaction required	☒	☐		5.2
Depth (describe):	☒	☐	Excavate all residual/colluvial soils in fill areas; under the 4 to 6' below building pads at cut/fill transition	5.2.2
Extent (include cross-section diagram)	☒	☐		Figures 5-10
Pad subgrade stabilization required (describe):	☐	☒		
Surcharge	☐	☒		
Height (describe):	☐	☒		
Lateral extent (describe):	☐	☒		
Estimated duration (describe):	☐	☒		
Shallow Foundations	☒	☐	Warehouse Foundations, Fuel Facility Canopy, Parking Structure	4.3.2
psf allowable soil bearing pressure (describe):	☒	☐	3,000 psf	4.3.2
Deep Foundations	☒	☐	Drilled Piles	4.3.3
Type (describe):	☒	☐	Light Pole Foundations	4.3.3
Options and Value Engineering Matrix provided	☐	☒		
Floor Slabs				4.4
Unreinforced	☒	☐		
Reinforced (describe why)	☐	☒		
Subgrade modulus (describe):	☒	☐	150 pci	4.4
Base Material thickness (min 6") (describe):	☒	☐	Minimum 6" Class 2 AB	4.4
Seismic Conditions				
Governing Building Code (IBC, UBC, other)	☒	☐	2019 CBC	4.2
Geologic Hazard Identified	☒	☐		3.4
Proximity to earthquake fault zone(s)	☒	☐		3.4.1
Proximity to seismic hazard zone(s)	☒	☐		3.4.1
Potential for liquefaction	☐	☒		3.4.3
Potential for lateral spreading	☐	☒		3.4.3
Potential for seismic settlement	☐	☒		3.4.3
Potential for slope stability/landslides	☐	☒		3.4.2
Potential for ground shaking or geologic hazards	☒	☐		3.4
Retaining Walls	☐	☒		
Recommended Wall Types	☐	☒		
Recommend Kleinfelder Design	☐	☒		
Lateral earth pressure design values	☒	☐	Prelim values, no retaining wall specifications given	4.7
Active:	☒	☐	40 pcf	4.7
At-rest:	☒	☐	60 pcf	4.7
Passive:	☒	☐	300 pcf	4.7
Seismic:	☐	☒		
Backfill material, placement requirements	☐	☒		
Drainage requirements and cross-section drawing	☐	☒		
Finger Drains	☐	☒		
Required for frost	☐	☒		
Recommended for long term maintenance and constructability	☒	☐		4.6
Pavement				4.9
Pavement subgrade stabilization required (describe):	☐	☒		
Costco asphalt mix design specified	☒	☐	PG 64-10	4.9.3
Heavy and light duty pavement sections specified	☒	☐	Table 3	4.9.2
Alternative pavement sections identified	☐	☒		
Specification for offsite pavement sections included	☐	☒		
Data Gaps/Unknowns (describe):	☐	☒		

© 2019 Kleinfelder

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will not be adequate to develop geotechnical design recommendations for the project.

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it. A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read the report in its entirety. Do not rely on an executive summary. Do not read selective elements only. *Read and refer to the report in full.*

You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys. Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept*

responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are not final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals' plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction-phase observations.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for information purposes only.* To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures.* If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer's services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, ***proper implementation of the geotechnical engineer's recommendations will not of itself be sufficient to prevent moisture infiltration. Confront the risk of moisture infiltration*** by including building-envelope or mold specialists on the design team. ***Geotechnical engineers are not building-envelope or mold specialists.***

GEOPROFESSIONAL BUSINESS ASSOCIATION

Telephone: 301/565-2733
e-mail: info@geoprofessional.org www.geoprofessional.org

Copyright 2019 by Geoprofessional Business Association (GBA). Duplication, reproduction, or copying of this document, in whole or in part, by any means whatsoever, is strictly prohibited, except with GBA's specific written permission. Excerpting, quoting, or otherwise extracting wording from this document is permitted only with the express written permission of GBA, and only for purposes of scholarly research or book review. Only members of GBA may use this document or its wording as a complement to or as an element of a report of any kind. Any other firm, individual, or other entity that so uses this document without being a GBA member could be committing negligent or intentional (fraudulent) misrepresentation.

KLEINFELDER
Bright People. Right Solutions.

TABLE OF CONTENTS

Section **Page**

EXECUTIVE SUMMARY 4

1 **INTRODUCTION 10**
- 1.1 PROJECT DESCRIPTION 10
- 1.2 SCOPE OF SERVICES 11
  - 1.2.1 Task 1 – Background Data Review 11
  - 1.2.2 Task 2 – Field Exploration 11
  - 1.2.3 Task 3 – Laboratory Testing 12
  - 1.2.4 Task 4 – Geotechnical Analyses 13
  - 1.2.5 Task 5 – Report Preparation 13

2 **SITE CONDITIONS 15**
- 2.1 SITE DESCRIPTION 15

3 **GEOLOGY 16**
- 3.1 GEOLOGIC SETTING 16
  - 3.1.1 Regional Geology 16
  - 3.1.2 Site Geology 16
- 3.2 SUBSURFACE CONDITIONS 16
- 3.3 GROUNDWATER 17
- 3.4 ASSESSMENT OF POTENTIAL GEOLOGIC HAZARDS 17
  - 3.4.1 Localized Faulting 17
  - 3.4.2 Landsliding 18
  - 3.4.3 Liquefaction and Seismic Compression 18
  - 3.4.4 Expansive Soils 19
  - 3.4.5 Collapsible Soils 19
  - 3.4.6 Subsidence 20
  - 3.4.7 Flooding 20
  - 3.4.8 Oil and Gas Fields 20
  - 3.4.9 Naturally Occurring Asbestos 20

4 **GEOTECHNICAL DESIGN RECOMMENDATIONS 22**
- 4.1 GENERAL 22
- 4.2 2019 CALIFORNIA BUILDING CODE 25
- 4.3 FOUNDATIONS 26
  - 4.3.1 General 26
  - 4.3.2 Shallow Foundations 26
  - 4.3.3 Drilled Pile Foundations (Light Pole Foundations) 27
- 4.4 BUILDING SLAB-ON-GRADE 28
- 4.5 EXTERIOR FLATWORK 29
- 4.6 SITE DRAINAGE 29
- 4.7 RETAINING STRUCTURES 30
- 4.8 PERMANENT SLOPES 32
- 4.9 PAVEMENT SECTIONS 33
  - 4.9.1 Costco Pavement Design Parameters 33
  - 4.9.2 Asphalt Concrete Pavement 33
  - 4.9.3 Asphalt Performance Grade Binder 34

© 2019 Kleinfelder

4.9.4 Portland Cement Concrete Pavement 34
4.9.5 Aggregate Base 35
4.9.6 Pavement Maintenance 35
4.10 SOIL CORROSIVITY 35
4.11 STORMWATER MANAGEMENT 36

5 CONSTRUCTION RECOMMENDATIONS 37
5.1 GENERAL 37
5.2 EARTHWORK 37
5.2.1 General 37
5.2.2 Site Preparation 37
5.2.3 Permanent Slopes 38
5.2.4 Temporary Excavations 38
5.2.5 Excavation Characteristics 39
5.2.6 Foundation Excavations 39
5.2.7 Fill Material and Compaction Criteria 40
5.2.8 Groundwater Impacts 43
5.2.9 Trench Backfill 44
5.3 UNSTABLE SUBGRADE CONDITIONS 45
5.4 EXTERIOR FLATWORK 46
5.5 PAVEMENTS 46
5.5.1 HMA Design 46
5.5.2 Construction Considerations 47

6 ADDITIONAL SERVICES 48
6.1 PLANS AND SPECIFICATIONS REVIEW 48
6.2 CONSTRUCTION OBSERVATION AND TESTING 48

7 LIMITATIONS 49

8 REFERENCES 52

TABLES

1 2019 CBC Seismic Design Parameters 26
2 Lateral Earth Pressures for Retaining Structures (Granular Backfill) 31
3 Recommended Minimum Asphalt Concrete Pavement Sections 34
4 Corrosion Test Results 35
5 Structural Fill Placement and Compaction Criteria 43

FIGURES

1 Site Location Map
2 Exploration Location Map
3 Regional Geology Map
4 Naturally Occurring Asbestos Map
5 Cross Section A-A’
6 Cross Section B-B’
7 Cross Section C-C’
8 Cross Section D-D’
9 Cross Section E-E’
10 Cross Section F-F’

© 2019 Kleinfelder

11 Typical Engineered Fill Slope/Benching Detail
12 Canyon Subdrain Detail

APPENDICES

A Field Explorations
B Laboratory Testing
C Seismic Refraction Survey

© 2019 Kleinfelder

EXECUTIVE SUMMARY

This report presents the results of Kleinfelder's geotechnical study for proposed Costco Wholesale warehouse and fuel facility (CW# 18-0487) located on Silva Valley Parkway in El Dorado Hills, California. The purpose of our geotechnical study was to evaluate soil/bedrock and groundwater conditions at the site and provide geotechnical recommendations for project design and construction. We based our study on the Costco Wholesale Development Requirements (CWDRs), Version 2018, revised October 26, 2018.

Kleinfelder understands Costco plans to purchase an approximately 17-acre, commercially-zoned site on the southwest side of Silva Valley Parkway north of Highway 50 in El Dorado Hills, California and construct an approximately 152,000-square foot warehouse and fuel facility. The building will be a single-story, steel-framed structure (30 feet in height) with concrete-masonry-unit and metal walls. Based on the CWDRs, we understand maximum column loads will be on the order of 120 kips for non-snow regions, typical wall loads will be approximately 4.5 kips per lineal foot, and the total slab load (dead plus live loads) will be approximately 500 psf.

In addition, immediately west of the warehouse facility, a two-level parking structure will be constructed, which will service the majority of the parking at the site. Structural loading is not currently available; however, based on past experience, maximum column loads for the parking structure is anticipated to be on the order of 250 kips for interior columns and 125 kips for exterior columns, respectively. Additional surface parking and landscape islands are also planned around the new fuel facility located on the northern portion of the property. Parking and drive areas will be paved with either Portland cement concrete or asphalt concrete pavement.

The site is located between Silva Valley Parkway and US Highway 50 in El Dorado Hills, California. The site is currently bounded by Silva Valley Parkway to the north and east, the southbound US Highway 50 on-ramp to the south, and Clarksville Crossing to the west. The site is undeveloped with rolling hills running from east to west with ground surface elevations between approximately 705 to 755 feet. At the time of our field exploration, much of the site was covered by low-lying vegetation (weeds and shrubs) and animal burrows. Additionally, a seasonal creek runs through the property from east to west.

Based on preliminary grading plans provided by Kier and Wright (Civil Engineer), we understand that the finished floor elevation for the warehouse building slab will be established at Elevation

© 2019 Kleinfelder

729 feet. The upper level of the parking structure will match the surface grades surrounding the warehouse building at elevations ranging between 724 and 729 feet. The lower level of the parking structure will be set about 12 feet below the upper level. The warehouse building footprint is situated on a cut/fill transitional area with cuts up to approximately 20 feet in the eastern side of the building and fills up to approximately 10 to 15 feet along the western side of the building. Conversely, the proposed parking structure on the western side of the site is located mostly in fills of approximately 5 to 10 feet in depth. The preliminary grading plans show this site to be balanced. Retaining walls will be constructed on the southern and eastern sides of the warehouse building and west of the fuel facility. Retaining wall types have not been determined at this time; however, rockeries are being considered.

Subsurface conditions at the site were explored by drilling 3 borings/rock cores, excavating 26 test pits and performing a seismic refraction survey. The seismic refraction survey was used to evaluate the excavatability (rippability) of the bedrock rock material. A total of 2 boring/rock cores and 15 test pits were drilled/excavated in the warehouse building area; 1 boring/rock core and 2 test pits were excavated within the fuel facility area, 5 test pits were excavated within the future parking structure; and 4 test pits were excavated in the proposed parking lot areas. The borings were drilled using track-mounted hollow-stem-auger drilling equipment with rock coring abilities to depths of between approximately 8½ to 25 feet below the existing ground surface (bgs). The proposed exploration plan also included a fourth rock coring location (KB-2) at the northeastern corner of the new warehouse location. This location was not drilled due to very hard drilling conditions throughout the course of the field exploration.

Subsurface materials encountered during the explorations consisted of colluvium/residual soil overlying bedrock. The colluvium/residual soil consisted primarily of clayey soils with varying amounts of silt and gravel and varied in depth from approximately 1 to 5½ feet bgs. Below the colluvium/residual soil, bedrock comprised of weathered and fractured metavolcanic rock underlain by little-weathered, intact rock. The rock increased in strength and decreased in weathering and fracture amount with depth, as shown on Figures 5 through 10 and the seismic refraction survey report (Appendix C). Localized deposits of artificial fill were encountered in a few test pits. The fill consisted of sandy lean clays with variable amounts of gravel and cobbles. Perched groundwater was encountered in Test Pits TP-4 and TP-6 at depths of approximately 7 to 8 feet bgs. These test pits were located near a seasonal creek, which runs through the property. During Kleinfelder's investigation of the adjacent property in April of 2019, this creek

© 2019 Kleinfelder

had been flowing rapidly and all excavated test pits encountered perched water near bedrock contact.

Based on the results of our prior field exploration, and observations during this exploration, it is our professional opinion that the proposed project is geotechnically feasible, provided the recommendations presented in the geotechnical report are incorporated into the project design and construction. We identified the following key geotechnical considerations during our study.

- The primary geotechnical consideration for site development is the excavatability of the rock and the construction of fills to achieve the finished grades. The seismic refraction survey results (Appendix C) indicate the initial weathered rock layer with compression wave velocities (Vp) ranging between 3,985 to 6,030 feet per second is located approximately 1 to 3 below existing grades and extends as deep as 30 feet below grade within the warehouse building cut. Based on Caterpillar's Handbook of Ripping (2000), rock exhibiting seismic velocities in this range are marginally rippable using a D9R dozer equipped with multi or single shank ripper(s). Underlying this layer is a less weathered rock zone with compression wave velocities ranging between 12,210 to 18,530 feet per second and is located as shallow as 5 to 10 feet below grade within eastern cut for the warehouse building and the fuel facility cut area on the northern portion of the site. Localized blasting will likely be needed to excavate less weathered rock. In addition, crushing and screening operations will likely be required to produce efficient rock fragmentation of the rock (both weathered and less weathered rock) for re-use onsite as structural fill.
- Based on the preliminary grading plan, the warehouse building footprint is situated on a bedrock cut/fill transitional area with cuts up to approximately 20 feet in the eastern side of the building and fills up to approximately 10 to 15 feet along the western side of the building. To provide uniform support for the proposed warehouse building and to reduce the adverse effects of abrupt differential settlement due the cut/fill transition and variability in fill thickness across the building pad, we recommend the bedrock should be undercut by at least 6 feet below the finished floor elevation and backfilled with structural fill. In addition, cut/fill transitions are situated below small areas of the parking structure's lower level. Beneath the parking structure, we recommend the bedrock should be undercut by at least 4 feet below the finished floor elevation and backfilled with structural fill.

© 2019 Kleinfelder

- The residual soil/colluvial layer should excavated to underlying weathered rock contact and stockpiled on site for reuse as structural fill. An estimate of the residual soil/colluvial layer thickness is shown on the cross sections (Figures 5 through 10).
- Prior to grading and subgrade preparation, all vegetation should be cut and removed from the site. Roots and vegetative matter in excess of one inch should be removed by screening or raking soils to a minimum depth of 12 inches. Other than plant roots, organic matter in the topsoil is minimal based on our laboratory testing (between one and three percent). The topsoil can be re-used on site in fills.
- Due to the composition of the bedrock, it will not reduce to a soil-like material when excavated and will not be suitable for re-use as structural fill. However, the bedrock material may be crushed, processed and re-used onsite as structural fill as described below. Rock fragments up to 12 inches in size may be used in structural fills 10 or more feet below finished subgrade elevation, but not within 10 feet of a slope face. Rock fragments greater than 6 inches in size should not be used in the upper 10 feet of site fills. Rock fragments greater than 3 inches in size should not be used in the upper 3 feet of fills below the Costco warehouse building. There may be an opportunity for larger sized rocks and boulders between 12 and 24 inches in size to be re-used at the base of slopes or in landscape areas. A rock that cannot be crushed or screened to above size criteria should be removed off site.
- Rocks up to 12 inches in size may be placed in the deeper portions of structural fills as noted above provided they are thoroughly mixed with soils to avoid excessive concentrations of rock fragments. Over-sized materials (between 6 and 12 inches) should be placed in windrows or otherwise be placed under the observation of the geotechnical engineer's representative in a manner to avoid nesting or voids. Fills should be placed in lifts slightly thicker than the largest particle size and proof-rolled with a D-9 or larger Caterpillar dozer making at least 5 complete passes over each lift. Periodic test pits should be excavated into each compacted lift to confirm the rock fill is being placed in a uniform, dense manner with no nesting or voids.
- After stripping the site and prior to filling in the seasonal creek, which runs from east to west through the site, subdrains should be installed within the creek bottom. This creek was observed to be flowing rapidly during our initial investigation of the adjacent site in April 2019.

© 2019 Kleinfelder

- Rainfall will infiltrate near surface soils and collect on less permeable soil and rock at shallow depth. Therefore, perched groundwater will likely be present at or near subgrade level across the entire site during and after rainfall events.
- Although preliminary grading plans show that this site will be balanced, it is anticipated that crushing and processing the harder rock layers will prove challenging and may require soil to be imported onsite. Import materials, if required, should have a Plasticity Index of less than 10 with no less than 70 percent passing the No. 4 sieve, no more than 30 percent of the particles passing the No. 200 sieve, and no particles greater than 3 inches in maximum dimension. The maximum Plasticity Index for imported soils may be modified upon approval by Costco depending on its proposed use. The contractor should provide documentation to Costco that imported fill is free of hazardous materials, including petroleum or petroleum byproducts, chemicals and harmful minerals prior to its transportation and use on site.
- Permanent slopes should be constructed at an inclination of 2:1 (horizontal to vertical) or flatter.
- Retaining wall types have not been determined at this time; however, we understand rockeries are being considered. Kleinfelder has provided recommendations for cantilever retaining walls. Rockeries are designed and constructed by a design-build specialty contractor.
- The proposed Costco warehouse building, fuel facility canopy, and parking structure foundations may be supported on a conventional shallow foundation system. Proposed light poles located in the parking lot may be supported on short drilled pile foundations.
- Pursuant to current Costco Wholesale standard construction design practices, we have evaluated whether steel reinforcement is needed within the floor slab. Based on the geotechnical characteristics of the site, the proposed warehouse can be built with a non-reinforced slab.
- Kleinfelder typically recommends installation of a vapor barrier beneath the slab to mitigate potential moisture issues such as flooring performance and mold. However, we understand that Costco Wholesale has determined that moisture barriers are not to be used in construction of Costco Wholesale warehouses due to adverse effects on concrete curing and performance. Therefore, we have provided construction recommendations that do not include installation of a moisture barrier, with the understanding that there will be an increased risk for adverse moisture issues.

© 2019 Kleinfelder

- The residual soil/colluvium is anticipated to be used near the finished subgrade levels around the site. Because this material drains poorly, we recommend radial finger drains below new pavement sections. Additionally, planters should be detailed such that water exiting from them will not seep into the foundation areas or beneath slabs and pavement.
- Based on the current grading plan and understanding of the regional geology, we classify the site as Seismic Site Class C.
- Performance grade (PG) binder oil of 64-10 should be used asphalt concrete pavements and is locally available.
- The minimum resistivity of the samples tested indicate that the soil may be corrosive towards ferrous metals. The concentrations of soluble sulfates indicate that the subsurface soils represent a Class S0 exposure to sulfate attack on concrete in contact with the soil based on ACI 318-14 Table 19.3.1.1 (ACI, 2014). Therefore, in accordance with ACI Building Code 318-14, no special provisions for selection of cement type are required.
- Based on visual soil classification and laboratory testing of the soil samples collected during our field exploration, the upper approximately 1 to 5 feet of the subsurface soils consist predominantly lean sandy clays underlain with highly fractured highly weathered metavolcanic rock. Based on the soil classification, and gradation tests, water infiltration is expected to be very low. We recommend alternatives to infiltration BMPs, such as bio-filtration/bio-retention systems (bio-swales and planter boxes), be implemented at the Costco site.

The findings, conclusions, and recommendations presented in this executive summary should not be relied upon without consulting our geotechnical report for more information. The conclusions and recommendations presented in this report are subject to the limitations presented in Section 7.

© 2019 Kleinfelder

1 INTRODUCTION

This report presents the results of Kleinfelder's geotechnical study for proposed Costco Wholesale warehouse and fuel facility (CW# 18-0487) located at Silva Valley Parkway in El Dorado Hills, California. The location of the project site is presented on Figure 1, Site Location Map. The purpose of our geotechnical study was to evaluate soil/bedrock and groundwater conditions at the site and provide geotechnical recommendations for project design and construction. The scope of our services was presented in our change order and revised proposal titled, "Proposal for Geotechnical Study – New Site, Proposed Costco Wholesale Warehouse and Fuel Facility Silva Valley Parkway, El Dorado Hills, California 95762, CW#18-0487," dated August 19, 2019. We based our study on the Costco Wholesale Development Requirements (CWDRs), Version 2018, revised October 26, 2018.

This report presents a description of the services performed, a discussion of the geotechnical conditions observed at the site, and recommendations developed from our engineering analyses of field and laboratory data. Individuals using this report should read the limitations presented in Section 7.

1.1 PROJECT DESCRIPTION

Kleinfelder understands Costco plans to purchase an approximately 17-acre, commercially-zoned site on the southwest side of Silva Valley Parkway north of Highway 50 in El Dorado Hills, California and construct an approximately 152,000-square foot warehouse and fuel facility. The building will be a single-story, steel-framed structure (30 feet in height) with concrete-masonry-unit and metal walls. Based on the CWDRs, we understand maximum column loads will be on the order of 120 kips for non-snow regions, typical wall loads will be approximately 4.5 kips per lineal foot, and the total slab load (dead plus live loads) will be approximately 500 psf.

In addition, immediately west of the warehouse facility, a two-level parking structure will be constructed, which will service the majority of the parking at the site. Structural loading is not currently available; however, based on past experience, maximum column loads for the parking structure is anticipated to be on the order of 250 kips for interior columns and 125 kips for exterior columns, respectively. Additional surface parking and landscape islands are also planned around the new fuel facility located on the northern portion of the property. Parking and drive areas will be paved with either Portland cement concrete or asphalt concrete pavement.

© 2019 Kleinfelder

Based on preliminary grading plans provided by Kier and Wright (Civil Engineer), we understand that the finished floor elevation for the warehouse building slab will be established at Elevation 729 feet. The upper level of the parking structure will match the surface grades surrounding the warehouse building at elevations ranging between 724 and 728 feet. The lower level of the parking structure will be set about 12 feet below the upper level. The warehouse building footprint is situated on a cut/fill transitional area with cuts up to approximately 20 feet in the eastern side of the building and fills up to approximately 10 to 15 feet along the western side of the building. Conversely, the proposed parking structure on the western side of the site is located mostly in fills of approximately 5 to 10 feet in depth. The preliminary grading plans show this site to be balanced. Retaining walls will be constructed on the southern and eastern sides of the warehouse building and west of the fuel facility. Retaining wall types have not been determined at this time; however, rockeries are being considered.

1.2 SCOPE OF SERVICES

The scope of our geotechnical study consisted of a literature review, subsurface explorations, geotechnical laboratory testing, engineering evaluation and analysis, and preparation of this report. Studies to assess environmental hazards that may affect the soil and groundwater at the site were beyond our geotechnical scope of services. The following paragraphs present a description of our services.

1.2.1 Task 1 – Background Data Review

We reviewed readily-available published and unpublished geologic literature in our files and the files of public agencies, including selected publications prepared by the California Geological Survey and the U.S. Geological Survey. Readily-available on-line photos were reviewed for past site development and use. We also reviewed readily available seismic and faulting information, including data for designated earthquake fault zones as well as our in-house database of faulting in the general site vicinity.

1.2.2 Task 2 – Field Exploration

Subsurface conditions at the site were explored by drilling 3 borings/rock cores, excavating 26 test pits and performing a seismic refraction survey. The seismic refraction survey was used to evaluate the excavatability (rippability) of the bedrock rock material. A total of 2 boring/rock cores and 15 test pits were drilled/excavated in the warehouse building area; 1 boring/rock core

© 2019 Kleinfelder

and 2 test pits were excavated within the fuel facility area, 5 test pits were excavated within the future parking structure; and 4 test pits were excavated in the proposed parking lot areas. The borings were drilled using track-mounted hollow-stem-auger drilling equipment with rock coring abilities to depths of between approximately 8½ to 25 feet below the existing ground surface (bgs). The proposed exploration plan also included a fourth rock coring location (KB-2) at the northeastern corner of the new warehouse location. This location was not drilled due to very hard drilling conditions throughout the course of the field exploration. Test pits were excavated with a John Deere 50G track excavator to depths ranging from 2 to 10 feet bgs. The explorations are shown graphically on Figure 2, Exploration Location Map.

Prior to commencement of the fieldwork, Underground Service Alert (USA) was notified and various geophysical techniques were used at the boring and test pit locations to identify potential conflicts with subsurface structures. A Kleinfelder staff engineer supervised the field operations and logged the explorations. Selected samples were retrieved, placed in plastic bags or sealed, and transported to our laboratory for further evaluation. Descriptions used on the logs result from field observations and data, as well as from laboratory test data. Stratification lines on the logs represent the approximate boundary between soil and/or rock types, and the actual transition may vary and can be gradual. Appendix A presents a description of the field exploration program, exploration logs, test pit logs and a legend of terms and symbols used on the logs.

1.2.3 Task 3 – Laboratory Testing

Laboratory testing was performed on representative bulk and relatively undisturbed samples to assist in soil classification and development of engineering parameters for geotechnical design. Laboratory testing comprised moisture content, Atterberg limits, R-value, and unconfined compressive strength tests and were performed by our in-house laboratory. Corrosivity testing was performed by AP Engineering & Testing, Inc. of Pomona, California.

Analytical testing was performed on a composite topsoil sample for essential elements in accordance with CWDRs topsoil samples were tested for organic content. The topsoil analysis and organic content testing was performed by Waypoint Analytical of Anaheim, California to assess soil fertility, localized concentrations of various metals and organic content. All in-house and subcontracted laboratory test results are shown in Appendix B of this report.

© 2019 Kleinfelder

1.2.4 Task 4 – Geotechnical Analyses

We analyzed field and laboratory data in conjunction with the finished grades, warehouse layout, and structural loads to provide geotechnical recommendations for design and construction. We evaluated feasible foundation systems, concrete slab support, pavement design, and earthwork. Seismic design parameters in accordance with the 2019 California Building Code (CBC) are also presented.

1.2.5 Task 5 – Report Preparation

This report summarizes the services performed, data acquired, and our findings, conclusions, and geotechnical recommendations for the design and construction of the proposed improvements. Our report includes the following items:

- Vicinity map and field exploration location map showing the approximate boring and test pit locations;
- Boring and test pit logs (Appendix A);
- Results of laboratory testing including topsoil analytical testing (Appendix B);
- Seismic refraction survey performed by Advanced Geological Services (Appendix C);
- Cross section figures detailing subsurface soils encountered and recommended overexcavation amounts across the building pad and parking lot areas;
- Discussion of general site conditions;
- Discussion of general subsurface conditions as encountered in our field exploration;
- Discussion of regional and local geology;
- Recommendations for seismic design parameters in accordance with Chapter 16 of the 2019 CBC;
- Recommendations for foundation design, allowable bearing pressures, embedment depths, and compatibility constraints under various loading conditions;
- Anticipated total and differential static settlements;
- Recommendations for site preparation, earthwork, temporary slope inclinations, fill placement, and compaction specifications, including the excavation characteristics of bedrock;
- Recommendations for support of floor slabs and slabs-on-grade;

© 2019 Kleinfelder

- Recommendations for flexible and rigid pavement structural sections for light- and heavy-duty pavement based on Equivalent Single Axle loading presented in the CWDRs;
- Recommendations for design of retaining structures, including active and at-rest lateral earth pressures, passive and frictional resistance, and applicable surcharge loads; and
- Preliminary evaluation of the corrosion potential of the on-site soils

© 2019 Kleinfelder

2 SITE CONDITIONS

2.1 SITE DESCRIPTION

The proposed Costco site is located between Silva Valley Parkway and US Highway 50 in El Dorado Hills, California, as presented on Figure 1. The site is currently bounded by Silva Valley Parkway to the north and east, the southbound US Highway 50 on-ramp to the south, and Clarksville Crossing to the west. The land is zoned as commercial and is located around ¼ mile south of Oak Meadow Elementary school and the Serrano residential development.

At the time of our field exploration, the site was an undeveloped field with rolling hills generally sloping from east to west with ground surface elevations ranging from approximately 705 to 755 feet. Much of the site was covered by low-lying vegetation (weeds and shrubs) and animal burrows as well as some native trees. Outcropping rocks were also visible throughout the site. Additionally, a seasonal creek separating the proposed warehouse and parking structure locations from the proposed fuel facility runs through the property from east to west. This creek was dry during our September 2019 investigation but was observed to be flowing during our initial field exploration of the adjacent property in April of 2019.

An unfinished portion (~100 feet long) of Tong Road resides on the southwest corner of the property. Based on site reconnaissance, no existing structures sat on this land prior to the investigation with no utility company easements running through the property.

© 2019 Kleinfelder

3 GEOLOGY

3.1 GEOLOGIC SETTING

3.1.1 Regional Geology

The subject site is situated in the gently rolling topography that forms the western foothills of the Sierra Nevada Mountains. The western foothills are broadly tilted, dipping westward, and uplifted increasingly to the east, due to maximum uplift of the Sierra Nevada at its eastern edge. The Sierra Nevada is comprised mostly of large, north-south elongated blocks of Mesozoic granitic terrain forming the backbone of California. The foothills in the project vicinity consist of a northwest-trending belt of metamorphosed volcanic and sedimentary rock that separate the Sierran crystalline basement rock (granites) from the Central Valley sediments. These rocks are distributed within three major north-south trending, fault-bounded lithologic terrains that extend along the length of the metamorphic belt. Rocks within these terrains have been isoclinally folded and metamorphosed on a regional scale and represent a “collage” of tectonically accreted blocks emplaced during convergent plate tectonism that occurred during the Early Paleozoic and Late Jurassic. Bedding, foliation, and major faults throughout the metamorphic belt normally trend northwest and dip steeply to the east. A map of the regional geology is provided in Figure 3 of this report.

3.1.2 Site Geology

The project area is mapped by Loyd (1983 and 1984) as being underlain by Jurassic and Triassic age metavolcanic rocks (map symbol mv). This formation is almost entirely of marine origin and consist mostly of basaltic to andesitic breccias, flows, and tuffs that have been metamorphosed, but with primary volcanic features generally recognizable. The formation also contains minor associated sandstone and conglomerate, although none were encountered during our field investigation. Foliation that developed from regional metamorphism is often evident in the rock structure and typically has a north-trending direction. Locally, schistose fabric may be evident. The rock strength of the in less weathered portions of the formation is typically very high and can result in difficult excavation conditions.

3.2 SUBSURFACE CONDITIONS

Subsurface materials encountered during the explorations consisted of colluvium/residual soil overlying bedrock. The colluvium/residual soil consisted primarily of clayey soils with varying amounts of silt and gravel and varied in depth from approximately 1 to 5½ feet bgs. Below the

© 2019 Kleinfelder

colluvium/residual soil, bedrock comprised of weathered and fractured metavolcanic rock underlain by little-weathered, intact rock. The rock increased in strength and decreased in weathering and fracture amount with depth, as shown on the attached figure and seismic refraction survey report. Localized deposits of artificial fill were encountered in a few test pits. The fill consisted of sandy lean clays with variable amounts of gravel and cobbles.

3.3 GROUNDWATER

Groundwater as not encountered in our explorations to the maximum depth explored of approximately 25 feet. However, perched groundwater was encountered in Test Pits TP-4 and TP-6 at depths of approximately 7 to 8 feet bgs. These test pits were located near a seasonal creek, which runs through the property. During Kleinfelder's investigation of the adjacent property in April of 2019, this creek had been flowing rapidly and all excavated test pits encountered perched water near bedrock contact.

Localized zones of perched water, increased soil moisture content and fluctuations of the groundwater level, should be anticipated during and following the rainy season. Irrigation of landscaped areas on or adjacent to the site can also cause a fluctuation of local groundwater levels.

3.4 ASSESSMENT OF POTENTIAL GEOLOGIC HAZARDS

3.4.1 Localized Faulting

According to CGS (2018), the site is not located within an Alquist-Priolo Earthquake Fault Zone and no mapped active or potentially active fault traces are known to traverse the site. The project area is situated within a region traditionally characterized by few active faults, numerous inactive faults, and low to moderate seismic activity.

An active fault is a fault that has experienced seismic activity during historic time (since roughly 1800) or exhibits evidence of surface displacement during Holocene time (Hart and Bryant 1997). The definition of "potentially active" varies. A generally accepted definition of "potentially active" is a fault showing evidence of displacement that is older than 11,000 years (Holocene age) and younger than 1.7 million years (Pleistocene age). However, "potentially active" is no longer used as criteria for zoning by the California Geologic Survey (CGS), formerly known as the Division of Mines and Geology. The terms "sufficiently active" and "well-defined" are now used by the CGS as criteria for zoning faults under the Alquist-Priolo Earthquake Fault Act. A

© 2019 Kleinfelder

"sufficiently active fault" is a fault that shows evidence of Holocene surface displacement along one or more of its segments and branches, while a "well-defined fault" is a fault whose trace is clearly detectable by a trained geologist as a physical feature at or just below the ground surface. The definition "inactive" generally implies that a fault has not been active since the beginning of the Pleistocene Epoch (older than 1.7 million years old).

The nearest well-defined faults to the project are the Genoa and Cordelia faults. Both faults are located over 50 miles from the project site. A major seismic event on either of these faults is anticipated to cause weak ground shaking at the project site.

The nearest fault to the project site is the west trace of the Bear Mountain Fault Zone that strikes northwest-southeast for approximately 84 miles along the Sierra Foothill region. A fault trace within this zone is located approximately 650 feet west of the project and forms a major contact between the metavolcanics rock that underly the project and the younger Copper Hills Volcanics Formation to the west of the fault. Seismically, the mapped fault near the project is mapped as Pre-Quaternary (CGS, 2010). However, current seismic data (ANSS, 2011) shows micro-earthquakes (magnitude less than 2 or 3) are generated along the northern portion of the fault zone and UCEF3 includes the Swain Ravine – Spenceville segment of the Bear Mountains Fault Zone in their probability model (USGS, 2013). This low seismic activity is not expected to impact the project.

3.4.2 Landsliding

The majority of the project site is characterized by slope gradients of 5:1 (horizontal to vertical) and shallower (less steep). Given the elevation differential and shallow gradients the potential for slope instability is considered low. However, it should be noted that the exception to this condition are the approximately 2:1 permanent cut slopes for the roadways that form the northern and southern portions of the site. These slopes were excavated into highly weathered rock that historically can develop shallow debris flows and slumps during wet weather. Given the height of the slopes and extent of exposed rock, the potential for shallow slope instability events in this area is considered moderate.

3.4.3 Liquefaction and Seismic Compression

The term liquefaction describes a phenomenon in which saturated, cohesionless soils temporarily lose shear strength (liquefy) due to increased pore water pressures induced by strong, cyclic

© 2019 Kleinfelder

ground motions during an earthquake. Structures founded on or above potentially liquefiable soils may experience bearing capacity failures due to the temporary loss of foundation support, vertical settlements (both total and differential), and/or undergo lateral spreading. The factors known to influence liquefaction potential include soil type, relative density, grain size, confining pressure, depth to groundwater, and the intensity and duration of the seismic ground shaking. Liquefaction is most prevalent in loose to medium dense, silty, sandy, and gravelly soils below the groundwater table. Based on our review of available groundwater well data, it is our opinion that the regional groundwater is deep. Therefore, based on the results of the subsurface explorations and review data, the potential for liquefaction and its adverse effects (i.e., seismic settlement and lateral spreading) is not considered a hazard at the site.

Seismic compression results from the accumulation of contractive volumetric strains in unsaturated soil during earthquake shaking. Loose to medium dense granular material with no fines or with low plasticity fines are most susceptible to seismic compression. Based on the density and composition of the underlying soil/bedrock, seismic compression (dynamic dry settlement) is considered a hazard at the site.

3.4.4 Expansive Soils

Expansive soils are characterized by their ability to undergo significant volume changes (shrink or swell) due to variations in moisture content. Changes in soil moisture content can result from precipitation, landscape irrigation, utility leakage, roof drainage, perched groundwater, drought, or other factors and may result in unacceptable settlement or heave of structures or concrete slabs supported on grade. The surficial soils are generally low-medium plastic fines; therefore, the expansion potential is considered low.

3.4.5 Collapsible Soils

Collapsible soils are characterized by their ability to undergo significant shrinkage (collapse) during inundation. Inundation in soils can result from precipitation, landscape irrigation, utility leakage, roof drainage, perched groundwater, drought, or other factors and may result in unacceptable settlement or heave of structures or concrete slabs supported on grade. Based on the results of laboratory testing, the soil encountered are not expected to collapse during inundation, so the impact of collapsible soils for this site is considered low.

© 2019 Kleinfelder

3.4.6 Subsidence

The site is not located in an area of known significant ground subsidence due to the withdrawal of subsurface fluids. Subsidence may be present but adverse impacts have not been recorded. Therefore, the potential for subsidence occurring at the site due to the withdrawal of oil, gas, or water is considered low.

3.4.7 Flooding

The Flood Insurance Rate Map prepared by the Federal Emergency Management Agency (FEMA) was reviewed to identify the potential flood hazard for the project. This map indicates the site is within Zone X which is defined as being an area with a 0.2-percent-annual-chance-flood and an area of 1-percent-annual-chance flood with average depths of less than 1 foot. Based on this information the potential for the project site to be impacted by regional flooding is considered low. However, the accuracy of this information should be confirmed by a qualified civil engineer/hydrologist. The need and/or method for mitigation of potential flooding should also be addressed.

3.4.8 Oil and Gas Fields

Upon review of the California Division of Oil, Gas & Geothermal Resources (2016) interactive well-finder map accessed at https://maps.conservation.ca.gov/doggr/wellfinder, the El Dorado Hills region does not contain any known abandoned oil wells. Additionally, no active wells are known to exist within the project boundary.

3.4.9 Naturally Occurring Asbestos

Naturally occurring asbestos (NOA) has been identified as a source of potentially hazardous airborne asbestos fibers when disturbed by mining or earthwork activities, if present (Clinkenbeard et al. 2002). NOA generally occurs within mafic or ultramafic metamorphic rock units in which one of the asbestiform minerals defined by the California Air Resources Board (CARB 2002) are present. These NOA minerals have unique flexibility and strength characteristics and include asbestiform varieties of the six minerals chrysotile, amosite, crocidolite, tremolite actinolite, and anthophyllite. It was not part of this project's scope to quantitatively evaluate NOA concentrations along the project alignment. However, review of existing NOA maps produced by the CGS (Churchill 2000 and Higgins 2006) and presented on

© 2019 Kleinfelder

Figure 4 provides general guidelines as to the likelihood of encountering NOA for both El Dorado and Sacramento counties.

In addition, based on numerous NOA studies Kleinfelder has performed in the project area, typical NOA concentration level ranges (measured as a percent volume using the polarized light microscopy identification method [PLM]) can be identified for the rock types / geologic units present along the project alignment. These typical values can be compared to the threshold limits established by CARB's Airborne Toxic Control Measures (ATCM) for Construction Grading, Quarrying, and Surface Mining Operation (CARB 2002) to identify whether mitigative measurements need to be implemented during excavation of the foundation towers and how the excavation spoils are to be handled relative to disposal and off-haul. Generally, the metavolcanic rock has concentration levels at or below the threshold level of 0.25 percent. Where NOA levels are at or above 0.25 percent, contractors are required to implement mitigation practices to protect workers and the public from airborne NOA particles generated during earthwork operations. NOA levels at or above 1 percent is considered a hazardous material and will require special handling during transportation and will need to be disposed of at an approved site. The Asbestos Review Areas map (Churchill, 2000) indicates the project site is in an area that has been removed as mappable NOA bearing unit based on geologic evaluation. Based on this data the potential for NOA to be encountered at levels at or exceeding regulatory threshold levels is considered low. However, testing by Costco could be performed to further define NOA concentrations across the project area in order to assist Costco with identifying their risk associated with this hazard. Should levels be equal to or exceed regulatory threshold levels mitigation procedures will need to be implemented. Mitigation alternatives will need to be consistent with guidelines outlined in the CARB's current ATCM and Occupational Safety and Health Administration (OSHA) standards for the handling of NOA.

© 2019 Kleinfelder

4 GEOTECHNICAL DESIGN RECOMMENDATIONS

4.1 GENERAL

Based on the results of our field exploration, laboratory testing and engineering analyses conducted during this study, it is our professional opinion the proposed project is geotechnically feasible, provided the design and construction recommendations presented in this report are incorporated into the project. We identified the following key geotechnical considerations during our study.

- The primary geotechnical consideration for site development is the excavatability of the rock and the construction of fills to achieve the finished grades. The seismic refraction survey results (Appendix C) indicate the initial weathered rock layer with compression wave velocities (Vp) ranging between 3,985 to 6,030 feet per second is located approximately 1 to 3 below existing grades and extends as deep as 30 feet below grade within the warehouse building cut. Based on Caterpillar's Handbook of Ripping (2000), rock exhibiting seismic velocities in this range are marginally rippable using a D9R dozer equipped with multi or single shank ripper(s). Underlying this layer is a less weathered rock zone with compression wave velocities ranging between 12,210 to 18,530 feet per second and is located as shallow as 5 to 10 feet below grade within eastern cut for the warehouse building and the fuel facility cut area on the northern portion of the site. Localized blasting will likely be needed to excavate less weathered rock. In addition, crushing and screening operations will likely be required to produce efficient rock fragmentation of the rock (both weathered and less weathered rock) for re-use onsite as structural fill.
- Based on the preliminary grading plan, the warehouse building footprint is situated on a bedrock cut/fill transitional area with cuts up to approximately 20 feet in the eastern side of the building and fills up to approximately 10 to 15 feet along the western side of the building. To provide uniform support for the proposed warehouse building and to reduce the adverse effects of abrupt differential settlement due the cut/fill transition and variability in fill thickness across the building pad, we recommend the bedrock should be undercut by at least 6 feet below the finished floor elevation and backfilled with structural fill. In addition, cut/fill transitions are situated below small areas of the parking structure's lower level. Beneath the parking structure, we recommend the bedrock should be undercut by at least 4 feet below the finished floor elevation and backfilled with structural fill.

© 2019 Kleinfelder

- The residual soil/colluvial layer should excavated to underlying weathered rock contact and stockpiled on site for reuse as structural fill. An estimate of the residual soil/colluvial layer thickness is shown on the cross sections (Figures 5 through 10).
- Prior to grading and subgrade preparation, all vegetation should be cut and removed from the site. Roots and vegetative matter in excess of one inch should be removed by screening or raking soils to a minimum depth of 12 inches. Other than plant roots, organic matter in the topsoil is minimal based on our laboratory testing (between one and three percent). The topsoil can be re-used on site in fills.
- Due to the composition of the bedrock, it will not reduce to a soil-like material when excavated and will not be suitable for re-use as structural fill. However, the bedrock material may be crushed, processed and re-used onsite as structural fill as described below. Rock fragments up to 12 inches in size may be used in structural fills 10 or more feet below finished subgrade elevation, but not within 10 feet of a slope face. Rock fragments greater than 6 inches in size should not be used in the upper 10 feet of site fills. Rock fragments greater than 3 inches in size should not be used in the upper 3 feet of fills below the Costco warehouse building. There may be an opportunity for larger sized rocks and boulders between 12 and 24 inches in size to be re-used at the base of slopes or in landscape areas. A rock that cannot be crushed or screened to above size criteria should be removed off site.
- Rocks up to 12 inches in size may be placed in the deeper portions of structural fills as noted above provided they are thoroughly mixed with soils to avoid excessive concentrations of rock fragments. Over-sized materials (between 6 and 12 inches) should be placed in windrows or otherwise be placed under the observation of the geotechnical engineer's representative in a manner to avoid nesting or voids. Fills should be placed in lifts slightly thicker than the largest particle size and proof-rolled with a D-9 or larger Caterpillar dozer making at least 5 complete passes over each lift. Periodic test pits should be excavated into each compacted lift to confirm the rock fill is being placed in a uniform, dense manner with no nesting or voids.
- After stripping the site and prior to filling in the seasonal creek, which runs from east to west through the site, subdrains should be installed within the creek bottom. This creek was observed to be flowing rapidly during our initial investigation of the adjacent site in April 2019.

© 2019 Kleinfelder

- Rainfall will infiltrate near surface soils and collect on less permeable soil and rock at shallow depth. Therefore, perched groundwater will likely be present at or near subgrade level across the entire site during and after rainfall events.
- Although preliminary grading plans show that this site will be balanced, it is anticipated that crushing and processing the harder rock layers will prove challenging and may require soil to be imported onsite. Import materials, if required, should have a Plasticity Index of less than 10 with no less than 70 percent passing the No. 4 sieve, no more than 30 percent of the particles passing the No. 200 sieve, and no particles greater than 3 inches in maximum dimension. The maximum Plasticity Index for imported soils may be modified upon approval by Costco depending on its proposed use. The contractor should provide documentation to Costco that imported fill is free of hazardous materials, including petroleum or petroleum byproducts, chemicals and harmful minerals prior to its transportation and use on site.
- Permanent slopes should be constructed at an inclination of 2:1 (horizontal to vertical) or flatter.
- Retaining wall types have not been determined at this time; however, we understand rockeries are being considered. Kleinfelder has provided recommendations for cantilever retaining walls. Rockeries are designed and constructed by a design-build specialty contractor.
- The proposed Costco warehouse building, fuel facility canopy, and parking structure foundations may be supported on a conventional shallow foundation system. Proposed light poles located in the parking lot may be supported on short drilled pile foundations.
- The residual soil/colluvium is anticipated to be used near the finished subgrade levels around the site. Because this material drains poorly, we recommend radial finger drains below new pavement sections. Additionally, planters should be detailed such that water exiting from them will not seep into the foundation areas or beneath slabs and pavement.
- The minimum resistivity of the sample indicates that the soil may be moderately corrosive to corrosive to ferrous metals. The concentrations of soluble sulfates indicate that the subsurface soils represent a Class S0 exposure to sulfate attack on concrete in contact with the soil based on ACI 318-14 Table 19.3.1.1 (ACI, 2014). Therefore, in accordance with ACI Building Code 318-14, no special provisions for selection of cement type are required.
- Based on visual soil classification and laboratory testing of the soil samples collected during our field exploration, the upper approximately 1 to 5 feet of the subsurface soils consist

© 2019 Kleinfelder

predominantly lean sandy clays underlain with highly fractured highly weathered metavolcanic rock. Based on the soil classification, and gradation tests, water infiltration is expected to be very low. We recommend alternatives to infiltration BMPs, such as bio-filtration/bio-retention systems (bio-swales and planter boxes), be implemented at the Costco site.

The following opinions, conclusions, and recommendations are based on the properties of the materials encountered in the borings and test pits, the results of the laboratory-testing program, and our engineering analyses performed, and should be incorporated into project design and construction.

4.2 2019 CALIFORNIA BUILDING CODE

We have also provided the seismic design parameters for ASCE 7-16, as the project will be designed after adoption of the 2019 California Building Code (CBC) on January 1, 2020. Based on the current grading plan and understanding of the regional geology and on our interpretation of the CBC criteria, we classify the site as Seismic Site Class C. Approximate coordinates for the site are noted below.

- Latitude: 38.66020 °N
- Longitude: 121.05699 °W

In accordance with Section 11.4.8 of ASCE 7-16, a site-specific ground motion analysis may be required for Site Class D sites with an S1 greater than 0.2g. However, a site-specific ground motion analysis is not required if the seismic response coefficient (Cs) is determined in accordance with requirements of Chapter 12 and the exceptions noted in Section 11.4.8. The assumption that Cs will be determined in accordance with the requirements of Chapter 12 and the exceptions noted in Section 11.4.8 should be verified by the project structural engineer during final design. The 2019 CBC (non site-specific) for these structures are summarized in Table 1.

© 2019 Kleinfelder

TABLE 1
2019 CBC SEISMIC DESIGN PARAMETERS

Design Parameter	Recommended Value
Site Class	C
S_s (g)	0.404
S_1 (g)	0.207
F_a	1.300
F_v	1.500
S_{MS} (g)	0.525
S_{M1} (g)	0.311
S_{DS} (g)	0.350
S_{D1} (g)	0.207
PGA_M (g)	0.211

4.3 FOUNDATIONS

4.3.1 General

Based on the results of our field exploration, laboratory testing, and geotechnical analyses, the proposed warehouse building and parking structure may be supported on conventional shallow spread footing foundations founded on subgrade prepared in accordance with Section 5.2.2. We understand that new spread footing foundations for the fuel facility canopy will be embedded approximately 6 to 7 feet below the finished grade. Spread footings may be founded entirely on bedrock or on structural fill.

Proposed light poles in the parking lot may be supported on short drilled pile foundations. Recommendations for the design and construction of shallow foundations and drilled pile foundations are presented below.

4.3.2 Shallow Foundations

Allowable Soil Bearing Pressure

Footings may be designed for a net allowable soil bearing pressure of 3,000 pounds per square foot (psf) for dead plus sustained live loads. Footings should be embedded at least 24 inches below the lowest adjacent exterior grade. The footing dimension and reinforcement should be designed by the structural engineer; however, continuous and isolated spread footings

© 2019 Kleinfelder

should have minimum widths of 18 and 24 inches, respectively. A one-third increase in the above bearing pressures can be used for transient wind or seismic loads.

Estimated Settlements

We estimate total static settlement for foundations designed and constructed in accordance with the recommendations presented above to be less than 1 inch. Differential static settlement between similarly loaded footings is estimated to be less than ½ inches over 50 feet.

Lateral Resistance

Lateral load resistance may be derived from passive resistance along the vertical sides of the footings, friction acting at the base of the footing, or a combination of the two. An allowable passive resistance of 300 psf per foot of depth may be used for design. Allowable passive resistance values should not exceed 3,000 psf. An allowable coefficient of friction of 0.4 between the base of the footings and the structural fill soils can be used for sliding resistance using the dead load normal stresses. Friction and passive resistance may be combined without reduction. We recommend that the first foot of soil cover be neglected in the passive resistance calculations if the ground surface is not protected from erosion or disturbance by a slab, pavement or in a similar manner. Where passive soil resistance is used for design of retaining walls, the area within 5 feet of the front of the wall footing should not be disturbed by excavation or other means.

4.3.3 Drilled Pile Foundations (Light Pole Foundations)

Axial Capacity

The compressive axial capacity of drilled piles may be estimated based on an allowable skin friction capacity of 200 pounds per square foot. The upper one foot of the skin friction capacity should be ignored. The uplift capacity may be estimated as 70 percent of the allowable compressive axial capacity. A one-third increase in the allowable capacities may be used for transient loading conditions such as wind or seismic loads.

Settlement

Settlement of the proposed canopy supported on drilled piles, as recommended, is estimated to be less than ½ inch.

© 2019 Kleinfelder

Lateral Resistance

The drilled pile foundations lateral resistance can be designed in general accordance with Section 1807.3 of the 2016 CBC. We recommend a lateral soil bearing pressure of 300 psf per foot of depth below grade. The lateral soil bearing pressure should not exceed 3,000 psf. Since drilled piles will act as isolated pole foundations, the allowable lateral soil bearing pressure may be increased by a factor of two for short-term lateral loads provided the structure will not be adversely affected by ½ inch of lateral movement at the ground surface.

4.4 BUILDING SLAB-ON-GRADE

Concrete slab-on-grade floors are appropriate for the proposed warehouse, provided subgrade is prepared in accordance with Section 5.2.2. In accordance with the CWDRs, we recommend the slab be a minimum nominal thickness of 6 inches and underlain by at least 6 inches of aggregate base material. Aggregate base materials should meet current Caltrans specifications for Class 2 aggregate base. Please note that Caltrans Class 2 aggregate base may utilize recycled materials. Costco typically does not allow the use of recycled materials within the building pad.

A modulus of subgrade reaction of 150 pounds per cubic inch may be used for design of slabs underlain 6 inches of aggregate base material. Pursuant to current Costco Wholesale standard construction design practices, we have evaluated whether steel reinforcement is needed in the floor slab. Based on the geotechnical characteristics of the site, the proposed warehouse can be built with a non-reinforced slab.

Floor slab control joints should be used to reduce damage due to shrinkage cracking. Control joint spacing is a function of slab thickness, aggregate size, slump and curing conditions. The requirements for concrete slab thickness, joint spacing, and reinforcement should be established by the designer, based on experience, recognized design guidelines and the intended slab use. Placement and curing conditions will have a strong impact on the final concrete slab integrity.

Kleinfelder typically recommends installation of a vapor barrier beneath the slab to mitigate potential moisture issues such as flooring performance and mold. However, we understand that Costco Wholesale has determined that moisture barriers are not to be used in construction of Costco Wholesale warehouses due to adverse effects on concrete curing and performance. Therefore, we have provided construction recommendations that do not include installation of a

© 2019 Kleinfelder

moisture barrier, with the understanding that there will be an increased risk for adverse moisture issues.

4.5 EXTERIOR FLATWORK

Exterior concrete slabs for pedestrian traffic or landscape outside of the building pad limits should be at least four inches thick. Weakened plane joints in sidewalks should be located at intervals of about 6 feet. Careful control of the water/cement ratio should be performed to avoid shrinkage cracking due to excess water or poor concrete finishing or curing. Unreinforced slabs should not be built in areas where further saturation may occur following construction. The subgrade should be prepared in accordance with Section 5.2.2.

4.6 SITE DRAINAGE

Foundation and slab performance depends greatly on proper irrigation and how well runoff water drains from the site. This drainage should be maintained both during construction and over the entire life of the project. The ground surface around structures should be graded such that water drains away from structures without ponding. The surface gradient needed to do this depends on the landscaping type. Surface gradients should conform to current Costco Wholesale standards and the 2019 CBC.

After the initial excavation of the residual/colluvial soils onsite. It is recommended that a perforated subdrain be installed within the creek bottom running from east to west through the project site. The drain may be “burrito wrapped” with filter fabric and surrounded by permeable drain rock prior to rock backfill operations onsite. Slope drains should also be installed within the fill slopes as discussed in Section 4.8. Figures 11 and 12 show typical details for slope and canyon drains.

The residual soil/colluvium is anticipated to be used near the finished subgrade levels around the site. Because this material drains poorly, we recommend radial finger drains below new pavement sections as shown in Detail 16_16 of the CWDRs. Drains should be designed and constructed per Costco’s standard details and laterals should extend at least 15 feet from the catch basins. Planters should be detailed such that water exiting from them will not seep into the foundation areas or beneath slabs and pavement. We recommend that perimeter foundation drains be implemented in accordance with Costco’s development requirements in areas adjacent to landscaping planters.

© 2019 Kleinfelder

Where slabs or pavement areas abut landscaped areas, the aggregate base and subgrade soil should be protected against saturation. Vertical cut off structures are recommended to reduce lateral seepage under slabs from adjacent landscaped areas. Vertical cut-off structures may consist of deepened concrete perimeters, or equivalent, extending at least three inches below the base/subgrade interface. Vertical cut-off structures should be poured neat against undisturbed native soil or compacted fill. The cut-off structures should be continuous.

Operations personnel should be instructed to limit irrigation to the minimum level necessary to properly sustain landscaping plants. Should excessive irrigation, waterline breaks or unusually high rainfall occur, saturated zones and “perched” groundwater may develop, which could soften subgrade and reduce pavement life, and could also create potholes. We also recommend that the downspouts from roof drains be connected to a designed subsurface drainage system such as a storm sewer, etc. to avoid discharging water onto pavement areas as well as backfill zones around the warehouse.

Potential sources of water such as water pipes, drains, and the like should be frequently examined for signs of leakage or damage. Any such leakage or damage should be promptly repaired. Sewer lines beneath the warehouse should have a sufficient slope (at least 1 percent). Plumbing and utility lines should be provided with flexible joints or oversized sleeves where they penetrate floor slabs to prevent breakage caused by different slab movement.

4.7 RETAINING STRUCTURES

Retaining wall types have not been determined at this time; however, we understand rockeries are being considered. Recommendations for cantilever retaining walls are provided below. Rockeries are designed and constructed by a design-build specialty contractor.

Design earth pressures for retaining structures depend primarily on the allowable wall movement, wall inclination, type of backfill materials, backfill slopes, surcharges, and drainage. Earth pressures provided assume that granular (sandy) soils will used as backfill. The on-site residual soil/colluvium should not be used as retaining wall backfill. The granular backfill, which should meet the requirements for imported fill as defined in Section 5.2.6, should extend behind walls a horizontal distance of at least one-half the height of the wall. Determination of whether the active or at-rest condition is appropriate for design will depend on the flexibility of the walls. Walls that are free to rotate at least 0.002 radians (deflection at the top of the wall of at least 0.002 x H,

© 2019 Kleinfelder

where H is the unbalanced wall height) may be designed for the active condition. Walls that are not capable of this movement should be assumed rigid and designed for the at-rest condition. Walls that are not capable of this movement should be assumed rigid and designed for the at-rest condition. The recommended active and at-rest earth pressures and passive resistance values are provided in Table 2.

TABLE 2
LATERAL EARTH PRESSURES FOR RETAINING STRUCTURES
(GRANULAR BACKFILL)

Wall Movement	Backfill Condition	Equivalent Fluid Pressure (pcf)	Seismic Increment (pcf)
Free to Deflect (active condition)	Level	40	5H*
Restrained (at-rest condition)		60	N/A**

*Note: * Walls supporting more than 6 feet of backfill should be designed to support an incremental seismic lateral pressure, which is applied as a triangular pressure distribution with a maximum pressure at the bottom of the wall, not inverted, and H is the height of the wall.*

*** for restrained wall, use the static active earth pressure and seismic increment to check the seismic condition; use at-rest earth pressure only to check the static condition; the larger loading of both cases should be used for the design of restrained wall.*

The above lateral earth pressures do not include the effects of surcharges (e.g., traffic, footings), compaction, or truck-induced wall pressures. Any surcharge (live, including traffic, or dead load) located within a 1:1 (horizontal to vertical) plane drawn upward from the base of the excavation should be added to the lateral earth pressures. The lateral contribution of a uniform surcharge load located immediately behind walls may be calculated by multiplying the surcharge by 0.33 for cantilevered walls under active conditions and 0.50 for restrained walls under at-rest conditions. Walls immediately adjacent to areas subject to vehicular traffic should be designed for a 2-foot equivalent soil surcharge (250 psf). Lateral load contributions from other surcharges located behind walls may be provided once the load configurations and layouts are known.

Walls should be properly drained or designed to resist hydrostatic pressures. Adequate drainage is essential to provide a free-drained backfill condition so that there is no hydrostatic buildup behind the wall. Walls should also be appropriately waterproofed to reduce the potential for staining. Drainage behind loading dock walls can consist of weep holes placed along the base of the wall. Weep holes should be spaced 10 to 15 feet apart and connected with a gravel drain consisting of approximately 2 cubic feet of clean gravel per foot of wall length wrapped with filter fabric. Other types of retaining walls should have a continuous back drain as described below.

© 2019 Kleinfelder

For backfill of walls with a continuous back drain, except for the upper 2 feet, the backfill immediately behind retaining walls (minimum horizontal distance of 2 feet measured perpendicular to the wall) should consist of free-draining ¾-inch crushed rock wrapped with filter fabric. The upper 2 feet of cover backfill should consist of relatively impervious material. A 4-inch-diameter perforated PVC pipe, placed perforations down at the bottom of the rock layer leading to a suitable gravity outlet, should be installed at the base of the walls.

As an alternative to the gravel drain noted above, a manufactured drain panel may be utilized behind retaining walls in addition to normal waterproofing. This system generally consists of a prefabricated drain panel lined with filter fabric. At the wall base, we recommend that a gravel drain be installed to collect and discharge drainage to a suitable outlet. The drain should consist of a 4-inch-diameter perforated PVC pipe, placed perforations down at the bottom of approximately 2 cubic feet of clean gravel per foot of wall length. The gravel drain should be wrapped in filter fabric (Mirafi 140N or equivalent). The pipe should be sloped to drain to a suitable outlet and cleanouts should be provided at appropriate intervals.

If drainage behind the wall is omitted, the wall should be designed for full hydrostatic pressure. The design of any drain system should be submitted to Kleinfelder for review to check that our recommendations have been properly incorporated into the design. Installation of the drainage system should be reviewed and documented by a Kleinfelder representative.

4.8 PERMANENT SLOPES

Preliminary grading plans from the civil engineer have been provided show cut and fill slopes between 2:1 and 6:1 (horizontal to vertical) around the project site. Permanent slopes should be constructed at an inclination of 2:1 or flatter. Slopes will be subject to erosion and should be planted as soon as practicable.

For areas above slopes, positive drainage should be established away from the top of slopes. This may be accomplished utilizing a brow ditch placed at the top of cut slopes to redirect surface runoff away from the slope face where drainage devices are not otherwise available. Site runoff should not be permitted to flow over the tops of slopes. Slope drains should also be installed within the fill slopes. Figures 11 and 12 show typical details for slope and canyon drains.

© 2019 Kleinfelder

4.9 PAVEMENT SECTIONS

The required pavement structural sections will depend on the expected wheel loads, volume of traffic, and subgrade soils. We have provided asphalt concrete pavement sections for traffic indices provided in the CWDRs (Costco, 2018). Positive drainage of the paved areas should be provided since moisture infiltration into the subgrade may decrease the life of pavements. Curbing located adjacent to paved areas should be founded in the subgrade, not the aggregate base, in order to provide a cutoff, which reduces water infiltration into the base course.

The following pavement sections provided above are based on the soil conditions encountered during our field exploration, our assumptions regarding final site grades, and limited laboratory testing.

4.9.1 Costco Pavement Design Parameters

We developed pavement design recommendations using traffic loading parameters provided in the Costco Wholesale Development Requirements and the following test data:

- A 20-year pavement design life;
- Light-duty pavements subject to 6,600 passenger vehicle trips per day (Traffic Index of 5.0);
- Heavy-duty pavements subject to 30 tractor-trailer truck tips per day (Traffic Index of 7.0);
- For asphalt concrete pavements, a design R-value of 50; and
- For Portland cement concrete (PCC) Pavements, a 28-day flexural strength (modulus of rupture determined by the third-point method) of at least 550 pounds per square inch (psi) (approximate compressive strength of 4,000 psi); a modulus of subgrade reaction (k value) of 200 pounds per cubic inch (pci) for native subgrade; and interlock at the control joints.

4.9.2 Asphalt Concrete Pavement

We designed asphalt concrete pavement, also referred to as Hot Mix Asphalt (HMA), in accordance with the Caltrans Highway Design Manual. Prior to placement of aggregate base, pavement subgrade should be prepared in accordance with Section 5.2.2.

© 2019 Kleinfelder

TABLE 3
RECOMMENDED MINIMUM ASPHALT CONCRETE PAVEMENT SECTIONS

TRAFFIC USE	TRAFFIC INDEX, TI	DESIGN METHOD	ASPHALT CONCRETE * (INCHES)	AGGREGATE BASE (INCHES)
Light-Duty Pavement	5.0	CALTRANS	3.0	4.0
Heavy-Duty Pavement	7.0	CALTRANS	4.0	5.0

* Rounded to the closest ½ inch.

4.9.3 Asphalt Performance Grade Binder

An asphalt performance grade (PG) binder of 64-10 should be used for the project and is locally available. This recommendation was developed in accordance with Costco Wholesale Asphalt Paving Specification Section 321216. Air temperature data nearest the project site was used with the MERRA Climate Data option and the PG binder was selected using the FHWA program LTTPBind Online web-based tool based on the AASHTO M323-13 standard. The high-end and low-end temperature rating was selected to provide a reliability of at least 98 and 90 percent, respectively.

4.9.4 Portland Cement Concrete Pavement

We designed PCC pavement in accordance with the Portland Cement Association (PCA) Thickness Design for Concrete Pavements (PCA, 1984) using the design parameters stated above. For heavy-duty pavements, we recommend that PCC pavement section should be comprised of 7.0 inches of PCC with 4.0 inches of aggregate base. We understand that Costco is considering paving the American Disability Act (ADA) access area in front of the main entry with PCC pavement. For ADA access area, we recommend that PCC pavement section should be comprised of 6.0 inches of PCC over 6.0 inches of aggregate base.

Longitudinal and transverse joint spacing should not exceed 12 feet and 15 feet, respectively. Joint details should conform to PCA guidelines. Expansion joints in concrete slabs should be sealed with petroleum resistant sealant to prevent minor releases from impacting subsurface soil.

© 2019 Kleinfelder

4.9.5 Aggregate Base

Aggregate base materials should meet current Caltrans specifications for Class 2 aggregate base and be compacted to at least 95 percent relative compaction (ASTM D1557). Caltrans Class 2 aggregate base utilizes recycled materials and require Costco's approval prior to use.

4.9.6 Pavement Maintenance

Pavements may undergo movement due to changes in subgrade moisture content. This movement tends to accelerate pavement deterioration. A crack sealing program should be performed annually to slow pavement deterioration. Any areas where surface water stands on the surface should be remediated. Over time as cracking becomes more pronounced, a slurry seal coat should be applied.

4.10 SOIL CORROSIVITY

We performed laboratory testing for parameters commonly used to evaluate corrosivity of soils, including pH, minimum resistivity, chloride and soluble sulfate content. Table 4 presents the results.

TABLE 4
CORROSION TEST RESULTS

Location	Depth (ft)	Minimum Resistivity (ohm-cm)	pH	Soluble Sulfate Content (ppm)	Soluble Chloride Content (ppm)
TP-1	0-2	3,848	5.2	36	35
TP-10	0-2	5,324	6.1	38	39
TP-14	0-2	6,453	6.0	34	34
TP-21	0-1.5	5,012	5.7	41	55

These tests are a generalized indicator of soil corrosivity for the sample tested. Other soils on site may be more, less, or similarly corrosive in nature. Imported fill materials should be tested to confirm that their corrosion potential is not more severe than those noted.

Although Kleinfelder does not practice corrosion engineering, resistivity values between 3,000 and 5,000 ohm-cm are considered corrosive to buried ferrous metals (NACE, 2006). The concentrations of soluble sulfates indicate that the subsurface soils represent a Class S0

© 2019 Kleinfelder

exposure to sulfate attack on concrete in contact with the soil based on ACI 318-14 Table 19.3.1.1 (ACI, 2014). Therefore, in accordance with ACI Building Code 318-14, no special provisions for selection of cement type are required.

Concrete and the reinforcing steel within it are at risk of corrosion when exposed to water-soluble chloride in the soil or groundwater. The project structural engineer should review this data to determine if remedial measures are necessary for the concrete reinforcing steel.

4.11 STORMWATER MANAGEMENT

We have assessed the potential for storm water infiltration into the subgrade soils at the subject project site. Our assessment is based on the data collected during our field exploration (borings and test pits) and laboratory testing.

Based on visual soil classification and laboratory testing of the soil samples collected during our field exploration, the upper approximately 1 to 5 feet of the subsurface soils consist predominantly lean sandy clays underlain with highly fractured highly weathered metavolcanic rock. Based on the soil classification, and gradation tests, water infiltration is expected to be very low.

We recommend alternatives to infiltration BMPs, such as bio-filtration/bio-retention systems (bio-swales and planter boxes), be implemented at the Costco site. If bio-filtration/bio-retention systems are employed, we recommend that the BMPs be built such that water exiting from them will not seep into the foundation areas or beneath slabs and pavement. If planters are located within 10 feet of the building or building foundations, or adjacent to slabs and pavements, then some means of diverting water away from the building, building foundation soils, or soils that support slabs and pavements would be required, such as lining the planters.

© 2019 Kleinfelder

5 CONSTRUCTION RECOMMENDATIONS

5.1 GENERAL

The following recommendations should be used by the contractor for construction of the project attention to excavatability and perched groundwater should be noted.

5.2 EARTHWORK

5.2.1 General

Site preparation and earthwork operations should be performed in accordance with applicable codes, safety regulations and other local, state or federal specifications, and the recommendations included in this report. References to maximum dry unit weights are established in accordance with the latest version of ASTM Test Method D1557 (modified Proctor). The earthwork operations should be observed and tested by a representative of Kleinfelder.

5.2.2 Site Preparation

Abandoned utilities and other existing features within the proposed development areas (if any are encountered) should be removed and the excavation(s) backfilled with structural fill. Debris produced by demolition operations, including wood, steel, piping, plastics, etc., should be separated and disposed of off-site. Existing utility pipelines or conduits that extend beyond the limits of the proposed construction and are to be abandoned in place, should be plugged with non-shrinking cement grout to prevent migration of soil and/or water. Demolition, disposal and grading operations should be observed and tested by a representative of Kleinfelder.

Prior to grading and subgrade preparation, all vegetation should be cut and removed from the site. Roots and vegetative matter in excess of one inch should be removed by screening or raking soils to a minimum depth of 12 inches. Other than plant roots, organic matter in the topsoil is minimal based on our laboratory testing (between one and three percent). The topsoil can be re-used in site fills. The residual soil/colluvial layer should excavated to underlying weathered rock contact and stockpiled on site for reuse as structural fill. An estimate of the residual soil/colluvial layer thickness is shown on the attached cross sections (Figures 5 through 10.

Based on the preliminary grading plan, the warehouse building footprint is situated on a bedrock cut/fill transitional area with cuts up to approximately 20 feet in the eastern side of the building and fills up to approximately 10 to 15 feet along the western side of the building. To provide

© 2019 Kleinfelder

uniform support for the proposed warehouse building and to reduce the adverse effects of abrupt differential settlement due the cut/fill transition and variability in fill thickness across the building pad, we recommend the bedrock should be undercut by at least 6 feet below the finished floor elevation and backfilled with structural fill. In addition, cut/fill transitions are situated below small area of the parking structure's lower level. Beneath the parking structure, we recommend the bedrock should be undercut by at least 4 feet below the finished floor elevation and backfilled with structural fill.

5.2.3 Permanent Slopes

Permanent slopes should be constructed at 2:1 (horizontal to vertical) or flatter. Slopes will be subject to erosion and should be planted as soon as practicable. Where new fill slopes are to be constructed on hillsides or existing slopes, the topsoil, colluvial soils, and other materials considered unsuitable should be removed. Where the exposed slope is steeper than 5:1, or where recommended by personnel by our firm, the original ground on which fill is to be placed should be keyed and benched. The benches should extend in the underlying bedrock. Key should be at least 8 feet wide and sloped a minimum of 2% towards the slope. Benches should be at least 4 feet wide and not exceed 4 feet in height. Fill slopes should be overbuilt by 2 feet then cut back to facilitate compaction at the face. Fill and cut slopes should be observed by our firm during grading to evaluate the anticipated geologic conditions and make any necessary modifications. Slope drains should also be installed within the fill slopes to prevent building up hydrostatic pressures behind slopes, especially in areas of observed seepage. Figures 11 and 12 show typical details for slope and canyon drains.

5.2.4 Temporary Excavations

All excavations must comply with applicable local, state, and federal safety regulations, including OSHA requirements. The responsibility for excavation safety and stability of temporary construction slopes lies solely with the contractor. We are providing this information below solely as a service to our client. Under no circumstances should this information provided be interpreted to mean that Kleinfelder is assuming responsibility for final engineering of excavations or shoring, construction site safety, or the contractors' activities; such responsibility is not being implied and should not be inferred.

Minor sloughing and/or raveling of slopes should be anticipated as they dry out. Where space for sloped embankments is not available, shoring will be necessary. In addition, excavations within a

© 2019 Kleinfelder

1:1 plane extending downward from a horizontal distance of 2 feet beyond the bottom outer edge of existing improvements should not be attempted without bracing and/or underpinning the footings, as discussed above. The geotechnical engineer or their field representative should observe the excavations so that modifications can be made to the excavations, as necessary, based on variations in the encountered soil conditions. All applicable excavation safety requirements and regulations, including OSHA requirements, should be met.

All trench excavations should be braced and shored in accordance with good construction practice and all applicable safety ordinances and codes. Stockpiled (excavated) materials should be placed no closer to the edge of an excavation than a distance equal to the depth of the excavation, but no closer than 4 feet.

5.2.5 Excavation Characteristics

The seismic refraction survey results indicate the initial weathered rock layer with compression wave velocities (Vp) ranging between 3,985 to 6,030 feet per second is located approximately 1 to 3 below existing grades and extends as deep as 30 feet below grade within the warehouse building cut. Based on Caterpillar's Handbook of Ripping (2000), rock exhibiting seismic velocities in this range are marginally rippable using a D9R dozer equipped with multi or single shank ripper(s). Underlying this layer is a less weathered rock zone with compression wave velocities ranging between 12,210 to 18,530 feet per second and is located as shallow as 5 to 10 feet below grade within eastern cut for the warehouse building and the fuel facility cut area on the northern portion of the site. Localized blasting will likely be needed to excavate less weathered rock. In addition, crushing and screening operations will likely be required to produce efficient rock fragmentation of the rock (both weathered and less weathered rock) for re-use onsite as structural fill. The results of the seismic refraction survey are presented in Appendix C of this report.

5.2.6 Foundation Excavations

Shallow Foundations

Following excavation to the foundation subgrade elevations, the exposed subgrade should be observed by a representative of the geotechnical engineer to evaluate the presence of satisfactory materials at design elevations. If unsatisfactory material, such as soft or disturbed soil, debris or otherwise unsuitable soil is present at the base of footing excavations, it should be overexcavated

© 2019 Kleinfelder

and replaced with structural concrete, 2-sack sand-cement slurry, or structural fill to the depth determined by the geotechnical engineer.

We understand that new spread footing foundations for the fuel facility canopy will be embedded approximately 6 to 7 feet below the finished grade. If a bedrock cut/fill transition is encountered at the footing bottom for the canopy, the bedrock should be undercut by at least 3 feet and backfilled with structural fill to provide uniform support. It should be noted that fuel facility canopy spread foundation excavation may encounter the harder, less weathered bedrock layer and may require blasting to achieve proper foundation depth.

Drilled Pile Foundations

The performance and capacities of piles can be influenced significantly by the selected construction methods and procedures used. Construction methods that create large zones of disturbance around the drilled shafts can lead to lower than expected skin friction due to excessive stress relief around the shaft length. At grade parking lots are planned north of the warehouse footprint. Per Kleinfelder's seismic refraction survey, these drilled piers will encounter the weathered bedrock layer during drilling. Drilling should be completed with heavy-duty equipment with rock coring capabilities.

Concrete should be placed immediately after drilling of the hole is complete. The concrete should be pumped to the bottom of the drilled shaft using a down-hole tremie. If the tremie method is used to place concrete below the polymer slurry level, we recommend it have a slump of at least 8 inches. If steel casing is used, the casing should be removed as the concrete is placed but the bottom of the casing should be kept at least 5 feet below the top of the concrete.

5.2.7 Fill Material and Compaction Criteria

The on-site soils, minus debris, organic matter, or other deleterious materials may be used as structural fill. Due to the composition of the bedrock, it will not reduce to a soil-like material when excavated. The bedrock material may be crushed, processed and re-used onsite as structural fill. Rock fragments up to 12 inches in size may be used in structural fills 10 or more feet below finished subgrade elevation, but not within 10 feet of a slope face. Rock fragments greater than 6 inches in size should not be used in the upper 10 feet of site fills. Rock fragments greater than 3 inches in size should not be used in the upper 3 feet of fills below the Costco warehouse building. There may be an opportunity for larger sized rocks and boulders between 12 and 24 inches in

© 2019 Kleinfelder

size to be re-used at the base of slopes or in landscape areas. A rock that cannot be crushed or screened to above size criteria should be removed off site.

Rocks up to 12 inches in size may be placed in the deeper portions of structural fills as noted above provided they are thoroughly mixed with soils to avoid excessive concentrations of rock fragments. Over-sized materials (between 6 and 12 inches) should be placed in windrows or otherwise be placed under the observation of the geotechnical engineer's representative in a manner to avoid nesting or voids. Fills should be placed in lifts slightly thicker than the largest particle size and proof-rolled with a D-9 or larger Caterpillar dozer making at least 5 complete passes over each lift. Periodic test pits should be excavated into each compacted lift to confirm the rock fill is being placed in a uniform, dense manner with no nesting or voids.

Compaction of rocky fill should be performed by at least 8 to 10 passes of either a self-propelled, vibratory roller applying at least 20 tons force (dynamic) or a sheepsfoot roller weighing at least 30 tons (static) where at least 90 percent relative compaction is specified. Verification of consolidated material by pot holing during fill/backfill activities should be performed for each lift of compacted rocky fill to confirm a dense fill with no void is being achieved. Additional fill lifts should not be placed if the previous fill lift did not meet the minimum required relative compaction or if fill conditions are not stable. Disking, cross ripping, and/or blending may be required to uniformly moisture-condition soils used for engineered fill.

Although preliminary grading plans show that this site will be balanced, it is anticipated that crushing and processing the harder rock layers will prove challenging and may require soil to be imported onsite. Import materials, if required, should have a Plasticity Index of less than 10 with no less than 70 percent passing the No. 4 sieve, no more than 30 percent of the particles passing the No. 200 sieve, and no particles greater than 3 inches in maximum dimension. The maximum Plasticity Index for imported soils may be modified upon approval by Costco depending on its proposed use. The contractor should provide documentation to Costco that imported fill is free of hazardous materials, including petroleum or petroleum byproducts, chemicals and harmful minerals prior to its transportation and use on site

We recommend soils compacted to at least 95 percent of the maximum dry unit weight (ASTM D1557) in accordance with the CWDRs. Fill should be placed in loose horizontal lifts not more than 8 inches thick (loose measurement). The moisture content of the fill should be maintained at

© 2019 Kleinfelder

around optimum for sandy soils and at least above optimum for clayey soils during compaction. Table 5 presents structural fill placement and compaction criteria.

© 2019 Kleinfelder

TABLE 5
STRUCTURAL FILL PLACEMENT AND COMPACTION CRITERIA

Fill Location/Use	Material Type	Relative Compaction[1] (ASTM D1557)	Moisture Content Range	Minimum Compaction Testing Frequency Per Lift
Aggregate base for pavements and concrete slabs	Aggregate Base	95 percent	-2 to +2% of optimum	10,000 Square Feet
Structural Areas (Warehouse Building Pad)	On-site Fill or Imported Material	95 percent	-2 to +2% of optimum for granular soil 0 to +2% of optimum for on-site clayey soils	10,000 Square Feet
Subgrade for Pavements, Sidewalks and Other Flatwork Areas	On-site Fill or Imported Material	95 percent	-2 to +2% of optimum for granular soil 0 to +2% of optimum for on-site clayey soils	15,000 Square Feet
Retaining Wall backfill	Granular Backfill	95 percent	-2 to +2% of optimum	1,000 Square Feet
Utility trenches backfill	On-site Rock Fill or Imported Material	95 percent	-2 to +2% of optimum for granular soil 0 to +2% of optimum for on-site clayey soils	150 Linear Feet
Lawns or Unimproved areas	Imported Material	At least 90 percent	-2 to +2% of optimum for granular soil 0 to +2% of optimum for on-site clayey soils	20,000 Square Feet

5.2.8 Groundwater Impacts

Rainfall will infiltrate near surface soils and collect on less permeable soil and rock at shallow depth. Perched groundwater above the bedrock was encountered in the test pits that were may be encountered during construction. This is most likely to occur following periods of rainfall and in the winter and spring months. If encountered, excavations which extend below the perched

© 2019 Kleinfelder

groundwater level (currently estimated to be at approximately 2 to 5 feet below existing site grade) will need to be dewatered. In our opinion, dewatering of narrow trench excavations, which penetrate less than a few feet below the groundwater level and do not encounter loose and/or cohesionless soils, may be possible by directing inflow to a sump where water can be removed by a pump. Temporary dewatering of wider, deeper, and/or more extensive excavations may require well points, deep wells, and/or deep sumps. To help maintain bottom stability of wider, deeper, and/or more extensive excavations, groundwater levels should be drawn-down a minimum of 2 feet below the lowest portion of the excavation. Since temporary dewatering will impact and be dependent on construction methods and scheduling, the contractor will be solely responsible for the design, installation, maintenance, and performance of all temporary dewatering systems.

Perched groundwater levels can fluctuate depending on rainfall, runoff conditions, or other factors. Therefore, water levels presented in this report may not be representative of those encountered at the time of construction. We recommend the contractor verify perched groundwater conditions and evaluate dewatering requirements prior to bidding and/or construction.

Depending on the depth of excavation below perched groundwater, soil conditions encountered along the excavation face, and slope inclination, caving or sloughing of excavation slopes is likely within the vicinity of a sump dewatering system. Sloughing or caving of excavation slopes could endanger personnel working within or adjacent to the excavation as well as nearby equipment, structures, or other existing improvements. The Contractor should be aware of the potential for caving and take appropriate precautions to ensure the safety of site personnel as well as the integrity of the excavation slopes and any existing, nearby structures or other improvements.

5.2.9 Trench Backfill

Pipe zone backfill (i.e. material beneath and in the immediate vicinity of the pipe) should consist of imported soil less than ¾-inch in maximum dimension. Trench zone backfill (i.e., material placed between the pipe zone backfill and finished subgrade) may consist of onsite soil or imported fill that meets the requirements for structural fill provided above.

If imported material is used for trench zone backfill, we recommend it consist of silty sand. In general, gravel should not be used for trench zone backfill due to the potential for soil migration

© 2019 Kleinfelder

into the relatively large void spaces present in this type of material and water seepage along trenches backfilled with coarse-grained sand and/or gravel.

Recommendations provided above for pipe zone backfill are minimum requirements only. More stringent material specifications may be required to fulfill local building requirements and/or bedding requirements for specific types of pipes. We recommend the project civil engineer develop these material specifications based on planned pipe types, bedding conditions, and other factors beyond the scope of this study.

Trench backfill should be placed and compacted in accordance with recommendations provided for structural fill in Section 5.2.7. Mechanical compaction is recommended; ponding or jetting should be avoided, especially in areas supporting structural loads or beneath concrete slabs supported on grade, pavements, or other improvements.

5.3 UNSTABLE SUBGRADE CONDITIONS

Pumping subgrade conditions may be encountered during site grading activities in the residual/colluvium soils, and the subgrade may need to be stabilized. Should grading be performed during or following extended periods of rainfall, the moisture content of the near-surface soils will also be significantly above the optimum moisture content. These conditions could seriously impede grading by causing an unstable subgrade condition. Typical remedial measures include the following:

- Drying: Drying unstable subgrade involves disking or ripping wet subgrade to a depth of approximately 18 to 24 inches and allowing the exposed soil to dry. Multiple passes of the equipment (likely on a daily basis) will be needed because as the surface of the soil dries, a crust forms that reduces further evaporation. Frequent disking will help prevent the formation of a crust and will promote drying. This process could take several days to several weeks depending on the material, the depth of ripping, the number of passes, and the weather.
- Removal and Replacement with Crushed Rock and Geotextile Fabric: Unstable subgrade could be overexcavated 12 to 24 inches below existing grade and replaced with ¾- or 1-inch crushed rock underlain by geotextile fabric. The geotextile fabric should consist of a woven geotextile, such as Mirafi HP series or equivalent. The final depth of removal will depend upon the conditions observed in the field once overexcavation begins. The

© 2019 Kleinfelder

geotextile fabric should be placed in accordance with the manufacturer's recommendations.

- Chemical Treatment: Unstable subgrade could be stabilized by mixing the upper 12 to 18 inches of the subgrade with Portland cement, Class C fly ash or lime. For estimating purposes, an application rate of 10 to 12 percent Class C fly ash, 3 to 4 percent for high calcium quick lime, or 4 to 5 percent Portland cement may be used. Final application rates should be determined in the field at the time of construction in consultation with the geotechnical engineer. Chemical treatment should be performed by a specialty contractor experienced in this work and should be performed in accordance with Caltrans Standard Specifications. Since lime treatment uses the on-site soil, the expense of importing material can be avoided. Chemically treated areas will have a high pH level (pH over 10) that will need to be removed from landscape areas.

5.4 EXTERIOR FLATWORK

Prior to casting exterior flatwork, the subgrade soils should be moisture conditioned and recompacted or over-excavated, as recommended in Section 5.2.2. If encountered, the moisture content of the clayey subgrade soils should be maintained at least above optimum prior to the placement of any flatwork. In the event that these subgrade soils are allowed to dry out, the exposed subgrade should be re-moisture conditioned. Careful control of the water/cement ratio should be performed to avoid shrinkage cracking due to excess water or poor concrete finishing or curing.

5.5 PAVEMENTS

5.5.1 HMA Design

Hot Mix Asphalt (HMA) should conform to requirements of the Costco Wholesale Specification Section 321216, Asphalt Paving. Section 1.3.C of the HMA specification requires that the HMA section be placed in at least two lifts. The HMA specification allows the use of ½- or ¾-inch Nominal Maximum Aggregate Size (NMAS) mixes for the base course and ⅜- or ½-inch NMAS mixes for surface course. Maximum and minimum HMA compacted lift thicknesses are provided in Table 3.1 in Section 3.3.B of the HMA specification.

© 2019 Kleinfelder

5.5.2 Construction Considerations

The pavement sections provided above are contingent on the following recommendations being implemented during construction.

- Pavement subgrade should be prepared as recommended in Section 5.2.2.
- Subgrade soils should be in a stable, non-pumping condition at the time the aggregate base materials are placed and compacted.
- Aggregate base materials should be compacted to at least 95 percent relative compaction (ASTM D1557).
- Asphalt paving materials and placement methods should meet current Costco Wholesale Specifications Section 321216.
- Adequate drainage (both surface and subsurface) should be provided such that the subgrade soils and aggregate base materials are not allowed to become wet.

Note that pavement materials and construction must be completed in strict accordance with the Costco's specifications that contain very specific pavement material (asphalt, aggregate and concrete) criteria and construction practices to be used (compaction and material sampling). The general contractor and pavement construction subcontractor should be aware that asphalt and concrete mix designs must be submitted to the design architect and Kleinfelder at least 45 days prior to the scheduled production and laydown for review and approval.

© 2019 Kleinfelder

6 ADDITIONAL SERVICES

6.1 PLANS AND SPECIFICATIONS REVIEW

We recommend Kleinfelder perform a review of geotechnical related portions of the project plans and specifications before they are finalized to see that geotechnical recommendations have been properly interpreted and implemented during design. If we are not accorded the privilege of performing this review, we can assume no responsibility for misinterpretation of our recommendations.

6.2 CONSTRUCTION OBSERVATION AND TESTING

The construction process is an integral design component with respect to the geotechnical aspects of a project. Because geotechnical engineering is an inexact science due to the variability of natural processes, and because we sample only a limited portion of the soils affecting the performance of the proposed structure, unanticipated or changed conditions can be encountered during grading. Proper geotechnical observation and testing during construction are imperative to allow the geotechnical engineer the opportunity to verify assumptions made during the design process. Therefore, we recommend that Kleinfelder be retained during the construction of the proposed improvements to observe compliance with the design concepts and geotechnical recommendations, and to allow design changes in the event that subsurface conditions or methods of construction differ from those assumed while completing this study.

Our services are typically needed at the following stages of grading:

- After demolition and grubbing;
- During grading;
- After the overexcavation, but prior to subgrade preparation;
- During utility trench backfill;
- During base placement and site paving; and
- After excavation for foundations.

© 2019 Kleinfelder

7 LIMITATIONS

This geotechnical study has been prepared for the exclusive use of Costco Wholesale and their agents for specific application to the proposed Costco Wholesale warehouse and fuel facility located on Silva Valley Parkway in El Dorado Hills, California. The findings, conclusions and recommendations presented in this report were prepared in accordance with generally accepted geotechnical engineering practice. No other warranty, express or implied, is made.

The scope of services was limited to a background data review and the field exploration described in Section 1.2. It should be recognized that definition and evaluation of subsurface conditions are difficult. Judgments leading to conclusions and recommendations are generally made with incomplete knowledge of the subsurface conditions present due to the limitations of data from field studies. The conclusions of this assessment are based on our field exploration and laboratory testing programs, and engineering analyses.

Kleinfelder offers various levels of investigative and engineering services to suit the varying needs of different clients. Although risk can never be eliminated, more detailed and extensive studies yield more information, which may help understand and manage the level of risk. Since detailed study and analysis involves greater expense, our clients participate in determining levels of service, which provide information for their purposes at acceptable levels of risk. The client and key members of the design team should discuss the issues covered in this report with Kleinfelder, so that the issues are understood and applied in a manner consistent with the owner's budget, tolerance of risk and expectations for future performance and maintenance.

Recommendations contained in this report are based on our field observations and subsurface explorations, limited laboratory tests, and our present knowledge of the proposed construction. It is possible that soil or groundwater conditions could vary between or beyond the points explored. If soil or groundwater conditions are encountered during construction that differ from those described herein, the client is responsible for ensuring that Kleinfelder is notified immediately so that we may reevaluate the recommendations of this report. If the scope of the proposed construction, including the estimated Traffic Index or locations of the improvements, changes from that described in this report, the conclusions and recommendations contained in this report are not considered valid until the changes are reviewed, and the conclusions of this report are modified or approved in writing, by Kleinfelder.

© 2019 Kleinfelder

The scope of services for this subsurface exploration and geotechnical report did not include environmental assessments or evaluations regarding the presence or absence of wetlands or hazardous substances in the soil, surface water, or groundwater at this site.

Kleinfelder cannot be responsible for interpretation by others of this report or the conditions encountered in the field. Kleinfelder must be retained so that all geotechnical aspects of construction will be monitored on a full-time basis by a representative from Kleinfelder, including site preparation, preparation of foundations, and placement of structural fill and trench backfill. These services provide Kleinfelder the opportunity to observe the actual soil and groundwater conditions encountered during construction and to evaluate the applicability of the recommendations presented in this report to the site conditions. If Kleinfelder is not retained to provide these services, we will cease to be the engineer of record for this project and will assume no responsibility for any potential claim during or after construction on this project. If changed site conditions affect the recommendations presented herein, Kleinfelder must also be retained to perform a supplemental evaluation and to issue a revision to our original report.

This report, and any future addenda or reports regarding this site, may be made available to bidders to supply them with only the data contained in the report regarding subsurface conditions and laboratory test results at the point and time noted. Bidders may not rely on interpretations, opinion, recommendations, or conclusions contained in the report. Because of the limited nature of any subsurface study, the contractor may encounter conditions during construction which differ from those presented in this report. In such event, the contractor should promptly notify the owner so that Kleinfelder's geotechnical engineer can be contacted to confirm those conditions. We recommend the contractor describe the nature and extent of the differing conditions in writing and that the construction contract include provisions for dealing with differing conditions. Contingency funds should be reserved for potential problems during earthwork and foundation construction.

This report may be used only by the client and only for the purposes stated, within a reasonable time from its issuance, but in no event later than one year from the date of the report. Land use, site conditions (both on site and off site) or other factors may change over time, and additional work may be required with the passage of time. Any party, other than the client who wishes to use this report shall notify Kleinfelder of such intended use. Based on the intended use of this report and the nature of the new project, Kleinfelder may require that additional work be performed and that an updated report be issued. Non-compliance with any of these requirements by the

© 2019 Kleinfelder

client or anyone else will release Kleinfelder from any liability resulting from the use of this report by any unauthorized party and the client agrees to defend, indemnify, and hold harmless Kleinfelder from any claims or liability associated with such unauthorized use or non-compliance.

© 2019 Kleinfelder

8 REFERENCES

Advanced National Seismic System (ANSS), 2011, http://www.quake.geo.berkeley.edu/cass

American Concrete Institute (ACI), 2014. Building Code Requirements for Structural Concrete (ACI 318-14) and Commentary (ACI318-14R).

American Society of Civil Engineers (ASCE), 2016. Minimum Design Load for Buildings and Other Structures (ASCE/SEI 7-16).

Asphalt Institute, 2001. Thickness Design: Asphalt Pavements for Highways and Streets, Manual Series 1 (MS1), 9th Edition.

Blackburn Consulting, “Geotechnical Report, EDH 52 Silva Valley Parkway at US 50, Rough Grading and Preliminary Foundation Design, El Dorado Hills, CA” dated March 2013.

California Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR), 2016. interactive oil well location map, available at website: http://maps.conservation.ca.gov/doggr/index.html.

California Department of Water Resources (DWR), 2016, interactive water well location map, available at website: http://well.water.ca.gov/.

California Geological Survey (CGS), 2010, Fault Activity Map of California (2010) available at website: http://maps.conservation.ca.gov/cgs/fam/

California Geological Survey (CGS), 2018, Earthquake Fault Zones – A Guide for Government Agencies, Property Owners/Developers, and Geoscience Practitioners for Assessing Fault Rupture Hazards in California: California Geological Survey Special Publication 42, 83p.

CARB (California Air Resources Board), (2002), Asbestos Airborne Toxic Control Measures (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations.

Caterpillar, (2000) Caterpillar Performance Handbook, 12th Edition available at website: https://www.wagnerequipment.com/caterpillar-performance-handbook-no-45/

© 2019 Kleinfelder

Churchill, R. K., Higgins, C. T., and Hill, B. (2000), Areas More Likely to Contain Natural Occurrences of Asbestos in Western El Dorado County, California, California Geological Survey, Open-File Report 2000-002.

Clinkenbeard, J.P., Churchill, R.K., and Lee, K. (2002), Special Publication 124 – Guidelines for Geologic Investigations of Naturally Occurring Asbestos in California.

Costco, 2018. Costco Wholesale Development Requirements, Version 2018, dated October 26, 2018.

David Babcock and Associates, “El Dorado Concept Site Plan 3.0” Sheet 1 of 1 dated July 3, 2019.

Edelman, S. and Sharp, W. (1989), Terranes, Early Faults, and Pre-Late Jurassic Amalgamation of the Western Sierra Nevada Metamorphic Belt, California, in Geological Society of America Bulletin volume 101, pp 1420-1433.

Federal Emergency Management Agency (FEMA), 2008, FIRM, Flood Insurance Rate Map, El Dorado County, California and incorporated areas, Panel 725 of 1125, Map number 06017C0725E, effective dated September 28, 2008.

Gutierrez, C.I., 2011, Preliminary Geologic Map of the Sacramento 30’ x 60’ Quadrangle, California. CGS, 1: 100,000

Hart, E.W. and Bryant, W.A., 1997 (revised), Fault-rupture hazard zones in California: California Department of Conservation, Division of Mines and Geology Special Publication 42, 38 p. (Revised periodically; information on state law and zoning program for regulating development near hazardous faults.)

Higgins, C., and Clinkenbeard J.P. (2006), Relative Likelihood for The Presence of Naturally Occurring Asbestos in Eastern Sacramento County, California, California Geological Survey, Special Report 192

International Code Council, Inc., 2019 California Building Code.

© 2019 Kleinfelder

Kier and Wright. “Preliminary Grading and Drainage Plan of El Dorado Hills Costco for Costco Wholesale Corporation, El Dorado Hills, California, Sheets C-1 through C-4 dated September 20, 2019

Loyd, R., Anderson, T, and Bushnell, et all (1983), Mineral Land Classification of the Placerville 15-minute Quadrangle, El Dorado and Amador Counties, California, California Geological Survey (formerly California Division of Mines and Geology) Open File Report 83-29 SAC.

Loyd, R. (1984) Mineral Land Classification of the Folsom 15-minute Quadrangle, Sacramento, El Dorado Placer, and Amador Counties, California, California Geological Survey (formerly California Division of Mines and Geology) Open File Report 84-50 SAC.

National Association of Corrosion Engineers (NACE), 2006. “Corrosion Basics, An Introduction, 2nd Edition” National Association of Corrosion Engineers.

Portland Cement Association (PCA), 1984, Thickness Design for Concrete Highway and Street Pavements, Skokie, Illinois: Portland Cement Association.

Portland Cement Association, 1988. Design and Control of Concrete Mixtures, Portland Cement Association, Skokie, Illinois.

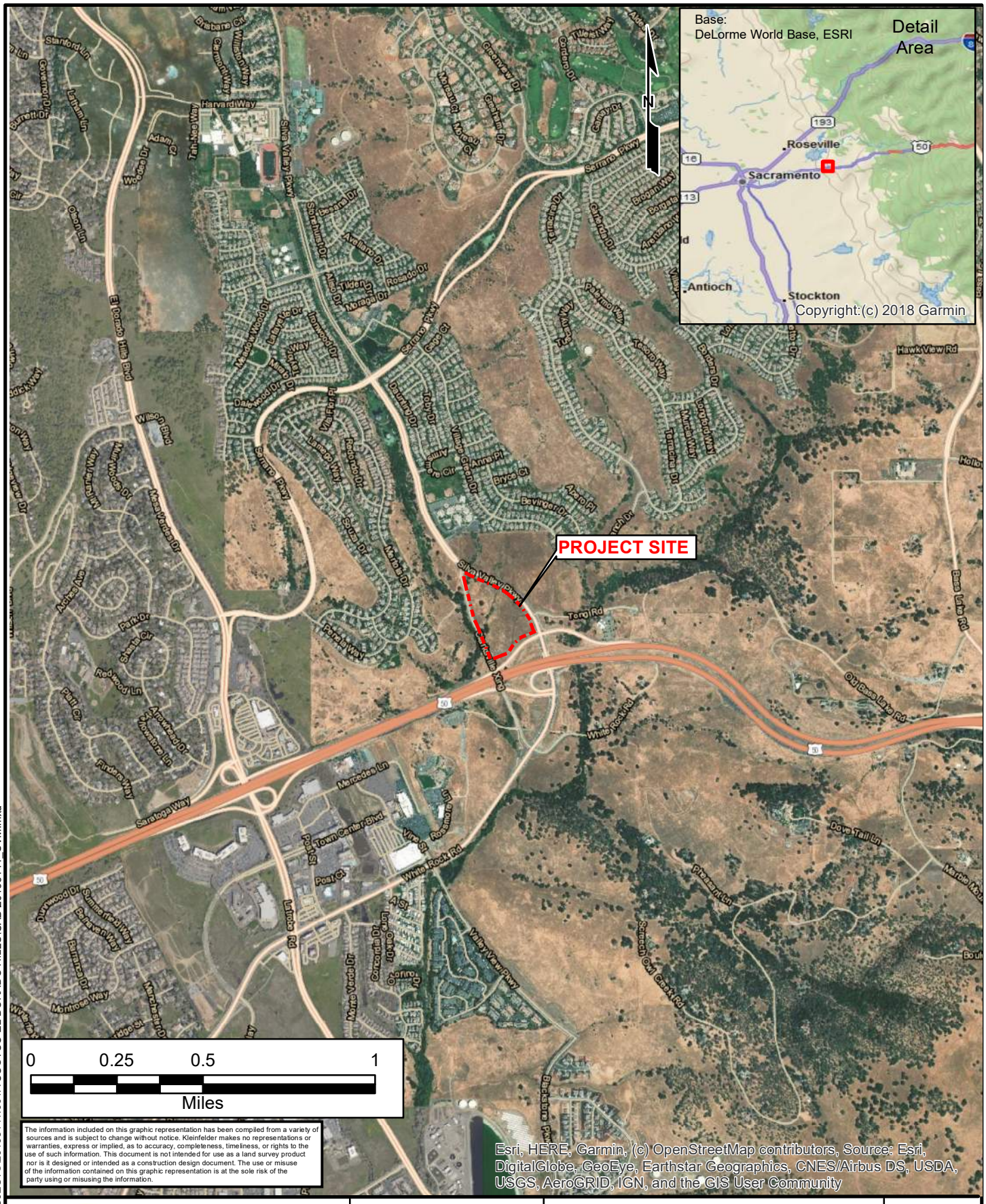
United States Geological Survey (USGS), 2013, The Uniform California Rupture Forecast, Version 3 (UCERF3) – The Time-Independent Model, USGS Open File Report 2013-1165

© 2019 Kleinfelder

KLEINFELDER

Bright People. Right Solutions.

Figures



Date Saved: 9/17/2019 11:33:44 AM

Document Path: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\20193141_SVM.mxd

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

PROJECT NO.	20193141.001A
DRAWN:	9/17/2019
DRAWN BY:	D. Ross
CHECKED BY:	D .Dockendorf
FILE NAME:	20193141_SVM.mxd

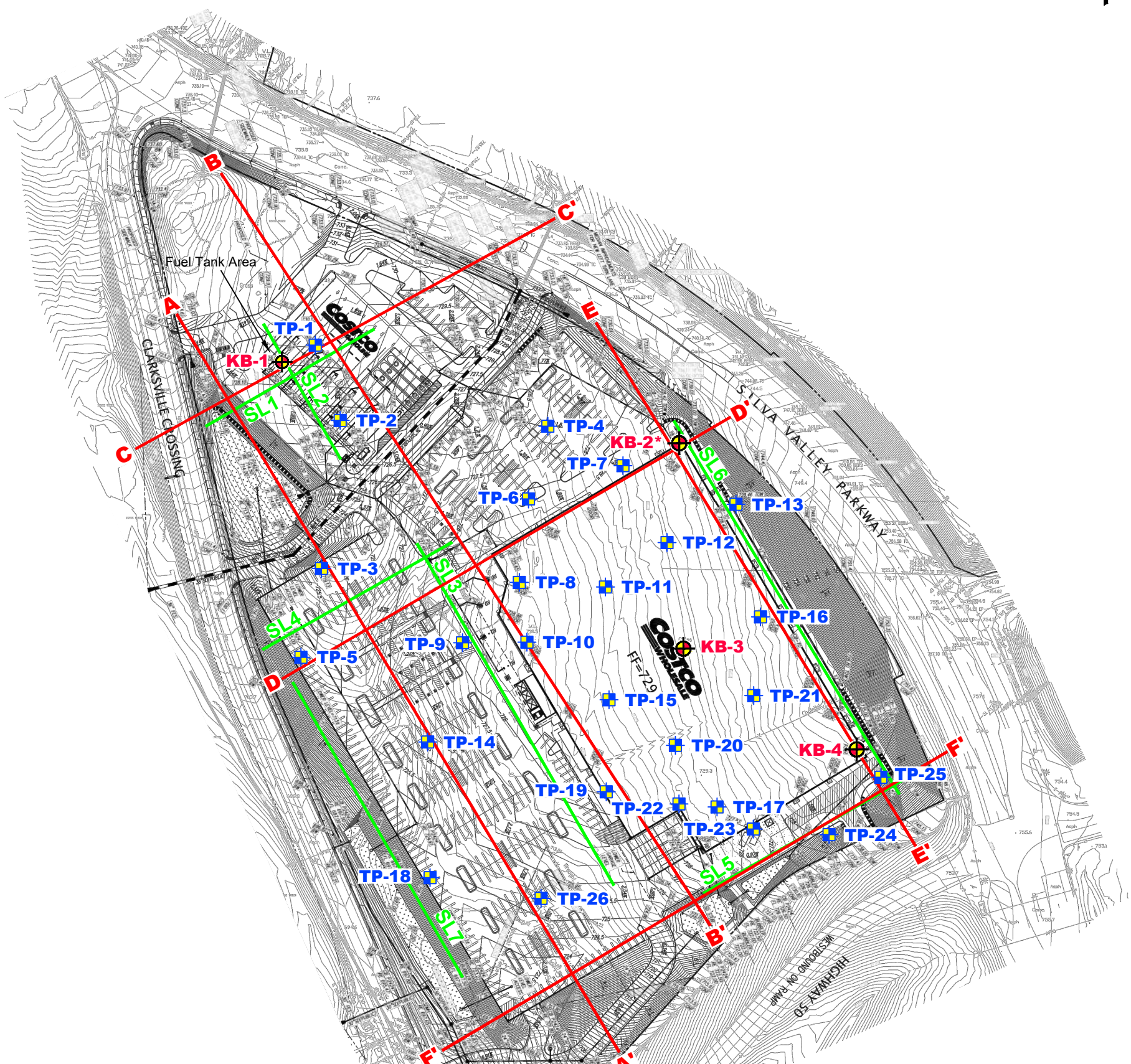
SITE LOCATION MAP

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE

1

PLOTTED: 23 Oct 2019, 10:25am, KHagan



LEGEND

- Rock Core Boring Location
- Test Pit Location
- SL1 Seismic Refraction Lines
- A——A' Cross Section Lines

*Rock Core Boring Location KB-2 was not drilled due to very hard drilling conditions throughout the site.

160 0 80 160 320

APPROXIMATE SCALE: 1 inch = 160 feet

Site Plan Reference: ELDORADO HILLS CONCEPTUAL SITE PLAN - OPTION 2.0, by David Babcock & Associates, Sheet 1 of 1, dated April 11, 2019.

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

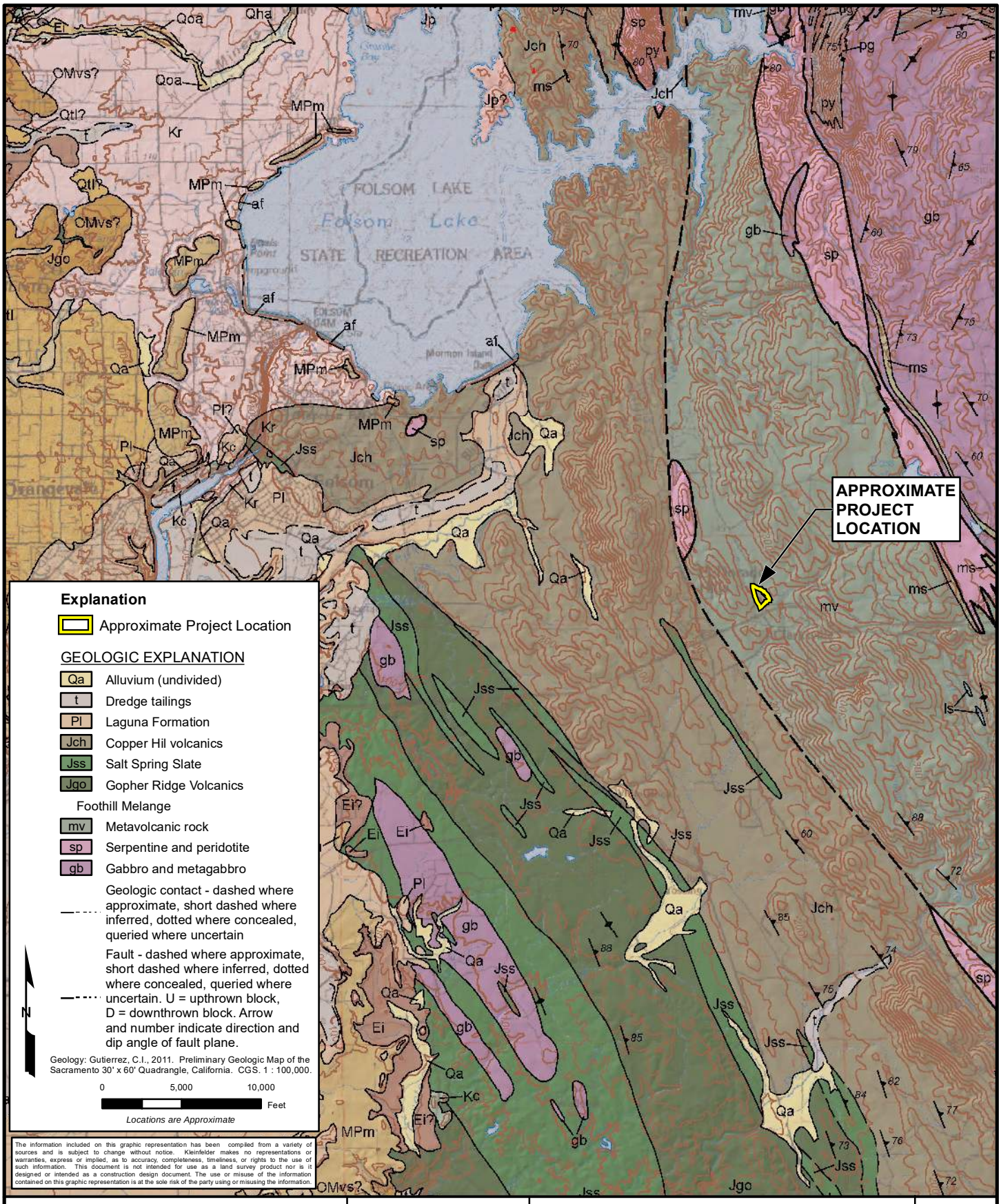
PROJECT:	20193141.001A
DRAWN:	10/23/2019
DRAWN BY:	D. Ross
CHECKED BY:	D .Dockendorf
FILE NAME:	20193141_2.dwg

EXPLORATION LOCATION MAP

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
2

CAD FILE: \\sacramento\SACRAMENTO-DATA\DRAFTING\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: Layout1



PLOTTED: 10/23/2019 1:10:26 PM, KHagan

FILE: L:\2019\20193141.001A - CSM Costco El Dorado CA New WhseGas GEO\2.0 Technical Information\2.8 CAD GIS

SACRAMENTO, CA

KLEINFELDER
Bright People. Right Solutions.

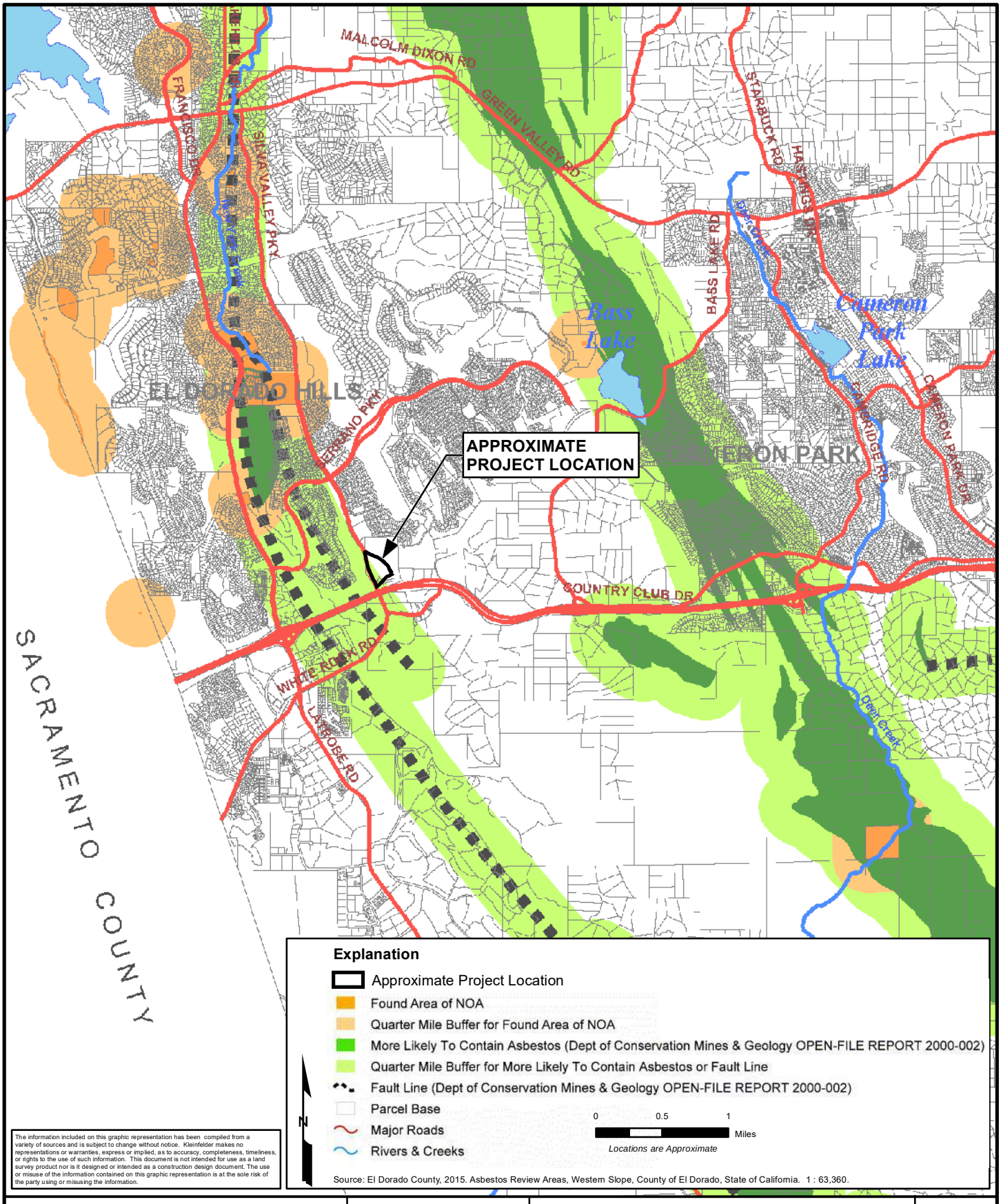
PROJECT:	20193141
DRAWN:	OCT 2019
DRAWN BY:	KFH
CHECKED BY:	DD
FILE NAME:	Fig3_Geo.mxd

REGIONAL GEOLOGY MAP

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE

3



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT:	20193141
DRAWN:	OCT 2019
DRAWN BY:	KFH
CHECKED BY:	DD
FILE NAME:	Fig4_NOA.mxd

NATURALLY OCCURING ASBESTOS MAP

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
4

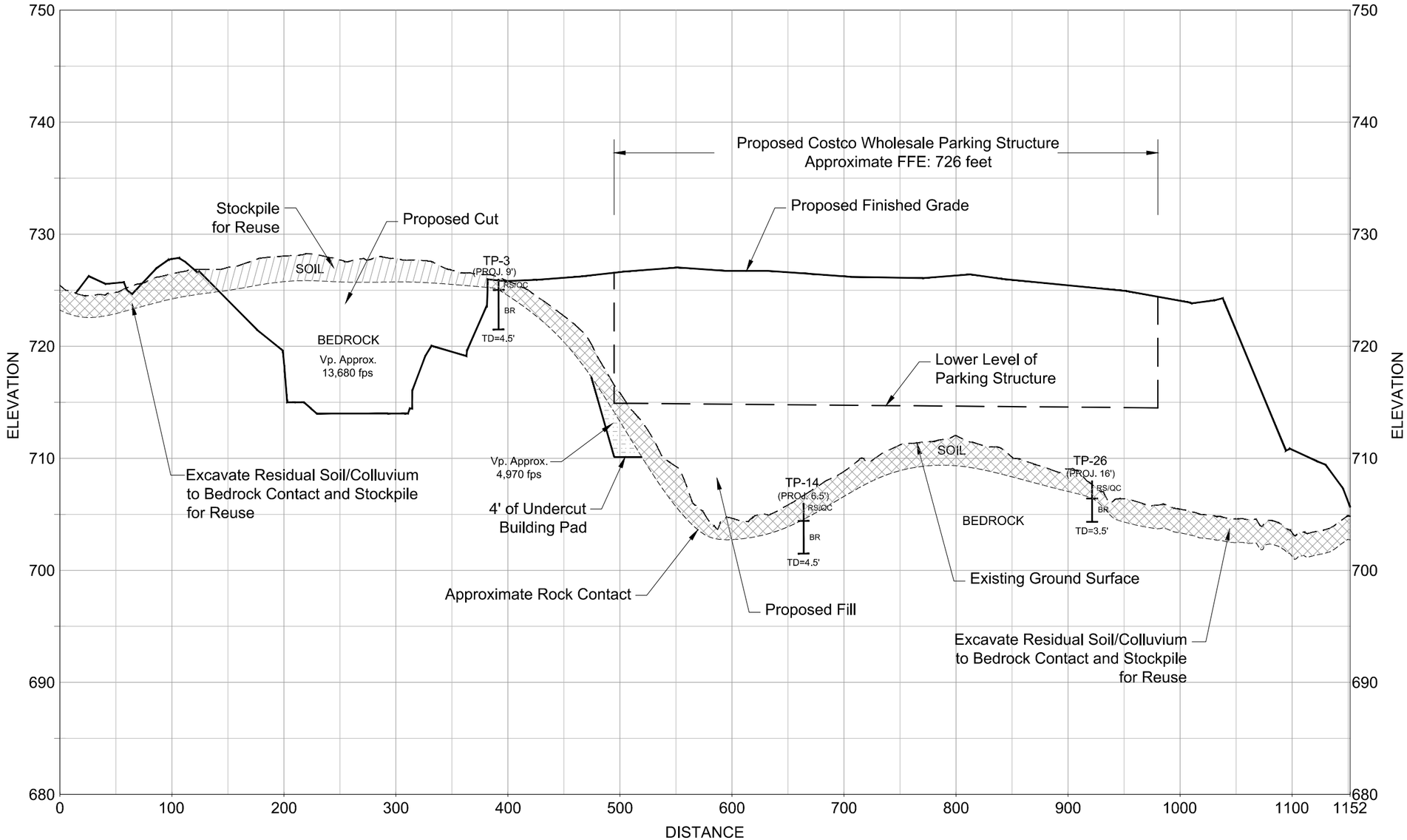
PLOTTED: 10/23/2019 2:26:39 PM, KHagan
FILE: L:\2019\20193141.001A - CSM Costco El Dorado CA New WhseGas GEO\2.0 Technical Information\2.8 CAD GIS
SACRAMENTO, CA

PLOTTED: 30 Oct 2019, 4:30pm, DFahmey

A

VIEW: NORTHEAST

A'



LEGEND

RS/QC Residual Soil and/or Colluvium

BR Bedrock

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

PROJECT NO.	20193141.001A
DRAWN:	10/24/2019
DRAWN BY:	D. Ross
CHECKED BY:	B. Anderson
FILE NAME:	CROSS SECTIONS.dwg

CROSS SECTION A - A'

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE

5

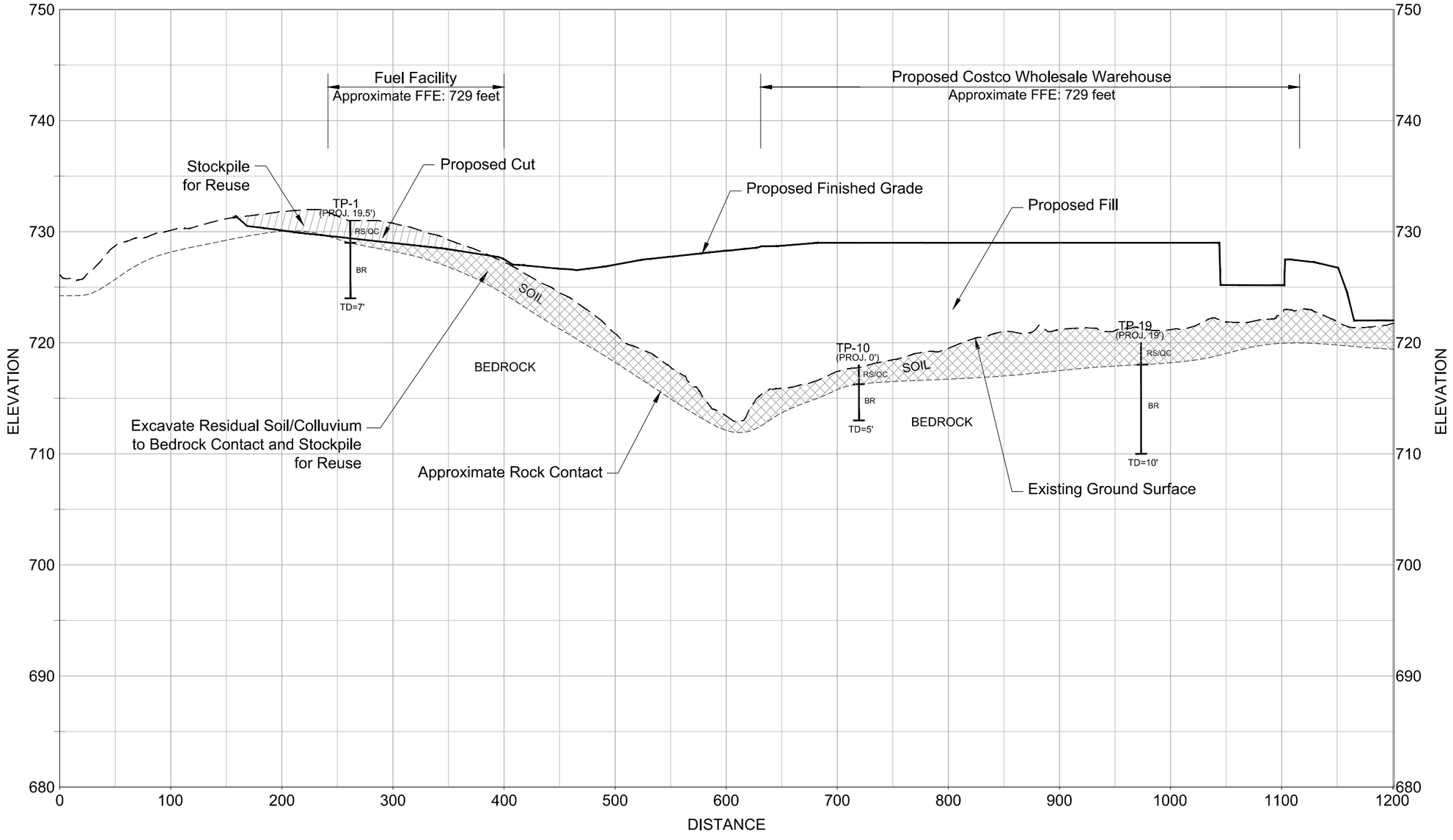
CAD FILE: U:\Projects\CADD\CADD 2019\20193141\ LAYOUT: A-A'

PLOTTED: 30 Oct 2019, 4:14pm, DFahmey

B

VIEW: NORTHEAST

B'



LEGEND

RS/QC Residual Soil and/or Colluvium

BR Bedrock

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

PROJECT NO.	20193141.001A
DRAWN:	10/24/2019
DRAWN BY:	D. Ross
CHECKED BY:	B. Anderson
FILE NAME:	CROSS SECTIONS.dwg

CROSS SECTION B - B'

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

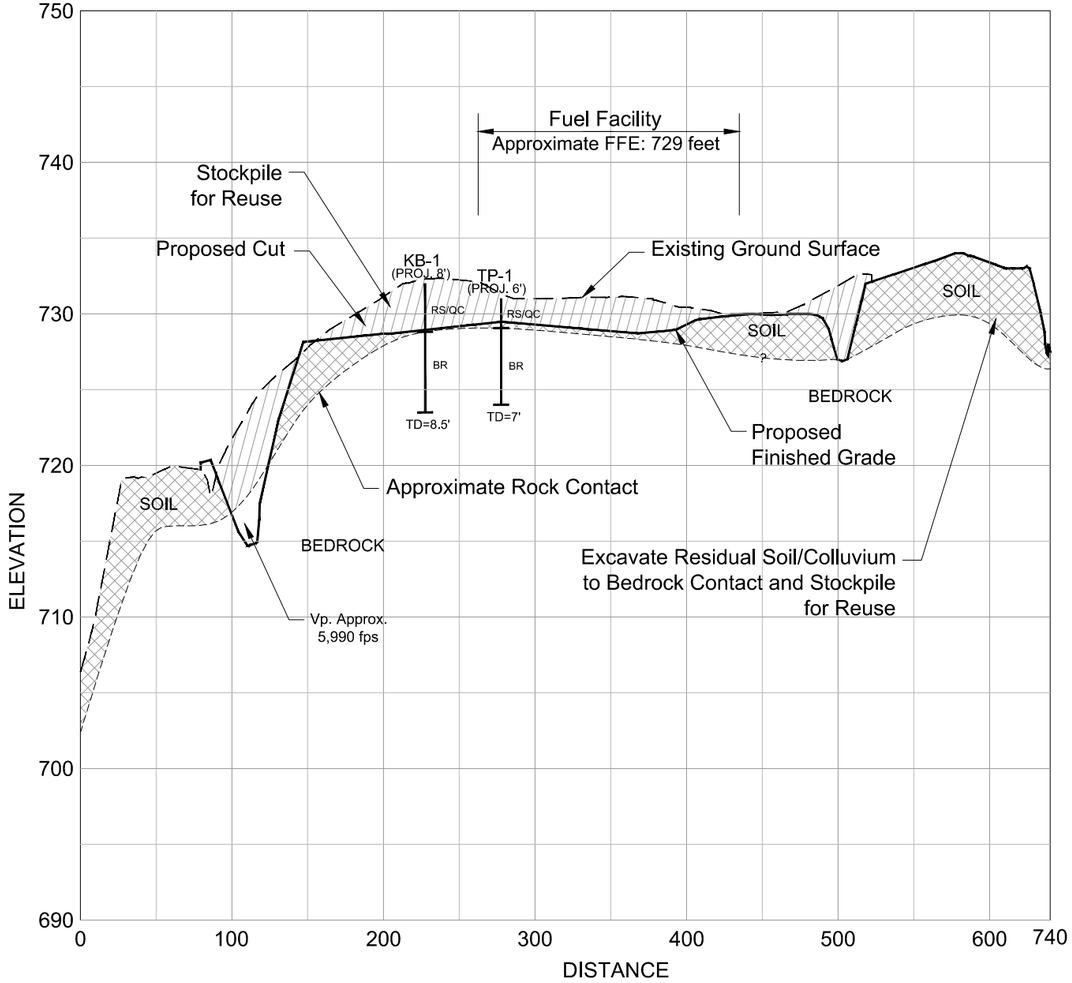
FIGURE

6

CAD FILE: U:\Projects\CADD\CADD 2019\20193141\ LAYOUT: B-B'

PLOTTED: 30 Oct 2019, 4:15pm, DFahmey

C VIEW: SOUTHEAST C'



LEGEND

RS/QC Residual Soil and/or Colluvium

BR Bedrock

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

PROJECT NO.	20193141.001A
DRAWN:	10/24/2019
DRAWN BY:	D. Ross
CHECKED BY:	B. Anderson
FILE NAME:	CROSS SECTIONS.dwg

CROSS SECTION C - C'

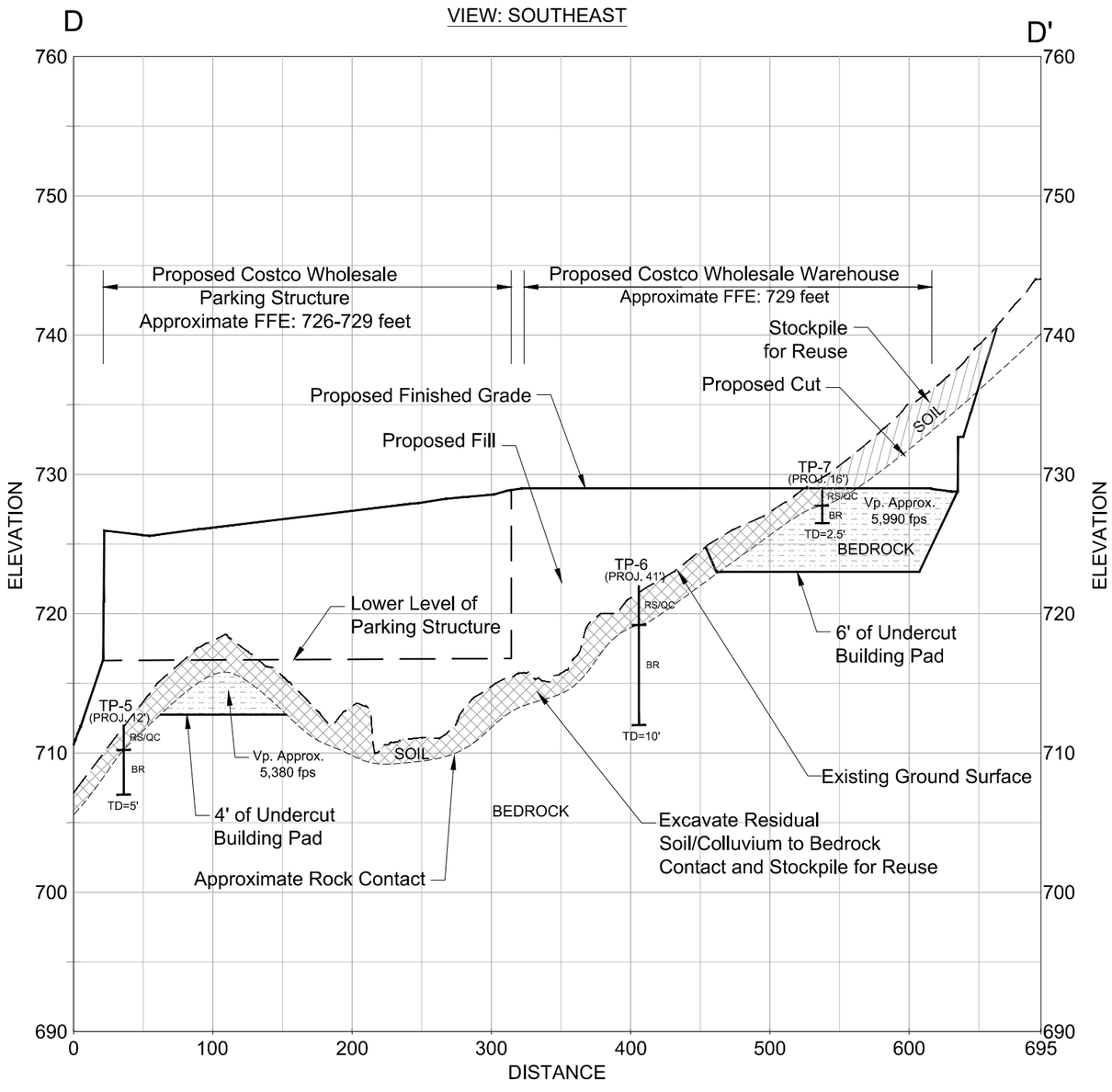
CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
7

CAD FILE: U:\Projects\CADD\CADD 2019\20193141\ LAYOUT: C-C'

PLOTTED: 30 Oct 2019, 4:30pm, DFahmey

VIEW: SOUTHEAST



LEGEND

RS/QC Residual Soil and/or Colluvium

BR Bedrock

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

PROJECT NO.	20193141.001A
DRAWN:	10/24/2019
DRAWN BY:	D. Ross
CHECKED BY:	B. Anderson
FILE NAME:	CROSS SECTIONS.dwg

CROSS SECTION D - D'

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
8

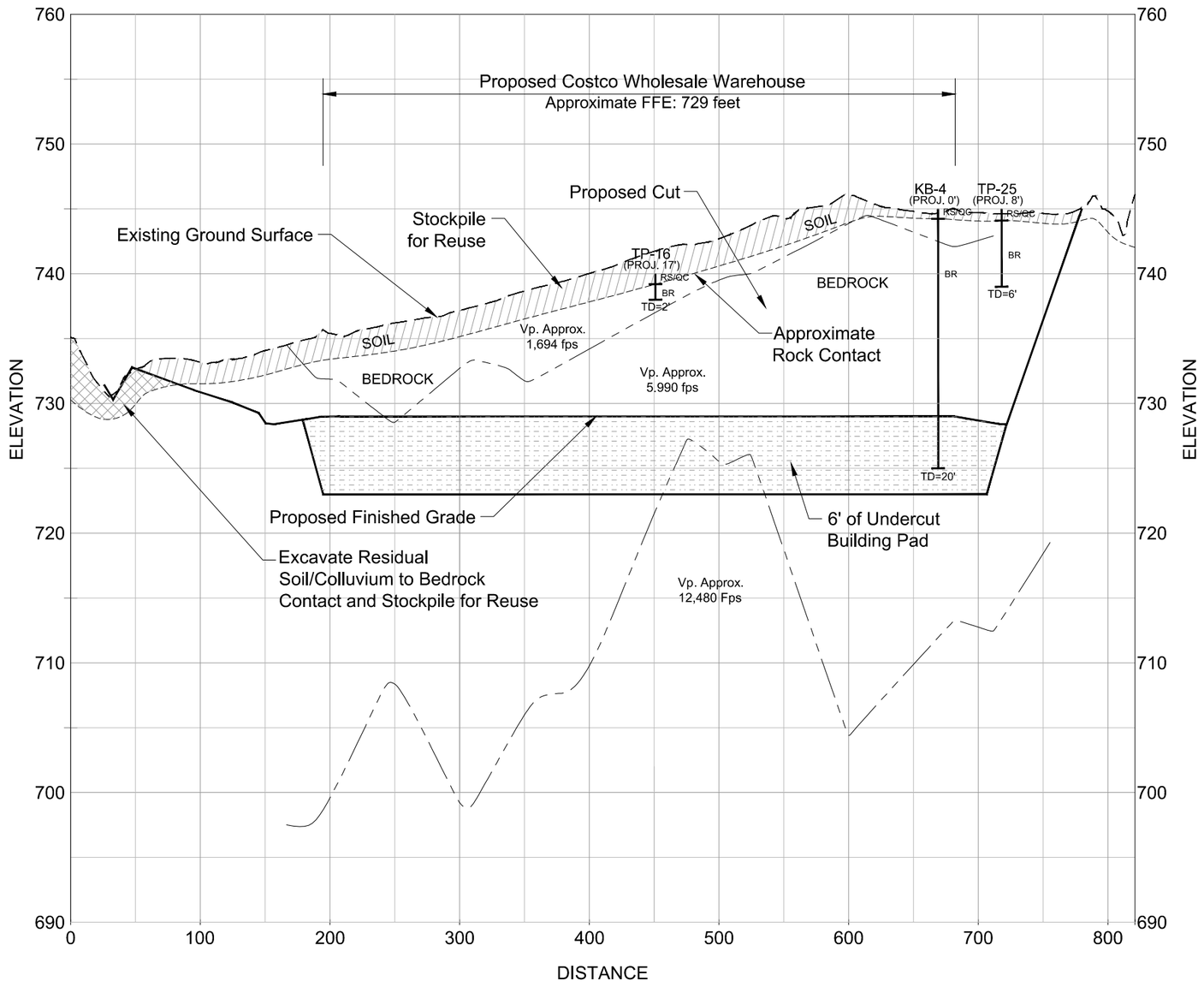
CAD FILE: U:\Projects\CADD\CADD 2019\20193141\ LAYOUT: D-D'

PLOTTED: 30 Oct 2019, 4:16pm, DFahrney

E

VIEW: SOUTHWEST

E'



LEGEND

RS/QC Residual Soil and/or Colluvium

BR Bedrock

Seismic Refraction Layer Contact with Layer Velocity

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

PROJECT NO.	20193141.001A
DRAWN:	10/24/2019
DRAWN BY:	D. Ross
CHECKED BY:	B. Anderson
FILE NAME:	CROSS SECTIONS.dwg

CROSS SECTION E - E'

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE

9

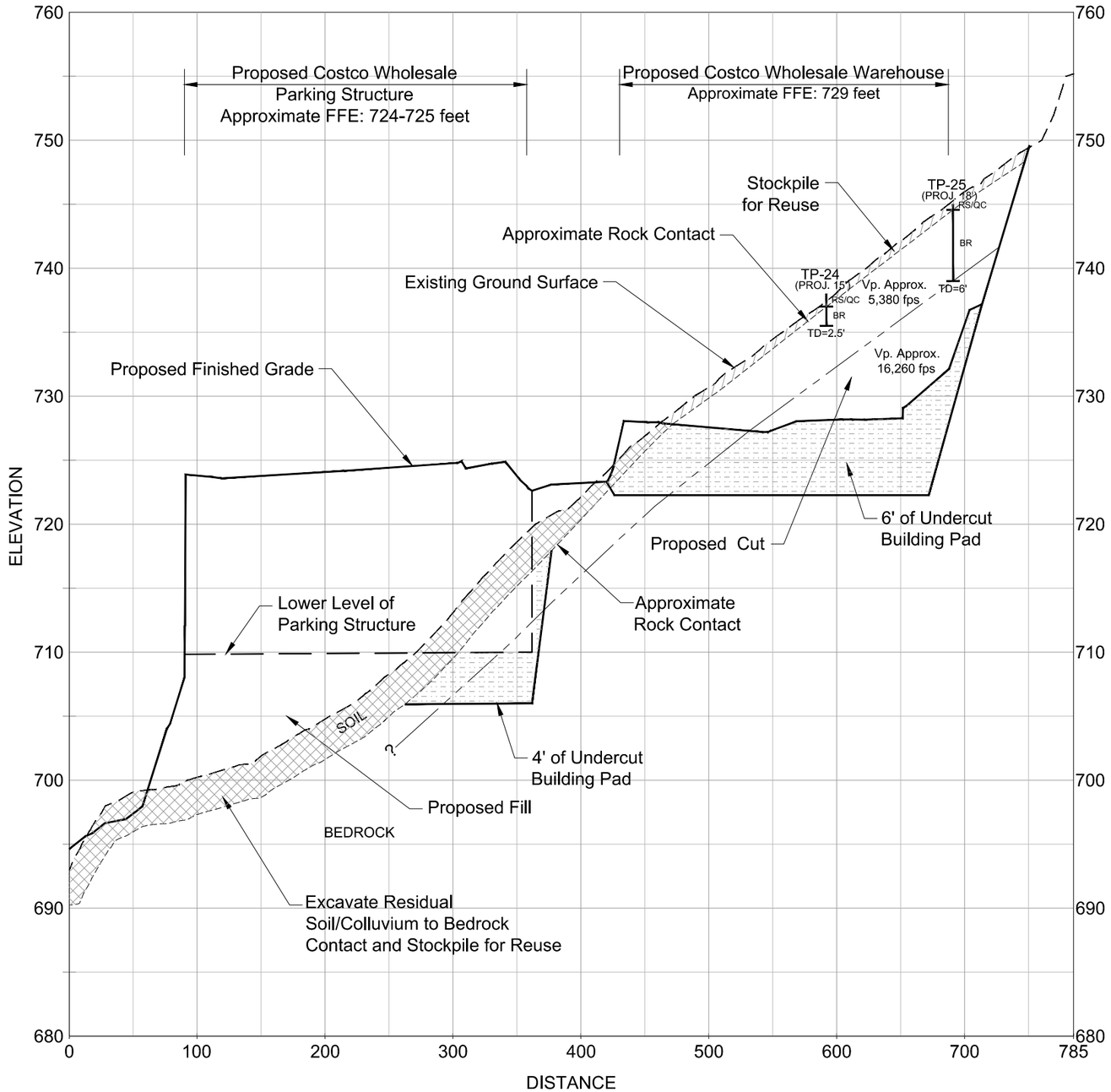
CAD FILE: U:\Projects\CADD\CADD 2019\20193141\ LAYOUT: E-E'

PLOTTED: 30 Oct 2019, 4:17pm, DFahmey

F

VIEW: NORTHWEST

F'



LEGEND

RS/QC Residual Soil and/or Colluvium

BR Bedrock

Seismic Refraction Layer with Layer Velocity

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

PROJECT NO.	20193141.001A
DRAWN:	10/24/2019
DRAWN BY:	D. Ross
CHECKED BY:	B. Anderson
FILE NAME:	CROSS SECTIONS.dwg

CROSS SECTION F - F'

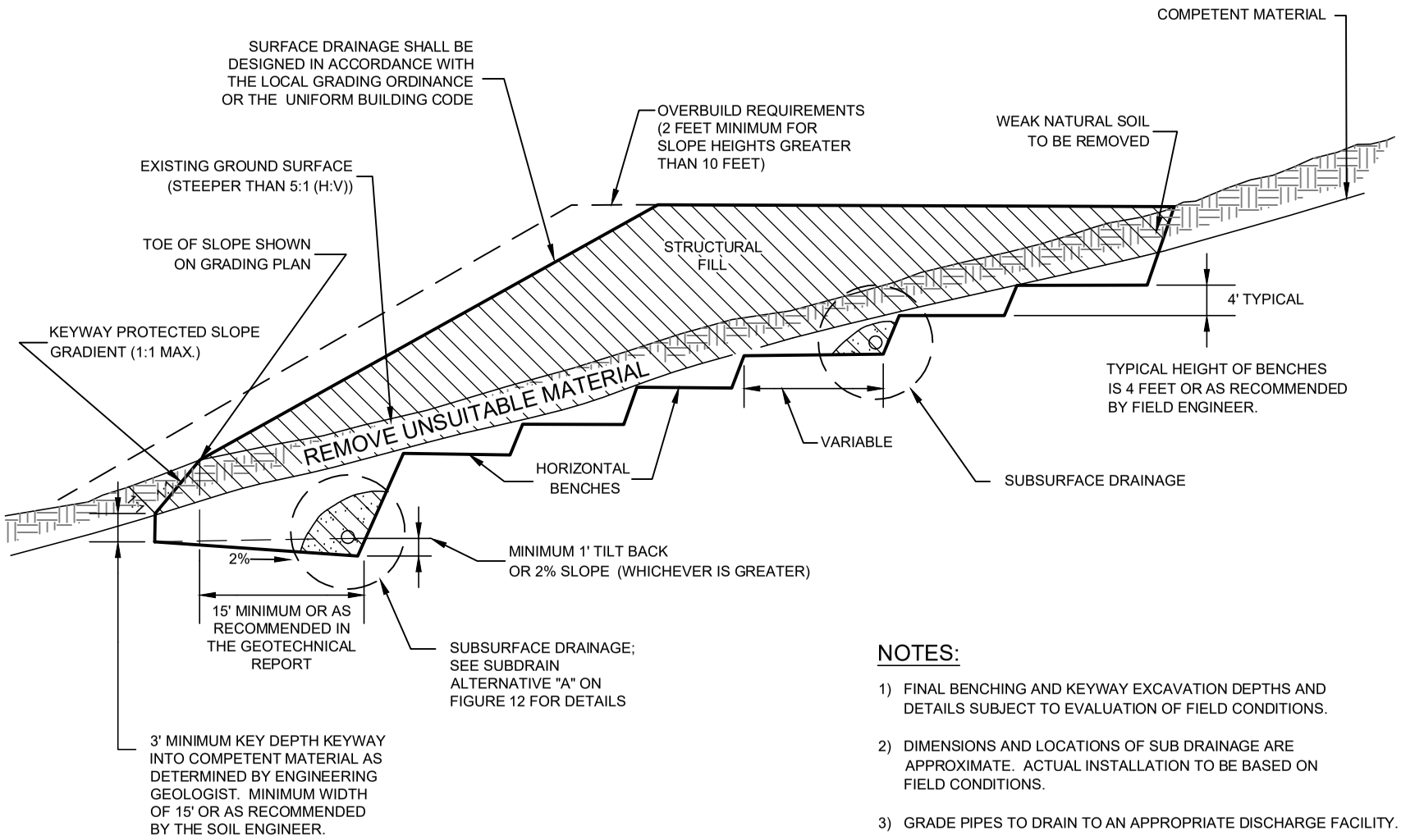
CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE

10

CAD FILE: U:\Projects\CADD\CADD 2019\20193141\ LAYOUT: F-F'

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com



NOTES:

1) FINAL BENCHING AND KEYWAY EXCAVATION DEPTHS AND DETAILS SUBJECT TO EVALUATION OF FIELD CONDITIONS.
2) DIMENSIONS AND LOCATIONS OF SUB DRAINAGE ARE APPROXIMATE. ACTUAL INSTALLATION TO BE BASED ON FIELD CONDITIONS.
3) GRADE PIPES TO DRAIN TO AN APPROPRIATE DISCHARGE FACILITY.
4) INSTALL CLEANOUTS AT ENDS, ANGLES, AND JUNCTIONS OF PIPE.
5) BENCH SHALL BE REQUIRED WHEN NATURAL SLOPES ARE EQUAL TO OR STEEPER THAN 5:1 OR WHEN RECOMMENDED BY THE SOIL ENGINEER.
6) SUBDRAINAGE: BACK DRAIN REQUIRED AS RECOMMENDED IN THE GEOTECHNICAL REPORT AND VERIFIED IN THE FIELD BY THE GEOTECHNICAL CONSULTANT

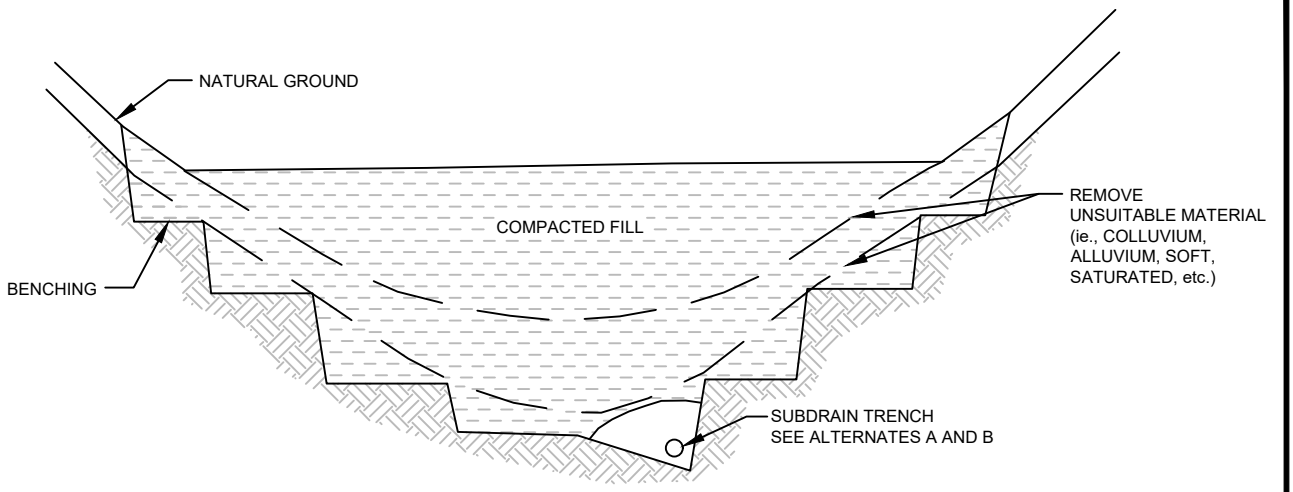
PROJECT NO. 20193141
DRAWN: 04/2017
DRAWN BY: DMF
CHECKED BY: RFE
FILE NAME: Details.dwg

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

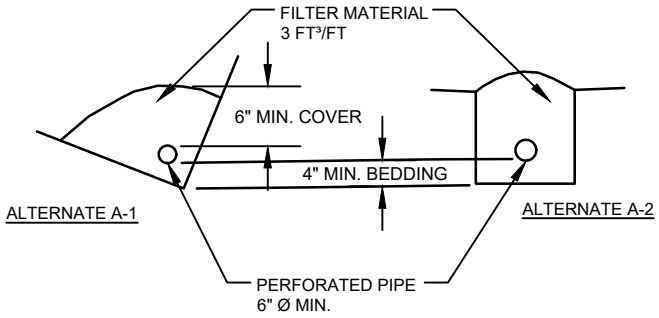
TYPICAL ENGINEERED FILL SLOPE/BENCHING DETAIL

FIGURE 11

CANYON SUBDRAIN DETAIL



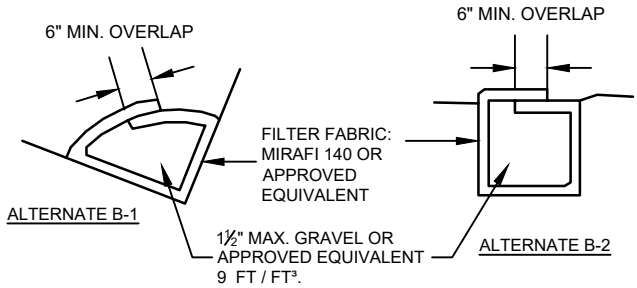
SUBDRAIN ALTERNATE A:
PERFORATED PIPE SURROUNDED BY FILTER MATERIAL



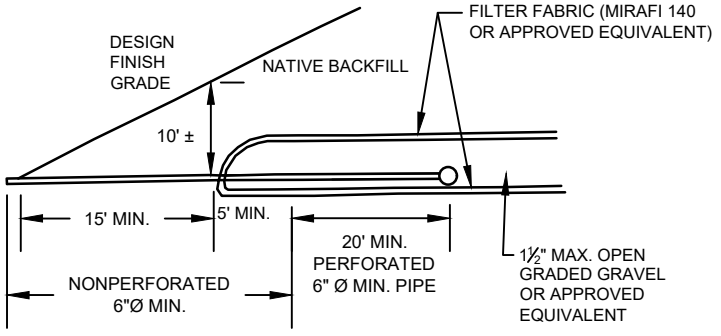
FILTER MATERIAL:
Filter material shall be class 2 permeable material per State of California Standards Specifications, or an approved alternate. Class 2 grading as follows:

SIEVE SIZE	PERCENT PASSING
1"	100
¾"	90-100
⅜"	40-100
No. 4	25-40
No. 8	18-33
No. 30	5-15
No. 50	0-7
No. 200	0-3

SUBDRAIN ALTERNATE B:
1½" GRAVEL WRAPPED IN FILTER FABRIC.
6" MIN. OVERLAP



DETAIL OF CANYON SUBDRAIN TERMINOUS



SUBDRAIN INSTALLATION: SUBDRAIN PIPE SHALL BE INSTALLED WITH PERFORATIONS DOWN, OR AT LOCATIONS DESIGNATED BY THE GEOTECHNICAL CONSULTANT. OUTLET PIPE SHALL BE NON-PERFORATED PIPE.

SUBDRAIN TYPE: SUBDRAIN TYPE SHALL BE SCHEDULE 40 PVC PIPE OR AN APPROVED EQUIVALENT.

CAD FILE: U:\Projects\CADD\CADD ORACLE\ORACLE-2017\136238\Beaumont\ LAYOUT: 4 PLOTTED: 20 Apr 2017, 3:14pm, DFahrney
ATTACHED IMAGES:
ATTACHED XREFS:
RIVERSIDE, CA

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

PROJECT NO.	20193141
DRAWN:	04/2017
DRAWN BY:	DMF
CHECKED BY:	RFE
FILE NAME:	Details.dwg

CANYON SUBDRAIN DETAIL

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
12

KLEINFELDER

Bright People. Right Solutions.

Appendix A

APPENDIX A
FIELD EXPLORATIONS

GENERAL

We explored subsurface conditions at the site by drilling 3 borings and excavating 26 test pits. The borings were drilled by Gulf Shore Drilling of Sacramento, California using track-mounted, hollow-stem auger drilling equipment with rock coring abilities to depths of between approximately 8½ to 25 feet below the existing ground surface (bgs). The proposed exploration plan also included a fourth rock coring location (KB-2) on the northeastern corner of the new warehouse location. This location was not drilled due to very hard drilling conditions throughout the course of the field exploration.

The test pits were excavated by Iron Works Excavation of Sacramento, California using a John Deere 50G track-mounted excavator to excavate to depths ranging from 2 to 10 feet bgs. The approximate locations of the borings and test pits are presented on Figure 2.

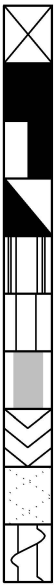
Prior to commencement of the fieldwork, Underground Service Alert (USA) was notified and various geophysical techniques were used at the boring locations to identify potential conflicts with subsurface structures.

The boring and test pit logs are presented as Figures A-4 through A-32. An explanation to the log is presented as Figures A-1 through A-3. The Boring/Test Pit Log describes the earth materials encountered, samples obtained and show field and laboratory tests performed. The log also shows the location, boring/test pit number, drilling/excavation date and the name of the drilling/excavation subcontractor. The borings and test pits were logged by a Kleinfelder engineer using the Unified Soil Classification System. The boundaries between soil types shown on the logs are approximate because the transition between different soil layers may be gradual. Bulk and drive samples of selected earth materials were obtained from the borings and test pits.

Bulk and grab samples of the near-surface soils were directly retrieved from the auger cuttings from the borings and the excavated material in the test pits.

© 2019 Kleinfelder

SAMPLER AND DRILLING METHOD GRAPHICS



- BULK / GRAB / BAG SAMPLE
- MODIFIED CALIFORNIA SAMPLER (2 or 2-1/2 in. (50.8 or 63.5 mm.) outer diameter)
- CALIFORNIA SAMPLER (3 in. (76.2 mm.) outer diameter)
- STANDARD PENETRATION SPLIT SPOON SAMPLER (2 in. (50.8 mm.) outer diameter and 1-3/8 in. (34.9 mm.) inner diameter)
- HQ CORE SAMPLE (2.500 in. (63.5 mm.) core diameter)
- SHELBY TUBE SAMPLER
- PUSH TYPE SAMPLER
- SONIC CONTINUOUS SAMPLER
- HAND AUGER
- AUGER CUTTINGS

GROUND WATER GRAPHICS

- WATER LEVEL (level where first observed)
- WATER LEVEL (level after exploration completion)
- WATER LEVEL (additional levels after exploration)
- OBSERVED SEEPAGE

NOTES

- The report and graphics key are an integral part of these logs. All data and interpretations in this log are subject to the explanations and limitations stated in the report.
- Lines separating strata on the logs represent approximate boundaries only. Actual transitions may be gradual or differ from those shown.
- No warranty is provided as to the continuity of soil or rock conditions between individual sample locations.
- Logs represent general soil or rock conditions observed at the point of exploration on the date indicated.
- In general, Unified Soil Classification System designations presented on the logs were based on visual classification in the field and were modified where appropriate based on gradation and index property testing.
- Fine grained soils that plot within the hatched area on the Plasticity Chart, and coarse grained soils with between 5% and 12% passing the No. 200 sieve require dual USCS symbols, ie., GW-GM, GP-GM, GW-GC, GP-GC, GC-GM, SW-SM, SP-SM, SW-SC, SP-SC, SC-SM.
- If sampler is not able to be driven at least 6 inches then 50/X indicates number of blows required to drive the identified sampler X inches with a 140 pound hammer falling 30 inches.

ABBREVIATIONS
WOH - Weight of Hammer
WOR - Weight of Rod

UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D 2487)

COARSE GRAINED SOILS (More than half of material is larger than the #200 sieve)	**GRAVELS** (More than half of coarse fraction is larger than the #4 sieve)	CLEAN GRAVEL WITH <5% FINES	Cu≥4 and 1≤Cc≤3		**GW**	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES
			Cu<4 and/ or 1>Cc>3		**GP**	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES
		GRAVELS WITH 5% TO 12% FINES	Cu≥4 and 1≤Cc≤3		**GW-GM**	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE FINES
					GW-GC	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE CLAY FINES
			Cu<4 and/ or 1>Cc>3		**GP-GM**	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE FINES
					GP-GC	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE CLAY FINES
		GRAVELS WITH > 12% FINES			**GM**	SILTY GRAVELS, GRAVEL-SILT-SAND MIXTURES
					GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
					GC-GM	CLAYEY GRAVELS, GRAVEL-SAND-CLAY-SILT MIXTURES
	SANDS (Half or more of coarse fraction is smaller than the #4 sieve)	CLEAN SANDS WITH <5% FINES	Cu≥6 and 1≤Cc≤3		**SW**	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE OR NO FINES
			Cu<6 and/ or 1>Cc>3		**SP**	POORLY GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE OR NO FINES
		SANDS WITH 5% TO 12% FINES	Cu≥6 and 1≤Cc≤3		**SW-SM**	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE FINES
					SW-SC	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE CLAY FINES
			Cu<6 and/ or 1>Cc>3		**SP-SM**	POORLY GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE FINES
					SP-SC	POORLY GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE CLAY FINES
		SANDS WITH > 12% FINES			**SM**	SILTY SANDS, SAND-GRAVEL-SILT MIXTURES
					SC	CLAYEY SANDS, SAND-GRAVEL-CLAY MIXTURES
					SC-SM	CLAYEY SANDS, SAND-SILT-CLAY MIXTURES

FINE GRAINED SOILS (Half or more of material is smaller than the #200 sieve)	SILTS AND CLAYS (Liquid Limit less than 50)	**ML**	INORGANIC SILTS AND VERY FINE SANDS, SILTY OR CLAYEY FINE SANDS, SILTS WITH SLIGHT PLASTICITY
		CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
		CL-ML	INORGANIC CLAYS-SILTS OF LOW PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
		OL	ORGANIC SILTS & ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS (Liquid Limit 50 or greater)	**MH**	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILT
		CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
		OH	ORGANIC CLAYS & ORGANIC SILTS OF MEDIUM-TO-HIGH PLASTICITY

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	JDS
CHECKED BY:	DD
DATE:	9/11/2019
REVISED:	10/4/2019

GRAPHICS KEY

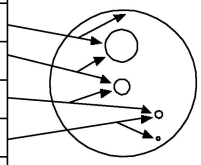
CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-1

PLOTTED: 10/04/2019 10:12 AM BY: DRoss
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.001A
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [LEGEND 1 (GRAPHICS KEY) USCS_NOR_CAL]

GRAIN SIZE

DESCRIPTION		SIEVE SIZE	GRAIN SIZE	APPROXIMATE SIZE
Boulders		>12 in. (304.8 mm.)	>12 in. (304.8 mm.)	Larger than basketball-sized
Cobbles		3 - 12 in. (76.2 - 304.8 mm.)	3 - 12 in. (76.2 - 304.8 mm.)	Fist-sized to basketball-sized
Gravel	coarse	3/4 -3 in. (19 - 76.2 mm.)	3/4 -3 in. (19 - 76.2 mm.)	Thumb-sized to fist-sized
	fine	#4 - 3/4 in. (#4 - 19 mm.)	0.19 - 0.75 in. (4.8 - 19 mm.)	Pea-sized to thumb-sized
Sand	coarse	#10 - #4	0.079 - 0.19 in. (2 - 4.9 mm.)	Rock salt-sized to pea-sized
	medium	#40 - #10	0.017 - 0.079 in. (0.43 - 2 mm.)	Sugar-sized to rock salt-sized
	fine	#200 - #40	0.0029 - 0.017 in. (0.07 - 0.43 mm.)	Flour-sized to sugar-sized
Fines		Passing #200	<0.0029 in. (<0.07 mm.)	Flour-sized and smaller



SECONDARY CONSTITUENT

	AMOUNT	
Term of Use	Secondary Constituent is Fine Grained	Secondary Constituent is Coarse Grained
Trace	<5%	<15%
With	≥5 to <15%	≥15 to <30%
Modifier	≥15%	≥30%

MOISTURE CONTENT

DESCRIPTION	FIELD TEST
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

CEMENTATION

DESCRIPTION	FIELD TEST
Weakly	Crumbles or breaks with handling or slight finger pressure
Moderately	Crumbles or breaks with considerable finger pressure
Strongly	Will not crumble or break with finger pressure

CONSISTENCY - FINE-GRAINED SOIL

CONSISTENCY	SPT - N_{60} (# blows / ft)	Pocket Pen (tsf)	UNCONFINED COMPRESSIVE STRENGTH (Q_u)(psf)	VISUAL / MANUAL CRITERIA
Very Soft	<2	PP < 0.25	<500	Thumb will penetrate more than 1 inch (25 mm). Extrudes between fingers when squeezed.
Soft	2 - 4	0.25 ≤ PP <0.5	500 - 1000	Thumb will penetrate soil about 1 inch (25 mm). Remolded by light finger pressure.
Medium Stiff	4 - 8	0.5 ≤ PP <1	1000 - 2000	Thumb will penetrate soil about 1/4 inch (6 mm). Remolded by strong finger pressure.
Stiff	8 - 15	1 ≤ PP <2	2000 - 4000	Can be imprinted with considerable pressure from thumb.
Very Stiff	15 - 30	2 ≤ PP <4	4000 - 8000	Thumb will not indent soil but readily indented with thumbnail.
Hard	>30	4 ≤ PP	>8000	Thumbnail will not indent soil.

FROM TERZAGHI AND PECK, 1948; LAMBE AND WHITMAN, 1969; FHWA, 2002; AND ASTM D2488

REACTION WITH HYDROCHLORIC ACID

DESCRIPTION	FIELD TEST
None	No visible reaction
Weak	Some reaction, with bubbles forming slowly
Strong	Violent reaction, with bubbles forming immediately

APPARENT / RELATIVE DENSITY - COARSE-GRAINED SOIL

APPARENT DENSITY	SPT-N_{60} (# blows/ft)	MODIFIED CA SAMPLER (# blows/ft)	CALIFORNIA SAMPLER (# blows/ft)	RELATIVE DENSITY (%)
Very Loose	<4	<4	<5	0 - 15
Loose	4 - 10	5 - 12	5 - 15	15 - 35
Medium Dense	10 - 30	12 - 35	15 - 40	35 - 65
Dense	30 - 50	35 - 60	40 - 70	65 - 85
Very Dense	>50	>60	>70	85 - 100

FROM TERZAGHI AND PECK, 1948

PLASTICITY

DESCRIPTION	LL	FIELD TEST
Non-plastic	NP	A 1/8-in. (3 mm.) thread cannot be rolled at any water content.
Low (L)	< 30	The thread can barely be rolled and the lump or thread cannot be formed when drier than the plastic limit.
Medium (M)	30 - 50	The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. The lump or thread crumbles when drier than the plastic limit.
High (H)	> 50	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump or thread can be formed without crumbling when drier than the plastic limit.

STRUCTURE

DESCRIPTION	CRITERIA
Stratified	Alternating layers of varying material or color with layers at least 1/4-in. thick, note thickness.
Laminated	Alternating layers of varying material or color with the layer less than 1/4-in. thick, note thickness.
Fissured	Breaks along definite planes of fracture with little resistance to fracturing.
Slickensided	Fracture planes appear polished or glossy, sometimes striated.
Blocky	Cohesive soil that can be broken down into small angular lumps which resist further breakdown.
Lensed	Inclusion of small pockets of different soils, such as small lenses of sand scattered through a mass of clay; note thickness.

ANGULARITY

DESCRIPTION	CRITERIA
Angular	Particles have sharp edges and relatively plane sides with unpolished surfaces.
Subangular	Particles are similar to angular description but have rounded edges.
Subrounded	Particles have nearly plane sides but have well-rounded corners and edges.
Rounded	Particles have smoothly curved sides and no edges.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	JDS
CHECKED BY:	DD
DATE:	9/11/2019
REVISED:	10/4/2019

SOIL DESCRIPTION KEY

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE

A-2

PLOTTED: 10/04/2019 10:11 AM BY: DRoss
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.001A
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [LEGEND 2 (SOIL DESC KEY)]

INFILLING TYPE

NAME	ABBR	NAME	ABBR
Albite	Al	Muscovite	Mus
Apatite	Ap	None	No
Biotite	Bi	Pyrite	Py
Clay	Cl	Quartz	Qz
Calcite	Ca	Sand	Sd
Chlorite	Ch	Sericite	Ser
Epidote	Ep	Silt	Si
Iron Oxide	Fe	Talc	Ta
Manganese	Mn	Unknown	Uk

DENSITY/SPACING OF DISCONTINUITIES

DESCRIPTION	SPACING CRITERIA
Unfractured	>6 ft. (>1.83 meters)
Slightly Fractured	2 - 6 ft. (0.061 - 1.83 meters)
Moderately Fractured	8 in - 2 ft. (203.20 - 609.60 mm)
Highly Fractured	2 - 8 in (50.80 - 203.30 mm)
Intensely Fractured	<2 in (<50.80 mm)

ADDITIONAL TEXTURAL ADJECTIVES

DESCRIPTION	RECOGNITION
Pit (Pitted)	Pinhole to 0.03 ft. (3/8 in.) (>1 to 10 mm.) openings
Vug (Vuggy)	Small openings (usually lined with crystals) ranging in diameter from 0.03 ft. (3/8 in.) to 0.33 ft. (4 in.) (10 to 100 mm.)
Cavity	An opening larger than 0.33 ft. (4 in.) (100 mm.), size descriptions are required, and adjectives such as small, large, etc., may be used
Honeycombed	If numerous enough that only thin walls separate individual pits or vugs, this term further describes the preceding nomenclature to indicate cell-like form.
Vesicle (Vesicular)	Small openings in volcanic rocks of variable shape and size formed by entrapped gas bubbles during solidification.

ADDITIONAL TEXTURAL ADJECTIVES

DESCRIPTION	CRITERIA
Unweathered	No evidence of chemical / mechanical alternation; rings with hammer blow.
Slightly Weathered	Slight discoloration on surface; slight alteration along discontinuities; <10% rock volume altered.
Moderately Weathered	Discoloring evident; surface pitted and alteration penetration well below surface; Weathering "halos" evident; 10-50% rock altered.
Highly Weathered	Entire mass discolored; Alteration pervading most rock, some slight weathering pockets; some minerals may be leached out.
Decomposed	Rock reduced to soil with relic rock texture/structure; Generally molded and crumbled by hand.

RELATIVE HARDNESS / STRENGTH DESCRIPTIONS

GRADE		UCS (Mpa)	FIELD TEST
R0	Extremely Weak	0.25 - 1.0	Indented by thumbnail
R1	Very Weak	1.0 - 5.0	Crumbles under firm blows of geological hammer, can be peeled by a pocket knife.
R2	Weak	5.0 - 25	Can be peeled by a pocket knife with difficulty, shallow indentations made by firm blow with point of geological hammer.
R3	Medium Strong	25 - 50	Cannot be scraped or peeled with a pocket knife, specimen can be fractured with a single firm blow of a geological hammer.
R4	Strong	50 - 100	Specimen requires more than one blow of geological hammer to fracture it.
R5	Very Strong	100 - 250	Specimen requires many blows of geological hammer to fracture it.
R6	Extremely Strong	> 250	Specimen can only be chipped with a geological hammer.

ROCK QUALITY DESIGNATION (RQD)

DESCRIPTION	RQD (%)
Very Poor	0 - 25
Poor	25 - 50
Fair	50 - 75
Good	75 - 90
Excellent	90 - 100

APERTURE

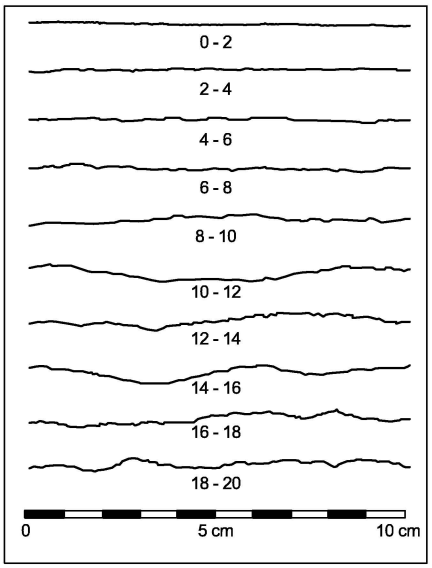
DESCRIPTION	CRITERIA [in (mm)]
Tight	<0.04 (<1)
Open	0.04 - 0.20 (1 - 5)
Wide	>0.20 (>5)

BEDDING CHARACTERISTICS

DESCRIPTION	Thickness [in (mm)]
Very Thick Bedded	>36 (>915)
Thick Bedded	12 - 36 (305 - 915)
Moderately Bedded	4 - 12 (102 - 305)
Thin Bedded	1 - 4 (25 - 102)
Very Thin Bedded	0.4 - 1 (10 - 25)
Laminated	0.1 - 0.4 (2.5 - 10)
Thinly Laminated	<0.1 (<2.5)

Bedding Planes	Planes dividing the individual layers, beds, or stratigraphy of rocks.
Joint	Fracture in rock, generally more or less vertical or traverse to bedding.
Seam	Applies to bedding plane with unspecified degree of weather.

JOINT ROUGHNESS COEFFICIENT (JRC)



From Barton and Choubey, 1977

RQD Rock-quality designation (RQD) Rough measure of the degree of jointing or fracture in a rock mass, measured as a percentage of the drill core in lengths of 10 cm. or more.

CORE SAMPLER TYPE GRAPHICS



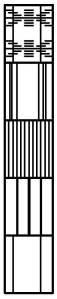
CORE SAMPLER

AQ CORE BARREL
(1.067 in. (27.1 mm.) core diameter)

AX CORE BARREL
(1.185 in. (30.1 mm.) core diameter)

BQ CORE BARREL
(1.433 in. (36.4 mm.) core diameter)

CONTINUOUS CORE SAMPLE
(2.000 in. (50.8 mm.) core diameter)



EX CORE BARREL
(0.846 in. (21.5 mm.) core diameter)

HQ CORE SAMPLE
(2.500 in. (63.5 mm.) core diameter)

NQ CORE SAMPLE
(1.874 in. (47.6 mm.) core diameter)

NO RECOVERY CORE SAMPLE

NX CORE SAMPLE
(2.154 in. (54.7 mm.) core diameter)

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	JDS
CHECKED BY:	DD
DATE:	9/11/2019
REVISED:	10/4/2019

ROCK DESCRIPTION KEY

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE

A-3

PLOTTED: 10/04/2019 10:11 AM BY: DRoss
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.001A
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [LEGEND 3 (ROCK DESC KEY)]

Date Begin - End:	9/13/2019	**Drilling Company:**	Gulf Shore	**BORING LOG KB-(1)**
Logged By:	R. Schmidt	**Drill Crew:**	Carlos, Raj	
Hor.-Vert. Datum:	Not Available	**Drilling Equipment:**	CME 75 LAR	
Plunge:	-90 degrees	**Coring Method:**	Coring	
Weather:	Sunny	**Core Bit Type:**	HQ Core	

ROCK CORING INFORMATION

Depth (feet)	Graphical Log	Latitude: 38.66101° Longitude: -121.05820° Ground Surface Elevation Not Available Formation and Rock Type, Color, Grain/Particle Size, Weathering, Bedding, Density or Spacing	Box Number	Run Number	Sample Type	Recovery (NR=No Recovery)	Drill Rate (min/ft)	RQD (%)	Relative Strength	Discontinuity Description Fracture#: (Depth), Type, Relative Dip, Density or Spacing. Degree of Infilling, Infilling Type, Aperture, Surface Weathering, JRC
		Sandy Lean CLAY (CL): reddish brown, moist medium plasticity, fine to medium grained sand, trace sub-angular gravels (Colluvium)				NR		0		
5		**METAVOLCANIC ROCK**: bluish gray, slightly to moderately weathered, r3-r4, moderately fractured				NR		0		
						2"		25		
10		The exploration was terminated at approximately 8.5 ft. below ground surface. The exploration was backfilled with grout on September 13, 2019. Rock was encountered at a depth of 3 ft. during this exploration.								
15										
20										

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	DR
CHECKED BY:	DD
DATE:	9/16/2019
REVISED:	10/4/2019

BORING LOG KB-(1)

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-4
PAGE: 1 of 1

PLOTTED: 10/04/2019 10:10 AM BY: DRoss
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.001A
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [_KLF_ROCK CORING LOG]

Date Begin - End:	9/11/2019 - 9/12/2019	**Drilling Company:**	Gulf Shore	**BORING LOG KB-(3)**
Logged By:	D. Stemberger	**Drill Crew:**	Carlos, Raj	
Hor.-Vert. Datum:	Not Available	**Drilling Equipment:**	CME 75 LAR	
Plunge:	-90 degrees	**Coring Method:**	Coring	
Weather:	Sunny	**Core Bit Type:**	HQ Core	

ROCK CORING INFORMATION

Latitude: 38.65994°
Longitude: -121.05633°
Ground Surface Elevation Not Available

Depth (feet)	Graphical Log	Formation and Rock Type, Color, Grain/Particle Size, Weathering, Bedding, Density or Spacing	Box Number	Run Number	Sample Type	Recovery (NR=No Recovery)	Drill Rate (min/ft)	RQD (%)	Relative Strength	Discontinuity Description Fracture#: (Depth), Type, Relative Dip, Density or Spacing. Degree of Infilling, Infilling Type, Aperture, Surface Weathering, JRC
		Sandy Lean CLAY (CL): brownish red, dry, medium plasticity, fine to medium grained sand, trace coarse gravels up to 1.5" (Colluvium)								
						66%	25.00	17		
5		**METAVOLCANIC ROCK**: bluish green, highly weathered, highly fractured, orange and black iron oxide							R2	1: (4.5'), joint, 0°, surface stain, Cl/Sd, open, JRC=0-2
						83%	16.00	48	R2	2: (5'), joint, 90°, surface stain, Cl/Sd, tight, JRC=10-12
										3: (6'), joint, 35°, partially filled, Sd, JRC=16-18
		Highly weathered to decomposed							R0-R1	4: (7'), joint, 15°, partially filled, Sd, JRC=0-2
10										5: (9.5'), joint, 10°, partially filled, Sd/Cl, JRC=0-2
						58%	19.00	43		
		Highly weathered, intensely fractured							R3	6: (13.5'), joint, 60°, partially filled, Sd
15										7: (14.5'), joint, 15°, filled, Sd
						33%	14.00	13	R2	8: (16'), joint, 70°, surface stain, Fe/Cl
20		Light bluish green with black								9: (20'), joint, 45°, partially filled, Sd/Fe, JRC=14-16
		Moderately weathered, highly fractured Moderately fractured				77%	21.25	18	R3 R4	10: (21'), joint, 55°, partially filled, Sd/Fe, JRC=8-10
		Intensely fractured								11: (23.5'), joint, 45°, surface stain, Fe, tight, JRC=0-2
25										12: (25'), joint, 45°, surface stain, Fe, tight, JRC=0-2

The exploration was terminated at approximately 25 ft. below ground surface. The boring was backfilled with grout on September 12, 2019. Rock was encountered at a depth of 4.5 ft. during this exploration.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	DR
CHECKED BY:	DD
DATE:	9/16/2019
REVISED:	10/4/2019

BORING LOG KB-(3)

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-5
PAGE: 1 of 1

PLOTTED: 10/04/2019 10:10 AM BY: DRoss
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.001A [_KLF_ROCK CORING LOG]
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:KLF_STANDARD_GINT_LIBRARY_2019.GLB

Date Begin - End:	9/10/2019	**Drilling Company:**	Gulf Shore	**BORING LOG KB-(4)**
Logged By:	J. Annand	**Drill Crew:**	Carlos, Raj	
Hor.-Vert. Datum:	Not Available	**Drilling Equipment:**	CME 75 LAR	
Plunge:	-90 degrees	**Coring Method:**	Coring	
Weather:	Sunny	**Core Bit Type:**	HQ Core	

ROCK CORING INFORMATION

Latitude: 38.65956°
Longitude: -121.05552°
Ground Surface Elevation Not Available

Depth (feet)	Graphical Log	Formation and Rock Type, Color, Grain/Particle Size, Weathering, Bedding, Density or Spacing	Box Number	Run Number	Sample Type	Recovery (NR=No Recovery)	Drill Rate (min/ft)	RQD (%)	Relative Strength	Discontinuity Description Fracture#: (Depth), Type, Relative Dip, Density or Spacing. Degree of Infilling, Infilling Type, Aperture, Surface Weathering, JRC
		Sandy Lean CLAY (CL): medium plasticity, brownish red, dry, fine to medium-grained sand, trace fine gravel, rootlets (Colluvium)		1		27%		0	R3	
		METAVOLCANIC ROCK: light bluish gray, fine to medium grained, highly weathered, highly fractured, slight foliation								
5				2		100%		30	R3	1: (4.5'), joint, 25°, surface stain, Cl/Fe, tight, JRC=12-14 2: (5.6'), joint, 50°, filled, Cl, open, JRC=2-4
		6.6-7.0 ft.: intensely fractured								3: (6.2'), joint, 65°, surface stain, Fe/Cl, tight, JRC=0-2 4: (7'), joint, 48°, filled, Cl, open, JRC=10-12
		7.7-8.3 ft.: intensely fractured								5: (8.2'), joint, 46°, filled, Fe/Cl, open, JRC=10-12
10				3		100%		29	R4	
		10.2-10.8 ft.: massive bedding, intensely fractured								6: (10.8'), joint, 25°, surface stain, Fe/Cl, open, JRC=12-14 7: (11.9'), joint, 40°, surface stain, Fe/Cl, open, JRC=6-8
		13.0-14.0 ft.: insensely fractured								8: (12.6'), joint, 40°, surface stain, Fe/Cl, open, JRC=6-8
		Moderately weathered, moderately fractured		4		100%		65	R5	9: (14'), joint, 50°, filled, Cl, open, JRC=6-8
15										10: (14.7'), joint, 65°, surface stain, Cl, tight, JRC=14-16 11: (15.6'), joint, 70°, healed
		16.3-16.6 ft.: intensely fractured								12: (16.6'), joint, 10°, surface stain, Cl, tight, JRC=2-4
		Moderately weathered, highly fractured		5		100%		38	R5	13: (17.5'), joint, 28°, surface stain, Fe/Cl, open, JRC=6-8 14: (18.5'), joint, 28°, surface stain, Fe/Cl, open, JRC=2-4
20										15: (19.1'), joint, 20°, filled, Cl, tight, JRC=16-18

The exploration was terminated at approximately 20 ft. below ground surface. The exploration was backfilled with grout on September 10, 2019. Rock was encountered at a depth of 1 ft. during this exploration.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	DR
CHECKED BY:	DD
DATE:	9/11/2019
REVISED:	10/4/2019

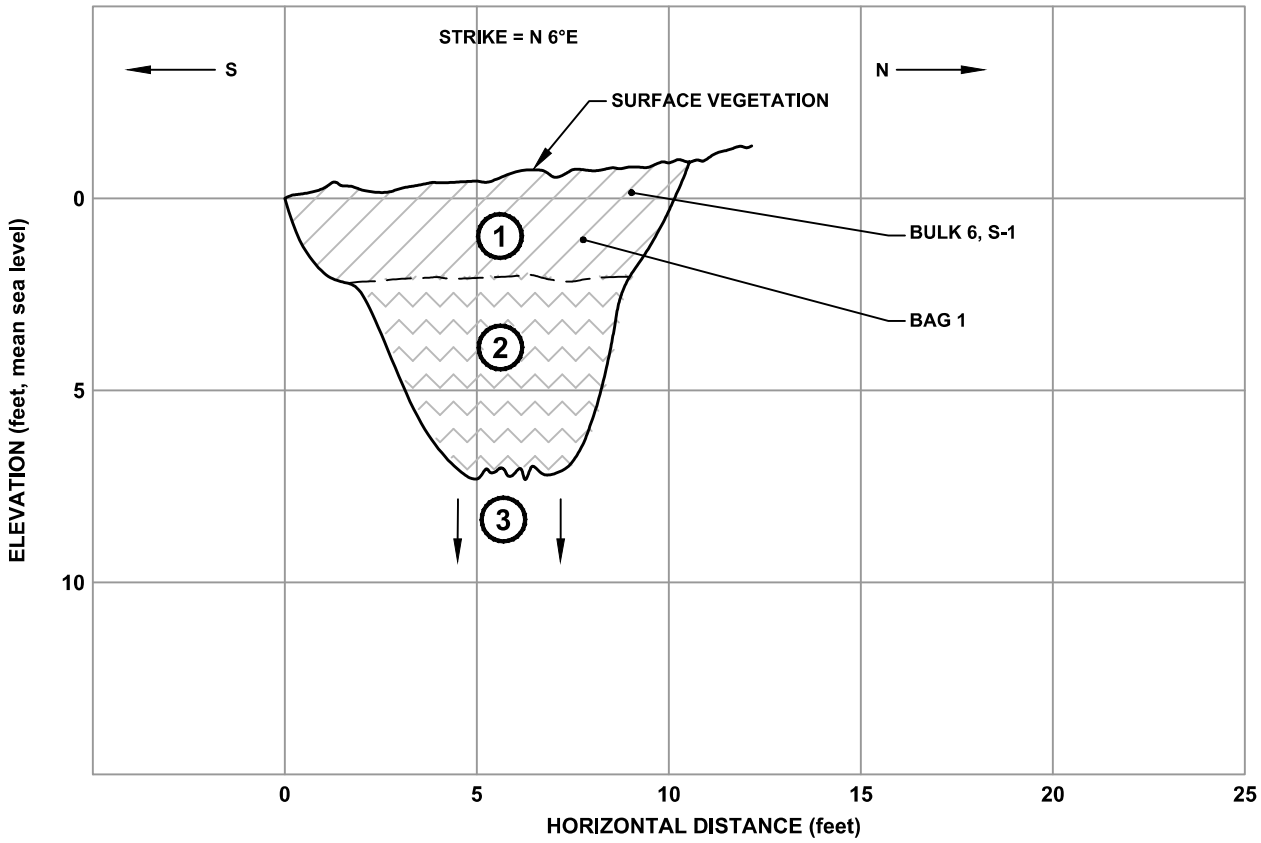
BORING LOG KB-(4)

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-6
PAGE: 1 of 1

PLOTTED: 10/04/2019 10:10 AM BY: DRoss
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.001A [_KLF_ROCK CORING LOG]
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:KLF_STANDARD_GINT_LIBRARY_2019.GLB

PLOTTED: 04 Oct 2019, 12:53pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace coarse sand, trace subangular gravel, rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray, dry, medium dense, highly weathered, medium strong to weak, slight foliation, similar to CLAYEY SAND with Gravel and Cobbles (SC); subangular METAVOLCANIC ROCK fragments up to 7"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong to medium strong, moderately to highly fractured, slight foliation, refusal at 7' depth
	Latitude: 38.661071 Longitude: -121.05804

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

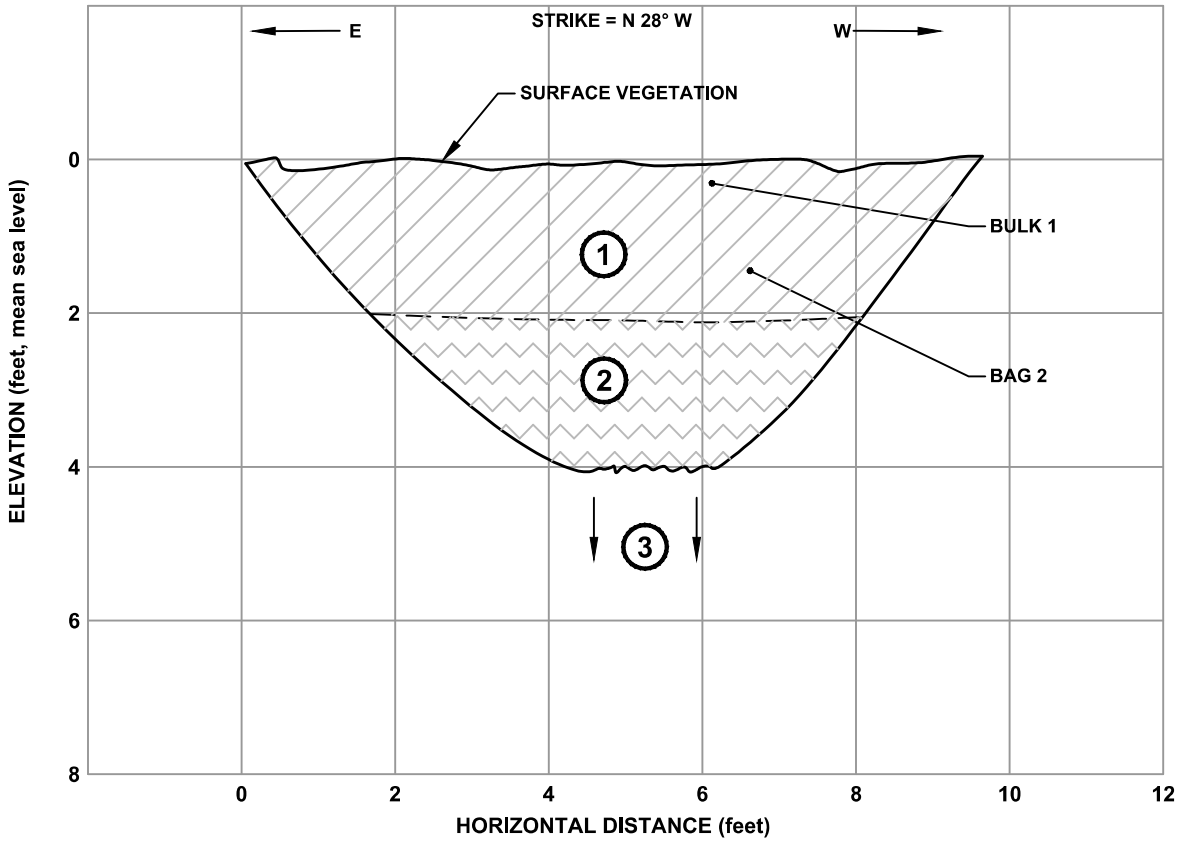
TEST PIT LOG
TP-1

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-7

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-1

PLOTTED: 04 Oct 2019, 12:53pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY with Gravel, Cobbles and Boulders (CL) - brownish red, dry, medium plasticity, fine to coarse sand, subangular gravel and boulders up to 14", rootlets (FILL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, hightly weathered, medium strong, highly fractured, well defined foliation, similar to CLAYEY SAND with Gravel and Cobbles (SC); fine to coarse sand, subangular METAVOLCANIC GRAVELS AND COBBLES up to 11"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, well defined foliation, refusal at 4' depth
	Latitude: 38.660793 Longitude: -121.057927

LOGGED BY: Jordan Annand **DATE:** 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

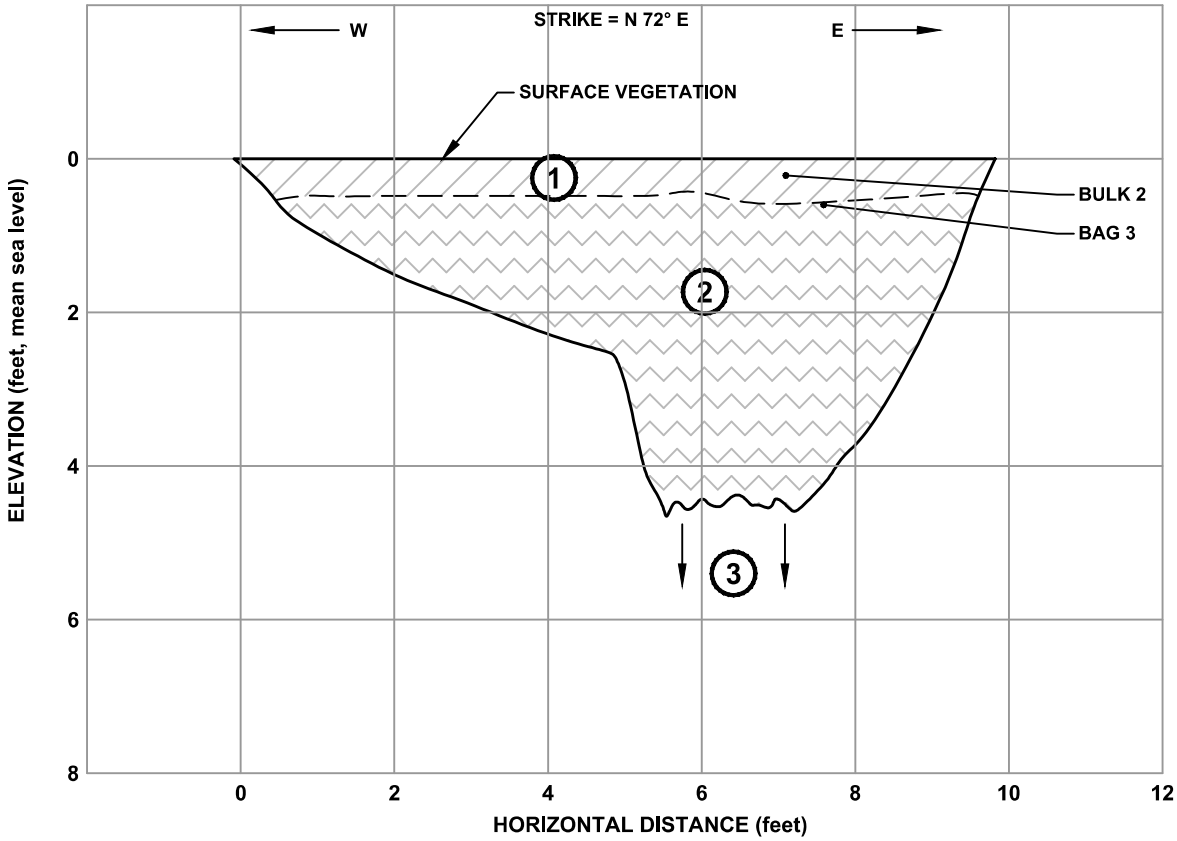
TEST PIT LOG
TP-2

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-8

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-2

PLOTTED: 04 Oct 2019, 12:52pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace fine gravel, rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered with moderately weathered sections, strong to medium strong/weak, highly to moderately fractured, well defined foliation, similar to CLAYEY SAND with Gravel, Cobbles, and Boulders (SC); fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 16"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, refusal at 4.5' depth
	Latitude: 38.660246 Longitude: -121.058017

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

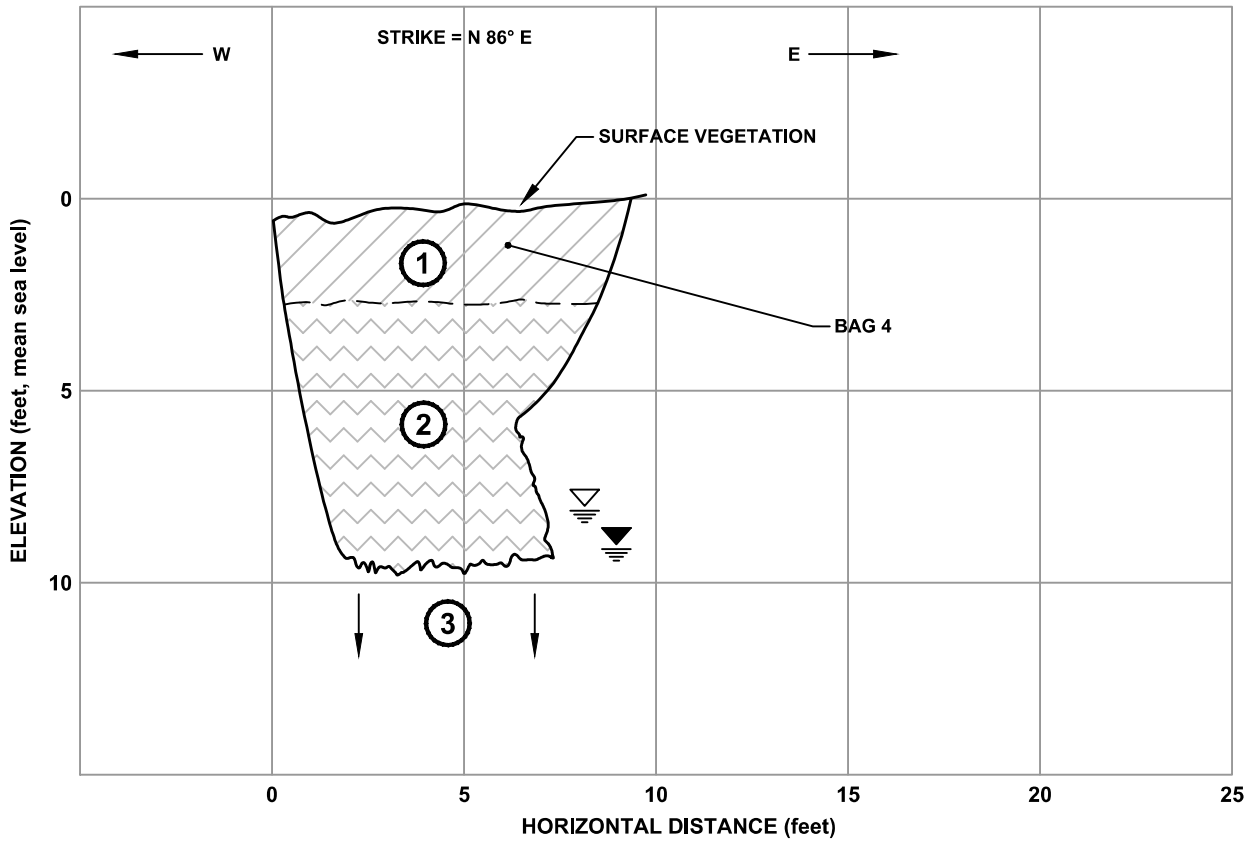
TEST PIT LOG
TP-3

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-9

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-3

PLOTTED: 04 Oct 2019, 12:52pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY (CL) - brownish red, dry, medium plasticity, fine to coarse sand, trace subangular gravels up to 1.5", rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, medium strong, highly fractured, slight foliation, similar to CLAYEY SAND with Gravels, Cobbles, and Boulders (SC); fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 13",
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, refusal at 9.5' depth
	(Perched Groundwater hit at 8 feet deep, settled at 9 feet deep after excavation)
	Latitude: 38.660756 Longitude: -121.056944

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

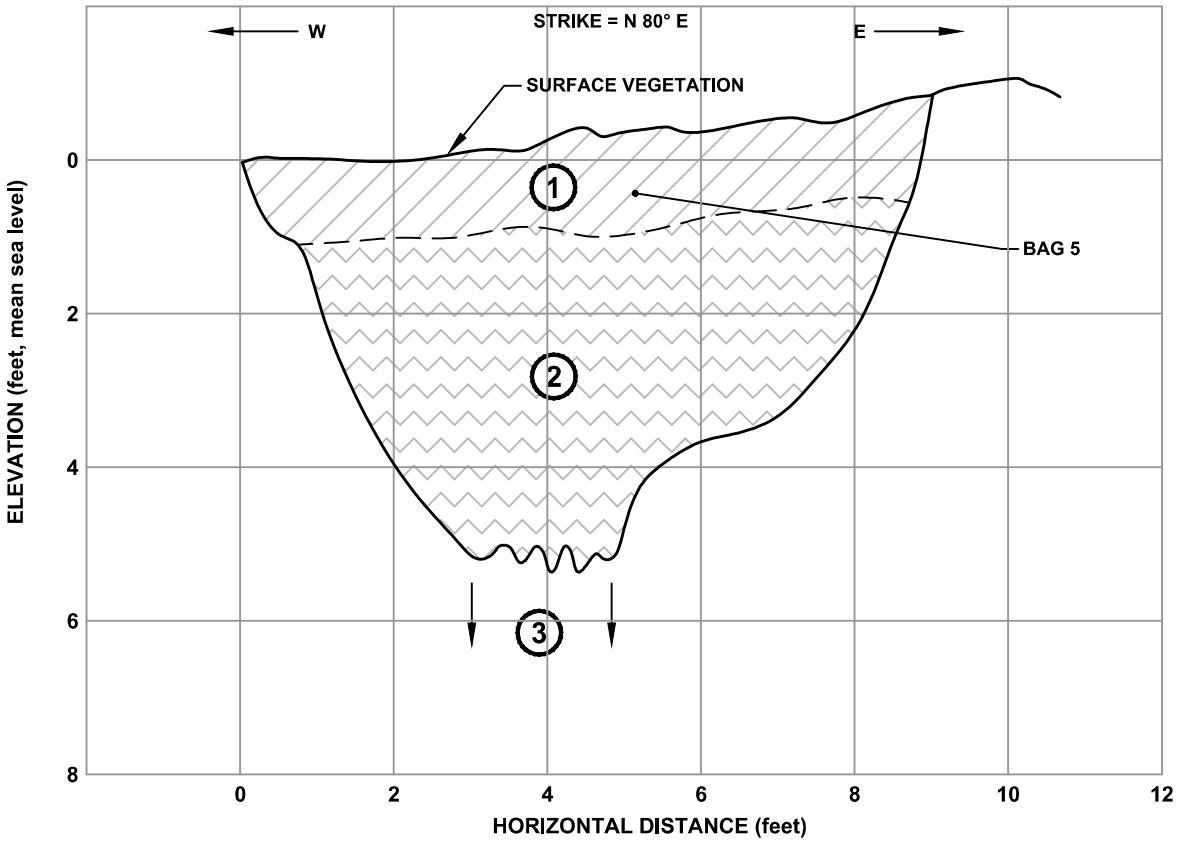
TEST PIT LOG
TP-4

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-10

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-4

PLOTTED: 04 Oct 2019, 12:51pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace gravel, rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, hightly weathered, medium strong to strong, highly fractured, well defined foliation, similar to CLAYEY SAND with Gravel and Cobbles (SC); fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 12"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, well defined foliation, refusal at 5' depth
	Latitude: 38.659916 Longitude: -121.058112

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

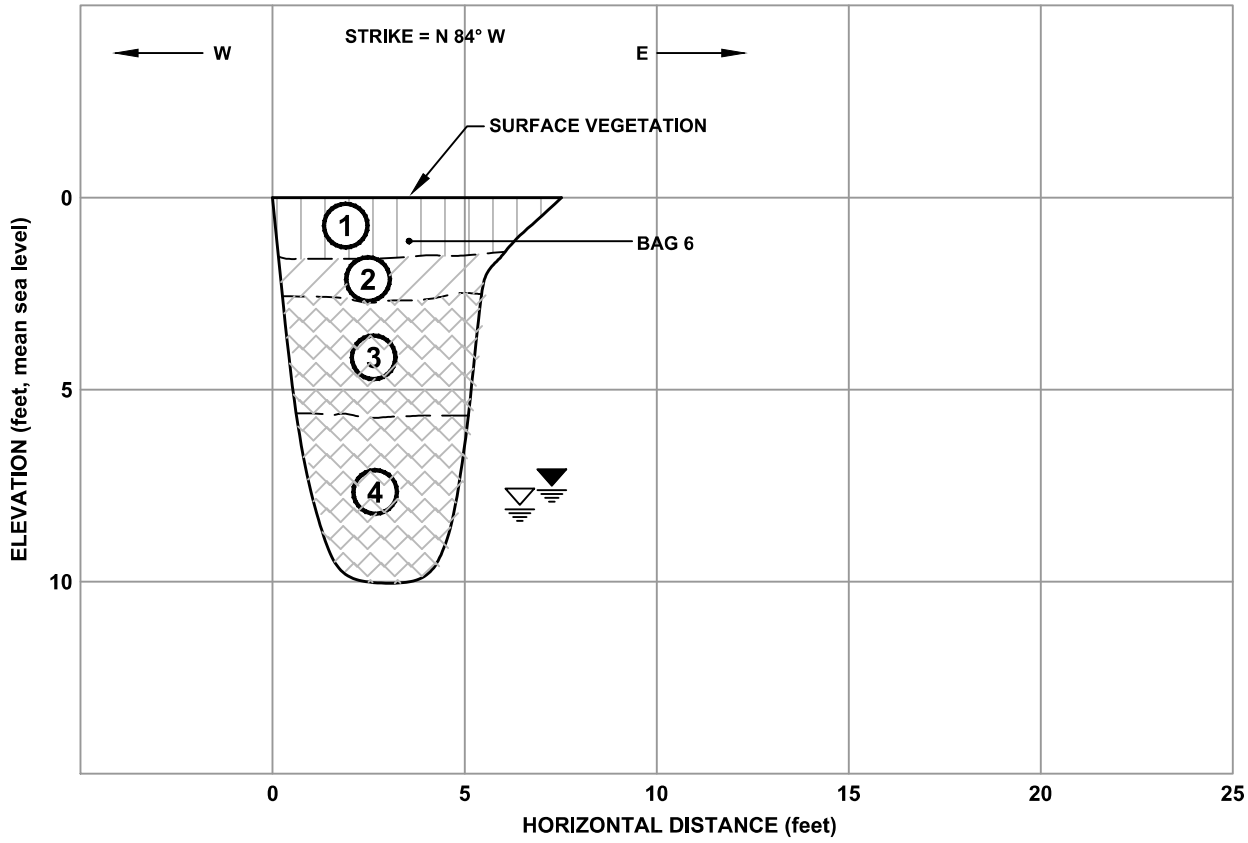
TEST PIT LOG
TP-5

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-11

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-5

PLOTTED: 04 Oct 2019, 12:51pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY SILT (ML) - dark brown, dry, non-plastic, subangular fine to coarse sand, trace gravels up to 1", rootlets (RESIDUAL SOIL)
2	LEAN CLAY with Sand (CL) - brownish red, dry, medium plasticity, fine to coarse sand, trace coarse gravels up to 2", rootlets (COLLUVIUM)
3	METAVOLCANIC ROCK - mottled dark olive, moist, dark reddish brown, and bluish gray, decomposed, similar to FAT CLAY (CH); high plasticity, trace fine sand
4	METAVOLCANIC ROCK - bluish gray, yellowish brown, and brownish red, moist, highly weathered, weak, highly to intensely fractured, slight foliation, similar to CLAYEY SAND with Gravel and Cobble (SC); fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 7"
	(Perched Groundwater hit at 8 feet deep, settled at 7.75 feet deep after excavation)
	Latitude: 38.660489 Longitude: -121.057038

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

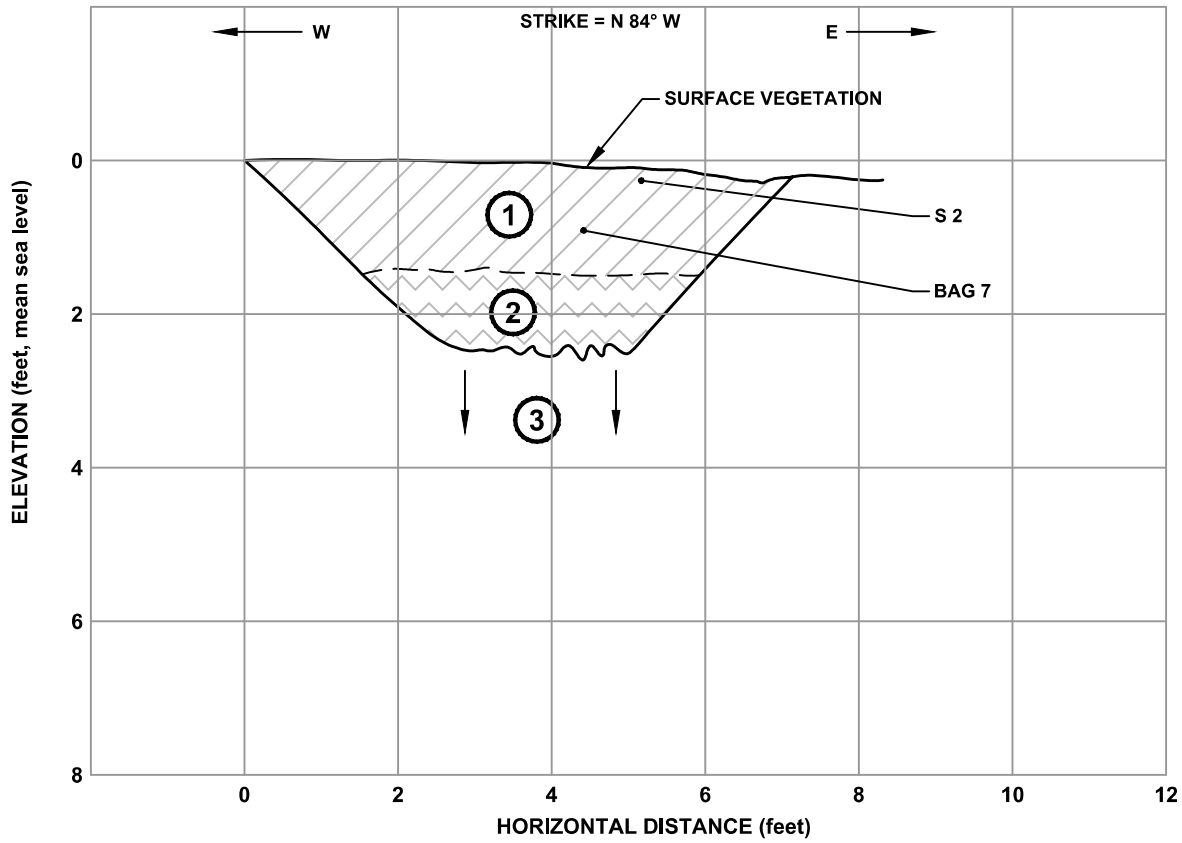
TEST PIT LOG
TP-6

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-12

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-6

PLOTTED: 04 Oct 2019, 12:49pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY with Gravel, Cobble and Boulders (CL) - brownish red, dry, medium plasticity, fine to coarse sand, subangular gravel and boulders up to 14", rootlets (FILL)
2	METAVOLCANIC ROCK - bluish gray and olive, moist, decomposed, similar to SAND LEAN CLAY (CL); fine to coarse sand, trace fine gravel, hard (PP = >4.5 tsf)
3	METAVOLCANIC ROCK - bluish gray, highly to mderately weathered, medium strong to strong, moderately fractured, slight foliation, refusal at 2.5' depth
	Latitude: 38.660608 Longitude: -121.056594

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

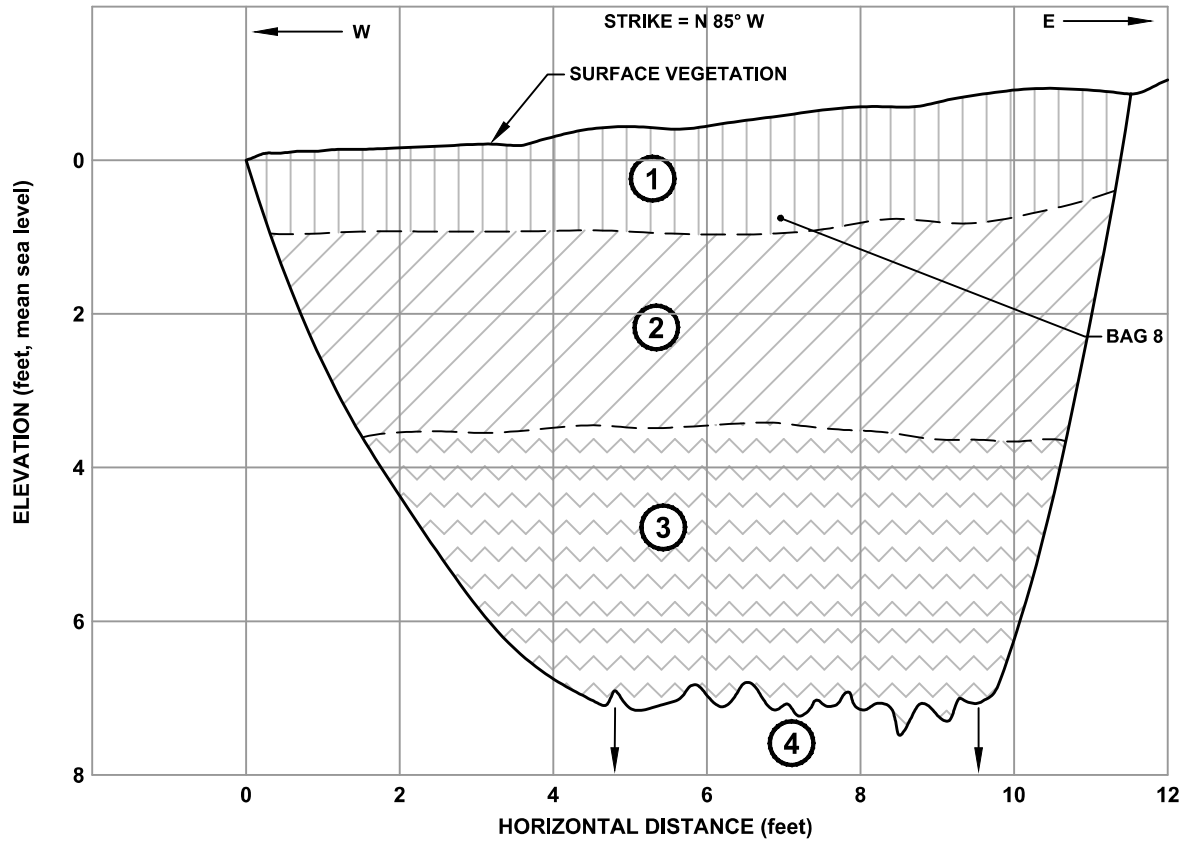
TEST PIT LOG
TP-7

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-13

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-7

PLOTTED: 04 Oct 2019, 12:49pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY SILT (ML) - dark brown, dry, non-plastic, fine to coarse sand, trace gravel up to 3/4", rootlets (COLLUVIUM)
2	LEAN CLAY with SAND (CL) - dark reddish brown, dry, medium plasticity, fine to coarse sand, subangular gravels up to 3", rootlets (COLLUVIUM)
3	METAVOLCANIC ROCK - bluish gray, yellowish brown, and brownish red, dry to moist, highly weathered, weak to medium strong, highly to intensely fractured, well defined foliation, similar to CLAYEY SAND with Gravel and Cobble (SC); fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 9"
4	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, refusal at 7' depth
	Latitude: 38.660183 Longitude: -121.057085

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

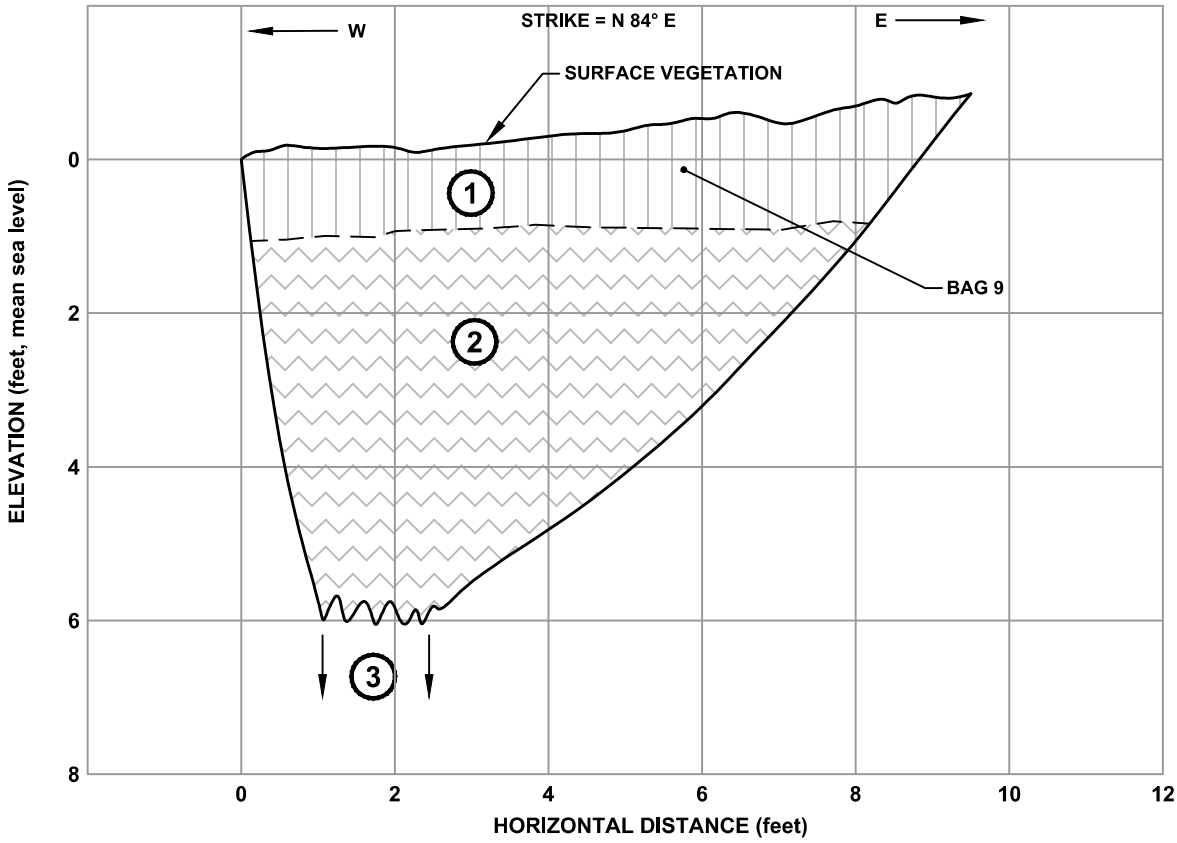
TEST PIT LOG
TP-8

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-14

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-8

PLOTTED: 04 Oct 2019, 12:49pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY SILT (ML) - dark brown and reddish brown, dry, non-plastic, fine to coarse sand, trace gravels up to 1", rootlets (COLLUVIUM)
2	METAVOLCANIC ROCK - bluish gray and olive, dry to moist, highly to moderately weathered, medium strong, highly fractured, slight foliation, similar to CLAYEY SAND with Gravel, Cobbles, and Boulders (SC); fine to coarse sand, subangular gravel, cobbles, and boulders up to 6"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, slight foliation, moderately fractured, refusal at 6' depth
	Latitude: 38.659967 Longitude: -121.057360

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

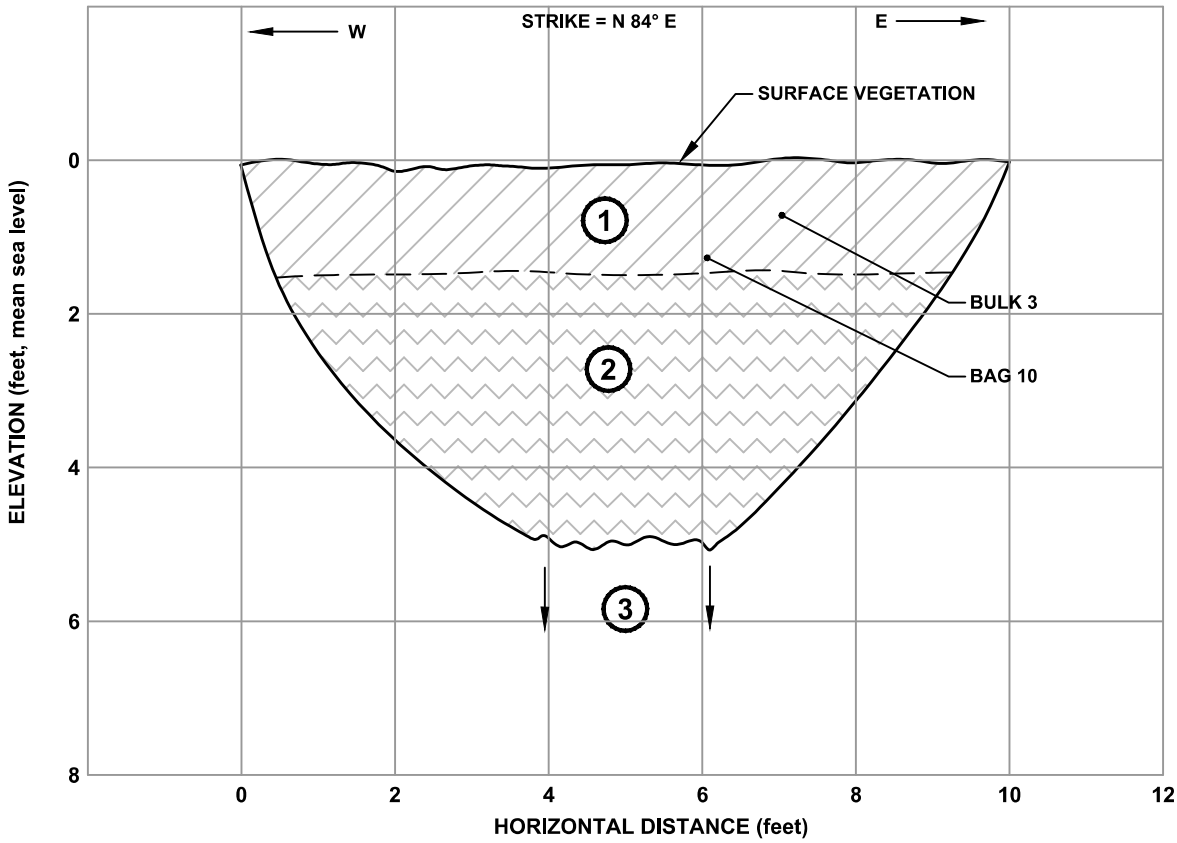
TEST PIT LOG
TP-9

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-15

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-9

PLOTTED: 04 Oct 2019, 12:48pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	LEAN CLAY with Sand (CL) - brownish red, dry, medium plasticity, fine to coarse sand, trace subangular fine gravel, rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, weak, highly fractured, slight foliation, similar to CLAYEY SAND with Gravel and Cobble (SC); fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 10"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, slight foliation, moderately fractured, refusal at 5' depth
	Latitude: 38.659963 Longitude: -121.057053

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

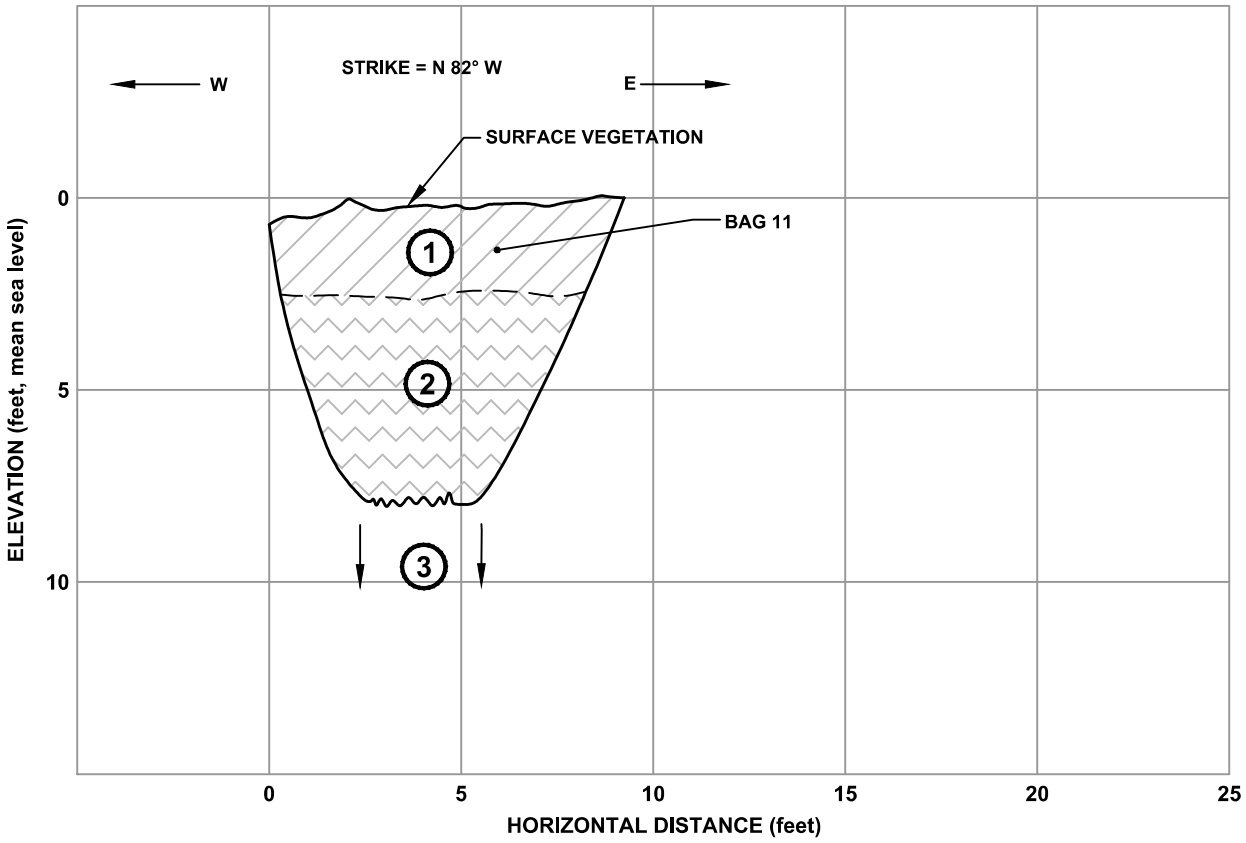
TEST PIT LOG
TP-10

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-16

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-10

PLOTTED: 04 Oct 2019, 12:48pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	LEAN CLAY with Sand (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace coarse sand and fine gravels, rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, medium strong to weak, highly fractured, slight foliation, similar to CLAYEY SAND with Gravel and Cobbles (SC); fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 11"
3	METAVOLCANIC ROCK - bluish gray, moist, moderately weathered, strong, moderately fractured, refusal at 8' depth
	Latitude: 38.660167 Longitude: -121.056687

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

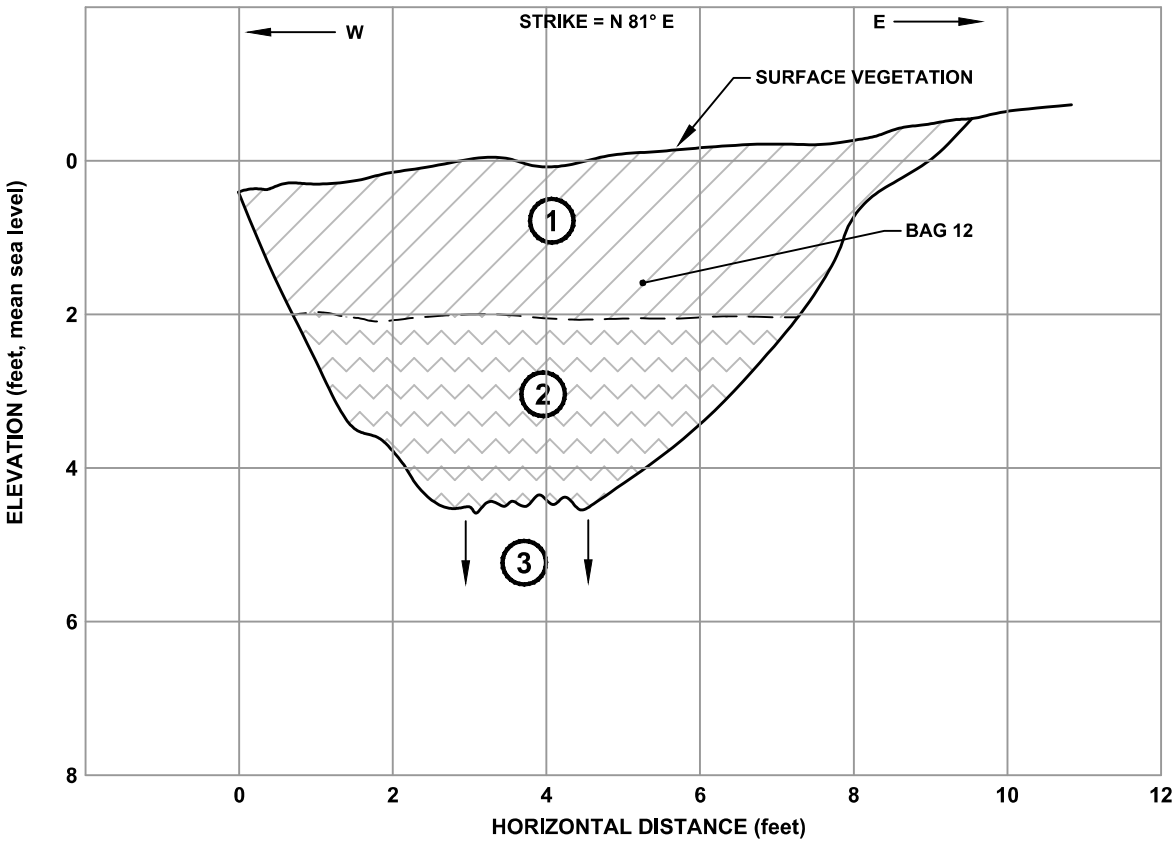
TEST PIT LOG
TP-11

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-17

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-11

PLOTTED: 04 Oct 2019, 12:48pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	LEAN CLAY with Sand (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace coarse sand and coarse gravels up to 1.75", rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, moist, decomposed, simialr to SANDY LEAN CLAY (CL); hard, medium plasticity, fine to coarse sand, trace fine gravels (PP = 4.0 tsf)
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, refusal at 4.5' depth
	Latitude: 38.660328 Longitude: -121.056397

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

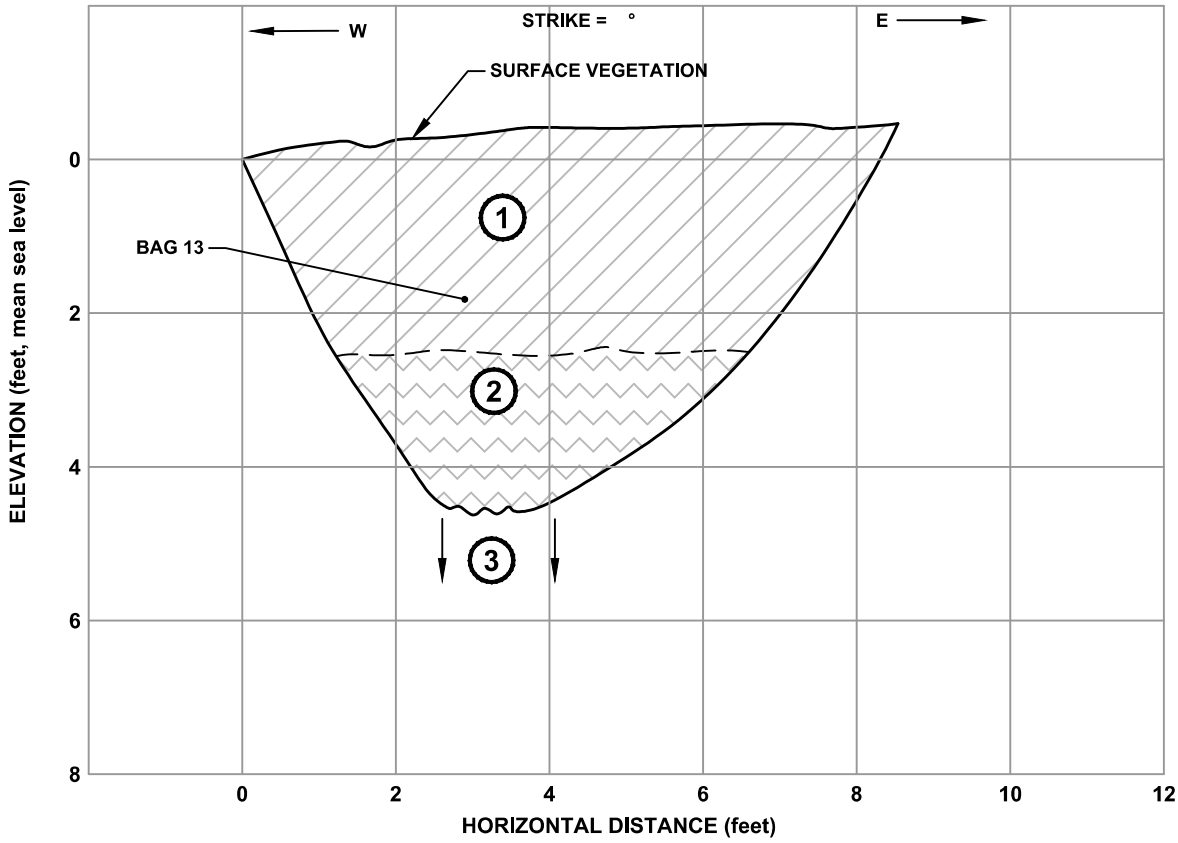
TEST PIT LOG
TP-12

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-18

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-12

PLOTTED: 04 Oct 2019, 12:47pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	LEAN CLAY with Sand (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace coarse sand, trace subangular gravels up to 1", rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, moist, highly weathered, medium strong to weak, highly fractured, well defined foliation, similar to CLAYEY SAND with Gravel and Cobble (SC); fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 10"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, medium strong, moderately fractured, well defined foliation, refusal at 4.5' depth
	Latitude: 38.660466 Longitude: -121.056072

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

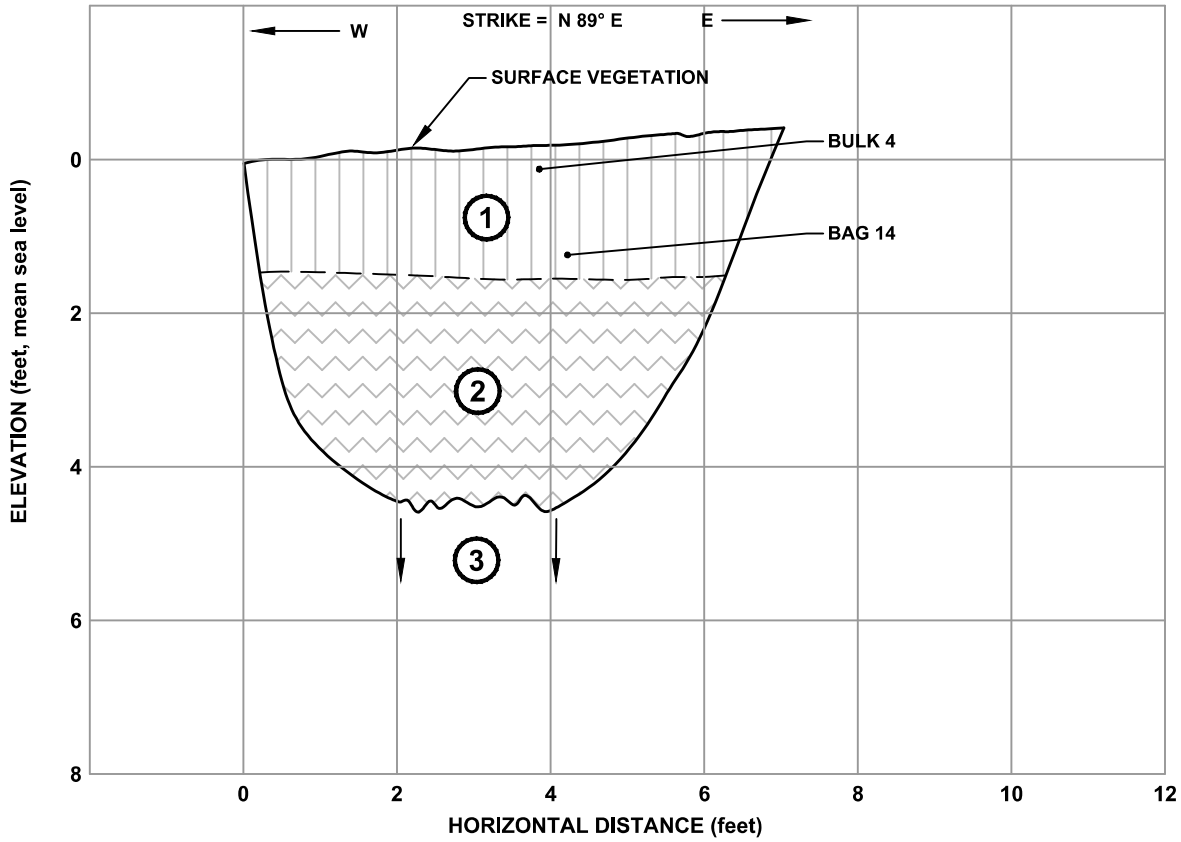
TEST PIT LOG
TP-13

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-19

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-13

PLOTTED: 04 Oct 2019, 12:47pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY SILT (ML) - dark brown, dry, low plasticity, fine to coarse sand, trace subangular gravels up to 1", rootlets (COLLUVIUM)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, weak to medium strong, highly fractured, well defined foliation, similar to CLAYEY SAND with Gravel, Cobble, and Boulders (SC); fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 12"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, refusal at 4.5' depth
	Latitude: 38.659608 Longitude: -121.057533

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

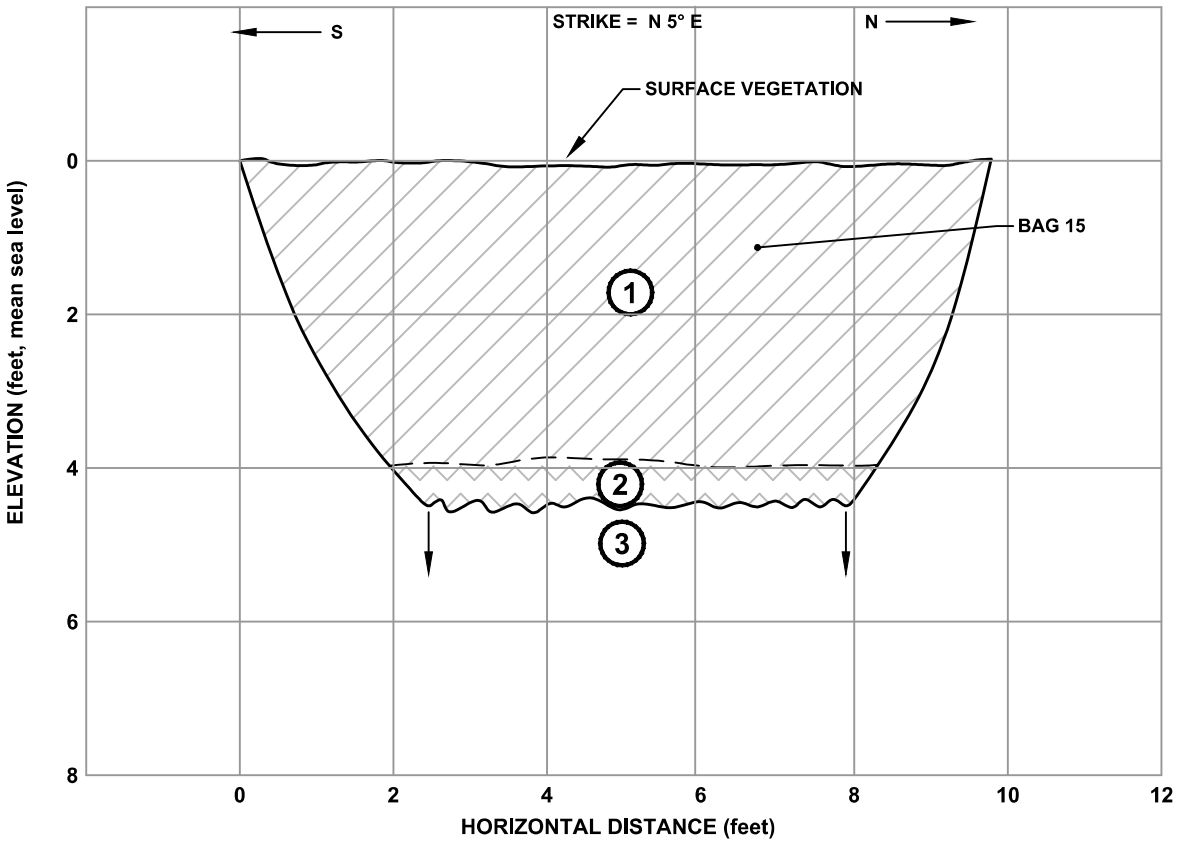
TEST PIT LOG
TP-14

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-20

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-14

PLOTTED: 04 Oct 2019, 12:47pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	LEAN CLAY with SAND (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace coarse sand, trace subangular gravels up to 4" (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry to moist, highly weathered, medium strong, highly fractured, similar to CLAYEY SAND with Gravel and Cobble (SC); fine to coarse sand, subangular to angular METAVOLCANIC ROCK fragments up to 10"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, refusal at 4.5' depth
	Latitude: 38.659756 Longitude: -121.056681

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

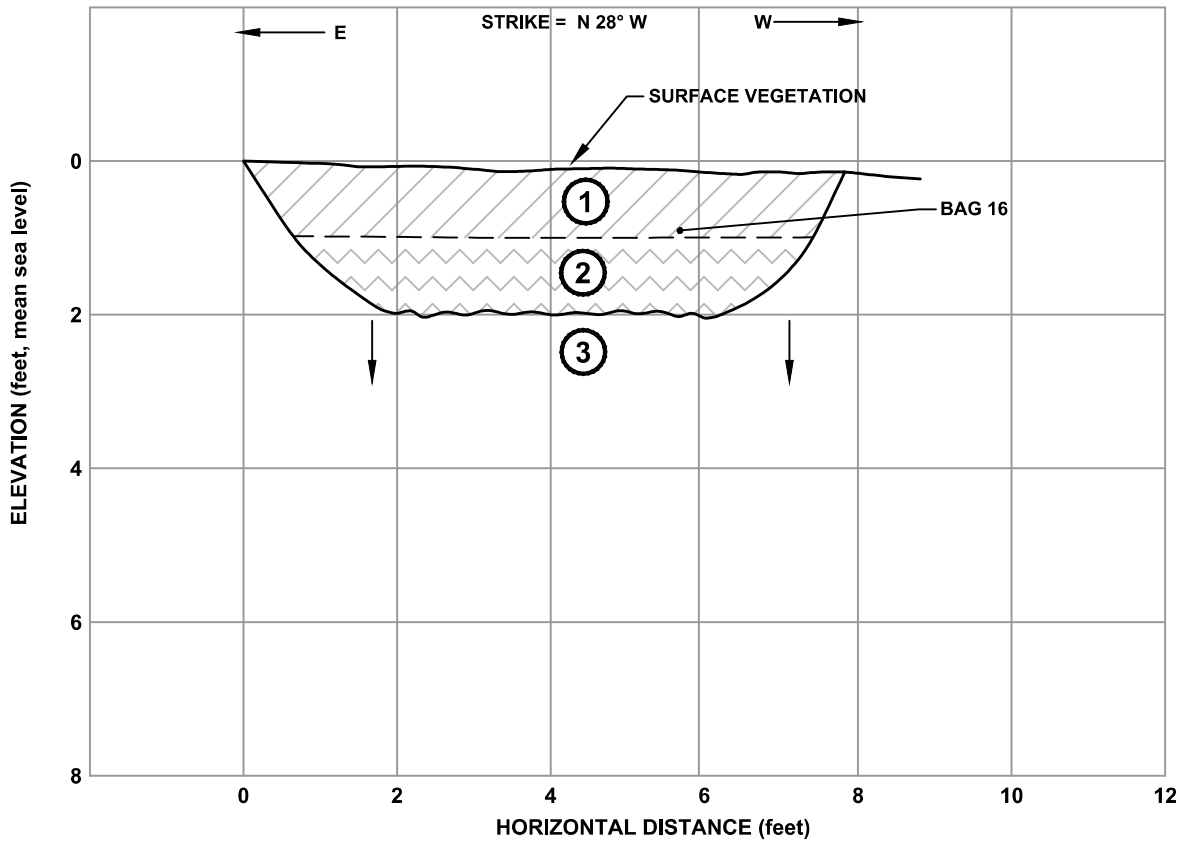
TEST PIT LOG
TP-15

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-21

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-15

PLOTTED: 04 Oct 2019, 12:46pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	LEAN CLAY with SAND (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace coarse sand, trace coarse gravels up to 1.5", rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, medium strong, highly fractured, slight foliation, similar to CLAYEY SAND with Gravel and Cobble (SC); fine to coarse sand, METAVOLCANIC COBBLES up to 8"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, refusal at 2' depth
	Latitude: 38.660051 Longitude: -121.055962

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

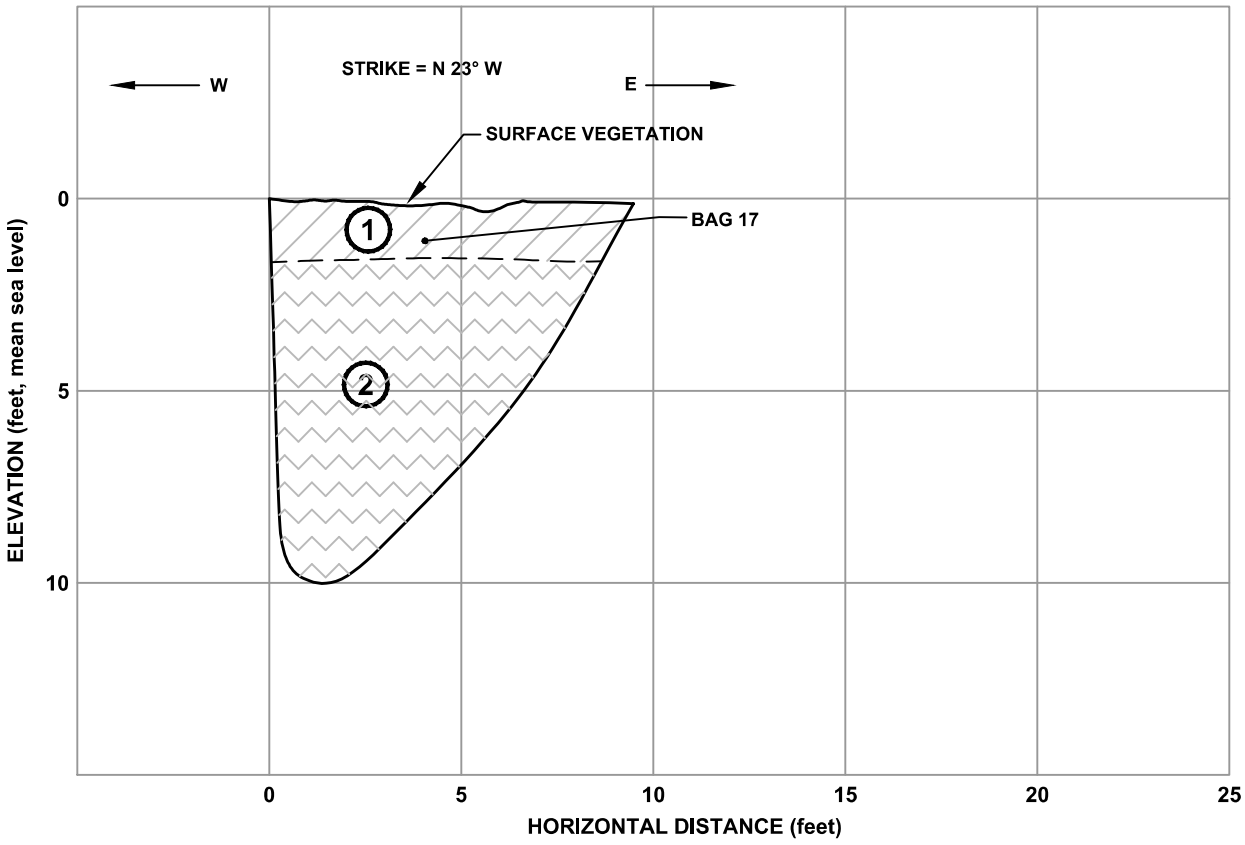
TEST PIT LOG
TP-16

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-22

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-16

PLOTTED: 04 Oct 2019, 12:46pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY with Gravel and Cobble (CL) - brownish red, dry, medium plasticity, fine to coarse sand, subangular gravel/cobble up to 4", rootlets (FILL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, medium strong, highly fractured, well defined foliation, similar to CLAYEY SAND with Gravel and Cobbles (SC); fine to coarse sand, subangular METAVOLCANIC GRAVELS and COBBLES up to 6"
	Latitude: 38.659358 Longitude: -121.056180

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

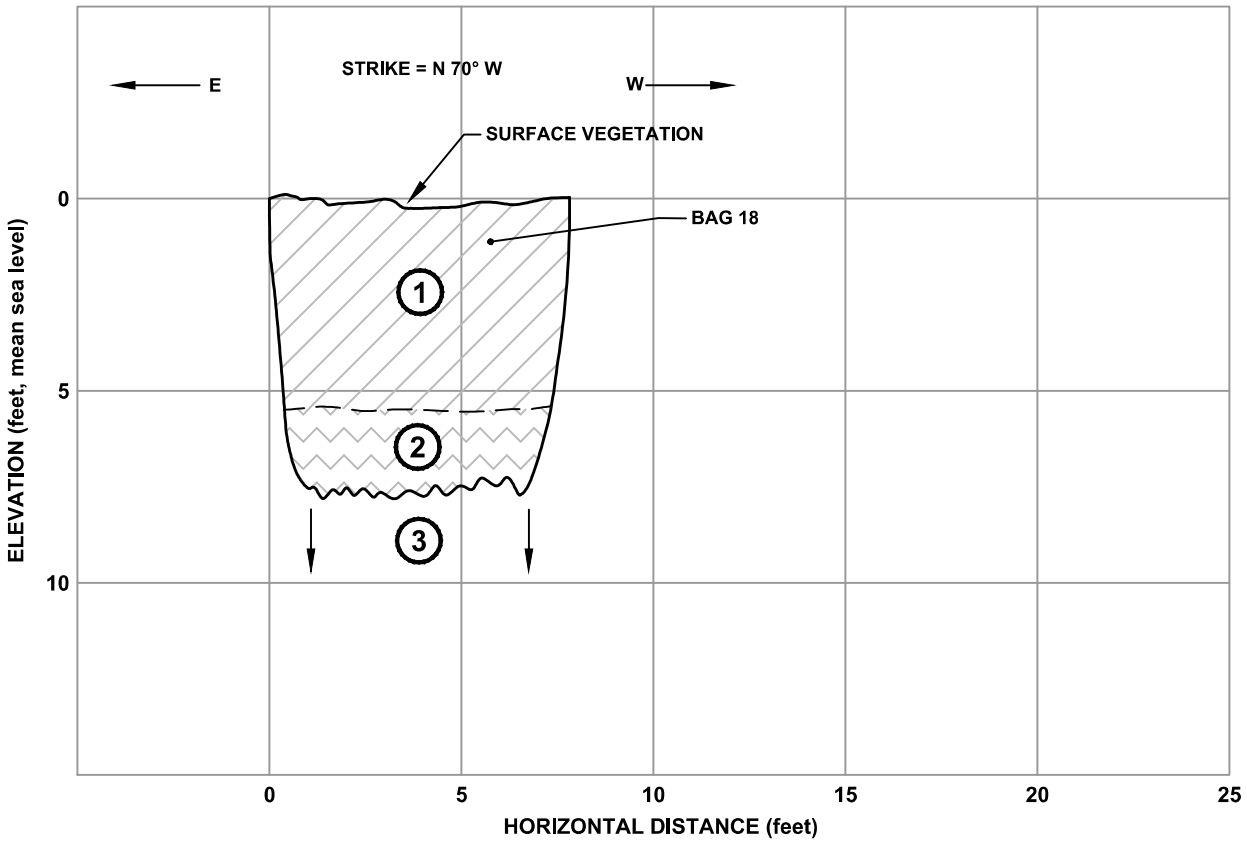
TEST PIT LOG
TP-17

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-23

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-17

PLOTTED: 04 Oct 2019, 12:45pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY with Gravel, Cobble, and Boulders (CL) - reddish brown, dry, medium plasticity, subangular to rounded fine sand to boulder sized particles up to 2' (FILL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, medium strong, highly fraactured, similar to CLAYEY SAND with Gravel and Cobbles (SC); fine to coarse sand, subangular METAVOLCANIC COBBLES up to 8"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, well defined foliation, refusal at 7.3' depth
	Latitude: 38.659105 Longitude: -121.057523

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

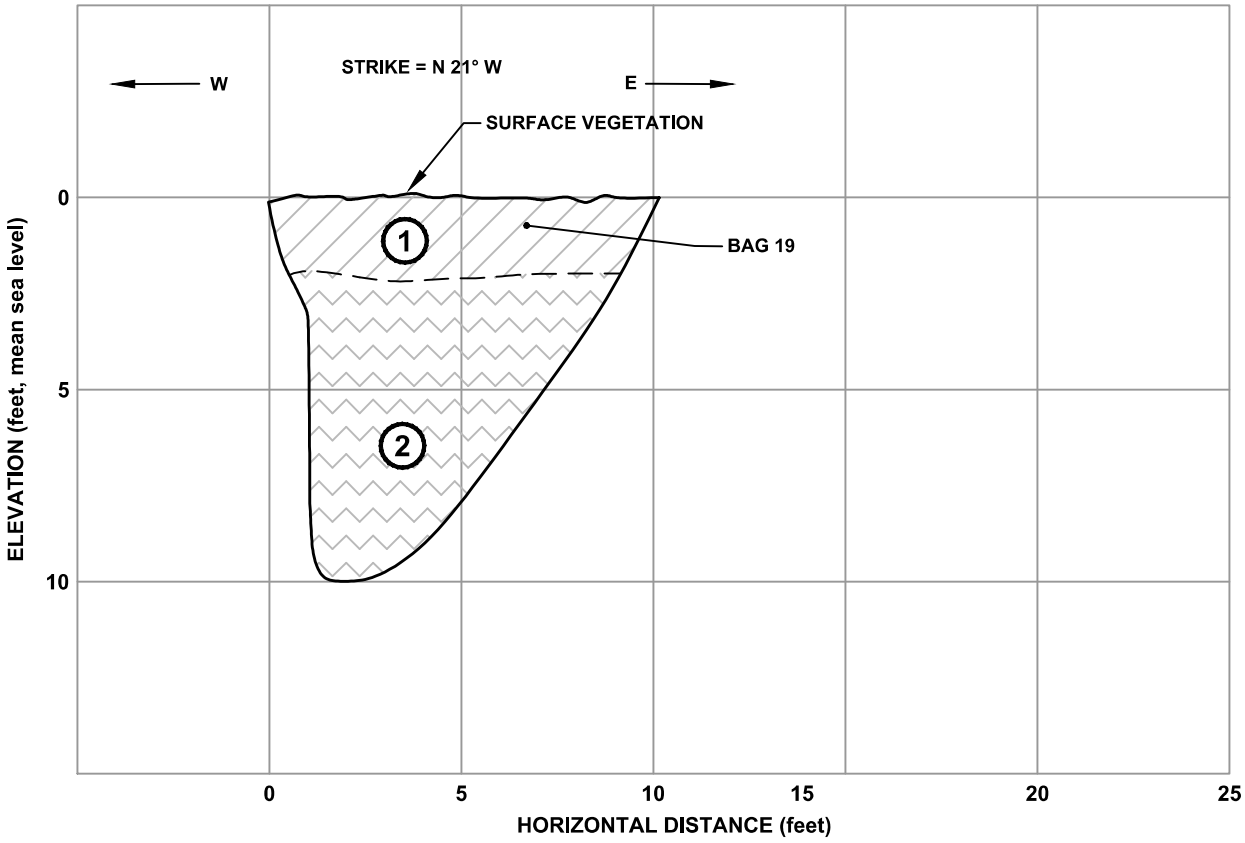
TEST PIT LOG
TP-18

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-24

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-18

PLOTTED: 04 Oct 2019, 12:45pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	LEAN CLAY with Sand (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace subangular gravels up to 2", rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry to moist, highly weathered, weak to medium strong, highly fractured, slight foliation, similar to CLAYEY SAND with Gravel and Cobble(SC); fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 5"
	Latitude: 38.659418 Longitude: -121.056699

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

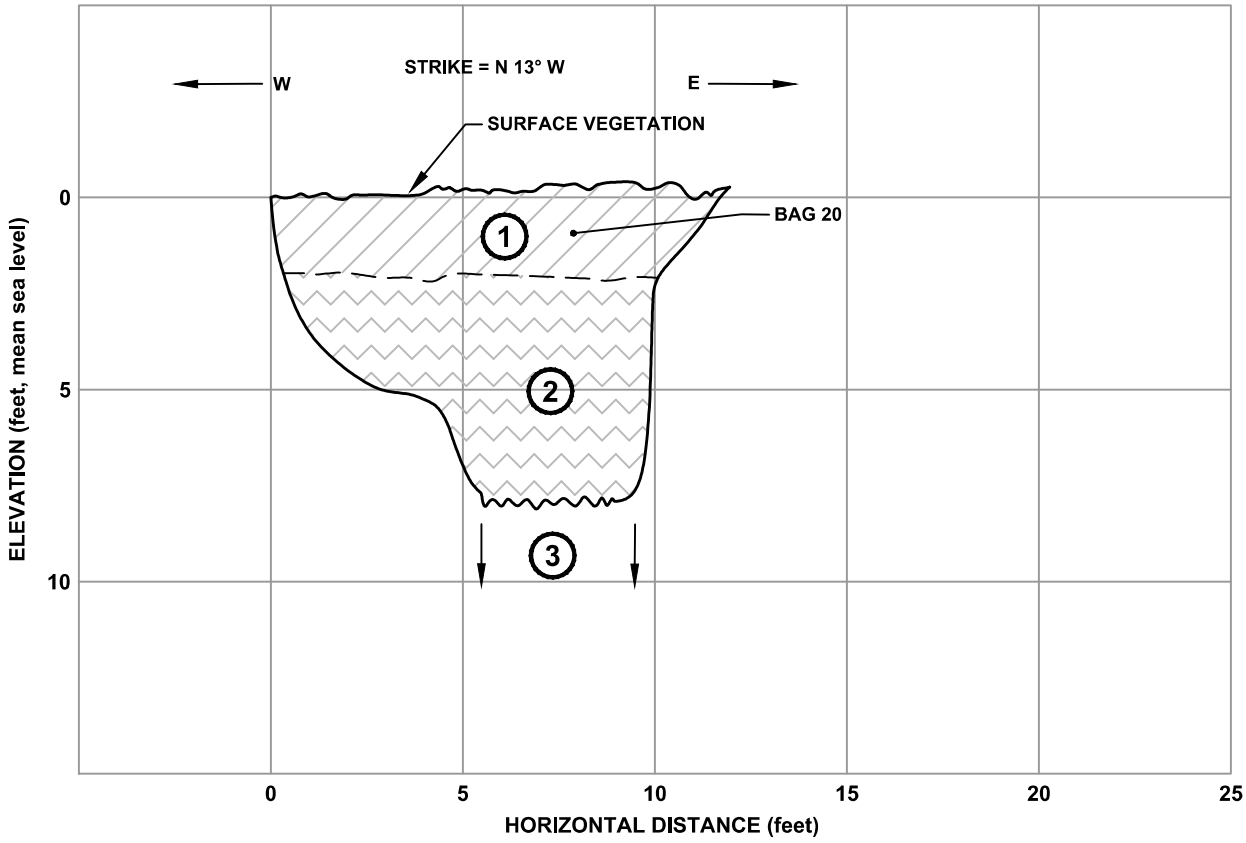
TEST PIT LOG
TP-19

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-25

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-19

PLOTTED: 04 Oct 2019, 12:45pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	LEAN CLAY with Sand (CL) - brownish red, dry, medium plasticity, fine to medium subangular sand, trace fine gravels, rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - light bluish gray, dry, highly weathered, medium strong, highly fractured, well defined foliation, similar to CLAYEY SAND with Gravel, Cobble, and Boulders (SC); fine to coarse sand, subangular ROCK fragments up to 13"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, well defined foliation, refusal at 7.5' depth
	Latitude: 38.659582 Longitude: -121.056399

LOGGED BY: Jordan Annand **DATE:** 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

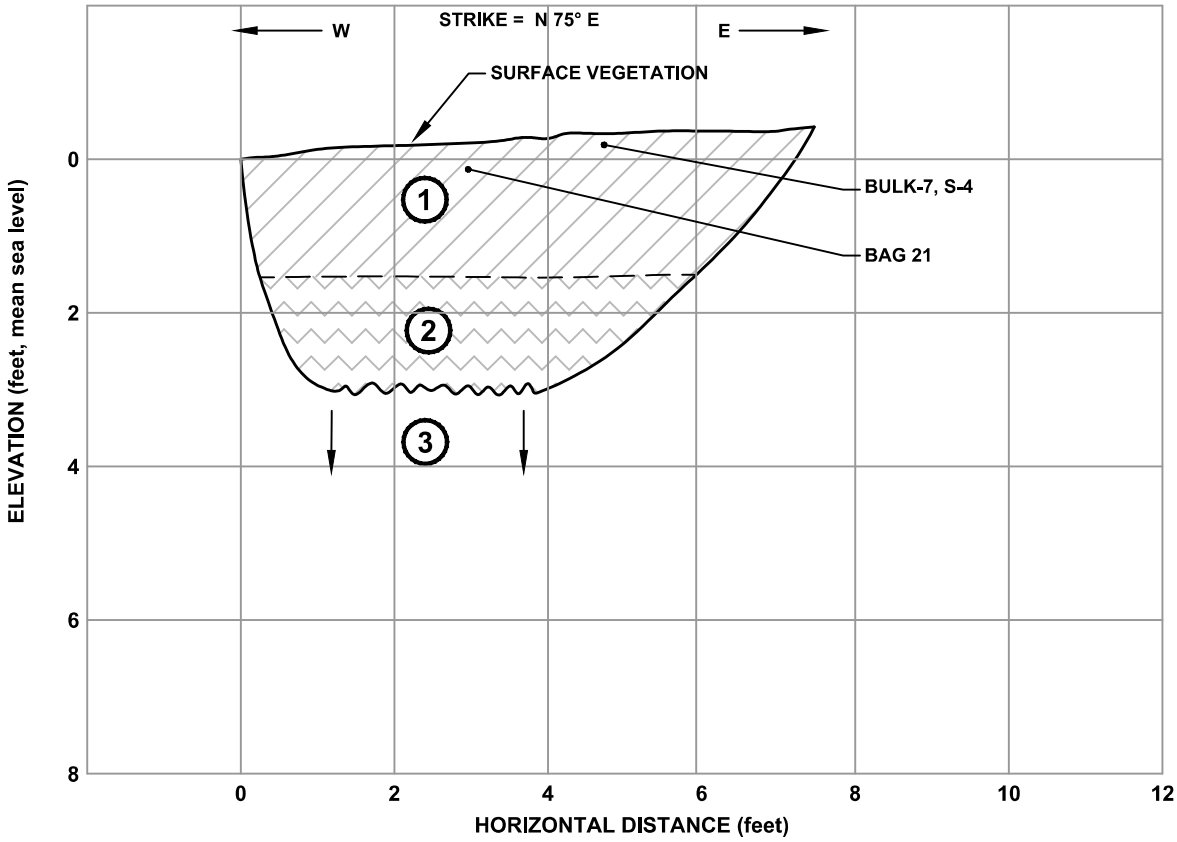
TEST PIT LOG
TP-20

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-26

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-20

PLOTTED: 04 Oct 2019, 12:44pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	LEAN CLAY with SAND (CL) - brownish red, dry, medium plasticity, subangular fine to medium sand, trace fine gravels, rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, medium strong, highly fractured, similar to POORLY GRADED SAND with Clay, Gravel, and Cobble (SP-SC); fine to coarse sand and gravel subrounded cobbles up to 6"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, highly fractured, slight foliation, refusal at 3' depth
	Latitude: 38.659766 Longitude: -121.056003

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

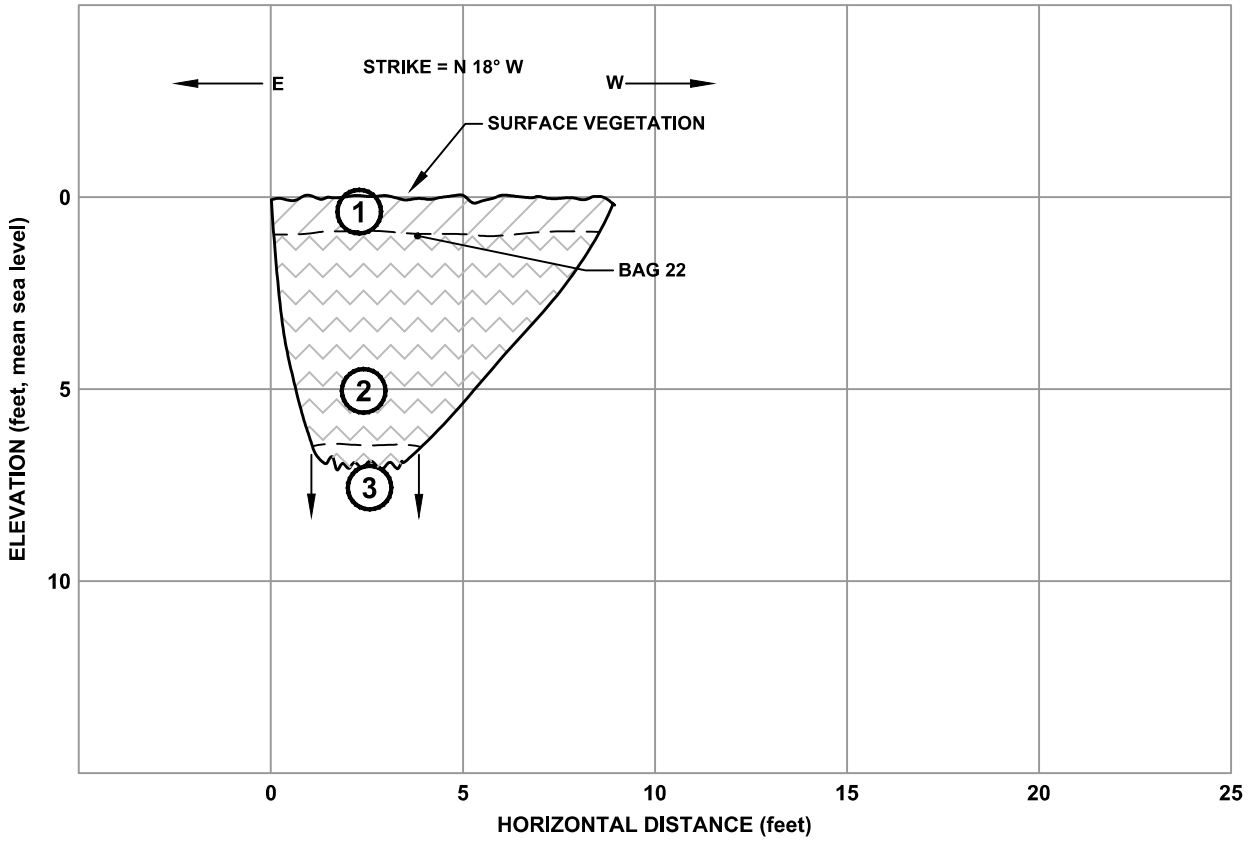
TEST PIT LOG
TP-21

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-27

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-21

PLOTTED: 04 Oct 2019, 12:44pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace subangular gravels up to 1", rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry to moist, highly weathered, medium strong, highly fractured, slight foliation, similar to CLAYEY SAND with Gravel, Cobble, and Boulders (SC); fine to coarse sand, subangular gravel, cobbles, and boulders up to 15"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, slight foliation, refusal at 7' depth
	Latitude: 38.659371 Longitude: -121.056358

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

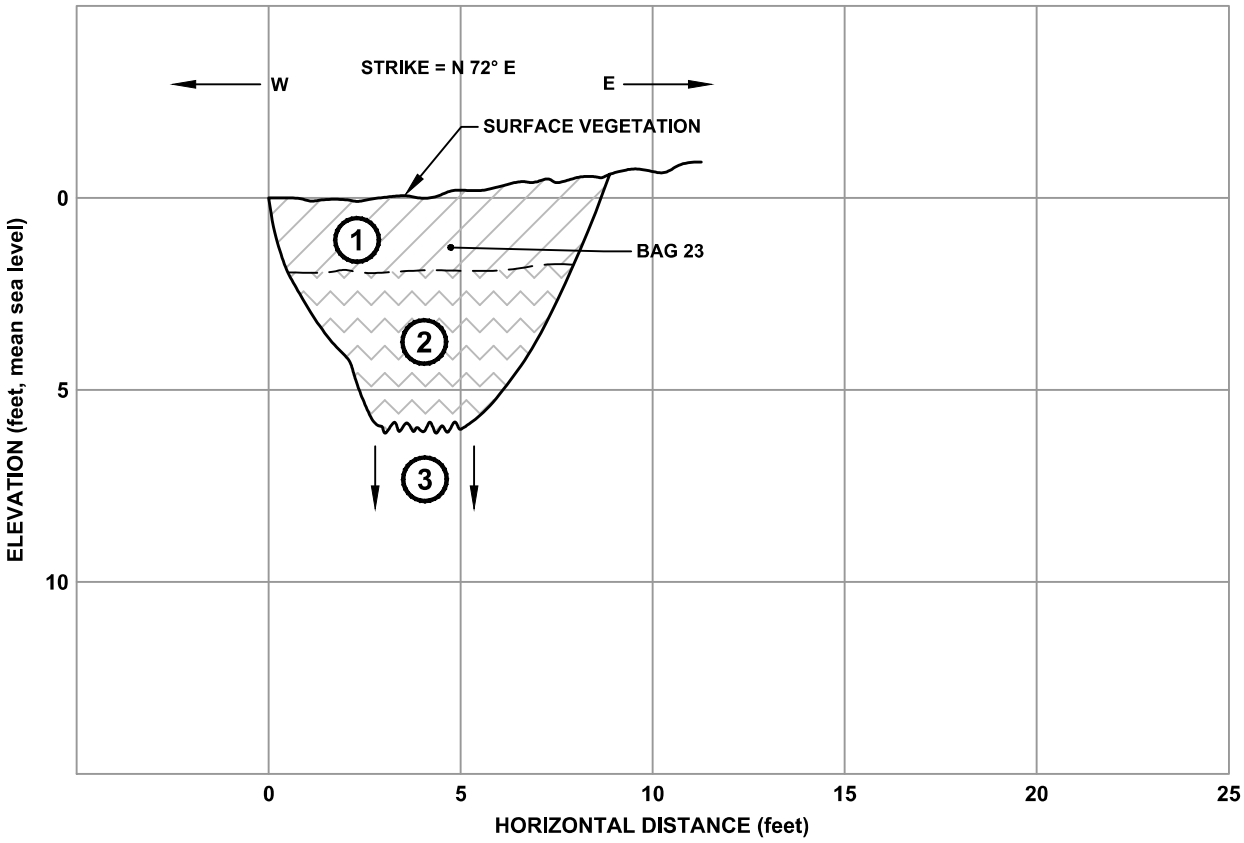
TEST PIT LOG
TP-22

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-28

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-22

PLOTTED: 04 Oct 2019, 12:44pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace subangular coarse gravels up to 1.5", rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, weak to strong, highly fractured, slight foliation, similar to CLAYEY SAND with Gravel and Cobble, fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 10"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, refusal at 6' depth
	Latitude: 38.659276 Longitude: -121.056011

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

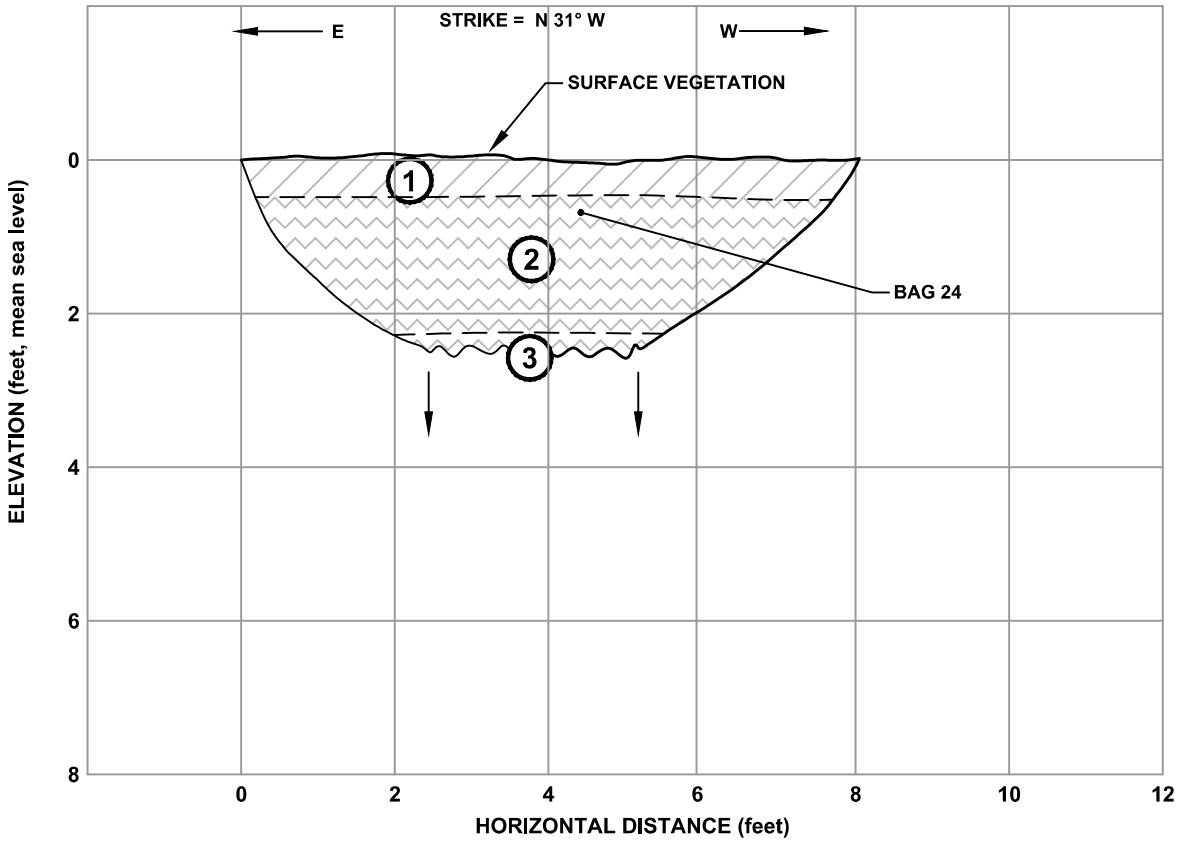
TEST PIT LOG
TP-23

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-29

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-23

PLOTTED: 04 Oct 2019, 12:43pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace fine coarse sand, trace fine gravel, rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, weak to medium strong, highly fractured, well defined foliation, similar to CLAYEY SAND with Gravel, Cobbles, and Boulders (SC); fine to coarse sand, subangular gravels and cobbles up to 14"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, well defined foliation, refusal at 2.5' depth
	Latitude: 38.659248 Longitude: -121.055652

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

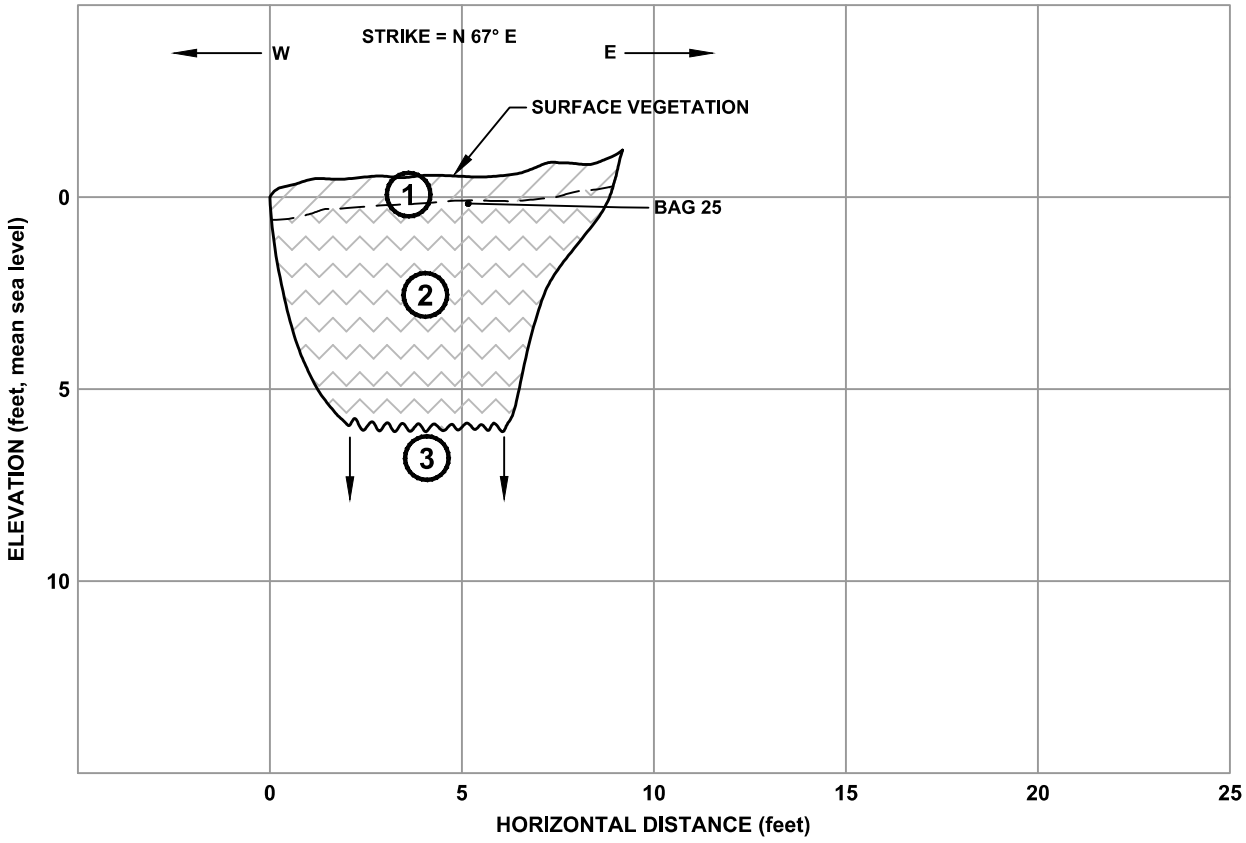
TEST PIT LOG
TP-24

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-30

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-24

PLOTTED: 04 Oct 2019, 12:43pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY (CL) - brownish red, dry, medium plasticity, subangular fine to medium sand, trace fine gravel, rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - light bluish gray, dry, highly weathered, medium strong, highly fractured, slight foliation, similar to POORLY GRADED SAND with Clay, Gravel, Cobble, and Boulders (SP-SC); fine to coarse sand, subangular gravel, cobble, and boulders up to 14"
3	METAVOLCANIC ROCK - light bluish gray, moderately weathered, strong, highly fractured, slight foliation, refusal at 6' depth
	Latitude: 38.659457 Longitude: -121.055406

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

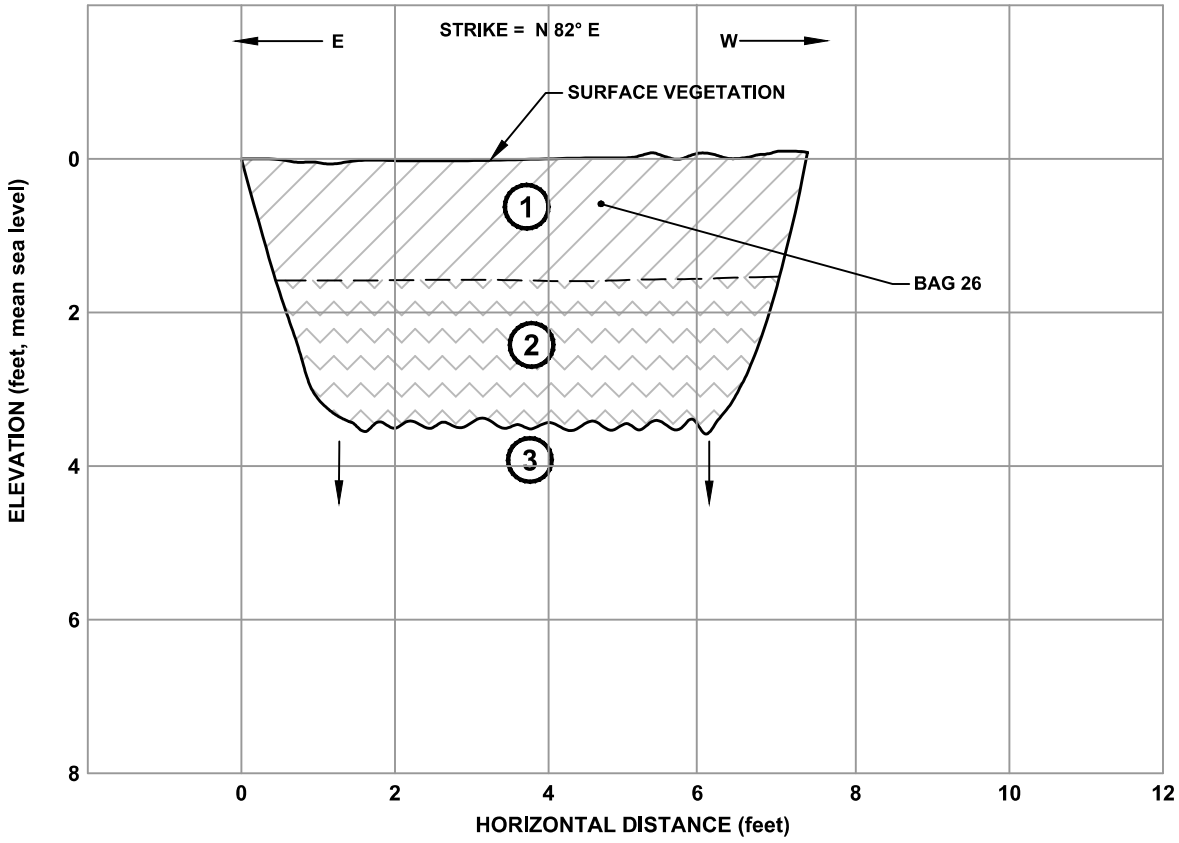
TEST PIT LOG
TP-25

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-31

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-25

PLOTTED: 04 Oct 2019, 12:43pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	LEAN CLAY with SAND (CL) - brownish red, dry, medium plasticity, subangular fine to medium sand, trace fine gravel, rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, medium strong, highly fractured, well defined foliation, similar to CLAYEY SAND with Gravel and Cobble (SC); fine to coarse sand
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, refusal at 3.5 depth
	Latitude: 38.659029 Longitude: -121.057009

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/28/2019

TEST PIT LOG
TP-26

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-32

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-26

KLEINFELDER

Bright People. Right Solutions.

Appendix B

APPENDIX B
LABORATORY TESTING

GENERAL

Laboratory tests were performed on selected samples as an aid in classifying the soils and to evaluate physical properties of the soils that may affect foundation design and construction procedures. The tests were performed in general conformance with the current ASTM or Caltrans standards. A description of the laboratory-testing program is presented below.

MOISTURE CONTENT

Moisture content testing was performed on a selected sample recovered from our borings. Moisture contents were determined in general accordance with ASTM Test Method D2216. Results of the testing are presented on the boring logs in Appendix A and as an attachment in this appendix.

ATTERBERG LIMITS

Atterberg limits testing was performed on selected soil samples to assist in classification. Testing was performed in general accordance with ASTM D4318. Results are presented attached to this appendix.

R-VALUE

Resistance value (R-value) tests were performed on selected bulk soil samples obtained to evaluate pavement support characteristics of the near-surface onsite soils. R-value tests were performed in accordance with Caltrans Standard Test Method 301. The test results are attached in this appendix.

ROCK STRENGTH (UNCONFINED COMPRESSIVE STRENGTH)

Unconfined compressive strength tests were performed on select samples of intact rock from our rock core samples. These tests were performed in accordance with ASTM D7012 and are included in this appendix.

PRELIMINARY SOIL CORROSIVITY

A series of chemical tests were performed on a selected sample of the near-surface soils to estimate pH, resistivity and sulfate and chloride contents. The sample was tested in general accordance with California Test Methods 643, 422, and 417 for pH and minimum resistivity,

© 2019 Kleinfelder

soluble chlorides, and soluble sulfates, respectively. Test results may be used by a qualified corrosion engineer to evaluate the general corrosion potential with respect to construction materials. The tests were performed by AP Engineering and Laboratory, Inc. of Pomona, California. The results of the tests are presented in Table 4 of Section 4.10 of the report and attached to this appendix.

TOPSOIL ANALYTICAL TESTS

Topsoil analytical testing was performed on one representative sample of the near-surface soils by Waypoint Analytical of Anaheim, California. The topsoil was tested for percentages of organic matter, percentages of deleterious material, pH, mineral content, micro and macro nutrient content, and herbicide presence in the soil. The test results are presented in the Waypoint Analytical report attached to this appendix.

© 2019 Kleinfelder

Exploration ID	Depth (ft.)	Sample Description	Water Content (%)	Dry Unit Wt. (pcf)	Sieve Analysis (%)			Atterberg Limits			Additional Tests
					Passing 3/4"	Passing #4	Passing #200	Liquid Limit	Plastic Limit	Plasticity Index	
TP-(1)	0.0 - 2.0	SANDY LEAN CLAY (CL)									**Corrosion Test**
											R-Value= 63
TP-(2)	0.0 - 2.0	SANDY LEAN CLAY (CL)	6.6					31	22	9	
TP-(10)	0.0 - 1.5	SANDY, SILTY CLAY (CL-ML)	7.4					29	21	8	**Corrosion Test**
TP-(14)	0.0 - 2.0	SANDY SILT (ML)									**Corrosion Test**
											R-Value= 54
TP-(21)	0.0 - 1.5	SANDY, SILTY CLAY (CL-ML)	5.5					25	19	6	**Corrosion Test**
TP-(26)	0.0 - 1.5	LEAN CLAY WITH SAND (CL)									**R-Value=** 63

Refer to the Geotechnical Evaluation Report or the supplemental plates for the method used for the testing performed above.
NP = NonPlastic

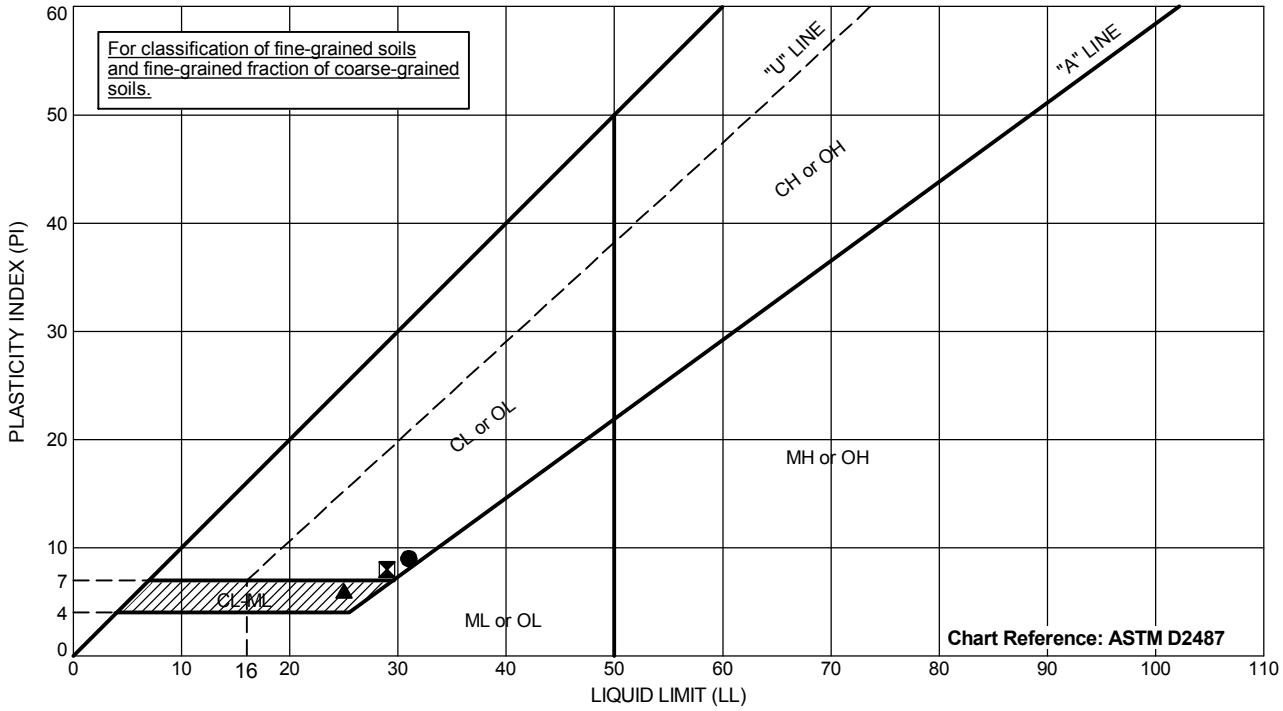
KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.: 20193141
DRAWN BY: JDS
CHECKED BY: DD
DATE: 9/11/2019
REVISED: 10/4/2019

LABORATORY TEST RESULT SUMMARY

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
B-1



Exploration ID		Depth (ft.)	Sample Description	Passing #200	LL	PL	PI
●	TP-(2)	0 - 2	SANDY LEAN CLAY (CL)	NM	31	22	9
⊠	TP-(10)	0 - 1.5	SANDY, SILTY CLAY (CL-ML)	NM	29	21	8
▲	TP-(21)	0 - 1.5	SANDY, SILTY CLAY (CL-ML)	NM	25	19	6

Testing performed in general accordance with ASTM D4318.
NP = Nonplastic
NM = Not Measured

KLEINFELDER
Bright People. Right Solutions.

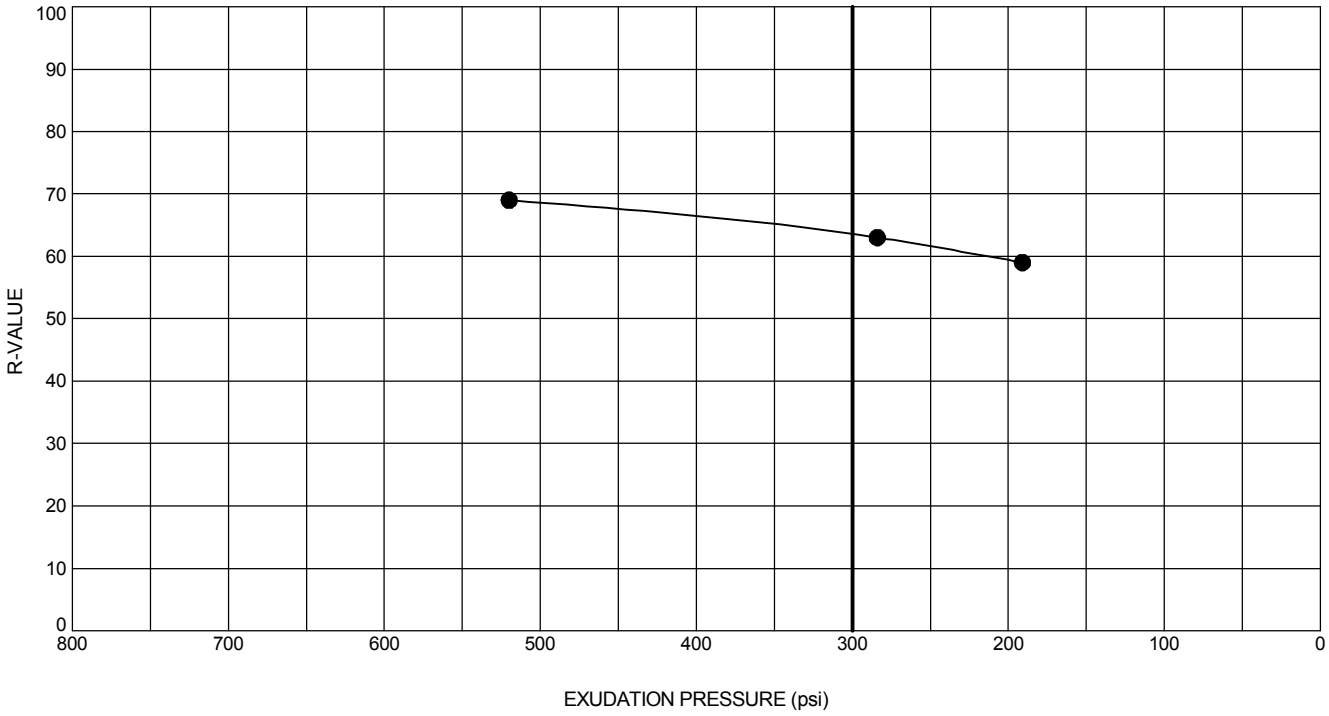
PROJECT NO.:	20193141
DRAWN BY:	DR
CHECKED BY:	DD
DATE:	10/14/2019
REVISED:	-

ATTERBERG LIMITS

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
B-2

PLOTTED: 10/14/2019 08:36 AM BY: DRoss
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.001A
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [KLF_ATTERBERG (ASTM)]



Exploration ID	Depth (ft.)	Sample Description	R-Value @ 300 psi Exudation Pressure
TP-(1)	0 - 2	SANDY LEAN CLAY (CL)	63

Specimen No.	Moisture at Time of Test (%)	Dry Unit Weight (pcf)	Expansion Pressure (psi)	Exudation Pressure (psi)	Corrected Resistance Value
1	16.3	108.1	286	284	63
2	15.4	110.1	450	520	69
3	17.1	108.4	268	191	59

Testing performed in general accordance with ASTM D2844.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	DR
CHECKED BY:	DD
DATE:	10/14/2019
REVISED:	-

R-VALUE

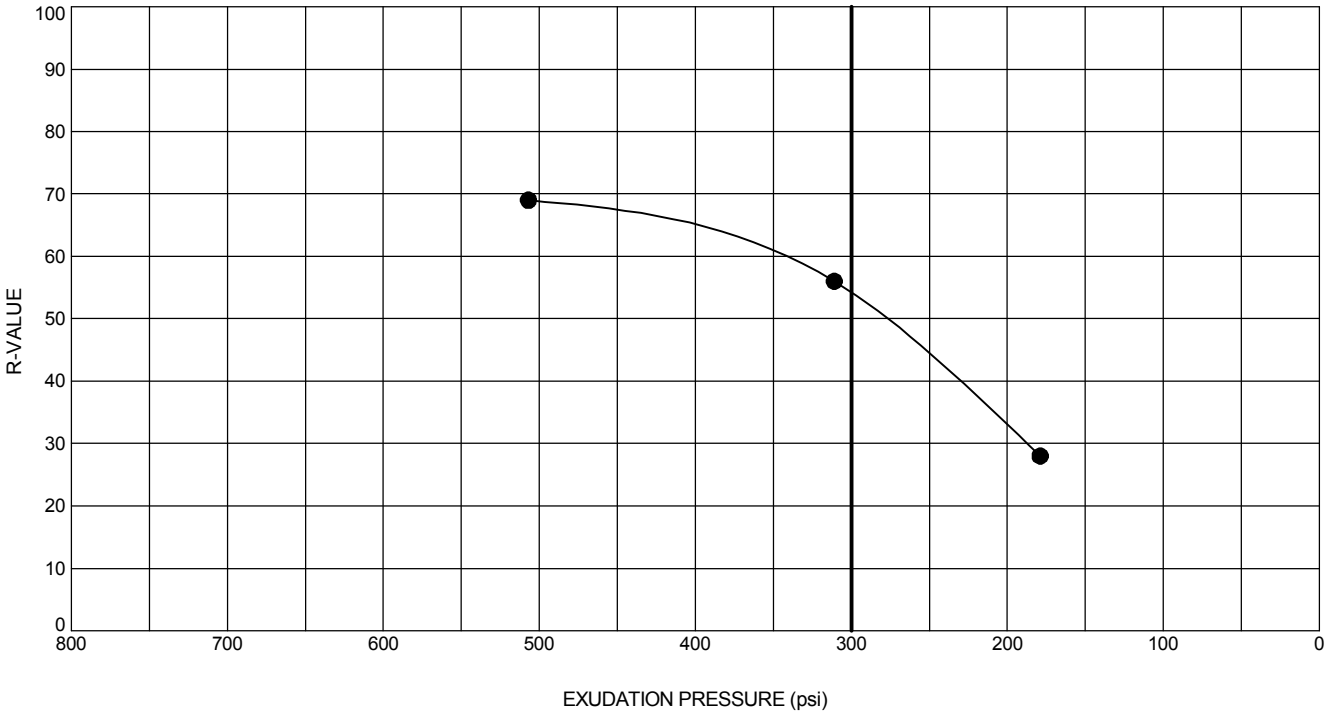
CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE

B-3

PLOTTED: 10/14/2019 08:35 AM BY: DRoss
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.001A
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [KLF_R-VALUE (REVERSED)]

PLOTTED: 10/14/2019 08:35 AM BY: DRoss
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.001A
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [KLF_R-VALUE (REVERSED)]



Exploration ID	Depth (ft.)	Sample Description	R-Value @ 300 psi Exudation Pressure
TP-(14)	0 - 2	SANDY SILT (ML)	54

Specimen No.	Moisture at Time of Test (%)	Dry Unit Weight (pcf)	Expansion Pressure (psi)	Exudation Pressure (psi)	Corrected Resistance Value
1	15.2	113.5	294	311	56
2	13.5	116.0	494	507	69
3	16.9	113.0	178	179	28

Testing performed in general accordance with ASTM D2844.

KLEINFELDER
Bright People. Right Solutions.

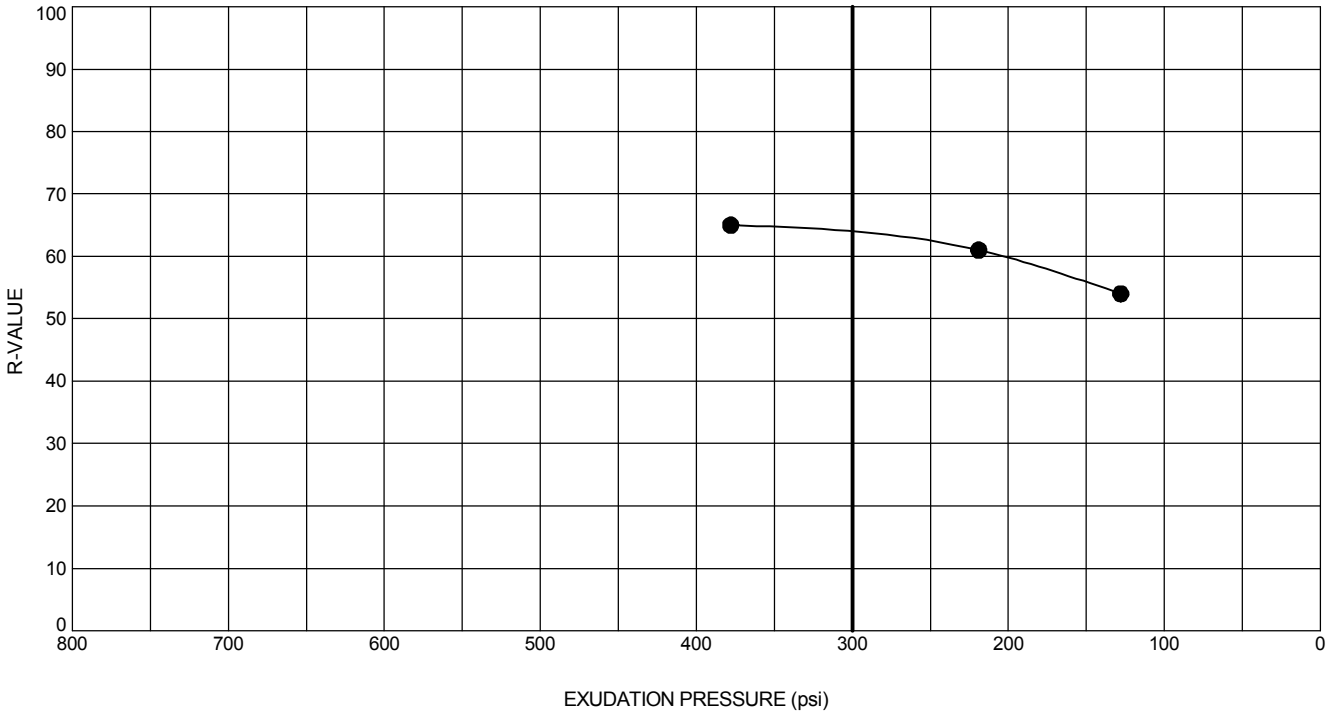
PROJECT NO.:	20193141
DRAWN BY:	DR
CHECKED BY:	DD
DATE:	10/14/2019
REVISED:	-

R-VALUE

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE

B-4



Exploration ID	Depth (ft.)	Sample Description	R-Value @ 300 psi Exudation Pressure
TP-(26)	0 - 1.5	LEAN CLAY WITH SAND (CL)	63

Specimen No.	Moisture at Time of Test (%)	Dry Unit Weight (pcf)	Expansion Pressure (psi)	Exudation Pressure (psi)	Corrected Resistance Value
1	13.8	119.1	169	128	54
2	12.9	118.9	208	378	65
3	13.3	119.5	195	219	61

Testing performed in general accordance with ASTM D2844.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	DR
CHECKED BY:	DD
DATE:	10/14/2019
REVISED:	-

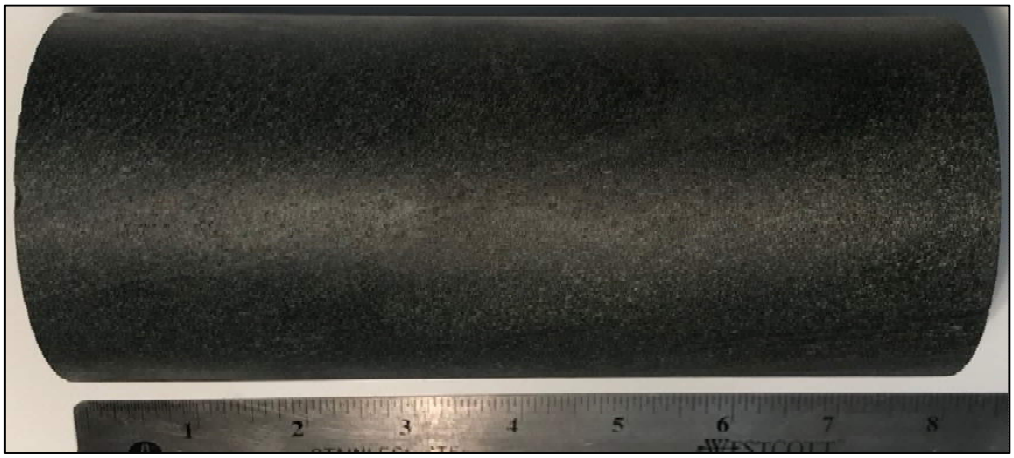
R-VALUE

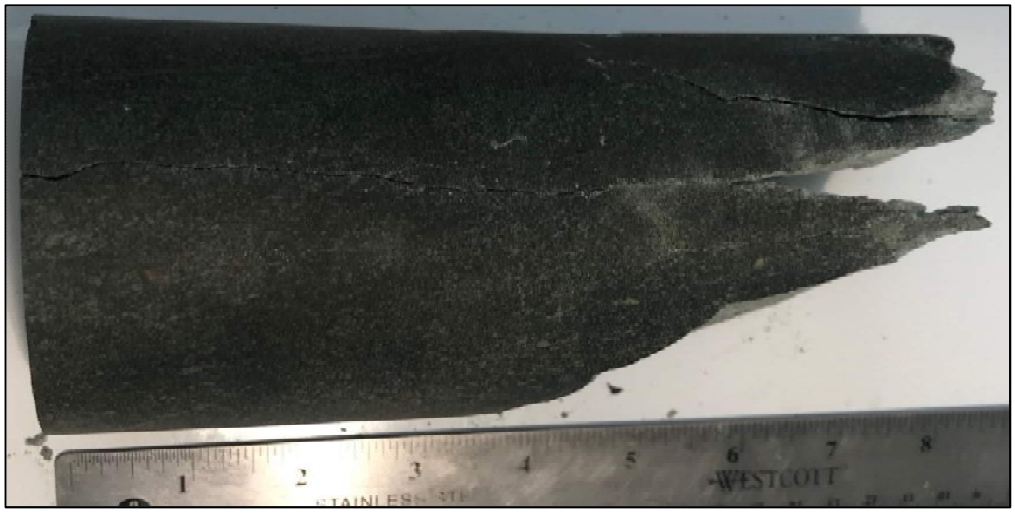
CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE

B-5

PLOTTED: 10/14/2019 08:35 AM BY: DRoss
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.001A
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [KLF_R-VALUE (REVERSED)]





Specimen Preparation in accordance with ASTM D4543	Diameter, in	D_O	3.27
Remarks:	Height, in	H_O	6.79
	Moisture Condition		As Received
	Unit Weight, pcf	ρ_d	183
	Uniaxial Compressive Strength (psi)	σ_u	17,400
	Time to Failure, mm:ss		2:52

Description of Specimen: Metavolcanic	Test Method: ASTM D7012, Method C

Boring:	KB-4
Run:	4
Depth, ft:	16.6-17.6
Test Date:	10/9/2019

KLEINFELDER
Bright People. Right Solutions.
9969 Horn Rd., Sacramento, CA 95827

PROJECT NO.: 20193141
ENTRY BY: S. Rader
CHECKED BY: B. Anderson
DATE: 10/18/2019

UNIAXIAL COMPRESSION TEST

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE

B-6

AP Engineering and Testing, Inc.
DBE|MBE|SBE
2607 Pomona Boulevard | Pomona, CA 91768
t. 909.869.6316 | f. 909.869.6318 | www.aplaboratory.com

CORROSION TEST RESULTS

Client Name: Kleinfelder
Project Name: Costco El Dorado Hills New Warehouse
Project No.: 20193141.001A

AP Job No.: 19-0901
Date: 09/04/19

Boring No.	Sample No.	Depth (feet)	Soil Type	Minimum Resistivity (ohm-cm)	pH	Sulfate Content (ppm)	Chloride Content (ppm)
TP-1	Bulk 6	0-2	CL-ML	3848	5.2	36	35
TP-10	Bulk 3	0-2	CL-ML	5324	6.1	38	39
TP-14	Bulk 4	0-2	CL-ML	6453	6.0	34	34
TP-21	Bulk 7	0-1.5	CL-ML	5012	5.7	41	55

NOTES: Resistivity Test and pH: California Test Method 643
Sulfate Content : California Test Method 417
Chloride Content : California Test Method 422
ND = Not Detectable
NA = Not Sufficient Sample
NR = Not Requested

Anaheim Office
September 25, 2019
Report 19-253-0006

Kleinfelder, Inc.
380 North First Street
Suite A
San Jose CA 95112

Attn: Dan Dockendorf

RE: Costco El Dorado Hills, Updated New Warehouse

Background

One composite sample was processed on September 10, 2019 identified as soil from areas where new landscaping is scheduled for installation. Fertilizer and amendment recommendations were requested. The sample was analyzed for horticultural suitability, fertility, and physical characteristics. The results of the analyses are attached. Organic matter testing was run separately on individual subsamples and these results are also attached.

Analytical Results and Comments

The reaction of the sample is moderately acidic at a pH of 6.0. This is within the range preferred for most plants. Salinity (ECe), sodium, chloride and boron are safely low. The sodium adsorption ratio (SAR) indicates that sodium is adequately balanced by soluble calcium and magnesium; this balance is important for soil structure quality, which relates to the rate at which water infiltrates the soil.

According to the USDA Soil Classification system, the texture of the less than 2mm fraction of the soil is classified as loam. Organic matter content is low at 2.3% dry weight. Based on this information the estimated infiltration rate is moderate at 0.25 inch per hour. Infiltration rates may vary due to differences in compaction across the site. The over 50% silt plus clay present indicates that this soil will have some potential for issues with slow drainage and high water holding capacity and irrigation timing should take this into account. Additional subdrainage may be beneficial for larger specimens being installed in flat areas in this soil.

In terms of soil fertility, nitrogen, phosphorus and sulfate are low and calcium is fair. All of the other major nutrients are sufficient for proper plant nutrition at this time. Of the micronutrients; copper and manganese are abundant while zinc and iron are sufficient.

Boron is safely low for general ornamental plants and may be below optimum levels for plant nutritional purposes. Irrigation water often supplies sufficient boron to meet plant nutritional requirements. However, if boron is low in the irrigation water and/or plants show symptoms of boron deficiency after they are well established, you may consider an application of a product containing boron at the manufacturer's label rate. Boron deficiency symptoms often include stunted or deformed younger growth and tight internodes. Tissue testing can be performed to identify a boron deficiency if it is suspected. Incorporation of a composted greenwaste amendment may be sufficient to negate this deficiency, product depending.

Recommendations

Nitrogen, phosphorus and calcium fertilizers are recommended at the time of planting. Incorporation of a nitrogen stabilized organic amendment or composted greenwaste product is recommended in order to improve soil nutrient holding capacity and porosity. If a composted greenwaste amendment is chosen, that would provide additional phosphorus and potassium as well as supplemental micronutrients, product depending.

To Prepare for Mass Planting:
Drainage of the root zone should be improved by first loosening the top 10 inches of any undisturbed or compacted soil. The following materials should then be evenly spread and thoroughly blended with the top 6 inches of soil to form a homogenous layer:

Amount per 1000 Square Feet	
5 cubic yards	Nitrogen Stabilized Organic Amendment*
8 pounds	Ammonium Phosphate (16-20-0)*
25 pounds	Gypsum (Calcium Sulfate)

*The rate may change based on the analysis of the chosen organic amendment. This rate is based on 270 lbs. of dry weight of organic matter per cubic yard of amendment. If a composted greenwaste amendment is chosen that provides a substantial amount of phosphorus, the ammonium phosphate should be replaced with ammonium sulfate (21-0-0) at a 7 pound rate.

To Prepare Backfill For Trees and Shrubs:

- Excavate planting pits at least twice as wide as the diameter of the rootball.
- Soil immediately below the root ball should be left undisturbed to provide support but the sides and the bottom around the side should be cultivated to improve porosity.
- The top of the rootball should be at or slightly above final grade.
- The top 12 inches of backfill around the sides of the rootball of trees and shrubs may consist of the above amended soil or may be prepared as follows:

3 parts	Site Soil
1 part	Nitrogen Stabilized Organic Amendment*

Uniformly blended with:

Amount / Cubic Yard of Backfill	
1/2 pound	Ammonium Phosphate (16-20-0)*
1 1/3 pounds	Gypsum (Calcium Sulfate)

- Backfill below 12 inches required for 24 inch box or larger material should not contain the organic amendment or ammonium phosphate, but should still contain the gypsum at the recommended rate. In order to improve phosphorus levels below 12 inches in depth, triple superphosphate should be incorporated at a 1/4 pound rate.
- Ideally a weed and turf free zone should be maintained just beyond the diameter of the planting hole. A 2-4 inch deep layer of coarse mulch can be placed around the tree or shrub. Mulch should be kept a minimum 4 inches from the trunk.
- Irrigation of new plantings should take into consideration the differing texture of the rootball substrate and surrounding soil matrix to maintain adequate moisture during this critical period of establishment.

Maintenance

Maintenance fertilization should rely primarily on a nitrogen only program supplemented with a complete fertilizer in the fall and spring. Beginning 45-60 days after planting, ammonium sulfate (21-0-0) should be applied at a rate of 5 pounds per 1000 square feet with reapplication every 45-60 days. Alternatively, slow release Sulfur Coated Urea (43-0-0) may be applied at 6 pounds per 1000 square feet every 90 days. Once plants are performing satisfactorily, the frequency of fertilization may be decreased depending on color and rate of growth desired. In the winter for a quick greening effect, calcium nitrate (15.5-0-0) may be applied at a 6 pound rate if applicable. Early fall and spring, substitute a complete fertilizer such as 15-15-15 to help insure continuing adequate phosphorus and potassium.

Alternatively, Blood Meal (12-0-0) provides available nitrogen fairly rapidly while materials such as Feather Meal (12-0-0), Soybean or Cotton Seed Meal (7-1-1) are slower to provide available nitrogen, but they extend the length of time they make this contribution. In order to provide a good supply of nitrogen for a 3-4 month time frame a good combination would be 6 pounds Blood Meal and 14 pounds Feather Meal per 1000 square feet. In the fall and spring, substitute a complete organic fertilizer such as 5-5-5 applied at the manufacturer's label rate. Or, nutrient rich composted greenwaste may be spread in a 1 to 2 inch layer, which generally carries enough nutrition to boost complete nutrition though a source of nitrogen might also be added at a half rate to assure adequate nitrogen availability.

If we can be of any further assistance, please feel free to contact us.

Annmarie Lucchesi
alucchesi@waypointanalytical.com

Emailed 9 Pages: ddockendorf@kleinfelder.com

Report Number
19-253-0006

Account Number
01944

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Send To: Kleinfelder, Inc.
380 North First Street
Suite A
San Jose, CA 95112

Purchase Order: 20193141.001A
Report Date: 09/25/2019
Date Received: 09/10/2019

Project: Costco-El Dorado Hills
Updated New Warehouse

REPORT OF ANALYSIS

Date Sampled:

Lab Number: 08136
Sample ID: S-1

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Organic Matter (Titration) , %	2.92		WALK-BLACK	09/25/2019 14:30	VVP

Method Reference:
Methods of Soil Analysis, Part 3 - Chemical Methods, 2nd Ed. Rev. Soil Science Society of America, Black, C.A et al. 1982, pages 995-996.

Comments:

Report Number
19-253-0006

Account Number
01944

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Send To: Kleinfelder, Inc.
380 North First Street
Suite A
San Jose, CA 95112

Purchase Order: 20193141.001A
Report Date: 09/25/2019
Date Received: 09/10/2019

Project: Costco-El Dorado Hills
Updated New Warehouse

REPORT OF ANALYSIS

Date Sampled:

Lab Number: 08137
Sample ID: S-2

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Organic Matter (Titration) , %	1.47		WALK-BLACK	09/25/2019 14:30	VVP

Method Reference:
Methods of Soil Analysis, Part 3 - Chemical Methods, 2nd Ed. Rev. Soil Science Society of America, Black, C.A et al. 1982, pages 995-996.

Comments:

Report Number
19-253-0006

Account Number
01944

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Send To: Kleinfelder, Inc.
380 North First Street
Suite A
San Jose, CA 95112

Purchase Order: 20193141.001A
Report Date: 09/25/2019
Date Received: 09/10/2019

Project: Costco-El Dorado Hills
Updated New Warehouse

REPORT OF ANALYSIS

Date Sampled:

Lab Number: 08138
Sample ID: S-3

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Organic Matter (Titration) , %	1.52		WALK-BLACK	09/25/2019 14:30	VVP

Method Reference:
Methods of Soil Analysis, Part 3 - Chemical Methods, 2nd Ed. Rev. Soil Science Society of America, Black, C.A et al. 1982, pages 995-996.

Comments:

Report Number
19-253-0006

Account Number
01944

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Send To: Kleinfelder, Inc.
380 North First Street
Suite A
San Jose, CA 95112

Purchase Order: 20193141.001A
Report Date: 09/25/2019
Date Received: 09/10/2019

Project: Costco-El Dorado Hills
Updated New Warehouse

REPORT OF ANALYSIS

Date Sampled:

Lab Number: 08139
Sample ID: S-4

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Organic Matter (Titration) , %	1.76		WALK-BLACK	09/25/2019 14:30	VVP

Method Reference:
Methods of Soil Analysis, Part 3 - Chemical Methods, 2nd Ed. Rev. Soil Science Society of America, Black, C.A et al. 1982, pages 995-996.

Comments:

Report Number
19-253-0006

Account Number
01944

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Send To: Kleinfelder, Inc.
380 North First Street
Suite A
San Jose, CA 95112

Purchase Order: 20193141.001A
Report Date: 09/25/2019
Date Received: 09/10/2019

Project: Costco-El Dorado Hills
Updated New Warehouse

REPORT OF ANALYSIS

Date Sampled:

Lab Number: 08140
Sample ID: S-5

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Organic Matter (Titration) , %	1.50		WALK-BLACK	09/25/2019 14:30	VVP

Method Reference:
Methods of Soil Analysis, Part 3 - Chemical Methods, 2nd Ed. Rev. Soil Science Society of America, Black, C.A et al. 1982, pages 995-996.

Comments:

Kleinfelder, Inc.
380 North First Street
Suite A
San Jose CA 95112

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Project : Costco-El Dorado Hills
Updated New Warehouse

COMPREHENSIVE SOIL ANALYSIS

Report No : **19-253-0006**
Purchase Order : 20193141.001A
Date Recd : 09/10/2019
Date Printed : 09/25/2019

Sample Description - Sample ID	Half Sat %	pH	ECe dS/m	NO_3-N ppm	NH_4-N ppm	PO_4-P ppm	K ppm	Ca ppm	Mg ppm	Cu ppm	Zn ppm	Mn ppm	Fe ppm	Organic % dry wt.	Lab No.
	TEC	Qual Lime		Sufficiency Factors											
Composite	21	6.0	0.2	5	13	4	97	902	337	3.6	2.3	39	53	2.33	08141
	74	None		0.4		0.2	0.8	0.7	2.0	3.7	0.6	4.8	1.5		

Saturation Extract Values						SAR	Gravel %		Percent of Sample Passing 2 mm Screen					USDA Soil Classification	Lab No.
									Sand						
Ca meq/L	Mg meq/L	Na meq/L	K meq/L	B ppm	SO_4 meq/L		Coarse 5 - 12	Fine 2 - 5	Very Coarse 1 - 2	Coarse 0.5 - 1	Med. to Very Fine 0.05 - 0.5	Silt .002-.05	Clay 0-.002		
2.3	1.5	0.6	0.3	0.07	0.6	0.4	4.2	5.2	6.6	7.4	29.2	42.4	14.2	Loam	08141

08141 Chloride (Cl) = 0.000 meq/L
08141 Aluminum = 1.62 meq/L

Sufficiency factor (1.0=sufficient for average crop) below each nutrient value. N factor based on 200 ppm constant feed. SAR = Sodium adsorption ratio. Half Saturation %=approx field moisture capacity. Nitrogen(N), Potassium(K), Calcium(Ca) and Magnesium(Mg) by sodium chloride extraction. Phosphorus(P) by sodium bicarbonate extraction. Copper(Cu), Zinc(Zn), Manganese(Mn) & Iron(Fe) by DTPA extraction. Sat. ext. method for salinity (ECe as dS/m),Boron (B), Sulfate(SO_4), Sodium(Na). Gravel fraction expressed as percent by weight of oven-dried sample passing a 12mm(1/2 inch) sieve. Particle sizes in millimeters. Organic percentage determined by Walkley-Black or Loss on Ignition.

* LOW , SUFFICIENT , HIGH

Report Number
19-253-0006

Account Number
01944

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Send To: Kleinfelder, Inc.
380 North First Street
Suite A
San Jose, CA 95112

Purchase Order: 20193141.001A
Report Date: 09/25/2019
Date Received: 09/10/2019

Project: Costco-El Dorado Hills
Updated New Warehouse

REPORT OF ANALYSIS

Date Sampled:

Lab Number: 08136
Sample ID: S-1

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Organic Matter (Titration) , %	2.92		WALK-BLACK	09/25/2019 14:30	VVP

Method Reference:
Methods of Soil Analysis, Part 3 - Chemical Methods, 2nd Ed. Rev. Soil Science Society of America, Black, C.A et al. 1982, pages 995-996.

Comments:

Report Number
19-253-0006

Account Number
01944

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Send To: Kleinfelder, Inc.
380 North First Street
Suite A
San Jose, CA 95112

Purchase Order: 20193141.001A
Report Date: 09/25/2019
Date Received: 09/10/2019

Project: Costco-El Dorado Hills
Updated New Warehouse

REPORT OF ANALYSIS

Date Sampled:

Lab Number: 08137
Sample ID: S-2

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Organic Matter (Titration) , %	1.47		WALK-BLACK	09/25/2019 14:30	VVP

Method Reference:
Methods of Soil Analysis, Part 3 - Chemical Methods, 2nd Ed. Rev. Soil Science Society of America, Black, C.A et al. 1982, pages 995-996.

Comments:

Report Number
19-253-0006

Account Number
01944

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Send To: Kleinfelder, Inc.
380 North First Street
Suite A
San Jose, CA 95112

Purchase Order: 20193141.001A
Report Date: 09/25/2019
Date Received: 09/10/2019

Project: Costco-El Dorado Hills
Updated New Warehouse

REPORT OF ANALYSIS

Date Sampled:

Lab Number: 08138
Sample ID: S-3

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Organic Matter (Titration) , %	1.52		WALK-BLACK	09/25/2019 14:30	VVP

Method Reference:
Methods of Soil Analysis, Part 3 - Chemical Methods, 2nd Ed. Rev. Soil Science Society of America, Black, C.A et al. 1982, pages 995-996.

Comments:

Report Number
19-253-0006

Account Number
01944

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Send To: Kleinfelder, Inc.
380 North First Street
Suite A
San Jose, CA 95112

Purchase Order: 20193141.001A
Report Date: 09/25/2019
Date Received: 09/10/2019

Project: Costco-El Dorado Hills
Updated New Warehouse

REPORT OF ANALYSIS

Date Sampled:

Lab Number: 08139
Sample ID: S-4

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Organic Matter (Titration) , %	1.76		WALK-BLACK	09/25/2019 14:30	VVP

Method Reference:
Methods of Soil Analysis, Part 3 - Chemical Methods, 2nd Ed. Rev. Soil Science Society of America, Black, C.A et al. 1982, pages 995-996.

Comments:

Report Number
19-253-0006

Account Number
01944

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Send To: Kleinfelder, Inc.
380 North First Street
Suite A
San Jose, CA 95112

Purchase Order: 20193141.001A
Report Date: 09/25/2019
Date Received: 09/10/2019

Project: Costco-El Dorado Hills
Updated New Warehouse

REPORT OF ANALYSIS

Date Sampled:

Lab Number: 08140
Sample ID: S-5

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Organic Matter (Titration) , %	1.50		WALK-BLACK	09/25/2019 14:30	VVP

Method Reference:
Methods of Soil Analysis, Part 3 - Chemical Methods, 2nd Ed. Rev. Soil Science Society of America, Black, C.A et al. 1982, pages 995-996.

Comments:

Kleinfelder, Inc.
380 North First Street
Suite A
San Jose CA 95112

Waypoint ANALYTICAL
4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Project : Costco-El Dorado Hills
Updated New Warehouse

COMPREHENSIVE SOIL ANALYSIS

Report No : **19-253-0006**
Purchase Order : 20193141.001A
Date Recd : 09/10/2019
Date Printed : 09/25/2019
Page : 1 of 1

Sample Description - Sample ID	Half Sat %	pH	ECe dS/m	NO_3-N ppm	NH_4-N ppm	PO_4-P ppm	K ppm	Ca ppm	Mg ppm	Cu ppm	Zn ppm	Mn ppm	Fe ppm	Organic % dry wt.	Lab No.
	TEC	Qual Lime		Sufficiency Factors											
Composite	21	6.0	0.2	5	13	4	97	902	337	3.6	2.3	39	53	2.33	08141
	74	None		0.4		0.2	0.8	0.7	2.0	3.7	0.6	4.8	1.5		

Saturation Extract Values						SAR	Gravel %		Percent of Sample Passing 2 mm Screen					USDA Soil Classification	Lab No.
									Sand						
Ca meq/L	Mg meq/L	Na meq/L	K meq/L	B ppm	SO_4 meq/L		Coarse 5 - 12	Fine 2 - 5	Very Coarse 1 - 2	Coarse 0.5 - 1	Med. to Very Fine 0.05 - 0.5	Silt .002-.05	Clay 0-.002		
2.3	1.5	0.6	0.3	0.07	0.6	0.4	4.2	5.2	6.6	7.4	29.2	42.4	14.2	Loam	08141

08141 Chloride (Cl) = 0.000 meq/L
08141 Aluminum = 1.62 meq/L

Sufficiency factor (1.0=sufficient for average crop) below each nutrient value. N factor based on 200 ppm constant feed. SAR = Sodium adsorption ratio. Half Saturation %=approx field moisture capacity. Nitrogen(N), Potassium(K), Calcium(Ca) and Magnesium(Mg) by sodium chloride extraction. Phosphorus(P) by sodium bicarbonate extraction. Copper(Cu), Zinc(Zn), Manganese(Mn) & Iron(Fe) by DTPA extraction. Sat. ext. method for salinity (ECe as dS/m),Boron (B), Sulfate(SO_4), Sodium(Na). Gravel fraction expressed as percent by weight of oven-dried sample passing a 12mm(1/2 inch) sieve. Particle sizes in millimeters. Organic percentage determined by Walkley-Black or Loss on Ignition.

* LOW , SUFFICIENT , HIGH

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Sample Summary Table

Report Number: **19-253-0005**

Client Project Description: **Costco-El Dorado Hills**
Updated New Warehouse

Lab No	Client Sample ID	Matrix	Date Collected	Date Received	Method	Lab ID
75362	Composite	Solids		09/10/2019	SW-7471A	
75362	Composite	Solids		09/10/2019	6010D	

: A&L Anal ti!al La"o#ato#ies$ %n!&$ 'emp(is$)*

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

01944
)lein*el lder, +nc,
-.0 Nort# /irst Street
Suite A
San Jose , CA 95112

0ro1ect +n*ormation : Costco$%l 'orado (ills pdated Ne ! "are#ouse

Report Number : **19-253-0005**

REPORT OF ANALYSIS

Report 'ate : 09/12/2019
Received : 09/10/2019

3ab No : **75362**
Sample +' : **Composite**

4atri5: **Solids**
Sampled:

Analytical Method: 7010'
Prep Method: -0506

Prep Batch(es): **L453530** 09/11/19 12:10

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
8otal Silver	90,250	m:/):	0,250	1	09/1-/19 02:05	J8R	345-.0-
8otal Arsenic	**2.04**	m:/):	0,500	1	09/1-/19 02:05	J8R	345-.0-
8otal 6arium	**46.4**	m:/):	0,500	1	09/1-/19 02:05	6)N	345-.0-
8otal 6er;llium	**0.283**	m:/):	0,0500	1	09/1-/19 02:05	J8R	345-.0-
8otal Cadmium	**0.758**	m:/):	0,100	1	09/1-/19 12:25	J8R	34541..
8otal Cobalt	**23.2**	m:/):	0,500	1	09/1-/19 02:05	J8R	345-.0-
8otal C#romium	**34.3**	m:/):	0,250	1	09/1-/19 02:05	J8R	345-.0-
8otal Copper	**65.4**	m:/):	0,250	1	09/1-/19 02:05	J8R	345-.0-
8otal 4ol;bdenum	90,250	m:/):	0,250	1	09/1-/19 02:05	J8R	345-.0-
8otal Nic<el	**14.5**	m:/):	0,250	1	09/1-/19 12:25	J8R	34541..
8otal 3ead	**5.47**	m:/):	0,-00	1	09/1-/19 02:05	J8R	345-.0-
8otal Antimon;	90,500	m:/):	0,500	1	09/1-/19 02:05	J8R	345-.0-
8otal Selenium	90,500	m:/):	0,500	1	09/1-/19 12:25	J8R	34541..
8otal 8#allium	91,00	m:/):	1,00	1	09/1-/19 02:05	J8R	345-.0-
8otal =anadium	**138**	m:/):	0,500	1	09/1-/19 02:05	J8R	345-.0-
8otal >inc	**65.3**	m:/):	1,25	1	09/1-/19 02:05	J8R	345-.0-

Qualifiers/ Definitions ' / 'ilution /actor 4?3 4et#od ?uantitation 3imit

Waypoint ANALYTICAL

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

01944
)lein*elder, +nc,
-.0 Nort# /irst Street
Suite A
San Jose , CA 95112

0ro1ect +n*ormation : Costco$%l 'orado (ills pdated Ne! "are#ouse

Report Number : **19-253-0005**

REPORT OF ANALYSIS

Report 'ate : 09/12/2019
Received : 09/10/2019

3ab No : **75362**
Sample +' : **Composite**

4atri5: **Solids**
Sampled:

Analytical Method: S"$2421A **Prep Batch(es):** **L453537** 09/12/19 0.:00
Prep Method: S"$2421A @0R%0A

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
4ercur; @8otalA	**0.0218**	m:/):	0,015-	1	09/12/19 11:10	8JS	345-2-2

Qualifiers/ Definitions '/ 'ilution /actor 4?3 4et#od ?uantitation 3imit

KLEINFELDER

Bright People. Right Solutions.

Appendix C

ADVANCED GEOLOGICAL SERVICES

1605 School Street, #4
Moraga CA 94556
925 (808-8965)

August 20, 2019

Dan Dockendorf
Kleinfelder, Inc.
40 Clark St # J
Salinas, California 93901

Subject: Report
Phase II Seismic Refraction Survey
Silva Valley Parkway Development
El Dorado Hills, California

Dear Mr. Dockendorf:

1.0 INTRODUCTION

This letter presents the results of Advanced Geological Services, Inc. (AGS) seismic refraction survey in support of grading work at a 16-acre site north of Tong Road and west of Silva Valley Parkway in El Dorado Hills, California (Figure 1). The survey objective was to assess the depth and excavation characteristics (rippability) of bedrock. The survey was performed on August 7 and 8, 2019 by AGS senior geophysicist Roark W. Smith and his assistant. Field oversight was provided by Mr. Jordan Annand of Kleinfelder, who showed AGS the seismic line locations, which were marked in the field with wood stakes labeled with the seismic line number. The survey comprised seven seismic lines of varying lengths and orientations distributed across the site (Figure 2).



Figure 1- Phase II Site Location in El Dorado Hills CA

2.0 SUMMARY OF FINDINGS

- Three velocity layers were detected— Layer V_1 is the uppermost approximately1- to 7-foot thick low-velocity layer representing surficial soil. Layer V_2 is a medium-velocity (from about 3,985 to 6,000 fps) layer representing deeply-weathered bedrock. Layer V_3 is a high-velocity layer (12,200 to over 18,500 fps) representing little-weathered, ”hard” bedrock.

- On the basis of the Caterpillar Performance Handbook “rip chart”, the Layer V_3 “hard” bedrock at this site is classified as non-rippable. This non-rippable “hard” bedrock mostly occurs at depths ranging from 7 to 15 feet, but was found as shallow as one (1)

foot bgs along SL-4 in the western-central portion of the site and as deep as 42 feet along SL-6 in the eastern portion of the site. The refraction survey showed V_3 velocities ranging between 12,200 to over 18,500 fps, and the "rip chart" classifies metamorphic rock exhibiting P-wave velocities greater than 9,200 fps and "non-rippable" with a D9R tractor.

3.0 SITE DESCRIPTION

The survey consisted of seven seismic lines ranging from 230 to 600 feet in length; the lines were distributed across a 16-acre triangular-shaped area of gently rolling, grass-covered hills (Figure 2). It is worth noting that the site was seismically "noisy" at times due to vehicle traffic along the nearby Parkway.

4.0 SEISMIC REFRACTION METHOD OVERVIEW

The seismic refraction method uses compressional (P-) wave energy to delineate seismic velocity layers within the subsurface. Interpretation entails correlating the velocity layers to geologic features such as soil and various types of bedrock. To perform a refraction survey, an elastic wave (compressional, or P-wave) is generated at certain locations (shotpoints) along a survey line. The P-wave energy is usually produced by striking the ground with a sledgehammer. As the P-wave propagates through the ground it is refracted along boundaries between geologic layers with different seismic velocities.

Part of the refracted P-wave energy returns to the ground surface where it is detected by vibration-sensitive devices called geophones, which are placed in a co-linear array along the seismic survey line. The geophone data are fed to a seismograph, where they are recorded, and then to a computer, where they are analyzed to determine the depth and velocities of subsurface seismic layers. Key data for refraction analysis are the positions of the geophones and shotpoints along a seismic line, and the amount of time it takes for the refracted wave to travel from the shotpoint to each geophone location. Because the P-wave is the fastest traveling of all types of seismic waves, it can be readily identified as the first deflection ("first break") on a seismic trace.

Additional discussion of the refraction method, its limitations, and the relationship between seismic velocity and geologic materials is presented in Appendix A.

5.0 FIELD PROCEDURES

Due to the lack of vehicle access, AGS hand-carried the seismic gear to each line location. For each seismic line, AGS laid out a fiberglass tape measure and placed an array of 24 geophones on the ground at 10-foot to 20-foot intervals to form a seismic "spread" that measured from 230 to 300 feet long. For seismic lines longer than 300 feet (e.g., SL-7), AGS laid out a second spread to achieve the required line length. The geophones were coupled to the ground by means of 3-inch metal spikes attached to the geophone base. Three shotpoints were used along each spread, with shotpoints located five feet beyond each end of the geophone array and at the array midpoint. AGS produced P-waves through multiple impacts with a 16-lb sledge hammer against a metal plate placed on the ground surface at each shotpoint location. In general, 10 hammer blows were used ("stacked") at the end shotpoints and 5 blows were used at the center shotpoint.

The P-waves produced by the hammer impacts were detected using Mark Products 14-Hz geophones. The detected seismic signals were recorded using a DAQLink II seismic system connected to a laptop computer.

After the seismic data were obtained along each line, AGS performed a hand-level survey to measure the relative elevation changes along the line so that the ground surface topography could be incorporated into the data analysis. After the seismic survey was completed AGS used a Trimble Pro-XR Global Positioning System (GPS) to record the seismic line locations.

6.0 DATA PROCESSING AND ANALYSIS

In general, the refraction data quality is "good"; however, due to traffic noise from the nearby roadway the quality of some of the refraction data is only "fair". Regardless, for the most part the "first beaks" could be readily identified and picked on the seismic records. Data quality was enhanced by "stacking," which entailed using multiple hammer blows at each shotpoint location to improve the signal-to-noise ratio. The additive affect of stacking of multiple hammer blows at the same location enhances or increases the amplitude of the signal (i.e., the P-wave arrival) while amplitude of the background noise, which, being random in nature, tends to cancel itself on successive hammer blows and remains largely unchanged.

Seismic data were transferred from the seismograph to a desktop computer where they were processed using the *SeisImager* software package by Geometrics, Inc. Briefly, *SeisImager* is a computer inversion program that generates an initial velocity layer model, produces synthetic data from the model, and then adjusts the model so that the synthetic data better matches the observed field data. The agreement between the synthetic and observed data provides an indication of how well the model represents the true subsurface conditions.

First, AGS used the *SeisImager* module *PickWin* to interpret ("pick") the P-wave arrivals ("first breaks") for each of the shotpoint data sets ("shot gathers") per line. *PickWin* was also used to check (against the geophysicist's field log) that the proper locations were assigned to the geophones and shotpoints. Next, the first break files were fed to the SeisImager module *PlotRefra*, which was used review time-distance (TD) plots for the seismic lines and assign a seismic layer to each arrival time. For the refraction analysis, each P-wave arrival is considered to have refracted from a distinct seismic layer. The number of layers resolved by the seismic survey, and their thickness and average velocity, is indicated by straight line segments on the TD plot; because these straight-line segments represent a constant velocity condition within the subsurface, the tend to represent a distinct geologic layer. The topographic elevation files were incorporated into the analysis at this point. Next, a time-term inversion was performed to produce layered velocity models presented on Figures 3 through 7. Time-term inversion is a linear least-squares technique that uses the layer assignments and the distances and travel times between the shotpoints and the geophones to develop a velocity layer model that best fits the observed data.

7.0 RESULTS

The results of the seismic refraction survey are summarized on Table 1, below, and presented on Figures 2 through 7, which show the seismic line locations and the subsurface velocity layer

models that were calculated from the refraction data.

Overall, three velocity layers were detected— Layer V_1 is the uppermost approximately1- to 7-foot thick low-velocity layer representing surficial soil. Layer V_2 is a medium-velocity (from about 3,985 to 6,000 fps) layer representing deeply-weathered bedrock. Layer V_3 is a high-velocity layer (12,200 to over 18,500 fps) representing little-weathered, "hard" bedrock. Layer V_3 generally occurs at depths ranging between 7 to 15 feet bgs, but it is found as shallow as one (1) foot bgs to as deep as 42 feet bgs in places. The shallowest bedrock was detected in the northern portion of the site, along SL-1 and SL-2; the deepest along SL-6 in the eastern portion of the site.

On the basis of the Caterpillar Performance Handbook "rip chart", the Layer V_3 "hard" bedrock at this site is non-rippable. This non-rippable "hard" bedrock mostly occurs at depths ranging from 7 to 15 feet, but was found as shallow as one (1) foot bgs in the western-central portion of the site along SL-4 and as deep as 42 feet in the eastern portion of the site along SL-6. The refraction survey showed V_3 velocities ranging between 12,200 to over 18,500 fps, and the "rip chart" classifies metamorphic rock exhibiting P-wave velocities greater than 9,200 fps and "non-rippable" with a D9R tractor.

Velocity information from the seismic survey is summarized in Table 1; rippability information is summarized in Table 2.

Table 1 Velocity Summary (feet per second) from Layer Models

Seismic Line	Line Length (ft)	Layer V_1 (topsoil)	Layer V_2 (weathered bedrock)	Layer V_3 (little-weathered bedrock)	Approx depth to V_3 (feet)
SL-1	230	1,310	3,985	13,680	6 – 12
SL-2	230	1,305	6,030	13,820	8 – 15
SL-3	390	1,250	4,970	14,960	3 – 16
SL-4	250	1,100	4,210	16,225	1 – 5
SL-5	300	1,270	5,380	16,260	5 – 15
SL-6	600	1,790	5,995	12,210	17 – 42
SL-7	400	1,390	5,350	18,530	7 – 17

8.0 EXCAVATION CHARACTERISTICS (RIPPABILITY)

Seismic velocity charts relating seismic velocity and excavation characteristics have been developed from field tests by others. These charts list the seismic velocity of various types of bedrock materials and their relative ease of excavation using different types of rippers. Caterpillar Tractor Company publishes a performance manual that lists ripper performance charts for various size tractors and types of rippers.

The range of rippability obtained from the ripper performance chart from the Caterpillar Performance Handbook, 12th Edition (2000) is as follows (in feet per second):

Table 2 Rip Chart for Metamorphic Rock (from The Caterpillar Performance Handbook)

Ripper	Rippable	Marginally Rippable	Non-Rippable
D9R	less than 7,200	7,200 to 9,200	greater than 9,200

This information should only be used as a general guide, however, as many other factors should also be considered. These factors include the rock jointing and fracture patterns, the experience of the equipment operator, and the equipment and excavation methods selected. Based on the observed velocities, it appears that the subsurface bedrock beneath the seismic refraction lines is rippable for a D9R to the top of Layer V_3; however, this information should be combined with a complete and thorough analysis of geotechnical boring data, as well as local ripping experience (if available) to make a final assessment.

9.0 CLOSING

All geophysical data and field notes collected as a part of this investigation will be archived at the AGS office. The data collection and interpretation methods used in this investigation are consistent with standard practices applied to similar geophysical investigations. The correlation of geophysical responses with probable subsurface features is based on the past results of similar surveys although it is possible that some variation could exist at this site. Due to the nature of geophysical data, no guarantees can be made or implied regarding the targets identified or the presence or absence of additional objects or targets.

AGS appreciates working for you. We enjoyed this project and we look forward to working with you again.

Sincerely,

Roark W. Smith
Senior Geophysicist
Advanced Geological Services, Inc.

Figures:
- Figure 1 Seismic Refraction Survey Area (imbedded in Report text, above)
- Figure 2 Seismic Refraction Line Locations
- Figure 3 P-wave Velocity Layer Models, SL-1 & SL-2
- Figure 4 P-wave Velocity Layer Models, SL-3 & SL-4
- Figure 5 P-wave Velocity Layer Model, SL-5
- Figure 6 P-wave Velocity Layer Model, SL-6
- Figure 7 P-wave Velocity Layer Model, SL-7

Attachments: Appendix A: Seismic Velocity and Limitations of the Refraction Method



0 150 ft 300

ADVANCED GEOLOGICAL SERVICES

1605 School Street
Suite 4
Moraga, CA 94556
(925) 808-8965

Phase II Seismic Line Locations
Silva Valley Parkway
El Dorado Hills

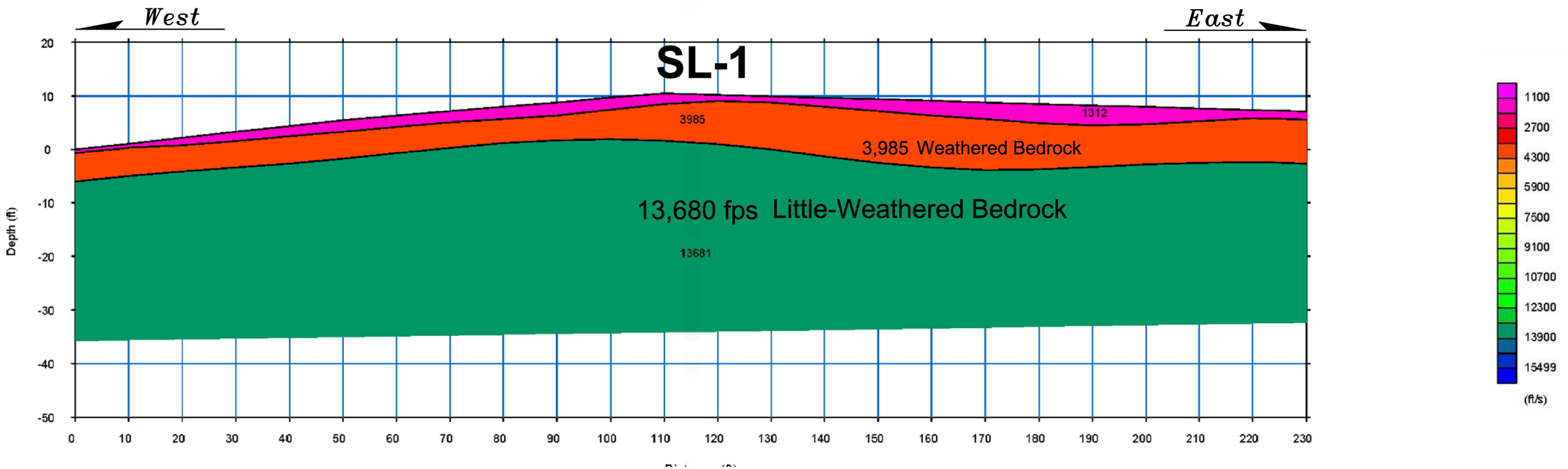
LOCATION: El Dorado Hills, California

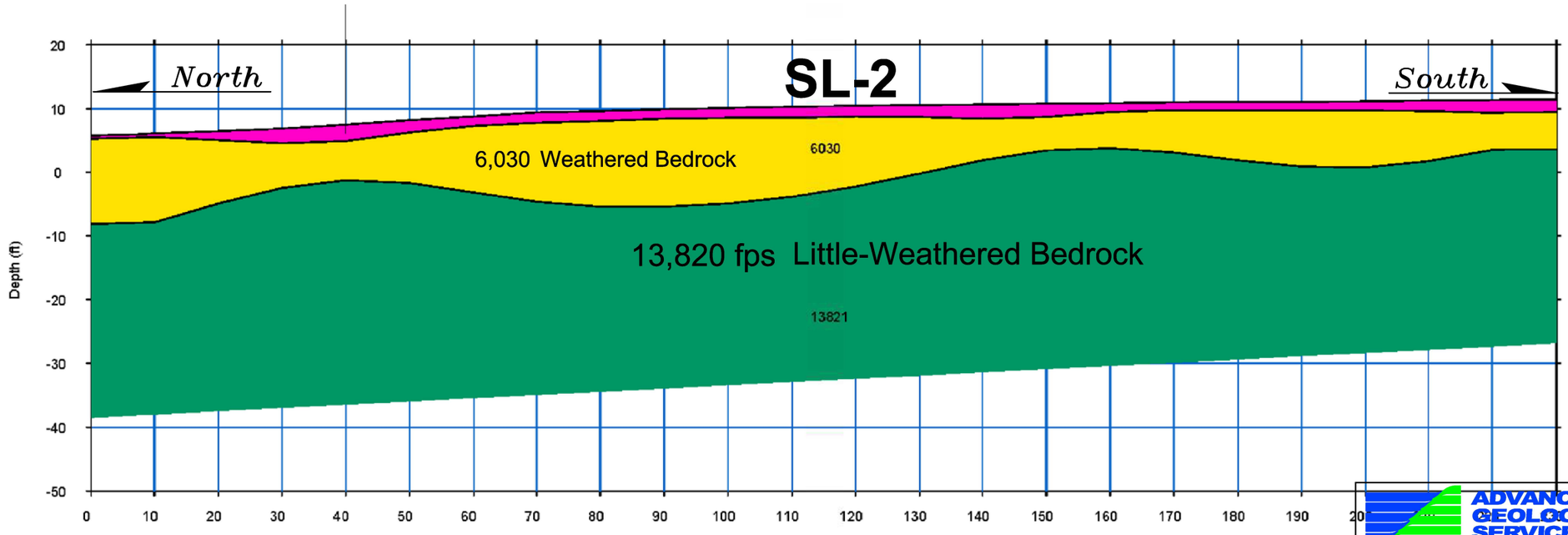
CLIENT: Kleinfelder, Inc.

PROJECT #: 19-093-1CA

DATE: Aug 19, 2019 DRAWN BY: R. SMITH

FIGURE 2







SL-1, SL-2 SEISMIC LINE LOCATIONS

ADVANCED GEOLOGICAL SERVICES

1605 School Street
Suite 4
Moraga, CA 94556
(925) 808-8965

SL-1 & SL-2 P-Wave Velocity Layer Models
Silva Valley Parkway, Phase II
Seismic Refraction Investigation

LOCATION: El Dorado Hills, California

CLIENT: Kleinfelder, Inc.

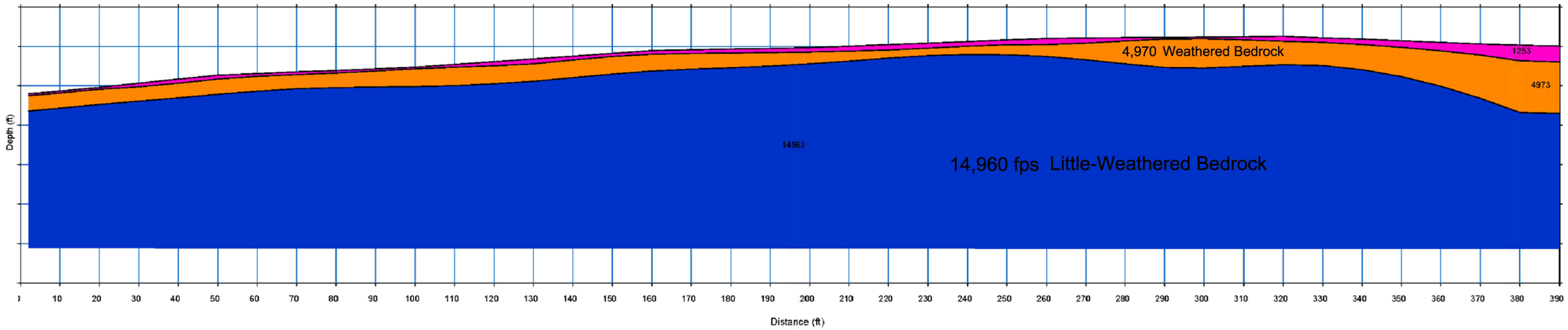
PROJECT #: 19-093-1CA

DATE: Aug 19, 2019

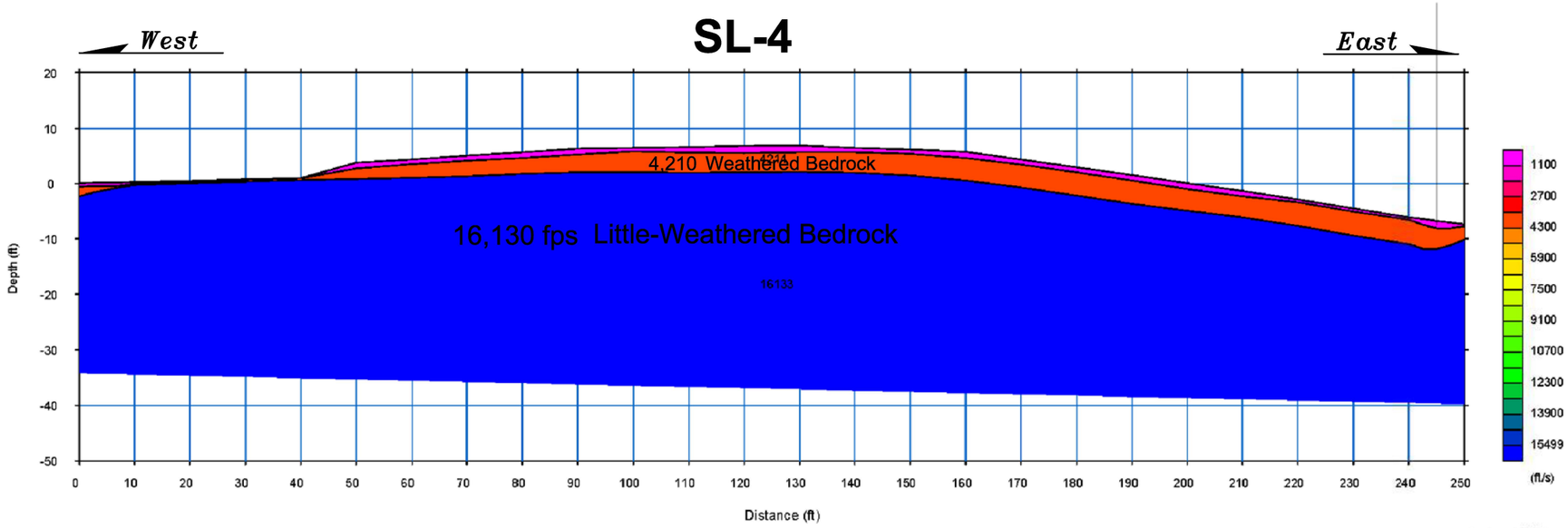
DRAWN BY: R. SMITH

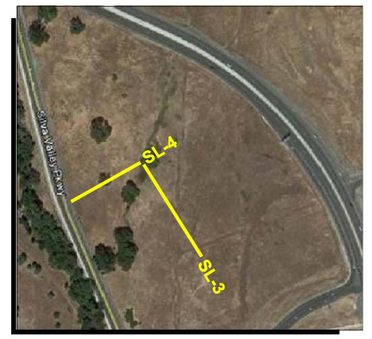
FIGURE 3

SL-3



SL-4





SL-3 & SL-4 SEISMIC LINE LOCATIONS

ADVANCED GEOLOGICAL SERVICES

1605 School Street
Suite 4
Moraga, CA 94556
(925) 808-8965

SL-3 & SL-4 P-Wave Velocity Layer Models
Silva Valley Parkway, Phase II
Seismic Refraction Investigation

LOCATION: El Dorado Hills, California

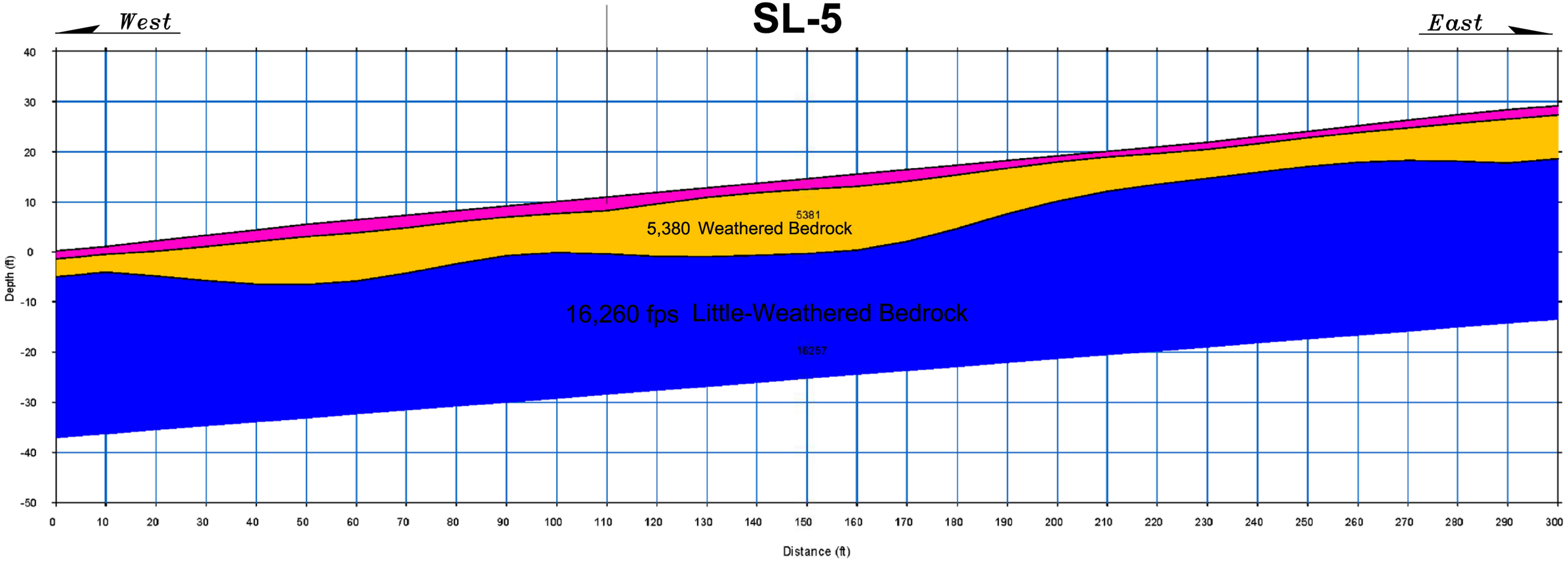
CLIENT: Kleinfelder, Inc.

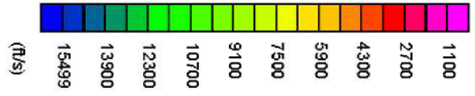
PROJECT #: 19-093-1CA

DATE: Aug 19, 2019 DRAWN BY: R. SMITH

FIGURE 4

SL-5







SL-5 SEISMIC LINE LOCATION

ADVANCED GEOLOGICAL SERVICES

1605 School Street
Suite 4
Moraga, CA 94556
(925) 808-8965

SL-5 P-Wave Velocity Layer Model
Silva Valley Parkway, Phase II
Seismic Refraction Investigation

LOCATION: El Dorado Hills, California

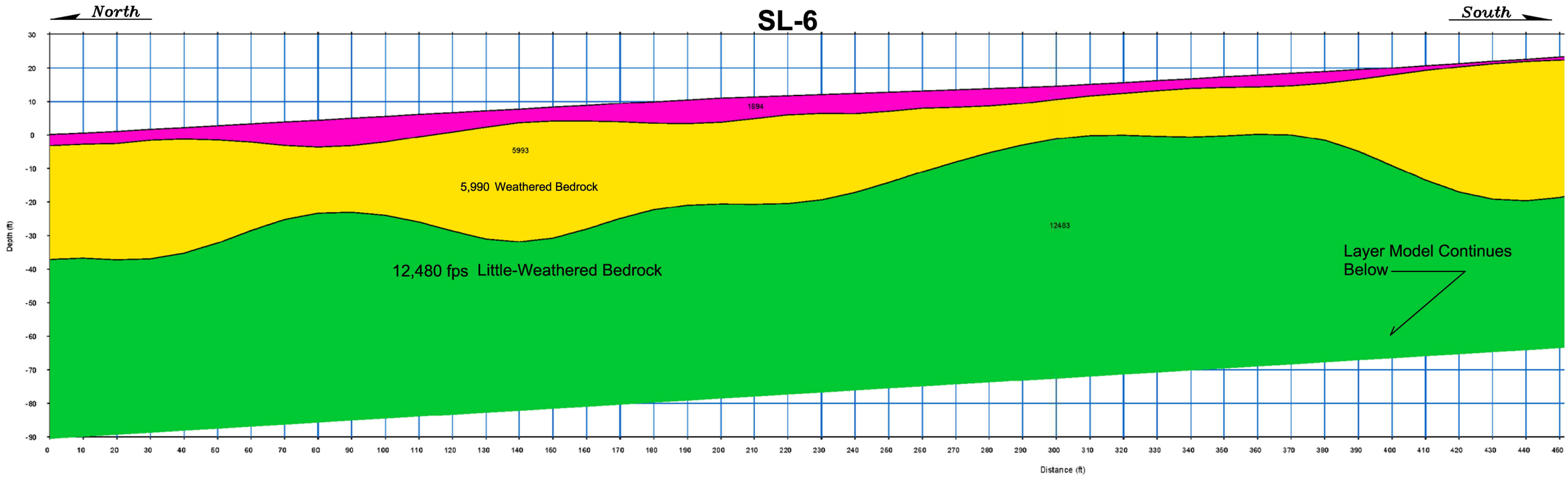
CLIENT: Kleinfelder, Inc.

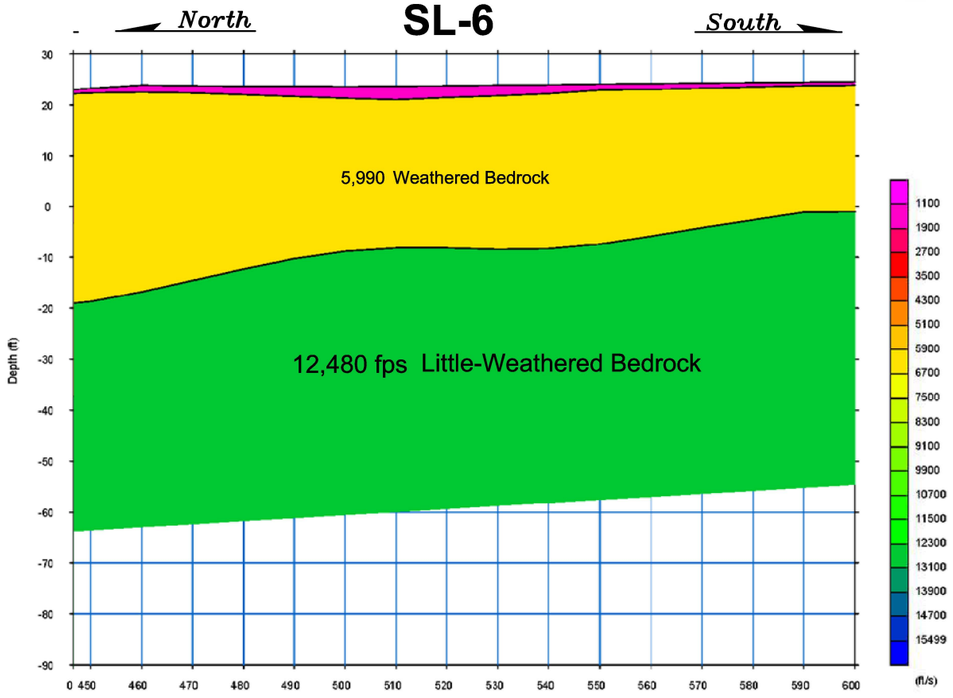
PROJECT #: 19-093-1CA

DATE: Aug 19, 2019

DRAWN BY: R. SMITH

FIGURE 5







SL-6 SEISMIC LINE LOCATION

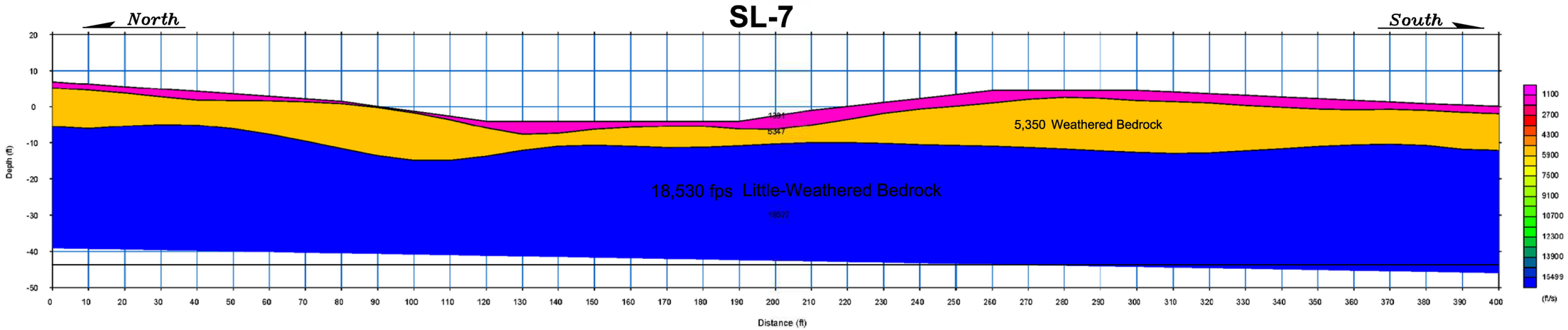
ADVANCED GEOLOGICAL SERVICES
1605 School Street
Suite 4
Moraga, CA 94556
(925) 808-8965

SL-6 P-Wave Velocity Layer Model
Silva Valley Parkway, Phase II
Seismic Refraction Investigation

LOCATION: El Dorado Hills, California
CLIENT: Kleinfelder, Inc.
PROJECT #: 19-093-1CA
DATE: Aug 19, 2019 DRAWN BY: R. SMITH

FIGURE 6

SL-7





SL-7 SEISMIC LINE LOCATION

ADVANCED GEOLOGICAL SERVICES

1605 School Street
Suite 4
Moraga, CA 94556
(925) 808-8965

SL-7 P-Wave Velocity Layer Model
Silva Valley Parkway, Phase II
Seismic Refraction Investigation

LOCATION: El Dorado Hills, California

CLIENT: Kleinfelder, Inc.

PROJECT #: 19-093-1CA

DATE: Aug 19, 2019

DRAWN BY: R. SMITH

FIGURE 7

APPENDIX A

SEISMIC VELOCITY AND LIMITATIONS OF THE REFRACTION METHOD

The physical properties of earth materials (fill, sediment, rock) such as compaction, density, hardness, and induration dictate the corresponding seismic velocity of the material. Additionally, other factors such as bedding, fracturing, weathering, and saturation can also affect seismic velocity. In general, low velocities indicate loose soil, poorly compacted fill material, poorly to semi-consolidated sediments, deeply weathered, and highly fractured rock. Conversely, high velocities are indicative of competent rock or dense and highly compacted sediments and fill. The highest velocities are measured in unweathered and little fractured rock.

There are certain limitations associated with the seismic refraction method as applied for this investigation. These limitations are primarily based on assumptions that are made by the data analysis routine. The data analysis routine assumes that the velocities along the length of each spread are uniform. If there are localized zones within each layer where the velocities are higher or lower than indicated, the analysis routine will interpret these zones as changes in the surface topography of the underlying layer. A zone of higher velocity material would be interpreted as a low in the surface of the underlying layer. Zones of lower velocity material would be interpreted as a high in the underlying layer. The data analysis routine also assumes that the velocity of subsurface materials increase with depth. Therefore, if a layer exhibits velocities that are slower than those of the material above it, the slower layer will not be resolved. Also, a velocity layer may simply be too thin to be detected.

The quality of the field data is critical to the construction of an accurate depth and velocity profile. Strong, clear “first-break” information from refracted interfaces will make the data processing, analysis, and interpretation much more accurate and meaningful. Vibrational noise or poor subsurface conditions can decrease the ability to accurately locate and pick seismic waves from the interfaces.

Due to these and other limitations inherent to the seismic refraction method, resultant velocity cross-sections should be considered only as approximations of the subsurface conditions. The actual conditions may vary locally.

Appendix F

Greenhouse Gas Emissions Technical Report and North Site Remainder Area Technical Report

Greenhouse Gas Emissions Technical Report

Prepared for
Ascent Environmental, Inc.
Sacramento, California

Prepared by
Ramboll Americas Engineering Solutions, Inc.
Irvine, California

Project Number
1940112064

Date
October 2025

EDH COSTCO PROJECT GREENHOUSE GAS EMISSIONS TECHNICAL REPORT

EL DORADO HILLS, CALIFORNIA

Ramboll Americas Engineering Solutions, Inc.
2211 Michelson Drive, Suite 400
Irvine, California 92612
(949) 261-5151

RAMBOLL

CONTENTS

		Page
1.	**INTRODUCTION**	**1**
1.1	Existing Conditions	1
1.2	Proposed Project	1
1.2.1	North Site	1
1.2.2	South Site	2
2.	**SCIENTIFIC BACKGROUND**	**7**
2.1	Science of Global Climate Change	7
2.2	Potential Effects of Human Activity on Global Climate Change	9
2.3	Potential Effects of Climate Change on the State of California	10
2.3.1	Air Quality	11
2.3.2	Water Supply	11
2.3.3	Hydrology	12
2.3.4	Agriculture	13
2.3.5	Ecosystems and Wildfire	13
3.	**SIGNIFICANCE THRESHOLDS**	**14**
3.1	CEQA Guidelines on GHG Emissions	14
3.2	Project Approach to Significance	14
4.	**PROJECT GHG EMISSIONS INVENTORY**	**16**
4.1	Measurement, Resources and Baseline Condition	16
4.1.1	Units of Measurement: Tonnes of CO_2 and CO_2e	16
4.1.2	Resources	16
4.1.3	Indirect GHG Emissions from Electricity Use	18
4.2	Construction Emissions	18
4.2.1	Emissions from Construction Equipment	19
4.2.2	Emissions from On-Road Construction Trips	20
4.2.3	Total Construction Emissions	20
4.3	Operational Emissions	20
4.3.1	Area Sources	20
4.3.2	Mobile Sources	21
4.3.3	Water Supply, Treatment and Distribution	24
4.3.4	Energy Use	24
4.3.5	Solid Waste	25
4.3.6	Refrigerant Use	25
4.3.7	Stationary Sources	25
4.3.8	Vegetation Changes	25
4.3.9	On-Site Electric Vehicle Chargers	26
4.4	Total Annual Operational Emissions	26
5.	**PROJECT IMPACTS IN CONTEXT**	**27**
5.1	Threshold 1: Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?	27
5.2	Threshold 2: Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?	27
5.2.1	2022 Scoping Plan Update	28
5.2.2	SACOG 2020 MTP/SCS	29
5.2.3	El Dorado County RTP 2020-2040	31
5.3	Summary	32

CONTENTS *(Continued)*

TABLES

Table 3-1: Placer County Air Pollution Control District's Greenhouse Gas Significance Thresholds
Table 4-1: Construction Schedule – Proposed Project
Table 4-2: Construction Schedule – Site Access and Roadway Improvements
Table 4-3: Construction Equipment Assumptions – Project
Table 4-4: Construction Equipment Assumptions – Site Access and Roadway Improvements
Table 4-5: Construction Trip Assumptions – Project Construction Scenario 1
Table 4-6: Construction Trip Assumptions – Project Construction Scenario 2
Table 4-7: Construction Trip Assumptions – Site Access and Roadway Improvements
Table 4-8: Construction Material Movement – Project Construction Scenario 1
Table 4-9: Construction Material Movement – Project Construction Scenario 2
Table 4-10: Construction Material Movement – Site Access and Roadway Improvements
Table 4-11: Construction Demolition Assumptions – Site Access and Roadway Improvements
Table 4-12: Annual Greenhouse Gas Emissions for Project Construction Scenario 1
Table 4-13: Annual Greenhouse Gas Emissions for Project Construction Scenario 2
Table 4-14: Operational Energy Assumptions
Table 4-15: Vegetation Land Use Change Assumptions
Table 4-16: Estimating GHG Emission Benefits of On-Site Electric Vehicle Chargers
Table 4-17: Annual Average Greenhouse Gas Emissions for Project Operation

APPENDICES

Appendix A: Construction Emission Calculations
Appendix B: Emission Calculations for Project Operation
Appendix C: Project Evaluation Against Relevant Plans

ACRONYMS AND ABBREVIATIONS

Acronym	Definition
ACC	Advanced Clean Cars
ACF	Advanced Clean Fleets
ACT	Advanced Clean Trucks
AP-42	United States Environmental Protection Agency's Compilation of Air Pollutant Emission Factors
AR5	Fifth Assessment Report
CAA	Clean Air Act
CalEEMod	California Emission Estimator Model
CalRecycle	California Department of Resources Recycling and Recovery
CAP	criteria air pollutant
CARB	California Air Resources Board
CCCC	California Climate Change Center
CEQA	California Environmental Quality Act
CH_4	methane
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
DC	direct current
DWR	Department of Water Resources
EDCAQMD	El Dorado County Air Quality Management District
EDH	El Dorado Hills
EMFAC	EMission FACtors model
EPA	Environmental Protection Agency
EV	electric vehicle
GDF	gasoline dispensing facility
GHG	greenhouse gas
GWP	global warming potential
HFC	hydrofluorocarbon
HVAC	heating, ventilation, and air conditioning
IPCC	Intergovernmental Panel on Climate Change
kW	kilowatt
MSW	municipal solid waste
MT	metric tonnes
MTP/SCS	Metropolitan Transportation Plan/Sustainable Communities Strategy
N_2O	nitrogen dioxide
OFFROAD	Off-road Emissions Inventory Program model
PCAPCD	Placer County Air Pollution Control District
PG&E	Pacific Gas & Electric
ppm	parts per million
RCP	Representative Concentration Pathway

ACRONYMS AND ABBREVIATIONS *(Continued)*

Acronym	Definition
RTP	Regional Transportation Plan
SACOG	Sacramento Area Council of Governments
TRU	transport refrigeration unit
USEPA	United States Environmental Protection Agency
VMT	vehicle miles traveled
yr	year
ZEV	zero emission vehicle

1. INTRODUCTION

Ramboll Americas Engineering Solutions, Inc. (Ramboll) was retained to prepare a Greenhouse Gas (GHG) Technical Report for the proposed El Dorado Hills (EDH) Costco Project (Project) located north of the Silva Valley Parkway/US 50 interchange in the El Dorado Hills community area of the unincorporated El Dorado County in California. This GHG Technical Report analyzes the GHG impacts of Proposed Project's construction and operational activities. In particular, this report describes the existing setting of the Project site, describes the relevant regulatory setting, discusses the methodology used to evaluate GHG emissions related to the Project, and evaluates potential impacts related to GHG that would be affected as a result of implementation of the Proposed Project.

1.1 Existing Conditions

The Project site is currently vacant grassland with scattered oak trees and seasonal drainage features. There are no permanent structures on the Project site. The southern edge of the property directly abuts the US 50 right-of-way, while the western boundary is adjacent to Clarksville Crossing. An approximate 7.75-acre portion of the northern site is reserved for a planned future extension of Country Club Drive, which is not part of the Proposed Project.

Surrounding land uses include:

- North: Single-family residential uses and Oak Meadow Elementary School
- East: Vacant land, Tong Road, and single-family residential uses
- South: U.S. Highway 50 and Tong Road
- West: Clarksville Crossing roadway, open space, and undeveloped land

1.2 Proposed Project

The 43.26-acre project site is separated into two components: the North Site of approximately 24.83 acres and the South Site of approximately 18.43 acres. A membership-only Costco fuel facility and employee parking would occupy part of the North Site, while the South Site would accommodate the main Costco warehouse retail building and a partially below-grade parking structure. The majority of the North Site is not proposed to include any development as part of the Project.

1.2.1 North Site

On the North Site, approximately 3.29 acres would be developed with a Costco members-only fuel facility and an employee parking area. The remainder of the North Site would include an approximately 13.79-acre out-parcel that would remain undeveloped at this time (North Site Remainder Area). The Costco project proposes no development for the North Site Remainder Area. The future extension of Country Club Drive (County Capital Improvement Project No. 36105008), when constructed by the County, would occupy a portion of the North Site near its northern edge, though the future extension is an independent project proposed by, and to be undertaken by, the County and is not analyzed as a part of the project.

The fuel facility would occupy a generally rectangular footprint near Silva Valley Parkway, and the employee parking would be situated immediately west of the canopy, separated by drive aisles and landscaping.

Site Access and Roadway Improvements

Primary access to the North Site would be provided via a new signalized intersection on Silva Valley Parkway, shared with the South Site's main driveway. A secondary right-in/right-out driveway north of that intersection would separate fueling operations from primary traffic flows. Fuel delivery trucks would enter the northern driveway and exit at the signal to allow safe left turns. Sidewalks, bike lanes, and pedestrian connections would be provided along the North Site's frontage, north of the signalized intersection.

Architecture

The proposed fuel facility includes a steel canopy structure of up to 13,000 square feet, covering four fueling bays with four two-sided dispensers each (32 fueling positions total). A small, up to 200-square-foot controller enclosure would house operational equipment. The canopy design features neutral colors with corporate striping to align with Costco's brand, and recessed LED lighting directing illumination downward.

Construction

Construction for the North Site is anticipated to last approximately 11 months once construction begins, which is currently estimated to be July of 2026. Construction would occur 7 days per week, with construction occurring 7:00 a.m. to 7:00 p.m. on weekdays and 8:00 a.m. to 5:00 p.m. on weekends.

Operations

Fuel facility hours would generally be from 5:00 a.m. to 10:00 p.m. The facility is expected to receive approximately four to five fuel truck deliveries per day. These deliveries would be staged in a striped area north of the canopy. Approximately 70 employee parking spaces would serve Costco employees; circulation is designed to keep fuel facility traffic and employee parking separate.

1.2.2 South Site

The South Site would include up to approximately 165,000 square feet of building area planned to be constructed as a Costco Wholesale Member Warehouse retail store. Within the store, Costco would offer, among other product and services, optical exams and optical sales, hearing aid testing and sales, food service preparation and sales, meat preparation and sales, bakery and sales of baked goods, alcohol sales, and tire sales and installation. Temporary outdoor sales may occur within the portion of the parking area adjacent to the warehouse retail building for seasonal sales, such as Christmas tree sales during the months of November and December. The warehouse retail building is proposed to include one customer entrance to the main Costco store, which would be located at the northwest corner of the building. The tire center would have bay doors accessible from outside of the warehouse retail building, though the tire center sales area would be accessible through the building. A promotional vehicle may be on display near the customer entrance to the building. This vehicle would be used to promote online or off-site vehicle sales; no vehicles are proposed to be sold onsite. The South Site would also include a parking structure and surface parking, which are further described below. Development on the South Site would exclude the 1.38-acre area located west of Clarksville Crossing where no development is proposed.

The South Site has been designed to use the existing slope of the site by locating the Costco warehouse retail building in the southeast corner of the site, where the elevation of existing streets adjacent to the site are the highest. Parking would be provided in two at-grade parking lots and one subterranean (below-grade) parking lot structure beneath one of the at-grade lots. Vehicle access to this lower-level parking structure would be provided by a ramp on the north side of the structure from Clarksville Crossing and a ramp on the south side of the structure from the above at-grade parking lot. The below-grade parking structure would include approximately 200 to 230 spaces. A pedestrian ramp and elevators would provide pedestrian access from the below-grade level up to the at-grade parking and entry to the warehouse retail building. The below-grade parking structure and at-grade parking lots together would include approximately 750 to 780 spaces in total parking to serve the South Site.

Site Access and Roadway Improvements

The primary entrance to the South Site would be from the new signalized intersection with Silva Valley Parkway (shared with the North Site). Northbound traffic on Silva Valley Parkway would have a left-turn pocket into Clarksville Crossing, and three driveways off Clarksville Crossing would provide direct access to the South Site. A partial traffic signal would be installed at the intersection of Silva Valley Parkway and Clarksville Crossing. In the future, when Country Club Drive is extended by the County, Clarksville Crossing's connection to Silva Valley Parkway and the traffic signal would be removed. A public access road would be developed on the South Site within the remainder parcel that was taken by the County in connection with the development of Tong Road. A maintenance agreement between the County and Costco would be created to address the maintenance of the new public access road.

Delivery truck access would be allowed at all driveway locations depending on the size of the delivery truck and direction of travel for both the North Site and South Site. Most trucks delivering to the warehouse retail building would access the site at the southwest driveway on Clarksville Crossing near the receiving docks.

Architecture

The warehouse retail building design for the South Site is proposed to be contemporary and would include a variety of massing and appropriate materials for the building. By combining concrete masonry block and architectural metal panels, Costco intends to create a scale and architectural interest to minimize the visual impact of a large retail warehouse retail building. By use of design techniques such as the location of building materials, landscaping, and the incorporation of varying parapet cap heights, Costco proposes to break the long elevations both horizontally and vertically at the appropriate height to conceal roof top mounted mechanical equipment. The proposed colors are warm natural earth tones, which would relate to the proposed surrounding development by utilizing similar building materials and architectural detailing. The tire center would be integrated into the main building, with exterior bay doors and interior retail access for sales and service. Pedestrian entries (main and employee) would be oriented to the northwest for customer convenience and the tire center from the other warehouse retail building operational areas.

The South Site truck loading dock is proposed to be located at the southwest corner of the building adjacent to US 50. The bay doors would be equipped with sealed gaskets to limit noise impacts. A smaller on-grade door would also be located on the south side of the building. This door is to receive bread deliveries and small delivery vans/trucks.

A transformer and two trash compactors would also be located along the south edge of the building proposed for the South Site. Landscape material would provide screening of this area.

Parking, Circulation, and Loading

Two at-grade lots and one below-grade lot together provide approximately 750 to 780 parking stalls. Access to the South Site would consist of a signalized intersection on Silva Valley Parkway, as well as driveways provided along Clarksville Road. These driveways would provide customer access to both at-grade and below-grade parking stalls. Delivery trucks would access sealed loading docks at the building's southwest corner.

Construction

As with the North Site, construction for the South Site is anticipated to last approximately 11 months once construction begins, which is currently estimated to be July of 2026. Construction would occur 7 days per week, with construction occurring 7:00 a.m. to 7:00 p.m. on weekdays and 8:00 a.m. to 5:00 p.m. on weekends. In addition to these construction hours, it is anticipated that there would be up to 8 days of nighttime construction activities involving concrete pours for the building foundation.

Operations

The warehouse retail building is proposed to include one member entrance to the main Costco store, which would be located at the northwest corner. The EDH Costco is expected to include, among other features, a bakery and sales of baked goods, meat preparation and sales, alcohol sales, food service preparation and sales, pharmacy, optical center with optical exams and retail optical sales, hearing aid testing center, and food court, along with the sales of approximately 4,000 products. The warehouse retail building would include a five-bay tire center with member access via the inside of the main Costco building, which would include tire sales and a tire installation facility.

It is anticipated that the El Dorado Hills Costco project (warehouse retail building and fuel facility) would employ approximately 250 to 300 employees combined. The warehouse retail building would in general be open from 9:00 a.m. to 8:30 p.m. on weekdays and 9:00 a.m. to 7:00 p.m. on weekends. Costco anticipates an average of about 10 to 12 trucks delivering goods per day. The trucks range in size from 26 feet long for single-axle trailers to 70 feet long for double-axle trailers. Receiving time would be from 2:00 a.m. to 1:00 p.m., averaging 2 to 3 trucks per hour, with most of the deliveries completed before 10:00 a.m. Deliveries to the warehouse retail building are made primarily in Costco trucks from its freight consolidation facility in Tracy, California, coming to the site from eastbound US 50. Truck travel routes would use Silva Valley Parkway (from US 50 to Clarksville Road), Clarksville Road (from White Rock Road to Silva Valley Parkway), future Country Club Drive extension west of the South Site to access Clarksville Road, and White Rock Road (from Clarksville Road to US 50).

The tire center receives shipments of tires once or twice a week, with old tires transported offsite for recycling. Seasonal outdoor sales of items such as Christmas trees may occur in the parking area. In addition, promotional vehicle displays may appear outside, but no on-site vehicle sales would occur.

Energy Efficiency Features

As noted above, the South Site would obtain electrical and natural gas services from Pacific Gas & Electric (PG&E). The development would comply with energy efficiency standards under California Code of Regulations Title 24. Additional energy efficiency and sustainability measures incorporated into the Costco project are noted below.

- Parking lot light standards would be designed in order to provide even light distribution, and utilize less energy compared to a greater number of fixtures at lower heights. The use of LED lamps can provide a higher level of perceived brightness with less energy than other lamps such as high-pressure sodium.
- New and renewable building materials would typically be extracted and manufactured within the region. When masonry and concrete are used, the materials purchased would be local to the Project, minimizing the transportation distances and impact to local road networks.
- The use of pre-manufactured building components, including structural framing and metal panels, would help to minimize waste during construction.
- Pre-manufactured metal wall panels with insulation carry a higher R-Value and greater solar reflectivity to help conserve energy as compared to other materials. Building heat absorption would be further reduced by a decrease in the thermal mass of the metal wall when compared to a typical masonry block wall.
- A substantial amount of the proposed landscaping material for the North Site and South Site is climate adapted to the region and would use less water than other common landscape species.
- The irrigation system proposes to include the use of deep root watering bubblers for parking lot trees to minimize usage and ensure that water goes directly to the intended planting areas.
- Storm water management plans are designed to maintain water quality, minimize erosion, and manage storm water discharge rates based on the County requirements.
- High-efficiency restroom fixtures would be installed.
- Commissioning of mechanical systems would occur to ensure that the heating, ventilation, and air conditioning (HVAC) systems are performing as designed. HVAC comfort systems would be controlled by a computerized building management system to maximize efficiency.
- HVAC units planned for the South Site are high-efficiency direct ducted units, which have phased out the use of hydrochlorofluorocarbons completely.
- Parking lot and exterior lights would be controlled by a photo sensor and time clock.
- 10 electric vehicle (EV) chargers with direct current (DC) fast chargers would be installed.
- Lighting would be controlled by the overall project energy management system.
- Energy efficient Transformers (i.e., Square D Type EE transformers) would be used.
- Variable speed motors would be used on make-up air units and booster pumps.

- Gas water heaters would be direct vent and 94 percent efficient or greater.
- Reclaim tanks would be used to capture heat released by refrigeration equipment to heat domestic water in lieu of venting heat to the outside.
- The building structure would be a pre-engineered system that uses 100 percent recycled steel materials and would be designed to minimize the amount of material used.
- Construction waste would be recycled whenever possible.
- Floor sealant would be No-volatile organic compound and would represent over 80 percent of the floor area.
- Carbon dioxide (CO_2) would be monitored throughout the warehouse.
- Extensive recycling/reuse program would be implemented including tires, cardboard, grease, plastics, and electronic waste.
- Use of plastic shopping bags would be avoided.
- Suppliers would be required to reduce packaging and consider alternative packaging solutions.
- Distribution facilities would be strategically located to minimize miles traveled for delivery.
- Deliveries would be made in full trucks.
- All Costco trucks would be equipped with an engine idle shut off timers.
- 100 percent renewable electrical power will be supplied by PG&E, as Costco has a Clean Energy Contract with PG&E.

2. SCIENTIFIC BACKGROUND

2.1 Science of Global Climate Change

There is a general scientific consensus that global climate change is occurring, caused in whole or in part by increased emissions of GHGs that keep the Earth's surface warm by trapping heat in the Earth's atmosphere, in much the same way as glass traps heat in a greenhouse. The Earth's climate is changing because human activities, primarily the combustion of fossil fuels, are altering the chemical composition of the atmosphere through the buildup of GHGs. GHGs allow the sun's radiation to penetrate the atmosphere and warm the Earth's surface, but do not let the infrared radiation emitted from the Earth escape back into outer space. As a result, global temperatures are predicted to increase over the century. In particular, if climate change remains unabated, surface temperatures in California are expected to increase anywhere from 4.1 to 8.6 degrees Fahrenheit by the end of the century. Not only would higher temperatures directly affect the health of individuals through greater risk of dehydration, heat stroke, and respiratory distress, the higher temperatures may increase ozone formation, thereby worsening air quality. Rising temperatures could also reduce the snowpack, which would increase the risk of water shortages. Higher temperatures along with reduced water supplies could reduce the quantity and quality of agricultural products. In addition, there could be an increase in wildfires and a shift in distribution of natural vegetation throughout the State. Global warming could also increase sea levels and coastal storms resulting in greater risk of flooding.

Emissions of CO_2 are the leading cause of global warming, with other pollutants such as methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons, and sulfur hexafluoride also contributing. The magnitude of the impact on global warming differs among the GHGs. For example, HFCs, perfluorocarbons, and sulfur hexafluoride have a greater "global warming potential" than CO_2. In other words, these other GHGs have a greater contribution to global warming than CO_2 on a per mass basis. The effect each GHG has on climate change is measured as a combination of the volume of its emissions and its global warming potential (GWP) and is expressed as a function of how much warming would be caused by the same mass of CO_2. Thus, GHG emissions are typically measured in terms of megagrams or metric tonnes (MT) of carbon dioxide equivalent (CO_2e). CO_2 has the greatest impact on global warming because of the relatively large quantities of CO_2 emitted into the atmosphere.

Globally, CO_2 concentrations, which ranged from 265 parts per million (ppm) to 280 ppm over the last 10,000 years, only began rising in the last 200 years to current levels of 410 ppm,[1] a 46 percent increase.

In 2022, the United States emitted about 6.3 billion MT of CO_2e or about 19 MT/person/year, calculated by dividing the emissions total by the U.S. Census Bureau population estimate for

[1] Intergovernmental Panel on Climate Change (IPCC). Climate Change 2021, The Physical Science Basis. 2021. Available at: https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report.pdf. Accessed: October 2025.

2022.[2,3] This represents a reduction below 2005 total emission levels of approximately 17 percent. Of the five major sectors nationwide – residential, commercial, industrial, electric power generation, and transportation – transportation accounts for the highest fraction of GHG emissions (approximately 37 percent of emissions from these five sectors). These emissions are entirely generated from direct fossil fuel combustion. Approximately 57 percent of these transportation emissions resulted from passenger car and light-duty truck use. The remaining emissions came from other transportation activities, including the combustion of diesel fuel in medium- and heavy-duty vehicles, and jet fuel in aircraft. According to the Inventory of U.S. Greenhouse Gas Emissions and Sinks,[4] from 1990 to 2022 as a whole, transportation emissions from fossil fuel combustion increased by approximately 19 percent.

In 2022, California emitted approximately 371.1 million tonnes of CO_2e, or about 6 percent of the U.S. emissions.[5] California's percentage contribution is due primarily to the sheer size of California, as compared to other states. For example, in 2022 (the most recent year of state rankings for energy-related CO_2 emissions per capita), California had the third lowest per capita energy-related CO_2 emission rates in the country (including Washington D.C.),[6] due to the success of its energy efficiency and renewable energy programs and commitments that have lowered the State's GHG emissions rate of emissions growth.[7] Another factor that has reduced California's fuel use and GHG emissions is its mild climate compared to that of many other states.

California Air Resources Board (CARB) found that transportation is the source of approximately 38 percent of the State's GHG emissions, followed by industrial sources at 20 percent, and electricity generation (both in-state and out-of-state) at 16 percent. Residential and commercial activities comprised approximately 11 percent of the inventory. Agriculture is the source of approximately 8 percent of the State's GHG emissions.[8]

---

2 USEPA. 2024. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2022. Available at: https://www.epa.gov/system/files/documents/2024-04/us-ghg-inventory-2024-main-text_04-18-2024.pdf. Accessed: October 2025.

3 U.S. Census Bureau. Annual Estimates of the Resident Population for the United States, Regions, States, District of Columbia, and Puerto Rico for 2022: April 1, 2020 to July 1, 2022. (NST-EST2022). Available at: https://www2.census.gov/programs-surveys/popest/tables/2020-2022/state/totals/NST-EST2022-POP.xlsx. Accessed: October 2025.

4 USEPA. 2024. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2022. Available at: https://www.epa.gov/system/files/documents/2024-04/us-ghg-inventory-2024-main-text_04-18-2024.pdf. Accessed: October 2025.

5 CARB. 2024. California Greenhouse Gas Emissions for 2000 to 2022 Trends of Emissions and Other Indicators. Available at: https://ww2.arb.ca.gov/sites/default/files/2024-09/nc-2000_2022_ghg_inventory_trends.pdf. Accessed: October 2025.

6 US EIA. 2024. Table 4: Per capita energy-related carbon dioxide emissions by state. Available at: https://www.eia.gov/environment/emissions/state/. Accessed: October 2025.

7 The Center for Resource Efficient Communities. 2013. Residential Energy Use and GHG Emissions Impact of Compact Land Use Types. Report to ARB, Contract No. 10-323. Available at: http://www.arb.ca.gov/research/apr/past/10-323h.pdf. Accessed: October 2025.

8 CARB. 2024. California Greenhouse Gas Emissions from 2000 to 2022: Trends of Emissions and Other Indicators. Available at: https://ww2.arb.ca.gov/sites/default/files/2024-09/nc-2000_2022_ghg_inventory_trends.pdf. Accessed: October 2025.

2.2 Potential Effects of Human Activity on Global Climate Change

Globally, climate change has the potential to impact numerous environmental resources through anticipated, though uncertain, impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. At the end of the 21st century, global surface temperature change is likely to exceed 1.5°C (relative to 1850-1900 levels) in all four assessed climate model projections but one.[9]

The understanding of GHG emissions, particulate matter, and aerosols on global climate trends is complex and involves varying uncertainties and a balance of different effects. In addition to uncertainties about the extent to which human activity rather than solar or volcanic activity is responsible for increasing warming, there is also evidence that some human activity has cooling, rather than warming, effects, as discussed in detail in numerous publications by the Intergovernmental Panel on Climate Change (IPCC), such as the Sixth Assessment Report (AR6) Synthesis Report.[10,11] Nonetheless, when all effects and uncertainties are considered together, there is a strong scientific consensus that human activity has contributed significantly to global warming. As stated in AR6, "Human activities, principally through emissions of greenhouse gases, have unequivocally caused global warming, with global surface temperature reaching 1.1°C above 1850–1900 in 2011-2020."[12]

Acknowledging uncertainties regarding the rate at which anthropogenic GHG emissions would continue to increase (based upon various factors under human control, such as future population growth and the locations of that growth; the amount, type, and locations of economic development; the amount, type, and locations of technological advancement; adoption of alternative energy sources; legislative and public initiatives to curb emissions; and public awareness and acceptance of methods for reducing emissions), and the impact of such emissions on climate change, the IPCC devises emission scenarios which utilize various assumptions about the rates of economic development, population growth, and technological advancement over the course of the next century. For the Fifth Assessment Report (AR5), Representative Concentration Pathways (RCPs) were developed to describe four different 21st century scenarios of greenhouse gas emissions, atmospheric concentrations, air pollutant emissions, and land use. The RCPs summarized for the AR5 were used for the five climate change scenarios provided in the AR6.[13] RCPs are based on a combination of

[9] IPCC. Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report. Climate Change 2014: Synthesis Report. 2014. SPM.2.2. Available at: https://www.ipcc.ch/site/assets/uploads/2018/02/SYR_AR5_FINAL_full.pdf. Accessed: October 2025.

[10] The IPCC was established in 1988 by the World Meteorological Organization and the United Nations Environment Programme to assess scientific, technical, and socio-economic information relevant for the understanding of climate change, its potential impacts, and options for adaptation and mitigation. The IPCC has produced a series of Assessment Reports comprised of full scientific and technical assessments of climate change. The first assessment report was developed in 1990. The Sixth Assessment Report was completed in August 2021 with the most current Synthesis Report completed in March 2023.

[11] IPCC. 2023. Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Available at: https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_LongerReport.pdf. Accessed: October 2025.

[12] Ibid.

[13] IPCC. 2021. Climate Change 2021, The Physical Science Basis. Available at: https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_FullReport_small.pdf. Accessed: October 2025.

integrated assessment models, simple climate models, atmospheric chemistry, and global carbon cycle models.

- The projected effects of global warming are assessed under each of the five scenarios.[14]
- It is, at a minimum, more likely than not a 1.5°C increase in globally averaged surface area temperature will occur between 2021-2045 relative to the average over the period of 1850-1900.
- It is virtually certain that global mean sea level will continue to rise through the 21st century.
- It is likely the Arctic Ocean in September, the month of annual minimum sea ice area, will become practically ice free averaged over 2081-2100 and all available simulations.
- It is very likely that the cumulative uptake of carbon by the ocean and by land will increase through the end of the 21st century.

Potential secondary effects from global warming include impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity.

However, AR6 states, "The uncertainty range on assessed future changes in global surface temperature is narrower than in the AR5" and "For a given level of warming, many climate-related risks are assessed to be higher than in AR5 (high confidence). Levels of risk for all Reasons for Concern are assessed to become high to very high at lower global warming levels compared to what was assessed in AR5 (high confidence). This is based upon recent evidence of observed impacts, improved process understanding, and new knowledge on exposure and vulnerability of human and natural systems, including limits to adaptation".[15]

The IPCC began its seventh assessment cycle in July 2023. The initial Scoping Meeting to prepare the draft outline of the three Working Groups that will contribute to the Seventh Assessment Report took place in December 2024. The Synthesis Report is planned to be released by late 2029.[16]

2.3 Potential Effects of Climate Change on the State of California

According to the CARB, some of the potential impacts in California of global warming may include loss in snowpack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years.[17] The California Climate Change Center (CCCC) has released four assessment reports on climate change in California, the most recent in 2018. California's Fourth Climate Change Assessment projects an increase by

[14] IPCC Fifth Assessment Report. Climate Change 2014: Synthesis Report. 2014. Available at: https://www.ipcc.ch/site/assets/uploads/2018/02/SYR_AR5_FINAL_full.pdf. Accessed: October 2025.

[15] IPCC. 2023. Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Available at: https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_LongerReport.pdf. Accessed: October 2025.

[16] IPCC. Seventh Assessment Report. Available at: https://www.ipcc.ch/assessment-report/ar7/. Accessed: October 2025.

[17] California Air Resources Board (CARB), 2006. Public Workshop to Discuss Establishing the 1990 Emissions Level and the California 2020 Limit and Developing Regulations to Require Reporting of Greenhouse Gas Emissions, Sacramento, CA. December 1.

5.6-8.8°F from 2070 to 2100 depending on greenhouse gas emission reductions (at a moderate rate or continuing at current rates).[18]

Below is a summary of some of the potential effects reported in an array of studies that could be experienced in California as a result of global warming and climate change.

2.3.1 Air Quality

Higher temperatures, conducive to air pollution formation, could worsen air quality in California. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. For other pollutants, the effects of climate change and/or weather are less well studied, and even less well understood.

If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would further worsen air quality. Studies have been conducted to evaluate the potential impacts of climate change on wildfire frequency based on lower and higher emissions scenarios. Per California's Fourth Climate Change Assessment, under a higher emissions scenario, the average area burned statewide could increase by 77 percent above historic levels by 2100.[19] However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains would tend to temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thus ameliorating the pollution associated with wildfires. Additionally, projected increases in average ambient temperatures could increase annual heat-related deaths by as much as 11,300 in 2050.[20]

It is estimated that over the next decade, higher temperatures could increase the peak demand for electricity during summer months, which could require additional electrical generating capacity in California to meet the State's peak electricity demand.[21] During periods of extreme heat, efficiency of electricity generation is reduced at natural gas plants; hydropower generation is reduced; and increased losses occur at substations; all while electricity demands are increased. California's Third Climate Change Assessment provides projected statewide impacts of elevated ambient temperatures on electricity generation. Specifically, these factors are projected to result in the need for more than 17 gigawatts, or 38 percent of additional capacity, needed by 2100. Additionally, transmission lines lose 7 to 8 percent of transmitting capacity in higher temperatures, which also results in a need for increased power generation.[22]

2.3.2 Water Supply

Uncertainty remains with respect to the overall impact of global climate change on future water supplies in California. For example, models that predict drier conditions suggest decreased reservoir inflows and storage, and decreased river flows, relative to current

[18] California Climate Change Center, 2018. California's Changing Climate 2018. A Summary of Key Findings from California's Fourth Climate Change Assessment.

[19] Ibid.

[20] Ibid.

[21] Ibid.

[22] California Climate Change Center, 2012. Our Changing Climate 2012: Vulnerability and Adaptation to the Increasing Risks from Climate Change in California. CEC-500-2012-007. July 2012.

conditions. By comparison, models that predict wetter conditions project increased reservoir inflows and storage, and increased river flows.[23]

The Climate Change Vulnerability Assessment prepared by the California Department of Water Resources (DWR) in 2019 addresses the impacts of climate change on California. Regarding water supply, the assessment states that "As well, the already-stressed Delta ecosystem will be affected simultaneously by changing hydrology that further limits water supply for protected species at key times of year while rising sea level will push saline water further into the Delta."[24] The assessment also notes that efforts are underway to integrate modeling of water supply and flood management systems, but such integrated analysis tools were not available at the time the assessment was prepared.

California's Fourth Climate Change Assessment outlines the State's urgent water management challenges brought on as a result of climate change. These include increasing demand from a growing population as temperatures rise, earlier snowmelt and runoff, and faster-than-historical sea level rise threatening aging coastal water infrastructure and levees in the Sacramento-San Joaquin Delta.[25] Additionally, they predict that competition between urban and agriculture water users and environmental needs will increase due to effects on water supply and stream flows. The Fourth Climate Change Assessment concludes that by 2100, water supply from snowpack is projected to decline by two-thirds, and that by 2050, California's agricultural production could face climate-related water shortages of up to 16 percent in certain regions.[26]

2.3.3 Hydrology

As discussed above, climate change could potentially affect the following: the amount of snowfall, rainfall, and snowpack; the intensity and frequency of storms; flood hydrographs (flash floods, rain or snow events, coincidental high tide, and high runoff events); sea level rise and coastal flooding; coastal erosion; and the potential for saltwater intrusion. Sea level rise can be a product of global warming through two main processes – expansion of sea water as the oceans warm and melting of ice over land. A rise in sea levels could result in coastal flooding and erosion and could also jeopardize California's water supply. In particular, saltwater intrusion would threaten the quality and reliability of the State's major fresh water supply that is pumped from the southern portion of the Sacramento/San Joaquin River Delta. Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events. California's Third Climate Change Assessment provides statewide estimates on sea level rise. Specifically, assuming the rate of sea level rise continues to follow global trends, sea level along California's coastline in 2050 could be 10-18 inches higher than in 2000, and 31-55 inches higher by the end of this century.[27] Based on these current projections, the current 100-year storm could occur once every year. California's Fourth Climate Change Assessment projects that without implementation of

[23] Brekke, L.D., et al, 2004. – Climate Change Impacts Uncertainty for Water Resources in the San Joaquin River Basin, California. Journal of the American Water Resources Association. 40(2): 149–164. Malden, MA, Blackwell Synergy for AWRA.

[24] California Department of Water Resources (DWR), 2019. Climate Action Plan, Phase 3: Climate Change Vulnerability Assessment, Sacramento, CA. February.

[25] California Climate Change Center, 2018. California's Changing Climate 2018. A Summary of Key Findings from California's Fourth Climate Change Assessment.

[26] Ibid.

[27] California Climate Change Center, 2012. Our Changing Climate 2012: Vulnerability and Adaptation to the Increasing Risks from Climate Change in California. CEC-500-2012-007. July 2012.

protective measures, airports in major urban areas will be susceptible to major flooding from a combination of sea level rise and storm surge by 2040 to 2080 and that the miles of highways susceptible to coastal flooding from a 100-year storm will triple from current levels by 2100.[28]

2.3.4 Agriculture

California has a $30 billion agricultural industry that produces half the country's fruits and vegetables. The CCCC notes that higher CO_2 levels can stimulate plant production and increase plant water use efficiency. However, if temperatures rise and drier conditions prevail, water demand could increase, crop-yield could be threatened by a less reliable water supply, and greater pest and disease outbreaks. In addition, temperature increases could change the time of year that certain crops bloom and harvest, and thus affect their quality.[29]

2.3.5 Ecosystems and Wildfire

Increases in global temperatures and the potential resulting changes in weather patterns could have ecological effects on a global and local scale. In 2019, the California DWR released an assessment examining the possible impacts of climate change on ecosystems and wildlife.[30] The assessment outlines ways in which it is thought that climate change is already affecting and will continue to affect plants and animals: (1) impacts to important life-cycle events (changes in reproduction and migration patterns), (2) decline in some species populations, (3) habitat fragmentation, and (4) invasive species.

On June 12, 2025, President Trump signed into law House Joint Resolution 87, which provides congressional disapproval of the rule submitted by the Environmental Protection Agency (EPA) relating to "California State Motor Vehicle and Engine Pollution Control Standards; Heavy-Duty Vehicle and Engine Emission Warranty and Maintenance Provisions; Advanced Clean Trucks; Zero Emission Airport Shuttle; Zero-Emission Power Train Certification; Waiver of Preemption; Notice of Decision".[31] On the same day the President signed into law House Joint Resolution 88, which provides congressional disapproval of the rule submitted by the EPA relating to "California State Motor Vehicle and Engine Pollution Control Standards; Advanced Clean Cars II; Waiver of Preemption; Notice of Decision".[32]

[28] California Climate Change Center, 2018. California's Changing Climate 2018. A Summary of Key Findings from California's Fourth Climate Change Assessment.

[29] Ibid.

[30] California Department of Water Resources (DWR), 2019. Climate Action Plan, Phase 3: Climate Change Vulnerability Assessment, Sacramento, CA. February.

[31] The White House. 2025. Congressional Bills H.J. Res. 87, H.J. Res. 88, H.J. Res. 89 Signed into Law. June 12. Available at: https://www.whitehouse.gov/briefings-statements/2025/06/congressional-bills-h-j-res-87-h-j-res-88-h-j-res-89-signed-into-law/. Accessed: October 2025.

[32] Ibid.

3. SIGNIFICANCE THRESHOLDS

3.1 CEQA Guidelines on GHG Emissions

Adopted amendments to the California Environmental Quality Act (CEQA) Guidelines do not provide a mandatory, quantitative rubric for GHG emissions analysis, but instead provide general guidance and recognize long-standing CEQA principles regarding the discretion afforded to lead agencies where supported by substantial evidence. More specifically, CEQA Guidelines Section 15064.4(a) recognizes that the "determination of the significance" of GHG emissions "calls for careful judgment by the lead agency" in accordance with the more general provisions of CEQA Guidelines Section 15064; each agency "shall have discretion to determine" whether to conduct quantitative or qualitative analysis, provided its determination is supported by substantial evidence. Section 15064.4 was most recently amended by the Office of Planning and Research and the California Natural Resources Agency in December 2018.

The analysis provided in this report evaluates the significance of the Proposed Project's GHG emissions by reference to the following questions from Section VIII, Greenhouse Gases, of Appendix G of the CEQA Guidelines:

Threshold 1. Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Threshold 2. Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

3.2 Project Approach to Significance

This Greenhouse Gas Technical Report assesses significance of GHG impacts based on Section VIII, Greenhouse Gases, of Appendix G of the CEQA Guidelines.

While El Dorado County provides some basic information on climate change including an overview of GHG regulations and local, state, and national efforts to address climate change, it has not established a quantitative or qualitative guidance to evaluate GHG emission impacts of development projects under CEQA.[33] Additionally, El Dorado County Air Quality Management District (EDCAQMD) has also not set quantitative GHG significance thresholds. In the absence of a quantitative GHG threshold from El Dorado County and EDCAQMD, this Technical Report assessed significance of GHG impacts for Threshold 1 against the Placer County Air Pollution Control District (PCAPCD) GHG significance thresholds (**Table 3-1**), in consultation with EDCAQMD and El Dorado County.

PCAPCD's GHG significance thresholds are reasonable to assess significance in the absence of a quantitative threshold from El Dorado County Air Pollution Control District because Placer County is similar to El Dorado County demographically, geographically, and meteorologically. Both Placer County and El Dorado County have similar land use patterns (i.e., they are both heavily made up of rural and suburban areas), with similar rates of population growth. Additionally, both counties have similar terrain and lie within the same air basin. Because of this, PCAPCD's quantitative GHG thresholds were used to assess significance against the Project relative to Threshold 1.

[33] El Dorado County. Air Quality Planning and Information – Climate Change. Available at: https://www.eldoradocounty.ca.gov/Land-Use/Air-Quality-Management-District/Air-Quality-Planning-and-Information/Climate-Change. Accessed: October 2025.

Relative to Threshold 2, this report evaluates whether the Project would conflict with the 2022 Scoping Plan Update, Sacramento Area Council of Governments' (SACOG's) 2020 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS), and El Dorado County Regional Transportation Plan (RTP) 2020-2040.

4. PROJECT GHG EMISSIONS INVENTORY

This section describes the methodology that Ramboll used to develop the GHG emission inventories associated with the Proposed Project, which include construction emissions and operational emissions. Sub-categories of GHG operational emissions include the following: area sources, energy use, mobile sources, water supply and wastewater, solid waste, refrigerant, ongoing vegetation sequestration changes, and emergency generators.

4.1 Measurement, Resources and Baseline Condition

4.1.1 Units of Measurement: Tonnes of CO_2 and CO_2e

In this report, the term "GHGs" includes gases that contribute to the natural greenhouse effect, such as CO_2, CH_4, N_2O, and water, as well as gases that are only man-made and that are emitted through the use of modern industrial products, such as HFCs and chlorofluorocarbons. GHG emissions are typically measured in terms of mass of CO_2e. CO_2e is calculated as the product of the mass of a given GHG and its specific GWP, as described in **Section 2.1**. GWPs of 25 and 298 were used for CH_4 and N_2O, respectively, for this analysis. In many sections of this report, including the final summary sections, emissions are presented in units of CO_2e either because the GWPs of CH_4 and N_2O were accounted for explicitly, or the CH_4 and N_2O are assumed to contribute a negligible amount of GWP when compared to the GWP of CO_2 emissions.

In this report, a tonne refers to MT (1,000 kilograms). Additionally, exact totals presented in all tables and report sections may not equal the sum of components due to independent rounding of numbers.

4.1.2 Resources

4.1.2.1 CalEEMod Methodology

Ramboll primarily utilized the California Emissions Estimator Model (CalEEMod) version 2022.1[34] methodology to assist in quantifying the GHG emissions in the inventories presented in this report for the Proposed Project. CalEEMod provides methodologies to calculate both construction emissions and operational emissions from a land use development project. It calculates total or annual GHG emissions. Specifically, the model methodology aids the user in the following calculations:

- One-time short-term construction emissions from off-road construction equipment, and on-road worker, vendor, and hauling vehicles during the construction of the project and site access and roadway improvements.
- Operational emissions from direct and indirect GHG sources associated with the Proposed Project built-out condition including on-road vehicles, landscaping equipment, emergency generators, natural gas and electricity use in the buildings, water use, solid waste disposal, refrigerant use, and vegetation sequestration changes.

CalEEMod is a statewide program designed to calculate both criteria air pollutant (CAP) and GHG emissions from development projects in California developed under the auspices of the South Coast Air Quality Management District, with input from other California air districts, and is currently supported by numerous lead agencies for use in quantifying the emissions associated with development projects undergoing environmental review. CalEEMod utilizes

[34] California Air Pollution Control Officers Association (CAPCOA). 2022. California Emissions Estimator Model. Available at: https://caleemod.com/. Accessed: October 2025.

widely accepted models for emission estimates combined with appropriate default data that can be used if site-specific information is not available. These models and default estimates use sources such as the United States Environmental Protection Agency (USEPA) AP-42 emission factors,[35] CARB's on-road and off-road equipment emission models such as the EMission FACtors model (EMFAC) and the Off-road Emissions Inventory Program model (OFFROAD), and studies commissioned by California agencies such as the California Energy Commission and California Department of Resources Recycling and Recovery (CalRecycle).

As mentioned above, CalEEMod is based upon the CARB-approved OFFROAD and EMFAC models. OFFROAD[36] is an emission factor model used to calculate emission rates from off-road mobile sources (e.g., construction equipment, agricultural equipment). The off-road diesel emission factors used by CalEEMod are based on the CARB OFFROAD2017 program. EMFAC is an emission factor model used to calculate emissions rates from on-road vehicles (including passenger cars to delivery trucks). CalEEMod 2022.1 contains EMFAC2021 emission factors.[37] These emissions factors were then used to estimate mobile source operational emissions based on CalEEMod methodology and defaults along with Project-specific values where available.

In addition, CalEEMod contains default values and existing regulation methodologies to use in each specific local air district region. Appropriate statewide default values can be utilized if regional default values are not defined. Ramboll used default factors for the El Dorado-Mountain County area for the emissions inventory, unless otherwise noted in the methodology descriptions below.

Details regarding the specific methodologies used by CalEEMod can be found in the CalEEMod User's Guide and associated appendices.[38]

4.1.2.2 Other Resources

Ramboll directly or indirectly relied on emissions estimation guidance from government-sponsored organizations, government-commissioned studies of energy use patterns, Project-specific studies (e.g., Kittelson & Associates, Inc's Transportation Analysis[39]), and emission estimation software as described above. In cases noted below, third-party studies were also relied upon to support analyses and assumptions made outside of the approach described above.

[35] The USEPA maintains a compilation of Air Pollutant Emission Factors and process information for several air pollution source categories. The data is based on source test data, material balance studies, and engineering estimates. Available at: https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissions-factors. Accessed: October 2025.

[36] CARB. 2017. Off Road Mobile Source Emission factors. Available at: https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory. Accessed: October 2025.

[37] CARB. 2022. EMFAC2021. Available at: https://arb.ca.gov/emfac/. Accessed: October 2025.

[38] CAPCOA. 2022. California Emissions Estimator Model User's Guide. Version 2022.1. Available at: https://caleemod.com/user-guide. Accessed: October 2025.

[39] Kittelson & Associates. 2025. El Dorado Costco CEQA Analysis. July 23.

4.1.3 Indirect GHG Emissions from Electricity Use

Project-related electricity use results in indirect emissions, due to electricity generation activities occurring at off-site power plant locations. For the Proposed Project, 100% renewable electrical power will be supplied by PG&E, as Costco has a Clean Energy Contract with PG&E. Hence, there will be zero indirect GHG emissions generated by Project-related electricity use.

4.2 Construction Emissions

This section describes the estimation of GHG emissions from construction activities at the Proposed Project site. While the exact construction schedule and equipment mix may vary from the current analysis, the GHG emissions are not expected to be higher than that calculated given the conservative assumptions included in this analysis.

This analysis includes estimation of GHG emissions from the following major construction phases for the Proposed Project:

- Site Preparation involves clearing vegetation (grubbing and tree/stump removal) and removing stones and other unwanted material or debris prior to grading.
- Grading involves the cut-and-fill of land to ensure the proper base and slope for the construction foundation.
- Building Construction involves the construction of structures and buildings.
- Paving involves the laying of concrete or asphalt such as in parking lots or roads.
- Architectural Coating involves the application of coatings to both the interior and exterior of buildings or structures, and the painting of parking lot striping, associated signage and curbs.

Note, two scenarios are considered for the construction of the Proposed Project that have different material movement amounts in the grading phase. Scenario 1 assumes that the excavated material from portions of the Project site will be used as fill during grading. Scenario 2 conservatively assumes that all the excavated material will be exported offsite and soil will be imported for fill during grading.

The analysis also includes an estimation of the CAP emissions associated with the following construction phases for the site access and roadway improvements:

- Linear, Grubbing & Land Clearing involves removing vegetation, trees, stumps (grubbing), and clearing stones or other debris from roads, in preparation for grading and excavation.
- Linear, Grading & Excavation involves demolition of existing surfaces and cut-and-fill activities to ensure the proper base and slope for road construction.
- Linear, Drainage, Utilities, & Sub-Grade involves the road construction activities including installation of drainage systems, utility lines, and preparing and compacting the sub-grade to support the road pavement.
- Linear, Paving involves the laying of concrete or asphalt for road surfaces.

The proposed schedule for constructing the Project and the site access and roadway improvements are shown in **Table 4-1** and **Table 4-2** respectively. CalEEMod was used to estimate the annual GHG emissions associated with construction sources including off-road construction equipment and on-road construction vehicle trips.

The off-road construction equipment list and specifications are based on the Project-specific information and supplemented with CalEEMod model defaults, as shown in **Table 4-3** and **Table 4-4**. The Project-specific worker, vendor, and hauling trips, supplemented with CalEEMod defaults are displayed in **Table 4-5**, **Table 4-6**, and **Table 4-7**. **Table 4-8**, **Table 4-9**, and **Table 4-10**, present material volumes which are anticipated to be imported and exported for Project construction Scenario 1, Project construction Scenario 2, and site access and roadway improvements, respectively. Additionally, **Table 4-11** presents an estimate of the demolition debris that would be generated and shipped offsite during the Linear, Grubbing & Land Clearing construction phase for the site access and roadway improvements.

4.2.1 Emissions from Construction Equipment

The emissions associated with construction equipment are from off-road equipment engine use based on the equipment list and phase length, and on-road vehicle trips and phase length.

Since the majority of the off-road construction equipment used for construction projects are diesel-fueled, CalEEMod methodology assumes all of the equipment operates on diesel fuel. These calculations include the running exhaust emissions from off-road equipment. Since the equipment is assumed to be diesel, there are no starting emissions associated with the equipment, as these are *de minimis* for diesel-fueled equipment. CalEEMod calculates the exhaust emissions based on default values for horsepower and load factor from CARB's OFFROAD2017 methodology using the equation presented below.[40]

$$Emissions_{Diesel} = \sum_{i} (EF_i \times Pop_i \times AvgHP_i \times Load_i \times Activity_i)$$

Where:

EF	=	Emission factor in grams per horsepower-hour (g/bhp-hr) as processed from OFFROAD2017
Pop	=	Population, or the number of pieces of equipment
AvgHp	=	Maximum rated average horsepower
Load	=	Load factor
Activity	=	Hours of operation
i	=	equipment type

The construction-related equipment assumptions based on the Project-specific information and supplemented with CalEEMod model defaults are shown in **Table 4-3** and **Table 4-4**. The combustion emissions from the equipment were calculated using CalEEMod, as shown in **Appendix A**.

[40] CAPCOA. 2022. California Emissions Estimator Model User's Guide, Appendix C. Available at: https://caleemod.com/documents/user-guide/04_Appendix%20C.pdf. Accessed: October 2025.

4.2.2 Emissions from On-Road Construction Trips

Construction generates on-road vehicle GHG emissions from worker and vendor commuting, concrete trucks, and trucks used for construction debris and soil/material hauling.

These emissions are calculated in CalEEMod based on the number of trips and vehicle miles traveled (VMT) (**Table 4-5**, **Table 4-6**, and **Table 4-7**) along with emission factors from EMFAC2021. The numbers of worker and vendor trips represent defaults from CalEEMod based on the construction equipment to be used. The number of haul trips was estimated by CalEEMod based on the volume of soil to be imported/exported (**Table 4-8**, **Table 4-9**, and **Table 4-10**) and the amount of demolition debris generated (**Table 4-11**). The number of concrete truck trips were based on Project-specific information.

Additionally, the emissions associated with on-site idling of concrete trucks during the building construction phase were estimated using concrete truck trip rates, idling duration per trip, and emission factors from EMFAC2021. Refer to **Table A-1** and **Table A-2** in **Appendix A** for further details.

4.2.3 Total Construction Emissions

Total GHG emissions for each year of Proposed Project and the site access and roadway improvements construction (2026 and 2027) are summarized in **Table 4-12** and **Table 4-13**, for Project construction Scenario 1 and Scenario 2, respectively. As noted previously under **Section 4.2**, Project construction Scenario 1 assumes that the excavated material from portions of the Project site will be used as fill during grading, while Project construction Scenario 2 conservatively assumes that all the excavated material will be exported offsite, and soil will be imported for fill during grading. Additionally, while the Project has committed to a construction mitigation measure to mitigate the significant impact of the maximum estimated cancer risk,[41] this mitigation measure does not impact the greenhouse gas emissions of the construction equipment. As shown in **Table 4-12** and **Table 4-13**, the annual GHG emissions associated with the construction of the Proposed Project under both scenarios are less than the PCAPCD's GHG significance threshold for construction.[42]

4.3 Operational Emissions

This section describes the estimation of GHG emissions from operational activities at the Project site. The operational emissions were calculated primarily utilizing CalEEMod. Operational GHG emissions are calculated for area sources, mobile sources, water use, energy use, solid waste disposal, refrigerant use, stationary sources, and vegetation sequestration changes. Operational emissions are evaluated for the first year of Proposed Project operation, i.e., calendar year 2027.

4.3.1 Area Sources

Area sources are direct sources of GHG emissions, such as emissions from landscaping activities. The area source GHG emissions included in this analysis are landscaping-related

[41] Refer to Section 6 of the EDH Costco Project Air Quality Technical Report for further details on Mitigation Measure 3.2-4a: Apply Tier 4 Emission Standards to Diesel-Powered Off-Road Equipment.

[42] PCAPCD CEQA Handbook. 2017. Chapter 2 Thresholds of Significance. Available at: https://www.placerair.org/DocumentCenter/View/2047/Chapter-2-Thresholds-of-Significance-PDF. Accessed: June 2025.

fuel combustion sources, such as lawn mowers. These emissions are estimated in the CalEEMod output for the Proposed Project in **Appendix B-1**.

4.3.2 Mobile Sources

The GHG emissions associated with on-road mobile sources are generated from customer and employee vehicles, delivery trucks (i.e., fuel delivery trucks and warehouse/tire center delivery trucks), and transport refrigeration units (TRUs) that are mounted on the trailers of some on warehouse delivery trucks traveling to and from the Project site. The GHG emissions associated with on-road mobile sources include running and starting exhaust emissions. Running exhaust emissions are dependent on VMT. Starting emissions are associated with the number of starts or time between vehicle uses and the assumptions used in determining these values are described below. Ramboll calculated mobile source emissions using trip rates based on analyses conducted by Kittelson[43] and Project-specific information for fuel delivery trucks and warehouse/tire center delivery trucks.

The analysis includes the benefit of reductions from adopted regulatory programs that are accounted for within EMFAC2021 including Assembly Bill 1493 ("the Pavley Standard"), the Advanced Clean Cars (ACC) program, the USEPA/National Highway Traffic Safety Administration Advanced Fuel Economy, and the Heavy-Duty Omnibus regulation.

Public Law 119-17, enacted on June 12, 2025, is a House joint resolution that disapproves the Clean Air Act (CAA) waiver granted by USEPA for the Heavy-Duty Omnibus regulation under the Congressional Review Act.[44] As noted above, this analysis uses EMFAC2021 which incorporates the CAP benefits of Heavy-Duty Omnibus regulation. However, this regulation does not impact the GHG emissions from heavy-duty trucks; therefore this analysis remains unaffected by Public Law 119-17.

Public Law 119-15, enacted on June 12, 2025, is a House joint resolution that disapproves the CAA waiver granted by USEPA for the Advanced Clean Trucks (ACT) Regulation, which is a zero-emission vehicle (ZEV) sales mandate for truck manufacturers.[45] While EMFAC2021 incorporates reductions associated with the ACT regulation, this analysis assumes that all Project-related delivery trucks are diesel-fueled. Hence, Public Law 119-15's disapproval of California's CAA waiver for ACT regulation does not impact this analysis.

[43] Kittelson & Associates. 2025. El Dorado Costco CEQA Analysis. July 23.

[44] United States Code. 2025. Public Law 119-17 - Joint resolution providing congressional disapproval under chapter 8 of title 5, United States Code, of the rule submitted by the Environmental Protection Agency relating to "California State Motor Vehicle and Engine and Nonroad Engine Pollution Control Standards; The 'Omnibus' Low NO_X Regulation; Waiver of Preemption; Notice of Decision". Available at: https://www.govinfo.gov/app/details/PLAW-119publ17. Accessed: October 2025.

[45] United States Code. 2025. Public Law 119-15 - Joint resolution providing congressional disapproval under chapter 8 of title 5, United States Code, of the rule submitted by the Environmental Protection Agency relating to "California State Motor Vehicle and Engine Pollution Control Standards; Heavy-Duty Vehicle and Engine Emission Warranty and Maintenance Provisions; Advanced Clean Trucks; Zero Emission Airport Shuttle; Zero-Emission Power Train Certification; Waiver of Preemption; Notice of Decision". Available at: https://www.govinfo.gov/app/details/PLAW-119publ15. Accessed: October 2025.

Public Law 119-16, enacted on June 12, 2025, is a House joint resolution that disapproves the CAA waiver granted by USEPA for the ACC II regulation, which is a ZEV sales mandate for passenger vehicle manufacturers.[46] Additionally, on January 13, 2025, CARB withdrew its waiver request for the Advanced Clean Fleets (ACF) regulation, which requires fleet owners to reduce emissions by increasing the use of zero emissions trucks in their fleets by replacing existing diesel/gasoline trucks.[47] EMFAC2021 does not incorporate the benefits of the ACC II and ACF regulations; therefore, GHG reductions associated with these regulations are not included in this analysis.

4.3.2.1 Estimating Mobile Source Emissions

Mobile source emissions calculation requires trip rates, trip lengths, and idle time for each on-road vehicle trip type associated with the Proposed Project (e.g., passenger vehicles and delivery trucks). Additionally, the operational time for TRU engines that are mounted on some of the trailers delivered to the warehouse is required to estimate exhaust emissions from TRUs. The following sections describe the methodology to derive the necessary inputs for these calculations.

a) On-Road Vehicle Trip Generation Rates

The total trip generation rates for passenger vehicles (customer and employees) visiting the Proposed Project were provided by Kittelson. The number of TRU equipped trailers that are brought onsite by warehouse delivery trucks and the trip generation rates for fuel and warehouse/tire center delivery trucks are based on Project-specific estimates. The annual average trips were estimated using the daily weekday and weekend trip rates. These are summarized in **Table B-1** in **Appendix B**.

b) Vehicle Miles Traveled

The VMT of passenger vehicles (customer and employees) was provided by Kittelson. The VMT of delivery trucks was calculated as the product of trip rates and trip lengths as shown in **Table B-1** in **Appendix B**. The trip length for delivery trucks is based on Project-specific estimates.

c) On-road Vehicle Idle Duration

The passenger vehicle (customer and employees) idling durations for vehicles queuing at the gasoline dispensing facility (GDF) were provided by Kittelson (**Table B-1** in **Appendix B**). The idle duration for delivery trucks is assumed to be 15 minutes for each round trip (maximum of 5 minutes at Project site entry, 5 minutes at the loading area, and 5 minutes

[46] United States Code. 2025. Public Law 119-16 - Joint resolution providing congressional disapproval under chapter 8 of title 5, United States Code, of the rule submitted by the Environmental Protection Agency relating to "California State Motor Vehicle and Engine Pollution Control Standards; Advanced Clean Cars II; Waiver of Preemption; Notice of Decision". Available at: https://www.govinfo.gov/app/details/PLAW-119publ16. Accessed: October 2025.

[47] California Air Resources Board. 2025. Withdrawal of California's Request for a Waiver, Pursuant to Clean Air Act Section 209(b), and Request for Authorization, Pursuant to Clean Air Act Section 209(e)(2), for the Advanced Clean Fleets (ACF) Regulation, Docket ID EPA-HQ-OAR-2023-0589. January 13. Available at: https://www.epa.gov/system/files/documents/2025-01/ca-acf-carb-withdrawal-ltr-2025-1-13.pdf. Accessed: October 2025.

at Project site exit), consistent with CARB's Air Toxic Control to Limit Diesel-Fueled Commercial Motor Vehicle Idling.[48]

d) TRU Operational Time

The total operational time for each TRU equipped trailer that is brought onsite by a warehouse delivery truck is estimated as the sum of the on-site truck idling time and the travel time for the truck round trip (**Table B-1** in **Appendix B**). As noted above, the on-site truck idling time is assumed to be 15 minutes. The truck travel time for each warehouse delivery truck round trip is estimated as the ratio of the round trip length to the average vehicle speed. For purposes of this analysis, the average vehicle speed was assumed to be 30 miles per hour for off-site travel and 5 miles per hour for on-site travel consistent with CARB's assumptions in Appendix I of the Proposed Amendments to the Airborne Toxic Control Measure for In-Use Diesel-Fueled TRU and TRU Generator Sets, and Facilities Where TRUs Operate.[49] Annual operational duration of TRUs was estimated based on total operational time per transport refrigeration unit and the total number of TRUs visiting the Project site on an annual basis. Refer to **Table B-1** in **Appendix B** for further details.

e) Fleet Mix

The CalEEMod default fleet mix for passenger vehicles in El Dorado-Mountain County (**Table B-2** in **Appendix B**) was adjusted using the default VMT distribution for passenger vehicle technology/fuel categories in EMFAC2021 to determine the Project-specific fleet mix of the passenger vehicles visiting the Project (**Table B-3** in **Appendix B**). Passenger vehicles visiting the GDF represent vehicles used by patrons of the fuel facility and are conservatively assumed to only include plug-in hybrids and gasoline-fueled vehicles. Warehouse and employee passenger vehicles represent the vehicles used by patrons and employees of the warehouse and include gasoline, plug-in hybrid, electricity, and diesel-fueled vehicles. All delivery trucks were assumed to be heavy heavy-duty diesel trucks.

f) Mobile Source Emission Factors

Running, starting, and idling exhaust emission factors for passenger vehicles and delivery trucks visiting the Proposed Project were estimated using the Project-specific fleet mix and EMFAC2021 mobile source emission factor data for El Dorado County. These calculations are presented in **Tables B-4 through Table B-10** in **Appendix B**.

Exhaust emission factors for TRUs were calculated using OFFROAD2021 outputs for in-State and out-of-State trailer TRUs operating in El Dorado-Mountain County as shown in **Table B-11** in **Appendix B**.

[48] CARB Air Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. Available at: https://ww2.arb.ca.gov/our-work/programs/atcm-to-limit-vehicle-idling/about. Accessed: June 2025.

[49] CARB. 2021. Appendix I of the Proposed Amendments to the Airborne Toxic Control Measure for In-Sue Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets, and Facilities where TRUs operate. July 17. Available at: https://ww2.arb.ca.gov/sites/default/files/barcu/board/rulemaking/tru2021/appi.pdf. Accessed: June 2025.

4.3.2.2 Mobile Source Emissions

The annual GHG emissions from mobile sources associated with the Proposed Project operation are presented in **Table B-12** in **Appendix B**. This includes emissions from passenger vehicles, delivery trucks, and TRUs.

As shown in **Table B-12** in **Appendix B**, the GHG emissions from passenger vehicles and delivery trucks for the Proposed Project are estimated using Project-specific trip rates, VMT, idle time (**Table B-1** in **Appendix B**) and running exhaust, starting exhaust, and idling emission factors for these vehicle types that were calculated using EMFAC2021 data (**Table B-4 through Table B-10** in **Appendix B**).

GHG emissions from TRUs are also estimated in **Table B-12** in **Appendix B** using the Project-specific TRU operational time (**Table B-1** in **Appendix B**) and TRU exhaust emission factors from OFFROAD2021 (**Table B-11** in **Appendix B**).

4.3.3 Water Supply, Treatment and Distribution

Indirect GHG emissions result from the production of electricity used to convey, treat, and distribute the Proposed Project's water and wastewater. The amount of electricity required to convey, treat, and distribute water depends on the volume of water as well as the sources of the water. Additionally, direct CH_4 and N_2O emissions result from the treatment of wastewater.

Water usage associated with the Proposed Project is based on default values in CalEEMod, adjusted to reflect Project-specific features, including:

- Low-Flow Water Fixtures: High-efficiency restroom fixtures designed to reduce water consumption by approximately 40% compared to U.S. baseline standards.
- Water-Efficient Landscaping: The irrigation system incorporates drip rings for parking lot trees to efficiently water the root ball, minimizing water use and ensuring delivery directly to the intended planting areas.

The water usage and associated GHG emissions for the Proposed Project are provided in the CalEEMod output files in **Appendix B-1.**

4.3.4 Energy Use

Energy usage within buildings (e.g., electricity and natural gas) contribute to the Proposed Project's GHG inventory. Combustion of any type of fuel emits CO_2 and other GHGs directly into the atmosphere; these emissions are considered direct emissions associated with a building. GHGs are also emitted during the generation of electricity from fossil fuels; these emissions are considered as indirect emissions.

To estimate GHG emissions from the natural gas and electricity usage for the Proposed Project, Ramboll utilized CalEEMod default assumptions, which incorporate 2019 Title 24 Standards.

The proposed GDF does not have natural gas usage associated with its daily operation. To account for the GDF's energy use, CalEEMod default natural gas usages were converted into equivalent electricity usages by applying the ratio of efficiencies between natural gas and equivalent electric appliances. **Table 4-14** summarizes the operational energy assumptions of the Proposed Project by land use type.

The annual natural gas and electricity use and corresponding GHG emissions for the Proposed Project are shown in the CalEEMod output files in **Appendix B-1**. As noted in **Section 4.1.3**, the Proposed Project will be powered by 100% renewable electricity, as Costco has a Clean Energy Contract with PG&E; hence GHG emissions associated with electricity use are zero.

4.3.5 Solid Waste

Municipal solid waste (MSW) is the amount of material that is disposed of by landfilling, recycling, or composting. CalEEMod calculates the indirect GHG emissions associated with waste that is disposed of at a landfill. The program uses annual waste disposal rates from the CalRecycle data for individual land uses. CalEEMod uses the overall California Waste Stream composition to generate the necessary types of different waste disposed into landfills. The program quantifies the GHG emissions associated with the decomposition of the waste, which generates methane based on the total amount of degradable organic carbon. The program quantifies the CO_2 emissions associated with the combustion of methane, if applicable. Default landfill gas concentrations were used as reported in Section 2.4 of AP-42. The IPCC has a similar method to calculate GHG emissions from MSW in its 2006 Guidelines for National Greenhouse Gas Inventories.

Solid waste generation associated with the Proposed Project is based on default values for waste generation in CalEEMod. The waste generation and associated GHG emissions can be found in the CalEEMod output files in **Appendix B-1**.

4.3.6 Refrigerant Use

The Proposed Project includes refrigerant use for warehouse operations, based on default values in CalEEMod. The resulting GHG emissions are provided in the CalEEMod output file in **Appendix B-1**.

4.3.7 Stationary Sources

The Proposed Project includes two diesel-powered emergency generators, each rated at 250 horsepower, to support warehouse operations. Testing and maintenance of each generator is not expected to exceed 50 hours per year or 1 hour on any given day. Emissions from emergency generator operation were estimated using default assumptions in CalEEMod. The resulting GHG emissions estimates are provided in the CalEEMod output file in **Appendix B-1**.

4.3.8 Vegetation Changes

Vegetation changes that occur as a result of land use development constitute a change in the carbon sequestration capacity of a project site. The site is expected to initially have 14.97 acres that is pervious, and 0 acres of impervious land. Once the Proposed Project is built, it is expected that 7.31 acres would be pervious (landscaped area) and 7.66 acres would be impervious. The changes in vegetation are presented in **Table 4-15**. GHG emissions associated with vegetation changes are estimated in the CalEEMod output for the Proposed Project operation in **Appendix B-1**.

4.3.9 On-Site Electric Vehicle Chargers

As noted in **Section 1.2.2**, the Proposed Project includes the installation of 10 DC fast chargers with a combined power output of 1,800 kilowatts (kW). **Table 4-16** provides an estimate of the GHG emissions reductions attributed to the use of these EV chargers. As shown in this table, it is anticipated that the chargers will be used for approximately 5.6 hours per day, based on recent usage data for public DC fast chargers in California.[50] Given this usage assumption, Ramboll calculated the reduction in gasoline VMT and the associated decrease in GHG emissions, resulting from the substitution of gasoline VMT with electric VMT.

4.4 Total Annual Operational Emissions

Table 4-17 summarizes the annual operational GHG emissions for the Proposed Project (2,167 MT CO_2e per year).

PCAPCD CEQA Guidelines[51] have a three-tiered approach for assessing GHG emissions from land use projects. For projects with annual operational GHG emissions between 1,100 and 10,000 MT CO_2e per year, PCAPCD recommends applying its GHG Efficiency Matrix to determine significance.

As shown in **Table 4-17**, the Project's estimated annual operational emissions fall within this range. Based on a total building square footage of 165,200 square feet (165,000 square foot warehouse and 200 square foot controller enclosure for the GDF), the calculated GHG efficiency for the Proposed Project is 13.1 MT CO_2e per 1,000 square feet.[52] This is below the applicable threshold of 26.5 MT CO_2e per 1,000 square feet for non-residential projects located in urban areas, as defined by PCAPCD. Therefore, the Project's operational GHG emissions are considered to be less than significant.

[50] Based on the Q1 2025 and Q2 2025 Paren Reports titled "State of the Industry Report: US EV Fast Charging". Available at: https://www.paren.app/. Accessed: October 2025.

[51] PCAPCD CEQA Handbook. 2017. Chapter 2 Thresholds of Significance. Available at: https://www.placerair.org/DocumentCenter/View/2047/Chapter-2-Thresholds-of-Significance-PDF. Accessed: October 2025.

[52] Note, the Proposed Project GHG efficiency would be 20.3 MT CO_2e per 1,000 square feet if the analysis accounted for the greenhouse gas emission benefits associated with only the mandatory electric vehicle charging requirements (1,097 kW total power) in the 2025 California Green Building Standards Code. This value is also below the applicable threshold of 26.5 MT CO_2e per 1,000 square feet for non-residential projects located in urban areas, as defined by PCAPCD.

5. PROJECT IMPACTS IN CONTEXT

This section assesses the significance of the Proposed Project's emissions for purposes of CEQA.

5.1 Threshold 1: Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

As noted in **Section 3.2**, in the absence of a quantitative GHG threshold from El Dorado County and EDCAQMD, this Technical Report assesses significance of the Proposed Project's GHG impacts for Threshold 1 against the PCAPCD's GHG significance thresholds (**Table 3-1**).

Total GHG emissions for each year of Proposed Project construction (2026 and 2027) are summarized in **Table 4-12** and **Table 4-13**, for Project construction Scenario 1 and Scenario 2, respectively. The annual GHG emissions associated with the construction of the Proposed Project under both scenarios are less than the PCAPCD's bright-line GHG significance threshold of 10,000 MT CO_2e/year (yr) for construction.

The Proposed Project's annual operational GHG emissions were estimated to be 2,167 MT CO_2e per year (**Table 4-17**). These emissions are between PCAPCD's de minimis GHG emissions level (1,100 MT CO_2e/yr) and bright-line GHG significance threshold (10,000 MT CO_2e/yr) for project operation. Therefore, to evaluate the GHG impacts we estimated the Proposed Project's efficiency metric in accordance with the PCAPCD's Air Quality Handbook.[53] This calculated efficiency metric (13.1 MT CO_2e per 1,000 square feet) shown in **Table 4-17**, is less than PCAPCD's threshold (26.5 MT CO_2e/1,000 square feet) for the operational phase of land use projects in urban settings.

Therefore, the GHG emissions associated with the construction and operation of the Proposed Project would not have a significant impact on the environment.

5.2 Threshold 2: Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

As noted in **Section 3.2**, this Technical Report assesses the significance of the Proposed Project's GHG impacts for Threshold 2 based on whether it would conflict with the 2022 Scoping Plan Update,[54] SACOG's 2020 MTP/SCS,[55] and El Dorado County RTP 2020-2040.[56,57]

[53] PCAPCD. 2017. 2017 CEQA Handbook Chapters. Available at: https://www.placerair.org/1801/CEQA-Handbook. Accessed: October 2025.

[54] CARB. 2022. 2022 CARB Scoping Plan Update - Appendix D, Local Actions. Available at: https://ww2.arb.ca.gov/sites/default/files/2022-11/2022-sp-appendix-d-local-actions.pdf. Accessed: October 2025.

[55] SACOG. 2020. 2020 SACOG MTP/SCS. Available at: https://www.sacog.org/home/showpublisheddocument/76/638212804736270000. Accessed: October 2025.

[56] El Dorado County Transportation Commission. 2020. El Dorado County Regional Transportation Plan 2020-2040. November 5. Available at: https://www.edctc.org/files/2859e4e3f/RTP+2040.pdf. Accessed: October 2025.

[57] El Dorado County. 2024. County of El Dorado General Plan. May 21. Available at: https://www.eldoradocounty.ca.gov/Land-Use/Planning-and-Building/Planning-Division/Adopted-General-Plan. Accessed: October 2025.

5.2.1 2022 Scoping Plan Update

The 2022 Scoping Plan Update has a table of priority GHG reduction strategies that can be utilized by local governments. The three main priority areas addressed in this table are "Transportation Electrification", "VMT Reduction", and "Building Decarbonization".[58] These measures represent the core strategies that local jurisdictions in California can implement to reduce GHGs in alignment with State goals.

The Proposed Project would not conflict with the implementation of the 2022 Scooping Plan Update and Statewide Emission Reduction Targets and includes the following features and mitigation measures that support the three main priority areas for GHG reduction:

- The Proposed Project will meet the Voluntary Tier 1 Electric Vehicle Charging Standards as defined in the 2025 California Green Building Standards Code[59] by installing ten DC fast chargers that provide a total power of 1,800 kW. Additionally, these chargers will be powered by 100% renewable electrical power supplied by PG&E, as Costco has a Clean Energy Contract with PG&E. These chargers
- The Proposed Project will implement **Mitigation Measure 3.14-2a: Provide a Mandatory Commute Reduction Program for Costco Employees** to reduce vehicle miles traveled by employees. This would include implementation of the following measures:
  - **Commute Trip Reduction Marketing**: Costco shall develop and implement a marketing strategy to promote a commute reduction program. The following features (or similar alternatives) shall be provided:
    - On-site or online commuter information services;
    - Employee transportation coordinators; and
    - Guaranteed ride home service.
  - **Provide Ridesharing Program**: Costco shall develop and implement a ridesharing program. The following strategies provide examples of a multifaceted approach for promoting a rideshare program:
    - Designating a certain percentage of desirable parking spaces for ridesharing vehicles;
    - Designating adequate passenger loading and unloading and waiting areas for ridesharing vehicles; and
    - Providing an app or website for coordinating rides.
  - **Provide End-of-Trip Bicycle Facilities**: Costco shall install and maintain end-of-trip bicycle facilities for employee use. End-of-trip facilities include bike parking, bike lockers, showers, and personal lockers.

[58] CARB. 2022. Final 2022 Scoping Plan Update and Appendices. December. Available at: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents. Accessed: October 2025.

[59] 2025 California Green Building Standards Code, Title 24, Part 11. Available online at: https://codes.iccsafe.org/content/CAGBC2025P1. Accessed: October 2025.

- The Proposed Project will include **Mitigation Measure 3.14-2b: Implement Pedestrian Network Improvements** as well, which is described below:
  - Costco shall provide pedestrian network improvements near the site, constructing sidewalks along the Project frontage on Clarksville Crossing and Silva Valley Parkway. In addition, Costco shall construct sidewalks north of the Project frontage on the east side of Silva Valley Parkway to connect to existing sidewalk near Oak Meadow Elementary School, thereby providing connectivity with the surrounding neighborhood.
- The Project site is an infill development located near an El Dorado Transit bus route (50 Express) and bus stop (El Dorado Transit Park & Ride), therefore placing jobs that are accessible via public transit. Additionally the Project is located adjacent to homes, thereby providing retail and jobs near a housing-rich area served by El Dorado Transit.
- While the Project does generate an increase in VMT,[60] the VMT analysis does not take into account the Costco trips "replacing" existing trips currently going to other retailers. Furthermore, the Project is expected to serve the existing population of the area by providing more convenient access to Costco services. The Project will allow customers to have multiple needs served in one trip, including but not limited to: eye exams, purchase of household goods and groceries, furniture store, appliance store, liquor store, and refueling at a GDF. The VMT modeling does not measure the benefit of one Costco trip replacing multiple trips, and given these factors, it is likely that Costco members make fewer total retail shopping trips in a month or a year when they have the option of shopping at Costco than they would make if they did not have a Costco nearby.
- The Proposed Project will incorporate several sustainability and energy efficiency measures including green building practices as required by the 2025 California Green Building Standards Code.[61] Refer to **Section 1.2** of this report for a detailed listing of these measures. Notably, the Proposed Project operations will be powered 100% renewable electrical power supplied by PG&E, as Costco has a Clean Energy Contract with PG&E.

For further details on the Project evaluation against the 2022 Scoping Plan Update, refer to **Table C-1** in **Appendix C**.

5.2.2 SACOG 2020 MTP/SCS

The Proposed Project would not conflict with the State's GHG reduction goals and strategies as discussed in the SACOG's 2020 MTP/SCS,[62] which fall into four priority policy areas:

1. Build vibrant places for today's and tomorrow's residents;
2. Foster the next generation of mobility solutions;
3. Modernize the way we pay for transportation infrastructure; and
4. Build and maintain a safe, reliable, and multimodal transportation system.

[60] Kittelson & Associates. 2025. El Dorado Costco CEQA Analysis. July 23.

[61] 2025 California Green Building Standards Code, Title 24, Part 11. Available online at: https://codes.iccsafe.org/content/CAGBC2025P1. Accessed: October 2025.

[62] SACOG. 2020. Metropolitan Transportation Plan/Sustainable Communities Strategy. Available at: https://www.sacog.org/home/showpublisheddocument/76/638212804736270000. Accessed: October 2025.

The Proposed Project would not conflict with the implementation of the SACOG's 2020 MTP/SCS and has several elements that are expected to support the priority policy areas in SACOG's 2020 MTP/SCS. As noted in **Section 5.2.1**, the Project is an infill development that would create new employment opportunities, and is located near an El Dorado Transit bus route (50 Express) and bus stop (El Dorado Transit Park & Ride), therefore placing jobs that are accessible via public transit. The El Dorado bus route connects to the larger Sacramento Metropolitan transit network and encourages use of local transit and rail to commute to the Project. Additionally, the Project is located adjacent to homes, therefore the Project would provide retail and jobs near a housing-rich area served by El Dorado Transit.

The Proposed Project will also meet the Voluntary Tier 1 Electric Vehicle Charging Standards as defined in the 2025 California Green Building Standards Code by installing ten DC fast chargers that provide a total power of 1,800 kW, as noted in **Section 5.2.1**. These chargers will be powered by 100% renewable electrical power supplied by PG&E, as Costco has a Clean Energy Contract with PG&E. This will reduce the greenhouse gas emissions from on-road vehicles traveling in the County.

Additionally, the Proposed Project will implement **Mitigation Measure 3.14-2a: Provide a Mandatory Commute Reduction Program for Costco Employees** which would reduce vehicle miles traveled by employees by developing and implementing the following measures:

- Commute trip reduction marketing;
- A ridesharing program for employees; and
- On-site end-of-trip bicycle facilities.

The Project will also include **Mitigation Measure 3.14-2b: Implement Pedestrian Network Improvements**. These are further described in **Section 5.2.1**. Note, the pedestrian network improvements include

- Constructing sidewalks along the Project frontage on Clarksville Crossing and Silva Valley Parkway and
- Constructing sidewalks north of the Project frontage on the east side of Silva Valley Parkway to connect to the existing sidewalk near Oak Meadow Elementary School and providing connectivity with the surrounding neighborhood.

Finally, the Proposed Project will implement off-site transportation improvements in coordination with the County to address compliance with the El Dorado County Transportation and Circulation Element policies. This would include

- The addition of a new signalized intersection on Silva Valley Parkway, shared with the South Site's main driveway;
- The addition of a new signalized intersection with Silva Valley Parkway shared with the North Site;
- Installation of a partial traffic signal at the intersection of Silva Valley Parkway and Clarksville Crossing;

- Installation of 150-foot dual northbound left turn lanes at the proposed signalized intersection of Silva Valley Parkway and the Project driveway; and
- The addition of a northbound right turn lane, change in the right turn phase to be permissive and overlap, and increase of the westbound left turn storage length at the intersection of White Rock Road and Valley View Parkway-Vine Street.

These improvements to the transportation infrastructure would help meet the existing and future transportation needs of the area in the vicinity of Project site.

Based on the Project elements described above, the Project would not interfere with the implementation of the SACOG's 2020 MTP/SCS and would include elements that support the goals of the plan. Refer to **Table C-2** in **Appendix C** for further details on the Project evaluation against SACOG's 2020 MTP/SCS.

5.2.3 El Dorado County RTP 2020-2040

The Proposed Project would not conflict with the El Dorado County 2020-2040 RTP,[63] which includes the following main goals: to improve highways, streets, and regional/inter-regional roadways, public transit, aviation, freight movement, non-motorized transportation, transportation systems management, integrated land use, air quality, and transportation planning, and funding.

The Project supports the objectives of the El Dorado County Regional Transportation Plan by providing sidewalks, bike lanes, and pedestrian connections. As noted in **Section 5.2.1**, the Project is an infill development that would create new employment opportunities and is located near an El Dorado Transit bus route (50 Express) and bus stop (El Dorado Transit Park & Ride), thereby creating jobs that are accessible via public transit. The El Dorado bus route connects to the larger Sacramento Metropolitan transit network and encourages use of local transit and rail to commute to the Project. Additionally, the Project is located adjacent to homes, therefore the Project would provide retail and jobs near a housing-rich area served by El Dorado Transit.

Further, as described in **Section 5.2.1** and **Section 5.2.2**, the Project would include pedestrian network improvements as part of **Mitigation Measure 3.14-2b**, and would implement several off-site transportation improvements in coordination with the County to address the existing and future needs of the region in the immediate vicinity of the Project site.

Based on the Project elements described above, the Project would not interfere with the implementation of the El Dorado County 2020-2040 RTP and would include elements that support the goals of the plan. Refer to **Table C-3** in **Appendix C** for further details on Project evaluation against the County's RTP.

[63] El Dorado County Transportation Commission. 2020. El Dorado County Regional Transportation Plan 2020-2040. November 5. Available at: https://www.edctc.org/files/2859e4e3f/RTP+2040.pdf. Accessed: October 2025.

5.3 Summary

As discussed in **Section 5.1**, the Proposed Project is expected to result in emissions that are below PCAPCD GHG thresholds for operation and construction. Additionally, as described in **Section 5.2**, the Proposed Project would not conflict with the 2022 Scoping Plan Update, SACOG's 2020 MTP/SCS, or the El Dorado County RTP 2020-2040. Therefore, the Proposed Project's GHG emissions will be less than significant in the context of Threshold 1 and Threshold 2. Based on the analysis above, the Proposed Project's GHG emissions are not cumulatively considerable, and the Proposed Project is less than significant for cumulative GHG impacts.

TABLES

Table 3-1. Placer County Air Pollution Control District's Greenhouse Gas Significance Thresholds
El Dorado Hills Costco Project
El Dorado Hills, California

Category	Greenhouse Gas Significance Thresholds [1]
Bright-Line Threshold for Project Construction	10,000 MT CO_2e/year
De Minimis Level for Project Operations	1,100 MT CO_2e/year
Bright-Line Threshold for Project Operations	10,000 MT CO_2e/year
Efficiency Matrix Threshold for Non-Residential Urban Projects	26.5 MT CO2e/1,000 sf
Efficiency Matrix Threshold for Non-Residential Rural Projects	27.3 MT CO_2e/1,000 sf

Notes:

[1] Placer County APCD. 2016. California Environmental Quality Act Thresholds of Significance. October. Available at: https://www.placerair.org/DocumentCenter/View/2061/Threshold-Justification-Report-PDF?bidId=. Accessed: October 2025.

Abbreviations:

APCD - Air Pollution Control District

CO_2e - carbon dioxide equivalent

MT - metric ton

sf - square feet

Table 4-1. Construction Schedule - Proposed Project
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name [1]	CalEEMod Phase Type [1]	Start Date [1]	End Date [1]	Phase Duration [2] (days)
Site Preparation	Site Preparation	7/1/2026	8/6/2026	37
Grading	Grading	8/7/2026	1/27/2027	174
Building Construction	Building Construction	8/7/2026	5/17/2027	284
Paving	Paving	1/28/2027	4/16/2027	79
Architectural Coating	Architectural Coating	3/17/2027	5/17/2027	62

Notes:

[1] Construction phases and duration are based on Project-specific information. Note, there are two scenarios for project construction which differ in the material movement amounts in the grading phase. However, the construction schedule for both scenarios is expected to be the same.

[2] The construction work week was assumed to be 7 days per week.

Abbreviations:

CalEEMod - California Emissions Estimator Model

Table 4-2. Construction Schedule - Site Access and Roadway Improvements
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name [1]	CalEEMod Phase Type [1]	Start Date [1]	End Date [1]	Phase Duration [2] (days)
Linear, Grubbing & Land Clearing	Linear, Grubbing & Land Clearing	7/1/2026	7/26/2026	26
Linear, Grading & Excavation	Linear, Grading & Excavation	7/27/2026	11/8/2026	105
Linear, Drainage, Utilities, & Sub-Grade	Linear, Drainage, Utilities, & Sub-Grade	11/9/2026	2/8/2027	92
Linear, Paving	Linear, Paving	2/9/2027	3/19/2027	39

Notes:

[1] Construction phases and duration are based on Project-specific information.

[2] The construction work week was assumed to be 7 days per week.

Abbreviations:

CalEEMod - California Emissions Estimator Model

Table 4-3. Construction Equipment Assumptions - Project
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name	Offroad Equipment Type [1]	Number of Equipment [1]	Usage Hours [1] (hours/day)	Equipment Horsepower [1] (hp)	Equipment Load Factor [1]	Fuel Type [1]	Engine Tier for Unmitigated Project [1]	DPF Level for Unmitigated Project [1]	Engine Tier for Mitigated Project [2]	DPF Level for Mitigated Project [2]
Site Preparation	Rubber Tired Dozers	3	8	367	0.40	Diesel	Average	N/A	Tier 3	Level 3
Site Preparation	Tractors/Loaders/Backhoes	4	8	84	0.37	Diesel	Average	N/A	Tier 3	Level 3
Grading	Excavators	2	8	36	0.38	Diesel	Average	N/A	Average	N/A
Grading	Graders	1	8	148	0.41	Diesel	Average	N/A	Tier 3	Level 3
Grading	Rubber Tired Dozers	1	8	367	0.40	Diesel	Average	N/A	Tier 3	Level 3
Grading	Scrapers	2	8	423	0.48	Diesel	Average	N/A	Tier 3	Level 3
Grading	Tractors/Loaders/Backhoes	2	8	84	0.37	Diesel	Average	N/A	Tier 3	Level 3
Building Construction	Cranes	1	7	367	0.29	Diesel	Average	N/A	Tier 3	Level 3
Building Construction	Forklifts	3	8	82	0.20	Diesel	Average	N/A	Tier 3	Level 3
Building Construction	Generator Sets	1	8	14	0.74	Diesel	Average	N/A	Average	N/A
Building Construction	Tractors/Loaders/Backhoes	3	7	84	0.37	Diesel	Average	N/A	Tier 3	Level 3
Building Construction	Welders	1	8	46	0.45	Diesel	Average	N/A	Average	N/A
Paving	Pavers	2	8	81	0.42	Diesel	Average	N/A	Tier 3	Level 3
Paving	Paving Equipment	2	8	89	0.36	Diesel	Average	N/A	Tier 3	Level 3
Paving	Rollers	2	8	36	0.38	Diesel	Average	N/A	Average	N/A
Architectural Coating	Air Compressors	1	6	37	0.48	Diesel	Average	N/A	Average	N/A

Notes:

[1] Based on CalEEMod default values. Note, there are two scenarios for project construction which differ in the material movement amounts in the grading phase. However, the construction equipment activity for both scenarios is expected to be the same.

[2] Construction equipment greater than 50 hp used at the site shall be mitigated to meet USEPA Tier 4 Final emission standards for PM10 and PM2.5. If Tier 4 Final equipment is viable but not available, all construction equipment larger than 50 horsepower used at the site shall meet USEPA emission standards for Tier 3 engines and include particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices. To be conservative, this analysis assumed that Tier 3 engines with particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices would be used on-site to model the potential mitigated construction emissions if Tier 4 final equipment is not available.

Abbreviations:

CalEEMod - California Emissions Estimator Model

CARB - California Air Resources Board

DPF - Diesel Particulate Filter

hp - horsepower

N/A - not applicable

PM_{10} - particulate matter less than 10 microns in diameter

$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter

USEPA - United States Environmental Protection Agency

Table 4-4. Construction Equipment Assumptions - Site Access and Roadway Improvements
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name	Offroad Equipment Type [1]	Number of Equipment [1]	Usage Hours [2] (hours/day)	Equipment Horsepower [2] (hp)	Equipment Load Factor [2]	Fuel Type [2]	Engine Tier for Unmitigated Project [2]	DPF Level for Unmitigated Project [2]	Engine Tier for Mitigated Project [3]	DPF Level for Mitigated Project [3]
Linear, Grubbing & Land Clearing	Crawler Tractors	1	8	87	0.43	Diesel	Average	N/A	Tier 3	Level 3
Linear, Grubbing & Land Clearing	Excavators	2	8	36	0.38	Diesel	Average	N/A	Average	N/A
Linear, Grubbing & Land Clearing	Signal Boards	1	8	6	0.82	Electric	Average	N/A	Average	N/A
Linear, Grading & Excavation	Crawler Tractors	1	8	87	0.43	Diesel	Average	N/A	Tier 3	Level 3
Linear, Grading & Excavation	Rollers	2	8	36	0.38	Diesel	Average	N/A	Average	N/A
Linear, Grading & Excavation	Signal Boards	1	8	6	0.82	Electric	Average	N/A	Average	N/A
Linear, Drainage, Utilities, & Sub-Grade	Air Compressors	1	8	37	0.48	Diesel	Average	N/A	Average	N/A
Linear, Drainage, Utilities, & Sub-Grade	Plate Compactors	1	8	8	0.43	Diesel	Average	N/A	Average	N/A
Linear, Drainage, Utilities, & Sub-Grade	Pumps	1	8	11	0.74	Diesel	Average	N/A	Average	N/A
Linear, Drainage, Utilities, & Sub-Grade	Rough Terrain Forklifts	1	8	96	0.40	Diesel	Average	N/A	Tier 3	Level 3
Linear, Drainage, Utilities, & Sub-Grade	Scrapers	1	8	423	0.48	Diesel	Average	N/A	Tier 3	Level 3
Linear, Drainage, Utilities, & Sub-Grade	Signal Boards	1	8	6	0.82	Electric	Average	N/A	Average	N/A
Linear, Paving	Pavers	1	8	81	0.42	Diesel	Average	N/A	Tier 3	Level 3
Linear, Paving	Paving Equipment	1	8	89	0.36	Diesel	Average	N/A	Tier 3	Level 3
Linear, Paving	Signal Boards	1	8	6	0.82	Electric	Average	N/A	Average	N/A

Notes:

[1] Construction of Site Access and Roadway Improvements is expected to occur at the same time as the Project construction. Additional equipment needed in each subphase that are not already included in the Project construction are presented in this table.

[2] Based on CalEEMod default values.

[3] Construction equipment greater than 50 hp used at the site shall be mitigated to meet USEPA Tier 4 Final emission standards for PM_{10} and $PM_{2.5}$. If Tier 4 Final equipment is viable but not available, all construction equipment larger than 50 horsepower used at the site shall meet USEPA emission standards for Tier 3 engines and include particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices. To be conservative, this analysis assumed that Tier 3 engines with particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices would be used on-site to model the potential mitigated construction emissions if Tier 4 final equipment is not available.

Abbreviations:

CalEEMod - California Emissions Estimator Model

CARB - California Air Resources Board

DPF - Diesel Particulate Filter

hp - horsepower

N/A - not applicable

PM_{10} - particulate matter less than 10 microns in diameter

$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter

USEPA - United States Environmental Protection Agency

Table 4-5. Construction Trip Assumptions - Project Construction Scenario 1
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name	Worker Trips per Day [1,2]	Vendor Trips per Day [1,2]	Hauling Trips per Day [1,3]	Concrete Truck Trips per Day [1,4]
Site Preparation	18	0	0	0
Grading	20	0	39	0
Building Construction	96	44	0	104
Paving	15	0	0	0
Architectural Coating	19	0	0	0

Notes:

[1] Trips are presented as one-way trips per day.

[2] Worker and vendor trips are based on CalEEMod defaults. The one-way trip lengths for worker and vendor trips is assumed the CalEEMod default values of 14.3 and 8.8 miles, respectively.

[3] Hauling trips reflect CalEEMod defaults based on Project-specific estimates of material movement shown in Table 4-8. The one-way trip length for hauling trips is assumed to be the CalEEMod default value of 20 miles.

[4] Project construction includes nighttime concrete pours on eight days during the building construction phase where 52 concrete trucks would visit the site per day (104 one-way trips per day). This 8 day activity is expected to occur in December 2026. For purposes of this analysis, these concrete trucks are modeled as heavy-heavy duty vendor truck trips in CalEEMod with a CalEEMod default one-way trip length of 8.8 miles.

Abbreviations:

CalEEMod - California Emissions Estimator Model

Table 4-6. Construction Trip Assumptions - Project Construction Scenario 2
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name	Worker Trips per Day [1,2]	Vendor Trips per Day [1,2]	Hauling Trips per Day [1,3]	Concrete Truck Trips per Day [1,4]
Site Preparation	18	0	0	0
Grading	20	0	115	0
Building Construction	96	44	0	104
Paving	15	0	0	0
Architectural Coating	19	0	0	0

Notes:

[1] Trips are presented as one-way trips per day.

[2] Worker and vendor trips are based on CalEEMod defaults. The one-way trip lengths for worker and vendor trips is assumed the CalEEMod default values of 14.3 and 8.8 miles, respectively.

[3] Hauling trips reflect CalEEMod defaults based on Project-specific estimates of material movement shown in Table 4-9. The one-way trip length for hauling trips is assumed to be the CalEEMod default value of 20 miles.

[4] Project construction includes nighttime concrete pours on eight days during the building construction phase where 52 concrete trucks would visit the site per day (104 one-way trips per day). This 8 day activity is expected to occur in December 2026. For purposes of this analysis, these concrete trucks are modeled as heavy-heavy duty vendor truck trips in CalEEMod with a CalEEMod default one-way trip length of 8.8 miles.

Abbreviations:

CalEEMod - California Emissions Estimator Model

Table 4-7. Construction Trip Assumptions - Site Access and Roadway Improvements
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name	Worker Trips per Day [1,2]	Vendor Trips per Day [1,2]	Hauling Trips per Day [1,3]
Linear, Grubbing & Land Clearing	10	0	12
Linear, Grading & Excavation	10	1	0
Linear, Drainage, Utilities, & Sub-Grade	15	0	0
Linear, Paving	8	0	0

Notes:

[1] Trips are presented as one-way trips per day.

[2] Worker and vendor trips are based on CalEEMod defaults. The one-way trip lengths for worker and vendor trips is assumed the CalEEMod default values of 14.3 and 8.8 miles respectively.

[3] Hauling trips reflect CalEEMod defaults based on Project-specific estimates of material and construction debris movement shown in Table 4-10 and 4-11. The one-way trip length for hauling trips is assumed to be the CalEEMod default value of 20 miles.

Abbreviations:

CalEEMod - California Emissions Estimator Model

Table 4-8. Construction Material Movement - Project Construction Scenario 1
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name	Material Imported [1] (yd^3)	Material Exported [1] (yd^3)
Grading	54,000	0

Notes:

[1] Soil import and export quantities based on project-specific data.

Abbreviations:

yd^3 - cubic yard

Table 4-9. Construction Material Movement - Project Construction Scenario 2
El Dorado Hills Costco Project
El Dorado Hills, California

Phase Name	Material Imported [1] (yd^3)	Material Exported [1] (yd^3)
Grading	107,000	53,000

Notes:

[1] Soil import and export quantities based on project-specific data.

Abbreviations:

yd^3 - cubic yard

Table 4-10. Construction Material Movement - Site Access and Roadway Improvements
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name	Material Imported [1] (yd^3)	Material Exported [1] (yd^3)
Linear, Grading & Excavation	70	0

Notes:

[1] Soil import and export quantities based on project-specific data.

Abbreviations:

yd^3 - cubic yard

Table 4-11. Construction Demolition Assumptions - Site Access and Roadway Improvements
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name	Size Metric	Unit Amount [1]
Linear, Grubbing & Land Clearing	tons of debris	1,284

Notes:

[1] Demolition debris quantity based on project-specific data.

Table 4-12. Annual Greenhouse Gas Emissions for Project Construction Scenario 1
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Activity Type	GHG Emissions [1] (MT CO_2e/yr)
Proposed Project Construction (2026) [2]	1,122
Proposed Project Construction (2027) [2]	491
Proposed Site Access and Roadway Improvements Construction (2026) [3]	124
Proposed Site Access and Roadway Improvements Construction (2027) [3]	60
Total Construction Emissions (2026)	**1,246**
Total Construction Emissions (2027)	**551**
Construction GHG Threshold [4]	**10,000**
Do Either Year of Construction Exceed the Threshold?	NO

Notes:

[1] GHG emissions are presented as CO_2e, which include CO_2, CH_4, and N_2O emissions, weighted by their respective global warming potentials.

[2] Obtained from CalEEMod output file for the proposed Project construction in **Appendix A-1** and **Table A-2**.

[3] Obtained from CalEEMod output file for the proposed site access and roadway improvements construction in **Appendix A-4**.

[4] Placer County Thresholds of Significance - Chapter 2. Available here: https://www.placerair.org/DocumentCenter/View/2047/Chapter-2-Thresholds-of-Significance-PDF. Accessed: October 2025.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

CH_4 - methane

CO_2 - carbon dioxide

CO_2e - carbon dioxide equivalents

GHG - greenhouse gas

MT - metric tons

N_2O - nitrous oxide

yr - year

Table 4-13. Annual Greenhouse Gas Emissions for Project Construction Scenario 2
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Activity Type	GHG Emissions [1] (MT CO_2e/yr)
Proposed Project Construction (2026) [2]	1,584
Proposed Project Construction (2027) [2]	574
Proposed Site Access and Roadway Improvements Construction (2026) [3]	124
Proposed Site Access and Roadway Improvements Construction (2027) [3]	60
Total Construction Emissions (2026)	**1,708**
Total Construction Emissions (2027)	**634**
Construction GHG Threshold [4]	**10,000**
Do Either Year of Construction Exceed the Threshold?	NO

Notes:

[1] GHG emissions are presented as CO_2e, which include CO_2, CH_4, and N_2O emissions, weighted by their respective global warming potentials.

[2] Obtained from CalEEMod output file for the proposed Project construction in **Appendix A-2** and **Table A-2**.

[3] Obtained from CalEEMod output file for the proposed site access and roadway improvements construction in **Appendix A-4**.

[4] Placer County Thresholds of Significance - Chapter 2. Available here: https://www.placerair.org/DocumentCenter/View/2047/Chapter-2-Thresholds-of-Significance-PDF. Accessed: October 2025.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

CH_4 - methane

CO_2 - carbon dioxide

CO_2e - carbon dioxide equivalents

GHG - greenhouse gas

MT - metric tons

N_2O - nitrous oxide

yr - year

Table 4-14. Operational Energy Assumptions
El Dorado Hills Costco Project
El Dorado Hills, California

CalEEMod Land Use Subtype	Total CalEEMod Default Electricity Usage (kWh/yr)	Total CalEEMod Default NG Usage (kBtu/yr)	CalEEMod Default NG Usage for Space Heating [1] (kBtu/yr)	CalEEMod Default NG Usage for Water Heating [1] (kBtu/yr)	CalEEMod Default NG Usage for Cooking [1] (kBtu/yr)	CalEEMod Default NG Usage for Other Equipment [1] (kBtu/yr)	New Electricity Usage from Electrification of NG Space Heating [2] (kWh/yr)	New Electricity Usage from Electrification of NG Water Heating [2] (kWh/yr)	New Electricity Usage from Electrification of NG Cooking [2] (kWh/yr)	New Electricity Usage from Electrification of Other NG Equipment [2] (kWh/yr)	Total New Electricity Usage from Electrification of NG Equipment [2] (kWh/yr)	Electricity Usage for Project Operation [3] (kWh/yr)	Natural Gas Usage for Project Operation [3] (kBtu/yr)
Gasoline/Service Station	23,335	93,655	29,267	8,105	225	56,058	6,948	1,987	33	16,429	25,397	48,732	0
Discount Club	1,437,492	1,423,224	1,099,764	258,768	16,173	48,519	0	0	0	0	0	1,437,492	1,423,224
Enclosed Parking with Elevator	369,143	0	0	0	0	0	0	0	0	0	0	369,143	0
Parking Lot	327,400	0	0	0	0	0	0	0	0	0	0	327,400	0

Notes:

[1] Total CalEEMod default natural gas usages broken down into end use distribution based on Appendix C in the CalEEMod handbook, where the "Other Equipment" category includes space cooling, refrigeration, and miscellaneous uses. Available at: https://www.caleemod.com/documents/handbook/appendices/appendix_c.pdf. Accessed: October 2025.

[2] The proposed Project will not have any natural gas usage at the gasoline dispensing facility. Hence, the CalEEMod default natural gas usage for the gasoline dispensing facility were converted into equivalent electricity usages by multiplying by the ratio of efficiencies between natural gas and equivalent electric appliances for 2022. Typical efficiency values for space heating (100% for electric and 81% for natural gas), water heating (98% for electric and 82% for natural gas), and cooking (71% for electric and 35% for natural gas) are available at: https://www.eia.gov/analysis/studies/buildings/equipcosts/pdf/appendix-a.pdf. Accessed: October 2025. The ratio of natural gas and electric efficiencies for the "Other Equipment" category was conservatively assumed to be 1:1.

[3] The proposed Project operational electricity and natural gas usage is assumed to be equal to CalEEMod defaults for all CalEEMod land use subtypes except the gasoline/service station. For this land use the operational natural gas usage is assumed to be zero based on Project-specific information. The electricity usage is higher than the CalEEMod defaults to account for electrification of CalEEMod default natural gas usage.

Conversion Factors:

3,412.14 Btu/kWh

Abbreviations:

Btu - British thermal units
CalEEMod - California Emissions Estimator Model
kBtu - thousand British thermal units
kWh - kilowatt-hour
NG - natural gas
yr - year

Table 4-15. Vegetation Land Use Change Assumptions
El Dorado Hills Costco Project
El Dorado Hills, California

Emission Source	Vegetation Land Use Type - Vegetation Soil Type [1,2]	CO_2 Accumulation [3] (MT CO_2e/acre/yr)	Acres, Existing Condition [4]	Acres, Proposed Project [4]
Soil Carbon Accumulation	Other - Inceptisols	1.00	14.97	7.31
Soil Carbon Accumulation	Urban - Inceptisols	0.0	0.00	7.66

Emission Source	Cover Type	CO_2 Accumulation [3] (MT CO_2e/acre/yr)	Acres, Existing Condition [4]	Acres, Proposed Project [4]
Above and Belowground Biomass Carbon Accumulation	Grassland	0.43	14.97	7.31
Above and Belowground Biomass Carbon Accumulation	Urban	0	0.00	7.66

Notes:

[1] Vegetation Land Use Type "Other" was chosen as all other CalEEMod Vegetation Land Use Types do not fit the description of the project site.

[2] Vegetation Soil Type at the Project location was determined using UC Davis' SoilWeb online geospatial tool.

[3] CO_2 Accumulation is based on CalEEMod default values. The Vegetation Land Use Type, "Other", does not have a CalEEMod default CO_2 Accumulation value for Inceptisols. Therefore, the CO_2 Accumulation for Inceptisols under the Vegetation Land Use Type, Other, was estimated as the average of CO_2 Accumulation for Inceptisols for all available Land Use Types.

[4] Acreage of vegetation cover is based on project-specific information.

Abbreviations:

CalEEMod - California Emissions Estimator Model

CO_2 - carbon dioxide

CO_2e - carbon dioxide equivalent

MT - metric ton

UC Davis - University of California, Davis

yr - year

Table 4-16. Estimating GHG Emission Benefits of On-Site Electric Vehicle Chargers
El Dorado Hills Costco Project
El Dorado Hills, California

Estimated VMT Reduction from Electric Vehicle Charging Stations		
Total Power Provided by On-Site DC Fast Chargers [1]	1,800	kW
Electricity Emission Factor [2]	0.00	MT CO_2e/MWh
Fuel Economy of Plug-In Hybrid/Electric Vehicle [3]	0.35	kWh/mile
Gasoline CO_2e Emission While Running [4]	320	g/mile
Annual Energy Consumption by EV Chargers [5]	3,705,480	kWh/year
Annual Electric VMT Generated by EV Chargers [6]	9,479,164	miles/year
Annual Electric VMT Generated by Project [7]	378,916	miles/year
Annual Gasoline VMT Reduction [8]	9,100,248	miles/year
Estimated GHG Emission Reductions from Electric Vehicle Charging Stations		
GHG Emissions of Gasoline-Powered Vehicles [9]	2,908	MT CO_2e/year
GHG Emissions of Electric-Powered Vehicles [10]	0	MT CO_2e/year
GHG Emissions Reduction [11]	2,908	MT CO_2e/year

Constants:

Loss for DC Fast Chargers [12]	10%	
Assumed Hours of Usage [13]	5.6	hours/day
Days per year	365	days/year

Notes:

[1] The Project will provide five (5) 360 kW power units, which will feed into ten on-site DC fast chargers.

[2] For the Proposed Project, 100% renewable electrical power will be supplied by Pacific Gas & Electric (PG&E), as Costco has a Clean Energy Contract with PG&E.

[3] The average fuel efficiencies for electric and plug-in hybrid passenger vehicles that would use the on-site DC fast chargers was obtained from **Table B-13**.

[4] The emission factor for gasoline-powered passenger vehicles was obtained from **Table B-14** and is presented as CO2e, which includes CO2, CH4, and N2O emissions, weighted by their respective 100-year global warming potentials, based upon the IPCC AR4 Assessment.

[5] Annual energy consumed by on-site DC fast chargers is estimated as a product of the total power provided by the chargers and the assumed hours of usage.

[6] The annual electric VMT generated by the EV chargers is estimated using the annual energy supplied to electric and plug-in hybrid electric vehicles using the on-site EV chargers and the fuel economy of these vehicles. The energy supplied by the EV charger is calculated using the annual energy consumed by the chargers and the potential losses associated with DC fast chargers.

[7] The annual electric VMT generated by the Project was obtained from Table 4-9 in the EDH Costco Project Energy Technical Report. This is the electric miles traveled by vehicles visiting the Project that is expected to occur regardless of the EV chargers.

[8] Annual gasoline VMT reduction is estimated as the difference in the annual electric VMT generated by the EV chargers and the annual electric VMT generated by the Proposed Project, which would occur regardless of the EV chargers.

[9] GHG emissions of gasoline-powered vehicles is calculated as a product of the annual gasoline VMT reduction and the GHG emission factor for gasoline-powered passenger vehicles.

[10] GHG emissions of electric-powered vehicles is zero because the tailpipe GHG emissions of these vehicles is zero and the GHG emission factor of the electricity delivered to these vehicles by the on-site EV chargers is also zero, as described in **footnote 2** above.

[11] GHG emissions reductions generated by the on-site EV chargers is calculated as the difference of GHG emissions of gasoline-powered vehicles and electric-powered vehicles.

[12] The losses associated with delivery of electricity from DC fast chargers to electric and plug-in hybrid vehicles is assumed to be 10%. Reference available here: https://insideevs.com/features/711659/ev-charger-efficiency-losses/. Accessed: October 2025.

[13] The assumed hours of usage are based on recently published charger utilization data for publicly available DC fast chargers operating in California. References include the following reports published by Paren: "State of the Industry Report: US EV Fast Charging", for Q1 2025 and Q2 2025. Available at: https://www.paren.app/. Accessed: October 2025.

Abbreviations:

AR4 - Fourth Assessment Report
CH_4 - methane
CO_2 - carbon dioxide
CO_2e - carbon dioxide equivalents
DC - direct current
EDH - El Dorado Hills
EV - electric vehicle
g - gram
GHG - greenhouse gases
IPCC - Intergovernmental Panel on Climate Change
kW - kilowatt
kWh - kilowatt-hour
MT - metric tonnes
MWh - megawatt-hour
N_2O - nitrous oxide
VMT - vehicle miles traveled

Table 4-17. Annual Average Greenhouse Gas Emissions for Project Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Emissions Category	GHG Emissions [1,2]	Unit
Area Sources [3]	3.9	MT CO_2e/yr
Energy Usage [3]	78	MT CO_2e/yr
Mobile [4]	4,731	MT CO_2e/yr
Water [3]	17	MT CO_2e/yr
Waste Disposed [3]	224	MT CO_2e/yr
Refrigerant [3]	0.13	MT CO_2e/yr
Vegetation [3]	11	MT CO_2e/yr
Generators [3]	9.6	MT CO_2e/yr
On-Site Electric Vehicle Chargers [5]	-2,908	MT CO_2e/yr
Operational Emissions	**2,167**	**MT CO_2e/yr**
Calculated Efficiency Metric [6]	**13.1**	**MT CO_2e/1,000 sqft**
Operational GHG Efficiency Metric Threshold [7]	**26.5**	**MT CO_2e/1,000 sqft**
Exceeds Threshold?	NO	**-**

Notes:

[1] Emissions are presented as CO_2e, which include CO_2, CH_4, and N_2O emissions, weighted by their respective global warming potentials.

[2] Emissions totals may not add up due to rounding.

[3] Obtained from CalEEMod output file for the proposed Project operation in **Appendix B-1**.

[4] Obtained from **Table B-12** in **Appendix B**.

[5] Emission reductions associated with on-site electric vehicle chargers are obtained from **Table 4-16**.

[6] Efficiency metric is calculated as the total operational emissions divided by the building square footage of the Project (165,200 sqft).

[7] Placer County Thresholds of Significance - Chapter 2. Available here: https://www.placerair.org/DocumentCenter/View/2047/Chapter-2-Thresholds-of-Significance-PDF. Accessed: October 2025.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

CH_4 - methane

CO_2 - carbon dioxide

CO_2e - carbon dioxide equivalents

GHG - greenhouse gas

MT - metric tons

N_2O - nitrous oxide

sqft - square feet

yr - year

APPENDIX A
CONSTRUCTION EMISSION CALCULATIONS

Appendix A-1: CalEEMod Model Run for Project Construction Scenario 1 Excluding Concrete Trucks
Appendix A-2: CalEEMod Model Run for Project Construction Scenario 2 Excluding Concrete Trucks
Appendix A-3: CalEEMod Model Run for Concrete Truck Emissions During Project Construction
Appendix A-4: CalEEMod Model Run for Site Access and Roadway Improvements
Appendix A-5: Construction Emission Calculation Tables

APPENDIX A-1
CALEEMOD MODEL RUN FOR PROJECT CONSTRUCTION SCENARIO 1 EXCLUDING CONCRETE TRUCKS

EDH Costco Construction – Scenario 1 Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

2.3. Construction Emissions by Year, Mitigated

3. Construction Emissions Details

3.1. Site Preparation (2026) - Unmitigated

3.2. Site Preparation (2026) - Mitigated

3.3. Grading (2026) - Unmitigated

3.4. Grading (2026) - Mitigated

3.5. Grading (2027) - Unmitigated

3.6. Grading (2027) - Mitigated

3.7. Building Construction (2026) - Unmitigated

3.8. Building Construction (2026) - Mitigated

3.9. Building Construction (2027) - Unmitigated

3.10. Building Construction (2027) - Mitigated

3.11. Paving (2027) - Unmitigated

3.12. Paving (2027) - Mitigated

3.13. Architectural Coating (2027) - Unmitigated

3.14. Architectural Coating (2027) - Mitigated

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.2.2. Mitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.3.2. Mitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

5.18.2.2. Mitigated

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	EDH Costco Construction – Scenario 1
Construction Start Date	7/1/2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	9.40
Location	38.659852, -121.056799
County	El Dorado-Mountain County
City	Unincorporated
Air District	El Dorado County AQMD
Air Basin	Mountain Counties
TAZ	406
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Discount Club	165	1000sqft	3.79	165,000	318,349	—	—	—
Gasoline/Service Station	16.0	Pump	0.30	2,259	0.00	—	—	—

Parking Lot	617	Space	8.58	0.00	0.00	—	—	—
Enclosed Parking with Elevator	214	Space	2.30	100,000	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers
Construction	C-6	Use Diesel Particulate Filters

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	43.5	43.1	44.6	48.3	0.13	1.54	9.44	11.0	1.42	2.35	3.77	—	14,998	14,998	0.41	0.87	13.0	15,279
Mit.	42.5	42.4	49.5	58.1	0.13	0.38	9.44	9.83	0.35	2.35	2.70	—	14,998	14,998	0.41	0.87	13.0	15,279
% Reduced	2%	2%	-11%	-20%	—	75%	—	11%	75%	—	28%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	43.4	43.0	45.2	46.8	0.13	1.54	9.44	11.0	1.42	2.35	3.77	—	14,870	14,870	0.41	0.87	0.34	15,139
Mit.	42.5	42.3	50.1	56.7	0.13	0.39	9.44	9.83	0.35	2.35	2.70	—	14,870	14,870	0.41	0.87	0.34	15,139
% Reduced	2%	2%	-11%	-21%	—	75%	—	11%	75%	—	28%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	8.05	7.88	21.1	21.9	0.06	0.75	3.81	4.56	0.69	0.95	1.64	—	6,554	6,554	0.19	0.35	2.29	6,667
Mit.	7.59	7.54	22.6	25.8	0.06	0.17	3.81	3.98	0.15	0.95	1.10	—	6,554	6,554	0.19	0.35	2.29	6,667
% Reduced	6%	4%	-7%	-18%	—	77%	—	13%	78%	—	33%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.47	1.44	3.85	3.99	0.01	0.14	0.70	0.83	0.13	0.17	0.30	—	1,085	1,085	0.03	0.06	0.38	1,104
Mit.	1.39	1.38	4.12	4.71	0.01	0.03	0.70	0.73	0.03	0.17	0.20	—	1,085	1,085	0.03	0.06	0.38	1,104
% Reduced	6%	4%	-7%	-18%	—	77%	—	13%	78%	—	33%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	5.61	4.75	44.6	48.3	0.13	1.54	9.44	11.0	1.42	2.35	3.77	—	14,998	14,998	0.41	0.87	13.0	15,279
2027	43.5	43.1	19.4	31.5	0.05	0.66	4.77	5.43	0.61	0.71	1.32	—	6,778	6,778	0.19	0.28	7.45	6,875
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	5.56	4.70	45.2	46.8	0.13	1.54	9.44	11.0	1.42	2.35	3.77	—	14,870	14,870	0.41	0.87	0.34	15,139
2027	43.4	43.0	42.6	46.1	0.13	1.42	9.44	10.9	1.31	2.35	3.66	—	14,757	14,757	0.41	0.84	0.31	15,018
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.63	2.22	21.1	21.9	0.06	0.75	3.81	4.56	0.69	0.95	1.64	—	6,554	6,554	0.19	0.35	2.29	6,667
2027	8.05	7.88	8.32	11.3	0.02	0.28	1.98	2.26	0.26	0.37	0.62	—	2,919	2,919	0.08	0.15	1.29	2,965
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.48	0.41	3.85	3.99	0.01	0.14	0.70	0.83	0.13	0.17	0.30	—	1,085	1,085	0.03	0.06	0.38	1,104
2027	1.47	1.44	1.52	2.07	< 0.005	0.05	0.36	0.41	0.05	0.07	0.11	—	483	483	0.01	0.02	0.21	491

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.69	2.52	49.5	58.1	0.13	0.38	9.44	9.83	0.35	2.35	2.70	—	14,998	14,998	0.41	0.87	13.0	15,279
2027	42.5	42.4	23.4	34.2	0.05	0.26	4.77	5.02	0.24	0.71	0.94	—	6,778	6,778	0.19	0.28	7.45	6,875
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.64	2.47	50.1	56.7	0.13	0.39	9.44	9.83	0.35	2.35	2.70	—	14,870	14,870	0.41	0.87	0.34	15,139
2027	42.5	42.3	49.5	56.3	0.13	0.37	9.44	9.82	0.34	2.35	2.69	—	14,757	14,757	0.41	0.84	0.31	15,018
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.16	1.09	22.6	25.8	0.06	0.17	3.81	3.98	0.15	0.95	1.10	—	6,554	6,554	0.19	0.35	2.29	6,667
2027	7.59	7.54	9.92	12.8	0.02	0.09	1.98	2.08	0.09	0.37	0.45	—	2,919	2,919	0.08	0.15	1.29	2,965
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.21	0.20	4.12	4.71	0.01	0.03	0.70	0.73	0.03	0.17	0.20	—	1,085	1,085	0.03	0.06	0.38	1,104
2027	1.39	1.38	1.81	2.34	< 0.005	0.02	0.36	0.38	0.02	0.07	0.08	—	483	483	0.01	0.02	0.21	491

3. Construction Emissions Details

3.1. Site Preparation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	3.74	3.14	29.2	28.8	0.05	1.24	—	1.24	1.14	—	1.14	—	5,298	5,298	0.21	0.04	—	5,316
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.38	0.32	2.96	2.92	< 0.005	0.13	—	0.13	0.12	—	0.12	—	537	537	0.02	< 0.005	—	539
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.07	0.06	0.54	0.53	< 0.005	0.02	—	0.02	0.02	—	0.02	—	88.9	88.9	< 0.005	< 0.005	—	89.2
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.05	1.03	0.00	0.00	0.54	0.54	0.00	0.08	0.08	—	193	193	< 0.005	0.01	0.70	196
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	18.0	18.0	< 0.005	< 0.005	0.03	18.2

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	2.97	2.97	< 0.005	< 0.005	0.01	3.02
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Site Preparation (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.90	0.90	24.0	28.3	0.05	0.14	—	0.14	0.13	—	0.13	—	5,298	5,298	0.21	0.04	—	5,316
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.09	2.44	2.87	< 0.005	0.01	—	0.01	0.01	—	0.01	—	537	537	0.02	< 0.005	—	539
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.02	0.02	0.44	0.52	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	88.9	88.9	< 0.005	< 0.005	—	89.2
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.05	1.03	0.00	0.00	0.54	0.54	0.00	0.08	0.08	—	193	193	< 0.005	0.01	0.70	196
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	18.0	18.0	< 0.005	< 0.005	0.03	18.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	2.97	2.97	< 0.005	< 0.005	0.01	3.02
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	3.62	3.04	27.2	27.6	0.06	1.12	—	1.12	1.03	—	1.03	—	6,599	6,599	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.60	3.60	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.62	3.04	27.2	27.6	0.06	1.12	—	1.12	1.03	—	1.03	—	6,599	6,599	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.60	3.60	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.46	1.23	11.0	11.1	0.02	0.45	—	0.45	0.42	—	0.42	—	2,658	2,658	0.11	0.02	—	2,667
Dust From Material Movement	—	—	—	—	—	—	1.45	1.45	—	0.57	0.57	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	0.22	2.00	2.03	< 0.005	0.08	—	0.08	0.08	—	0.08	—	440	440	0.02	< 0.005	—	441

Dust From Material Movement	—	—	—	—	—	—	0.26	0.26	—	0.10	0.10	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.06	1.18	0.00	0.00	0.62	0.62	0.00	0.09	0.09	—	220	220	< 0.005	0.01	0.79	224
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.09	0.07	5.23	0.57	0.04	0.03	1.52	1.55	0.03	0.28	0.31	—	3,372	3,372	0.02	0.54	5.36	3,538
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.92	0.00	0.00	0.62	0.62	0.00	0.09	0.09	—	198	198	< 0.005	0.01	0.02	201
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.09	0.07	5.57	0.58	0.04	0.04	1.52	1.55	0.04	0.28	0.31	—	3,371	3,371	0.02	0.54	0.14	3,532
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.38	0.00	0.00	0.25	0.25	0.00	0.04	0.04	—	81.5	81.5	< 0.005	< 0.005	0.14	82.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.03	2.22	0.23	0.01	0.01	0.60	0.62	0.01	0.11	0.12	—	1,358	1,358	0.01	0.22	0.93	1,424
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	13.5	13.5	< 0.005	< 0.005	0.02	13.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.01	0.41	0.04	< 0.005	< 0.005	0.11	0.11	< 0.005	0.02	0.02	—	225	225	< 0.005	0.04	0.15	236

3.4. Grading (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.30	1.26	29.8	35.4	0.06	0.21	—	0.21	0.19	—	0.19	—	6,599	6,599	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.60	3.60	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.30	1.26	29.8	35.4	0.06	0.21	—	0.21	0.19	—	0.19	—	6,599	6,599	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.60	3.60	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	0.51	12.0	14.3	0.02	0.09	—	0.09	0.08	—	0.08	—	2,658	2,658	0.11	0.02	—	2,667
Dust From Material Movement	—	—	—	—	—	—	1.45	1.45	—	0.57	0.57	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.09	2.19	2.60	< 0.005	0.02	—	0.02	0.01	—	0.01	—	440	440	0.02	< 0.005	—	441
Dust From Material Movement	—	—	—	—	—	—	0.26	0.26	—	0.10	0.10	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.06	1.18	0.00	0.00	0.62	0.62	0.00	0.09	0.09	—	220	220	< 0.005	0.01	0.79	224
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.09	0.07	5.23	0.57	0.04	0.03	1.52	1.55	0.03	0.28	0.31	—	3,372	3,372	0.02	0.54	5.36	3,538
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.92	0.00	0.00	0.62	0.62	0.00	0.09	0.09	—	198	198	< 0.005	0.01	0.02	201
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.09	0.07	5.57	0.58	0.04	0.04	1.52	1.55	0.04	0.28	0.31	—	3,371	3,371	0.02	0.54	0.14	3,532
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.38	0.00	0.00	0.25	0.25	0.00	0.04	0.04	—	81.5	81.5	< 0.005	< 0.005	0.14	82.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.03	2.22	0.23	0.01	0.01	0.60	0.62	0.01	0.11	0.12	—	1,358	1,358	0.01	0.22	0.93	1,424
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	13.5	13.5	< 0.005	< 0.005	0.02	13.7

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.01	0.41	0.04	< 0.005	< 0.005	0.11	0.11	< 0.005	0.02	0.02	—	225	225	< 0.005	0.04	0.15	236

3.5. Grading (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.51	2.95	25.6	27.3	0.06	1.04	—	1.04	0.96	—	0.96	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.60	3.60	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	0.22	1.89	2.02	< 0.005	0.08	—	0.08	0.07	—	0.07	—	488	488	0.02	< 0.005	—	490
Dust From Material Movement	—	—	—	—	—	—	0.27	0.27	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.35	0.37	< 0.005	0.01	—	0.01	0.01	—	0.01	—	80.8	80.8	< 0.005	< 0.005	—	81.1
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.07	0.86	0.00	0.00	0.62	0.62	0.00	0.09	0.09	—	195	195	< 0.005	0.01	0.02	197
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.09	0.07	5.25	0.57	0.04	0.04	1.52	1.55	0.04	0.28	0.31	—	3,303	3,303	0.02	0.52	0.13	3,459
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.07	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.01	0.38	0.04	< 0.005	< 0.005	0.11	0.11	< 0.005	0.02	0.02	—	244	244	< 0.005	0.04	0.16	256
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	2.44	2.44	< 0.005	< 0.005	< 0.005	2.47
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.07	0.01	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	40.5	40.5	< 0.005	0.01	0.03	42.4

3.6. Grading (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.29	1.26	29.7	35.4	0.06	0.21	—	0.21	0.19	—	0.19	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.60	3.60	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.09	2.20	2.62	< 0.005	0.02	—	0.02	0.01	—	0.01	—	488	488	0.02	< 0.005	—	490
Dust From Material Movement	—	—	—	—	—	—	0.27	0.27	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.40	0.48	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	80.8	80.8	< 0.005	< 0.005	—	81.1

Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.07	0.86	0.00	0.00	0.62	0.62	0.00	0.09	0.09	—	195	195	< 0.005	0.01	0.02	197
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.09	0.07	5.25	0.57	0.04	0.04	1.52	1.55	0.04	0.28	0.31	—	3,303	3,303	0.02	0.52	0.13	3,459
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.07	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.01	0.38	0.04	< 0.005	< 0.005	0.11	0.11	< 0.005	0.02	0.02	—	244	244	< 0.005	0.04	0.16	256
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	2.44	2.44	< 0.005	< 0.005	< 0.005	2.47
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.07	0.01	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	40.5	40.5	< 0.005	0.01	0.03	42.4

3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	0.43	3.97	5.22	0.01	0.15	—	0.15	0.14	—	0.14	—	965	965	0.04	0.01	—	969
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.72	0.95	< 0.005	0.03	—	0.03	0.03	—	0.03	—	160	160	0.01	< 0.005	—	160
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.47	0.44	0.28	5.62	0.00	0.00	2.97	2.97	0.00	0.43	0.43	—	1,052	1,052	0.02	0.04	3.79	1,067
Vendor	0.04	0.04	1.96	0.34	0.01	0.01	0.73	0.74	0.01	0.13	0.14	—	1,358	1,358	< 0.005	0.21	3.04	1,424
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.44	0.39	0.39	4.41	0.00	0.00	2.97	2.97	0.00	0.43	0.43	—	947	947	0.02	0.04	0.10	959
Vendor	0.04	0.04	2.07	0.36	0.01	0.01	0.73	0.74	0.01	0.13	0.14	—	1,358	1,358	< 0.005	0.21	0.08	1,421
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.16	0.14	1.80	0.00	0.00	1.17	1.17	0.00	0.17	0.17	—	389	389	0.01	0.02	0.66	395
Vendor	0.02	0.02	0.83	0.14	< 0.005	< 0.005	0.29	0.29	< 0.005	0.05	0.05	—	547	547	< 0.005	0.08	0.53	573
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.33	0.00	0.00	0.21	0.21	0.00	0.03	0.03	—	64.5	64.5	< 0.005	< 0.005	0.11	65.4
Vendor	< 0.005	< 0.005	0.15	0.03	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	90.6	90.6	< 0.005	0.01	0.09	94.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.68	0.62	12.2	15.0	0.02	0.13	—	0.13	0.12	—	0.12	—	2,397	2,397	0.10	0.02	—	2,405

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.68	0.62	12.2	15.0	0.02	0.13	—	0.13	0.12	—	0.12	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	0.25	4.92	6.03	0.01	0.05	—	0.05	0.05	—	0.05	—	965	965	0.04	0.01	—	969
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.90	1.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	160	160	0.01	< 0.005	—	160
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.47	0.44	0.28	5.62	0.00	0.00	2.97	2.97	0.00	0.43	0.43	—	1,052	1,052	0.02	0.04	3.79	1,067
Vendor	0.04	0.04	1.96	0.34	0.01	0.01	0.73	0.74	0.01	0.13	0.14	—	1,358	1,358	< 0.005	0.21	3.04	1,424
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.44	0.39	0.39	4.41	0.00	0.00	2.97	2.97	0.00	0.43	0.43	—	947	947	0.02	0.04	0.10	959
Vendor	0.04	0.04	2.07	0.36	0.01	0.01	0.73	0.74	0.01	0.13	0.14	—	1,358	1,358	< 0.005	0.21	0.08	1,421
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.16	0.14	1.80	0.00	0.00	1.17	1.17	0.00	0.17	0.17	—	389	389	0.01	0.02	0.66	395
Vendor	0.02	0.02	0.83	0.14	< 0.005	< 0.005	0.29	0.29	< 0.005	0.05	0.05	—	547	547	< 0.005	0.08	0.53	573
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.33	0.00	0.00	0.21	0.21	0.00	0.03	0.03	—	64.5	64.5	< 0.005	< 0.005	0.11	65.4
Vendor	< 0.005	< 0.005	0.15	0.03	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	90.6	90.6	< 0.005	0.01	0.09	94.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	0.39	3.52	4.86	0.01	0.13	—	0.13	0.12	—	0.12	—	900	900	0.04	0.01	—	903
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.64	0.89	< 0.005	0.02	—	0.02	0.02	—	0.02	—	149	149	0.01	< 0.005	—	149
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.45	0.42	0.28	5.28	0.00	0.00	2.97	2.97	0.00	0.43	0.43	—	1,034	1,034	0.02	0.04	3.46	1,049
Vendor	0.04	0.03	1.85	0.34	0.01	0.01	0.73	0.74	0.01	0.13	0.14	—	1,333	1,333	< 0.005	0.20	2.76	1,396
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.39	0.38	0.36	4.12	0.00	0.00	2.97	2.97	0.00	0.43	0.43	—	931	931	0.02	0.04	0.09	943
Vendor	0.04	0.03	1.95	0.35	0.01	0.01	0.73	0.74	0.01	0.13	0.14	—	1,333	1,333	< 0.005	0.20	0.07	1,393
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.14	0.12	1.58	0.00	0.00	1.09	1.09	0.00	0.16	0.16	—	357	357	0.01	0.01	0.56	362
Vendor	0.02	0.01	0.72	0.13	< 0.005	< 0.005	0.27	0.27	< 0.005	0.05	0.05	—	500	500	< 0.005	0.08	0.45	523
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.29	0.00	0.00	0.20	0.20	0.00	0.03	0.03	—	59.1	59.1	< 0.005	< 0.005	0.09	59.9
Vendor	< 0.005	< 0.005	0.13	0.02	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	82.8	82.8	< 0.005	0.01	0.07	86.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Building Construction (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.61	12.2	15.0	0.02	0.12	—	0.12	0.11	—	0.11	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.61	12.2	15.0	0.02	0.12	—	0.12	0.11	—	0.11	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.23	4.57	5.61	0.01	0.05	—	0.05	0.04	—	0.04	—	900	900	0.04	0.01	—	903
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.83	1.02	< 0.005	0.01	—	0.01	0.01	—	0.01	—	149	149	0.01	< 0.005	—	149
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.45	0.42	0.28	5.28	0.00	0.00	2.97	2.97	0.00	0.43	0.43	—	1,034	1,034	0.02	0.04	3.46	1,049
Vendor	0.04	0.03	1.85	0.34	0.01	0.01	0.73	0.74	0.01	0.13	0.14	—	1,333	1,333	< 0.005	0.20	2.76	1,396
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.39	0.38	0.36	4.12	0.00	0.00	2.97	2.97	0.00	0.43	0.43	—	931	931	0.02	0.04	0.09	943
Vendor	0.04	0.03	1.95	0.35	0.01	0.01	0.73	0.74	0.01	0.13	0.14	—	1,333	1,333	< 0.005	0.20	0.07	1,393
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.14	0.12	1.58	0.00	0.00	1.09	1.09	0.00	0.16	0.16	—	357	357	0.01	0.01	0.56	362
Vendor	0.02	0.01	0.72	0.13	< 0.005	< 0.005	0.27	0.27	< 0.005	0.05	0.05	—	500	500	< 0.005	0.08	0.45	523
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.03	0.03	0.02	0.29	0.00	0.00	0.20	0.20	0.00	0.03	0.03	—	59.1	59.1	< 0.005	< 0.005	0.09	59.9
Vendor	< 0.005	< 0.005	0.13	0.02	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	82.8	82.8	< 0.005	0.01	0.07	86.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.88	0.74	6.94	9.95	0.01	0.30	—	0.30	0.27	—	0.27	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.36	0.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.88	0.74	6.94	9.95	0.01	0.30	—	0.30	0.27	—	0.27	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.36	0.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.16	1.50	2.15	< 0.005	0.06	—	0.06	0.06	—	0.06	—	327	327	0.01	< 0.005	—	328

Paving	0.08	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.27	0.39	< 0.005	0.01	—	0.01	0.01	—	0.01	—	54.1	54.1	< 0.005	< 0.005	—	54.3
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.04	0.83	0.00	0.00	0.47	0.47	0.00	0.07	0.07	—	162	162	< 0.005	0.01	0.54	165
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.06	0.65	0.00	0.00	0.47	0.47	0.00	0.07	0.07	—	146	146	< 0.005	0.01	0.01	148
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.10	0.10	0.00	0.01	0.01	—	32.3	32.3	< 0.005	< 0.005	0.05	32.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	5.35	5.35	< 0.005	< 0.005	0.01	5.43
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Paving (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	0.46	8.11	10.6	0.01	0.11	—	0.11	0.10	—	0.10	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.36	0.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	0.46	8.11	10.6	0.01	0.11	—	0.11	0.10	—	0.10	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.36	0.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.10	1.76	2.29	< 0.005	0.02	—	0.02	0.02	—	0.02	—	327	327	0.01	< 0.005	—	328
Paving	0.08	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.32	0.42	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	54.1	54.1	< 0.005	< 0.005	—	54.3
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.04	0.83	0.00	0.00	0.47	0.47	0.00	0.07	0.07	—	162	162	< 0.005	0.01	0.54	165
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.06	0.65	0.00	0.00	0.47	0.47	0.00	0.07	0.07	—	146	146	< 0.005	0.01	0.01	148
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.10	0.10	0.00	0.01	0.01	—	32.3	32.3	< 0.005	< 0.005	0.05	32.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	5.35	5.35	< 0.005	< 0.005	0.01	5.43
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Architectural Coating (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	40.2	40.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	40.2	40.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22.7	22.7	< 0.005	< 0.005	—	22.8

Architect Coatings	6.83	6.83	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.75	3.75	< 0.005	< 0.005	—	3.77
Architectural Coatings	1.25	1.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.06	1.06	0.00	0.00	0.59	0.59	0.00	0.09	0.09	—	207	207	< 0.005	0.01	0.69	210
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.07	0.82	0.00	0.00	0.59	0.59	0.00	0.09	0.09	—	186	186	< 0.005	0.01	0.02	189
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.10	0.10	0.00	0.01	0.01	—	32.3	32.3	< 0.005	< 0.005	0.05	32.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	5.35	5.35	< 0.005	< 0.005	0.01	5.43
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Architectural Coating (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	40.2	40.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	40.2	40.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22.7	22.7	< 0.005	< 0.005	—	22.8
Architectural Coatings	6.83	6.83	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.75	3.75	< 0.005	< 0.005	—	3.77
Architectural Coatings	1.25	1.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.06	1.06	0.00	0.00	0.59	0.59	0.00	0.09	0.09	—	207	207	< 0.005	0.01	0.69	210
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.07	0.82	0.00	0.00	0.59	0.59	0.00	0.09	0.09	—	186	186	< 0.005	0.01	0.02	189
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.10	0.10	0.00	0.01	0.01	—	32.3	32.3	< 0.005	< 0.005	0.05	32.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	5.35	5.35	< 0.005	< 0.005	0.01	5.43
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	7/1/2026	8/6/2026	7.00	37.0	—
Grading	Grading	8/7/2026	1/27/2027	7.00	174	—
Building Construction	Building Construction	8/7/2026	5/17/2027	7.00	284	—
Paving	Paving	1/28/2027	4/16/2027	7.00	79.0	—
Architectural Coating	Architectural Coating	3/17/2027	5/17/2027	7.00	62.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36

Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Tier 3	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 3	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Tier 3	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 3	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Tier 3	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Tier 3	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Tier 3	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Tier 3	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 3	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Tier 3	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 3	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix

Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	14.3	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.80	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	14.3	LDA,LDT1,LDT2
Grading	Vendor	—	8.80	HHDT,MHDT
Grading	Hauling	38.8	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	95.5	14.3	LDA,LDT1,LDT2
Building Construction	Vendor	43.8	8.80	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	14.3	LDA,LDT1,LDT2
Paving	Vendor	—	8.80	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	19.1	14.3	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.80	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix

Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	14.3	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.80	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	14.3	LDA,LDT1,LDT2
Grading	Vendor	—	8.80	HHDT,MHDT
Grading	Hauling	38.8	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	95.5	14.3	LDA,LDT1,LDT2
Building Construction	Vendor	43.8	8.80	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	14.3	LDA,LDT1,LDT2
Paving	Vendor	—	8.80	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	19.1	14.3	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.80	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	255,397	84,130	28,436

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Grading	54,000	—	522	0.00	—
Paving	0.00	0.00	0.00	0.00	10.9

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Discount Club	0.00	0%
Gasoline/Service Station	0.00	0%
Parking Lot	8.58	100%
Enclosed Parking with Elevator	2.30	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

8. User Changes to Default Data

Screen	Justification
Characteristics: Utility Information	—
Land Use	Based on project-specific information.
Construction: Construction Phases	Based on project-specific information.
Construction: Dust From Material Movement	Construction material movement based on project-specific information. Watering 2x/day based on Rule 223-1, Table 1.
Construction: Architectural Coatings	Updated the VOC emission factor based on EDCAPCD Rule 215 Limits.
Construction: Electricity	—
Construction: On-Road Fugitive Dust	Percent paved roads updated based on Project-specific information.

APPENDIX A-2
CALEEMOD MODEL RUN FOR PROJECT CONSTRUCTION SCENARIO 2 EXCLUDING CONCRETE TRUCKS

EDH Costco Construction – Scenario 2 Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

2.3. Construction Emissions by Year, Mitigated

3. Construction Emissions Details

3.1. Site Preparation (2026) - Unmitigated

3.2. Site Preparation (2026) - Mitigated

3.3. Grading (2026) - Unmitigated

3.4. Grading (2026) - Mitigated

3.5. Grading (2027) - Unmitigated

3.6. Grading (2027) - Mitigated

3.7. Building Construction (2026) - Unmitigated

3.8. Building Construction (2026) - Mitigated

3.9. Building Construction (2027) - Unmitigated

3.10. Building Construction (2027) - Mitigated

3.11. Paving (2027) - Unmitigated

3.12. Paving (2027) - Mitigated

3.13. Architectural Coating (2027) - Unmitigated

3.14. Architectural Coating (2027) - Mitigated

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.2.2. Mitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.3.2. Mitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

5.18.2.2. Mitigated

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	EDH Costco Construction – Scenario 2
Construction Start Date	7/1/2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	9.40
Location	38.659852, -121.056799
County	El Dorado-Mountain County
City	Unincorporated
Air District	El Dorado County AQMD
Air Basin	Mountain Counties
TAZ	406
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Discount Club	165	1000sqft	3.79	165,000	318,349	—	—	—
Gasoline/Service Station	16.0	Pump	0.30	2,259	0.00	—	—	—

Parking Lot	617	Space	8.58	0.00	0.00	—	—	—
Enclosed Parking with Elevator	214	Space	2.30	100,000	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers
Construction	C-6	Use Diesel Particulate Filters

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	43.5	43.1	54.9	49.4	0.20	1.61	12.4	14.0	1.49	2.89	4.38	—	21,616	21,616	0.45	1.92	23.5	22,224
Mit.	42.5	42.4	59.8	59.2	0.20	0.45	12.4	12.9	0.42	2.89	3.31	—	21,616	21,616	0.45	1.92	23.5	22,224
% Reduced	2%	2%	-9%	-20%	—	72%	—	8%	72%	—	24%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	43.4	43.0	56.1	48.0	0.20	1.61	12.4	14.0	1.49	2.89	4.38	—	21,488	21,488	0.45	1.92	0.61	22,073
Mit.	42.5	42.3	61.0	57.8	0.20	0.45	12.4	12.9	0.42	2.89	3.31	—	21,488	21,488	0.45	1.92	0.61	22,073
% Reduced	2%	2%	-9%	-21%	—	72%	—	8%	72%	—	24%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	8.06	7.89	25.5	22.3	0.08	0.77	5.00	5.78	0.72	1.17	1.88	—	9,219	9,219	0.20	0.78	4.12	9,461
Mit.	7.60	7.55	26.9	26.2	0.08	0.20	5.00	5.20	0.18	1.17	1.35	—	9,219	9,219	0.20	0.78	4.12	9,461
% Reduced	6%	4%	-6%	-18%	—	75%	—	10%	75%	—	28%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.47	1.44	4.65	4.08	0.02	0.14	0.91	1.05	0.13	0.21	0.34	—	1,526	1,526	0.03	0.13	0.68	1,566
Mit.	1.39	1.38	4.91	4.79	0.02	0.04	0.91	0.95	0.03	0.21	0.25	—	1,526	1,526	0.03	0.13	0.68	1,566
% Reduced	6%	4%	-6%	-18%	—	75%	—	10%	75%	—	28%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	5.79	4.89	54.9	49.4	0.20	1.61	12.4	14.0	1.49	2.89	4.38	—	21,616	21,616	0.45	1.92	23.5	22,224
2027	43.5	43.1	19.4	31.5	0.05	0.66	4.77	5.43	0.61	0.71	1.32	—	6,778	6,778	0.19	0.28	7.45	6,875
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	5.74	4.83	56.1	48.0	0.20	1.61	12.4	14.0	1.49	2.89	4.38	—	21,488	21,488	0.45	1.92	0.61	22,073
2027	43.4	43.0	52.9	47.2	0.20	1.49	12.4	13.9	1.38	2.89	4.27	—	21,240	21,240	0.45	1.86	0.56	21,808
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.70	2.28	25.5	22.3	0.08	0.77	5.00	5.78	0.72	1.17	1.88	—	9,219	9,219	0.20	0.78	4.12	9,461
2027	8.06	7.89	9.07	11.4	0.03	0.28	2.20	2.48	0.26	0.41	0.67	—	3,398	3,398	0.09	0.22	1.60	3,468
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.49	0.42	4.65	4.08	0.02	0.14	0.91	1.05	0.13	0.21	0.34	—	1,526	1,526	0.03	0.13	0.68	1,566
2027	1.47	1.44	1.66	2.08	0.01	0.05	0.40	0.45	0.05	0.07	0.12	—	563	563	0.01	0.04	0.26	574

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.87	2.66	59.8	59.2	0.20	0.45	12.4	12.9	0.42	2.89	3.31	—	21,616	21,616	0.45	1.92	23.5	22,224
2027	42.5	42.4	23.4	34.2	0.05	0.26	4.77	5.02	0.24	0.71	0.94	—	6,778	6,778	0.19	0.28	7.45	6,875
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.82	2.61	61.0	57.8	0.20	0.45	12.4	12.9	0.42	2.89	3.31	—	21,488	21,488	0.45	1.92	0.61	22,073
2027	42.5	42.3	59.9	57.4	0.20	0.44	12.4	12.9	0.41	2.89	3.30	—	21,240	21,240	0.45	1.86	0.56	21,808
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.23	1.15	26.9	26.2	0.08	0.20	5.00	5.20	0.18	1.17	1.35	—	9,219	9,219	0.20	0.78	4.12	9,461
2027	7.60	7.55	10.7	12.9	0.03	0.10	2.20	2.30	0.09	0.41	0.50	—	3,398	3,398	0.09	0.22	1.60	3,468
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.23	0.21	4.91	4.79	0.02	0.04	0.91	0.95	0.03	0.21	0.25	—	1,526	1,526	0.03	0.13	0.68	1,566
2027	1.39	1.38	1.95	2.35	0.01	0.02	0.40	0.42	0.02	0.07	0.09	—	563	563	0.01	0.04	0.26	574

3. Construction Emissions Details

3.1. Site Preparation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	3.74	3.14	29.2	28.8	0.05	1.24	—	1.24	1.14	—	1.14	—	5,298	5,298	0.21	0.04	—	5,316
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.38	0.32	2.96	2.92	< 0.005	0.13	—	0.13	0.12	—	0.12	—	537	537	0.02	< 0.005	—	539
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.07	0.06	0.54	0.53	< 0.005	0.02	—	0.02	0.02	—	0.02	—	88.9	88.9	< 0.005	< 0.005	—	89.2
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.05	1.03	0.00	0.00	0.54	0.54	0.00	0.08	0.08	—	193	193	< 0.005	0.01	0.70	196
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	18.0	18.0	< 0.005	< 0.005	0.03	18.2

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	2.97	2.97	< 0.005	< 0.005	0.01	3.02
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Site Preparation (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.90	0.90	24.0	28.3	0.05	0.14	—	0.14	0.13	—	0.13	—	5,298	5,298	0.21	0.04	—	5,316
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.09	2.44	2.87	< 0.005	0.01	—	0.01	0.01	—	0.01	—	537	537	0.02	< 0.005	—	539
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.02	0.02	0.44	0.52	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	88.9	88.9	< 0.005	< 0.005	—	89.2
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.05	1.03	0.00	0.00	0.54	0.54	0.00	0.08	0.08	—	193	193	< 0.005	0.01	0.70	196
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	18.0	18.0	< 0.005	< 0.005	0.03	18.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	2.97	2.97	< 0.005	< 0.005	0.01	3.02
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	3.62	3.04	27.2	27.6	0.06	1.12	—	1.12	1.03	—	1.03	—	6,599	6,599	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.61	3.61	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.62	3.04	27.2	27.6	0.06	1.12	—	1.12	1.03	—	1.03	—	6,599	6,599	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.61	3.61	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.46	1.23	11.0	11.1	0.02	0.45	—	0.45	0.42	—	0.42	—	2,658	2,658	0.11	0.02	—	2,667
Dust From Material Movement	—	—	—	—	—	—	1.45	1.45	—	0.58	0.58	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	0.22	2.00	2.03	< 0.005	0.08	—	0.08	0.08	—	0.08	—	440	440	0.02	< 0.005	—	441

Dust From Material Movement	—	—	—	—	—	—	0.27	0.27	—	0.10	0.10	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.06	1.18	0.00	0.00	0.62	0.62	0.00	0.09	0.09	—	220	220	< 0.005	0.01	0.79	224
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.27	0.21	15.5	1.68	0.10	0.10	4.50	4.60	0.10	0.82	0.92	—	9,990	9,990	0.06	1.59	15.9	10,482
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.92	0.00	0.00	0.62	0.62	0.00	0.09	0.09	—	198	198	< 0.005	0.01	0.02	201
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.27	0.21	16.5	1.72	0.10	0.10	4.50	4.60	0.10	0.82	0.92	—	9,989	9,989	0.06	1.59	0.41	10,466
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.38	0.00	0.00	0.25	0.25	0.00	0.04	0.04	—	81.5	81.5	< 0.005	< 0.005	0.14	82.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.11	0.08	6.58	0.68	0.04	0.04	1.78	1.82	0.04	0.33	0.37	—	4,023	4,023	0.02	0.64	2.77	4,218
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	13.5	13.5	< 0.005	< 0.005	0.02	13.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	0.02	1.20	0.12	0.01	0.01	0.33	0.33	0.01	0.06	0.07	—	666	666	< 0.005	0.11	0.46	698

3.4. Grading (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.30	1.26	29.8	35.4	0.06	0.21	—	0.21	0.19	—	0.19	—	6,599	6,599	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.61	3.61	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.30	1.26	29.8	35.4	0.06	0.21	—	0.21	0.19	—	0.19	—	6,599	6,599	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.61	3.61	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	0.51	12.0	14.3	0.02	0.09	—	0.09	0.08	—	0.08	—	2,658	2,658	0.11	0.02	—	2,667
Dust From Material Movement	—	—	—	—	—	—	1.45	1.45	—	0.58	0.58	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.09	2.19	2.60	< 0.005	0.02	—	0.02	0.01	—	0.01	—	440	440	0.02	< 0.005	—	441
Dust From Material Movement	—	—	—	—	—	—	0.27	0.27	—	0.10	0.10	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.06	1.18	0.00	0.00	0.62	0.62	0.00	0.09	0.09	—	220	220	< 0.005	0.01	0.79	224
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.27	0.21	15.5	1.68	0.10	0.10	4.50	4.60	0.10	0.82	0.92	—	9,990	9,990	0.06	1.59	15.9	10,482
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.92	0.00	0.00	0.62	0.62	0.00	0.09	0.09	—	198	198	< 0.005	0.01	0.02	201
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.27	0.21	16.5	1.72	0.10	0.10	4.50	4.60	0.10	0.82	0.92	—	9,989	9,989	0.06	1.59	0.41	10,466
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.38	0.00	0.00	0.25	0.25	0.00	0.04	0.04	—	81.5	81.5	< 0.005	< 0.005	0.14	82.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.11	0.08	6.58	0.68	0.04	0.04	1.78	1.82	0.04	0.33	0.37	—	4,023	4,023	0.02	0.64	2.77	4,218
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	13.5	13.5	< 0.005	< 0.005	0.02	13.7

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	0.02	1.20	0.12	0.01	0.01	0.33	0.33	0.01	0.06	0.07	—	666	666	< 0.005	0.11	0.46	698

3.5. Grading (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.51	2.95	25.6	27.3	0.06	1.04	—	1.04	0.96	—	0.96	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.61	3.61	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	0.22	1.89	2.02	< 0.005	0.08	—	0.08	0.07	—	0.07	—	488	488	0.02	< 0.005	—	490
Dust From Material Movement	—	—	—	—	—	—	0.27	0.27	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.35	0.37	< 0.005	0.01	—	0.01	0.01	—	0.01	—	80.8	80.8	< 0.005	< 0.005	—	81.1
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.07	0.86	0.00	0.00	0.62	0.62	0.00	0.09	0.09	—	195	195	< 0.005	0.01	0.02	197
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.27	0.21	15.6	1.68	0.10	0.10	4.50	4.60	0.10	0.82	0.92	—	9,786	9,786	0.06	1.54	0.38	10,248
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.07	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	0.02	1.14	0.12	0.01	0.01	0.33	0.34	0.01	0.06	0.07	—	724	724	< 0.005	0.11	0.47	759
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	2.44	2.44	< 0.005	< 0.005	< 0.005	2.47
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.21	0.02	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	120	120	< 0.005	0.02	0.08	126

3.6. Grading (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.29	1.26	29.7	35.4	0.06	0.21	—	0.21	0.19	—	0.19	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.61	3.61	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.09	2.20	2.62	< 0.005	0.02	—	0.02	0.01	—	0.01	—	488	488	0.02	< 0.005	—	490
Dust From Material Movement	—	—	—	—	—	—	0.27	0.27	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.40	0.48	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	80.8	80.8	< 0.005	< 0.005	—	81.1

Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.07	0.86	0.00	0.00	0.62	0.62	0.00	0.09	0.09	—	195	195	< 0.005	0.01	0.02	197
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.27	0.21	15.6	1.68	0.10	0.10	4.50	4.60	0.10	0.82	0.92	—	9,786	9,786	0.06	1.54	0.38	10,248
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.07	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	14.7	14.7	< 0.005	< 0.005	0.02	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	0.02	1.14	0.12	0.01	0.01	0.33	0.34	0.01	0.06	0.07	—	724	724	< 0.005	0.11	0.47	759
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	2.44	2.44	< 0.005	< 0.005	< 0.005	2.47
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.21	0.02	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	120	120	< 0.005	0.02	0.08	126

3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	0.43	3.97	5.22	0.01	0.15	—	0.15	0.14	—	0.14	—	965	965	0.04	0.01	—	969
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.72	0.95	< 0.005	0.03	—	0.03	0.03	—	0.03	—	160	160	0.01	< 0.005	—	160
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.47	0.44	0.28	5.62	0.00	0.00	2.97	2.97	0.00	0.43	0.43	—	1,052	1,052	0.02	0.04	3.79	1,067
Vendor	0.04	0.04	1.96	0.34	0.01	0.01	0.73	0.74	0.01	0.13	0.14	—	1,358	1,358	< 0.005	0.21	3.04	1,424
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.44	0.39	0.39	4.41	0.00	0.00	2.97	2.97	0.00	0.43	0.43	—	947	947	0.02	0.04	0.10	959
Vendor	0.04	0.04	2.07	0.36	0.01	0.01	0.73	0.74	0.01	0.13	0.14	—	1,358	1,358	< 0.005	0.21	0.08	1,421
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.16	0.14	1.80	0.00	0.00	1.17	1.17	0.00	0.17	0.17	—	389	389	0.01	0.02	0.66	395
Vendor	0.02	0.02	0.83	0.14	< 0.005	< 0.005	0.29	0.29	< 0.005	0.05	0.05	—	547	547	< 0.005	0.08	0.53	573
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.33	0.00	0.00	0.21	0.21	0.00	0.03	0.03	—	64.5	64.5	< 0.005	< 0.005	0.11	65.4
Vendor	< 0.005	< 0.005	0.15	0.03	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	90.6	90.6	< 0.005	0.01	0.09	94.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.68	0.62	12.2	15.0	0.02	0.13	—	0.13	0.12	—	0.12	—	2,397	2,397	0.10	0.02	—	2,405

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.68	0.62	12.2	15.0	0.02	0.13	—	0.13	0.12	—	0.12	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	0.25	4.92	6.03	0.01	0.05	—	0.05	0.05	—	0.05	—	965	965	0.04	0.01	—	969
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.90	1.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	160	160	0.01	< 0.005	—	160
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.47	0.44	0.28	5.62	0.00	0.00	2.97	2.97	0.00	0.43	0.43	—	1,052	1,052	0.02	0.04	3.79	1,067
Vendor	0.04	0.04	1.96	0.34	0.01	0.01	0.73	0.74	0.01	0.13	0.14	—	1,358	1,358	< 0.005	0.21	3.04	1,424
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.44	0.39	0.39	4.41	0.00	0.00	2.97	2.97	0.00	0.43	0.43	—	947	947	0.02	0.04	0.10	959
Vendor	0.04	0.04	2.07	0.36	0.01	0.01	0.73	0.74	0.01	0.13	0.14	—	1,358	1,358	< 0.005	0.21	0.08	1,421
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.16	0.14	1.80	0.00	0.00	1.17	1.17	0.00	0.17	0.17	—	389	389	0.01	0.02	0.66	395
Vendor	0.02	0.02	0.83	0.14	< 0.005	< 0.005	0.29	0.29	< 0.005	0.05	0.05	—	547	547	< 0.005	0.08	0.53	573
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.33	0.00	0.00	0.21	0.21	0.00	0.03	0.03	—	64.5	64.5	< 0.005	< 0.005	0.11	65.4
Vendor	< 0.005	< 0.005	0.15	0.03	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	90.6	90.6	< 0.005	0.01	0.09	94.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	0.39	3.52	4.86	0.01	0.13	—	0.13	0.12	—	0.12	—	900	900	0.04	0.01	—	903
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.64	0.89	< 0.005	0.02	—	0.02	0.02	—	0.02	—	149	149	0.01	< 0.005	—	149
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.45	0.42	0.28	5.28	0.00	0.00	2.97	2.97	0.00	0.43	0.43	—	1,034	1,034	0.02	0.04	3.46	1,049
Vendor	0.04	0.03	1.85	0.34	0.01	0.01	0.73	0.74	0.01	0.13	0.14	—	1,333	1,333	< 0.005	0.20	2.76	1,396
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.39	0.38	0.36	4.12	0.00	0.00	2.97	2.97	0.00	0.43	0.43	—	931	931	0.02	0.04	0.09	943
Vendor	0.04	0.03	1.95	0.35	0.01	0.01	0.73	0.74	0.01	0.13	0.14	—	1,333	1,333	< 0.005	0.20	0.07	1,393
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.14	0.12	1.58	0.00	0.00	1.09	1.09	0.00	0.16	0.16	—	357	357	0.01	0.01	0.56	362
Vendor	0.02	0.01	0.72	0.13	< 0.005	< 0.005	0.27	0.27	< 0.005	0.05	0.05	—	500	500	< 0.005	0.08	0.45	523
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.29	0.00	0.00	0.20	0.20	0.00	0.03	0.03	—	59.1	59.1	< 0.005	< 0.005	0.09	59.9
Vendor	< 0.005	< 0.005	0.13	0.02	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	82.8	82.8	< 0.005	0.01	0.07	86.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Building Construction (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.61	12.2	15.0	0.02	0.12	—	0.12	0.11	—	0.11	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.61	12.2	15.0	0.02	0.12	—	0.12	0.11	—	0.11	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.23	4.57	5.61	0.01	0.05	—	0.05	0.04	—	0.04	—	900	900	0.04	0.01	—	903
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.83	1.02	< 0.005	0.01	—	0.01	0.01	—	0.01	—	149	149	0.01	< 0.005	—	149
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.45	0.42	0.28	5.28	0.00	0.00	2.97	2.97	0.00	0.43	0.43	—	1,034	1,034	0.02	0.04	3.46	1,049
Vendor	0.04	0.03	1.85	0.34	0.01	0.01	0.73	0.74	0.01	0.13	0.14	—	1,333	1,333	< 0.005	0.20	2.76	1,396
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.39	0.38	0.36	4.12	0.00	0.00	2.97	2.97	0.00	0.43	0.43	—	931	931	0.02	0.04	0.09	943
Vendor	0.04	0.03	1.95	0.35	0.01	0.01	0.73	0.74	0.01	0.13	0.14	—	1,333	1,333	< 0.005	0.20	0.07	1,393
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.14	0.12	1.58	0.00	0.00	1.09	1.09	0.00	0.16	0.16	—	357	357	0.01	0.01	0.56	362
Vendor	0.02	0.01	0.72	0.13	< 0.005	< 0.005	0.27	0.27	< 0.005	0.05	0.05	—	500	500	< 0.005	0.08	0.45	523
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.03	0.03	0.02	0.29	0.00	0.00	0.20	0.20	0.00	0.03	0.03	—	59.1	59.1	< 0.005	< 0.005	0.09	59.9
Vendor	< 0.005	< 0.005	0.13	0.02	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	82.8	82.8	< 0.005	0.01	0.07	86.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.88	0.74	6.94	9.95	0.01	0.30	—	0.30	0.27	—	0.27	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.36	0.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.88	0.74	6.94	9.95	0.01	0.30	—	0.30	0.27	—	0.27	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.36	0.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.16	1.50	2.15	< 0.005	0.06	—	0.06	0.06	—	0.06	—	327	327	0.01	< 0.005	—	328

Paving	0.08	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.27	0.39	< 0.005	0.01	—	0.01	0.01	—	0.01	—	54.1	54.1	< 0.005	< 0.005	—	54.3
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.04	0.83	0.00	0.00	0.47	0.47	0.00	0.07	0.07	—	162	162	< 0.005	0.01	0.54	165
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.06	0.65	0.00	0.00	0.47	0.47	0.00	0.07	0.07	—	146	146	< 0.005	0.01	0.01	148
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.10	0.10	0.00	0.01	0.01	—	32.3	32.3	< 0.005	< 0.005	0.05	32.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	5.35	5.35	< 0.005	< 0.005	0.01	5.43
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Paving (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	0.46	8.11	10.6	0.01	0.11	—	0.11	0.10	—	0.10	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.36	0.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	0.46	8.11	10.6	0.01	0.11	—	0.11	0.10	—	0.10	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.36	0.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.10	1.76	2.29	< 0.005	0.02	—	0.02	0.02	—	0.02	—	327	327	0.01	< 0.005	—	328
Paving	0.08	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.32	0.42	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	54.1	54.1	< 0.005	< 0.005	—	54.3
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.04	0.83	0.00	0.00	0.47	0.47	0.00	0.07	0.07	—	162	162	< 0.005	0.01	0.54	165
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.06	0.65	0.00	0.00	0.47	0.47	0.00	0.07	0.07	—	146	146	< 0.005	0.01	0.01	148
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.10	0.10	0.00	0.01	0.01	—	32.3	32.3	< 0.005	< 0.005	0.05	32.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	5.35	5.35	< 0.005	< 0.005	0.01	5.43
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Architectural Coating (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	40.2	40.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	40.2	40.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22.7	22.7	< 0.005	< 0.005	—	22.8

Architect Coatings	6.83	6.83	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.75	3.75	< 0.005	< 0.005	—	3.77
Architectural Coatings	1.25	1.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.06	1.06	0.00	0.00	0.59	0.59	0.00	0.09	0.09	—	207	207	< 0.005	0.01	0.69	210
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.07	0.82	0.00	0.00	0.59	0.59	0.00	0.09	0.09	—	186	186	< 0.005	0.01	0.02	189
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.10	0.10	0.00	0.01	0.01	—	32.3	32.3	< 0.005	< 0.005	0.05	32.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	5.35	5.35	< 0.005	< 0.005	0.01	5.43
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Architectural Coating (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	40.2	40.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	40.2	40.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22.7	22.7	< 0.005	< 0.005	—	22.8
Architectural Coatings	6.83	6.83	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.75	3.75	< 0.005	< 0.005	—	3.77
Architectural Coatings	1.25	1.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.06	1.06	0.00	0.00	0.59	0.59	0.00	0.09	0.09	—	207	207	< 0.005	0.01	0.69	210
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.07	0.82	0.00	0.00	0.59	0.59	0.00	0.09	0.09	—	186	186	< 0.005	0.01	0.02	189
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.10	0.10	0.00	0.01	0.01	—	32.3	32.3	< 0.005	< 0.005	0.05	32.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	5.35	5.35	< 0.005	< 0.005	0.01	5.43
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	7/1/2026	8/6/2026	7.00	37.0	—
Grading	Grading	8/7/2026	1/27/2027	7.00	174	—
Building Construction	Building Construction	8/7/2026	5/17/2027	7.00	284	—
Paving	Paving	1/28/2027	4/16/2027	7.00	79.0	—
Architectural Coating	Architectural Coating	3/17/2027	5/17/2027	7.00	62.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36

Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Tier 3	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 3	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Tier 3	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 3	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Tier 3	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Tier 3	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Tier 3	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Tier 3	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 3	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Tier 3	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 3	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix

Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	14.3	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.80	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	14.3	LDA,LDT1,LDT2
Grading	Vendor	—	8.80	HHDT,MHDT
Grading	Hauling	115	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	95.5	14.3	LDA,LDT1,LDT2
Building Construction	Vendor	43.8	8.80	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	14.3	LDA,LDT1,LDT2
Paving	Vendor	—	8.80	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	19.1	14.3	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.80	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix

Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	14.3	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.80	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	14.3	LDA,LDT1,LDT2
Grading	Vendor	—	8.80	HHDT,MHDT
Grading	Hauling	115	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	95.5	14.3	LDA,LDT1,LDT2
Building Construction	Vendor	43.8	8.80	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	14.3	LDA,LDT1,LDT2
Paving	Vendor	—	8.80	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	19.1	14.3	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.80	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	255,397	84,130	28,436

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Grading	107,000	53,000	522	0.00	—
Paving	0.00	0.00	0.00	0.00	10.9

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Discount Club	0.00	0%
Gasoline/Service Station	0.00	0%
Parking Lot	8.58	100%
Enclosed Parking with Elevator	2.30	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

8. User Changes to Default Data

Screen	Justification
Characteristics: Utility Information	—
Land Use	Based on project-specific information.
Construction: Construction Phases	Based on project-specific information.
Construction: Dust From Material Movement	Construction material movement based on project-specific information. Watering 2x/day based on Rule 223-1, Table 1.
Construction: Architectural Coatings	Updated the VOC emission factor based on EDCAPCD Rule 215 Limits.
Construction: Electricity	—
Construction: On-Road Fugitive Dust	Percent paved roads updated based on Project-specific information.

APPENDIX A-3
CALEEMOD MODEL RUN FOR CONCRETE TRUCK EMISSIONS DURING PROJECT CONSTRUCTION

EDH Costco Construction - Concrete Trucks Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

3. Construction Emissions Details

3.1. Building Construction - Concrete Pour (2026) - Unmitigated

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	EDH Costco Construction - Concrete Trucks
Construction Start Date	12/3/2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	9.40
Location	38.659852, -121.056799
County	El Dorado-Mountain County
City	Unincorporated
Air District	El Dorado County AQMD
Air Basin	Mountain Counties
TAZ	406
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Discount Club	165	1000sqft	3.79	165,000	318,349	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.14	0.11	7.50	1.07	0.04	0.04	1.79	1.83	0.04	0.33	0.37	—	4,049	4,049	0.03	0.65	0.16	4,242
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	0.16	0.02	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	88.8	88.8	< 0.005	0.01	0.06	93.1
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	0.03	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.01	15.4

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.14	0.11	7.50	1.07	0.04	0.04	1.79	1.83	0.04	0.33	0.37	—	4,049	4,049	0.03	0.65	0.16	4,242
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2026	< 0.005	< 0.005	0.16	0.02	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	88.8	88.8	< 0.005	0.01	0.06	93.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	< 0.005	< 0.005	0.03	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.01	15.4

3. Construction Emissions Details

3.1. Building Construction - Concrete Pour (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.14	0.11	7.50	1.07	0.04	0.04	1.79	1.83	0.04	0.33	0.37	—	4,049	4,049	0.03	0.65	0.16	4,242
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	0.16	0.02	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	88.8	88.8	< 0.005	0.01	0.06	93.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	0.03	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.01	15.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Building Construction - Concrete Pour	Building Construction	12/3/2026	12/10/2026	7.00	8.00	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Building Construction - Concrete Pour	—	—	—	—
Building Construction - Concrete Pour	Worker	0.00	0.00	LDA,LDT1,LDT2
Building Construction - Concrete Pour	Vendor	104	8.80	HHDT
Building Construction - Concrete Pour	Hauling	0.00	0.00	HHDT
Building Construction - Concrete Pour	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Discount Club	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	204	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

8. User Changes to Default Data

Screen	Justification
Characteristics: Utility Information	—
Land Use	Project-specific information was provided by the Project Applicant.
Construction: Construction Phases	Based on project-specific information.
Construction: Off-Road Equipment	Concrete truck run only.
Construction: Trips and VMT	Vendor fleet mix based on project-specific information.
Construction: Electricity	—
Construction: On-Road Fugitive Dust	Percent paved roads updated based on Project-specific information.

APPENDIX A-4
CALEEMOD MODEL RUN FOR SITE ACCESS AND ROADWAY IMPROVEMENTS

Site Access and Roadway Improvements Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

2.3. Construction Emissions by Year, Mitigated

3. Construction Emissions Details

3.1. Linear, Grubbing & Land Clearing (2026) - Unmitigated

3.2. Linear, Grubbing & Land Clearing (2026) - Mitigated

3.3. Linear, Grading & Excavation (2026) - Unmitigated

3.4. Linear, Grading & Excavation (2026) - Mitigated

3.5. Linear, Drainage, Utilities, & Sub-Grade (2026) - Unmitigated

3.6. Linear, Drainage, Utilities, & Sub-Grade (2026) - Mitigated

3.7. Linear, Drainage, Utilities, & Sub-Grade (2027) - Unmitigated

3.8. Linear, Drainage, Utilities, & Sub-Grade (2027) - Mitigated

3.9. Linear, Paving (2027) - Unmitigated

3.10. Linear, Paving (2027) - Mitigated

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.2.2. Mitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.3.2. Mitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

5.18.2.2. Mitigated

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Site Access and Roadway Improvements
Construction Start Date	7/1/2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	9.40
Location	38.659852, -121.056799
County	El Dorado-Mountain County
City	Unincorporated
Air District	El Dorado County AQMD
Air Basin	Mountain Counties
TAZ	406
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Road Widening	0.60	Mile	7.20	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers
Construction	C-6	Use Diesel Particulate Filters

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.69	0.58	5.73	5.26	0.02	0.24	1.48	1.71	0.22	0.24	0.44	—	1,815	1,815	0.03	0.18	2.10	1,872
Mit.	0.42	0.37	5.15	5.25	0.02	0.09	1.48	1.55	0.08	0.24	0.30	—	1,815	1,815	0.03	0.18	2.10	1,872
% Reduced	39%	37%	10%	< 0.5%	—	64%	—	9%	64%	—	32%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.33	1.12	9.42	10.5	0.02	0.33	0.54	0.80	0.31	0.07	0.37	—	2,695	2,695	0.11	0.03	0.02	2,706
Mit.	0.78	0.72	12.2	14.7	0.02	0.13	0.54	0.62	0.11	0.07	0.18	—	2,695	2,695	0.11	0.03	0.02	2,706
% Reduced	41%	36%	-30%	-39%	—	62%	—	22%	63%	—	51%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.43	0.37	3.00	3.31	0.01	0.13	0.32	0.46	0.12	0.05	0.17	—	742	742	0.03	0.02	0.16	750
Mit.	0.26	0.23	3.20	3.90	0.01	0.05	0.32	0.37	0.04	0.05	0.09	—	742	742	0.03	0.02	0.16	750
% Reduced	40%	37%	-7%	-18%	—	64%	—	19%	64%	—	47%	—	—	—	—	—	—	—

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.08	0.07	0.55	0.60	< 0.005	0.02	0.06	0.08	0.02	0.01	0.03	—	123	123	< 0.005	< 0.005	0.03	124
Mit.	0.05	0.04	0.58	0.71	< 0.005	0.01	0.06	0.07	0.01	0.01	0.02	—	123	123	< 0.005	< 0.005	0.03	124
% Reduced	40%	37%	-7%	-18%	—	64%	—	19%	64%	—	47%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.69	0.58	5.73	5.26	0.02	0.24	1.48	1.71	0.22	0.24	0.44	—	1,815	1,815	0.03	0.18	2.10	1,872
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.33	1.12	9.42	10.5	0.02	0.33	0.54	0.80	0.31	0.07	0.37	—	2,695	2,695	0.11	0.03	0.02	2,706
2027	1.29	1.08	8.89	10.4	0.02	0.31	0.47	0.78	0.28	0.07	0.35	—	2,692	2,692	0.11	0.03	0.01	2,702
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.43	0.37	3.00	3.31	0.01	0.13	0.32	0.46	0.12	0.05	0.17	—	742	742	0.03	0.02	0.16	750
2027	0.17	0.14	1.23	1.58	< 0.005	0.05	0.07	0.12	0.04	0.01	0.05	—	362	362	0.01	< 0.005	0.04	363
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.08	0.07	0.55	0.60	< 0.005	0.02	0.06	0.08	0.02	0.01	0.03	—	123	123	< 0.005	< 0.005	0.03	124
2027	0.03	0.03	0.22	0.29	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	—	59.9	59.9	< 0.005	< 0.005	0.01	60.1

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.42	0.37	5.15	5.25	0.02	0.09	1.48	1.55	0.08	0.24	0.30	—	1,815	1,815	0.03	0.18	2.10	1,872
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.78	0.72	12.2	14.7	0.02	0.13	0.54	0.62	0.11	0.07	0.18	—	2,695	2,695	0.11	0.03	0.02	2,706
2027	0.77	0.71	12.2	14.6	0.02	0.12	0.47	0.59	0.11	0.07	0.18	—	2,692	2,692	0.11	0.03	0.01	2,702
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.26	0.23	3.20	3.90	0.01	0.05	0.32	0.37	0.04	0.05	0.09	—	742	742	0.03	0.02	0.16	750
2027	0.10	0.09	1.65	2.06	< 0.005	0.01	0.07	0.09	0.01	0.01	0.02	—	362	362	0.01	< 0.005	0.04	363
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.05	0.04	0.58	0.71	< 0.005	0.01	0.06	0.07	0.01	0.01	0.02	—	123	123	< 0.005	< 0.005	0.03	124
2027	0.02	0.02	0.30	0.38	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	59.9	59.9	< 0.005	< 0.005	0.01	60.1

3. Construction Emissions Details

3.1. Linear, Grubbing & Land Clearing (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.55	0.46	4.04	4.49	0.01	0.21	—	0.21	0.20	—	0.20	—	632	632	0.03	0.01	—	634
Demolition	—	—	—	—	—	—	0.69	0.69	—	0.10	0.10	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.29	0.32	< 0.005	0.02	—	0.02	0.01	—	0.01	—	45.0	45.0	< 0.005	< 0.005	—	45.2
Demolition	—	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.45	7.45	< 0.005	< 0.005	—	7.48
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.59	0.00	0.00	0.31	0.31	0.00	0.04	0.04	—	110	110	< 0.005	< 0.005	0.40	112
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	0.02	1.67	0.18	0.01	0.01	0.48	0.49	0.01	0.09	0.10	—	1,073	1,073	0.01	0.17	1.70	1,126
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	7.21	7.21	< 0.005	< 0.005	0.01	7.31
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.12	0.01	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	76.4	76.4	< 0.005	0.01	0.05	80.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.19	1.19	< 0.005	< 0.005	< 0.005	1.21
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	12.7	12.7	< 0.005	< 0.005	0.01	13.3

3.2. Linear, Grubbing & Land Clearing (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	0.25	3.45	4.48	0.01	0.06	—	0.06	0.05	—	0.05	—	632	632	0.03	0.01	—	634
Demolition	—	—	—	—	—	—	0.69	0.69	—	0.10	0.10	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.02	0.25	0.32	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	45.0	45.0	< 0.005	< 0.005	—	45.2
Demolition	—	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.45	7.45	< 0.005	< 0.005	—	7.48
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.59	0.00	0.00	0.31	0.31	0.00	0.04	0.04	—	110	110	< 0.005	< 0.005	0.40	112
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	0.02	1.67	0.18	0.01	0.01	0.48	0.49	0.01	0.09	0.10	—	1,073	1,073	0.01	0.17	1.70	1,126
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	7.21	7.21	< 0.005	< 0.005	0.01	7.31
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.12	0.01	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	76.4	76.4	< 0.005	0.01	0.05	80.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.19	1.19	< 0.005	< 0.005	< 0.005	1.21

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	12.7	12.7	< 0.005	< 0.005	0.01	13.3

3.3. Linear, Grading & Excavation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.53	4.14	4.43	0.01	0.24	—	0.24	0.22	—	0.22	—	632	632	0.03	0.01	—	634
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.53	4.14	4.43	0.01	0.24	—	0.24	0.22	—	0.22	—	632	632	0.03	0.01	—	634
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.18	0.15	1.19	1.28	< 0.005	0.07	—	0.07	0.06	—	0.06	—	182	182	0.01	< 0.005	—	182
Dust From Material Movement	—	—	—	—	—	—	0.06	0.06	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.03	0.03	0.22	0.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	30.1	30.1	< 0.005	< 0.005	—	30.2
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.59	0.00	0.00	0.31	0.31	0.00	0.04	0.04	—	110	110	< 0.005	< 0.005	0.40	112
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	31.0	31.0	< 0.005	< 0.005	0.07	32.5
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.45	7.45	< 0.005	< 0.005	0.01	7.82
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.46	0.00	0.00	0.31	0.31	0.00	0.04	0.04	—	99.1	99.1	< 0.005	< 0.005	0.01	100
Vendor	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	31.0	31.0	< 0.005	< 0.005	< 0.005	32.4
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.45	7.45	< 0.005	< 0.005	< 0.005	7.80
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.09	0.09	0.00	0.01	0.01	—	29.1	29.1	< 0.005	< 0.005	0.05	29.5

Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.92	8.92	< 0.005	< 0.005	0.01	9.34
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.14	2.14	< 0.005	< 0.005	< 0.005	2.25
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	4.82	4.82	< 0.005	< 0.005	0.01	4.89
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.48	1.48	< 0.005	< 0.005	< 0.005	1.55
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.35	0.35	< 0.005	< 0.005	< 0.005	0.37

3.4. Linear, Grading & Excavation (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	0.32	3.55	4.42	0.01	0.09	—	0.09	0.08	—	0.08	—	632	632	0.03	0.01	—	634
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	0.32	3.55	4.42	0.01	0.09	—	0.09	0.08	—	0.08	—	632	632	0.03	0.01	—	634

Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	1.02	1.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	182	182	0.01	< 0.005	—	182
Dust From Material Movement	—	—	—	—	—	—	0.06	0.06	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.19	0.23	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	30.1	30.1	< 0.005	< 0.005	—	30.2
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.59	0.00	0.00	0.31	0.31	0.00	0.04	0.04	—	110	110	< 0.005	< 0.005	0.40	112
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	31.0	31.0	< 0.005	< 0.005	0.07	32.5
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.45	7.45	< 0.005	< 0.005	0.01	7.82

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.46	0.00	0.00	0.31	0.31	0.00	0.04	0.04	—	99.1	99.1	< 0.005	< 0.005	0.01	100
Vendor	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	31.0	31.0	< 0.005	< 0.005	< 0.005	32.4
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.45	7.45	< 0.005	< 0.005	< 0.005	7.80
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.09	0.09	0.00	0.01	0.01	—	29.1	29.1	< 0.005	< 0.005	0.05	29.5
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.92	8.92	< 0.005	< 0.005	0.01	9.34
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.14	2.14	< 0.005	< 0.005	< 0.005	2.25
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	4.82	4.82	< 0.005	< 0.005	0.01	4.89
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.48	1.48	< 0.005	< 0.005	< 0.005	1.55
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.35	0.35	< 0.005	< 0.005	< 0.005	0.37

3.5. Linear, Drainage, Utilities, & Sub-Grade (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.26	1.06	9.36	9.84	0.02	0.33	—	0.33	0.31	—	0.31	—	2,546	2,546	0.10	0.02	—	2,555
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.36	1.43	< 0.005	0.05	—	0.05	0.04	—	0.04	—	370	370	0.01	< 0.005	—	371
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.25	0.26	< 0.005	0.01	—	0.01	0.01	—	0.01	—	61.2	61.2	< 0.005	< 0.005	—	61.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.69	0.00	0.00	0.47	0.47	0.00	0.07	0.07	—	149	149	< 0.005	0.01	0.02	151
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.07	0.07	0.00	0.01	0.01	—	22.1	22.1	< 0.005	< 0.005	0.04	22.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	3.65	3.65	< 0.005	< 0.005	0.01	3.70
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Linear, Drainage, Utilities, & Sub-Grade (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.72	0.66	12.2	14.0	0.02	0.13	—	0.13	0.11	—	0.11	—	2,546	2,546	0.10	0.02	—	2,555
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.10	1.77	2.03	< 0.005	0.02	—	0.02	0.02	—	0.02	—	370	370	0.01	< 0.005	—	371
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.32	0.37	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	61.2	61.2	< 0.005	< 0.005	—	61.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.69	0.00	0.00	0.47	0.47	0.00	0.07	0.07	—	149	149	< 0.005	0.01	0.02	151
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.07	0.07	0.00	0.01	0.01	—	22.1	22.1	< 0.005	< 0.005	0.04	22.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	3.65	3.65	< 0.005	< 0.005	0.01	3.70
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Linear, Drainage, Utilities, & Sub-Grade (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.22	1.02	8.83	9.77	0.02	0.31	—	0.31	0.28	—	0.28	—	2,545	2,545	0.10	0.02	—	2,554
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.94	1.04	< 0.005	0.03	—	0.03	0.03	—	0.03	—	272	272	0.01	< 0.005	—	273
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.17	0.19	< 0.005	0.01	—	0.01	0.01	—	0.01	—	45.0	45.0	< 0.005	< 0.005	—	45.2
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.06	0.65	0.00	0.00	0.47	0.47	0.00	0.07	0.07	—	146	146	< 0.005	0.01	0.01	148
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	16.0	16.0	< 0.005	< 0.005	0.03	16.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	2.64	2.64	< 0.005	< 0.005	< 0.005	2.68
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Linear, Drainage, Utilities, & Sub-Grade (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.70	0.65	12.1	14.0	0.02	0.12	—	0.12	0.11	—	0.11	—	2,545	2,545	0.10	0.02	—	2,554
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	1.30	1.49	< 0.005	0.01	—	0.01	0.01	—	0.01	—	272	272	0.01	< 0.005	—	273
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.24	0.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	45.0	45.0	< 0.005	< 0.005	—	45.2
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.06	0.65	0.00	0.00	0.47	0.47	0.00	0.07	0.07	—	146	146	< 0.005	0.01	0.01	148
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	16.0	16.0	< 0.005	< 0.005	0.03	16.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	2.64	2.64	< 0.005	< 0.005	< 0.005	2.68
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Linear, Paving (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	0.24	2.61	3.99	0.01	0.11	—	0.11	0.10	—	0.10	—	614	614	0.02	< 0.005	—	616
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.28	0.43	< 0.005	0.01	—	0.01	0.01	—	0.01	—	65.6	65.6	< 0.005	< 0.005	—	65.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.05	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.9	10.9	< 0.005	< 0.005	—	10.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.32	0.00	0.00	0.23	0.23	0.00	0.03	0.03	—	73.1	73.1	< 0.005	< 0.005	0.01	74.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	7.98	7.98	< 0.005	< 0.005	0.01	8.09
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.32	1.32	< 0.005	< 0.005	< 0.005	1.34
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Linear, Paving (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.10	3.19	4.31	0.01	0.02	—	0.02	0.02	—	0.02	—	614	614	0.02	< 0.005	—	616
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.34	0.46	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	65.6	65.6	< 0.005	< 0.005	—	65.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.06	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.9	10.9	< 0.005	< 0.005	—	10.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.32	0.00	0.00	0.23	0.23	0.00	0.03	0.03	—	73.1	73.1	< 0.005	< 0.005	0.01	74.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	7.98	7.98	< 0.005	< 0.005	0.01	8.09
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.32	1.32	< 0.005	< 0.005	< 0.005	1.34
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Linear, Grubbing & Land Clearing	Linear, Grubbing & Land Clearing	7/1/2026	7/26/2026	7.00	26.0	—
Linear, Grading & Excavation	Linear, Grading & Excavation	7/27/2026	11/8/2026	7.00	105	—
Linear, Drainage, Utilities, & Sub-Grade	Linear, Drainage, Utilities, & Sub-Grade	11/9/2026	2/8/2027	7.00	92.0	—
Linear, Paving	Linear, Paving	2/9/2027	3/19/2027	7.00	39.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Linear, Grubbing & Land Clearing	Crawler Tractors	Diesel	Average	1.00	8.00	87.0	0.43
Linear, Grubbing & Land Clearing	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Linear, Grubbing & Land Clearing	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Linear, Grading & Excavation	Crawler Tractors	Diesel	Average	1.00	8.00	87.0	0.43
Linear, Grading & Excavation	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Linear, Grading & Excavation	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Linear, Drainage, Utilities, & Sub-Grade	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
Linear, Drainage, Utilities, & Sub-Grade	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43

Linear, Drainage, Utilities, & Sub-Grade	Pumps	Diesel	Average	1.00	8.00	11.0	0.74
Linear, Drainage, Utilities, & Sub-Grade	Rough Terrain Forklifts	Diesel	Average	1.00	8.00	96.0	0.40
Linear, Drainage, Utilities, & Sub-Grade	Scrapers	Diesel	Average	1.00	8.00	423	0.48
Linear, Drainage, Utilities, & Sub-Grade	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Linear, Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Linear, Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Linear, Paving	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Linear, Grubbing & Land Clearing	Crawler Tractors	Diesel	Tier 3	1.00	8.00	87.0	0.43
Linear, Grubbing & Land Clearing	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Linear, Grubbing & Land Clearing	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Linear, Grading & Excavation	Crawler Tractors	Diesel	Tier 3	1.00	8.00	87.0	0.43
Linear, Grading & Excavation	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Linear, Grading & Excavation	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Linear, Drainage, Utilities, & Sub-Grade	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
Linear, Drainage, Utilities, & Sub-Grade	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Linear, Drainage, Utilities, & Sub-Grade	Pumps	Diesel	Average	1.00	8.00	11.0	0.74

Linear, Drainage, Utilities, & Sub-Grade	Rough Terrain Forklifts	Diesel	Tier 3	1.00	8.00	96.0	0.40
Linear, Drainage, Utilities, & Sub-Grade	Scrapers	Diesel	Tier 3	1.00	8.00	423	0.48
Linear, Drainage, Utilities, & Sub-Grade	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Linear, Paving	Pavers	Diesel	Tier 3	1.00	8.00	81.0	0.42
Linear, Paving	Paving Equipment	Diesel	Tier 3	1.00	8.00	89.0	0.36
Linear, Paving	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Linear, Grubbing & Land Clearing	—	—	—	—
Linear, Grubbing & Land Clearing	Worker	10.0	14.3	LDA,LDT1,LDT2
Linear, Grubbing & Land Clearing	Vendor	0.00	8.80	HHDT,MHDT
Linear, Grubbing & Land Clearing	Hauling	12.3	20.0	HHDT
Linear, Grubbing & Land Clearing	Onsite truck	—	—	HHDT
Linear, Grading & Excavation	—	—	—	—
Linear, Grading & Excavation	Worker	10.0	14.3	LDA,LDT1,LDT2
Linear, Grading & Excavation	Vendor	1.00	8.80	HHDT,MHDT
Linear, Grading & Excavation	Hauling	0.09	20.0	HHDT
Linear, Grading & Excavation	Onsite truck	—	—	HHDT
Linear, Drainage, Utilities, & Sub-Grade	—	—	—	—
Linear, Drainage, Utilities, & Sub-Grade	Worker	15.0	14.3	LDA,LDT1,LDT2
Linear, Drainage, Utilities, & Sub-Grade	Vendor	0.00	8.80	HHDT,MHDT

Linear, Drainage, Utilities, & Sub-Grade	Hauling	0.00	20.0	HHDT
Linear, Drainage, Utilities, & Sub-Grade	Onsite truck	—	—	HHDT
Linear, Paving	—	—	—	—
Linear, Paving	Worker	7.50	14.3	LDA,LDT1,LDT2
Linear, Paving	Vendor	0.00	8.80	HHDT,MHDT
Linear, Paving	Hauling	0.00	20.0	HHDT
Linear, Paving	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Linear, Grubbing & Land Clearing	—	—	—	—
Linear, Grubbing & Land Clearing	Worker	10.0	14.3	LDA,LDT1,LDT2
Linear, Grubbing & Land Clearing	Vendor	0.00	8.80	HHDT,MHDT
Linear, Grubbing & Land Clearing	Hauling	12.3	20.0	HHDT
Linear, Grubbing & Land Clearing	Onsite truck	—	—	HHDT
Linear, Grading & Excavation	—	—	—	—
Linear, Grading & Excavation	Worker	10.0	14.3	LDA,LDT1,LDT2
Linear, Grading & Excavation	Vendor	1.00	8.80	HHDT,MHDT
Linear, Grading & Excavation	Hauling	0.09	20.0	HHDT
Linear, Grading & Excavation	Onsite truck	—	—	HHDT
Linear, Drainage, Utilities, & Sub-Grade	—	—	—	—
Linear, Drainage, Utilities, & Sub-Grade	Worker	15.0	14.3	LDA,LDT1,LDT2
Linear, Drainage, Utilities, & Sub-Grade	Vendor	0.00	8.80	HHDT,MHDT
Linear, Drainage, Utilities, & Sub-Grade	Hauling	0.00	20.0	HHDT

Linear, Drainage, Utilities, & Sub-Grade	Onsite truck	—	—	HHDT
Linear, Paving	—	—	—	—
Linear, Paving	Worker	7.50	14.3	LDA,LDT1,LDT2
Linear, Paving	Vendor	0.00	8.80	HHDT,MHDT
Linear, Paving	Hauling	0.00	20.0	HHDT
Linear, Paving	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Linear, Grubbing & Land Clearing	0.00	0.00	0.00	1,284	—
Linear, Grading & Excavation	70.0	—	7.20	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Road Widening	7.20	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	88.1	204	0.03	< 0.005
2027	58.7	204	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

8. User Changes to Default Data

Screen	Justification
Construction: Demolition	Construction demolition material movement based on project-specific information. Watering 2x/day based on Rule 223-1, Table 1.
Construction: Trips and VMT	—
Construction: Construction Phases	Based on project-specific information.
Construction: Dust From Material Movement	Construction material movement based on project-specific information. Watering 2x/day based on Rule 223-1, Table 1.
Characteristics: Utility Information	—
Construction: Electricity	—
Construction: Off-Road Equipment	Equipment list updated to account for overlap of Project Construction and Site Access and Roadway Improvements Construction.
Construction: On-Road Fugitive Dust	Percent paved roads updated based on Project-specific information.

APPENDIX A-5
CONSTRUCTION EMISSION CALCULATION TABLES

List of Tables

Table A-1: Greenhouse Gas Emission Factors for Concrete Truck Idling

Table A-2: Greenhouse Gas Emissions from Concrete Trucks During Project Construction

Table A-1. Greenhouse Gas Emission Factors for Concrete Truck Idling
El Dorado Hills Costco Project
El Dorado Hills, California

EMFAC Vehicle Class	Fuel Type	Concrete Truck Fleet Mix [1]	CO_2 Emission Factor [2] (grams/idle-minute)	CH_4 Emission Factor [2] (grams/idle-minute)	N_2O Emission Factor [2] (grams/idle-minute)
HHDT	Diesel	100%	95	0.0018	0
Weighted Average Emission Factor [3]			95	0.0018	0

Notes:

[1] Concrete trucks are conservatively assumed to be diesel-fueled HHDT.

[2] Idling emission factors were obtained from the default EMFAC2021 project-level output for El Dorado (MC) sub-area in calendar year 2026.

[3] Weighted average emission factors for concrete trucks are calculated as the sumproduct of the project specific fleet mix and the emission factors for the individual vehicle class/fuel categories within that fleet mix.

Abbreviations:

CH_4 - methane

CO_2 - carbon dioxide

EMFAC - EMission FACtors model

HHDT - Heavy Heavy-Duty Truck

MC - Mountain County

N_2O - nitrous oxide

Table A-2. Greenhouse Gas Emissions from Concrete Trucks During Project Construction
El Dorado Hills Costco Project
El Dorado Hills, California

Concrete Truck Activity	Number of Days of Concrete Truck Activity [1] (days)	Daily Trips [1] (round trips/day)	Annual Trips (round trips/year)	Idle Duration [1] (minutes/ round trip)	CO_2 Emissions (MT/year)	CH_4 Emissions (MT/year)	N_2O Emissions (MT/year)	CO_2e Emissions (MT/year)
Idling [2]	8	52	416	60	2.4	4.5E-05	0	2.4
On-Road Travel [3]	8	52	416	-	15	9.8E-05	0.0023	15
Total Emissions					**17**	**1.4E-04**	**0.0023**	**18**

Notes:

[1] Based on Project-specific information.

[2] Idling emissions were estimated as a product of the emission factors from **Table A-1**, the idle duration per round trip, and the number of round trips per year.

[3] Obtained from the CalEEMod model run for concrete trucks in **Appendix A-3**.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel
CH_4 - methane
CO_2 - carbon dioxide
CO_2e - carbon dioxide equivalents
MT - metric tons
N_2O - nitrous oxide

APPENDIX B
EMISSION CALCULATIONS FOR PROJECT OPERATION

Appendix B-1: CalEEMod Model Run for Project Operation
Appendix B-2: Emission Calculation Tables for Project Operation

APPENDIX B-1
CALEEMOD MODEL RUN FOR PROJECT OPERATION

EDH Costco Operation Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

2.5. Operations Emissions by Sector, Unmitigated

2.6. Operations Emissions by Sector, Mitigated

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.1.2. Mitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.2. Electricity Emissions By Land Use - Mitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.2.4. Natural Gas Emissions By Land Use - Mitigated

4.3. Area Emissions by Source

4.3.1. Unmitigated

4.3.2. Mitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.4.2. Mitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.5.2. Mitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.6.2. Mitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.7.2. Mitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.8.2. Mitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.9.2. Mitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.9.2. Mitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.10.4. Landscape Equipment - Mitigated

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.11.2. Mitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.12.2. Mitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.13.2. Mitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.14.2. Mitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.15.2. Mitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

5.18.2.2. Mitigated

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	EDH Costco Operation
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	9.40
Location	38.659852, -121.056799
County	El Dorado-Mountain County
City	Unincorporated
Air District	El Dorado County AQMD
Air Basin	Mountain Counties
TAZ	406
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Discount Club	165	1000sqft	3.79	165,000	318,349	—	—	—
Gasoline/Service Station	16.0	Pump	0.30	2,259	0.00	—	—	—

Enclosed Parking with Elevator	214	Space	2.30	100,000	0.00	—	—	—
Parking Lot	617	Space	8.58	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Water	W-4	Require Low-Flow Water Fixtures
Water	W-5	Design Water-Efficient Landscapes

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.76	5.49	2.77	14.0	0.01	0.17	0.00	0.17	0.17	0.00	0.17	411	990	1,401	41.4	0.09	0.79	2,462
Mit.	5.76	5.49	2.77	14.0	0.01	0.17	0.00	0.17	0.17	0.00	0.17	408	990	1,398	41.1	0.08	0.79	2,449
% Reduced	—	—	—	—	—	—	—	—	—	—	—	1%	—	< 0.5%	1%	9%	—	1%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.69	3.59	2.68	2.41	0.01	0.15	0.00	0.15	0.15	0.00	0.15	411	942	1,353	41.4	0.09	0.79	2,414
Mit.	3.69	3.59	2.68	2.41	0.01	0.15	0.00	0.15	0.15	0.00	0.15	408	942	1,350	41.1	0.08	0.79	2,401
% Reduced	—	—	—	—	—	—	—	—	—	—	—	1%	—	< 0.5%	1%	9%	—	1%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	3.93	3.82	0.74	6.34	< 0.005	0.06	0.00	0.06	0.05	0.00	0.05	411	603	1,014	41.4	0.08	0.79	2,074
Mit.	3.93	3.82	0.74	6.34	< 0.005	0.06	0.00	0.06	0.05	0.00	0.05	408	603	1,011	41.1	0.08	0.79	2,061
% Reduced	—	—	—	—	—	—	—	—	—	—	—	1%	—	< 0.5%	1%	9%	—	1%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.72	0.70	0.14	1.16	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	68.0	99.9	168	6.85	0.01	0.13	343
Mit.	0.72	0.70	0.14	1.16	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	67.5	99.9	167	6.80	0.01	0.13	341
% Reduced	—	—	—	—	—	—	—	—	—	—	—	1%	—	< 0.5%	1%	9%	—	1%

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	4.81	4.65	0.10	11.6	< 0.005	0.02	—	0.02	0.02	—	0.02	—	47.8	47.8	< 0.005	< 0.005	—	48.0
Energy	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	456	456	0.24	0.02	—	469
Water	—	—	—	—	—	—	—	—	—	—	—	23.8	0.00	23.8	2.45	0.06	—	102
Waste	—	—	—	—	—	—	—	—	—	—	—	387	0.00	387	38.7	0.00	—	1,354
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.79	0.79
Stationary	0.90	0.82	2.29	2.09	< 0.005	0.12	0.00	0.12	0.12	0.00	0.12	0.00	420	420	0.02	< 0.005	0.00	421
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	66.2	66.2	—	—	—	66.2
Total	5.76	5.49	2.77	14.0	0.01	0.17	0.00	0.17	0.17	0.00	0.17	411	990	1,401	41.4	0.09	0.79	2,462
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	2.74	2.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	456	456	0.24	0.02	—	469
Water	—	—	—	—	—	—	—	—	—	—	—	23.8	0.00	23.8	2.45	0.06	—	102
Waste	—	—	—	—	—	—	—	—	—	—	—	387	0.00	387	38.7	0.00	—	1,354
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.79	0.79
Stationary	0.90	0.82	2.29	2.09	< 0.005	0.12	0.00	0.12	0.12	0.00	0.12	0.00	420	420	0.02	< 0.005	0.00	421
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	66.2	66.2	—	—	—	66.2
Total	3.69	3.59	2.68	2.41	0.01	0.15	0.00	0.15	0.15	0.00	0.15	411	942	1,353	41.4	0.09	0.79	2,414
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	3.76	3.69	0.05	5.73	< 0.005	0.01	—	0.01	0.01	—	0.01	—	23.6	23.6	< 0.005	< 0.005	—	23.7
Energy	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	456	456	0.24	0.02	—	469
Water	—	—	—	—	—	—	—	—	—	—	—	23.8	0.00	23.8	2.45	0.06	—	102
Waste	—	—	—	—	—	—	—	—	—	—	—	387	0.00	387	38.7	0.00	—	1,354
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.79	0.79
Stationary	0.12	0.11	0.31	0.29	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	57.5	57.5	< 0.005	< 0.005	0.00	57.7
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	66.2	66.2	—	—	—	66.2
Total	3.93	3.82	0.74	6.34	< 0.005	0.06	0.00	0.06	0.05	0.00	0.05	411	603	1,014	41.4	0.08	0.79	2,074
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.69	0.67	0.01	1.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.90	3.90	< 0.005	< 0.005	—	3.92
Energy	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	75.5	75.5	0.04	< 0.005	—	77.7
Water	—	—	—	—	—	—	—	—	—	—	—	3.94	0.00	3.94	0.41	0.01	—	17.0
Waste	—	—	—	—	—	—	—	—	—	—	—	64.1	0.00	64.1	6.41	0.00	—	224

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Stationary	0.02	0.02	0.06	0.05	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	9.52	9.52	< 0.005	< 0.005	0.00	9.55
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	11.0	11.0	—	—	—	11.0
Total	0.72	0.70	0.14	1.16	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	68.0	99.9	168	6.85	0.01	0.13	343

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	4.81	4.65	0.10	11.6	< 0.005	0.02	—	0.02	0.02	—	0.02	—	47.8	47.8	< 0.005	< 0.005	—	48.0
Energy	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	456	456	0.24	0.02	—	469
Water	—	—	—	—	—	—	—	—	—	—	—	20.7	0.00	20.7	2.13	0.05	—	89.1
Waste	—	—	—	—	—	—	—	—	—	—	—	387	0.00	387	38.7	0.00	—	1,354
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.79	0.79
Stationary	0.90	0.82	2.29	2.09	< 0.005	0.12	0.00	0.12	0.12	0.00	0.12	0.00	420	420	0.02	< 0.005	0.00	421
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	66.2	66.2	—	—	—	66.2
Total	5.76	5.49	2.77	14.0	0.01	0.17	0.00	0.17	0.17	0.00	0.17	408	990	1,398	41.1	0.08	0.79	2,449
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	2.74	2.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	456	456	0.24	0.02	—	469
Water	—	—	—	—	—	—	—	—	—	—	—	20.7	0.00	20.7	2.13	0.05	—	89.1

Waste	—	—	—	—	—	—	—	—	—	—	—	387	0.00	387	38.7	0.00	—	1,354
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.79	0.79
Stationary	0.90	0.82	2.29	2.09	< 0.005	0.12	0.00	0.12	0.12	0.00	0.12	0.00	420	420	0.02	< 0.005	0.00	421
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	66.2	66.2	—	—	—	66.2
Total	3.69	3.59	2.68	2.41	0.01	0.15	0.00	0.15	0.15	0.00	0.15	408	942	1,350	41.1	0.08	0.79	2,401
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	3.76	3.69	0.05	5.73	< 0.005	0.01	—	0.01	0.01	—	0.01	—	23.6	23.6	< 0.005	< 0.005	—	23.7
Energy	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	456	456	0.24	0.02	—	469
Water	—	—	—	—	—	—	—	—	—	—	—	20.7	0.00	20.7	2.13	0.05	—	89.1
Waste	—	—	—	—	—	—	—	—	—	—	—	387	0.00	387	38.7	0.00	—	1,354
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.79	0.79
Stationary	0.12	0.11	0.31	0.29	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	57.5	57.5	< 0.005	< 0.005	0.00	57.7
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	66.2	66.2	—	—	—	66.2
Total	3.93	3.82	0.74	6.34	< 0.005	0.06	0.00	0.06	0.05	0.00	0.05	408	603	1,011	41.1	0.08	0.79	2,061
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.69	0.67	0.01	1.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.90	3.90	< 0.005	< 0.005	—	3.92
Energy	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	75.5	75.5	0.04	< 0.005	—	77.7
Water	—	—	—	—	—	—	—	—	—	—	—	3.43	0.00	3.43	0.35	0.01	—	14.8
Waste	—	—	—	—	—	—	—	—	—	—	—	64.1	0.00	64.1	6.41	0.00	—	224
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Stationary	0.02	0.02	0.06	0.05	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	9.52	9.52	< 0.005	< 0.005	0.00	9.55
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	11.0	11.0	—	—	—	11.0

Total	0.72	0.70	0.14	1.16	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	67.5	99.9	167	6.80	0.01	0.13	341

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.1.2. Mitigated

Mobile source emissions results are presented in Sections 2.5. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.13	0.02	—	7.94
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	< 0.005	< 0.005	—	0.27
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.03	< 0.005	—	2.04
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.03	< 0.005	—	1.81
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.20	0.02	—	12.1

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.13	0.02	—	7.94
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	< 0.005	< 0.005	—	0.27
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.03	< 0.005	—	2.04
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.03	< 0.005	—	1.81
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.20	0.02	—	12.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.02	< 0.005	—	1.32
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	< 0.005	< 0.005	—	0.04
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.01	< 0.005	—	0.34
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	< 0.005	< 0.005	—	0.30
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.03	< 0.005	—	2.00

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.13	0.02	—	7.94
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	< 0.005	< 0.005	—	0.27
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.03	< 0.005	—	2.04
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.03	< 0.005	—	1.81
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.20	0.02	—	12.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.13	0.02	—	7.94
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	< 0.005	< 0.005	—	0.27
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.03	< 0.005	—	2.04
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.03	< 0.005	—	1.81
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.20	0.02	—	12.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Discount Club	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.02	< 0.005	—	1.32
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	< 0.005	< 0.005	—	0.04
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.01	< 0.005	—	0.34
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	< 0.005	< 0.005	—	0.30
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.03	< 0.005	—	2.00

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	456	456	0.04	< 0.005	—	457
Gasoline/Service Station	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	456	456	0.04	< 0.005	—	457

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	456	456	0.04	< 0.005	—	457
Gasoline/Service Station	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	456	456	0.04	< 0.005	—	457
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	75.5	75.5	0.01	< 0.005	—	75.7
Gasoline/Service Station	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	75.5	75.5	0.01	< 0.005	—	75.7

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	456	456	0.04	< 0.005	—	457
Gasoline/Service Station	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	456	456	0.04	< 0.005	—	457
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	456	456	0.04	< 0.005	—	457
Gasoline/Service Station	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	456	456	0.04	< 0.005	—	457
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Discount Club	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	75.5	75.5	0.01	< 0.005	—	75.7
Gasoline/Service Station	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	75.5	75.5	0.01	< 0.005	—	75.7

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	2.06	2.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.68	0.68	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	2.07	1.91	0.10	11.6	< 0.005	0.02	—	0.02	0.02	—	0.02	—	47.8	47.8	< 0.005	< 0.005	—	48.0
Total	4.81	4.65	0.10	11.6	< 0.005	0.02	—	0.02	0.02	—	0.02	—	47.8	47.8	< 0.005	< 0.005	—	48.0

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	2.06	2.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.68	0.68	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	2.74	2.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.38	0.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.12	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.19	0.17	0.01	1.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.90	3.90	< 0.005	< 0.005	—	3.92
Total	0.69	0.67	0.01	1.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.90	3.90	< 0.005	< 0.005	—	3.92

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consumer Products	2.06	2.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.68	0.68	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	2.07	1.91	0.10	11.6	< 0.005	0.02	—	0.02	0.02	—	0.02	—	47.8	47.8	< 0.005	< 0.005	—	48.0
Total	4.81	4.65	0.10	11.6	< 0.005	0.02	—	0.02	0.02	—	0.02	—	47.8	47.8	< 0.005	< 0.005	—	48.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	2.06	2.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.68	0.68	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	2.74	2.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.38	0.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.12	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.19	0.17	0.01	1.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.90	3.90	< 0.005	< 0.005	—	3.92

Total	0.69	0.67	0.01	1.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.90	3.90	< 0.005	< 0.005	—	3.92

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	23.4	0.00	23.4	2.41	0.06	—	101
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	0.41	0.00	0.41	0.04	< 0.005	—	1.75
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	23.8	0.00	23.8	2.45	0.06	—	102
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	23.4	0.00	23.4	2.41	0.06	—	101
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	0.41	0.00	0.41	0.04	< 0.005	—	1.75

Enclosed	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	23.8	0.00	23.8	2.45	0.06	—	102
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	3.88	0.00	3.88	0.40	0.01	—	16.7
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	0.07	0.00	0.07	0.01	< 0.005	—	0.29
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3.94	0.00	3.94	0.41	0.01	—	17.0

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	20.3	0.00	20.3	2.09	0.05	—	87.4
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	0.41	0.00	0.41	0.04	< 0.005	—	1.75

Enclosed	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	20.7	0.00	20.7	2.13	0.05	—	89.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	20.3	0.00	20.3	2.09	0.05	—	87.4
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	0.41	0.00	0.41	0.04	< 0.005	—	1.75
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	20.7	0.00	20.7	2.13	0.05	—	89.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	3.37	0.00	3.37	0.35	0.01	—	14.5
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	0.07	0.00	0.07	0.01	< 0.005	—	0.29
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3.43	0.00	3.43	0.35	0.01	—	14.8

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	382	0.00	382	38.2	0.00	—	1,338
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	4.65	0.00	4.65	0.46	0.00	—	16.3
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	387	0.00	387	38.7	0.00	—	1,354
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	382	0.00	382	38.2	0.00	—	1,338
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	4.65	0.00	4.65	0.46	0.00	—	16.3

Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	387	0.00	387	38.7	0.00	—	1,354
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	63.3	0.00	63.3	6.33	0.00	—	222
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	0.77	0.00	0.77	0.08	0.00	—	2.69
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	64.1	0.00	64.1	6.41	0.00	—	224

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	382	0.00	382	38.2	0.00	—	1,338

Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	4.65	0.00	4.65	0.46	0.00	—	16.3
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	387	0.00	387	38.7	0.00	—	1,354
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	382	0.00	382	38.2	0.00	—	1,338
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	4.65	0.00	4.65	0.46	0.00	—	16.3
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	387	0.00	387	38.7	0.00	—	1,354
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	63.3	0.00	63.3	6.33	0.00	—	222
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	0.77	0.00	0.77	0.08	0.00	—	2.69

Enclosed	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	64.1	0.00	64.1	6.41	0.00	—	224

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.79	0.79
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.79	0.79
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.79	0.79
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.79	0.79
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.79	0.79
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.79	0.79
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.79	0.79
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.79	0.79
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Discount Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.90	0.82	2.29	2.09	< 0.005	0.12	0.00	0.12	0.12	0.00	0.12	0.00	420	420	0.02	< 0.005	0.00	421

Total	0.90	0.82	2.29	2.09	< 0.005	0.12	0.00	0.12	0.12	0.00	0.12	0.00	420	420	0.02	< 0.005	0.00	421
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.90	0.82	2.29	2.09	< 0.005	0.12	0.00	0.12	0.12	0.00	0.12	0.00	420	420	0.02	< 0.005	0.00	421
Total	0.90	0.82	2.29	2.09	< 0.005	0.12	0.00	0.12	0.12	0.00	0.12	0.00	420	420	0.02	< 0.005	0.00	421
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.02	0.02	0.06	0.05	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	9.52	9.52	< 0.005	< 0.005	0.00	9.55
Total	0.02	0.02	0.06	0.05	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	9.52	9.52	< 0.005	< 0.005	0.00	9.55

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.90	0.82	2.29	2.09	< 0.005	0.12	0.00	0.12	0.12	0.00	0.12	0.00	420	420	0.02	< 0.005	0.00	421
Total	0.90	0.82	2.29	2.09	< 0.005	0.12	0.00	0.12	0.12	0.00	0.12	0.00	420	420	0.02	< 0.005	0.00	421
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.90	0.82	2.29	2.09	< 0.005	0.12	0.00	0.12	0.12	0.00	0.12	0.00	420	420	0.02	< 0.005	0.00	421

Total	0.90	0.82	2.29	2.09	< 0.005	0.12	0.00	0.12	0.12	0.00	0.12	0.00	420	420	0.02	< 0.005	0.00	421
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.02	0.02	0.06	0.05	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	9.52	9.52	< 0.005	< 0.005	0.00	9.55
Total	0.02	0.02	0.06	0.05	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	9.52	9.52	< 0.005	< 0.005	0.00	9.55

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other	—	—	—	—	—	—	—	—	—	—	—	—	46.3	46.3	—	—	—	46.3
Urban	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	46.3	46.3	—	—	—	46.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other	—	—	—	—	—	—	—	—	—	—	—	—	46.3	46.3	—	—	—	46.3
Urban	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	46.3	46.3	—	—	—	46.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other	—	—	—	—	—	—	—	—	—	—	—	—	7.66	7.66	—	—	—	7.66
Urban	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	—	—	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	—	7.66	7.66	—	—	—	7.66

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grassland	—	—	—	—	—	—	—	—	—	—	—	—	19.9	19.9	—	—	—	19.9
Urban	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	19.9	19.9	—	—	—	19.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grassland	—	—	—	—	—	—	—	—	—	—	—	—	19.9	19.9	—	—	—	19.9
Urban	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	19.9	19.9	—	—	—	19.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grassland	—	—	—	—	—	—	—	—	—	—	—	—	3.29	3.29	—	—	—	3.29
Urban	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	3.29	3.29	—	—	—	3.29

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other	—	—	—	—	—	—	—	—	—	—	—	—	46.3	46.3	—	—	—	46.3
Urban	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	46.3	46.3	—	—	—	46.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other	—	—	—	—	—	—	—	—	—	—	—	—	46.3	46.3	—	—	—	46.3
Urban	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	46.3	46.3	—	—	—	46.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other	—	—	—	—	—	—	—	—	—	—	—	—	7.66	7.66	—	—	—	7.66
Urban	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	7.66	7.66	—	—	—	7.66

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grassland	—	—	—	—	—	—	—	—	—	—	—	—	19.9	19.9	—	—	—	19.9
Urban	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	—	—	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	—	19.9	19.9	—	—	—	19.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grassland	—	—	—	—	—	—	—	—	—	—	—	—	19.9	19.9	—	—	—	19.9
Urban	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	19.9	19.9	—	—	—	19.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grassland	—	—	—	—	—	—	—	—	—	—	—	—	3.29	3.29	—	—	—	3.29
Urban	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	3.29	3.29	—	—	—	3.29

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	255,397	84,130	28,436

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Discount Club	1,437,492	0.00	0.0330	0.0040	1,423,224
Gasoline/Service Station	48,732	0.00	0.0330	0.0040	0.00
Enclosed Parking with Elevator	369,143	0.00	0.0330	0.0040	0.00
Parking Lot	327,400	0.00	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Discount Club	1,437,492	0.00	0.0330	0.0040	1,423,224
Gasoline/Service Station	48,732	0.00	0.0330	0.0040	0.00
Enclosed Parking with Elevator	369,143	0.00	0.0330	0.0040	0.00
Parking Lot	327,400	0.00	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Discount Club	12,221,966	3,416,445
Gasoline/Service Station	212,510	0.00
Enclosed Parking with Elevator	0.00	0.00
Parking Lot	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)

Discount Club	10,608,667	1,022,923
Gasoline/Service Station	212,510	0.00
Enclosed Parking with Elevator	0.00	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Discount Club	710	—
Gasoline/Service Station	8.62	—
Enclosed Parking with Elevator	0.00	—
Parking Lot	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Discount Club	710	—
Gasoline/Service Station	8.62	—
Enclosed Parking with Elevator	0.00	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Discount Club	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

Discount Club	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Discount Club	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Discount Club	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	2.00	1.00	50.0	250	0.73

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
Other	Inceptisols	15.0	7.31
Urban	Inceptisols	0.00	7.66

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
Other	Inceptisols	15.0	7.31
Urban	Inceptisols	0.00	7.66

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
Grassland	15.0	7.31
Urban	0.00	7.66

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres
Grassland	15.0	7.31

Urban	0.00	7.66

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

8. User Changes to Default Data

Screen	Justification
Land Use	Project-specific information was provided by the Project Applicant.
Characteristics: Utility Information	CO2 emission factor estimated based upon Project-specific information.
Operations: Energy Use	Updated based on project-specific information, refer to report for further details.
Operations: Consumer Products	Updated based on county specific data, refer to report for further details.
Operations: Architectural Coatings	Updated the VOC emission factor based on EDCAPCD Rule 215 Limits.

APPENDIX B-2
EMISSION CALCULATION TABLES FOR PROJECT OPERATION

List of Tables

Table B-1: Operational Mobile Sources Activity Data

Table B-2: Passenger Vehicle Fleet Mix for El Dorado County

Table B-3: Passenger Vehicle Fleet Mix for the Proposed Project by Vehicle Category and Fuel Type

Table B-4: Operational Mobile Source Greenhouse Gas Emission Factors for Passenger Vehicles Visiting the Gasoline Dispensing Facility – Running Exhaust

Table B-5: Operational Mobile Source Greenhouse Gas Emission Factors for Warehouse and Employee Passenger Vehicles – Running Exhaust

Table B-6: Operational Mobile Source Greenhouse Gas Emission Factors for Delivery Trucks – Running Exhaust

Table B-7: Operational Mobile Source Greenhouse Gas Emission Factors for Passenger Vehicles Visiting the Gasoline Dispensing Facility – Starting Exhaust

Table B-8: Operational Mobile Source Greenhouse Gas Emission Factors for Warehouse and Employee Passenger Vehicles – Starting Exhaust

Table B-9: Operational Mobile Source Greenhouse Gas Emission Factors for Passenger Vehicles Visiting the Gasoline Dispensing Facility – Idling

Table B-10: Operational Mobile Source Greenhouse Gas Emission Factors for Delivery Trucks – Idling

Table B-11: Operational GHG Emission Factors for Warehouse Delivery Truck Transport Refrigeration Units

Table B-12: Greenhouse Gas Emission Estimates for Operational Mobile Sources

Table B-13: Average Fuel Economy for Electric Miles Traveled by Warehouse and Employee Passenger Vehicles

Table B-14: Greenhouse Gas Emission Factors for Gasoline-Fueled Passenger Vehicles Visiting the Project Site - Running Exhaust

Table B-1. Operational Mobile Sources Activity Data
El Dorado Hills Costco Project
El Dorado Hills, California

Trip Type	Average One-Way Trip Length (mi)	Weekday Daily Trips (one-way trips/day)	Weekend Daily Trips (one-way trips/day)	Weekday Daily VMT (mi/day)	Weekend Daily VMT (mi/day)	Weekday Daily Idle Duration (min/day)	Weekend Daily Idle Duration (min/day)	Annual Average Trips (one-way trips/year)	Annual VMT (VMT/year)	Annual Idle Duration (min/year)	Annual TRU Operational Duration (min/year)
GDF Customer Vehicles (Passenger Vehicles) [1,2]	-	5,779	6,442	2,909	3,300	-	-	2,178,435	1,102,523	-	-
Warehouse and Employee Vehicles (Passenger Vehicles) [1,3]	-	8,950	9,907	18,214	20,146	-	-	3,366,592	6,849,614	-	-
GDF Customer Vehicles (Passenger Vehicles) Idling [4]	-	-	-	-	-	6,551	9,115	-	-	2,658,504	-
Fuel Delivery Trucks [5]	19	10	10	190	190	-	-	3,650	69,350	27,375	-
Warehouse and Tire Center Delivery Trucks [5]	90	26	26	2,340	2,340	-	-	8,238	741,420	61,785	-
TRUs for Warehouse Delivery Trucks [6]	-	-	-	-	-	-	-	-	-	-	413,269

Notes:

[1] Weekday passenger vehicle trip and VMT information were obtained from the El Dorado Costco CEQA Analysis, dated July 23, 2025. Weekend passenger trip and VMT information were provided by Kittelson and Associates.

[2] GDF customer vehicles represent vehicles used by the patrons of the fuel station.

[3] Warehouse and employee vehicles represent vehicles used by patrons of the warehouse and employee vehicles.

[4] Idle duration for passenger vehicles visiting the gas station was provided by Kittelson & Associates.

[5] Trip lengths and trip rates for delivery trucks are based on Project-specific information. The annual VMT is estimated as a product of trip length and annual average trips. The annual idle duration for delivery trucks is estimated as a product of idle duration per round trip and annual round trips. The idle duration per round trip is assumed to be 15 minutes (maximum 5 minutes at project site entry, maximum 5 minutes at the fuel tank and maximum 5 minutes at project site exit), consistent with the CARB Air Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. Available at https://ww2.arb.ca.gov/our-work/programs/atcm-to-limit-vehicle-idling/about. Accessed: March 2025.

[6] Annual TRU operational duration is estimated based on total operational time per TRU and the number of TRUs per year, as provided in the TRU Trip Information below.

[7] The on-site TRU operational time during truck idling is assumed to 15 minutes as described above in footnote 3. Note, the TRUs are not expected to idle for more than 5 minutes at the dock while unloading goods at the warehouse.

[8] The on-site warehouse delivery truck travel distance was estimated based on the proposed Project site layout. The off-site warehouse delivery truck travel distance was calculated by subtracting the on-site travel distance from the total trip length for the warehouse delivery truck.

[9] The on-site and off-site average truck travel speed are consistent with CARB's assumptions in Appendix I of the Proposed Amendments to the ATCM Measure for In-Use Diesel-Fueled TRU and TRU Generator Sets, and Facilities Where TRUs Operate. Available at: https://ww2.arb.ca.gov/sites/default/files/barcu/board/rulemaking/tru2021/appi.pdf. Accessed: March 2025.

[10] The on-site and off-site TRU operational time during warehouse delivery truck travel was calculated by dividing the on-site and off-site truck travel distances by their corresponding average truck travel speeds, respectively.

[11] The total operational time per TRU includes the operational time during on-site and off-site truck travel and on-site truck idling.

[12] The number of TRUs per day is based on Project-specific information. The total number of TRU uses per year was estimated by multiplying the daily number of TRUs by 365 operational days per year.

TRU Trip Information:

On-Site Operational Time During Truck Idling [7]	15	minutes/round trip per TRU
On-Site Truck Travel Distance [8]	0.2	miles/round trip
On-Site Average Truck Travel Speed [9]	5	miles/hour
On-Site Operational Time During Truck Travel [10]	2.9	minutes/round trip per TRU
Off-Site Truck Travel Distance [8]	179.8	miles/round trip
Off-Site Average Truck Travel Speed [9]	30	miles/hour
Off-Site Operational Time During Truck Travel [10]	360	minutes/round trip per TRU
Total Operational Time [11]	377.4	minutes/TRU
Number of TRUs [12]	3	TRUs/day
Number of TRUs [12]	1,095	TRUs/year

Abbreviations:

ATCM - Airborne Toxic Control Measure
CARB - California Air Resources Board
CEQA - California Environmental Quality Act
GDF - gasoline dispensing facility
mi - mile
min - minute
TRU - transport refrigeration unit
VMT - vehicle miles traveled

Table B-2. Passenger Vehicle Fleet Mix for El Dorado County
El Dorado Hills Costco Project
El Dorado Hills, California

EMFAC Vehicle Class	CalEEMod Default Fleet Mix [1]	Passenger Vehicle Fleet Mix [2]
LDA	37.9%	43.7%
LDT1	5.2%	6.0%
LDT2	26.3%	30.4%
MDV	17.3%	19.9%
LHDT1	5.4%	-
LHDT2	1.3%	-
MHDT	1.6%	-
HHDT	0.4%	-
OBUS	0.1%	-
UBUS	0.0%	-
MCY	3.6%	-
SBUS	0.1%	-
MH	0.8%	-

Notes:

[1] CalEEMod default for El Dorado (MC) sub-area, calendar year 2027.

[2] Estimated using the CalEEMod default fleet mix for El Dorado County. EMFAC vehicle categories that represent passenger vehicles include LDA, LDT1, LDT2, and MDV.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel
EMFAC - EMission FACtors model
HHDT - Heavy heavy-duty truck
LDA - light duty automobiles
LDT - light-duty trucks
LHDT - light heavy-duty trucks
MC - Mountain County
MCY - motorcycles
MDV - medium-duty vehicle
MH - motor homes
MHDT - medium heavy-duty trucks
OBUS - other buses
SBUS - school buses
UBUS - urban buses

Table B-3. Passenger Vehicle Fleet Mix for the Proposed Project by Vehicle Category and Fuel Type
El Dorado Hills Costco Project
El Dorado Hills, California

EMFAC Vehicle Class	Fuel Type	EMFAC VMT Output [1] (miles/day)	Project-Specific Vehicle Fleet Mix for Passenger Vehicles Visiting the GDF [2]	Project-Specific Vehicle Fleet Mix for Warehouse and Employee Passenger Vehicles [3]
LDA	Gasoline	1,619,691	41.98%	38.43%
LDA	Plug-in Hybrid	66,445	1.72%	1.58%
LDA	Electricity	150,587	-	3.57%
LDA	Diesel	5,444	-	0.13%
LDT1	Gasoline	181,944	5.96%	5.93%
LDT1	Plug-in Hybrid	658	0.02%	0.02%
LDT1	Electricity	816	-	0.03%
LDT1	Diesel	16	-	0.00%
LDT2	Gasoline	1,158,122	30.00%	29.64%
LDT2	Plug-in Hybrid	14,398	0.37%	0.37%
LDT2	Electricity	9,343	-	0.24%
LDT2	Diesel	4,897	-	0.13%
MDV	Gasoline	662,071	19.68%	18.97%
MDV	Plug-in Hybrid	8,766	0.26%	0.25%
MDV	Electricity	9,787	-	0.28%
MDV	Diesel	15,203	-	0.44%

Notes:

[1] Default EMFAC2021 output for the El Dorado (MC) sub-area in calendar year 2027.

[2] The Project-specific vehicle fleet mix for passenger vehicles visiting the GDF represents vehicles used by patrons of the fuel station; they are conservatively assumed to be plug-in hybrids and gasoline-fueled vehicles only. The fleet mix is estimated by apportioning the passenger vehicle fleet mix for El Dorado County (**Table B-2**) into the project specific fuel types (gasoline and plug-in hybrid) within each passenger vehicle EMFAC vehicle class (LDA, LDT1, LDT2, and MDV) using the default EMFAC VMT output for those fuel types.

[3] The Project-specific vehicle fleet mix for warehouse and employee passenger vehicles represents the vehicles used by patrons and employees of the warehouse. The fleet mix is estimated by apportioning the passenger vehicle fleet mix for El Dorado County (**Table B-2**) within each passenger vehicle EMFAC vehicle class (LDA, LDT1, LDT2, and MDV) using the default EMFAC VMT output for the default fuel types (gasoline, plug-in hybrid, electricity, and diesel).

Abbreviations:

EMFAC - EMission FACtors model
GDF - gasoline dispensing facility
LDA - light duty automobiles
LDT - light-duty trucks
MC - Mountain County
MDV - medium-duty vehicle
VMT - vehicle miles traveled

Table B-4. Operational Mobile Source Greenhouse Gas Emission Factors for Passenger Vehicles Visiting the Gasoline Dispensing Facility - Running Exhaust
El Dorado Hills Costco Project
El Dorado Hills, California

EMFAC Vehicle Class	Fuel Type	Project Specific Fleet Mix [1]	CO_2 Emission Factor [2] (g/mi)	CH_4 Emission Factor [2] (g/mi)	N_2O Emission Factor [2] (g/mi)
LDA	Gasoline	42.0%	266	0.0019	0.0042
LDA	Plug-in Hybrid	1.7%	135	4.5E-04	5.8E-04
LDT1	Gasoline	6.0%	329	0.0059	0.0090
LDT1	Plug-in Hybrid	0.0%	124	4.1E-04	5.3E-04
LDT2	Gasoline	30.0%	333	0.0025	0.0053
LDT2	Plug-in Hybrid	0.4%	131	4.3E-04	5.6E-04
MDV	Gasoline	19.7%	405	0.0032	0.0064
MDV	Plug-in Hybrid	0.3%	132	4.4E-04	5.6E-04
Weighted Average Emission Factor [3]			314	0.0025	0.0052

Notes:

[1] The Project-specific fleet mix for passenger vehicles visiting the GDF are obtained from **Table B-3**.

[2] Running exhaust emission factors for each EMFAC vehicle class/fuel combination were obtained from the default EMFAC2021 output for El Dorado (MC) sub-area calendar year 2027.

[3] Weighted average emission factors for passenger vehicles visiting the Project site are calculated as the sumproduct of the Project-specific fleet mix and the emission factors for the individual vehicle class/fuel categories within that fleet mix.

Abbreviations:

CH_4 - methane

CO_2 - carbon dioxide

EMFAC - EMission FACtors model

g/mi - grams per mile

GDF - gasoline dispensing facility

LDA - Light-Duty Automobile

LDT - Light-Duty Truck

MC - Mountain County

MDV - Medium-Duty Vehicle

N_2O - nitrous oxide

Table B-5. Operational Mobile Source Greenhouse Gas Emission Factors for Warehouse and Employee Passenger Vehicles - Running Exhaust
El Dorado Hills Costco Project
El Dorado Hills, California

EMFAC Vehicle Class	Fuel Type	Project Specific Fleet Mix [1]	CO_2 Emission Factor [2] (g/mi)	CH_4 Emission Factor [2] (g/mi)	N_2O Emission Factor [2] (g/mi)
LDA	Gasoline	38.4%	266	0.0019	0.0042
LDA	Plug-in Hybrid	1.6%	135	0.0004	0.0006
LDA	Electricity	3.6%	0	0.0000	0.0000
LDA	Diesel	0.1%	233	0.0012	0.0367
LDT1	Gasoline	5.9%	329	0.0059	0.0090
LDT1	Plug-in Hybrid	0.0%	124	0.0004	0.0005
LDT1	Electricity	0.0%	0	0.0000	0.0000
LDT1	Diesel	0.0%	406	0.0121	0.0640
LDT2	Gasoline	29.6%	333	0.0025	0.0053
LDT2	Plug-in Hybrid	0.4%	131	0.0004	0.0006
LDT2	Electricity	0.2%	0	0.0000	0.0000
LDT2	Diesel	0.1%	303	0.0007	0.0478
MDV	Gasoline	19.0%	405	0.0032	0.0064
MDV	Plug-in Hybrid	0.3%	132	0.0004	0.0006
MDV	Electricity	0.3%	0	0.0000	0.0000
MDV	Diesel	0.4%	408	0.0006	0.0643
Weighted Average Emission Factor [3]			303	0.0024	0.0053

Notes:

[1] The Project-specific fleet mix for warehouse and employee passenger vehicles are obtained from **Table B-3**.

[2] Running exhaust emission factors for each EMFAC vehicle class/fuel combination were obtained from the default EMFAC2021 output for El Dorado (MC) sub-area calendar year 2027.

[3] Weighted average emission factors for passenger vehicles visiting the Project site are calculated as the sumproduct of the Project-specific fleet mix and the emission factors for the individual vehicle class/fuel categories within that fleet mix.

Abbreviations:

CH_4 - methane

CO_2 - carbon dioxide

EMFAC - EMission FACtors model

g/mi - grams per mile

LDA - Light-Duty Automobile

LDT - Light-Duty Truck

MC - Mountain County

MDV - Medium-Duty Vehicle

N_2O - nitrous oxide

Table B-6. Operational Mobile Source Greenhouse Gas Emission Factors for Delivery Trucks - Running Exhaust
El Dorado Hills Costco Project
El Dorado Hills, California

EMFAC Vehicle Class	Fuel Type	Project Specific Fleet Mix [1]	CO_2 Emission Factor [2] (g/mi)	CH_4 Emission Factor [2] (g/mi)	N_2O Emission Factor [2] (g/mi)
HHDT	Diesel	100.0%	1,957	0.0014	0.31
Weighted Average Emission Factor [3]			1,957	0.0014	0.31

Notes:

[1] Delivery trucks are assumed to be diesel-fueled heavy heavy duty trucks.

[2] Running exhaust emission factors for each EMFAC vehicle class/fuel combination were obtained from the default EMFAC2021 output for El Dorado (MC) sub-area calendar year 2027.

[3] Weighted average emission factors for delivery trucks visiting the Project site are calculated as the sumproduct of the Project-specific fleet mix and the emission factors for the individual vehicle class/fuel categories within that fleet mix.

Abbreviations:

CH_4 - methane

CO_2 - carbon dioxide

EMFAC - EMission FACtors model

g/mi - grams per mile

HHDT - Heavy Heavy-Duty Truck

MC - Mountain County

N_2O - nitrous oxide

Table B-7. Operational Mobile Source Greenhouse Gas Emission Factors for Passenger Vehicles Visiting the Gasoline Dispensing Facility - Starting Exhaust
El Dorado Hills Costco Project
El Dorado Hills, California

EMFAC Vehicle Class	Fuel Type	Project Specific Fleet Mix [1]	CO_2 Emission Factor [2] (g/trip)	CH_4 Emission Factor [2] (g/trip)	N_2O Emission Factor [2] (g/trip)
LDA	Gasoline	42.0%	65	0.063	0.031
LDA	Plug-in Hybrid	1.7%	62	0.044	0.021
LDT1	Gasoline	6.0%	89	0.12	0.042
LDT1	Plug-in Hybrid	0.0%	66	0.044	0.021
LDT2	Gasoline	30.0%	84	0.081	0.037
LDT2	Plug-in Hybrid	0.4%	73	0.044	0.021
MDV	Gasoline	19.7%	104	0.10	0.041
MDV	Plug-in Hybrid	0.3%	90	0.043	0.021
Weighted Average Emission Factor [3]			80	0.079	0.035

Notes:

[1] The Project-specific fleet mix for passenger vehicles visiting the GDF are obtained from **Table B-3**.

[2] Starting exhaust emission factors for each EMFAC vehicle class/fuel combination were obtained from the default EMFAC2021 output for El Dorado (MC) sub-area calendar year 2027.

[3] Weighted average emission factors for passenger vehicles visiting the Project site are calculated as the sumproduct of the Project-specific fleet mix and the emission factors for the individual vehicle class/fuel categories within that fleet mix.

Abbreviations:

CH_4 - methane

CO_2 - carbon dioxide

EMFAC - EMission FACtors model

g - gram

GDF - gasoline dispensing facility

LDA - Light-Duty Automobile

LDT - Light-Duty Truck

MC - Mountain County

MDV - Medium-Duty Vehicle

N_2O - nitrous oxide

Table B-8. Operational Mobile Source Greenhouse Gas Emission Factors for Warehouse and Employee Passenger Vehicles - Starting Exhaust
El Dorado Hills Costco Project
El Dorado Hills, California

EMFAC Vehicle Class	Fuel Type	Project Specific Fleet Mix [1]	CO_2 Emission Factor [2] (g/trip)	CH_4 Emission Factor [2] (g/trip)	N_2O Emission Factor [2] (g/trip)
LDA	Gasoline	38.4%	65	0.063	0.031
LDA	Plug-in Hybrid	1.6%	62	0.044	0.021
LDA	Electricity	3.6%	0	0.000	0.000
LDA	Diesel	0.1%	0	0.000	0.000
LDT1	Gasoline	5.9%	89	0.123	0.042
LDT1	Plug-in Hybrid	0.0%	66	0.044	0.021
LDT1	Electricity	0.0%	0	0.000	0.000
LDT1	Diesel	0.0%	0	0.000	0.000
LDT2	Gasoline	29.6%	84	0.081	0.037
LDT2	Plug-in Hybrid	0.4%	73	0.044	0.021
LDT2	Electricity	0.2%	0	0.000	0.000
LDT2	Diesel	0.1%	0	0.000	0.000
MDV	Gasoline	19.0%	104	0.102	0.041
MDV	Plug-in Hybrid	0.3%	90	0.043	0.021
MDV	Electricity	0.3%	0	0.000	0.000
MDV	Diesel	0.4%	0	0.000	0.000
Weighted Average Emission Factor [3]			77	0.076	0.034

Notes:

[1] The Project-specific fleet mix for warehouse and employee passenger vehicles are obtained from **Table B-3**.

[2] Starting exhaust emission factors for each EMFAC vehicle class/fuel combination were obtained from the default EMFAC2021 output for El Dorado (MC) sub-area calendar year 2027.

[3] Weighted average emission factors for passenger vehicles visiting the Project site are calculated as the sumproduct of the Project-specific fleet mix and the emission factors for the individual vehicle class/fuel categories within that fleet mix.

Abbreviations:

CH_4 - methane

CO_2 - carbon dioxide

EMFAC - EMission FACtors model

g - gram

LDA - Light-Duty Automobile

LDT - Light-Duty Truck

MC - Mountain County

MDV - Medium-Duty Vehicle

N_2O - nitrous oxide

Table B-9. Operational Mobile Source Greenhouse Gas Emission Factors for Passenger Vehicles Visiting the Gasoline Dispensing Facility - Idling
El Dorado Hills Costco Project
El Dorado Hills, California

EMFAC Vehicle Class	Fuel Type	Project Specific Fleet Mix [1]	CO_2 Emission Factor [2] (grams/idle-minute)	CH_4 Emission Factor [2] (grams/idle-minute)	N_2O Emission Factor [2] (grams/idle-minute)
LDA	Gasoline	42.0%	25	4.9E-04	0
LDA	Plug-in Hybrid	1.7%	15	1.6E-04	0
LDT1	Gasoline	6.0%	31	0.0014	0
LDT1	Plug-in Hybrid	0.0%	14	1.5E-04	0
LDT2	Gasoline	30.0%	32	6.4E-04	0
LDT2	Plug-in Hybrid	0.4%	15	1.5E-04	0
MDV	Gasoline	19.7%	39	8.3E-04	0
MDV	Plug-in Hybrid	0.3%	15	1.6E-04	0
Weighted Average Emission Factor [3]			30	6.5E-04	0

Notes:

[1] The Project-specific fleet mix for passenger vehicles visiting the GDF are obtained from **Table B-3**.

[2] Idling emission factors for each EMFAC vehicle class/fuel combination were obtained from the default EMFAC2021 project-level output for El Dorado (MC) sub-area calendar year 2027. For EMFAC Vehicle Classes LDA, LDT1, LDT2, and MDV, the idling emission rates were estimated by multiplying the speed correction factor of 2.5 mph to the running exhaust emission rate in grams per mile at 5 mph.

[3] Weighted average emission factors for passenger vehicles the Project site are calculated as the sumproduct of the Project-specific fleet mix and the emission factors for the individual vehicle class/fuel categories within that fleet mix.

Abbreviations:

CH_4 - methane

CO_2 - carbon dioxide

EMFAC - EMission FACtors model

GDF - gasoline dispensing facility

LDA - Light-Duty Automobile

LDT - Light-Duty Truck

MC - Mountain County

MDV - Medium-Duty Vehicle

mph - miles per hour

N_2O - nitrous oxide

Table B-10. Operational Mobile Source Greenhouse Gas Emission Factors for Delivery Trucks - Idling
El Dorado Hills Costco Project
El Dorado Hills, California

EMFAC Vehicle Class	Fuel Type	Project Specific Fleet Mix [1]	CO_2 Emission Factor [2] (grams/idle-minute)	CH_4 Emission Factor [2] (grams/idle-minute)	N_2O Emission Factor [2] (grams/idle-minute)
HHDT	Diesel	100.0%	94	0.0018	0
Weighted Average Emission Factor [3]			94	0.0018	0

Notes:

[1] Delivery trucks are assumed to be diesel-fueled heavy heavy duty trucks.

[2] Idling emission factors for each EMFAC vehicle class/fuel combination were obtained from the default EMFAC2021 project-level output for El Dorado (MC) sub-area calendar year 2027.

[3] Weighted average emission factors for delivery trucks visiting the Project site are calculated as the sumproduct of the Project-specific fleet mix and the emission factors for the individual vehicle class/fuel categories within that fleet mix.

Abbreviations:

CH_4 - methane

CO_2 - carbon dioxide

EMFAC - EMission FACtors model

HHDT - Heavy Heavy-Duty Truck

MC - Mountain County

N_2O - nitrous oxide

Table B-11. Operational GHG Emission Factors for Warehouse Delivery Truck Transport Refrigeration Units
El Dorado Hills Costco Project
El Dorado Hills, California

Transport Refrigeration Unit (TRU) Category	Fuel Type	Total Statewide Activity [1] (hr/year)	Fuel Consumption [1] (gal/hr)	CO_2 Emission Factor [1] (lbs/hr)	CH_4 Emission Factor [2] (lbs/hr)	N_2O Emission Factor [2] (lbs/hr)
Transport Refrigeration Unit - Instate Trailer	Diesel	3,284	0.71	16	6.40E-04	1.25E-04
Transport Refrigeration Unit - Out-Of-State Trailer	Diesel	1,895	0.68	15	6.14E-04	1.20E-04
Weighted Average Emission Factor [3]				16	6.30E-04	1.23E-04

Notes:

[1] Total statewide activity, fuel consumption, and exhaust CO_2 emission factors for TRUs were obtained from OFFROAD2021 emissions output for El Dorado (MC) sub-area calendar year 2027.

[2] CH_4 and N_2O, emission factors were estimated based on fuel consumption obtained from OFFROAD2021 and USEPA emission factors in grams per gallon for stationary combustion of Distillate Oil No. 2.

[3] The activity weighted average emission factors for TRUs servicing the proposed Project were calculated using the emission factors and total statewide activity for each individual TRU category.

[4] Obtained from USEPA Emission Factors for Greenhouse Gas Inventories. Available at: https://www.epa.gov/system/files/documents/2025-01/ghg-emission-factors-hub-2025.pdf. Accessed: June 2025.

USEPA GHG Emission Factors [4] for Stationary Combustion of Distillate Oil No. 2:

CH_4 Emission Factor	0.41 g/gal
N_2O Emission Factor	0.08 g/gal

Abbreviations:

CH_4 - methane
CO_2 - Carbon Dioxide equivalents
g - gram
gal - gallon
GHG - greenhouse gas
hr - hour
lb - pound
MC - Mountain County
N_2O - nitrous oxide
USEPA - United States Environmental Protection Agency

Table B-12. Greenhouse Gas Emission Estimates for Operational Mobile Sources
El Dorado Hills Costco Project
El Dorado Hills, California

Mobile Source Activity	Trip Length [1] (mi)	Annual Trips [1] (one-way trips/yr)	Annual VMT [1] (mi/yr)	Idle Duration [1] (min/yr)	Annual TRU Operational Duration [1] (min/yr)	CO_2 Emissions [2] (MT/yr)	CH_4 Emissions [2] (MT/yr)	N_2O Emissions [2] (MT/yr)	Total GHG Emissions [3] (MT CO_2e/yr)
GDF Customer Vehicles (Passenger Vehicles) [4]	-	2,178,435	1,102,523	-	-	521	0.17	0.08	550
Warehouse and Employee Vehicles (Passenger Vehicles) [4]	-	3,366,592	6,849,614	-	-	2,332	0.27	0.15	2,383
Passenger Vehicle Idling at GDF	-	-	-	2,658,504	-	80	0.0017	0	80
Fuel Delivery Trucks [5]	19	3,650	69,350	27,375	-	138	0.0001	0.021	145
Warehouse and Tire Center Delivery Trucks [5]	90	8,238	741,420	61,785	-	1,457	0.0011	0.23	1,525
TRUs for Warehouse Delivery Trucks [6]	-	-	-	-	413,269	49	0.0020	0.0004	49
					Total Emissions [7]	**4,576**	**0.45**	**0.48**	**4,731**

Notes:

[1] Data obtained from **Table B-1**.

[2] CO_2, CH_4, N_2O emissions for on-road vehicles include running exhaust, starting exhaust, and idling exhaust. These emissions were estimated using emission factors from **Tables B-4 through B-10** along with annual VMT, trips, and idle duration.

[3] Total GHG emissions are presented as CO_2e, which include CO_2, CH_4, and N_2O emissions, weighted by their respective global warming potentials.

[4] Passenger vehicle trip emissions include travel (running exhaust) and starting exhaust emissions that are estimated using the number of one-way trips, and idling exhaust emissions that are estimated using the idle duration.

[5] Delivery truck trip emissions include travel (running exhaust) emssions that are estimated using the number of one-way trips, and idling exhaust emissions that are estimated using the idle duration. Note, there are no starting exhaust emissions for trucks as these are de minimis for diesel-fueled internal combustion engines.

[6] TRU emissions were estimated using emission factors from **Table B-11** and the annual TRU operational duration.

[7] Emissions totals may not add up due to rounding. Emissions shown as zero may be non-zero values; however, they are below a meaningful reporting level for this analysis.

Global Warming Potentials: [2]

CO_2	1
CH_4	25
N_2O	298

Abbreviations:
CH_4 - methane
CO_2 - carbon dioxide
CO_2e - carbon dioxide equivalent
GDF - gasoline dispensing facility
GHG - greenhouse gas
mi - mile
min - minute
MT - metric ton
N_2O - nitrous oxide
TRU - transport refrigeration unit
VMT - vehicle miles traveled
yr - year

Table B-13. Average Fuel Economy for Electric Miles Traveled by Warehouse and Employee Passenger Vehicles
El Dorado Hills Costco Project
El Dorado Hills, California

EMFAC Vehicle Class	Fuel	Project Specific Fleet Mix [1]	Fuel Economy [2,3] (mi/kWh)
LDA	Plug-in Hybrid	1.58%	3.31
LDA	Electricity	3.57%	2.59
LDT1	Plug-in Hybrid	0.02%	3.31
LDT1	Electricity	0.03%	2.59
LDT2	Plug-in Hybrid	0.37%	3.31
LDT2	Electricity	0.24%	2.59
MDV	Plug-in Hybrid	0.25%	3.31
MDV	Electricity	0.28%	2.59
Fleet Average Fuel Economy			**2.84**

Notes:

[1] Obtained from **Table B-3.**

[2] The average fuel efficiency for passenger vehicles operating in El Dorado (MC) sub-area in calendar year 2027 is obtained from EMFAC2021.

[3] The fleet average fuel efficiency for electric and plug-in hybrid passenger vehicles is estimated based on the Project-specific fleet mix and the fuel economy obtained from EMFAC2021 for each EMFAC vehicle class and fuel combination.

Abbreviations:

LDA - light duty automobiles
EMFAC - California Air Resources Board Emissions Factor Model
kWh - kilowatt-hour
LDT - light-duty trucks
MC - Mountain County
MDV - medium-duty vehicle
mi - mile

Table B-14. Greenhouse Gas Emission Factors for Gasoline-Fueled Passenger Vehicles Visiting the Project Site - Running Exhaust
El Dorado Hills Costco Project
El Dorado Hills, California

EMFAC Vehicle Class	Fuel Type	Project Specific Fleet Mix [1]	CO_2 Emission Factor [2] (g/mi)	CH_4 Emission Factor [2] (g/mi)	N_2O Emission Factor [2] (g/mi)
LDA	Gasoline	42.0%	266	0.0019	0.0042
LDA	Plug-in Hybrid	1.7%	294	0.0010	0.0013
LDT1	Gasoline	6.0%	329	0.0059	0.0090
LDT1	Plug-in Hybrid	0.0%	294	0.0010	0.0013
LDT2	Gasoline	30.0%	333	0.0025	0.0053
LDT2	Plug-in Hybrid	0.4%	294	0.0010	0.0013
MDV	Gasoline	19.7%	405	0.0032	0.0064
MDV	Plug-in Hybrid	0.3%	294	0.0010	0.0013
Weighted Average Emission Factor for Gasoline VMT [3]			318	0.0025	0.0052

Notes:

[1] The Project-specific fleet mix for passenger vehicles visiting the GDF are obtained from **Table B-3**.

[2] The running exhaust emission factors for each EMFAC vehicle class/fuel combination for gasoline VMT were obtained from the default EMFAC2021 output for El Dorado (MC) sub-area calendar year 2027.

[3] Weighted average emission factors for passenger vehicles visiting the Project site are calculated as the sumproduct of the Project-specific fleet mix and the emission factors for the individual vehicle class/fuel categories within that fleet mix.

Abbreviations:

CH_4 - methane
CO_2 - carbon dioxide
EMFAC - EMission FACtors model
g/mi - grams per mile
GDF - gasoline dispensing facility
LDA - Light-Duty Automobile
LDT - Light-Duty Truck
MC - Mountain County
MDV - Medium-Duty Vehicle
N_2O - nitrous oxide
VMT - vehicle miles traveled

APPENDIX C
PROJECT EVALUATION AGAINST RELEVANT PLANS

List of Tables

Table C-1: Project Evaluation Against CARB's 2022 Scoping Plan Update

Table C-2: Project Evaluation Against 2020 SACOG MTP/SCS

Table C-3: Project Evaluation Against El Dorado County Regional Transportation Plan 2020-2040

Table C-1. Project Evaluation Against CARB's 2022 Scoping Plan Update
El Dorado Hills Costco Project
El Dorado Hills, California

Priority Areas [1]	Priority GHG Reduction Strategies [1]	Does it Conflict?
Transportation Electrification	• Convert local government fleets to ZEVs and provide EV charging at public sites • Create a jurisdiction-specific ZEV ecosystem to support deployment of ZEVs statewide (such as building standards that exceed state building codes, permit streamlining, infrastructure siting, consumer education, preferential parking policies, and ZEV readiness plans)	**Does Not Conflict.** These strategies would be developed and implemented by local government fleets and the County rather than an individual project. However, the Proposed Project will meet the Voluntary Tier 1 Electric Vehicle Charging Standards as defined in the 2025 California Green Building Standards Code[2] by installing ten DC fast chargers that provide a total power of 1,800 kW. Additionally, these chargers will be powered by 100% renewable electrical power supplied by Pacific Gas & Electric (PG&E), as Costco has a Clean Energy Contract with PG&E.
VMT Reduction	• Reduce or eliminate minimum parking standards • Implement Complete Streets policies and investments, consistent with general plan circulation element requirements • Increase access to public transit by increasing density of development near transit, improving transit service by increasing service frequency, creating bus priority lanes, reducing or eliminating fares, microtransit, etc. • Increase public access to clean mobility options by planning for and investing in electric shuttles, bike share, car share, and walking • Implement parking pricing or transportation demand management pricing strategies • Amend zoning or development codes to enable mixed-use, walkable, transit-oriented, and compact infill development (such as increasing the allowable density of a neighborhood) • Preserve natural and working lands by implementing land use policies that guide development toward infill areas and do not convert "greenfield" land to urban uses (e.g., green belts, strategic conservation easements)	**Does Not Conflict.** These strategies would be developed and implemented by the County rather than an individual project. However, the Proposed Project includes several features and mitigation measures that align with this priority area as noted below: • The Proposed Project will implement **Mitigation Measure 3.14-2a: Provide a Mandatory Commute Reduction Program for Costco Employees** and **Mitigation Measure 3.14-2b: Implement Pedestrian Network Improvements** which would reduce vehicle miles travelled by employees by developing and implementing the following measures: (1) commute trip reduction marketing, (2) a ridesharing program for employees, (3) on-site end-of-trip bicycle facilities, and (4) pedestrian network improvements in the vicinity of the Project site. • The Project site is an infill development located near an El Dorado Transit bus route (50 Express) and bus stop (El Dorado Transit Park & Ride), therefore placing jobs that are accessible via public transit. Additionally the Project is located adjacent to homes, thereby providing retail and jobs near a housing-rich area served by El Dorado Transit. • While the Project does generate an increase in VMT,[3] the VMT analysis does not take into account the Costco trips "replacing" existing trips currently going to other retailers. Furthermore, the Project is expected to serve the existing population of the area by providing more convenient access to Costco services. The Project will allow customers to have multiple needs served in one trip, including but not limited to: eye exams, purchase of household goods and groceries, furniture store, appliance store, liquor store, and refueling at a gasoline dispensing facility. The VMT modeling does not measure the benefit of one Costco trip replacing multiple trips, and given these factors, it is likely that Costco members make fewer total retail shopping trips in a month or a year when they have the option of shopping at Costco than they would make if they did not have a Costco nearby.
Building Decarbonization	• Adopt all-electric new construction reach codes for residential and commercial uses • Adopt policies and incentive programs to implement energy efficiency retrofits for existing buildings, such as weatherization, lighting upgrades, and replacing energy-intensive appliances and equipment with more efficient systems (such as Energy Star-rated equipment and equipment controllers) • Adopt policies and incentive programs to electrify all appliances and equipment in existing buildings such as appliance rebates, existing building reach codes, or time of sale electrification ordinances • Facilitate deployment of renewable energy production and distribution and energy storage on privately owned land uses (e.g., permit streamlining, information sharing) • Deploy renewable energy production and energy storage directly in new public projects and on existing public facilities (e.g., solar photovoltaic systems on rooftops of municipal buildings and on canopies in public parking lots, battery storage systems in municipal buildings)	**Does Not Conflict.** These strategies would be developed and implemented by the County rather than an individual project. However, the Proposed Project will incorporate several sustainability and energy efficiency measures including green building practices as required by the 2025 California Green Building Standards Code.[2] Refer to **Section 1.2** of this report for a detailed listing of these measures. Notably, the proposed Project operations will be powered 100% renewable electrical power supplied by PG&E, as Costco has a Clean Energy Contract with PG&E. The use of renewable electricity would facilitate deployment of renewable energy production.

Notes:
[1] Priority areas and GHG reduction strategies obtained from 2022 CARB Scoping Plan Update, Appendix D, Local Actions. Available online at: https://ww2.arb.ca.gov/sites/default/files/2022-11/2022-sp-appendix-d-local-actions.pdf. Accessed: September 2025.
[2] 2025 California Green Building Standards Code, Title 24, Part 11. Available online at: https://codes.iccsafe.org/content/CAGBC2025P1. Accessed: September 2025.
[3] Kittelson & Associates. 2025. El Dorado Costco CEQA Analysis. July 23.

Abbreviations:
CARB - California Air Resources Board
CEQA - California Environmental Quality Act
DC - direct current
EV - electric vehicle
GHG - greenhouse gas
kW - kilowatt
ZEV - zero emission vehicle

Table C-2. Project Evaluation Against 2020 SACOG MTP/SCS
El Dorado Hills Costco Project
El Dorado Hills, California

Priority Policy Areas [1]	Supporting Policies [1]	Does it Conflict?
Build vibrant places for today's and tomorrow's residents	**POLICY 1**: Provide incentives, information, tools, technical assistance, and encouragement to support implementation of the Sacramento region's Sustainable Communities Strategy. **POLICY 2**: Pursue funding opportunities that support the infrastructure improvements needed to support new housing and employment opportunities in existing urban, suburban, and rural communities.	**Does Not Conflict.** These policies would be implemented by the County rather than an individual project. However, the Proposed Project would create new employment opportunities, and is located near an El Dorado Transit bus route (50 Express) and bus stop (El Dorado Transit Park & Ride), therefore placing jobs that are accessible via public transit. Additionally the Project is located adjacent to homes, therefore the Project would provide retail and jobs near a housing-rich area served by El Dorado Transit.
Foster the next generation of mobility solutions	**POLICY 3**: Implement pilot projects aimed at making microtransit and micromobility (such as bike and scooter share) work for urban, suburban, rural, and low-income areas of the region. **POLICY 4**: Pursue flexibility in state and federal funding sources to enable testing and implementation of innovative mobility solutions that are affordable, accessible, and reduce greenhouse gas emissions. **POLICY 5**: Support innovative education and transportation demand management programs covering all parts of the region, to offer a variety of alternatives to driving alone. **POLICY 6**: Pursue new funding and planning opportunities to support electric vehicle infrastructure and programs for both private vehicles and public transit fleets. **POLICY 7**: Support transit agencies and local governments looking to secure funds to improve the frequency, hours of service, and coverage of productive bus service (including bus rapid transit, express bus, and more frequent fixed-route service). **POLICY 8**: Support more seamless travel through better traveler information for trip planning, reliable service and coordination between operators for transit, shared mobility and other first/last mile connections.	**Does Not Conflict.** These policies would be implemented by the County rather than an individual project. However, the Proposed Project includes a number of features and mitigation measures that align with these policies as noted below: • The Proposed Project will implement **Mitigation Measure 3.14-2a: Provide a Mandatory Commute Reduction Program for Costco Employees** and **Mitigation Measure 3.14-2b: Implement Pedestrian Network Improvements** which would reduce vehicle miles travelled by employees by developing and implementing the following measures: (1) commute trip reduction marketing, (2) a ridesharing program for employees, (3) on-site end-of-trip bicycle facilities, and (4) pedestrian network improvements in the vicinity of the Project site. • The Project site is an infill development located near an El Dorado Transit bus route (50 Express) and bus stop (El Dorado Transit Park & Ride), therefore placing jobs that are accessible via public transit. Additionally the Project is located adjacent to homes, thereby providing retail and jobs near a housing-rich area served by El Dorado Transit. • The Proposed Project will meet the Voluntary Tier 1 Electric Vehicle Charging Standards as defined in the 2025 California Green Building Standards Code[2] by installing ten DC fast chargers that provide a total power of 1,800 kW. Additionally, these chargers will be powered by 100% renewable electrical power supplied by Pacific Gas & Electric (PG&E), as Costco has a Clean Energy Contract with PG&E.
Modernize the way we pay for transportation infrastructure	**POLICY 9**: Pursue new and reformed transportation funding methods and sources to implement the MTP/SCS that are stable, predictable, flexible, and adequate to operate, maintain, and expand the transportation system. Mileage-based fees/PayGo should replace, not be on top of, existing state fuel taxes. **POLICY 10**: Find solutions and reliable funding sources to meet the maintenance needs of roads that support rural economies, natural resource-based industries, agriculture, farm-to-market routes, and freight corridors. **POLICY 11**: Initiate a leadership role in testing and piloting roadway pricing mechanisms, such as facility-based tolling and mileage-based fees, in partnership with the state, federal, and local agencies and private sector organizations. **POLICY 12**: Take steps to implement tolling or pricing of specific lanes on major facilities, such as freeways, to improve traffic management, reliability, and operations of those facilities and to help raise funding for the cost of building and maintaining large capital investments. **POLICY 13**: All new major expansion projects on the region's freeways and expressways should be planned for eventual deployment of pricing options to both manage demand and provide a financing mechanism for capital costs. Any pricing strategy pursued should be sensitive to changes in roadway demand during different parts of the day (peak/off-peak) with the objective of managing demand and providing travel choice. **POLICY 14**: Revenues generated from facility-based pricing should be used to build and maintain a regional network of paid express lanes and, where surplus revenue is available, on strategic transit services (e.g., express buses) or other mobility solutions that can reduce vehicle miles traveled and provide multiple travel options along priced corridors. **POLICY 15**: New taxes and fees, including mileage based fees, intended to raise additional funding for transportation purposes should prioritize closing the gap for system maintenance and state-of-good repair needs before investing in system expansion. **POLICY 16**: When implementing pricing strategies, both paid express lanes and mileage-based fees/PayGo, the region should make every effort to avoid negatively impacting lower income and rural households. For regional implementation of PayGo, explore innovative options for setting fees, such as including off-setting incentives for non-vehicular travel, off-sets to fees for disadvantaged households, and keying fee rates to maintenance and fix-if-first goals.	**Does Not Conflict.** These policies would be implemented by the County rather than an individual project. The Proposed Project would not conflict with the County's ability to implement these strategies.

Table C-2. Project Evaluation Against 2020 SACOG MTP/SCS
El Dorado Hills Costco Project
El Dorado Hills, California

Priority Policy Areas [1]	Supporting Policies [1]	Does it Conflict?
Build and maintain a safe, resilient, and multimodal transportation system	**POLICY 17**: Reduce the growing system maintenance funding gap by prioritizing spending flexible revenues on state-of-good repair improvements before investing in system expansion. **POLICY 18**: System expansion investments that are not directly paid for by new development should be focused on fixing major bottlenecks that exist today, and/or incentivize development opportunities in infill areas. **POLICY 19**: Transit expansion, particularly light rail and other fixed infrastructure transit options, should be targeted at communities with supportive land use policies and development patterns that will generate transit ridership and improve the cost recovery rates for transit service. **POLICY 20**: Prioritize cost effective safety improvements that will help the region eliminate fatal transportation related accidents. **POLICY 21**: Transportation infrastructure investments should be planned and built in a way that makes the system more resilient to extreme weather events and natural disasters. **POLICY 22**: Invest in bicycle and pedestrian infrastructure to encourage healthy, active transportation trips and provide recreational opportunities for residents and visitors. **POLICY 23**: Prioritize and incentivize transportation investments that benefit environmental justice communities. **POLICY 24**: Invest in transportation improvements that improve access to major economic assets and job centers. **POLICY 25**: Prioritize investments in transportation improvements that reduce greenhouse gas emissions and vehicle miles traveled.	**Does Not Conflict.** These policies would be implemented by the County rather than an individual project. However, the Proposed Project includes a number of features and mitigation measures that align with these policies as noted below: • The Proposed Project will implement **Mitigation Measure 3.14-2a: Provide a Mandatory Commute Reduction Program for Costco Employees** and **Mitigation Measure 3.14-2b: Implement Pedestrian Network Improvements** which would reduce vehicle miles traveled by employees by developing and implementing the following measures: (1) commute trip reduction marketing, (2) a ridesharing program for employees, (3) on-site end-of-trip bicycle facilities, and (4) pedestrian network improvements in the vicinity of the Project site. Note, the pedestrian network improvements include (1) constructing sidewalks along the project frontage on Clarksville Crossing and Silva Valley Parkway and (2) constructing sidewalks north of the project frontage on the east side of Silva Valley Parkway to connect to the existing sidewalk near Oak Meadow Elementary School and providing connectivity with the surrounding neighborhood. • The Proposed Project will implement offsite transportation improvements in coordination with the County to address compliance with the El Dorado County Transportation and Circulation Element policies. This would include (1) the addition of a new signalized intersection on Silva Valley Parkway, shared with the South Site's main driveway, (2) the addition of a new signalized intersection with Silva Valley Parkway shared with the North Site, (3) installation of a partial traffic signal at the intersection of Silva Valley Parkway and Clarksville Crossing, (4) installation of 150-foot dual northbound left turn lanes at the proposed signalized intersection of Silva Valley Parkway and the project driveway, and (5) the addition of a northbound right turn lane, change in the right turn phase to be permissive and overlap, and increase of the westbound left turn storage length at the intersection of White Rock Road and Valley View Parkway-Vine Street. These improvements to the transportation infrastructure would help meet the existing and future needs of the Project. • The Project site is an infill development located near an El Dorado Transit bus route (50 Express) and bus stop (El Dorado Transit Park & Ride), therefore placing jobs that are accessible via public transit. Additionally the Project is located adjacent to homes, thereby providing retail and jobs near a housing-rich area served by El Dorado Transit. • The Proposed Project will meet the Voluntary Tier 1 Electric Vehicle Charging Standards as defined in the 2025 California Green Building Standards Code[2] by installing ten DC fast chargers that provide a total power of 1,800 kW. Additionally, these chargers will be powered by 100% renewable electrical power supplied by Pacific Gas & Electric (PG&E), as Costco has a Clean Energy Contract with PG&E. This will reduce the greenhouse gas emissions from on-road vehicles travelling in the County.

Notes:
[1] Priority policy areas and supporting policies obtained from 2020 SACOG MTP/SCS. Available online at: https://www.sacog.org/home/showpublisheddocument/76/638212804736270000. Accessed: September 2025.
[2] 2025 California Green Building Standards Code, Title 24, Part 11. Available online at: https://codes.iccsafe.org/content/CAGBC2025P1. Accessed: September 2025.

Abbreviations:
DC - direct current
kW - kilowatt
MTP - Metropolitan Transportation Plan
SACOG - Sacramento Area Council of Governments
SCS - Sustainable Communities Strategy

Table C-3. Project Evaluation Against El Dorado County Regional Transportation Plan 2020-2040
El Dorado Hills Costco Project
El Dorado Hills, California

Goal [1]	Objective [1]	Does it Conflict?
Integrate local and regional land use, air quality, and transportation planning to create a transportation system which supports the needs of the system user, enhances the economy, preserves the environment, and protects the community character.	**Objective A**: Provide transportation planning support services to local jurisdictions regarding the transportation impacts of local land use decisions. **Objective B**: Support local, state, and regional jurisdictions to ensure the transportation infrastructure meets existing and future needs.	**Does Not Conflict.** Although this goal is not the responsibility of an individual commercial development project, the Proposed Project will implement several offsite transportation improvements in coordination with the County to address the existing and future needs of the region in the immediate vicinity of the Project site. These include (1) the addition of a new signalized intersection on Silva Valley Parkway, shared with the South Site's main driveway, (2) the addition of a new signalized intersection with Silva Valley Parkway shared with the North Site, (3) installation of a partial traffic signal at the intersection of Silva Valley Parkway and Clarksville Crossing, (4) installation of 150-foot dual northbound left turn lanes at the proposed signalized intersection of Silva Valley Parkway and the project driveway, and (5) the addition of a northbound right turn lane, change in the right turn phase to be permissive and overlap, and increase of the westbound left turn storage length at the intersection of White Rock Road and Valley View Parkway-Vine Street. Additionally, the Proposed Project would develop the following pedestrian network improvements as part of **Mitigation Measure 3.14-2b: Implement Pedestrian Network Improvements**: (1) constructing sidewalks along the project frontage on Clarksville Crossing and Silva Valley Parkway and (2) constructing sidewalks north of the project frontage on the east side of Silva Valley Parkway to connect to the existing sidewalk near Oak Meadow Elementary School and providing connectivity with the surrounding neighborhood.
Encourage sustainable transportation options, embrace new technologies and develop climate adaptation and resiliency strategies.	**Objective A**: Support transportation planning and programs which aid in achieving regional air quality goals and develop strategies to lessen the impacts of severe weather events and wildfire. **Objective B**: Support the necessary infrastructure and develop innovative programs to support multimodal, technology-based shared ride solutions.	**Does Not Conflict.** Although this goal is not the responsibility of an individual commercial development project, the Project would support multimodal transport by implementing **Mitigation Measure 3.14-2a: Provide a Mandatory Commute Reduction Program for Costco Employees** and **Mitigation Measure 3.14-2b: Implement Pedestrian Network Improvements**. These mitigation measures include the implementation of the following measures: (1) commute trip reduction marketing, (2) a ridesharing program for employees, (3) on-site end-of-trip bicycle facilities, and (4) pedestrian network improvements in the vicinity of the Project site. Note, the pedestrian network improvements include (1) constructing sidewalks along the project frontage on Clarksville Crossing and Silva Valley Parkway and (2) constructing sidewalks north of the project frontage on the east side of Silva Valley Parkway to connect to the existing sidewalk near Oak Meadow Elementary School and providing connectivity with the surrounding neighborhood. Additionally, the Project site is an infill development located near an El Dorado Transit bus route (50 Express) and bus stop (El Dorado Transit Park & Ride), therefore placing jobs that are accessible via public transit. The Project is also located adjacent to homes, thereby providing retail and jobs near a housing-rich area served by El Dorado Transit. Besides this, the Proposed Project will meet the Voluntary Tier 1 Electric Vehicle Charging Standards as defined in the 2025 California Green Building Standards Code[2] by installing ten DC fast chargers that provide a total power of 1,800 kW. Additionally, these chargers will be powered by 100% renewable electrical power supplied by Pacific Gas & Electric (PG&E), as Costco has a Clean Energy Contract with PG&E. This will reduce emissions from on-road vehicles travelling in the County and aid in achieving the regional air quality goals.
Optimize the existing local, interregional and regionally significant roadway system to support improved maintenance, increased throughput, improved safety and multi-modal mobility.	**Objective A**: Maintain the existing transportation system at a standard which furthers its life and viability and continues to support the region's current and future transportation needs. **Objective B**: Develop and retrofit transportation facilities and corridors to improve safety, enhance community character, and improve multi-modal mobility.	**Does Not Conflict.** Although this is a goal is not the responsibility of an individual commercial development project, the Proposed Project will implement several offsite transportation improvements in coordination with the County to support the existing and future transportation needs of the region in the immediate vicinity of the Project site. These include (1) the addition of a new signalized intersection on Silva Valley Parkway, shared with the South Site's main driveway, (2) the addition of a new signalized intersection with Silva Valley Parkway shared with the North Site, (3) installation of a partial traffic signal at the intersection of Silva Valley Parkway and Clarksville Crossing, (4) installation of 150-foot dual northbound left turn lanes at the proposed signalized intersection of Silva Valley Parkway and the project driveway, and (5) the addition of a northbound right turn lane, change in the right turn phase to be permissive and overlap, and increase of the westbound left turn storage length at the intersection of White Rock Road and Valley View Parkway-Vine Street. Additionally, the Project would support multimodal transport by implementing **Mitigation Measure 3.14-2a: Provide a Mandatory Commute Reduction Program for Costco Employees** and **Mitigation Measure 3.14-2b: Implement Pedestrian Network Improvements**. These mitigation measures include the implementation of the following measures: (1) commute trip reduction marketing, (2) a ridesharing program for employees, (3) on-site end-of-trip bicycle facilities, and (4) pedestrian network improvements in the vicinity of the Project site. Note, the pedestrian network improvements include (1) constructing sidewalks along the project frontage on Clarksville Crossing and Silva Valley Parkway and (2) constructing sidewalks north of the project frontage on the east side of Silva Valley Parkway to connect to the existing sidewalk near Oak Meadow Elementary School and providing connectivity with the surrounding neighborhood.

Table C-3. Project Evaluation Against El Dorado County Regional Transportation Plan 2020-2040
El Dorado Hills Costco Project
El Dorado Hills, California

Goal [1]	Objective [1]	Does it Conflict?
Promote a convenient, desirable, and reliable regional and interregional public transit system for residents and visitors travelling within, to, and beyond El Dorado County.	**Objective A**: Focus transit service provision to the region's diverse characteristics. **Objective B**: Promote a transit system that is responsive to the needs of transit-dependent persons.	**Does Not Conflict.** Although this goal is not the responsibility of an individual commercial development project, the Project is an infill development located near an El Dorado Transit bus route, therefore placing jobs that are accessible via public transit. The El Dorado bus route connects to the larger Sacramento Metropolitan transit network and encourages use of local transit and rail to commute to the Project. The Project is also located adjacent to homes, thereby providing retail and jobs near a housing-rich area served by El Dorado Transit.
Promote and preserve aviation facilities and services that complement the regional transportation system, support emergency response, and enhance economic activities.	**Objective A**: Promote the operation, preservation, and maintenance of a regional system of public use general aviation airports.	**Does Not Conflict.** While this goal is not the responsibility of an individual commercial development project, the Proposed Project would not conflict with the EDCTC's ability to meet this goal.
Promote a safe, convenient, and efficient active transportation system for all users.	**Objective A**: Plan and develop a continuous, safe, and easily accessible pedestrian and bikeway network throughout the region connecting urban, suburban, and rural communities. **Objective B**: Support local jurisdictions in providing an active transportation system that emphasizes the health, safety, and wellbeing of people as part of a multi-modal transportation system.	**Does Not Conflict.** Although this goal is not the responsibility of an individual commercial development project, the Proposed Project would support the development of an active transportation system in the vicinity of the Project site by implementing **Mitigation Measure 3.14-2b: Implement Pedestrian Network Improvements**. This mitigation measure includes the implementation of (1) on-site end-of-trip bicycle facilities, and (2) pedestrian network improvements. The pedestrian network improvements include (1) constructing sidewalks along the project frontage on Clarksville Crossing and Silva Valley Parkway and (2) constructing sidewalks north of the project frontage on the east side of Silva Valley Parkway to connect to the existing sidewalk near Oak Meadow Elementary School and providing connectivity with the surrounding neighborhood.
Develop and support an integrated transportation system that incorporates corridor-based solutions and public awareness programs which support alternative transportation modes and reduce the impacts of single-occupant vehicle travel.	**Objective A**: Support local jurisdictions and partners in developing corridor-based solutions to congestion reduction and support alternatives to the single occupant vehicle. **Objective B**: Support advancement of Transportation Demand Management in a manner which reflects the needs of the region and remains current with new technologies in transportation.	**Does Not Conflict.** Although this goal is not the responsibility of an individual commercial development project, the Proposed Project would support the development of alternative transportation models by implementing **Mitigation Measure 3.14-2a: Provide a Mandatory Commute Reduction Program for Costco Employees** and **Mitigation Measure 3.14-2b: Implement Pedestrian Network Improvements**. These mitigation measures includes the implementation of the following measures: (1) commute trip reduction marketing, (2) a ridesharing program for employees, (3) on-site end-of-trip bicycle facilities, and (4) pedestrian network improvements in the vicinity of the Project site. Note, the pedestrian network improvements include (1) constructing sidewalks along the project frontage on Clarksville Crossing and Silva Valley Parkway and (2) constructing sidewalks north of the project frontage on the east side of Silva Valley Parkway to connect to the existing sidewalk near Oak Meadow Elementary School and providing connectivity with the surrounding neighborhood. Additionally, the Project site is an infill development located near an El Dorado Transit bus route (50 Express) and bus stop (El Dorado Transit Park & Ride), therefore placing jobs that are accessible via public transit. The Project is also located adjacent to homes, thereby providing retail and jobs near a housing-rich area served by El Dorado Transit.
Secure maximum available funding and pursue new sources of funds for maintenance, expansion, and improvement of all modes of transportation facilities and services.	**Objective A**: Obtain funding for vital transportation needs through all sources. **Objective B**: Identify innovative and sustainable funding strategies for vital transportation needs where conventional funding sources are insufficient.	**Does Not Conflict.** While this goal is not the responsibility of an individual commercial development project, the Proposed Project would not conflict with the EDCTC's ability to meet this goal.

Notes:
[1] Priority policy areas and supporting policies obtained from El Dorado County Regional Transportation Plan 2020-2040. Available online at: https://www.edctc.org/files/2859e4e3f/RTP+2040.pdf. Accessed: September 2025.
[2] 2025 California Green Building Standards Code, Title 24, Part 11. Available online at: https://codes.iccsafe.org/content/CAGBC2025P1. Accessed: September 2025.

Abbreviations:
DC - direct current
EDCTC - El Dorado County Transportation Commission
kW - kilowatt

North Site Remainder Area
Technical Report

Prepared for
Ascent Environmental, Inc.
Sacramento, California

Prepared by
Ramboll Americas Engineering Solutions, Inc.
Irvine, California

Project Number
1940110459

Date
October 2025

EDH COSTCO PROJECT
NORTH SITE REMAINDER AREA
TECHNICAL REPORT
EL DORADO HILLS, CALIFORNIA

Ramboll Americas Engineering Solutions, Inc.
2211 Michelson Drive, Suite 400
Irvine, California 92612
(949) 261-5151

RAMBOLL

CONTENTS

		Page
1.	**INTRODUCTION**	**1**
1.1	Existing Conditions	1
1.2	Potential Development in the North Site Remainder Area	1
2.	**SIGNIFICANCE THRESHOLDS**	**2**
2.1	Approach to Significance	2
3.	**EMISSIONS INVENTORIES AND ENERGY PROJECTIONS**	**5**
3.1	Construction Emission Inventories and Energy Projection	5
3.2	Operational Emission Inventories and Energy Projection	8
4.	**PROGRAM-LEVEL AIR QUALITY IMPACT ANALYSIS**	**11**
4.1	Threshold AQ-1: Would the Project conflict with or obstruct implementation of the applicable air quality plan?	11
4.2	Threshold AQ-2: Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?	12
4.3	Threshold AQ-3: Would the Project expose sensitive receptors to substantial pollutant concentrations?	13
4.3.1	CO Hotspots	13
4.3.2	Health Risk Thresholds	13
4.4	Threshold AQ-4: Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	14
4.4.1	Construction Odors	14
4.4.2	Operational Odors	14
5.	**PROGRAM-LEVEL GREENHOUSE GAS EMISSIONS IMPACT ANALYSIS**	**15**
5.1	Threshold GHG-1: Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?	15
5.2	Threshold GHG-2: Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?	15
5.2.1	2022 Scoping Plan Update	16
5.2.2	SACOG 2020 MTP/SCS	17
5.2.3	El Dorado County RTP 2020-2040	18
5.3	Summary	19
6.	**PROGRAM-LEVEL ENERGY IMPACT ANALYSIS**	**20**
6.1	Threshold ENE-1: Would the Project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?	20
6.1.1	Energy Requirements and Energy Use Efficiencies	20
6.1.2	Local and Regional Energy Supplies	20
6.1.3	Peak and Base Period Demands	21
6.1.4	Existing Energy Standards	22
6.1.5	Energy Resources	22
6.1.6	Transportation Energy Use	23
6.1.7	Summary	23
6.2	Threshold ENE-2: Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	23

CONTENTS *(Continued)*

TABLES

Table 3-1: Unmitigated Average Daily CAP Emissions for Construction of North Site Remainder Area
Table 3-2: Unmitigated Combined Average Daily CAP Emissions for Construction of North Site Remainder Area and Operation of Costco EDH Project
Table 3-3: Mitigated Average Daily CAP Emissions for Construction of North Site Remainder Area
Table 3-4: Mitigated Combined Average Daily CAP Emissions for Construction of North Site Remainder Area and Operation of Costco EDH Project
Table 3-5: Summary of Construction Greenhouse Gas Emissions - North Site Remainder Area
Table 3-6: Energy Resource Summary for Proposed Project Construction
Table 3-7: Maximum Daily Criteria Air Pollutant Emissions for Operations of the Proposed Project
Table 3-8: Summary of Greenhouse Gas Emissions for Proposed Project Operations
Table 3-9: Energy Resource Summary for Proposed Project Operation

APPENDICES

Appendix A: North Site Remainder Area CalEEMod Model Run
Appendix B: Construction Inputs
Appendix C: Construction Emission Calculation Tables
Appendix D: Construction Energy Calculations
Appendix E: Operational Inputs
Appendix F: Operational Energy Calculations

ACRONYMS AND ABBREVIATIONS

Acronym	Definition
AQ	air quality
CalEEMod	California Emissions Estimator Model®
CAP	criteria air pollutants
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CO	carbon monoxide
CO_2e	carbon dioxide equivalent
DPM	diesel particulate matter
EDCAQMD	El Dorado County Air Quality Management District
EDH	El Dorado Hills
EPA	Environmental Protection Agency
EV	electric vehicle
GHG	greenhouse gas
H_2S	hydrogen sulfide
HI	hazard index
hp	horsepower
lb	pound
MT	metric tonne
MTP/SCS	Metropolitan Transportation Plan & Sustainable Communities Strategy
MW	megawatts
NOA	naturally occurring asbestos
NO_X	nitrogen oxides
O_3	ozone
PCAPCD	Placer County Air Pollution Control District
PG&E	Pacific Gas and Electric Company
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
ROG	reactive organic gases
RTP	Regional Transportation Plan
SACOG	Sacramento Area Council of Governments
SO_2	sulfur dioxide
SO_X	sulfur oxides
TAC	toxic air contaminant
TDM	Transportation Demand Management
VMT	vehicle miles travelled
VOC	volatile organic compound

1. INTRODUCTION

Ramboll Americas Engineering Solutions, Inc. (Ramboll) was retained to prepare a Technical Report on the air quality (AQ), greenhouse gas (GHG), and energy impacts for potential future development in the North Site Remainder Area ("Remainder Area Development"), in addition to the AQ, GHG, and Energy technical reports for the proposed El Dorado Hills (EDH) Costco Project located north of the Silva Valley Parkway/US 50 interchange in the El Dorado Hills community area of the unincorporated El Dorado County in California. For simplicity, the North Site Remainder Area and the proposed EDH Costco Project are collectively referred to hereafter as the proposed Project.

This Technical Report analyzes the AQ, GHG, and energy impacts of the potential Remainder Area Development at a program/plan level. Specifically, it describes the maximum development assumptions for the Remainder Area Development and estimates criteria air pollutant emissions, GHG emissions, and energy use associated with the construction and operations of this development. Additionally, this report evaluates the potential aggregate AQ, GHG, and energy impacts of the proposed Project (both the North Site Remainder Area and the EDH Costco Project).

1.1 Existing Conditions

The Project site is currently vacant grassland with scattered oak trees and seasonal drainage features. There are no permanent structures on the site. The southern edge of the property directly abuts the US 50 right-of-way, while the western boundary is adjacent to Clarksville Crossing. An approximate 7.75-acre portion of the northern site is reserved for a planned future extension of Country Club Drive, which is not part of the proposed Project.

Surrounding land uses include:

- North: Single-family residential uses and Oak Meadow Elementary School
- East: Vacant land, Tong Road, and single-family residential uses
- South: U.S. Highway 50 and Tong Road
- West: Clarksville Crossing roadway, open space, and undeveloped land

1.2 Potential Development in the North Site Remainder Area

An approximately 13.79-acre out-parcel on the North Site would remain undeveloped at this time (North Site Remainder Area). The EDH Costco Project proposes no development for the North Site Remainder Area. However, future development of the North Site Remainder Area would be made more reasonably foreseeable by the proposed annexation of the entire North Site into the El Dorado Irrigation District and the El Dorado Hills Fire Department service areas. Since such annexations are assumed to facilitate possible future development of the North Site Remainder Area, even though there is not even a conceptual or contemplated plan for build out of that land, this analysis conservatively assumes that such land would be developed consistent with the General Plan and zoning designations and density. The assumed potential commercial development of the North Site Remainder Area is approximately 138,000 square feet and 316 employees. The future extension of Country Club Drive (County Capital Improvement Project No. 36105008), when constructed by the County, would occupy a portion of the North Site near its northern edge, though the future extension is an independent project proposed by, and to be undertaken by, the County and is not analyzed as a part of the proposed Project.

2. SIGNIFICANCE THRESHOLDS

The Remainder Area Development would be adjacent to the EDH Costco Project and is subject to the identical regulatory settings and significance thresholds previously described for the EDH Costco Project in the technical reports.[1,2,3] The analysis provided in this technical memorandum evaluates whether the Project would result in any potentially significant impacts regarding the following questions:

Threshold AQ-1. Would the Project conflict with or obstruct implementation of the applicable air quality plan?

Threshold AQ-2. Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?

Threshold AQ-3. Would the Project expose sensitive receptors to substantial pollutant concentrations?

Threshold AQ-4. Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Threshold GHG-1. Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Threshold GHG-2. Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

Threshold ENE-1. Would the Project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?

Threshold ENE-2. Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

2.1 Approach to Significance

As described in Section 3.2 of the EDH Costco Project Air Quality Technical Report, the El Dorado County Air Quality Management District (EDCAQMD) has established significance thresholds to assess the impacts of project-related construction and operational emissions, in its California Environmental Quality Act (CEQA) Guide. Table 3-1 in the EDH Costco Project Air Quality Technical Report shows the quantitative mass daily thresholds for construction and operation as adopted by the EDCAQMD reactive organic gases (ROG) and nitrogen oxides (NO_X) emissions. The analysis summarized in this report estimates program/plan level construction and operational mass emissions for the proposed Project and compares the emissions to these significance thresholds.

EDCAQMD has also established significance thresholds for other criteria air pollutants (CAPs) including carbon monoxide (CO), particulate matter less than 10 microns in diameter (PM_{10}), sulfur dioxide (SO_2), nitrogen dioxide, sulfates, lead, hydrogen sulfide (H_2S), and visibility-reducing particles. Project-related emissions of these pollutants are considered to

[1] Ramboll. 2025. EDH Costco Project Air Quality Technical Report.

[2] Ramboll. 2025. EDH Costco Project Greenhouse Gas Technical Report.

[3] Ramboll. 2025. EDH Costco Project Energy Technical Report.

have significant impacts if these emissions will cause or contribute to a violation of the applicable national or state ambient air quality standard. The EDCAQMD provides screening techniques to evaluate if a project's CAP emissions would have a less-than-significant impact in Chapters 4 and 6 of the EDCAQMD CEQA Guide.[4] This analysis in this report estimates the program/plan level construction and operational mass emissions of CO, PM_{10}, sulfur oxides (SO_X), and NO_X for the proposed Project and evaluates the significance of their impacts using these screening techniques established in the EDCAQMD CEQA Guide.[5]

The EDCAQMD has also established significance thresholds to assess health risk impacts of TACs from project-related emission sources on nearby sensitive receptors including residents and other human populations, which are applicable to the program-level impact analysis in this report.[6] These include a maximum incremental cancer risk of one-in-a-million (or ten-in-a-million if best available control technology for toxics (T-BACT) is applied), and incremental chronic and acute hazard indices (HIs) of 1. The analysis summarized in this report evaluates the human health risk impacts from on-site construction and operational emissions against these significance thresholds established by EDCAQMD.

This Technical Report also performs a qualitative assessment of odors from the proposed Project to evaluate if they would have the potential to generate odorous emissions that would meet the statutory definition for nuisance, in accordance with the EDCAQMD CEQA Guide.[7]

This report, relative to Threshold AQ-1, evaluates whether the proposed Project would conflict with applicable plans related to emissions, including the regional air quality attainment plans. This report, relative to Threshold AQ-2, quantifies the proposed Project's emissions during construction and operations and compares those results to the applicable EDCAQMD thresholds. Relative to Threshold AQ-3, this report includes a CO hotspots analysis and a semi-quantitative assessment of the potential health risk impacts to sensitive receptors. This report, relative to Threshold AQ-4, evaluates the potential for odor-generating activities from the proposed Project.

As discussed in Section 3.2 of the EDH Costco Greenhouse Gas Technical Report, El Dorado County provides some basic information on climate change including an overview of GHG regulations and local, state, and national efforts to address climate change; however, it has not established a quantitative or qualitative guidance to evaluate GHG emission impacts of development projects under CEQA.[8] Additionally, EDCAQMD has also not set quantitative GHG significance thresholds. In the absence of a quantitative GHG threshold from El Dorado County and EDCAQMD, this Technical Report assessed significance of GHG impacts for Threshold GHG-1 against the Placer County Air Pollution Control District (PCAPCD) GHG significance thresholds (Table 3-1 of the EDH Costco Greenhouse Gas Technical Report), in consultation with EDCAQMD and El Dorado County.

[4] EDCAQMD. 2002. Guide to Air Quality Assessment. February. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

[5] Ibid.

[6] Ibid.

[7] Ibid.

[8] Ibid.

PCAPCD's GHG significance thresholds are reasonable to assess significance in the absence of a quantitative threshold from EDCAQMD because Placer County is similar to El Dorado County demographically, geographically, and meteorologically. Both Placer County and El Dorado County have similar land use patterns (i.e., they are both heavily made up of rural and suburban areas), with similar rates of population growth. Additionally, both counties have similar terrain and lie within the same air basin. Because of this, PCAPCD's quantitative GHG thresholds were used to assess significance against the Project relative to Threshold GHG-1.

Relative to Threshold GHG-2, this report evaluates whether the Project would conflict with the 2022 Scoping Plan Update,[9] Sacramento Area Council of Governments' (SACOG's) 2020 future Metropolitan Transportation Plan & Sustainable Communities Strategy (MTP/SCS),[10] and the El Dorado County Regional Transportation Plan (RTP) 2020-2040.[11]

This report evaluates the proposed Project's energy consumption against the six categories of potential energy-related environmental impacts from Appendix F of the CEQA Guidelines:

1. The Project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the Project including construction, operation, maintenance and/or removal. If appropriate the energy intensiveness of materials may be discussed.
2. The effects of the Project on local and regional energy supplies and on requirements for additional capacity.
3. The effects of the Project on peak and base period demands for electricity and other forms of energy.
4. The degree to which the Project complies with existing energy standards.
5. The effects of the Project on energy resources.
6. The Project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

This report, relative to Threshold ENE-1, assesses the proposed Project's electricity, natural gas, and fossil fuel consumption during construction and operation by way of the six questions above. This report, relative to Threshold ENE-2, evaluates whether the proposed Project would conflict with applicable plans related to renewable energy and energy efficiency.

[9] CARB. 2022. 2022 CARB Scoping Plan Update - Appendix D, Local Actions. Available at: https://ww2.arb.ca.gov/sites/default/files/2022-11/2022-sp-appendix-d-local-actions.pdf. Accessed: October 2025.

[10] SACOG. 2020. 2020 SACOG MTP/SCS. Available at: https://www.sacog.org/home/showpublisheddocument/76/638212804736270000. Accessed: October 2025.

[11] El Dorado County Transportation Commission. 2020. El Dorado County Regional Transportation Plan 2020-2040. November 5. Available at: https://www.edctc.org/files/2859e4e3f/RTP+2040.pdf. Accessed: October 2025.

3. EMISSIONS INVENTORIES AND ENERGY PROJECTIONS

This section provides a brief description of the methodology that Ramboll used to develop CAP, GHG, and energy inventories associated with the Remainder Area Development, which include one-time emissions from construction and long-term operational emissions. This section also presents the CAP, GHG, and energy inventories of the North Site Remainder Area and the proposed Project.

The analysis in this report utilized the California Emissions Estimator Model (CalEEMod) version 2022.1 methodology to quantify CAP and GHG emissions for the Remainder Area Development (**Appendix A**). This report presents assumptions only when they differ from the analysis for the EDH Costco Project, detailed in the EDH Costco Project's technical reports. Unless otherwise stated, CalEEMod default parameters were used to estimate the emission inventories.

As presented in **Section 1**, the Remainder Area Development would, at a maximum, develop 138,000 square feet of commercial/retail land uses, categorized as regional shopping center in CalEEMod. The remaining area of the parcel is conservatively assumed to be developed into asphalt-paved parking lots, totaling approximately 10.6 acres. The land use assumptions used to generate CalEEMod default construction and operational activities are included in **Appendix A**.

Construction of the North Site Remainder Area is assumed to start as early as May 2027, immediately after the EDH Costco Project construction concludes. Operation of the North Site Remainder Area is assumed to start as soon as the construction concludes.

3.1 Construction Emission Inventories and Energy Projection

Construction schedule, off-road equipment activities and on-road vehicle trip assumptions are provided in **Appendix B**. Because the material movement volumes required to construct in the Remainder Area are currently unknown, they are conservatively assumed to be the same as EDH Costco Project's Construction Scenario 2.

Criteria Air Pollutant Inventory

Average daily construction emissions for each quarter of the North Site Remainder Area construction are calculated based on CalEEMod outputs and are included in **Appendix C**.

Table 3-1 summarizes the average daily criteria pollutant emissions from construction of the North Site Remainder Area as compared to the applicable EDCAQMD thresholds. As shown in this table, the average daily unmitigated emissions of ROG and NO_X from the construction of the Remainder Area Development are below EDCAQMD's thresholds for construction. While EDCAQMD has not adopted mass daily numerical thresholds for other CAP emissions from construction, the EDCAQMD CEQA Guide[12] states that if ROG and NO_X exhaust emissions from construction are deemed not significant, then exhaust emissions of CO and PM_{10} may also be deemed not significant. Hence, air quality impacts of all CAPs (ROG, NO_X, CO, and

[12] EDCAQMD. 2002. Guide to Air Quality Assessment. February. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

PM_{10}) from the exhaust of construction equipment and on-road vehicles associated with the construction of the North Site Remainder Area are less than significant.

The EDCAQMD CEQA Guide[13] states that fugitive dust PM_{10} emissions may be assumed to be not significant, if the project complies with EDCAQMD Rule 223 and Rule 223-1 for fugitive dust control by implementing control measures that will prevent visible dust beyond the project property lines. The proposed Project will comply with these fugitive dust control rules. Hence, the air quality impacts of fugitive dust emissions from the construction North Site Remainder Area are less than significant.

North Site Remainder Area construction activities are expected to generate negligible emissions of SO_2, sulfates, lead, and H_2S. Therefore, the air quality impacts of these emissions from the construction of the North Site Remainder Area are also less than significant.

Although EDCAQMD has established separate daily mass significance thresholds for short-term construction and long-term operational phases of development projects, this analysis conservatively compares the combined average daily emissions from the construction of the Remainder Area land and the EDH Costco Project operation to EDCAQMD's mass daily construction thresholds. As shown in **Table 3-2**, these combined unmitigated average daily emissions exceed EDCAQMD's construction threshold for ROG but remain below the threshold for NO_X.

Mitigated Criteria Air Pollutant Inventory

In order to ensure that the combined average daily ROG emissions from the construction of the Remainder Area Development and the EDH Costco Project operation are below the EDCAQMD's mass daily construction thresholds, the following mitigation measure will be implemented during the construction of the Remainder Area.

- **Mitigation Measure 3.2-2: Architectural Coating Volatile Organic Compound (VOC) Limits for Development of the North Site Remainder Area**

  Future building construction of the North Site Remainder Area shall only use architectural coatings with a VOC content not exceeding 100 grams per liter during construction for all interior and exterior spaces. This requirement shall be included in plans submitted for review by the County prior to the issuance of building permits.

Additionally, the following mitigation measures that will be implemented during the construction of the EDH Costco Project to address health risk impacts and asbestos dust will also apply to the construction of the Remainder Area Development:

- **Mitigation Measure 3.2-4a: Apply Tier-4 Emission Standards to Diesel-Powered Off-Road Equipment**

  Construction equipment greater than 50 horsepower (hp) used at the site shall meet Environmental Protection Agency (EPA) Tier 4 Final emission standards for PM_{10} and particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), if available. If Tier 4 Final equipment is not available, all construction equipment larger than 50 hp used at the site shall meet EPA emission standards for Tier 3 engines and include particulate matter emissions control equivalent to California Air Resources Board (CARB) Level 3 verifiable

[13] Ibid.

diesel emission control devices. This requirement shall apply to the construction of the Costco project and construction of the North Site Remainder Area.

- **Mitigation Measure 3.2-4b: Implement Asbestos Dust Mitigation Consistent with EDCAQMD Rule 223-1**

  An Asbestos Dust Mitigation Plan shall be prepared and submitted to the EDCAQMD and the County for review and approval by EDCAQMD for implementation during construction on the Costco project, future development of the North Site Remainder Area, and for off-site roadway improvements (if the presence of naturally occurring asbestos (NOA) is confirmed). The Asbestos Dust Mitigation Plan shall comply with the El Dorado County Code Chapter 8.44 (Asbestos and Dust Protection) and EDCAQMD Rule 223-2, which provides performance standards for ensuring that adverse impacts do not result from asbestos dust during construction.

Table 3-3 summarizes the average daily mitigated criteria pollutant emissions from construction of the North Site Remainder Area as compared to the applicable EDCAQMD thresholds. As shown in this table, the average daily unmitigated emissions of ROG and NO_X from the construction of the Remainder Area Development are below EDCAQMD's thresholds for construction. While EDCAQMD has not adopted mass daily numerical thresholds for other CAP emissions from construction, the EDCAQMD CEQA Guide[14] states that if ROG and NO_X exhaust emissions from construction are deemed not significant, then exhaust emissions of CO and PM_{10} may also be deemed not significant. Hence, air quality impacts of all CAPs (ROG, NO_X, CO, and PM_{10}) from the exhaust of construction equipment and on-road vehicles associated with the construction of the North Site Remainder Area are less than significant.

The EDCAQMD CEQA Guide[15] states that fugitive dust PM_{10} emissions may be assumed to be not significant, if the project complies with EDCAQMD Rule 223 and Rule 223-1 for fugitive dust control by implementing control measures that will prevent visible dust beyond the project property lines. The proposed Project will comply with these fugitive dust control rules. Hence, the air quality impacts of fugitive dust emissions from the construction North Site Remainder Area are less than significant.

North Site Remainder Area construction activities are expected to generate negligible emissions of SO_2, sulfates, lead, and H_2S. Therefore, the air quality impacts of these emissions from the construction of the North Site Remainder Area are also less than significant.

Although EDCAQMD has established separate daily mass significance thresholds for short-term construction and long-term operational phases of development projects, this analysis conservatively compares the combined average daily mitigated emissions from the construction of the Remainder Area land and the EDH Costco Project operation to EDCAQMD's mass daily construction thresholds. As shown in **Table 3-4,** with the inclusion of **Mitigation Measure 3.2-2**, which involves using low VOC paints during construction of the Remainder Area land uses, the combined average daily construction and operation emissions are below EDCAQMD's construction mass daily significance thresholds for both ROG and NO_X.

[14] EDCAQMD. 2002. Guide to Air Quality Assessment. February. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

[15] Ibid.

Greenhouse Gas Emissions Inventory

GHG emissions associated with the construction of the North Site Remainder Area are estimated using CalEEMod (**Appendix A**) and summarized in **Table 3-5**. As shown in **Table 3-5**, the annual GHG emissions associated with the construction of the North Site Remainder Area are less than the PCAPCD's GHG significance threshold for construction.[16]

Energy Projection

Energy consumption associated with the construction of the North Site Remainder Area are estimated using methodologies described in Section 4.1 of the EDH Costco Energy Technical Report and summarized in **Table 3-6**. Additional details on the fuel consumption of off-road construction equipment and on-road vehicle use during the North Site Remainder Area construction are provided in **Appendix D**.

3.2 Operational Emission Inventories and Energy Projection

A summary of the key assumptions associated with the operation of the North Site Remainder Area including mobile source activity, County-specific consumer product emission factors, and GHG emission factors for electricity are provided in **Appendix E**. These assumptions were incorporated into the CalEEMod model run in **Appendix A**.

Criteria Air Pollutant Inventory

Table 3-7 summarizes the maximum daily criteria air pollutant emissions associated with the operation of the North Site Remainder Area and the EDH Costco Project. As shown in this table, the maximum daily ROG and NO_X emissions associated with proposed Project (North Site Remainder Area and EDH Costco Project) operation are below EDCAQMD's mass daily significance thresholds for operation.

While EDCAQMD has not adopted mass daily numerical thresholds for other CAP emissions, it considers a project to have a significant impact on air quality if it will cause or contribute significantly to a violation of the National Ambient Air Quality Standards or California Ambient Air Quality Standards for CO, PM_{10}, SO_2, sulfates, lead, H_2S.

The EDCAQMD CEQA Guide[17] states that development projects, with land use types similar to the proposed Project, that are deemed less than significant for ROG and NO_X emissions based on land use size screening criteria, can also be considered less than significant for CO emissions. Using this screening approach, we can consider the air quality impacts of CO emissions from the proposed Project operation to be less than significant because the proposed Project's ROG and NO_X emissions are less than EDCAQMD's mass daily significance thresholds. Hence, the air quality impacts of operational CO emissions from the proposed Project are less than significant.

The EDCAQMD CEQA Guide[18] states that PM_{10} emissions from land development projects primarily associated with gasoline-powered vehicles may be assumed to be insignificant if the projects do not generate heavy-duty diesel vehicle trips in greater proportion than the

[16] PCAPCD CEQA Handbook. 2017. Chapter 2 Thresholds of Significance. Available at: https://www.placerair.org/DocumentCenter/View/2047/Chapter-2-Thresholds-of-Significance-PDF. Accessed: October 2025.

[17] EDCAQMD. 2002. Guide to Air Quality Assessment. February. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

[18] Ibid.

general mix of such trips in public roadways. The proposed Project is not expected to generate heavy-duty diesel vehicle trips in greater proportion than the general mix of such trips in public roadways in the vicinity of the Project site and the air quality impacts of operational PM_{10} emissions from the proposed Project are less than significant.[19]

The EDCAQMD CEQA Guide[20] states that emissions associated with project operations that are less than 10 pounds per day of a pollutant may be presumed to have impacts that are not significant for that pollutant. Since SO_X emissions associated with the proposed Project operation are less than 10 pounds per day (**Table 3-7**), emissions of these pollutants are less than significant.

The proposed Project is a development project that is not a significant source of lead, sulfates, and H_2S. Hence, the emissions of these pollutants are less than significant.

Finally, according to the EDCAQMD CEQA Guide,[21] visibility impacts from development projects can be considered less than significant. Therefore, the proposed Project impacts on visibility are less then significant.

Greenhouse Gas Emissions Inventory

Table 3-8 summarizes the annual operational GHG emissions associated with the operation of the proposed Project (3,954 metric tonnes of carbon dioxide equivalent emissions per year (MT CO_2e per year) for the North Site Remainder Area and the EDH Costco Project). Because the exact energy efficiency and sustainability features of the North Site Remainder Area are not known at the time of preparation of this report, GHG reduction features of EDH Costco Project were not assumed for the Remainder Area Development.

PCAPCD CEQA Guidelines[22] have a three-tiered approach for assessing GHG emissions from land use projects. For projects with annual operational GHG emissions between 1,100 and 10,000 MT CO_2e per year, PCAPCD recommends applying its GHG Efficiency Matrix to determine significance.

As shown in **Table 3-8**, the proposed Project's estimated annual operational emissions fall within this range. Based on a total building square footage of 303,200 square feet (138,000 square feet for the North Site Remainder Area and 165,200 square feet for the EDH Costco Project), the calculated GHG efficiency for the proposed Project is 13.04 MT CO_2e per 1,000 square feet.[23] This is below the applicable conservative threshold of 26.5 MT CO_2e per 1,000 square feet for nonresidential projects located in urban areas, as defined by PCAPCD.

[19] As noted in Section 4.3.6 of the Air Quality Technical Report, the heavy-duty diesel vehicle trips generated by the EDH Costco Project are less than 0.25% of the total Project trips. Additionally, for purposes of this analysis the heavy-duty diesel vehicle trips generated by the Remainder Area as assumed to be similar to the general fleet mix in El Dorado County, based on the default fleet mix in CalEEMod. Hence, the fraction of heavy-duty diesel vehicle trips generated by the proposed Project (EDH Costco and North Site Remainder Area) will be lower than the approximately 6% of heavy-duty diesel trucks operating on the roads in El Dorado County.

[20] Ibid.

[21] Ibid.

[22] PCAPCD CEQA Handbook. 2017. Chapter 2 Thresholds of Significance. Available at: https://www.placerair.org/DocumentCenter/View/2047/Chapter-2-Thresholds-of-Significance-PDF. Accessed: October 2025.

[23] Note, the Proposed Project GHG efficiency would be 16.94 MT CO_2e per 1,000 square feet if the analysis accounted for the greenhouse gas emission benefits associated with only the mandatory electric vehicle charging requirements (1,097 kW total power) in the 2025 California Green Building Standards Code. This value is also below the applicable conservative threshold of 26.5 MT CO_2e per 1,000 square feet for non-residential projects located in urban areas, as defined by PCAPCD.

Therefore, the proposed Project's operational GHG emissions are considered to be less than significant.

Energy Projection

Energy consumption associated with the operation of the North Site Remainder Area are estimated using methodologies described in Section 4.2 of the EDH Costco Energy Technical Report and summarized in **Table 3-9**. Additional details on the operational electricity, natural gas, diesel and gasoline consumption are provided in **Appendix F**.

4. PROGRAM-LEVEL AIR QUALITY IMPACT ANALYSIS

This section assesses the significance of the proposed Project's air pollutant emissions for purposes of CEQA.

4.1 Threshold AQ-1: Would the Project conflict with or obstruct implementation of the applicable air quality plan?

According to the EDCAQMD CEQA Guide,[24] development projects in the Mountain Counties Air Basin portion of the County are considered consistent with the applicable air quality plan if:

1. The Project does not require a change in the existing land use designation (e.g., a general plan amendment or rezone), and projected emissions of ROG and NO_X from the Project are equal or less than the emissions anticipated for the site if developed under the existing land use designation;
2. The Project does not exceed the "project alone" significance criteria;
3. The lead agency for the Project requires the Project to implement any applicable emission reduction measures contained in and/or derived from the air quality attainment plan; and
4. The Project complies with all applicable district rules and regulations.

El Dorado County's General Plan designates the Project site as Commercial (C). Zoning includes Commercial Regional–Planned Development (CR-PD), with smaller areas of Commercial Limited and Transportation Corridor. Once operational, the proposed Project would be a regional commercial center, which is consistent with the existing designation of the County's General Plan and zoning. Hence, the anticipated growth associated with the Project is generally accounted for in the 2023 Ozone Plan[25] and would be accounted for in forthcoming attainment plans.

As described in **Section 3.1** and **Section 3.2**, the air quality impacts of CAPs associated with the proposed Project construction and operation are less than significant. Therefore, the proposed Project does not exceed the "project alone" significance criteria.

The applicable air quality attainment plans for the Project area are the Sacramento Regional 8-hour Ozone Attainment and Reasonable Further Progress Plan[26] and $PM_{2.5}$ Maintenance Plan and Redesignation Request.[27] As such the proposed Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under these plans (see **Section 4.2** below for further details). Hence, the

[24] EDCAQMD. 2002. Guide to Air Quality Assessment. February. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

[25] Sacramento Region Air Quality Plans. Available at: https://ww2.arb.ca.gov/our-work/programs/california-state-implementation-plans/nonattainment-area-plans/sacramento-region. Accessed: October 2025.

[26] Ibid.

[27] EDCAQMD, Placer County Air Pollution Control District, SMAQMD, and Yolo-Solano Air Quality Management District. $PM_{2.5}$ Implementation/Maintenance Plan and Redesignation Request for Sacramento $PM_{2.5}$ Nonattainment Area. October 24. Available at: http://www.airquality.org/ProgramCoordination/Documents/PM2.5%20Imp%20and%20Redesignation%202013.pdf. Accessed: October 2025.

proposed Project is not required to implement any additional mitigation measures contained in these plans.

As described in **Section 3.1** of this report and Sections 4.2.3 and 5.1.1 of the EDH Costco Project Air Quality Technical Report the proposed Project would comply with EDCAQMD Rules 223-1 and 223-2 for fugitive dust control[28] and asbestos hazard mitigation[29] during construction. The proposed Project is located in an area where NOA could be present.[30] Although the proposed Project's Geotechnical Study[31] concluded that the potential for NOA to be encountered at levels at or exceeding regulatory threshold level is considered low, the proposed Project would implement asbestos dust mitigation measures consistent with EDCAQMD Rule 223-1 through the implementation of **Mitigation Measure 3.2-4b**. The proposed Project would also comply with all other applicable EDCAQMD rules.

Therefore, the proposed Project would not conflict with or obstruct implementation of the applicable air quality plans for the Project region.

4.2 Threshold AQ-2: Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?

As discussed in the EDH Costco Project Air Quality Technical Report, the Project region is currently designated as non-attainment for the State 1-hour ozone (O_3) standard, the federal and the State 8-hour O_3 standard, the State PM_{10} standards, and the federal 24-hour $PM_{2.5}$ standard.

The two primary precursors for O_3 formation are ROG and NO_X. Table 4-12 of the EDH Costco Air Quality Report, and **Table 3-1** and **Table 3-7** of this report present the average daily and maximum daily ROG and NO_X emissions associated with the proposed Project construction and operation. Emissions of these O_3 precursors (ROG and NO_X) are below the EDCAQMD mass daily significance thresholds. Additionally, as described in Section 4.2.6 of the EDH Costco Air Quality Report and **Section 3** of this report, impacts of particulate matter emissions from the proposed Project construction and operation are less than significant. Hence, the proposed Project would not result in a cumulatively considerable net increase in any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard.

[28] EDCAQMD. 2005. Rule 223-1 Fugitive Dust – Construction, Bulk Material Handling, Blasting, Other Earthmoving Activities and Carryout and Trackout Prevention. Available at: https://ww2.arb.ca.gov/sites/default/files/classic/technology-clearinghouse/rules/RuleID809.pdf. Accessed: October 2025.

[29] EDCAQMD. 2005. Rule 223-2 Fugitive Dust – Asbestos Hazard Mitigation. Available at: https://ww2.arb.ca.gov/sites/default/files/classic/technology-clearinghouse/rules/RuleID810.pdf. Accessed: October 2025.

[30] El Dorado County. Asbestos Review Areas, Western Slope, County of El Dorado, State of California. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/construction-dust-rules/asbestos-review-map-8-22-18.pdf. Accessed: October 2025.

[31] Kleinfelder, 2024. Geotechnical Study, Proposed Costco Fuel Facility, Silva Valley Parkway, El Dorado Hills, California, CW# 18-0487. December 2024.

4.3 Threshold AQ-3: Would the Project expose sensitive receptors to substantial pollutant concentrations?

4.3.1 CO Hotspots

As discussed in Section 6.2 of the AQ Technical Report, according to the PCAPCD guidance, the CO emissions from a proposed Project's operations would be less than significant if CO emissions from vehicle operations are less than 550 pounds per day (lbs/day). As shown in **Table 3-7**, the CO emissions from mobile sources associated with the proposed Project are less than 550 lbs/day. Thus, the increase in CO emissions from the project-related increased traffic volumes at affected intersections and the on-site gasoline fueling station are less than significant and the proposed Project would not expose sensitive receptors to substantial concentrations of localized CO.

4.3.2 Health Risk Thresholds

As described in Section 7.3.1 of the EDH Costco Project Air Quality Technical Report, the cancer risk, non-cancer chronic and acute HIs at the maximally impacted residential and other sensitive receptors associated with the mitigated toxic air contaminant (TAC) emissions from the EDH Costco Project construction and operation are below EDCAQMD significance thresholds. Specifically, the maximum incremental cancer risk, non-cancer chronic and acute HIs for the Costco EDH Project are estimated to be 4.13 in a million, 0.02, and 0.50 respectively (Refer to Table 5-5 in the EDH Costco Project Air Quality Technical Report).

The primary sources of TAC emissions associated with the North Site Remainder Parcel are diesel particulate matter (DPM) emissions from construction equipment, construction trucks, and operational trucks. The construction equipment, construction truck activity, and operational truck activity associated with the development of the North Site Remainder Parcel are generally expected to be similar/lower than that of the EDH Costco Project as maximum square footage of the of commercial/retail land uses that would be developed on the North Site Remainder Area (138,000 square feet) is lower than the square footage of the warehouse that would be developed by the EDH Costco Project (165,000 square foot). Hence, the DPM emissions from the North Site Remainder Parcel and its associated cancer and chronic impacts will be similar or less than that associated with the EDH Costco Project. As a result, the maximum cancer risk and chronic HI associated with the proposed Project (North Site Remainder Area and EDH Costco Project) are expected to be less than 8.5 in a million and 0.05 respectively which are below EDCAQMD significance thresholds.

Additionally, since the North Site Remainder Parcel is expected to be developed as general retail land uses, we do not expect it to be a significant source of TACs that have acute impacts. Therefore, the acute HI for the proposed Project (North Site Remainder Area and EDH Costco Project) is expected to be similar to that of the EDH Costco Project which is below EDCAQMD significance threshold.

Therefore, the Project is not expected to expose sensitive receptors to substantial TAC concentrations.

4.4 Threshold AQ-4: Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

According to the EDCAQMD CEQA Guide,[32] common types of facilities known to produce odors include wastewater treatment plants, landfills and composting facilities, petroleum refineries, manufacturing plants such as asphalt batch plants and chemical/fiberglass manufacturing, painting and coating operations, food processing plants, rendering plants, and coffee roasters. The proposed Project would not include any of these land uses that have been identified by the EDCAQMD as being associated with odor generation and thus would not result in odors adversely affecting a substantial number of people. In addition, the proposed Project does not propose to locate any sensitive receptors near an existing source of objectional odors.

4.4.1 Construction Odors

Construction activities associated with potential odor include equipment exhaust (i.e., from off-road construction equipment), paving, and architectural coating. There are no unusual Project characteristics or construction processes that would require the use of equipment that would be more fuel intensive than is used for comparable construction activities, nor equipment that would not conform to current emission standards. It is expected that these impacts would be short-term in duration and typical of comparable activities, therefore the impacts would not adversely affect a substantial number of people and would be less than significant.

4.4.2 Operational Odors

As discussed above, the proposed Project is a commercial and retail development and does not propose any odor-generating facilities identified by the EDCAQMD. However, the proposed Project does include a gasoline fueling station. During the operation of the Project, VOCs released at the gasoline station due to refueling, spillage, and hose permeation would be controlled to minimize odors (i.e., nozzles equipped with Phase II Enhanced Vapor Recovery systems). Therefore, odor impact from the gasoline fueling station would not affect a substantial number of people and would be less than significant.

There may be some potential for other small-scale, localized odor issues to emerge around some of the proposed Project sources, such as solid waste collection, wastewater or stormwater collection/conveyance, or food preparation. However, these localized short-term odors would not affect a substantial number of people. Therefore, the proposed Project's operational odor impact is considered less than significant.

[32] EDCAQMD. 2002. Guide to Air Quality Assessment. February. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

5. PROGRAM-LEVEL GREENHOUSE GAS EMISSIONS IMPACT ANALYSIS

This section discusses the assessment of the proposed Project's GHG emissions against the CEQA significance thresholds outlined in **Section 2**.

5.1 Threshold GHG-1: Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

As noted in **Section 2.1**, in the absence of a quantitative GHG threshold from El Dorado County and EDCAQMD, this Technical Report assesses significance of the proposed Project's GHG impacts for Threshold 1 against the PCAPCD's GHG significance thresholds.

Total GHG emissions for each year of the proposed Project construction are summarized in Table 4-13 of the EDH Costco Project Greenhouse Gas Technical Report and **Table 3-5** of this report. As shown in these tables, the annual GHG emissions associated with the construction of the proposed Project (1,708 MT CO_2e in 2026, 1,866 MT CO_2e in 2027, and 197 MT CO_2e in 2028) are less than the PCAPCD's bright-line GHG significance threshold of 10,000 MT CO_2e/year for construction.

The proposed Project's annual operational GHG emissions were estimated to be 3,954 MT CO_2e per year (**Table 3-8**). These emissions are between PCAPCD's de minimis GHG emissions level (1,100 MT CO_2e/yr) and bright-line GHG significance threshold (10,000 MT CO_2e/yr) for project operation. Therefore, to evaluate the GHG impacts we estimated the proposed Project's efficiency metric in accordance with the PCAPCD's Air Quality Handbook.[33] This calculated efficiency metric (13.04 MT CO_2e per 1,000 square feet) shown in **Table 3-8**, is less than the lower of the two applicable efficiency matrix thresholds in PCAPCD's Air Quality Handbook for the operational phase of land use projects:

1. 26.5 MT CO2e/1,000 square feet for a project in an urban land use setting; and
2. 27.3 MT CO2e/1,000 square feet for a project in rural land use setting.

Therefore, the GHG emissions associated with the construction and operation of the proposed Project would not have a significant impact on the environment.

5.2 Threshold GHG-2: Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

As noted in **Section 2.1**, this Technical Report assesses the significance of the proposed Project's GHG impacts for Threshold 2 based on whether it would conflict with the 2022 Scoping Plan Update,[34] SACOG's 2020 MTP/SCS,[35] and El Dorado County RTP 2020-2040.[36]

[33] PCAPCD. 2017. 2017 CEQA Handbook Chapters. Available at: https://www.placerair.org/1801/CEQA-Handbook. Accessed: October 2025.

[34] CARB. 2022. 2022 CARB Scoping Plan Update - Appendix D, Local Actions. Available at: https://ww2.arb.ca.gov/sites/default/files/2022-11/2022-sp-appendix-d-local-actions.pdf. Accessed: October 2025.

[35] SACOG. 2020. 2020 SACOG MTP/SCS. Available at: https://www.sacog.org/home/showpublisheddocument/76/638212804736270000. Accessed: October 2025.

[36] El Dorado County Transportation Commission. 2020. El Dorado County Regional Transportation Plan 2020-2040. November 5. Available at: https://www.edctc.org/files/2859e4e3f/RTP+2040.pdf. Accessed: October 2025.

5.2.1 2022 Scoping Plan Update

The 2022 Scoping Plan Update has a table of priority GHG reduction strategies that can be utilized by local governments. The three main priority areas addressed in this table are "Transportation Electrification", "vehicle miles travelled (VMT) Reduction", and "Building Decarbonization".[37] These measures represent the core strategies that local jurisdictions in California can implement to reduce GHGs in alignment with State goals.

The proposed Project would not conflict with the implementation of the 2022 Scoping Plan Update and Statewide Emission Reduction Targets and includes the several features and mitigation measures that support the three main priority areas for GHG reduction as described below.

While project-level design features and details are not available for the potential developments in the North Site Remainder Area at the time of preparation of this program-level analysis, the North Site Remainder Area would introduce retail/commercial land uses that are consistent with the zoning designation in a highway hub. Hence, the proposed Project, i.e., the North Site Remainder Area and the Costco EDH Project, would create new employment opportunities. Additionally, the Project site is an infill development located near an El Dorado Transit bus route (50 Express) and bus stop (El Dorado Transit Park & Ride), therefore placing jobs that are accessible via public transit. The El Dorado bus route connects to the larger Sacramento Metropolitan transit network and encourages use of local transit and rail to commute to the proposed Project. Furthermore, the proposed Project is located adjacent to homes, therefore the proposed Project would provide retail and jobs near a housing-rich area served by El Dorado Transit. Lastly, the proposed Project will implement **Mitigation Measure 3.14-2c: Develop a Transportation Demand Management (TDM) Program and Implement VMT Reduction Measures for Subsequent Developments in the North Site Remainder Area** which requires each project applicant of future proposed projects located within the North Site Remainder Area to either demonstrate through a technical analysis that its project would not exceed County VMT thresholds or implement VMT-reducing infrastructure and/or strategies within the commercial facility to mitigate those impacts. If VMT thresholds are exceeded, the applicant shall prepare and submit a TDM Plan to the County for approval, which shall include a series of measures to reduce project-related VMT. Measures may include strategies such as ridesharing initiatives (e.g., carpooling), subsidizing employee use of public transit, and promoting bicycling, walking, and the use of public transit. As noted in Section 5.2.1 of the GHG Technical Report, the EDH Costco Project will meet the Voluntary Tier 1 Electric Vehicle Charging Standards as defined in the 2025 California Green Building Standards Code[38] by installing ten direct current fast chargers that provide a total power of 1,800 kW. Additionally, these chargers will be powered by 100% renewable electrical power supplied by Pacific Gas & Electric (PG&E), as Costco has a Clean Energy Contract with PG&E. Furthermore, the Remainder Area will be required to meet the Mandatory Electric Vehicle Charging Standards as defined in the California Green Building Standards Code.

[37] CARB. 2022. Final 2022 Scoping Plan Update and Appendices. December. Available at: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents. Accessed: October 2025.

[38] 2025 California Green Building Standards Code, Title 24, Part 11. Available online at: https://codes.iccsafe.org/content/CAGBC2025P1. Accessed: October 2025.

Additionally, as noted in Section 5.2.1 of the GHG Technical Report, the EDH Costco Project will incorporate several sustainability and energy efficiency measures including green building practices as required by the 2025 California Green Building Standards Code.[39] Refer to Section 1.2 of the GHG Technical Report for a detailed listing of these measures. Notably, the EDH Costco Project operations will be powered 100% renewable electrical power supplied by PG&E, as Costco has a Clean Energy Contract with PG&E. Furthermore, the Remainder Area will be required to meet the California Green Building Standards Code, which includes a number of energy-saving requirements for new developments.

Based on the proposed Project elements described above, the Project would not interfere with the implementation of the 2022 Scoping Plan Update and would include elements that support the goals of the plan.

5.2.2 SACOG 2020 MTP/SCS

The proposed Project would not conflict with the State's GHG reduction goals and strategies as discussed in the SACOG's 2020 MTP/SCS,[40] which fall into four priority policy areas:

1. Build vibrant places for today's and tomorrow's residents;
2. Foster the next generation of mobility solutions;
3. Modernize the way we pay for transportation infrastructure; and
4. Build and maintain a safe, reliable, and multimodal transportation system.

The proposed Project would not conflict with the implementation of the SACOG's 2020 MTP/SCS and has several elements that are expected to support the main priority policy in SACOG's 2020 MTP/SCS. As noted in **Section 5.2.1**, the Project is an infill development that would create new employment opportunities and is located near an El Dorado Transit bus route (50 Express) and bus stop (El Dorado Transit Park & Ride), therefore placing jobs that are accessible via public transit. The El Dorado bus route connects to the larger Sacramento Metropolitan transit network and encourages use of local transit and rail to commute to the Project. Furthermore, the Project is located adjacent to homes, therefore the Project would provide retail and jobs near a housing-rich area served by El Dorado Transit.

Moreover, as noted in **Section 5.2.1**, the proposed Project will implement **Mitigation Measure 3.14-2c: Develop a TDM Program and Implement VMT Reduction Measures for Subsequent Developments in the North Site Remainder Area** which requires each project applicant of future proposed projects located within the North Site Remainder Area to either demonstrate through a technical analysis that its project would not exceed County VMT thresholds or implement VMT-reducing infrastructure and/or strategies within the commercial facility to mitigate those impacts. If VMT thresholds are exceeded, the applicant shall prepare and submit a TDM Plan to the County for approval, which shall include a series of measures to reduce project-related VMT. Measures may include strategies such as ridesharing initiatives (e.g., carpooling), subsidizing employee use of public transit, and promoting bicycling, walking, and the use of public transit.

[39] 2025 California Green Building Standards Code, Title 24, Part 11. Available online at: https://codes.iccsafe.org/content/CAGBC2025P1. Accessed: October 2025.

[40] SACOG. 2020. Metropolitan Transportation Plan/Sustainable Communities Strategy. Available at: https://www.sacog.org/home/showpublisheddocument/76/638212804736270000. Accessed: October 2025.

Additionally, as noted in Section 5.2.2 of the GHG Technical Report, the EDH Costco Project would implement pedestrian network improvements as part of **Mitigation Measure 3.14-2b**, and would implement several off-site transportation improvements in coordination with the County to address the existing and future needs of the region in the immediate vicinity of the Project site.

Based on the proposed Project elements described above, the Project would not interfere with the implementation of the SACOG's 2020 MTP/SCS and would include elements that support the goals of the plan.

5.2.3 El Dorado County RTP 2020-2040

The proposed Project would not conflict with the El Dorado County 2020-2040 RTP,[41] which includes the following main goals: to improve highways, streets, and regional/inter-regional roadways, public transit, aviation, freight movement, non-motorized transportation, transportation systems management, integrated land use, air quality, and transportation planning, and funding.

The Project supports the objectives of the El Dorado County Regional Transportation Plan by providing sidewalks, bike lanes, and pedestrian connections. As noted in **Section 5.2.1**, the Project is an infill development that would create new employment opportunities and is located near an El Dorado Transit bus route (50 Express) and bus stop (El Dorado Transit Park & Ride), thereby creating jobs that are accessible via public transit. The El Dorado bus route connects to the larger Sacramento Metropolitan transit network and encourages use of local transit and rail to commute to the Project. Furthermore, the Project is located adjacent to homes, therefore the Project would provide retail and jobs near a housing-rich area served by El Dorado Transit.

Additionally, as noted in **Section 5.2.1**, the proposed Project will implement **Mitigation Measure 3.14-2c: Develop a TDM Program and Implement VMT Reduction Measures for Subsequent Developments in the North Site Remainder Area** which requires each project applicant of future proposed projects located within the North Site Remainder Area to either demonstrate through a technical analysis that its project would not exceed County VMT thresholds or implement VMT-reducing infrastructure and/or strategies within the commercial facility to mitigate those impacts. If VMT thresholds are exceeded, the applicant shall prepare and submit a TDM Plan to the County for approval, which shall include a series of measures to reduce project-related VMT. Measures may include strategies such as ridesharing initiatives (e.g., carpooling), subsidizing employee use of public transit, and promoting bicycling, walking, and the use of public transit.

Further, as described in Section 5.2.2 of the GHG Technical Report, the Project would include pedestrian network improvements as part of **Mitigation Measure 3.14-2b**, and would implement several off-site transportation improvements in coordination with the County to address the existing and future needs of the region in the immediate vicinity of the Project site.

Based on the proposed Project elements described above, the proposed Project would not interfere with the implementation of the El Dorado County 2020-2040 RTP and would include elements that support the goals of the plan.

[41] El Dorado County Transportation Commission. 2020. El Dorado County Regional Transportation Plan 2020-2040. November 5. Available at: https://www.edctc.org/files/2859e4e3f/RTP+2040.pdf. Accessed: October 2025.

5.3 Summary

As discussed in **Section 5.1**, the proposed Project is expected to result in GHG emissions that are below PCAPCD GHG thresholds for operation and construction. Additionally, as described in **Section 5.2**, the proposed Project would not conflict with the 2022 Scoping Plan Update, SACOG's 2020 MTP/SCS, or the El Dorado County RTP 2020-2040. Therefore, the proposed Project's GHG emissions will be less than significant in the context of Threshold 1 and Threshold 2. Based on the analysis above, the proposed Project's GHG emissions are not cumulatively considerable, and the proposed Project is less than significant for cumulative GHG impacts.

6. PROGRAM-LEVEL ENERGY IMPACT ANALYSIS

This section discusses the assessment of the Project's energy demand against the CEQA significance thresholds outlined in **Section 2**.

6.1 Threshold ENE-1: Would the Project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?

6.1.1 Energy Requirements and Energy Use Efficiencies

This section addresses the following category of environmental impact described in Appendix F of the CEQA Guidelines:

> *The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance and/or removal. If appropriate the energy intensiveness of materials may be discussed.*

Construction of the proposed Project (North Site Remainder Area and the EDH Costco Project) would result in one-time energy consumption in the form of gasoline and diesel, shown in **Table 3-6**. There are no unusual characteristics that would require the use of equipment that would be more energy intensive than is used for comparable activities, or equipment that would not conform to the current emissions standards (and related fuel efficiencies).

The operational energy use of the proposed Project is summarized in **Table 3-7**. As expected, the program-level energy use would be greater than the energy use from the EDH Costco Project. However, neither the EDH Costco Project nor the Remainder Area Development would have unusual project characteristics that would require electricity, gasoline, natural gas, and diesel consumption that would be more energy intensive than is used for comparable activities, or equipment that would not conform to current emissions standards (and related fuel efficiencies). For example, CARB has adopted an approach to passenger vehicles that combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of standards. The approach also includes efforts to support and accelerate the numbers of plug-in hybrids and zero-emissions vehicles in California. As such, operation of the proposed Project is expected to use decreasing amounts of fuel over time, due to advances in fuel economy.

6.1.2 Local and Regional Energy Supplies

This section addresses the following category of environmental impact described in Appendix F of the CEQA Guidelines:

> *The effects of the project on local and regional energy supplies and on requirements for additional capacity.*

The off-road construction equipment used during Project construction are primarily diesel-fueled. (see **Table D-1** for additional details on construction of the North Site Remainder Area and Table 4-2 of the EDH Costco Project Energy Technical Report for construction of the EDH Costco Project). Additionally, the fleet mix for construction mobile sources is expected to be gasoline-powered and diesel-powered, based on the CalEEMod default fleet mix for worker, vendor, and hauling vehicles (see **Table D-2** for additional

details on the construction of the North Site Remainder Area and Table 4-4 of the EDH Costco Project Energy Technical Report for construction of the EDH Costco Project). Hence, the proposed Project is not expected to use any natural gas during construction.

As shown in **Table 3-6**, relative to annual countywide fuel usage projections, the proposed Project construction would use up to 0.02% of gasoline, 1.23% of diesel, and 0.000004% of electricity in the year when the most construction would occur (2027). Relative to annual statewide fuel usage projections, the proposed Project construction would use up to 0.00010% of gasoline, 0.00405% of diesel, and 0.00000002% of electricity in the year when the most construction would occur (2027). Because construction of the proposed Project is expected to occur in three years, fuel use during construction would also be temporary and negligible.

Table 3-9 summarizes the proposed Project's operational energy use compared to countywide and statewide fuel usage projections. The estimated electricity usage for the proposed Project operations are anticipated to be approximately 0.57% of the projected countywide demand in 2028, and 0.00272% of the statewide energy demand. The natural gas usage of the proposed Project operations are estimated to be 0.08% of the total countywide natural gas consumption and 0.00024% of the total statewide natural gas consumption. The proposed Project's anticipated gasoline usage is anticipated to be 0.68% of the countywide consumption and 0.00323% of the statewide consumption. As far as the proposed Project's diesel consumption goes, it is estimated to be 1.39% of the projected countywide consumption and 0.0045% of the statewide consumption. Based on these relative percentages, the proposed Project's operational energy usage would not have a substantial impact on the local or regional energy supplies or capacity.

6.1.3 Peak and Base Period Demands

This section addresses the following category of environmental impact described in Appendix F of the CEQA Guidelines:

> *The effects of the project on peak and base period demands for electricity and other forms of energy.*

The proposed Project construction would only include minor pieces of electric-powered equipment and hence would not impact the peak and base period demands for electricity.

The proposed Project operation will not have a substantial impact on the peak and base period demands for electricity or other forms of energy. Further details and reasoning on the peak demand are described below.

In 2023, California's peak grid demand was 44,534 megawatts (MW).[42] PG&E recorded a peak demand of 19,995 MW in 2023.[43] In comparison, the Project's maximum demand is

[42] California ISO. California ISO Peak Load History 1998 through 2024. Available at: https://www.caiso.com/documents/californiaisopeakloadhistory.pdf. Accessed: October 2025.

[43] California Energy Commission. 2023. Electricity and Gas Demand Forecast. Available at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=253660&DocumentContentId=88907. Accessed: October 2025.

expected to be approximately 1.9 MW in 2028,[44] Therefore, the proposed Project's operations will have a relatively negligible effect on statewide and PG&E peak demands.

6.1.4 Existing Energy Standards

This section addresses the following category of environmental impact described in Appendix F of the CEQA Guidelines:

The degree to which the project complies with existing energy standards.

The proposed Project construction requires use of on-road trucks for soil hauling and deliveries, and off-road equipment such as excavators, tractors/loaders/backhoes, forklifts, and graders. The construction activities would comply with the five-minute idling limit in the Commercial Motor Vehicle Idling Regulation[45] and the Off-Road Regulation.[46] Additionally, on-road trucks used during Project construction would be compliant with the requirements of the Tractor-Trailer Greenhouse Gas Regulation.[47]

The proposed Project's anticipated operational energy use is summarized in **Table 3-9**. There are no unusual project characteristics that would require the use of gasoline, diesel, natural gas, or electricity that would be more energy intensive than is used for comparable activities, equipment, or vehicles that would not conform to current emissions standards (and related fuel efficiencies). Additionally, as described in Section 5.1.4.2 of the EDH Costco Project Energy Technical Report, the proposed Project would meet or exceed the Title 24 energy efficiency standards in effect at the time of building permit application. Any passenger vehicles and trucks trips generated by the proposed Project would comply with existing and new state-wide vehicle efficiency regulations discussed further in **Section 6.1.6**. Furthermore, the proposed delivery trucks accessing the site would comply with the State's Commercial Motor Vehicle Idling Regulation, similar to the construction vehicles discussed above.

Therefore, the proposed Project will comply with all applicable energy standards and its energy impacts are less than significant.

6.1.5 Energy Resources

This section addresses the following category of environmental impact described in Appendix F of the CEQA Guidelines:

The effects of the project on energy resources.

As discussed in **Sections 6.1.2** and **6.1.3**, the proposed Project's use of energy will not have a substantial effect on statewide or regional energy resources. Hence, the proposed Project will not significantly impact energy resources, and its energy impacts are less than significant.

---

[44] This is a conservative estimate since it was derived by dividing the total electricity energy required for the proposed Project operation by the annual operating hours for the proposed Costco warehouse, though some sources of electricity would operate 24 hours per day for every day of the year.

[45] 13 CCR 2485: Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. Available at: https://www.law.cornell.edu/regulations/california/13-CCR-2485. Accessed: October 2025.

[46] CARB. Frequently Asked Questions: Regulation for In-Use Off-Road Diesel-Fueled Fleets. Available at: https://ww2.arb.ca.gov/sites/default/files/classic/msprog/ordiesel/faq/idlepolicyfaq.pdf. Accessed: October 2025.

[47] CARB. Tractor-Trailer Greenhouse Gas Regulation. Available here: https://ww2.arb.ca.gov/our work/programs/ttghg-regulation/regulatory-and-guidance-documents. Accessed: October 2025.

6.1.6 Transportation Energy Use

This section addresses the following category of environmental impact described in Appendix F of the CEQA Guidelines:

> *The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.*

Conventional gasoline, diesel, and natural gas vehicles consume gasoline, diesel, or natural gas, whereas electric vehicles (EVs) consume electricity that can be sourced by fossil fuels or renewables. EVs, including battery-electric vehicles and plug-in hybrid electric vehicles, comprise a growing fraction of the passenger vehicles on the roads in California. EV adoption is expected to increase over the upcoming decades due in part to improvements in battery technology and public initiatives and goals. This increase in EV adoption will decrease the fuel requirements due to transportation. New statewide regulations have been instated which will reduce emissions and fuel requirements from cars and trucks. Gasoline, diesel, and natural gas usage for the mobile sources associated with the proposed Project operation are expected to decrease over time as fleets become more fuel-efficient and switch to more electric-powered vehicles. Overall, the proposed Project would not result in wasteful, inefficient, or unnecessary consumption of transportation energy.

6.1.7 Summary

Based on the above analysis of each of the environmental impact factors identified in CEQA Guidelines Appendix F, the potential for the proposed Project to result in wasteful, inefficient, or unnecessary consumption of fuel or energy, and conversely to fail to incorporate energy efficiency measures into equipment use, transportation or other project features is less than significant.

6.2 Threshold ENE-2: Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

The proposed Project would comply with any applicable local and state plans, regulations, and policies for renewable energy or energy efficiency to the extent required by law. However, because project-level design features and details are not available for the potential developments in the North Site Remainder Area at the time of preparation of this program-level analysis, specific energy efficiency features for the Remainder Area Development will be described in any future applications filed with the County and the associated project-level review of potential environmental impacts under CEQA.

Furthermore, as show in Appendix A of the EDH Costco Project Energy Technical Report, the EDH Costco Project will commit to specific energy efficiency and renewable energy features, including but not limited to, meeting the Voluntary Tier 1 Electric Vehicle Charging Standards as defined in the 2025 California Green Building Standards Code,[48] installation of efficient irrigation systems and high-efficiency restroom fixtures, use of LED lamps, and use of building surface materials with greater solar reflectivity. Therefore, considered as a whole, the proposed Project would not conflict with or obstruct a state or local Plan for renewable energy or energy efficiency.

[48] 2025 California Green Building Standards Code, Title 24, Part 11. Available online at: https://codes.iccsafe.org/content/CAGBC2025P1. Accessed: October 2025.

TABLES

Table 3-1. Unmitigated Average Daily CAP Emissions for Construction of North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

North Site Remainder Area Construction Time Period	ROG Emissions [1] (lbs/day)	NO_x Emissions [1] (lbs/day)	CO Emissions [1] (lbs/day)	SO_X Emissions [1,2] (lbs/day)	PM_{10} Emissions [1] (lbs/day)	$PM_{2.5}$ Emissions [1] (lbs/day)
First Quarter	2.4	45	24	0.24	13	3.4
Second Quarter	1.2	11	15	0.028	2.1	0.58
Third Quarter	1.2	10	15	0.028	2.1	0.56
Fourth Quarter	21	7.6	12	0.020	1.5	0.40
EDCAQMD Mass Daily Significance Thresholds [3]	**82**	**82**	**-**	**-**	**-**	**-**
Do Emissions Exceed Threshold for any quarter of Construction?	NO	NO	**-**	**-**	**-**	**-**

Notes:

[1] Obtained from **Table C-1**. Average daily emissions per quarter calculated as the total construction emissions, which include construction of the regional shopping center and parking lot, divided by the number of construction days in each quarter. Project construction emissions assume watering control consistent with EDCAQMD Rule 223-1.

[2] For purposes of this analysis SO_X emissions are assumed to be equal to SO_2.

[3] Obtained from EDCAQMD Guide to Air Quality Assessment Determining Significance of Air Quality Impact Under the California Environmental Quality Act. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

Abbreviations:

CAP - Criteria Air Pollutant
CO - carbon monoxide
EDCAQMD - El Dorado County Air Quality Management District
lb - pound
NO_x - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_2 - sulfur dioxide
SO_x - sulfur oxide compounds

Table 3-2. Unmitigated Combined Average Daily CAP Emissions for Construction of North Site Remainder Area and Operation of Costco EDH Project
El Dorado Hills Costco Project
El Dorado Hills, California

North Site Remainder Area Construction Time Period	ROG Emissions [1] (lbs/day)	NO_x Emissions [1] (lbs/day)	CO Emissions [1] (lbs/day)	SO_X Emissions [1,2] (lbs/day)	PM_{10} Emissions [1] (lbs/day)	$PM_{2.5}$ Emissions [1] (lbs/day)
First Quarter	68.9	79.3	205.9	0.5	49.3	10.4
Second Quarter	67.7	44.8	196.8	0.3	38.8	7.5
Third Quarter	67.7	44.5	196.5	0.3	38.8	7.5
Fourth Quarter	87.3	41.8	193.2	0.3	38.1	7.4
EDCAQMD Mass Daily Significance Thresholds [3]	**82**	**82**	**-**	**-**	**-**	**-**
Do Emissions Exceed Threshold for any quarter of Construction?	YES	NO	**-**	**-**	**-**	**-**

Notes:

[1] Estimated as a sum of the average daily construction emissions for the North Site Remainder Area in **Table 3-1** and the maximum daily operational emissions for the Costco EDH Project in Table 4-16 of the EDH Costco Project Air Quality Technical Report.

[2] For purposes of this analysis SO_X emissions are assumed to be equal to SO_2.

[3] Obtained from EDCAQMD Guide to Air Quality Assessment Determining Significance of Air Quality Impact Under the California Environmental Quality Act. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

Abbreviations:

CAP - Criteria Air Pollutant
CO - carbon monoxide
EDCAQMD - El Dorado County Air Quality Management District
EDH - El Dorado Hills
lb - pound
NO_x - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_2 - sulfur dioxide
SO_x - sulfur oxide compounds

Table 3-3. Mitigated Average Daily CAP Emissions for Construction of North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

North Site Remainder Area Construction Time Period	ROG Emissions [1] (lbs/day)	NO_x Emissions [1] (lbs/day)	CO Emissions [1] (lbs/day)	SO_X Emissions [1,2] (lbs/day)	PM_{10} Emissions [1] (lbs/day)	$PM_{2.5}$ Emissions [1] (lbs/day)
First Quarter	1.4	48	28	0.24	12	3.0
Second Quarter	0.81	13	17	0.028	1.9	0.38
Third Quarter	0.79	13	17	0.028	1.9	0.38
Fourth Quarter	14	10	13	0.020	1.3	0.27
EDCAQMD Mass Daily Significance Thresholds [3]	**82**	**82**	**-**	**-**	**-**	**-**
Do Emissions Exceed Threshold for any quarter of Construction?	NO	NO	**-**	**-**	**-**	**-**

Notes:

[1] Obtained from **Table C-2**. Average daily emissions per quarter calculated as the total construction emissions, which include construction of the regional shopping center and parking lot, divided by the number of construction days in each quarter. Project construction emissions assume watering control consistent with EDCAQMD Rule 223-1.

[2] For purposes of this analysis SO_X emissions are assumed to be equal to SO_2.

[3] Obtained from EDCAQMD Guide to Air Quality Assessment Determining Significance of Air Quality Impact Under the California Environmental Quality Act. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

Abbreviations:

CAP - Criteria Air Pollutant
CO - carbon monoxide
EDCAQMD - El Dorado County Air Quality Management District
lb - pound
NO_x - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_2 - sulfur dioxide
SO_x - sulfur oxide compounds

Table 3-4. Mitigated Combined Average Daily CAP Emissions for Construction of North Site Remainder Area and Operation of Costco EDH Project
El Dorado Hills Costco Project
El Dorado Hills, California

North Site Remainder Area Construction Time Period	ROG Emissions [1] (lbs/day)	NO_x Emissions [1] (lbs/day)	CO Emissions [1] (lbs/day)	SO_X Emissions [1,2] (lbs/day)	PM_{10} Emissions [1] (lbs/day)	$PM_{2.5}$ Emissions [1] (lbs/day)
First Quarter	67.9	81.8	209.7	0.5	48.8	9.9
Second Quarter	67.3	47.6	198.9	0.3	38.6	7.3
Third Quarter	67.3	47.5	198.5	0.3	38.6	7.3
Fourth Quarter	80.9	44.1	194.6	0.3	38.0	7.2
EDCAQMD Mass Daily Significance Thresholds [3]	**82**	**82**	**-**	**-**	**-**	**-**
Do Emissions Exceed Threshold for any quarter of Construction?	NO	NO	**-**	**-**	**-**	**-**

Notes:

[1] Estimated as a sum of the average daily construction emissions for the North Site Remainder Area in **Table 3-3** and the maximum daily operational emissions for the Costco EDH Project in Table 4-16 of the EDH Costco Project Air Quality Technical Report.

[2] For purposes of this analysis SO_X emissions are assumed to be equal to SO2.

[3] Obtained from EDCAQMD Guide to Air Quality Assessment Determining Significance of Air Quality Impact Under the California Environmental Quality Act. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

Abbreviations:

CAP - Criteria Air Pollutant
CO - carbon monoxide
EDCAQMD - El Dorado County Air Quality Management District
EDH - El Dorado Hills
lb - pound
NO_x - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_2 - sulfur dioxide
SO_x - sulfur oxide compounds

Table 3-5. Summary of Construction Greenhouse Gas Emissions - North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Emissions Category	Emissions [1,2,3] ($MT CO_2e/yr$)
Construction Emissions (2027)	1,232
Construction Emissions (2028)	197
Construction GHG Threshold [4]	**10,000**
Do Either Year of Construction Exceed the Threshold?	NO

Notes:

[1] Emissions are presented as CO_2e, which include CO_2, CH_4, and N_2O emissions, weighted by their respective global warming potentials.

[2] Emissions totals may not add up due to rounding. Emissions shown as zero may be non-zero values; however, they are below a meaningful reporting level for this analysis.

[3] Obtained from CalEEMod output file for the North Site Remainder Area Development in **Appendix A**.

[4] Placer County Thresholds of Significance - Chapter 2. Available at: https://www.placerair.org/DocumentCenter/View/2047/Chapter-2-Thresholds-of-Significance-PDF. Accessed: October 2025.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

CH_4 - methane

CO_2 - carbon dioxide

CO_2e - carbon dioxide equivalents

GHG - greenhouse gas

MT - metric tons

N_2O - nitrous oxide

yr - year

Table 3-6. Energy Resource Summary for Proposed Project Construction
El Dorado Hills Costco Project
El Dorado Hills, California

Energy Resource	Year	Energy Consumption for the North Site Remainder Area Construction [1]	Energy Consumption for the EDH Costco Project Construction [2]	Total Energy Consumption for Proposed Project Construction [3] (gallons)	El Dorado County Annual Consumption [4,5] (gallons)	Proposed Project Construction Contribution to El Dorado County Annual Consumption (%)	California Annual Consumption [4,5] (gallons)	Proposed Project Construction Contribution to California Annual Consumption (%)
Gasoline (gallons/yr)	2026	-	10,851	10,851	65,259,604	0.02%	13,896,130,020	0.00008%
Diesel (gallons/yr)	2026	-	159,850	159,850	14,555,710	1.10%	4,342,164,261	0.00368%
Electricity (kWh/yr)	2026	-	88	88	1,339,206,633	0.00001%	282,782,592,309	0.00000003%
Gasoline (gallons/yr)	2027	4,906	9,121	14,027	64,229,365	0.02%	13,625,442,497	0.00010%
Diesel (gallons/yr)	2027	118,647	56,712	175,359	14,262,073	1.23%	4,330,293,013	0.00405%
Electricity (kWh/yr)	2027	-	59	59	1,339,206,633	0.000004%	282,782,592,309	0.00000002%
Gasoline (gallons/yr)	2028	2,873	-	2,873	63,126,214	0.00%	13,365,596,850	0.00002%
Diesel (gallons/yr)	2028	17,852	-	17,852	13,968,581	0.13%	4,312,144,863	0.00041%

Conversion Factors:

1,000,000 kWh/GWh

Notes:

[1] Estimated as a sum of the fuel consumption of the off-road construction equipment (**Table D-1**) and on-road vehicles (**Table D-2**) used during construction of the North Site Remainder Area.

[2] Obtained from Table 5-2 in the EDH Costco Energy Technical Report.

[3] Estimated as a sum of the energy consumption for construction of the North Site Remainder Area and the EDH Costco Project.

[4] Fuel consumption data for El Dorado County and the State of California are obtained from EMFAC2021 and OFFROAD2021 for calendar years 2026, 2027, and 2028.

[5] Electricity consumption data for El Dorado County and the State of California are obtained from https://www.energy.ca.gov/files/energy-consumption-data-files for calendar year 2024 as that was the most recent data available. Accessed: October 2025.

Abbreviations:

% - percent

EDH - El Dorado Hills

EMFAC - California Air Resources Board Emissions Factor Model

GWh - gigawatt hour

kWh - kilowatt hour

yr - year

Table 3-7. Maximum Daily Criteria Air Pollutant Emissions for Operations of the Proposed Project
El Dorado Hills Costco Project
El Dorado Hills, California

Proposed Project Land Use	Emission Category [1]	ROG Emissions (lbs/day)	NO_x Emissions (lbs/day)	CO Emissions (lbs/day)	SO_X Emissions [2] (lbs/day)	PM_{10} Emissions (lbs/day)	$PM_{2.5}$ Emissions (lbs/day)
EDH Costco Project	Area [3]	4.7	0.1	11.6	0.00	0.02	0.02
EDH Costco Project	Energy [3]	0.02	0.4	0.3	0.00	0.03	0.03
EDH Costco Project	Mobile [3]	41.7	31	167.5	0.30	36.5	6.8
EDH Costco Project	Stationary Sources [3]	0.8	2.3	2.1	0.00	0.12	0.12
EDH Costco Project	Gasoline Dispensing Facility [3]	19.3	-	-	-	-	-
North Site Remainder Area	Area [4]	3.3	0.05	6.0	0.00	0.01	0.01
North Site Remainder Area	Energy [4]	0.02	0.3	0.3	0.00	0.02	0.02
North Site Remainder Area	Mobile [4]	11.6	7.1	52.3	0.10	16.8	3.0
Total Daily Emissions (lb/day)		**81.4**	**41.7**	**240**	**0.40**	**53.5**	**10.0**
EDCAQMD Mass Daily Significance Thresholds [5]		**82**	**82**	**NA**	**NA**	**NA**	**NA**
Exceeds Threshold?		NO	NO	-	-	-	-

Notes:

[1] Emissions totals may not add up due to rounding. Emissions shown as zero may be non-zero values; however, they are below a meaningful reporting level for this analysis.

[2] For purposes of this analysis SO_X emissions are assumed to be equal to SO_2.

[3] Obtained from Table 4-16 in the EDH Costco Project Air Quality Technical Report.

[4] Obtained from the CalEEMod output file for the North Site Remainder Area Development in **Appendix A**.

[5] EDCAQMD Guide to Air Quality Assessment Determining Significance of Air Quality Impact Under the California Environmental Quality Act. Available at: https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/air-quality/guide-to-air-quality-assessment.pdf. Accessed: October 2025.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel
CO - carbon monoxide
EDCAQMD - El Dorado County Air Quality Management District
EDH - El Dorado Hills
lb - pound
NA - not applicable
NO_x - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_2 - sulfur dioxide
SO_x - sulfur oxide compounds

Table 3-8. Summary of Greenhouse Gas Emissions for Proposed Project Operations
El Dorado Hills Costco Project
El Dorado Hills, California

Proposed Project Land Use	Emissions Category	Emissions [1,2]	Unit
EDH Costco Project	Area Sources [3]	3.9	MT CO_2e/yr
EDH Costco Project	Energy Usage [3]	78	MT CO_2e/yr
EDH Costco Project	Mobile [3]	4,731	MT CO_2e/yr
EDH Costco Project	Water [3]	17	MT CO_2e/yr
EDH Costco Project	Waste Disposed [3]	224	MT CO_2e/yr
EDH Costco Project	Refrigerant [3]	0.13	MT CO_2e/yr
EDH Costco Project	Vegetation [3]	11	MT CO_2e/yr
EDH Costco Project	Generators [3]	9.6	MT CO_2e/yr
EDH Costco Project	On-Site Electric Vehicle Chargers [3]	-2,908	MT CO_2e/yr
North Site Remainder Area	Area Sources [4]	2.0	MT CO_2e/yr
North Site Remainder Area	Energy Usage [4]	122.9	MT CO_2e/yr
North Site Remainder Area	Mobile [4]	1,601	MT CO_2e/yr
North Site Remainder Area	Water [4]	15.1	MT CO_2e/yr
North Site Remainder Area	Waste Disposed [4]	45.2	MT CO_2e/yr
North Site Remainder Area	Refrigerant [4]	0.1	MT CO_2e/yr
North Site Remainder Area	Vegetation [4]	0.0	MT CO_2e/yr
Operational Emissions		**3,954**	**MT CO_2e/yr**
Calculated Efficiency Metric [5]		**13.04**	**MT CO_2e/1,000 sqft**
Operational GHG Efficiency Metric Threshold [6]		**26.50**	**MT CO_2e/1,000 sqft**
Exceeds Threshold?		NO	**-**

Notes:

[1] Emissions are presented as CO_2e, which include CO_2, CH_4, and N_2O emissions, weighted by their respective global warming potentials.

[2] Emissions totals may not add up due to rounding. Emissions shown as zero may be non-zero values; however, they are below a meaningful reporting level for this analysis.

[3] Obtained from Table 4-17 in the EDH Costco Project Greenhouse Gas Technical Report.

[4] Obtained from CalEEMod output file for the North Site Remainder Area Development in **Appendix A**.

[5] Efficiency metric is calculated as the total operational emissions divided by the sum of the building square footage of the regional shopping center and the building square footage of the EDH Costco Project (303,200 sqft).

[6] Placer County Thresholds of Significance - Chapter 2. Available at: https://www.placerair.org/DocumentCenter/View/2047/Chapter-2-Thresholds-of-Significance-PDF. Accessed: October 2025.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

CH_4 - methane

CO_2 - carbon dioxide

CO_2e - carbon dioxide equivalents

EDH - El Dorado Hills

GHG - greenhouse gas

MT - metric tons

N_2O - nitrous oxide

sqft - square feet

yr - year

Table 3-9. Energy Resource Summary for Proposed Project Operation
El Dorado Hills Costco Project
El Dorado Hills, California

Energy Resource	Energy Consumption for the North Site Remainder Area Operation [1]	Energy Consumption for the EDH Costco Project Operation [2]	Total Energy Consumption for Proposed Project Operation [3]	El Dorado County Annual Consumption [4,5,6]	Proposed Project Operation Contribution to El Dorado County Annual Consumption (%)	California Annual Consumption [4,5,6]	Proposed Project Operation Contribution to California Annual Consumption (%)
Electricity (kWh/yr)	1,673,392	6,026,405	7,699,797	1,339,206,633	0.57%	282,782,592,309	0.00272%
Natural Gas (kBtu/yr)	1,192,913	1,423,224	2,616,137	3,196,879,463	0.08%	1,110,086,615,369	0.00024%
Gasoline (gallons/yr)	145,697	285,366	431,064	63,126,214	0.68%	13,365,596,850	0.00323%
Diesel (gallons/yr)	24,867	169,371	194,238	13,968,581	1.39%	4,312,144,863	0.00450%

Conversion Factors:

1,000,000 kWh/GWh
99,976.1 Btu/therm
1,000 Btu/kBtu

Notes:

[1] Estimated as a sum of the fuel consumption of Remainder Parcel operational sources listed in **Tables F-1, F-2,** and **F-5** through **F-9**.

[2] Obtained from Table 5-3 in the EDH Costco Energy Technical Report.

[3] Estimated as a sum of the energy consumption for operation of the North Site Remainder Area and the EDH Costco Project.

[4] Diesel and gasoline consumption data for El Dorado County and the State of California are obtained from EMFAC2021 and OFFROAD2021 for calendar year 2028.

[5] Electricity consumption data for El Dorado County and the State of California are obtained from https://www.energy.ca.gov/files/energy-consumption-data-files for calendar year 2024 as that was the most recent data available. Accessed: October 2025.

[6] Natural gas consumption data for El Dorado County and the State of California are obtained from https://www.energy.ca.gov/files/energy-consumption-data-files for calendar year 2024 as that was the most recent data available. Accessed: October 2025.

Abbreviations:

% - percent
Btu - British thermal unit
EDH - El Dorado Hills
EMFAC - EMission FACtors model
GWh - gigawatt hour
kBtu - kilo-British thermal unit
kWh - kilowatt hour
yr - year

APPENDIX A
NORTH SITE REMAINDER AREA CALEEMOD MODEL RUN

North Site Remainder Area Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

2.3. Construction Emissions by Year, Mitigated

2.4. Operations Emissions Compared Against Thresholds

2.5. Operations Emissions by Sector, Unmitigated

2.6. Operations Emissions by Sector, Mitigated

3. Construction Emissions Details

3.1. Site Preparation (2027) - Unmitigated

3.2. Site Preparation (2027) - Mitigated

3.3. Grading (2027) - Unmitigated

3.4. Grading (2027) - Mitigated

3.5. Building Construction (2027) - Unmitigated

3.6. Building Construction (2027) - Mitigated

3.7. Building Construction (2028) - Unmitigated

3.8. Building Construction (2028) - Mitigated

3.9. Paving (2028) - Unmitigated

3.10. Paving (2028) - Mitigated

3.11. Architectural Coating (2028) - Unmitigated

3.12. Architectural Coating (2028) - Mitigated

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.1.2. Mitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.2. Electricity Emissions By Land Use - Mitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.2.4. Natural Gas Emissions By Land Use - Mitigated

4.3. Area Emissions by Source

4.3.1. Unmitigated

4.3.2. Mitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.4.2. Mitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.5.2. Mitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.6.2. Mitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.7.2. Mitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.8.2. Mitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.9.2. Mitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.2.2. Mitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.3.2. Mitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.9.2. Mitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.10.4. Landscape Equipment - Mitigated

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.11.2. Mitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.12.2. Mitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.13.2. Mitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.14.2. Mitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.15.2. Mitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

5.18.2.2. Mitigated

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	North Site Remainder Area
Construction Start Date	5/18/2027
Operational Year	2028
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	9.40
Location	38.659852, -121.056799
County	El Dorado-Mountain County
City	Unincorporated
Air District	El Dorado County AQMD
Air Basin	Mountain Counties
TAZ	406
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Regional Shopping Center	138	1000sqft	3.17	138,000	0.00	—	—	—

Parking Lot	10.6	Acre	10.6	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers
Construction	C-6	Use Diesel Particulate Filters
Construction	C-13	Use Low-VOC Paints for Construction

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	103	103	111	37.9	0.66	1.63	30.4	32.1	1.55	6.29	7.83	—	63,577	63,577	0.61	9.01	85.6	66,363
Mit.	70.6	70.6	115	46.0	0.66	0.80	30.4	31.2	0.78	6.29	7.06	—	63,577	63,577	0.61	9.01	85.6	66,363
% Reduced	31%	31%	-4%	-21%	—	51%	—	3%	50%	—	10%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.43	1.22	10.6	15.0	0.03	0.34	1.75	2.09	0.31	0.26	0.58	—	3,516	3,516	0.11	0.14	0.08	3,561
Mit.	0.87	0.80	13.4	17.0	0.03	0.12	1.75	1.88	0.11	0.26	0.38	—	3,516	3,516	0.11	0.14	0.08	3,561
% Reduced	39%	34%	-26%	-13%	—	63%	—	10%	64%	—	35%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	6.17	6.10	15.6	11.7	0.07	0.34	3.58	3.92	0.32	0.76	1.07	—	7,190	7,190	0.11	0.81	3.72	7,439
Mit.	4.24	4.21	17.3	13.4	0.07	0.13	3.58	3.71	0.13	0.76	0.88	—	7,190	7,190	0.11	0.81	3.72	7,439
% Reduced	31%	31%	-11%	-15%	—	61%	—	5%	60%	—	18%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.13	1.11	2.85	2.13	0.01	0.06	0.65	0.71	0.06	0.14	0.20	—	1,190	1,190	0.02	0.13	0.62	1,232
Mit.	0.77	0.77	3.16	2.44	0.01	0.02	0.65	0.68	0.02	0.14	0.16	—	1,190	1,190	0.02	0.13	0.62	1,232
% Reduced	31%	31%	-11%	-15%	—	61%	—	5%	60%	—	18%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	5.19	4.25	111	37.9	0.66	1.63	30.4	32.1	1.55	6.29	7.83	—	63,577	63,577	0.61	9.01	85.6	66,363
2028	103	103	9.94	15.4	0.03	0.30	1.75	2.06	0.28	0.26	0.54	—	3,538	3,538	0.11	0.14	2.74	3,586
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.43	1.22	10.6	15.0	0.03	0.34	1.75	2.09	0.31	0.26	0.58	—	3,516	3,516	0.11	0.14	0.08	3,561
2028	1.38	1.16	10.0	14.9	0.03	0.30	1.75	2.06	0.28	0.26	0.54	—	3,492	3,492	0.11	0.14	0.07	3,537
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.26	1.06	15.6	11.7	0.07	0.34	3.58	3.92	0.32	0.76	1.07	—	7,190	7,190	0.11	0.81	3.72	7,439
2028	6.17	6.10	3.48	5.24	0.01	0.11	0.57	0.68	0.10	0.09	0.19	—	1,177	1,177	0.04	0.04	0.38	1,192
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.23	0.19	2.85	2.13	0.01	0.06	0.65	0.71	0.06	0.14	0.20	—	1,190	1,190	0.02	0.13	0.62	1,232
2028	1.13	1.11	0.63	0.96	< 0.005	0.02	0.10	0.12	0.02	0.02	0.03	—	195	195	0.01	0.01	0.06	197

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	2.97	2.56	115	46.0	0.66	0.80	30.4	31.2	0.78	6.29	7.06	—	63,577	63,577	0.61	9.01	85.6	66,363
2028	70.6	70.6	13.2	17.4	0.03	0.12	1.75	1.87	0.11	0.26	0.37	—	3,538	3,538	0.11	0.14	2.74	3,586
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.87	0.80	13.4	17.0	0.03	0.12	1.75	1.88	0.11	0.26	0.38	—	3,516	3,516	0.11	0.14	0.08	3,561
2028	0.85	0.77	13.2	16.9	0.03	0.12	1.75	1.87	0.11	0.26	0.37	—	3,492	3,492	0.11	0.14	0.07	3,537
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.72	0.65	17.3	13.4	0.07	0.13	3.58	3.71	0.13	0.76	0.88	—	7,190	7,190	0.11	0.81	3.72	7,439
2028	4.24	4.21	4.55	5.90	0.01	0.04	0.57	0.61	0.04	0.09	0.12	—	1,177	1,177	0.04	0.04	0.38	1,192
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.13	0.12	3.16	2.44	0.01	0.02	0.65	0.68	0.02	0.14	0.16	—	1,190	1,190	0.02	0.13	0.62	1,232
2028	0.77	0.77	0.83	1.08	< 0.005	0.01	0.10	0.11	0.01	0.02	0.02	—	195	195	0.01	0.01	0.06	197

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	15.5	14.9	6.54	58.5	0.10	0.14	16.7	16.8	0.13	2.93	3.06	97.7	10,797	10,895	10.6	0.58	30.1	11,362
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	13.2	12.6	7.46	52.5	0.09	0.13	16.7	16.8	0.12	2.93	3.05	97.7	10,089	10,186	10.7	0.63	1.42	10,644
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	13.8	13.2	7.16	53.2	0.10	0.13	16.4	16.6	0.12	2.89	3.02	97.7	10,231	10,329	10.6	0.61	13.4	10,791
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.52	2.41	1.31	9.70	0.02	0.02	3.00	3.02	0.02	0.53	0.55	16.2	1,694	1,710	1.76	0.10	2.21	1,787

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	12.1	11.6	6.17	52.3	0.10	0.10	16.7	16.8	0.10	2.93	3.02	—	10,033	10,033	0.57	0.52	29.4	10,230
Area	3.36	3.28	0.05	6.00	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.7	24.7	< 0.005	< 0.005	—	24.8
Energy	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	732	732	0.18	0.02	—	742
Water	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Waste	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Total	15.5	14.9	6.54	58.5	0.10	0.14	16.7	16.8	0.13	2.93	3.06	97.7	10,797	10,895	10.6	0.58	30.1	11,362
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	10.9	10.3	7.14	52.2	0.09	0.10	16.7	16.8	0.10	2.93	3.02	—	9,349	9,349	0.69	0.57	0.76	9,536
Area	2.29	2.29	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	732	732	0.18	0.02	—	742
Water	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Waste	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66

Total	13.2	12.6	7.46	52.5	0.09	0.13	16.7	16.8	0.12	2.93	3.05	97.7	10,089	10,186	10.7	0.63	1.42	10,644
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	11.0	10.4	6.81	49.9	0.09	0.10	16.4	16.5	0.10	2.89	2.99	—	9,480	9,480	0.64	0.55	12.7	9,671
Area	2.82	2.78	0.02	2.96	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	12.2	12.2	< 0.005	< 0.005	—	12.2
Energy	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	732	732	0.18	0.02	—	742
Water	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Waste	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Total	13.8	13.2	7.16	53.2	0.10	0.13	16.4	16.6	0.12	2.89	3.02	97.7	10,231	10,329	10.6	0.61	13.4	10,791
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.00	1.90	1.24	9.11	0.02	0.02	3.00	3.02	0.02	0.53	0.55	—	1,569	1,569	0.11	0.09	2.10	1,601
Area	0.51	0.51	< 0.005	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.02	2.02	< 0.005	< 0.005	—	2.02
Energy	0.01	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	121	121	0.03	< 0.005	—	123
Water	—	—	—	—	—	—	—	—	—	—	—	3.24	1.16	4.40	0.33	0.01	—	15.1
Waste	—	—	—	—	—	—	—	—	—	—	—	12.9	0.00	12.9	1.29	0.00	—	45.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11
Total	2.52	2.41	1.31	9.70	0.02	0.02	3.00	3.02	0.02	0.53	0.55	16.2	1,694	1,710	1.76	0.10	2.21	1,787

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	12.1	11.6	6.17	52.3	0.10	0.10	16.7	16.8	0.10	2.93	3.02	—	10,033	10,033	0.57	0.52	29.4	10,230
Area	3.36	3.28	0.05	6.00	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.7	24.7	< 0.005	< 0.005	—	24.8
Energy	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	732	732	0.18	0.02	—	742
Water	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2

Waste	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Total	15.5	14.9	6.54	58.5	0.10	0.14	16.7	16.8	0.13	2.93	3.06	97.7	10,797	10,895	10.6	0.58	30.1	11,362
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	10.9	10.3	7.14	52.2	0.09	0.10	16.7	16.8	0.10	2.93	3.02	—	9,349	9,349	0.69	0.57	0.76	9,536
Area	2.29	2.29	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	732	732	0.18	0.02	—	742
Water	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Waste	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Total	13.2	12.6	7.46	52.5	0.09	0.13	16.7	16.8	0.12	2.93	3.05	97.7	10,089	10,186	10.7	0.63	1.42	10,644
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	11.0	10.4	6.81	49.9	0.09	0.10	16.4	16.5	0.10	2.89	2.99	—	9,480	9,480	0.64	0.55	12.7	9,671
Area	2.82	2.78	0.02	2.96	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	12.2	12.2	< 0.005	< 0.005	—	12.2
Energy	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	732	732	0.18	0.02	—	742
Water	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Waste	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Total	13.8	13.2	7.16	53.2	0.10	0.13	16.4	16.6	0.12	2.89	3.02	97.7	10,231	10,329	10.6	0.61	13.4	10,791
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.00	1.90	1.24	9.11	0.02	0.02	3.00	3.02	0.02	0.53	0.55	—	1,569	1,569	0.11	0.09	2.10	1,601
Area	0.51	0.51	< 0.005	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.02	2.02	< 0.005	< 0.005	—	2.02
Energy	0.01	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	121	121	0.03	< 0.005	—	123
Water	—	—	—	—	—	—	—	—	—	—	—	3.24	1.16	4.40	0.33	0.01	—	15.1
Waste	—	—	—	—	—	—	—	—	—	—	—	12.9	0.00	12.9	1.29	0.00	—	45.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11

Total	2.52	2.41	1.31	9.70	0.02	0.02	3.00	3.02	0.02	0.53	0.55	16.2	1,694	1,710	1.76	0.10	2.21	1,787

3. Construction Emissions Details

3.1. Site Preparation (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.63	3.05	28.0	28.3	0.05	1.17	—	1.17	1.08	—	1.08	—	5,298	5,298	0.21	0.04	—	5,316
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.77	0.77	< 0.005	0.03	—	0.03	0.03	—	0.03	—	145	145	0.01	< 0.005	—	146
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.11	0.11	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.14	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.05	0.97	0.00	0.00	0.54	0.54	0.00	0.08	0.08	—	189	189	< 0.005	0.01	0.63	192
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.77	4.77	< 0.005	< 0.005	0.01	4.84
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.79	0.79	< 0.005	< 0.005	< 0.005	0.80
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Site Preparation (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.90	0.90	24.0	28.3	0.05	0.14	—	0.14	0.13	—	0.13	—	5,298	5,298	0.21	0.04	—	5,316
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.66	0.78	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	145	145	0.01	< 0.005	—	146
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	0.12	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.05	0.97	0.00	0.00	0.54	0.54	0.00	0.08	0.08	—	189	189	< 0.005	0.01	0.63	192
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.77	4.77	< 0.005	< 0.005	0.01	4.84
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.79	0.79	< 0.005	< 0.005	< 0.005	0.80
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.51	2.95	25.6	27.3	0.06	1.04	—	1.04	0.96	—	0.96	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.71	3.71	—	1.44	1.44	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	0.24	2.10	2.24	0.01	0.09	—	0.09	0.08	—	0.08	—	542	542	0.02	< 0.005	—	544
Dust From Material Movement	—	—	—	—	—	—	0.30	0.30	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.38	0.41	< 0.005	0.02	—	0.02	0.01	—	0.01	—	89.8	89.8	< 0.005	< 0.005	—	90.1

Dust From Material Movement	—	—	—	—	—	—	0.06	0.06	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.06	1.10	0.00	0.00	0.62	0.62	0.00	0.09	0.09	—	217	217	< 0.005	0.01	0.72	220
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	1.59	1.22	85.0	9.51	0.60	0.59	26.1	26.7	0.59	4.75	5.34	—	56,762	56,762	0.34	8.95	84.9	59,523
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	16.4	16.4	< 0.005	< 0.005	0.03	16.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.13	0.10	7.33	0.79	0.05	0.05	2.11	2.16	0.05	0.39	0.43	—	4,665	4,665	0.03	0.74	3.01	4,888
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	2.71	2.71	< 0.005	< 0.005	< 0.005	2.75
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	0.02	1.34	0.14	0.01	0.01	0.39	0.39	0.01	0.07	0.08	—	772	772	< 0.005	0.12	0.50	809

3.4. Grading (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.29	1.26	29.7	35.4	0.06	0.21	—	0.21	0.19	—	0.19	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.71	3.71	—	1.44	1.44	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.10	2.44	2.91	0.01	0.02	—	0.02	0.02	—	0.02	—	542	542	0.02	< 0.005	—	544
Dust From Material Movement	—	—	—	—	—	—	0.30	0.30	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.45	0.53	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	89.8	89.8	< 0.005	< 0.005	—	90.1
Dust From Material Movement	—	—	—	—	—	—	0.06	0.06	—	0.02	0.02	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.06	1.10	0.00	0.00	0.62	0.62	0.00	0.09	0.09	—	217	217	< 0.005	0.01	0.72	220
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	1.59	1.22	85.0	9.51	0.60	0.59	26.1	26.7	0.59	4.75	5.34	—	56,762	56,762	0.34	8.95	84.9	59,523
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	16.4	16.4	< 0.005	< 0.005	0.03	16.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.13	0.10	7.33	0.79	0.05	0.05	2.11	2.16	0.05	0.39	0.43	—	4,665	4,665	0.03	0.74	3.01	4,888
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	2.71	2.71	< 0.005	< 0.005	< 0.005	2.75
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	0.02	1.34	0.14	0.01	0.01	0.39	0.39	0.01	0.07	0.08	—	772	772	< 0.005	0.12	0.50	809

3.5. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.63	0.53	4.84	6.66	0.01	0.17	—	0.17	0.16	—	0.16	—	1,235	1,235	0.05	0.01	—	1,239
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.88	1.22	< 0.005	0.03	—	0.03	0.03	—	0.03	—	204	204	0.01	< 0.005	—	205
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.19	0.13	2.44	0.00	0.00	1.38	1.38	0.00	0.20	0.20	—	478	478	0.01	0.02	1.60	485
Vendor	0.02	0.02	0.96	0.17	< 0.005	< 0.005	0.38	0.38	< 0.005	0.07	0.07	—	688	688	< 0.005	0.10	1.42	721

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.17	0.16	1.91	0.00	0.00	1.38	1.38	0.00	0.20	0.20	—	430	430	0.01	0.02	0.04	436
Vendor	0.02	0.02	1.01	0.18	< 0.005	< 0.005	0.38	0.38	< 0.005	0.07	0.07	—	688	688	< 0.005	0.10	0.04	719
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.08	1.00	0.00	0.00	0.69	0.69	0.00	0.10	0.10	—	226	226	0.01	0.01	0.36	230
Vendor	0.01	0.01	0.51	0.09	< 0.005	< 0.005	0.19	0.19	< 0.005	0.03	0.04	—	355	355	< 0.005	0.05	0.32	371
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.18	0.00	0.00	0.13	0.13	0.00	0.02	0.02	—	37.5	37.5	< 0.005	< 0.005	0.06	38.0
Vendor	< 0.005	< 0.005	0.09	0.02	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	58.7	58.7	< 0.005	0.01	0.05	61.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Building Construction (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.61	12.2	15.0	0.02	0.12	—	0.12	0.11	—	0.11	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.61	12.2	15.0	0.02	0.12	—	0.12	0.11	—	0.11	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	0.32	6.27	7.70	0.01	0.06	—	0.06	0.06	—	0.06	—	1,235	1,235	0.05	0.01	—	1,239
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.06	1.15	1.41	< 0.005	0.01	—	0.01	0.01	—	0.01	—	204	204	0.01	< 0.005	—	205
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.19	0.13	2.44	0.00	0.00	1.38	1.38	0.00	0.20	0.20	—	478	478	0.01	0.02	1.60	485
Vendor	0.02	0.02	0.96	0.17	< 0.005	< 0.005	0.38	0.38	< 0.005	0.07	0.07	—	688	688	< 0.005	0.10	1.42	721
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.17	0.16	1.91	0.00	0.00	1.38	1.38	0.00	0.20	0.20	—	430	430	0.01	0.02	0.04	436

Vendor	0.02	0.02	1.01	0.18	< 0.005	< 0.005	0.38	0.38	< 0.005	0.07	0.07	—	688	688	< 0.005	0.10	0.04	719
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.08	1.00	0.00	0.00	0.69	0.69	0.00	0.10	0.10	—	226	226	0.01	0.01	0.36	230
Vendor	0.01	0.01	0.51	0.09	< 0.005	< 0.005	0.19	0.19	< 0.005	0.03	0.04	—	355	355	< 0.005	0.05	0.32	371
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.18	0.00	0.00	0.13	0.13	0.00	0.02	0.02	—	37.5	37.5	< 0.005	< 0.005	0.06	38.0
Vendor	< 0.005	< 0.005	0.09	0.02	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	58.7	58.7	< 0.005	0.01	0.05	61.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18	0.99	8.92	12.9	0.02	0.30	—	0.30	0.28	—	0.28	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18	0.99	8.92	12.9	0.02	0.30	—	0.30	0.28	—	0.28	—	2,397	2,397	0.10	0.02	—	2,406

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.30	2.74	3.97	0.01	0.09	—	0.09	0.08	—	0.08	—	736	736	0.03	0.01	—	738
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.50	0.72	< 0.005	0.02	—	0.02	0.02	—	0.02	—	122	122	< 0.005	< 0.005	—	122
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.19	0.11	2.29	0.00	0.00	1.38	1.38	0.00	0.20	0.20	—	469	469	0.01	0.02	1.45	475
Vendor	0.02	0.02	0.90	0.17	< 0.005	< 0.005	0.38	0.38	< 0.005	0.07	0.07	—	672	672	< 0.005	0.10	1.29	704
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.16	0.15	1.79	0.00	0.00	1.38	1.38	0.00	0.20	0.20	—	422	422	0.01	0.02	0.04	428
Vendor	0.02	0.02	0.95	0.17	< 0.005	< 0.005	0.38	0.38	< 0.005	0.07	0.07	—	672	672	< 0.005	0.10	0.03	703
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.56	0.00	0.00	0.41	0.41	0.00	0.06	0.06	—	132	132	< 0.005	0.01	0.19	134
Vendor	0.01	< 0.005	0.29	0.05	< 0.005	< 0.005	0.11	0.11	< 0.005	0.02	0.02	—	206	206	< 0.005	0.03	0.17	216

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.08	0.08	0.00	0.01	0.01	—	21.9	21.9	< 0.005	< 0.005	0.03	22.2
Vendor	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	34.2	34.2	< 0.005	0.01	0.03	35.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2028) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.65	0.60	12.1	14.9	0.02	0.11	—	0.11	0.10	—	0.10	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.65	0.60	12.1	14.9	0.02	0.11	—	0.11	0.10	—	0.10	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	0.18	3.73	4.59	0.01	0.04	—	0.04	0.03	—	0.03	—	736	736	0.03	0.01	—	738

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.68	0.84	< 0.005	0.01	—	0.01	0.01	—	0.01	—	122	122	< 0.005	< 0.005	—	122
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.19	0.11	2.29	0.00	0.00	1.38	1.38	0.00	0.20	0.20	—	469	469	0.01	0.02	1.45	475
Vendor	0.02	0.02	0.90	0.17	< 0.005	< 0.005	0.38	0.38	< 0.005	0.07	0.07	—	672	672	< 0.005	0.10	1.29	704
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.16	0.15	1.79	0.00	0.00	1.38	1.38	0.00	0.20	0.20	—	422	422	0.01	0.02	0.04	428
Vendor	0.02	0.02	0.95	0.17	< 0.005	< 0.005	0.38	0.38	< 0.005	0.07	0.07	—	672	672	< 0.005	0.10	0.03	703
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.56	0.00	0.00	0.41	0.41	0.00	0.06	0.06	—	132	132	< 0.005	0.01	0.19	134
Vendor	0.01	< 0.005	0.29	0.05	< 0.005	< 0.005	0.11	0.11	< 0.005	0.02	0.02	—	206	206	< 0.005	0.03	0.17	216
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.08	0.08	0.00	0.01	0.01	—	21.9	21.9	< 0.005	< 0.005	0.03	22.2
Vendor	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	34.2	34.2	< 0.005	0.01	0.03	35.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.82	0.69	6.63	9.91	0.01	0.26	—	0.26	0.24	—	0.24	—	1,511	1,511	0.06	0.01	—	1,516
Paving	1.39	1.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.36	0.54	< 0.005	0.01	—	0.01	0.01	—	0.01	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	0.08	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.78	0.00	0.00	0.47	0.47	0.00	0.07	0.07	—	159	159	< 0.005	0.01	0.49	161
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.03	0.03	0.00	< 0.005	< 0.005	—	8.02	8.02	< 0.005	< 0.005	0.01	8.14
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.33	1.33	< 0.005	< 0.005	< 0.005	1.35
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Paving (2028) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.45	8.08	10.6	0.01	0.10	—	0.10	0.09	—	0.09	—	1,511	1,511	0.06	0.01	—	1,516
Paving	1.39	1.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.44	0.58	< 0.005	0.01	—	0.01	0.01	—	0.01	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	0.08	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.78	0.00	0.00	0.47	0.47	0.00	0.07	0.07	—	159	159	< 0.005	0.01	0.49	161
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.03	0.03	0.00	< 0.005	< 0.005	—	8.02	8.02	< 0.005	< 0.005	0.01	8.14

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.33	1.33	< 0.005	< 0.005	< 0.005	1.35
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.81	1.12	< 0.005	0.02	—	0.02	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	102	102	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.32	7.32	< 0.005	< 0.005	—	7.34

Architectural	5.61	5.61	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.21	1.21	< 0.005	< 0.005	—	1.22
Architectural Coatings	1.02	1.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.02	0.46	0.00	0.00	0.28	0.28	0.00	0.04	0.04	—	93.8	93.8	< 0.005	< 0.005	0.29	95.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.72	4.72	< 0.005	< 0.005	0.01	4.79
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.78	0.78	< 0.005	< 0.005	< 0.005	0.79
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Architectural Coating (2028) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.81	1.12	< 0.005	0.02	—	0.02	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	70.4	70.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.32	7.32	< 0.005	< 0.005	—	7.34
Architectural Coatings	3.86	3.86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.21	1.21	< 0.005	< 0.005	—	1.22
Architectural Coatings	0.70	0.70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.02	0.46	0.00	0.00	0.28	0.28	0.00	0.04	0.04	—	93.8	93.8	< 0.005	< 0.005	0.29	95.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.72	4.72	< 0.005	< 0.005	0.01	4.79
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.78	0.78	< 0.005	< 0.005	< 0.005	0.79
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.1.2. Mitigated

Mobile source emissions results are presented in Sections 2.5. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	263	263	0.11	0.01	—	269
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	88.5	88.5	0.04	< 0.005	—	90.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	351	351	0.15	0.02	—	360
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	263	263	0.11	0.01	—	269
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	88.5	88.5	0.04	< 0.005	—	90.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	351	351	0.15	0.02	—	360

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	43.5	43.5	0.02	< 0.005	—	44.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	14.7	14.7	0.01	< 0.005	—	15.0
Total	—	—	—	—	—	—	—	—	—	—	—	—	58.1	58.1	0.02	< 0.005	—	59.6

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	263	263	0.11	0.01	—	269
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	88.5	88.5	0.04	< 0.005	—	90.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	351	351	0.15	0.02	—	360
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	263	263	0.11	0.01	—	269
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	88.5	88.5	0.04	< 0.005	—	90.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	351	351	0.15	0.02	—	360

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	43.5	43.5	0.02	< 0.005	—	44.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	14.7	14.7	0.01	< 0.005	—	15.0
Total	—	—	—	—	—	—	—	—	—	—	—	—	58.1	58.1	0.02	< 0.005	—	59.6

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	381	381	0.03	< 0.005	—	383
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	381	381	0.03	< 0.005	—	383
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	381	381	0.03	< 0.005	—	383
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	381	381	0.03	< 0.005	—	383

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	0.01	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	63.2	63.2	0.01	< 0.005	—	63.3
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	63.2	63.2	0.01	< 0.005	—	63.3

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	381	381	0.03	< 0.005	—	383
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	381	381	0.03	< 0.005	—	383
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	381	381	0.03	< 0.005	—	383
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.02	0.32	0.27	< 0.005	0.02	—	0.02	0.02	—	0.02	—	381	381	0.03	< 0.005	—	383

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	0.01	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	63.2	63.2	0.01	< 0.005	—	63.3
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	63.2	63.2	0.01	< 0.005	—	63.3

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.73	1.73	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.56	0.56	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.07	0.99	0.05	6.00	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.7	24.7	< 0.005	< 0.005	—	24.8
Total	3.36	3.28	0.05	6.00	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.7	24.7	< 0.005	< 0.005	—	24.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consumer	1.73	1.73	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.56	0.56	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	2.29	2.29	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.32	0.32	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.10	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.10	0.09	< 0.005	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.02	2.02	< 0.005	< 0.005	—	2.02
Total	0.51	0.51	< 0.005	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.02	2.02	< 0.005	< 0.005	—	2.02

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.73	1.73	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.56	0.56	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landsca Equipment	1.07	0.99	0.05	6.00	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.7	24.7	< 0.005	< 0.005	—	24.8
Total	3.36	3.28	0.05	6.00	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.7	24.7	< 0.005	< 0.005	—	24.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.73	1.73	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.56	0.56	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	2.29	2.29	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.32	0.32	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.10	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.10	0.09	< 0.005	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.02	2.02	< 0.005	< 0.005	—	2.02
Total	0.51	0.51	< 0.005	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.02	2.02	< 0.005	< 0.005	—	2.02

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	3.24	1.16	4.40	0.33	0.01	—	15.1
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3.24	1.16	4.40	0.33	0.01	—	15.1

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	19.6	6.99	26.6	2.01	0.05	—	91.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	3.24	1.16	4.40	0.33	0.01	—	15.1
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3.24	1.16	4.40	0.33	0.01	—	15.1

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	12.9	0.00	12.9	1.29	0.00	—	45.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	12.9	0.00	12.9	1.29	0.00	—	45.2

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	78.1	0.00	78.1	7.81	0.00	—	273
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	12.9	0.00	12.9	1.29	0.00	—	45.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	12.9	0.00	12.9	1.29	0.00	—	45.2

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	5/18/2027	5/27/2027	7.00	10.0	—
Grading	Grading	5/28/2027	6/26/2027	7.00	30.0	—
Building Construction	Building Construction	6/27/2027	4/21/2028	7.00	300	—
Paving	Paving	4/22/2028	5/11/2028	7.00	20.0	—
Architectural Coating	Architectural Coating	5/12/2028	5/31/2028	7.00	20.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38

Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Tier 3	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 3	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Tier 3	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 3	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Tier 3	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Tier 3	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Tier 3	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Tier 3	1.00	7.00	367	0.29

Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 3	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Tier 3	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 3	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	14.3	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.80	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	14.3	LDA,LDT1,LDT2
Grading	Vendor	—	8.80	HHDT,MHDT
Grading	Hauling	667	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	44.2	14.3	LDA,LDT1,LDT2
Building Construction	Vendor	22.6	8.80	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	14.3	LDA,LDT1,LDT2

Paving	Vendor	—	8.80	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	8.83	14.3	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.80	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	14.3	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.80	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	14.3	LDA,LDT1,LDT2
Grading	Vendor	—	8.80	HHDT,MHDT
Grading	Hauling	667	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	44.2	14.3	LDA,LDT1,LDT2
Building Construction	Vendor	22.6	8.80	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	14.3	LDA,LDT1,LDT2

Paving	Vendor	—	8.80	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	8.83	14.3	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.80	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	207,000	69,000	27,756

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	15.0	0.00	—
Grading	107,000	53,000	90.0	0.00	—
Paving	0.00	0.00	0.00	0.00	10.6

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction

Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Regional Shopping Center	0.00	0%
Parking Lot	10.6	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2027	0.00	204	0.03	< 0.005
2028	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	2,536	2,536	2,536	925,640	11,462	11,462	11,462	4,183,630

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	2,536	2,536	2,536	925,640	11,462	11,462	11,462	4,183,630

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	207,000	69,000	27,756

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Regional Shopping Center	1,202,266	79.7	0.0330	0.0040	1,190,333
Parking Lot	405,244	79.7	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Regional Shopping Center	1,202,266	79.7	0.0330	0.0040	1,190,333
Parking Lot	405,244	79.7	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Regional Shopping Center	10,222,008	0.00
Parking Lot	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Regional Shopping Center	10,222,008	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Regional Shopping Center	145	—
Parking Lot	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Regional Shopping Center	145	—

Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Regional Shopping Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Regional Shopping Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

8. User Changes to Default Data

Screen	Justification
Characteristics: Utility Information	CO2 emission factor estimated based upon RPS compliance.
Land Use	Based on project-specific information.
Construction: Construction Phases	Based on project-specific information
Construction: Dust From Material Movement	Construction material movement based on project-specific information. Watering 2x/day based on Rule 223-1, Table 1.
Construction: Architectural Coatings	Updated the VOC emission factor based on EDCAPCD Rule 215 Limits.
Operations: Consumer Products	Updated based on county specific data, refer to report for further details.
Operations: Architectural Coatings	Updated the VOC emission factor based on EDCAPCD Rule 215 Limits.
Construction: On-Road Fugitive Dust	Percent paved roads updated based on Project-specific information.
Operations: Road Dust	Percent paved roads updated based on Project-specific information.

APPENDIX B
CONSTRUCTION INPUTS

List of Tables

Table B-1: Construction Schedule - North Site Remainder Area
Table B-2: Construction Equipment Assumptions - North Site Remainder Area
Table B-3: Construction Trip Assumptions - North Site Remainder Area
Table B-4: Construction Material Movement - North Site Remainder Area

Table B-1. Construction Schedule - North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name [1]	CalEEMod Phase Type [1]	Start Date [1]	End Date [1]	Phase Duration [2] (days)
Site Preparation	Site Preparation	5/18/2027	5/27/2027	10
Grading	Grading	5/28/2027	6/26/2027	30
Building Construction	Building Construction	6/27/2027	4/21/2028	300
Paving	Paving	4/22/2028	5/11/2028	20
Architectural Coating	Architectural Coating	5/12/2028	5/31/2028	20

Notes:

[1] Construction of the North Side Remainder Area land uses is conservatively assumed to begin immediately after the EDH Costco Project is operational. Construction phases and duration are based on CalEEMod defaults.

[2] The construction work week was assumed to be 7 days per week.

Abbreviations:

CalEEMod - California Emissions Estimator Model

EDH - El Dorado Hills

Table B-2. Construction Equipment Assumptions - North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name	Offroad Equipment Type [1]	Number of Equipment [1]	Usage Hours [1] (hours/ day)	Equipment Horsepower [1] (hp)	Equipment Load Factor [1]	Fuel Type [1]	Engine Tier for Unmitigated Project [1]	Diesel Particulate Filter Level for Unmitigated Project [1]	Engine Tier for Mitigated Project [2]	Diesel Particulate Filter Level for Mitigated Project [2]
Site Preparation	Rubber Tired Dozers	3	8	367	0.40	Diesel	Average	N/A	Tier 3	Level 3
Site Preparation	Tractors/Loaders/ Backhoes	4	8	84	0.37	Diesel	Average	N/A	Tier 3	Level 3
Grading	Excavators	2	8	36	0.38	Diesel	Average	N/A	Average	N/A
Grading	Graders	1	8	148	0.41	Diesel	Average	N/A	Tier 3	Level 3
Grading	Rubber Tired Dozers	1	8	367	0.40	Diesel	Average	N/A	Tier 3	Level 3
Grading	Scrapers	2	8	423	0.48	Diesel	Average	N/A	Tier 3	Level 3
Grading	Tractors/Loaders/ Backhoes	2	8	84	0.37	Diesel	Average	N/A	Tier 3	Level 3
Building Construction	Cranes	1	7	367	0.29	Diesel	Average	N/A	Tier 3	Level 3
Building Construction	Forklifts	3	8	82	0.20	Diesel	Average	N/A	Tier 3	Level 3
Building Construction	Generator Sets	1	8	14	0.74	Diesel	Average	N/A	Average	N/A
Building Construction	Tractors/Loaders/ Backhoes	3	7	84	0.37	Diesel	Average	N/A	Tier 3	Level 3
Building Construction	Welders	1	8	46	0.45	Diesel	Average	N/A	Average	N/A
Paving	Pavers	2	8	81	0.42	Diesel	Average	N/A	Tier 3	Level 3
Paving	Paving Equipment	2	8	89	0.36	Diesel	Average	N/A	Tier 3	Level 3
Paving	Rollers	2	8	36	0.38	Diesel	Average	N/A	Average	N/A
Architectural Coating	Air Compressors	1	6	37	0.48	Diesel	Average	N/A	Average	N/A

Notes:

[1] Based on CalEEMod default values.

[2] The mitigation measure requires that construction equipment greater than 50 hp used at the site shall be mitigated to meet USEPA Tier 4 Final emission standards for PM_{10} and $PM_{2.5}$. If Tier 4 Final equipment is viable but not available, all construction equipment larger than 50 horsepower used at the site shall meet USEPA emission standards for Tier 3 engines and include particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices. To be conservative, this analysis assumed that off-road construction equipment larger than 50 horsepower are equipped with Tier 3 engines and DPFs for the mitigated emissions.

Abbreviations:

CalEEMod - California Emissions Estimator Model
CARB - California Air Resources Board
DPF - Diesel Particulate Filter
hp - horsepower
N/A - not available
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
USEPA - United States Environmental Protection Agency

Table B-3. Construction Trip Assumptions - North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name	Worker Trips per Day [1,2]	Vendor Trips per Day [1,2]	Hauling Trips per Day [1,2]
Site Preparation	18	0	0
Grading	20	0	667
Building Construction	44	23	0
Paving	15	0	0
Architectural Coating	9	0	0

Notes:

[1] Trips are presented as one-way trips per day.

[2] Worker, vendor, and hauling trips are based on CalEEMod defaults. The one-way trip lengths for worker, vendor, and hauling trips are assumed to be the CalEEMod default values of 14.3 miles, 8.8 miles, and 20.0 miles, respectively.

Abbreviations:

CalEEMod - California Emissions Estimator Model

Table B-4. Construction Material Movement - North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name	Material Imported [1] (yd^3)	Material Exported [1] (yd^3)
Grading	107,000	53,000

Notes:

[1] Soil import and export quantities based on project-specific data.

Abbreviations:

yd^3 - cubic yard

APPENDIX C
CONSTRUCTION EMISSION CALCULATION TABLES

List of Tables

Table C-1: Estimating Unmitigated Criteria Air Pollutant Emissions for North Site Remainder Area Construction
Table C-2: Estimating Mitigated Criteria Air Pollutant Emissions for North Site Remainder Area Construction

Table C-1. Estimating Unmitigated Criteria Air Pollutant Emissions for North Site Remainder Area Construction
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phases [1]	Start Date	End Date	Number of Construction Days	Construction Time Period	Season [2]	Daily ROG Emissions [3] (lbs/day)	Daily NO_X Emissions [3] (lbs/day)	Daily CO Emissions [3] (lbs/day)	Daily SO_X Emissions [3,4] (lbs/day)	Daily PM_{10} Emissions [3,5] (lbs/day)	Daily $PM_{2.5}$ Emissions [3,5] (lbs/day)	Total ROG Emissions [6] (lbs)	Total NO_X Emissions [6] (lbs)	Total CO Emissions [6] (lbs)	Total SO_X Emissions [4,6] (lbs)	Total PM_{10} Emissions [5,6] (lbs)	Total $PM_{2.5}$ Emissions [5,6] (lbs)
Site Preparation	5/18/2027	5/27/2027	10	First Quarter	Summer	3.1	28.0	29.2	0.0	9.4	5.1	31	280	292	0.5	94	51
Grading	5/28/2027	6/26/2027	30	First Quarter	Summer	4.3	110.7	37.9	0.7	32.1	7.8	128	3,320	1,137	19.9	962	235
Building Construction	6/27/2027	8/17/2027	52	First Quarter	Summer	1.2	10.5	15.6	0.0	2.1	0.6	64	545	809	1.4	109	30
Building Construction	8/18/2027	9/30/2027	44	Second Quarter	Summer	1.2	10.5	15.6	0.0	2.1	0.6	55	461	684	1.2	92	25
Building Construction	10/1/2027	11/17/2027	48	Second Quarter	Winter	1.2	10.6	15.0	0.0	2.1	0.6	59	507	721	1.3	100	28
Building Construction	11/18/2027	12/31/2027	44	Third Quarter	Winter	1.2	10.6	15.0	0.0	2.1	0.6	54	465	661	1.2	92	25
Building Construction	1/1/2028	2/17/2028	48	Third Quarter	Winter	1.2	10.0	14.9	0.0	2.1	0.5	56	481	715	1.3	99	26
Building Construction	2/18/2028	3/31/2028	43	Fourth Quarter	Winter	1.2	10.0	14.9	0.0	2.1	0.5	50	431	641	1.2	88	23
Building Construction	4/1/2028	4/21/2028	21	Fourth Quarter	Summer	1.2	9.9	15.4	0.0	2.1	0.5	25	209	323	0.6	43	11
Paving	4/22/2028	5/11/2028	20	Fourth Quarter	Summer	2.1	6.7	10.7	0.0	0.7	0.3	43	133	214	0.3	14	6
Architectural Coating	5/12/2028	5/31/2028	20	Fourth Quarter	Summer	102.6	0.8	1.6	0.0	0.3	0.1	2,051	17	32	0.0	6	1

Notes:

[1] Construction phases and duration are based on CalEEMod defaults. Refer to **Appendix B** for further details.

[2] Based on CalEEMod defaults.

[3] Estimated by summing up the maximum daily emissions for the construction phase. Maximum daily emissions for the Site Preparation; Grading; Building Construction; Paving; and Architectural Coating phases are obtained from **Appendix A**.

[4] For purposes of this analysis SO_X emissions are assumed to be equal to SO_2.

[5] Particulate matter emissions include exhaust emissions from off-road construction equipment, fugitive dust emissions from on-site construction activities, and exhaust/tire wear/brake wear/entrained road dust emissions from on-road vehicles associated with project construction. As noted in Section 4.2.3 of the Air Quality Technical Report, fugitive dust emissions will be controlled by watering the construction site twice daily in accordance with the EDCAQMD Rule 223-1. Particulate matter emissions presented here account for these control measures for fugitive dust emissions.

[6] Estimated by multiplying the maximum daily emissions by the number of construction days for each construction phase.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel
CO - carbon monoxide
EDCAQMD - El Dorado County Air Quality Management District
lb - pound
NO_x - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_2 - sulfur dioxide
SO_x - sulfur oxide compounds

Table C-2. Estimating Mitigated Criteria Air Pollutant Emissions for North Site Remainder Area Construction
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phases [1]	Start Date	End Date	Number of Construction Days	Construction Time Period	Season [2]	Daily ROG Emissions [3] (lbs/day)	Daily NO_X Emissions [3] (lbs/day)	Daily CO Emissions [3] (lbs/day)	Daily SO_X Emissions [3,4] (lbs/day)	Daily PM_{10} Emissions [3,5] (lbs/day)	Daily $PM_{2.5}$ Emissions [3,5] (lbs/day)	Total ROG Emissions [6] (lbs)	Total NO_X Emissions [6] (lbs)	Total CO Emissions [6] (lbs)	Total SO_X Emissions [4,6] (lbs)	Total PM_{10} Emissions [5,6] (lbs)	Total $PM_{2.5}$ Emissions [5,6] (lbs)
Site Preparation	5/18/2027	5/27/2027	10	First Quarter	Summer	1.0	24.1	29.3	0.0	8.4	4.1	10	241	293	0.5	84	41
Grading	5/28/2027	6/26/2027	30	First Quarter	Summer	2.6	114.8	46.0	0.7	31.2	7.1	77	3,445	1,381	19.9	937	212
Building Construction	6/27/2027	8/17/2027	52	First Quarter	Summer	0.8	13.3	17.6	0.0	1.9	0.4	43	690	913	1.4	98	20
Building Construction	8/18/2027	9/30/2027	44	Second Quarter	Summer	0.8	13.3	17.6	0.0	1.9	0.4	36	584	773	1.2	83	17
Building Construction	10/1/2027	11/17/2027	48	Second Quarter	Winter	0.8	13.4	17.0	0.0	1.9	0.4	39	641	818	1.3	90	18
Building Construction	11/18/2027	12/31/2027	44	Third Quarter	Winter	0.8	13.4	17.0	0.0	1.9	0.4	35	588	750	1.2	83	17
Building Construction	1/1/2028	2/17/2028	48	Third Quarter	Winter	0.8	13.2	16.9	0.0	1.9	0.4	37	636	811	1.3	90	18
Building Construction	2/18/2028	3/31/2028	43	Fourth Quarter	Winter	0.8	13.2	16.9	0.0	1.9	0.4	33	569	727	1.2	80	16
Building Construction	4/1/2028	4/21/2028	21	Fourth Quarter	Summer	0.8	13.2	17.4	0.0	1.9	0.4	17	276	365	0.6	39	8
Paving	4/22/2028	5/11/2028	20	Fourth Quarter	Summer	1.9	8.1	11.4	0.0	0.6	0.2	38	162	227	0.3	11	3
Architectural Coating	5/12/2028	5/31/2028	20	Fourth Quarter	Summer	70.6	0.8	1.6	0.0	0.3	0.1	1,411	17	32	0.0	6	1

Notes:

[1] Construction phases and duration are based on CalEEMod defaults. Refer to **Appendix B** for further details.

[2] Based on CalEEMod defaults.

[3] Estimated by summing up the maximum daily emissions for the construction phase. Maximum daily emissions for the Site Preparation; Grading; Building Construction; Paving; and Architectural Coating phases are obtained from **Appendix A**.

[4] For purposes of this analysis SO_X emissions are assumed to be equal to SO_2.

[5] Particulate matter emissions include exhaust emissions from off-road construction equipment, fugitive dust emissions from on-site construction activities, and exhaust/tire wear/brake wear/entrained road dust emissions from on-road vehicles associated with project construction. As noted in Section 4.2.3 of the Air Quality Technical Report, fugitive dust emissions will be controlled by watering the construction site twice daily in accordance with the EDCAQMD Rule 223-1. Particulate matter emissions presented here account for these control measures for fugitive dust emissions.

[6] Estimated by multiplying the maximum daily emissions by the number of construction days for each construction phase.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel
CO - carbon monoxide
EDCAQMD - El Dorado County Air Quality Management District
lb - pound
NO_x - nitrogen oxide compounds
PM_{10} - particulate matter less than 10 microns in diameter
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter
ROG - reactive organic gases
SO_2 - sulfur dioxide
SO_x - sulfur oxide compounds

APPENDIX D
CONSTRUCTION ENERGY CALCULATIONS

List of Tables

Table D-1: Off-Road Equipment Fuel Consumption During Construction - North Site Remainder Area
Table D-2: On-Road Vehicle Fuel Consumption During Construction - North Site Remainder Area

Table D-1. Off-Road Equipment Fuel Consumption During Construction - North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name	CO_2 Emissions [1] (MT/yr)	Diesel Consumption [2] (gallons/yr)
Site Preparation (2027)	24.0	2,354
Grading (2027)	89.8	8,794
Building Construction (2027)	204.4	20,021
Building Construction (2028)	121.8	11,929
Paving (2028)	13.7	1,343
Architectural Coating (2028)	1.2	119

Constants:

10.21 kg CO_2/gallon diesel consumed in combustion engines [3]

1,000 kg CO_2/MT CO_2

Notes:

[1] Exhaust CO_2 emissions from off-road construction equipment used during the Site Preparation; Grading; Building Construction; Paving; and Architectural Coating construction phases that occur during remainder area development construction are obtained from the CalEEMod model run shown in **Appendix A**.

[2] Diesel consumption of off-road construction equipment during each construction phase is estimated as a ratio of the CO_2 emissions from these equipment to the CO_2 emission factor per gallon of diesel consumed.

[3] Obtained from the USEPA GHG Emission Factors Hub. Available at: https://www.epa.gov/system/files/documents/2025-01/ghg-emission-factors-hub-2025.pdf. Accessed: June 2025.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

CO_2 - carbon dioxide

GHG - greenhouse gas

kg - kilograms

MT - metric ton

USEPA - United States Environmental Protection Agency

yr - year

Table D-2. On-Road Vehicle Fuel Consumption During Construction - North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Construction Phase Name [1]	Phase Duration [1] (days)	Worker Trip Rates [2] (one-way trips/day)	Vendor Trip Rates [2] (one-way trips/day)	Hauling Trip Number [2] (one-way trips/day)	Worker Trip Length [3] (miles/one-way trip)	Vendor Trip Length [3] (miles/one-way trip)	Hauling Trip Length [3] (miles/one-way trip)	Worker Vehicle Miles Traveled [4] (miles)	Vendor Vehicle Miles Traveled [4] (miles)	Hauling Vehicle Miles Traveled [4] (miles)	Worker Gasoline Fuel Consumption [5] (gallons)	Vendor Diesel Fuel Consumption [5] (gallons)	Hauling Diesel Fuel Consumption [5] (gallons)
Site Preparation (2027)	10	17.5	-	-	14.3	-	-	2,503	-	-	95	-	-
Grading (2027)	30	20.0	-	667	14.3	-	20.0	8,580	-	400,000	324	-	79,925
Building Construction (2027)	188	44.2	22.6	-	14.3	8.80	-	118,720	37,420	-	4,487	7,554	-
Building Construction (2028)	112	44.2	22.6	-	14.3	8.80	-	70,727	22,292	-	2,621	4,461	-
Paving (2028)	20	15.0	-	-	14.3	-	-	4,290	-	-	159	-	-
Architectural Coating (2028)	20	8.83	-	-	14.3	-	-	2,526	-	-	94	-	-

Notes:

[1] Construction phases and duration (**Table B-1**) are based on CalEEMod defaults. Refer to **Section 3** of the report for further details.

[2] The number of worker and vendor trips represent CalEEMod defaults based on the construction equipment used in each construction phase. The number of hauling trips were estimated by CalEEMod based on volume of soil that would be imported/exported during construction. Refer to **Appendix B** for further details.

[3] The trip lengths for on-road vehicles used during construction are CalEEMod default values.

[4] Estimated based on trip rates, trip length, and phase duration.

[5] Fuel consumption of on-road vehicles used during each construction phase are estimated as a product of the vehicle miles traveled by each vehicle type and its fuel consumption rate in gallons per mile.

[6] Fuel consumption rates for on-road vehicles are calculated using vehicle class-specific fuel consumption data from EMFAC2021 (see the supporting table below, which presents EMFAC2021 outputs for 2027 and 2028 in El Dorado-Mountain County), the fleet mix for each trip type (worker, vendor, and hauling), and vehicle miles traveled. The fleet mix for the worker, vendor, and hauling trucks are based on CalEEMod defaults. Worker vehicles are assumed to be gasoline fueled and include light duty automobiles and trucks (25% LDA, 50% LDT1, 25% LDT2). Vendor vehicles are assumed to be diesel fueled and include heavy heavy-duty trucks and medium heavy duty trucks (50% HHDT and 50% MHDT). Hauling vehicles are assumed to be diesel fueled and include heavy heavy-duty trucks (100% HHDT).

Fuel Consumption Rates by Vehicle Type: [6]

Worker Vehicles in 2027:	0.0378 gallons/mile
Worker Vehicles in 2028:	0.0371 gallons/mile
Vendor Vehicles in 2027:	0.2019 gallons/mile
Vendor Vehicles in 2028:	0.2001 gallons/mile
Haul Trucks in 2027:	0.1998 gallons/mile

Abbreviations:

CalEEMod - California Emissions Estimator Model
EMFAC - EMission FACtors model
HHDT - heavy heavy-duty trucks
LDA - light-duty automobile
LDT - light-duty truck
MHDT - medium heavy-duty trucks

Table D-2. On-Road Vehicle Fuel Consumption During Construction - North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Supporting Table of EMFAC Outputs

Calendar Year	EMFAC Vehicle Class	Fuel Type	EMFAC VMT Output (miles)	EMFAC Fuel Use Output (gallons)	Average Fuel Consumption (gallons/mile)
2027	LDA	Gasoline	1,619,691	51,441	0.0318
2027	LDT1	Gasoline	181,944	7,232	0.0397
2027	LDT2	Gasoline	1,158,122	46,256	0.0399
2027	MHDT	Gasoline	5,957	1,215	0.2039
2027	HHDT	Diesel	28,804	5,755	0.1998
2028	LDA	Gasoline	1,633,311	50,730	0.0311
2028	LDT1	Gasoline	175,495	6,850	0.0390
2028	LDT2	Gasoline	1,170,851	45,776	0.0391
2028	MHDT	Gasoline	6,113	1,237	0.2023
2028	HHDT	Diesel	28,701	5,682	0.1980

Abbreviations:
EMFAC - EMission FACtors model
HHDT - heavy heavy-duty trucks
LDA - light-duty automobile
LDT - light-duty truck
MHDT - medium heavy-duty trucks
VMT - vehicle miles traveled

APPENDIX E
OPERATIONAL INPUTS

List of Tables

Table E-1: Operational Mobile Source Assumptions - North Site Remainder Area
Table E-2: Reactive Organic Gas Emission Factor for Consumer Product Usage in El Dorado County for Calendar Year 2028
Table E-3: Utility GHG Emission Factor Associated with Renewable Portfolio Standard

Table E-1. Operational Mobile Source Assumptions - North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Total daily trips [1,2]	2,536	trips/day
Average trip length [1]	4.52	miles
Daily VMT [1,2]	11,463	miles/day

Notes:

[1] Obtained from the July 2025 El Dorado Costco CEQA Analysis report prepared by Kittelson & Associates, Inc.

[2] For purposes of this analysis the daily trip and VMT assumptions were used for both weekdays and weekends.

Abbreviations:

CEQA - California Environmental Quality Act

VMT - vehicle miles travelled

Table E-2. Reactive Organic Gas Emission Factor for Consumer Product Usage in El Dorado County for Calendar Year 2028

El Dorado Hills Costco Project
El Dorado Hills, California

Countywide ROG Inventory for Consumer Product Usage [1] (tons/day)	County Population [2]	Total Building Square Footage in the County [3] (sqft)	ROG Emission Factors for Consumer Product Usage [4] (lb/sqft/day)
1.354	188,380	220,388,409	1.23E-05

Notes:

[1] ROG consumer products inventory for El Dorado County in calendar year 2028 was obtained from the California Emissions Projection Analysis Model, CEPAM2019v1.04. Available at: https://ww2.arb.ca.gov/applications/cepam2019v1-04-standard-emission-tool. Accessed: May 2025.

[2] Population estimates for El Dorado County in 2020 and 2028 were obtained from the State of California Department of Finance website. Available at: https://dof.ca.gov/forecasting/demographics/projections/. Accessed: May 2025.

[3] Total building square footage in 2028 was estimated as the product of the countywide building square footage per person in 2020 multiplied by the population projection for El Dorado County in calendar Year 2028.

[4] The consumer product ROG emission factor for consumer product usage is calculated as the ratio of the countywide ROG inventory for consumer product usage to the total building square footage in the county.

[5] Total building square footage in El Dorado County for 2020 was obtained from FEMA HAZUS-MH software (version 7.0). Available at: https://msc.fema.gov/portal/resources/hazus. Accessed: May 2025.

Constants:

El Dorado County Population [2] in Calendar Year 2020:	191,522
Total Building Square Footage [5] in El Dorado County in 2020:	224,064,279

Conversion Factor:

2000 lb/ton

Abbreviations:

FEMA - Federal Emergency Management Agency
lb - pound
ROG - reactive organic compounds
sqft - square foot

Table E-3. Utility GHG Emission Factor Associated with Renewable Portfolio Standard
El Dorado Hills Costco Project
El Dorado Hills, California

Energy Generated (MWh)

	2020	2021	2022	Average	Units
CO_2 Intensity Factor per Total Energy Generated [1]	160	98	56	105	lbs CO_2/MWh generated
% of Total Energy From Renewables [2]	35.1%	47.7%	38.5%	40.4%	
CO_2 Intensity Factor per Total Non-Renewable Energy [3]	247	187	91	176	lbs CO_2/MWh generated

Calculated Intensity Factors for Total Energy Delivered [4]

2027 RPS (52% Renewable Energy)	118.3	89.9	43.7	84.3	lbs CO_2/MWh generated
2028	111.8	84.9	41.3	79.7	lbs CO_2/MWh generated
2030 RPS (60% Renewable Energy)	98.6	75.0	36.4	70.3	lbs CO_2/MWh generated

Notes:

[1] Obtained from PG&E's 2024 Corporate Sustainability Reports. Note that 2023 values are not provided because they are subject to regulatory approval and verification at the time of this report preparation.

[2] Obtained from PG&E's 2021, 2022, and 2023 Corporate Sustainability Reports.

[3] The emissions metric presented here is calculated based on the total CO_2 emissions for total energy generated divided by the energy generated from non-renewable sources.

[4] The intensity factors for default RPS assumption are estimated multiplying the maximum allowable percentage of non-renewable energy per RPS and the CO_2 intensity factor per total non-renewable energy calculated above. The RPS minimum targets for renewable energy delivered are 52% for 2027 and 60% for 2030 per Senate Bill 100. The estimate provided here assumes that renewable energy sources do not result in any CO_2 emissions.

Abbreviations:

CO_2 - carbon dioxide

GHG - greenhouse gases

lbs - pounds

MWh - megawatt-hour

PG&E - Pacific Gas and Electric

RPS - Renewable Portfolio Standards

References:

PG&E 2021 Corporate Sustainability Report. Available at: https://www.responsibilityreports.com/HostedData/ResponsibilityReportArchive/p/NYSE_PCG_2021.pdf. Accessed: April 2025.

PG&E 2022 Corporate Sustainability Report. Available at: https://www.pgecorp.com/content/dam/pgecorp/language-masters/en/sustainability/corporate-responsibility-sustainability/reports/2022/assets/PGE_CSR_2022.pdf. Accessed: April 2025.

PG&E 2023 Corporate Sustainability Report. Available at: https://docs.publicnow.com/viewDoc?filename=40923%5CEXT%5C8601693C6F97C394FA0DAB4D67BC4B398DD26C60_C89032E27DAEE65CF45DAE23DAAACEFFC14EE076.PDF. Accessed: April 2025.

PG&E 2024 Corporate Sustainability Report. Available at: https://www.pgecorp.com/assets/pgecorp/csr/csr_2024/assets/pge-csr-2024.pdf. Accessed: April 2025.

Senate Bill 100. Available at: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB100. Accessed: April 2025.

APPENDIX F
OPERATIONAL ENERGY CALCULATIONS

List of Tables

Table F-1: Operational Electricity Consumption for the North Site Remainder Area
Table F-2: Operational Natural Gas Consumption for the North Site Remainder Area
Table F-3: CalEEMod Default Fleet Mix for El Dorado County in Calendar Year 2028
Table F-4: Operational Vehicle Fleet Mix for the North Site Remainder Area
Table F-5: Operational Mobile Source Gasoline Consumption for the North Site Remainder Area
Table F-6: Operational Mobile Source Natural Gas Consumption for the North Site Remainder Area
Table F-7: Operational Mobile Source Diesel Consumption for the North Site Remainder Area
Table F-8: Operational Mobile Source Electricity Consumption for the North Site Remainder Area
Table F-9: Operational Landscape Equipment Gasoline Consumption for the North Site Remainder Area

Table F-1. Operational Electricity Consumption for the North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Project Land Use	Project Electricity Demand [1] (kWh/yr)
Regional Shopping Center	1,202,266
Parking Lot	405,244
Total	**1,607,510**

Notes:

[1] Obtained from CalEEMod model run for the North Site Remainder Area shown in **Appendix A**.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

kWh - kilowatt hours

yr - year

Table F-2. Operational Natural Gas Consumption for the North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Project Land Use	Project Natural Gas Demand [1] (kBTU/yr)
Regional Shopping Center	1,190,333
Parking Lot	0
Total	**1,190,333**

Notes:

[1] Obtained from CalEEMod model run for the North Site Remainder Area shown in **Appendix A**.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

kBTU - kilo British Thermal Unit

yr - year

Table F-3. CalEEMod Default Fleet Mix for El Dorado County in Calendar Year 2028
El Dorado Hills Costco Project
El Dorado Hills, California

Vehicle Category	CalEEMod Default Fleet Mix [1]
LDA	38.10%
LDT1	4.98%
LDT2	26.68%
MDV	17.26%
LHDT1	5.18%
LHDT2	1.23%
MHDT	1.61%
HHDT	0.41%
OBUS	0.07%
UBUS	0.04%
MCY	3.53%
SBUS	0.13%
MH	0.78%

Notes:

[1] CalEEMod default for El Dorado (MC) sub-area, calendar year 2028.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel
HHDT - Heavy heavy-duty truck
LDA - light duty automobiles
LDT - light-duty trucks
LHDT - light heavy-duty trucks
MC - Mountain County
MCY - motorcycles
MDV - medium-duty vehicle
MH - motor homes
MHDT - medium heavy-duty trucks
OBUS - other buses
SBUS - school buses
UBUS - urban buses

Table F-4. Operational Vehicle Fleet Mix for the North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Vehicle Category	Fuel Type	EMFAC VMT Output [1] (miles/day)	Fleet Mix [2]
LDA	Gasoline	1,633,311	33.29%
LDA	Plug-in Hybrid	69,525	1.42%
LDA	Electricity	161,238	3.29%
LDA	Diesel	4,739	0.10%
LDT1	Gasoline	175,495	4.93%
LDT1	Plug-in Hybrid	815	0.02%
LDT1	Electricity	996	0.03%
LDT1	Diesel	8	0.00%
LDT2	Gasoline	1,170,851	25.97%
LDT2	Plug-in Hybrid	16,120	0.36%
LDT2	Electricity	11,154	0.25%
LDT2	Diesel	4,900	0.11%
MDV	Gasoline	660,798	16.38%
MDV	Plug-in Hybrid	9,758	0.24%
MDV	Electricity	11,461	0.28%
MDV	Diesel	14,415	0.36%
LHDT1	Gasoline	96,642	2.52%
LHDT1	Diesel	96,871	2.53%
LHDT1	Electricity	4,871	0.13%
LHDT2	Gasoline	7,595	0.19%
LHDT2	Diesel	40,102	1.01%
LHDT2	Electricity	1,065	0.03%
MHDT	Gasoline	6,113	0.12%
MHDT	Diesel	73,139	1.43%
MHDT	Electricity	3,444	0.07%
HHDT	Gasoline	17	0.00%
HHDT	Diesel	28,701	0.39%
HHDT	Electricity	1,232	0.02%
HHDT	Natural Gas	132	0.00%
OBUS	Gasoline	992	0.02%
OBUS	Diesel	3,160	0.05%
OBUS	Electricity	53	0.00%
OBUS	Natural Gas	38	0.00%
UBUS	Gasoline	1,054	0.01%
UBUS	Diesel	3,484	0.03%
UBUS	Electricity	208	0.00%
MCY	Gasoline	19,584	3.53%
SBUS	Gasoline	681	0.02%
SBUS	Diesel	3,110	0.11%
SBUS	Electricity	112	0.00%
MH	Gasoline	4,455	0.47%
MH	Diesel	2,891	0.31%

Notes:

[1] Default EMFAC2021 output for the El Dorado (MC) sub-area in calendar year 2028.

[2] The fleet mix for the vehicles incorporates the CalEEMod default fleet mix for El Dorado (MC) sub-area, calendar year 2028, weighted by the EMFAC VMT by fuel type.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

EMFAC - EMission FACtors model

HHDT - Heavy heavy-duty truck

LDA - light duty automobiles

LDT - light-duty trucks

LHDT - light heavy-duty trucks

MC - Mountain County

MCY - motorcycles

MDV - medium-duty vehicle

MH - motor homes

MHDT - medium heavy-duty trucks

OBUS - other buses

SBUS - school buses

UBUS - urban buses

VMT - vehicle miles traveled

Table F-5. Operational Mobile Source Gasoline Consumption for the North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Mobile Source Category	Mobile Source Activity [1] (miles/yr)	Mobile Source Activity Associated with Gasoline Combustion [2] (miles/yr)	Gasoline Consumption [3] (gallons/yr)
Gasoline Vehicles	3,658,816	3,658,816	144,096
Plug in Hybrid Vehicles	85,324	38,323	1,372

Constants:

Average fuel efficiency of gasoline vehicles in 2028 [4]	25 miles per gallon
Average fuel efficiency of plug-in hybrid electric vehicles in 2028 [4]	28 miles per gallon

Notes:

[1] The annual vehicle miles travelled by operational mobile sources (obtained from the CalEEMod model run in **Appendix A**) was apportioned into gasoline and plug-in-hybrid vehicle technology categories based on the operational vehicle fleet mix shown in **Table F-4.**

[2] The vehicle miles travelled associated with gasoline combustion for each vehicle technology category was estimated based on EMFAC default assumptions for gasoline and plug-in hybrid vehicles operating in El Dorado (MC) sub-area in calendar year 2028.

[3] Gasoline consumption of vehicles are estimated as a ratio of the vehicle miles traveled associated with gasoline combustion for each vehicle technology category and its average fuel efficiency in miles per gallon.

[4] The average fuel efficiency for each gasoline vehicle technology category operating in for El Dorado (MC) sub-area in calendar year 2028 is obtained from EMFAC2021.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

EMFAC - EMission FACtors model

MC - Mountain County

yr - year

Table F-6. Operational Mobile Source Natural Gas Consumption for the North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Mobile Source Category	Mobile Source Activity [1] (miles/yr)	Natural Gas Consumption [2] (kBtu/yr)
Natural Gas Vehicles	102	2,580

Constants:

Average fuel efficiency of natural gas vehicles [3] 5.73 miles per diesel equivalent gallon

Conversion Factors:[4,5]

139.3 scf of CNG per diesel equivalent gallon

1.039 kBtu per cubic foot of NG

Notes:

[1] The annual vehicle miles travelled by operational mobile sources (obtained from the CalEEMod model run in **Appendix A**) was apportioned into natural gas vehicle technology based on the operational vehicle fleet mix shown in **Table F-4**.

[2] Fuel consumption for natural gas vehicles is estimated as a ratio of vehicle miles traveled to the average fuel efficiency of natural gas vehicles.

[3] The average fuel efficiency for natural gas vehicles operating in El Dorado (MC) sub-area in calendar year 2028 is obtained from EMFAC2021.

[4] Scf of CNG per diesel equivalent gallon was obtained from the Alternative Fuels Data Center Gasoline and Diesel Gallon Equivalency Methodology. Available at: https://afdc.energy.gov/fuels/equivalency-methodology. Accessed: June 2025.

[5] kBtu per cubic foot of NG was obtained from the NRG Energy Conversion Calculator. Available at: https://www.nrg.com/resources/energy-tools/energy-conversion-calculator.html. Accessed: June 2025.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel
CNG - compressed natural gas
EMFAC - EMission FACtors model
kBtu - kilo-British thermal unit
MC - Mountain County
NG - natural gas
scf - standard cubic feet
yr - year

Table F-7. Operational Mobile Source Diesel Consumption for the North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Mobile Source Category	Mobile Source Activity [1] (miles/yr)	Diesel Consumption [2] (gallons/yr)
Diesel Vehicles	268,259	24,867

Constants:

Average fuel efficiency of diesel vehicles [3] 10.79 miles per gallon

Notes:

[1] The annual vehicle miles travelled by operational mobile sources (obtained from the CalEEMod model run in **Appendix A**) was apportioned into diesel vehicle technology based on the operational vehicle fleet mix shown in **Table F-4**.

[2] Fuel consumption for diesel vehicles is estimated as a ratio of vehicle miles traveled to the average fuel efficiency of diesel vehicles.

[3] The average fuel efficiency for diesel vehicles operating in El Dorado (MC) sub-area in calendar year 2028 is obtained from EMFAC2021.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

EMFAC - EMission FACtors model

MC - Mountain County

yr - year

Table F-8. Operational Mobile Source Electricity Consumption for the North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Mobile Source Category	Mobile Source Activity [1] (miles/yr)	Mobile Source Activity Associated with Electricity Consumption [2] (electric miles/yr)	Electricity Consumption [3] (kWh/yr)
Battery Electric Vehicles	171,129	171,129	51,686
Plug in Hybrid Vehicles	85,324	47,000	14,195

Constants:

Average fuel efficiency for plug-in hybrid electric vehicles in 2028 [4]	3.31 miles per kWh
Average fuel efficiency for electric vehicles in 2028 [4]	2.39 miles per kWh

Notes:

[1] The annual vehicle miles travelled by operational mobile sources (obtained from the CalEEMod model run in **Appendix A**) was apportioned into battery electric and plug-in-hybrid vehicle technology categories based on the operational vehicle fleet mix shown in **Table F-4**.

[2] The fraction of electric vehicle miles traveled by plug-in hybrid vehicles was estimated based on EMFAC default assumptions for plug-in hybrid vehicles operating in El Dorado (MC) sub-area in calendar year 2028.

[3] The electricity consumption is estimated as the ratio of the electric miles traveled to the average fuel efficiency of each vehicle technology in miles per kilowatt-hour.

[4] The average fuel efficiencies of battery electric and plug-in hybrid vehicles operating in El Dorado (MC) sub-area in calendar year 2028 are obtained from EMFAC2021.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

EMFAC - EMission FACtors model

GDF - gasoline dispensing facility

kWh - kilowatt-hour

MC - Mountain County

yr - year

Table F-9. Operational Landscape Equipment Gasoline Consumption for the North Site Remainder Area
El Dorado Hills Costco Project
El Dorado Hills, California

Area Source Category	CO_2 Emissions [1] (MT/yr)	Gasoline Consumption [2] (gallons/yr)
Landscape equipment	2.02	230

Conversion Factors:

8.78 kg CO_2/gallon gasoline consumed in combustion engines [3]

1,000 kg CO_2/MT CO_2

Notes:

[1] Exhaust CO_2 emissions from landscaping equipment are obtained from the CalEEMod model run in **Appendix A**.

[2] Gasoline consumption of landscaping equipment is estimated as a ratio of the CO_2 emissions from these equipment to the CO_2 emission factor per gallon of gasoline consumed.

[3] Obtained from the USEPA GHG Emission Factors Hub. Available at: https://www.epa.gov/system/files/documents/2025-01/ghg-emission-factors-hub-2025.pdf. Accessed: June 2025.

Abbreviations:

CalEEMod - CALifornia Emissions Estimator MODel

CO_2 - carbon dioxide

GHG - greenhouse gas

kg - kilograms

MT - metric ton

USEPA - United States Environmental Protection Agency

yr - year

Appendix G

Phase I Environmental Assessment

June 13, 2024
Kleinfelder Project No.: 20193180.002A

Costco Wholesale Corporation
9 Corporate, Suite 230
Irvine, California 92606

Attention: Mr. Micheal Okuma
AVP Real Estate Development

SUBJECT: Phase I Environmental Site Assessment
Proposed Costco Wholesale Warehouse and Gasoline Station
Assessor's Parcel Numbers (APNs): 122-720-002, 122-720-018, 122-720-019, 122-720-020, and 122-720-021
Silva Valley Parkway
El Dorado Hills, El Dorado County, California 95762
CW# 18-0487

Dear Ms. Okuma:

Enclosed is the Phase I Environmental Site Assessment (ESA) report for the above-referenced property. We trust the information presented in this report meets your needs at this time.

An executive summary is provided. However, we recommend that the report be read in its entirety for a comprehensive understanding of the items contained therein.

We appreciate the opportunity to provide these services to Costco Wholesale Corporation. If you have questions regarding this report or if we can be of further service, please do not hesitate to contact me at 949.727.4466 or Mr. Andy Franks, Kleinfelder's Client Account Manager for Costco, at 480.650.4905.

Sincerely,

KLEINFELDER

Paolo Dizon
Project Manager

Copyright 2024 Kleinfelder

KLEINFELDER 24411 Ridge Route Dr., Suite 225, Laguna Hills, CA 92653 p | 949.727.4466 f | 949.727.9242

PHASE I ENVIRONMENTAL SITE ASSESSMENT
PROPOSED COSTCO WHOLESALE WAREHOUSE AND GASOLINE STATION
ASSESSOR'S PARCEL NUMBERS (APNs): 122-720-002, 122-720-018, 122-720-019, 122-720-020, AND 122-720-021
SILVA VALLEY PARKWAY
EL DORADO HILLS, EL DORADO COUNTY, CALIFORNIA 95762
CW# 18-0487

KLEINFELDER PROJECT NO. 20193180.002A

REPORT DATE: JUNE 13, 2024
REPORT VIABLE UNTIL: NOVEMBER 18, 2024

Copyright 2024 Kleinfelder
All Rights Reserved

ONLY THE CLIENT OR ITS DESIGNATED REPRESENTATIVES MAY USE THIS DOCUMENT AND ONLY FOR THE SPECIFIC PROJECT FOR WHICH THIS REPORT WAS PREPARED.

Copyright 2024 Kleinfelder

A Report Prepared for:

Costco Wholesale Corporation
9 Corporate, Suite 230
Irvine, California 92606

PHASE I ENVIRONMENTAL SITE ASSESSMENT
PROPOSED COSTCO WHOLESALE WAREHOUSE AND GASOLINE STATION
ASSESSOR'S PARCEL NUMBERS (APNs): 122-720-002, 122-720-018, 122-720-019, 122-720-020, AND 122-720-021
SILVA VALLEY PARKWAY
EL DORADO HILLS, EL DORADO COUNTY, CALIFORNIA 95762
CW# 18-0487

Prepared by:



Victoria A. Golston
Environmental Scientist

Reviewed by:



Lizanne Simmons, PG
Senior Principal Geologist

KLEINFELDER, INC.
24411 Ridge Route Drive, Suite 225
Laguna Hills, California 92653
Phone: 949.727.4466
Fax: 949.727.9242

Report Date: June 13, 2024
Report Viable Until: November 18, 2024

Kleinfelder Project No. 20193180.002A

Copyright 2024 Kleinfelder

TABLE OF CONTENTS

Section **Page**

1 EXECUTIVE SUMMARY 1

2 INTRODUCTION 6
2.1 PURPOSE 6
2.2 DETAILED SCOPE OF SERVICES 7
2.3 ADDITIONAL SERVICES 9
2.4 SIGNIFICANT ASSUMPTIONS 9
2.5 LIMITATIONS AND EXCEPTIONS 9

3 SUBJECT PROPERTY DESCRIPTION 11
3.1 LOCATION AND LEGAL DESCRIPTION 11
3.2 CURRENT / PROPOSED USE OF THE PROPERTY 12
3.3 DESCRIPTION OF STRUCTURES / IMPROVEMENTS 12
3.4 CURRENT USES OF ADJOINING PROPERTIES 12

4 RECORDS REVIEW 14
4.1 STANDARD ENVIRONMENTAL RECORD SOURCES 14
4.2 RESULTS OF DATABASE SEARCH 15
4.3 SPECIAL TERMS AND CONDITIONS 16
4.3.1 Subject Property Listings 16
4.3.2 Non-Subject Property Listings 16
4.3.3 Orphan List 17
4.4 OTHER RECORDS REVIEWED / AGENCIES CONTACTED 17
4.4.1 Pipeline and Hazardous Materials Safety Administration (PHMSA), National Pipeline Mapping System (NPMS) 18
4.4.2 State of California, California Geologic Energy Management Division (CalGEM) 18
4.4.3 El Dorado Hills Community Services District (EDHCSD) 18
4.4.4 El Dorado County Air Quality Management District (AQMD) 18
4.4.5 El Dorado County Planning and Building Services 18
4.4.6 El Dorado County Environmental Management (EDCEM) 20
4.4.7 El Dorado Hills Fire Department 21
4.4.8 El Dorado and Alpine Counties Department of Agriculture – Weights and Measures 21
4.4.9 State Water Resources Control Board 21
4.4.10 Department of Toxic Substances Control 21
4.5 PHYSICAL SETTING SOURCE(S) 22
4.6 USER PROVIDED INFORMATION 24
4.7 TITLE RECORDS 25
4.8 ENVIRONMENTAL LIENS AND USAGE LIMITATIONS 25
4.9 VALUE REDUCTION 25
4.10 OTHER INFORMATION / DOCUMENTS PROVIDED 25

5 SUBJECT PROPERTY HISTORY 32
5.1 SANBORN FIRE INSURANCE MAPS 32
5.2 AERIAL PHOTOGRAPHS 32
5.3 CITY DIRECTORIES 35
5.4 HISTORICAL TOPOGRAPHIC MAP REVIEW 35

Copyright 2024 Kleinfelder

Section **Page**

5.5 BUILDING PERMITS 37

6 SUBJECT PROPERTY RECONNAISSANCE 38
6.1 METHODOLOGY AND LIMITING CONDITIONS 38
6.2 GENERAL SUBJECT PROPERTY SETTING 38
6.3 SUBJECT PROPERTY OBSERVATIONS 38
6.4 RESULTS OF SUBJECT PROPERTY RECONNAISSANCE 41

7 INTERVIEWS 43
7.1 INTERVIEW WITH CLIENT 43
7.2 INTERVIEW WITH OWNER/MANAGER 43
7.3 INTERVIEW WITH OCCUPANT(S) 43
7.4 INTERVIEWS WITH LOCAL GOVERNMENT OFFICIALS 43

8 EVALUATION 44
8.1 BACKGROUND 44
8.2 FINDINGS AND OPINIONS 45
8.3 DEVIATIONS AND ADDITIONAL SERVICES 45
8.4 CONCLUSIONS AND RECOMMENDATIONS 48
8.5 DATA GAPS 49

9 REFERENCES 51

TABLES
3-1 Location and Legal Description
3-2 Current and Proposed Uses
3-3 Structures and Improvements
3-4 Adjoining Properties
4-1 Physical Setting
4-2 Regional Geology and Hydrogeology
4-3 Owner and Occupant Information
5-1 Historical Information Sources
5-2 Historical Aerial Photographs Reviewed
5-3 Historical Topographic Maps Reviewed
6-1 Subject Property Observations

FIGURES
1 Subject Property Location Map
2 Subject Property Vicinity Map
3-21 Subject Property Photographs

APPENDICES
A Statement of Qualifications
B Regulatory Agency Database Report
C User-Provided and Regulatory Agency Documentation
D Historical Research Documentation

Copyright 2024 Kleinfelder

1 EXECUTIVE SUMMARY

This report documents a Phase I Environmental Site Assessment (ESA) performed by Kleinfelder, Inc. (Kleinfelder) for Costco Wholesale Corporation (Costco / Client), of a property located north of United States Highway 50 (US-50)/El Dorado Freeway, on the west and east sides of Silva Valley Parkway in the unincorporated community of El Dorado Hills, El Dorado County, California (the "Subject Property"). Kleinfelder understands the Client plans to purchase the property in connection with the construction of a Costco Wholesale Warehouse and gasoline station.

This report was prepared using the ASTM International Designation E 1527-21, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (the "ASTM Standard"), the All Appropriate Inquiry (AAI) section of the Small Business Liability Relief and Brownfields Revitalization Act (the Federal Brownfields Law), and Costco's Development Requirements, Version 2022, dated October 28, 2022. The Phase I ESA findings include the following:

- The Subject Property is located approximately 75-feet north of the US-50 and Silva Valley Parkway interchange and is bisected by Silva Valley Parkway and Clarksville Crossing within the unincorporated community of El Dorado Hills, El Dorado County, California (see Figure 1). The northeastern portion of the Subject Property consists of approximately 24.83 acres of land that is identified by the El Dorado County Assessor's Office as Assessor's Parcel Numbers (APNs) 122-720-019, 122-720-020, and 122-720-021. The southwestern portion of the Subject Property consists of approximately 17.63 acres of land that is identified as APNs 122-720-002 and 122-720-018.

- Based on Kleinfelder's review of historical information and aerial photographs, the Subject Property was historically an undeveloped hillside that was used as grazing land. Farm/ranch structures occupied to the north corner of APN 122-720-018 from at least 1937 through 1973. Remnants of these structures are still present based on Kleinfelder's May 2024 reconnaissance. Natural drainage channels cross the Subject Property and remnants of a dam remain present across the drainage channel in the central portion of APN 122-720-018. By at least 2006, Silva Valley Parkway (present-day Clarksville Crossing) was constructed, bisecting present-day APN 122-720-018. Earthwork appears to have occurred in the southern portion of APN 122-720-020 between 2012 and 2016 based on aerial photographs. This earthwork appears to be related to the US-50 (El

Copyright 2024 Kleinfelder

Dorado Freeway) construction activities, and realignment of Silva Valley Parkway and Tong Road in 2012 and 2013.

This is further substantiated with a transmittal letter dated May 17, 2012, between DeSilva Gates Construction LP (DeSilva), to the El Dorado County Department of Transportation (DOT) and the owner of the Subject Property, EDH 52, to allow for the placement of approximately 21,000-cubic yards (CY) of material on the Subject Property that had been, or was proposed to be, generated from the US-50 High-Occupancy Vehicle (HOV) Lane Project.

Furthermore, two Asbestos Dust Mitigation Plan Applications were approved by the El Dorado County Air Quality Management District (AQMD) in 2012 and 2013 for grading and excavation activities associated with the construction of the US-50 and Silva Valley Parkway interchange south of the Subject Property. A March 2008 Caltrans report, entitled *Aerially Deposited Lead, Naturally Occurring Asbestos and Lead Containing Paint Site Investigation and Bridge Survey Report, Highway 50 Site Investigation, Post Mile 2.90 to 8.89,* was included with the 2012 Asbestos Dust Mitigation Plan Application. This report indicated that 30 composite soil samples and one rock chip sample were collected and analyzed for the presence of naturally occurring asbestos (NOA). One sample was reported to contain less than 0.25 percent chrysotile asbestos, while remaining samples did not contain detectable NOA. Additionally, five paint-chip samples were collected from the yellow median traffic stripe within the project boundaries and were analyzed for total lead and chromium. Total lead and chromium were detected in the soil samples analyzed; however, the concentrations were reportedly below California hazardous waste threshold levels. Figure 2 presented in the Caltrans report indicates that the southern portion of present-day APN 122-720-020 was used to temporarily stockpile soil that was to be covered with plastic and surrounded by fiber rolls.

A Rough Grading Plan was included in the 2013 Asbestos Dust Mitigation Plan Application, which was dated August 2013. The Rough Grading Plan indicates that 20,000 CY of existing stockpiled soil and an additional 100,000 CY of soil from a ‘Borrow Area’ would be used as part of the construction of a future US-50 off-ramp, and the future alignments of Tong Road and Silva Valley Parkway. The Borrow Area was shown to be on the southern portion of the northeastern portion of the Subject Property with a 10-foot-wide maintenance access road to the area.

Copyright 2024 Kleinfelder

- At the time of Kleinfelder's reconnaissance, the Subject Property was observed to consist of an undeveloped hillside, with remnants of several concrete structures (concrete dam, trough, foundations, walls, and blocks), which may be related to the former ranching operations that were historically conducted on the Subject Property. An earthen embankment was observed in the north-central portion of APN 122-720-021, which may be related with drainage control at the Subject Property. Utilities including a water utility vault with standpipes were observed immediately adjoining the Subject Property to the south, along Clarksville Crossing/Old Silva Parkway.

- Kleinfelder previously prepared two Phase I ESAs (2019a and 2019b) for the Subject Property. As part of the scope of services for these reports, non-scope evaluations of wetlands and surface water; and threatened, endangered, and other protected species were performed by Kleinfelder's subcontractor, Moore Biological Consultants (Moore, 2019a and 2019b). The findings include the following:

  - During Moore's reconnaissance, the Subject Property was observed to consist of open hillsides supporting annual grassland vegetation, which sloped down generally from the northeast to the southwest. The grasslands were noted to be moderately to highly disturbed from grazing, grading, construction of adjacent parcels, disking for weed abatement, and off-road vehicle trespass.

  - An intermittent creek and ephemeral creek were observed flowing north to south across the northeastern portion of the Subject Property. Two seasonal wetland areas were observed near the southern ends of these waterways.

  - Two ephemeral creeks, flowing from the northeast to southwest, and one seasonal wetland swale, located in the creek, were observed on the southwestern portion of the Subject Property.

  - No special status wildlife or plant species were observed during the Subject Property reconnaissance. Ten special status plants were identified during database research as potentially occurring at the Subject Property. Due to lack of habitat, it is unlikely these special status plants would occur at the Subject Property. Multiple special status species were documented in the Subject Property vicinity; however, upon review of the available habitat and distribution of regional occurrences, in Moore's opinion, most of the species are unlikely to occur at the Subject Property.

  - A blue elderberry shrub was observed near the northern boundary of the Subject Property. This shrub can be home to the blue elderberry beetle; however, no sign of

Copyright 2024 Kleinfelder

the beetle was observed on this shrub, and due to the elevation of the location of the shrub, it is unlikely the beetle will occur at this location. However, presence of the blue elderberry shrub may require that one mitigation credit be purchased from the United States Fish and Wildlife Service (USFWS), and the shrub relocated. Based on the Subject Property observations, in Moore's opinion, it is unlikely the beetle will occur at the Subject Property.

- Burrowing owls, Swainson's Hawk, and migratory birds have the potential to occur on the Subject Property.

- Kleinfelder's evaluation has identified no adjoining or other nearby facility considered likely to have affected the environmental condition of soil, soil vapor, or groundwater beneath the Subject Property.

- Wetlands are mapped on the Subject Property. Based on Kleinfelder's further review of the USFWS National Wetlands Inventory (NWI) for the Subject Property and surrounding area, a freshwater emergent wetland traverses the western portion of APN 122-720-018, in the area west of Clarksville Crossing. Additionally, as documented by in the biological assessments performed at the Subject Property by Moore (Moore 2019a, 2019b), two ephemeral creeks and one intermittent creek are also present on the Subject Property. Furthermore, three seasonal wetlands were identified.

Based on the results of the Phase I ESA, this assessment has revealed no evidence of recognized environmental conditions (RECs), historical RECs (HRECs), or controlled RECs (CRECs) associated with the Subject Property.

The following Business Environmental Risks (BERs) in connection with the Subject Property were identified:

- NOA has been identified in the Subject Property vicinity, and portions of the Subject Property are located within asbestos buffer zones. Limited NOA soil sampling was performed for the construction of US-50 and roadways adjacent to the Subject Property; however, since specific locations of those samples are not known, the collection and analysis of additional NOA samples is recommended if Costco desires a greater level of certainty of the potential presence of NOA in shallow soil at the Subject Property. Additionally, the preparation of an Asbestos Dust Mitigation Plan for El Dorado County Air Quality Management District (AQMD) is recommended prior to construction at the Subject Property.

Copyright 2024 Kleinfelder

- Multiple concrete structures (including a pit and trough) were observed on the Subject Property. As there is the potential for dumping in these structures, and though the former use is assumed to be associated with former ranching operations, that has not been confirmed. Therefore, Kleinfelder recommends environmental monitoring and observation of the removal of this structure and, if contamination is suspected, collection of soil samples from beneath these structures is recommended. Additionally, the concrete remnants from the former structures may contain asbestos. Sampling for asbestos in concrete is also recommended for all structures and/or features.

- A portion of the Subject Property, APN 122-720-002, which encompasses approximately 0.52 acre of land, is identified in the NEPASearch™ Map Report as a California Protected Areas Database (CPAD) site and a California Government Lands site. Based on Kleinfelder's review of the CPAD and the California Conservation Easement Database, APN 122-720-002 is identified as a county regional park (RP) with open access. As such, Kleinfelder submitted a request for additional information from the County of El Dorado to determine what limitations there may be for construction and development as it pertains to the CPAD sites. As of the date of this report, Kleinfelder has not received an update. If pertinent information is received that alters the conclusions of this assessment, Kleinfelder will issue an addendum under separate cover. Kleinfelder recommends that coordination be conducted with El Dorado County to determine construction and overall development constraints.
- An intermittent creek, two ephemeral creeks, two seasonal wetlands, and a freshwater emergent wetland were observed and/or are documented on the Subject Property. As further discussed in Section 7.2, it is Kleinfelder's understanding that wetland fill permit applications have been submitted; however, permits will not be issued until the Clean Water Act (CWA) Section 401 certification has been issued.
- Burrowing owls, Swainson's hawk, and migratory birds have the potential to occur on the Subject Property; therefore, pre-construction surveys for these species are recommended.
- A blue elderberry shrub, which can be home to the blue elderberry beetle, was observed near the northern boundary of the Subject Property. A mitigation credit may need to be acquired to move the blue elderberry shrub in the northern portion of the Subject Property.

Deviations and *de minimis* findings are discussed in Section 8 of this report. This report is subject to the limitations in Section 2.5.

Copyright 2024 Kleinfelder

2 INTRODUCTION

This report is a summary of work performed using the guidelines set forth in the Standard Practice, the AAI section of the Federal Brownfields Law, and Costco's Development Requirements, Version 2022, dated October 28, 2022. This report also generally conforms to the Standard Practice's suggested table of contents. Minor format modifications have been made to the ASTM Standard's suggested table of contents to assist in better reading and understanding the report findings.

2.1 PURPOSE

The purpose of this Phase I ESA is to identify, to the extent feasible pursuant to the scope of services defined in our Contract Amendment Request No. 2, dated May 31, 2024, and limitations discussed in this report, RECs and other environmental issues related to the Subject Property.

As defined in the ASTM Standard, a REC is:

> *"1) The presence of hazardous substances or petroleum products due to a release to the environment; (2) likely presence of hazardous substances or petroleum products due to a release or likely release to the environment; or (3) presence of hazardous materials or petroleum products under conditions that pose a material threat of a future release to the environment. De minimis conditions are not recognized environmental conditions."*
>
> *Note: '"Likely' is that which is neither certain nor proved, but can be expected or believed by a reasonable observer based on the logic and/or experience of the environmental professional, and/or available evidence, as stated in the report to support the opinion given therein."*

As defined in the ASTM Standard, a *de minimis* condition is:

> *"A condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies."*

As defined in the ASTM Standard a CREC is:

> *"…a recognized environmental condition resulting from a past release of hazardous substances or petroleum products affecting the Subject Property that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the*

Copyright 2024 Kleinfelder

issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use limitations, activity and use limitations, institutional controls, or engineering controls).”

Additionally, the 2021 ASTM Standard defines HRECs, as:

“…a past release of any hazardous substances or petroleum products that has affected the Subject Property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to environmental controls.”

The final decision regarding whether a past release is an HREC rests with the environmental professional (EP) and will be influenced by the current impact (if any) of the past release to the Subject Property and current regulations.

Finally, the Standard Practice defines a BER as:

“…a risk which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of a parcel of commercial real estate, not necessarily limited to those environmental issues required to be investigated in this practice. Consideration of business environmental risk issues may involve addressing one or more non-scope considerations...”

This report describes Kleinfelder’s assessment methodology and documents our findings, subject to the limitations presented in Section 2.5 of this report.

The Kleinfelder professionals conducting this Phase I ESA included Ms. Erin Abendroth, who oversaw the Subject Property reconnaissance; Ms. Victoria Golston, primary author of this report; and Ms. Lizanne Simmons, who provided technical review of the report and project oversight. Resumes can be provided upon request.

2.2 DETAILED SCOPE OF SERVICES

The following sections describe Kleinfelder’s work scope:

- Section 2, **Introduction**, includes a discussion of the purpose/reason for performing the Phase I ESA, additional services requested by the Client (e.g., an evaluation of business environmental risk factors associated with the Subject Property), significant assumptions

Copyright 2024 Kleinfelder

(e.g., property boundaries if not marked in the field), limitations, exceptions, special terms and conditions (e.g., contractual), and user reliance parameters.

- Section 3, **Subject Property Description**, is a compilation of information concerning the Subject Property location, legal description (if provided by the Client), current and proposed use of the Subject Property, a description of structures and improvements on the Subject Property at the time of Kleinfelder's assessment, and adjoining property use.
- Section 4, **Records Review**, is a compilation of Kleinfelder's review of several databases available from Federal, State, and local regulatory agencies regarding hazardous substance use, storage, or disposal at the Subject Property and non-Subject Property facilities within the search distances specified in the ASTM Standard. Records provided by the Client are summarized and copies of relevant documents are included in the appendices of this report. Physical setting sources (including topography and soil and groundwater conditions) and typical Client-provided information (e.g., title records, environmental liens, specialized knowledge, valuation reduction for environmental issues, and owner, property manager, and occupant information) are also summarized in this section. Other interviews with people knowledgeable about the Subject Property (including the Client) are included in Section 7.
- Section 5, **History of the Subject Property**, summarizes the history of the Subject Property and adjoining properties. This Subject Property history is based on various sources, which may include a review of historical aerial photographs, Sanborn Fire Insurance Maps, city or suburban directories, historical topographic maps, building department records, and results of previous Subject Property assessments (if any and reasonably ascertainable).
- Section 6, **Subject Property Reconnaissance**, describes Kleinfelder's observations during the Subject Property reconnaissance. The methodology used and limiting conditions, are described.
- Section 7, **Interviews**, is a summary of telephone and personal interviews performed with "Key Site Managers" that may include the Subject Property owner/manager, occupants/tenants, local government officials, and the Client. Additional interview sources may be contacted if Key Site Managers were not available prior to production of this report and may include adjoining landowners and people with historical knowledge of the area.
- Section 8, **Evaluation**, is a presentation of our findings and opinions regarding the information in Sections 3 through 7, and presents our conclusions regarding the presence

Copyright 2024 Kleinfelder

of RECs, HRECs, CRECs, BERS, and *de minimis* conditions connected with the Subject Property, and Kleinfelder's recommendations.

- Section 9, **References**, is a summary of some of the resources used to compile this report.

A statement of qualifications of the signatories of this report is provided in Appendix A, and pertinent documentation regarding the Subject Property is included in Appendices B through D.

2.3 ADDITIONAL SERVICES

Kleinfelder's scope of services as part of this Phase I ESA did not include ASTM Standard Practice non-scope evaluations of environmental regulatory compliance, asbestos-containing materials (ACMs), radon, lead-based paint (LBP), lead in drinking water, regulatory compliance, cultural and historical resources, industrial hygiene, health and safety, ecological resources, indoor air quality, and high-voltage power lines that may be required for a Phase I ESA pursuant to Costco's Development Requirements publication (revised October 28, 2022). Kleinfelder did a preliminary database review of historic, archaeological resources, wetlands, and endangered species in the Subject Property vicinity. This review is summarized in Section 8.3.

2.4 SIGNIFICANT ASSUMPTIONS

Kleinfelder does not guarantee the accuracy of the information supplied by its sources but reserves the right to rely on this information in formulating a professional opinion on the potential for contamination at the Subject Property. Kleinfelder also assumes the Client provided all applicable and available environmental records and specialized knowledge regarding the Subject Property. Kleinfelder has not made other significant assumptions during the performance of this Phase I ESA.

If specific information was not available, Kleinfelder also made assumptions for this Phase I ESA regarding the surficial groundwater flow direction at the Subject Property based on observed conditions and a review of United States Geological Survey (USGS) Topographic Maps and online USGS StreamStats drainage basin delineation tool. Kleinfelder assumed that historical aerial photographs, topographic maps, and other information was representative of conditions during periods between coverage.

2.5 LIMITATIONS AND EXCEPTIONS

Phase I ESAs are non-comprehensive by nature and may not identify all environmental problems and will not eliminate all risk. This report is a qualitative assessment. Kleinfelder offers a range of

Copyright 2024 Kleinfelder

investigative and engineering services to suit the needs of its clients, including more quantitative investigations. Although risk can never be eliminated, more detailed and extensive investigations yield more information, which may help the Client understand and better manage risks. Since such detailed services involve greater expense, Kleinfelder asks its clients to participate in identifying the level of service that will provide them with an acceptable level of risk. Please contact the signatories of this report if you would like to discuss this issue of risk further.

Kleinfelder performed this Phase I ESA consistent with the guidelines set forth in the ASTM Standard Practice; Costco's Development Requirements, Version 2022 publication (dated October 28, 2022); and the proposed scope of services subsequently approved by Costco. No other warranty, either express or implied, is made. Environmental issues not specifically addressed in this report were beyond the scope of Kleinfelder's services and not included in the evaluation.

This report may be used only by Costco. Land or facility use, conditions on and off the Subject Property, regulations, or other factors may change over time, and additional work may be required with the passage of time. Since activities at the Subject Property and regulations beyond Kleinfelder's control may change at any time after the completion of this report, the observations, findings, and opinions provided herein are considered valid only as of the date of the Subject Property visit. Pursuant to Section 4.6 of the Standard Practice, this report should not be relied upon after 180 days from the date of its oldest component (May 22, 2024), which is November 18, 2024. No party other than the Client may rely on this report without prior written authorization from Kleinfelder. Based on the intended use of the report, Kleinfelder may require that additional work be performed and that an updated report be issued. Non-compliance with any of these requirements by the Client or anyone else will release Kleinfelder from any liability resulting from the use of this report by any unauthorized party, but only to the extent of any such non-compliance by the Client.

The Phase I ESA has been conducted in accordance with, and conforms to, the Costco Wholesale Development Requirements Document and the latest edition of ASTM E 1527. This assessment has been prepared for the sole use of Costco Wholesale Corporation. Its contents should not be relied upon by other parties without the express written consent of Costco Wholesale Corporation.

Copyright 2024 Kleinfelder

3 SUBJECT PROPERTY DESCRIPTION

The Subject Property description is presented in this section and describes the condition of the Subject Property at the time of the Phase I ESA. The Subject Property location is shown on Figure 1. Tables 3-1 through 3-4 summarize the physical characteristics of the Subject Property and adjoining properties.

3.1 LOCATION AND LEGAL DESCRIPTION

The information presented in Table 3-1 denotes the physical location and legal description of the Subject Property. This information was obtained from review of various maps (such as topographic maps and tax assessor maps), aerial photographs, public records at City and/or County offices, interviews, and/or information provided by the Client.

Table 3-1
Location and Legal Description

PARAMETER	INFORMATION/COMMENTS
LOCATION	The Subject Property is located north of US-50/ El Dorado Freeway, on the west and east sides of Silva Valley Parkway in the unincorporated community of El Dorado Hills, El Dorado County, California (see Figure 1).
LEGAL DESCRIPTION	The legal description of the Subject Property parcels is presented in the *EDR Environmental Lien and AUL Search* report (EDR, 2024a) provided in Appendix C.
ASSESSOR'S PARCEL NUMBER	The Subject Property is situated on five parcels of land identified by El Dorado County Assessor's Office as APNs 122-720-002, 122-720-018, 122-720-019, 122-720-020, and 122-720-021. A copy of the El Dorado County Parcel Map is included in Appendix C.
ADDRESS(ES)	There is no address associated with the Subject Property.
SECTION, TOWNSHIP, AND RANGE	Township 9 North, Range 8 East, Sections 1 and 2, Mount Diablo Baseline and Principal Meridian.
ZONING	Based on information obtained from the El Dorado County Planning Services Department and Kleinfelder's review of the Rezone Exhibit for EDH52, Sheet No. RZ 12 of 12, prepared by RSC Engineering, dated April 23, 2021, Subject Property parcel APN 122-720-002 is zoned 'CL' for Commercial Limited; and APNs 122-720-018, 122-720-019, 122-720-020, and 122-720-021 are zoned 'CR-PD' for Commercial Regional Planned Development.

Copyright 2024 Kleinfelder

3.2 CURRENT / PROPOSED USE OF THE PROPERTY

The Subject Property is currently undeveloped hillside, with remnants of several concrete structures which may be related to the former ranching operations that were historically conducted on the Subject Property. Current and proposed Subject Property uses are described in Table 3-2.

Table 3-2
Current and Proposed Uses

PARAMETER	GENERAL OBSERVATIONS
CURRENT USE	Vacant, undeveloped hillside.
PROPOSED USE	Costco Wholesale Warehouse, gasoline station, and associated asphalt-paved parking lot.

3.3 DESCRIPTION OF STRUCTURES / IMPROVEMENTS

Structures and/or improvements observed on the Subject Property at the time of Kleinfelder's reconnaissance are described in Table 3-3.

Table 3-3
Structures and improvements

PARAMETER	GENERAL OBSERVATIONS
STRUCTURES	The Subject Property is currently undeveloped hillside, with remnants of several concrete structures (concrete foundations, walls, concrete blocks, etc.) which may be related to the former ranching operations that were historically conducted on the Subject Property.
IMPROVEMENTS	The Subject Property is currently undeveloped land. Improvements include a concrete dam and water trough, chain-link fencing, and utility infrastructure.

3.4 CURRENT USES OF ADJOINING PROPERTIES

Kleinfelder performed a brief drive-by survey of the properties immediately adjoining to the Subject Property on May 23 and 28, 2024. A summary of the observations from the drive-by and a review of recent aerial photographs regarding the surrounding properties is presented in Table 3-4 and shown on Figure 2, Subject Property Vicinity Map.

Copyright 2024 Kleinfelder

Table 3-4
Adjoining Properties

DIRECTION	LAND USE DESCRIPTION
NORTH	The Subject Property is adjoined to the north by a residential neighborhood. Oak Meadow Elementary School is located north and northwest of the Subject Property.
EAST	The northeastern portion of the Subject Property is adjoined to the east by undeveloped land. Residential dwellings adjoin the Subject Property near the northeast corner. The main component of the southwestern portion of the Subject Property is adjoined to the east by Silva Valley Parkway, beyond which are three parcels of the Subject Property (APNs 122-720-019, 122-720-020, and 122-720-021). Adjoining the western most section of APN 122-720-018 to the east is Clarksville Crossing (Old Silva Valley Parkway), beyond which is the remaining portion of APN 122-720-018 (Subject Property) and APN 122-720-002 (Subject Property).
SOUTH	The northeastern portion of the Subject Property is adjoined to the south by Tong Road, followed by the US-50 off-ramp and US-50. The southwestern portion of the Subject Property is adjoined to the south by a remnant of Tong Road from before the realignment project, beyond which is the US-50 on-ramp, followed by US-50.
WEST	The western most portion of the Subject Property is adjoined to the west by undeveloped land. The main component of APN 122-720-018 located in the southwestern portion of the Subject Property is adjoined to the west by Clarksville Crossing (Old Silva Valley Parkway). The northeastern portion of the Subject Property is adjoined to the west by Silva Valley Parkway, beyond which is the Subject Property (APN 122-720-002 and 122-720-018).

Based on our observations, hazardous materials and petroleum products were not directly observed to be stored on the properties adjoining the Subject Property at the time of the Subject Property. No other indications of obvious or suspect RECs were apparent on the adjoining properties at the time of Kleinfelder's Subject Property reconnaissance.

Copyright 2024 Kleinfelder

4 RECORDS REVIEW

4.1 STANDARD ENVIRONMENTAL RECORD SOURCES

The purpose of the records review is to obtain and review records that would help to evaluate RECs in connection with the Subject Property and bordering properties. Federal, State, and local regulatory agencies publish databases or "lists" of businesses and properties that handle hazardous materials or hazardous waste or are the known location of a release of hazardous substances to soil and/or groundwater. These databases are available for review and/or purchase at the regulatory agencies, or the information may be obtained through a commercial database service. Kleinfelder contracted a commercial database service, EDR Lightbox (EDR), of Shelton, Connecticut, to perform the government database search for listings within the appropriate Standard Practice minimum search distance of the Subject Property, and the distances set forth in Costco's Development Requirements, Version 2022, dated October 28, 2022. Included in the EDR Radius Map™ Report with GeoCheck® (EDR, 2024b) is a listing of specific databases outlined by the Standard Practice. A listing of the search distances, databases evaluated, dates the databases were last updated, and types of information contained in each database are included in the regulatory database search report provided in Appendix B of this report.

EDR utilizes a geographical information system to plot the locations of reported spills, leaks, incidents, etc. Kleinfelder reviews this information to help establish if the Subject Property or nearby properties are listed in the databases and lists. Each of the listings was reviewed by Kleinfelder to assess whether the corresponding property details included in EDR's report revealed a potential environmental impact to the Subject Property. Many listings in the report were concluded not to have the potential to impact the Subject Property based on the following, or a combination thereof:

- The listed property was located at a distance where the facility is unlikely to impact the Subject Property based on Kleinfelder's evaluation of the relevant data in EDR's report and knowledge of the Subject Property vicinity.
- The listed property is located in a down-gradient or cross-gradient direction from the Subject Property, based on the anticipated direction of groundwater flow at the property being evaluated, and is located at a distance such that it is unlikely to impact the Subject Property. Judgements as to down- or cross-gradient direction are best made if groundwater flow direction is available for a specific property.

Copyright 2024 Kleinfelder

- The listed property is identified in the Underground Storage Tank (UST) or Resource Conservation and Recovery Act-Small Quantity Generator (RCRA-SQG) databases and does not immediately adjoin the Subject Property. The property is furthermore not listed in other databases that reported a release of a hazardous substance or petroleum product and/or is not listed as having environmental violations. The listing of a facility on these databases alone is not indicative of an unauthorized release.
- The listing for the facility suggested a short-term release had occurred (e.g., from incidental traffic accidents or involving limited quantities of chemicals from illegal drug labs found at residences), with associated response actions completed.
- The quantity of the hazardous substances or petroleum product released from an off-Subject Property, non-adjoining facility was not judged to have resulted in contamination above the most stringent criteria requiring regulatory action. Therefore, no impact to the Subject Property is anticipated.
- The listed property record indicates that the property was characterized, the reported release affected soil only, the listed property was not on or adjacent to the Subject Property, and the release was not recognized as indicative of area-wide conditions or was characterized as a soil removal action only.
- The listed property record indicates that contamination on the property is limited to relatively non-mobile contaminants, including polyaromatic hydrocarbons (PAHs) and metals, in soil only, on a non-adjacent property.
- The listed property record indicates that the case for the property has been closed to the satisfaction of the designated lead regulatory agency and residual contamination, if present, is not considered likely to affect the Subject Property based on one or more of the criteria mentioned in the bulleted items above (a condition referred to by the ASTM Standard as an HREC).

Based on these criteria indicating no material threat of a release that affected the Subject Property and/or no release that could require future regulatory agency oversight, the listings concluded not to have the potential to impact the Subject Property were not evaluated further and are not discussed in the following sections.

4.2 RESULTS OF DATABASE SEARCH

The remaining property listings, if applicable, were reviewed to assess whether these properties had environmental releases that may have resulted in RECs in connection with the Subject

Copyright 2024 Kleinfelder

Property. Listed properties for which a reported release may have resulted in a REC in connection with the Subject Property were further assessed by performing a review of agency files available through the GeoTracker™ website (https://geotracker.waterboards.ca.gov/) operated by the State Water Resources Control Board (SWRCB), and/or review of other relevant regulatory agency websites to evaluate whether the listed release represents a potential impact to the Subject Property.

4.3 SPECIAL TERMS AND CONDITIONS

No special terms and conditions were agreed to by the Client and Kleinfelder.

4.3.1 Subject Property Listings

Based on Kleinfelder's review of the EDR Radius Map™ Report with GeoCheck® (EDR, 2024b), the Subject Property was not listed in local, state, or federal databases searched by EDR.

4.3.2 Non-Subject Property Listings

Based on Kleinfelder's review, seven facilities in the Subject Property vicinity were listed in various databases searched by EDR. Three of these listings were further reviewed as to the potential to impact the Subject Property as summarized below.

Serrano Elementary School (Serrano Parkway/Silva Valley Parkway)

The school is located adjacent to the northwest corner of the Subject Property (Oak Meadow Elementary School). As further discussed in Section 4.4.10, this facility is included in the EnviroStor database as the location of the then-proposed school was identified as having a potential for NOA, arsenic, and lead in soil. Based on the evaluation conducted by the Department of Toxic Substances Control (DTSC), it was concluded that no actual or potential hazardous materials release(s) were identified which would pose a threat to human health or the environment under any land use. Therefore, a no further action with respect to investigation and remediation of hazardous substances at the site was granted.

Silver Dove Elementary School (Silver Dove Way/Bass Lake Road)

This school is located approximately 4,175-feet east of the Subject Property. This facility was listed in the DTSC EnviroStor database. The listing indicates that there was the potential for NOA in soil. The status of the case was listed as requiring "No Further Action" as no releases to soil or groundwater were reported and the case is closed, this facility is not considered a REC.

Copyright 2024 Kleinfelder

El Dorado Hills Reclamation (4525 Serrano)

The El Dorado Hills Reclamation site is identified as approximately 3,520-feet north/northwest of the Subject Property. This facility was listed in the Enforcement Action (ENF), California Integrated Water Quality System (CIWQS), and California Environmental Reporting System (CERS) databases. This facility handles wastewater and stormwater. This facility operated under a NPDES permit from April 1994 through June 2001. The ENF listing is for an "administrative enforcement with civil liability (penalty) and violation of a waste discharge requirement (WDR)". As no releases to soil or groundwater were reported; this facility is not considered a REC.

Based on the criteria listed in Section 4.1, no additional non-Subject Property listings were reviewed for REC evaluation.

4.3.3 Orphan List

Facilities not plotted by EDR due to poor or inadequate address information are referred to as orphan sites. Based on Kleinfelder's review of the orphan summary/unmapped site report, no orphan facilities were listed in the EDR report.

4.4 OTHER RECORDS REVIEWED / AGENCIES CONTACTED

The following additional sources of environmental records were reviewed during this Phase I ESA for the purposes of meeting the ASTM Standard Practice. Local regulatory agencies were contacted for reasonably ascertainable and practically reviewable documentation regarding RECs present at the Subject Property and adjoining facilities. Summaries of interviews with local regulatory agency representatives, when performed, are included in Section 7 of this report (with interview documentation included in Appendix C). Information was obtained or reviewed from the following agencies:

☒ ..... Pipeline and Hazardous Materials Safety Administration (PHMSA), National Pipeline Mapping System (NPMS)
☒ ..... State of California, California Geologic Energy Management Division (CalGEM)
☒ ..... El Dorado Hills Community Services District (EDHCSD)
☒ ..... El Dorado County Air Quality Management District (AQMD)
☒ ..... El Dorado County Planning and Building Services
☒ ..... El Dorado County Environmental Management (EDCEM)
☒ ..... El Dorado Hills Fire Department
☒ ..... El Dorado and Alpine Counties Department of Agriculture – Weights and Measures
☒ ..... State Water Resources Control Board, GeoTracker™ Database
☒ ..... State of California, Department of Toxic Substances Control, EnviroStor Database

Copyright 2024 Kleinfelder

Information/responses from the agencies contacted and agency databases reviewed is presented in the following subsections:

4.4.1 Pipeline and Hazardous Materials Safety Administration (PHMSA), National Pipeline Mapping System (NPMS)

Pipeline information is available at the PHMSA's online NPMS website (https://www.npms.phmsa.dot.gov). Kleinfelder researched pipeline information on the website on May 31, 2024, for the Subject Property and vicinity. Based on Kleinfelder's review of the NPMS website, no mapped natural gas transmission pipelines or hazardous liquid pipelines are located on the Subject Property. The closest active gas transmission pipeline (natural gas) is located approximately 0.7-mile southwest of the Subject Property (Pipeline ID 0617-06). A copy of the NPMS map information is included in Appendix C.

4.4.2 State of California, California Geologic Energy Management Division (CalGEM)

Kleinfelder searched the CalGEM website (https://maps.conservation.ca.gov/) on May 8, 2024 for oil and gas wells at the Subject Property and in the Subject Property's immediate vicinity. No oil and gas wells were located on or within the vicinity of the Subject Property. A copy of the CalGEM map results is presented in Appendix C.

4.4.3 El Dorado Hills Community Services District (EDHCSD)

Kleinfelder contacted the EDHCSD on May 31, 2024 for available files pertaining to the Subject Property. On June 5, 2024, the EDHCSD indicated that no records were located as it pertains to the Subject Property. A copy of the records request and response is included in Appendix C.

4.4.4 El Dorado County Air Quality Management District (AQMD)

Kleinfelder contacted the El Dorado County AQMD on May 22, 2024 for available files pertaining to the Subject Property. On June 6, 2024, the El Dorado County AQMD indicated that they do not maintain any files pertaining to the Subject Property. A copy of the records request and response is included in Appendix C.

4.4.5 El Dorado County Planning and Building Services

Kleinfelder submitted a written request to the El Dorado County Planning and Building Services on May 22, 2024, for files regarding environmental conditions pertaining to the Subject Property.

Copyright 2024 Kleinfelder

On May 28, 2024, the El Dorado County Planning and Building Services indicated that no building permits were associated with the Subject Property parcels.

Furthermore, on May 29, 2024, the El Dorado County Planning Services responded with multiple records. A summary of pertinent information is outlined below:

Assessor's Map Bk. 122 – Pg. 72, County of El Dorado, CA, Rev. April 6, 2010.

Based on Assessor's Map Block 122, Page 72, prepared by the El Dorado County Assessor's, dated April 6, 2010, the Subject Property formerly consisted of APN 122-720-02, as well as a portion of APN 122-720-09. The boundaries of APN 122-720-02 in 2010 match the existing boundaries of APN 122-720-002 in 2024 and former APN 122-720-09 encompassed an area of approximately 57.78 acres.

Re: Hwy 50 HOV Bass Lake to Cameron Park, prepared by DeSilva Gates Construction, dated May 17, 2012.

Included in a transmittal dated May 17, 2012 is a document titled *Agreement Between a Contractor Working on State/County Facilities and a Real Property Owner for the Placement of Construction Related Material Outside of State/County Right-of-Way.* Under this Agreement, DeSilva entered into a contract with the El Dorado County DOT. The owner of APN 122-720-09 (EDH 52) agreed to allow the DeSilva to place approximately 21,000 CY of material, such as soil, asphalt, grindings, cold planning grindings, and other material on the property. The owner would then take ownership of the material at the time it was deposited on the property. The material was disclosed to include, but not limited to:

- Trace amounts of NOA (less than 0.25 percent) are present in the material excavated from mile marker 2.9 to 6.7 on State Route 50 in El Dorado County;
- Lead has been detected in the material to be excavated from unpaved areas of the highway. Levels of lead found within the project limits range from less than 5.0 to 150 milligrams per kilogram (mg/kg), with an average concentration of 16.1 mg/kg;
- Residue from grinding or cold planing operations contain lead from paint and thermoplastic. The average lead concentrations were reported to be less than 1,000 mg/kg total lead, and 5 milligrams per liter (mg/L) soluble lead. This residue was considered non-hazardous.

Copyright 2024 Kleinfelder

As outlined above, the Subject Property formerly occupied a portion of APN 122-720-09. Based on the available information, the location of the stockpiled material is unclear.

EDH Retail Shopping Center Project, prepared by First Carbon Solutions, file name dated August 15, 2015.

First Carbon Solutions (FCS) prepared a deliverable outlining 13 tasks for the proposed 40.50-acre project site located north of US-50/Silva Valley Parkway Interchange, which was bounded by former Silva Valley Parkway to the west, a single-family residential subdivision and Oak Meadow Elementary School to the north, undeveloped land to the east, and Tong Road to the south. This area was identified as containing annual grassland with scattered oak trees. Additionally, a large quantity of fill material was reportedly present that was placed there as part of the addition of the HOV lanes on US-50. Furthermore, unpaved roads and remnants of prior development are also present on the site.

The project was to include the future realignment of Silva Valley Parkway, where it would bisect the project site from northwest to southeast. The realigned Silva Valley Parkway would also have a new interchange with US-50. FCS indicates that the applicant sought to move the fill from the area north of the realigned road to the area to the south, mass grade both sites, and install utilities within the realigned Silva Valley Parkway.

Traffic Impact Analysis for EDH 52 Site, Silva Valley Parkway North of US 50, El Dorado Hills, El Dorado County CA, prepared by KDAnderson & Associates, Inc., dated September 1, 2015.

KDAnderson & Associates prepared a Traffic Impact Analysis for the EDH 52 project which was proposed to include a retail center located on Silva Valley Parkway in El Dorado Hills. The project site is located north of US-50, and east of Old Silva Valley Parkway. Silva Valley Parkway was proposed to bisect the project. The location of the project is north of the Silva Valley Parkway Interchange which was reportedly scheduled to be open in 2016. Once completed, Silva Valley Road would be named Old Silva Valley Road, and Silva Valley Parkway would connect White Rock Road south of US-50.

A copy of the records request and pertinent records are included in Appendix C.

4.4.6 El Dorado County Environmental Management (EDCEM)

Kleinfelder submitted a written request to the El Dorado County Environmental Management (EDCEM) on May 22, 2024, for files regarding the Subject Property. On May 29, 2024, the

Copyright 2024 Kleinfelder

EDCEM indicated that no records could be located for the Subject Property. A copy of the records request and response is included in Appendix C.

4.4.7 El Dorado Hills Fire Department

Kleinfelder submitted a records request to the El Dorado Hills Fire Department on May 31, 2024 for files regarding environmental conditions pertaining to the Subject Property. As of the date of this report, Kleinfelder has not received an update. If pertinent information is received that alters the conclusions of this assessment, Kleinfelder will issue an addendum under separate cover.

4.4.8 El Dorado and Alpine Counties Department of Agriculture – Weights and Measures

Kleinfelder submitted a records request to the Weights and Measures Department on May 31, 2024 for files regarding environmental conditions pertaining to the Subject Property. As of the date of this report, Kleinfelder has not received an update. If pertinent information is received that alters the conclusions of this assessment, Kleinfelder will issue an addendum under separate cover.

4.4.9 State Water Resources Control Board

Kleinfelder reviewed the SWRCB GeoTracker™ database (http://geotracker.waterboards.ca.gov/) on April 10, 2024, for information pertaining to the Subject Property and adjoining properties. The Subject Property and adjoining properties are not listed in the GeoTracker™ database. A copy of the GeoTracker™ search results map is included in Appendix C.

4.4.10 Department of Toxic Substances Control

Kleinfelder reviewed the DTSC's EnviroStor website (https://www.envirostor.dtsc.ca.gov/public/) on April 10, 2024, for available files pertaining to the Subject Property and adjoining properties. The Subject Property was not listed in the DTSC's database. Adjoining the Subject Property at the northwest corner is a listing for Serrano Elementary School. Based on Kleinfelder's review of available records, this listing is for the proposed development of an elementary school located south of Serrano Parkway and east of Silva Valley Parkway, which coincides with Oak Meadow Elementary School located at 7701 Silva Valley Parkway.

In a letter dated January 14, 2000 prepared by the DTSC, the DTSC references and summarizes a December 1999 Phase I ESA and Geological Hazard Assessment prepared by Youngdahl &

Copyright 2024 Kleinfelder

Associates, Inc. (Youngdahl). At the time of Youngdahl's report preparation, the proposed school site was undeveloped grasslands and was utilized for the stockpiling of rock from the adjacent residential construction sites. The Phase I ESA also noted the proximity of the proposed school site to known and suspected sources of NOA. A geotechnical consulting firm had also been retained by the housing developer to monitor cut and fill operations. The geotechnical firm reportedly did not observe asbestos-laden material being placed on or near the proposed school site but suggested that sampling be performed to confirm the absence of asbestos.

In a document entitled "Docket No. HAS-A 99/00-168", the DTSC entered into an Environmental Oversight Agreement with Buckeye Union School District. The purpose of this agreement is for the School District to conduct a Preliminary Endangerment Assessment (PEA) under the oversight of the DTSC. This document also indicates that the proposed school site had been used for livestock grazing purposes only, and the adjoining properties (which includes the Subject Property), were used as an undeveloped grazing land.

In a letter dated June 29, 2000 prepared by the DTSC, the DTSC acknowledges their review of the Youngdahl's PEA dated May 19, 2000 which was prepared to document the hazardous substance characterization actions taken at the subject site. The PEA documented sampling and analysis of asbestos, lead, and arsenic in soil. It is further documented that asbestos, arsenic, and lead were found at levels equal to or less than background concentrations. Based on the DTSC's evaluation of the PEA, the DTSC concluded that no actual or potential hazardous materials release was identified which would pose a threat to human health or the environment under any land use. Therefore, it was DTSC's determination that no further action was necessary with respect to investigation and remediation of hazardous substances at the site.

A copy of the EnviroStor search results and pertinent information is included in Appendix C.

4.5 PHYSICAL SETTING SOURCE(S)

Table 4-1 presents information concerning the physical setting of the Subject Property. The information was primarily obtained from published maps.

Copyright 2024 Kleinfelder

TABLE 4-1
Physical Setting

DATA	GENERAL INFORMATION
USGS TOPOGRAPHIC QUADRANGLE	Based on the USGS Clarksville Quadrangle 7.5-Minute Series (Topographic) Map, dated 2021, the Subject Property elevation is between approximately 700 and 800 feet above mean sea level (msl).
SOIL TYPE	According to the soil composition information provided in the physical setting section of The EDR Radius Map™ Report with GeoCheck®, the soil components beneath the Subject Property are identified as Auburn silt loam (EDR, 2024b).
OIL AND GAS WELLS	Information concerning oil and gas fields was obtained by Kleinfelder on May 8, 2024, from the CalGEM online database (https://maps.conservation.ca.gov). Based on Kleinfelder's review, there are no oil and gas wells located on or within the vicinity of the Subject Property. Additional information concerning oil and gas fields is presented in Section 4.3.2. A copy of the Well Finder search results is presented in Appendix C.

Table 4-2 presents information concerning regional geology and hydrogeology. The information was obtained from published maps and other sources.

TABLE 4-2
Regional Geology and Hydrogeology

PHYSICAL PARAMETER	INFORMATION/COMMENTS
REGIONAL PHYSIOGRAPHY AND GEOLOGY	The Subject Property is situated between the Great Valley and Sierra Nevada Geomorphic Provinces of California. The Great Valley Geomorphic Province is an alluvial plain about 50-miles wide and 400-miles long that includes the Sacramento Valley as its northern portion, and the San Joaquin Valley as its central and southern portion. The Great Valley is a trough in which sediments have been deposited almost continuously since the Jurassic. The Sierra Nevada Geomorphic Province is a tilted fault block characterized as a high multiple scarp mountain range that slopes gently to the west, and dips under the Great Valley (California Geological Survey [CGS], 2002). The Sierras are characterized by deep cut valleys that drain into the Great Valley. The high Sierras are granitic with the surrounding bedrock being metamorphic. The Subject Property is located on Jurassic-Triassic metavolcanics rocks, which consist of basaltic and andesitic volcanic rocks, tuff, and volcanic breccia. The Bear Mountain Fault Zone is located approximately 1-mile west of the Subject Property and extends northwest to southeast from Folsom Lake along the Sierra Nevada foothills (Strand and Koenig, 1965).
REGIONAL HYDROGEOLOGY	Based on review of the California Department of Water Resources (CDWR) website, Groundwater Basin Boundary Assessment Tool (ca.gov), the Subject Property is not located within an area with a groundwater basin (CDWR, 2019).

Copyright 2024 Kleinfelder

TABLE 4-2 (Continued)
Regional Geology and Hydrogeology

PHYSICAL PARAMETER	INFORMATION/COMMENTS
DEPTH TO GROUNDWATER DIRECTION OF ANTICIPATED FLOW [1]	Groundwater was not encountered during Kleinfelder's geotechnical investigation to the maximum depth explored of approximately 25 feet below ground surface (bgs). However, perched groundwater was encountered in two test pits at depths of approximately 7 to 8 feet bgs. These pits were located near a seasonal creek, which runs through the Subject Property. Based on the Subject Property topography and our review of nearby clean up facilities, groundwater in the vicinity of the Subject Property generally flows to the southwest *(Case Closure Summary, Shell-Branded Service Station, 3405 Coach Lane, Cameron Park, CA, 2012).*
REGIONAL GROUNDWATER QUALITY PROBLEMS	There are no known regional groundwater contaminated plumes (EDR, 2024b).
WATER SUPPLY	The Subject Property has not been developed.
FLOOD ZONE DESIGNATION	Kleinfelder reviewed FEMA FIRM Map Number 06017C0725E, dated September 26, 2008. The Subject Property is located in Zone X, an area of minimal flood hazard. Zone X is an area outside the Special Flood Hazard Area and is higher than the elevation of the 0.2-percent annual chance flood. A copy of the flood plain map is included in Appendix C.

[1] Groundwater flow direction is based on regional information sources. Subject Property-specific conditions may vary due to a variety of factors including geologic anomalies, utilities, nearby pumping wells (if present), and others.

4.6 USER PROVIDED INFORMATION

Kleinfelder understands Costco is interested in purchasing the Subject Property for use of a proposed Costco Wholesale Warehouse and gasoline station. Information regarding the current owners/occupants of the Subject Property is summarized in Table 4-3.

Table 4-3
Owner and Occupant Information

ENTITY	NAME
OWNER	According to *The EDR Environmental Lien and AUL Search* reports (EDR, 2024a), the current owner of APN 122-720-002 is 'John C & Lesley Ann Kemp TR', and the current owner of APNs 122-70-018, 122-70-019, 122-70-020, and 122-70-021 is 'EDH 52'.
OCCUPANT(S)	The Subject Property is vacant and unoccupied.

Summaries of interviews of key individuals with knowledge of the Subject Property ("Key Site Managers") are provided in Section 7. The following sections present information provided to Kleinfelder by the Client.

Copyright 2024 Kleinfelder

4.7 TITLE RECORDS

Chain-of-title information for the Subject Property was not provided by the Client. Therefore, a review of a chain-of-title report was not reviewed as part of this Phase I ESA.

4.8 ENVIRONMENTAL LIENS AND USAGE LIMITATIONS

According to information provided in EDR's regulatory agency database search report (EDR, 2024b), no known recorded land-use environmental deed restrictions pertaining to the Subject Property are listed in the State Liens Database. Kleinfelder's review of *The EDR Environmental Lien and AUL Search* reports (EDR, 2024a) indicated no environmental liens or activity and use limitations (AULs) are associated with the Subject Property (Appendix C).

4.9 VALUE REDUCTION

As part of the ASTM Standard Practice process, information is to be gathered regarding the prospective purchase price of the Subject Property relative to its fair market value. If there appears to be a value reduction, that reduction must be identified with respect to whether the difference may be attributed to environmental degradation of the property. On May 28, 2024, Mr. Michael Okuma on behalf of Costco indicated that the purchase price reflects the fair market value of the property.

4.10 OTHER INFORMATION / DOCUMENTS PROVIDED

During the preparation of this Phase I ESA, Kleinfelder reviewed the following report regarding the Subject Property:

Initial Site Assessment, Silva Valley Pkwy/SR50 Interchange, 03-ED-50, KP 3.1 (PM 1.7), El Dorado Hills, California, prepared by Blackburn Consulting, Inc., dated April 2007.

Blackburn Consulting, Inc. (BCI) prepared an Initial Site Assessment (ISA) on behalf of Mark Thomas and Company (MTCo) for the El Dorado County DOT's proposed new interchange located east of the Silva Valley Road underpass on US-50, near El Dorado Hills, California. The purpose of this assessment was to identify potential soil and groundwater issues in the area of the proposed interchange, of which the Subject Property occupies a portion of.

This report identifies the Subject Property APNs 122-720-019, 122-720-020, 122-720-021, and the majority of APN 122-720-018 as "Parcel 1 APN 108-030-1010 EDH 52". Parcel 1 also includes present-day APN 122-720-014 (non-Subject Property area) which encompasses a portion of Silva

Copyright 2024 Kleinfelder

Valley Parkway located between the northern and southern portions of the Subject Property, as well as the areas south and southeast of APN 122-720-018.

This investigation was preformed to assess environmental conditions for the proposed US-50 underpass and Silva Valley Parkway interchange improvements. No hazardous material issues were identified in this report. The subject parcel was undeveloped and used for grazing. Low grasses, trees, and numerous shallow drainages and seasonal streams were documented to cover the majority of Parcel 1. Concrete structures/ruins (past use unknown) and associated debris were observed on this parcel. This report indicates that based on archaeological research reviewed by BCI, this parcel was used as a ranch. Potential concerns identified included issues associated with a former farm residence's leach fields/septic tanks and buried heating tanks. BCI recommended assessing the concrete structures for potential lead and asbestos. Parcel 1 was also identified as being in an area with NOA. A NOA monitoring plan was noted to be required prior to grading including having a geologist intermittently on-site to oversee the grading. BMPs for dust control were also recommended. BCI also concluded that Parcel 1 included former cattle grazing and crop land, and therefore, there was a low to moderate potential for residual pesticides, herbicides, and fungicides to be present.

This report identifies Subject Property APN 122-720-002 as "Parcel 2 APN 107-130-0110 El Dorado Hills Investors". At the time of BCI's reconnaissance, a barbed wire fence bordered the parcel. No obvious soil and/or groundwater contamination or hazardous materials issues were observed; however, a soil stockpile of unknown origin was observed to cover the majority of the parcel. BCI also indicated that as the entire project area encompasses an area of NOA bearing rocks and soils, and development and/or construction must comply with applicable rules and regulations, as written by El Dorado County Environmental Health Department as also determined on Parcel 1.

Updated Initial Site Assessment (ISA), Silva Valley PARKWAY/State Route 50 Interchange (03-ED-50, KP 3.1, PM 1.7), El Dorado County, California, prepared by Blackburn Consulting, Inc., dated February 23, 2010.

BCI prepared an Updated ISA in February 2010 to document significant changes in site use and/or facilities that may indicate the potential for hazardous materials and/or petroleum hydrocarbon contamination within or adjacent to the project area since the 2007 ISA and to also document the following items:

- A database search performed in February 2010;

Copyright 2024 Kleinfelder

- Review of BCI's ISA for US-50/El Dorado Boulevard Interchange (EA 03-2E5100) and Pedestrian Overcrossing Project (EA 03-2E4700) El Dorado Hills, CA BCI File No. 1072.5 dated May 2009;
- BCI's Review of Geocon's Aerially Deposited Lead, Naturally Occurring Asbestos, and Lead Containing Paint Site Investigation and Bridge Survey/Highway 50 Report, dated March 10, 2008.
- A site visit performed on February 18, 2010.

Based on BCI's evaluation, no significant changes in site use were identified. Supplemental information for several non-Subject Property parcels were obtained and summarized in this Update ISA.

Geotechnical Report, EDH 52, Silva Valley Parkway at US 50, Rough Site Grading and Preliminary Foundation Design, El Dorado Hills, prepared by Blackburn Consulting, Inc., dated March 2013.

BCI prepared a Geotechnical Report to provide information for rough grading and preliminary foundation design, pavement, and utility installation considerations for Parcel 1, EDH 52 site. This report summarized a geotechnical investigation performed on Subject Property parcels. Based on rough grading plans, the EDH 52 site (Subject Property) was proposed to split diagonally by the new Silva Valley Parkway which was proposed to be constructed as part of the new interchange. The southwestern portion was identified as Area 1, and the northeastern portion was identified as Area 2.

Based on BCI's geotechnical investigation performed at the Subject Property, Mesozoic-age metavolcanics and metasedimentary rocks were present at shallow depths beneath the project area. Northwest trending faults, fault zones, and foliation characterize the region. NOA is mapped in the project area. Southwest trending drainage was observed at the Subject Property. An old dam was observed in the drainage feature extending through the center of the main portion of APN 122-720-018. Residual structures were also observed in the northern portion of APN 122-720-018.

Four bores (B1 through B4) and 11 test pits (TP1 through TP11) were advanced during this investigation. Bores were completed to depths between 24.2 and 40 feet bgs. The test pits were typically 2- to 3-feet wide, 8- to 12-feet long, and 3- to 8-feet deep. Soils observed included 1 to 2 feet of sandy silt with gravel, over 1.5 to 5 feet of decomposed weathered metavolcanic rock, over weathered metavolcanic rock. Groundwater was not encountered.

Copyright 2024 Kleinfelder

Bores were drilled to auger refusal prior to coring. Based on the soil and rock conditions in the test pits, bores, BCI concluded that the soil and rock at the Subject Property should be excavatable with conventional grading equipment such as scrapers, dozers, backhoes, and excavators to the depth of refusal encountered in the test pits (depths between 5.5 and 8 feet bgs in Area 1 and 2.5 to 7 feet bgs in Area 2). Furthermore, BCI concludes that blasting may be required to facilitate excavation at depths greater than approximately 15 to 20 feet bgs.

BCI also indicated that asbestos minerals were not present in the rocks observed, but they also indicate that the western portion of the Subject Property falls with the EL Dorado County Environmental Management "Asbestos Review Area".

Phase I Environmental Site Assessment, Proposed Costco Warehouse and Gas Station, West-Southwest of Silva Valley Parkway, El Dorado Hills, El Dorado County, California, CW: 18-0487, Kleinfelder File No. 20193180.001A/LH19R100805, prepared by Kleinfelder, dated September 9, 2019.

Kleinfelder prepared a Phase I ESA on behalf of Costco for the southwestern portion of the Subject Property, excluding the small portion of APN 122-720-018 which is located south of Clarksville Road (formerly identified as Old Silva Valley Parkway). Improvements included a concrete dam and water trough, chain-link fencing, and utility infrastructure. Additionally, as part of the Phase I ESA, an evaluation of wetlands and surface water; and threatened, endangered, and other protected species was performed.

This assessment revealed no evidence of RECs, HRECs, or CRECs, although the following environmental conditions were noted because of potential impact to construction activity.

- Based on the location of the southwestern portion of Subject Property being within the asbestos buffer zone, preparation of an Asbestos Dust Mitigation Plan for AQMD was recommended prior to construction.

- Concrete structures, including a pit of unknown use were observed at the time of Kleinfelder's reconnaissance. It was determined that as there was a potential for dumping in the pit, and in the vicinity of the former structures, Kleinfelder recommended environmental monitoring and observation of the removal of these structures. If contamination was suspected, collection of soil samples from beneath these structures

Copyright 2024 Kleinfelder

would be performed. Additionally, as asbestos may be present in the concrete remnants, sampling for asbestos in the concrete was recommended.

- Two ephemeral creeks and one seasonal wetland swale were observed. Kleinfelder recommended that a wetland delineation be performed.

- Burrowing owls, Swainson's hawk, and migratory birds have the potential to occur on the Subject Property; therefore, pre-construction surveys for these species was recommended.

No non-Subject Property facilities were considered likely to have affected soil, soil vapor, or groundwater beneath the Subject Property.

Phase I Environmental Site Assessment, Proposed Costco Warehouse and Gas Station, Silva Valley Parkway, El Dorado Hills, El Dorado County, California, CW: 18-0487, Kleinfelder File No. 20193180.001A/LH19R91616, dated September 27, 2019.

Kleinfelder prepared a Phase I ESA on behalf of Costco for the northeastern portion of the Subject Property, which is situated north of the intersection of Silva Valley Parkway and Tong Road, approximately 725-feet north of Highway 50. At the time of report preparation, this area was part of a larger parcel of land identified as APN 122-720-15. This parcel consisted of land on both the north and south sides of Silva Valley Parkway. Kleinfelder's scope of services also included an evaluation of wetlands and surface water; and threatened, endangered, and other protected species, which was performed by Kleinfelder's subcontractor, Moore.

At the time of Kleinfelder's reconnaissance, the northeastern portion of the Subject Property was observed to be vacant land. This assessment revealed no evidence of RECs, HRECs, or CRECs. The following environmental conditions were noted because of potential impact to construction activity.

- NOA has been identified in the vicinity of the Subject Property. Limited NOA soil sampling was performed for the construction of Highway 50 and roadways adjacent to the Subject Property; however, since specific locations of those samples are not known, the collection and analysis of additional NOA samples in shallow soils was recommended. Additionally, the preparation of an Asbestos Dust Mitigation Plan for AQMD was recommended prior to construction at the Subject Property.
- A concrete structure (probably to provide water for grazing livestock) was observed on the Subject Property. Kleinfelder concluded that as there was a potential for dumping in this

Copyright 2024 Kleinfelder

structure. As such, Kleinfelder recommended environmental monitoring and observation of the removal of this structure. If contamination was suspected, collection of soil samples from beneath this structure was recommended.

- Two seasonal wetlands were observed on the Subject Property. Kleinfelder recommended that a wetland delineation be performed in the spring.
- Burrowing owls, Swainson's hawk, and migratory birds have the potential to occur on the Subject Property; therefore, pre-construction surveys for these species were recommended.
- A blue elderberry shrub, which can be home to the blue elderberry beetle, was observed near the northern boundary of the Subject Property. A mitigation credit may need to be acquired to move the elderberry shrub.

No non-Subject Property facilities were considered likely to have affected soil, soil vapor, or groundwater beneath the Subject Property.

Preliminary Site Preparation Recommendations, Proposed Costco Wholesale Warehouse and Fuel Facility, Silva Valley Parkway, El Dorado Hills, California, CW# 18-0487, Kleinfelder File No. 20193141.001A/LH19M103348, prepared by Kleinfelder, dated October 31, 2019.

Kleinfelder prepared a draft memorandum to provide preliminary site preparation recommendations for the majority of the southwestern portion of the Subject Property, which encompassed an area of approximately 17 acres of land. It was Kleinfelder's understanding that Costco proposed to construct an approximately 152,000-square-foot warehouse, gasoline station, and a two-level parking structure. Additional surface parking and landscape islands were also planned around the new gasoline station.

At the time of Kleinfelder's reconnaissance, the southwestern portion of the Subject Property was undeveloped with rolling hills, with much of the area covered by low-lying vegetation (weeds and shrubs) and animal burrows. Additionally, a seasonal creek was noted on the Subject Property.

Subsurface conditions were explored by drilling 3 bores/rock cores (KB-1, KB-3, and KB-4), excavating 26 test pits (TP-1 through TP-26), and performing a seismic refraction survey. The seismic refraction survey was performed to evaluate the rippability of the bedrock rock material. Soil materials encountered during the explorations consisted of colluvium/residual soil overlying bedrock. The colluvium/residual soil consisted primarily of clayey soils with varying amounts of silt and gravel and varied in depth from approximately 1.5 and 5.5 feet bgs. Below the

Copyright 2024 Kleinfelder

colluvium/residual soil, bedrock comprised of weathered and fractured metavolcanic rock underlain by little-weathered, intact rock. The rock increased in strength and decreased in weathering and fracture amount with depth. Localized deposits of artificial fill material were encountered in a few test pits. The fill consisted of sandy lean clays with variable amounts of gravel and cobbles. Perched groundwater was encountered in a few test pits between depths of approximately 7 and 8 feet bgs. These test pits were located near the seasonal creek.

This memorandum also mentions Kleinfelder's investigation of the northeastern portion of the Subject Property which was conducted in April 2019. Based on Kleinfelder's working knowledge of the project, these investigations were not documented in a report.

Draft Geotechnical Study, Proposed Costco Wholesale Warehouse and Fuel Facility, Silva Valley Parkway, El Dorado Hills, California, CW# 18-0487, Kleinfelder File No. 20193141.001A/SJO19R103500, prepared by Kleinfelder, dated November 5, 2019.

Kleinfelder prepared a draft geotechnical study report to evaluate soil, bedrock, and groundwater conditions at the southwestern portion of the Subject Property, as well as provide geotechnical recommendations for project design and construction. At the time of Kleinfelder's field exploration, much of the southwestern portion of the Subject Property was covered by low-lying vegetation (weeds and shrubs) and animal burrows.

The scope of Kleinfelder's geotechnical study consisted of a literature review, subsurface explorations, geotechnical laboratory testing, engineering evaluation and analysis, and preparation of a final deliverable.

Subsurface conditions at the Subject Property were explored by drilling three boreholes/rock cores, excavating 26 test pits and performing a seismic refraction survey as previously discussed in Kleinfelder's 2019 Preliminary Site Preparation Recommendations memorandum.

Copyright 2024 Kleinfelder

5 SUBJECT PROPERTY HISTORY

The history of the Subject Property was researched to identify obvious uses. Historical land use was researched to the first developed use, or back to 1940, whichever was earlier or readily available. Table 5-1 summarizes the availability of information reviewed during this assessment.

Table 5-1
Historical Information Sources

SOURCE	YEARS REVIEWED	SOURCE / AVAILABILITY
SANBORN FIRE INSURANCE MAPS	Not available	EDR, 2024c
AERIAL PHOTOGRAPHS	1937, 1940, 1952, 1962, 1966, 1972, 1984, 1993, 2006, 2009, 2012, 2016, 2020	EDR, 2024d
CITY DIRECTORIES	2000 through 2020 (select years)	EDR, 2024e
HISTORICAL TOPOGRAPHIC MAP REPORT	1891, 1892, 1893, 1941, 1944, 1953, 1973, 1980, 2012, 2015, 2018, 2021	EDR, 2024f
BUILDING DEPARTMENT	Not available	EDR, 2024g
PREVIOUS ASSESSMENT(S)	Various	Various

5.1 SANBORN FIRE INSURANCE MAPS

Sanborn Fire Insurance Maps provide historical land use information for some metropolitan areas and small, established towns. Kleinfelder requested EDR to search its library of Sanborn Fire Insurance Maps for maps of the Subject Property. EDR responded that Sanborn Fire Insurance Maps were not available for the Subject Property (EDR, 2024c) (Appendix D).

5.2 AERIAL PHOTOGRAPHS

A review of historical aerial photography may indicate past activities at a property that may not be documented by other means or observed during a reconnaissance visit. The effectiveness of this technique depends on the scale and quality of the photographs and the available coverage. Aerial photographs were obtained from several historical photograph collections through EDR (2024d) and span a period of 83 years. A tabulation of the aerial photographs reviewed by Kleinfelder is presented in Table 5-2. Copies of the aerial photographs provided by EDR are included in Appendix D.

Copyright 2024 Kleinfelder

Table 5-2
Historical Aerial Photographs Reviewed

YEAR	APPROXIMATE SCALE	SUMMARY
1937 1940	1 inch = 500 feet	**Subject Property:** The Subject Property appears to be agricultural land (grazing). Two creeks appear to extend north-south across the western half of the northeastern portion of the Subject Property. Three trees are also present in the southeast corner of the Subject Property. The southwestern portion of the Subject Property appears to be developed with a farmhouse and associated structures. Multiple trees are also present south of the farmhouse. A creek also appears to be present in the central portion, which extends northeast to southwest, where it connects with the eastern-most creek observed in the northeastern portion of the Subject Property. A dirt track also extends north through the eastern portion of the southwestern portion of the Subject Property, where it veers northwest, and then west towards the farmhouse. **Surrounding Area:** The adjoining properties appear to be agricultural land (grazing). Dirt roads are present throughout the surrounding area, including the western boundary of the southwestern portion of the Subject Property. Several farmhouses are also present southwest of the Subject Property (not adjoining). By at least 1940, construction of US-50 to the south also appears to be underway.
1952	1 inch = 500 feet	**Subject Property:** The Subject Property appears to remain generally the same and is developed with agricultural land (grazing). **Surrounding Area:** The adjoining properties appear generally the same. By at least 1952, there appears to be a small structure adjoining the northwest corner of the Subject Property. The development of US-50 to the south appears to be complete.
1962	1 inch = 500 feet	**Subject Property:** The northeastern portion of the Subject Property appears to remain similar to the 1952 aerial photograph. The previously observed dirt track which traversed the southwestern portion of the Subject Property through the eastern portion is no longer visible. The dirt track first observed in 1937 which separates the two sections of the southwestern portion of the Subject Property now extends onto Subject Property from the southwest corner where it traverses the Subject Property in a northeasterly direction, and then turns east/northeast. **Surrounding Area:** The dirt track that was observed passing through the southern portion of the southwestern corner of the Subject Property extends further east/northeast towards the area immediately adjoining the southeast corner of the northeastern portion of the Subject Property where it forms two loop turnabouts.

Copyright 2024 Kleinfelder

Table 5-2 (Continued)
Historical Aerial Photographs Reviewed

YEAR	APPROXIMATE SCALE	SUMMARY
1966	1 inch = 500 feet	**Subject Property:** The Subject Property appears to remain similar to the 1962 aerial photograph with agricultural land (grazing). **Surrounding Area:** The adjoining properties appear generally the same. A paved road that extends in a general east-west direction travels south of the Subject Property (Tong Road), where it intersects with another paved road between the two sections of the southwestern portion of the Subject Property. This paved road extends approximately 200-feet north where it then connects with a dirt road extending north. US-50 appears further developed with west and east bound lanes.
1972 1984	1 inch = 500 feet	**Subject Property:** The Subject Property appears generally similar to the 1966 aerial photograph, except that the farmhouse is no longer present in the southwestern portion of the Subject Property, although some farm structures appear to remain. **Surrounding Area:** The adjoining properties appear generally the same. The farmhouse structure southwest of the Subject Property is no longer appears to be present, although there appears to be some smaller structures that remain.
1993	1 inch = 500 feet	**Subject Property:** The Subject Property appears generally similar to the 1984 aerial photograph. More developed dirt tracks appear to extend along the northern and eastern boundaries of the northeastern portion of the Subject Property. Additionally, dirt tracks also appear to be present along the western edge of the smaller portion of present-day APN 122-720-018. **Surrounding Area:** The adjoining properties appear generally the same, though there appears to be recent grading activities that have been conducted northwest of the Subject Property.
2006 2009	1 inch = 500 feet	**Subject Property:** The Subject Property appears generally similar with clear dirt tracks extending across the Subject Property. A dirt track extends across the northeastern portion east to west across the Subject Property. This dirt track extends into the southwestern portion of the Subject Property where it breaks off into two tracks, one heading west towards remnants of the of some farm structures, and one heading south towards the southwest corner of the Subject Property. **Surrounding Area:** The properties adjoining to the north and northwest appear to match their existing configuration with residential housing present north and northeast of the Subject Property, and Oak Meadow Elementary School present to the northwest. Former Silva Valley Parkway is also developed between the two sections of present-day APN 122-720-018. West of the Subject Property remains undeveloped land, beyond which is a residential neighborhood.

Copyright 2024 Kleinfelder

Table 5-2 (Continued)
Historical Aerial Photographs Reviewed

YEAR	APPROXIMATE SCALE	SUMMARY
2012	1 inch = 500 feet	**Subject Property:** The northeastern portion of the Subject Property appears to have a graded, raised (or cut) half-circle section in southeast corner. Dirt tracks extend to this area from the northeast, northwest, west, and south. The southwestern portion of the Subject Property appears similar to the 2009 aerial photograph; however, the dirt tracks crossing the area appear to be more apparent. Additionally, the dirt track that extended from the half-circle to the south, crosses over into the southwestern portion of the Subject Property in the southeast corner. **Surrounding Area:** The adjoining properties remain generally the same, although US-50 appears to have been widened.
2016 2020	1 inch = 500 feet	**Subject Property**: The northeastern portion of the Subject Property appears generally the same, except that the three trees first observed in 1937 no longer appear to be present, and the raised or cut section appears to have been graded. The southwestern portion of the Subject Property also appears generally the same, except that the dirt tracks no longer appear to be in use. **Surrounding Area:** The US-50/Silva Valley Parkway interchange project also appears to be complete, as Silva Valley Parkway has now been realigned and bisects the Subject Property east of present-day APN 122-720-018. Additionally, Tong Road now begins near the southern boundary of present-day APN 122-720-020, and travels east. A remnant of former Tong Road remains present south of the APN 122-720-002.

Note: Aerial photographs only provide information concerning indications of land use, and no conclusions regarding the release of hazardous substances or petroleum products can be drawn from the review of photographs alone.

5.3 CITY DIRECTORIES

City directories provide information regarding property occupants by address. Kleinfelder requested EDR to perform a search of its database for properties located along Silva Valley Parkway and Tong Road. EDR provided an EDR-City Directory Abstract report, included in Appendix D, (EDR, 2024e). As the Subject Property parcels are not assigned street addresses, the Subject Property was not identified.

5.4 HISTORICAL TOPOGRAPHIC MAP REVIEW

Kleinfelder obtained information regarding historical topographic maps of the vicinity of the Subject Property from EDR (2024f). The topographic maps reviewed for this assessment are listed in Table 5-3 and copies of the maps are included in Appendix D.

Copyright 2024 Kleinfelder

Table 5-3
Historical Topographic Maps Reviewed

YEAR	SCALE	SUMMARY
1891 1892 1893	1:125,000 1:125,000 1:125,000	**Subject Property:** The Subject Property is shown as undeveloped land consisting of a hill sloping to the south/southwest. **Surrounding Area:** The surrounding area is shown as undeveloped land, with unidentified roads to the north, west, and south. Clarksville is indicated to be southeast of the Subject Property.
1941 1944	1:62,500 1:62,500	**Subject Property:** The Subject Property remains mostly undeveloped land. A structure is present near the north corner of the main portion of present-day APN 122-720-018. **Surrounding Area:** The surrounding area is shown as undeveloped land, with an unimproved road that is present along the western boundary of the main portion of present-day APN 122-720-018. A road has been developed south of the Subject Property that is consistent with US-50.
1953	1:24,000	**Subject Property:** The Subject Property remains mostly undeveloped land. The structure on the northern portion of present-day APN 122-720-018 appears to have been repositioned on the map slightly to the east. **Surrounding Area:** The surrounding area remains generally the same. The road located south of the Subject Property has now been identified as US-50.
1973 1980	1:24,000 1:24,000	**Subject Property:** The Subject Property remains generally the same. By 1980, the structure located in the northern portion of present-day APN 122-720-018 is no longer visible on the 1980 topographic map. **Surrounding Area:** The surrounding area remains generally the same as the 1953 topographic map. An unnamed road that is consistent with the former configuration of Tong Road extends east to west south of the Subject Property. This paved road extends north bisecting present-day APN 122-720-018, where it then terminates approximately 200-feet north before connecting with unimproved dirt road. US-50 has been further developed with west and east bound lanes.
2012 2015	1:24,000 1:24,000	**Subject Property:** The 2012 and 2015 topographic maps are similar in appearance to the 1980 topographic. These maps show physical features (e.g., roads and surface water) with no structures. **Surrounding Area:** Silva Valley Parkway bisects the two sections of present-day APN 122-720-018, where it curves and continues to the north/northwest and turns near the northwest corner of present-day APN 122-720-021. Tong Road is also identified to the south. If should be noted that Silva Valley Parkway and Tong Road are depicted in their former configurations prior to the reconfiguration as part of the US-50/Silva Valley Parkway interchange project. Development of a residential neighborhood is evident north of the Subject Property based on the development of roadways.

Copyright 2024 Kleinfelder

Table 5-3 (Continued)
Historical Topographic Maps Reviewed

YEAR	SCALE	SUMMARY
2018 2021	1:24,000 1:24,000	**Subject Property:** The Subject Property is depicted with no features. **Surrounding Area:** The surrounding areas appear generally similar to on the present-day conditions. Silva Valley Parkway alignment matches the present-day conditions, as it bisects the Subject Property into two sections. Tong Road is also no longer present south of APN 122-720-018 and matches its current configuration where it begins south of present-day APN 122-720-020. Furthermore, the configuration of the US-50/Silva Valley Parkway interchange also matches current conditions.

No RECs were identified based on Kleinfelder's review of the topographic maps.

5.5 BUILDING PERMITS

EDR provided a Building Permit Report, included in Appendix D, (EDR, 2024g). No building permits were identified for the Subject Property.

Copyright 2024 Kleinfelder

6 SUBJECT PROPERTY RECONNAISSANCE

Kleinfelder's Phase I ESA activities included a Subject Property reconnaissance. This section summarizes the findings from the Subject Property reconnaissance.

6.1 METHODOLOGY AND LIMITING CONDITIONS

Ms. Erin Abendroth of Kleinfelder performed a reconnaissance of the Subject Property and vicinity on May 23 and May 28, 2024. The Subject Property reconnaissance included a visual inspection of the Subject Property to assist in identifying the presence or likely presence of hazardous substances or petroleum hydrocarbons under conditions that indicate an existing release, a past release, or threat of release into structures, soil, groundwater, or surface water at the Subject Property (i.e., RECs). Observations of readily apparent environmental conditions are summarized in Table 6-1, and color photographs of the Subject Property are presented on Figures 3 through 21. The approximate Subject Property boundaries are shown on Figure 2.

6.2 GENERAL SUBJECT PROPERTY SETTING

The Subject Property is located north of US Highway 50 to the west and east of Silva Valley Parkway, El Dorado Hills, El Dorado County, California, and was observed to be undeveloped land with seasonal grasses at the time of Kleinfelder's reconnaissance.

6.3 SUBJECT PROPERTY OBSERVATIONS

Kleinfelder's Subject Property observations are summarized in Table 6-1.

TABLE 6-1
Subject Property Observations

GENERAL OBSERVATIONS	REMARKS	OBSERVED	NOT OBSERVED
Current use	The Subject Property is currently an undeveloped hillside.	X	
Current use likely to indicate RECs			X
Past use	The Subject Property was historically utilized for ranching operations.		X
Past use likely to indicate RECs			X

Copyright 2024 Kleinfelder

TABLE 6-1 (Continued)
Subject Property Observations

GENERAL OBSERVATIONS	REMARKS	OBSERVED	NOT OBSERVED
Structures	A concrete-lined basin was observed in the central portion of the northern half of the Subject Property. This structure was likely used as a watering hole for grazing animals. Remnants of several concrete structures were observed on the northeastern portion of APN 122-720-018. A concrete dam was observed on the northeastern portion of APN 122-720-018, blocking the seasonal creek bisecting the Subject Property.	X	
Roads	Silva Valley Parkway bisects the Subject Property into two main sections, the northeastern and southwestern portions. The southwestern portion of the Subject Property consists of two areas that are divided by Clarksville Crossing.	X	
Topography of Subject Property and surrounding area	The Subject Property consists of vacant, undeveloped hillside and generally slopes towards the southwest.	X	
Interior and exterior observations or environmental conditions that may involve the use, storage, disposal or generation of hazardous substances or petroleum products.		**OBSERVED**	**NOT OBSERVED**
ASTs			X
Below grade vaults	Evidence of subsurface utility vaults and storm drains were observed along Silva Valley Parkway and Clarksville Road.	X	
Burned or buried debris			X
Chemical storage			X
Chemical mixing areas			X
Discolored soil or water			X
Ditches, streams	Three creeks were observed on the Subject Property. Two seasonal streams were observed starting at the northern property boundary. These streams are located on the western half of the Subject Property and trend towards the southwest. No water was observed in these streams at the time *(continued)*		

Copyright 2024 Kleinfelder

TABLE 6-1 (Continued)
Subject Property Observations

Interior and exterior observations or environmental conditions that may involve the use, storage, disposal or generation of hazardous substances or petroleum products.		OBSERVED	NOT OBSERVED
Ditches, streams *(continued)*	*(continued)* of Kleinfelder's site visit. A third stream was observed on the portion of APN 122-720-018 located west of Clarksville Road. Water was observed flowing towards the south in this stream.	X	
Drains and piping	Drains and culverts were observed near the streams to allow water flow beneath Silva Valley Parkway and Clarksville Road. A corrugated metal pipe was observed on the northern portion of the Subject Property in one of the streams.	X	
Drums			X
Electrical or hydraulic equipment (polychlorinated biphenyls [PCBs])	Two electrical transformers and an electrical panel were observed off site, adjacent to Clarksville Road, south of the remnant portion of former Tong Road.		X
Fill dirt from an unknown source	An earthen embankment was observed along a stream near the northern property boundary. This embankment may have once formed an artificial dam that is now breached.	X	
Fill dirt from a known source			X
Hazardous chemical and petroleum products in connection with known or unknown use	A box of non-sanded grout was observed on the southern portion of the Subject Property. The box did not exhibit evidence of spilled contents.	X	
Non-hazardous containers with contents			X
Hazardous waste storage			X
Heating and cooling system and fuel source			X
Industrial waste treatment equipment			X
Loading and unloading areas			X
Odors			X
Pits, ponds, or lagoons			X
Pools of liquid			X
Process wastewater			X
Sanitary sewer system			X

Copyright 2024 Kleinfelder

TABLE 6-1 (Continued)
Subject Property Observations

Interior and exterior observations or environmental conditions that may involve the use, storage, disposal or generation of hazardous substances or petroleum products.		OBSERVED	NOT OBSERVED
Septic system (e.g., tank and leach fields)			X
Soil piles	See *Fill dirt from an unknown source*	X	
Solid waste/evidence of unauthorized dumping	Scattered debris (likely windblown) was noted throughout the Subject Property; however, the debris did not appear to be the result of unauthorized dumping.		X
Stained pavement, soil, or concrete			X
Stains or corrosion (interior, non-water)			X
Storm drains/catch basins	Storm drains were observed on Silva Valley Parkway and Clarksville Road. Artificial drainage ditches were observed along the eastern sides of Silva Valley Parkway and Clarksville Road and the northern side of Tong Road.	X	
Stressed vegetation			X
Sumps and clarifiers			X
Surface water			X
UST(s) (including heating oil tanks)			X
Unidentified substance containers			X
Wastewater discharge			X
Water supplies (potable and process)	A water valve and subsurface vault were observed along the western side of Clarksville Road.	X	
Wells (irrigation, monitoring, or domestic)			X
Wells (dry)			X
Wells (oil and gas)			X

6.4 RESULTS OF SUBJECT PROPERTY RECONNAISSANCE

At the time of Kleinfelder's reconnaissance, the Subject Property was observed to consist of an undeveloped field primarily consisting of seasonal grasses. The Subject Property is hilly, with elevations that generally decrease to the west-southwest. Two streams were observed beginning at the northern property boundary, trending to the southwest. These two streams meet up with a

Copyright 2024 Kleinfelder

south-flowing stream located west of Clarksville Road. An earthen embankment and a metal corrugated pipe were observed along the easternmost stream on the northern portion of the Subject Property. A concrete dam was also observed along this stream, located in the center of the southern portion of the Subject Property.

Several concrete structures were observed throughout the Subject Property. A square, concrete structure with a circular basin in the middle was observed beneath a bush in the center of the northern portion of the Subject Property. Remnant ranching structures and a rectangular concrete basin were observed in the southern portion of the Subject Property, located northwest of the easternmost stream. A pile of concrete rubble was observed next to the remnant ranch structure. The purpose of the basins is not certain; however, they were likely used to provide water for grazing animals.

Two Pacific Telephone utility markers were observed on the southern portion of the Subject Property, located both west- and east-of Clarksville Road. Other signs of subsurface utilities included electrical transformers located adjacent to Clarksville Road south of former Tong Road, a subsurface utility vault and two standpipes located adjacent to Clarksville Road north of former Tong Road, storm drains located along Silva Valley Parkway and Clarksville Road, and a water valve and vault box located west of Clarksville Road.

A discarded vacuum cleaner and trash can were observed west of Clarksville Road.

The surrounding area consisted of residential homes and an elementary school to the north, vacant hillside followed by residential homes to the west, Highway 50 to the south, and vacant hillside to the east.

Copyright 2024 Kleinfelder

7 INTERVIEWS

Key Site Managers are contacted to obtain current and historical environmental information concerning the Subject Property. The following sections highlight information revealed during the interviews.

7.1 INTERVIEW WITH CLIENT

A User questionnaire was submitted to Mr. Michael Okuma on May 28, 2024. Mr. Okuma responded that same day indicating that he has no knowledge of the Subject Property. A copy of the completed User questionnaire is included in Appendix C.

7.2 INTERVIEW WITH OWNER/MANAGER

Kleinfelder provided Costco an interview questionnaire to be delivered to the property owner for completion. On May 28, 2024, Mr. Angelo Christie, Project Manager for AKT Investments, Inc., responded on behalf of the property owner. Mr. Christie indicated that wetland fill permit applications had been submitted, but permits had not yet been issued until the CWA Section 401 certification had been issued. Mr. Christie also indicated that he was unaware if the Subject Property had ever been served by a septic system. Mr. Christie further indicated that no crops are present or have been grown on the Subject Property, and to his knowledge, no fertilizers had been applied to the site. Mr. Christie also further indicated that there is a recycled water line located near the northwest corner of APN 122-720-018 between Clarksville Crossing and Silva Valley Parkway. Additionally, a 48-inch storm drain was previously daylighted in this same general area. A copy of the completed property/owner questionnaire is included in Appendix C.

7.3 INTERVIEW WITH OCCUPANT(S)

There were no occupants at the time of Subject Property reconnaissance.

7.4 INTERVIEWS WITH LOCAL GOVERNMENT OFFICIALS

Regulatory agency communication is summarized Section 4.3.

Copyright 2024 Kleinfelder

8 EVALUATION

Kleinfelder performed this Phase I ESA of the Subject Property in conformance with the scope and limitations of the ASTM Standard Practice, the scope of services in our Contract Amendment Request No. 2, dated May 31, 2024, and in accordance with Costco's Development Requirements, Version 2022, dated October 28, 2022. The following sections describe Kleinfelder's findings and provide general background information about the Subject Property. Findings address RECs, HRECs, CRECs, and notation of *de minimis* quantities, as applicable to the Subject Property. In summary, Kleinfelder's assessment revealed the following information concerning the Subject Property:

8.1 BACKGROUND

The following is a summary of the Subject Property background information:

- The Subject Property is located on the north side of the US-50 and Silva Valley Parkway interchange and is bisected by Silva Valley Parkway within the unincorporated community of El Dorado Hills, El Dorado County, California (see Figure 1). The northeastern portion of the Subject Property consists of approximately 24.83 acres of land that is identified by the El Dorado County Assessor's Office as APNs 122-720-019, 122-720-020, and 122-720-021. The southwestern portion of the Subject Property consists of approximately 17.63 acres of land that is identified as APNs 122-720-002 and 122-720-018.

- Based on Kleinfelder's review of historical information and aerial photographs, the Subject Property was historically an undeveloped hillside that was used as grazing land. Farm/ranch structures occupied to the north corner of APN 122-720-018 from at least 1937 through 1973. Remnants of these structures are still present based on Kleinfelder's May 2024 reconnaissance. Natural drainage channels cross the Subject Property and remnants of a dam remain present across the drainage channel in the central portion of APN 122-720-018. By at least 2006, Silva Valley Parkway (present-day Clarksville Crossing) was constructed, bisecting present-day APN 122-720-018. Earthwork appears to have occurred in the southern portion of APN 122-720-020 between 2012 and 2016 based on aerial photographs. This earthwork appears to be related to the US-50 (El Dorado Freeway) construction activities, and realignment of Silva Valley Parkway and Tong Road in 2012 and 2013.

Copyright 2024 Kleinfelder

8.2 FINDINGS AND OPINIONS

The following is a summary of findings and opinions for the Subject Property:

- At the time of Kleinfelder's reconnaissance, the Subject Property was observed to consist of an undeveloped hillside, with remnants of several concrete structures (concrete dam, trough, foundations, walls, and blocks), which may be related to the former ranching operations that were historically conducted on the Subject Property. An earthen embankment was observed in the north-central portion of APN 122-720-021, which may be related with drainage control at the Subject Property. Utilities including a water utility vault with standpipes were observed immediately adjoining the Subject Property to the south, along Clarksville Crossing/Old Silva Parkway.
- Kleinfelder's evaluation has identified no adjoining or other nearby facility considered likely to have affected the environmental condition of soil, soil vapor, or groundwater beneath the Subject Property.
- Wetlands are mapped on the Subject Property. Based on Kleinfelder's further review of the USFWS NWI for the Subject Property and surrounding area, a freshwater emergent wetland traverses the western portion of APN 122-720-018, in the area west of Clarksville Crossing. Additionally, as documented by in the biological assessments performed at the Subject Property by Moore (Moore 2019a, 2019b), two ephemeral creeks and one intermittent creek are also present on the Subject Property. Furthermore, three seasonal wetlands were identified.
- NOA has been identified in the Subject Property vicinity, and portions of the Subject Property are located within asbestos buffer zones. Limited NOA soil sampling was performed for the construction of US-50 and roadways adjacent to the Subject Property; however, since specific locations of those samples are not known, the collection and analysis of additional NOA samples is recommended if Costco desires a greater level of certainty of the potential presence of NOA in shallow soil at the Subject Property

8.3 DEVIATIONS AND ADDITIONAL SERVICES

Kleinfelder's scope of services did not include ASTM Standard Practice non-scope evaluations of environmental regulatory compliance that may be required for a Phase I ESA pursuant to Costco's Development Requirements publication (revised October 28, 2022). In addition, the Phase I ESA did not include an assessment for radon, lead in drinking water, molds and mildews, indoor air

Copyright 2024 Kleinfelder

quality, industrial hygiene, health and safety, and other ASTM Standard Practice non-scope considerations not described herein.

Kleinfelder's scope of services included a preliminary review of a database search, EDR NEPASearch™ Map Report (EDR, 2024h), for historical sites, wetlands, and threatened, endangered, and other protected species at or in the vicinity of the Subject Property pursuant to Development Requirements, Version 2022, dated October 28, 2022. A summary of the findings is provided below.

- No U.S. Federal Lands sites are located within a 1-mile radius of the Subject Property.
- No U.S. Wilderness Preservation areas were identified within a 1-mile radius of the Subject Property.
- The NEPASearch™ Map Report indicates that no CPAD sites are located within the Subject Property boundaries and that multiple listings were identified within a 1-mile radius of the Subject Property. The closest identified listing is for an unnamed county park (Holding ID: 54199) located approximately 870-feet south of the Subject Property. This park is further identified as a park with open access and no known mandate for protection. However, based on Kleinfelder's further review of the NEPASearch™ Map Report, correspondence with EDR, and Kleinfelder's further review of the CPAD and the California Conservation Easement Database website (https://www.mapcollaborator.org/cpad/) operated by the GreenInfo Network, APN 122-720-002 (Subject Property) is considered a CPAD site.

  Furthermore, based on Kleinfelder's review of available information, APN 122-720-002 is identified as a RP with open access (Unit ID: 35646, Super Unit ID: 3446). Furthermore, a RP with open access (Unit ID: 35695, Super Unit ID: 3446), encompassing an area of approximately 0.2 acre of land north of APN 122-720-021 and south of the residential homes located at 4848, 4854, 4860, 4866, 4872, 4880, and 4886 Village Green Drive, is present off site. On June 5, 2024, Kleinfelder submitted a request for additional information from the County of El Dorado to determine what limitations there may be for construction and development as it pertains to the CPAD sites. As of the date of this report, Kleinfelder has not received an update. If pertinent information is received that alters the conclusions of this assessment, Kleinfelder will issue an addendum under separate cover. Kleinfelder recommends that coordination be conducted with El Dorado County to determine construction and overall development constraints.

Copyright 2024 Kleinfelder

- Multiple California Government Lands site listings are identified. The closest identified California Government Lands site listing is unnamed; however, based on the listed direction and distance from the Subject Property and confirmation from EDR, it is consistent with APN 122-720-002 of the Subject Property which is identified as a regional park.
- Threatened, endangered, or species of concern were listed as present in Federal Endangered Species Lists for California and El Dorado County. Based on Moore's biological assessments and field verification surveys summarized under separate cover (Moore 2019a, 2019b), the findings include the following:
    - An intermittent creek and ephemeral creek were observed flowing north to south across the northeastern portion of the Subject Property. Two seasonal wetland areas were observed near the southern ends of these waterways.
    - Two ephemeral creeks, flowing from the northeast to southwest, and one seasonal wetland swale, located in the creek, were observed on the southwestern portion of the Subject Property.
    - No special status wildlife or plant species were observed during the Subject Property reconnaissance. Ten special status plants were identified during database research as potentially occurring at the Subject Property. Due to lack of habitat, it is unlikely these special status plants would occur at the Subject Property. Multiple special status species were documented in the Subject Property vicinity; however, upon review of the available habitat and distribution of regional occurrences, in Moore's opinion, most of the species are unlikely to occur at the Subject Property.
    - A blue elderberry shrub was observed near the northern boundary of the Subject Property. This shrub can be home to the blue elderberry beetle; however, no sign of the beetle was observed on this shrub, and due to the elevation of the location of the shrub, it is unlikely the beetle will occur at this location. However, presence of the blue elderberry shrub may require that one mitigation credit be purchased from the USFWS, and the shrub relocated. Based on the Subject Property observations, in Moore's opinion, it is unlikely the beetle will occur at the Subject Property.
    - Burrowing owls, Swainson's Hawk, and migratory birds have the potential to occur on the Subject Property.
- The EDR NEPASearch™ Map Report indicated that no U.S. Proclamation Boundary sites were identified within a 1-mile radius of the Subject Property.

Copyright 2024 Kleinfelder

- Wetlands are mapped on the Subject Property. Based on Kleinfelder's further review of the USFWS NWI for the Subject Property and surrounding area, a freshwater emergent wetland traverses the western portion of APN 122-720-018, in the area west of Clarksville Crossing. Additionally, as documented by in the biological assessments performed at the Subject Property by Moore (Moore 2019a, 2019b), two ephemeral creeks and one intermittent creek are also present on the Subject Property. Furthermore, three seasonal wetlands were identified.

No other additional services were provided by Kleinfelder for this Phase I ESA.

8.4 CONCLUSIONS AND RECOMMENDATIONS

Kleinfelder has performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E 1527-21 of the property located approximately 75-feet north of the US-50 and Silva Valley Parkway interchange and is bisected by Silva Valley Parkway and Clarksville Crossing within the unincorporated community of El Dorado Hills, El Dorado County, California. Any exceptions to, or deletions from, this practice are described in Section 8.3 of this report.

Based on the results of the Phase I ESA, this assessment has revealed no evidence of RECs, CRECs, or HRECs associated with the Subject Property.

The following BERs in connection with the Subject Property were identified:

- NOA has been identified in the Subject Property vicinity, and portions of the Subject Property are located within asbestos buffer zones. Limited NOA soil sampling was performed for the construction of US-50 and roadways adjacent to the Subject Property; however, since specific locations of those samples are not known, the collection and analysis of additional NOA samples is recommended if Costco desires a greater level of certainty of the potential presence of NOA in shallow soil at the Subject Property. Additionally, the preparation of an Asbestos Dust Mitigation Plan for AQMD is recommended prior to construction at the Subject Property.

- Multiple concrete structures (including a pit and trough) were observed on the Subject Property. As there is the potential for dumping in these structures, and though the former use is assumed to be associated with former ranching operations, that has not been confirmed. Therefore, Kleinfelder recommends environmental monitoring and observation of the removal of this structure and, if contamination is suspected, collection of soil samples from beneath these structures is recommended. Additionally, the concrete

Copyright 2024 Kleinfelder

remnants from the former structures may contain asbestos. Sampling for asbestos in concrete is also recommended for all structures and/or features.

- A portion of the Subject Property, APN 122-720-002, which encompasses approximately 0.52 acre of land, is identified in the NEPASearch™ Map Report as a CPAD site and a California Government Lands site. Based on Kleinfelder's review of the CPAD and the California Conservation Easement Database, APN 122-720-002 is identified as a county RP with open access. As such, Kleinfelder submitted a request for additional information from the County of El Dorado to determine what limitations there may be for construction and development as it pertains to the CPAD sites. As of the date of this report, Kleinfelder has not received an update. If pertinent information is received that alters the conclusions of this assessment, Kleinfelder will issue an addendum under separate cover. Kleinfelder recommends that coordination be conducted with El Dorado County to determine construction and overall development constraints.
- An intermittent creek, two ephemeral creeks, two seasonal wetlands, and a freshwater emergent wetland were observed and/or are documented on the Subject Property. As discussed in Section 7.2, it is Kleinfelder's understanding that wetland fill permit applications have been submitted; however, permits will not be issued until the CWA Section 401 certification has been issued.
- Burrowing owls, Swainson's hawk, and migratory birds have the potential to occur on the Subject Property; therefore, pre-construction surveys for these species are recommended.
- A blue elderberry shrub, which can be home to the blue elderberry beetle, was observed near the northern boundary of the Subject Property. A mitigation credit may need to be acquired to move the blue elderberry shrub in the northern portion of the Subject Property.

8.5 DATA GAPS

Kleinfelder attempted to obtain reasonably ascertainable information regarding the Subject Property consistent with ASTM Standard E1527-21. Despite good faith efforts by the environmental professional(s) to gather the necessary information, data gaps, a lack of information, or inability to obtain information as required by the ASTM Standard, were encountered during the completion of this Phase I ESA.

- Gaps in historical sources greater than ten years (1893 and 1937, and 1993 and 2006).

Copyright 2024 Kleinfelder

- Agency request responses have not been received from El Dorado County as it pertains to the CPAD site, El Dorado and Alpine Counties Department of Agriculture – Weights and Measures, and the El Dorado Hills Fire Department.

The gaps in the historical topographic maps and aerial photographs, in addition to the absence of information from the El Dorado and Alpine Counties Department of Agriculture – Weights and Measures, and the El Dorado Hills Fire Department are not considered significant data gaps based on other information reviewed as part of this Phase I ESA. Additional coordination with El Dorado County is recommended prior to construction and development on Subject Property parcel 122-720-002, as it is unclear what construction and overall development constraints there may be.

Copyright 2024 Kleinfelder

9 REFERENCES

Blackburn Consulting, Inc. (BCI), 2007. *Initial Site Assessment, Silva Valley Pkwy/SR50 Interchange, 03-ED-50, KP 3.1 (PM 1.7), El Dorado Hills, California*, April 12.

_____, 2010. *Updated Initial Site Assessment (ISA), Silva Valley Parkway/State Route 50 Interchange (03-ED-50, KP 3.1, PM 1.7), El Dorado County, California*, February 23.

_____, 2013. *Geotechnical Report, EDH 52, Silva Valley Parkway at US 50, Rough Site Grading and Preliminary Foundation Design, El Dorado Hills, CA*, March 11.

California Department of Water Resources (CDWR), last updated February 2019. Bulletin 118 Groundwater Basins, https://gis.water.ca.gov/app/gicima/.

California Geological Survey (CGS), 2002. *California Geomorphic Provinces*. Note 36.

Environmental Data Resources, Inc. (EDR), 2024a. *EDR Environmental Lien and AUL Search, Costco El Dorado Hills, El Dorado Hills, CA 95762,* Inquiry Number: 7659435.7, May 24.

_____, 2024b. *The EDR Radius Map™ Report with GeoCheck®, Costco El Dorado Hills, El Dorado Hills, CA 95762,* Inquiry Number: 7659435.2s, May 22.

_____, 2024c. *Certified Sanborn® Map Report, Costco El Dorado Hills, El Dorado Hills, CA 95762,* Inquiry Number: 7659435.3, May 22.

_____, 2024d. *The EDR Aerial Photo Decade Package, Costco El Dorado Hills, El Dorado Hills, CA 95762,* Inquiry Number: 7659435.11, May 23.

_____, 2024e. *The EDR-City Directory Image Report, Costco El Dorado Hills, El Dorado Hills, CA 95762,* Inquiry Number: 7659435.5, May 24.

_____, 2024f. *EDR Historical Topo Map Report with QuadMatch™, Costco El Dorado Hills, El Dorado Hills, CA 95762,* Inquiry Number: 7659435.4, May 22.

_____, 2024g. *EDR Building Permit Report, Costco El Dorado Hills, El Dorado Hills, CA 95762,* Inquiry Number: 7659435.8, May 22.

_____, 2024h. *EDR NEPASearch™ Map Report, Costco El Dorado Hills, El Dorado Hills, CA 95762,* Inquiry Number: 7659435.13s, May 22.

Copyright 2024 Kleinfelder

Kleinfelder, 2019a. *Phase I Environmental Site Assessment, Proposed Costco Warehouse and Gas Station, West-Southwest of Silva Valley Parkway, El Dorado Hills, El Dorado County, California, CW: 18-0487, Kleinfelder File No. 20193180.001A/LH19R100805,* September 9.

_____, 2019b. *Phase I Environmental Site Assessment, Proposed Costco Warehouse and Gas Station, Silva Valley Parkway, El Dorado Hills, El Dorado County, California, CW: 18-0487, Kleinfelder File No. 20193180.001A/LH19R91616,* September 27.

_____, 2019c. *Preliminary Site Preparation Recommendations, Proposed Costco Wholesale Warehouse and Fuel Facility, Silva Valley Parkway, El Dorado Hills, California, CW# 18-0487, Kleinfelder File No. 20193141.001A/SJO19M103348,* October 31.

_____, 2019d. *DRAFT Geotechnical Study, Proposed Costco Wholesale Warehouse and Fuel Facility, Silva Valley Parkway, El Dorado Hills, California, CW# 18-0487, Kleinfelder File No. 20193141.001A/SJO19R103500,* November 5.

Moore Biological Consultants (Moore), 2019a. *25+/- Acre "Silva Parkway" Site, El Dorado Hills, California: Biological Assessment*, February 6.

_____, 2019b. *17+/- Acre Costco Site, El Dorado Hills, California: Biological Assessment*, August 2.

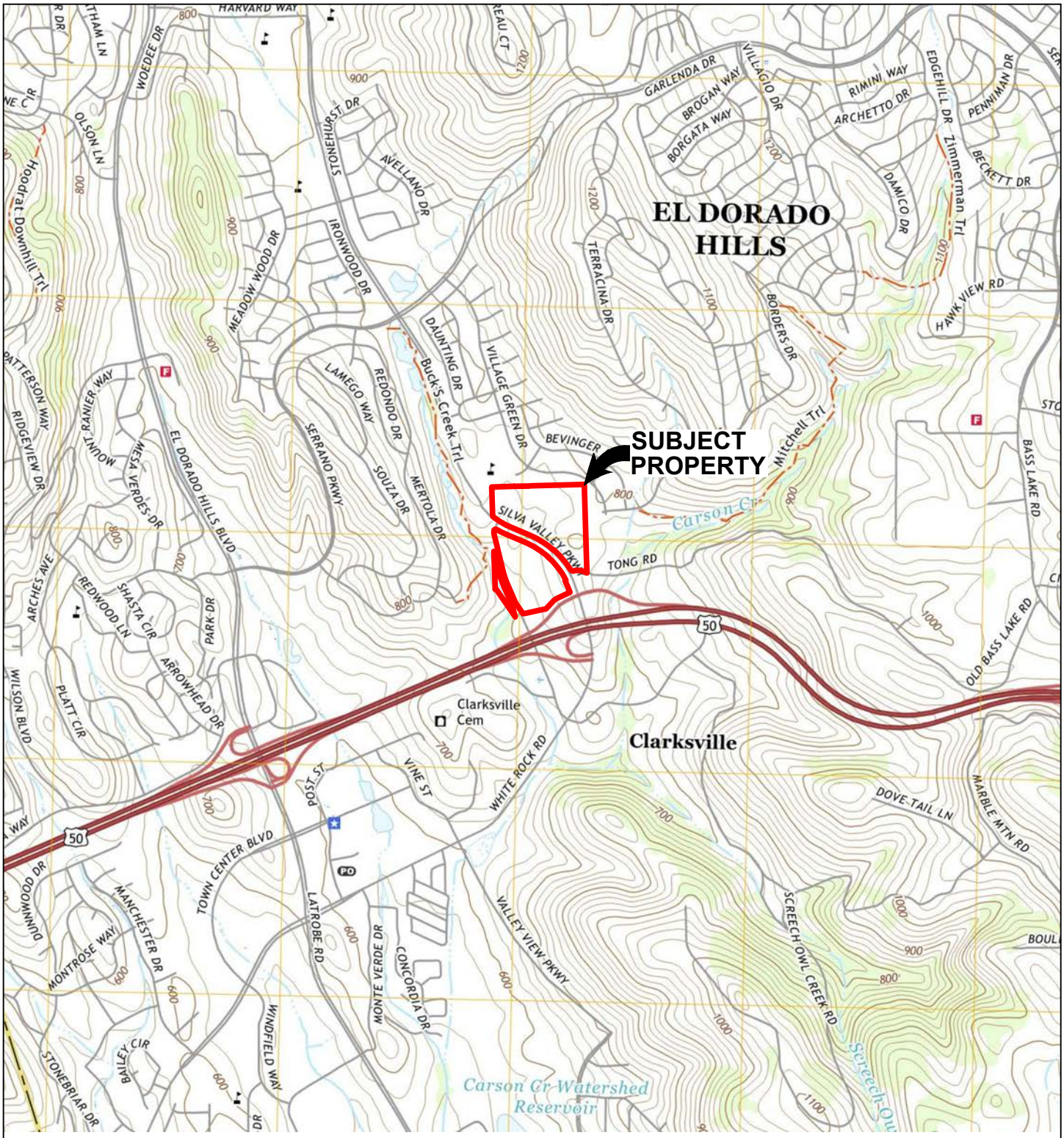
Strand, Rudolph G, and Koenig, James B., 1965, Geologic Map of California, Sacramento Sheet; 1:125,000.

United States Geologic Survey (USGS), 2021. 7.5-Minute Series (Topographic) Clarksville Map, 1:24,000.

Copyright 2024 Kleinfelder

FIGURES

Copyright 2024 Kleinfelder



SOURCE: U.S.G.S. 7.5' topographic series, Clarksville, California quadrangles dated 2021.

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

2,000 1,000 0 2,000

APPROXIMATE SCALE (feet)

N

KLEINFELDER
Bright People. Right Solutions.

PROJECT:	--
DRAWN BY:	DMF
CHECKED BY:	VG
DATE:	05/2024
REVISED:	

SUBJECT PROPERTY LOCATION MAP

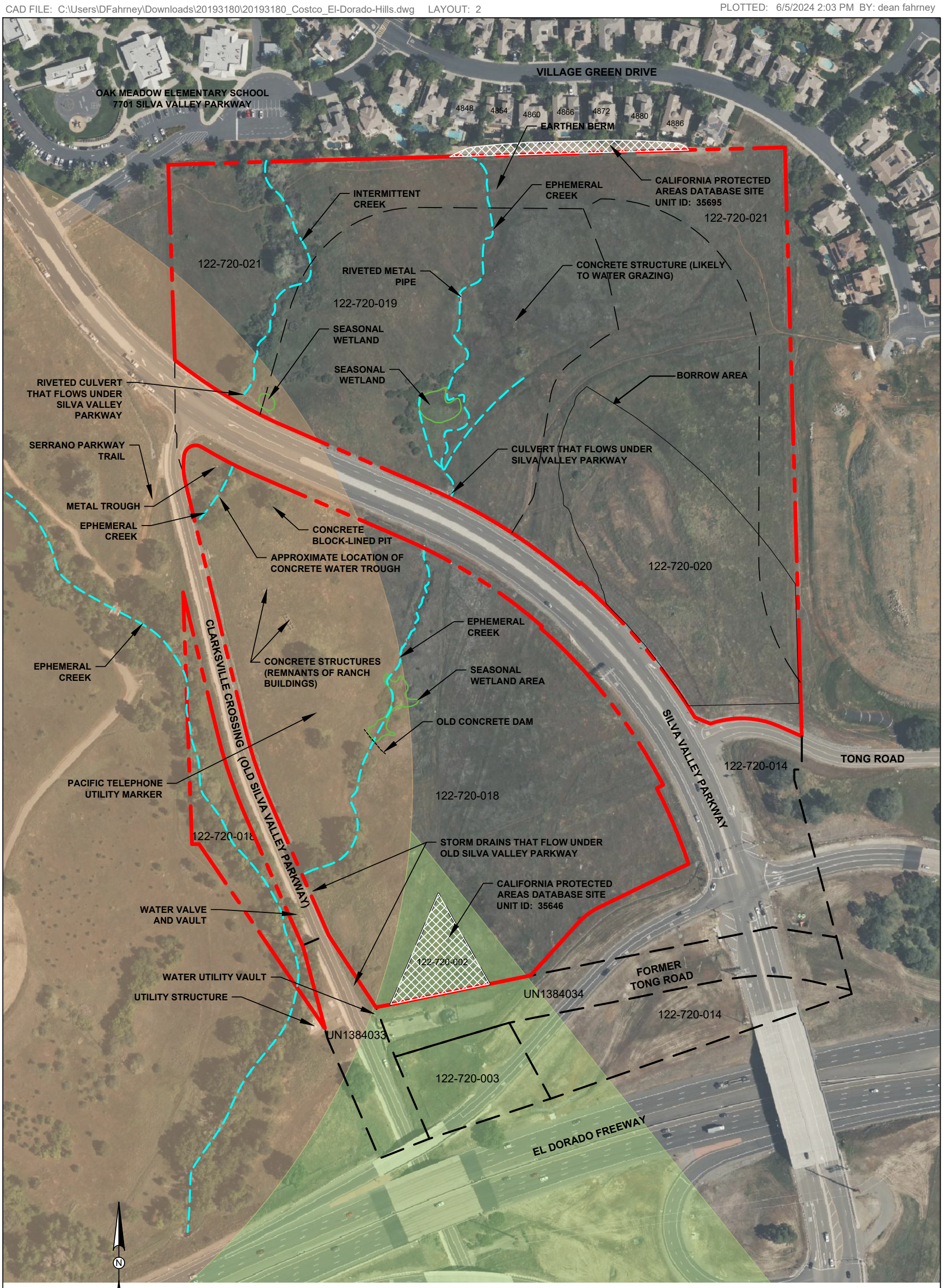
Phase I Environmental Site Assessment
Proposed Costco Wholesale Warehouse and Gasoline Station
APNs 122-720-002, 122-720-018, 122-720-019, 122-720-020, and 122-720-021
Silva Valley Parkway
El Dorado Hills, El Dorado County, California 95762

FIGURE
1

PLOTTED: 5/31/2024 3:25 PM BY: dean fahrney
CAD FILE: C:\Users\DFahrney\Downloads\Costco_El-Dorado-Hills\Costco_El-Dorado-Hills.dwg

CAD FILE: C:\Users\DFahrney\Downloads\20193180\20193180_Costco_El-Dorado-Hills.dwg LAYOUT: 2

PLOTTED: 6/5/2024 2:03 PM BY: dean fahrney



EXPLANATION

- SUBJECT PROPERTY BOUNDARY
- ASSESSOR'S PARCEL BOUNDARY
- 122-720-014 ASSESSOR'S PARCEL NUMBER

ASBESTOS REVIEW AREAS

- QUARTER MILE BUFFER FOR FOUND AREA OF NOA
- QUARTER MILE BUFFER FOR MORE LIKELY TO CONTAIN ASBESTOS OR FAULT LINE

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT:	20193180
DRAWN BY:	DMF
CHECKED BY:	VG
DATE:	05/2024
REVISED:	-

SUBJECT PROPERTY
VICINITY MAP

Phase I Environmental Site Assessment
Proposed Costco Wholesale Warehouse and Gasoline Station
APNs 122-720-002, 122-720-018, 122-720-019,
122-720-020, and 122-720-021
Silva Valley Parkway
El Dorado Hills, El Dorado County, California 95762

FIGURE
2



Photograph 1: Northwest corner of the Subject Property looking southeast.



KLEINFELDER

SUBJECT PROPERTY PHOTOGRAPHS

Phase I Environmental Site Assessment
Proposed Costco Wholesale Warehouse and Gasoline Station
APNs 122-720-002, 122-720-018, 122-720-019,122-720-020, and 122-720-021
Silva Valley Parkway
El Dorado Hills, El Dorado County, California 95762
CW# 18-0487

FIGURE
3

Drawn by: EA	Checked by: VG	Date:05/28/2024	PROJECT NO.: 20193180.002A

© 2024 Kleinfelder



Photograph 3: Looking east along northern property boundary.



Photograph 4: Breached earthen embankment at northern end of eastern stream.

KLEINFELDER

SUBJECT PROPERTY PHOTOGRAPHS

Phase I Environmental Site Assessment
Proposed Costco Wholesale Warehouse and Gasoline Station
APNs 122-720-002, 122-720-018, 122-720-019,122-720-020, and 122-720-021
Silva Valley Parkway
El Dorado Hills, El Dorado County, California 95762
CW# 18-0487

FIGURE
4

Drawn by: EA	Checked by: VG	Date:05/28/2024	PROJECT NO.: 20193180.002A

© 2024 Kleinfelder



Photograph 5: Center of the northern portion of the Subject Property looking southeast.



Photograph 6: Metal, corrugated pipe located in eastern stream, view looking south towards Silva Valley Parkway.

KLEINFELDER

SUBJECT PROPERTY PHOTOGRAPHS

Phase I Environmental Site Assessment
Proposed Costco Wholesale Warehouse and Gasoline Station
APNs 122-720-002, 122-720-018, 122-720-019,122-720-020, and 122-720-021
Silva Valley Parkway
El Dorado Hills, El Dorado County, California 95762
CW# 18-0487

FIGURE **5**

Drawn by: EA	Checked by: VG	Date:05/28/2024	PROJECT NO.: 20193180.002A

© 2024 Kleinfelder



Photograph 7: Culvert permitting water from eastern stream to flow under Silva Valley Parkway.



Photograph 8: Artificial drainage ditch observed on eastern side of Silva Valley Parkway.

KLEINFELDER

SUBJECT PROPERTY PHOTOGRAPHS

Phase I Environmental Site Assessment
Proposed Costco Wholesale Warehouse and Gasoline Station
APNs 122-720-002, 122-720-018, 122-720-019,122-720-020, and 122-720-021
Silva Valley Parkway
El Dorado Hills, El Dorado County, California 95762
CW# 18-0487

FIGURE
6

Drawn by: EA	Checked by: VG	Date:05/28/2024	PROJECT NO.: 20193180.002A

© 2024 Kleinfelder



Photograph 9: Concrete basin located in the center of the northern portion of the Subject Property.



Photograph 10: Looking south along the Subject Property's eastern boundary.

KLEINFELDER

SUBJECT PROPERTY PHOTOGRAPHS

Phase I Environmental Site Assessment
Proposed Costco Wholesale Warehouse and Gasoline Station
APNs 122-720-002, 122-720-018, 122-720-019,122-720-020, and 122-720-021
Silva Valley Parkway
El Dorado Hills, El Dorado County, California 95762
CW# 18-0487

FIGURE
7

Drawn by: EA	Checked by: VG	Date:05/28/2024	PROJECT NO.: 20193180.002A

© 2024 Kleinfelder



Photograph 11: Looking north from the hill located at the southern extent of the northern portion of the Subject Property.



Photograph 12: View looking south towards Tong Road near its intersection with Silva Valley Parkway.

KLEINFELDER

SUBJECT PROPERTY PHOTOGRAPHS

Phase I Environmental Site Assessment
Proposed Costco Wholesale Warehouse and Gasoline Station
APNs 122-720-002, 122-720-018, 122-720-019,122-720-020, and 122-720-021
Silva Valley Parkway
El Dorado Hills, El Dorado County, California 95762
CW# 18-0487

FIGURE
8

Drawn by: EA	Checked by: VG	Date:05/28/2024	PROJECT NO.: 20193180.002A

© 2024 Kleinfelder



Photograph 13: View looking northwest along Silva Valley Parkway.



Photograph 14: Sign advertising commercial land, view looking northeast from Silva Valley Parkway.

KLEINFELDER

SUBJECT PROPERTY PHOTOGRAPHS

Phase I Environmental Site Assessment
Proposed Costco Wholesale Warehouse and Gasoline Station
APNs 122-720-002, 122-720-018, 122-720-019,122-720-020, and 122-720-021
Silva Valley Parkway
El Dorado Hills, El Dorado County, California 95762
CW# 18-0487

FIGURE
9

Drawn by: EA	Checked by: VG	Date:05/28/2024	PROJECT NO.: 20193180.002A

© 2024 Kleinfelder



Photograph 15: Culvert allowing water from western stream to flow under Silva Valley Parkway.



Photograph 16: View of the elementary school located northwest of the Subject Property.

KLEINFELDER

SUBJECT PROPERTY PHOTOGRAPHS

Phase I Environmental Site Assessment
Proposed Costco Wholesale Warehouse and Gasoline Station
APNs 122-720-002, 122-720-018, 122-720-019,122-720-020, and 122-720-021
Silva Valley Parkway
El Dorado Hills, El Dorado County, California 95762
CW# 18-0487

FIGURE
10

Drawn by: EA	Checked by: VG	Date:05/28/2024	PROJECT NO.: 20193180.002A

© 2024 Kleinfelder



Photograph 17: Remnant of former Tong Road, view looking east from Clarksville Road.



Photograph 18: Utility vault and standpipes observed adjacent to Clarksville Road, north of former Tong Road.

KLEINFELDER

SUBJECT PROPERTY PHOTOGRAPHS

Phase I Environmental Site Assessment
Proposed Costco Wholesale Warehouse and Gasoline Station
APNs 122-720-002, 122-720-018, 122-720-019,122-720-020, and 122-720-021
Silva Valley Parkway
El Dorado Hills, El Dorado County, California 95762
CW# 18-0487

FIGURE
11

Drawn by: EA	Checked by: VG	Date:05/28/2024	PROJECT NO.: 20193180.002A

© 2024 Kleinfelder



Photograph 19: Storm drain located on the Subject Property, east of Clarksville Road.



Photograph 20: Additional storm drain observed east of Clarksville Road, near the eastern stream.

KLEINFELDER

SUBJECT PROPERTY PHOTOGRAPHS

Phase I Environmental Site Assessment
Proposed Costco Wholesale Warehouse and Gasoline Station
APNs 122-720-002, 122-720-018, 122-720-019,122-720-020, and 122-720-021
Silva Valley Parkway
El Dorado Hills, El Dorado County, California 95762
CW# 18-0487

FIGURE
12

Drawn by: EA	Checked by: VG	Date:05/28/2024	PROJECT NO.: 20193180.002A

© 2024 Kleinfelder



Photograph 21: Looking north along Clarksville Road, artificial drainage ditch observed on eastern side of the road.



Photograph 22: Looking southwest from near the intersection of Silva Valley Parkway and Clarksville Road.

KLEINFELDER

SUBJECT PROPERTY PHOTOGRAPHS

Phase I Environmental Site Assessment
Proposed Costco Wholesale Warehouse and Gasoline Station
APNs 122-720-002, 122-720-018, 122-720-019,122-720-020, and 122-720-021
Silva Valley Parkway
El Dorado Hills, El Dorado County, California 95762
CW# 18-0487

FIGURE
13

Drawn by: EA	Checked by: VG	Date:05/28/2024	PROJECT NO.: 20193180.002A

© 2024 Kleinfelder



Photograph 23: Utility vault located west of Silva Valley Parkway, in the northwest corner of the Subject Property's southern area.



Photograph 24: Discarded box of non-sanded grout observed on the Subject Property's southern area.

KLEINFELDER

SUBJECT PROPERTY PHOTOGRAPHS

Phase I Environmental Site Assessment
Proposed Costco Wholesale Warehouse and Gasoline Station
APNs 122-720-002, 122-720-018, 122-720-019,122-720-020, and 122-720-021
Silva Valley Parkway
El Dorado Hills, El Dorado County, California 95762
CW# 18-0487

FIGURE
14

Drawn by: EA	Checked by: VG	Date:05/28/2024	PROJECT NO.: 20193180.002A

© 2024 Kleinfelder



Photograph 25: Subject Property's western stream, looking northwest from the northwest corner of the southern area.



Photograph 26: Concrete pillars observed on the northern portion of the Subject Property's southern area.

KLEINFELDER

SUBJECT PROPERTY PHOTOGRAPHS

Phase I Environmental Site Assessment
Proposed Costco Wholesale Warehouse and Gasoline Station
APNs 122-720-002, 122-720-018, 122-720-019,122-720-020, and 122-720-021
Silva Valley Parkway
El Dorado Hills, El Dorado County, California 95762
CW# 18-0487

FIGURE
15

Drawn by: EA	Checked by: VG	Date:05/28/2024	PROJECT NO.: 20193180.002A

© 2024 Kleinfelder



Photograph 27: Concrete ranch structure observed on the northern portion of the Subject Property's southern area. Pile of concrete rubble is located to the left.



Photograph 28: Pacific Telephone utility marker observed west of the eastern stream.

KLEINFELDER

SUBJECT PROPERTY PHOTOGRAPHS

Phase I Environmental Site Assessment
Proposed Costco Wholesale Warehouse and Gasoline Station
APNs 122-720-002, 122-720-018, 122-720-019,122-720-020, and 122-720-021
Silva Valley Parkway
El Dorado Hills, El Dorado County, California 95762
CW# 18-0487

FIGURE
16

Drawn by: EA	Checked by: VG	Date:05/28/2024	PROJECT NO.: 20193180.002A

© 2024 Kleinfelder



Photograph 29: Looking southeast from the center of the Subject Property's southern area. Silva Valley Parkway and the Highway 50 onramp can be seen in the distance.



Photograph 30: Concrete dam observed in the eastern stream.

KLEINFELDER

SUBJECT PROPERTY PHOTOGRAPHS

Phase I Environmental Site Assessment
Proposed Costco Wholesale Warehouse and Gasoline Station
APNs 122-720-002, 122-720-018, 122-720-019,122-720-020, and 122-720-021
Silva Valley Parkway
El Dorado Hills, El Dorado County, California 95762
CW# 18-0487

FIGURE
17

Drawn by: EA	Checked by: VG	Date:05/28/2024	PROJECT NO.: 20193180.002A

© 2024 Kleinfelder



Photograph 31: Concrete basin observed underneath a tree located in the northwest corner of the Subject Property's southern area.



Photograph 32: View of the southern portion of the eastern stream from Silva Valley Parkway.

KLEINFELDER

SUBJECT PROPERTY PHOTOGRAPHS

Phase I Environmental Site Assessment
Proposed Costco Wholesale Warehouse and Gasoline Station
APNs 122-720-002, 122-720-018, 122-720-019,122-720-020, and 122-720-021
Silva Valley Parkway
El Dorado Hills, El Dorado County, California 95762
CW# 18-0487

FIGURE
18

Drawn by: EA	Checked by: VG	Date:05/28/2024	PROJECT NO.: 20193180.002A

© 2024 Kleinfelder



Photograph 33: Looking south from near the southern externt of the Subject Property's southern area.



Photograph 34: Electrical transformers located adjacent to Clarksville Road, south of former Tong Road.

KLEINFELDER

SUBJECT PROPERTY PHOTOGRAPHS

Phase I Environmental Site Assessment
Proposed Costco Wholesale Warehouse and Gasoline Station
APNs 122-720-002, 122-720-018, 122-720-019,122-720-020, and 122-720-021
Silva Valley Parkway
El Dorado Hills, El Dorado County, California 95762
CW# 18-0487

FIGURE
19

Drawn by: EA	Checked by: VG	Date:05/28/2024	PROJECT NO.: 20193180.002A

© 2024 Kleinfelder



Photograph 35: Utility building and vaults located southwest of the Subject Property.



Photograph 36: View of stream located west of Clarksville Road, water observed flowing south.

KLEINFELDER

SUBJECT PROPERTY PHOTOGRAPHS

Phase I Environmental Site Assessment
Proposed Costco Wholesale Warehouse and Gasoline Station
APNs 122-720-002, 122-720-018, 122-720-019,122-720-020, and 122-720-021
Silva Valley Parkway
El Dorado Hills, El Dorado County, California 95762
CW# 18-0487

FIGURE
20

Drawn by: EA	Checked by: VG	Date:05/28/2024	PROJECT NO.: 20193180.002A

© 2024 Kleinfelder



Photograph 37: Water valve and utility vault located on the westerns side of Clarksville Road.



Photograph 38: Discarded vacuum cleaner and trash can observed on the western side of Clarksville Road.

KLEINFELDER

SUBJECT PROPERTY PHOTOGRAPHS

Phase I Environmental Site Assessment
Proposed Costco Wholesale Warehouse and Gasoline Station
APNs 122-720-002, 122-720-018, 122-720-019,122-720-020, and 122-720-021
Silva Valley Parkway
El Dorado Hills, El Dorado County, California 95762
CW# 18-0487

FIGURE
21

Drawn by: EA	Checked by: VG	Date:05/28/2024	PROJECT NO.: 20193180.002A

© 2024 Kleinfelder

APPENDIX A
STATEMENT OF QUALIFICATIONS

Copyright 2024 Kleinfelder

STATEMENT OF QUALIFICATIONS

We declare that to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in Section 312.10 of 40 CFR 312. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all-appropriate inquiries in conformance with the standards and practices set forth in CFR Part 312.



Victoria A. Golston
Environmental Scientist



Lizanne Simmons, PG
Senior Principal Geologist

The resumes of above-listed environmental professionals performing this Phase I ESA are on file at the Kleinfelder office and are available upon request.

Copyright 2024 Kleinfelder

APPENDIX B
REGULATORY AGENCY DATABASE REPORT

Copyright 2024 Kleinfelder

Costco El Dorado Hills
Costco El Dorado Hills
El Dorado Hills, CA 95762

Inquiry Number: 7659435.2s
May 22, 2024

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION	PAGE
Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	9
Orphan Summary	31
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting SSURGO Soil Map	A-5
Physical Setting Source Map	A-8
Physical Setting Source Map Findings	A-10
Physical Setting Source Records Searched	PSGR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, LLC. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. This Report is provided on an "AS IS", "AS AVAILABLE" basis. **NO WARRANTY EXPRESS OR IMPLIED IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, LLC AND ITS SUBSIDIARIES, AFFILIATES AND THIRD PARTY SUPPLIERS DISCLAIM ALL WARRANTIES, OF ANY KIND OR NATURE, EXPRESS OR IMPLIED, ARISING OUT OF OR RELATED TO THIS REPORT OR ANY OF THE DATA AND INFORMATION PROVIDED IN THIS REPORT, INCLUDING WITHOUT LIMITATION, ANY WARRANTIES REGARDING ACCURACY, QUALITY, CORRECTNESS, COMPLETENESS, COMPREHENSIVENESS, SUITABILITY, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, NON-INFRINGEMENT, MISAPPROPRIATION, OR OTHERWISE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, LLC OR ITS SUBSIDIARIES, AFFILIATES OR THIRD PARTY SUPPLIERS BE LIABLE TO ANYONE FOR ANY DIRECT, INCIDENTAL, INDIRECT, SPECIAL, CONSEQUENTIAL OR OTHER DAMAGES OF ANY TYPE OR KIND (INCLUDING BUT NOT LIMITED TO LOSS OF PROFITS, LOSS OF USE, OR LOSS OF DATA) INFORMATION PROVIDED IN THIS REPORT.** Any analyses, estimates, ratings, environmental risk levels, or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only an assessment performed by a qualified environmental professional can provide findings, opinions or conclusions regarding the environmental risk or conditions in, on or at any property.

Copyright 2024 by Environmental Data Resources, LLC. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, LLC, or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, LLC or its affiliates. All other trademarks used herein are the property of their respective owners.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E1527 - 21), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E2247 - 16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E1528 - 22) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

COSTCO EL DORADO HILLS
EL DORADO HILLS, CA 95762

COORDINATES

Latitude (North):	38.6615840 - 38° 39' 41.70''
Longitude (West):	121.0565070 - 121° 3' 23.42''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	669100.7
UTM Y (Meters):	4280808.0
Elevation:	762 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	50005916 CLARKSVILLE, CA
Version Date:	2021

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20200617
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
COSTCO EL DORADO HILLS
EL DORADO HILLS, CA 95762

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	PG&E: CLARKSVILLE SU	JOERGER RD	CUPA Listings	Lower	1095, 0.207, SSW
2	NEHEMIAH CONSTRUCTIO	1400 WHITE ROCK RD	CUPA Listings	Lower	1380, 0.261, South
3	SERRANO ELEMENTARY S	SERRANO PARKWAY/SILV	ENVIROSTOR, SCH	Higher	1644, 0.311, NNW
4	AT&T MOBILITY - WHIT	7000 ROSSMORE LN	CUPA Listings, EMI, CERS	Lower	1990, 0.377, SSW
5	REGAL EDH STADIUM 14	2101 VINE ST	CUPA Listings, CERS	Lower	2596, 0.492, SSW
6	EL DORADO HILLS RECL	4525 SERRANO	ENF, CIWQS, CERS	Higher	3519, 0.666, NNW
7	SILVER DOVE ELEMENTA	SILVER DOVE WAY/BASS	ENVIROSTOR, SCH	Higher	4670, 0.884, East

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Lists of Federal Delisted NPL sites

Delisted NPL ---------- National Priority List Deletions

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS ---------- Corrective Action Report

Lists of Federal RCRA TSD facilities

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Lists of Federal RCRA generators

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-VSQG ---------- RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System

US ENG CONTROLS ..... Engineering Controls Sites List
US INST CONTROLS ..... Institutional Controls Sites List

Federal ERNS list

ERNS ..... Emergency Response Notification System

Lists of state- and tribal (Superfund) equivalent sites

RESPONSE ..... State Response Sites

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF ..... Solid Waste Information System

Lists of state and tribal leaking storage tanks

LUST ..... Geotracker's Leaking Underground Fuel Tank Report
INDIAN LUST ..... Leaking Underground Storage Tanks on Indian Land
CPS-SLIC ..... Statewide SLIC Cases

Lists of state and tribal registered storage tanks

FEMA UST ..... Underground Storage Tank Listing
UST ..... Active UST Facilities
AST ..... Aboveground Petroleum Storage Tank Facilities
INDIAN UST ..... Underground Storage Tanks on Indian Land

Lists of state and tribal voluntary cleanup sites

INDIAN VCP ..... Voluntary Cleanup Priority Listing
VCP ..... Voluntary Cleanup Program Properties

Lists of state and tribal brownfield sites

BROWNFIELDS ..... Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT ..... Waste Management Unit Database
SWRCY ..... Recycler Database
HAULERS ..... Registered Waste Tire Haulers Listing
INDIAN ODI ..... Report on the Status of Open Dumps on Indian Lands
ODI ..... Open Dump Inventory
DEBRIS REGION 9 ..... Torres Martinez Reservation Illegal Dump Site Locations
IHS OPEN DUMPS ..... Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL ..... Delisted National Clandestine Laboratory Register

HIST Cal-Sites ---- Historical Calsites Database
SCH ---- School Property Evaluation Program
CDL ---- Clandestine Drug Labs
Toxic Pits ---- Toxic Pits Cleanup Act Sites
CERS HAZ WASTE ---- California Environmental Reporting System Hazardous Waste
US CDL ---- National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

SWEEPS UST ---- SWEEPS UST Listing
HIST UST ---- Hazardous Substance Storage Container Database
CERS TANKS ---- California Environmental Reporting System (CERS) Tanks
CA FID UST ---- Facility Inventory Database

Local Land Records

LIENS ---- Environmental Liens Listing
LIENS 2 ---- CERCLA Lien Information
DEED ---- Deed Restriction Listing

Records of Emergency Release Reports

HMIRS ---- Hazardous Materials Information Reporting System
CHMIRS ---- California Hazardous Material Incident Report System
LDS ---- Land Disposal Sites Listing
MCS ---- Military Cleanup Sites Listing
SPILLS 90 ---- SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR ---- RCRA - Non Generators / No Longer Regulated
FUDS ---- Formerly Used Defense Sites
DOD ---- Department of Defense Sites
SCRD DRYCLEANERS ---- State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR ---- Financial Assurance Information
EPA WATCH LIST ---- EPA WATCH LIST
2020 COR ACTION ---- 2020 Corrective Action Program List
TSCA ---- Toxic Substances Control Act
TRIS ---- Toxic Chemical Release Inventory System
SSTS ---- Section 7 Tracking Systems
ROD ---- Records Of Decision
RMP ---- Risk Management Plans
RAATS ---- RCRA Administrative Action Tracking System
PRP ---- Potentially Responsible Parties
PADS ---- PCB Activity Database System
ICIS ---- Integrated Compliance Information System
FTTS ---- FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS ---- Material Licensing Tracking System
COAL ASH DOE ---- Steam-Electric Plant Operation Data
COAL ASH EPA ---- Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER ---- PCB Transformer Registration Database
RADINFO ---- Radiation Information Database
HIST FTTS ---- FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS ---- Incident and Accident Data

EXECUTIVE SUMMARY

CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
MINES MRDS	Mineral Resources Data System
ABANDONED MINES	Abandoned Mines
FINDS	Facility Index System/Facility Registry System
ECHO	Enforcement & Compliance History Information
UXO	Unexploded Ordnance Sites
DOCKET HWC	Hazardous Waste Compliance Docket Listing
FUELS PROGRAM	EPA Fuels Program Registered Listing
PFAS NPL	Superfund Sites with PFAS Detections Information
PFAS FEDERAL SITES	Federal Sites PFAS Information
PFAS TSCA	PFAS Manufacture and Imports Information
PFAS TRIS	List of PFAS Added to the TRI
PFAS RCRA MANIFEST	PFAS Transfers Identified In the RCRA Database Listing
PFAS ATSDR	PFAS Contamination Site Location Listing
PFAS WQP	Ambient Environmental Sampling for PFAS
PFAS NPDES	Clean Water Act Discharge Monitoring Information
PFAS ECHO	Facilities in Industries that May Be Handling PFAS Listing
PFAS ECHO FIRE TRAINING	Facilities in Industries that May Be Handling PFAS Listing
PFAS PART 139 AIRPORT	All Certified Part 139 Airports PFAS Information Listing
AQUEOUS FOAM NRC	Aqueous Foam Related Incidents Listing
BIOSOLIDS	ICIS-NPDES Biosolids Facility Data
PFAS	PFAS Investigation Site Location Listing
AQUEOUS FOAM	Former Fire Training Facility Assessments Listing
CA BOND EXP. PLAN	Bond Expenditure Plan
CHROME PLATING	Chrome Plating Facilities Listing
Cortese	"Cortese" Hazardous Waste & Substances Sites List
DRYCLEANERS	Cleaner Facilities
EMI	Emissions Inventory Data
Financial Assurance	Financial Assurance Information Listing
ICE	Inspection, Compliance and Enforcement
HIST CORTESE	Hazardous Waste & Substance Site List
HWP	EnviroStor Permitted Facilities Listing
HWT	Registered Hazardous Waste Transporter Database
HWTS	Hazardous Waste Tracking System
HAZNET	Facility and Manifest Data
MINES	Mines Site Location Listing
MWMP	Medical Waste Management Program Listing
NPDES	NPDES Permits Listing
PEST LIC	Pesticide Regulation Licenses Listing
PROC	Certified Processors Database
Notify 65	Proposition 65 Records
HAZMAT	Hazardous Material Facilities
UIC	UIC Listing
UIC GEO	UIC GEO (GEOTRACKER)
WASTEWATER PITS	Oil Wastewater Pits Listing
WDS	Waste Discharge System
WIP	Well Investigation Program Case List
MILITARY PRIV SITES	MILITARY PRIV SITES (GEOTRACKER)
PROJECT	PROJECT (GEOTRACKER)

WDR Waste Discharge Requirements Listing
CIWQS California Integrated Water Quality System
CERS CERS
NON-CASE INFO NON-CASE INFO (GEOTRACKER)
OTHER OIL GAS OTHER OIL & GAS (GEOTRACKER)
PROD WATER PONDS PROD WATER PONDS (GEOTRACKER)
SAMPLING POINT SAMPLING POINT (GEOTRACKER)
WELL STIM PROJ Well Stimulation Project (GEOTRACKER)
UST FINDER UST Finder Database
UST FINDER RELEASE UST Finder Releases Database

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP EDR Proprietary Manufactured Gas Plants
EDR Hist Auto EDR Exclusive Historical Auto Stations
EDR Hist Cleaner EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF Recovered Government Archive Solid Waste Facilities List
RGA LUST Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Lists of state- and tribal hazardous waste facilities

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where

environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 01/22/2024 has revealed that there are 2 ENVIROSTOR sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SERRANO ELEMENTARY S	***SERRANO PARKWAY/SILV***	***NNW 1/4 - 1/2 (0.311 mi.)***	***3***	***10***
Facility Id: 09020004				
Status: No Further Action				
SILVER DOVE ELEMENTA	***SILVER DOVE WAY/BASS***	***E 1/2 - 1 (0.884 mi.)***	***7***	***27***
Facility Id: 09000003				
Status: No Further Action				

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

CUPA Listings: A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

A review of the CUPA Listings list, as provided by EDR, has revealed that there are 4 CUPA Listings sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
PG&E: CLARKSVILLE SU	JOERGER RD	SSW 1/8 - 1/4 (0.207 mi.)	1	9
Database: CUPA EL DORADO, Date of Government Version: 08/08/2022				
Status: Active, billable				
NEHEMIAH CONSTRUCTIO	1400 WHITE ROCK RD	S 1/4 - 1/2 (0.261 mi.)	2	9
Database: CUPA EL DORADO, Date of Government Version: 08/08/2022				
Status: Inactive, non-billable				
AT&T MOBILITY - WHIT	***7000 ROSSMORE LN***	***SSW 1/4 - 1/2 (0.377 mi.)***	***4***	***14***
Database: CUPA EL DORADO, Date of Government Version: 08/08/2022				
Status: Inactive, non-billable				
Status: Active, billable				
REGAL EDH STADIUM 14	***2101 VINE ST***	***SSW 1/4 - 1/2 (0.492 mi.)***	***5***	***21***
Database: CUPA EL DORADO, Date of Government Version: 08/08/2022				
Status: Active, billable				

ENF: A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

A review of the ENF list, as provided by EDR, and dated 01/16/2024 has revealed that there is 1 ENF site within approximately 1 mile of the target property.

EXECUTIVE SUMMARY

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
EL DORADO HILLS RECL	***4525 SERRANO***	***NNW 1/2 - 1 (0.666 mi.)***	***6***	***24***
Status: Historical				
Status: Historical				
Facility Id: 222432				

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 7659435.2S



0 1/4 1/2 1 Miles

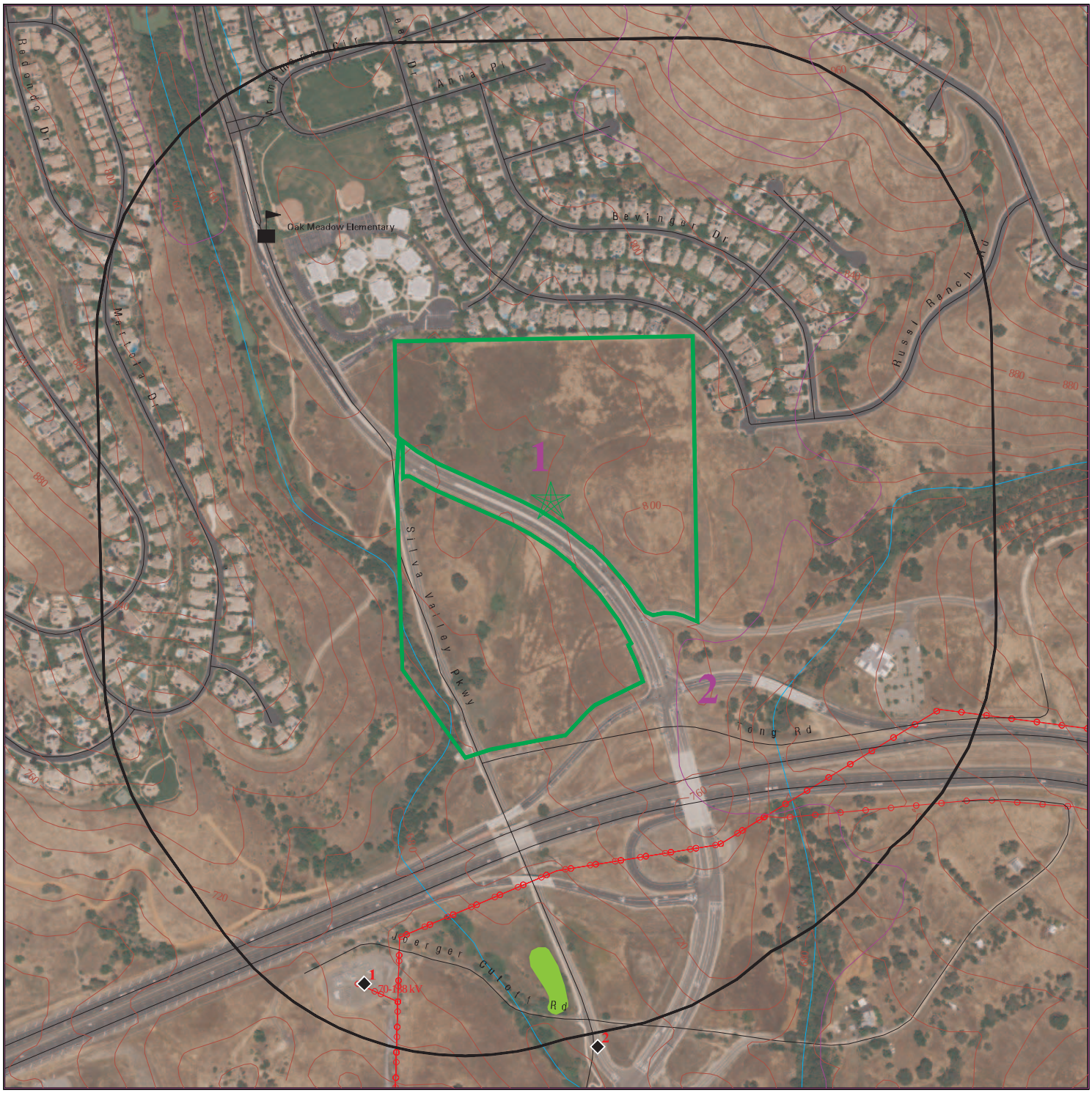
- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Pipelines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Costco El Dorado Hills	CLIENT:	Kleinfelder, Inc.
ADDRESS:	Costco El Dorado Hills El Dorado Hills CA 95762	CONTACT:	Lauren Yarbrough
LAT/LONG:	38.661584 / 121.056507	INQUIRY #:	7659435.2s
		DATE:	May 22, 2024 10:02 am

Copyright © 2024 EDR, Inc. © 2015 TomTom Rel. 2015.

DETAIL MAP - 7659435.2S



0 1/16 1/8 1/4 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Costco El Dorado Hills	CLIENT:	Kleinfelder, Inc.
ADDRESS:	Costco El Dorado Hills El Dorado Hills CA 95762	CONTACT:	Lauren Yarbrough
LAT/LONG:	38.661584 / 121.056507	INQUIRY #:	7659435.2s
		DATE:	May 22, 2024 10:03 am

Copyright © 2024 EDR, Inc. © 2015 TomTom Rel. 2015.

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Lists of Federal NPL (Superfund) sites								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
Lists of Federal Delisted NPL sites								
Delisted NPL	0.500		0	0	0	NR	NR	0
Lists of Federal sites subject to CERCLA removals and CERCLA orders								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Lists of Federal CERCLA sites with NFRAP								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA facilities undergoing Corrective Action								
CORRACTS	1.000		0	0	0	0	NR	0
Lists of Federal RCRA TSD facilities								
RCRA-TSDF	1.000		0	0	0	0	NR	0
Lists of Federal RCRA generators								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	TP		NR	NR	NR	NR	NR	0
US INST CONTROLS	TP		NR	NR	NR	NR	NR	0
Federal ERNS list								
ERNS	0.250		0	0	NR	NR	NR	0
Lists of state- and tribal (Superfund) equivalent sites								
RESPONSE	1.000		0	0	0	0	NR	0
Lists of state- and tribal hazardous waste facilities								
ENVIROSTOR	1.000		0	0	1	1	NR	2
Lists of state and tribal landfills and solid waste disposal facilities								
SWF/LF	1.000		0	0	0	0	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
Lists of state and tribal leaking storage tanks								
LUST	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
Lists of state and tribal registered storage tanks								
FEMA UST	0.500		0	0	0	NR	NR	0
UST	0.500		0	0	0	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.500		0	0	0	NR	NR	0
Lists of state and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
Lists of state and tribal brownfield sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.500		0	0	0	NR	NR	0
HIST UST	0.500		0	0	0	NR	NR	0
CERS TANKS	0.250		0	0	NR	NR	NR	0
CA FID UST	0.500		0	0	0	NR	NR	0
Local Land Records								
LIENS	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	TP		NR	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
CHMIRS	TP		NR	NR	NR	NR	NR	0
LDS	TP		NR	NR	NR	NR	NR	0
MCS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	0.250		0	0	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	1.000		0	0	0	0	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
MINES MRDS	TP		NR	NR	NR	NR	NR	0
ABANDONED MINES	TP		NR	NR	NR	NR	NR	0
FINDS	0.250		0	0	NR	NR	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
PFAS NPL	0.250		0	0	NR	NR	NR	0
PFAS FEDERAL SITES	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
PFAS TSCA	0.250		0	0	NR	NR	NR	0
PFAS TRIS	0.250		0	0	NR	NR	NR	0
PFAS RCRA MANIFEST	0.250		0	0	NR	NR	NR	0
PFAS ATSDR	0.250		0	0	NR	NR	NR	0
PFAS WQP	0.250		0	0	NR	NR	NR	0
PFAS NPDES	0.250		0	0	NR	NR	NR	0
PFAS ECHO	0.250		0	0	NR	NR	NR	0
PFAS ECHO FIRE TRAINING	0.250		0	0	NR	NR	NR	0
PFAS PART 139 AIRPORT	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM NRC	0.250		0	0	NR	NR	NR	0
BIOSOLIDS	TP		NR	NR	NR	NR	NR	0
PFAS	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM	TP		NR	NR	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
CHROME PLATING	0.500		0	0	0	NR	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.500		0	1	3	NR	NR	4
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	TP		NR	NR	NR	NR	NR	0
ENF	1.000		0	0	0	1	NR	1
Financial Assurance	TP		NR	NR	NR	NR	NR	0
ICE	TP		NR	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
HWTS	TP		NR	NR	NR	NR	NR	0
HAZNET	TP		NR	NR	NR	NR	NR	0
MINES	TP		NR	NR	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
PEST LIC	TP		NR	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
HAZMAT	0.250		0	0	NR	NR	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
UIC GEO	TP		NR	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.500		0	0	0	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	TP		NR	NR	NR	NR	NR	0
PROJECT	TP		NR	NR	NR	NR	NR	0
WDR	TP		NR	NR	NR	NR	NR	0
CIWQS	TP		NR	NR	NR	NR	NR	0
CERS	TP		NR	NR	NR	NR	NR	0
NON-CASE INFO	TP		NR	NR	NR	NR	NR	0
OTHER OIL GAS	TP		NR	NR	NR	NR	NR	0
PROD WATER PONDS	TP		NR	NR	NR	NR	NR	0
SAMPLING POINT	TP		NR	NR	NR	NR	NR	0
WELL STIM PROJ	TP		NR	NR	NR	NR	NR	0
UST FINDER	0.250		0	0	NR	NR	NR	0
UST FINDER RELEASE	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.250		0	0	NR	NR	NR	0
EDR Hist Cleaner	0.250		0	0	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		0	0	1	4	2	0	7

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

1
SSW
1/8-1/4
0.207 mi.
1095 ft.

PG&E: CLARKSVILLE SUBSTATION **CUPA Listings** **S122436176**
JOERGER RD **N/A**
CLARKSVILLE, CA 95630

Relative:
Lower

Actual:
690 ft.

CUPA EL DORADO:

Name:	PG&E: CLARKSVILLE SUBSTATION
Address:	JOERGER RD
City,State,Zip:	CLARKSVILLE, CA 95630
PE:	BUSINESS PLANS/LARGE BUSINESS - ANNUAL PERMIT
Status:	Active, billable
Latitude:	39
Longitude:	-121
Name:	Pacific Gas & Electric Company
Email:	Not reported
Address2:	Joerger Road, West of White Rock Road
Permit:	PT0001633
Phone:	Not reported
Second Phone:	5308893314
APN:	Not reported
RP Name:	PG&E - CUPA Permits (REF: Clarksville Sub)
RP Care of:	CUPA
RP Phone:	7075511674
GIS Elevation:	Not reported
CERSID:	10136797
Business Type:	MOTOR VEHICLE FUEL
Current Inspection Date:	06/02/2018
Last Inspection Date:	12/02/2012

2
South
1/4-1/2
0.261 mi.
1380 ft.

NEHEMIAH CONSTRUCTION **CUPA Listings** **S110983949**
1400 WHITE ROCK RD **N/A**
EL DORADO HILLS, CA 95762

Relative:
Lower

Actual:
665 ft.

CUPA EL DORADO:

Name:	NEHEMIAH CONSTRUCTION
Address:	1400 WHITE ROCK RD
City,State,Zip:	EL DORADO HILLS, CA 95762
PE:	BUSINESS PLANS/SMALL BUSINESS - ANNUAL PERMIT
Status:	Inactive, non-billable
Latitude:	39
Longitude:	-121
Name:	NEHEMIAH CONSTRUCTION
Email:	Not reported
Address2:	Not reported
Permit:	PT0012827
Phone:	9166081500
Second Phone:	9166081500
APN:	11817004
RP Name:	Not reported
RP Care of:	Not reported
RP Phone:	0000000000
GIS Elevation:	Not reported
CERSID:	Not reported
Business Type:	OTHER
Current Inspection Date:	Not reported
Last Inspection Date:	Not reported

3 SERRANO ELEMENTARY SCHOOL **ENVIROSTOR** **S116165442**
NNW SERRANO PARKWAY/SILVA VALLEY PARKWAY **SCH** **N/A**
1/4-1/2 EL DORADO HILLS, CA 95762
0.311 mi.
1644 ft.

Relative:
Higher

Actual:
801 ft.

ENVIROSTOR:

Name:	SERRANO ELEMENTARY SCHOOL
Address:	SERRANO PARKWAY/SILVA VALLEY PARKWAY
City,State,Zip:	EL DORADO HILLS, CA 95762
Facility ID:	09020004
Status:	No Further Action
Status Date:	06/29/2000
Site Code:	104061
Site Type:	School Investigation
Site Type Detailed:	School
Acres:	19
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Not reported
Supervisor:	* Mark Malinowski
Division Branch:	Santa Susana Field Laboratory Branch
Assembly:	05
Senate:	04
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	38.66799
Longitude:	-121.0595
APN:	NONE SPECIFIED
Past Use:	AGRICULTURAL - LIVESTOCK
Potential COC:	Naturally Occurring Asbestos (NOA Arsenic Lead
Confirmed COC:	NONE SPECIFIED
Potential Description:	SOIL
Alias Name:	BUCKEYE UNION EL.SD-SERRANO ELEM/VCA
Alias Type:	Alternate Name
Alias Name:	BUCKEYE UNION ELEM SD-SERRANO ELEM SCH
Alias Type:	Alternate Name
Alias Name:	BUCKEYE UNION ELEMENTARY SD
Alias Type:	Alternate Name
Alias Name:	SERRANO ELEMENTARY SCHOOL
Alias Type:	Alternate Name
Alias Name:	104032
Alias Type:	Project Code (Site Code)
Alias Name:	104061
Alias Type:	Project Code (Site Code)
Alias Name:	09020004
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Environmental Oversight Agreement
Completed Date:	06/19/2000
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported

SERRANO ELEMENTARY SCHOOL (Continued) **S116165442**

Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 03/02/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Standard Voluntary Agreement
Completed Date: 06/19/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 03/09/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 01/10/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 01/12/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 06/29/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 01/14/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Workplan
Completed Date: 03/27/2000
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

SERRANO ELEMENTARY SCHOOL (Continued) **S116165442**

SCH:

Name:	SERRANO ELEMENTARY SCHOOL
Address:	SERRANO PARKWAY/SILVA VALLEY PARKWAY
City,State,Zip:	EL DORADO HILLS, CA 95762
Facility ID:	09020004
Site Type:	School Investigation
Site Type Detail:	School
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	19
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Not reported
Supervisor:	* Mark Malinowski
Division Branch:	Santa Susana Field Laboratory Branch
Site Code:	104061
Assembly:	05
Senate:	04
Special Program Status:	Not reported
Status:	No Further Action
Status Date:	06/29/2000
Restricted Use:	NO
Funding:	School District
Latitude:	38.66799
Longitude:	-121.0595
APN:	NONE SPECIFIED
Past Use:	AGRICULTURAL - LIVESTOCK
Potential COC:	Naturally Occurring Asbestos (NOA, Naturally Occurring Asbestos (NOA, Arsenic, Lead
Confirmed COC:	NONE SPECIFIED
Potential Description:	SOIL
Alias Name:	BUCKEYE UNION EL.SD-SERRANO ELEM/VCA
Alias Type:	Alternate Name
Alias Name:	BUCKEYE UNION ELEM SD-SERRANO ELEM SCH
Alias Type:	Alternate Name
Alias Name:	BUCKEYE UNION ELEMENTARY SD
Alias Type:	Alternate Name
Alias Name:	SERRANO ELEMENTARY SCHOOL
Alias Type:	Alternate Name
Alias Name:	104032
Alias Type:	Project Code (Site Code)
Alias Name:	104061
Alias Type:	Project Code (Site Code)
Alias Name:	09020004
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Environmental Oversight Agreement
Completed Date:	06/19/2000
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported

SERRANO ELEMENTARY SCHOOL (Continued) **S116165442**

Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 03/02/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Standard Voluntary Agreement
Completed Date: 06/19/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 03/09/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 01/10/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 01/12/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 06/29/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 01/14/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Workplan
Completed Date: 03/27/2000
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

4
SSW
1/4-1/2
0.377 mi.
1990 ft.

AT&T MOBILITY - WHITE ROCK
7000 ROSSMORE LN
EL DORADO HILLS, CA 95762

CUPA Listings
EMI
CERS

S110983929
N/A

Relative:
Lower

Actual:
682 ft.

CUPA EL DORADO:

Name:	METROPCS #148 SO EDH
Address:	7000 ROSSMORE LN
City,State,Zip:	EL DORADO HILLS, CA 95762
PE:	BUSINESS PLANS/SMALL BUSINESS - ANNUAL PERMIT
Status:	Inactive, non-billable
Latitude:	39
Longitude:	-121
Name:	T-Mobile West, LLC
Email:	Not reported
Address2:	Not reported
Permit:	PT0012822
Phone:	8883130188
Second Phone:	8883130188
APN:	12128020
RP Name:	Not reported
RP Care of:	Not reported
RP Phone:	0000000000
GIS Elevation:	Not reported
CERSID:	Not reported
Business Type:	OTHER
Current Inspection Date:	12/09/2017
Last Inspection Date:	06/01/2013

Name:	VERIZON WIRELESS SILVA VALLEY
Address:	7000 ROSSMORE LN
City,State,Zip:	EL DORADO HILLS, CA 95762
PE:	BUSINESS PLANS/SMALL BUSINESS - ANNUAL PERMIT
Status:	Active, billable
Latitude:	39
Longitude:	-121
Name:	Verizon Wireless
Email:	Not reported
Address2:	Not reported
Permit:	PT0014675
Phone:	8666942415
Second Phone:	8666942415
APN:	121-280-20-100
RP Name:	Environmental Compliance
RP Care of:	Not reported
RP Phone:	8666942415
GIS Elevation:	Not reported
CERSID:	10449082
Business Type:	OTHER
Current Inspection Date:	07/09/2024
Last Inspection Date:	09/25/2017

EMI:

Name:	VERIZON WIRELESS-SILVA VALLEY
Address:	7000 ROSSMORE LN
City,State,Zip:	EL DORADO HILLS, CA 95762
Year:	2018
County Code:	9

AT&T MOBILITY - WHITE ROCK (Continued) **S110983929**

Air Basin:	MC
Facility ID:	356
Air District Name:	ED
SIC Code:	4811
Air District Name:	EL DORADO COUNTY AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	Not reported
Reactive Organic Gases Tons/Yr:	Not reported
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	Not reported
SOX - Oxides of Sulphur Tons/Yr:	Not reported
Particulate Matter Tons/Yr:	Not reported
Part. Matter 10 Micrometers and Smllr Tons/Yr:	Not reported

Name:	AT&T MOBILITY - WHITE ROCK
Address:	7000 ROSSMORE LN
City,State,Zip:	EL DORADO HILLS, CA 95762
Year:	2018
County Code:	9
Air Basin:	MC
Facility ID:	363
Air District Name:	ED
SIC Code:	4811
Air District Name:	EL DORADO COUNTY AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	Not reported
Reactive Organic Gases Tons/Yr:	Not reported
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	Not reported
SOX - Oxides of Sulphur Tons/Yr:	Not reported
Particulate Matter Tons/Yr:	Not reported
Part. Matter 10 Micrometers and Smllr Tons/Yr:	Not reported

Name:	AT&T MOBILITY - WHITE ROCK
Address:	7000 ROSSMORE LN
City,State,Zip:	EL DORADO HILLS, CA 95762
Year:	2019
County Code:	9
Air Basin:	MC
Facility ID:	363
Air District Name:	ED
SIC Code:	4811
Air District Name:	EL DORADO COUNTY AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	Not reported
Reactive Organic Gases Tons/Yr:	Not reported
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	Not reported
SOX - Oxides of Sulphur Tons/Yr:	Not reported
Particulate Matter Tons/Yr:	Not reported
Part. Matter 10 Micrometers and Smllr Tons/Yr:	Not reported

Name:	VERIZON WIRELESS-SILVA VALLEY
Address:	7000 ROSSMORE LN

AT&T MOBILITY - WHITE ROCK (Continued) **S110983929**

City,State,Zip:	EL DORADO HILLS, CA 95762
Year:	2019
County Code:	9
Air Basin:	MC
Facility ID:	356
Air District Name:	ED
SIC Code:	4811
Air District Name:	EL DORADO COUNTY AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	Not reported
Reactive Organic Gases Tons/Yr:	Not reported
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	Not reported
SOX - Oxides of Sulphur Tons/Yr:	Not reported
Particulate Matter Tons/Yr:	Not reported
Part. Matter 10 Micrometers and Smllr Tons/Yr:	Not reported

Name:	AT&T MOBILITY - WHITE ROCK
Address:	7000 ROSSMORE LN
City,State,Zip:	EL DORADO HILLS, CA 95762
Year:	2020
County Code:	9
Air Basin:	MC
Facility ID:	363
Air District Name:	ED
SIC Code:	4811
Air District Name:	EL DORADO COUNTY AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	Not reported
Reactive Organic Gases Tons/Yr:	Not reported
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	Not reported
SOX - Oxides of Sulphur Tons/Yr:	Not reported
Particulate Matter Tons/Yr:	Not reported
Part. Matter 10 Micrometers and Smllr Tons/Yr:	Not reported

Name:	VERIZON WIRELESS-SILVA VALLEY
Address:	7000 ROSSMORE LN
City,State,Zip:	EL DORADO HILLS, CA 95762
Year:	2020
County Code:	9
Air Basin:	MC
Facility ID:	356
Air District Name:	ED
SIC Code:	4811
Air District Name:	EL DORADO COUNTY AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	Not reported
Reactive Organic Gases Tons/Yr:	Not reported
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	Not reported
SOX - Oxides of Sulphur Tons/Yr:	Not reported
Particulate Matter Tons/Yr:	Not reported
Part. Matter 10 Micrometers and Smllr Tons/Yr:	Not reported

AT&T MOBILITY - WHITE ROCK (Continued) **S110983929**

Name:	AT&T MOBILITY - WHITE ROCK
Address:	7000 ROSSMORE LN
City,State,Zip:	EL DORADO HILLS, CA 95762
Year:	2021
County Code:	9
Air Basin:	MC
Facility ID:	363
Air District Name:	ED
SIC Code:	4811
Air District Name:	EL DORADO COUNTY AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	Not reported
Reactive Organic Gases Tons/Yr:	Not reported
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	Not reported
SOX - Oxides of Sulphur Tons/Yr:	Not reported
Particulate Matter Tons/Yr:	Not reported
Part. Matter 10 Micrometers and Smllr Tons/Yr:	Not reported

Name:	VERIZON WIRELESS-SILVA VALLEY
Address:	7000 ROSSMORE LN
City,State,Zip:	EL DORADO HILLS, CA 95762
Year:	2021
County Code:	9
Air Basin:	MC
Facility ID:	356
Air District Name:	ED
SIC Code:	4811
Air District Name:	EL DORADO COUNTY AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	Not reported
Reactive Organic Gases Tons/Yr:	Not reported
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	Not reported
SOX - Oxides of Sulphur Tons/Yr:	Not reported
Particulate Matter Tons/Yr:	Not reported
Part. Matter 10 Micrometers and Smllr Tons/Yr:	Not reported

CERS:

Name:	AT&T MOBILITY - LAKEHILLS COMMUNITY COVENANT CHURCH - USID134179
Address:	7000 ROSSMORE LN
City,State,Zip:	EL DORADO HILLS, CA 95762
Site ID:	518628
CERS ID:	10784320
CERS Description:	Chemical Storage Facilities

Coordinates:

Site ID:	518628
Facility Name:	AT&T Mobility - LAKEHILLS COMMUNITY COVENANT CHURCH - USID134179
Env Int Type Code:	HMBP
Program ID:	10784320
Coord Name:	Not reported
Ref Point Type Desc:	Center of a facility or station.,
Latitude:	38.653290
Longitude:	-121.060140

AT&T MOBILITY - WHITE ROCK (Continued) **S110983929**

Affiliation:

Affiliation Type Desc:	CUPA District
Entity Name:	El Dorado County Environmental Management
Entity Title:	Not reported
Affiliation Address:	2850 Fairlane Court, Bldg C
Affiliation City:	Placerville
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	95667-4100
Affiliation Phone:	(530) 621-5300,

Affiliation Type Desc:	Legal Owner
Entity Name:	New Cingular Wireless PCS, LLC dba AT&T Mobility
Entity Title:	Not reported
Affiliation Address:	311 S. Akard Street, Floor 12
Affiliation City:	Dallas
Affiliation State:	TX
Affiliation Country:	United States
Affiliation Zip:	75202
Affiliation Phone:	(469) 295-2319,

Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	311 S. Akard Street, Floor 12
Affiliation City:	Dallas
Affiliation State:	TX
Affiliation Country:	Not reported
Affiliation Zip:	75202
Affiliation Phone:	,

Affiliation Type Desc:	Identification Signer
Entity Name:	Jeremy McGrue
Entity Title:	National EPCRA Manager
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,

Affiliation Type Desc:	Operator
Entity Name:	AT&T Mobility
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(800) 566-9347,

Affiliation Type Desc:	Environmental Contact
Entity Name:	AT&T EH&S Hotline - Option #1
Entity Title:	Not reported
Affiliation Address:	311 S. Akard Street, Floor 12
Affiliation City:	Dallas
Affiliation State:	TX

AT&T MOBILITY - WHITE ROCK (Continued) **S110983929**

Affiliation Country: Not reported
Affiliation Zip: 75202
Affiliation Phone: ,

Affiliation Type Desc: Parent Corporation
Entity Name: AT&T Mobility
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: ,

Affiliation Type Desc: Document Preparer
Entity Name: Peter Burnell, Sigma Consultants, Inc.
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: ,

Name: VERIZON WIRELESS SILVA VALLEY
Address: 7000 ROSSMORE LN
City,State,Zip: EL DORADO HILLS, CA 95762
Site ID: 167476
CERS ID: 10449082
CERS Description: Chemical Storage Facilities

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-25-2014
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: El Dorado County Environmental Management
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 07-09-2021
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: No violations observed at the time of the inspection.
Eval Division: El Dorado County Environmental Management
Eval Program: HMRRP
Eval Source: CERS,

Coordinates:
Site ID: 167476
Facility Name: Verizon Wireless Silva Valley
Env Int Type Code: HMBP
Program ID: 10449082
Coord Name: Not reported

AT&T MOBILITY - WHITE ROCK (Continued) **S110983929**

Ref Point Type Desc: Center of a facility or station.,
Latitude: 38.653300
Longitude: -121.060200

Affiliation:
Affiliation Type Desc: Parent Corporation
Entity Name: Verizon Wireless [Northern California]
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: ,

Affiliation Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title: Not reported
Affiliation Address: 295 Parkshore Drive
Affiliation City: Folsom
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 95630
Affiliation Phone: ,

Affiliation Type Desc: Identification Signer
Entity Name: armand delgado
Entity Title: environmental compliance mgr
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: ,

Affiliation Type Desc: Operator
Entity Name: Verizon Wireless
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: (866) 694-2415,

Affiliation Type Desc: Property Owner
Entity Name: Lakehillls Covenane Communicty Church
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: United States
Affiliation Zip: Not reported
Affiliation Phone: (916) 939-9300,

Affiliation Type Desc: CUPA District
Entity Name: El Dorado County Environmental Management

AT&T MOBILITY - WHITE ROCK (Continued) **S110983929**

Entity Title:	Not reported
Affiliation Address:	2850 Fairlane Court, Bldg C
Affiliation City:	Placerville
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	95667-4100
Affiliation Phone:	(530) 621-5300,
Affiliation Type Desc:	Document Preparer
Entity Name:	Steve Skanderson
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,
Affiliation Type Desc:	Environmental Contact
Entity Name:	Environmental Compliance
Entity Title:	Not reported
Affiliation Address:	295 Parkshore Drive
Affiliation City:	Folsom
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	95630
Affiliation Phone:	,
Affiliation Type Desc:	Legal Owner
Entity Name:	Verizon Wireless
Entity Title:	Not reported
Affiliation Address:	295 Parkshore Drive
Affiliation City:	Folsom
Affiliation State:	CA
Affiliation Country:	United States
Affiliation Zip:	95630
Affiliation Phone:	(866) 694-2415,

---

5 **REGAL EDH STADIUM 14** **CUPA Listings** **S110984023**
SSW **2101 VINE ST** **CERS** **N/A**
1/4-1/2 **EL DORADO HILLS, CA 95762**
0.492 mi.
2596 ft.

Relative:
Lower

Actual:
652 ft.

CUPA EL DORADO:

Name:	REGAL EDH STADIUM 14
Address:	2101 VINE ST
City,State,Zip:	EL DORADO HILLS, CA 95762
PE:	BUSINESS PLANS/LARGE BUSINESS - ANNUAL PERMIT
Status:	Active, billable
Latitude:	39
Longitude:	-121
Name:	REGAL ENTERTAINMENT GROUP
Email:	Not reported
Address2:	2101 VINE ST
Permit:	PT0010264
Phone:	9169398726

REGAL EDH STADIUM 14 (Continued) **S110984023**

Second Phone:	9169398726
APN:	12129043
RP Name:	Matt Klassen
RP Care of:	Not reported
RP Phone:	9169398726
GIS Elevation:	Not reported
CERSID:	10203943
Business Type:	OTHER
Current Inspection Date:	04/24/2021
Last Inspection Date:	06/01/2017

CERS:

Name:	REGAL EDH STADIUM 14
Address:	2101 VINE ST
City,State,Zip:	EL DORADO HILLS, CA 95762
Site ID:	147303
CERS ID:	10203943
CERS Description:	Chemical Storage Facilities

Violations:

Site ID:	147303
Site Name:	REGAL EDH STADIUM 14
Violation Date:	04-24-2018
Citation:	HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description:	Failure to annually review and electronically certify that the business plan is complete and accurate on or before the annual due date.
Violation Notes:	Since January 2013, all businesses in El Dorado County with a unified program facility permit are required by law to maintain their permit electronically by creating an account in the California Environmental Reporting System (CERS) and submitting their business information electronically on an annual basis. This information includes the site map, chemical inventory, and emergency response plan. Submit this facility's information into CERS by the comply by date.
Violation Division:	El Dorado County Environmental Management
Violation Program:	HMRRP
Violation Source:	CERS,

Site ID:	147303
Site Name:	REGAL EDH STADIUM 14
Violation Date:	04-24-2018
Citation:	HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4)
Violation Description:	Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years.
Violation Notes:	During the inspection, the training log documents were not produced. Employees shall be provided initial training and annual training in safety procedures in the event of a release, including the Emergency Response Plan, SDS's, spill cleanup, etc. Submit a copy of the training log showing annual hazardous materials training by the comply by date.
Violation Division:	El Dorado County Environmental Management
Violation Program:	HMRRP
Violation Source:	CERS,

REGAL EDH STADIUM 14 (Continued) **S110984023**

Evaluation:
- Eval General Type: Compliance Evaluation Inspection
- Eval Date: 04-24-2018
- Violations Found: Yes
- Eval Type: Routine done by local agency
- Eval Notes: Not reported
- Eval Division: El Dorado County Environmental Management
- Eval Program: HMRRP
- Eval Source: CERS,

Enforcement Action:
- Site ID: 147303
- Site Name: REGAL EDH STADIUM 14
- Site Address: 2101 VINE ST
- Site City: EL DORADO HILLS
- Site Zip: 95762
- Enf Action Date: 04-24-2018
- Enf Action Type: Notice of Violation (Unified Program)
- Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
- Enf Action Notes: Not reported
- Enf Action Division: El Dorado County Environmental Management
- Enf Action Program: HMRRP
- Enf Action Source: CERS,

Coordinates:
- Site ID: 147303
- Facility Name: REGAL EDH STADIUM 14
- Env Int Type Code: HMBP
- Program ID: 10203943
- Coord Name: Not reported
- Ref Point Type Desc: Center of a facility or station.,
- Latitude: 38.652000
- Longitude: -121.061900

Affiliation:
- Affiliation Type Desc: Facility Mailing Address
- Entity Name: Mailing Address
- Entity Title: Not reported
- Affiliation Address: 2101 VINE ST
- Affiliation City: EL DORADO HILLS
- Affiliation State: CA
- Affiliation Country: Not reported
- Affiliation Zip: 95762
- Affiliation Phone: ,

- Affiliation Type Desc: Legal Owner
- Entity Name: Regal Entertainment Group
- Entity Title: Not reported
- Affiliation Address: 7132 REGAL LN
- Affiliation City: KNOXVILLE
- Affiliation State: TN
- Affiliation Country: United States
- Affiliation Zip: 37918
- Affiliation Phone: (865) 922-1123,

REGAL EDH STADIUM 14 (Continued) **S110984023**

Affiliation Type Desc:	Operator
Entity Name:	Matt Klassen
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(916) 939-8726,
Affiliation Type Desc:	Parent Corporation
Entity Name:	REGAL EDH STADIUM 14
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,
Affiliation Type Desc:	CUPA District
Entity Name:	El Dorado County Environmental Management
Entity Title:	Not reported
Affiliation Address:	2850 Fairlane Court, Bldg C
Affiliation City:	Placerville
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	95667-4100
Affiliation Phone:	(530) 621-5300,
Affiliation Type Desc:	Environmental Contact
Entity Name:	Matt Klassen
Entity Title:	Not reported
Affiliation Address:	2101 Vine St.
Affiliation City:	El Dorado Hills
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	95762
Affiliation Phone:	,

---

6 **EL DORADO HILLS RECLAMATION** **ENF** **S109434785**
NNW **4525 SERRANO** **CIWQS** **N/A**
1/2-1 **EL DORADO HILLS, CA 95762** **CERS**
0.666 mi.
3519 ft.

Relative:
Higher

Actual:
812 ft.

ENF:

Name:	EL DORADO HILLS RECLAMATION
Address:	4525 SERRANO
City,State,Zip:	EL DORADO HILLS, CA 95762
Region:	Not reported
Facility Id:	222432
Agency Name:	El Dorado Hills Development Company
Place Type:	Facility
Place Subtype:	Not reported
Facility Type:	Municipal/Domestic
Agency Type:	Privately-Owned Business

EL DORADO HILLS RECLAMATION (Continued) **S109434785**

# Of Agencies:	1
Place Latitude:	38.670577
Place Longitude:	-121.062962
SIC Code 1:	4952
SIC Desc 1:	Sewerage Systems
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	1.5
Threat To Water Quality:	2
Complexity:	A
Pretreatment:	N - POTW does not have EPA approved pretreatment prog.
Facility Waste Type:	Domestic wastewater
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	NPDMUNIOTH
Program Category1:	NPDESWW
Program Category2:	NPDESWW
# Of Programs:	1
WDID:	5A091107001
Reg Measure Id:	141719
Reg Measure Type:	NPDES Permits
Region:	Not reported
Order #:	94-090
Npdes# CA#:	CA0083305
Major-Minor:	Minor
Npdes Type:	MUN
Reclamation:	2 - Producer-User
Dredge Fill Fee:	Not reported
301H:	N
Application Fee Amt Received:	Not reported
Status:	Historical
Status Date:	04/22/1994
Effective Date:	04/22/1994
Expiration/Review Date:	04/01/1999
Termination Date:	06/13/2001
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	Not reported
Direction/Voice:	Passive
Enforcement Id(EID):	244253

EL DORADO HILLS RECLAMATION (Continued) **S109434785**

Region:	Not reported
Order / Resolution Number:	R5-2000-0522
Enforcement Action Type:	Admin Civil Liability
Effective Date:	10/10/2000
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	06/12/2003
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	ACLC R5-2000-0522 for El Dorado Hills Development Co
Description:	Violation of WDRs re: Reclamation requirements.
Program:	NPDMUNIOTH
Latest Milestone Completion Date:	6/12/2003
# Of Programs1:	1
Total Assessment Amount:	30000
Initial Assessed Amount:	0
Liability $ Amount:	30000
Project $ Amount:	0
Liability $ Paid:	30000
Project $ Completed:	0
Total $ Paid/Completed Amount:	30000

CIWQS:

Name:	EL DORADO HILLS RECLAMATION
Address:	4525 SERRANO
City,State,Zip:	EL DORADO HILLS, CA 95762
Agency:	El Dorado Hills Development Company
Agency Address:	4525 Serrano Parkway, El Dorado Hills, CA 95762
Place/Project Type:	Other
SIC/NAICS:	4952
Region:	5S
Program:	NPDMUNIOTH
Regulatory Measure Status:	Historical
Regulatory Measure Type:	NPDES Permit
Order Number:	94-090
WDID:	5A091107001
NPDES Number:	CA0083305
Adoption Date:	04/22/1994
Effective Date:	04/22/1994
Termination Date:	06/13/2001
Expiration/Review Date:	04/01/1999
Design Flow:	1.5
Major/Minor:	Minor
Complexity:	A
TTWQ:	2
Enforcement Actions within 5 years:	0
Violations within 5 years:	0
Latitude:	38.670577
Longitude:	-121.062962

CERS:

Name:	EL DORADO HILLS RECLAMATION
Address:	4525 SERRANO
City,State,Zip:	EL DORADO HILLS, CA 95762
Site ID:	313931

EL DORADO HILLS RECLAMATION (Continued) **S109434785**

CERS ID: 222432
CERS Description: NPDES Wastewater and Stormwater

Enforcement Action:
Site ID: 313931
Site Name: El Dorado Hills Reclamation
Site Address: 4525 SERRANO
Site City: EL DORADO HILLS
Site Zip: 95762
Enf Action Date: 10-10-2000
Enf Action Type: Administrative Enforcement with Penality
Enf Action Description: Administrative Enforcement with Civil Liability (Penality)
Enf Action Notes: Not reported
Enf Action Division: Water Boards
Enf Action Program: UNSPEC
Enf Action Source: CIWQS,

7
East
1/2-1
0.884 mi.
4670 ft.

SILVER DOVE ELEMENTARY **ENVIROSTOR** **S116165440**
SILVER DOVE WAY/BASS LAKE ROAD **SCH** **N/A**
EL DORADO HILLS, CA 95762

Relative:
Higher

Actual:
1070 ft.

ENVIROSTOR:
Name: SILVER DOVE ELEMENTARY
Address: SILVER DOVE WAY/BASS LAKE ROAD
City,State,Zip: EL DORADO HILLS, CA 95762
Facility ID: 09000003
Status: No Further Action
Status Date: 07/18/2006
Site Code: 104262
Site Type: School Investigation
Site Type Detailed: School
Acres: 10
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Not reported
Supervisor: * Mark Malinowski
Division Branch: Santa Susana Field Laboratory Branch
Assembly: 05
Senate: 04
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: School District
Latitude: 38.66149
Longitude: -121.0378
APN: NONE SPECIFIED
Past Use: NONE
Potential COC: Naturally Occurring Asbestos (NOA
Confirmed COC: NONE SPECIFIED
Potential Description: SOIL
Alias Name: BUCKEYE UNION SD-BASS LAKE SCHOOL
Alias Type: Alternate Name
Alias Name: Silver Dove Elementary
Alias Type: Alternate Name

SILVER DOVE ELEMENTARY (Continued) **S116165440**

Alias Name: 104262
Alias Type: Project Code (Site Code)
Alias Name: 09000003
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 11/17/2005
Comments: Conditional approval of the PEA WP. Key condition was to bias the test pits based on topography.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 07/18/2006
Comments: DTSC approved the PEA Report with a no further action determination.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 08/24/2006
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 05/07/2002
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 03/28/2002
Comments: On 3/28/2002, DTSC approved the Phase I and issued a no action determination. ***

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 10/27/2005
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

SCH:

Name: SILVER DOVE ELEMENTARY

SILVER DOVE ELEMENTARY (Continued) **S116165440**

Address:	SILVER DOVE WAY/BASS LAKE ROAD
City,State,Zip:	EL DORADO HILLS, CA 95762
Facility ID:	09000003
Site Type:	School Investigation
Site Type Detail:	School
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	10
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Not reported
Supervisor:	* Mark Malinowski
Division Branch:	Santa Susana Field Laboratory Branch
Site Code:	104262
Assembly:	05
Senate:	04
Special Program Status:	Not reported
Status:	No Further Action
Status Date:	07/18/2006
Restricted Use:	NO
Funding:	School District
Latitude:	38.66149
Longitude:	-121.0378
APN:	NONE SPECIFIED
Past Use:	NONE
Potential COC:	Naturally Occurring Asbestos (NOA
Confirmed COC:	NONE SPECIFIED
Potential Description:	SOIL
Alias Name:	BUCKEYE UNION SD-BASS LAKE SCHOOL
Alias Type:	Alternate Name
Alias Name:	Silver Dove Elementary
Alias Type:	Alternate Name
Alias Name:	104262
Alias Type:	Project Code (Site Code)
Alias Name:	09000003
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Workplan
Completed Date:	11/17/2005
Comments:	Conditional approval of the PEA WP. Key condition was to bias the test pits based on topography.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Report
Completed Date:	07/18/2006
Comments:	DTSC approved the PEA Report with a no further action determination.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	08/24/2006
Comments:	Not reported

SILVER DOVE ELEMENTARY (Continued) **S116165440**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 05/07/2002
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 03/28/2002
Comments: On 3/28/2002, DTSC approved the Phase I and issued a no action determination. ***

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 10/27/2005
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
		NO SITES FOUND			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 02/29/2024
Date Data Arrived at EDR: 03/01/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 26

Source: EPA
Telephone: N/A
Last EDR Contact: 05/01/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 10
Telephone 206-553-8665

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 02/29/2024
Date Data Arrived at EDR: 03/01/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 26

Source: EPA
Telephone: N/A
Last EDR Contact: 05/01/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Lists of Federal Delisted NPL sites

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 02/29/2024
Date Data Arrived at EDR: 03/01/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 26

Source: EPA
Telephone: N/A
Last EDR Contact: 05/01/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Quarterly

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 12/20/2023
Date Data Arrived at EDR: 12/20/2023
Date Made Active in Reports: 01/24/2024
Number of Days to Update: 35

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 03/26/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 01/29/2024
Date Data Arrived at EDR: 02/01/2024
Date Made Active in Reports: 02/22/2024
Number of Days to Update: 21

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 05/01/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: Quarterly

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 01/29/2024
Date Data Arrived at EDR: 02/01/2024
Date Made Active in Reports: 02/22/2024
Number of Days to Update: 21

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 05/01/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: Quarterly

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 6

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

Lists of Federal RCRA TSD facilities

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

Lists of Federal RCRA generators

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 02/14/2024
Date Data Arrived at EDR: 02/16/2024
Date Made Active in Reports: 04/04/2024
Number of Days to Update: 48

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 05/17/2024
Next Scheduled EDR Contact: 08/19/2024
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 02/13/2024
Date Data Arrived at EDR: 02/21/2024
Date Made Active in Reports: 04/04/2024
Number of Days to Update: 43

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 05/21/2024
Next Scheduled EDR Contact: 09/02/2024
Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 02/13/2024
Date Data Arrived at EDR: 02/21/2024
Date Made Active in Reports: 04/04/2024
Number of Days to Update: 43

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 05/21/2024
Next Scheduled EDR Contact: 09/02/2024
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/12/2023
Date Data Arrived at EDR: 12/13/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 77

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

Lists of state- and tribal (Superfund) equivalent sites

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 01/22/2024
Date Data Arrived at EDR: 01/23/2024
Date Made Active in Reports: 04/08/2024
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/23/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Quarterly

Lists of state- and tribal hazardous waste facilities

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 01/22/2024
Date Data Arrived at EDR: 01/23/2024
Date Made Active in Reports: 04/08/2024
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/23/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Quarterly

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 02/05/2024
Date Data Arrived at EDR: 02/06/2024
Date Made Active in Reports: 04/26/2024
Number of Days to Update: 80

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 05/07/2024
Next Scheduled EDR Contact: 08/19/2024
Data Release Frequency: Quarterly

Lists of state and tribal leaking storage tanks

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)

Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Quarterly

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 10/25/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/25/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 10/25/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 10/25/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 10/25/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 10/25/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 10/25/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 10/04/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)

Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/27/2024
Number of Days to Update: 84

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: No Update Planned

Lists of state and tribal registered storage tanks

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 11/16/2023
Date Data Arrived at EDR: 11/16/2023
Date Made Active in Reports: 02/13/2024
Number of Days to Update: 89

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

MILITARY UST SITES: Military UST Sites (GEOTRACKER)
Military ust sites

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Semi-Annually

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases
UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 11/28/2023
Date Data Arrived at EDR: 11/30/2023
Date Made Active in Reports: 02/27/2024
Number of Days to Update: 89

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 03/08/2024
Next Scheduled EDR Contact: 06/24/2024
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 10/24/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 10/24/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 10/24/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/24/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 10/24/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 10/17/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 10/24/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 10/24/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

Lists of state and tribal voluntary cleanup sites

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 01/22/2024
Date Data Arrived at EDR: 01/23/2024
Date Made Active in Reports: 04/08/2024
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/23/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Quarterly

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 07/08/2021
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 03/18/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Varies

Lists of state and tribal brownfield sites

BROWNFIELDS: Considered Brownfieds Sites Listing

A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 12/13/2023
Date Data Arrived at EDR: 12/13/2023
Date Made Active in Reports: 03/07/2024
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 03/11/2024
Date Data Arrived at EDR: 03/12/2024
Date Made Active in Reports: 05/10/2024
Number of Days to Update: 59

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/12/2024
Next Scheduled EDR Contact: 06/24/2024
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 04/19/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 11/29/2023
Date Data Arrived at EDR: 11/29/2023
Date Made Active in Reports: 02/23/2024
Number of Days to Update: 86

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

Date of Government Version: 04/04/2024
Date Data Arrived at EDR: 04/05/2024
Date Made Active in Reports: 04/15/2024
Number of Days to Update: 10

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 08/19/2024
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 04/22/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 04/15/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 04/19/2024
Next Scheduled EDR Contact: 08/04/2024
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 12/31/2023
Date Data Arrived at EDR: 02/21/2024
Date Made Active in Reports: 04/04/2024
Number of Days to Update: 43

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/21/2024
Next Scheduled EDR Contact: 09/02/2024
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 01/22/2024
Date Data Arrived at EDR: 01/23/2024
Date Made Active in Reports: 04/08/2024
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/23/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 09/28/2023
Date Made Active in Reports: 12/18/2023
Number of Days to Update: 81

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 05/09/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CERS HAZ WASTE: California Environmental Reporting System Hazardous Waste

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

Date of Government Version: 01/16/2024
Date Data Arrived at EDR: 01/16/2024
Date Made Active in Reports: 04/03/2024
Number of Days to Update: 78

Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 04/16/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Quarterly

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 12/31/2023
Date Data Arrived at EDR: 02/21/2024
Date Made Active in Reports: 04/04/2024
Number of Days to Update: 43

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/21/2024
Next Scheduled EDR Contact: 09/02/2024
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing

Aboveground storage tank sites

Date of Government Version: 02/01/2024
Date Data Arrived at EDR: 02/01/2024
Date Made Active in Reports: 04/24/2024
Number of Days to Update: 83

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Varies

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CERS TANKS: California Environmental Reporting System (CERS) Tanks

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 01/16/2024
Date Data Arrived at EDR: 01/16/2024
Date Made Active in Reports: 04/03/2024
Number of Days to Update: 78

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 04/16/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Quarterly

Local Land Records

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 02/26/2024
Date Data Arrived at EDR: 02/27/2024
Date Made Active in Reports: 05/15/2024
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/26/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/29/2024
Date Data Arrived at EDR: 03/01/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 26

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 05/01/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 02/26/2024
Date Data Arrived at EDR: 02/27/2024
Date Made Active in Reports: 05/14/2024
Number of Days to Update: 77

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 02/27/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/12/2023
Date Data Arrived at EDR: 12/13/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 77

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 03/20/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System
California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 12/31/2023
Date Data Arrived at EDR: 01/23/2024
Date Made Active in Reports: 04/09/2024
Number of Days to Update: 77

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 04/16/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)
Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/27/2024
Number of Days to Update: 84

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)
Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch
Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/30/2024
Date Data Arrived at EDR: 02/13/2024
Date Made Active in Reports: 04/04/2024
Number of Days to Update: 51

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 05/14/2024
Next Scheduled EDR Contact: 08/26/2024
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 06/07/2021
Date Data Arrived at EDR: 07/13/2021
Date Made Active in Reports: 03/09/2022
Number of Days to Update: 239

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 04/11/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 04/04/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 07/30/2021
Date Data Arrived at EDR: 02/03/2023
Date Made Active in Reports: 02/10/2023
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 05/09/2024
Next Scheduled EDR Contact: 08/19/2024
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 12/11/2023
Date Data Arrived at EDR: 12/13/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 77

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 03/13/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA Watch List

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88
Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 04/29/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: No Update Planned

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73
Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 05/02/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 06/14/2022
Date Made Active in Reports: 03/24/2023
Number of Days to Update: 283
Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 03/14/2024
Next Scheduled EDR Contact: 06/24/2024
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2022
Date Data Arrived at EDR: 11/13/2023
Date Made Active in Reports: 02/07/2024
Number of Days to Update: 86
Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 05/16/2024
Next Scheduled EDR Contact: 08/26/2024
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 01/16/2024
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 70
Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 02/29/2024
Date Data Arrived at EDR: 03/01/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 26

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 05/01/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 02/01/2024
Date Data Arrived at EDR: 02/08/2024
Date Made Active in Reports: 04/04/2024
Number of Days to Update: 56

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 04/15/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 05/01/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 03/20/2023
Date Data Arrived at EDR: 04/04/2023
Date Made Active in Reports: 06/09/2023
Number of Days to Update: 66

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 04/04/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 03/28/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 01/02/2024
Date Data Arrived at EDR: 01/16/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 57

Source: Nuclear Regulatory Commission
Telephone: 301-415-0717
Last EDR Contact: 04/15/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2022
Date Data Arrived at EDR: 11/27/2023
Date Made Active in Reports: 02/22/2024
Number of Days to Update: 87

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 02/23/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 02/23/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 05/02/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 03/25/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data
Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/17/2020
Number of Days to Update: 80
Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 04/23/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2023
Date Data Arrived at EDR: 01/11/2024
Date Made Active in Reports: 01/16/2024
Number of Days to Update: 5

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 03/28/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 03/09/2023
Date Made Active in Reports: 03/20/2023
Number of Days to Update: 11

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 04/04/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 03/03/2023
Date Data Arrived at EDR: 03/03/2023
Date Made Active in Reports: 06/09/2023
Number of Days to Update: 98

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 04/26/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 08/30/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 74

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 05/16/2024
Next Scheduled EDR Contact: 08/26/2024
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 02/29/2024
Date Data Arrived at EDR: 03/01/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 26

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 05/01/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 01/02/2024
Date Data Arrived at EDR: 01/03/2024
Date Made Active in Reports: 01/04/2024
Number of Days to Update: 1

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 04/04/2024
Next Scheduled EDR Contact: 08/19/2024
Data Release Frequency: Quarterly

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 02/05/2024
Date Data Arrived at EDR: 02/21/2024
Date Made Active in Reports: 04/04/2024
Number of Days to Update: 43

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 05/21/2024
Next Scheduled EDR Contact: 09/02/2024
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 01/07/2022
Date Data Arrived at EDR: 02/24/2023
Date Made Active in Reports: 05/17/2023
Number of Days to Update: 82

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 02/22/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 02/22/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: Varies

MINES MRDS: Mineral Resources Data System

Mineral Resources Data System

Date of Government Version: 08/23/2022
Date Data Arrived at EDR: 11/22/2022
Date Made Active in Reports: 02/28/2023
Number of Days to Update: 98

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 02/22/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 11/28/2023
Date Data Arrived at EDR: 11/29/2023
Date Made Active in Reports: 12/11/2023
Number of Days to Update: 12

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 03/15/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 11/03/2023
Date Data Arrived at EDR: 11/08/2023
Date Made Active in Reports: 11/20/2023
Number of Days to Update: 12

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 02/27/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 09/06/2023
Date Data Arrived at EDR: 09/13/2023
Date Made Active in Reports: 12/11/2023
Number of Days to Update: 89

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 04/08/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 12/17/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 03/04/2024
Number of Days to Update: 67

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 04/04/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/06/2021
Date Data Arrived at EDR: 05/21/2021
Date Made Active in Reports: 08/11/2021
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 05/17/2024
Next Scheduled EDR Contact: 09/02/2024
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 02/12/2024
Date Data Arrived at EDR: 02/13/2024
Date Made Active in Reports: 04/04/2024
Number of Days to Update: 51

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 05/14/2024
Next Scheduled EDR Contact: 08/26/2024
Data Release Frequency: Quarterly

PFAS NPL: Superfund Sites with PFAS Detections Information

EPA's Office of Land and Emergency Management and EPA Regional Offices maintain data describing what is known about site investigations, contamination, and remedial actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) where PFAS is present in the environment.

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 03/04/2024
Number of Days to Update: 67

Source: Environmental Protection Agency
Telephone: 703-603-8895
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PFAS FEDERAL SITES: Federal Sites PFAS Information

Several federal entities, such as the federal Superfund program, Department of Defense, National Aeronautics and Space Administration, Department of Transportation, and Department of Energy provided information for sites with known or suspected detections at federal facilities.

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 03/04/2024
Number of Days to Update: 67

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PFAS TRIS: List of PFAS Added to the TRI

Section 7321 of the National Defense Authorization Act for Fiscal Year 2020 (NDAA) immediately added certain per- and polyfluoroalkyl substances (PFAS) to the list of chemicals covered by the Toxics Release Inventory (TRI) under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) and provided a framework for additional PFAS to be added to TRI on an annual basis.

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 01/04/2024
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 202-566-0250
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PFAS TSCA: PFAS Manufacture and Imports Information

EPA issued the Chemical Data Reporting (CDR) Rule under the Toxic Substances Control Act (TSCA) and requires chemical manufacturers and facilities that manufacture or import chemical substances to report data to EPA. EPA publishes non-confidential business information (non-CBI) and includes descriptive information about each site, corporate parent, production volume, other manufacturing information, and processing and use information.

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 01/04/2024
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PFAS RCRA MANIFEST: PFAS Transfers Identified In the RCRA Database Listing

To work around the lack of PFAS waste codes in the RCRA database, EPA developed the PFAS Transfers dataset by mining e-Manifest records containing at least one of these common PFAS keywords: PFAS, PFOA, PFOS, PERFL, AFFF, GENX, GEN-X (plus the VT waste codes). These keywords were searched for in the following text fields: Manifest handling instructions (MANIFEST_HANDLING_INSTR), Non-hazardous waste description (NON_HAZ_WASTE_DESCRIPTION), DOT printed information (DOT_PRINTED_INFORMATION), Waste line handling instructions (WASTE_LINE_HANDLING_INSTR), Waste residue comments (WASTE_RESIDUE_COMMENTS).

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 01/04/2024
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PFAS ATSDR: PFAS Contamination Site Location Listing

PFAS contamination site locations from the Department of Health & Human Services, Center for Disease Control & Prevention. ATSDR is involved at a number of PFAS-related sites, either directly or through assisting state and federal partners. As of now, most sites are related to drinking water contamination connected with PFAS production facilities or fire training areas where aqueous film-forming firefighting foam (AFFF) was regularly used.

Date of Government Version: 06/24/2020
Date Data Arrived at EDR: 03/17/2021
Date Made Active in Reports: 11/08/2022
Number of Days to Update: 601

Source: Department of Health & Human Services
Telephone: 202-741-5770
Last EDR Contact: 04/22/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Varies

PFAS WQP: Ambient Environmental Sampling for PFAS

The Water Quality Portal (WQP) is a part of a modernized repository storing ambient sampling data for all environmental media and tissue samples. A wide range of federal, state, tribal and local governments, academic and non-governmental organizations and individuals submit project details and sampling results to this public repository. The information is commonly used for research and assessments of environmental quality.

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 03/04/2024
Number of Days to Update: 67

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PFAS NPDES: Clean Water Act Discharge Monitoring Information

Any discharger of pollutants to waters of the United States from a point source must have a National Pollutant Discharge Elimination System (NPDES) permit. The process for obtaining limits involves the regulated entity (permittee) disclosing releases in a NPDES permit application and the permitting authority (typically the state but sometimes EPA) deciding whether to require monitoring or monitoring with limits. Caveats and Limitations: Less than half of states have required PFAS monitoring for at least one of their permittees and fewer states have established PFAS effluent limits for permittees. New rulemakings have been initiated that may increase the number of facilities monitoring for PFAS in the future.

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 03/04/2024
Number of Days to Update: 67

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PFAS ECHO: Facilities in Industries that May Be Handling PFAS Listing

Regulators and the public have expressed interest in knowing which regulated entities may be using PFAS. EPA has developed a dataset from various sources that show which industries may be handling PFAS. Approximately 120,000 facilities subject to federal environmental programs have operated or currently operate in industry sectors with processes that may involve handling and/or release of PFAS.

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 03/04/2024
Number of Days to Update: 67

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PFAS ECHO FIRE TRAINING: Facilities in Industries that May Be Handling PFAS Listing

A list of fire training sites was added to the Industry Sectors dataset using a keyword search on the permitted facilitys name to identify sites where fire-fighting foam may have been used in training exercises. Additionally, you may view an example spreadsheet of the subset of fire training facility data, as well as the keywords used in selecting or deselecting a facility for the subset. as well as the keywords used in selecting or deselecting a facility for the subset. These keywords were tested to maximize accuracy in selecting facilities that may use fire-fighting foam in training exercises, however, due to the lack of a required reporting field in the data systems for designating fire training sites, this methodology may not identify all fire training sites or may potentially misidentify them.

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 03/04/2024
Number of Days to Update: 67

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PFAS PART 139 AIRPORT: All Certified Part 139 Airports PFAS Information Listing

Since July 1, 2006, all certified part 139 airports are required to have fire-fighting foam onsite that meet military specifications (MIL-F-24385) (14 CFR 139.317). To date, these military specification fire-fighting foams are fluorinated and have been historically used for training and extinguishing. The 2018 FAA Reauthorization Act has a provision stating that no later than October 2021, FAA shall not require the use of fluorinated AFFF. This provision does not prohibit the use of fluorinated AFFF at Part 139 civilian airports; it only prohibits FAA from mandating its use. The Federal Aviation Administration?s document AC 150/5210-6D - Aircraft Fire Extinguishing Agents provides guidance on Aircraft Fire Extinguishing Agents, which includes Aqueous Film Forming Foam (AFFF).

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 03/04/2024
Number of Days to Update: 67

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

AQUEOUS FOAM NRC: Aqueous Foam Related Incidents Listing

The National Response Center (NRC) serves as an emergency call center that fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. The spreadsheets posted to the NRC website contain initial incident data that has not been validated or investigated by a federal/state response agency. Response center calls from 1990 to the most recent complete calendar year where there was indication of Aqueous Film Forming Foam (AFFF) usage are included in this dataset. NRC calls may reference AFFF usage in the ?Material Involved? or ?Incident Description? fields.

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 03/04/2024
Number of Days to Update: 67

Source: Environmental Protection Agency
Telephone: 202-267-2675
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PCS ENF: Enforcement data
No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29

Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 03/29/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PCS: Permit Compliance System
PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 12/16/2016
Date Data Arrived at EDR: 01/06/2017
Date Made Active in Reports: 03/10/2017
Number of Days to Update: 63

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 03/29/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: No Update Planned

BIOSOLIDS: ICIS-NPDES Biosolids Facility Data
The data reflects compliance information about facilities in the biosolids program.

Date of Government Version: 12/31/2023
Date Data Arrived at EDR: 01/03/2024
Date Made Active in Reports: 01/16/2024
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 202-564-4700
Last EDR Contact: 04/16/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

PFAS: PFAS Contamination Site Location Listing
A listing of PFAS sites included in the Envirostor and GeoTracker databases. Locations of potential sources of per - and polyfluoroalkyl substances (PFAS). This does not mean that PFAS has been produced, used, or discharged at these sites.

Date of Government Version: 11/30/2023
Date Data Arrived at EDR: 11/30/2023
Date Made Active in Reports: 02/26/2024
Number of Days to Update: 88

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/06/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

AQUEOUS FOAM: Former Fire Training Facility Assessments Listing
Airports shown on this list are those believed to use Aqueous Film Forming Foam (AFFF), and certified by the Federal Aviation Administration (FAA) under Title 14, Code of Federal Regulations (CFR), Part 139 (14 CFR Part 139). This list was created by SWRCB using information available from the FAA. Location points shown are from the latitude and longitude listed on the FAA airport master record.

Date of Government Version: 11/30/2023
Date Data Arrived at EDR: 11/30/2023
Date Made Active in Reports: 02/23/2024
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: 916-341-5455
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

CA BOND EXP. PLAN: Bond Expenditure Plan
Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CHROME PLATING: Chrome Plating Facilities Listing

This listing represents chrome plating facilities the California State Water Resources Control Board staff identified as possibly being a source of Per- and polyfluoroalkyl substance (PFAS) contamination. Sites and locations were identified by staff with the Division of Water Quality in the California State Water Board. Data was collected from the CA Air Resources Board 2013 and 2018 - Cr VI emission survey, CA Emission Inventory, CA HAZ Waste discharge database and by reviewing storm water permits. Former chrome plating sites are also included that are open site investigation or remediation cases with the Regional Water Quality Control Boards and the Department of Toxic Substances Control.

Date of Government Version: 11/30/2023
Date Data Arrived at EDR: 11/30/2023
Date Made Active in Reports: 02/23/2024
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: 916-341-5455
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 12/13/2023
Date Data Arrived at EDR: 12/13/2023
Date Made Active in Reports: 03/07/2024
Number of Days to Update: 85

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing

list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 02/14/2024
Date Data Arrived at EDR: 02/21/2024
Date Made Active in Reports: 05/08/2024
Number of Days to Update: 77

Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 05/09/2024
Next Scheduled EDR Contact: 08/19/2024
Data Release Frequency: Varies

DRYCLEAN VENTURA CO DIST: Drycleaner Facility Listing

A listing of drycleaner facility locations, for the Ventura County Air Pollution Control District.

Date of Government Version: 01/04/2024
Date Data Arrived at EDR: 01/16/2024
Date Made Active in Reports: 02/08/2024
Number of Days to Update: 23

Source: Ventura County Air Pollution Control District
Telephone: 805-645-1421
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN AMADOR: Amador Air District Drycleaner Facility Listing

A listing of drycleaner facility locations, for the Amador Air Quality Management District

Date of Government Version: 04/26/2023
Date Data Arrived at EDR: 04/27/2023
Date Made Active in Reports: 07/13/2023
Number of Days to Update: 77

Source: Amador Air Quality Management District
Telephone: 209-257-0112
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing

A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 02/20/2024
Date Data Arrived at EDR: 02/22/2024
Date Made Active in Reports: 05/08/2024
Number of Days to Update: 76

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 05/17/2024
Next Scheduled EDR Contact: 09/02/2024
Data Release Frequency: Varies

DRYCLEAN MOJAVE DESERT DIST: Mojave Desert Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Mojave Desert Air Quality Management District.

Date of Government Version: 04/15/2024
Date Data Arrived at EDR: 04/17/2024
Date Made Active in Reports: 04/24/2024
Number of Days to Update: 7
Source: Mojave Desert Air Quality Management District
Telephone: 760-245-1661
Last EDR Contact: 04/16/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN BUTTE CO DIST: Butte County Air Quality Management DistrictDrycleaner Facility Listing
Butte County Air Quality Management DistrictDrycleaner Facility Listing.

Date of Government Version: 04/25/2023
Date Data Arrived at EDR: 10/18/2023
Date Made Active in Reports: 01/16/2024
Number of Days to Update: 90
Source: Butte County Air Quality Management District
Telephone: 530-332-9400
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN FEATHER RIVER DIST: Feather River Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Feather River Air Quality Management District.

Date of Government Version: 03/08/2023
Date Data Arrived at EDR: 03/09/2023
Date Made Active in Reports: 06/05/2023
Number of Days to Update: 88
Source: Feather River Air Quality Management District
Telephone: 530-634-7659
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SAN DIEGO CO DIST: San Diego County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the San Diego County Air Pollution Control District.

Date of Government Version: 03/19/2024
Date Data Arrived at EDR: 03/21/2024
Date Made Active in Reports: 04/12/2024
Number of Days to Update: 22
Source: San Diego County Air Pollution Control District
Telephone: 858-586-2616
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEANERS: Cleaner Facilities
A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 04/02/2024
Date Data Arrived at EDR: 04/05/2024
Date Made Active in Reports: 04/15/2024
Number of Days to Update: 10
Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 03/08/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Annually

DRYCLEAN GRANT: Grant Recipients List
Assembly Bill 998 (AB 998) established the Non-Toxic Dry Cleaning Incentive Program to provide financial assistance to the dry cleaning industry to switch from systems using perchloroethylene (Perc), an identified toxic air contaminant and potential human carcinogen, to non-toxic and non-smog forming alternatives.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 01/26/2024
Date Made Active in Reports: 04/16/2024
Number of Days to Update: 81
Source: California Air Resources Board
Telephone: 916-323-0006
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Varies

DRYCLEAN LAKE CO DIST: Lake County Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Lake County Air Quality Management District,

Date of Government Version: 02/15/2024
Date Data Arrived at EDR: 02/16/2024
Date Made Active in Reports: 05/02/2024
Number of Days to Update: 76
Source: Lake County Air Quality Management District
Telephone: 707-263-7000
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 02/26/2024
Date Data Arrived at EDR: 02/27/2024
Date Made Active in Reports: 05/15/2024
Number of Days to Update: 78
Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 02/26/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Varies

DRYCLEAN MENDO CO DIST: Mendocino County Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Mendocino County Air Quality Management District.

Date of Government Version: 02/26/2024
Date Data Arrived at EDR: 02/28/2024
Date Made Active in Reports: 05/15/2024
Number of Days to Update: 77
Source: Mendocino County Air Quality Management District
Telephone: 707-463-4354
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN EAST KERN DIST: Eastern Kern Air Pollution Control District District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Eastern Kern Air Pollution Control District.

Date of Government Version: 01/12/2023
Date Data Arrived at EDR: 04/26/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 79
Source: Eastern Kern Air Pollution Control District
Telephone: 661-862-9684
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN IMPERIAL CO DIST: Imperial County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Imperial County Air Pollution Control District

Date of Government Version: 04/25/2023
Date Data Arrived at EDR: 04/26/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 79
Source: Imperial County Air Pollution Control District
Telephone: 442-265-1800
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN YOLO-SOLANO DIST: Yolo-Solano Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Yolo-Solano Air Quality Management District.

Date of Government Version: 01/04/2024
Date Data Arrived at EDR: 01/05/2024
Date Made Active in Reports: 03/20/2024
Number of Days to Update: 75
Source: Yolo-Solano Air Quality Management District
Telephone: 530-757-3650
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SHASTA CO DIST: Shasta County Air Quality Management District District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Shasta County Air Quality Management District.

Date of Government Version: 04/26/2023
Date Data Arrived at EDR: 04/27/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 78
Source: Shasta County Air Quality Management District
Telephone: 530-225-5674
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN MONTEREY BAY DIST: Monterey Bay Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Monterey Bay Air Quality Management District.

Date of Government Version: 01/03/2024
Date Data Arrived at EDR: 01/05/2024
Date Made Active in Reports: 03/20/2024
Number of Days to Update: 75
Source: Monterey Bay Air Quality Management District
Telephone: 831-647-9411
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SAN LUIS OB CO DIST: San Luis Obispo County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the San Luis Obispo County Air Pollution Control District.

Date of Government Version: 01/03/2024
Date Data Arrived at EDR: 01/04/2024
Date Made Active in Reports: 03/20/2024
Number of Days to Update: 76
Source: San Luis Obispo County Air Pollution Control District
Telephone: 805-781-5756
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN PLACER CO DIST: Placer County Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Placer County Air Quality Management District.

Date of Government Version: 05/15/2023
Date Data Arrived at EDR: 05/17/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 89
Source: Placer County Air Quality Management District
Telephone: 530-745-2335
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SAN JOAQ VAL DIST: San Joaquin Valley Air Pollution Control District District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the San Joaquin Valley Air Pollution Control District.

Date of Government Version: 01/04/2024
Date Data Arrived at EDR: 01/04/2024
Date Made Active in Reports: 03/21/2024
Number of Days to Update: 77
Source: San Joaquin Valley Air Pollution Control District
Telephone: 559-230-6001
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN BAY AREA DIST: Bay Area Air Quality Management District Drycleaner Facility Listing
Bay Area Air Quality Management District Drycleaner Facility Listing.

Date of Government Version: 02/20/2019
Date Data Arrived at EDR: 05/30/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1432
Source: Bay Area Air Quality Management District
Telephone: 415-516-1916
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN CALAVERAS CO DIST: Calaveras County Environmental Management Agency Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Calaveras County Environmental Management Agency.

Date of Government Version: 06/17/2019
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1412
Source: Calaveras County Environmental Management Agency
Telephone: 209-754-6399
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Varies

DRYCLEAN NO COAST UNIFIED DIST: North Coast Unified Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the North Coast Unified Air Quality Management District.

Date of Government Version: 11/30/2016
Date Data Arrived at EDR: 04/19/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1473
Source: North Coast Unified Air Quality Management District
Telephone: 707-443-3093
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN NO SIERRA DIST: Northern Sierra Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Northern Sierra Air Quality Management District,

Date of Government Version: 05/07/2019
Date Data Arrived at EDR: 05/07/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1455
Source: Northern Sierra Air Quality Management District
Telephone: 530-274-9350
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SANTA BARB CO DIST: Santa Barbara County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Santa Barbara County Air Pollution Control District.

Date of Government Version: 02/19/2019
Date Data Arrived at EDR: 04/17/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1475
Source: Santa Barbara County Air Pollution Control District
Telephone: 805-961-8867
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN TEHAMA CO DIST: Tehama County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Tehama County Air Pollution Control District.

Date of Government Version: 04/24/2019
Date Data Arrived at EDR: 04/24/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1468
Source: Tehama County Air Pollution Control District
Telephone: 530-527-3717
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN GLENN CO DIST: Glenn County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Glenn County Air Pollution Control District.

Date of Government Version: 01/08/2024
Date Data Arrived at EDR: 01/10/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 77
Source: Glenn County Air Pollution Control District
Telephone: 530-934-6500
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN NO SONOMA CO DIST: Norther Sonoma County County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Northern Sonoma County Air Pollution Control District.,

Date of Government Version: 01/05/2024
Date Data Arrived at EDR: 01/10/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 77
Source: Santa Barbara County Air Pollution Control District
Telephone: 707-433-5911
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SACRAMENTO METO DIST: Sacramento Metropolitan Air Quality Management DistrictDrycleaner Facility Listing
A listing of drycleaner facility locations, for the Sacramento Metropolitan Air Quality Management District.

Date of Government Version: 01/03/2024
Date Data Arrived at EDR: 01/10/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 77
Source: Sacramento Metropolitan Air Quality Management District
Telephone: 916-874-3958
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 06/09/2023
Date Made Active in Reports: 08/30/2023
Number of Days to Update: 82
Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 03/14/2024
Next Scheduled EDR Contact: 06/24/2024
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 01/16/2024
Date Data Arrived at EDR: 01/16/2024
Date Made Active in Reports: 04/03/2024
Number of Days to Update: 78

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 04/16/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

FIN ASSURANCE 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 01/11/2024
Date Data Arrived at EDR: 01/16/2024
Date Made Active in Reports: 04/03/2024
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

FIN ASSURANCE 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 02/07/2024
Date Data Arrived at EDR: 02/28/2024
Date Made Active in Reports: 05/15/2024
Number of Days to Update: 77

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 05/02/2024
Next Scheduled EDR Contact: 08/19/2024
Data Release Frequency: Varies

ICE: Inspection, Compliance and Enforcement

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 02/07/2024
Date Data Arrived at EDR: 02/07/2024
Date Made Active in Reports: 02/07/2024
Number of Days to Update: 0

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 05/14/2024
Next Scheduled EDR Contact: 08/26/2024
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 02/07/2024
Date Data Arrived at EDR: 02/07/2024
Date Made Active in Reports: 02/07/2024
Number of Days to Update: 0

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/14/2024
Next Scheduled EDR Contact: 08/26/2024
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 01/02/2024
Date Data Arrived at EDR: 01/03/2024
Date Made Active in Reports: 03/21/2024
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 04/04/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Quarterly

HWTS: Hazardous Waste Tracking System

DTSC maintains the Hazardous Waste Tracking System that stores ID number information since the early 1980s and manifest data since 1993. The system collects both manifest copies from the generator and destination facility.

Date of Government Version: 01/26/2024
Date Data Arrived at EDR: 01/30/2024
Date Made Active in Reports: 04/17/2024
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-324-2444
Last EDR Contact: 05/09/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2023
Date Data Arrived at EDR: 01/03/2024
Date Made Active in Reports: 03/21/2024
Number of Days to Update: 78

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 04/04/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Annually

MINES: Mines Site Location Listing

A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 11/29/2023
Date Data Arrived at EDR: 11/29/2023
Date Made Active in Reports: 02/23/2024
Number of Days to Update: 86

Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 01/23/2024
Date Data Arrived at EDR: 02/27/2024
Date Made Active in Reports: 05/16/2024
Number of Days to Update: 79

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 02/27/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Varies

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 02/05/2024
Date Data Arrived at EDR: 02/06/2024
Date Made Active in Reports: 04/25/2024
Number of Days to Update: 79

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 05/07/2024
Next Scheduled EDR Contact: 08/19/2024
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing

A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 02/26/2024
Date Data Arrived at EDR: 02/27/2024
Date Made Active in Reports: 05/17/2024
Number of Days to Update: 80

Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 02/27/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Quarterly

PROC: Certified Processors Database

A listing of certified processors.

Date of Government Version: 11/29/2023
Date Data Arrived at EDR: 11/29/2023
Date Made Active in Reports: 02/23/2024
Number of Days to Update: 86

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records

Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 12/06/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 02/29/2024
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 03/08/2024
Next Scheduled EDR Contact: 06/24/2024
Data Release Frequency: No Update Planned

SAN JOSE HAZMAT: Hazardous Material Facilities

Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 11/03/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 01/26/2021
Number of Days to Update: 82

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Annually

SANTA CRUZ CO SITE MITI: Site Mitigation Listing

Sites may become contaminated with toxic chemicals through illegal dumping or disposal, from leaking underground storage tanks, or through industrial or commercial activities.The goal of the site mitigation program is to protect the public health and the environment while facilitating completion of contaminated site clean-up projects in a timely manner.

Date of Government Version: 12/03/2018
Date Data Arrived at EDR: 06/23/2023
Date Made Active in Reports: 07/13/2023
Number of Days to Update: 20

Source: Santa Cruz Environmental Health Services
Telephone: 831-454-2761
Last EDR Contact: 05/09/2024
Next Scheduled EDR Contact: 08/26/2024
Data Release Frequency: Varies

UIC: UIC Listing

A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 11/29/2023
Date Data Arrived at EDR: 11/29/2023
Date Made Active in Reports: 02/27/2024
Number of Days to Update: 90

Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

UIC GEO: Underground Injection Control Sites (GEOTRACKER)
Underground control injection sites

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85

Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 02/11/2021
Date Data Arrived at EDR: 07/01/2021
Date Made Active in Reports: 09/29/2021
Number of Days to Update: 90

Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 04/04/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 05/09/2024
Next Scheduled EDR Contact: 08/26/2024
Data Release Frequency: No Update Planned

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 03/15/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: No Update Planned

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)
Military privatized sites

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)
Projects sites

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

WDR: Waste Discharge Requirements Listing
In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Date of Government Version: 11/29/2023
Date Data Arrived at EDR: 11/29/2023
Date Made Active in Reports: 02/22/2024
Number of Days to Update: 85
Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Quarterly

CIWQS: California Integrated Water Quality System

The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 02/26/2024
Date Data Arrived at EDR: 02/27/2024
Date Made Active in Reports: 05/14/2024
Number of Days to Update: 77
Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 02/27/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Varies

CERS: CalEPA Regulated Site Portal Data

The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 01/16/2024
Date Data Arrived at EDR: 01/16/2024
Date Made Active in Reports: 04/03/2024
Number of Days to Update: 78
Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 04/16/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)

Non-Case Information sites

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)

Other Oil & Gas Projects sites

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)

Produced water ponds sites

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)

Sampling point - public sites

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)

Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

UST FINDER: UST Finder Database

EPA developed UST Finder, a web map application containing a comprehensive, state-sourced national map of underground storage tank (UST) and leaking UST (LUST) data. It provides the attributes and locations of active and closed USTs, UST facilities, and LUST sites from states and from Tribal lands and US territories . UST Finder contains information about proximity of UST facilities and LUST sites to: surface and groundwater public drinking water protection areas; estimated number of private domestic wells and number of people living nearby; and flooding and wildfires.

Date of Government Version: 06/08/2023
Date Data Arrived at EDR: 10/04/2023
Date Made Active in Reports: 01/18/2024
Number of Days to Update: 106

Source: Environmental Protection Agency
Telephone: 202-564-0394
Last EDR Contact: 05/08/2024
Next Scheduled EDR Contact: 08/19/2024
Data Release Frequency: Varies

UST FINDER RELEASE: UST Finder Releases Database

US EPA's UST Finder data is a national composite of leaking underground storage tanks. This data contains information about, and locations of, leaking underground storage tanks. Data was collected from state sources and standardized into a national profile by EPA's Office of Underground Storage Tanks, Office of Research and Development, and the Association of State and Territorial Solid Waste Management Officials.

Date of Government Version: 06/08/2023
Date Data Arrived at EDR: 10/31/2023
Date Made Active in Reports: 01/18/2024
Number of Days to Update: 79

Source: Environmental Protecton Agency
Telephone: 202-564-0394
Last EDR Contact: 05/08/2024
Next Scheduled EDR Contact: 08/19/2024
Data Release Frequency: Semi-Annually

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

COUNTY RECORDS

ALAMEDA COUNTY:

CS ALAMEDA: Contaminated Sites
A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/09/2019
Date Data Arrived at EDR: 01/11/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 53

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 03/28/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks
Underground storage tank sites located in Alameda county.

Date of Government Version: 12/26/2023
Date Data Arrived at EDR: 12/26/2023
Date Made Active in Reports: 03/19/2024
Number of Days to Update: 84

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 03/28/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA AMADOR: CUPA Facility List
Cupa Facility List

Date of Government Version: 04/27/2023
Date Data Arrived at EDR: 04/27/2023
Date Made Active in Reports: 07/13/2023
Number of Days to Update: 77

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA BUTTE: CUPA Facility Listing
Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 03/28/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 12/18/2023
Date Data Arrived at EDR: 12/18/2023
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 86

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 03/15/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA COLUSA: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/06/2020
Date Data Arrived at EDR: 04/23/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 78

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

SL CONTRA COSTA: Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 01/19/2024
Date Data Arrived at EDR: 01/24/2024
Date Made Active in Reports: 04/09/2024
Number of Days to Update: 76

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 04/19/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA DEL NORTE: CUPA Facility List
Cupa Facility list

Date of Government Version: 02/05/2024
Date Data Arrived at EDR: 02/08/2024
Date Made Active in Reports: 04/26/2024
Number of Days to Update: 78

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 04/19/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA EL DORADO: CUPA Facility List
CUPA facility list.

Date of Government Version: 08/08/2022
Date Data Arrived at EDR: 08/09/2022
Date Made Active in Reports: 09/01/2022
Number of Days to Update: 23

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 04/19/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA FRESNO: CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 06/28/2021
Date Data Arrived at EDR: 12/21/2021
Date Made Active in Reports: 03/03/2022
Number of Days to Update: 72

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 03/28/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA GLENN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: No Update Planned

HUMBOLDT COUNTY:

CUPA HUMBOLDT: CUPA Facility List
CUPA facility list.

Date of Government Version: 08/12/2021
Date Data Arrived at EDR: 08/12/2021
Date Made Active in Reports: 11/08/2021
Number of Days to Update: 88

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 05/09/2024
Next Scheduled EDR Contact: 08/26/2024
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA IMPERIAL: CUPA Facility List
Cupa facility list.

Date of Government Version: 01/17/2024
Date Data Arrived at EDR: 01/18/2024
Date Made Active in Reports: 04/03/2024
Number of Days to Update: 76

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INYO COUNTY:

CUPA INYO: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 72

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 05/09/2024
Next Scheduled EDR Contact: 08/26/2024
Data Release Frequency: Varies

KERN COUNTY:

CUPA KERN: CUPA Facility List
A listing of sites included in the Kern County Hazardous Material Business Plan.

Date of Government Version: 10/30/2023
Date Data Arrived at EDR: 11/01/2023
Date Made Active in Reports: 01/23/2024
Number of Days to Update: 83

Source: Kern County Public Health
Telephone: 661-321-3000
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Varies

UST KERN: Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 04/25/2024
Date Data Arrived at EDR: 05/01/2024
Date Made Active in Reports: 05/08/2024
Number of Days to Update: 7

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA KINGS: CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 12/03/2020
Date Data Arrived at EDR: 01/26/2021
Date Made Active in Reports: 04/14/2021
Number of Days to Update: 78

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 05/09/2024
Next Scheduled EDR Contact: 08/26/2024
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List

Cupa facility list

Date of Government Version: 02/05/2024
Date Data Arrived at EDR: 02/08/2024
Date Made Active in Reports: 04/26/2024
Number of Days to Update: 78

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 04/08/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA LASSEN: CUPA Facility List

Cupa facility list

Date of Government Version: 07/31/2020
Date Data Arrived at EDR: 08/21/2020
Date Made Active in Reports: 11/09/2020
Number of Days to Update: 80

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

LOS ANGELES COUNTY:

AOCONCERN: Key Areas of Concerns in Los Angeles County

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office. Date of Government Version: 3/30/2009 Exide Site area is a cleanup plan of lead-impacted soil surrounding the former Exide Facility as designated by the DTSC. Date of Government Version: 7/17/2017

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: N/A
Telephone: N/A
Last EDR Contact: 03/08/2024
Next Scheduled EDR Contact: 06/24/2024
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

HMS LOS ANGELES: HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 01/16/2024
Date Data Arrived at EDR: 01/18/2024
Date Made Active in Reports: 03/26/2024
Number of Days to Update: 68

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Semi-Annually

LF LOS ANGELES: List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 01/09/2024
Date Data Arrived at EDR: 01/10/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 77

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 04/09/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: Varies

LF LOS ANGELES CITY: City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 12/31/2022
Date Data Arrived at EDR: 01/12/2023
Date Made Active in Reports: 03/29/2023
Number of Days to Update: 76

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: Varies

LOS ANGELES AST: Active & Inactive AST Inventory
A listing of active & inactive above ground petroleum storage tank site locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Varies

LOS ANGELES CO LF METHANE: Methane Producing Landfills
This data was created on April 30, 2012 to represent known disposal sites in Los Angeles County that may produce and emanate methane gas. The shapefile contains disposal sites within Los Angeles County that once accepted degradable refuse material. Information used to create this data was extracted from a landfill survey performed by County Engineers (Major Waste System Map, 1973) as well as historical records from CalRecycle, Regional Water Quality Control Board, and Los Angeles County Department of Public Health

Date of Government Version: 04/13/2023
Date Data Arrived at EDR: 07/13/2023
Date Made Active in Reports: 09/27/2023
Number of Days to Update: 76

Source: Los Angeles County Department of Public Works
Telephone: 626-458-6973
Last EDR Contact: 04/11/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: No Update Planned

LOS ANGELES HM: Active & Inactive Hazardous Materials Inventory
A listing of active & inactive hazardous materials facility locations, located in the City of Los Angeles.

Date of Government Version: 12/01/2023
Date Data Arrived at EDR: 12/13/2023
Date Made Active in Reports: 12/14/2023
Number of Days to Update: 1

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Varies

LOS ANGELES UST: Active & Inactive UST Inventory
A listing of active & inactive underground storage tank site locations and underground storage tank historical sites, located in the City of Los Angeles.

Date of Government Version: 12/01/2023
Date Data Arrived at EDR: 12/13/2023
Date Made Active in Reports: 03/07/2024
Number of Days to Update: 85
Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Varies

SITE MIT LOS ANGELES: Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 07/11/2023
Date Data Arrived at EDR: 10/17/2023
Date Made Active in Reports: 01/09/2024
Number of Days to Update: 84
Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 04/18/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Annually

UST EL SEGUNDO: City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21
Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: No Update Planned

UST LONG BEACH: City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 04/22/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 65
Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

UST TORRANCE: City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 04/12/2023
Date Data Arrived at EDR: 05/02/2023
Date Made Active in Reports: 06/13/2023
Number of Days to Update: 42
Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA MADERA: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 08/10/2020
Date Data Arrived at EDR: 08/12/2020
Date Made Active in Reports: 10/23/2020
Number of Days to Update: 72
Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 05/09/2024
Next Scheduled EDR Contact: 08/26/2024
Data Release Frequency: Varies

MARIN COUNTY:

UST MARIN: Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 29

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 03/22/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Semi-Annually

MENDOCINO COUNTY:

UST MENDOCINO: Mendocino County UST Database
A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 09/22/2021
Date Data Arrived at EDR: 11/18/2021
Date Made Active in Reports: 11/22/2021
Number of Days to Update: 4

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 05/17/2024
Next Scheduled EDR Contact: 09/02/2024
Data Release Frequency: Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

Date of Government Version: 11/15/2023
Date Data Arrived at EDR: 11/20/2023
Date Made Active in Reports: 02/15/2024
Number of Days to Update: 87

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 05/08/2024
Next Scheduled EDR Contact: 08/26/2024
Data Release Frequency: Varies

MONO COUNTY:

CUPA MONO: CUPA Facility List
CUPA Facility List

Date of Government Version: 02/22/2021
Date Data Arrived at EDR: 03/02/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 78

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 05/17/2024
Next Scheduled EDR Contact: 09/02/2024
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA MONTEREY: CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 10/04/2021
Date Data Arrived at EDR: 10/06/2021
Date Made Active in Reports: 12/29/2021
Number of Days to Update: 84

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 03/22/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Varies

NAPA COUNTY:

LUST NAPA: Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 05/17/2024
Next Scheduled EDR Contact: 09/02/2024
Data Release Frequency: No Update Planned

UST NAPA: Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 09/05/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 10/31/2019
Number of Days to Update: 52

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 05/17/2024
Next Scheduled EDR Contact: 09/02/2024
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List
CUPA facility list.

Date of Government Version: 10/31/2023
Date Data Arrived at EDR: 11/03/2023
Date Made Active in Reports: 01/23/2024
Number of Days to Update: 81

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 04/16/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Varies

ORANGE COUNTY:

IND_SITE ORANGE: List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 10/10/2023
Date Data Arrived at EDR: 11/01/2023
Date Made Active in Reports: 01/23/2024
Number of Days to Update: 83

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/02/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 10/10/2023
Date Data Arrived at EDR: 11/01/2023
Date Made Active in Reports: 01/23/2024
Number of Days to Update: 83

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/02/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Quarterly

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 10/10/2023
Date Data Arrived at EDR: 11/01/2023
Date Made Active in Reports: 01/23/2024
Number of Days to Update: 83

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/02/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Quarterly

PLACER COUNTY:

MS PLACER: Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 02/28/2024
Date Data Arrived at EDR: 02/28/2024
Date Made Active in Reports: 05/16/2024
Number of Days to Update: 78
Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 02/26/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 03/31/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/26/2019
Number of Days to Update: 64
Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

RIVERSIDE COUNTY:

LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 01/04/2024
Date Data Arrived at EDR: 01/04/2024
Date Made Active in Reports: 03/29/2024
Number of Days to Update: 85
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/05/2023
Next Scheduled EDR Contact: 06/24/2024
Data Release Frequency: Quarterly

UST RIVERSIDE: Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 01/04/2024
Date Data Arrived at EDR: 01/04/2024
Date Made Active in Reports: 03/21/2024
Number of Days to Update: 77
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 03/08/2024
Next Scheduled EDR Contact: 06/24/2024
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS SACRAMENTO: Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 11/07/2022
Date Data Arrived at EDR: 12/21/2022
Date Made Active in Reports: 03/16/2023
Number of Days to Update: 85
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 03/25/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Quarterly

ML SACRAMENTO: Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 11/07/2022
Date Data Arrived at EDR: 12/09/2022
Date Made Active in Reports: 03/01/2023
Number of Days to Update: 82
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 03/25/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA SAN BENITO: CUPA Facility List
Cupa facility list

Date of Government Version: 01/17/2024
Date Data Arrived at EDR: 01/18/2024
Date Made Active in Reports: 01/26/2024
Number of Days to Update: 8

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 05/09/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

PERMITS SAN BERNARDINO: Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 02/13/2024
Date Data Arrived at EDR: 02/14/2024
Date Made Active in Reports: 05/02/2024
Number of Days to Update: 78

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

HMMD SAN DIEGO: Hazardous Materials Management Division Database
The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 11/27/2023
Date Data Arrived at EDR: 11/27/2023
Date Made Active in Reports: 02/16/2024
Number of Days to Update: 81

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 02/27/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Quarterly

LF SAN DIEGO: Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 10/01/2023
Date Data Arrived at EDR: 01/31/2024
Date Made Active in Reports: 04/17/2024
Number of Days to Update: 77

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

SAN DIEGO CO LOP: Local Oversight Program Listing
A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 07/22/2021
Date Data Arrived at EDR: 10/19/2021
Date Made Active in Reports: 01/13/2022
Number of Days to Update: 86

Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

SAN DIEGO CO SAM: Environmental Case Listing
The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24
Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 02/23/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

CUPA SAN FRANCISCO CO: CUPA Facility Listing
Cupa facilities

Date of Government Version: 02/01/2024
Date Data Arrived at EDR: 02/01/2024
Date Made Active in Reports: 04/24/2024
Number of Days to Update: 83
Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Varies

LUST SAN FRANCISCO: Local Oversite Facilities
A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10
Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: No Update Planned

UST SAN FRANCISCO: Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 02/01/2024
Date Data Arrived at EDR: 02/01/2024
Date Made Active in Reports: 04/24/2024
Number of Days to Update: 83
Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Quarterly

SAN FRANCISO COUNTY:

SAN FRANCISCO MAHER: Maher Ordinance Property Listing
a listing of properties that fall within a Maher Ordinance, for all of San Francisco

Date of Government Version: 01/15/2024
Date Data Arrived at EDR: 01/18/2024
Date Made Active in Reports: 04/05/2024
Number of Days to Update: 78
Source: San Francisco Planning
Telephone: 628-652-7483
Last EDR Contact: 04/16/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

SAN JOAQUIN COUNTY:

UST SAN JOAQUIN: San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 15
Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 03/08/2024
Next Scheduled EDR Contact: 06/24/2024
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA SAN LUIS OBISPO: CUPA Facility List
Cupa Facility List.

Date of Government Version: 02/14/2024
Date Data Arrived at EDR: 02/14/2024
Date Made Active in Reports: 05/02/2024
Number of Days to Update: 78

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 05/09/2024
Next Scheduled EDR Contact: 08/26/2024
Data Release Frequency: Varies

SAN MATEO COUNTY:

BI SAN MATEO: Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 02/20/2020
Date Data Arrived at EDR: 02/20/2020
Date Made Active in Reports: 04/24/2020
Number of Days to Update: 64

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 03/07/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Annually

LUST SAN MATEO: Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/29/2019
Date Data Arrived at EDR: 03/29/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 61

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 03/01/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA SANTA BARBARA: CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 05/09/2024
Next Scheduled EDR Contact: 08/26/2024
Data Release Frequency: No Update Planned

SANTA CLARA COUNTY:

CUPA SANTA CLARA: Cupa Facility List
Cupa facility list

Date of Government Version: 02/21/2024
Date Data Arrived at EDR: 02/22/2024
Date Made Active in Reports: 05/08/2024
Number of Days to Update: 76

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 05/09/2024
Next Scheduled EDR Contact: 08/26/2024
Data Release Frequency: Varies

HIST LUST SANTA CLARA: HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LUST SANTA CLARA: LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 05/17/2024
Next Scheduled EDR Contact: 09/02/2024
Data Release Frequency: No Update Planned

SANTA CRUZ COUNTY:

CUPA SANTA CRUZ: CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 05/09/2024
Next Scheduled EDR Contact: 08/26/2024
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA SHASTA: CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 05/09/2024
Next Scheduled EDR Contact: 08/26/2024
Data Release Frequency: Varies

SOLANO COUNTY:

LUST SOLANO: Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/06/2019
Date Made Active in Reports: 08/13/2019
Number of Days to Update: 68

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 02/23/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Quarterly

UST SOLANO: Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 09/15/2021
Date Data Arrived at EDR: 09/16/2021
Date Made Active in Reports: 12/09/2021
Number of Days to Update: 84

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 02/23/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Quarterly

SONOMA COUNTY:

CUPA SONOMA: Cupa Facility List
Cupa Facility list

Date of Government Version: 07/02/2021
Date Data Arrived at EDR: 07/06/2021
Date Made Active in Reports: 07/14/2021
Number of Days to Update: 8

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 03/15/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Varies

LUST SONOMA: Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 06/30/2021
Date Data Arrived at EDR: 06/30/2021
Date Made Active in Reports: 09/24/2021
Number of Days to Update: 86

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 03/15/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA STANISLAUS: CUPA Facility List
Cupa facility list

Date of Government Version: 02/08/2022
Date Data Arrived at EDR: 02/10/2022
Date Made Active in Reports: 05/04/2022
Number of Days to Update: 83

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: Varies

SUTTER COUNTY:

UST SUTTER: Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 08/03/2023
Date Data Arrived at EDR: 08/24/2023
Date Made Active in Reports: 09/12/2023
Number of Days to Update: 19

Source: Sutter County Environmental Health Services
Telephone: 530-822-7500
Last EDR Contact: 02/26/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA TEHAMA: CUPA Facility List
Cupa facilities

Date of Government Version: 12/05/2023
Date Data Arrived at EDR: 02/01/2024
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 27

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 05/09/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List
Cupa facility list

Date of Government Version: 01/17/2024
Date Data Arrived at EDR: 01/18/2024
Date Made Active in Reports: 04/03/2024
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

TULARE COUNTY:

CUPA TULARE: CUPA Facility List
Cupa program facilities

Date of Government Version: 10/07/2022
Date Data Arrived at EDR: 10/07/2022
Date Made Active in Reports: 12/21/2022
Number of Days to Update: 75

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA TUOLUMNE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

VENTURA COUNTY:

BWT VENTURA: Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 12/26/2023
Date Data Arrived at EDR: 01/24/2024
Date Made Active in Reports: 04/08/2024
Number of Days to Update: 75

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 04/15/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Quarterly

LF VENTURA: Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 03/22/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: No Update Planned

LUST VENTURA: Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 05/02/2024
Next Scheduled EDR Contact: 08/19/2024
Data Release Frequency: No Update Planned

MED WASTE VENTURA: Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 12/26/2023
Date Data Arrived at EDR: 01/23/2024
Date Made Active in Reports: 04/09/2024
Number of Days to Update: 77

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 04/15/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Quarterly

UST VENTURA: Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 11/28/2023
Date Data Arrived at EDR: 11/29/2023
Date Made Active in Reports: 02/26/2024
Number of Days to Update: 89
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Quarterly

YOLO COUNTY:

UST YOLO: Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 12/18/2023
Date Data Arrived at EDR: 12/26/2023
Date Made Active in Reports: 03/19/2024
Number of Days to Update: 84
Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 03/22/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 01/22/2024
Date Data Arrived at EDR: 01/23/2024
Date Made Active in Reports: 04/08/2024
Number of Days to Update: 76
Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 04/19/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 02/05/2024
Date Data Arrived at EDR: 02/06/2024
Date Made Active in Reports: 04/25/2024
Number of Days to Update: 79
Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 05/07/2024
Next Scheduled EDR Contact: 08/19/2024
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36
Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 03/29/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 11/30/2023
Date Made Active in Reports: 12/01/2023
Number of Days to Update: 1

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 04/08/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 11/30/2021
Date Made Active in Reports: 02/18/2022
Number of Days to Update: 80

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 05/13/2024
Next Scheduled EDR Contact: 08/26/2024
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 03/01/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Annually

Oil/Gas Pipelines

Source: Endeavor Business Media

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data

Source: Endeavor Business Media

This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.
Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

© 2015 TomTom North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

COSTCO EL DORADO HILLS
COSTCO EL DORADO HILLS
EL DORADO HILLS, CA 95762

TARGET PROPERTY COORDINATES

Latitude (North):	38.661584 - 38° 39' 41.70''
Longitude (West):	121.056507 - 121° 3' 23.43''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	669100.7
UTM Y (Meters):	4280808.0
Elevation:	762 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	50005916 CLARKSVILLE, CA
Version Date:	2021

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

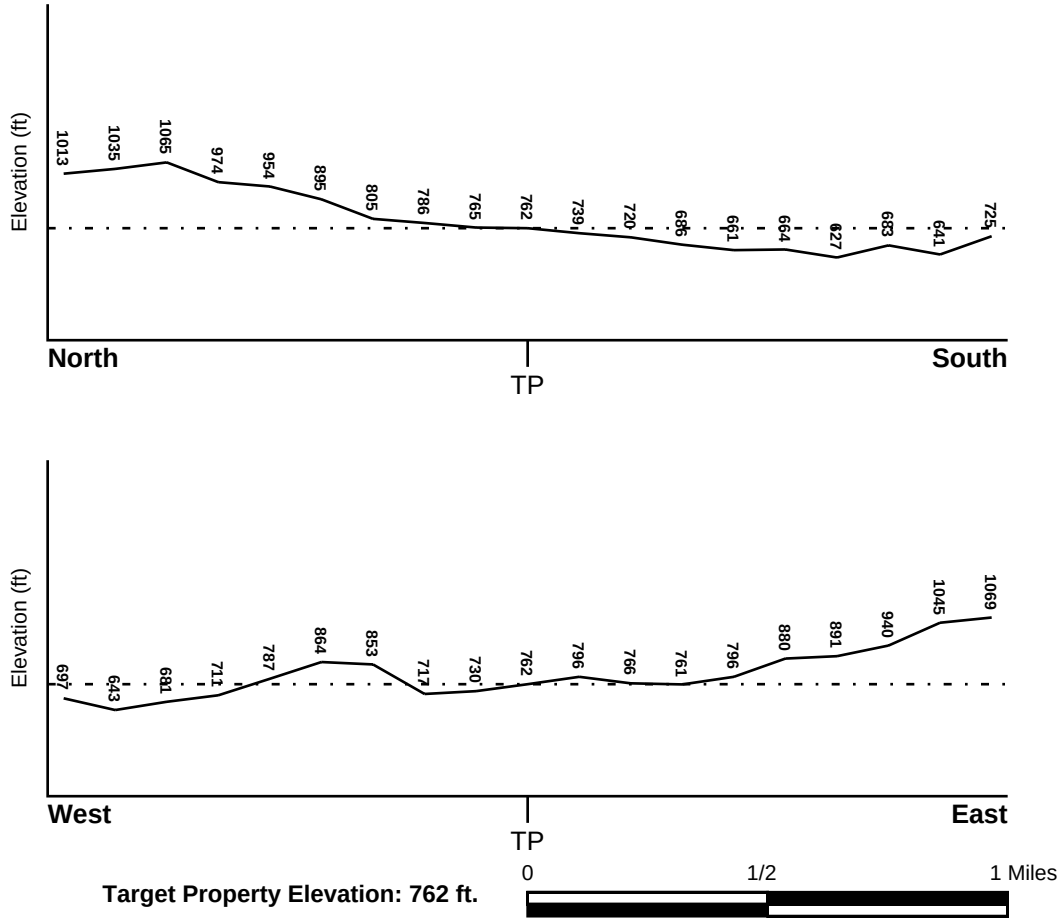
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SSW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Target Property Elevation: 762 ft.

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06017C0725E	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
06067C0140H	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
CLARKSVILLE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

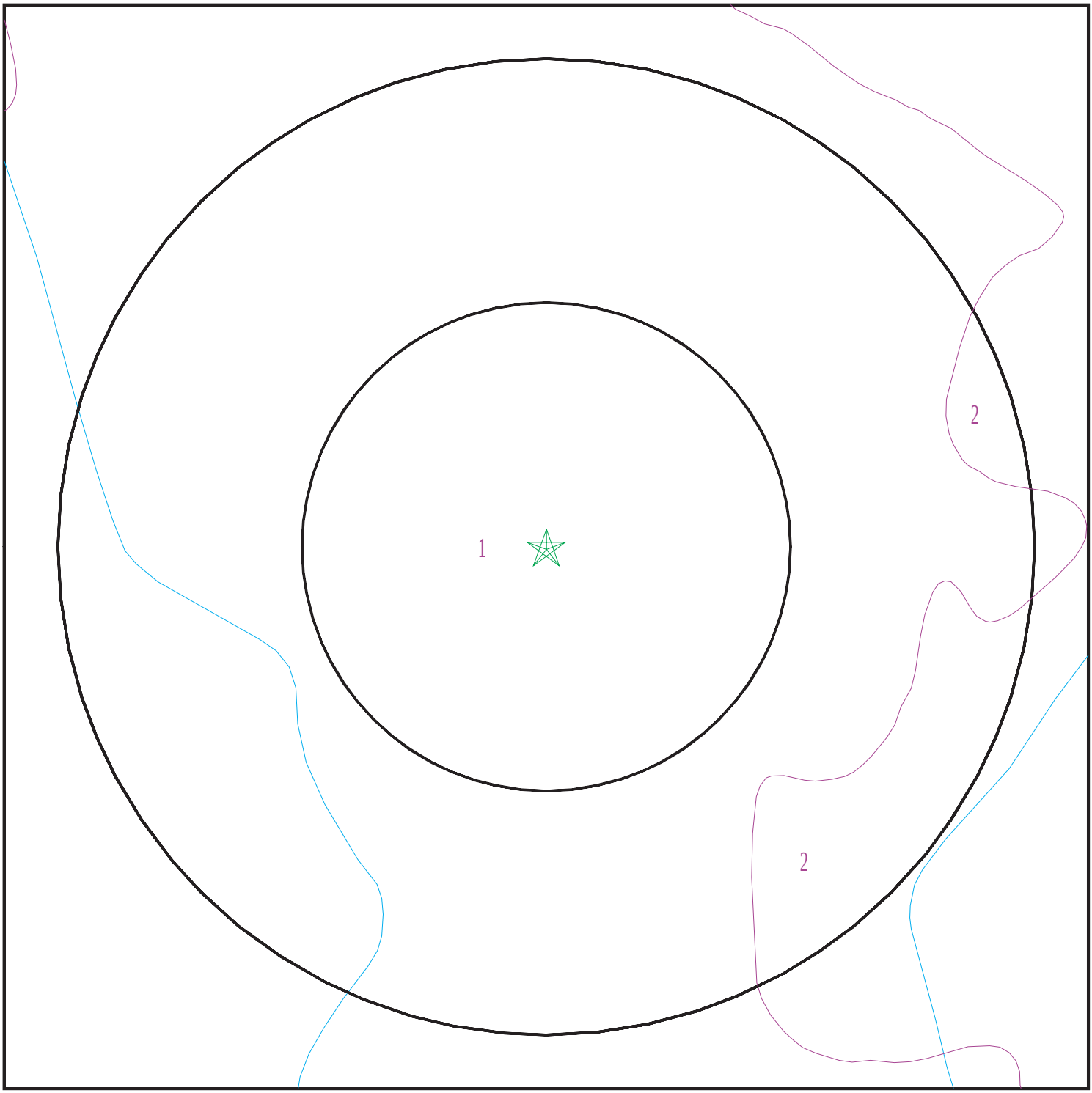
Era:	Mesozoic
System:	Lower Jurassic and Upper Triassic
Series:	Lower Mesozoic
Code:	lMze *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Eugeosynclinal Deposits

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 7659435.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Costco El Dorado Hills	CLIENT:	Kleinfelder, Inc.
ADDRESS:	Costco El Dorado Hills El Dorado Hills CA 95762	CONTACT:	Lauren Yarbrough
LAT/LONG:	38.661584 / 121.056507	INQUIRY #:	7659435.2s
		DATE:	May 22, 2024 10:04 am

Copyright © 2024 EDR, Inc. © 2015 TomTom Rel. 2015.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: AUBURN

Soil Surface Texture: silt loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 48 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	14 inches	silt loam	Not reported	Not reported	Max: Min:	Max: Min:
2	14 inches	18 inches	unweathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 2

Soil Component Name: AUBURN

Soil Surface Texture: silt loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 48 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	14 inches	silt loam	Not reported	Not reported	Max: Min:	Max: Min:
2	14 inches	18 inches	unweathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

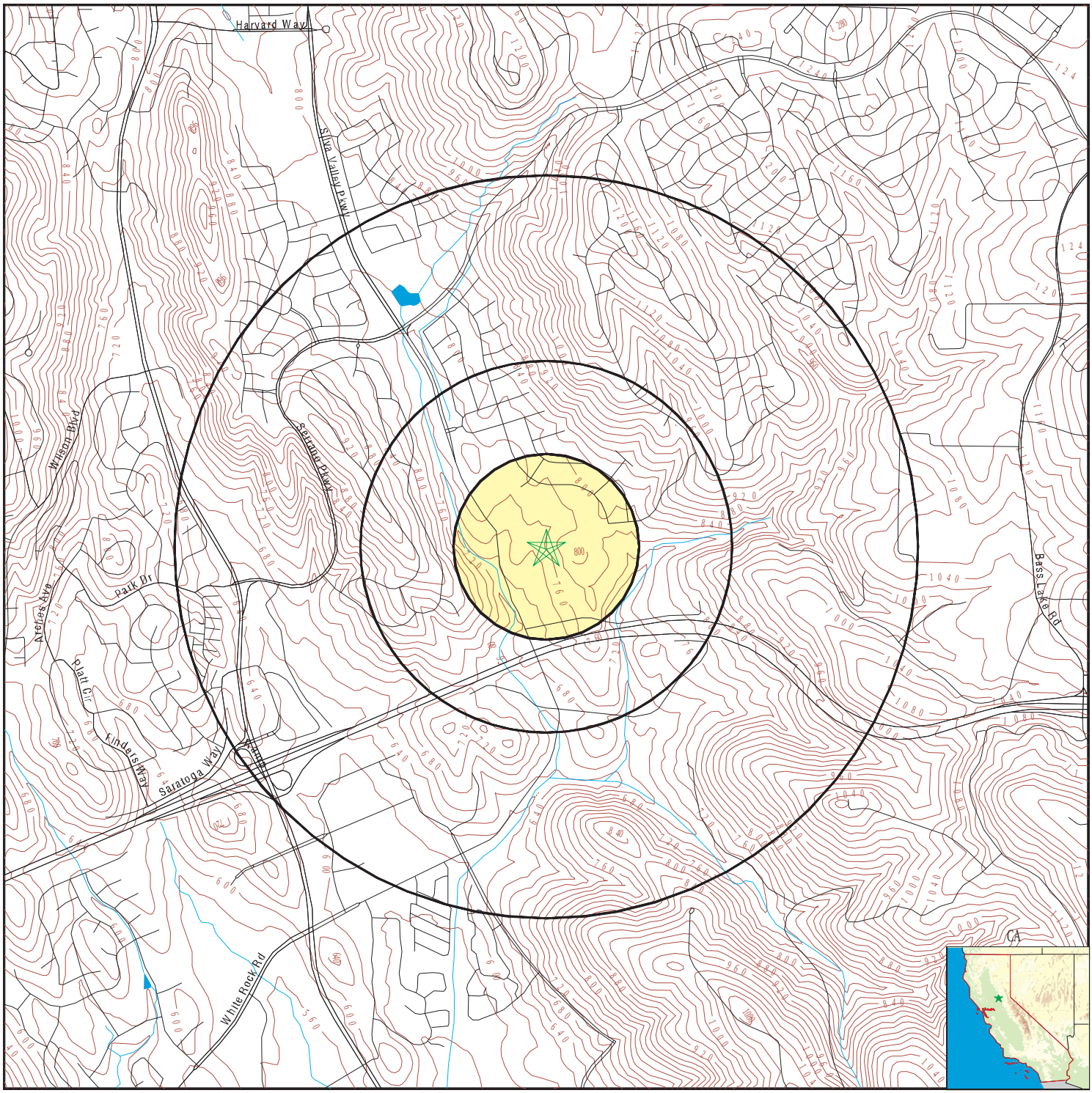
Note: PWS System location is not always the same as well location.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 7659435.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	Costco El Dorado Hills	CLIENT:	Kleinfelder, Inc.
ADDRESS:	Costco El Dorado Hills El Dorado Hills CA 95762	CONTACT:	Lauren Yarbrough
LAT/LONG:	38.661584 / 121.056507	INQUIRY #:	7659435.2s
		DATE:	May 22, 2024 10:03 am

Copyright © 2024 EDR, Inc. © 2015 TomTom Rel. 2015.

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
95762	31	3

Federal EPA Radon Zone for EL DORADO County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for EL DORADO COUNTY, CA

Number of sites tested: 27

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.844 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	3.400 pCi/L	50%	50%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

OTHER STATE DATABASE INFORMATION

Groundwater Ambient Monitoring & Assessment Program
State Water Resources Control Board
Telephone: 916-341-5577
The GAMA Program is Californias comprehensive groundwater quality monitoring program. GAMA collects data by testing the untreated, raw water in different types of wells for naturally-occurring and man-made chemicals. The GAMA data includes Domestic, Monitoring and Municipal well types from the following sources, Department of Water Resources, Department of Heath Services, EDF, Agricultural Lands, Lawrence Livermore National Laboratory, Department of Pesticide Regulation, United States Geological Survey, Groundwater Ambient Monitoring and Assessment Program and Local Groundwater Projects.

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

Geothermal Wells Listing
Department of Conservation
Telephone: 916-445-9686
Geothermal well means a well constructed to extract or return water to the ground after it has been used for heating or cooling purposes. Geothermal wells in California (except for wells on federal leases which are administered by the Bureau of Land Management) are permitted, drilled, operated, and permanently sealed and closed (plugged and abandoned) under requirements and procedures administered by the Geothermal Section of the Department of Conservations Geologic Energy Management Division (CalGEM, formerly DOGGR).

California Oil and Gas Well Locations
Source: Dept of Conservation, Geologic Energy Management Division
Telephone: 916-323-1779
Oil and Gas well locations in the state.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

California Earthquake Fault Lines
Source: California Division of Mines and Geology
The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

RADON

State Database: CA Radon
Source: Department of Public Health
Telephone: 916-210-8558
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

© 2015 TomTom North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

APPENDIX C
USER PROVIDED AND REGULATORY AGENCY DOCUMENTATION

Copyright 2024 Kleinfelder

Costco El Dorado Hills
Costco El Dorado Hills
El Dorado Hills, CA 95762

Inquiry Number: 7659435.7
May 24, 2024

EDR Environmental Lien and AUL Search

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

EDR Environmental Lien and AUL Search

The EDR Environmental Lien Search Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations (AULs), such as engineering controls and institutional controls.

A network of professional, trained researchers, following established procedures, uses client supplied address information to:

- search for parcel number and/or legal description
- search for ownership information
- research official land title documents recorded at jurisdictional agencies such as recorders' offices, registries of deeds, county clerks' offices, etc.
- search for publicly available environmental encumbering instrument(s) filed on or after the recording of the current deed; between the recording of the current deed and the most current publicly available date
- provide a copy of any environmental encumbrance(s)
- provide a copy of the current deed when available

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, LLC. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. This Report is provided on an "AS IS", "AS AVAILABLE" basis. NO WARRANTY EXPRESS OR IMPLIED IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, LLC AND ITS SUBSIDIARIES, AFFILIATES AND THIRD PARTY SUPPLIERS DISCLAIM ALL WARRANTIES, OF ANY KIND OR NATURE, EXPRESS OR IMPLIED, ARISING OUT OF OR RELATED TO THIS REPORT OR ANY OF THE DATA AND INFORMATION PROVIDED IN THIS REPORT, INCLUDING WITHOUT LIMITATION, ANY WARRANTIES REGARDING ACCURACY, QUALITY, CORRECTNESS, COMPLETENESS, COMPREHENSIVENESS, SUITABILITY, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, NON-INFRINGEMENT, MISAPPROPRIATION, OR OTHERWISE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, LLC OR ITS SUBSIDIARIES, AFFILIATES OR THIRD PARTY SUPPLIERS BE LIABLE TO ANYONE FOR ANY DIRECT, INCIDENTAL, INDIRECT, SPECIAL, CONSEQUENTIAL OR OTHER DAMAGES OF ANY TYPE OR KIND (INCLUDING BUT NOT LIMITED TO LOSS OF PROFITS, LOSS OF USE, OR LOSS OF DATA), ARISING OUT OF OR IN ANY WAY CONNECTED WITH THIS REPORT OR ANY OF THE DATA AND INFORMATION PROVIDED IN THIS REPORT. Any analyses, estimates, ratings, environmental risk levels, or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only an assessment performed by a qualified environmental professional can provide findings, opinions or conclusions regarding the environmental risk or conditions in, on or at any property.

Copyright 2024 by Environmental Data Resources, LLC. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, LLC, or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, LLC or its affiliates. All other trademarks used herein are the property of their respective owners.

EDR Environmental Lien and AUL Search

TARGET PROPERTY INFORMATION

ADDRESS

Costco El Dorado Hills
Costco El Dorado Hills
El Dorado Hills, CA 95762

ENVIRONMENTAL LIEN

Environmental Lien: Found ☐ Not Found ☒

OTHER ACTIVITY AND USE LIMITATIONS (AULs)

AULs: Found ☐ Not Found ☒

RESEARCH SOURCE

Source 1:

El Dorado Recorder
El Dorado, CA

PROPERTY INFORMATION

Deed 1-1:

Type of Deed:	deed
Title is vested in:	EDR 52
Title received from:	John K Teakopoulos
Deed Dated	3/29/1990
Deed Recorded:	3/30/1992
Book:	NA
Page:	na
Volume:	NA
Instrument:	na
Docket:	na
Land Record Comments:	
Miscellaneous Comments:	

Deed 1-2:

Type of Deed:	deed
Title is vested in:	EDH 52
Title received from:	SKK Exchange
Deed Dated	3/29/1990
Deed Recorded:	3/30/1990
Book:	NA
Page:	na
Volume:	na
Instrument:	na
Docket:	NA
Land Record Comments:	
Miscellaneous Comments:	
Legal Description:	See Exhibit
Legal Current Owner:	EDH 52
Parcel # / Property Identifier:	122-720-021, 122-720-020, 122-720-018, 122-720-019
Comments:	See Exhibit

Deed 2:

Type of Deed:	deed
Title is vested in:	John C & Lesley Ann Kemp TR
Title received from:	MEC Capital Investments LLC
Deed Dated	12/2/2022
Deed Recorded:	12/20/2022
Book:	NA
Page:	na
Volume:	na
Instrument:	na
Docket:	NA
Land Record Comments:	
Miscellaneous Comments:	

Legal Description:	See Exhibit
Legal Current Owner:	John C & Lesley Ann Kemp TR
Parcel # / Property Identifier:	122-720-002
Comments:	See Exhibit

Deed Exhibit 1

EL DORADO COUNTY

20229

RECORDING REQUESTED BY

OFFICIAL RECORDS
EL DORADO COUNTY, CALIF.
RECORDED BY

Placer Title Company

MAR 30 4 07 PM '90

And When Recorded Mail This Deed and, Unless Otherwise Shown Below, Mail Tax Statements To:

NAME
STREET ADDRESS EDH 52 PARTNERSHIP
7700 College Town Dr.,#101
CITY, STATE ZIP Sacramento, CA 95826

DOROTHY CARR
COUNTY RECORDER
7.00 (2)

Title Order No. _____ Escrow No. _____

SPACE ABOVE THIS LINE FOR RECORDER'S USE

A.P.#86-070-02

DOCUMENTARY TRANSFER TAX $330.00

X COMPUTED ON FULL VALUE OF PROPERTY CONVEYED,

_____ OR COMPUTED ON FULL VALUE LESS LIENS AND ENCUMBRANCES REMAINING AT TIME OF SALE.

PCOR FILED

THE UNDERSIGNED GRANTOR DECLARES

Signature of Declarant or Agent determining tax. Firm Name

GRANT DEED

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

JOHN K. TSAKOPOULOS

hereby GRANT(S) to

EDH 52, a California General Partnership, as to all of Grantor's undivided 15.80% interest in and to

the following described real property in the county of EL DORADO, state of California:

SEE EXHIBIT "A" ATTACHED HERETO FOR LEGAL DESCRIPTION

Dated March 29, 1990

STATE of CALIFORNIA ss.
COUNTY of Sacramento

On this 29th day of March, in the year 1990, before me, Sue Mapes, a Notary Public, State of California, duly commissioned and sworn, personally appeared John K. Tsakopoulos personally known to me (or proved to me on the basis of satisfactory evidence) to be the person.... whose name _____ subscribed to this instrument, and acknowledged that.... he.... executed it.

IN WITNESS WHEREOF I have hereunto set my hand and affixed my official seal in the State of California County of Sacramento on the date set forth above in this certificate.

Sue Mapes
Notary Public, State of California

My commission expires 5-29-90

John Tsakopoulos
JOHN K. TSAKOPOULOS

OFFICIAL SEAL
SUE MAPES
NOTARY PUBLIC - CALIFORNIA
SACRAMENTO COUNTY
My Comm. Expires May 29, 1990

(Space above for official notarial seal)

MAIL TAX STATEMENTS TO PARTY SHOWN ON FOLLOWING LINE; IF NO PARTY SO SHOWN, MAIL AS DIRECTED ABOVE

Name | Street Address | City & State

FORM 100

EXHIBIT "A"

BEGINNING at the West quarter corner of Section 1, Township 9 North, Range 8 East, M.D.B.&M.; running thence East along the North boundary of the Northwest quarter of Southwest quarter of said Section to the Northeast corner thereof; thence South 20 chains to the Southeast corner of the Northwest quarter of the Southwest quarter of said Section1; thence along the boundary of the land claimed by F.S. Tong, with the following courses and distances: West along the North boundary of the Southwest quarter of Southwest quarter of said Section 1, .38 chains; thence South 15° 26' East 20.78 chains to an intersection with the South boundary of said Section 1 at a point 24.20 chains East of the Southwest corner of said Section which measured along the South line thereof; thence West along the Southerly boundary of said Section 1, 7.84 chains to the Southeast corner of the land claimed by Martha Ella Joerger in said Section 1; thence along the boundary of the land claimed by said Martha Ella Joerger with the following courses and distances: North 27 West 18.30 chains; thence South 16 West 6.20 chains; thence North 54 West 1.20 chains; thence North 31 West 7.80 chains; thence West .80 chains to an intersection with the Westerly boundary of said Section 1; thence North along said Westerly boundary of said Section 1, 22.20 chains to the point of beginning.

EXCEPTING THEREFROM those portions conveyed to the State of California for freeway purposes by deeds recorded North 8, 1939 in book 175 page 12 Official Records for the old highway and recorded February 11, 1964 in book 676 page 229 Official Records for the new highway.

FURTHER EXCEPTING THEREFROM all that portion of said parcel lying Southerly of the North line of U.S. Highway 50, as granted to The State of California in deed recorded North 8, 1939 in Book 175 of Official Records, page 12.

END DOCUMENT

Deed Exhibit 2

EL DORADO COUNTY

20226

OFFICIAL RECORDS
ELDORADO CO. CALIF.
RECORDED BY:

Placer Title Company

MAR 30 2 47 PM '90

DOROTHY CARR
COUNTY RECORDER

7400 (2)

SPACE ABOVE THIS LINE FOR RECORDER'S USE

RECORDING REQUESTED BY

And When Recorded Mail This Deed and, Unless Otherwise Shown Below, Mail Tax Statements To:

NAME EDH 52 PARTNERSHIP
STREET ADDRESS 7700 College Town Dr.,#101
CITY, STATE ZIP Sacramento, CA 95826

Title Order No. 605821 Escrow No. _____

PCOS FILED

A.P.#86-070-02

DOCUMENTARY TRANSFER TAX $ XXXXXXXX 1,731.40

-X- COMPUTED ON FULL VALUE OF PROPERTY CONVEYED,

_____ OR COMPUTED ON FULL VALUE LESS LIENS AND ENCUMBRANCES REMAINING AT TIME OF SALE.

THE UNDERSIGNED GRANTOR DECLARES

Signature of Declarant or Agent determining tax. Firm Name

GRANT DEED

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

SKK EXCHANGE, INC., a California corporation

hereby GRANT(S) to

EDH 52, a California General Partnership

as to an undivided 84.20% interest in and to

the following described real property in the county of EL DORADO, state of California:

SEE EXHIBIT "A" ATTACHED HERETO FOR LEGAL DESCRIPTION

SKK EXCHANGE, INC.,
a California corporation

By _____

Dated March 29, 1990

STATE of CALIFORNIA ss.

COUNTY of.....

On this _____ *day of* _____, *in the year* _____

_____, *before me,*

_____, *a Notary Public, State of California, duly commissioned and sworn, personally appeared* _____

_____

personally known to me (or proved to me on the basis of satisfactory evidence) to be the person.... whose name _____

_____ *subscribed to this instrument, and acknowledged that.... he.... executed it.*

IN WITNESS WHEREOF I have hereunto set my hand and affixed my official seal in the _____ *County of* _____ *on the date set forth above in this certificate.*

_____
Notary Public, State of California

My commission expires _____

(Space above for official notarial seal)

MAIL TAX STATEMENTS TO PARTY SHOWN ON FOLLOWING LINE; IF NO PARTY SO SHOWN, MAIL AS DIRECTED ABOVE

Name | Street Address | City & State

FORM 100

EL DORADO COUNTY

EXHIBIT "A"

BEGINNING at the West quarter corner of Section 1, Township 9 North, Range 8 East, M.D.B.&M.; running thence East along the North boundary of the Northwest quarter of Southwest quarter of said Section to the Northeast corner thereof; thence South 20 chains to the Southeast corner of the Northwest quarter of the Southwest quarter of said Section1; thence along the boundary of the land claimed by F.S. Tong, with the following courses and distances: West along the North boundary of the Southwest quarter of Southwest quarter of said Section 1, .38 chains; thence South 15° 26' East 20.78 chains to an intersection with the South boundary of said Section 1 at a point 24.20 chains East of the Southwest corner of said Section which measured along the South line thereof; thence West along the Southerly boundary of said Section 1, 7.84 chains to the Southeast corner of the land claimed by Martha Ella Joerger in said Section 1; thence along the boundary of the land claimed by said Martha Ella Joerger with the following courses and distances: North 27 West 18.30 chains; thence South 16 West 6.20 chains; thence North 54 West 1.20 chains; thence North 31 West 7.80 chains; thence West .80 chains to an intersection with the Westerly boundary of said Section 1; thence North along said Westerly boundary of said Section 1, 22.20 chains to the point of beginning.

EXCEPTING THEREFROM those portions conveyed to the State of California for freeway purposes by deeds recorded North 8, 1939 in book 175 page 12 Official Records for the old highway and recorded February 11, 1964 in book 676 page 229 Official Records for the new highway.

FURTHER EXCEPTING THEREFROM all that portion of said parcel lying Southerly of the North line of U.S. Highway 50, as granted to The State of California in deed recorded North 8, 1939 in Book 175 of Official Records, page 12.

CORPORATE ACKNOWLEDGMENT NO. 202

State of California } SS.
County of Sacramento

On this the 27th day of March 19 90, before me, [illegible],
the undersigned Notary Public, personally appeared

Deed Exhibit 3

RECORDING REQUESTED BY:
Stewart Title of Sacramento

WHEN RECORDED MAIL TO:
AND MAIL TAX STATEMENT TO:

John C. Kemp, Lesley Ann Kemp, Trustees of the John C. Kemp, and Lesley Ann Kemp Family Trust dated May 4, 1990
112 Kemp Court
Folsom, CA 95630

ORDER NO. 1876814
APN: 122-720-002

Property Addr: EDH Mansour, 122-720-002, El Dorado Hills, CA 95762

Electronically Recorded in Official Records
County of El Dorado
Janelle K. Horne
Recorder-Clerk

DOC# 2022-0047128

12/20/2022
12:36 PM

Titles: 1 Pages: 4

	Fees	$23.00
	Taxes	$255.20
GL	CA SB2 Fee	$0.00
	Total	$278.20

SPACE ABOVE THIS LINE FOR RECORDERS USE

GRANT DEED

THE UNDERSIGNED GRANTOR(s) DECLARE(s)
DOCUMENTARY TRANSFER TAX is $255.20 CITY TAX $0.00
☐ Monument Preservation Fee is: $-0-
☒ computed on full value of property conveyed, or
☐ computed on full value less value of liens or encumbrances remaining at time of sale.

☒ Unincorporated area City of El Dorado Hills

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

MEE CAPITAL INVESTMENTS, LLC , a California limited liability company

hereby GRANT(S) to John C. Kemp and Lesley Ann Kemp, Trustees of the John C. Kemp and Lesley Ann Kemp Family Trust dated May 4, 1990

the following described real property in the unincorporated area , County of El Dorado, State of California:

See Exhibit "A" attached hereto and made a part hereof.

Date: December 2, 2022

MEE CAPITAL INVESTMENTS, LLC, a California limited liability company

By: _____ Date: 12/13/22
Mark Enes, Manager

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached and not the truthfulness, accuracy, or validity of that document.

State of California
County of ~~El Dorado~~ Sacramento

On December 13, 2022 before me Alim Valiev, Notary Public, personally appeared Mark Enes, who proved to me on the basis of satisfactory evidence to be the person(s), whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (seal)

ALIM VALIEV
Notary Public - California
Sacramento County
Commission # 2317355
My Comm. Expires Dec 27, 2023

MAIL TAX STATEMENT AS DIRECTED ABOVE

See Attached

ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of Sacramento)

On December 13, 2022 before me, Alim Valiev, Notary Public
(insert name and title of the officer)

personally appeared Mark Enes,
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (Seal)

ALIM VALIEV
Notary Public - California
Sacramento County
Commission # 2317355
My Comm. Expires Dec 27, 2023

EXHIBIT "A"
LEGAL DESCRIPTION

All that portion of Section 1, Township 9 North, Range 8 East, M.D.B. & M., described as follows:

Beginning at a point located in said Section 1 from which the Southwest corner thereof bears the following two courses and distances: South 29°50'05" East 979.85 feet and South 83°31'06" West 1078.13 feet; thence from said point of beginning South 78°35'53' West 215.96 feet; thence North 23°17'10" East 256.12 feet; thence South 29°50'05" East 221.99 feet to the point of beginning.

Said Parcel is also shown as Tract 2 on that certain record of Survey filed October 10, 1989 in the office of the County Recorder of El Dorado County, in Book 16 of Surveys, Page 147.

APN: 122-720-002


Silva Valley Pkwy
Silva Valley Pkwy
Clarksville Crossing
Clarksville Crossing
Tong Rd
Silva Valley Pk
50

PRINT

El Dorado County

California

Property Information

Assessor Parcel Number(APN)	122-720-002-000
Assessment Number	122-720-002-000
Tax Rate Area(TRA)	054007
Current Document Number	2022R0047128
Current Document Date	12/20/2022
SitusAddr	EL DORADO HILLS 95762
Property Type	VACANT COMMERCIAL LAND
Lot Size(Acres)	0.52
Lot Size(SqFt)	0.00
Asmt Description	RS 16/147/2
Asmt Status	ACTIVE

Roll Values

Land	$231,522
Structural Imprv	$0
Fixtures Real Property	$0
Growing Imprv.	$0
Total land & Improvemnets	$231,522
Fixtures Personal Property	$0
Personal Property	$0
Manufactured Homes	$0
Homeowners Exemption(HOX)	$0
Other Exemptions	$0
Net Assessed Value	$231,522

Building Description

Building Seq. Number	1
Unit Seq. Number	0
Building Code	1
Current Doc Num	2022R0047128
Building Square Footage	0.00

Number of units	0
Building Type	
Garage Size	0.00
UnFinished Square Footage	0.00
Year Built	0
Bedrooms	0
Full Baths	0
Half Baths	0
FirePlaces	
Pools	

Jon DeVille

Assessor

360 Fair Lane, Placerville, CA 95667

(530) 621-5719

assessor@edcgov.us

Copyright © 2021 Megabyte Licensing Corporation. All Rights Reserved.

PRINT

El Dorado County

California

Property Information

Assessor Parcel Number(APN)	122-720-018-000
Assessment Number	122-720-018-000
Tax Rate Area(TRA)	054069
Current Document Number	1990R0020229
Current Document Date	3/30/1990
SitusAddr	
Property Type	VACANT COMMERCIAL LAND
Lot Size(Acres)	17.11
Lot Size(SqFt)	0.00
Asmt Description	PM 52/10/1
Asmt Status	ACTIVE

Roll Values

Land	$989,231
Structural Imprv	$0
Fixtures Real Property	$0
Growing Imprv.	$0
Total land & Improvemnets	$989,231
Fixtures Personal Property	$0
Personal Property	$0
Manufactured Homes	$0
Homeowners Exemption(HOX)	$0
Other Exemptions	$0
Net Assessed Value	$989,231

Building Description

Building Seq. Number	
Unit Seq. Number	0
Building Code	
Current Doc Num	1990R0020229
Building Square Footage	

Number of units	
Building Type	
Garage Size	0.00
UnFinished Square Footage	
Year Built	
Bedrooms	
Full Baths	
Half Baths	
FirePlaces	
Pools	

Jon DeVille

Assessor

360 Fair Lane, Placerville, CA 95667

(530) 621-5719

assessor@edcgov.us

Copyright © 2021 Megabyte Licensing Corporation. All Rights Reserved.

PRINT

El Dorado County

California

Property Information

Assessor Parcel Number(APN)	122-720-019-000
Assessment Number	122-720-019-000
Tax Rate Area(TRA)	054069
Current Document Number	1990R0020229
Current Document Date	3/30/1990
SitusAddr	
Property Type	VACANT COMMERCIAL LAND
Lot Size(Acres)	8.01
Lot Size(SqFt)	0.00
Asmt Description	PM 52/10/2
Asmt Status	ACTIVE

Roll Values

Land	$462,964
Structural Imprv	$0
Fixtures Real Property	$0
Growing Imprv.	$0
Total land & Improvemnets	$462,964
Fixtures Personal Property	$0
Personal Property	$0
Manufactured Homes	$0
Homeowners Exemption(HOX)	$0
Other Exemptions	$0
Net Assessed Value	$462,964

Building Description

Building Seq. Number	
Unit Seq. Number	0
Building Code	
Current Doc Num	1990R0020229
Building Square Footage	

Number of units	
Building Type	
Garage Size	0.00
UnFinished Square Footage	
Year Built	
Bedrooms	
Full Baths	
Half Baths	
FirePlaces	
Pools	

Jon DeVille

Assessor

360 Fair Lane, Placerville, CA 95667

(530) 621-5719

assessor@edcgov.us

Copyright © 2021 Megabyte Licensing Corporation. All Rights Reserved.

PRINT

El Dorado County

California

Property Information

Assessor Parcel Number(APN)	122-720-020-000
Assessment Number	122-720-020-000
Tax Rate Area(TRA)	054069
Current Document Number	1990R0020229
Current Document Date	3/30/1990
SitusAddr	
Property Type	VACANT COMMERCIAL LAND
Lot Size(Acres)	9.07
Lot Size(SqFt)	0.00
Asmt Description	PM 52/10/3
Asmt Status	ACTIVE

Roll Values

Land	$524,355
Structural Imprv	$0
Fixtures Real Property	$0
Growing Imprv.	$0
Total land & Improvemnets	$524,355
Fixtures Personal Property	$0
Personal Property	$0
Manufactured Homes	$0
Homeowners Exemption(HOX)	$0
Other Exemptions	$0
Net Assessed Value	$524,355

Building Description

Building Seq. Number	
Unit Seq. Number	0
Building Code	
Current Doc Num	1990R0020229
Building Square Footage	

Number of units	
Building Type	
Garage Size	0.00
UnFinished Square Footage	
Year Built	
Bedrooms	
Full Baths	
Half Baths	
FirePlaces	
Pools	

Jon DeVille

Assessor

360 Fair Lane, Placerville, CA 95667

(530) 621-5719

assessor@edcgov.us

Copyright © 2021 Megabyte Licensing Corporation. All Rights Reserved.

PRINT

El Dorado County

California

Property Information

Assessor Parcel Number(APN)	122-720-021-000
Assessment Number	122-720-021-000
Tax Rate Area(TRA)	054069
Current Document Number	1990R0020229
Current Document Date	3/30/1990
SitusAddr	
Property Type	VACANT COMMERCIAL LAND
Lot Size(Acres)	7.75
Lot Size(SqFt)	0.00
Asmt Description	PM 52/10/4
Asmt Status	ACTIVE

Roll Values

Land	$453,022
Structural Imprv	$0
Fixtures Real Property	$0
Growing Imprv.	$0
Total land & Improvemnets	$453,022
Fixtures Personal Property	$0
Personal Property	$0
Manufactured Homes	$0
Homeowners Exemption(HOX)	$0
Other Exemptions	$0
Net Assessed Value	$453,022

Building Description

Building Seq. Number	
Unit Seq. Number	0
Building Code	
Current Doc Num	1990R0020229
Building Square Footage	

Number of units	
Building Type	
Garage Size	0.00
UnFinished Square Footage	
Year Built	
Bedrooms	
Full Baths	
Half Baths	
FirePlaces	
Pools	

Jon DeVille

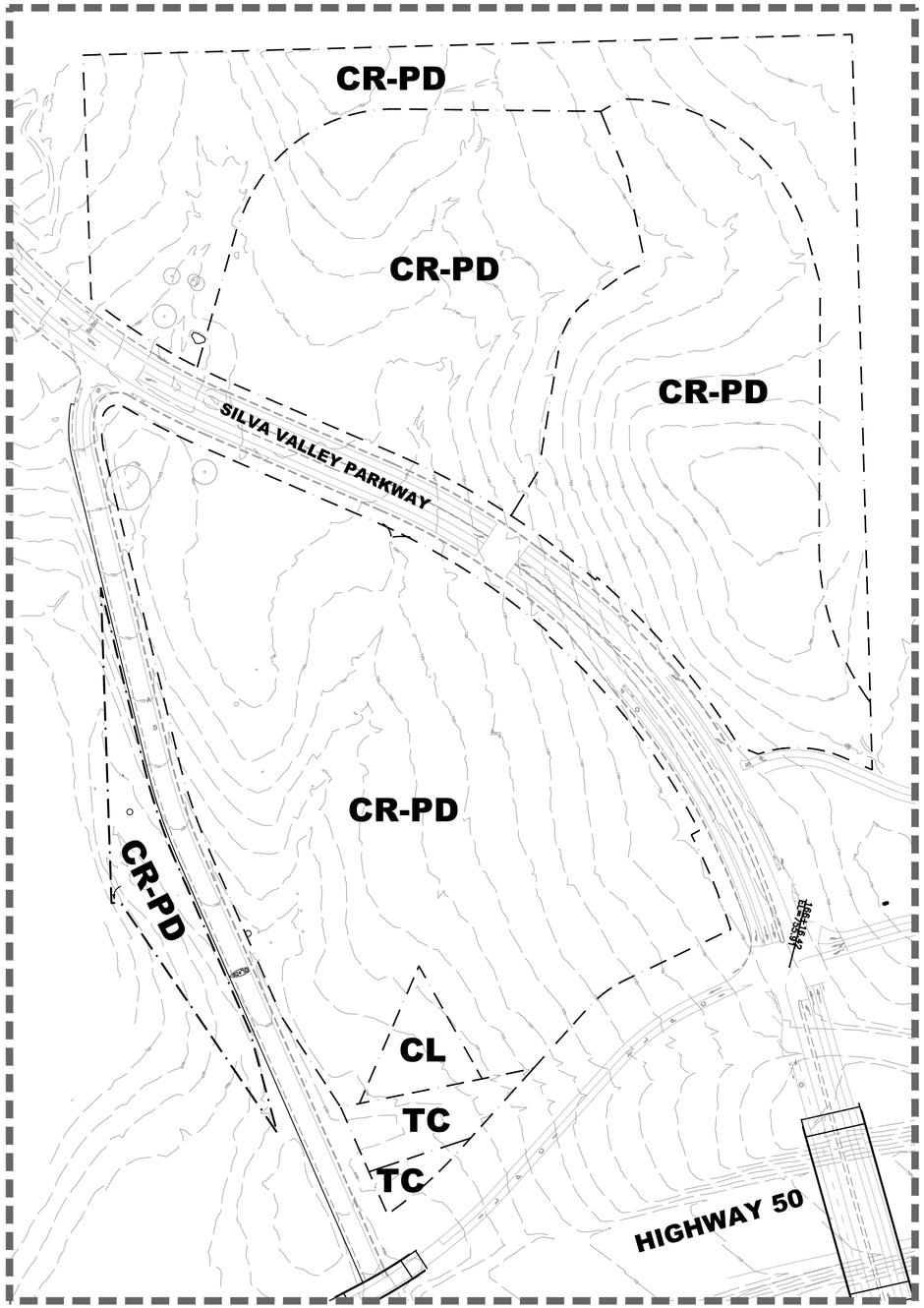
Assessor

360 Fair Lane, Placerville, CA 95667

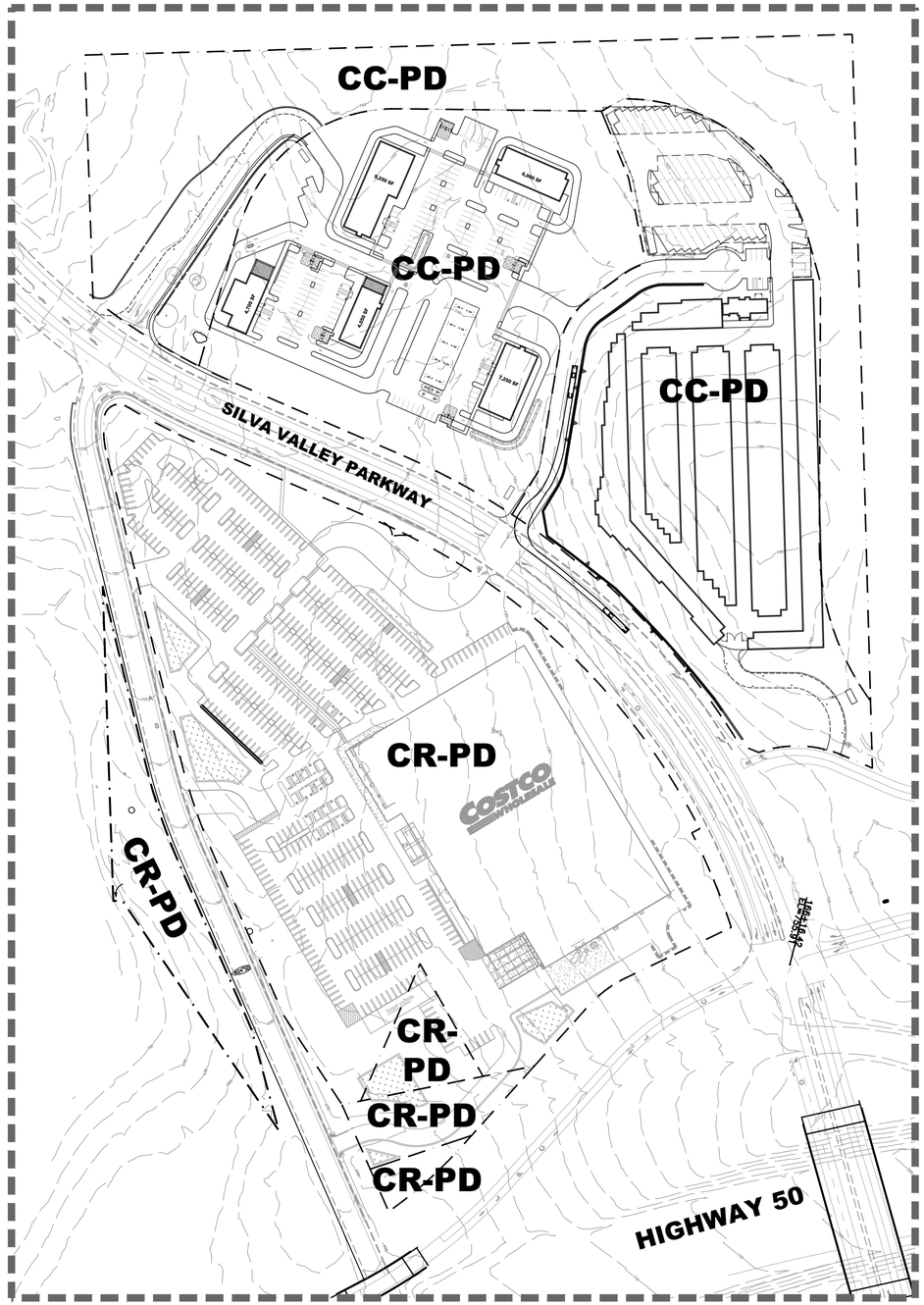
(530) 621-5719

assessor@edcgov.us

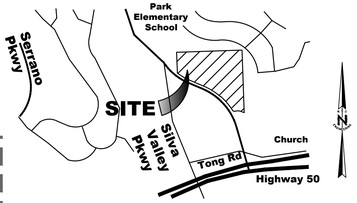
Copyright © 2021 Megabyte Licensing Corporation. All Rights Reserved.



EXISTING ZONING: CR-PD, CL & TC
COMMERCIAL REGIONAL - PLANNED DEVELOPMENT
COMMERCIAL LIMITED & TRANSPORTATION CORRIDOR
EXISTING ACREAGE: 41.88± AC



PROPOSED ZONING: CC-PD & CR-PD
COMMUNITY COMMERCIAL - PLANNED DEVELOPMENT
COMMUNITY REGIONAL - PLANNED DEVELOPMENT
PROPOSED ACREAGE: 41.88± AC



OWNER
EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826

MEE CAPITAL INVESTMENTS
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826

EL DORADO COUNTY
2850 FAIRLANE COURT
PLACERVILLE, CA 95667

ENGINEER
RSC ENGINEERING, INC.
1420 ROCKY RIDGE DRIVE, SUITE 150
ROSEVILLE, CA 95661

SCALE
1" = 120'

CONTOUR INTERVAL
5'

SOURCE OF TOPOGRAPHY
KIER & WRIGHT DATE MARCH 2019

SECTION, TOWNSHIP AND RANGE
1, 9N, 8E M.D.M.

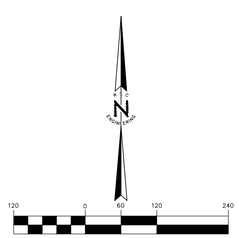
ASSESSORS PARCEL NUMBER
122-720-018, 019, 020, 021, 002 & 003

EXISTING ZONING
COMMERCIAL REGIONAL PLANNED DEVELOPMENT(CR-PD)
COMMERCIAL LIMITED (CL)
TRANSPORTATION CORRIDOR (TC)

PROPOSED ZONING
COMMUNITY COMMERCIAL PLANNED DEVELOPMENT (CC-PD)
COMMUNITY REGIONAL PLANNED DEVELOPMENT (CR-PD)

EXISTING ACREAGE SUMMARY

NORTH SIDE:	24.83± AC
SOUTH SIDE:	17.05± AC
TOTAL:	41.88± AC



1 inch = 120 ft.

OWNER:
EDH 52 GP
7919 FOLSOM BLD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

REV NO	DESCRIPTION	ENG INIT	BY	CITY APPROVED	DATE

RSC ENGINEERING
1420 Rocky Ridge Dr., Suite 150
Roseville, CA 95661
Ph:916.788.2684 Fax:916.786.4408

PROJECT NO:	104-003A
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

REZONE EXHIBIT FOR
EDH52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95762
EL DORADO COUNTY

SHEET TITLE
REZONE EXHIBIT

SHEET NO.
RZ
12 OF **12**

DATE: APRIL 23, 2021

XRefs: \\104003A_SPRPK.dwg
\\104003A_ADDITIONAL.dwg
\\104003A-ADDITIONAL.dwg
P:\104-003A\Planning\Concept\ \\104003A_XTOPO.dwg
P:\104-003A\Planning\Concept\ \\104003A_XLOGO100.dwg
DRAWING: \\Users\ \projects\ \104-003A\Planning\Concept\ \\104003A_RZ.dwg
USER NAME: Alex Mogg
PLOT DATE: Mar 26, 2021 - 9:59:41 AM

COMBINED PARCEL DATA INFORMATION AND BUILDING DESIGN CRITERIA

Disclaimer: This information may not be accurate.

PARCEL DATA INFORMATION

6/3/2024

ASSESSOR'S PARCEL NUMBER: 122-720-002

PROPERTY INFORMATION:

STATUS	JURISDICTION	TAX RATE	MAP
ON ASSESSMENT ROLL AND TAXED	COUNTY OF EL DORADO	54 - 7	RS 16/147/2

2015 GENERAL PLAN LAND USE INFORMATION:

LAND USE DES.	AG DIST.	ECOLOGICAL PRESERVES	IMPORTANT BIOLOGICAL CORRIDOR	MINERAL RESOURCES	PLATTED LANDS
C					

RURAL CENTERS	SPECIFIC PLANS	ADOPTED PLAN NAME

2015 ZONING INFORMATION:

ZONING DESIGNATION	DESIGN CONTROL	PLANNED DEVELOPMENT	OTHER OVERLAYS
CL			

2004 GENERAL PLAN LAND USE INFORMATION:

LAND USE DES.	AG DIST.	ECOLOGICAL PRESERVES	IMPORTANT BIOLOGICAL CORRIDOR	MINERAL RESOURCES	PLATTED LANDS
C					

RURAL CENTERS	SPECIFIC PLANS	ADOPTED PLAN NAME

2004 ZONING INFORMATION:

ZONING DESIGNATION	DESIGN CONTROL	PLANNED DEVELOPMENT	OTHER OVERLAYS
C, R1			

DISTRICTS:

FIRE	CSD	SCHOOL	WATER
EL DORADO HILLS WATR/FIRE		BUCKEYE UNION	EL DORADO IRRIGATION DIST

FLOOD ZONE INFORMATION: **(See Note below)**

FIRM PANEL NUMBER & REVISION	PANEL REVISION DATE	FLOOD ZONE	FLOOD ZONE BUFFER	FLOODWAY
06017C0725E	9/26/2008	X		

MISCELLANEOUS DATA:

SUPERVISORIAL DISTRICT	RARE PLANT MITIGATION AREA	MISSOURI FLAT MC&FP
1 - JOHN HIDAHL	EL DORADO IRRIGATION DISTRICT	NO

REMARKS:

Eligibility Review Required

NOTE: The flood zone information presented here is based solely on data derived from the FEMA Flood Information Rate Maps, and does not include data from any other flood studies.

BUILDING DESIGN CRITERIA

6/3/2024

ASSESSOR'S PARCEL NUMBER: 122-720-002

SEISMIC ZONE **	To be determined using the CBC section 1613 earthquake loads. Except: Effective June 10, 2016, parcels in Tahoe within Alquist-Priolo Earthquake Fault Zones require a Geologic Report.**
BASIC WIND SPEED **	**Your basic/ultimate wind speed shall be determined from CBC Figure 1609.3 or CRC Figure R301.2(5).**
SOIL BEARING **	**West Slope Single Family Dwelling - 1000 lbs per square foot** Your Seismic Design Category is C A single family dwelling will not require a Geotechnical investigation report. All commercial projects within the county require a Soils Report by a California licensed soils engineer as part of the permit application submittal. Additional grading information.
CONVENTIONAL LIGHT FRAME CONSTRUCTION	Allowed using criteria found in section 2308 of the California Building Code.
GROUND SNOW LOAD **	**The Ground Snow (Pg) is: Pg = 20 lbs/sq. ft** Note: the absolute minimum **roof** snow load is 20 lbs/sq.ft.
FROST LINE	Parts of El Dorado County may have snow coverage and freezing temperatures in the mountain regions during the winter season. Currently the county does not experience any frost deeper than the foundation requirement of a minimum 12 inches into undisturbed soil for the west slope or a minimum 18 inches in the Tahoe Basin.
FLOOD ZONES	**Flood Review not required**
CLIMATE ZONES	**Climate Zone is 12**
FIRE SAFE REGULATIONS	Fire Safe Regulations Required in all portions of the County. Contact **EL DORADO HILLS WATR/FIRE** for additional regulations and information. Water fire flow calculations for a parcel may be required by the fire district prior to permit issuance. These calculations may affect the design of your structure.
FIRE HAZARD SEVERITY ZONE	**The Fire Hazard Severity Zone is "Moderate"** Building codes require building modification to meet requirements of Wildland-Urban Interface Building Standards.**
FIRE SPRINKLER REQUIREMENTS	Fire sprinklers required in all Single Family Dwellings to be designed using section R313 of the 2016 California Residential Code or NFPA 13D standard.
RADON GAS	Your structure is the the Tahoe Basin. Contact Environmental Management for information pertaining to Radon Gas in the Tahoe Basin. Additional information may be found on the following website: Radon in California.
WATER DISTRICTS	Your project is within the **EL DORADO IRRIGATION DIST** water district. Contact the district for information and requirements.
ZONING SETBACK	Zoning setback requirements are established by Planning Services.

Buildings not designed by a State of California licensed architect or engineer must meet the requirements of a conventional light frame and brace wall construction design as outlined in the 2019 California Building Codes, Part 2, Vol. 2 § 2308 or the 2019 California Residential Code.

** If a California licensed architect or engineer is required they shall verify the site conditions affecting the building design per the 2019 California Building Code and the 2019 California Residential Code.

COMBINED PARCEL DATA INFORMATION AND BUILDING DESIGN CRITERIA

Disclaimer: This information may not be accurate.

PARCEL DATA INFORMATION

6/3/2024

ASSESSOR'S PARCEL NUMBER: 122-720-018

PROPERTY INFORMATION:

STATUS	JURISDICTION	TAX RATE	MAP
	COUNTY OF EL DORADO	-	

2015 GENERAL PLAN LAND USE INFORMATION:

LAND USE DES.	AG DIST.	ECOLOGICAL PRESERVES	IMPORTANT BIOLOGICAL CORRIDOR	MINERAL RESOURCES	PLATTED LANDS
AP,C					

RURAL CENTERS	SPECIFIC PLANS	ADOPTED PLAN NAME
	SEDH	

2015 ZONING INFORMATION:

ZONING DESIGNATION	DESIGN CONTROL	PLANNED DEVELOPMENT	OTHER OVERLAYS
CR		PD	

2004 GENERAL PLAN LAND USE INFORMATION:

LAND USE DES.	AG DIST.	ECOLOGICAL PRESERVES	IMPORTANT BIOLOGICAL CORRIDOR	MINERAL RESOURCES	PLATTED LANDS
AP,C					

RURAL CENTERS	SPECIFIC PLANS	ADOPTED PLAN NAME
	SEDH	SEDH

2004 ZONING INFORMATION:

ZONING DESIGNATION	DESIGN CONTROL	PLANNED DEVELOPMENT	OTHER OVERLAYS

DISTRICTS:

FIRE	CSD	SCHOOL	WATER
UNASSIGNED		BUCKEYE UNION	UNASSIGNED

FLOOD ZONE INFORMATION: (See Note below)

FIRM PANEL NUMBER & REVISION	PANEL REVISION DATE	FLOOD ZONE	FLOOD ZONE BUFFER	FLOODWAY
06017C0725E	9/26/2008	X		

MISCELLANEOUS DATA:

SUPERVISORIAL DISTRICT	RARE PLANT MITIGATION AREA	MISSOURI FLAT MC&FP
1 - JOHN HIDAHL	EL DORADO IRRIGATION DISTRICT	NO

REMARKS:

Eligibility Review Required

NOTE: The flood zone information presented here is based solely on data derived from the FEMA Flood Information Rate Maps, and does not include data from any other flood studies.

BUILDING DESIGN CRITERIA

6/3/2024

ASSESSOR'S PARCEL NUMBER: 122-720-018

SEISMIC ZONE **	To be determined using the CBC section 1613 earthquake loads. Except: Effective June 10, 2016, parcels in Tahoe within Alquist-Priolo Earthquake Fault Zones require a Geologic Report.**
BASIC WIND SPEED **	**Your basic/ultimate wind speed shall be determined from CBC Figure 1609.3 or CRC Figure R301.2(5).**
SOIL BEARING **	**West Slope Single Family Dwelling - 1000 lbs per square foot** Your Seismic Design Category is All commercial projects within the county require a Soils Report by a California licensed soils engineer as part of the permit application submittal. Additional grading information.
CONVENTIONAL LIGHT FRAME CONSTRUCTION	
GROUND SNOW LOAD **	**The Ground Snow (Pg) is: Pg = 20 lbs/sq. ft** Note: the absolute minimum **roof** snow load is 20 lbs/sq.ft.
FROST LINE	Parts of El Dorado County may have snow coverage and freezing temperatures in the mountain regions during the winter season. Currently the county does not experience any frost deeper than the foundation requirement of a minimum 12 inches into undisturbed soil for the west slope or a minimum 18 inches in the Tahoe Basin.
FLOOD ZONES	**Flood Review not required**
CLIMATE ZONES	**Climate Zone is 12**
FIRE SAFE REGULATIONS	Fire Safe Regulations Required in all portions of the County. Contact **UNASSIGNED** for additional regulations and information. Water fire flow calculations for a parcel may be required by the fire district prior to permit issuance. These calculations may affect the design of your structure.
FIRE HAZARD SEVERITY ZONE	**The Fire Hazard Severity Zone is ""** Building codes require building modification to meet requirements of Wildland-Urban Interface Building Standards.**
FIRE SPRINKLER REQUIREMENTS	Fire sprinklers required in all Single Family Dwellings to be designed using section R313 of the 2016 California Residential Code or NFPA 13D standard.
RADON GAS	Your structure is the the Tahoe Basin. Contact Environmental Management for information pertaining to Radon Gas in the Tahoe Basin. Additional information may be found on the following website: Radon in California.
WATER DISTRICTS	Your project is not in a water district and you should contact Environmental Management for well and septic permit information.
ZONING SETBACK	Zoning setback requirements are established by Planning Services.

Buildings not designed by a State of California licensed architect or engineer must meet the requirements of a conventional light frame and brace wall construction design as outlined in the 2019 California Building Codes, Part 2, Vol. 2 § 2308 or the 2019 California Residential Code.

** If a California licensed architect or engineer is required they shall verify the site conditions affecting the building design per the 2019 California Building Code and the 2019 California Residential Code.

COMBINED PARCEL DATA INFORMATION AND BUILDING DESIGN CRITERIA

Disclaimer: This information may not be accurate.

PARCEL DATA INFORMATION

6/3/2024

ASSESSOR'S PARCEL NUMBER: 122-720-019

PROPERTY INFORMATION:

STATUS	JURISDICTION	TAX RATE	MAP
	COUNTY OF EL DORADO	-	

2015 GENERAL PLAN LAND USE INFORMATION:

LAND USE DES.	AG DIST.	ECOLOGICAL PRESERVES	IMPORTANT BIOLOGICAL CORRIDOR	MINERAL RESOURCES	PLATTED LANDS
C					

RURAL CENTERS	SPECIFIC PLANS	ADOPTED PLAN NAME

2015 ZONING INFORMATION:

ZONING DESIGNATION	DESIGN CONTROL	PLANNED DEVELOPMENT	OTHER OVERLAYS
CR		PD	

2004 GENERAL PLAN LAND USE INFORMATION:

LAND USE DES.	AG DIST.	ECOLOGICAL PRESERVES	IMPORTANT BIOLOGICAL CORRIDOR	MINERAL RESOURCES	PLATTED LANDS
C					

RURAL CENTERS	SPECIFIC PLANS	ADOPTED PLAN NAME

2004 ZONING INFORMATION:

ZONING DESIGNATION	DESIGN CONTROL	PLANNED DEVELOPMENT	OTHER OVERLAYS

DISTRICTS:

FIRE	CSD	SCHOOL	WATER
UNASSIGNED		BUCKEYE UNION	UNASSIGNED

FLOOD ZONE INFORMATION: (See Note below)

FIRM PANEL NUMBER & REVISION	PANEL REVISION DATE	FLOOD ZONE	FLOOD ZONE BUFFER	FLOODWAY
06017C0725E	9/26/2008	X		

MISCELLANEOUS DATA:

SUPERVISORIAL DISTRICT	RARE PLANT MITIGATION AREA	MISSOURI FLAT MC&FP
1 - JOHN HIDAHL		NO

REMARKS:

Eligibility Review Required

NOTE: The flood zone information presented here is based solely on data derived from the FEMA Flood Information Rate Maps, and does not include data from any other flood studies.

BUILDING DESIGN CRITERIA

6/3/2024

ASSESSOR'S PARCEL NUMBER: 122-720-019

SEISMIC ZONE **	To be determined using the CBC section 1613 earthquake loads. Except: Effective June 10, 2016, parcels in Tahoe within Alquist-Priolo Earthquake Fault Zones require a Geologic Report.**
BASIC WIND SPEED **	**Your basic/ultimate wind speed shall be determined from CBC Figure 1609.3 or CRC Figure R301.2(5).**
SOIL BEARING **	**West Slope Single Family Dwelling - 1000 lbs per square foot** Your Seismic Design Category is All commercial projects within the county require a Soils Report by a California licensed soils engineer as part of the permit application submittal. Additional grading information.
CONVENTIONAL LIGHT FRAME CONSTRUCTION	
GROUND SNOW LOAD **	**The Ground Snow (Pg) is: Pg = 20 lbs/sq. ft** Note: the absolute minimum **roof** snow load is 20 lbs/sq.ft.
FROST LINE	Parts of El Dorado County may have snow coverage and freezing temperatures in the mountain regions during the winter season. Currently the county does not experience any frost deeper than the foundation requirement of a minimum 12 inches into undisturbed soil for the west slope or a minimum 18 inches in the Tahoe Basin.
FLOOD ZONES	**Flood Review not required**
CLIMATE ZONES	**Climate Zone is 12**
FIRE SAFE REGULATIONS	Fire Safe Regulations Required in all portions of the County. Contact **UNASSIGNED** for additional regulations and information. Water fire flow calculations for a parcel may be required by the fire district prior to permit issuance. These calculations may affect the design of your structure.
FIRE HAZARD SEVERITY ZONE	**The Fire Hazard Severity Zone is ""** Building codes require building modification to meet requirements of Wildland-Urban Interface Building Standards.**
FIRE SPRINKLER REQUIREMENTS	Fire sprinklers required in all Single Family Dwellings to be designed using section R313 of the 2016 California Residential Code or NFPA 13D standard.
RADON GAS	Your structure is the the Tahoe Basin. Contact Environmental Management for information pertaining to Radon Gas in the Tahoe Basin. Additional information may be found on the following website: Radon in California.
WATER DISTRICTS	Your project is not in a water district and you should contact Environmental Management for well and septic permit information.
ZONING SETBACK	Zoning setback requirements are established by Planning Services.

Buildings not designed by a State of California licensed architect or engineer must meet the requirements of a conventional light frame and brace wall construction design as outlined in the 2019 California Building Codes, Part 2, Vol. 2 § 2308 or the 2019 California Residential Code.

** If a California licensed architect or engineer is required they shall verify the site conditions affecting the building design per the 2019 California Building Code and the 2019 California Residential Code.

COMBINED PARCEL DATA INFORMATION AND BUILDING DESIGN CRITERIA

Disclaimer: This information may not be accurate.

PARCEL DATA INFORMATION

6/3/2024

ASSESSOR'S PARCEL NUMBER: 122-720-020

PROPERTY INFORMATION:

STATUS	JURISDICTION	TAX RATE	MAP
	COUNTY OF EL DORADO	-	

2015 GENERAL PLAN LAND USE INFORMATION:

LAND USE DES.	AG DIST.	ECOLOGICAL PRESERVES	IMPORTANT BIOLOGICAL CORRIDOR	MINERAL RESOURCES	PLATTED LANDS
C					

RURAL CENTERS	SPECIFIC PLANS	ADOPTED PLAN NAME

2015 ZONING INFORMATION:

ZONING DESIGNATION	DESIGN CONTROL	PLANNED DEVELOPMENT	OTHER OVERLAYS
CR		PD	

2004 GENERAL PLAN LAND USE INFORMATION:

LAND USE DES.	AG DIST.	ECOLOGICAL PRESERVES	IMPORTANT BIOLOGICAL CORRIDOR	MINERAL RESOURCES	PLATTED LANDS
C					

RURAL CENTERS	SPECIFIC PLANS	ADOPTED PLAN NAME

2004 ZONING INFORMATION:

ZONING DESIGNATION	DESIGN CONTROL	PLANNED DEVELOPMENT	OTHER OVERLAYS

DISTRICTS:

FIRE	CSD	SCHOOL	WATER
UNASSIGNED		BUCKEYE UNION	UNASSIGNED

FLOOD ZONE INFORMATION: (See Note below)

FIRM PANEL NUMBER & REVISION	PANEL REVISION DATE	FLOOD ZONE	FLOOD ZONE BUFFER	FLOODWAY
06017C0725E	9/26/2008	X		

MISCELLANEOUS DATA:

SUPERVISORIAL DISTRICT	RARE PLANT MITIGATION AREA	MISSOURI FLAT MC&FP
1 - JOHN HIDAHL		NO

REMARKS:

Eligibility Review Required

NOTE: The flood zone information presented here is based solely on data derived from the FEMA Flood Information Rate Maps, and does not include data from any other flood studies.

BUILDING DESIGN CRITERIA

6/3/2024

ASSESSOR'S PARCEL NUMBER: 122-720-020

SEISMIC ZONE **	To be determined using the CBC section 1613 earthquake loads. Except: Effective June 10, 2016, parcels in Tahoe within Alquist-Priolo Earthquake Fault Zones require a Geologic Report.**
BASIC WIND SPEED **	**Your basic/ultimate wind speed shall be determined from CBC Figure 1609.3 or CRC Figure R301.2(5).**
SOIL BEARING **	**West Slope Single Family Dwelling - 1000 lbs per square foot** Your Seismic Design Category is All commercial projects within the county require a Soils Report by a California licensed soils engineer as part of the permit application submittal. Additional grading information.
CONVENTIONAL LIGHT FRAME CONSTRUCTION	
GROUND SNOW LOAD **	**The Ground Snow (Pg) is: Pg = 20 lbs/sq. ft** Note: the absolute minimum **roof** snow load is 20 lbs/sq.ft.
FROST LINE	Parts of El Dorado County may have snow coverage and freezing temperatures in the mountain regions during the winter season. Currently the county does not experience any frost deeper than the foundation requirement of a minimum 12 inches into undisturbed soil for the west slope or a minimum 18 inches in the Tahoe Basin.
FLOOD ZONES	**Flood Review not required**
CLIMATE ZONES	**Climate Zone is 12**
FIRE SAFE REGULATIONS	Fire Safe Regulations Required in all portions of the County. Contact **UNASSIGNED** for additional regulations and information. Water fire flow calculations for a parcel may be required by the fire district prior to permit issuance. These calculations may affect the design of your structure.
FIRE HAZARD SEVERITY ZONE	**The Fire Hazard Severity Zone is ""** Building codes require building modification to meet requirements of Wildland-Urban Interface Building Standards.**
FIRE SPRINKLER REQUIREMENTS	Fire sprinklers required in all Single Family Dwellings to be designed using section R313 of the 2016 California Residential Code or NFPA 13D standard.
RADON GAS	Your structure is the the Tahoe Basin. Contact Environmental Management for information pertaining to Radon Gas in the Tahoe Basin. Additional information may be found on the following website: Radon in California.
WATER DISTRICTS	Your project is not in a water district and you should contact Environmental Management for well and septic permit information.
ZONING SETBACK	Zoning setback requirements are established by Planning Services.

Buildings not designed by a State of California licensed architect or engineer must meet the requirements of a conventional light frame and brace wall construction design as outlined in the 2019 California Building Codes, Part 2, Vol. 2 § 2308 or the 2019 California Residential Code.

** If a California licensed architect or engineer is required they shall verify the site conditions affecting the building design per the 2019 California Building Code and the 2019 California Residential Code.

COMBINED PARCEL DATA INFORMATION AND BUILDING DESIGN CRITERIA

Disclaimer: This information may not be accurate.

PARCEL DATA INFORMATION

6/3/2024

ASSESSOR'S PARCEL NUMBER: 122-720-021

PROPERTY INFORMATION:

STATUS	JURISDICTION	TAX RATE	MAP
	COUNTY OF EL DORADO	-	

2015 GENERAL PLAN LAND USE INFORMATION:

LAND USE DES.	AG DIST.	ECOLOGICAL PRESERVES	IMPORTANT BIOLOGICAL CORRIDOR	MINERAL RESOURCES	PLATTED LANDS
C					

RURAL CENTERS	SPECIFIC PLANS	ADOPTED PLAN NAME

2015 ZONING INFORMATION:

ZONING DESIGNATION	DESIGN CONTROL	PLANNED DEVELOPMENT	OTHER OVERLAYS
CR		PD	

2004 GENERAL PLAN LAND USE INFORMATION:

LAND USE DES.	AG DIST.	ECOLOGICAL PRESERVES	IMPORTANT BIOLOGICAL CORRIDOR	MINERAL RESOURCES	PLATTED LANDS
AP,C					

RURAL CENTERS	SPECIFIC PLANS	ADOPTED PLAN NAME
	SEDH	SEDH

2004 ZONING INFORMATION:

ZONING DESIGNATION	DESIGN CONTROL	PLANNED DEVELOPMENT	OTHER OVERLAYS

DISTRICTS:

FIRE	CSD	SCHOOL	WATER
UNASSIGNED		BUCKEYE UNION	UNASSIGNED

FLOOD ZONE INFORMATION: **(See Note below)**

FIRM PANEL NUMBER & REVISION	PANEL REVISION DATE	FLOOD ZONE	FLOOD ZONE BUFFER	FLOODWAY
06017C0725E	9/26/2008	X		

MISCELLANEOUS DATA:

SUPERVISORIAL DISTRICT	RARE PLANT MITIGATION AREA	MISSOURI FLAT MC&FP
1 - JOHN HIDAHL	EL DORADO IRRIGATION DISTRICT	NO

REMARKS:

Eligibility Review Required

NOTE: The flood zone information presented here is based solely on data derived from the FEMA Flood Information Rate Maps, and does not include data from any other flood studies.

BUILDING DESIGN CRITERIA

6/3/2024

ASSESSOR'S PARCEL NUMBER: 122-720-021

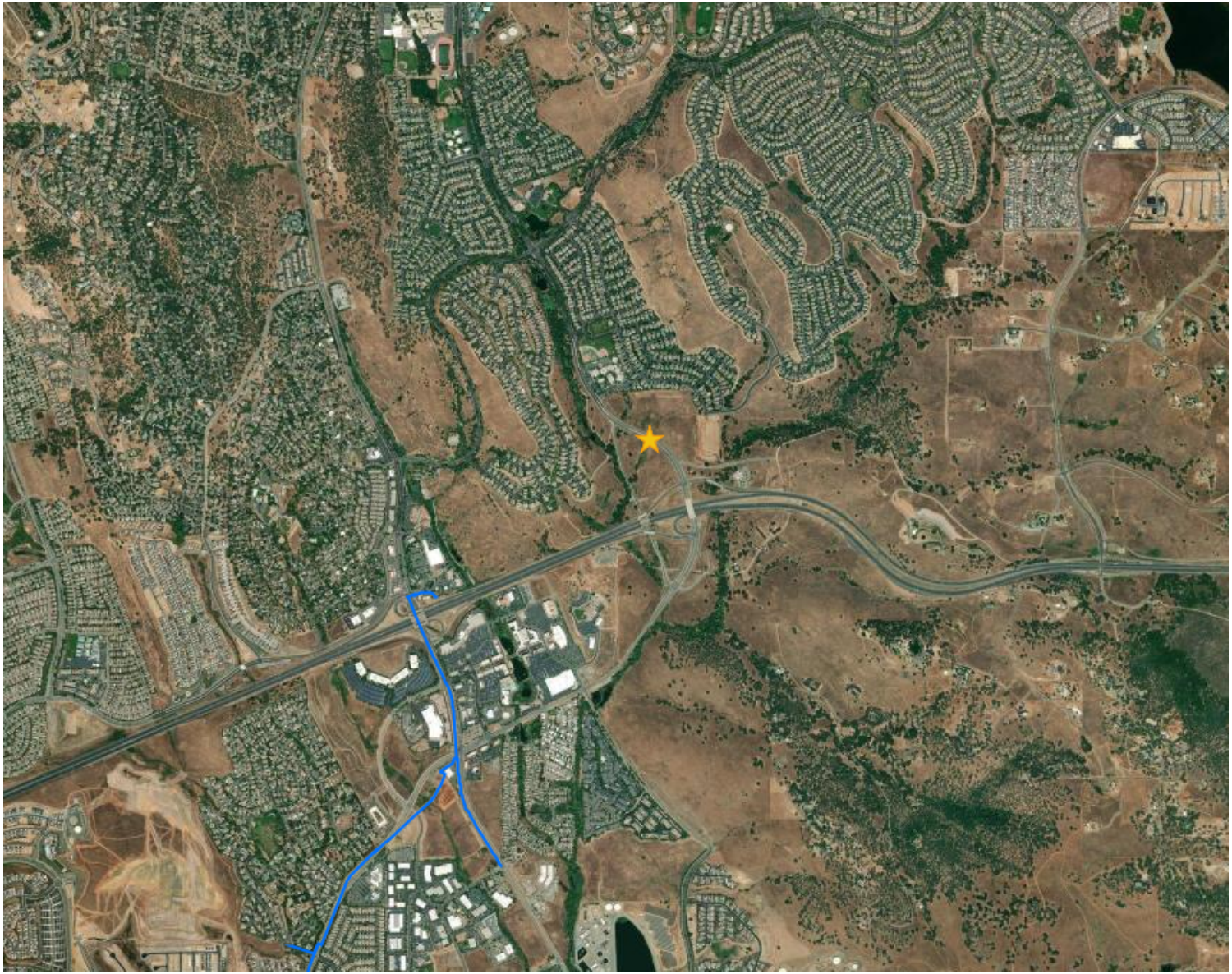
SEISMIC ZONE **	To be determined using the CBC section 1613 earthquake loads. Except: Effective June 10, 2016, parcels in Tahoe within Alquist-Priolo Earthquake Fault Zones require a Geologic Report.**
BASIC WIND SPEED **	**Your basic/ultimate wind speed shall be determined from CBC Figure 1609.3 or CRC Figure R301.2(5).**
SOIL BEARING **	**West Slope Single Family Dwelling - 1000 lbs per square foot** Your Seismic Design Category is All commercial projects within the county require a Soils Report by a California licensed soils engineer as part of the permit application submittal. Additional grading information.
CONVENTIONAL LIGHT FRAME CONSTRUCTION	
GROUND SNOW LOAD **	**The Ground Snow (Pg) is: Pg = 20 lbs/sq. ft** Note: the absolute minimum **roof** snow load is 20 lbs/sq.ft.
FROST LINE	Parts of El Dorado County may have snow coverage and freezing temperatures in the mountain regions during the winter season. Currently the county does not experience any frost deeper than the foundation requirement of a minimum 12 inches into undisturbed soil for the west slope or a minimum 18 inches in the Tahoe Basin.
FLOOD ZONES	**Flood Review not required**
CLIMATE ZONES	**Climate Zone is 12**
FIRE SAFE REGULATIONS	Fire Safe Regulations Required in all portions of the County. Contact **UNASSIGNED** for additional regulations and information. Water fire flow calculations for a parcel may be required by the fire district prior to permit issuance. These calculations may affect the design of your structure.
FIRE HAZARD SEVERITY ZONE	**The Fire Hazard Severity Zone is ""** Building codes require building modification to meet requirements of Wildland-Urban Interface Building Standards.**
FIRE SPRINKLER REQUIREMENTS	Fire sprinklers required in all Single Family Dwellings to be designed using section R313 of the 2016 California Residential Code or NFPA 13D standard.
RADON GAS	Your structure is the the Tahoe Basin. Contact Environmental Management for information pertaining to Radon Gas in the Tahoe Basin. Additional information may be found on the following website: Radon in California.
WATER DISTRICTS	Your project is not in a water district and you should contact Environmental Management for well and septic permit information.
ZONING SETBACK	Zoning setback requirements are established by Planning Services.

Buildings not designed by a State of California licensed architect or engineer must meet the requirements of a conventional light frame and brace wall construction design as outlined in the 2019 California Building Codes, Part 2, Vol. 2 § 2308 or the 2019 California Residential Code.

** If a California licensed architect or engineer is required they shall verify the site conditions affecting the building design per the 2019 California Building Code and the 2019 California Residential Code.

Pipeline and Hazardous Materials Safety Administration

NATIONAL PIPELINE MAPPING SYSTEM



Legend

- Gas Transmission Pipelines
- Hazardous Liquid Pipelines
- LNG Plants
- Breakout Tanks

500 m
1000 ft

Pipelines depicted on this map represent gas transmission and hazardous liquid lines only. Gas gathering and gas distribution systems are not represented.

This map should never be used as a substitute for contacting a one-call center prior to excavation activities. Please call 811 before any digging occurs.

Questions regarding this map or its contents can be directed to npms@dot.gov.

Projection: Geographic

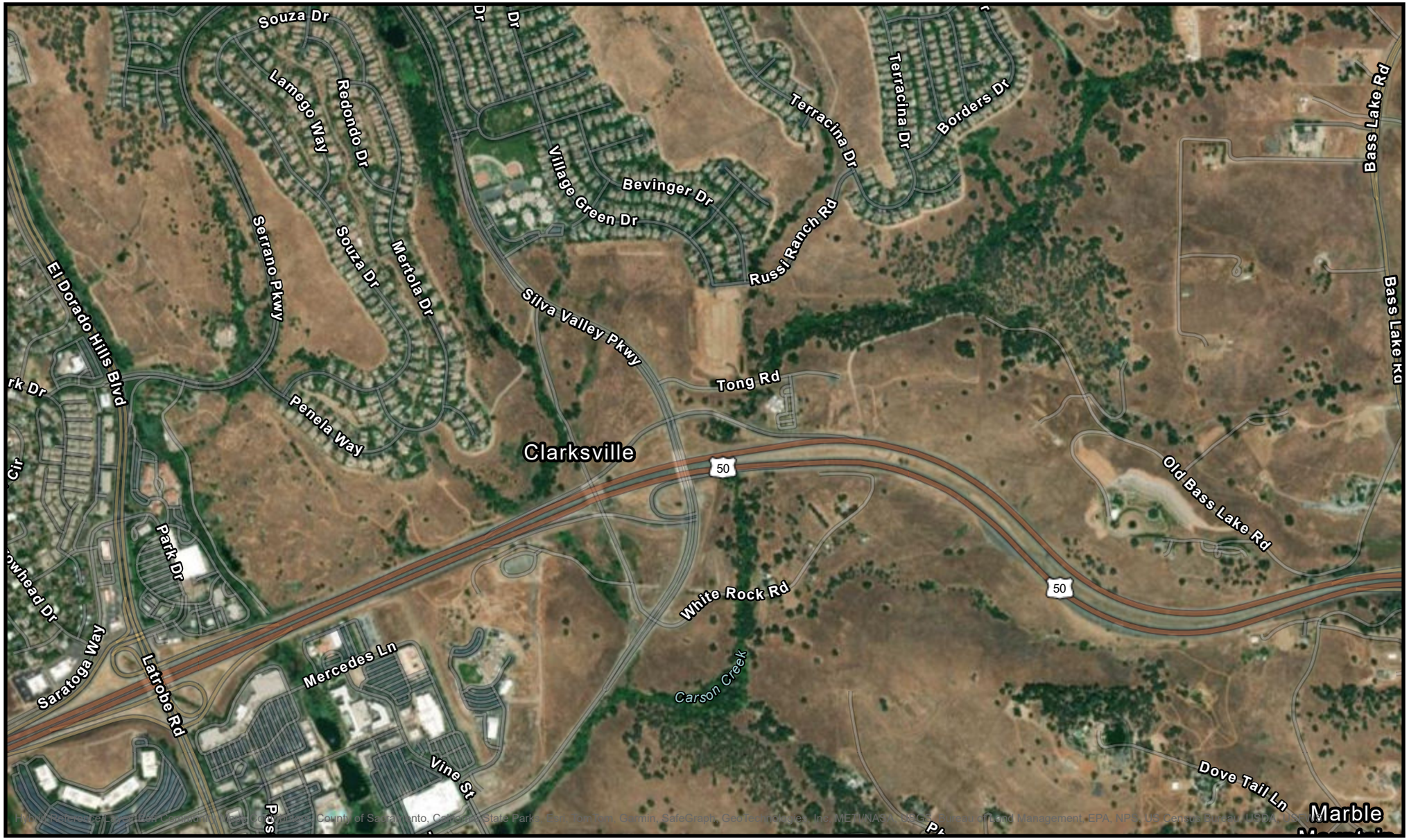
Datum: NAD83

Map produced by the Public Viewer application at www.npms.phmsa.dot.gov

Basemap image is the intellectual property of Esri and is used herein under license. Copyright © 2020 Esri and its licensors. All rights reserved. World Imagery map service data is attributed to Esri, Maxar, Earthstar Geographics, and the GIS User Community.

Date Printed: May 31, 2024

811 Know what's below. Call before you dig.



0 0.4 0.8 mi

0 0.55 1.1 km

Powered by

5/31/2024

Well Status & Type

Geologic Energy Management Division
715 P Street, MS 1803
Sacramento, CA 95814
Phone: (916) 445-9686
Email: calgem_webmaster@conservation.ca.gov
www.conservation.ca.gov/calgem

California Natural Resources Agency
Department of Conservation

Victoria Golston

From: Smartsheet Forms <forms@app.smartsheet.com>
Sent: Friday, May 31, 2024 4:52 PM
To: Victoria Golston
Subject: Confirmation - EDHCSD Public Records Request

You don't often get email from forms@app.smartsheet.com. Learn why this is important

External Email

Thank you for submitting your public records request. A copy is included below for your records.

EDHCSD Public Records Request

Full Name	Victoria Golston
Organization (if any)	Kleinfelder
Mailing Address	24411 Ridge Route Drive Suite 225
Phone Number	+1 (405) 426-2596
Email Address	vgolston@kleinfelder.com
Information/Records Requested	Kleinfelder is currently performing a Phase I Environmental Site Assessment in connection with the parcels identified as APNs 122-720-002, 122-720-018, 122-720-019, 122-720-020, and 122-720-021 located near Silva Valley Parkway and US-50. Kleinfelder is requesting a review of any and all files regarding environmental conditions at the above referenced APNs, including but not limited to: spill or leaks, above or below ground bulk storage tanks, piping, sumps, pits, septic systems, dumpsters, drainage systems, stormwater conveyance or detention systems, waste or chemical storage/disposal areas, historic fill, oil-filled electrical equipment, potable supply wells, ordnance and explosives (OE) investigations, or any other potential area of environmental concern. Additionally, Kleinfelder is requesting a review of any information that you may maintain regarding

	groundwater supply or monitoring wells in the area, permits, inspections, citations, and any known impact identified at this facility. Please let me know if you have any questions.
Records Format Desired	Electronic

Powered by Smartsheet Forms
© 2024 Smartsheet Inc. | Contact | Privacy Policy | User Agreement | Report Abuse/Spam

Victoria Golston

From: Sara Ross <sross@edhcsd.org>
Sent: Wednesday, June 5, 2024 10:19 AM
To: Victoria Golston
Cc: Brittany DiTonno; Mark Hornstra
Subject: EDHCSD PRR No. 2024-30 Fulfillment

You don't often get email from sross@edhcsd.org. Learn why this is important

External Email

Dear Ms. Golston,

The El Dorado Hills Community Services District (District) has completed its search for records responsive to your Public Records Request (PRR) submitted on May 31, 2024. It has been determined there are **no responsive documents** in the District's possession.

As a suggestion, you may want to reach out to El Dorado County, El Dorado Irrigation District, and/or El Dorado Fire to see if they possess the records you are seeking.

This response hereby fulfills your PRR to the District.

Best regards,

EL DORADO HILLS
COMMUNITY SERVICES DISTRICT

Sara Ross
Administrative Specialist
1021 Harvard Way, El Dorado Hills, CA 95762
Direct Phone: (916) 614-3209
sross@edhcsd.org | www.edhcsd.org

© Frank Schulenburg / , via Wikimedia Commons

P
Ce

Find Information

- What is a record?
- Birth and Death Certificates are not Public Records
- What information should I provide in making a public records request?
- How long does the County of El Dorado keep records for?
- Do I have to use the public records web form?

View Message(s)

Request / Incident Summary

Request Type:	Public Records Request
Contact E-Mail:	lyarbrough@kleinfelder.c
Reference No:	P006930-052224
Status:	New Request

Additional Information

Department Requesting Record From:	Air Quality Management Di Please be as specific as possible. If unknown, plea choose "Other/Unknown"
Describe the Record(s) Requested:	Kleinfelder is currently performing a Phase I Environmental Site Assessn connection with APNs 122-002, 122-720-018, 122-720 122-720-020, and 122-720-021 (Silva Valley Parkway, El Dorado Hills, CA). There is r address associated with the Kleinfelder is requesting a r of any and all files regardin environmental conditions a above referenced APNs, inc but not limited to: spill or le above or below ground bul storage tanks, piping, sump septic systems, dumpsters, drainage systems, stormwa conveyance or detention sy waste or chemical storage/disposal areas, hist fill, oil-filled electrical equip potable supply wells, ordin

Powered by GovQA

concern. Additionally, Klein
any information that you m
groundwater supply or mo
permits, inspections, citatio
identified at this property. I
any questions.

Please be as specific as pc
ranges and the name of tl

Preferred Method to Receive Records:

Electronic via Records Cent
***Please note not all pul
electronic format. If the d
available electronically, w
inspection or by paper co
Public Records Law.

Cancel

Messages 2

On 5/22/2024 6:38:59 PM, El Dorado County Public Records Center w

Dear Lauren Yarbrough:

The County of El Dorado is dedicated and responsive to our community. Yo
received and is being processed. Your request was given the reference num
tracking purposes.

Powered by GovQA

Records Requested: Kleinfelder is currently performing a Phase I Environme
connection with APNs 122-720-002, 122-720-018, 122-720-019, 122-720-020
Valley Parkway, El Dorado Hills, CA). There is no address associated with the

Kleinfelder is requesting a review of any and all files regarding environment
referenced APNs, including but not limited to: spill or leaks, above or below
piping, sumps, pits, septic systems, dumpsters, drainage systems, stormwat
systems, waste or chemical storage/disposal areas, historic fill, oil-filled elec
supply wells, ordinance and explosives (OE) investigations, or any other pot
concern.

Additionally, Kleinfelder is requesting a review of any information that you r
groundwater supply or monitoring wells in the area, permits, inspections, ci
impact identified at this property. Please let me know if you have any questi

Your request will be forwarded to the relevant department(s) to locate the i
determine the volume and any costs associated with satisfying your reques
about the availability and/or provided with copies of the records in questior

You can monitor the progress of your request at the link below and you'll re
request has been completed.

Thank You,

County of El Dorado

To monitor the progress or update this request please log into the El Dorad
Center.

> On 5/22/2024 6:38:58 PM, Lauren Yarbrough wrote:

Powered by GovQA

Victoria Golston

From: aqmd edcgov <aqmd@edcgov.us>
Sent: Monday, June 3, 2024 3:57 PM
To: Lauren Yarbrough
Cc: Victoria Golston
Subject: Re: Public Records Request: P006930-052224

External Email

Hi Lauren,

This is just a follow-up to our phone conversation. Thank you again for reaching out. Air Quality Management District does not have any responsive records regarding the APNs in your request.

Please let us know if AQMD can be of further assistance.

Thank you,

Michelle Drehobl
Air Quality Technician

El Dorado County Air Quality Management District
330 Fair Lane
Placerville, CA 95667
Phone: (530) 621-7503
Fax: (530) 295-2774

Thank you for working with us to improve air quality!



From: Lauren Yarbrough <LYarbrough@Kleinfelder.com>
Sent: Monday, June 3, 2024 1:46 PM
To: aqmd edcgov <aqmd@edcgov.us>
Cc: Victoria Golston <VGolston@kleinfelder.com>
Subject: Public Records Request: P006930-052224

Hello,

A Public Records Request (P006930-052224) was submitted through the El Dorado County Public Records Center on May 22, 2024. A message received from “County of El Dorado” of May 22 indicates that the request is being processed, but the status in the Records Center shows that the Request has been completed with no records found.

Please let me know if this records request was processed and if any records were found.

Thank you!
Lauren

Lauren Yarbrough
Professional

25 Metro Drive, Suite 110
San Jose, CA 95110
d| 415.964.4337
o| 831.755.7900
m| 916.627.9994



WARNING: This email and any attachments may contain private, confidential, and privileged material for the sole use of the intended recipient. Any unauthorized review, copying, or distribution of this email (or any attachments) by other than the intended recipient is strictly prohibited. If you are not the intended recipient, please contact the sender immediately and permanently delete the original and any copies of this email and any attachments.

Lauren Yarbrough

From: PL-Building Research <BuildingResearch@edcgov.us>
Sent: Tuesday, May 28, 2024 9:57 AM
To: Lauren Yarbrough
Subject: Re: Research Request

You don't often get email from buildingresearch@edcgov.us. Learn why this is important

External Email

Good morning,

I'm so sorry about this, I looked at each of these parcel numbers this morning and none of them have any building permits attached to them which means building services would not be able to find anything for you. There were however several projects, these are managed by planning. The link below should take you to a page which will allow you to input each parcel number and what information you would like from planning, and they can process this request.
Planning Information Request - El Dorado County (ca.gov)

Brangwyn Foley
Office Assistant
El Dorado County
Planning and Building

From: Lauren Yarbrough <LYarbrough@Kleinfelder.com>
Sent: Tuesday, May 28, 2024 4:19 PM
To: PL-Building Research <BuildingResearch@edcgov.us>
Cc: Victoria Golston <VGolston@kleinfelder.com>
Subject: RE: Research Request

This Message Is From an Untrusted Sender

You have not previously corresponded with this sender.

Report Suspicious

Hi Brangwyn,

I have attached Parcel Research Request Forms for each parcel.

Thank you,
Lauren

Lauren Yarbrough
Professional

25 Metro Drive, Suite 110
San Jose, CA 95110
d| 415.964.4337
o| 831.755.7900
m| 916.627.9994



From: PL-Building Research <BuildingResearch@edcgov.us>
Sent: Friday, May 24, 2024 8:34 AM
To: Lauren Yarbrough <LYarbrough@Kleinfelder.com>
Subject: Research Request

You don't often get email from buildingresearch@edcgov.us. Learn why this is important

External Email

Good morning,

we would be happy to assist you with this request. If you can fill out the attached parcel research request form for each parcel in question we can begin processing your request.

Let me know if you have any questions

Brangwyn Foley
Office Assistant
El Dorado County
Planning and Building
WARNING: This email and any attachments may contain private, confidential, and privileged material for the sole use of the intended recipient. Any unauthorized review, copying, or distribution of this email (or any attachments) by other than the intended recipient is strictly prohibited. If you are not the intended recipient, please contact the sender immediately and permanently delete the original and any copies of this email and any attachments.
WARNING: This email and any attachments may contain private, confidential, and privileged material for the sole use of the intended recipient. Any unauthorized review, copying, or distribution of this email (or any attachments) by other than the intended recipient is strictly prohibited. If you are not the intended recipient, please contact the sender immediately and permanently delete the original and any copies of this email and any attachments.

© Frank Schulenburg / , via Wikimedia Commons

P
Ce

- Home
- Find information
- Submit a Request
- My Records Center
- Public Records Archive
- Search by Reference Number

Find Information

- What is a record?
- Birth and Death Certificates are not Public Records
- What information should I provide in making a public records request?
- How long does the County of El Dorado keep records for?
- Do I have to use the public records web form?

View Message(s)

Request / Incident Summary

Request Type:	Public Records Request
Contact E-Mail:	lyarbrough@kleinfelder.c
Reference No:	P006932-052224
Status:	New Request

Additional Information

Department Requesting Record From:	Planning Division Please be as specific as possible. If unknown, plea choose "Other/Unknown"
Describe the Record(s) Requested:	Kleinfelder is currently performing a Phase I Environmental Site Assessn connection with APNs 122-002, 122-720-018, 122-720 122-720-020, and 122-720-021 (Silva Valley Parkway, El Dorado Hills, CA). There is address associated with the Kleinfelder is requesting a of any and all files regardin environmental conditions a above referenced APNs, inc but not limited to: spill or l above or below ground bul storage tanks, piping, sump septic systems, dumpsters, drainage systems, stormwa conveyance or detention sy waste or chemical storage/disposal areas, hist fill, oil-filled electrical equip potable supply wells, ordin

Powered by GovQA

concern. Additionally, Klein
any information that you m
groundwater supply or mo
permits, inspections, citatio
identified at this property. I
any questions.

Please be as specific as pc
ranges and the name of tl

Preferred Method to Receive Records:

Electronic via Records Cent
***Please note not all pul
electronic format. If the d
available electronically, w
inspection or by paper co
Public Records Law.

Cancel

Messages 2

On 5/22/2024 6:40:36 PM, El Dorado County Public Records Center w

Dear Lauren Yarbrough:

The County of El Dorado is dedicated and responsive to our community. Yo
received and is being processed. Your request was given the reference num
tracking purposes.

Powered by GovQA

Records Requested: Kleinfelder is currently performing a Phase I Environme
connection with APNs 122-720-002, 122-720-018, 122-720-019, 122-720-020
Valley Parkway, El Dorado Hills, CA). There is no address associated with the

Kleinfelder is requesting a review of any and all files regarding environment
referenced APNs, including but not limited to: spill or leaks, above or below
piping, sumps, pits, septic systems, dumpsters, drainage systems, stormwat
systems, waste or chemical storage/disposal areas, historic fill, oil-filled elec
supply wells, ordinance and explosives (OE) investigations, or any other pot
concern.

Additionally, Kleinfelder is requesting a review of any information that you r
groundwater supply or monitoring wells in the area, permits, inspections, ci
impact identified at this property. Please let me know if you have any questi

Your request will be forwarded to the relevant department(s) to locate the i
determine the volume and any costs associated with satisfying your reques
about the availability and/or provided with copies of the records in questior

You can monitor the progress of your request at the link below and you'll re
request has been completed.

Thank You,

County of El Dorado

To monitor the progress or update this request please log into the El Dorad
Center.

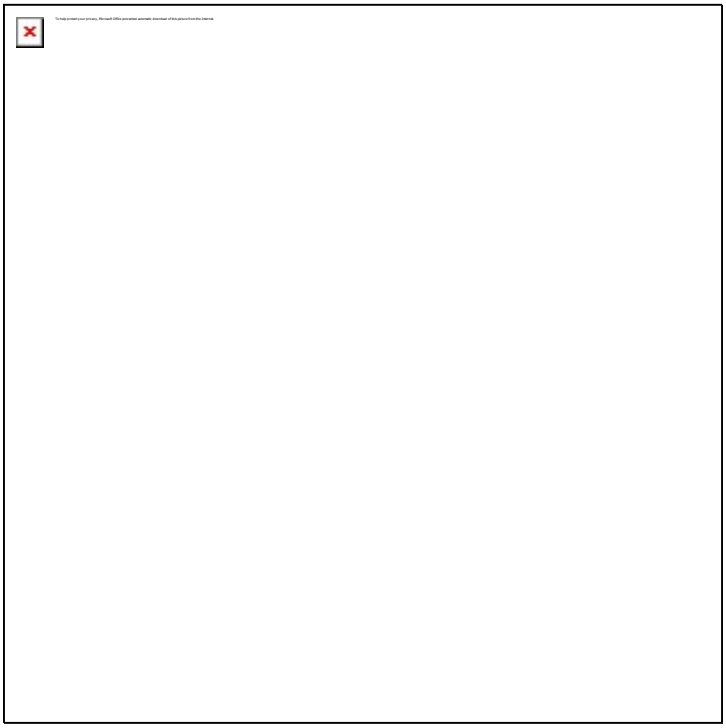
> On 5/22/2024 6:40:35 PM, Lauren Yarbrough wrote:

Powered by GovQA

From: El Dorado County Public Records Center <eldoradocountyca@mycusthelp.net>
Sent: Wednesday, May 29, 2024 2:29 PM
To: Lauren Yarbrough
Subject: Public Records Request :: P006932-052224

External Email

--- Please respond above this line ---



PRA P006932-052224 – Response Letter - Due May 31,2024

Dear Lauren Yarbough,

Pursuant to Government Code section 7922.535, et seq., I am writing in response to your Public Records Act ("PRA") request, received on May 22,2023, regarding Records Requested regarding Kleinfelder who is currently performing a Phase I Environmental Site Assessment in connection with APNs 122-720-002, 122-720-018, 122-720-019, 122-720-020, and 122-720-021 (Silva Valley Parkway, El Dorado Hills, CA). There is no address associated with the site. Kleinfelder is requesting a review of any and all files regarding environmental conditions at the above referenced APNs, including but not limited to: spill or leaks, above or below ground bulk storage tanks, piping, sumps, pits, septic systems, dumpsters, drainage systems, stormwater conveyance or detention systems, waste or chemical storage/disposal areas, historic fill, oil-filled electrical equipment, potable supply wells, ordinance and explosives (OE) investigations, or any other potential area of environmental concern. Additionally, Kleinfelder is requesting a review of any information that you may

maintain regarding groundwater supply or monitoring wells in the area, permits, inspections, citations, and any known impact identified at this property. I am submitting this letter within the ten-day period for response set out in Government Code section 7922.535(a).

The County is still in the process of gathering records responsive to your request. The County estimates that these records will be produced by June 14, 2024.

The County Planning Services has completed their portion of the request. For records released today, you may access the records by visiting the El Dorado County Public Record Center at the following link: Public Record Center. Click on "View My Requests" and log in with your email address and password. If you are a first-time user, please click "Create Account" and enter your information in the required fields. If you have any trouble accessing the records, please let us know so we can help resolve any problems.

Please note that all public record requests are limited only to records maintained in the normal course of business by the County and records that are within the County's custody, control, and access. Please also note that we will not produce records that are privileged or otherwise exempt from disclosure pursuant to State and Federal laws, including exemptions identified in Government Code section 7923.600, et seq., and additional exemptions specifically incorporated under Government Code section 7927.705. This includes documents pertaining to pending litigation or claims, and documents protected by the attorney-client privilege, attorney work product, and official information privileges.

If you have any additional comments or clarifications, please contact our office at 530-621-5355 or email us at planning@edcgov.us.

Sincerely,

Planning Services

To monitor the progress or update this request please log into the El Dorado County Public Records Center.

© Frank Schulenburg / , via Wikimedia Commons

P
Ce

- Home
- Find information
- Submit a Request
- My Records Center
- Public Records Archive
- Search by Reference Number

Find Information

What is a record?

Birth and Death Certificates are not Public Records

What information should I provide in making a public records request?

How long does the County of El Dorado keep records for?

Do I have to use the public records web form?

View Message(s)

Request / Incident Summary

Request Type:	Public Records Request
Contact E-Mail:	lyarbrough@kleinfelder.com
Reference No:	P006929-052224
Status:	New Request

Additional Information

Department Requesting Record From:	Environmental Management Please be as specific as possible. I unknown, please choose "Other/Unknown"
Describe the Record(s) Requested:	Kleinfelder is currently performing a Phase I Environmental Site Assessm connection with APNs 122-720-002, 720-018, 122-720-019, 122-720-02(122-720-021 (Silva Valley Parkway, E Dorado Hills, CA). There is no addre associated with the site. Kleinfelder requesting a review of any and all fi regarding environmental condition the above referenced APNs, includi not limited to: spill or leaks, above below ground bulk storage tanks, p sumps, pits, septic systems, dumpst drainage systems, stormwater conv or detention systems, waste or cher storage/disposal areas, historic fill, filled electrical equipment, potable wells, ordinance and explosives (OE investigations, or any other potenti of environmental concern. Addition Kleinfelder is requesting a review of information that you may maintain regarding groundwater supply or

Powered by GovQA

impact identified at this property. P
any questions.

Please be as specific as possible b
and the name of the record if knc

Preferred Method to Receive Records:

Electronic via Records Center ***
***Please note not all public docu
electronic format. If the documen
available electronically, we will ma
inspection or by paper copy in acc
Records Law.

Cancel

Messages 2

On 5/22/2024 6:35:54 PM, El Dorado County Public Records Center w

Dear Lauren Yarbrough:

The County of El Dorado is dedicated and responsive to our community. You
received and is being processed. Your request was given the reference num
tracking purposes.

Records Requested: Kleinfelder is currently performing a Phase I Environme
connection with APNs 122-720-002, 122-720-018, 122-720-019, 122-720-020
Valley Parkway, El Dorado Hills, CA). There is no address associated with the

Kleinfelder is requesting a review of any and all files regarding environment
referenced APNs, including but not limited to: spill or leaks, above or below
piping, sumps, pits, septic systems, dumpsters, drainage systems, stormwat
systems, waste or chemical storage/disposal areas, historic fill, oil-filled elec
supply wells, ordinance and explosives (OE) investigations, or any other pot

Powered by GovQA

groundwater supply or monitoring wells in the area, permits, inspections, ci
impact identified at this property. Please let me know if you have any questi

Your request will be forwarded to the relevant department(s) to locate the i
determine the volume and any costs associated with satisfying your reques
about the availability and/or provided with copies of the records in questior

You can monitor the progress of your request at the link below and you'll re
request has been completed.

Thank You,

County of El Dorado

To monitor the progress or update this request please log into the El Dorad
Center.

On 5/22/2024 6:35:53 PM, Lauren Yarbrough wrote:

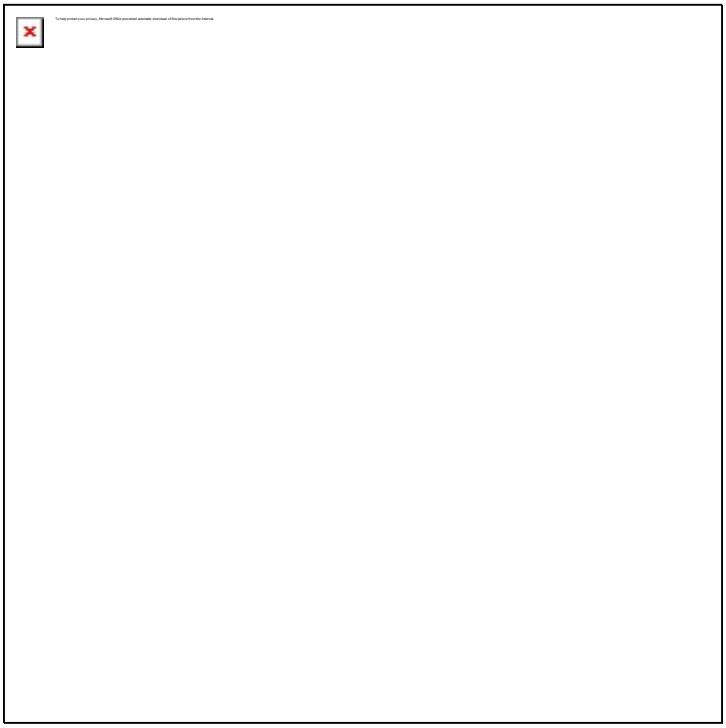
Request Created on Public Portal

Powered by GovQA

From: El Dorado County Public Records Center <eldoradocountyca@mycusthelp.net>
Sent: Wednesday, May 29, 2024 3:44 PM
To: Lauren Yarbrough
Subject: Public Records Request :: P006929-052224

External Email

--- Please respond above this line ---



RE: PUBLIC RECORDS REQUEST of May 22, 2024, Reference # P006929-052224

Dear Lauren,

The County received the following public records request from you on May 22, 2024.

Kleinfelder is currently performing a Phase I Environmental Site Assessment in connection with APNs 122-720-002, 122-720-018, 122-720-019, 122-720-020, and 122-720-021 (Silva Valley Parkway, El Dorado Hills, CA). There is no address associated with the site.

Kleinfelder is requesting a review of any and all files regarding environmental conditions at the above referenced APNs, including but not limited to: spill or leaks, above or below ground bulk storage tanks, piping, sumps, pits, septic systems, dumpsters, drainage systems, stormwater conveyance or detention systems, waste or chemical storage/disposal areas, historic fill, oil-filled electrical equipment, potable supply wells, ordinance and explosives (OE) investigations, or any other potential area of environmental concern.

Additionally, Kleinfelder is requesting a review of any information that you may maintain regarding groundwater supply or monitoring wells in the area, permits, inspections, citations, and any known impact identified at this property. Please let me know if you have any questions.

The County has reviewed its files and has determined there are no records responsive to your request.

To review California's public records law please visit the California Legislative Information page.

If you have any questions, or wish to discuss this further, you may contact my office at 530-621-5300.

Sincerely,

Jaclyn Scaggs

Environmental Management

To monitor the progress or update this request please log into the El Dorado County Public Records Center.

Victoria Golston

From: El Dorado Hills Fire Department <webmaster@edhfire.com>
Sent: Friday, May 31, 2024 4:49 PM
To: Victoria Golston
Subject: Send Us A Message

You don't often get email from webmaster@edhfire.com. Learn why this is important

External Email

Thank you for submitting your comments. Please allow two weeks for the investigation and processing of any complaints.

Name:	Victoria Golston
Street Address	24411 Ridge Route Drive
City	Laguna Hills
State / Province / Region	CA
Postal / Zip Code	92653
Home Phone:	405 4262596
Cell Phone:	
E-mail:	vgolston@kleinfelder.com
Type of Comment:	Question
Describe Briefly (include pertinent dates, times, locations, etc.):	For the purposes of Phase I Environmental Site Assessment, Kleinfelder is requesting any information regarding environmental conditions at the following APNs: 122-720-002, 122-720-018, 122-720-019, 122-720-020, and 122-720-021. Files we are looking for, but are not limited to: fires, spill or leaks, above or below ground bulk storage tanks, piping, septic systems, waste or chemical storage/disposal areas, or any other potential area of environmental concern. Please let me know if you have any questions.

P006948-053124 - Public Records Request

Message History (2)

On 5/31/2024 2:32:44 PM, El Dorado County Public Records Center wrote:

Dear Victoria Golston:

The County of El Dorado is dedicated and responsive to our community. Your request has been received and is being processed. Your request was given the reference number P006948-053124 for tracking purposes.

Records Requested: For the purposes of Phase I ESA, Kleinfelder is requesting any information regarding the use of pesticides, herbicides, fungicides as it pertains to the following parcels located near Silva Valley Parkway in the unincorporated community of El Dorado Hills: 122-720-002, 122-720-018, 122-720-019, 122-720-020, and 122-720-021

Your request will be forwarded to the relevant department(s) to locate the information you seek and to determine the volume and any costs associated with satisfying your request. You will be contacted about the availability and/or provided with copies of the records in question.

You can monitor the progress of your request at the link below and you'll receive an email when your request has been completed.

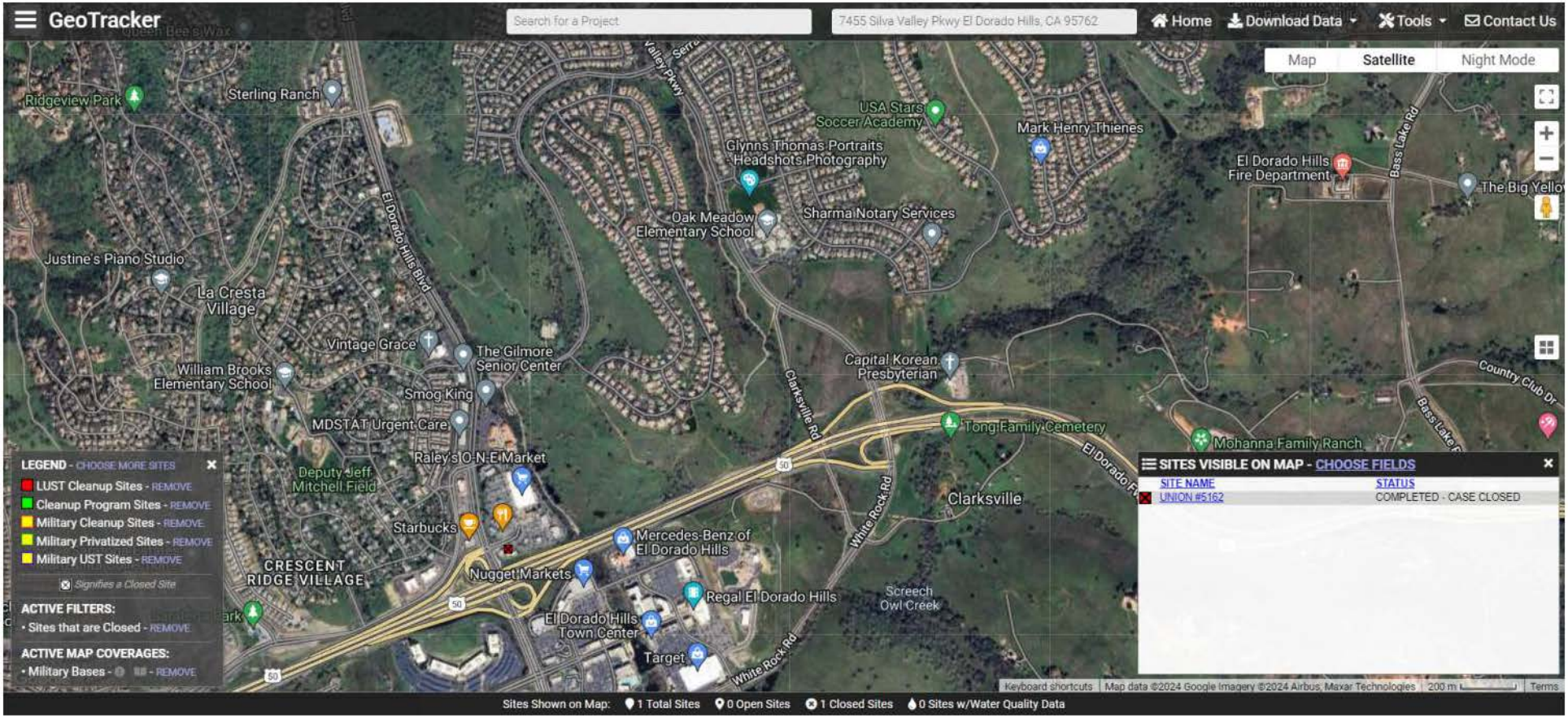
Thank You,

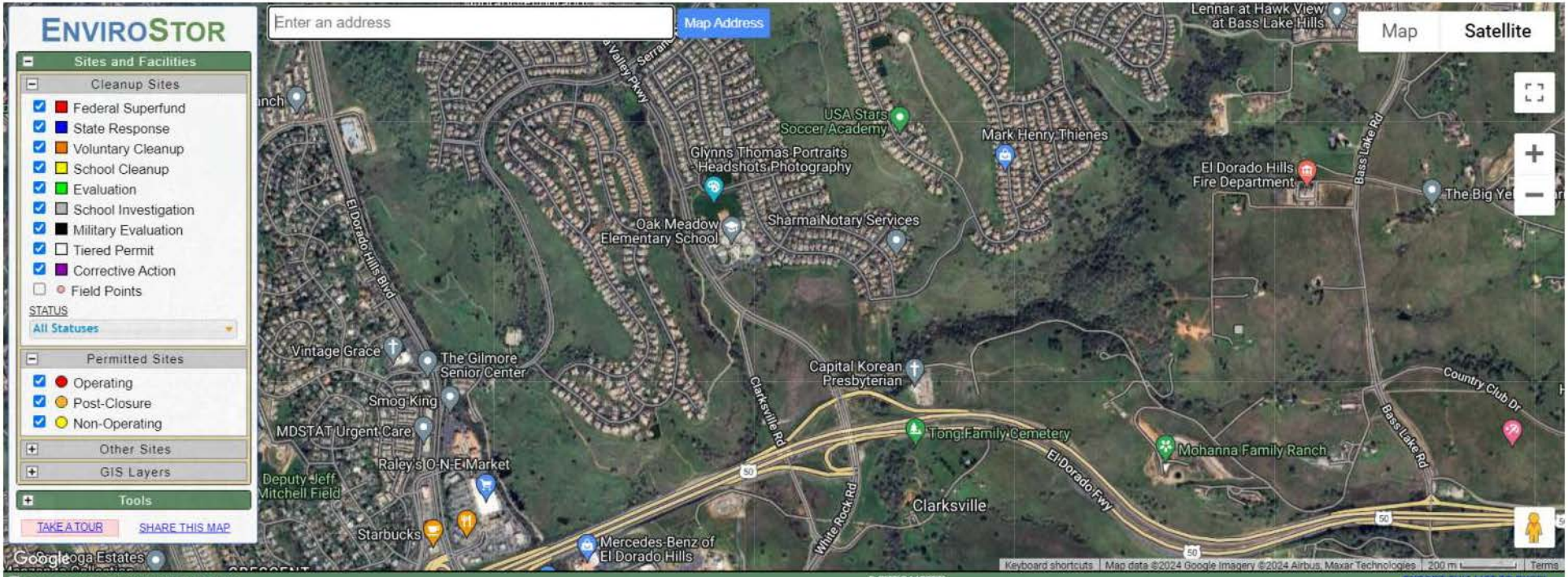
County of El Dorado

To monitor the progress or update this request please log into the El Dorado County Public Records Center.

On 5/31/2024 2:32:42 PM, Victoria Golston wrote:

Request Created on Public Portal


GeoTracker
Search for a Project
7455 Silva Valley Pkwy El Dorado Hills, CA 95762
Home
Download Data
Tools
Contact Us
Map
Satellite
Night Mode
Ridgeview Park
Sterling Ranch
Valley View Pkwy
USA Stars Soccer Academy
Mark Henry Thienes
Glynns Thomas Portraits Headshots Photography
El Dorado Hills Fire Department
Bass Lake Rd
Oak Meadow Elementary School
Sharma Notary Services
Justine's Piano Studio
La Cresta Village
El Dorado Hills Blvd
Vintage Grace
The Gilmore Senior Center
William Brooks Elementary School
Smog King
Capital Korean Presbyterian
Country Club Dr
Clarksville Rd
MDSTAT Urgent Care
Tong Family Cemetery
Mohanna Family Ranch
Raley's O-N-E Market
Deputy Jeff Mitchell Field
Clarksville
White Rock Rd
Starbucks
Mercedes-Benz of El Dorado Hills
CRESCENT RIDGE VILLAGE
Nugget Markets
Regal El Dorado Hills
Screech Owl Creek
El Dorado Hills Town Center
Target
50
LEGEND - CHOOSE MORE SITES
LUST Cleanup Sites - REMOVE
Cleanup Program Sites - REMOVE
Military Cleanup Sites - REMOVE
Military Privatized Sites - REMOVE
Military UST Sites - REMOVE
Signifies a Closed Site
ACTIVE FILTERS:
• Sites that are Closed - REMOVE
ACTIVE MAP COVERAGES:
• Military Bases - REMOVE
SITES VISIBLE ON MAP - CHOOSE FIELDS
SITE NAME
STATUS
UNION #5162
COMPLETED - CASE CLOSED
Keyboard shortcuts
Map data ©2024 Google Imagery ©2024 Airbus, Maxar Technologies
200 m
Terms
Sites Shown on Map:
1 Total Sites
0 Open Sites
1 Closed Sites
0 Sites w/Water Quality Data



SITES CURRENTLY VISIBLE ON MAP — 2 SITES LISTED — EXPORT THIS LIST TO EXCEL

PROJECT NAME	STATUS	PROJECT TYPE	ADDRESS	CITY
SERRANO ELEMENTARY SCHOOL	NO FURTHER ACTION	SCHOOL INVESTIGATION	SERRANO PARKWAY/SILVA VALLEY PARKWAY	EL DORADO HILLS
SILVER DOVE ELEMENTARY	NO FURTHER ACTION	SCHOOL INVESTIGATION	SILVER DOVE WAY/BASS LAKE ROAD	EL DORADO HILLS

Department of Toxic Substances Control

Edwin F. Lowry, Director
10151 Croydon Way, Suite 3
Sacramento, California 95827-2106

Winston H. Hickox
Secretary for
Environmental
Protection

Gray Davis
Governor

JAN 14 2000

Mr. Jim Bush
School Facilities Planning Division
California Department of Education
660 J Street, Suite 350
Sacramento, California 95814

BUCKEYE UNION SCHOOL DISTRICT, SERRANO ELEMENTARY SCHOOL SITE, SERRANO PARKWAY, EL DORADO HILLS, EL DORADO COUNTY

Dear Mr. Bush:

The Department of Toxic Substances Control (DTSC) has completed review of the document Phase I Environmental Site Assessment and Geological Hazard Assessment (Phase I), dated December 1999, prepared by Youngdahl & Associates Inc., El Dorado Hills. DTSC staff inspected the proposed school site on January 10, 2000. Based on this visit, and DTSC's review of the information presented and discussed in the Phase I Report, completion of a Preliminary Endangerment Assessment (PEA) is recommended for this property. The PEA is to determine whether a release or threatened release of hazardous materials that pose a threat to public health or the environment exists at the property.

According to the Phase I, this approximately 19-acre site and surroundings were undeveloped grasslands prior to the current residential development activity. The proposed school site is now used for stockpiling rock from adjacent residential construction sites. The site visit by DTSC staff revealed that the proposed school site is central to a large residential development project where cut and fill operations are largely complete and final grading and construction of residential units is in progress. The Phase I notes the proximity of the site to known and suspected sources of naturally occurring asbestos. A geotechnical consulting firm, retained by the developer to monitor cut and fill operations, reports that no observable asbestos-laden material was placed on or near the proposed school site but suggests that sampling to confirm the absence of asbestos may be appropriate. In addition, Phase I reconnaissance-level inspection of the site revealed no asbestos sources but the Phase I acknowledges that this is not definitive and recommends that the presence or absence of naturally occurring asbestos be evaluated during subsequent phases of development of the subdivision and construction of the school site. DTSC,

therefore, concludes that additional investigation of naturally occurring asbestos is necessary. As a result, we recommend that this site be directed to enter DTSC's Voluntary Cleanup Program (VCP) for completion of a PEA.

Please contact Mr. Richard Hume at (916) 255-3690 if you have questions regarding this determination or to discuss entering the VCP.

Sincerely,

James L. Tjosvold, P.E., Chief
Northern California-Central Cleanup Operations Branch

cc: Ms. Janette Thomas
Buckeye Union School District
P.O. Box 547
Shingle Springs, California 95682

Ms. Barbara Coler, Chief
Statewide Cleanup Operations Division
Department of Toxic Substances Control
700 Heinz Avenue, Suite 200
Berkeley, California 94710-2721

Department of Toxic Substances Control

Edwin F. Lowry, Director
10151 Croydon Way, Suite 3
Sacramento, California 95827-2106

Winston H. Hickox
Agency Secretary
California Environmental
Protection Agency

Gray Davis
Governor

June 20, 2000

Ms. Jeanette Thomas
Business Manager
Buckeye Union School District
P.O. Box 547
Shingle Springs, California 95682

ENVIRONMENTAL OVERSIGHT AGREEMENT, PROPOSED SERRANO ELEMENTARY SCHOOL, EL DORADO HILLS, CALIFORNIA - DOCKET NO. HSA-A 99/00-168

Dear Ms. Thomas:

The Department of Toxic Substances Control (DTSC) is pleased to provide you with a copy of the signed Environmental Oversight Agreement (Agreement) for the proposed school location in El Dorado Hills, California. Your advance payment of $4,223 is now due and should be sent to the address listed in section 3.8.3 of the Agreement.

If you wish to discuss the VCA or have any questions, please call Mr. Ed Cargile of my staff at (916) 255-3703.

Sincerely,

James L. Tjosvold, P.E., Chief
Northern California-Central Cleanup Operations Branch

Enclosure

cc: Mr. Ed Cargile
Hazardous Substances Engineering Geologist
National Priority List Unit
Northern California-Central Cleanup Operations Branch
Department of Toxic Substances Control
10151 Croydon Way, Suite 3
Sacramento, California 95827-2106

Printed on Recycled Paper

STATE OF CALIFORNIA
ENVIRONMENTAL PROTECTION AGENCY
DEPARTMENT OF TOXIC SUBSTANCES CONTROL

In the Matter of:	Docket No. HSA-A 99/00-168
Serrano Elementary School DSA #90105 El Dorado Hills, CA 95762	Environmental Oversight Agreement
Project Proponent:	Health and Safety Code Section 25355.5(a)(1)(C)
Buckeye Union School District P.O. Box 547 Shingle Spring, CA 95682	

I. INTRODUCTION.

1.1 Parties. The California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) enters into this Environmental Oversight Agreement (Agreement) with Buckeye Union School District (Proponent).

1.2 Site. The proposed Serrano Elementary School Site is located south of Serrano Parkway and east of Silva Valley Parkway within the Serrano Subdivision in El Dorado Hills, El Dorado County, California. The property consists of approximately 8.5 acres and is identified by Assessor's Parcel Number 114-150-23-100. Diagrams of the Site and location map are attached as Exhibit A and Exhibit B.

1.3 Jurisdiction. This Agreement is entered into by DTSC and Proponent pursuant to Health and Safety Code (H&SC) section 25355.5(a)(1)(C). This section authorizes DTSC to enter into an enforceable agreement with Proponents to oversee the characterization and Oversight of the Sites.

1.4 Purpose. The purpose of this Agreement is for the Proponent to conduct a Preliminary Endangerment Assessment under the oversight of DTSC. The purpose of this Agreement is also for DTSC to obtain reimbursement from the Proponent for DTSC's oversight costs.

II. BACKGROUND

2.1 Ownership. Site 1 is owned by the El Dorado Hills Development Company.

2.2 Substances Found at Site. The Phase One Reports show that the soil maybe contaminated with hazardous substances, including asbestos.

2.3 Physical Description. The Site consists of an irregularly shaped parcel of undeveloped land that is currently established within an active construction area. The property in the vicinity is currently being developed as residential homes. The Site consists of well-drained Auburn slit loam soils that are underlain by hard metamorphic rocks. The Site is within a zone 2 on the U.S.EPA's Map of Radon Zones. This property is currently used for the stockpiling of rock from adjacent construction activity.

2.4 Site History. The Site had been used for livestock grazing purposes only. The adjacent properties to the north, south, east, and west were used as an undeveloped grazing land.

III. AGREEMENT

3.0 IT IS HEREBY AGREED THAT DTSC will provide review and oversight of the response activities conducted by the Proponent in accordance with the Scope of Work contained in Exhibit C. The Proponent shall conduct the activities in the manner specified herein and in accordance with the schedule specified in Exhibit E. All work shall be performed consistent with H&SC section 25300 et seq., as amended; the National Contingency Plan (40 Code of Federal Regulations (CFR) Part 300), as amended; U.S. EPA and DTSC Superfund guidance documents regarding site investigation and remediation.

3.1 Scope of Work and DTSC Oversight. DTSC shall review and provide Proponent with written comments on all Proponent deliverables as described in Exhibit C (Scope of Work) and other documents applicable to the scope of the project. DTSC shall provide oversight of field activities, including sampling and remedial activities, as appropriate. DTSC's completion of activities described above shall constitute DTSC's complete performance under this Agreement.

3.2 Additional Activities. Additional activities may be conducted and DTSC oversight provided by amendment to this Agreement or Exhibits hereto in accordance with Paragraph 3.17. If DTSC expects additional oversight costs to be incurred related to these additional activities, it will provide an estimate of the additional oversight cost to the Proponent.

3.3 Agreement Managers. James Tjosvold, Branch Chief is designated by DTSC as its Manager for this Agreement. ~~Janett~~ Jeanette Thomas, District Business Manager is assigned by the Proponent as Manager for this Agreement. Each Party to this Agreement shall provide at least ten (10) days advance written notice to the other of any change in its designated manager.

3.4 Notices and Submittals. All notices, documents and communications required to be given under this Agreement, unless otherwise specified herein, shall be sent to the respective parties at the following addresses in a manner that produces a record of the sending of the notice, document or communication such as certified mail, overnight delivery service, facsimile transmission or courier hand delivery service:

3.4.1 To DTSC:
James Tjosvold, Branch Chief
Attn: Ed Cargile
Department of Toxic Substances Control
Site Mitigation Program
10151 Croydon Way, Suite 3
Sacramento, CA 95827-2106

3.4.2 To the Proponent:
Ms Jeanette Thomas
Buckeye Union School District
P.O. Box 547
Shingle Springs, CA 95682

3.4.3 To the Property Owner:
El Dorado Hills Development Company
Attn: Sam Miller
4525 Serrano Parkway
El Dorado Hills, CA 95726

3.5 DTSC Review and Approval. If DTSC determines that any report, plan, schedule or other document submitted for approval pursuant to this Agreement fails to comply with this Agreement or fails to protect public health or safety or the environment, DTSC may (a) Return comments to the Proponent with recommended changes; or (b) Modify the document as deemed necessary and approve the document as modified.

3.6 Communications. All DTSC approvals and decisions made regarding submittals and notifications will be communicated to the Proponent in writing by DTSC's Agreement Manager or his/her designee. No informal advice, guidance, or suggestions or comments by DTSC regarding reports, plans, specifications, schedules or any other writings by the Proponent shall be construed to relieve the Proponent of the obligation to obtain such written approvals.

3.7 Endangerment During Implementation. In the event DTSC determines that any activity (whether or not pursued in compliance with this Agreement) may pose an imminent or substantial endangerment to the health and safety of people on the Site or in the surrounding area or to the environment, DTSC may order the Proponent to stop further implementation of this Agreement for such period of time as may be needed to abate the endangerment.

3.8 Payment. The Proponent agrees to pay (1) all costs incurred by DTSC in association with preparation of this Agreement and for review of documents submitted prior to the effective date of the Agreement, and (2) all costs incurred by DTSC in providing oversight pursuant to this Agreement, including review of the documents described in Exhibit C and associated documents, and in providing oversight of field activities. An estimate of DTSC's oversight costs is attached as Exhibit D. It is understood by the parties that Exhibit D is an estimate and cannot be relied upon as the final cost figure. DTSC will bill the Proponent quarterly. Proponent agrees to make payment within sixty (60) days of receipt of DTSC's billing. Such billings will reflect any amounts that have been advanced to DTSC by the Proponent.

50% of $8,446 per Ed Cargile 6/13/00

3.8.1 In anticipation of services to be rendered, Proponent shall make an advance payment of ~~$16,892~~ to DTSC. That payment shall be made no later than ten (10) days after this Agreement is fully executed. If the Proponent's advance payment does not cover all costs payable to DTSC under this paragraph, Proponent agrees to pay the additional costs within sixty (60) days of receipt of a bill from DTSC.

3.8.2 If any bill is not paid by the Proponent within sixty (60) days after it is sent by DTSC, the Proponent may be deemed to be in material default of this Agreement.

3.8.3 All payments made by the Proponent pursuant to this Agreement shall be by check made payable to the "Department of Toxic Substances Control", and bearing on its face the project code for the site (Site Code #104061) and the docket number of this Agreement.

Payments shall be sent to:

Department of Toxic Substances Control
Accounting/Cashier
400 P Street, 4th Floor
P.O. Box 806
Sacramento, California 95812-0806

A photocopy of the check shall be sent concurrently to DTSC's Agreement Manager/Regional Branch Chief.

3.8.4 If the advance payment exceeds DTSC's actual oversight costs, DTSC will provide an accounting for expenses and refund the difference within one hundred-twenty (120) days after termination of this Agreement in accordance with Paragraph 3.18. In no other case shall the Proponent be entitled to a refund from DTSC or to assert a claim against DTSC for any amount paid or expended under this Agreement.

3.9 Condition Precedent. It is expressly understood and agreed that DTSC's receipt of the advance payment described in Paragraph 3.8.1. is a condition precedent to DTSC's obligation to provide oversight, review and/or comment on documents.

3.10 Record Retention. DTSC shall retain all cost records associated with the work performed under this Agreement for such time periods as may be required by applicable state law. The Proponent may request to inspect all documents which support DTSC's cost determination in accordance with the Public Records Act, Government Code section 6250 et seq.

3.11 Project Coordinator. The work performed pursuant to this Agreement shall be under the direction and supervision of a qualified project coordinator, with expertise in hazardous substance site Oversight. The Proponent shall submit: a) the name and address of the project coordinator; and b) in order to demonstrate expertise in hazardous substance site Oversight, the resume of the coordinator. The Proponent shall promptly notify DTSC of any change in the identity of the Project Coordinator. All engineering and geological work shall be conducted in conformance with applicable state law, including but not limited to, Business and Professions Code sections 6735 and 7835.

3.12 Access. Proponent shall provide, and/or obtain access to the Site and offsite areas to which access is necessary to implement this Agreement. Such access shall be provided to DTSC's employees, contractors, and consultants at all reasonable times. Nothing in this paragraph is intended or shall be construed to limit in any way the right of entry or inspection that DTSC or any other agency may otherwise have by operation of any law. DTSC and its authorized representatives shall have the authority to enter and move freely about all properties at the Sites at all reasonable times for purposes including, but not limited to: inspecting records, operating logs, sampling and analytic data, and contracts relating to this Site; reviewing the progress of the Proponent in carrying out the terms of this Agreement; conducting such tests as DTSC may deem necessary; and verifying the data submitted to DTSC by the Proponent.

3.13 Sampling, Data and Document Availability. When requested by DTSC, the Proponent shall make available to DTSC, and shall provide copies of, all data and information concerning contamination at the Site, including technical records and contractual documents, sampling and monitoring information and photographs and maps, whether or not such data and information was developed pursuant to this Agreement.

3.14 Notification of Field Activities. The Proponent shall inform DTSC at least seven (7) days in advance of all field activities pursuant to this Agreement and shall allow DTSC and its authorized representatives to take duplicates of any samples collected by the Proponent pursuant to this Agreement.

3.15 Notification of Environmental Condition. The Proponent shall notify DTSC's Agreement Manager immediately upon learning of any condition posing an immediate threat to public health or safety or the environment. Within seven (7) days of the onset of such a condition, the Proponent shall furnish a report to DTSC, signed by the Proponent's Agreement Manager, setting forth the events which occurred and the measures taken in the response thereto.

3.16 Preservation of Documentation. The Proponent shall maintain a central repository of the data, reports, and other documents prepared pursuant to this Agreement. All such data, reports and other documents shall be preserved by the Proponent for a minimum of six (6) years after the conclusion of all activities carried out under this Agreement. If DTSC requests that some or all of these documents be preserved for a longer period of time, the Proponent shall either comply with that request, deliver the documents to DTSC, or permit DTSC to copy the documents prior to destruction. The Proponent shall notify DTSC in writing at least ninety (90) days prior to the expiration of the six-year minimum retention period before destroying any documents prepared pursuant to this Agreement. If any litigation, claim, negotiation, audit or other action involving the records has been started before the expiration of the six year period, the related records shall be retained until the completion and resolution of all issues arising therefrom or until the end of the six-year period, which ever is later.

3.17 Amendments. This Agreement may be amended or modified solely upon written consent of all parties. Such amendments or modifications may be proposed by any party and shall be effective the third business day following the day the last party signing the amendment or modification sends its notification of signing to the other party. The parties may agree to a different effective date.

3.18 Termination for Convenience. Except as otherwise provided in this Paragraph, each party to this Agreement reserves the right unilaterally to terminate this Agreement for any reason. Termination may be accomplished by giving a thirty (30) day advance written notice of the election to terminate this Agreement to the other Party In the event that this Agreement is terminated under this Paragraph, the Proponent shall be responsible for DTSC costs through the effective date of termination.

3.19 Exhibits. All exhibits attached to this Agreement are incorporated herein by this reference.

3.20 Time Periods. Unless otherwise specified, time periods begin from the date this Agreement is fully executed, and "days" means calendar days. "Business days" means all calendar days that are not weekends or official State holidays.

3.21 Proponent Liabilities. Nothing in this Agreement shall constitute or be considered a satisfaction or release from liability for any condition or claim arising as a result of Proponent's past, current, or future operations. Nothing in this Agreement is intended or shall be construed to limit the rights of any of the parties with respect to claims arising out of or relating to the deposit or disposal at any other location of substances removed from the Site.

3.22 Government Liabilities. The State of California (State) shall not be liable for any injuries or damages to persons or property resulting from acts or omissions by the Proponent or by related parties in carrying out activities pursuant to this Agreement, nor shall the State of California be held as a party to any contract entered into by the Proponent or its agents in carrying out the activities pursuant to this Agreement.

3.23 Third Party Actions. In the event that the Proponent is a party to any suit or claim for damages or contribution relating to the Site to which DTSC is not a party, the Proponent shall notify DTSC in writing within ten (10) days after service of the complaint in the third-party action. Proponent shall pay all costs incurred by DTSC relating to such third-party actions, including but not limited to responding to subpoenas.

3.24 Reservation of Rights. DTSC and the Proponent reserve the following rights.

3.24.1 DTSC reserves its right to pursue cost recovery under the Comprehensive Environmental Response, Compensation and Liability act of 1980 (CERCLA), as amended, the California Health and Safety Code section 25360, and any other applicable section of the law.

3.24.2 Nothing in this Agreement is intended or shall be construed to limit or preclude DTSC from taking any action authorized by law or equity to protect public health and safety or the environment and recovering the costs thereof.

3.24.3 Nothing in this Agreement shall constitute or be construed as a waiver of the Proponent's rights, (including any covenant not to sue or release) with respect to any claim, cause of action, or demand in law or equity that the Proponent may have against any "person", as defined in Section 101(21) of CERCLA, or Health and Safety Code section 25319, that is not a signatory to this Agreement.

3.24.4 By entering into this Agreement, Proponent does not admit to any fact, fault or liability under any statute or regulation.

3.25 Compliance with Applicable Laws. Nothing in this Agreement shall relieve the Proponent from complying with all applicable laws and regulations, and the Proponent shall conform all actions required by this Agreement with all applicable federal, state and local laws and regulations.

3.26 California Law. This Agreement shall be governed, performed and interpreted under the laws of the State of California.

3.27 Severability. If any portion of this Agreement is ultimately determined not to be enforceable, that portion will be severed from the Agreement and the severability shall not affect the enforceability of the remaining terms of the Agreement.

3.28 Parties Bound. This Agreement applies to and is binding, jointly and severally, upon each signatory and its officers, directors, agents, receivers, trustees, heirs, executors, administrators, successors, and assigns, and upon any successor agency of the State of California that may have responsibility for and jurisdiction over the subject matter of this Agreement. No change in the ownership or corporate or business status of any signatory, or of the facility or Site shall alter any signatory's responsibilities under this Agreement.

3.29 Effective Date. The effective date of this Agreement is the date when this Agreement is fully executed.

3.30 Representative Authority. Each undersigned representative of the parties to this Agreement certifies that she or he is fully authorized to enter into the terms and conditions of this Agreement and to execute and legally bind the parties to this Agreement.

3.31 Counterparts. This Agreement may be executed and delivered in any number of counterparts, each of which when executed and delivered shall be deemed to be an original, but such counterparts shall together constitute one and the same document.

James Tjosvold Date: 6/12/00

Mr. James Tjosvold, Branch Chief
Statewide Oversight Operations Division
Site Mitigation Program
Department of Toxic Substances Control

Jeanette Thomas Date: 6/13/00

Ms. Jeanette Thomas
District Business Manager
Buckeye Union School District

Department of Toxic Substances Control

Edwin F. Lowry, Director
10151 Croydon Way, Suite 3
Sacramento, California 95827-2106

Winston H. Hickox
Agency Secretary
California Environmental
Protection Agency

Gray Davis
Governor

June 29, 2000

Mr. Jim Bush
School Facilities Planning Division
California Department of Education
660 J Street, Suite 350
Sacramento, California 95814

PROPOSED SERRANO ELEMENTARY SCHOOL, EL DORADO HILLS, CALIFORNIA ENVIRONMENTAL OVERSIGHT AGREEMENT, DOCKET NO. HSA-A 99/00-168

Dear Mr. Bush:

The Department of Toxic Substances Control (DTSC) has completed review of the Preliminary Endangerment Assessment (PEA), dated May 19, 2000, and received on May 25, 2000, prepared for the subject site by Youngdahl Consulting Group, Inc., El Dorado Hills, to document the hazardous substance characterization actions taken at the subject site.

According to the information provided, the site is undeveloped and near the West Branch of the Bear Mountain Fault Zone, a feature known locally to be associated with asbestos. The PEA indicates that soil sampling and analysis were conducted for the following chemicals: 1) Asbestos (CARB Method 435), 2) total Lead (EPA Method 6010), and 3) total Arsenic (EPA Method 7060). The results show that asbestos, arsenic, and lead were found at levels equal to or less than background. The data provided indicates that the calculated risks for this property are less than the acceptable residential risk value. Chemicals of concern concentrations at the site do not exceed levels appropriate for unrestricted land use.

Based on DTSC's evaluation of the PEA, no actual or potential hazardous materials release was indicated which would pose a threat to human health or the environment under any land use. Therefore, DTSC determines that no further action is necessary with respect to investigation and remediation of hazardous substances at the site. As with any real property, if previously unidentified contamination is discovered at the site, additional assessment, investigation, and/or cleanup may be required.

Printed on Recycled Paper

If you have any questions regarding this determination, please contact Mr. Ed Cargile at (916) 255-3703.

Sincerely,

James L. Tjosvold, P.E., Chief
Northern California-Central Cleanup Operations Branch

cc: Ms. Jeanette Thomas
Business Manager
Buckeye Union School District
P.O. Box 547
Shingle Springs, California 95682

Mr. David Sederquist
Project Geologist
Youngdahl Consulting Group Inc.
1234 Glenhaven Court
El Dorado Hills, California 95672

Mr. Hamid Saebfar, Chief
Schools Property Evaluation and Cleanup Division
Department of Toxic Substances Control
1011 N. Grandview Avenue
Glendale, California 91202

Mr. Peter Garcia, Chief
Schools Property Evaluation and Cleanup Unit
Department of Toxic Substances Control
1011 N. Grandview Avenue
Glendale, California 91202



Map Scale: 1:4,460 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: El Dorado Area, California
Survey Area Data: Version 15, Aug 31, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 23, 2022—Apr 24, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AwD	Auburn silt loam, 2 to 30 percent slopes	96.5	96.3%
AxD	Auburn very rocky silt loam, 2 to 30 percent slopes	3.7	3.7%
Totals for Area of Interest		**100.2**	**100.0%**

El Dorado County Local Oversight Program

CASE CLOSURE SUMMARY

Contact

El Dorado County Environmental Management			
2850 Fairlane Court, Building C, Placerville, California 95667			
Robert Lauritzen-caseworker	Phone: 530-621-5130	Dave Johnston-Supervisor	Phone: 621-5896

Information

Site/Facility:	Shell-Branded Service Station		
Address:	3405 Coach Lane, Cameron Park, California		
UST Case No. #00075	Regional Board: #090094	Cleanup Fund No.	18067
Unauthorized Release Form Date:	NA		

	Name	Address	Phone #
Responsible Party(s)	Shell Oil Products US c/o Denis Brown	20945 South Wilmington Avenue, Carson, CA 90810	707-865-0251
Property Owner(s)	NAKASH ENTERPRISES A CA LL	41805 ALBRAE ST FREMONT CA 94538	
Operator(s)	NAKASH ENTERPRISES A CA LL	41805 ALBRAE ST FREMONT CA 94538	
Landowners listed on Fee Title notified?		(circle one) Yes **No**	

Release and Site Characterization Information

Cause of Release:	Chemical/Fuel Released	
Tank Size	Tank Contents	Date Removed/Replaced/Upgrades
3-USTs (size unknown)	Gasoline	July 2005/3-USTs Replaced

Maximum Soil Concentrations

Chemical	Method	Beginning (mg/kg) Date sampled	End (mg/kg) Date sampled	Chemical	Method	Beginning (mg/kg) Date sampled	End (mg/kg) Date sampled
TPHg	8015	3,100 (DS-1) (4/15/98)	<1.0 (D-6) (7/21/05	Benzene	8260	4.9 (T-3) (6/5/97)	<0.001 (DS-4) (4/15/98)
TPHd	NA	NA	NA	Toluene	8260	11 (T-3) (6/5/97)	<0.001 (DS-4) (4/15/98)
Other	NA	NA	NA	Ethylbenzene	8260	22 (DS-1) (4/15/98)	<0.005 (D-6) (7/21/05
Heavy Metals	NA	NA	NA	Xylene	8260	91 (P-8) (7/21/05)	NA
MTBE	8260	2 (T-1) 6/5/97	NA	Other	NA	NA	NA

Soil Type(s): sandy silt, sitly sands, and weathered bedrock
Soil Remediation Method(s): Over-excavation, SVE, DPE, and GWE
Duration of Remediation: Over-excavation - (1997, 1998, and 2005); SVE/DPE - (8/14 & 9/5/01, Feb - March 2004); GWE - (7/7 - 11/30/01)

El Dorado County Local Oversite Program

CASE CLOSURE SUMMARY

Volume Treated/Removed:	Over 3,000 tons
Maximum Depth of Remaining Contaminants in Soil:	34.5
Depth of Maximum Concentration of Contaminants in Soil:	TPHg, BTEX, & MTBE (1.5 fbg),

Max Groundwater Concentrations

Chemical	Method	Beginning (ug/L) Date sampled	End (ug/L) Date sampled	Chemical	Method	Beginning (ug/L) Date sampled	End (ug/L) Date sampled
TPHg	8015	26,600 (8/26/12))	1,300 (4/23/12)	Benzene	8260	1,400 (4/15/04)	5 (4/13/12)
TPHd	NA	NA	NA	Toluene	8260	68 (4/15/04)	<0.5 (4/13/12)
Other; 1,2-DCA	8260	210 (3/21/02)	2.6 (4/23/12)	Ethylbenzene	8260	434 (11/13/00)	0.8 (4/13/12)
Heavy Metals	NA	NA	NA	Xylene	8260	(11/13/00)	<1 (4/13/12)
MTBE	8020/8260	64,000 (2/11/02)	0.97 (4/23/12)	Other			

Min Depth to Groundwater (feet)	19	GW flow direction	SW
Max Depth to Groundwater (feet)	37	GW sample method	Conventional; 3 purge volume
Number, Size, and Type of Monitoring Wells Installed:		6 2-inch diameter groundwater monitoring wells and 2 4-inch extraction wells	
Number of Monitoring Wells not Decomissioned at Closure:			
Domestic, Municipal, Irrigations wells affected:		NA	
Distance to closest Muni well:		>2,000 feet	
Depth to aquifer:		Not known	
Use:			

Groundwater Remediation Method(s):	Dual-phase extraction and groundwater extraction		
Volume Treated/Removed:	approx. 29K gal	Duration:	GWE; 6 months, DPE; 2 months
Number of Consecutive Sampling Events Reporting Concentrations less than WQ standards:			TPHg (0), benzene (0), & (0), toluene (26), ethylbenzene (3), xylenes (3), MTBE (0), TBA (0) DIPE (0), ETBE (na), TAME (na), EDB (6), and ethanol (6)
Sampling Frequency:	Semi-annual		
Comments:			

Surface Water Impacts

Surface Water Affected: Yes No	**NO**	Surface Water Body Affected:	**NO**
Comments:			

El Dorado County Local Oversight Program

CASE CLOSURE SUMMARY

Maximum Extent of Any Remaining Contamination

Environment	Lateral (feet)	Vertical (feet)	Chemical
Soil	NA	34.5	MTBE
GW	NA	40	TPHg, benzene, ethlybenzene, MTBE, TBA, and 1,2,DCA

Separate Phase Hydrocarbons (SPH)

Was SPH found Yes No **No** SPH Mitigated? NA

Human Health and Ecological Risk Evaluation

Risk Assessment Performed? **NO** Land use changes associated with risk assessment: NA
Describe:
describe or attach report

Vapor Migration/Intrusion Evaluation? **NO**
Describe:
describe or attach report

Remediation Summary and Closure Rationale:

Remediation Summary: (one to three paragraphs of cleanup)

Closure Rationale: (closure justification for Protection of Human Health and Environment, Beneficial use of GW, and compliance with Basin Plan, and justification why any contaminants left in place do not pose threat to GW quality. Refer to State Board Resolution 92-49 for list of factors to consider.)
Attach separate pages for this section.

Deed Restriction or Restrictive Covenant Required? NO
(attach copy of legal description submitted to county recorder)

Form Completed By:

Name: Larry Silva Date Form Completed: 9/4/2012
Position: Project Manager Agency or Company: Conestoga-Rovers & Associates
Information Provided By: Shell/Conestoga-Rovers & Associates

List of Acronyms

TPH - Total Petroleum Hydrocarbons
TPHg - Total Petroleum Hydrocarbons as gasoline
TPHd - Total Petroleum Hydrocarbons as diesel
MTBE - methyl-tert-butyl-ether
UST - underground storage tank
SPH - Separate Phase Hydrocarbons

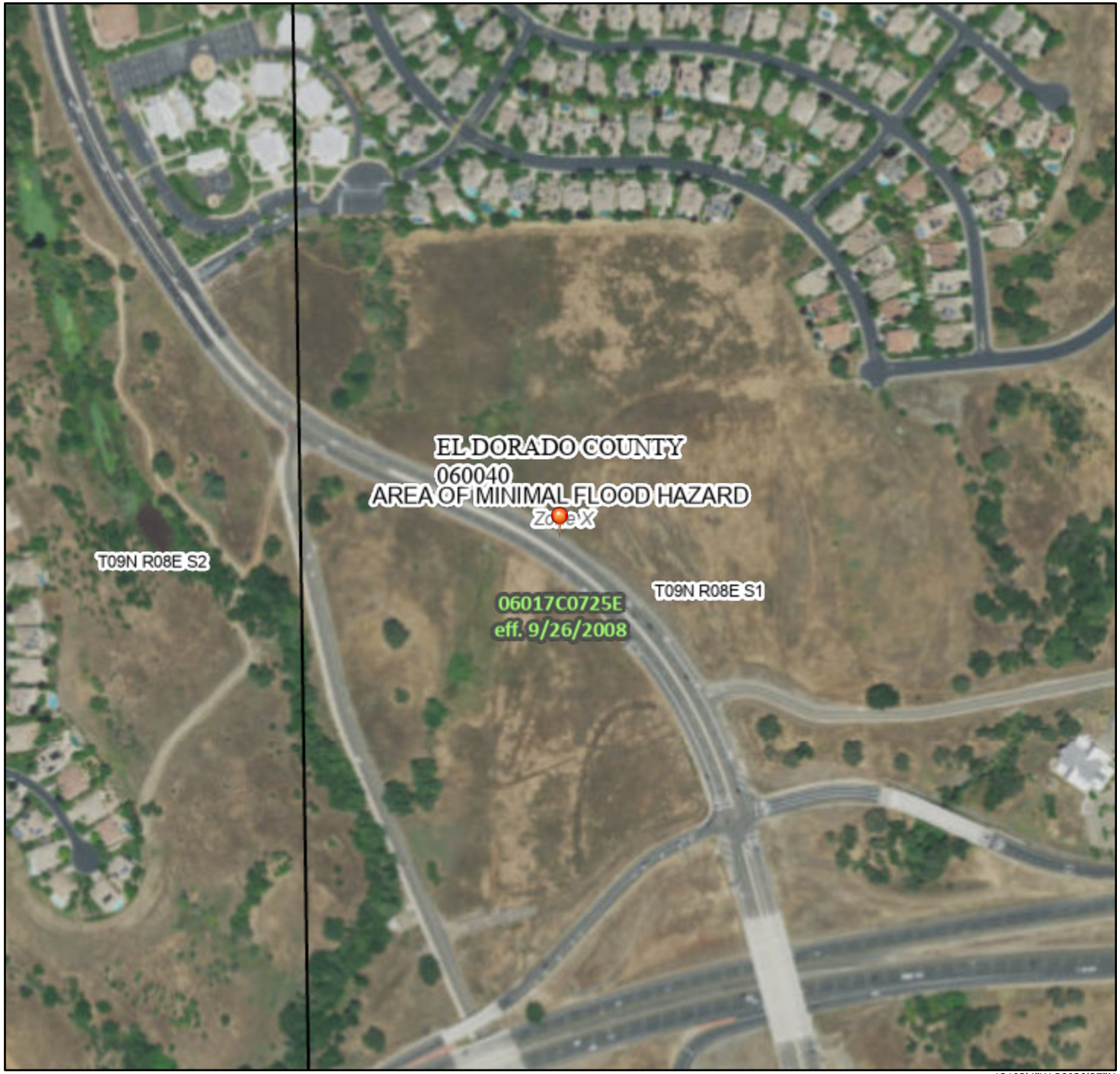
ND - non-detectable
NA - not applicable
NS - not sampled
NT - not tested
mg/kg - milligrams per kilogram
ug/L - micrograms per liter

Fuel Additives to be reported:
TAME, DIPE, ETBE,TBA,EDB, ethanol

National Flood Hazard Layer FIRMette

FEMA

121°3'42"W 38°39'55"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

121°3'4"W 38°39'27"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/5/2024 at 11:01 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

EDH RETAIL SHOPPING CENTER PROJECT

Project ~~Understanding~~ Background

The ~~40.50 gross-acre~~ project site is located in the unincorporated community of El Dorado Hills, El Dorado County, California. ~~The project site~~ and is located on the north side of the U.S. 50/Silva Valley Parkway interchange and is bounded by the existing alignment of Silva Valley Parkway (west), a single-family residential subdivision and Oak Meadow Elementary School (north), undeveloped land (east), and Tong Road (south). Most of the project site contains annual grassland, with scattered oak trees. ~~A large quantity of fill exists onsite that was placed there as part of the addition of High Occupancy Vehicle lanes on U.S. 50. There are unpaved roads and remnants of prior development on the site.~~ The project site is designated "Commercial" by the El Dorado County General Plan and zoned "Commercial – Planned Development [C-PD]" by the El Dorado County Zoning Ordinance.

Take out

The future alignment of Silva Valley Parkway bisects the project site from northwest-to-southeast. The realigned Silva Valley Parkway would have a new interchange with U.S. 50. The proposed project has reserved right-of-way for the roadway realignment and interchange project, as well as the future Country Club Drive, which is not part of this project. The net acreage of the project site is 31.82 acres. Of this figure, 16.09 acres is located north of the realigned roadway and 15.73 acres is located to the south.

Condense to five brief desc. of planned development

The applicant seeks to move the fill from the north site to the south site, mass grade both sites, and install utilities within the realigned Silva Valley Parkway as part of the initial phase of the project. As part of a later phase, both sites would be developed to support up 250,000square feet of commercial uses. The North site is contemplated to support three major tenants of approximately 38,000, 35,000, and 10,000 square feet, and five smaller outparcels containing a gas station, three retail pads, and one additional pad. The South site is contemplated to support two major tenants of approximately 37,500 and 32,700 square feet, and seven smaller outparcels containing a gas station, fast food, restaurant, and shops and. Access to the North and South sites would be taken via a new signalized intersection on the realigned Silva Valley Parkway. Fuel access to the South site would be taken from the old Silva Valley Parkway. The project applicant is requesting approval of a Planned Development Application from the County of El Dorado.

The EIR will provide a "worst case" project-level analysis for the level of development contemplated by the project. At a minimum, the EIR would provide full project-level coverage for the initial phase of the project (e.g., relocation of fill, mass grading, and utility installation) and describe the subsequent phases at a conceptual project-level, including identifying the maximum development potential and rage of end uses contemplated. Subsequent environmental review (e.g., an Addendum) may be necessary should the actual commercial proposed onsite vary from those described conceptually in the EIR.

Assumption

Finally, please note that this scope of work does not include a traffic analysis, as the County of El Dorado has a separate process for scoping traffic studies. As such, it is assumed that the applicant will independently initiate this process with the County and subsequently retain a third-party traffic consultant to prepare the traffic analysis.

SCOPE OF WORK

Task 1: Project Initiation

FCS's Project Manager and other key team members will meet with County staff to clarify and confirm the project description, identify key contacts, discuss scheduling targets, and obtain copies of the project plans and other relevant information. It is assumed that site visit will occur the same day as the kick-off meeting.

Task 2: Technical Studies

Subtask 2.1: Air Quality/Greenhouse Gas Analysis

FCS will prepare an Air Quality/Greenhouse Gas Analysis to evaluate project emissions of criteria pollutants and greenhouse gases. The analysis will be provided in a stand-alone Air Quality and Greenhouse Gas Report (Report) and a separate Health Risk Assessment (HRA). The HRA will serve as a complete document addressing potential health risk impacts generated by the project. The analysis and conclusions of the HRA will be summarized in the Report, which will address all CEQA impact criteria for air quality and greenhouse gases.

Subtask 2.1.1: Background Information

Both the Report and HRA will contain relevant background information. For the Report, a description of air pollutants, a description of greenhouse gases, the regulatory environment surrounding air pollution and climate change, potential impacts of climate change, and the existing air quality conditions in the project area will be provided. For the HRA, a description of toxic air contaminants (TACs), regulatory environment surrounding TACs and health risks, and the existing conditions in the project area will be provided.

Subtask 2.1.2: Criteria Air Pollutant and Greenhouse Gas Emission Estimation

Emissions associated with construction and operation will be estimated using the latest version of CalEEMod. FCS will identify which project configuration would be the 'worst-case' scenario for criteria pollutant and greenhouse gas generation. FCS assumes that the Report will estimate criteria air pollutant and greenhouse gas emissions from one project scenario. The pollutants that will be estimated include the following: reactive organic gases (ROG), oxides of nitrogen (NOX), particulate matter (PM10 and PM2.5), carbon dioxide, methane, and nitrous oxide. Construction would generate air pollutant emissions from demolition, equipment exhaust, on-road employee and materials trips, and soil disturbance. During operation, there would be emissions from the motor vehicles that would access the project site as well as generation of on-site emissions. In addition, greenhouse gas emissions would indirectly emitted from electricity consumption, water use, wastewater generation, and waste generation by the project. Air pollutant emissions will be compared with the El Dorado County Air Pollution Control District's (Air District) project-level and cumulative significance thresholds.

Subtask 2.1.3: Carbon Monoxide (CO) Hot-Spot Analysis

FCS will screen the project's potential to generate a CO hotspot using the Air District's screening guidance. If the project exceeds the screening criteria, a carbon monoxide hot-spot analysis will be conducted for up to 4 intersections with the highest potential for congestion using the California Department of Transportation Caline4 model, the EMFAC2011 model, and information from the traffic study.

Subtask 2.1.4: Toxic Air Contaminants Health Risk Assessment

The primary focus will be on performing the air dispersion modeling for the project using diesel particulate matter and benzene impacts and as the indicator for health risks. Estimates of health risk from the adjacent freeway and any nearby stationary sources will be included in the analysis to provide a comprehensive project and cumulative-level health risk assessment. FCS will identify which project configuration would be the 'worst-case' scenario for the purposes of the HRA. FCS assumes that the HRA will only analyze one project scenario.

Air Dispersion Modeling

The USPEA Industrial Source Complex (ISC) air dispersion model will be used unless the Air District can provide suitable meteorological files that are compatible with the USEPA AERMOD air dispersion model.

FCS will prepare the HRA utilizing guidance contained in the Air District's CEQA Handbook and the California Air Pollution Control Officers Association's (CAPCOA) guidance document Health Risk Assessment for Proposed Land Use Projects.

Estimate the cancer risks, non-cancer hazards, and PM2.5 concentrations associated with the above identified TAC emission sources.

FCS will prepare a technical report along with relevant exhibits and appendices that will document the methods, assumptions, and results of the health risk assessment.

This task includes one draft of the report and response to one set of comments from the applicant/County.

The analysis will include an assessment of the potential health impacts to nearby sensitive receptors from exposure to diesel particulate matter during construction and operational activities. Diesel particulate matter has been identified by the ARB as a carcinogenic substance. Sources of diesel particulate matter include off-road construction equipment and diesel delivery trucks that would travel to and from and idle at the various components of the project.

Subtask 2.1.5: Odor and Asbestos

FCS will use the Air District's screening guidance to determine the project's potential significance for exposing receptors to substantial odor or risk from disturbance of naturally occurring asbestos or asbestos containing materials.

Subtask 2.1.6: Greenhouse Gas Analysis

Neither the County of El Dorado nor the Air District has adopted thresholds of significance for greenhouse gas emissions. In addition, the County of El Dorado does not have an adopted Climate Action Plan. FCS will estimate construction and operational greenhouse gas emissions, and will use the Air District's recommendation to utilize the AB 32 emission reduction goal. FCS will determine project consistency with the applicable portions of the California Air Resources Board Scoping Plan for AB 32. A correlation between the targets in AB 32 and a significant impact on the environment will be determined.

Subtask 2.1.8: Emissions Reductions and Significance Findings

If necessary, project design features and mitigation measures will be identified that would reduce impacts. Any reduction of emissions from these measures will be quantified. Sources of measures include but are not limited to the Office of the California Attorney General and the California Air Pollution Control Officers Association's report, Quantifying Greenhouse Gas Mitigation Measures. Significance findings will be addressed before and after mitigation for all potential impacts.

Subtask 2.2: Noise Analysis

Extant Acoustical will prepare a Noise Analysis to evaluate project-related construction and operational noise impacts on surrounding land uses. The analysis will be wholly contained in the EIR and the supporting technical data will be appended to the document.

Subtask 2.2.1: Project Start-up, Data Acquisition, and Document Review

Extant will coordinate with FCS and designated project team to obtain relevant project information necessary to provide acoustic, noise and vibration services for the project. Extant will evaluate, catalog and adapt project materials and documentation for use in the technical noise analysis and preparation of the EIR noise chapter. Project materials and documentation pertinent to the preparation of the analysis typically include, design drawings, current plan sets and mapping of the project area, construction data (equipment inventory, truck trips, number of personnel, construction duration/rate, and schedule), Project traffic analysis (incorporating ADT traffic volumes for roadways in the project study area), surrounding land use information and all previously conducted analyses relating to the project.

Subtask 2.2.2: Noise Monitoring and Characterization

Extant will conduct a noise monitoring program throughout the project vicinity to characterize baseline ambient acoustical conditions in the area. Quantification of the existing ambient noise environment will include an evaluation of existing ambient noise levels, transportation noise levels and stationary/point-source noise levels in the project study area. An Extant noise analyst will perform an evaluation of the Project vicinity, cataloging and documenting residential and other noise-sensitive land uses, geographic information, land-uses and information on potential acoustical constraints the project may encounter. The measurement survey will serve to adequately establish baseline noise levels, provide context for the analysis and document the existing ambient noise environment in the project area.

An Extant noise analyst will perform a detailed evaluation of acoustical environment in the project study area; the noise monitoring program is anticipated to include noise monitoring at up to six (6) locations in the project area. Short-term (approximately 15 to 30 minutes in duration) attended noise measurements will be conducted to provide adequate representation and relative exposure of noise-sensitive receptors at up to four (4) locations. Additionally, continuous long-term unattended noise measurements will be conducted at up to two (2) locations in the project study area (approximately 24 hours in duration). Noise level data will be used for establishing existing baseline noise level in the project vicinity and will serve as a basis of evaluation for future noise levels at receivers within the project area.

Monitoring locations will be selected to represent locations of key interest in the project area; such as property lines, noise-sensitive receptors; additionally, monitoring location will be chosen to adequately represent of noise sources in the Project vicinity. Extant will coordinate with FCS or the designated project team member as directed to coordinate access as required.

Subtask 2.2.3: Noise Modeling and Analysis

Extant will predict and analyze existing and future short-term (i.e., construction) and long-term (i.e., transportation, land-use compatibility, stationary sources, etc.) noise levels in the project vicinity. The analysis will be based on existing documentation, observations and noise measurement data from the field surveys; applicable project materials, proposed land uses and through the application of accepted noise prediction methodologies. Extant will utilize the three-dimensional computerized noise simulation model SoundPLAN®, to comprehensively model noise levels for the project and immediate vicinity, taking into account site topography, vegetation/ground types and the built environment.

Extant will analyze potential short-term, construction-related noise impacts associated with the project (e.g., on-site heavy-duty equipment, generators, pumps, etc.). Construction-related noise impacts will be assessed with respect to nearby noise-sensitive receptors and their relative exposure (accounting for intervening topography, barriers, distance, etc.). The analysis will be based on application of FHWA Roadway Construction Noise Model (RCNM) and Federal Transit Administration reference noise level data, and utilize accepted industry-standard modeling techniques.

Transportation noise in the project area appears to be associated with traffic along the local and regional roadway network (primarily U.S. 50 and Silva Valley Parkway). Traffic noise levels for the local and regional roadway network will be incorporated into the noise model based on traffic volumes (ADT volumes) obtained in the traffic/transportation analysis prepared for the Project. Transportation related noise will be analyzed through the application of Federal Highway Administration (FHWA) traffic noise prediction methodologies.

Stationary noise sources (e.g., industrial, mechanical, etc.) in the project area, identified during field surveys, on aerial photography and on existing documentation, along with future stationary noise sources will be incorporated into and analyzed in the noise model. Existing stationary noise sources will

be analyzed based on noise monitoring data collected during the field survey, empirical/reference noise level data and accepted prediction methodologies.

Based on the available project information, future stationary-source, point-source and on-site noise sources will be evaluated and discussed at a qualitative level. Future stationary noise sources are anticipated to primarily include delivery activities, parking lot activities, and mechanical equipment. General discussions will outline typical noise generating sources and activities associated with the proposed land uses.

The significance of short-term and long-term noise impacts will be evaluated based on comparisons with applicable criteria from local and state regulatory agencies. Mitigation measures along with their relative effectiveness will be provided where significant and potentially significant noise impacts are anticipated.

Draft Technical Noise Report

Subtask 2.2.4: ~~Report Preparation and Deliverables~~

~~Extant will~~ prepare a draft technical noise chapter suitable for inclusion in the EIR. The EIR noise section will include a brief introduction and summary of relevant project information pertinent to the noise analysis. The existing noise setting in the project study area will be described and the baseline noise environment established based on the ambient noise monitoring and characterization ~~conducted by Extant~~. The noise monitoring locations and representative noise prediction locations will be presented. Relevant background information, including noise fundamentals, terminology, and a summary of applicable regulatory framework will be presented. Based on the regulatory criteria applicable to the project, thresholds of significance will be outlined and established.

Noise prediction methodologies and the relevant modeling assumptions will be outlined. Potential project-generated noise impacts will be identified, noise levels discussed and evaluated against the significance thresholds. Where potential impacts are predicted, ~~Extant will~~ further implement the noise model in evaluating noise control strategies and mitigation measures. Mitigation measures and their relative effectiveness will be outlined and findings of significance presented with mitigation incorporated as necessary.

~~Extant will~~ submit the draft technical noise report for review and comment to ~~FCS~~. A final technical noise report, incorporating necessary updates will be prepared and ~~submitted to FCS for incorporation~~ into the EIR.

Task 3: Notice of Preparation/Scoping Meeting

~~FCS will~~ prepare a Notice of Preparation (NOP) in accordance with requirements of CEQA Guidelines Section 15082. ~~Issuance of the NOP is the first milestone in the CEQA process and announces a lead agency's intent to prepare an EIR~~. The NOP will identify the project location, provide a summary of the project characteristics, and list probable environmental effects, supported by color graphics. The County will be responsible for distributing the NOP to the State Clearinghouse and other public agencies. The

Cons may submit NOP to SCH

County will provide mailing labels to FCS for local distribution (0.25 mile radius). This scope of work assumes that an Initial Study will not be prepared.

Following release of the NOP, this scope of work assumes that the County will hold a scoping meeting in El Dorado County, which FCS representatives will attend. FCS will coordinate with County staff regarding the location and format of the scoping meeting and will be responsible for preparing any materials or displays used during the meeting. FCS will be available to present an overview of the NOP and CEQA process. All public comments received at the scoping meeting will be documented in the Draft EIR.

Deliverables

- One (1) electronic version (via email) of the Administrative Draft NOP to the County of El Dorado
- Ten (10) hard copies and one (1) electronic version (via email) of the final NOP to the County of El Dorado

Task 4: Administrative Draft EIR

FCS will prepare an Administrative Draft EIR in accordance with the applicable requirements contained in CEQA Guidelines Sections 15120 through 15132. The Administrative Draft EIR will contain analysis supported by graphics and tables. The document will identify potentially significant impacts, feasible mitigation measures, and the residual significance after mitigation has been implemented. The contents of the Administrative Draft EIR will be as follows:

Executive Summary

In accordance with CEQA Guidelines Section 15123, the Executive Summary will contain a summary of the project, list the project alternatives, identify areas of controversy, and provide a matrix listing environmental impacts and mitigation measures, and the residual significance of all impacts.

Introduction

FCS will prepare the introduction including the purpose and background of the project, the determination of the lead agency, scope of the EIR, and the document's organization.

Project Description

Pursuant to CEQA Guidelines Section 15124, the project description will identify the project location, describe the project characteristics (including any offsite improvements), list the project objectives, identify necessary approvals, and list other agencies that may use the document. This section will provide color graphics of project boundaries and plans.

Aesthetics, Light, and Glare

The proposed project contemplates the development of commercial uses on the project site that is undeveloped and contains annual grassland and scattered oak trees. FCS will perform site

reconnaissance and document existing conditions with photographs. FCS will use plans and images provided by the applicant (e.g., site plan, elevations, perspectives, landscaping plan, etc.) as the basis for evaluating the expected change in visual character and light and glare, including the effects of building height and massing, compatibility with surrounding uses, alterations of views, and the effects of new lighting sources.

Air Quality/Greenhouse Gas Emissions

Construction and operational activities that would emit criteria air pollutants and greenhouse gas emissions. FCS will prepare the Air Quality/Greenhouse Gas Emissions section (refer to the description under Task 2, Technical Studies) and identify impacts and mitigation (as appropriate). The supporting technical data will be provided as an appendix to the EIR.

Biological Resources

The project site contains annual grass land and scattered oak trees. The project applicant commissioned Foothill Associates to prepare a Biological Assessment, a Wetland Delineation, and Arborist Surveys for the project. FCS will use these Biological Resources technical studies to assess the significance of impacts and identify necessary mitigation. The biological reports will be provided as an appendix to the EIR.

Cultural Resources

The project site contains undeveloped land and, therefore, may contain undiscovered cultural resources (e.g., artifacts, fossils, etc.). The project applicant commissioned Foothill Associates to prepare a Cultural Resources Assessment for the project site. FCS will use the Cultural Resource Assessment as the basis for assessing the significance of impacts and identify necessary mitigation. The Cultural Resource Assessment will be provided as an appendix to the EIR.

Geology, Soils, and Seismicity

The proposed project would involve the development of commercial uses within a seismically active region of California. If available, FCS will use a geotechnical report provided by the applicant as the basis for assessing geological impacts and identifying mitigation. Should a geotechnical report not be available, FCS will rely on resources such as the El Dorado County General Plan and information provided by the United States Geological Survey and California Geological Survey.

Hazards and Hazardous Materials

The project site contains undeveloped land that supports annual grassland and scattered oak trees. If available, FCS will use a Phase I Environmental Site Assessment (Phase I ESA) provided by the applicant as the basis for assessing hazards, hazardous materials impacts, and identifying mitigation. Should a Phase I ESA not be available, FCS will assess hazards and hazardous materials impacts through methods such as site reconnaissance and review of resources such as the El Dorado County General Plan and the State Water Resources Control Board "Geotracker" database.

Hydrology and Water Quality

Development of the proposed project would involve construction and operation activities that have the potential to create polluted runoff, increase impervious surface coverage, and create downstream drainage problems. Of particular concern is runoff from construction and operational activities into nearby waterways. If available, FCS will use a hydrology/storm water report or drainage plans provided by the applicant as the basis for assessing the significance of impacts and identify necessary mitigation. Should such reports or plans not be available, FCS will assess hydrology and water quality impacts through methods such as site reconnaissance and review of resources such as the El Dorado County General Plan, El Dorado County Municipal Code, and Regional Water Quality Control Board documents.

Land Use

The proposed project would involve changes to the underlying land use at the project site. As such, the project would be assessed for consistency with both the General Plan and Municipal Code. Consistency with all applicable General Plan goals and policies will be provided in a matrix format. Additionally, the proposed commercial and residential uses will be assessed in accordance with the development standards set forth in the General Plan and Municipal Code.

Noise

Construction and operational activities that would emit noise that may adverse impact nearby sensitive receptors. Extant Acoustical will prepare the Noise section (refer to the description under Task 2, Technical Studies) and identify impacts and mitigation (as appropriate). The supporting technical data will be provided as an appendix to the EIR.

Public Services and Utilities

FCS will evaluate existing public service and utility providers and evaluate project impacts in terms of the need to construct new or expand existing facilities, acquire additional supplies, generate effluent that exceeds the permitted capacity, etc. To the extent that information is readily available, FCS will use information provided by the applicant's civil engineer about anticipated utility loads (e.g., water demand, sewage generation, etc.). As appropriate, FCS will consult with public service and utility providers and summarize the findings in the EIR. The following public services and utility systems will be analyzed:

- Fire Protection/Emergency Medical Services
- Police Protection
- Water Supply
- Wastewater
- Storm Drainage
- Solid Waste
- Energy

Transportation

The proposed project involves the development of new commercial and residential uses on the project site, which have the potential to generate new trips, alter traffic circulation patterns, create a need for roadway improvements, and increase the use of public transit, bicycle, and pedestrian modes of transportation. As previously discussed, this scope of work assumes the project applicant will retain a traffic consultant to prepare a transportation analysis. FCS will use the transportation analysis as the basis for assessing transportation impacts and identifying mitigation. The transportation analysis will be provided as an appendix to the EIR.

Cumulative Effects

In accordance with CEQA Guidelines Section 15130, the EIR will address the cumulative effects of the proposed project in combination with other projects. As set forth in the CEQA Guidelines, the cumulative analysis will focus on impacts that the project has a significant incremental contribution towards, reflect the severity of the impacts and their likelihood of occurrence, and be guided by standards of practicality and reasonableness.

Alternatives

Pursuant to CEQA Guidelines Section 15126.6, the EIR will evaluate a range of feasible alternatives to the proposed project. One of the alternatives will be the CEQA-mandated "No Project Alternative," which is the circumstance under which the project does not proceed. FCS will evaluate up to three additional alternatives, likely consisting of a combination of a reduction in project size and alternate uses. In addition, the Alternatives section will address the feasibility of an alternative location, as well as any alternatives that were initially considered but rejected from further consideration.

Effects Found Not To Be Significant

CEQA Guidelines Section 15143 establishes that EIRs shall focus on significant impacts on the environment and need not discuss in detail effects that are clearly insignificant or unlikely to occur. Accordingly, the following topical areas are anticipated to be scoped out to the Effects Found Not to Be Significant section of the EIR:

- Mineral Resources
- Population and Housing
- Recreation

This section will also address certain checklist items within topical areas that will be evaluated in detail in the EIR (e.g., hydrology and water quality), but which are clearly insignificant or unlikely to occur (e.g., tsunami inundation).

Other CEQA Required Sections

This section will address the CEQA-required issues of significant environmental effects that cannot be avoided (CEQA Guidelines Section 15126[b]), significant irreversible environmental changes (CEQA

Guidelines Section 15126[c]), growth inducement (CEQA Guidelines Section 15126[d]), and energy conservation (CEQA Guidelines Appendix F).

Persons and Organizations Consulted/List of Preparers

In accordance with CEQA Guidelines Section 15129, the EIR will identify all agencies, organizations, and individuals consulted during the preparation of the document, as well as the agency representatives and firms that were involved with EIR preparation.

References

This section will list all resources used in the preparation of the EIR.

Technical Appendices

Pursuant to CEQA Guidelines Section 15147, supporting technical information will be appended to the EIR as technical appendices. This includes but is not limited to technical studies, modeling data, and correspondence.

Deliverables

- Eight (8) hard copies and one (1) electronic version (via FTP upload) of the Administrative Draft EIR ~~to the County of El Dorado~~

Task 5: Screencheck Draft EIR

Upon receipt of a consolidated set of staff comments on the Administrative Draft EIR, ~~FCS will~~ prepare a Screencheck Draft EIR for County staff review. The Screencheck Draft EIR ~~is intended to~~ verify that staff comments were addressed and will document text changes in strikeout–underline format. Unresolved comments will be flagged for resolution.

Deliverables

- One (1) electronic version (via FTP upload) of the Screencheck Draft EIR ~~to County of El Dorado~~

Task 6: Draft EIR

~~Once County staff provides~~ final comments on the Screencheck Draft EIR, ~~FCS will~~ proceed with finalizing and producing the Draft EIR for public review. ~~FCS will~~ provide copies of the Draft EIR to ~~the~~ County ~~of El Dorado~~, which will be responsible for local distribution, noticing, and posting. ~~FCS will~~ provide copies of the EIR to the State Clearinghouse, which will distribute the document to state agencies.

Deliverables

- (30) hard copies (appendices on CD), (20) CDs, and (1) reproducible master copy (unbound) of the Draft EIR ~~to the County of El Dorado~~
- (15) Executive Summary hard copies and (15) CDs of the Draft EIR and the signed Notice of Completion form ~~to the State Clearinghouse~~

Task 7: Administrative Final EIR

~~FCS will~~ prepare an Administrative Final EIR in accordance with the applicable requirements contained in CEQA Guidelines Sections 15088 and 15089. The Administrative Final EIR will list all agencies, organizations, and individuals who submitted written comments on the Draft EIR during the public review period and provide written responses to those comments. In addition, ~~the scope of work assumes that the~~ County will hold a public hearing on the Draft EIR, at which time oral testimony on the document will be received. ~~FCS will~~ coordinate with County staff regarding the location and format of the meeting and will be responsible for preparing any materials or displays used during the meeting. ~~FCS~~ will provide written responses to oral comments received at the public hearing. ~~(Note that this scope of work assumes that the~~ County will provide ~~FCS~~ with a transcript, meeting minutes, video recording, or other form of documentation of the proceedings.~~)~~ To enhance readability and avoid redundancy, ~~FCS~~ will use Master Responses to address frequent and reoccurring comments on the Draft EIR's analysis. Additionally, the Administrative Final EIR will contain an Errata, which will document minor changes to the Draft EIR text in strikeout–underline format.

This scope of work allocates a total of 100 hours for FCS technical staff to respond to comments received on the Draft EIR, in additional to administrative, editorial, GIS, and junior staff time to prepare the document. If the volume or complexity of comments requires more than 100 hours to respond to comments, FCS will request authorization from the County for additional budget.

Deliverables

- Six (6) hard copies and one (1) electronic version (via FTP upload) of the Administrative Final EIR ~~to the County of El Dorado~~

Task 8: Screencheck Final EIR

Upon receipt of a consolidated set of staff comments on the Administrative Final EIR, ~~FCS will~~ prepare a Screencheck Final EIR for County staff review. The Screencheck Final EIR ~~is intended to~~ verify that staff comments were addressed and will document text changes in strikeout–underline format. Unresolved comments will be flagged for resolution.

Deliverables

- One (1) electronic version (via FTP upload) of the Screencheck Final EIR ~~to County of El Dorado~~

Task 9: Final EIR

Upon receipt of County's
~~Once County staff provides~~ final comments on the Screencheck Final EIR, ~~FCS will~~ Cons shall proceed with finalizing and producing the Final EIR for public review. ~~FCS will~~ Cons shall provide copies of the Final EIR to ~~the~~ County ~~of El Dorado,~~ which will be responsible for local distribution, noticing, and posting. ~~FCS will~~ Cons shall send copies of the Final EIR directly to state agencies that commented on the Draft EIR. (make optional at County's CA's discretion)

→ is this also sent to SCH? (yes)

Deliverables

Cons shall submit to County
- (15) Fifteen hard copies (appendices on CD), (15) fifteen CDs, and 1 one reproducible master copy (unbound) of the Final EIR ~~to the County of El Dorado.~~

Cons shall submit to
- One (1) CD of the Final EIR ~~to~~ each state agency that commented on the Draft EIR (~~FCS will be responsible for this task~~).

Task 10: Mitigation Monitoring and Reporting Program

Cons shall
~~FCS~~ will prepare a comprehensive Mitigation Monitoring and Reporting Program (MMRP), pursuant to CEQA Guidelines Section 15097. The MMRP will contain all mitigation measures identified in the EIR. This comprehensive MMRP will provide ~~the applicant team and County staff with~~ a single source of reference to the full range of mitigation measures to be implemented. For each measure or group of similar measures, the agency responsible for ensuring proper implementation will be identified, along with the timing and method of verification. ~~FCS will~~ Cons shall provide a draft version of the MMRP for County review. Upon receipt of County comments, ~~FCS will~~ Cons shall prepare the final version of the MMRP. Copies of the MMRP will be included in the Final EIR submittal.

Deliverables

Cons. shall submit to County
- One (1) electronic version of the draft MMRP ~~to County of El Dorado~~
- Three (3) hard copies of the MMRP ~~to County of El Dorado~~ (an electronic version will be provided on the same CD as the Final EIR)

Task 11: Findings of Fact/Statement of Overriding Considerations

Cons. shall prepare the FOF/SOC in accordance with
CEQA Guidelines Section 15091 ~~requires the preparation of Findings of Fact~~ for each significant effect identified in an EIR. Each finding ~~must~~ shall be accompanied by a brief explanation for the rationale of the finding. Additionally, if an (1) EIR identifies one or more significant unavoidable impacts, ~~CEQA Guidelines Section 15093 requires the preparation of~~ Cons. shall prepare a Statement of Overriding Considerations that explains why the economic, legal, social, technological, or other benefits of the project outweigh its significant impacts. ~~FCS will prepare the Findings of Fact and (if necessary) the Statement of Overriding~~ Cons

~~Considerations.~~ A draft version ~~will~~ shall be provided to County staff for review. Upon receipt of County comments, ~~a final version will be provided to the County.~~ Cons shall provide County with a final version.

Deliverables

Cons. shall submit to County ---

- One (1) electronic draft version of the Findings of Fact and Statement of Overriding Considerations ~~to the County of El Dorado~~
- One (1) electronic final version of the Findings of Fact and Statement of Overriding Considerations ~~to the County of El Dorado~~

Task 12: Meeting Attendance

of meetings to be determined

Cons shall ~~FCS will~~ meet by phone with County staff during the EIR preparation process to discuss and resolve problems, develop strategies, and participate in communications. ~~This proposal and its associated budget cover attendance by~~ Cons's Project Manager ~~at~~ shall attend up to ten (10) meetings ~~in El Dorado~~ with County or ~~conference call, which~~ in person or conference call including public hearings. A not-to-exceed budget has been established to cover meeting attendance. If County staff requests additional meeting attendance by ~~FCS staff~~, or if the amount of time involved in these meetings exceeds the initial budget allocation, ~~FCS~~ Cons will notify County staff of the additional costs and obtain authorization for the extra meeting time. Should the cost of additional meetings exceed the amount of the Agreement, it shall require an amendment.

Task 13: Project Management

In addition to the research, analysis, communications, and report writing tasks described above, ~~FCS will~~ Cons shall perform a variety of project management duties to ensure that the EIR meets ~~the applicant and the~~ CEQA ? County's standards of quality, ~~and that it is delivered on time and within budget.~~ These duties will shall include, but not be limited to, team supervision and coordination, oral and written communications with ~~the applicant and~~ not allowed County staff, project accounting, and quality assurance review by Cons ~~FCS's~~ Project Director and Technical Editor of all deliverable products. These services ~~also will~~ shall also include ongoing support to ~~applicant and~~ " " County staff, such as providing input to staff reports, regular schedule updates, and discussions of technical issues. ~~This task assumes 100 hours of staff time.~~ Cost proposal long.

Assumptions

Tasks Outside of Scope of Work

Below are tasks Cons ~~FCS~~ has identified as being outside of its scope of work for the proposed project.

Newspaper Noticing/Local Noticing

Cons ~~FCS~~ assumes that County staff will be responsible for noticing the Planning Commission and Board of Supervisors meetings at which the EIR will be considered for adoption. This includes publication of legal notices in newspapers and mailing of notices to surrounding property owners and interested parties.

Notice of Determination Filing/Payment of Fees

FCS assumes that the applicant team or County staff will file the Notice of Determination (if necessary) with the El Dorado County Clerk's Office within 5 business days of project approval. The purpose of the Notice of Determination filing is to limit the legal challenge period to 30 days. If a Notice of Determination is not filed within 5 business days of certification, the legal challenge period defaults to 180 days.

The Notice of Determination filing requires payment of the California Department of Fish and Wildlife CEQA filing fee (currently $2,995.25) and a County handling fee (currently $50). This scope of work assumes that the applicant will be responsible for paying these fees.

SCHEDULE AND FEES

Schedule

Task	Week
Project Initiation/Commence Technical Studies	1
Submit Administrative Draft NOP	2
Receive County Comments on Administrative Draft NOP	3
Release Notice of Preparation for Public Review	3
Close of Public Review Period	7
Submit Administrative Draft EIR to County	11
Receive County Comments on Administrative Draft EIR	13
Submit Screencheck Draft EIR to County	14
Receive County Comments on Screencheck Draft EIR	15
Release Draft EIR for Public Review	16
Close of Public Review Period	22
Submit Administrative Final EIR to County	24
Receive County Comments on Administrative Final EIR	25
Submit Screencheck Final EIR and MMRP to County	26
Receive County Comments on Screencheck Final EIR and MMRP	27
Release Final EIR and MMRP	28
Prepare Findings of Fact and Statement of Overriding Considerations	28
Public Meeting(s)	To Be Determined
File Notice of Determination	Within 5 Business Days of Project Approval

Incorporate into SOW for individual tasks

* Need a rate schedule

* Need list of subs & lump sum costs.

FEES

FCS has prepared the following budget identifying the costs of each task.

Task	Fee
Project Initiation	$5,500
Technical Study: Air Quality/Greenhouse Gases Analysis	$8,500
Technical Study: Health Risk Assessment	$14,500
Technical Study: Noise Analysis	$8,500
Notice of Preparation/Scoping	$5,500
Administrative Draft EIR	$59,000
Screencheck Draft EIR	$14,500
Draft EIR	$5,000
Administrative Final EIR	$16,000
Screencheck Final EIR	$7,000
Final EIR	$4,000
Mitigation Monitoring and Reporting Program	$1,500
Findings of Fact and Statement of Overriding Considerations	$6,500
Meeting Attendance	$14,500
Project Management	$18,000
Direct Costs	$8,500
Total FCS Professional Fee	**$197,000**

Add task #'s

* Add std. cost allocation and modification lang. No moving costs w/out CA approval, No sub to cons moving.

The assumptions used in calculating the above fees are:

- The fee is valid for up to 30 days from the date of this scope, after which it may be subject to revision.
- County staff will be responsible for distribution of public review documents.
- This price is based upon completion of the work within the proposed schedule. If delays occur, an amendment of the price would be warranted to accommodate additional project management and other costs, and to reflect adjustments for updated billing rates.
- Costs have been allocated to tasks, based upon FCS's proposed approach. During the work, FCS may, on its sole authority, re-allocate costs among tasks and/or direct costs, as circumstances warrant, so long as the adjustments maintain the total price within its authorized amount.

Nope! Subject to CA approval

- The FCS Project Manager will be the primary representative at the project meeting and public hearing.

Are these included in Direct Costs?

- Printing costs are based on the method of printing and binding proposed, numbers of copies proposed as work products, and estimated page lengths. Document printing costs are estimated and will be finalized at the time of printing. On further clarification of the documents (paper and/or digital CD) that the applicant team or County staff will need during the preparation effort, FCS will specifically identify a detailed reproduction work plan with more specific costs.

Scope of Work Modifications

Move to SOW Assumptions Cons

FCS assumes a stable and complete project description and project plan set at project initiation. In the event the project description and/or scope of work change to a degree that alters the fee estimate, FCS will contact the applicant team or County staff in writing to submit a revised fee for mutual agreement, and a contract amendment will be processed. Requests for additional work will be documented, and a completion timetable and estimated fee will be submitted for applicant team or County approval.

Cost Proposal — Cons — Cost Proposal — Any increase in CP will require an — shall — Cost estimate shall — is CA's

Invoice Billing

Invoice billing will be on a monthly basis as determined by percentage of work completed.

Refer to Article III, Comp for SUCS

93c

EL DORADO COUNTY
BOARD OF SUPERVISORS
AGENDA TRANSMITTAL

AGENDA TITLE: Village P Specific Plan (District I)		
DEPARTMENT: Planning	DATE: 8/15/94	CAO USE ONLY
CONTACT: R. Britzman for T. Parilo	PHONE: 5355	

DEPARTMENT SUMMARY AND REQUESTED BOARD ACTION:
While working with the Specific Plan for Village P of the El Dorado Hills Specific Plan (Silva Valley Interchange area), staff identified numerous concerns which require the attention and action by the Board, including modifications to the Public Review Draft General Plan, Project Description and Alternative, and action on further processing of the Village P Specific Plan amendment. The modifications are required to correct the General Plan Land use maps due to the erroneous location of the El Dorado Hills Specific Plan boundary. Due to this locational error, and the disappearance of the El Dorado Hills Area Plan, a "white hole" was created on all three land use proposals. Please refer to the attached exhibits which define the Area Plan land use/Specific Plan boundary, the "white hole" and the staff suggested land uses for the "white hole" area.
RECOMMENDATION: In response to the issues which are described and discussed

CAO RECOMMENDATION:

BUDGET SUMMARY:

Total Est. Cost	$_____
Funding	
Budgeted	$_____
New Funding	$_____
Savings*	$_____
Other	$_____
Total Funding Available	$_____
Change in Net County Cost	$_____

*Explain:

Funding Source: ( ) Gen Fund ( ) Other

CAO Office Use Only:

4/5's Vote Req'd	( ) Yes	( ) No
Change In Policy	( ) Yes	( ) No
New Personnel	( ) Yes	( ) No

CONCURRENCES:
Risk Management _____
County Counsel _____
Other _____

'94 AUG 16 AM 11 12 BOARD OF SUPERVISORS EL DORADO COUNTY

BOARD ACTIONS: AUG 23 1994
Continued to September 20, 1994 at 2:00 p.m.

Vote: Unanimous _____ or

Ayes: Supervisors Nutting, Bradley, Ekpton

Noes: none

Abstentions: Supervisors Nielsen and Center

Absent:

I hereby certify that this is a true and correct copy of an action taken and entered into the minutes of the Board of Supervisors.

Date: _____

Attest: DIXIE L. FOOTE, Board of Supervisors Clerk

By: _____

710-059 REV. 5/10/91

BOARD OF SUPERVISORS BRADLEY,CENTER,NUTTING,UPTON NIELSEN(e)
DATE SEP 20 1994
ACTION

Board approved Planning Department's recommendations 1 through 6 on page 2 of its Agenda Transmittal regarding same dated 8/15/94.

cc: Planning Department

BOARD OF SUPERVISORS AGENDA TRANSMITTAL

AGENDA TITLE: Village P Specific Plan (District I)

DEPARTMENT: Planning	DATE: 8/15/94	CAO USE ONLY
CONTACT: R. Britzman for T. Parilo	PHONE: 5355	

DEPARTMENT SUMMARY AND REQUESTED BOARD ACTION:

While working with the Specific Plan for Village P of the El Dorado Hills Specific Plan (Silva Valley Interchange area), staff identified numerous concerns which require the attention and action by the Board, including modifications to the Public Review Draft General Plan, Project Description and Alternative, and action on further processing of the Village P Specific Plan amendment. The modifications are required to correct the General Plan Land use maps due to the erroneous location of the El Dorado Hills Specific Plan boundary. Due to this locational error, and the disappearance of the El Dorado Hills Area Plan, a "white hole" was created on all three land use proposals. Please refer to the attached exhibits which define the Area Plan land use/Specific Plan boundary, the "white hole" and the staff suggested land uses for the "white hole" area.

RECOMMENDATION: In response to the issues which are described and discussed

CAO RECOMMENDATION:

BUDGET SUMMARY:

Total Est. Cost $_____

Funding

Budgeted $_____

New Funding $_____

Savings* $_____

Other $_____

Total Funding Available $_____

Change in Net County Cost $_____

***Explain:**

Funding Source: ( ) Gen Fund ( ) Other

CAO Office Use Only:

4/5's Vote Req'd	( ) Yes	( ) No
Change In Policy	( ) Yes	( ) No
New Personnel	( ) Yes	( ) No

CONCURRENCES:

Risk Management _____

County Counsel _____

Other _____

BOARD ACTIONS:

Vote: Unanimous _____ or

Ayes:

Noes:

Abstentions:

Absent:

I hereby certify that this is a true and correct copy of an action taken and entered into the minutes of the Board of Supervisors.

Date: _____

Attest: DIXIE L. FOOTE, Board of Supervisors Clerk

By: _____

10-059 REV. 5/10/91

RECOMMENDATION (continued)

later herein, staff recommends the Board take the following actions:

1. Approve the corrected Specific Plan boundary on the Public Review Draft General Plan, Project Description and General Plan Alternate as noted on Exhibit A.

2. Designate Village P within the Specific Plan Commercial area as noted on Exhibit C for the Public Review Draft, Project Description and General Plan Alternative.

3. Designate the remainder of the Specific Plan as noted on Exhibit C on the Public Review Draft, Project Description and General Plan Alternative as follows:

   a. Commercial land use within Village V north of U.S. Highway 50 and that portion of Village Q south of U.S. Highway 50;

   b. Village Q north of U.S. Highway 50 should be designated Medium Density Residential; and

   c. Village V south of U.S. Highway 50 should be designated Research and Development.

4. Designate Research and Development land use within the Project Description for those lands within that portion of the "white hole" located south of U.S. 50 and easterly of White Rock Road, for those lands not included within the Specific Plan, and relocate the Community Boundary as noted on Exhibit C. The remaining portion of this "white hole" should be designated Low Density Residential. All of these same lands shall be designated Low Density Residential for the General Plan Alternative and Public Review Draft General Plan.

5. Direct staff to add policies to the Public Review Draft General Plan, the Project Description and General Plan Alternative, requiring Silva Valley Interchange lands to be developed under the Planned Development Overlay zone concept, subject to the applicable design review policies of the El Dorado Hills Specific Plan, the draft Scenic Corridor Ordinance and the "draft" Village P Design Guidelines dated January 29, 1993.

6. Direct staff to suspend processing of the Specific Plan amendment for Village P until the General Plan is complete. The emphasis of the Specific Plan should be to amend the El Dorado Hills Specific Plan with a "simplified" version of an amendment for Village P. The contract with the consultant should be terminated. Staff would complete the amendment processing upon completion of the General Plan.

DISCUSSION OF ISSUES

1. **The Public Review Draft General Plan (PRDGP), Project Description and Alternate all place the Specific Plan boundary south of the interchange too far to the southeast.**

   Discussion: The misstatement of the location of the Specific Plan Boundary is clearly an error which could normally be corrected by staff. In this instance, however, it is also the Community boundary, and thereby implies urban uses will be permitted to occur within the area so prescribed by the boundary. Since the land use changes needed to fill the "white hole" are a significant determination and a part of this boundary line location, Board direction is needed. The discussion of the land use issues follow in 2 and 3 below.

2&3. **With the acceptance of the PRDGP as our interim General Plan, Villages P, Q and V in the El Dorado Hills Specific Plan, which were never given a land use designation, became "white holes" when the Area Plans were superseded by the PRDGP. (The same condition exists on the Project Description and Alternative).**

   Discussion: Due to the uncertainty of the design and final location of the Silva Valley Interchange when the Specific Plan was adopted in 1987, the area around the potential interchange location was left without proposed land use designations. It was determined the voids could be resolved after the preliminary design of the interchange was completed. At that time, the El Dorado Hills/Salmon Falls Area Plan was still valid and provided land use direction for those excluded villages.

   The PRDGP simply designated this area as part of the El Dorado Hills Specific Plan, noting the adopted uses within the Specific Plan shall apply. Since the Specific Plan did not adopt land uses for Villages P, Q and V, "white holes" were created (Exhibit B).

   To fill these "white holes" the PRDGP, Project Description and General Plan Alternate should be modified in this area to reflect appropriate land uses. Exhibit C notes those land uses proposed by staff for these voids within the Specific Plan and adjacent voids discussed in 3 below. It is critical to have these lands appropriately designated to provide the correct information for the General Plan EIR.

   Unlike the number 3 issue which follows, the planning for this area has a long-term significance since it was fully understood with the adoption of the El Dorado Hills Specific Plan that the remaining Villages around the interchange would be assigned land use designations and zoning. To fulfill the obligations within the adopted Specific Plan and permit continued processing of an amendment to the Specific Plan, if desired, general plan land uses must be designated on the PRDGP in order to find consistency of the Specific Plan with the General Plan, as required by State planning law.

DISCUSSION OF ISSUES

4. **The area between the actual Specific Plan Boundary (Exhibit A) and the Community Boundary noted on Exhibit B leaves yet another "white hole" since this land was also erroneously noted on the PRDGP and other Plans a part of the Specific Plan.**

Discussion: This "white hole" area contains approximately 60 acres. The El Dorado Hills Area Plan designated approximately 18 acres of this total as Multifamily Residential and the remaining approximately 32 acres as High Density Residential (Exhibit A). Being near the interchange, approximately 30 acres west of White Rock Road would be a valid location for multifamily development or research/development and offices.

The staff suggested revision to the Project Description for the area west of White Rock Road is Research and Development, with the remainder easterly of White Rock being designated Low Density Residential, as noted in Exhibit C. The research and development use was proposed in-lieu of multifamily, since it is believed this use designation would be more adaptable to the hillside terrain which occupies much of this site. The Community Boundary was also modified using the White Rock Road and future interchange ramp as a clearer separation of the urban and rural use in the area.

Unlike the Village P priority noted above, this area is not a part of the Specific Plan, and there is no County obligation to designate land use or process a Specific Plan amendment for these lands. Therefore, there is no need to establish urban uses at this time. Instead, staff is only recommending significant urban land use changes to a portion of the "white hole" to the Project Description to permit environmental assessment of the more intense use in one of the land use options. The lower intensity designation of Low Density Residential will be noted on the PRDGP and the Alternate.

The staff proposal "down plans" some of the Matz property southeasterly of White Rock Road since this area was designated High Density Residential on the Area Plan. Given the nearness to U.S. Highway 50, the desirability of these lands for a high density residential use is questionable due to noise and air quality impacts. Further, since the Matz property is one of the many Inclusion Requests, it is staff's opinion a significant change at this time on the remainder of the Matz property would be inconsistent with the most recent Board direction on Inclusion requests.

. **There is a need to support the proposed land use designations noted in 2 and 3 above by adding a few policies to the applicable Plan option as may be necessary to link urban use designations to specific design requirements.**

Discussion: The design of the proposed uses in the near vicinity of the interchange are important due to their high level of visibility and the relationship to the El Dorado Hills Specific Plan, being an entrance into that area. To insure development is consistent with the Specific Plan and

DISCUSSION OF ISSUES

with U.S. Highway 50 Corridor considerations, policies should be added to the three General Plan options which would require eventual rezoning to Commercial or Research and Development to include a Planned Development Overlay District. Additionally, policies would reference the following guides in the review of development plans: the applicable El Dorado Hills design criteria; the "draft" Village P Design Guidelines; and the draft Scenic Highway Corridor Ordinance. These policies combined with other existing policies for the U.S. Highway 50 corridor, provide sufficient visual and safety direction for any project within the interchange area.

6. **Progress to date in the development of the Specific Plan for Village P has slowed due to higher staff priorities, exhausted consultant budget, and the necessity to make significant changes to the draft plan generated by the consultant. Further, it is questionable whether there are any advantages for the County to complete the Specific Plan amendment at this time.**

Discussion: The contract funds with the consultant have been exhausted, yet it is estimated there may be roughly 200 to 300 hours of staff/consultant time (or $16,000 to $24,000) required to modify the draft plan, complete the draft and final environmental assessments, and proceed through the hearing/adoption process. Should we continue with the Specific Plan amendment, it is recommended the work be completed by staff.

However, this type of Specific Plan is complicated by the commercial use proposed and the long time period before the interchange will be constructed and land uses permitted. With the time span potentially being 10 years or longer, many of the design issues are nebulous, subject to change when the interchange is completed and also subject to the economic demands occurring at that point in time. Based on the El Dorado Hills Specific Plan experience, numerous changes in site design and use will occur before the project is ever constructed. Additionally, the environmental documentation prepared to complete the Specific Plan will, in part by necessity, be repeated whenever a discretionary project is proposed within the Village.

There is little to be gained from the continued processing of the Specific Plan amendment for Village P in advance of the General Plan. With the existing PRDGP policies and the ultimate requirement the Village P lands be zoned Planned Development, the County could have full control over the development of lands within the Village without a specific plan.

Should it be the desire of the Board to complete the Specific Plan amendment, staff would suggest the amendment be kept as simple as possible and that it await the final adoption of the General Plan. The consultant's draft document is quite extensive. It is staff's belief this volume can be cut substantially, simply addressing only the critical policy changes necessary to make the Village P area consistent with the adopted El Dorado Hills Specific Plan. This simplification would substantially reduce the estimated hours to complete the amendment.

AP:RB:jcb
ttachments

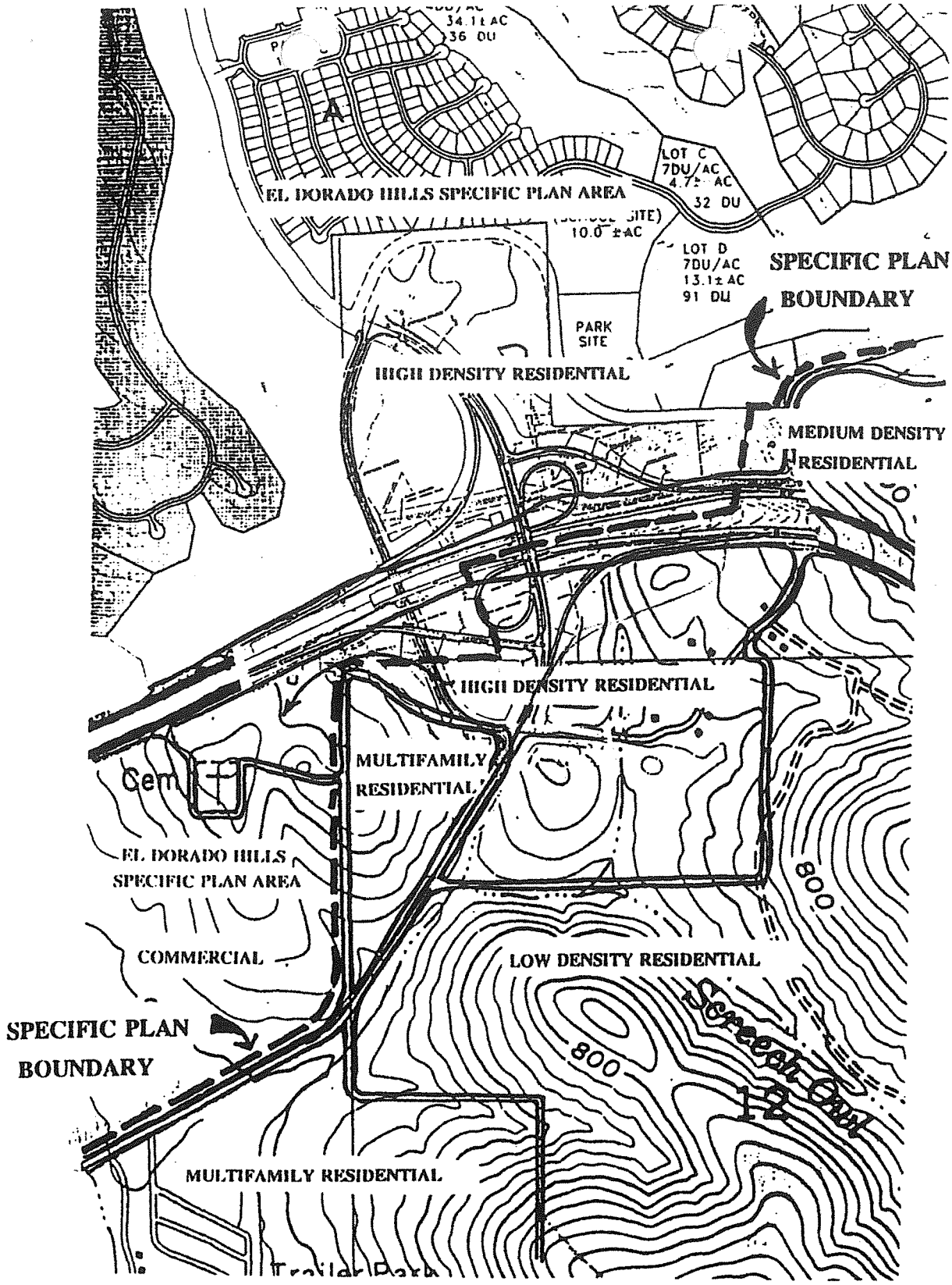


EXHIBIT A EXISTING AREA PLAN

* IN SOME INSTANCES HAS HIGHER DENSITY LAND USES SOUTH OF THE FREEWAY THAN PUBLIC REVIEW DRAFT GENERAL PLAN.

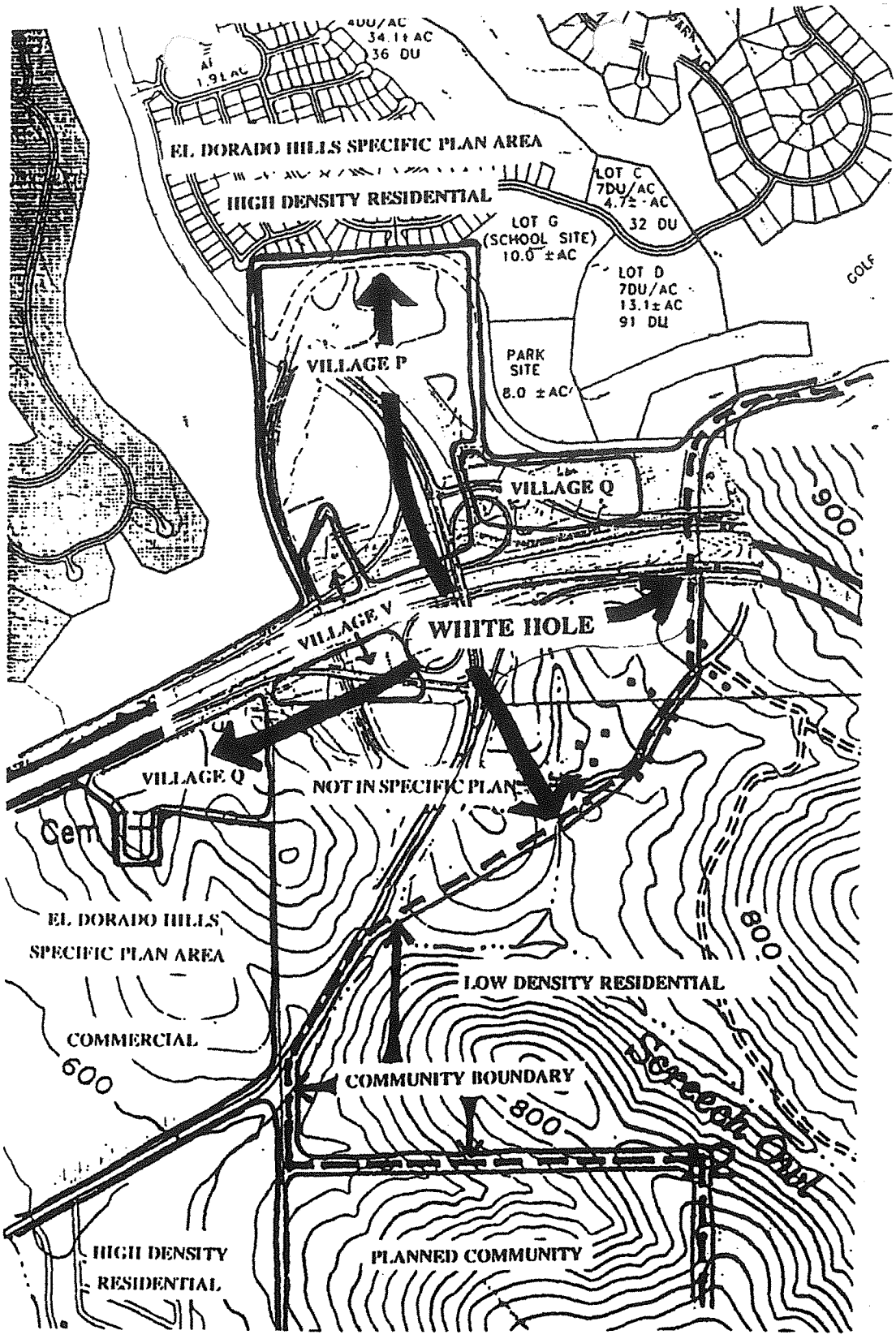


EXHIBIT B PUBLIC REVIEW DRAFT GENERAL PLAN

- **IDENTIFIES WHITE HOLE AREA WHERE THERE ARE NO GENERAL PLAN OR SPECIFIC PLAN LAND USES DESIGNATED.**
- **SHOWS SUBSTANTIAL AREA SOUTH OF INTERCHANGE WHICH IS NOT IN SPECIFIC PLAN, BUT IS IMPLIED TO BE IN SPECIFIC PLAN BY PUBLIC REVIEW DRAFT MAPS.**
- **COMMUNITY BOUNDARY INTENDED TO INCLUDE ONLY SPECIFIC PLAN IN AREA SOUTH OF INTERCHANGE, BUT INCLUDED ADDITIONAL LANDS.**

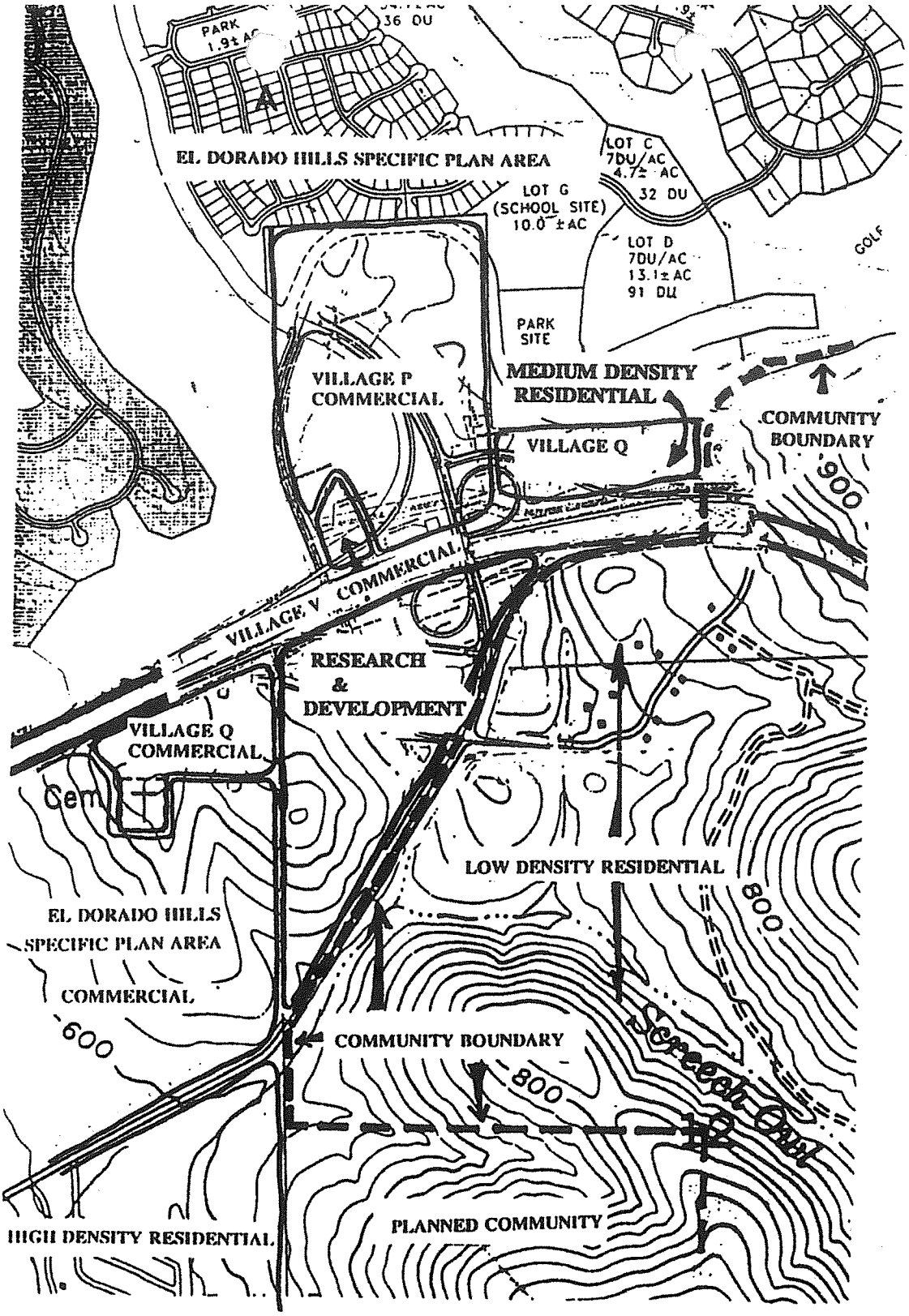


EXHIBIT C RECOMMENDED LAND USE CHANGES FOR WHITE HOLE

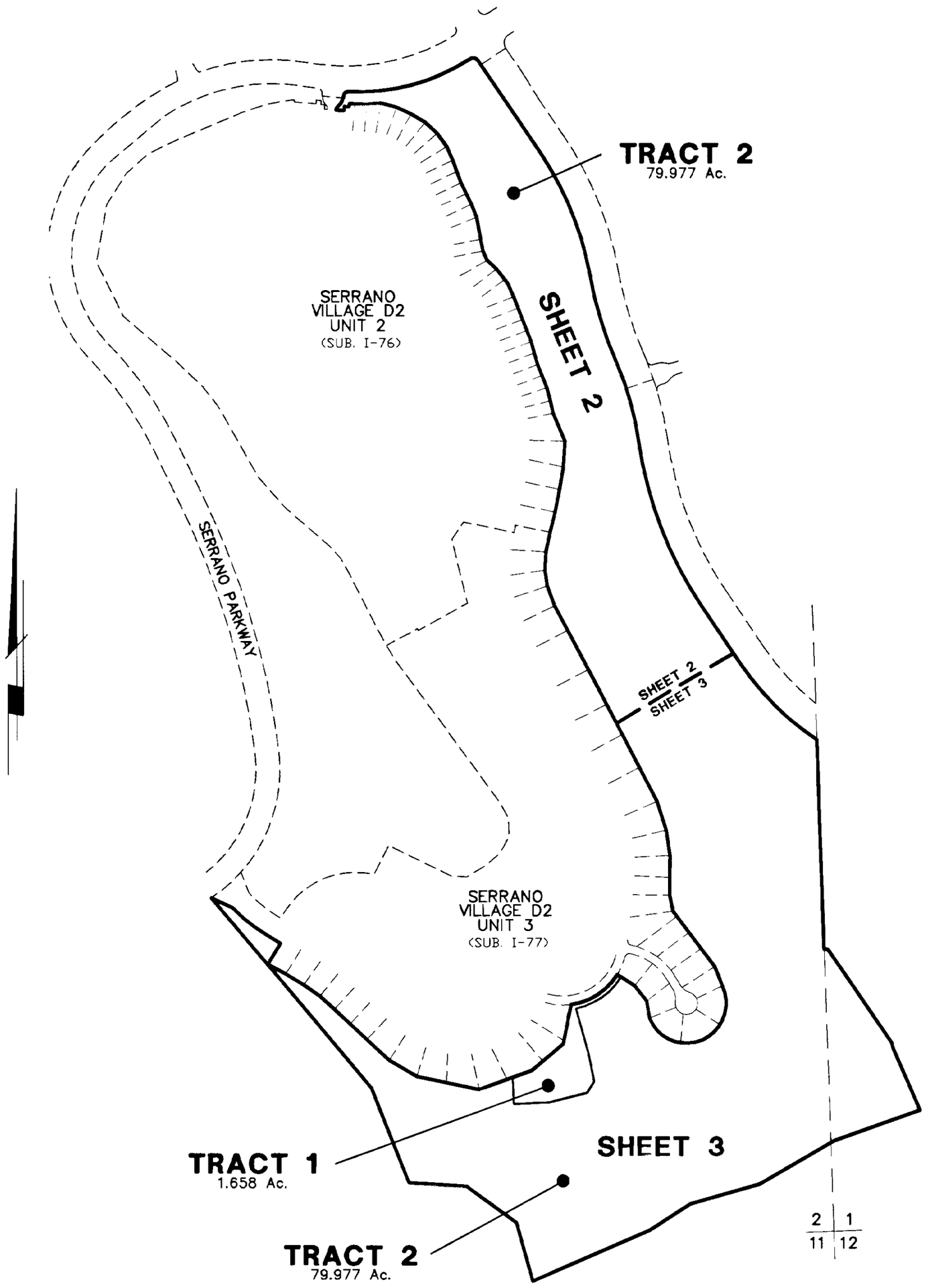
- PROPOSES LAND USES IN THOSE VILLAGES WITHIN THE SPECIFIC PLAN LACKING LAND USE DESIGNATIONS.
- MINOR MODIFICATION OF COMMUNITY BOUNDARY
- PROVIDES LAND USE DESIGNATIONS BETWEEN SPECIFIC PLAN BOUNDARY AND COMMUNITY BOUNDARY.

841-SC

RECORD OF SURVEY

PORTIONS OF SECTIONS 1, 2 & 11, T.9N., R.8E., M.D.M.
BEING PARCEL B OF P.M. 47-63 & LOT C OF SUB. I-77
EL DORADO COUNTY CALIFORNIA
DECEMBER 2002
R. E. Y. ENGINEERS, Inc.

25-148



SHEET INDEX

NO SCALE

SURVEYOR'S STATEMENT:

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE LAND SURVEYOR'S ACT AT THE REQUEST OF SERRANO ASSOCIATES, LLC, A DELAWARE LIMITED LIABILITY COMPANY, ON OCTOBER 29, 2002.

Brian T. Thionnet 12-10-02
BRIAN THIONNET
L.S. 6866

PROFESSIONAL LAND SURVEYOR
BRIAN THIONNET
Exp. 9-30-04
No. 6866
STATE OF CALIFORNIA

COUNTY SURVEYOR'S STATEMENT:

THIS MAP HAS BEEN EXAMINED IN ACCORDANCE WITH SECTION 8766 OF THE LAND SURVEYOR'S ACT THIS 30 DAY OF DECEMBER, 2002

Daniel Russell
DANIEL S. RUSSELL L.S. 5017
LICENSE EXP. DATE 12-31-05
COUNTY SURVEYOR
COUNTY OF EL DORADO, CALIFORNIA

BY: Richard L. Briner
ASSOCIATE LAND SURVEYOR
RICHARD L. BRINER L.S. 5084
LICENSE EXP. DATE: 06-30-03

LAND SURVEYOR
RICHARD L. BRINER
EXP. 6-30-03
No. 5084
STATE OF CALIFORNIA

RECORDER'S STATEMENT:

FILED THIS 31st DAY OF December, 2002 AT 14:32:00 IN BOOK 25
OF RECORD OF SURVEYS AT PAGE 148, AT THE REQUEST OF SERRANO ASSOCIATES, LLC.
DOC. NO. 2002-0105018-00

William E. Schultz
WILLIAM E. SCHULTZ
COUNTY RECORDER, CLERK
COUNTY OF EL DORADO
BY: Jennifer Bridges
DEPUTY

841-SC

EXISTING ASSESSOR'S PARCEL NO's.: 114-160-15 & 16
114-291-27

25-148 SHEET 1 OF 3 SHEETS

S:\2677\056\ROS-1.dwg, 12/10/2002 01:27:37 PM

25-148B

RECORD OF SURVEY

PORTIONS OF SECTIONS 1, 2 & 11, T.9N., R.8E., M.D.M.
BEING PARCEL B OF P.M. 47-63 & LOT C OF SUB. I-77

EL DORADO COUNTY CALIFORNIA

DECEMBER 2002

R. E. Y. ENGINEERS, Inc.

SCALE: 1"=200'

BASIS OF BEARINGS:

THE BASIS OF BEARINGS FOR THIS SURVEY IS IDENTICAL TO THAT OF P.M. 47-63.

Line Table		
No.	Bearing	Length
(1)	N09°29'14"W	71.89'
(2)	N38°01'48"W	81.19'
(3)	N57°48'05"W	66.88'
(4)	N11°32'49"E	167.12'
(5)	N59°40'38"W	134.54'
(6)	N48°33'29"W	80.82'
(7)	N54°19'12"W	81.69'
(8)	N58°38'23"W	88.38'
(9)	N60°31'09"W	85.10'
(10)	N31°21'37"E	103.00'
(11)	N58°38'23"W	70.50'
(12)	N65°07'42"W	98.88'
(13)	N57°48'05"W	20.00'
(14)	N57°48'05"W	86.88'

Curve Table				
No.	Radius	Chord Bearing	Chord	Delta
(1)	289.00'	N55°23'02"E	230.57'	47°01'12"
(2)	643.00'	N50°37'24"W	179.34'	16°01'59"

SEE SHEET 2

SILVA VALLEY PARKWAY

RECORD INDICATES 1-1/2" C.I.P. STAMPED

L.S. 3279 T.9N. 1/4 S2|S1 R.8E. 1971

N01°56'13"W 567.78'

℄ 15' E.I.D. EASEMENT PER 2426-237 O.R.

℄ 20' SEWER EASEMENT PER 99-0050955 O.R.

N33°36'37"W 294.89'

Δ=2°36'55" Ch=N44°55'05"W R=1160.00' 454.90'

LOT E (SUB H-78)

183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 269 270 271 272 273 274 275 276 277 278 279 280 281 282

N27°41'11"W 925.14'

N17°37'41"W 128.06'

N08°16'03"W 106.03'

N00°14'55"E 167.01'

N11°00'11"W 69.28'

N36°43'40"W 293.18'

℄ 10' P.T&T. EASEMENT PER 1147-290 O.R.

E.D.H. 52 O.R. 3322-079

N01°56'13"W 745.95'

N01°56'13"W 878.95'

SEWER EASEMENT TO E.I.D. PER 2001-0016298 O.R.

APPROXIMATE LOCATION ℄ (E) 15' WIDE P.T. & T. EASEMENT PER 393-324 O.R.

133.00'

RECORD INDICATES 1-1/2" C.I.P. STAMPED "R.C.E. 20462"

DETAIL 2 SEE THIS SHEET

T.9E. R.8E. S 1/16 S2|S1 R.C.E. 20462 1989

N20°47'42"W 86.58'

N34°12'07"W 326.41'

N34°24'52"W 148.30'

N15°03'26"W 23.75'

N23°35'17"W 280.39'

RELINQUISH ABUTTER'S RIGHTS PER 871-650 O.R.

N70°31'58"E 380.99'

16.99'

N01°56'13"W 807.94'

N01°56'13"W 372.80'

RECORD INDICATES 1-1/2" C.I.P. STAMPED "R.C.E. 20462"

RECORD INDICATES 1-1/2" I.P. TAGGED "L.S. 2651" PER R.S. 8-51 & R.S. 16-147

2 1 11 12

U.S. HIGHWAY 50

RESERVATION OF ABUTTER'S RIGHTS BY THE STATE OF CALIFORNIA PER 853-217 O.R.

345.45' N59°45'28"E 362.44'

N74°00'23"E 302.65'

N57°02'36"E 202.71'

℄ 15' E.I.D. WATER AND/OR SEWER EASEMENT PER 1328-690 O.R.

N53°50'51"W 257.80'

N15°17'45"W 257.73'

N66°17'29"E 538.14'

℄ 15' E.I.D. WATER EASEMENT PER 1604-96 O.R.

N86°25'27"W 242.72'

N21°35'01"W 424.49'

N78°07'12"W 266.88'

N46°55'03"W 313.51'

N39°51'47"W 707.33'

N39°36'51"W 334.44'

RECORD INDICATES 1-1/2" C.I.P. STAMPED "R.C.E. 20462"

ACCESS EASEMENT TO EID PER 2001-0016294 O.R.

DETAIL 1 SEE THIS SHEET

SERRANO VILLAGE D2 UNIT 3 (SUB. I-77)

PORTION TRACT 4 R.O.S. 16-147

TRACT 1 1.658 Ac. (PARK SITE)

N70°10'47"E 233.72'

N49°57'22"E 174.56'

149.36' 84.36'

N02°47'06"W 110.75'

N87°12'54"E 147.63'

N75°55'36"E 164.39'

N32°22'31"E 55.62'

N11°20'59"W 114.96'

N15°28'08"W 198.67'

Δ=50°31'53" Ch=N57°06'56"E 229.63' R=269.00'

MERTOLA DRIVE

PONTA DELGADO COURT

LOT C (SUB. I-77)

Δ=184°22'01" Ch=N66°12'43"E R=167.00' 333.76'

POR. PARCEL B P.M. 47-63 LLA PER DOC. NO. 2002-0105019-00

TRACT 2 POR. PARCEL B P.M. 47-63 79.977 Ac.

TRACT 2

N39°36'51"W 334.44'

N31°21'37"E 103.00'

N39°51'47"W 707.33'

N60°31'09"W 85.10'

269

TRACT 2

DETAIL 1
N.T.S.

N01°56'13"W 878.95' 133.00'

N89°03'27"E 15.54'

0.63'

RECORD INDICATES 3/4" C.I.P. STAMPED "L.S. 2720"

N34°12'07"W 326.41' 325.78'

TRACT 2

SECTION LINE

DETAIL 2
N.T.S.

LEGEND:

- ○ DIMENSION POINT
- ⌀ SET 3/4" CAPPED IRON PIPE STAMPED "L.S. 6866"
- ● RECORD INDICATES 3/4" CAPPED IRON PIPE STAMPED "L.S. 3649"
- ⌀ RECORD INDICATES 1-1/2" CAPPED IRON PIPE STAMPED "L.S. 4293"
- ✖ RECORD INDICATES MONUMENT AS NOTED
- ////// VEHICULAR ACCESS RESTRICTION PER SUB. I-26.

REFERENCES:

SUB. H-78, I-76, I-77, I-26
P.M. 47-63

NOTES:

1. THE PURPOSE OF THIS SURVEY IS TO DELINEATE AND SHOW THE MONUMENTATION OF THE LOT LINE ADJUSTMENT BLA 02-39, APPROVED JULY 15, 2002 AS REQUIRED BY SECTION 8762 (A-E) OF THE LAND SURVEYORS ACT.

2. ALL LOTS SHOWN HEREON ARE SUBJECT TO THE REQUIREMENTS OF THE EL DORADO HILLS SPECIFIC PLAN AND THE PROVISIONS OF THE DEVELOPMENT AGREEMENT ENTERED INTO BETWEEN EL DORADO HILLS INVESTORS, LTD., AND THE COUNTY OF EL DORADO ON MARCH 28, 1989, RECORDED IN BOOK 3108 AT PAGE 105 O.R.

3. FOR THE DELINEATION OF EXISTING EASEMENTS THAT AFFECT THE PARCELS SHOWN HEREON, SEE THE MAPS AND OFFICIAL RECORDS LISTED UNDER REFERENCES. THE OMISSION OF ANY EASEMENT DOES NOT CONSTITUTE ITS ABANDONMENT.

4. THE BOUNDARY OF TRACT 2 SHOWN HEREON WAS COMPILED FROM RECORD DATA PER P.M. 47-63 EXCEPT FOR THE ADJUSTED AREA ALONG THE SOUTHERLY LINE OF TRACT 1 AS SHOWN ON SHEET 3.

5. TRACT 1 SHOWN HEREON IS DESIGNATED A PARK SITE.

6. TRACT 2 IS FOR OPEN SPACE AND RESTRICTED TO FINANCING ONLY PER NOTE 2 OF P.M. 47-63.

25-148B

COMBINED
EL DORADO COUNTY RESOURCE CONSERVATION DISTRICT
AND
EL DORADO COUNTY DEPARTMENT OF TRANSPORTATION
EROSION CONTROL REQUIREMENTS AND SPECIFICATIONS
FEBRUARY 2005

I. MINIMUM CONSTRUCTION SITE STORM WATER MANAGEMENT PRACTICES (MARCH 31, 2004)

The storm water management practices described below are the minimum, required water quality protection measures applicable to all construction sites below 3000 feet in elevation, within Western El Dorado County. This listing does not include the various inspection, record keeping, training and reporting requirements. Additionally, there will be instances where project and site conditions require supplementing or deviating from these minimum protection requirements. The contractor is expected to deploy measures sufficient to achieve compliance with the County's Grading Ordinance; and, as applicable (projects which involve one acre or more of disturbed soil or are part of a larger common plan of development that encompasses one acre or more of disturbed soil), with the State Water Resources Control Board's (SWRCB) NPDES General Permit for Storm Water Discharges Associated with Construction Activity.

A. SCHEDULING

Construction shall be scheduled to minimize construction activities in "high-risk areas" and the amount of active disturbed soil areas, during the rainy season (Oct. 15th to May 1st). "High-risk areas" include those areas within 50 feet of USGS watercourses, 100-year flood plains, regulated wetlands, and where slopes exceed 16%.

Unless specifically authorized by the County's on-site representative, during the rainy season the contractor shall not schedule construction activities in "high risk areas" or schedule to have more than 5 acres of active disturbed soil area. As an alternative to these restrictions, the contractor may elect to assure that these areas are fully protected by "Sediment Basins" or "Treatment", in addition to the normally required "effective combination" of soil stabilization, sediment barriers and basins / traps.

Where permanent storm water treatment devices are to be constructed, these devices should, whenever feasible, be constructed as an early work item.

B. PRESERVATION OF EXISTING VEGETATION AND PROTECT ENVIRONMENTALLY SENSITIVE AREAS

Prior to the commencement of soil-disturbing activities, areas of existing vegetation that are to remain and environmentally sensitive areas (i.e. wetlands, protected habitats, etc) shall be fenced for protection. In general, site designs shall preserve existing vegetation to the maximum extent possible; and during construction, existing vegetation shall be preserved (and protected by fencing) for as long as

possible to minimize erosion.

C. STORM WATER RUN-ON AND CONCENTRATED FLOWS

Existing watercourses shall be protected; and if diverted, handled in a non-eroding fashion. To the extent feasible, all concentrated water flows shall be channeled away from disturbed soil areas / stockpiles. Concentrated water flows shall be conveyed in a non-eroding fashion.

D. STOCKPILE MANAGEMENT

Stockpiles shall be managed as follows:

Soil stockpiles

Rainy season:

- Covered, or protected with soil stabilization measures & perimeter sediment barriers

Non-rainy season:

- Covered or protected with perimeter sediment barriers

- Concrete/asphalt rubble, rock and aggregate base/sub-base
  - Covered or protected with perimeter sediment barriers
- "Cold mix" asphalt
  - Covered

E. SEDIMENT TRACKING CONTROL

Appropriate measures shall be deployed to minimize any tracking of sediment off-site by vehicles and/or equipment. These measures include stabilized construction entrances/exits & roadways, and tire washing. Where tracking occurs, streets shall be swept using a pickup sweeper with water supply.

F. NON-STORM WATER MANAGEMENT

Non-storm water discharges shall be minimized to the extent feasible. Sediment-laden non-storm water is required to be filtered (or equivalent treatment) prior to discharging. Measures required to manage non-storm water discharges include: water conservation practices, dust control, material storage practices, vehicle/equipment operation and maintenance requirements, waste management practices, and spill prevention/control measures.

G. DISTURBED SOIL AREA MANAGEMENT

Disturbed soil areas (DSA) shall be protected with an "effective combination" of measures including soil stabilization, sediment barriers and basins / traps. There may be situations where "Sediment Basins" or "Treatment" are able to substitute as alternative control measures to the normally required "effective combination" of soil stabilization, sediment barriers and basins / traps. However, when substituting these measures, the contractor must be prepared to demonstrate that the sediment load within storm water discharges from the construction site does not exceed natural or pre-construction levels.

1. Soil stabilization measures include:
   - Hydraulic mulch (ref. CASQA BMP # EC-3)
   - Hydroseeding (ref. CASQA BMP # EC-4)
   - Suitably stabilized, non-polluting straw / wood / organic mulch (ref.

CASQA BMP #'s EC-6 & EC-8)
- Geotextiles, mats, plastic covers and erosion control blankets (ref. CASQA BMP # EC-7)
- Stabilized construction roadways (ref. CASQA BMP # TC-2)

2. Sediment barriers include:
   - Silt fences (ref. CASQA BMP # SE-1)
   - Sand/gravel bag barriers (ref. CASQA BMP #'s SE-6 & SE-8)
   - Straw bale barriers (ref. CASQA BMP # SE-9)
   - Fiber rolls (ref. CASQA BMP # SE-5)
3. Basin / traps include:
   - Desilting basins (ref. Caltrans BMPs)
   - Sediment traps (ref. Caltrans BMPs)
4. On DSAs with slope lengths greater than 10 feet, the following measures shall be deployed:

   a. Rainy season (Oct. 15th to May 1st):

   Non-active areas (no soil disturbing activities for 21 or more days)
   - On slopes equal to or flatter than 1:20 (V/H), soil stabilization
   - On slopes steeper than 1:20 (V/H), soil stabilization and sediment barriers

   Active areas
   - On slopes steeper than 1:20 (V/H), sediment barriers
   - On slopes steeper than 1:2 (V/H) with slope lengths greater than 50 feet: soil stabilization; sediment barriers; and where feasible, basins / traps

   b. Non-rainy season:

   Non-active areas (no soil disturbing activities for 21 or more days)
   - On slopes steeper than 1:2 (V/H), sediment barriers
5. General:

- Protection shall be deployed on non-active DSAs within 14 days from the cessation of soil-disturbing activities or one day prior to the predicted (40% or more chance) onset of significant precipitation, whichever occurs first. Protection shall be deployed on active DSAs prior to the predicted (40% or more chance) onset of significant precipitation.

- Properly drained terraces, at least 8 feet wide, shall be provided at intervals not more than every 25 feet in height on all permanent slopes and non-active DSAs exceeding 30 feet in height.

- "Sediment Basin:" A basin with a capacity equivalent to at least 3600 cubic feet of storage (as measured from the bottom of the basin to the principal outlet) per acre draining into the basin. The length of the basin shall be more than twice the basin's width (length is determined by measuring the distance

between the inlet and the outlet). The depth of the basin must not be less than three feet nor greater than five feet.

- "Treatment": A combination of basin and treatment engineered to capture and treat (to remove 0.01 mm sized particles and larger) the 10-year, 6-hour rain event using Q=CxIxA where C=0.5 and I ranges from 0.286 (El Dorado Hills) to 0.500 (Sly Park).

General reference: El Dorado County "Storm Water Management Plan", July 2003. Available online at: http://www.co.el-dorado.ca.us//emd/solidwaste/storm.html

Detailed references:

1. **California Stormwater Quality Association (CASQA) "Construction Handbook", January 2003. Available online at: http://www.cabmphandbooks.com/**
2. **Caltrans "Statewide Storm Water Quality Practice Guidelines", April 2003. Available online at: http://www.dot.ca.gov/hq/env/stormwater/special/newsetup/index.htm**

PERMANENT AREA PLANTING SPECIFICATIONS (JULY 1999)

A. SCOPE – Establishing vegetation on severely eroding areas or areas with an erosion potential. Its purpose is to stabilized the soil, minimize or prevent damage from sediment and runoff to downstream areas, protect wildlife habitat, and maintain aesthetic qualities.

B. AREAS TO BE SEEDED, TIMING OF SEEDING – Complete revegetation and stabilization of all disturbed soils, both within and outside county rights-of-way, will be accomplished with specified amounts and types of vegetative species, mulch and fertilizer material. See Major Land Resource Area exhibits MLRA 18 OR 22.
All erosion and sediment control practices performed after October 15, shall follow grading specification "F" (WINTERIZATION) – in Item I, GRADING AND DRAINAGE REQUIREMENTS.

C. MATERIAL

1. Seed – All seed shall be delivered to the site tagged and labeled in accordance with the California Agricultural Code and shall be acceptable to the County Agricultural Commissioner.

   Seed shall be of a quality which has a minimum pure live seed content of 80% (% purity x % germination) and weed seed shall not exceed 0.5% of the aggregate of pure live seed and other materials. Legume seed shall be inoculated with inoculate specific to its needs within two hours prior to seeding. Inoculants shall not be used later than the date indicated on the container or as otherwise specified. All inoculated seed shall be labeled to

show weight of seed, date of inoculation, and the weight and source of inoculant materials.

2. Fertilizer – A commercial fertilizer shall be Ammonium Phosphate and contain a minimum of 16% nitrogen, 20% phosphorus and 0% potash, uniform in composition, dry and free flowing, pelleted or granular.

All fertilizer shall be delivered in unbroken or unopened containers, labeled in accordance with applicable state regulations and bearing the warranty of the producer for the grade furnished.

3. Mulch – Mulch shall be one of the following materials as approved by the government representative.

4. Straw – Straw shall be new straw derived from rice, wheat, oats, or barley and be free of mold and noxious weed seed. Straw shall be furnished in air dry bales. Evidence shall be furnished that clearance has been obtained from the County Agricultural Commissioner, as required by law, before straw obtained from outside the county in which it is to be used is delivered to the site of the work.

5. Wood Fiber Mulch – Wood fiber mulch is a wood cellulose fiber that contains no germinating or growth inhibiting factors. It is colored with a non-toxic, water soluble, green dye to provide a proper gauge for metering over ground surfaces. It has the property to be evenly dispersed and suspended when agitated in water.

D. SEEDING REQUIREMENTS

1. General – All seeding, fertilizer and mulching operations shall begin when approval is given by the appropriate County Engineer or Conservation District representative.

2. Seedbed Preparation – The entire area to be seeded shall be reasonably smooth and conform the desired shape before actual seedbed preparation is begun. Any debris which would interfere with seeding operations, growth or maintenance of the vegetative cover will be removed. The area to be seeded shall have a firm seedbed which has previously been roughened by scarifying, disking, harrowing, chiseling, or otherwise worked to a depth of two to four inches (2" – 4"). No implement shall be used that will create an excessive amount of downward movement of soil or clods of sloping areas. Seedbed may be prepared at time of completion of earth-moving work.

3. Fertilizing – Fertilizer shall be distributed uniformly over the seedbed at the rate of 500 pounds per acre, and shall be in such physical condition to insure uniform application over the area to be fertilized. Fertilizer may be applied in any way that will result in uniform distribution. The fertilizer shall be incorporated into the soil.

4. Seeding – Seed shall be broadcast by hand, mechanical hand seeder, power operated seeder, hydroseeder or other approved equipment. 'Seed

shall have a soil cover of not more than one-half inch. Seeding will be carried out using either of the following methods:

Method 1 The seed may be drilled, not to exceed one-half (1/2) inch deep and cultipacked or rolled once over with a corrugated roller on all areas where equipment can be operated safely. Seed operations will be across the slope.

Method 2 The seed may be applied in a slurry mix of wood cellulose fiber distributed uniformly at the prescribed rate (see Item E.2, Wood Celulose Fiber -Hydro-mulching, below). The application unit used for "Hydro Mulch" shall be equipped with an agitator to maintain the seed and mulch in suspension within the unit's tank prior to and during application.

Method 3 Where emergency treatment of exposed soils extends beyond October 15, emergency mulching without seed will be prescribed (see Item I-F Grading & Drainage Requirements – **WINTERIZATION**, above).

E. METHOD OF MULCH PLACEMENT AREAS AS FOLLOWS:

1. Straw Mulch – The 4000 pounds of straw mulch **per acre** shall be applied by hand, blower, or other suitable equipment. If straw is applied with a blower, it shall not be chopped in lengths less than six (6) inches. To prevent removal of straw by wind, the mulch will be anchored in place. Anchoring process as approved may include using hand tools, mulching rollers, disks, netting, or similar types of suitable equipment.

Acceptable Methods for Anchoring Straw Mulch:

a. On areas where a seedbed has been prepared, the straw may be tucked in with a mulching roller or straw crimper that punches the mulch in the ground to a depth of approximately two (2) inches. On areas inaccessible to equipment, mulch can be anchored using hand tools such as spade, shovel or other suitable equipment.

b. Straw may be anchored by using fiber netting, properly stapled down and with anchor trenches to cover the netting at top and bottom. Mulch net should be durable and capable of withstanding a minimum of one-year's weathering without disintegrating. Netting should be provided to allow for shrinkage and for stapling with anchor pins. Anchor pins need to be of sufficient length and properly placed to anchor the net. Chopped straw that is shorter than 6 inches must be anchored with a suitable netting. Anchor pins shall be of rigid 0.12 inches diameter or heavier galvanized wire with a minimum length of 10 inches of hook, "J" type pins, or 0.09 inch diameter or heavier with a minimum 6 inches for U-type staples. Anchor pins will be inserted full length at a maximum of three foot spacing at all ends and along lap joints, and at a maximum of five-foot spacing at intermediate points and along edges when using mulch materials wider than 60 inches.

c. Straw may be anchored on slopes less than equal to 2 horizontal to 1 vertical by using wood fiber material applied in a slurry with hydroseeding equipment. All mulching materials must be acceptable to the Agricultural Commissioner of El Dorado County, California, as to plant quarantine regulations.

2. Wood Cellulose Fiber – Hydro Mulch A wood fiber mulch at a rate of 2000 pounds per acre may be applied hydraulically in a water slurry. The wood fiber mulch, seed, and fertilizer can be mixed and applied hydraulically in the form of a slurry. **Tackifier shall be used for all slopes greater than 3:1 on highly erodible soils and applied according to manufacturer's recommendations.**

Special Note: A minimum 70% seed germination with at least 1" growth must be obtained by December 1st, or area must be covered with straw mulch. (Section E-1)

MLRA 18
(elevations below Placerville)

PERIOD	METHOD	TYPE OF SEED	AMOUNT PER ACRE	AMOUNT PER 1000 S.F.	TYPE MULCH
15 Sep-15Oct	Hydroseed	Blando Brome and either	12 lb/ac	0.3 lbs/1000 S.F.	STRAW OR
		Wimerra '62' or Annual Ryegrass	9 lb/ac	0.2 lbs/1000S.F.	WOOD FIBER
15 Sep-15Oct	Broadcasted	Blando Brome and	12 lb/ac	0.3 lbs/1000 S.F.	STRAW OR
		Rose Clover	9 lb/ac	0.2 lbs/1000 S.F.	WOOD FIBER
16 Oct-14Sep	Hydroseed	Blando Brome and either	24 lb/ac	0.6 lbs/1000 S.F.	STRAW ONLY
		Wimerra '62' or Annual Ryegrass	18 lb/ac	0.4 lbs/1000 S.F.	
15 Oct-14Sep	Broadcasted	Blando Brome and	24 lb/ac	0.6 lbs/1000 S.F.	STRAW ONLY
		Rose Clover	18 lb/ac	0.4 lbs/1000 S.F.	

A mulch coving shall be applied over the surface of the seeded area. Mulching shall follow immediately after seeding unless otherwise directed. Mulch will be of the material indicated.

MLRA 22
(elevations above Placerville)

PERIOD	METHOD	TYPE OF SEED	AMOUNT PER ACRE	AMOUNT PER 1000 S.F.	TYPE MULCH
15 Sep-15Oct	Hydroseed or	Potomac Orchardgrass	24 lb/ac	0.6 lbs/1000 S.F.	STRAW ONLY
	Broadcasted	or Luna Pubescent Wheatgrass	36 lb/ac	0.8 lbs/1000S.F.	
		or Topar Pubescent Wheatgrass	36 lb/ac	0.8 lbs/1000S.F.	
		and Wimmera '62' Ryegrass	6 lb/ac	0.15 lb/1000S.F.	
16 Oct-14Sep	Hydroseed or	Potomac Orchardgrass	48 lb/ac	1.1 lbs/1000 S.F.	STRAW ONLY
	Broadcasted	or Luna Pubescent Wheatgrass	72 lb/ac	1.6 lbs/1000S.F.	
		or Topar Pubescent Wheatgrass	72 lb/ac	1.6 lbs/1000S.F.	
		and Wimmera '62' Ryegrass	12 lb/ac	0.3 lb/1000S.F.	

A mulch coving shall be applied over the surface of the seeded area. Mulching shall follow immediately after seeding unless otherwise directed. Mulch will be of the material indicated.

POR.SEC. 1, T.9N., R.8E., M.D.M.

122:72

1 " equals 400 '

Bk 122 Pg 04
Bk 122 Pg 09
DYMAXION WAY
Bk 122 Pg 08
VILLAGE GREEN DR
Bk 122 Pg 10
DEPEYSTER WAY
BEVINGER DR
RUSSI RANCH DR
Bk 122 Pg 58
Bk 122 Pg 16
Bk 122 Pg 14
Bk 122 Pg 03
Bk 122 Pg 13
Bk 122 Pg 59
MERTOLA DR
Bk 121 Pg 15
PONTA DELGADO CT
SILVA VALLEY PKY
1 ADM
2
3
4
5
6
7 ADM
TONG RD
US HWY 50
Bk 121 Pg 12
Bk 121 Pg 28
JOERGER CUTOFF RD
Bk 118 Pg 17
WHITE ROCK RD
Bk 118 Pg 12
OLD BASS LAKE RD
Bk 119 Pg 04

THIS MAP IS NOT A SURVEY, it is prepared by the El Dorado Co. Assessor's office for assessment purposes only. Area calculations and characteristics are not guaranteed. Users should verify items such as dimensions and acreage.

Acreages Are Estimates

Rev. June 01, 2006

Assessor's Map Bk. 122 - Pg. 72
County of El Dorado, CA

POR.SEC. 1, T.9N., R.8E., M.D.M.

122:72

See New page

1 " equals 400 '

Bk 121 Pg 14

MERTOLA DR

Bk 121 Pg 12

Bk 121 Pg 15

MERTOLA DR

MERTOLA DR

PONTA DELGADO CT

Bk 122 Pg 04

Bk 122 Pg 01

Bk 122 Pg 09

DYMAXION WAY

Bk 122 Pg 08

BEVINGER DR

VILLAGE GREEN DR

Bk 122 Pg 10

DEPEYSTER WAY

BEVINGER DR

Bk 122 Pg 58

RUSSI RANCH DR

Bk 122 Pg 16

Bk 122 Pg 14

Bk 122 Pg 13

Bk 119 Pg 04

RS 32/43/1
51.450A
(9) (Total = 57.78A)

(1) ~~80.14 A~~
054069
58.843A

SILVA VALLEY PKY

(8) 11.297A

POR RS 32/43/1

(9) 1

RS 16/147/2
(2) 0.52 A

215.96'

TONG RD

054137

RS 16/147/3
(3) 1.11 A
189.03'
268.56'

(9) 1

RS 32/43/2
6.330A

593.43'

393.00'

(4) 5.12 A

RS 18/97/1
(5) 4.65 A

RS 30/50/1
(6) 2.31 A

(7) 054052

424.08'

TONG RD 482.81'

711.76'

378.83'

US HWY 50

054071

(7) 054000
27.01 A

N 01° 06' 12" W

111.88'

OLD BASS LAKE RD

054007

Bk 121 Pg 12

Bk 121 Pg 16

US HWY 50

054071

2 1

11

12 JOERGER CUTOFF RD

Bk 121 Pg 28

SILVA VALLEY PKY

054069

Bk 118 Pg 17

Bk 118 Pg 17

Bk 118 Pg 12

WHITE ROCK RD

054052

054052

054071

054000

054007

THIS MAP IS NOT A SURVEY. It is prepared by the El Dorado Co. Assessor's office for assessment purposes only. Area calculations and characteristics are not guaranteed. Users should verify items such as dimensions and acreage.

Acreages Are Estimates

Rev. July 24, 2007

11-12
08-09

Assessor's Map Bk. 122 - Pg. 72
County of El Dorado, CA

POR.SEC. 1, T.9N., R.8E., M.D.M.

122:72

1 " equals 400 '

Bk 122 Pg 04
Bk 122 Pg 09
Bk 122 Pg 08
Bk 122 Pg 10
Bk 122 Pg 58
Bk 122 Pg 16
Bk 122 Pg 14
Bk 122 Pg 03
Bk 122 Pg 13
Bk 122 Pg 59
Bk 121 Pg 15
Bk 121 Pg 12
Bk 121 Pg 28
Bk 118 Pg 17
Bk 118 Pg 12
Bk 119 Pg 04

DYMAXION WAY
VILLAGE GREEN DR
DERBYSHIRE DR
DEVINGER DR
RUSSI RANCH DR
MERIDIAN DR
PONTA DELGADO CT
SILVA VALLEY PKY
JOERGER CUTOFF RD
WHITE ROCK RD
TONG RD
US HWY 50
OLD BASS LAKE RD

1 ADM
2
3
4
5
6
7 ADM
RS adsoli

2 1
11 12

THIS MAP IS NOT A SURVEY. It is prepared by the El Dorado Co. Assessor's office for assessment purposes only. Area calculations and characteristics are not guaranteed. Users should verify items such as dimensions and acreage.

Acreages Are Estimates

Rev. June 01, 2006

08-09

Assessor's Map Bk. 122 - Pg. 72
County of El Dorado, CA

32-43

RECORD OF SURVEY

A PORTION OF THE SW 1/4 SECTION 1, T. 9 N., R. 8 E., M.D.M.
County of El Dorado, State of California
APRIL, 2010 PAGE 1 OF 1 SCALE: 1"=200'

cta Engineering & Surveying
Civil Engineering • Land Surveying • Land Planning
3233 Mother Circle Rancho Cordova CA 95742
T (916) 638-0919 • F (916) 638-2479 • www.ctaes.net

BASIS OF BEARINGS

THE BASIS OF BEARING FOR THIS SURVEY IS IDENTICAL TO THAT CERTAIN RECORD OF SURVEY FILED IN THE OFFICE OF THE COUNTY RECORDER OF EL DORADO COUNTY IN BOOK 16 OF SURVEYS, PAGE 147, WHICH IS THE CALIFORNIA COORDINATE SYSTEM, ZONE II. ALL DISTANCES ARE GROUND DISTANCES. MULTIPLY DISTANCE SHOWN BY 0.99991 TO OBTAIN GRID DISTANCE.

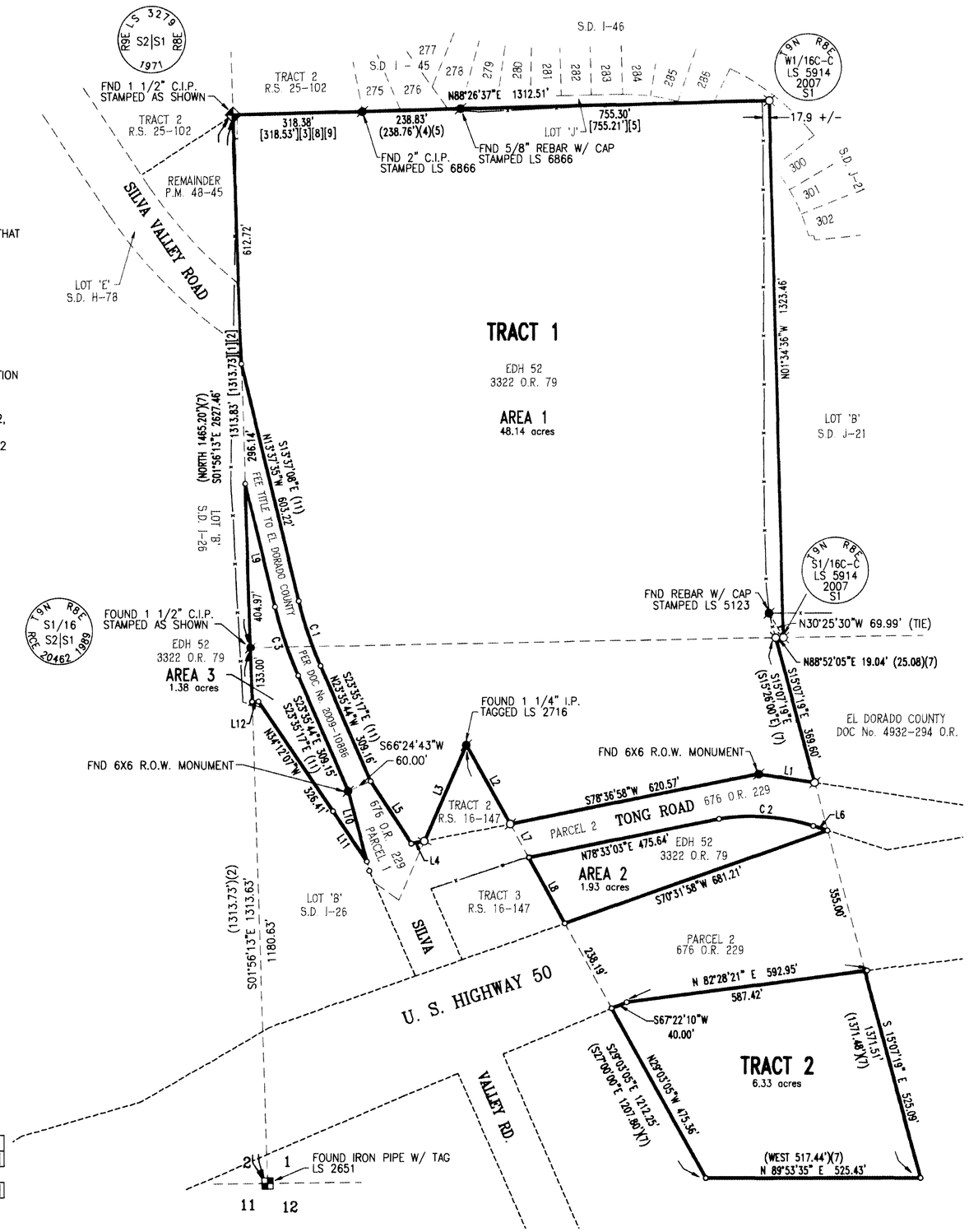
NOTE

1) THE PURPOSE OF THIS SURVEY IS TO COMPLY WITH SECTION 8762(B)(4) OF THE PROFESSIONAL LAND SURVEYORS ACT.

2) TRACT 1 INCLUDES THE LANDS DESCRIBED IN BOOK 3322, PAGE 79, EXCEPTING THOSE PORTIONS GRANTED TO THE COUNTY OF EL DORADO IN DOC. NO. 2009-10886. TRACT 2 REFLECTS THE BALANCE OF ASSESSOR'S PARCEL NO. 122-720-09. IT IS NOT THE INTENT OF THIS SURVEY TO REFLECT LINES OF ACTUAL OWNERSHIP.

REFERENCES

1) RS 16-147
2) SD H-78
3) SD I-19
4) SD I-45
5) SD I-46
6) SD J-21
7) OR 3322-79
8) PM 47-18
9) RS 25-102
10) PM 48-45
11) DOC No. 2009-10886



LINE DATA TABLE				
LINE	BEARING	DISTANCE	RECORD DATA	
L1	S81°22'06"E	138.58'		
L2	N29°03'05"W	221.04'	N29°15'23"W[1]	220.67'[1]
L3	S23°18'42"W	256.17'	S16°00'00"W[7]	255.66'[1]
L4	N78°36'58"E	32.50'		
L5	S33°03'01"E	182.48'		
L6	N72°08'58"W	36.48'		
L7	N29°03'05"W	93.86'		
L8	N29°03'05"W	183.80'	S29°15'23"W[1]	183.69'[1]
L9	N13°37'35"W	313.22'	S13°37'08"E[1]	
L10	N15°03'26"W	178.51'		
L11	S34°24'52"E	148.30'		
L12	N89°03'27"E	15.56'	WEST[7]	52.80'[7]

CURVE DATA TABLE					
CURVE	RADIUS	DELTA	CH. BEARING	CH.DISTANCE	RECORD DATA
C1	970.00'	09°58'08"	S18°36'40"E	168.56'	S18°36'13"E [11]
C2	500.00'	26°44'25"	N85°48'45"W	231.24'	
C3	1030.00'	09°58'08"	S18°36'40"E	178.98'	S18°36'13"E [11]

LEGEND

- DIMENSION POINT
- FOUND MONUMENT AS NOTED
- SET 5/8" REBAR WITH ALUMINUM CAP
- SET 1-1/2" C.I.P. STAMPED LS 5914 AS NOTED
- SECTION CORNER, FOUND AS NOTED
- QUARTER SECTION CORNER, FOUND/SET AS NOTED
- EXISTING FENCE

SURVEYOR'S STATEMENT

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE PROFESSIONAL LAND SURVEYOR'S ACT AT THE REQUEST OF EDH 52 IN JUNE, 2007

04-01-2010
KEVIN A. HEENEY, L.S. 5914

LICENSED LAND SURVEYOR KEVIN A HEENEY NO.5914 Exp.12-31-2010 STATE of CALIFORNIA

COUNTY SURVEYOR'S STATEMENT

THIS MAP HAS BEEN EXAMINED IN ACCORDANCE WITH SECTION 8766 OF THE PROFESSIONAL LAND SURVEYOR'S ACT THIS 2nd DAY OF APRIL, 2010.

DANIEL S. RUSSELL
DANIEL S. RUSSELL, L.S. 5017
COUNTY SURVEYOR
COUNTY OF EL DORADO, CALIFORNIA

LICENSED LAND SURVEYOR RICHARD L. BRINER No. 5084 Exp. 6-30-11 STATE OF CALIFORNIA

BY: _____
RICHARD L. BRINER, L.S. 5084
DEPUTY SURVEYOR
COUNTY OF EL DORADO, CALIFORNIA

RECORDER'S STATEMENT

FILED THIS 6 DAY OF April, 2010 AT 11:36:36, IN BOOK 32 OF RECORD OF SURVEYS AT PAGE 43, AT THE REQUEST OF CTA ENGINEERING AND SURVEYING.

DOC. No. 2010-14986

William E. Schultz
WILLIAM E. SCHULTZ
COUNTY RECORDER, CLERK
COUNTY OF EL DORADO, CALIFORNIA

BY: _____ DEPUTY

32-43

32-43

M:\03-023-002\EDH 52_ROS.dwg, ROS, 3/31/2010 11:55:41 AM, kheeney

POR. SEC. 1, T.9N., R.8E., M.D.M.

122:72

N

1 " = 400 '

Bk 121 Pg 14

Pg 04

Pg 01

Pg 09

Pg 08

DYMAXION WAY

VILLAGE GREEN DR

Pg 10

BEVINGER DR

DEPEYSTER WAY

BEVINGER DR

RUSSI RANCH DR

Pg 58

Pg 16

Pg 14

Pg 13

Pg

1312.52'

612.72'

1323.00'

MERTOLA DR

Bk 121 Pg 12

Bk 121 Pg 15

POR RS 32/43/1

9

57.78 A

603.23'

SILVA VALLEY PKY

NA

8

1.297 A

537.99'

309.16'

326.41'

182.48'

256.17'

RS 16/147/2

0.52 A

2

620.57'

138.58'

215.96'

TONG RD

475.64'

RS 16/147/3

3

1.11 A

189.03'

268.56'

POR RS 32/43/1

9

681.21'

Bk 121 Pg 12

Pg 59

593.43'

NA

4

5.12 A

393.00'

RS 18/97/1

5

4.65 A

RS 30/50/1

6

2.31 A

7

27.01 A

369.60'

424.08'

TONG RD

482.61'

RS 32/88

711.76'

378.83'

N 01° 09' 12" W

777.88'

OLD BASS LAKE RD

Bk 119 Pg 04

US HWY 50

567.42'

POR RS 32/43/2

9

525.09'

475.36'

525.43'

Bk 118 Pg 17

Bk 121 Pg 16

US HWY 50

2

1

11

12

JOERGER CUTOFF RD

Bk 121 Pg 28

SILVA VALLEY PKY

WHITE ROCK RD

Bk 118 Pg 12

Bk 118 Pg 17

THIS MAP IS NOT A SURVEY. it is prepared by the El Dorado Co. Assessor's office for assessment purposes only. Area calculations and characteristics are not guaranteed. Users should verify items such as dimensions and acreage.

Acreages Are Estimates

Adjacent Map Pages Shown in Grey Text
Assessor's Parcel Numbers Shown in Circles

Rev. Apr. 6, 2010

Assessor's Map Bk. 122 - Pg. 72
County of El Dorado, CA

POR. SEC. 1, T.9N., R.8E., M.D.M.

122:72

See New page

N

1 " = 400 '

Bk 121 Pg 14

Pg 09

Pg 08

DYMAXION WAY

BEVINGER DR

VILLAGE GREEN DR

Pg 10

DEPEYSTER WAY

Pg 58

Pg 16

Pg 04

Pg 01

1312.52'

Pg 14

Pg 13

Pg

612.72'

RUSSI RANCH DR

054135

Bk 119 Pg 04

MERTOLA DR

POR RS 32/43/1

9

57.78 A

054069

1323.00'

Pg 59

054007

Bk 121 Pg 12

Bk 121 Pg 15

603.22'

SILVA VALLEY PKY

NA

8

1.297 A

537.98'

309.16'

326.41'

POR RS 32/43/1

9

MERTOLA DR

PONTA DELGADO CT

182.45'

256.17'

RS 16/147/2

0.52 A

2

620.57'

738.58'

215.96'

TONG RD

054147

475.64'

POR RS 32/43/1

9

681.21'

RS 16/147/3

3

1.11 A

268.56'

588.00'

593.43'

NA

4

5.12 A

393.00'

10

RS 18/97/1

054007

5

11

13

4.65 A

3.846

RS 30/50/1

6

2.31 A

054052

7

054000

7

27.01 A

424.08'

TONG RD

482.81'

12

0.756A

RS 32/88

054071

US HWY 50

711.76'

378.83'

777.88'

N 21° 00' 10" W

054007

Bk 121 Pg 12

587.42'

POR RS 32/43/2

9

6.330A

525.09'

475.36'

525.43'

Bk 118 Pg 17

2

1

Bk 121 Pg 16

US HWY 50

11

12

JOERGER CUTOFF RD

SILVA VALLEY PKY

054071

Bk 121 Pg 28

054069

054052

WHITE ROCK RD

Bk 118 Pg 12

054052

054000

Bk 118 Pg 17

OLD PASS LAKE RD

14-15

THIS MAP IS NOT A SURVEY. It is prepared by the El Dorado Co. Assessor's office for assessment purposes only. Area calculations and characteristics are not guaranteed. Users should verify items such as dimensions and acreage

Acreages Are Estimates

Adjacent Map Pages Shown in Grey Text
Assessor's Parcel Numbers Shown in Circles

Rev. Apr. 6, 2010

Assessor's Map Bk. 122 - Pg. 72
County of El Dorado, CA

32-43

RECORD OF SURVEY

A PORTION OF THE SW 1/4 SECTION 1, T. 9 N., R. 8 E., M.D.M.
County of El Dorado, State of California
APRIL, 2010 PAGE 1 OF 1 SCALE: 1"=200'

cta Engineering & Surveying
Civil Engineering • Land Surveying • Land Planning
3233 Monier Circle, Rancho Cordova, CA 95742
T: (916) 638-0919 • F: (916) 638-2479 • www.ctaes.net

BASIS OF BEARINGS

THE BASIS OF BEARING FOR THIS SURVEY IS IDENTICAL TO THAT CERTAIN RECORD OF SURVEY FILED IN THE OFFICE OF THE COUNTY RECORDER OF EL DORADO COUNTY IN BOOK 16 OF SURVEYS, PAGE 147, WHICH IS THE CALIFORNIA COORDINATE SYSTEM, ZONE II. ALL DISTANCES ARE GROUND DISTANCES. MULTIPLY DISTANCE SHOWN BY 0.99991 TO OBTAIN GRID DISTANCE.

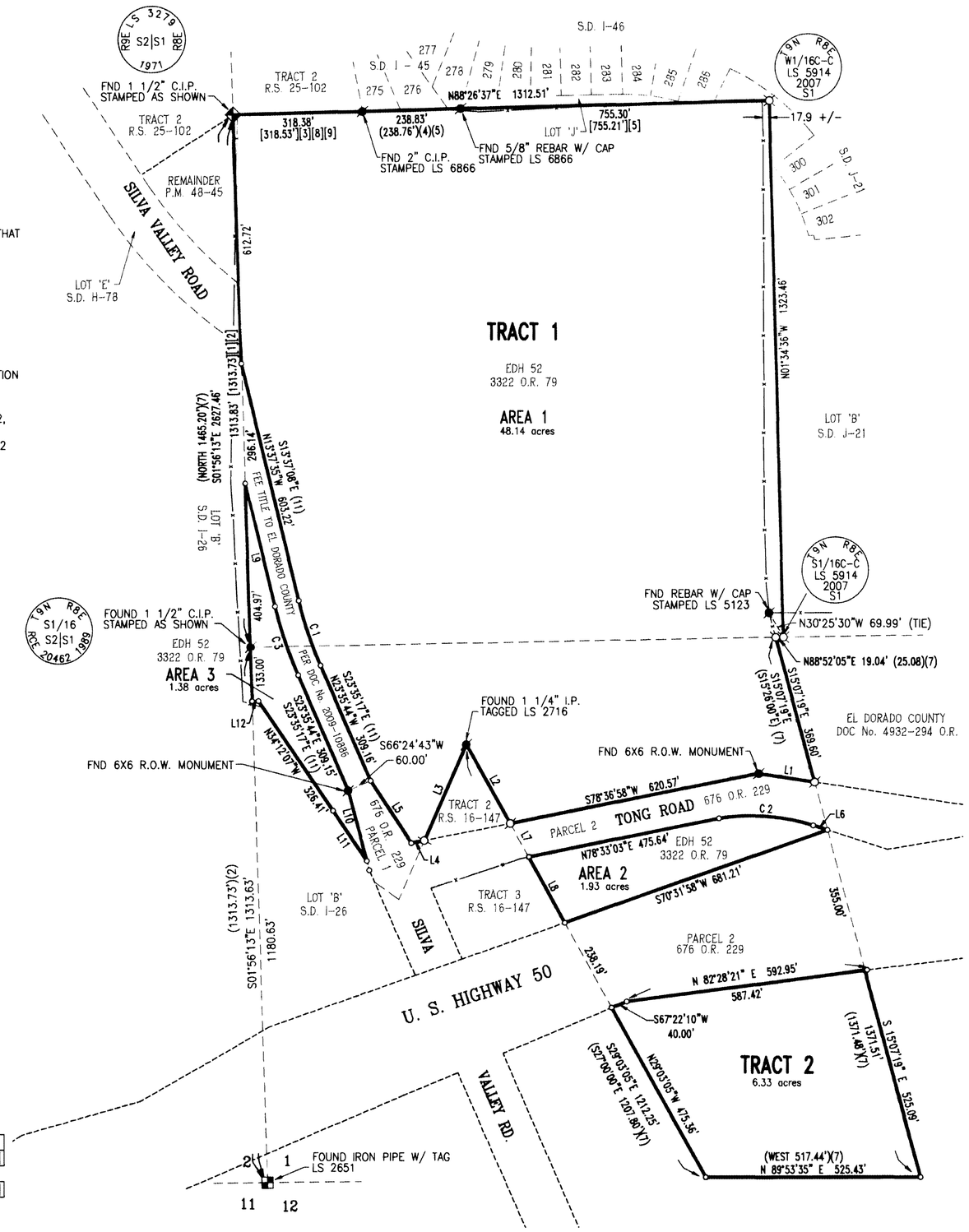
NOTE

1) THE PURPOSE OF THIS SURVEY IS TO COMPLY WITH SECTION 8762(B)(4) OF THE PROFESSIONAL LAND SURVEYORS ACT.

2) TRACT 1 INCLUDES THE LANDS DESCRIBED IN BOOK 3322, PAGE 79, EXCEPTING THOSE PORTIONS GRANTED TO THE COUNTY OF EL DORADO IN DOC. NO. 2009-10886. TRACT 2 REFLECTS THE BALANCE OF ASSESSOR'S PARCEL NO. 122-720-09. IT IS NOT THE INTENT OF THIS SURVEY TO REFLECT LINES OF ACTUAL OWNERSHIP.

REFERENCES

1) RS 16-147
2) SD H-78
3) SD I-19
4) SD I-45
5) SD I-46
6) SD J-21
7) OR 3322-79
8) PM 47-18
9) RS 25-102
10) PM 48-45
11) DOC No. 2009-10886



EXISTING APN: 122-720-09

LINE DATA TABLE				
LINE	BEARING	DISTANCE	RECORD DATA	
L1	S81°22'06"E	138.58'		
L2	N29°03'05"W	221.04'	N29°15'23"W[1]	220.67'[1]
L3	S23°18'42"W	256.17'	S16°00'00"W[7]	255.66'[1]
L4	N78°36'58"E	32.50'		
L5	S33°03'01"E	182.48'		
L6	N72°08'58"W	36.48'		
L7	N29°03'05"W	93.86'		
L8	N29°03'05"W	183.80'	S29°15'23"W[1]	183.69'[1]
L9	N13°37'35"W	313.22'	S13°37'08"E[1]	
L10	N15°03'26"W	178.51'		
L11	S34°24'52"E	148.30'		
L12	N89°03'27"E	15.56'	WEST[7]	52.80'[7]

CURVE DATA TABLE					
CURVE	RADIUS	DELTA	CH. BEARING	CH.DISTANCE	RECORD DATA
C1	970.00'	09°58'08"	S18°36'40"E	168.56'	S18°36'13"E [11]
C2	500.00'	26°44'25"	N85°48'45"W	231.24'	
C3	1030.00'	09°58'08"	S18°36'40"E	178.98'	S18°36'13"E [11]

LEGEND

- DIMENSION POINT
- FOUND MONUMENT AS NOTED
- SET 5/8" REBAR WITH ALUMINUM CAP
- SET 1-1/2" C.I.P. STAMPED LS 5914 AS NOTED
- SECTION CORNER, FOUND AS NOTED
- QUARTER SECTION CORNER, FOUND/SET AS NOTED
- EXISTING FENCE

SURVEYOR'S STATEMENT

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE PROFESSIONAL LAND SURVEYOR'S ACT AT THE REQUEST OF EDH 52 IN JUNE, 2007

04-01-2010
KEVIN A. HEENEY, L.S. 5914

LICENSED LAND SURVEYOR KEVIN A. HEENEY NO.5914 Exp.12-31-2010 STATE of CALIFORNIA

COUNTY SURVEYOR'S STATEMENT

THIS MAP HAS BEEN EXAMINED IN ACCORDANCE WITH SECTION 8766 OF THE PROFESSIONAL LAND SURVEYOR'S ACT THIS 2nd DAY OF APRIL, 2010.

DANIEL S. RUSSELL
DANIEL S. RUSSELL, L.S. 5017
COUNTY SURVEYOR
COUNTY OF EL DORADO, CALIFORNIA

BY:
RICHARD L. BRINER, L.S. 5084
DEPUTY SURVEYOR
COUNTY OF EL DORADO, CALIFORNIA

LICENSED LAND SURVEYOR RICHARD L. BRINER No. 5084 Exp. 6-30-11 STATE OF CALIFORNIA

RECORDER'S STATEMENT

FILED THIS 6 DAY OF April, 2010 AT 11:36:36, IN BOOK 32 OF RECORD OF SURVEYS AT PAGE 43, AT THE REQUEST OF CTA ENGINEERING AND SURVEYING.

DOC. No. 2010-14986

William E. Schultz
WILLIAM E. SCHULTZ
COUNTY RECORDER, CLERK
COUNTY OF EL DORADO, CALIFORNIA

BY: DEPUTY

32-43

32-43

M:\03-023-002\EDH 52_ROS.dwg, ROS, 3/31/2010 11:55:41 AM, kheeney

Cont. 1B & 5.2d
Hold Harmless

DESILVA GATES
CONSTRUCTION

LETTER OF TRANSMITTAL

11555 Dublin Blvd.
P.O. Box 2909
Dublin, CA 94568
Telephone No. (925) 829-9220
Contractor License No. 704195A

Date: 5/17/2012	Job No: 912103
Re: *Hwy 50 HOV Bass Lake to Cameron Park*	
DGC Letter No: 912103- 155	
Submittal No:	

TO:
County of El Dorado - DOT
4120 Cameron Park Drive, Suite 401
Cameron Park, CA 95682
Attn: Thor Larsen

WE ARE SENDING YOU: -- X Attached ___ under separate cover/via _____ the following items:
___ Prints ___ Shop Drawings ___ Plans ___ Specifications _____ Samples
___ Change order ___ Copy of letter ___ Other : _____

COPIES	DATE	NO.	DESCRIPTION
01	05/17/12		Hold Harmless Agreement
			~ **Stockpile Site**

THESE ARE TRANSMITTED AS CHECKED BELOW :

___ For approval ___ Approved as submitted ___ Resubmit _____ copies for approval
X For your use ___ Approved as noted ___ Submit _____ copies for distribution
___ As requested ___ Returned for corrections ___ Return _____ corrected prints
___ For review and comment ___ Other: _____

REMARKS : Please see the attached hold harmless agreement for the Silva Valley stockpile site.

If you have any questions regarding the above please contact the project office at 916-386-9708.

COPY TO : R. Nassoura, C. Kodet
155 - Hold Harmless

SIGNED : For:
Michael M. Bailey, Senior Project Manager

AGREEMENT BETWEEN A CONTRACTOR WORKING ON STATE/COUNTY FACILITIES AND A REAL PROPERTY OWNER FOR THE PLACEMENT OF CONSTRUCTION RELATED MATERIAL OUTSIDE OF STATE/COUNTY RIGHT-OF-WAY (Page 1 of 3)

County Contract No.: 53113 State Contract No.: 03-3A7124

County/Route/Kilometer post: 03-ED-50- PM 2.90 TO PM 6.70

DeSilva Gates Construction LP ("Contractor") has entered into Contract No. 53113 ("Contract"), with the El Dorado County Department of Transportation and is working under Encroachment Permit No. 0312-NDP0147, issued by the State of California, Department of Transportation (hereafter collectively referred to as "Departments"), for work that is described as follows: U.S. 50 HOV Lanes Phase 2A ("Project").

The owner, EDH 52, a California general partnership, ("Owner") of the real property ("Property") located at El Dorado Hills, El Dorado County, California (Assessor's Parcel Number 122-720-09) agrees to allow the placement on the Property by the Contractor of approximately 21,000 cubic yards of Material (such as soil, asphalt grindings, cold planing grindings and other material) ("Material") that has been or will be generated from the Project. The Material is the subject of a Report entitled Highway 50 Site Investigation, Post Mile 2.90 to 8.79 (Contract No. 03A1368; Task Order No. 22, EA 03-3A7121) Aerially Deposited Lead, Naturally Occurring Asbestos, and Lead-Containing Paint Site Investigation and Bridge Survey Report.

Owner agrees that the Contractor will take ownership of the Material at the time it is loaded on trucks and that Owner will take ownership of the Material at the time it is deposited on the Property.
Contractor and Owner shall obtain all necessary permits, licenses and clearances prior to placing Material on the Property.

By submission of this agreement to the Departments, Contractor and Owner are acknowledging that they have been informed of all restrictions, laws, disclosures, and permit requirements associated with the deposit of the Material from the Project on to the Property and have agreed to abide by the same. These laws, restrictions, and disclosures include but are not limited to:

- Trace amounts (less than 0.25 percent) of naturally occurring asbestos (NOA) are present in the Material to be excavated from Post Mile 2.9 to 6.7 on State Route 50 in El Dorado County.
- Lead has been detected in the Material to be excavated from unpaved areas of the highway. Levels of lead found within the project limits range from less than 5.0 to 150 mg/kg total lead with an average concentration of 16.1 mg/kg total lead as analyzed by EPA. Test Method 6010 or EPA Test Method 7000 series and based upon a 95% Upper Confidence Limit.

AGREEMENT BETWEEN A CONTRACTOR WORKING ON STATE/COUNTY FACILITIES AND A REAL PROPERTY OWNER FOR THE PLACEMENT OF CONSTRUCTION RELATED MATERIAL OUTSIDE OF STATE/COUNTY RIGHT-OF-WAY (Page 2 of 3)

County Contract No.: 53113 State Contract No.: 03-3A7124

County/Route/Kilometer post: 03-ED-50- PM 2.90 TO PM 6.70

- Residue from grinding or cold planing operations contains lead from paint and thermoplastic. The average lead concentrations are less than 1,000 mg/kg total lead and 5 mg/L soluble lead. This residue is a nonhazardous waste and does not contain heavy metals in concentrations that exceed thresholds established by the Health and Safety Code and 22 CA Code of Regs and is not regulated under the Federal Resource Conservation and Recovery Act (RCRA, 42 USC§ 6901 et seq.

- Local Ordinances - Grading permits may be required for the placement, filling, excavation and/or deposit of the Material on the Property.

- California Fish and Game Code (Section 1602), "Lake or Stream Bed Alteration Agreement" - A permit is required prior to the placement of material in a location where it can pass into waters of the state, directly or indirectly through causes such as erosion or maintenance.

- California Fish and Game Code (Section 5650) - A prohibition against the deposition of petroleum products (including asphalt), or any material deleterious to fish, plants, or birds where it can pass into the waters of the state.

- Federal Clean Water Act (Section 301 and 402), "General Permit for Discharges of Storm Water Associated with Construction Activity" - A permit is required prior to soil disturbance of an area of one acre or more.

- Federal Clean Water Act (Section 404), "Permit for Discharge of Dredged or Fill Material" - A permit from the United States Army Corps of Engineers may be required for the discharge of fill material into waters of the United States including wetlands.

Owner and Contractor agree that the Material will be transported, deposited and left in a manner that will not cause injury or harm to any person or property. If an injury or harm does occur to any person or property or should any litigation arise as a result of the transporting and depositing of the Material on to the Property, the Owner and Contractor agree to indemnify, defend, protect, and hold harmless the Departments in any action in law or equity, regardless of manner or form.

AGREEMENT BETWEEN A CONTRACTOR WORKING ON STATE/COUNTY FACILITIES AND A REAL PROPERTY OWNER FOR THE PLACEMENT OF CONSTRUCTION RELATED MATERIAL OUTSIDE OF STATE/COUNTY RIGHT-OF-WAY (Page 3 of 3)

County Contract No.: 53113 State Contract No.: 03-3A7124

County/Route/Kilometer post: 03-ED-50- PM 2.90 TO PM 6.70

Pursuant to the Contract, Owner acknowledges Contractor will submit this Agreement to the Departments as evidence that the Owner has authorized the placement of the Material on the Property. Owner acknowledges that the Contractor is not authorized to make any representations or agreements on behalf of the Departments. Contractor and Owner agree that the Departments are not subject to any and all obligations to Owner made by Contractor under this Agreement.

Owner and Contractor acknowledge that they have had the opportunity to seek independent legal advice with respect to the meaning, implications and advisability of entering into and executing this Agreement.

Date: 5-17-12 R. Beattie as attorney-in-fact for Angelo K. Tsakopoulos
(Signature of Property Owner)

Date: 5-16-12
(Signature of Contractor's Authorized Representative per Std Spec 5-1.06)

EL DORADO COUNTY DEPT. OF TRANSPORTATION

2850 FAIRLANE COURT
PLACERVILLE, CA 95667
(530) 621-5941
(530) 621-2030 FAX

PERMIT: 0206704 APN: 122-720-09-1

THIS PERMIT EXPIRES ON: 05/24/2014
APPLICATION DATE: 04/26/2012
DATE ISSUED: 05/24/2012

JOB ADDRESS:MAP PAGE 216 E4; SOUTH ON LATROBE, LEFT

PERMIT TYPE: GRADING
WORK CLASS : NEW
USE TYPE : COMMERCIAL (CMR)

SPECIFIC USE	TYPE	AREA	COST	VALUE
STOCKPILE	-			50,000

TOTAL: $ 50,000

APPLICANT : BAILEY, MIKE (916) 386-9708
11555 DUBLIN BLVD.
DUBLIN, CA 94568
OWNER : HUSON CHARLES ALLEN (000) 000-0000
1141 UPLANDS DR
EL DORADO HILLS, CA 95762
ARCHITECT : REG. # :
ENGINEER : REG. # :
CONTRACTOR: DE SILVA GATES CONSTRUCTI (925) 829-9220 LICENSE: 704195

COMMERCIAL GRADING NEW COMMERCIAL

05/24/2012 11:14:56

EL DORADO COUNTY DEPT. OF TRANSPORTATION

INSPECTIONS: (530) 621-5909

PERMIT: 0206704 APN: 122-720-09-1

JOB ADDRESS: **MAP PAGE 216 E4; SOUTH ON LATROBE, LEFT**

DIRECTIONS: MAP PAGE 216 E4; SOUTH ON LATROBE, LEFT ON WHITE ROCK TO SILVA VALLEY PKWY, RIGHT ON TONG RD TO SITE AT END ON LEFT.

APPL DATE: 04/26/2012
ISSUE DATE: 05/24/2012
EXP DATE: 05/24/2014

APPLICANT: BAILEY, MIKE
APPL PHONE: (916) 386-9708
NOTE: STOCKPILE FROM HOV LANES ON HWY 50

CNST TYPE: LOT SIZE: 57.780 CNTY RD: WDID:

SPECIFIC USE	TYPE	AREA	SPECIFIC USE	TYPE	AREA
STOCKPILE	-				

INSPECTION	DATE	INSPECTOR	INSPECTION	DATE	INSPECTOR
GRADING					
79. STORM DRAIN STRU	__/__/__				
103. WALKWAY FORMS	__/__/__				
104. PAD CERTIFICATIO	__/__/__				
107. DRAINAGE	__/__/__				
108. DRAINAGE DITCHES	__/__/__				
124. CURB FORMS	__/__/__				
ENCROACHMENT					
71. SUBGRADE	__/__/__				
77. TRENCH/BEDDING	__/__/__				
80. PRE-CON	__/__/__				
81. ROCK GRADE/FORMS	__/__/__				
82. TRENCH BACKFILL	__/__/__				
105. EROS. CONTRL-TEM	__/__/__				
106. EROS. CONTRL-FIN	__/__/__				
APPROVALS					
101. RESOURCE CONSV.	__/__/__				
102. PERMIT FINAL	__/__/__				

PERIODIC INSPECTIONS MAY BE PERFORMED ON YOUR PROJECT TO CHECK THE PROGRESS OF WORK IN ADDITION TO REQUESTED INSPECTIONS.

County of El Dorado

Notice of Preparation of a Draft Environmental Impact Report

and Notice of Public Scoping Meeting for the

Central El Dorado Hills Specific Plan

Date: February 20, 2013

To: Interested Parties

From: Rommel (Mel) Pabalinas, Senior Planner, County of El Dorado

Subject: Notice of Preparation of a Draft Environmental Impact Report and Notice of Public Scoping Meeting for the Central El Dorado Hills Specific Plan (File No. SP12-0002)

The County of El Dorado (County) will be the lead agency under the California Environmental Quality Act (CEQA) for preparation of an Environmental Impact Report (EIR) for the Central El Dorado Hills Specific Plan in El Dorado County. The purpose of this 30-day Notice of Preparation (NOP) and notice of public scoping meeting is to solicit comments from public agencies and interested persons regarding the scope and content of the environmental information and analyses, including the significant environmental impacts, reasonable alternatives, and mitigation measures that should be included in the Draft EIR (pursuant to CEQA Guidelines Section 15082). The location, project description, proposed entitlement requests, and potential environmental effects of the proposed Central El Dorado Hills Specific Plan are summarized in the attached materials.

Please provide written comments to **Mr. Rommel (Mel) Pabalinas, Senior Planner, at the address shown, by 5:00 p.m. on March 22, 2013**. Keep in mind that there will be another opportunity to submit detailed comments when the draft EIR is released for public review. Please mail, email or fax your comments to:

Rommel (Mel) Pabalinas, Senior Planner
El Dorado County Development Services Department, Planning Division
2850 Fairlane Court, Building C
Placerville, CA 95667
Email: rommel.pabalinas@edcgov.us
Fax: (530) 642-0508

The County will hold a public scoping meeting to provide additional information about the project and to receive verbal and written comments.

Date: Thursday, March 14, 2013
Time: 6:30 p.m. to 8:30 p.m.
Where: Oak Meadow Elementary School, Multipurpose Room, 7701 Silva Valley Parkway, El Dorado Hills, CA 95762

The scoping meeting format will be an open house; interested parties may arrive at any time during the 2-hour window to receive information on the project or provide comments.

NOTICE OF PREPARATION OF

A DRAFT ENVIRONMENTAL IMPACT REPORT (EIR)
AND NOTICE OF PUBLIC SCOPING MEETING
FOR THE
CENTRAL EL DORADO HILLS SPECIFIC PLAN

Project Information

Location: The proposed project is located in El Dorado Hills, California, an unincorporated area of El Dorado County (County) that is approximately 23 miles east of Sacramento and 20 miles west of Placerville (Figure 1, Regional Location). The proposed Central El Dorado Hills Specific Plan (CEDHSP) (project) includes two planning areas, as shown in Figure 2, Project Location: the Serrano Westside planning area east of the intersection of El Dorado Hills Boulevard and Serrano Parkway, and the Pedregal planning area west of El Dorado Hills Boulevard between Wilson and Olson Way, adjacent to the Ridgeview subdivision.

Serrano Westside is immediately north of U.S. Highway 50 (US 50) and less than 2 miles south of Folsom Lake. Existing land uses adjacent to the Serrano Westside planning area include office and retail uses to the south and west (Raley's and La Borgata) and single-family residential uses at the Serrano Community to the east. The proposed Serrano Westside development would surround the El Dorado Hills Fire Station (located on Wilson Way east of El Dorado Hills Boulevard) to the north, east, and south. Undeveloped land, an archery range, and two schools (Oak Ridge High School and Silva Valley Elementary School) are located north of the project.

The Pedregal planning area is less than 1 mile north of US 50 and less than 2 miles south of Folsom Lake. The Pedregal planning area is immediately adjacent to low-density residential uses (the existing Ridgeview neighborhood) to the west and three existing multi-family developments (the Copper Hill Apartments, El Dorado Village Apartments, and Sterling Ranch Apartments) along El Dorado Hills Boulevard to the east.

Project Description: The proposed CEDHSP, which would occur in the Serrano Westside Planning Area and Pedregal Planning Area, includes the development of up to 1,028 dwelling units, 11 acres of public facility/recreational use or 50,000 square feet of commercial use, 15 acres of public village park, and 85 acres of public parks and open space in the center of the El Dorado Hills Community. The proposed project also includes implementation of the CEDHSP and an amendment to the existing El Dorado Hills Specific Plan (EDHSP) approved in 1987 to transfer the density at Serrano Village D-1, Lots C and D to the proposed project. The approximately 155-acre Serrano Westside planning area would be an extension of the existing Serrano development with gated residential neighborhoods and would include approximately 763 dwelling units, civic or commercial, and village park development. The approximately 102-acre Pedregal planning area would include residential neighborhoods of approximately 265 dwelling units, which may or may not be gated. Table 1 shows the proposed land use designations in the Serrano Westside and Pedregal planning areas. These designations are also shown in Figure 3, Proposed Land Use Designations.

Table 1. Proposed Land Use Summary (Acres)

Land Use	Serrano Westside (% of total area)	Pedregal (% of total area)
Residential		
LDR: Low-Density Residential (1.5 Du/Ac)	-	43 (17%)
MDR-L: Medium-Density Residential – Low (5 - 8 average Du/Ac)	23 (9%)	-
MDR-H: Medium-Density Residential – High (9 - 14 average Du/Ac)	36 (14%)	-
HDR: High-Density Residential (15 - 24 average Du/Ac)	16 (6%)	13 (5%)
Civic – Limited Commercial		
C-LC: Civic Limited Commercial	11 (4%)	-
Public Facilities		
VP: Village Park	15 (6%)	-
Open Space		
OS: Open Space	46 (18%)	39 (15%)
Roads and Landscaped Lots	8 (3%)	6 (2%)
Total	256 (100%)	
Du/Ac = dwelling units per acre - = no acres		

The proposed project includes onsite and offsite infrastructure to serve the development. The EIR will analyze any related offsite infrastructure. Buildout will likely occur over several years and ultimately the timeframe be determined by housing market conditions.

Proposed Entitlement Requests: The proposed project includes an amendment to the existing EDHSP to transfer the density at Serrano Village D-1, Lots C and D to the project. Specifically, the proposed entitlements that would be required to implement the CEDHSP include: amendments to the EDHSP and County general plan, adoption and implementation of the CEDHSP, and rezoning. In addition, the project would require the County's approval of a development agreement, financing plan, and subsequent development permits and entitlements including a Development Plan and Tentative Maps. The proposed CEDHSP consists of the following requests.

- Amendment to the El Dorado Hills Specific Plan (EDHSP) consisting of: A) Transfer a total of 58.53 acres and associated EDHSP-vested density affecting portions of APN 121-040-20, 121-040-29, 121-040-31 and 121-120-22 from EDHSP area to CEDHSP area; B) Transfer a total of 1.89 acres affecting portions of APN 121-160-03 from CEDHSP area to EDHSP area.
- General Plan Amendment to:
    - Amend the General Plan Land Use Map designation of subject lands within CEDHSP from High-Density Residential (HDR) (1 - 5 Du/Ac), Multi-Family Residential (MFR) (5 - 24 Du/Ac), Commercial (C), Open Space (OS) and AP-EDHSP to Adopted Plan-Central El

Dorado Hills Specific Plan (AP-CEDHSP) and CEDHSP land use designations Low-Density Residential (LDR) (1.5 average Du/Ac), Open Space (OS), High-Density Residential (HDR) (15 - 24 average Du/Ac), Medium-Density Residential-High (MDR-H) (9 - 14 average Du/Ac), Medium-Density Residential-Low (MDR-L) (5 - 8 Du/Ac), Civic-Limited Commercial (C-LC), and Village Park (VP).

  - Amend General Plan Land Use Map designation of transferred lands within AP-EDHSP as Open Space (OS).

- Rezoning to:
  - Amend zone districts from One-Family Residential District (R1), One-Family Residential-Planned Development District (R1-PD), Limited-Multi-Family Residential District (R2), Recreational Facility (RF), and Open Space (OS) to CEDHSP zone districts Multi residential-Planned Development (RM1-PD, RM2-PD, RM3-PD), One-Family Residential-Planned Development District (R1-PD), Civic-Limited Commercial-Planned Development (C1-PD), Village Park-Planned Development (RF1-PD), Private Open Space- Planned Development (OS1-PD) and Corps Restricted-Planned Development (OS2-PD).
  - Amend zone designation of transferred lands within AP-EDHSP as Open Space (OS).
- Specific Plan for the proposed Central El Dorado Hills Specific Plan for the development of a 256-acre project site consisting of up to 1,028 dwelling units, 11 acres of public facility/recreational use or 50,000 square foot of commercial use, 15 acres of public village park, and 85 acres of private parks and open space.

Environmental Effects

Probable Environmental Effects: Based on a preliminary environmental analysis of the CEDHSP, the County has determined that the full range of issues identified in the CEQA Guidelines, listed below, shall be addressed in the EIR.

- Air Quality
- Biological Resources
- Cultural Resources
- Geology, Soils, Minerals, and Paleontology
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology, Water Quality, and Water Resources
- Land Use Planning and Agricultural Resources
- Noise and Vibration
- Population and Housing
- Public Services and Utilities
- Recreation
- Traffic and Circulation
- Visual Resources

In addition to the above areas, the Draft EIR will also evaluate the potential cumulative and growth-inducing effects of the project, as required by CEQA. Reasonably foreseeable future projects will be considered in the Draft EIR, including, but not limited to, the proposed Village of Marble Valley Specific Plan, the proposed Lime Rock Valley Specific Plan, and the proposed Dixon Ranch Residential Project. Applications have been submitted to the County for these projects, and they are currently undergoing CEQA review.

Comments and suggestions are requested regarding the environmental issues that will be analyzed in the EIR during the 30-day public comment period for the NOP.

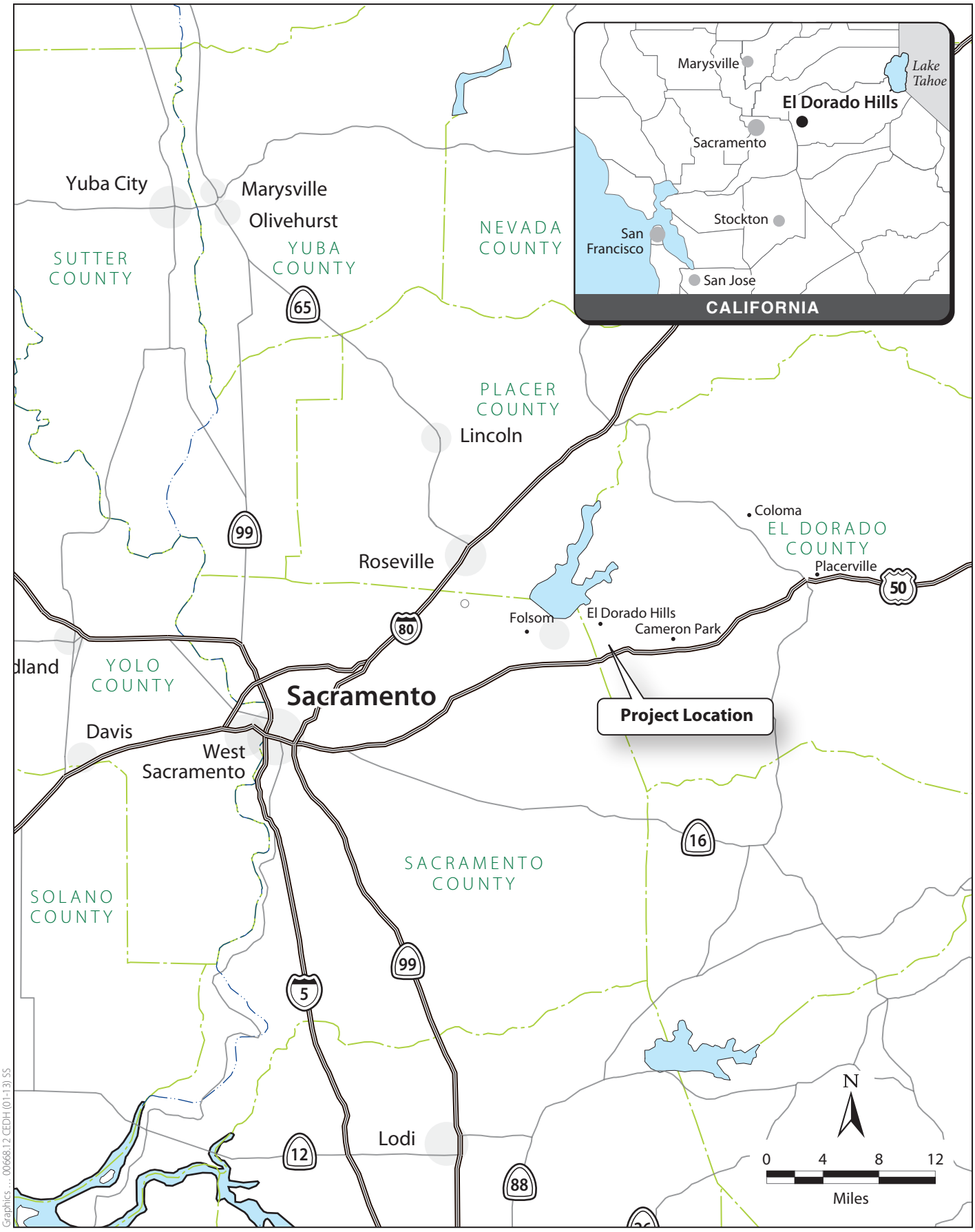
Potential Alternatives to be addressed in the EIR: In accordance with section 15126.6 of the State CEQA Guidelines, an EIR must "describe a range of reasonable alternatives to the Project, or to the location of the Project, which would feasibly attain most the basic objectives of the Project, but would avoid or substantially lessen any of the significant effects of the Project, and evaluate the comparative merits of the alternatives." As required by CEQA, the EIR will evaluate a No Project Alternative, which will assume development of the proposed project site under the currently adopted general plan and zoning designations. Aside from the no project alternative, the County has not yet determined what additional alternatives to the project will be evaluated in the EIR. These will be identified during the environmental review process. Once selected, the alternatives will be analyzed at a qualitative level of detail in the Draft EIR for comparison against the impacts identified for the proposed project, consistent with the requirements of CEQA.

Public Scoping Meeting

The County will hold a public scoping meeting to provide additional information about the project and to receive verbal and written input on Thursday, March 14, 2013 from 6:30 p.m. to 8:30 p.m. at Oak Meadow Elementary School, Multipurpose Room, 7701 Silva Valley Parkway, El Dorado Hills, CA 95762. The scoping meeting format will be an open house; interested parties may arrive at any time during the 2-hour window to receive information on the project or provide input.

Requests for Additional Information

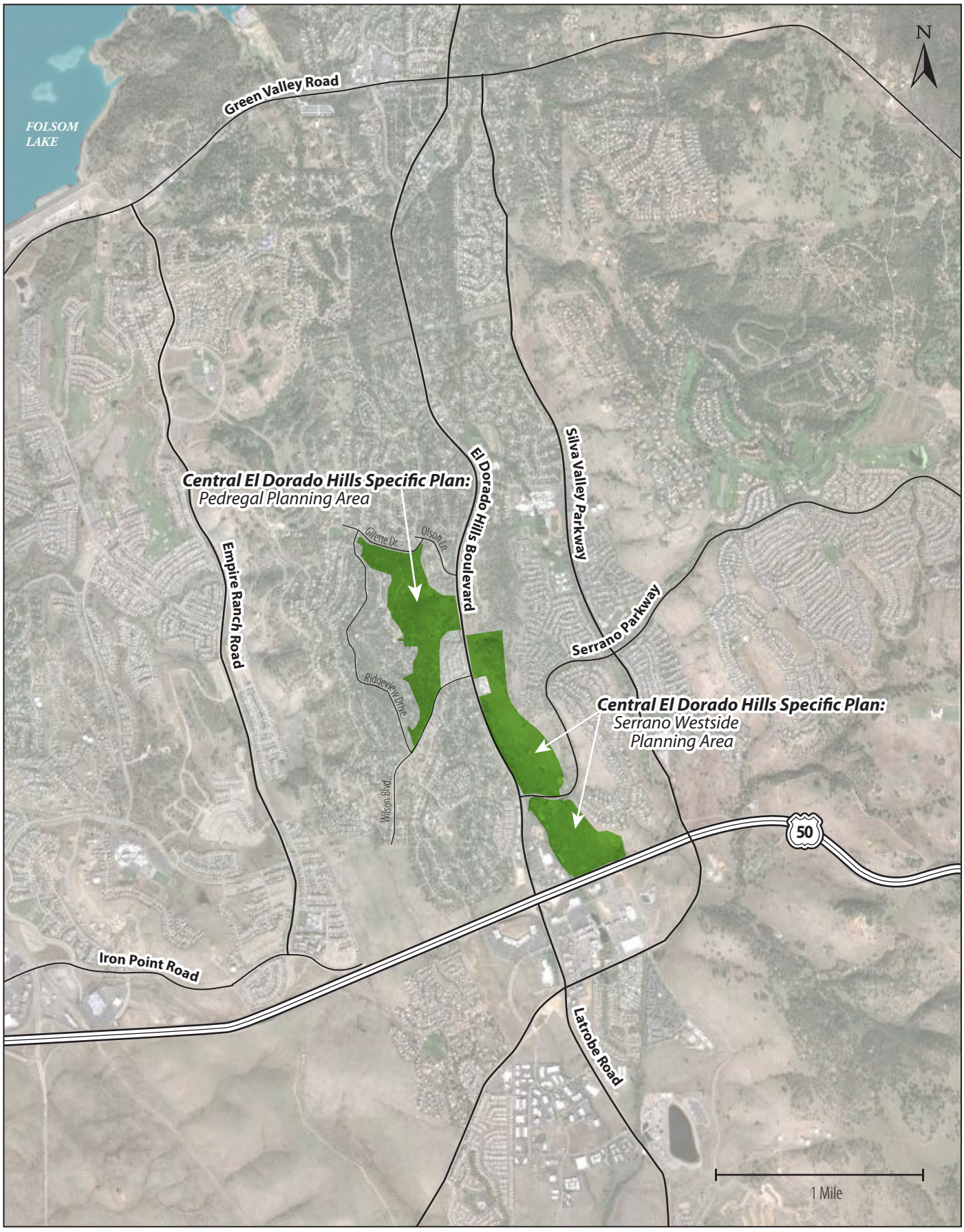
If you have any questions, please contact Rommel (Mel) Pabalinas at the County of El Dorado, Development Services Department, Planning Division, 2850 Fairlane Court, Building C, Placerville, CA 95667, by telephone at (530) 621-5363, or by email to rommel.pabalinas@edcgov.us.



Graphics ... 00668.12 CEDH (01-13) SS

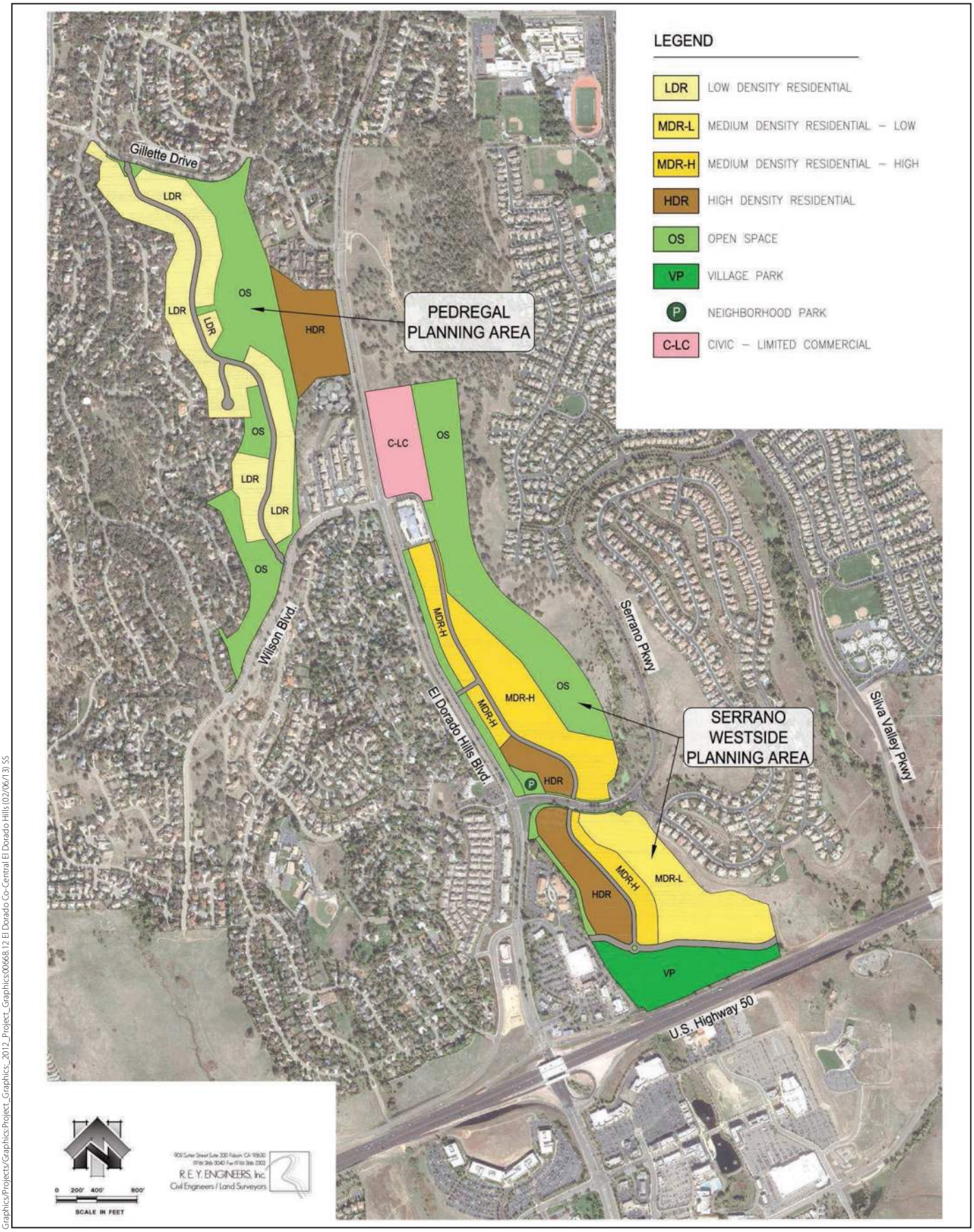
ICF INTERNATIONAL

Figure 1
Regional Location



Graphics ... 00668.12 El Dorado Co - Central El Dorado Hills\EIR (01-14-2012) SS

Figure 2
Project Location



Graphics/Projects/Graphics/Project_Graphics_2012_Project_Graphics\00668.12 El Dorado Co-Central El Dorado Hills (02/06/13) SS

Figure 3
Proposed Land Use Designations

County of El Dorado

Notice of Preparation of a Draft Environmental Impact Report

and Notice of Public Scoping Meeting for the

Central El Dorado Hills Specific Plan

Date: February 20, 2013

To: Interested Parties

From: Rommel (Mel) Pabalinas, Senior Planner, County of El Dorado

Subject: Notice of Preparation of a Draft Environmental Impact Report and Notice of Public Scoping Meeting for the Central El Dorado Hills Specific Plan (File No. SP12-0002)

The County of El Dorado (County) will be the lead agency under the California Environmental Quality Act (CEQA) for preparation of an Environmental Impact Report (EIR) for the Central El Dorado Hills Specific Plan in El Dorado County. The purpose of this 30-day Notice of Preparation (NOP) and notice of public scoping meeting is to solicit comments from public agencies and interested persons regarding the scope and content of the environmental information and analyses, including the significant environmental impacts, reasonable alternatives, and mitigation measures that should be included in the Draft EIR (pursuant to CEQA Guidelines Section 15082). The location, project description, proposed entitlement requests, and potential environmental effects of the proposed Central El Dorado Hills Specific Plan are summarized in the attached materials.

Please provide written comments to **Mr. Rommel (Mel) Pabalinas, Senior Planner, at the address shown, by 5:00 p.m. on March 22, 2013**. Keep in mind that there will be another opportunity to submit detailed comments when the draft EIR is released for public review. Please mail, email or fax your comments to:

Rommel (Mel) Pabalinas, Senior Planner
El Dorado County Development Services Department, Planning Division
2850 Fairlane Court, Building C
Placerville, CA 95667
Email: rommel.pabalinas@edcgov.us
Fax: (530) 642-0508

The County will hold a public scoping meeting to provide additional information about the project and to receive verbal and written comments.

Date: Thursday, March 14, 2013
Time: 6:30 p.m. to 8:30 p.m.
Where: Oak Meadow Elementary School, Multipurpose Room, 7701 Silva Valley Parkway, El Dorado Hills, CA 95762

The scoping meeting format will be an open house; interested parties may arrive at any time during the 2-hour window to receive information on the project or provide comments.

NOTICE OF PREPARATION OF

A DRAFT ENVIRONMENTAL IMPACT REPORT (EIR)
AND NOTICE OF PUBLIC SCOPING MEETING
FOR THE
CENTRAL EL DORADO HILLS SPECIFIC PLAN

Project Information

Location: The proposed project is located in El Dorado Hills, California, an unincorporated area of El Dorado County (County) that is approximately 23 miles east of Sacramento and 20 miles west of Placerville (Figure 1, Regional Location). The proposed Central El Dorado Hills Specific Plan (CEDHSP) (project) includes two planning areas, as shown in Figure 2, Project Location: the Serrano Westside planning area east of the intersection of El Dorado Hills Boulevard and Serrano Parkway, and the Pedregal planning area west of El Dorado Hills Boulevard between Wilson and Olson Way, adjacent to the Ridgeview subdivision.

Serrano Westside is immediately north of U.S. Highway 50 (US 50) and less than 2 miles south of Folsom Lake. Existing land uses adjacent to the Serrano Westside planning area include office and retail uses to the south and west (Raley's and La Borgata) and single-family residential uses at the Serrano Community to the east. The proposed Serrano Westside development would surround the El Dorado Hills Fire Station (located on Wilson Way east of El Dorado Hills Boulevard) to the north, east, and south. Undeveloped land, an archery range, and two schools (Oak Ridge High School and Silva Valley Elementary School) are located north of the project.

The Pedregal planning area is less than 1 mile north of US 50 and less than 2 miles south of Folsom Lake. The Pedregal planning area is immediately adjacent to low-density residential uses (the existing Ridgeview neighborhood) to the west and three existing multi-family developments (the Copper Hill Apartments, El Dorado Village Apartments, and Sterling Ranch Apartments) along El Dorado Hills Boulevard to the east.

Project Description: The proposed CEDHSP, which would occur in the Serrano Westside Planning Area and Pedregal Planning Area, includes the development of up to 1,028 dwelling units, 11 acres of public facility/recreational use or 50,000 square feet of commercial use, 15 acres of public village park, and 85 acres of public parks and open space in the center of the El Dorado Hills Community. The proposed project also includes implementation of the CEDHSP and an amendment to the existing El Dorado Hills Specific Plan (EDHSP) approved in 1987 to transfer the density at Serrano Village D-1, Lots C and D to the proposed project. The approximately 155-acre Serrano Westside planning area would be an extension of the existing Serrano development with gated residential neighborhoods and would include approximately 763 dwelling units, civic or commercial, and village park development. The approximately 102-acre Pedregal planning area would include residential neighborhoods of approximately 265 dwelling units, which may or may not be gated. Table 1 shows the proposed land use designations in the Serrano Westside and Pedregal planning areas. These designations are also shown in Figure 3, Proposed Land Use Designations.

Table 1. Proposed Land Use Summary (Acres)

Land Use	Serrano Westside (% of total area)	Pedregal (% of total area)
Residential		
LDR: Low-Density Residential (1.5 Du/Ac)	-	43 (17%)
MDR-L: Medium-Density Residential – Low (5 - 8 average Du/Ac)	23 (9%)	-
MDR-H: Medium-Density Residential – High (9 - 14 average Du/Ac)	36 (14%)	-
HDR: High-Density Residential (15 - 24 average Du/Ac)	16 (6%)	13 (5%)
Civic – Limited Commercial		
C-LC: Civic Limited Commercial	11 (4%)	-
Public Facilities		
VP: Village Park	15 (6%)	-
Open Space		
OS: Open Space	46 (18%)	39 (15%)
Roads and Landscaped Lots	8 (3%)	6 (2%)
Total	256 (100%)	
Du/Ac = dwelling units per acre - = no acres		

The proposed project includes onsite and offsite infrastructure to serve the development. The EIR will analyze any related offsite infrastructure. Buildout will likely occur over several years and ultimately the timeframe be determined by housing market conditions.

Proposed Entitlement Requests: The proposed project includes an amendment to the existing EDHSP to transfer the density at Serrano Village D-1, Lots C and D to the project. Specifically, the proposed entitlements that would be required to implement the CEDHSP include: amendments to the EDHSP and County general plan, adoption and implementation of the CEDHSP, and rezoning. In addition, the project would require the County's approval of a development agreement, financing plan, and subsequent development permits and entitlements including a Development Plan and Tentative Maps. The proposed CEDHSP consists of the following requests.

- Amendment to the El Dorado Hills Specific Plan (EDHSP) consisting of: A) Transfer a total of 58.53 acres and associated EDHSP-vested density affecting portions of APN 121-040-20, 121-040-29, 121-040-31 and 121-120-22 from EDHSP area to CEDHSP area; B) Transfer a total of 1.89 acres affecting portions of APN 121-160-03 from CEDHSP area to EDHSP area.
- General Plan Amendment to:
    - Amend the General Plan Land Use Map designation of subject lands within CEDHSP from High-Density Residential (HDR) (1 - 5 Du/Ac), Multi-Family Residential (MFR) (5 - 24 Du/Ac), Commercial (C), Open Space (OS) and AP-EDHSP to Adopted Plan-Central El

Dorado Hills Specific Plan (AP-CEDHSP) and CEDHSP land use designations Low-Density Residential (LDR) (1.5 average Du/Ac), Open Space (OS), High-Density Residential (HDR) (15 - 24 average Du/Ac), Medium-Density Residential-High (MDR-H) (9 - 14 average Du/Ac), Medium-Density Residential-Low (MDR-L) (5 - 8 Du/Ac), Civic-Limited Commercial (C-LC), and Village Park (VP).

  - Amend General Plan Land Use Map designation of transferred lands within AP-EDHSP as Open Space (OS).

- Rezoning to:
  - Amend zone districts from One-Family Residential District (R1), One-Family Residential-Planned Development District (R1-PD), Limited-Multi-Family Residential District (R2), Recreational Facility (RF), and Open Space (OS) to CEDHSP zone districts Multi residential-Planned Development (RM1-PD, RM2-PD, RM3-PD), One-Family Residential-Planned Development District (R1-PD), Civic-Limited Commercial-Planned Development (C1-PD), Village Park-Planned Development (RF1-PD), Private Open Space- Planned Development (OS1-PD) and Corps Restricted-Planned Development (OS2-PD).
  - Amend zone designation of transferred lands within AP-EDHSP as Open Space (OS).
- Specific Plan for the proposed Central El Dorado Hills Specific Plan for the development of a 256-acre project site consisting of up to 1,028 dwelling units, 11 acres of public facility/recreational use or 50,000 square foot of commercial use, 15 acres of public village park, and 85 acres of private parks and open space.

Environmental Effects

Probable Environmental Effects: Based on a preliminary environmental analysis of the CEDHSP, the County has determined that the full range of issues identified in the CEQA Guidelines, listed below, shall be addressed in the EIR.

- Air Quality
- Biological Resources
- Cultural Resources
- Geology, Soils, Minerals, and Paleontology
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology, Water Quality, and Water Resources
- Land Use Planning and Agricultural Resources
- Noise and Vibration
- Population and Housing
- Public Services and Utilities
- Recreation
- Traffic and Circulation
- Visual Resources

In addition to the above areas, the Draft EIR will also evaluate the potential cumulative and growth-inducing effects of the project, as required by CEQA. Reasonably foreseeable future projects will be considered in the Draft EIR, including, but not limited to, the proposed Village of Marble Valley Specific Plan, the proposed Lime Rock Valley Specific Plan, and the proposed Dixon Ranch Residential Project. Applications have been submitted to the County for these projects, and they are currently undergoing CEQA review.

Comments and suggestions are requested regarding the environmental issues that will be analyzed in the EIR during the 30-day public comment period for the NOP.

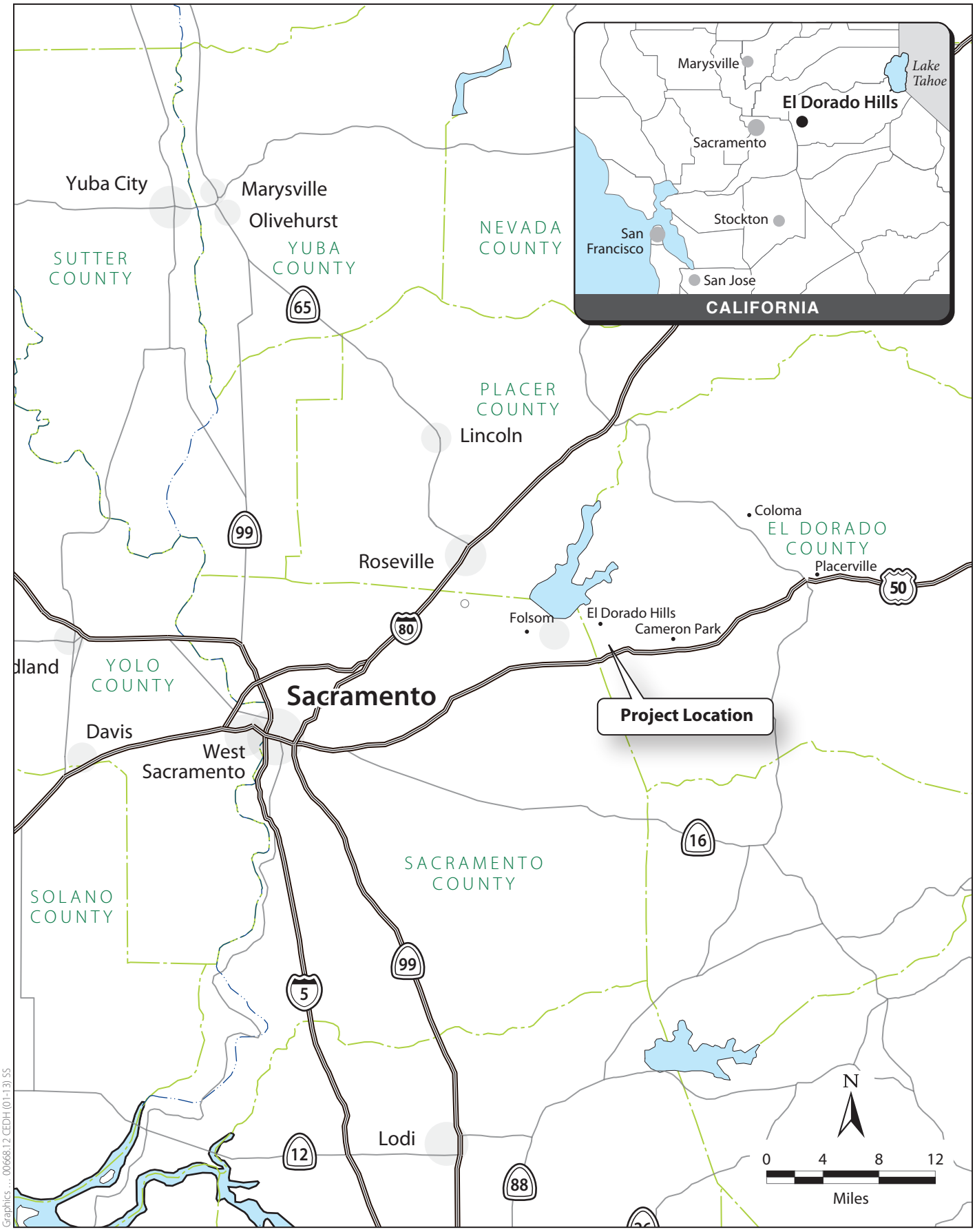
Potential Alternatives to be addressed in the EIR: In accordance with section 15126.6 of the State CEQA Guidelines, an EIR must "describe a range of reasonable alternatives to the Project, or to the location of the Project, which would feasibly attain most the basic objectives of the Project, but would avoid or substantially lessen any of the significant effects of the Project, and evaluate the comparative merits of the alternatives." As required by CEQA, the EIR will evaluate a No Project Alternative, which will assume development of the proposed project site under the currently adopted general plan and zoning designations. Aside from the no project alternative, the County has not yet determined what additional alternatives to the project will be evaluated in the EIR. These will be identified during the environmental review process. Once selected, the alternatives will be analyzed at a qualitative level of detail in the Draft EIR for comparison against the impacts identified for the proposed project, consistent with the requirements of CEQA.

Public Scoping Meeting

The County will hold a public scoping meeting to provide additional information about the project and to receive verbal and written input on Thursday, March 14, 2013 from 6:30 p.m. to 8:30 p.m. at Oak Meadow Elementary School, Multipurpose Room, 7701 Silva Valley Parkway, El Dorado Hills, CA 95762. The scoping meeting format will be an open house; interested parties may arrive at any time during the 2-hour window to receive information on the project or provide input.

Requests for Additional Information

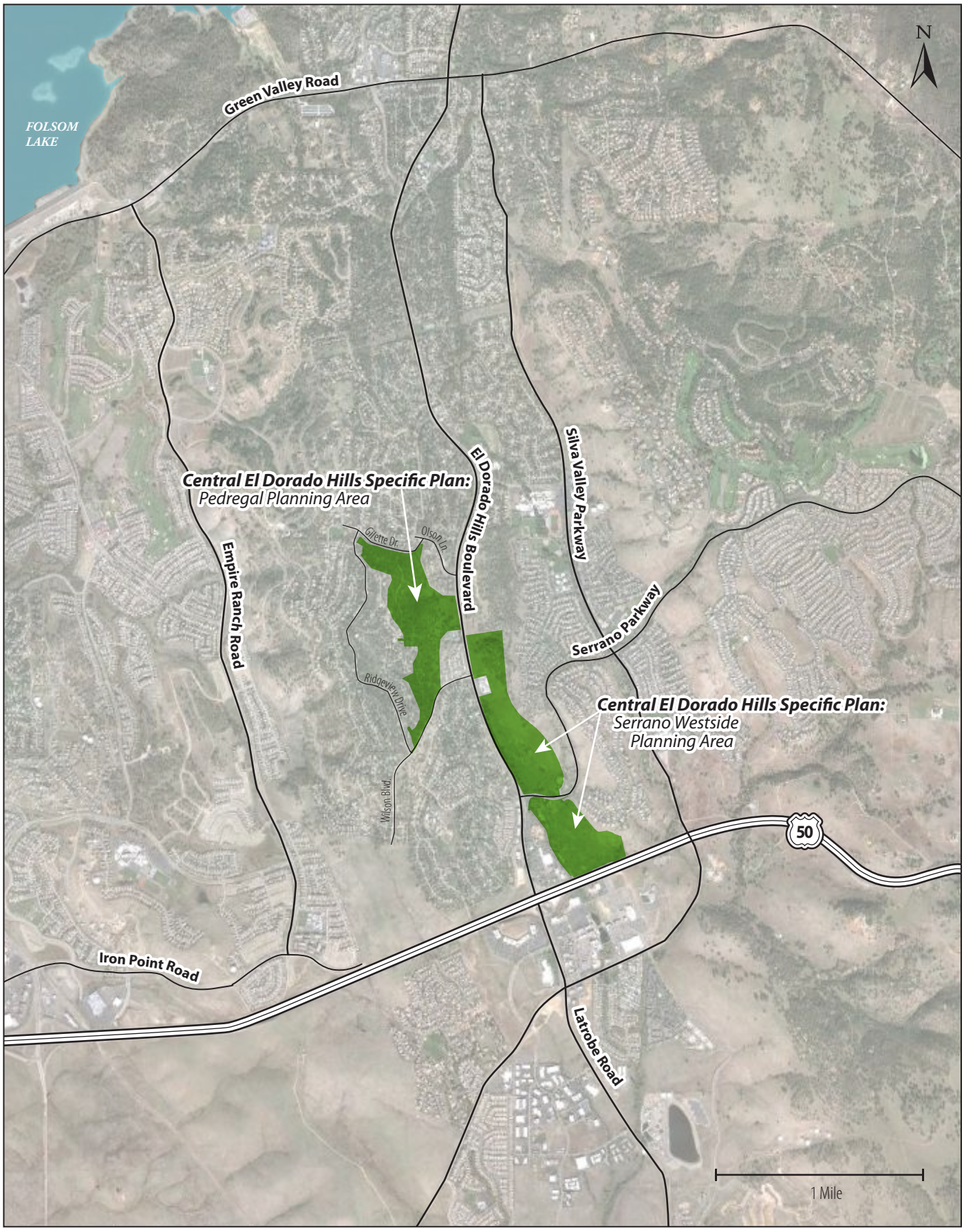
If you have any questions, please contact Rommel (Mel) Pabalinas at the County of El Dorado, Development Services Department, Planning Division, 2850 Fairlane Court, Building C, Placerville, CA 95667, by telephone at (530) 621-5363, or by email to rommel.pabalinas@edcgov.us.



Graphics ... 00668.12 CEDH (01-13) SS

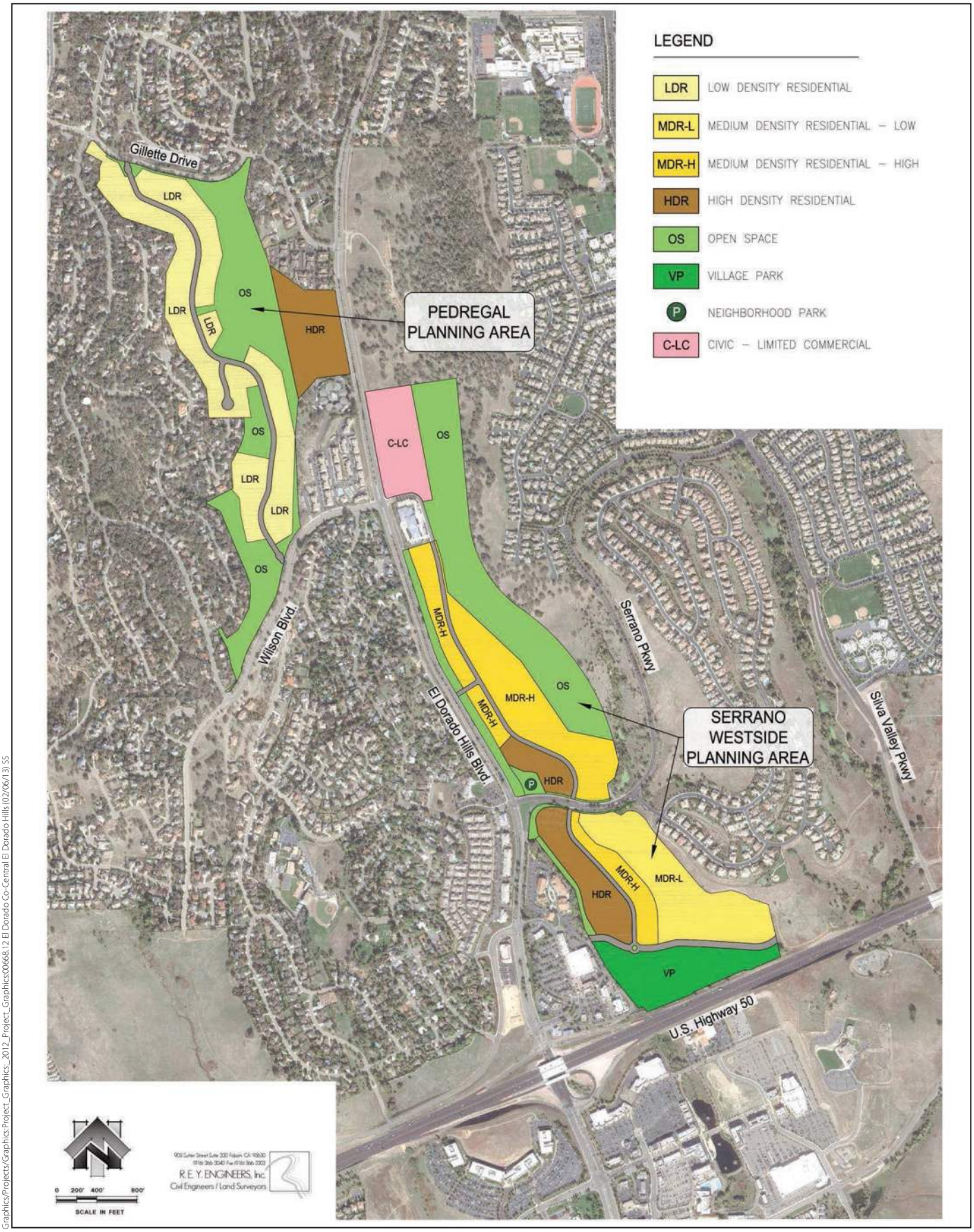
ICF INTERNATIONAL

Figure 1
Regional Location



Graphics ... 00668.12 El Dorado Co - Central El Dorado Hills\EIR (01-14-2012) SS

Figure 2
Project Location



Graphics/Projects/Graphics/Project_Graphics_2012_Project_Graphics\00668.12 El Dorado Co-Central El Dorado Hills (02/06/13) SS

Figure 3
Proposed Land Use Designations

INSERT COUNTY LOGO

County of El Dorado

Notice of Preparation of a Draft Environmental Impact Report

and Notice of Public Scoping Meeting for the

Central El Dorado Hills Specific Plan

Date: February __, 2013

To: Interested Parties

From: El Dorado County Administrator's Office

Subject: Notice of Preparation of a Draft Environmental Impact Report and Notice of Public Scoping Meeting for the Central El Dorado Hills Specific Plan (File No. SP12-0002)

The County of El Dorado (County) will be the lead agency under the California Environmental Quality Act (CEQA) for preparation of an Environmental Impact Report (EIR) for the Central El Dorado Hills Specific Plan in El Dorado County. The purpose of this Notice of Preparation (NOP) and notice of public scoping meeting is to solicit comments from public agencies and interested persons regarding the scope and content of the environmental information and analyses, including the significant environmental impacts, reasonable alternatives, and mitigation measures that should be included in the Draft EIR (pursuant to CEQA Guidelines Section 15082~~802~~). The location, project description, proposed entitlement requests, and potential environmental effects of the proposed Central El Dorado Hills Specific Plan are summarized in the attached materials.

Please provide written comments to **Mr. Rommel (Mel) Pabalinas, Senior Planner**, at the address shown, by 5:00 p.m. on March X, 2013. Keep in mind that there will be another opportunity to submit detailed comments when the draft EIR is released for public review. Please mail, email or fax your comments to:

Rommel (Mel) Pabalinas, Senior Planner
El Dorado County Development Services Department, Planning Division
2850 Fairlane Court, Building C
Placerville, CA 95667
Email: rommel.pabalinas@edcgov.us
Fax: (530) 642-0508

The County will hold a public scoping meeting to provide additional information about the project and to receive verbal and written input on Thursday, March 14, 2013 from 6:30 p.m. to 8:30 p.m. at Oak Meadow Elementary School, Multipurpose Room, 7701 Silva Valley Parkway, El Dorado Hills, CA 95762. The scoping meeting format will be an open house; interested parties may arrive at any time during the 2-hour window to receive information on the project or provide input.

NOTICE OF PREPARATION OF

A DRAFT ENVIRONMENTAL IMPACT REPORT (EIR)
AND NOTICE OF PUBLIC SCOPING MEETING
FOR THE
CENTRAL EL DORADO HILLS SPECIFIC PLAN

Project Information

Location: The proposed project is located in El Dorado Hills, California, an unincorporated area of El Dorado County (County) that is approximately 23 miles east of Sacramento and 20 miles west of Placerville (Figure 1, Regional Location). The proposed Central El Dorado Hills Specific Plan (CEDHSP) (project) includes two planning areas, as shown in Figure 2, Project Location: the Serrano Westside planning area east of the intersection of El Dorado Hills Boulevard and Serrano Parkway, and the Pedregal planning area west of El Dorado Hills Boulevard between Wilson and Olson Way, adjacent to the Ridgeview subdivision.

Commented [Mel1]: Please amend all Figures (cites VMVSP instead of CEDHSP)

Serrano Westside is immediately north of U.S. Highway 50 (US 50) and less than 2 miles south of Folsom Lake. Existing land uses adjacent to the Serrano Westside planning area include office and retail uses to the south and west (Raley's and La Borgata) and single-family residential uses at the Serrano Community to the east. The proposed Serrano Westside development would surround the El Dorado Hills Fire Station (located on Wilson Way east of El Dorado Hills Boulevard) to the north, east, and south. Undeveloped land, an archery range, and two schools (Oak Ridge High School and Silva Valley Elementary School) are located north of the project.

The Pedregal planning area is less than 1 mile north of US 50 and less than 2 miles south of Folsom Lake. The Pedregal planning area is immediately adjacent to low-density residential uses (the existing Ridgeview neighborhood) to the west and three existing multi-family developments (the Copper Hill Apartments, El Dorado Village Apartments, and Sterling Ranch Apartments) along El Dorado Hills Boulevard to the east.

Project Description: The proposed CEDHSP, which would occur in the Serrano Westside Planning Area and Pedregal Planning Area, includes the development of up to 1,028 dwelling units, 11.7 acres of public facility/recreational use or 50,000 square feet of commercial use, 15.3 acres of public village park, and ~~85~~ 84.9 acres of public parks and open space in the center of the El Dorado Hills Community. The proposed project also includes implementation of the CEDHSP and an amendment to the existing El Dorado Hills Specific Plan (EDHSP) approved in 1987 to transfer the density at Serrano Village D-1, Lots C and D to the proposed project~~, and to reduce the density in the Pedregal planning area~~. The approximately 155-acre Serrano Westside planning area would be an extension of the existing Serrano development with gated residential neighborhoods and would include approximately 763 dwelling units, civic or commercial, and village park development. The approximately 102-acre Pedregal planning area would include residential neighborhoods of approximately 265 dwelling units, which may or may not be gated. Table 1 shows the proposed land use designations in the Serrano Westside and Pedregal planning areas. These designations are also shown in Figure 3, Proposed Land Use Designations.

Table 1. Proposed Land Use Summary (Acres)

Land Use	Serrano Westside (% of total area)	Pedregal (% of total area)
Residential		
LDR: Low-Density Residential (1.5 Du/Ac)	-	43.4 (17%)
MDR-L: Medium-Density Residential – Low (5 - 8 Du/Ac)	23.2 (9%)	-
MDR-H: Medium-Density Residential – High (9 - 14 Du/Ac)	35.7 (14%)	-
HDR: High-Density Residential (15 - 24 Du/Ac)	15.4 (6%)	12.9 (5%)
Civic – Limited Commercial		
C-LC: Civic Limited Commercial	11.7 (5%)	-
Public Facilities		
VP: Village Park	15.3 (6%)	-
Open Space		
OS: Open Space	45.8 (18%)	39.1 (15%)
Roads and Landscaped Lots	7.7 (3%)	6.2 (2%)
Total	154.8 (61%)	101.6 (39%)
Du/Ac = dwelling units per acre ~~1.~~ = no acres		

The proposed project includes onsite and offsite infrastructure to serve the development. The EIR will analyze any related offsite infrastructure. Buildout will likely occur over several years and ultimately the timeframe be determined by housing market conditions.

Proposed Entitlement Requests: The proposed project includes an amendment to the existing EDHSP to transfer the density at Serrano Village D-1, Lots C and D to the project~~, and an amendment to the general plan to reduce the density at the Pedregal planning area~~. Specifically, the proposed entitlements that would be required to implement the CEDHSP include: amendments to the EDHSP and County general plan, adoption and implementation of the CEDHSP, and rezoning. In addition, the project would require the County's approval of a development agreement, financing plan, and subsequent development permits and entitlements including a Development Plan and Tentative Maps. The proposed CEDHSP consists of the following requests.

~~1.~~• Amendment to the El Dorado Hills Specific Plan (EDHSP) consisting of: A) Transfer a total of 58.53 acres and associated EDHSP-vested density affecting portions of APN 121-040-20, 121-040-29, 121-040-31 and 121-120-22 from EDHSP area to CEDHSP area; B) Transfer a total of 1.89 acres affecting portions of APN 121-160-03 from CEDHSP area to EDHSP area.

~~2.~~• General Plan Amendment to:

Formatted: Bulleted + Level: 1 + Aligned at: 0.25" + Indent at: 0.5", Tab stops: Not at 0.5"

Formatted: Bulleted + Level: 1 + Aligned at: 0.25" + Indent at: 0.5", Tab stops: Not at 0.5"

1. Amend the General Plan Land Use Map designation of subject lands within CEDHSP from High-Density Residential (HDR) (1 - 5 Du/Ac), Multi-Family Residential (MFR) (5 - 24 Du/Ac), Commercial (C), Open Space (OS) and AP-EDHSP to Adopted Plan-Central El Dorado Hills Specific Plan (AP-CEDHSP) and CEDHSP land use designations Low-Density Residential (LDR) (1.5 Du/Ac), Open Space (OS), High-Density Residential (HDR) (15 - 24 Du/Ac), Medium-Density Residential-High (MDR-H) (9 - 14 Du/Ac), Medium-Density Residential-Low (MDR-L) (5 - 8 Du/Ac), Civic-Limited Commercial (C-LC), and Village Park (VP).
2. Amend General Plan Land Use Map designation of transferred lands within AP-EDHSP as Open Space (OS).

3. Rezoning to:
   1. Amend zone districts from One-Family Residential District (R1), One-Family Residential-Planned Development District (R1-PD), Limited-Multi-Family Residential District (R2), Recreational Facility (RF), and Open Space (OS) to CEDHSP zone districts Multi residential-Planned Development (RM1-PD, RM2-PD, RM3-PD), One-Family Residential-Planned Development District (R1-PD), Civic-Limited Commercial-Planned Development (C1-PD), Village Park-Planned Development (RF1-PD), Private Open Space- Planned Development (OS1-PD) and Corps Restricted-Planned Development (OS2-PD).
   2. Amend zone designation of transferred lands within AP-EDHSP as Open Space (OS).
4. Specific Plan for the proposed Central El Dorado Hills Specific Plan for the development of a 256-acre project site consisting of up to 1,028 dwelling units, 11.7 acres of public facility/recreational use or 50,000 square foot of commercial use, 15.3 acres of public village park, and 85 84.9 acres of private parks and open space.

Formatted: Bulleted + Level: 2 + Aligned at: 0.75" + Indent at: 1", Tab stops: Not at 1"

Formatted: Bulleted + Level: 1 + Aligned at: 0.25" + Indent at: 0.5", Tab stops: Not at 0.5"

Formatted: Bulleted + Level: 2 + Aligned at: 0.75" + Indent at: 1", Tab stops: Not at 1"

Formatted: Bulleted + Level: 1 + Aligned at: 0.25" + Indent at: 0.5", Tab stops: Not at 0.5"

Environmental Effects

Probable Environmental Effects: Based on a preliminary environmental analysis of the CEDHSP, the County has determined that the full range of issues identified in the CEQA Guidelines, listed below, ~~should~~ shall be addressed in the EIR.

1. Air Quality
2. Biological Resources
3. Cultural Resources
4. Geology, Soils, Minerals, and Paleontology
5. Greenhouse Gas Emissions
6. Hazards and Hazardous Materials
7. Hydrology, Water Quality, and Water Resources
8. Land Use Planning and Agricultural Resources
9. Noise and Vibration
10. Population and Housing
11. Public Services and Utilities
12. Recreation
13. Traffic and Circulation
1. Visual Resources

Formatted: Bulleted + Level: 1 + Aligned at: 0.25" + Indent at: 0.5", Tab stops: Not at 0.5"

In addition to the above areas, the Draft EIR will also evaluate the potential cumulative and growth-inducing effects of the project, as required by CEQA. Reasonably foreseeable future projects will be considered in the Draft EIR, including, but not limited to, the proposed Village of Marble Valley Specific

Plan, ~~and~~ the proposed Lime Rock Valley Specific Plan, and the proposed Dixon Ranch Residential Project. Applications have been submitted to the County for these ~~two~~ projects, and they are currently undergoing CEQA review.

Comments and suggestions are requested regarding the environmental issues that will be analyzed in the EIR during the 30-day public comment period for the NOP.

Potential Alternatives to be addressed in the EIR: In accordance with section 15126.6 of the State CEQA Guidelines, an EIR must "describe a range of reasonable alternatives to the Project, or to the location of the Project, which would feasibly attain most the basic objectives of the Project, but would avoid or substantially lessen any of the significant effects of the Project, and evaluate the comparative merits of the alternatives." As required by CEQA, the EIR will evaluate a No Project Alternative, which will assume development of the proposed project site under the currently adopted general plan and zoning designations. Aside from the no project alternative, the County has not yet determined what additional alternatives to the project will be evaluated in the EIR. These will be identified during the environmental review process. Once selected, the alternatives will be analyzed at a qualitative level of detail in the Draft EIR for comparison against the impacts identified for the proposed project, consistent with the requirements of CEQA.

Public Scoping Meeting

The County will hold a public scoping meeting to provide additional information about the project and to receive verbal and written input on Thursday, March 14, 2013 from 6:30 p.m. to 8:30 p.m. at Oak Meadow Elementary School, Multipurpose Room, 7701 Silva Valley Parkway, El Dorado Hills, CA 95762. The scoping meeting format will be an open house; interested parties may arrive at any time during the 2-hour window to receive information on the project or provide input.

Requests for Additional Information

If you have any questions, please contact Rommel (Mel) Pabalinas at the County of El Dorado, Development Services Department, Planning Division, 2850 Fairlane Court, Building C, Placerville, CA 95667, by telephone at (530) 621-5363, or by email to rommel.pabalinas@edcgov.us.

Tom Dougherty <tom.dougherty@edcgov.us>

Fwd: Stockpile "near" Tong Rd.

1 message

Thor Larsen <thor.larsen@edcgov.us> Tue, Apr 9, 2013 at 11:35 AM
To: Tom Dougherty <tom.dougherty@edcgov.us>, Michael A van Doorninck <michael.vandoorninck@edcgov.us>

Mike,

Thanks.

Tom,

Attached is all the documentation we have. I believe that your group has the signed Engineer's block as I recall seeing it.

Thor

On Mon, Apr 8, 2013 at 5:57 PM, Mike VanDoorninck <michael.vandoorninck@edcgov.us> wrote:

> Thor,
>
> Per our conversation today I have attached Bruce Persons e-mail and all of the other documents that we have in our files concerning the Tong Stockpile site. I could not find an executed Encroachment Permit.
>
> The County Grading and Encroachment Permit Invoices are also attached as well as the Hold Harmless.
>
> Please let me know if there is anything else needed.
>
> Thank You,
>
> Mike
>
> ---------- Forwarded message ----------
> From: **Thor Larsen** <thor.larsen@edcgov.us>
> Date: Tue, May 22, 2012 at 4:43 PM
> Subject: Fwd: Stockpile "near" Tong Rd.
> To: Michael A van Doorninck <michael.vandoorninck@edcgov.us>
>
> Mike,
>
> Here's comments from Bruce Person about the application. Not sure what it all means, but I think if County Engineer approves, its OK. Who's the County Engineer? Crazy i ask that, as I should know eeh?
>
> Thor
>
> ---------- Forwarded message ----------
> From: **Bruce Person** <bruce.person@edcgov.us>
> Date: Tue, May 22, 2012 at 4:18 PM
> Subject: Stockpile "near" Tong Rd.
> To: ckodet@desilvagates.com, Greg Hicks <greg.hicks@edcgov.us>, John Kahling <john.kahling@edcgov.us>, Sheri Woodford <sheri.woodford@edcgov.us>, Thor Larsen <thor.larsen@edcgov.us>
>
> Per discussions with Thor and John with Greg, Sheri, and Bruce, some concerns are noted on the attached plan. A signature block is included for County Engineer signature. Also included are the standard notes to be included with the proposed project.
>
> --
> Bruce Person
> Senior Engineering Technician
> Transportation Planning and Land Development, DOT
>
> NOTICE: This e-mail and any files transmitted with it may contain confidential information, and are intended solely for the use of the individual or entity to whom they are addressed.

Any retransmission, dissemination or other use of the information by persons other than the intended recipient or entity is prohibited.
If you receive this e-mail in error please contact the sender by return e-mail and delete the material from your system.
Thank you.

--
Thor Larsen
Senior Civil Engineer
El Dorado County
916-806-9098

NOTICE: This e-mail and any files transmitted with it may contain confidential information, and are intended solely for the use of the individual or entity to whom they are addressed.
Any retransmission, dissemination or other use of the information by persons other than the intended recipient or entity is prohibited.
If you receive this e-mail in error please contact the sender by return e-mail and delete the material from your system.
Thank you.

--

Mike van Doorninck

michael.vandoorninck@edcgov.us

Assistant Resident Engineer

El Dorado County DOT, Construction Unit.

2441 Headington Road

Placerville, CA 95667

Cell: (530)-919-7668

NOTICE: This e-mail and any files transmitted with it may contain confidential information, and are intended solely for the use of the individual or entity to whom they are addressed.
Any retransmission, dissemination or other use of the information by persons other than the intended recipient or entity is prohibited.
If you receive this e-mail in error please contact the sender by return e-mail and delete the material from your system.
Thank you.

--
Thor Larsen
Senior Civil Engineer
El Dorado County
916-806-9098

NOTICE: This e-mail and any files transmitted with it may contain confidential information, and are intended solely for the use of the individual or entity to whom they are addressed.
Any retransmission, dissemination or other use of the information by persons other than the intended recipient or entity is prohibited.
If you receive this e-mail in error please contact the sender by return e-mail and delete the material from your system.
Thank you.

6 attachments

County engineer Block.doc
21K

Standard General Notes.doc
48K

Combined Erosion Control Notes 2-4-05.doc
78K

tong.pdf
609K

120525_Area 52 Grading Stockpile Permit.pdf
85K

120517 Tong Hold Harmless Agreement.pdf
171K

POR. SEC. 1, T.9N., R.8E., M.D.M.

See New Page

122:72

N

1 " = 400 '

Bk 121 Pg 14

054135

Pg 09

DYMAXION WAY

Pg 08

BEVINGER DR

VILLAGE GREEN DR

Pg 10

DEPEYSTER WAY

Pg 58

Pg 16

Pg 14

Pg 04

Pg 01

1312.52'

054069

RUSSI RANCH DR

BEVINGER DR

Pg 13

Bk 119 Pg 04

612.72'

1320.00'

MERTOLA DR

Bk 121 Pg 15

PONTA DELGADO CT

POR RS 32/43/1

15

9

57.78 A (TOTAL)

Pg 59

PRS 33/150

054007

054000

603.22'

SILVA VALLEY PKY

NA

8

1.297 A

537.95'

593.43'

393.00'

320.0'

10

RS 33/150/1

POR RS 18/97/1

RS 33/150/2

054052

POR RS 32/43/1

15

NA

4

5.12 A

054007

13

3.86 A

6

2.31 A

2.430 A

7

27.01 A

359.18'

358.47'

14

14

RS 16/147/3

0.52 A

620.57'

TONG RD

738.58'

424.08'

2

215.56'

255.17'

193.48'

054071

12

0.756 A

RS 32/88

711.76'

378.83'

RS 16/147/3

3

1.11 A

169.03'

268.56'

475.64'

POR RS 32/43/1

14

US HWY 50

Bk 121 Pg 12

587.42'

POR RS 32/43/2

15

6.386 A

526.09'

475.36'

525.43'

Bk 118 Pg 12

054007

054000

Bk 121 Pg 16

US HWY 50

054071

JOERGER CUTOFF RD

Bk 121 Pg 28

SILVA VALLEY PKY

054069

054052

WHITE ROCK RD

Bk 118 Pg 17

***PARCEL NOTES**

(10) - PRS 18/97/1, 0.028 A, NA

15-16 17-18

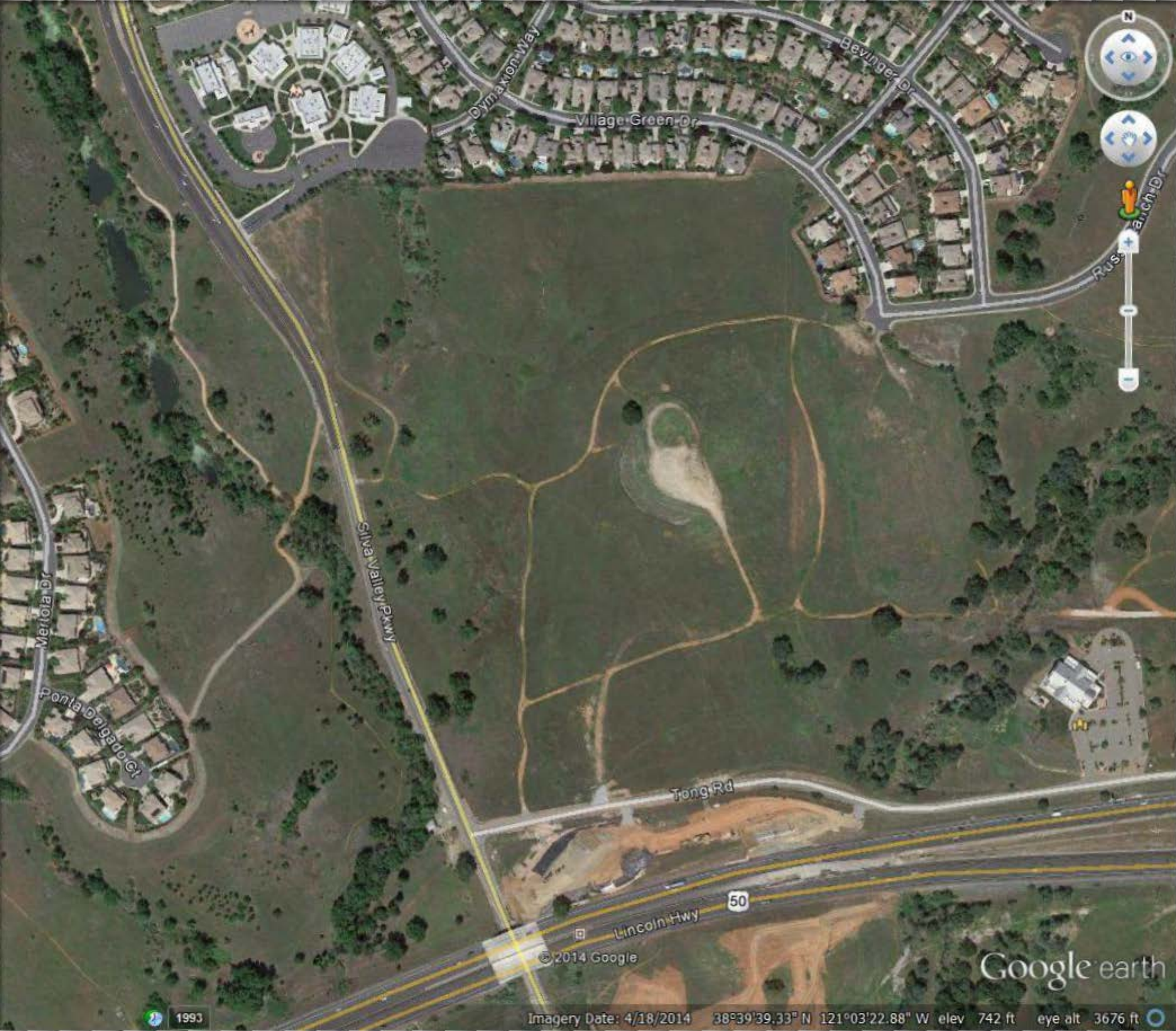
THIS MAP IS NOT A SURVEY. It is prepared by the El Dorado Co. Assessor's office for assessment purposes only. Area calculations and characteristics are not guaranteed. Users should verify items such as dimensions and acreage.

Acreages Are Estimates

Adjacent Map Pages Shown in Grey Text
Assessor's Parcel Numbers Shown in Circles

Rev. Sep 17, 2013

Assessor's Map Bk. 122 - Pg. 72
County of El Dorado, CA


Dymaxion Way
Village Green Dr
Bevinger Dr
Silva Valley Pkwy
Merola Dr
Ponta Delgado Ct
Tong Rd
Lincoln Hwy
50
© 2014 Google
Google earth
1993
Imagery Date: 4/18/2014 38°39'39.33" N 121°03'22.88" W elev 742 ft eye alt 3676 ft

FirstCarbon Solutions
2015 Fee Schedule

FirstCarbon Solutions (FCS) provides consulting services in environmental impact assessment and regulatory compliance, planning, air quality and greenhouse gases, biological and cultural resources management. Compensation is based on the following fee schedule and charges.

Hourly Labor Rates

President/ Vice President	$250 – 290 USD
Director	$160 – 260 USD
Senior Project Manager/Senior Scientist/ Senior Regulatory Scientist	$110 – 175 USD
Project Manager/Regulatory Scientist	$100 – 150 USD
Assistant Project Manager/Assistant Regulatory Scientist	$80 – 125 USD
Environmental Planner	$70 – 90 USD
Environmental Analyst/Regulatory Analyst	$60 – 75 USD
Research Analyst	$50 – 60 USD
Publications Coordinator/Technical Editor	$90 – 180 USD
GIS Analyst	$70 – 125 USD
Graphics Designer/GIS Technician	$65 – 90 USD
Word Processor	$65 – 70 USD
Administrative Assistant/Accounting/Clerical	$55 – 60 USD
Reprographics Assistant/Intern	$55 USD

Other Labor Rates

Labor rates for expert testimony, litigation support, and depositions/court appearances will be billed at a minimum of two times the above rates. If additional services are authorized during the performance of a contract, compensation will be based on the fee schedule in effect at the time the services are authorized.

Direct Expenses

Direct expenses are billed at the amount charged, plus 15% administrative fee.

1. Out-of-pocket expenses-including, but not limited to, travel, messenger service, reprographics, lodging, meals, blueprint, reproduction, and photographic services: Cost, as charged to FCS.
2. Subcontractors' fees: As quoted.
3. Passenger Cars: $0.565 per mile.
4. Four-wheel drive vehicles: $75.00 per day (0.565 per mile).
5. Reproduction and Color Copies: See Reprographics Fee Schedule provided as necessary.
6. Records checks: Fees vary with facility and project.
7. USFWS/CDFG impacts or mitigation fees.
8. Museum curation: fees vary with the city and project.
9. Cultural resources storage/curation of fossil and artifact collections: Cost, as charged to FCS.
10. Per Diem: $71.00 per day. This is the USA Federal Rate. Lodging surcharge may apply in high rate areas.

Terms

Compensation and direct expenses are invoiced monthly and payable upon receipt or as codified in project specific contract.

Rates effective June 1, 2014

FILE #_____

EL DORADO COUNTY PLANNING DEPARTMENT

APPLICATION FOR Planned Development

ASSESSOR'S PARCEL NO.(s) 122-720-09

PROJECT NAME/REQUEST: (Describe proposed use) EDH 52 Retail Shopping Center

IF SUBDIVISION/PARCEL MAP: Create_____ lots, ranging in size from _____ to _____ acre(s) / SF

IF ZONE CHANGE: From_____ to_____ IF GENERAL PLAN AMENDMENT: From_____ to_____

IF TIME EXTENSION, REVISION, CORRECTION: Original approval date_____ Expiration date_____

APPLICANT/AGENT RSC Engineering, Inc.

Mailing Address 2250 Douglas Blvd., Ste. 150 Roseville, CA 95661

Phone (916) 788-2884 FAX (916) 788-4408

PROPERTY OWNER EDH 52 GP

Mailing Address 7700 College Town Drive, Ste. 101 Sacramento, CA 95826

Phone (916) 383-2500 FAX (916) 383-0552

LIST ADDITIONAL PROPERTY OWNERS ON SEPARATE SHEET IF APPLICABLE

ENGINEER/ARCHITECT RSC Engineering, Inc.

Mailing Address 2250 Douglas Blvd., Ste. 150 Roseville, CA 95661

Phone (916) 788-2884 FAX (916) 788-4408

LOCATION: The property is located on the E (N/E/W/S) side of Silva Valley Road (street or road)

0 feet feet/miles N (N/E/W/S) of the intersection with Tong Road (major street or road)

in the El Dorado Hills area. PROPERTY SIZE 48.14 ac. (acreage / square footage)

X _____ Date 12/22/14
signature of property owner or authorized agent

FOR OFFICE USE ONLY

Date_____ Fee $_____ Receipt #_____ Rec'd by_____ Census_____

Zoning_____ GPD_____ Supervisor Dist _____ Sec/Twn/Rng _____

ACTION BY: ☐ PLANNING COMMISSION ☐ ZONING ADMINISTRATOR ☐ PLANNING DIRECTOR

Hearing Date_____

☐ Approved ☐ Denied (findings and/or conditions attached)

_____
Executive Secretary

ACTION BY BOARD OF SUPERVISORS

Hearing Date_____

☐ Approved ☐ Denied (findings and/or conditions attached)

APPEAL: ☐ Approved ☐ Denied

_____
Executive Secretary

Revised 07/02)

EDH 52 Retail Shopping Center

Team Project Meeting No.1

January 13, 2015

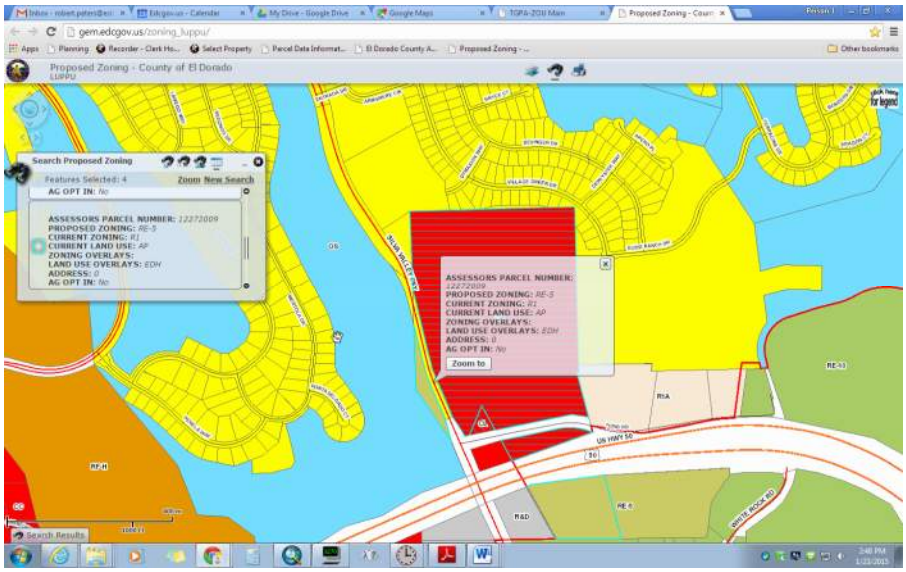
AGENDA

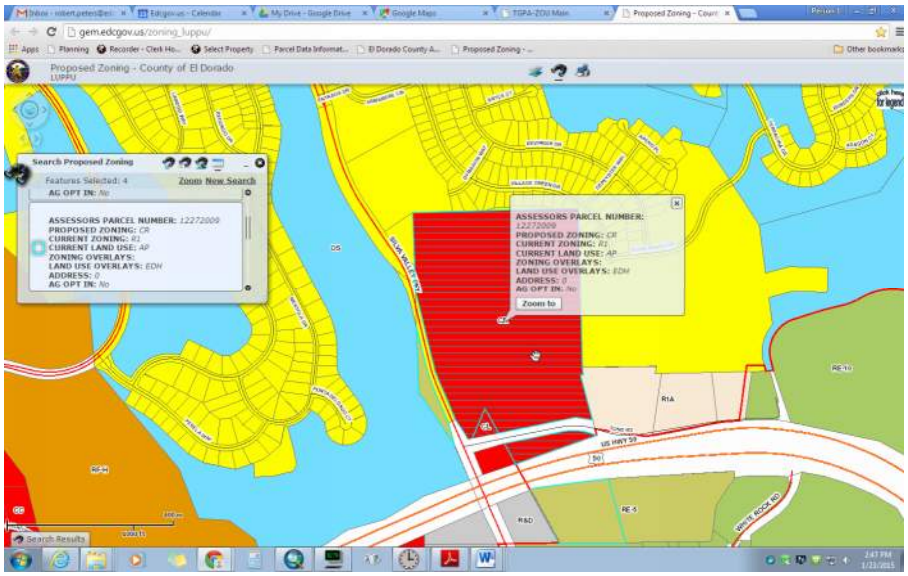
1. Project Issues and Priorities
    a. Commercial Project—top priority for the BOS
    b. Permit Processing
        1. Meet Permit Streamlining Act timeline
        2. 30-Day Completeness/Incompleteness Determine letter (due by February 5, 2015)
            a) Set up for TAC even if its deemed Incomplete?
        3. Need PFFP/Fiscal Impact Analysis per GPP 10.2.__.__?
    c. Planning
        1. Consistency with GP Policies, Ordinance, DISM,
        2. Cursory review for consistency (if applicable) with El Dorado Hills Specific Plan (Site is identified as Village P in EDHSP but was ultimately not approved to be a part of EDHSP)
        3. Site and Architectural Design
        4. Standard Waivers
        5. Consistency/conflict with adjacent projects (Serrano Village A-14-Mel's project) and Country Club Drive alignment (with A-14 project)
    d. CEQA
        1. Scoping Meeting and NOP set up
        2. Get 1 mile noticing for NOP from applicant
2. Schedules and Coordination
    a. List of Agencies
    b. Public Meetings (Public Outreach, Agency Coordination, Public Contact)
    c. Regular staff meetings (you and I with Lillian and Roger); Coordination with

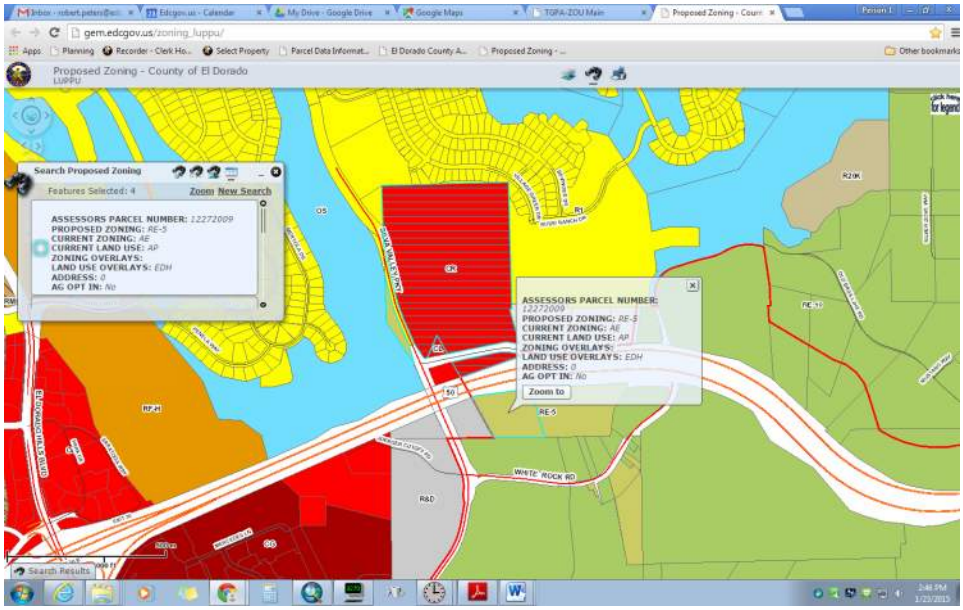
3. Other topics:
    a. Consulting Services Assistance on CEQA and Limited Application processing?
    b. WBS Schedule Update
    c. Future Public Outreach/Workshop
    d. Get input from Mark Millard of Permit Center on PD "do's and don'ts"

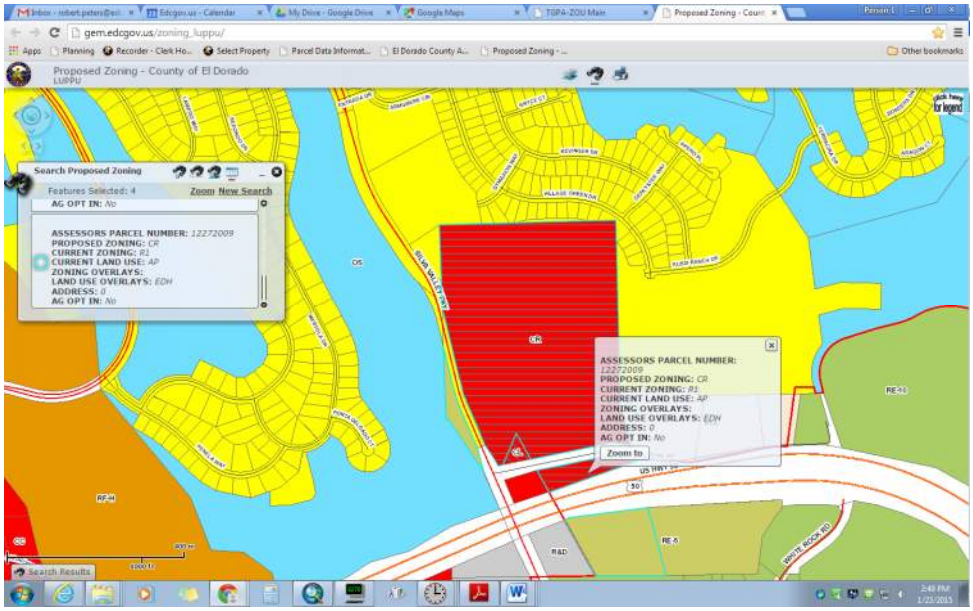
EDH 52 – APN 122-720-09 - LUPPU Proposed Zoning Results:

ASSESSORS PARCEL NUMBER	PROPOSED ZONING	CURRENT ZONING	CURRENT LAND USE	ZONING OVERLAYS	LAND USE OVERLAYS	ADDRESS	AG OPT IN
12272009	RE-5	R1	AP		EDH	0	No
12272009	CR	R1	AP		EDH	0	No
12272009	RE-5	AE	AP		EDH	0	No
12272009	CR	R1	AP		EDH	0	No

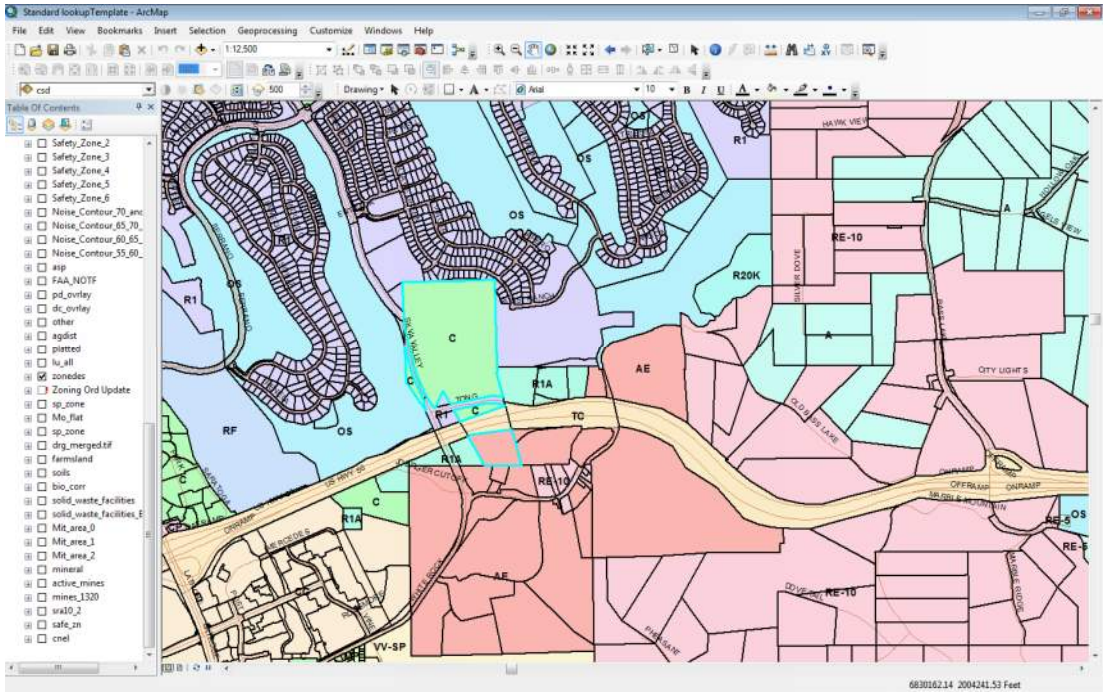




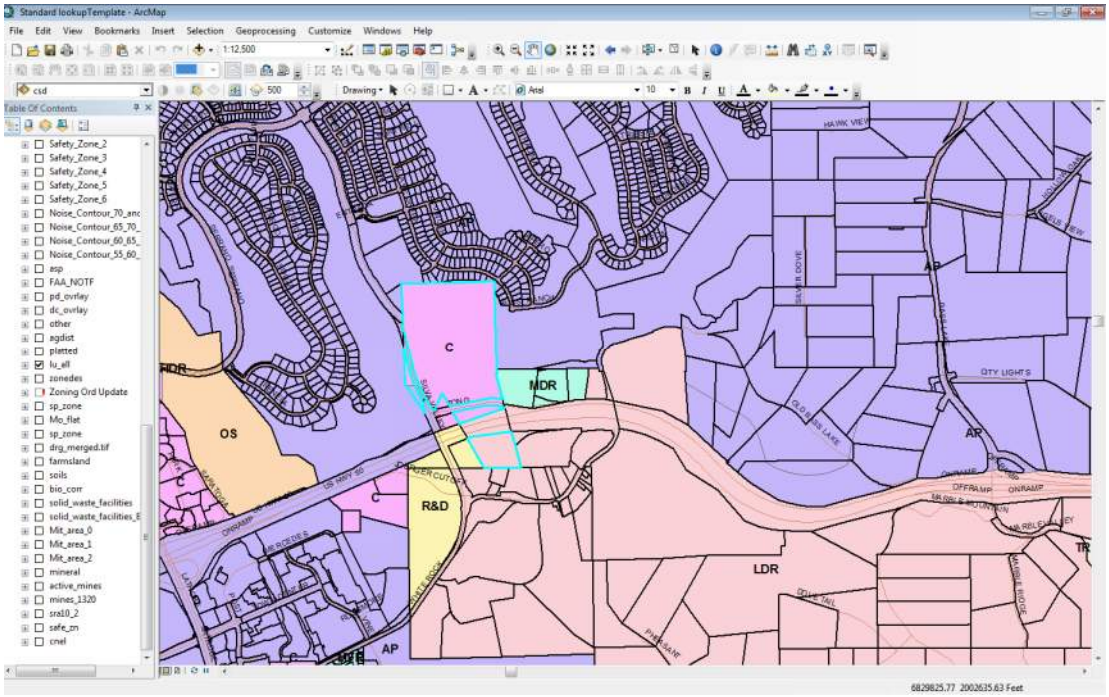

gem.edcgov.us/zoning_luppu/
Proposed Zoning - County of El Dorado
LUPPU
Search Proposed Zoning
Features Selected: 4
Zoom New Search
ASSESSORS PARCEL NUMBER: 12272009
PROPOSED ZONING: RE-5
CURRENT ZONING: AE
CURRENT LAND USE: AP
ZONING OVERLAYS:
LAND USE OVERLAYS: EDH
ADDRESS: 0
AG OPT IN: No
Zoom to
WHITE ROCK RD
Search Results


gem.edcgov.us/zoning_luppu/
Proposed Zoning - County of El Dorado
LUPPU
Search Proposed Zoning
Features Selected: 4
Zoom New Search
AG OPT IN: No
ASSESSORS PARCEL NUMBER: 12272009
PROPOSED ZONING: CR
CURRENT ZONING: R1
CURRENT LAND USE: AP
ZONING OVERLAYS:
LAND USE OVERLAYS: EDH
ADDRESS: 0
AG OPT IN: No
Zoom to
WHITE ROCK RD
Search Results

EDC GIS – Current Zoning



EDC GIS – Current Land Use Zoning



EDH Retail Shopping Center

Team Project Meeting No. 2
January 23, 2015
1:00-2:00 PM
TAC Conference Room

Scheduled Attendees: Lillian MacLeod, Mel Pabalinas, Rob Peters

Agenda

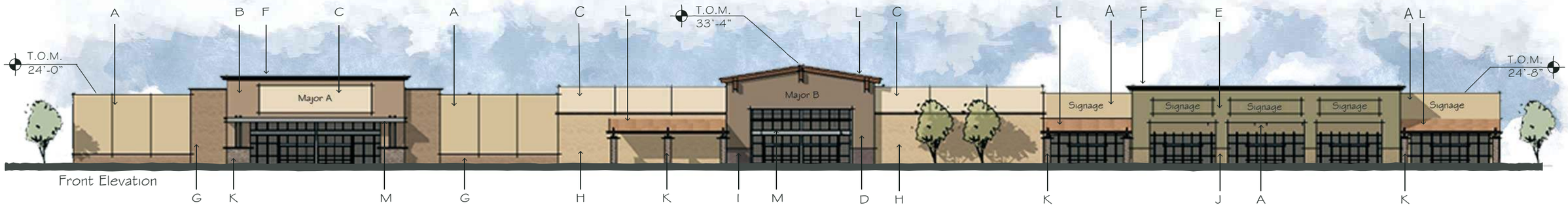
1. Review the Required Submittal Information for Planned Development
    a. Missing "Forms and Maps Required" checklist items.
    b. Site plan revisions required.
        i. Request revisions now or after preliminary TAC to allow revisions to include TAC comments.
    c. Inconsistencies between submitted plans.
        i. Request revisions now or after preliminary TAC to allow revisions to include TAC comments.
    d. Completeness/Incompleteness determination.

2. Potential Project Issues
    a. Revisions to project description prior to TAC.
    b. Timing of submittal of required studies.
    c. Potential conflicts with on-site oak woodland mitigation identified in PD 13-0002.
    d. Potential conflicts with future commercial subdivision of property (through Parcel Map or Waiver) due to the remainder of the parcel zoning and general plan designations.
    e. Project shows maximum of 350,000 square feet of development; however, the site plan only identifies 305,650 square feet. Need clarification on the other 44,350 square feet of development.

3. Upcoming Meetings
    a. Meeting with applicant on Wednesday at 2:00 (1-28-15)
        i. Discuss potential incomplete items and preliminary advisories/issues.
        ii. Discuss timing of submittal of required studies.
        iii. Applicant timeframes and expectations.
    b. Meeting with Transportation on Thursday at 9:30-10:30 (1-29-15)
        i. Project submittal overview.

ii. Discuss Country Club Drive alignment.
iii. Discuss lack of drainage study, traffic study and other potential incomplete items for DOT review.

Meeting Notes:



Front Elevation

Scale

0 5 10 20 40 80



Integrally colored CMU "Plum"



Integrally colored CMU "Tierra Brown"



Fieldledge stone veneer "Umbra Veneto"



Roof tile "Weathered Terracotta"



"Dromedary Camel"



"Meadowlark"

"Sundew"



"Cobble Brown"



"Avocado"

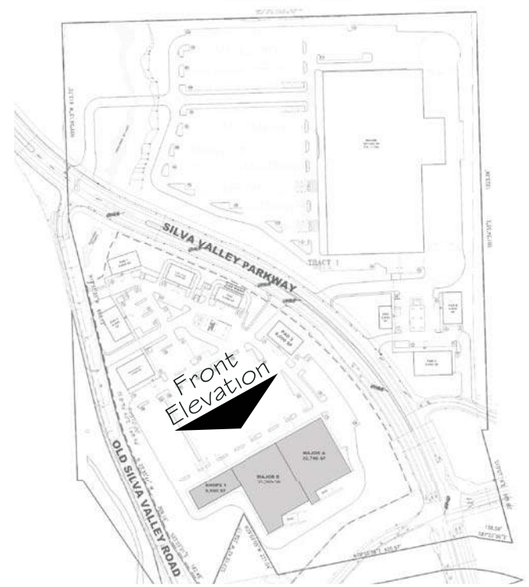


"Summit Gray"

Material Legend

A	EIFS painted "Dromedary Camel" SW #7694
B	EIFS painted "Meadowlark" SW 7522
C	EIFS painted "Sundew" SW #7688
D	EIFS painted "Cobble Brown" SW #6082
E	EIFS painted "Avocado" SW #2861
F	Decorative EIFS cornice painted "Cobble Brown" SW #6082
G	Split face CMU painted "Meadowlark" SW 7522
H	Split face CMU painted "Dromedary Camel" SW #7694
I	Integrally colored split face CMU "Plum" by Superlite
J	Integrally colored split face CMU "Tierra Brown" by Superlite
K	Fieldledge stone veneer "Umbra Veneto" by El Dorado Stone
L	Roof tile "Weathered Terracotta" #3532 by Eagle
M	Steel canopy painted to match "Summit Gray" SW #7669

Key Plan



DESIGN REPRESENTATION ONLY - NOT FOR CONSTRUCTION The building images shown are a representation of the current design intent only. The building images may not reflect variations in color, tone, hue, tint, shading, ambient light intensity, materials, texture, contrast, font style, construction variations required by building codes or inspectors, material availability or final design detailing.

EDH RETAIL SHOPPING CENTER PROJECT

Project Understanding

The 40.50 gross-acre project site is located in the unincorporated community of El Dorado Hills, El Dorado County, California. The project site is located on the north side of the U.S. 50/Silva Valley Parkway interchange and is bounded by the existing alignment of Silva Valley Parkway (west), a single-family residential subdivision and Oak Meadow Elementary School (north), undeveloped land (east), and Tong Road (south). Most of the project site contains annual grassland, with scattered oak trees. A large quantity of fill exists onsite that was placed there as part of the addition of High Occupancy Vehicle lanes on U.S. 50. There are unpaved roads and remnants of prior development on the site. The project site is designated "Commercial" by the El Dorado County General Plan and zoned "Commercial – Planned Development [C-PD]" by the El Dorado County Zoning Ordinance.

The future alignment of Silva Valley Parkway bisects the project site from northwest-to-southeast. The realigned Silva Valley Parkway would have a new interchange with U.S. 50. The proposed project has reserved right-of-way for the roadway realignment and interchange project, as well as the future Country Club Drive, which is not part of this project. The net acreage of the project site is 31.82 acres. Of this figure, 16.09 acres is located north of the realigned roadway and 15.73 acres is located to the south.

The applicant seeks to move the fill from the north site to the south site, mass grade both sites, and install utilities within the realigned Silva Valley Parkway as part of the initial phase of the project. As part of a later phase, both sites would be developed to support up 250,000square feet of commercial uses. The North site is contemplated to support three major tenants of approximately 38,000, 35,000, and 10,000 square feet, and five smaller outparcels containing a gas station, three retail pads, and one additional pad. The South site is contemplated to support two major tenants of approximately 37,500 and 32,700 square feet, and seven smaller outparcels containing a gas station, fast food, restaurant, and shops and. Access to the North and South sites would be taken via a new signalized intersection on the realigned Silva Valley Parkway. Fuel access to the South site would be taken from the old Silva Valley Parkway. The project applicant is requesting approval of a Planned Development Application from the County of El Dorado.

The EIR will provide a "worst case" project-level analysis for the level of development contemplated by the project. At a minimum, the EIR would provide full project-level coverage for the initial phase of the project (e.g., relocation of fill, mass grading, and utility installation) and describe the subsequent phases at a conceptual project-level, including identifying the maximum development potential and rage of end uses contemplated. Subsequent environmental review (e.g., an Addendum) may be necessary should the actual commercial proposed onsite vary from those described conceptually in the EIR.

Finally, please note that this scope of work does not include a traffic analysis, as the County of El Dorado has a separate process for scoping traffic studies. As such, it is assumed that the applicant will independently initiate this process with the County and subsequently retain a third-party traffic consultant to prepare the traffic analysis.

SCOPE OF WORK

Task 1: Project Initiation

FCS's Project Manager and other key team members will meet with County staff to clarify and confirm the project description, identify key contacts, discuss scheduling targets, and obtain copies of the project plans and other relevant information. It is assumed that site visit will occur the same day as the kick-off meeting.

Task 2: Technical Studies

Subtask 2.1: Air Quality/Greenhouse Gas Analysis

FCS will prepare an Air Quality/Greenhouse Gas Analysis to evaluate project emissions of criteria pollutants and greenhouse gases. The analysis will be provided in a stand-alone Air Quality and Greenhouse Gas Report (Report) and a separate Health Risk Assessment (HRA). The HRA will serve as a complete document addressing potential health risk impacts generated by the project. The analysis and conclusions of the HRA will be summarized in the Report, which will address all CEQA impact criteria for air quality and greenhouse gases.

Subtask 2.1.1: Background Information

Both the Report and HRA will contain relevant background information. For the Report, a description of air pollutants, a description of greenhouse gases, the regulatory environment surrounding air pollution and climate change, potential impacts of climate change, and the existing air quality conditions in the project area will be provided. For the HRA, a description of toxic air contaminants (TACs), regulatory environment surrounding TACs and health risks, and the existing conditions in the project area will be provided.

Subtask 2.1.2: Criteria Air Pollutant and Greenhouse Gas Emission Estimation

Emissions associated with construction and operation will be estimated using the latest version of CalEEMod. FCS will identify which project configuration would be the 'worst-case' scenario for criteria pollutant and greenhouse gas generation. FCS assumes that the Report will estimate criteria air pollutant and greenhouse gas emissions from one project scenario. The pollutants that will be estimated include the following: reactive organic gases (ROG), oxides of nitrogen (NOX), particulate matter (PM10 and PM2.5), carbon dioxide, methane, and nitrous oxide. Construction would generate air pollutant emissions from demolition, equipment exhaust, on-road employee and materials trips, and soil disturbance. During operation, there would be emissions from the motor vehicles that would access the project site as well as generation of on-site emissions. In addition, greenhouse gas emissions would indirectly emitted from electricity consumption, water use, wastewater generation, and waste generation by the project. Air pollutant emissions will be compared with the El Dorado County Air Pollution Control District's (Air District) project-level and cumulative significance thresholds.

Subtask 2.1.3: Carbon Monoxide (CO) Hot-Spot Analysis

FCS will screen the project's potential to generate a CO hotspot using the Air District's screening guidance. If the project exceeds the screening criteria, a carbon monoxide hot-spot analysis will be conducted for up to 4 intersections with the highest potential for congestion using the California Department of Transportation Caline4 model, the EMFAC2011 model, and information from the traffic study.

Subtask 2.1.4: Toxic Air Contaminants Health Risk Assessment

The primary focus will be on performing the air dispersion modeling for the project using diesel particulate matter and benzene impacts and as the indicator for health risks. Estimates of health risk from the adjacent freeway, and any nearby stationary sources will be included in the analysis to provide a comprehensive project and cumulative-level health risk assessment. FCS will identify which project configuration would be the 'worst-case' scenario for the purposes of the HRA. FCS assumes that the HRA will only analyze one project scenario.

Air Dispersion Modeling

The USPEA Industrial Source Complex (ISC) air dispersion model will be used unless the Air District can provide suitable meteorological files that are compatible with the USEPA AERMOD air dispersion model.

FCS will prepare the HRA utilizing guidance contained in the Air District's CEQA Handbook and the California Air Pollution Control Officers Association's (CAPCOA) guidance document Health Risk Assessment for Proposed Land Use Projects.

Estimate the cancer risks, non-cancer hazards, and PM2.5 concentrations associated with the above identified TAC emission sources.

FCS will prepare a technical report along with relevant exhibits and appendices that will document the methods, assumptions, and results of the health risk assessment.

This task includes one draft of the report and response to one set of comments from the applicant/County.

The analysis will include an assessment of the potential health impacts to nearby sensitive receptors from exposure to diesel particulate matter during construction and operational activities. Diesel particulate matter has been identified by the ARB as a carcinogenic substance. Sources of diesel particulate matter include off-road construction equipment and diesel delivery trucks that would travel to and from and idle at the various components of the project.

Subtask 2.1.5: Odor and Asbestos

FCS will use the Air District's screening guidance to determine the project's potential significance for exposing receptors to substantial odor or risk from disturbance of naturally occurring asbestos or asbestos containing materials.

Subtask 2.1.6: Greenhouse Gas Analysis

Neither the County of El Dorado nor the Air District has adopted thresholds of significance for greenhouse gas emissions. In addition, the County of El Dorado does not have an adopted Climate Action Plan. FCS will estimate construction and operational greenhouse gas emissions, and will use the Air District's recommendation to utilize the AB 32 emission reduction goal. FCS will determine project consistency with the applicable portions of the California Air Resources Board Scoping Plan for AB 32. A correlation between the targets in AB 32 and a significant impact on the environment will be determined.

Subtask 2.1.8: Emissions Reductions and Significance Findings

If necessary, project design features and mitigation measures will be identified that would reduce impacts. Any reduction of emissions from these measures will be quantified. Sources of measures include but are not limited to the Office of the California Attorney General and the California Air Pollution Control Officers Association's report, Quantifying Greenhouse Gas Mitigation Measures. Significance findings will be addressed before and after mitigation for all potential impacts.

Subtask 2.2: Noise Analysis

Extant Acoustical will prepare a Noise Analysis to evaluate project-related construction and operational noise impacts on surrounding land uses. The analysis will be wholly contained in the EIR and the supporting technical data will be appended to the document.

Subtask 2.2.1: Project Start-up, Data Acquisition, and Document Review

Extant will coordinate with FCS and designated project team to obtain relevant project information necessary to provide acoustic, noise and vibration services for the project. Extant will evaluate, catalog and adapt project materials and documentation for use in the technical noise analysis and preparation of the EIR noise chapter. Project materials and documentation pertinent to the preparation of the analysis typically include: design drawings, current plan sets and mapping of the project area, construction data (equipment inventory, truck trips, number of personnel, construction duration/rate, and schedule), Project traffic analysis (incorporating ADT traffic volumes for roadways in the project study area), surrounding land use information and all previously conducted analyses relating to the project.

Subtask 2.2.2: Noise Monitoring and Characterization

Extant will conduct a noise monitoring program throughout the project vicinity to characterize baseline ambient acoustical conditions in the area. Quantification of the existing ambient noise environment will include an evaluation of existing ambient noise levels, transportation noise levels and stationary/point-source noise levels in the project study area. An Extant noise analyst will perform an evaluation of the Project vicinity, cataloging and documenting residential and other noise-sensitive land uses, geographic information, land-uses and information on potential acoustical constraints the project may encounter. The measurement survey will serve to adequately establish baseline noise levels, provide context for the analysis and document the existing ambient noise environment in the project area.

An Extant noise analyst will perform a detailed evaluation of acoustical environment in the project study area; the noise monitoring program is anticipated to include noise monitoring at up to six (6) locations in the project area. Short-term (approximately 15 to 30 minutes in duration) attended noise measurements will be conducted to provide adequate representation and relative exposure of noise-sensitive receptors at up to four (4) locations. Additionally, continuous long-term unattended noise measurements will be conducted at up to two (2) locations in the project study area (approximately 24 hours in duration). Noise level data will be used for establishing existing baseline noise level in the project vicinity and will serve as a basis of evaluation for future noise levels at receivers within the project area.

Monitoring locations will be selected to represent locations of key interest in the project area; such as property lines, noise-sensitive receptors; additionally, monitoring location will be chosen to adequately represent of noise sources in the Project vicinity. Extant will coordinate with FCS or the designated project team member as directed to coordinate access as required.

Subtask 2.2.3: Noise Modeling and Analysis

Extant will predict and analyze existing and future short-term (i.e., construction) and long-term (i.e., transportation, land-use compatibility, stationary sources, etc.) noise levels in the project vicinity. The analysis will be based on existing documentation, observations and noise measurement data from the field surveys; applicable project materials, proposed land uses and through the application of accepted noise prediction methodologies. Extant will utilize the three-dimensional computerized noise simulation model SoundPLAN®, to comprehensively model noise levels for the project and immediate vicinity, taking into account site topography, vegetation/ground types and the built environment.

Extant will analyze potential short-term, construction-related noise impacts associated with the project (e.g., on-site heavy-duty equipment, generators, pumps, etc.). Construction-related noise impacts will be assessed with respect to nearby noise-sensitive receptors and their relative exposure (accounting for intervening topography, barriers, distance, etc.). The analysis will be based on application of FHWA Roadway Construction Noise Model (RCNM) and Federal Transit Administration reference noise level data, and utilize accepted industry-standard modeling techniques.

Transportation noise in the project area appears to be associated with traffic along the local and regional roadway network (primarily U.S. 50 and Silva Valley Parkway). Traffic noise levels for the local and regional roadway network will be incorporated into the noise model based on traffic volumes (ADT volumes) obtained in the traffic/transportation analysis prepared for the Project. Transportation related noise will be analyzed through the application of Federal Highway Administration (FHWA) traffic noise prediction methodologies.

Stationary noise sources (e.g., industrial, mechanical, etc.) in the project area, identified during field surveys, on aerial photography and on existing documentation; along with future stationary noise sources will be incorporated into and analyzed in the noise model. Existing stationary noise sources will

be analyzed based on noise monitoring data collected during the field survey, empirical/reference noise level data and accepted prediction methodologies.

Based on the available project information, future stationary-source, point-source and on-site noise sources will be evaluated and discussed at a qualitative level. Future stationary noise sources are anticipated to primarily include delivery activities, parking lot activities, and mechanical equipment. General discussions will outline typical noise generating sources and activities associated with the proposed land uses.

The significance of short-term and long-term noise impacts will be evaluated based on comparisons with applicable criteria from local and state regulatory agencies. Mitigation measures along with their relative effectiveness will be provided where significant and potentially significant noise impacts are anticipated.

Subtask 2.2.4: Report Preparation and Deliverables

Extant will prepare a draft technical noise chapter suitable for inclusion in the EIR. The EIR noise section will include a brief introduction and summary of relevant project information pertinent to the noise analysis. The existing noise setting in the project study area will be described and the baseline noise environment established, based on the ambient noise monitoring and characterization conducted by Extant. The noise monitoring locations and representative noise prediction locations will be presented. Relevant background information, including noise fundamentals, terminology, and a summary of applicable regulatory framework will be presented. Based on the regulatory criteria applicable to the project, thresholds of significance will be outlined and established.

Noise prediction methodologies and the relevant modeling assumptions will be outlined. Potential project-generated noise impacts will be identified; noise levels discussed and evaluated against the significance thresholds. Where potential impacts are predicted, Extant will further implement the noise model in evaluating noise control strategies and mitigation measures. Mitigation measures and their relative effectiveness will be outlined and findings of significance presented with mitigation incorporated as necessary.

Extant will submit the draft technical noise report for review and comment to FCS. A final technical noise report, incorporating necessary updates will be prepared and submitted to FCS for incorporation into the EIR.

Task 3: Notice of Preparation/Scoping Meeting

FCS will prepare a Notice of Preparation (NOP) in accordance with requirements of CEQA Guidelines Section 15082. Issuance of the NOP is the first milestone in the CEQA process and announces a lead agency's intent to prepare an EIR. The NOP will identify the project location, provide a summary of the project characteristics, and list probable environmental effects, supported by color graphics. The County will be responsible for distributing the NOP to the State Clearinghouse and other public agencies. The

County will provide mailing labels to FCS for local distribution (0.25 mile radius). This scope of work assumes that an Initial Study will not be prepared.

Following release of the NOP, this scope of work assumes that the County will hold a scoping meeting in El Dorado County, which FCS representatives will attend. FCS will coordinate with County staff regarding the location and format of the scoping meeting and will be responsible for preparing any materials or displays used during the meeting. FCS will be available to present an overview of the NOP and CEQA process. All public comments received at the scoping meeting will be documented in the Draft EIR.

Deliverables

- One (1) electronic version (via email) of the Administrative Draft NOP to the County of El Dorado
- Ten (10) hard copies and one (1) electronic version (via email) of the final NOP to the County of El Dorado

Task 4: Administrative Draft EIR

FCS will prepare an Administrative Draft EIR in accordance with the applicable requirements contained in CEQA Guidelines Sections 15120 through 15132. The Administrative Draft EIR will contain analysis supported by graphics and tables. The document will identify potentially significant impacts, feasible mitigation measures, and the residual significance after mitigation has been implemented. The contents of the Administrative Draft EIR will be as follows:

Executive Summary

In accordance with CEQA Guidelines Section 15123, the Executive Summary will contain a summary of the project, list the project alternatives, identify areas of controversy, and provide a matrix listing environmental impacts and mitigation measures, and the residual significance of all impacts.

Introduction

FCS will prepare the introduction including the purpose and background of the project, the determination of the lead agency, scope of the EIR, and the document's organization.

Project Description

Pursuant to CEQA Guidelines Section 15124, the project description will identify the project location, describe the project characteristics (including any offsite improvements), list the project objectives, identify necessary approvals, and list other agencies that may use the document. This section will provide color graphics of project boundaries and plans.

Aesthetics, Light, and Glare

The proposed project contemplates the development of commercial uses on the project site that is undeveloped and contains annual grassland and scattered oak trees. FCS will perform site

reconnaissance and document existing conditions with photographs. FCS will use plans and images provided by the applicant (e.g., site plan, elevations, perspectives, landscaping plan, etc.) as the basis for evaluating the expected change in visual character and light and glare, including the effects of building height and massing, compatibility with surrounding uses, alterations of views, and the effects of new lighting sources.

Air Quality/Greenhouse Gas Emissions

Construction and operational activities that would emit criteria air pollutants and greenhouse gas emissions. FCS will prepare the Air Quality/Greenhouse Gas Emissions section (refer to the description under Task 2, Technical Studies) and identify impacts and mitigation (as appropriate). The supporting technical data will be provided as an appendix to the EIR.

Biological Resources

The project site contains annual grass land and scattered oak trees. The project applicant commissioned Foothill Associates to prepare a Biological Assessment, a Wetland Delineation, and Arborist Surveys for the project. FCS will use these Biological Resources technical studies to assess the significance of impacts and identify necessary mitigation. The biological reports will be provided as an appendix to the EIR.

Cultural Resources

The project site contains undeveloped land and, therefore, may contain undiscovered cultural resources (e.g., artifacts, fossils, etc.). The project applicant commissioned Foothill Associates to prepare a Cultural Resources Assessment for the project site. FCS will use the Cultural Resource Assessment as the basis for assessing the significance of impacts and identify necessary mitigation. The Cultural Resource Assessment will be provided as an appendix to the EIR.

Geology, Soils, and Seismicity

The proposed project would involve the development of commercial uses within a seismically active region of California. If available, FCS will use a geotechnical report provided by the applicant as the basis for assessing geological impacts and identifying mitigation. Should a geotechnical report not be available, FCS will rely on resources such as the El Dorado County General Plan and information provided the United States Geological Survey and California Geological Survey.

Hazards and Hazardous Materials

The project site contains undeveloped land that supports annual grassland and scattered oak trees. If available, FCS will use a Phase I Environmental Site Assessment (Phase I ESA) provided by the applicant as the basis for assessing hazards, hazardous materials impacts, and identifying mitigation. Should a Phase I ESA not be available, FCS will assess hazards and hazardous materials impacts through methods such as site reconnaissance and review of resources such as the El Dorado County General Plan and the State Water Resources Control Board “Geotracker” database.

Hydrology and Water Quality

Development of the proposed project would involve construction and operation activities that have the potential to create polluted runoff, increase impervious surface coverage, and create downstream drainage problems. Of particular concern is runoff from construction and operational activities into nearby waterways. If available, FCS will use a hydrology/storm water report or drainage plans provided by the applicant as the basis for assessing the significance of impacts and identify necessary mitigation. Should such reports or plans not be available, FCS will assess hydrology and water quality impacts through methods such as site reconnaissance and review of resources such as the El Dorado County General Plan, El Dorado County Municipal Code, and Regional Water Quality Control Board documents.

Land Use

The proposed project would involve changes to the underlying land use at the project site. As such, the project would be assessed for consistency with both the General Plan and Municipal Code. Consistency with all applicable General Plan goals and policies will be provided in a matrix format. Additionally, the proposed commercial and residential uses will be assessed in accordance with the development standards set forth in the General Plan and Municipal Code.

Noise

Construction and operational activities that would emit noise that may adverse impact nearby sensitive receptors. Extant Acoustical will prepare the Noise section (refer to the description under Task 2, Technical Studies) and identify impacts and mitigation (as appropriate). The supporting technical data will be provided as an appendix to the EIR.

Public Services and Utilities

FCS will evaluate existing public service and utility providers and evaluate project impacts in terms of the need to construct new or expand existing facilities, acquire additional supplies, generate effluent that exceeds the permitted capacity, etc. To the extent that information is readily available, FCS will use information provided by the applicant's civil engineer about anticipated utility loads (e.g., water demand, sewage generation, etc.). As appropriate, FCS will consult with public service and utility providers and summarize the findings in the EIR. The following public services and utility systems will be analyzed:

- Fire Protection/Emergency Medical Services
- Police Protection
- Water Supply
- Wastewater
- Storm Drainage
- Solid Waste
- Energy

Transportation

The proposed project involves the development of new commercial and residential uses on the project site, which have the potential to generate new trips, alter traffic circulation patterns, create a need for roadway improvements, and increase the use of public transit, bicycle, and pedestrian modes of transportation. As previously discussed, this scope of work assumes the project applicant will retain a traffic consultant to prepare a transportation analysis. FCS will use the transportation analysis as the basis for assessing transportation impacts and identifying mitigation. The transportation analysis will be provided as an appendix to the EIR.

Cumulative Effects

In accordance with CEQA Guidelines Section 15130, the EIR will address the cumulative effects of the proposed project in combination with other projects. As set forth in the CEQA Guidelines, the cumulative analysis will focus on impacts that the project has a significant incremental contribution towards, reflect the severity of the impacts and their likelihood of occurrence, and be guided by standards of practicality and reasonableness.

Alternatives

Pursuant to CEQA Guidelines Section 15126.6, the EIR will evaluate a range of feasible alternatives to the proposed project. One of the alternatives will be the CEQA-mandated "No Project Alternative," which is the circumstance under which the project does not proceed. FCS will evaluate up to three additional alternatives, likely consisting of a combination of a reduction in project size and alternate uses. In addition, the Alternatives section will address the feasibility of an alternative location, as well as any alternatives that were initially considered but rejected from further consideration.

Effects Found Not To Be Significant

CEQA Guidelines Section 15143 establishes that EIRs shall focus on significant impacts on the environment and need not discuss in detail effects that are clearly insignificant or unlikely to occur. Accordingly, the following topical areas are anticipated to be scoped out to the Effects Found Not to Be Significant section of the EIR:

- Mineral Resources
- Population and Housing
- Recreation

This section will also address certain checklist items within topical areas that will be evaluated in detail in the EIR (e.g., hydrology and water quality), but which are clearly insignificant or unlikely to occur (e.g., tsunami inundation).

Other CEQA Required Sections

This section will address the CEQA-required issues of significant environmental effects that cannot be avoided (CEQA Guidelines Section 15126[b]), significant irreversible environmental changes (CEQA

Guidelines Section 15126[c]), growth inducement (CEQA Guidelines Section 15126[d]), and energy conservation (CEQA Guidelines Appendix F).

Persons and Organizations Consulted/List of Preparers

In accordance with CEQA Guidelines Section 15129, the EIR will identify all agencies, organizations, and individuals consulted during the preparation of the document, as well as the agency representatives and firms that were involved with EIR preparation.

References

This section will list all resources used in the preparation of the EIR.

Technical Appendices

Pursuant to CEQA Guidelines Section 15147, supporting technical information will be appended to the EIR as technical appendices. This includes but is not limited to technical studies, modeling data, and correspondence.

Deliverables

- Eight (8) hard copies and one (1) electronic version (via FTP upload) of the Administrative Draft EIR to the County of El Dorado

Task 5: Screencheck Draft EIR

Upon receipt of a consolidated set of staff comments on the Administrative Draft EIR, FCS will prepare a Screencheck Draft EIR for County staff review. The Screencheck Draft EIR is intended to verify that staff comments were addressed and will document text changes in strikeout–underline format. Unresolved comments will be flagged for resolution.

Deliverables

- One (1) electronic version (via FTP upload) of the Screencheck Draft EIR to County of El Dorado

Task 6: Draft EIR

Once County staff provides final comments on the Screencheck Draft EIR, FCS will proceed with finalizing and producing the Draft EIR for public review. FCS will provide copies of the Draft EIR to the County of El Dorado, which will be responsible for local distribution, noticing, and posting. FCS will provide copies of the EIR to the State Clearinghouse, which will distribute the document to state agencies.

Deliverables

- 30 hard copies (appendices on CD), 20 CDs, and 1 reproducible master copy (unbound) of the Draft EIR to the County of El Dorado
- 15 Executive Summary hard copies and 15 CDs of the Draft EIR and the signed Notice of Completion form to the State Clearinghouse

Task 7: Administrative Final EIR

FCS will prepare an Administrative Final EIR in accordance with the applicable requirements contained in CEQA Guidelines Sections 15088 and 15089. The Administrative Final EIR will list all agencies, organizations, and individuals who submitted written comments on the Draft EIR during the public review period and provide written responses to those comments. In addition, the scope of work assumes that the County will hold a public hearing on the Draft EIR, at which time oral testimony on the document will be received. FCS will coordinate with County staff regarding the location and format of the meeting and will be responsible for preparing any materials or displays used during the meeting. FCS will provide written responses to oral comments received at the public hearing. (Note that this scope of work assumes that the County will provide FCS with a transcript, meeting minutes, video recording, or other form of documentation of the proceedings.) To enhance readability and avoid redundancy, FCS will use Master Responses to address frequent and reoccurring comments on the Draft EIR's analysis. Additionally, the Administrative Final EIR will contain an Errata, which will document minor changes to the Draft EIR text in strikeout–underline format.

This scope of work allocates a total of 100 hours for FCS technical staff to respond to comments received on the Draft EIR, in additional to administrative, editorial, GIS, and junior staff time to prepare the document. If the volume or complexity of comments requires more than 100 hours to respond to comments, FCS will request authorization from the County for additional budget.

Deliverables

- Six (6) hard copies and one (1) electronic version (via FTP upload) of the Administrative Final EIR to the County of El Dorado

Task 8: Screencheck Final EIR

Upon receipt of a consolidated set of staff comments on the Administrative Final EIR, FCS will prepare a Screencheck Final EIR for County staff review. The Screencheck Final EIR is intended to verify that staff comments were addressed and will document text changes in strikeout–underline format. Unresolved comments will be flagged for resolution.

Deliverables

- One (1) electronic version (via FTP upload) of the Screencheck Final EIR to County of El Dorado

Task 9: Final EIR

Once County staff provides final comments on the Screencheck Final EIR, FCS will proceed with finalizing and producing the Final EIR for public review. FCS will provide copies of the Final EIR to the County of El Dorado, which will be responsible for local distribution, noticing, and posting. FCS will send copies of the Final EIR directly to state agencies that commented on the Draft EIR.

Deliverables

- 15 hard copies (appendices on CD), 15 CDs, and 1 reproducible master copy (unbound) of the Final EIR to the County of El Dorado.
- One (1) CD of the Final EIR to each state agency that commented on the Draft EIR (FCS will be responsible for this task).

Task 10: Mitigation Monitoring and Reporting Program

FCS will prepare a comprehensive Mitigation Monitoring and Reporting Program (MMRP), pursuant to CEQA Guidelines Section 15097. The MMRP will contain all mitigation measures identified in the EIR. This comprehensive MMRP will provide the applicant team and County staff with a single source of reference to the full range of mitigation measures to be implemented. For each measure or group of similar measures, the agency responsible for ensuring proper implementation will be identified, along with the timing and method of verification. FCS will provide a draft version of the MMRP for County review. Upon receipt of County comments, FCS will prepare the final version of the MMRP. Copies of the MMRP will be included in the Final EIR submittal.

Deliverables

- One (1) electronic version of the draft MMRP to County of El Dorado
- Three (3) hard copies of the MMRP to County of El Dorado (an electronic version will be provided on the same CD as the Final EIR)

Task 11: Findings of Fact/Statement of Overriding Considerations

CEQA Guidelines Section 15091 requires the preparation of Findings of Fact for each significant effect identified in an EIR. Each finding must be accompanied by a brief explanation for the rationale of the finding. Additionally, if an EIR identifies one or more significant unavoidable impacts, CEQA Guidelines Section 15093 requires the preparation of a Statement of Overriding Considerations that explains why the economic, legal, social, technological, or other benefits of the project outweigh its significant impacts. FCS will prepare the Findings of Fact and (if necessary) the Statement of Overriding

Considerations. A draft version will be provided to County staff for review. Upon receipt of County comments, a final version will be provided to the County.

Deliverables

- One (1) electronic draft version of the Findings of Fact and Statement of Overriding Considerations to the County of El Dorado
- One (1) electronic final version of the Findings of Fact and Statement of Overriding Considerations to the County of El Dorado

Task 12: Meeting Attendance

FCS will meet by phone with County staff during the EIR preparation process to discuss and resolve problems, develop strategies, and participate in communications. This proposal and its associated budget cover attendance by FCS's Project Manager at ten (10) meetings in El Dorado County or conference call, which includes public hearings. A not-to-exceed budget has been established to cover meeting attendance. If County staff requests additional meeting attendance by FCS staff, or if the amount of time involved in these meetings exceeds the initial budget allocation, FCS will notify County staff of the additional costs and obtain authorization for the extra meeting time.

Task 13: Project Management

In addition to the research, analysis, communications, and report writing tasks described above, FCS will perform a variety of project management duties to ensure that the EIR meets the applicant and the County's standards of quality, and that it is delivered on time and within budget. These duties will include team supervision and coordination, oral and written communications with the applicant and County staff, project accounting, and quality assurance review by FCS's Project Director and Technical Editor of all deliverable products. These services also will include ongoing support to applicant and County staff, such as providing input to staff reports, regular schedule updates, and discussions of technical issues. This task assumes 100 hours of staff time.

Tasks Outside of Scope of Work

Below are tasks FCS has identified as being outside of its scope of work for the proposed project.

Newspaper Noticing/Local Noticing

FCS assumes that County staff will be responsible for noticing the Planning Commission and Board of Supervisors meetings at which the EIR will be considered for adoption. This includes publication of legal notices in newspapers and mailing of notices to surrounding property owners and interested parties.

Notice of Determination Filing/Payment of Fees

FCS assumes that the applicant team or County staff will file the Notice of Determination (if necessary) with the El Dorado County Clerk's Office within 5 business days of project approval. The purpose of the Notice of Determination filing is to limit the legal challenge period to 30 days. If a Notice of Determination is not filed within 5 business days of certification, the legal challenge period defaults to 180 days.

The Notice of Determination filing requires payment of the California Department of Fish and Wildlife CEQA filing fee (currently $2,995.25) and a County handling fee (currently $50). This scope of work assumes that the applicant will be responsible for paying these fees.

SCHEDULE AND FEES

Schedule

Task	Week
Project Initiation/Commence Technical Studies	1
Submit Administrative Draft NOP	2
Receive County Comments on Administrative Draft NOP	3
Release Notice of Preparation for Public Review	3
Close of Public Review Period	7
Submit Administrative Draft EIR to County	11
Receive County Comments on Administrative Draft EIR	13
Submit Screencheck Draft EIR to County	14
Receive County Comments on Screencheck Draft EIR	15
Release Draft EIR for Public Review	16
Close of Public Review Period	22
Submit Administrative Final EIR to County	24
Receive County Comments on Administrative Final EIR	25
Submit Screencheck Final EIR and MMRP to County	26
Receive County Comments on Screencheck Final EIR and MMRP	27
Release Final EIR and MMRP	28
Prepare Findings of Fact and Statement of Overriding Considerations	28
Public Meeting(s)	To Be Determined
File Notice of Determination	Within 5 Business Days of Project Approval

FEES

FCS has prepared the following budget identifying the costs of each task.

Task	Fee
Project Initiation	$5,500
Technical Study: Air Quality/Greenhouse Gases Analysis	$8,500
Technical Study: Health Risk Assessment	$14,500
Technical Study: Noise Analysis	$8,500
Notice of Preparation/Scoping	$5,500
Administrative Draft EIR	$59,000
Screencheck Draft EIR	$14,500
Draft EIR	$5,000
Administrative Final EIR	$16,000
Screencheck Final EIR	$7,000
Final EIR	$4,000
Mitigation Monitoring and Reporting Program	$1,500
Findings of Fact and Statement of Overriding Considerations	$6,500
Meeting Attendance	$14,500
Project Management	$18,000
Direct Costs	$8,500
Total FCS Professional Fee	**$197,000**

The assumptions used in calculating the above fees are:

- The fee is valid for up to 30 days from the date of this scope, after which it may be subject to revision.
- County staff will be responsible for distribution of public review documents.
- This price is based upon completion of the work within the proposed schedule. If delays occur, an amendment of the price would be warranted to accommodate additional project management and other costs, and to reflect adjustments for updated billing rates.
- Costs have been allocated to tasks, based upon FCS's proposed approach. During the work, FCS may, on its sole authority, re-allocate costs among tasks and/or direct costs, as circumstances warrant, so long as the adjustments maintain the total price within its authorized amount.
- The FCS Project Manager will be the primary representative at the project meeting and public hearing.

- Printing costs are based on the method of printing and binding proposed, numbers of copies proposed as work products, and estimated page lengths. Document printing costs are estimated and will be finalized at the time of printing. On further clarification of the documents (paper and/or digital CD) that the applicant team or County staff will need during the preparation effort, FCS will specifically identify a detailed reproduction work plan with more specific costs.

Scope of Work Modifications

FCS assumes a stable and complete project description and project plan set at project initiation. In the event the project description and/or scope of work change to a degree that alters the fee estimate, FCS will contact the applicant team or County staff in writing to submit a revised fee for mutual agreement, and a contract amendment will be processed. Requests for additional work will be documented, and a completion timetable and estimated fee will be submitted for applicant team or County approval.

Invoice Billing

Invoice billing will be on a monthly basis as determined by percentage of work completed.

TRAFFIC IMPACT ANALYSIS

FOR

EDH 52 SITE
Silva Valley Parkway North of US 50

El Dorado Hills, El Dorado County CA

Prepared For:

RSC ENGINEERING, INC
2250 Douglas Blvd, Suite 150
Roseville, CA 95661

Prepared By:

KDAnderson & Associates, Inc.
3853 Taylor Road, Suite G
Loomis, California 95650
(916) 660-1555



September 1, 2015

6260-13

Edh 52 doc.rpt

TRAFFIC IMPACT ANALYSIS FOR
EDH 52 SITE
Silva Valley Parkway North of US 50

TABLE OF CONTENTS

EXECUTIVE SUMMARY i

INTRODUCTION 1
Study Purpose and Objectives 1
Project Description 1

EXISTING SETTING 4
Study Area 4
Study Area Intersections 4
Level of Service Analysis 5
Public Transit 6
Bicycle and Pedestrian Facilities 6
Existing Conditions 7

EXISTING PLUS PROJECT IMPACTS 10
Trip Generation 10
Trip Distribution & Assignment 11
Existing Plus Project Conditions 12

EXISTING PLUS APPROVED PROJECTS IMPACTS (2019) 18
Queuing 22

GREEN VALLEY RD/SOPHIA PKWY INTERSECTION EVALUATION 24
Design Vehicle Access 24
Results 24
Emergency Vehicle Access 25

TRAFFIC SAFETY 30
Accident History 30

NON-MOTORIZED TRANSPORTATION 31

SIGHT DISTANCE 31

ON-SITE QUEUING 32

FINDINGS / RECOMMENDATIONS / MITIGATIONS 35
Existing Conditions 35
Mitigations for Existing Plus Project Conditions 35
2019 Conditions 36
Mitigations for 2019 Plus Project Conditions 36

REFERENCES 38

APPENDIX 39

KDA

EDH 52 SITE
TRAFFIC IMPACT ANALYSIS

EXECUTIVE SUMMARY

Project Description. The EDH 52 project is a proposed retail center located on Silva Valley Parkway in El Dorado Hills. The project is located north of US 50 and east of Old Silva Valley Road. Silva Valley Parkway will bisect the project. The east side of the project will include a 106,000 square foot of retail shopping and a gas station with 12 vehicle fueling positions. The west side of the project will include 96,900 square feet of retail shopping, a 4,000 square foot fast food restaurant with drive-through window, a 7,500 square foot sit-down restaurant and a 12 fueling position gas station with car wash.

Access to the site will be as follows:

East Side
- Right-in, right-out access along Silva Valley Parkway at Tong Road to the gas station
- Signalized full access about midway between US 50 and Old Silva Road

West Side
- Signalized full access about midway between US 50 and Old Silva Road
- Full access along Old Silva Valley Road
- Right-in, right-out along Old Silva Road

The project is expected to generate approximately 15,390 daily trips on a weekday basis. The project will generate 722 trips during the a.m. peak hour and 1,285 trips during the p.m. peak hour. After discounting pass-by/diverted link trips and internally captured trips the project will generate 8,405 new daily trips, 433 new a.m. peak hour trips and 723 new p.m. peak hour trips.

Existing Setting - Traffic. The location of the project is in western El Dorado County, north of the Silva Valley Parkway Interchange which is scheduled to open in 2016. The interchange is east of the existing Silva Valley Road undercrossing of US 50. Once completed, the existing Silva Valley Road will be named Old Silva Valley Road and Silva Valley Parkway will connect to White Rock Road south of US 50. New traffic counts were conducted in February 2015 at intersections along Silva Valley Parkway. Traffic volumes along White Rock Road were obtained from the Supplemental Traffic Impact Analysis for East Ridge Village, prepared by *TKear, Transportation Planning and Management, Inc.*

Two study intersections will operate at LOS F. These include the Silva Valley Parkway / Entrada Drive intersection and the Silva Valley Parkway / Oak Meadow Elementary School driveway. Both intersections currently meet the peak hour traffic signal warrant in the A.M. peak hour.

The County intends to install a "soft" prohibition (i.e. restricted left turn signing) along Entrada Drive to restrict left turn movements from Entrada Drive to southbound Silva Valley Parkway coinciding with the opening of the Silva Valley interchange. Left turning traffic will use Serrano Parkway to enter onto Silva Valley Parkway. The LOS will improve to acceptable conditions with this modification.

A traffic signal should be installed at the Silva Valley Parkway / Oak Meadow Elementary School driveway. This will improve the intersection level of service to LOS B conditions (12.8 seconds).

Existing Setting – Non-Automotive. The project will be constructed adjacent to the US 50 / Silva Valley Interchange. Silva Valley Parkway is currently being constructed and will connect White Rock Road in the south to the existing four lane section of Silva Valley Parkway in the north. Sidewalk and bike lanes will be constructed as part of this project.

Sidewalk is present along the east side of Silva Valley Parkway beginning at the Oak Meadow Elementary School and heading north while a natural surface walking path is available on the west side of the roadway from Serrano Parkway to about ¼ mile north of the US 50 undercrossing where it connects to a pathway to Ponta Delgado Court. The interchange project will construct sidewalk along the west side of Old Silva Valley Parkway from White Rock Road to Silva Valley Parkway.

In the project vicinity, bike lanes exist along Silva Valley Parkway north of the site, generally from the south end of Oak Meadow Elementary School. A connection to the natural surface path is available along the roadway. The interchange project will extend the bike lanes within the project limits and connect to both the existing facilities along Silva Valley Parkway and White Rock Road. In addition, the project will add bike lanes along Old Silva Valley Road and provide an alternative for bicyclists to avoid the interchange.

2016 Conditions. 2016 conditions were evaluated as the baseline condition and coincide with the opening of the US 50 / Silva Valley Parkway interchange. The countywide regional travel demand forecasting model was used as the basis for developing future volume forecasts in the study area. The 2010 calibrated model was re-run with the interchange in place. A straight line interpolation was then completed between the 2010 and 2035 models along the roadway segments to determine expected growth rates along the study roadways. With the opening of the Silva Valley Parkway interchange it was expected that traffic at the El Dorado Blvd Interchange and throughout the El Dorado Hills area will shift with some roadway segments and intersections experiencing increases or decreases in traffic.

The 2016 analysis assumes local improvements have been completed along Silva Valley Parkway with the completion of the US 50 / Silva Valley Parkway interchange. The interchange will include a four lane roadway with a diamond interchange (L-2) for the westbound ramps and an L-7 partial cloverleaf configuration for the eastbound ramps. Old Silva Valley Road will be maintained and connect to Silva Valley Parkway at two locations, about 1,000' north of the westbound ramps and about 1,000' south of the eastbound ramps. The south intersection will be signalized as part of the interchange project while the north intersection will be stop controlled

along Old Silva Valley Road. With the interchange completed, the Tong Road intersection will become right-in, right-out access only. The westbound Serrano Parkway approach to Silva Valley Parkway will also be modified by changing the inside through to a left turn lane; this approach will include two left turn lanes and a through-right lane. A "soft" turn restriction (i.e. signage) will be added to the Entrada Drive approach to Silva Valley Parkway, restricting left turn movements during peak hours. Traffic in the peak hours will use Village Green Drive to Serrano Parkway and then make a left turn onto southbound Silva Valley Parkway to head south.

One study intersection, the Silva Valley Parkway / Oak Meadow Elementary School driveway will operate at LOS F. The intersection will meet the peak hour traffic signal warrant in the a.m. peak hour. As noted in the Existing Conditions a traffic signal is identified and should be installed at the school driveway. This will improve the intersection level of service to LOS B conditions (14.4 seconds).

The westbound roadway along US 50 between Bass Lake Road and Silva Valley Parkway will operate at LOS F in 2016. The County has an identified project, #71330 that will add an auxiliary lane to westbound US 50 on this segment. The project is identified for construction between FY 24/25 and FY 33/34.

The westbound roadway along US 50 between Silva Valley Parkway and El Dorado Hills Blvd will operate at LOS F in 2016. The County has an identified project, #53120 that will add an auxiliary lane to westbound US 50 on this segment. The project is identified for construction between FY 24/25 and FY 33/34.

2016 Plus Project Traffic Impacts. The proposed project will contribute to the traffic volumes along Silva Valley Parkway, White Rock Road, US 50 and the surrounding roadways.

The project shall contribute its fair share to the cost of regional circulation improvements via the existing countywide traffic impact mitigation (TIM) fee program, and no other mitigations are identified.

The Silva Valley Parkway / Oak Meadow Elementary School driveway will operate below the County's LOS threshold. This intersection will operate at LOS F in the A.M. peak hour and meet the peak hour traffic signal warrant in that time period. With signalization the intersection will operate at LOS B (15.4 seconds). The project should contribute their fair share to construct the traffic signal. The fair share is determined by dividing the project traffic by the difference in Cumulative plus Project traffic minus Existing traffic. The fair share for this project is 9.8%.

The westbound roadway along US 50 between Bass Lake Road and Silva Valley Parkway will operate at LOS F under 2016 plus Project conditions. The County has an identified project, #71330 that will add an auxiliary lane to westbound US 50 on this segment. This project is identified for construction between FY 24/25 and FY 33/34. Until the lane is added, this segment will operate with a **significant and unavoidable impact**.

The westbound roadway along US 50 between Silva Valley Parkway and El Dorado Hills Blvd will operate at LOS F under 2016 plus Project conditions. The County has an identified project,

#53120 that will add an auxiliary lane to westbound US 50 on this segment. The project is identified for construction between FY 24/25 and FY 33/34. Until the lane is added, this segment will operate with a **significant and unavoidable impact**.

2025 Background Setting. The analysis of the near term 2025 cumulative condition is intended to consider the impact of this project ten years from the current year. Under El Dorado County guidelines the 2025 volumes were calculated using a straight line interpolation between existing traffic levels and projected 2035 traffic projections. The configuration of the study area streets and intersections will remain as they are projected to exist with the opening of the Silva Valley Parkway / US 50 interchange in 2016.

One study intersection, the Silva Valley Parkway / Oak Meadow Elementary School driveway will operate at LOS F and will meet the peak hour traffic signal warrant in the a.m. peak hour. As noted in the Existing Conditions a traffic signal is identified and should be installed at the school driveway. This will improve the intersection level of service to LOS B conditions (13.1 seconds).

The westbound roadway along US 50 between Bass Lake Road and Silva Valley Parkway will operate at LOS F in 2016. The County has an identified project, #71330 that will add an auxiliary lane to westbound US 50 on this segment. The project is identified for construction between FY 24/25 and FY 33/34.

The westbound roadway along US 50 between Silva Valley Parkway and El Dorado Hills Blvd will operate at LOS F in 2016. The County has an identified project, #53120 that will add an auxiliary lane to westbound US 50 on this segment. The project is identified for construction between FY 24/25 and FY 33/34.

2025 plus Project Traffic Impacts. With the addition of project traffic to all intersections and roadways, one intersection will operate below the County LOS threshold. This is the Silva Valley Parkway / Oak Meadow School intersection which will operate with the minor street approach at LOS F during the a.m. peak hour. The Silva Valley Parkway / Oak Meadow School intersection meets the peak hour signal warrant in the a.m. peak hour.

The Silva Valley Parkway / Oak Meadow Elementary School driveway will operate at LOS B (13.5 seconds) with the intersection signalized as previously noted.

The westbound roadway along US 50 between Bass Lake Road and Silva Valley Parkway will operate at LOS F under 2016 plus Project conditions. The County has an identified project, #71330 that will add an auxiliary lane to westbound US 50 on this segment. This project is identified for construction between FY 24/25 and FY 33/34. Until the lane is added, this segment will operate with a **significant and unavoidable impact**.

The westbound roadway along US 50 between Silva Valley Parkway and El Dorado Hills Blvd will operate at LOS F under 2016 plus Project conditions. The County has an identified project, #53120 that will add an auxiliary lane to westbound US 50 on this segment. The project is identified for construction between FY 24/25 and FY 33/34. Until the lane is added, this segment will operate with a **significant and unavoidable impact**.

2035 Setting. The analysis of the long term cumulative impact analysis is intended to consider the impact of this project within the context of conditions occurring under the El Dorado County General Plan in the Year 2035. The Bass Lake Road / Country Club Road intersection was also analyzed as part of the Cumulative Impacts scenario. The most recent countywide regional travel demand forecasting model was used as the basis for developing future volumes forecasts in the study area. The cumulative analysis assumes regional circulation system improvements will be completed between 2026 and 2035 and are identified in the County's Capital Improvement Program (CIP). The identified projects include:

- Modification of the US 50 / Silva Valley Interchange; this includes addition of free right turn on-ramps for both eastbound and westbound directions and a free northbound on-ramp to eastbound US 50;
- the completion of Country Club Drive from Silva Valley Parkway to east of Bass Lake Road. This includes a two-lane roadway and realignment of Country Club Drive in various segments between Silva Valley Parkway and Bass Lake Road. The Country Club Drive extension is assumed to intersect the Silva Valley Parkway / Old Silva Valley Road intersection. The Silva Valley Parkway / Old Silva Valley Road - Country Club Drive intersection is assumed to be signalized with the following lane configuration – left lane, through lane and through-right lanes along Silva Valley Parkway and a left lane and a through-right lane along the Old Silva Valley Road – Country Club Drive approaches. In addition, it is assumed that the Bass Lake Road intersection will be signalized with left turn lanes installed along each approach to the intersection;
- widening of White Rock Road from west of Old Silva Valley Road to just east of Post Street; this includes widening of the segment to a six lane roadway;
- addition of a third general use westbound lane on US 50; and
- signalization of the Silva Valley Parkway / Golden Eagle Lane intersection.

One intersection will operate at an LOS F condition. This is the Silva Valley Parkway / Oak Meadow Elementary School driveway which will meet the peak hour signal warrant in the A.M. peak hour.

As noted in the Existing Conditions a traffic signal is identified and should be installed at the school driveway. This will improve the intersection level of service to an LOS A condition (8.6 seconds).

2035 plus Project Impacts. The distribution of project traffic in the 2035 buildout condition was developed based on the select zone analysis using the County's traffic model and the project location within the model. The residential component of the TAZ #163 was excluded so that the trip distribution reflected specifically the retail portion (i.e. the project) of the TAZ at future year buildout.

The Silva Valley Parkway / Oak Meadow Elementary School driveway will operate below the County's LOS threshold. This intersection will operate at LOS F in the a.m. peak hour and meet the peak hour traffic signal warrant in that time period. The intersection will operate at LOS B (8.7 seconds) with the intersection signalized as previously noted.

EDH 52 SITE
TRAFFIC IMPACT ANALYSIS

INTRODUCTION

Study Purpose and Objectives

This study evaluates the traffic impacts for a proposed retail center on Silva Valley Parkway in El Dorado Hills in western El Dorado County. The project is located north of US 50 and east of Old Silva Valley Road. Silva Valley Parkway will bisect the project. The east side of the project will include a 106,000 square foot of retail shopping and a gas station with 12 vehicle fueling positions. The west side of the project will include 96,900 square feet of retail shopping, a 4,000 square foot fast food restaurant with drive-through window, a 7,500 square foot sit-down restaurant and a 12 fueling position gas station with car wash. Access to the site will be as follows:

East Side
- Right-in, right-out access along Silva Valley Parkway at Tong Road to the gas station
- Signalized full access about midway between US 50 and Old Silva Road

West Side
- Signalized full access about midway between US 50 and Old Silva Road
- Full access along Old Silva Valley Road
- Right-in, right-out along Old Silva Road

The study addresses the following scenarios:

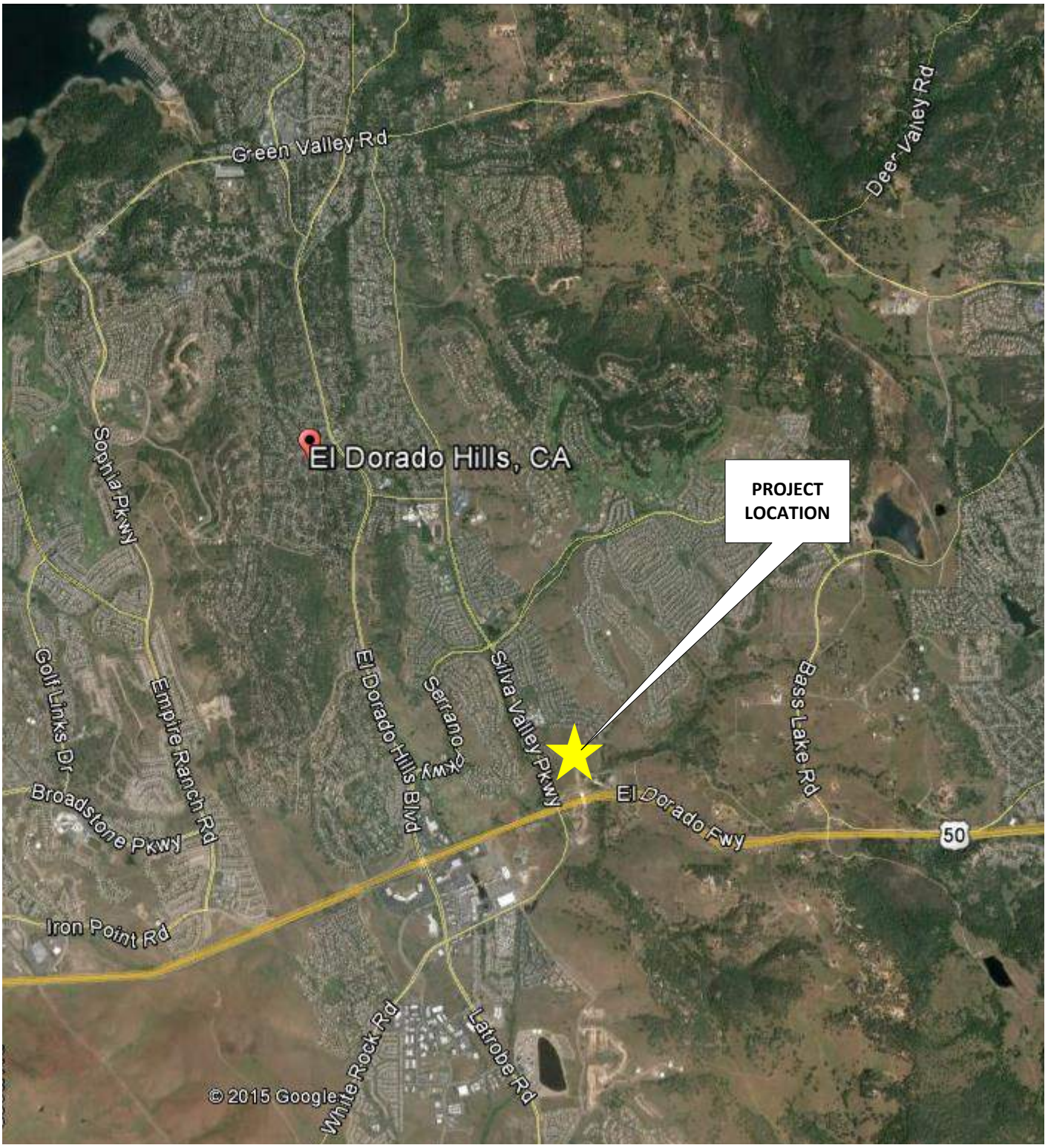
1. Existing (2015) Traffic Conditions
2. Existing (2016) Traffic Conditions (Silva Valley Interchange opened)
3. Existing (2016) Plus Project Traffic Conditions
4. 2025 Traffic Conditions
5. 2025 Plus Project Conditions
6. 2035 Traffic Conditions
7. 2035 Plus Project Conditions

The objective of this study is to identify those roads and street intersections that may be impacted by development of this project.

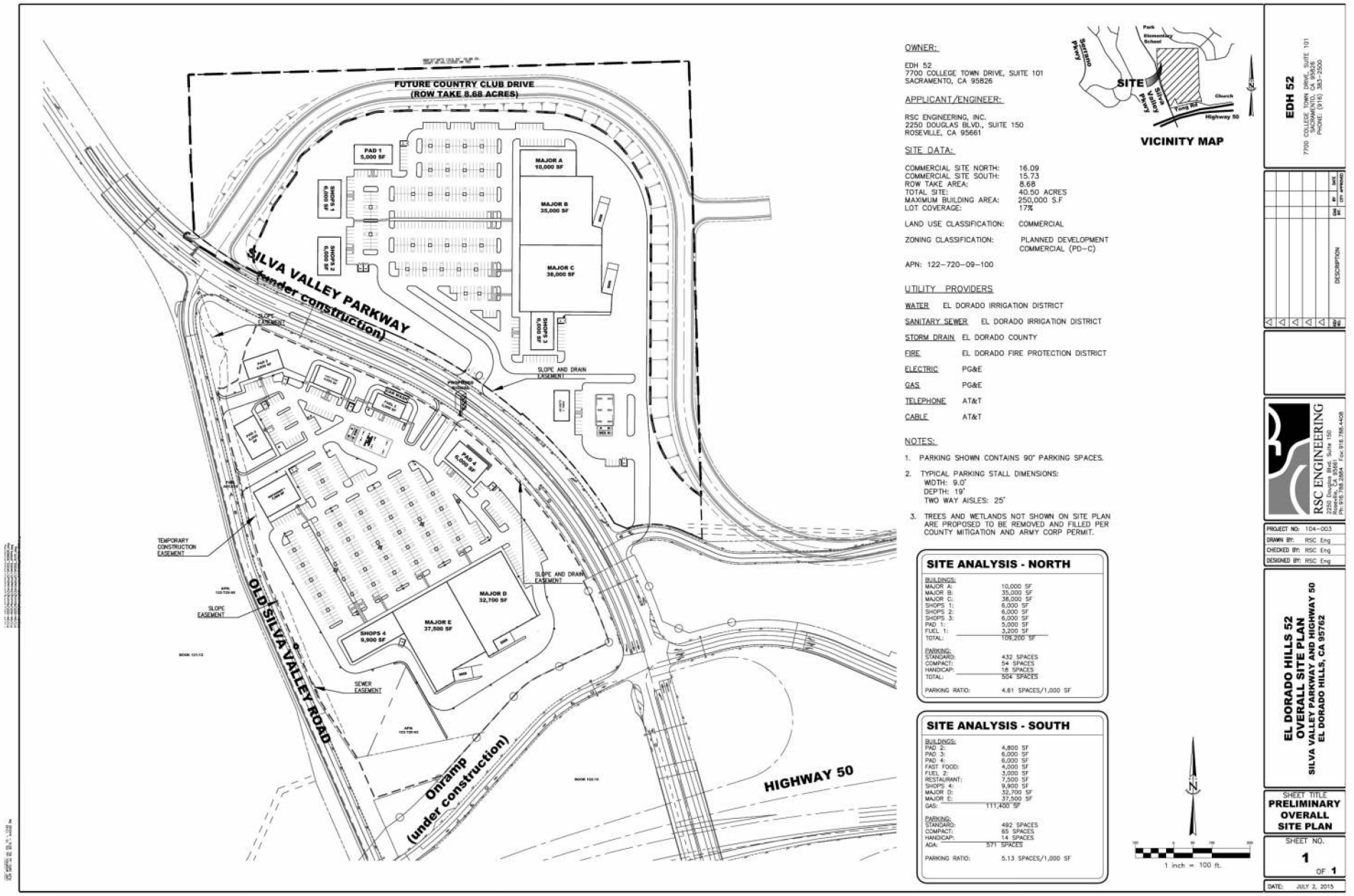
Project Description

The EDH 52 project includes a combination of retail uses bisected by Silva Valley Parkway which is currently under construction. The west side of the site will include 96,900 square feet of retail shopping, a 4,000 square foot fast food restaurant with drive-through window, a 7,500 square foot sit-down restaurant and a 12 vehicle fueling position gas station with car wash. The

east side will include 106,000 square feet of retail shopping and a gas station with 12 fueling positions. Access to the site will be along Silva Valley Parkway and Old Silva Valley Road. The site will have right-in, right out access along northbound Silva Valley Parkway at Tong Road providing direct access to the gas station on the east side of the site, full access to both sites via a new intersection on Silva Valley Parkway about midway between US 50 and Old Silva Valley Road and along Old Silva Valley Road. The future Country Club Drive extension will loop around the outside of the east side retail area and connect to the Silva Valley Parkway / Old Silva Valley Road intersection. No site access is proposed along Country Club Drive. Figure 1 presents a map of the vicinity with the project location relative to the project area while Figure 2 presents the proposed project configuration.



VICINITY MAP



SITE PLAN

KD Anderson & Associates, Inc.
Transportation Engineers

6260-13 LT 9/1/2015

figure 2

EXISTING SETTING

Study Area

This study addresses traffic conditions at 13 intersections, seven roadway segments and four freeway ramp junctions. The study intersections are shown in Figure 3. The limits of the study area were identified in consultation with El Dorado County staff and Kittelson & Associates [KAI], the County's traffic consultant. The text that follows describes the facilities included in this analysis. The quality of traffic flow is typically governed by the operation of major intersections and the daily volume of traffic along the roadways. The study locations include:

Study Area Roadways and Intersections

Silva Valley Parkway is an arterial roadway that extends for roughly 4 miles from US 50 to Green Valley Road. The southern segment is currently under construction that will widen the roadway to a four lane facility between US 50 to south of Oak Meadow Elementary School. Between Oak Meadow Elementary School and Harvard Way the roadway is four lanes while north of Harvard Way the roadway is two lanes.

Old Silva Valley Road is an existing roadway that connects White Rock Road in the south to Silva Valley Parkway in the north. Upon completion of the Silva Valley Parkway interchange this roadway will become a local roadway with connections to the new Silva Valley Parkway north and south of US 50.

US 50 between El Dorado Hills Blvd and Bass Lane Road and the Silva Valley Interchange is a seven lane freeway with four eastbound lanes and three westbound lanes. The carpool lanes are available outside of peak hours for general use.

Country Club Drive is an existing roadway that extends west from Cameron Park Drive in Cameron Park to Bass Lake Road. As part of the Bass Lake Specific Plan a future two-lane extension of Country Club Drive will be constructed to connect to Silva Valley Parkway.

Tong Road is an existing roadway that extends east from Silva Valley Parkway towards Bass Lake Road. With the proposed project Tong Road will become a right-in, right-out access to the proposed gas station on the east side of Silva Valley Parkway.

White Rock Road is an east-west arterial roadway that extends from Silva Valley Parkway to the Sacramento County line, where it continues west to Grant Line Road and International Drive in Rancho Cordova. The roadway is currently two lanes between Silva Valley Parkway and Monte Verde Drive; at Monte Verde Drive the roadway widens to a four lane roadway until just west of Windfield Way.

The **Silva Valley Parkway / Harvard Way Street intersection** is a four-way signalized intersection. Oak Ridge High School is located in the southwest quadrant of the intersection while Rolling Hills Middle School has direct access on the east approach of the intersection. The northbound approach includes a left turn lane and a through-right lane while the southbound

approach includes a left lane, a through lane and a right lane. The eastbound Harvard Way approach includes a left lane, a through lane and a right lane while the westbound Rolling Hills Middle School approach includes a left lane and a through-right lane; the eastbound and westbound approaches are split phased while the Silva Valley Parkway approaches have protected left turns.

The **Silva Valley Parkway / Golden Eagle Lane intersection** is a four way minor leg stop controlled intersection. The Silva Valley Parkway approaches include a left turn lane, a through lane and a through-right lane while the Golden Eagle Lane approaches are a single lane.

The **Silva Valley Parkway / Serrano Parkway intersection** is a four-way signalized intersection. The northbound approach includes a left turn lane, two through lanes and a free right turn lane while the southbound approach includes a left turn lane, a through lane and a through-right lane. The Serrano Parkway approaches include a left turn lane, a through lane and a through-right lane; however, the County will be modifying the westbound approach with the completion of the Silva Valley interchange to include dual left lanes and a through-right lane.

The **Silva Valley Parkway / Entrada Lane intersection** is a minor leg stop controlled tee intersection. The southbound Silva Valley Parkway approach includes a left turn lane and two through lanes while the northbound approach includes a through lane and a through-right lane while the Entrada Lane approach is a single lane. With the completion of the Silva Valley Parkway interchange access from Entrada Lane will be limited to right turns only during peak hours through the use of "soft" sign restrictions. Entrada Lane traffic heading south will use Serrano Parkway to access southbound Silva Valley Parkway.

The **Silva Valley Parkway / Oak Meadow Elementary School intersection** is stop controlled along the Oak Meadow Elementary School driveway. The southbound Silva Valley Parkway approach includes a left turn lane and a through lane while the northbound approach includes a through lane and a through-right lane; the driveway approach is a single lane.

The **Silva Valley Parkway / Old Silva Valley Road (north) intersection** is a future tee intersection that will be opened with the completion of the Silva Valley Parkway interchange. Old Silva Valley Road will be stop controlled and include a single lane approach. Northbound Silva Valley Parkway will include a left turn lane and two through lanes while the southbound approach will include a through lane and a through-right lane.

The **Silva Valley Parkway / Tong Road intersection** is a tee intersection that is stop controlled along Tong Road. With the opening of the Silva Valley Parkway interchange Tong Road will have right-in, right-out movements only. Silva Valley Parkway will have two northbound through lanes and a right turn lane while the southbound approach will include three through lanes. Tong Road will include a single stop controlled approach.

The **Silva Valley Parkway / Old Silva Valley Road (south) intersection** is a future four-way intersection that will be opened with the completion of the Silva Valley Road interchange. The intersection will be signalized and provide access to Joerger Cut-off Road, currently accessible along the existing Silva Valley Road. When completed the northbound Silva Valley Parkway

approach will include a left turn lane, a through lane and a through-right lane while the southbound approach will include a left turn lane, two through lanes and a right turn lane. The approaches along Old Silva Valley Road will include a left-through lane and a right turn lane.

The **White Rock Road / Valley View Parkway – Vine Street intersection** is a four-way signalized intersection. All of the approaches include a left turn lane and a through-right lane. The intersection has protected left turns along White Rock Road and a split phase along the Valley View Parkway-Vine Street approaches.

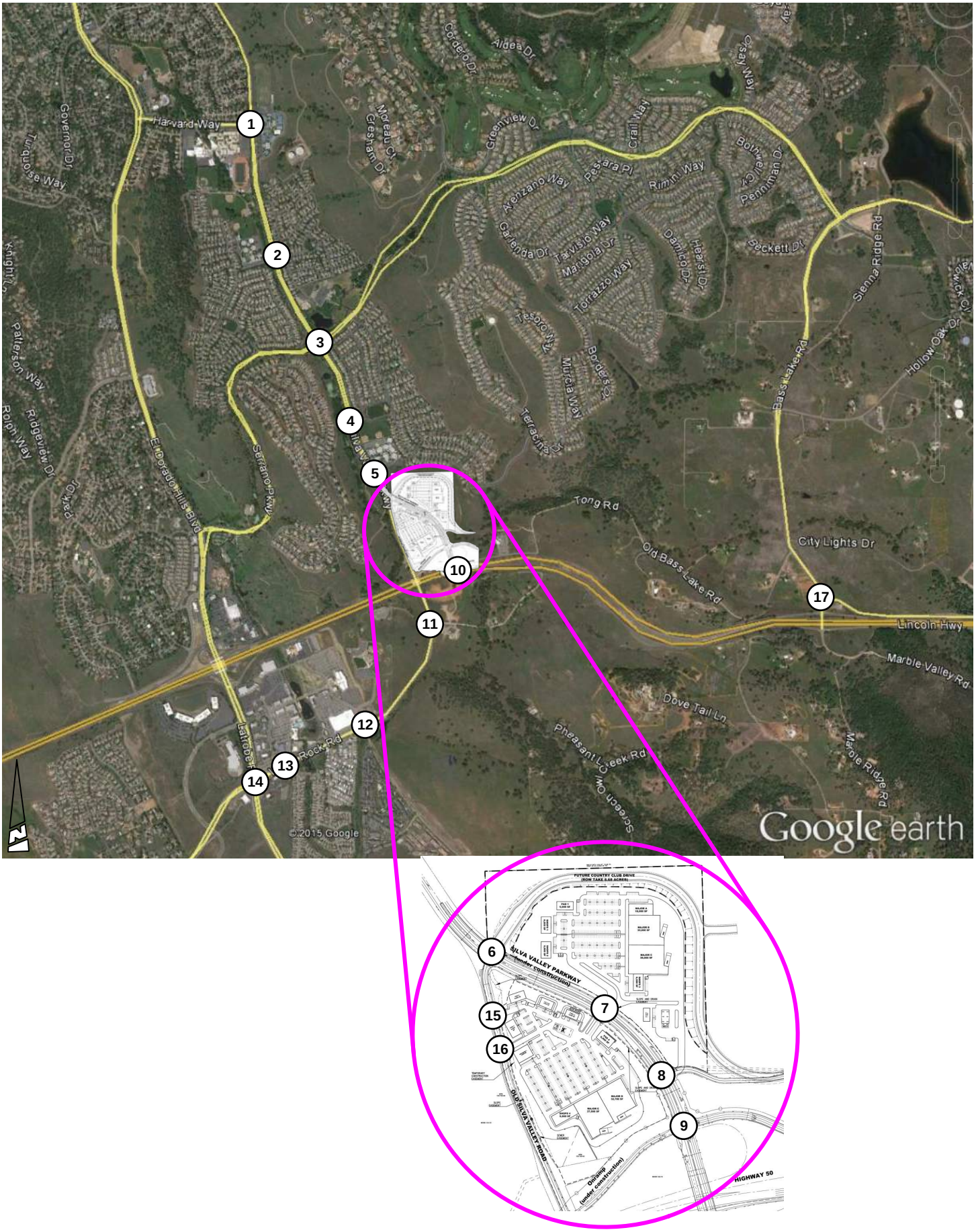
The **White Rock Road / Post Street intersection** is a four-way signalized intersection. The westbound White Rock Road approach includes a left turn lane, a through lane and a through-right lane while the eastbound approach includes a left turn lane, two through lanes and a right turn lane. The Post Street approaches include a left turn lane and a through-right lane. All left turns operate in protected phases.

The **White Rock Road / Latrobe Road intersection** is a four-way signalized intersection. The northbound Latrobe Road approach includes a left turn lane, four through lanes and a right turn lane while the southbound approach includes two left turn lanes, three through lanes and a right turn lane. The westbound White Rock Road approach includes two left turn lanes, two through lanes and a right lane while the eastbound approach includes two left turn lanes, a through lane and a through-right lane. All left turns operate in protected phases.

Study Area Freeway Ramp Junctions

In addition to analyzing intersections, the traffic-related effects of the proposed project on freeway ramp junctions were assessed for this traffic impact study. Ramp junctions that would serve as major access routes, and would be affected by project-related traffic, were analyzed. The following ramp junctions were analyzed under 2016, 2025 and 2025 conditions without and with the project:

1. US 50 at Silva Valley Parkway westbound on-ramp merge
2. US 50 at Silva Valley Parkway westbound off-ramp diverge
3. US 50 at Silva Valley Parkway eastbound on-ramp merge
4. US 50 at Silva Valley Parkway eastbound off-ramp diverge



STUDY INTERSECTIONS

KD Anderson & Associates, Inc.
Transportation Engineers

6260-13 LT 9/1/2015

figure 3

Level of Service Analysis

Methodology. *Level of Service Analysis* has been employed to provide a basis for describing existing traffic conditions and for evaluating the significance of project traffic impacts. Level of Service measures the *quality* of traffic flow and is represented by letter designations from "A" to "F", with a grade of "A" referring to the best conditions, and "F" representing the worst conditions. The guidelines and analyses used for this report follow El Dorado County standards. Local agencies adopt minimum Level of Service standards for their facilities. Intersection Levels of Service presented in this analysis are based on the weighted average total delay per vehicle for the intersection as a whole based on the thresholds shown in Table 1.

TABLE 1
LEVEL OF SERVICE DEFINITIONS

Level of Service	Signalized Intersection	Unsignalized Intersection	Roadway (Daily)
"A"	Uncongested operations, all queues clear in a single-signal cycle. Delay ≤ 10.0 sec	Little or no delay. Delay ≤ 10 sec/veh	Completely free flow.
"B"	Uncongested operations, all queues clear in a single cycle. Delay > 10.0 sec and ≤ 20.0 sec	Short traffic delays. Delay > 10 sec/veh and ≤ 15 sec/veh	Free flow, presence of other vehicles noticeable.
"C"	Light congestion, occasional backups on critical approaches. Delay > 20.0 sec and ≤ 35.0 sec	Average traffic delays. Delay > 15 sec/veh and ≤ 25 sec/veh	Ability to maneuver and select operating speed affected.
"D"	Significant congestion of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. Delay > 35.0 sec and ≤ 55.0 sec	Long traffic delays. Delay > 25 sec/veh and ≤ 35 sec/veh	Unstable flow, speeds and ability to maneuver restricted.
"E"	Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). Delay > 55.0 sec and ≤ 80.0 sec	Very long traffic delays, failure, extreme congestion. Delay > 35 sec/veh and ≤ 50 sec/veh	At or near capacity, flow quite unstable.
"F"	Total breakdown, stop-and-go operation. Delay > 80.0 sec	Intersection blocked by external causes. Delay > 50 sec/veh	Forced flow, breakdown.

Sources: 2010 Highway Capacity Manual, Transportation Research Board (TRB).
2000 Highway Capacity Manual, Transportation Research Board (TRB) Special Report 209.

Roadway Segments

The quality of traffic flow on County roads can also be determined based on the daily traffic volumes and generalized Level of Service thresholds. General "planning level" daily volume

thresholds presented in the El Dorado County General Plan EIR and Transportation Impact Study Guidelines can be used to identify operating Levels of Service on streets and highways. These thresholds are shown in Table 2.

TABLE 2
EL DORADO COUNTY
PEAK HOUR ROADWAY SEGMENT LEVEL OF SERVICE

Code	Functional Class Codes	Maximum Daily Traffic Volume Per Lane Level of Service				
		A	B	C	D	E
2A	Two-Lane Arterial	---	---	850	1,540	1,650
4AU	Four-Lane Arterial – Undivided	---	---	1,760	3,070	3,130
4AD	Four-Lane Arterial – Divided	---	---	1,850	3,220	3,290
6AD	Six-Lane Arterial – Divided	---	---	2,760	4,680	4,710
4M	Four-Lane Multi-Highway (Two Dir)	---	2,240	3,230	4,250	4,970
2F	Two Freeway Lanes (One Dir)	---	2,070	2,880	3,590	4,150
2FA	Two Freeway Lanes + Auxiliary Lane (One Dir)	---	2,610	3,630	4,520	5,230
3F	Three Freeway Lanes (One Dir)	---	3,100	4,320	5,380	6,230
3FA	Three Freeway Lanes + Auxiliary Lane (One Dir)	---	3,640	5,070	6,320	7,310
4F	Four Freeway Lanes (One Dir)	---	4,140	5,760	7,180	8,310

Source: Transportation Impact Study Guidelines, 2014, El Dorado County

Freeway Ramp Junction Level of Service Analysis Procedures

Freeway ramp junctions are areas where freeway on-ramps merge into freeways, and where freeway off-ramps diverge from freeways. Freeway ramp junctions which are considered to be potentially affected by project-related traffic were analyzed for this traffic impact study.

Freeway ramp junction areas were analyzed for this traffic impact study using methods described in Chapter 13 of the *Highway Capacity Manual 2010* (Transportation Research Board 2010). McTrans *HCS 2010 Highway Capacity Software* was used to perform the ramp junction LOS calculations for this traffic impact study.

The analysis of these facilities involves calculating the density of vehicles on a freeway facility, expressed as passenger cars per mile per lane. The LOS designation is based on the vehicle density. Table 3 presents the relationship of vehicle density to LOS for ramp junctions.

TABLE 3
FREEWAY RAMP MERGE / DIVERGE

Level of Service	Vehicle Density	Operating Characteristics
A	≤ 10	Represents unrestricted operations. Density is low enough to permit smooth merging and diverging, with virtually no turbulence in traffic stream.
B	>10 x ≤20	Merging and diverging maneuvers become noticeable to through drivers, and minimal turbulence occurs. Merging drivers must adjust speeds to accomplish smooth transitions from acceleration lane to freeway.
C	>20 x ≤28	Speed within influence area declines as turbulence levels become noticeable. Ramp and freeway vehicles begin to adjust speeds to accomplish smooth transitions.
D	>28 x ≤35	Turbulence levels in influence area become intrusive; virtually all vehicles slow to accommodate merging and diverging traffic. Some ramp queues may form at heavily used on-ramps, but freeway operations remain stable.
E	>35	Conditions approach capacity. Speeds reduce significant and turbulence if felt by virtually all drivers. Flow levels approach capacity and small changes in demand and/or disruption within traffic stream can cause both ramp and freeway queues to form.
F	Demand exceeds capacity	Demand exceeds capacity. Substantial disruption and queuing are present.

El Dorado County Intersection Thresholds of Significance. El Dorado County identifies LOS 'E' as the acceptable Level of Service on roadways and state highways within the unincorporated areas of the County in the Community Regions and LOS D in the Rural Centers and Rural Regions except as specified in the General Plan. The *2000 Highway Capacity Manual* (HCM) and *2010* HCM were used to provide a basis for describing existing traffic conditions and for evaluating the significance of project traffic impacts. The 2000 HCM was used to analyze signalized intersections while the 2010 HCM was used to analyze unsignalized intersections. The 2000 methodology is consistent with analyses on recently completed adjacent projects. An impact is considered significant if the project causes an intersection to change from LOS E to LOS F. Worsening of existing facilities already operating at unacceptable Levels of Service is also considered a significant impact. The County's General Plan Policy TC-Xe defines "worsen" as any of the following conditions:

a. a 2% increase in traffic during the a.m. peak hour, p.m. peak hour or daily trips, or
b. the addition of 100 or more daily trips, or
c. the addition of 10 or more trips during the a.m. peak hour or the p.m. peak hour.

Existing Levels of Service

Intersection Levels of Service. Figure 4 presents the existing lane configurations and current peak hour traffic volumes at intersections in the study area. Traffic volumes along Silva Valley Parkway were counted in February 2015. Traffic volumes along White Rock Road were obtained from the Supplemental Traffic Impact Analysis for East Ridge Village, prepared by *TKear, Transportation Planning and Management, Inc.*

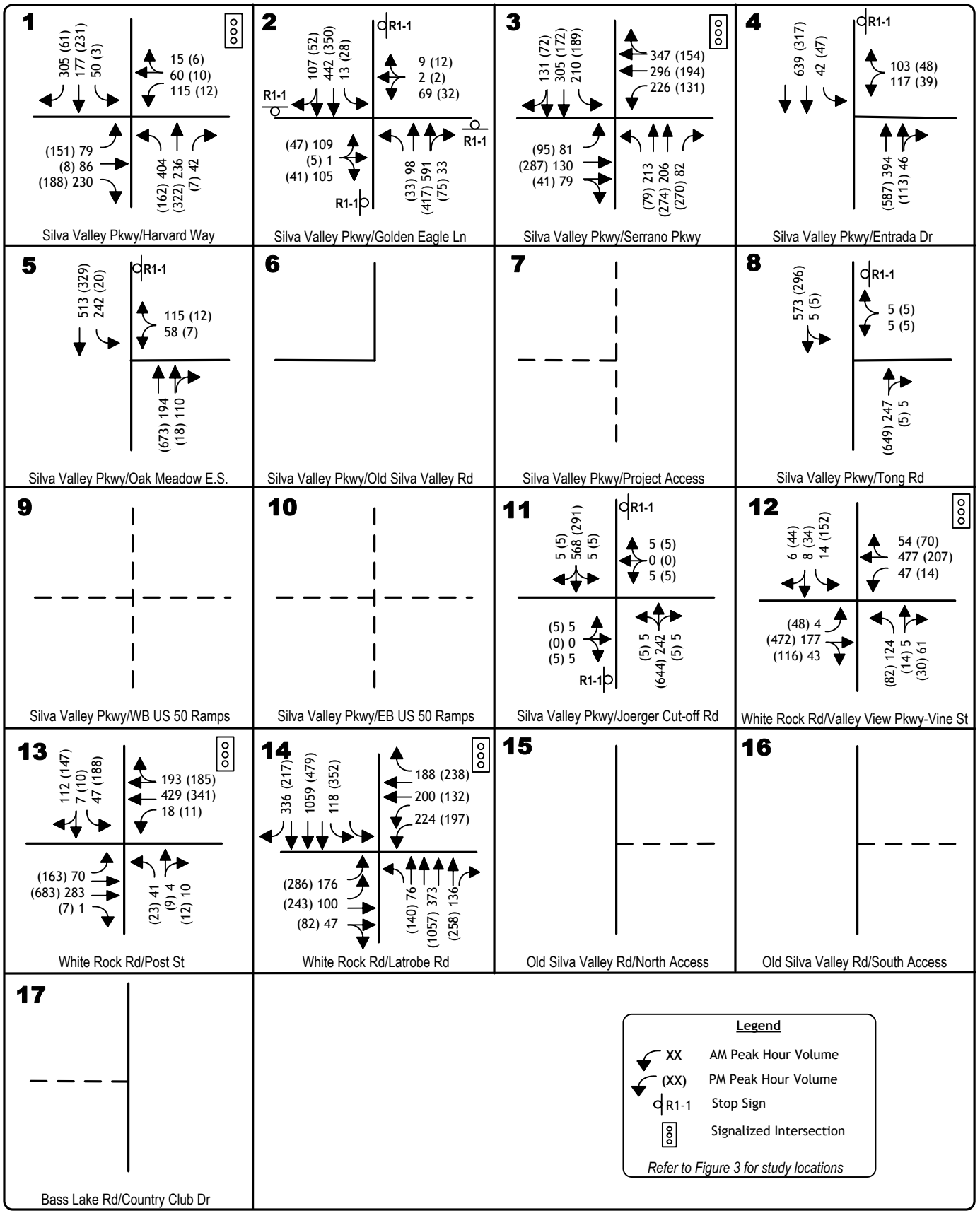
Table 4 summarizes current levels of service at the ten study area intersections during the a.m. and p.m. peak hours. Two intersections will operate below the County's LOS threshold. These include the Silva Valley Parkway / Entrada Drive intersections and the Silva Valley Parkway / Oak Meadow School intersection. Both minor street approaches operate at LOS F during the a.m. peak hour. Both intersections meet the peak hour signal warrant in the a.m. peak hour.

TABLE 4
EXISTING PEAK HOUR LEVELS OF SERVICE AT INTERSECTIONS

Location	Control	AM Peak Hour Intersection		PM Peak Hour Intersection		Meets Peak Hour Traffic Signal Warrant?
		LOS	Average Delay	LOS	Average Delay	
1. Silva Valley Pkwy / Harvard Way	Signal	D	38.1	C	22.8	N/A
2. Silva Valley Pkwy / Golden Eagle Ln	AWS					
Overall		E	48.0	B	12.5	Yes*
3. Silva Valley Pkwy / Serrano Pkwy	Signal	D	36.3	C	22.7	N/A
4. Silva Valley Pkwy / Entrada Dr	WB Stop					Yes*
SB Left		A	9.8	A	9.6	
WB		F	287.5	C	20.1	
5. Silva Valley Pkwy / Oak Meadow Elementary School	WB Stop					Yes*
SB Left		A	9.3	A	9.2	
WB		F	471.6	C	16.0	
8. Silva Valley Pkwy / Tong Rd	WB Stop					No
SB Left		A	7.8	A	9.1	
WB		B	13.4	C	16.6	
11. Silva Pkwy / Joerger Cut-Off Rd	EB/WB Stop					No
NB Left		A	8.8	A	7.9	
SB Left		A	7.8	A	9.1	
EB		C	16.2	C	16.9	
WB		B	14.8	C	18.6	
12. White Rock Rd / Valley View Pkwy – Vine St	Signal	B	19.5	C	24.8	N/A
13. White Rock Rd / Post St	Signal	C	22.7	D	38.6	N/A
14. Latrobe Rd / White Rock Rd	Signal	C	34.1	D	42.8	N/A

* AM only
N/A is not applicable
Intersection #'s 6-7 and 9-10 omitted
LOS threshold exceeded

Roadway Segments. The quality of traffic flow on County roads can be determined based on the daily traffic volumes and generalized level of service thresholds. Table 5 presents existing levels of service for roadway segments based on the thresholds contained in the El Dorado County GP. All roadways will operate within acceptable levels of service, at LOS E or better.



EXISTING TRAFFIC VOLUMES AND LANE CONFIGURATIONS

KD Anderson & Associates, Inc.
Transportation Engineers

TABLE 5
EXISTING ROADWAY SEGMENT LEVELS OF SERVICE

Roadway	Location	Facility Classification	General Plan Standard		Existing Conditions			
			Hourly Volume Threshold	LOS	AM Hourly Volume	LOS	PM Hourly Volume	LOS
Silva Valley Rd	WB US 50 Ramps to Old Silva Valley Rd	4AD	3,290	E	N/A	N/A	N/A	N/A
	Old Silva Valley Rd to Serrano Pkwy	4AD	3,290	E	N/A	N/A	N/A	N/A
Silva Valley Rd	North of Joeger Cut-Off Rd	2A	1,650	E	830	C	955	D
US 50	Bass Lake Rd to Silva Valley Rd							
	EB	3FA	7,310	E	2,236	B	4,470	C
	WB	2FA	5,230	E	4,739	E	2,705	C
	Silva Valley Rd to El Dorado Hills Blvd							
	EB	3FA	7,310	E	2,236	B	4,470	C
	WB	2FA	5,230	E	4,739	E	2,705	C
Country Club Dr	Silva Valley Pkwy to Bass Lake Rd	2A	1,650	E	N/A	N/A	N/A	N/A
White Rock Rd	EB US 50 to Old Silva Valley Rd	2A	1,650	E	830	C	955	D

Queuing

Table 6 presents information regarding current peak period queuing in lanes at signalized study intersections. In each case, the available storage has been presented along with current peak hour traffic volumes and the 95th percentile queue length for left turn lanes. On approaches with multiple turn lanes the longest queue is identified.

Most intersections have lane storage capacity that can accommodate peak period queues. Those 95th percentile queues with length exceeding the available storage have been highlighted. The 95th percentile queue exceeds available storage in nine locations.

TABLE 6
EXISTING PEAK HOUR QUEUES AT SIGNALIZED INTERSECTIONS

Location	Length*	AM Peak Hour		PM Peak Hour	
		VPH	Queue (feet)	VPH	Queue (feet)
1. Silva Valley Pkwy / Harvard Way					
NB left turn (110')	110	404	319	162	215
SB left turn (60')	60	50	98	3	<25
SB right turn (180')	180	305	25	61	<25
EB left turn (60')	60	79	117	151	200
3. Silva Valley Pkwy / Serrano Pkwy					
NB left turn (270')	270	213	273	79	84
SB left turn (15')	150	210	293	189	177
EB left turn (165')	165	81	97	95	95
WB left turn (350')	350	226	320	131	126
12. White Rock Rd / Valley View Pkwy – Vine St					
NB left turn (100')	100	124	121	82	98
SB left turn (105')	105	14	26	152	163
EB left turn (130')	130	4	<25	48	70
WB left turn (120')	120	47	55	14	29
13. White Rock Rd / Post St					
NB left turn (100')	100	41	63	23	48
SB left turn (50')	50	47	77	188	238
EB left turn (80')	80	70	102	163	231
WB left turn (125')	125	18	38	11	31
14. White Rock Rd / Latrobe Rd					
NB left turn (275')	275	76	122	140	197
SB left turn (2 x 250')	250	118	84	352	215
EB left turn (1 x 260', 1 x 400')	400	176	119	286	184
WB left turn (1 x 130', 1 x 180')	180	224	156	197	174

Highlighted values indicate queue length in excess of available storage
* - longest lane for multiple turn lane approaches

Public Transit

El Dorado Transit (EDT) operates buses throughout El Dorado County. In the vicinity of the site, there is no currently scheduled bus service. A park-and-ride lot is available on Post Street off of White Rock Road for commuters to downtown Sacramento. EDT operates seven morning trips to Sacramento, leaving 5:45 a.m. and 8:30 a.m. EDT also operates two trips from Sacramento arriving in El Dorado Hills at 8:00 a.m. and 9:42 a.m. These routes operate Monday through Friday. In the p.m. EDT operates eight trips that stop in El Dorado Hills between 3:30 p.m. and 7:00 p.m. They also operate two trips into Sacramento leaving at 2:25 p.m. and 5:05 p.m.

Non-Motorized Transportation

The available facilities for bicycles and pedestrians in the area of the project were inventoried.

Sidewalks / Trails. The project will be constructed adjacent to the US 50 / Silva Valley Interchange. Silva Valley Parkway is currently being constructed and will connect White Rock Road in the south to the existing four lane section of Silva Valley Parkway in the north. Sidewalk and bike lanes will be constructed as part of this project.

Sidewalk is present along the east side of Silva Valley Parkway beginning at the Oak Meadow Elementary School and heading north while a natural surface walking path is available on the west side of the roadway from Serrano Parkway to about ¼ mile north of the US 50 undercrossing where it connects to a pathway to Ponta Delgado Court. The interchange project will construct sidewalk along the west side of Old Silva Valley Parkway from White Rock Road to Silva Valley Parkway.

Bicycle Facilities. In the project vicinity, bike lanes exist along Silva Valley Parkway north of the site, generally from the south end of Oak Meadow Elementary School. A connection to the natural surface path is available along the roadway. The interchange project will extend the bike lanes within the project limits and connect to both the existing facilities along Silva Valley Parkway and White Rock Road. In addition, the project will add bike lanes along Old Silva Valley Road and provide an alternative for bicyclists to avoid the interchange.

2016 CONDITIONS

2016 conditions were evaluated as the baseline condition and coincide with the opening of the US 50 / Silva Valley Parkway interchange. The countywide regional travel demand forecasting model was used as the basis for developing future volume forecasts in the study area. The 2010 calibrated model was re-run with the interchange in place. A straight line interpolation was then completed between the 2010 and 2035 models along the roadway segments to determine expected growth rates along the study roadways. With the opening of the Silva Valley Parkway interchange it was expected that traffic at the El Dorado Blvd Interchange and throughout the El Dorado Hills area will shift with some roadway segments and intersections experiencing increases or decreases in traffic.

The growth rates were applied to current a.m. and p.m. peak hour turning movements, and the results were balanced using the techniques contained in the Transportation Research Board's (TRB's) National Cooperative Highway Research Program (NCHRP) Report 255, *Highway Traffic Data for Urbanized Area Project Planning and Design*. The NCHRP 255 method applies the individual growth rates to the intersection turning movement volumes and uses an iterative process to balance and adjust the resulting forecasts to match total inbound and outbound flows.

Year 2016 Lane Configurations. The 2016 analysis assumes local improvements have been completed along Silva Valley Parkway with the completion of the US 50 / Silva Valley Parkway interchange. The interchange will include a four lane roadway with a diamond interchange (L-2) for the westbound ramps and an L-7 partial cloverleaf configuration for the eastbound ramps. Old Silva Valley Road will be maintained and connect to Silva Valley Parkway at two locations, about 1,000' north of the westbound ramps and about 1,000' south of the eastbound ramps. The south intersection will be signalized as part of the interchange project while the north intersection will be stop controlled along Old Silva Valley Road. With the interchange completed, the Tong Road intersection will become right-in, right-out access only. The westbound Serrano Parkway approach to Silva Valley Parkway will also be modified by changing the inside through lane to a left turn lane; this approach will include two left turn lanes and a through-right lane. A "soft" turn restriction (i.e. signage) will be added to the Entrada Drive approach to Silva Valley Parkway, restricting left turn movements during peak hours. Traffic in the peak hours will use Village Green Drive to Serrano Parkway and then make a left turn onto southbound Silva Valley Parkway to head south.

2016 Levels of Service

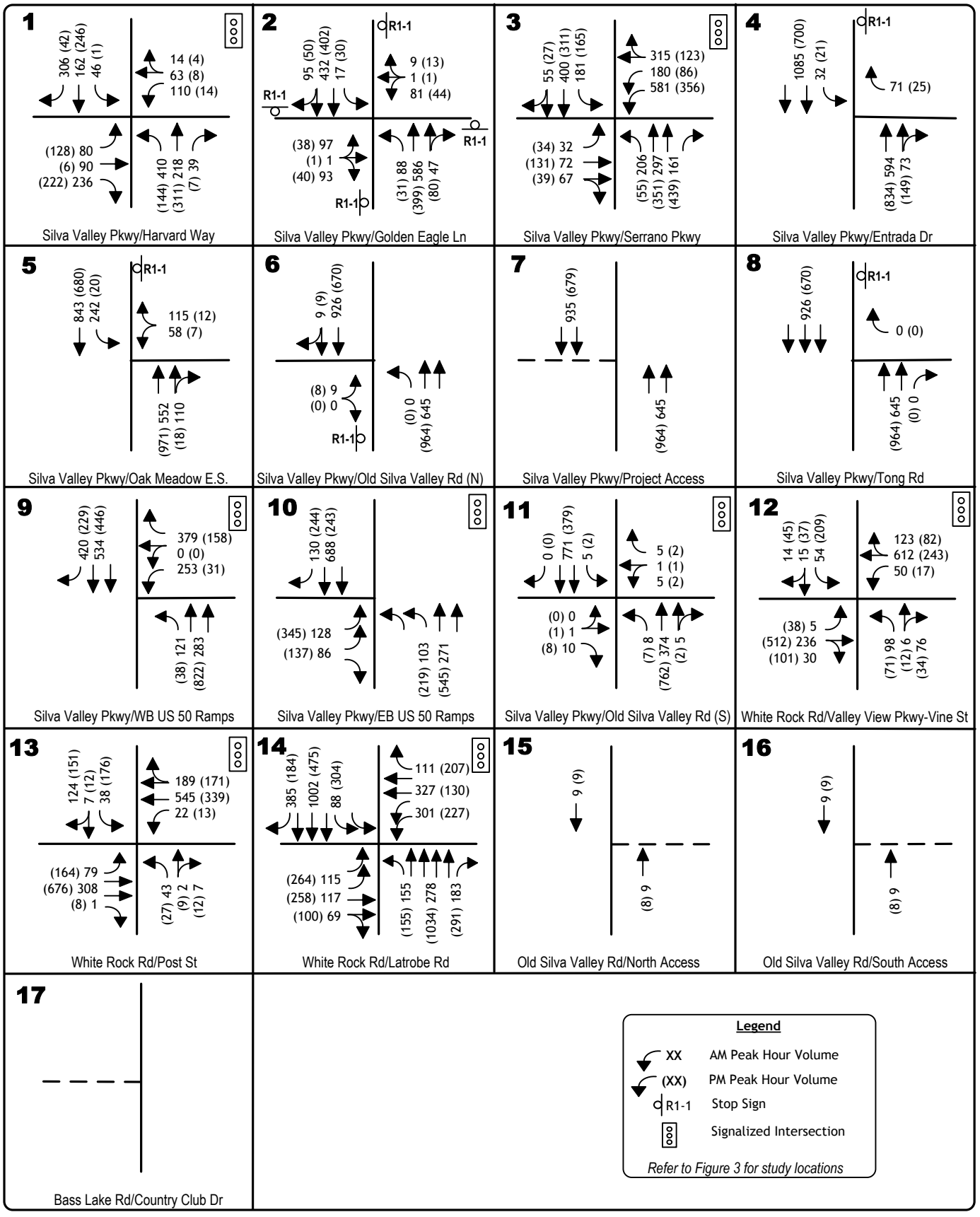
2016 Intersection Levels of Service. Figure 5 summarizes the turning movements and lane configurations for the Baseline 2016 Conditions scenario.

Table 7 summarizes current Levels of Service at the 13 study area intersections during the a.m. and p.m. peak hours. The Silva Valley Parkway / Oak Meadow School intersection will operate below the County's LOS threshold with the minor street approach operating at LOS F during the a.m. peak hour. This intersection meets the peak hour signal warrant in the a.m. peak hour.

TABLE 7
2016 PEAK HOUR LEVELS OF SERVICE AT INTERSECTIONS

Location	Control	2016 AM Peak Hour		2016 PM Peak Hour		Meets Peak Hour Traffic Signal Warrant?
		LOS	Average Delay	LOS	Average Delay	
1. Silva Valley Pkwy / Harvard Way	Signal	C	33.2	C	21.9	N/A
2. Silva Valley Pkwy / Golden Eagle Ln	AWS	C	21.3	B	12.7	Yes*
Overall						
3. Silva Valley Pkwy / Serrano Pkwy	Signal	D	42.6	C	20.7	N/A
4. Silva Valley Pkwy / Entrada Dr	WB Stop					No
SB Left		A	9.3	B	10.8	
WB		B	11.5	B	12.9	
5. Silva Valley Pkwy / Oak Meadow Elementary School	WB Stop					Yes*
SB Left		B	12.9	B	10.5	
WB		F	>999	C	23.1	
6. Silva Valley Pkwy / Old Silva Valley Rd (N)	EB Stop					No
NB Left		B	10.6	A	9.2	
EB		C	21.1	C	17.8	
8. Silva Valley Pkwy / Tong Rd	WB Stop					No
WB Right		B	11.1	B	12.6	
9.US 50 WB Ramps / Silva Valley Pkwy	Signal	B	19.1	A	7.9	N/A
10.US 50 EB Ramps / Silva Valley Pkwy	Signal	B	12.9	B	18.4	N/A
11.Silva Pkwy / Old Silva Valley Rd (S)	Signal	A	3.5	A	3.4	N/A
12. White Rock Rd / Valley View Pkwy–Vine St	Signal	C	28.5	C	27.7	N/A
13. White Rock Rd / Post St	Signal	C	23.2	C	29.8	N/A
14. Latrobe Rd / White Rock Rd	Signal	D	40.6	D	42.7	N/A

* Meets AM peak hour
N/A is not applicable
Intersection # 7 omitted
LOS threshold exceeded



2016 TRAFFIC VOLUMES AND LANE CONFIGURATIONS

KD Anderson & Associates, Inc.
Transportation Engineers

2016 Roadway Segments. Table 8 presents existing levels of service for roadway segments based on the thresholds contained in the El Dorado County GP. All roadways except westbound US 50 will operate within acceptable levels of service, at LOS E or better. The westbound lanes, with two general traffic lanes and HOV lane will operate at LOS F in the a.m. peak hour along both segments east and west of the Silva Valley Parkway interchange.

2016 Freeway Ramp Junction Levels of Service. The County's Travel Demand Model was used to develop directional peak hour freeway volumes at the Silva Valley Parkway Interchange. Traffic volumes for 2015 were developed by using the 2010 and 2035 volumes and straight line interpolation. These volumes were then compared to the most recent 2013 peak hour freeway volumes along US 50 east of the Latrobe Road - El Dorado Hills Blvd interchange (PM 0.857). The model results for 2015 are consistent with current freeway volumes, at about 7,000 vehicles per hour. 2016 volumes were developed by interpolating the model volumes, and this methodology was also used to develop 2025 freeway volumes.

The westbound peak a.m. through volume along US 50 is about 4,759 passenger cars per hour (pcph) while the eastbound through volume is about 2,366 pcph. During the p.m. peak hour the westbound through volume is about 2,815 pcph while the eastbound through volume is about 4,573 pcph.

TABLE 8
2016 ROADWAY SEGMENT LEVELS OF SERVICE

Roadway	Location	Facility Classification	General Plan Standard		2016 Conditions			
			Hourly Volume Threshold	LOS	AM Hourly Volume	LOS	PM Hourly Volume	LOS
Silva Valley Rd	WB US 50 Ramps to Old Silva Valley Rd (North)	4AD	3,290	E	1,623	C	1,669	C
	Old Silva Valley Rd (North) to Serrano Pkwy	4AD	3,290	E	1,782	C	1,683	C
Old Silva Valley Rd	Silva Valley Pkwy to White Rock Rd	Local	---	---	20	---	17	---
US 50	Bass Lake Rd to Silva Valley Rd							
	EB	3FA	7,310	E	2,599	B	5,036	C
	WB	2FA	5,230	E	5,391	F	3,004	C
	Silva Valley Rd to El Dorado Hills Blvd							
	EB	3FA	7,310	E	2,580	B	5,055	C
	WB	2FA	5,230	E	5,300	F	3,082	C
Country Club Dr	Silva Valley Pkwy to Bass Lake Rd	2A	1,650	E	59	C	32	C
White Rock Rd	EB US 50 to Old Silva Valley Rd	4AD	3,290	E	1,155	C	1,145	C

LOS threshold exceeded

Table 9 presents a summary of existing a.m. peak hour and p.m. peak hour LOS at the four ramp junctions. The worksheets presenting the calculation of LOS are included in the technical appendix. All on- and off- ramps are projected to operate at LOS C or better.

TABLE 9
RAMP MERGE / DIVERGE LEVELS OF SERVICE
2016 CONDITIONS

Ramp Junction	2016 AM Peak Hour				2016 PM Peak Hour			
	Freeway Volume	Ramp Volume	Density	LOS	Freeway Volume	Ramp Volume	Density	LOS
Silva Valley Parkway EB Off-Ramp	2,366	214	7.8	A	4,573	482	19.1	B
Silva Valley Parkway EB On-Ramp	2,366	233	5.9	A	4,573	463	15.2	B
Silva Valley Parkway WB Off-Ramp	4,759	632	24.2	C	2,815	189	13.5	B
Silva Valley Parkway WB On-Ramp	4,759	541	27.8	C	2,815	267	15.7	B

Notes: WB = westbound. EB = eastbound
Density expressed in passenger cars per mile per lane.

2016 Queuing

Table 10 presents information regarding current peak period queuing in lanes at signalized study intersections. In each case, the available storage has been presented along with current peak hour traffic volumes and the 95th percentile queue length for left turn lanes. On approaches with multiple turn lanes the longest queue is identified.

Most intersections have lane storage capacity that can accommodate peak period queues. Those 95th percentile queues with length exceeding the available storage have been highlighted. The 95th percentile queue exceeds available storage in ten locations.

TABLE 10
2016 PEAK HOUR QUEUES AT SIGNALIZED INTERSECTIONS

Location	Length*	2016 AM Peak Hour		2016 PM Peak Hour	
		VPH	Queue (feet)	VPH	Queue (feet)
1. Silva Valley Pkwy / Harvard Way					
NB left turn (110')	110	410	628	144	193
SB left turn (60')	60	46	87	1	<25
SB right turn (180')	180	306	89	42	<25
EB left turn (60')	60	80	122	128	168
3. Silva Valley Pkwy / Serrano Pkwy					
NB left turn (270')	270	206	277	55	63
SB left turn (150')	150	181	232	165	150
EB left turn (165')	165	32	54	34	45
WB left turn (700')	700	581	382	356	141
9. Silva Valley Pkwy / US 50 WB Ramps					
NB left turn (550')	550	121	115	38	46
WB left turn (800')	800	253	129	31	30
10. Silva Valley Pkwy / US 50 EB Ramps					
SB right turn (660')	660	130	<25	244	<25
EB left turn (800')	800	128	69	345	148
11. Silva Valley Pkwy / Old Silva Valley Pkwy (South)					
NB left turn (220')	220	8	<25	7	<25
SB left turn (300')	300	5	<25	2	<25
EB through-left turn (185')	185	1	<25	1	<25
WB through-left turn (70')	70	6	<25	3	<25
12. White Rock Rd / Valley View Pkwy – Vine St					
NB left turn (100')	100	98	152	71	95
SB left turn (105')	105	54	92	209	221
EB left turn (130')	130	5	<25	38	63
WB left turn (120')	120	50	85	17	34
13. White Rock Rd / Post St					
NB left turn (100')	100	43	66	27	48
SB left turn (50')	50	38	66	176	203
EB left turn (80')	80	79	112	164	195
WB left turn (125')	125	22	45	13	33
14. White Rock Rd / Latrobe Rd					
NB left turn (275')	275	155	215	155	219
SB left turn (2 x 250')	250	88	67	304	191
EB left turn (1 x 260', 1 x 400')	400	115	85	264	163
WB left turn (1 x 130', 1 x 180')	180	301	242	227	159

Highlighted values indicate queue length in excess of available storage
* - longest lane for multiple turn lane approaches

2016 PLUS PROJECT IMPACTS

Project Characteristics

The development of this project will attract additional traffic to the project site. The amount of additional traffic on a particular section of the street network is dependent upon two factors:

- Trip Generation, the number of new trips generated by the project, and
- Trip Distribution and Assignment, the specific routes that the new traffic takes.

Trip Generation. Trip generation is determined by identifying the type and size of land use being developed. Recognized sources of trip generation data may then be used to calculate the total number of trip ends.

The site is bisected by Silva Valley Parkway. The west side of the project will include 96,900 square feet of retail shopping, a 4,000 square foot fast food restaurant with drive-through window, a 7,500 square foot sit-down restaurant and a 12 fueling position gas station with car wash. The east side of the project will include 106,000 square foot of retail shopping and a gas station with 12 vehicle fueling positions.

The trip generation of the project was computed using trip generation rates published in *Trip Generation* (Institute of Transportation Engineers, 9th Edition, 2013) based on the projected uses. Table 11 displays the daily, a.m. peak hour, and p.m. peak hour trip generation for the site.

Automobile trips generated by commercial projects fit into two categories. Some trips will be made by patrons who would not otherwise be on the local street system and who go out of their way to reach the site. These are **"New"** trips. Other trips will be made by patrons who are already in the roadway network, and are therefore not adding "new" trips to the overall system. **"Pass-by"** trips would be made by motorists who are already driving by the site as part of another trip. Peak hour pass-by trips are common on commuter routes as motorists stop on their way home to visit the neighborhood grocery. **"Diverted-Link"** trips are made by shoppers who are already making a trip to an alternative destination but would instead change their travel pattern to visit the new business which is more conveniently located.

A reduction of new trips was also considered based on 'internally captured' trips. A characteristic of mixed-use development is that trips between the various land uses can be made on the site, and none of these internal trips are made on the major street system. It is reasonable to assume that some trips will be made between the various uses on the sites. An internal capture rate is generally defined as a percentage reduction that is applied to trip generation estimates for individual land uses to account for the trips internal to the site. The methodology contained in NCHRP 684 was used to develop internal trip capture rates. NCHRP identifies six land uses including office, retail, restaurant, cinema/entertainment, residential and hotel. For this project the retail and restaurant uses were used in their estimation tool. Because of the bisected site internal trips also used the Silva Valley Parkway / Old Silva Valley Road intersection to cross between the two sites.

ITE research has suggested typical "pass-by" percentages for various retail land uses where appreciable background traffic occurs. The share of project trips falling into each category can vary over the day. Table 11 presents the "pass-by" reductions and internally captured used for this study. Application of these rates yields a total of 6,145 daily 'pass-by' trips, 260 'pass-by' a.m. peak hour trips and 521 'pass-by' p.m. peak hour trips. Internal trips are projected to account for 840 daily trips, 29 a.m. peak hour trips and 41 p.m. peak hour trips. After accounting for this traffic, the project is expected to generate 8,405 'new' daily trips, 433 'new' a.m. peak hour trips and 723 'new' p.m. peak hour trips.

TABLE 11
PROJECT TRIP GENERATION

Land Use	Size	Daily	AM Rate	AM In	AM Out	PM Rate	PM In	PM Out
Trip Rates								
Retail (LU 820) – east side	106 ksf	42.70	0.96	0.62	0.38	3.71	0.48	0.52
Retail (LU 820) – west side	96.6 ksf	42.70	0.96	0.62	0.38	3.71	0.48	0.52
Sit Down Restaurant (LU 932)	7.5 ksf	127.15	10.81	0.55	0.45	9.85	0.60	0.40
Fast Food Restaurant with Drive-Thru (LU 934)	4 ksf	496.12	45.42	0.51	0.49	32.65	0.52	0.48
Gas Station (LU 945) – east side	12 FP	162.78	10.16	0.50	0.50	13.51	0.50	0.50
Gas Station with car wash (LU 946) – west side	12 FP	152.84	11.84	0.51	0.49	13.86	0.51	0.49
Total Trips								
Retail (LU 820) – east side		4,526	102	63	39	393	189	204
Retail (LU 820) – west side		4,138	93	58	35	359	173	187
Sit Down Restaurant (LU 932)		954	81	45	36	74	44	30
Fast Food Restaurant with Drive-Thru (LU 934)		1,984	182	93	89	131	68	63
Gas Station (LU 945) – east side		1,953	122	61	61	162	81	81
Gas Station with car wash (LU 946) – west side		1,834	142	72	70	166	85	81
Sub-Total Trips		**15,390**	**722**	**392**	**330**	**1,285**	**640**	**646**
Internal Capture Trips[1]								
Retail (LU 820) – east side		(362)	(8)	(4)	(4)	(16)	(8)	(8)
Retail (LU 820) – west side		(331)	(7)	(4)	(4)	(15)	(8)	(8)
Sit Down Restaurant (LU 932)		(48)	(4)	(2)	(2)	(2)	(1)	(1)
Fast Food Restaurant with Drive-Thru (LU 934)		(99)	(10)	(5)	(5)	(8)	(4)	(4)
Gas Station (LU 945)		0	0	0	0	0	0	0
Gas Station with car wash (LU 946)		0	0	0	0	0	0	0
Sub-Total Internal Capture Trips		**(840)**	**(29)**	**(15)**	**(15)**	**(41)**	**(21)**	**(21)**

LU – ITE Land Use Code ksf – thousand square feet FP is fueling position

[1] Internal Capture from NCHRP 684 worksheet [2] Numbers may not match due to rounding

TABLE 11 (cont'd)
PROJECT TRIP GENERATION

Land Use	Size	Daily	AM Rate	AM In	AM Out	PM Rate	PM In	PM Out
Pass-By and Diverted Link Trips								
Retail (LU 820) – east side *(34% Daily, 34% PM)*		(1,416)	0	0	0	(133)	(64)	(69)
Retail (LU 820) – west side *(34% Daily, 34% PM)*		(1,294)	0	0	0	(112)	(54)	(58)
Sit Down Restaurant (LU 932) *(43% Daily, 15% AM, 43% PM)*		(390)	(12)	(6)	(5)	(31)	(19)	(12)
Fast Food Restaurant with Drive-Thru (LU 934) *(49% Daily, 49% AM, 50% PM)*		(924)	(84)	(43)	(41)	(61)	(32)	(29)
Gas Station (LU 945) *(56% daily, 62% AM, 56% PM)*		(1,094)	(76)	(38)	(38)	(91)	(45)	(45)
Gas Station with car wash (LU 946) *(56% daily, 62% AM, 56% PM)*		(1,027)	(88)	(45)	(43)	(93)	(48)	(46)
Sub-Total Pass-by and Diverted Link Trips		**(6,145)**	**(260)**	**(132)**	**(127)**	**(521)**	**(262)**	**(259)**
Total New External Trips[1]		**8,405**	**433**	**245**	**188**	**723**	**357**	**366**

LU – ITE Land Use Code ksf – thousand square feet FP is fueling position

[1] Internal Capture from NCHRP 684 worksheet [2] Numbers may not match due to rounding

Trip Distribution & Assignment. The distribution of project traffic was developed based on a select zone analysis using the current County traffic model, the project location within the model and adjusting the percentages based on near term development along El Dorado Hills Blvd – Latrobe Road, Silva Valley Parkway and Bass Lake Road. The residential component of the particular traffic analysis zone (TAZ), TAZ #163 was excluded prior to running the model so that the trip distribution reflected specifically the retail portion (i.e. the project) of the TAZ.

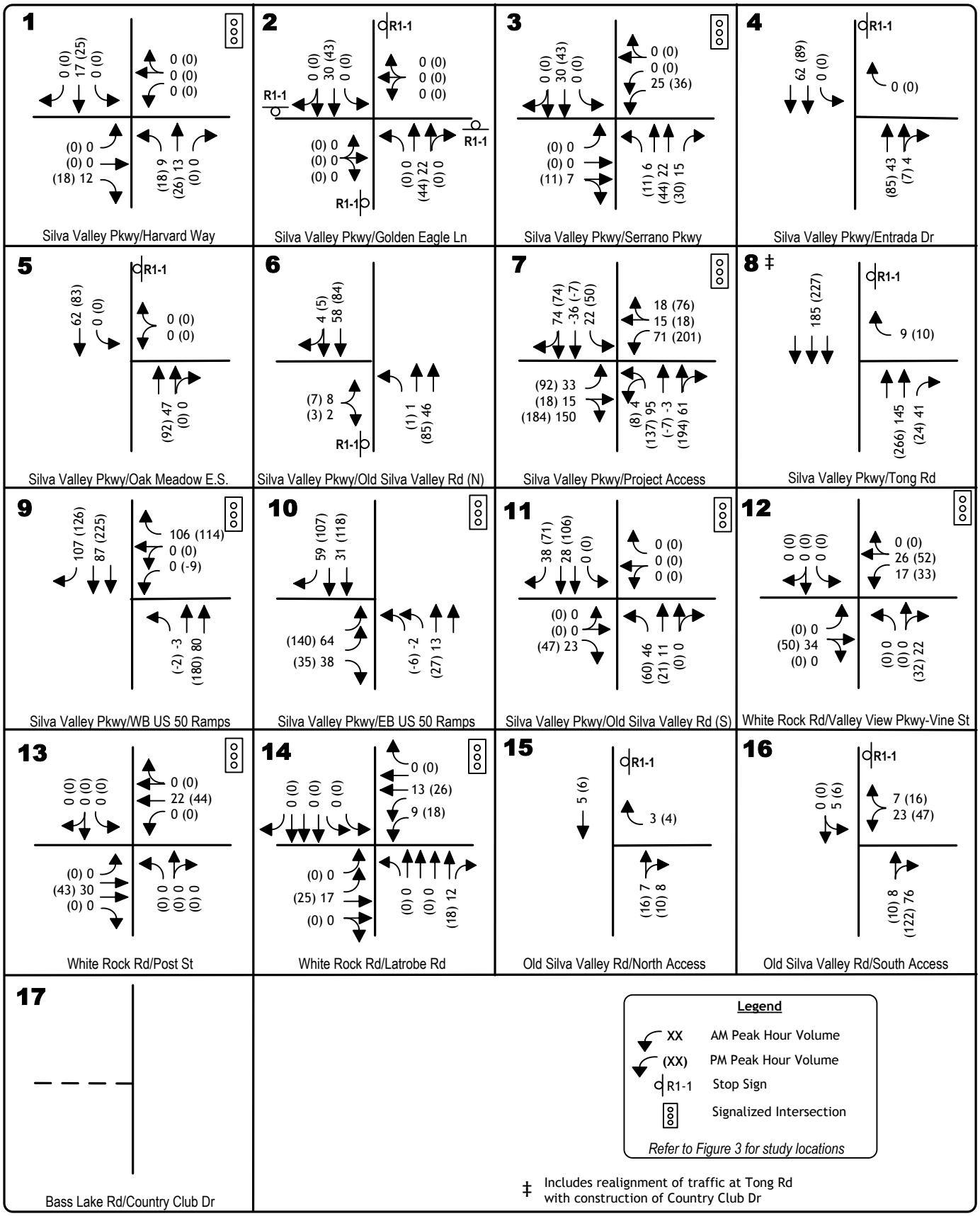
'New' project trips are expected to be oriented to the west, south and east in varying percentages, which is shown in Table 12. The distribution of "pass-by trips" is shown in Table 13. As indicated, the directionality of the pass-by trips will vary based on the volume of background traffic on each road during different periods of the day. Figure 6 illustrates the total project trips.

TABLE 12
PROJECT NEW TRIP DISTRIBUTION

Route	% of Total Trips
North on Silva Valley Parkway	
North on Silva Valley Parkway	7%
West on Harvard Way	5%
West on Serrano Parkway	3%
East on Serrano Parkway	8%
East on Entrada Drive	2%
South on White Rock Road	
West of Latrobe Road	7%
South on Latrobe Road	5%
between Valley View Parkway and Post Street	2%
South on Valley View Parkway	9%
East	
East on Tong Road / Country Club Drive	15%
East on US 50	7%
West	
West on US 50	30%
Total	100%

TABLE 13
PASS-BY / DIVERTED LINK TRIP DISTRIBUTION

Approach - Departure	Percent of Total Trips			
	AM Peak Hour		PM Peak Hour	
	In	Out	In	Out
EAST SIDE				
Northbound Silva Valley Parkway	10%	10%	10%	39%
Southbound Silva Valley Parkway	0%	5%	10%	31%
WB US 50	65%	60%	20%	15%
EB US 50	25%	25%	60%	15%
Total	100%	100%	100%	100%
WEST SIDE				
Northbound Silva Valley Parkway	10%	10%	10%	41%
Southbound Silva Valley Parkway	40%	10%	20%	34%
WB US 50	30%	70%	20%	15%
EB US 50	20%	10%	50%	10%
Total	100%	100%	100%	100%



2016, 2025 PROJECT ONLY
TRAFFIC VOLUMES AND LANE CONFIGURATIONS

Project Improvements

Improvements will be made to Silva Valley Parkway and to the local intersections as part of the project. The project will use the existing Tong Road intersection as a right-in, right out driveway access to the gas station and retail shops on the east side of the site. A full access signalized intersection is proposed to provide primary access to the entire site. Left turn lanes, a through lane and a through-right lane will be provided along Silva Valley Parkway with left and through-right lanes provided along the project driveway approaches. Two access driveways will also be constructed along Old Silva Valley Road. The southerly driveway will provide full access and is assumed to include a left turn lane for southbound traffic. The northern driveway will provide right-in, right-out access only.

2016 Plus Project Conditions

The impacts of developing and operating the project uses on the site have been identified by superimposing project traffic onto background conditions. Figure 7 displays the "2016 Plus Project" condition for each study intersection in both a.m. and p.m. peak hours. Resulting intersection Levels of Service were then calculated and used as the basis for evaluating potential project impacts.

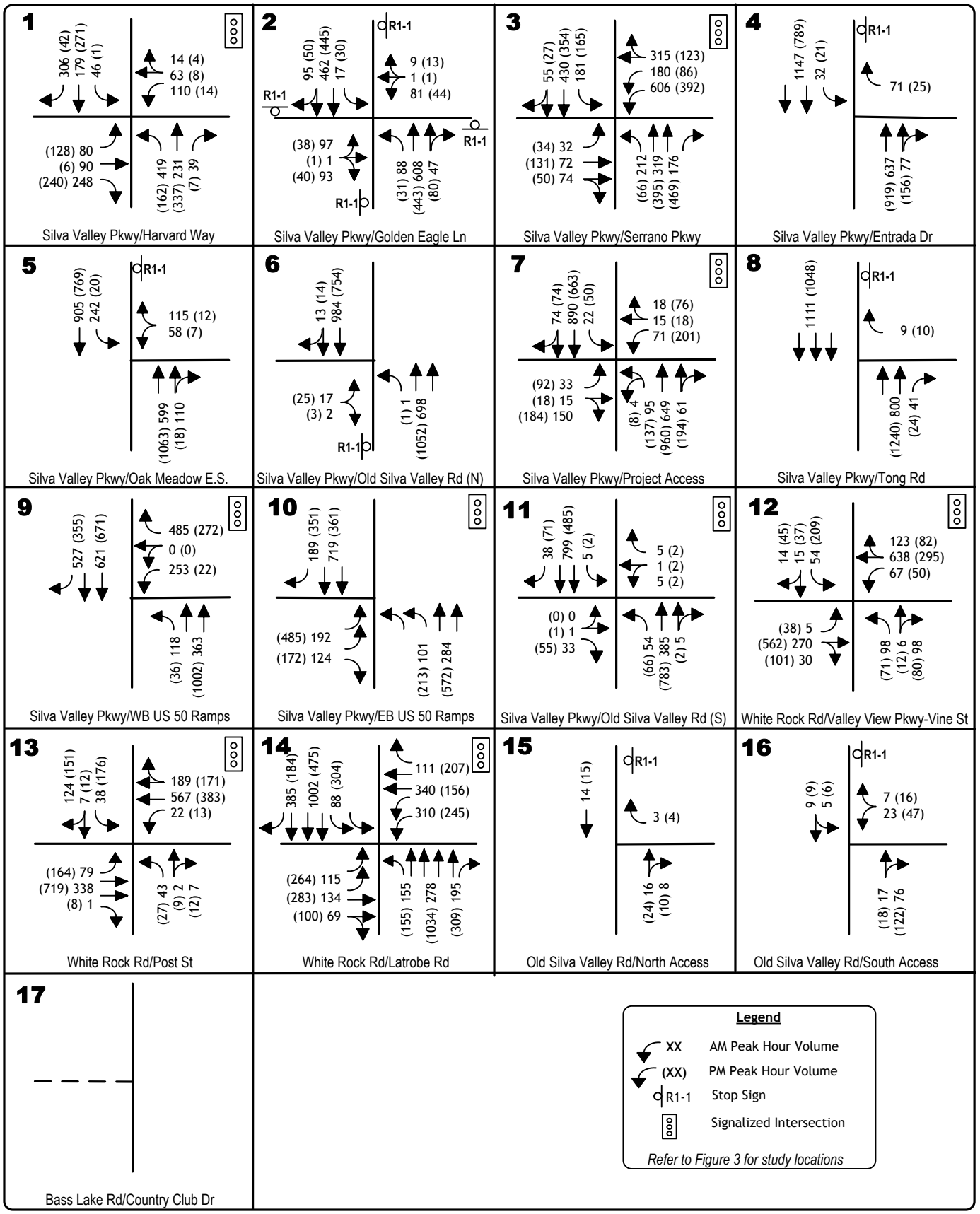
2016 plus Project Intersection Levels of Service. Table 14 displays the peak hour Levels of Service at each study intersection comparing the 2016 Baseline Levels of Service with the Levels of Service occurring with this project. The Silva Valley Parkway / Oak Meadow School intersection will operate below the County's LOS threshold with the minor street approach operating at LOS F during the a.m. peak hour. This intersection meets the peak hour signal warrant in the a.m. peak hour.

TABLE 14
2016 PLUS PROJECT PEAK HOUR LEVELS OF SERVICE AT INTERSECTIONS

Location	Control	2016 AM Peak Hour		2016 PM Peak Hour		2016 + Project AM Peak Hour		2016 + Project PM Peak Hour		Meets Peak Hour Traffic Signal Warrant?
		LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	
1. Silva Valley Pkwy / Harvard Way	Signal	C	33.2	C	21.9	C	33.7	C	22.7	N/A
2. Silva Valley Pkwy / Golden Eagle Ln	AWS									Yes*
Overall		C	21.3	B	12.7	C	23.5	B	13.8	
3. Silva Valley Pkwy / Serrano Pkwy	Signal	D	42.6	C	20.7	D	47.4	C	21.7	N/A
4. Silva Valley Pkwy / Entrada Dr	WB Stop									No
SB Left		A	9.3	B	10.8	A	9.5	B	11.4	
WB		B	11.5	B	12.9	B	11.7	B	13.6	
5. Silva Valley Pkwy / Oak Meadow Elementary School	WB Stop									Yes*
SB Left		B	12.9	B	10.5	B	13.7	B	11.0	
WB		F	>999	C	23.1	F	>999	D	27.6	
6. Silva Valley Pkwy / Old Silva Valley Rd (N)	EB Stop									No
NB Left		---	---	---	---	---	---	A	9.5	
EB		C	20.2	C	17.5	C	21.5	C	19.5	
7. Silva Valley Pkwy / Project Access	Signal	N/A	N/A	N/A	N/A	B	18.8	C	27.0	N/A
8. Silva Valley Pkwy / Tong Rd	WB Stop	N/A	N/A	N/A	N/A					No
WB Right						B	11.4	B	14.3	
9. US 50 WB Ramps / Silva Valley Pkwy	Signal	B	19.1	A	7.9	D	37.0	B	19.3	N/A
10. US 50 EB Ramps / Silva Valley Pkwy	Signal	B	12.9	B	18.4	B	13.8	B	19.6	N/A
11. Silva Pkwy / Old Silva Valley Rd (S)	Signal	A	3.5	A	3.4	A	5.4	A	5.6	N/A
12. White Rock Rd / Valley View Pkwy – Vine St	Signal	C	28.5	C	27.7	C	30.6	D	34.2	N/A
13. White Rock Rd / Post St	Signal	C	23.2	C	29.8	C	22.9	C	29.7	N/A
14. Latrobe Rd / White Rock Rd	Signal	D	40.6	D	42.7	D	41.0	D	43.6	N/A
15. Old Silva Valley Rd / North Project Access	WB Stop	N/A	N/A	N/A	N/A					No
WB Right						A	8.4	A	8.5	
16. Old Silva Valley Rd / South Project Access	WB Stop									No
SB Left		N/A	N/A	N/A	N/A	A	7.4	A	7.5	
WB						A	9.0	A	9.3	

N/A is not applicable — LOS Threshold Exceeded

(x) – signalized intersection as part of project — * Meets AM peak hour without and with project



2016 PLUS PROJECT
TRAFFIC VOLUMES AND LANE CONFIGURATIONS

KD Anderson & Associates, Inc.
Transportation Engineers

6260-13 LT 9/1/2015

figure 7

2016 plus Project Roadway Segments. Table 15 presents existing Levels of Service for roadway segments based on the thresholds contained in the El Dorado County GP. With the project all roadways except westbound US 50 will operate within acceptable levels of service, at LOS E or better. The westbound lanes, with two general traffic lanes and HOV lane will operate at LOS F in the AM peak hour along both segments east and west of the Silva Valley Parkway interchange.

2016 plus Project Freeway Ramp Junction Levels of Service. The westbound peak through AM volume along US 50 is about 4,762 passenger cars per hour (pcph) while the eastbound through volume is about 2,364 pcph. During the PM peak hour the westbound through volume is about 2,816 pcph while the eastbound through volume is about 4,577 pcph.

Table 16 presents a summary of existing AM peak hour and PM peak hour LOS at the four ramp junctions. The worksheets presenting the calculation of LOS are included in the technical appendix. All on- and off- ramps are projected to operate at LOS D or better.

TABLE 15
2016 PLUS PROJECT ROADWAY SEGMENT LEVELS OF SERVICE

Roadway	Location	Facility Classification	General Plan Standard		2016 plus Project Conditions			
			Hourly Volume Threshold	LOS	AM Hourly Volume	LOS	PM Hourly Volume	LOS
Silva Valley Rd	WB US 50 Ramps to Old Silva Valley Rd (North)	4AD	3,290	E	1,996	D	2,347	D
	Old Silva Valley Rd (North) to Serrano Parkway	4AD	3,290	E	1,887	D	1,864	D
Old Silva Valley Rd	Silva Valley Parkway to White Rock Rd	Local	---	---	125	---	196	---
US 50	Bass Lake Rd to Silva Valley Rd							
	EB	3FA	7,310	E	2,654	B	5,111	D
	WB	2FA	5,230	E	5,500	F	3,110	C
	Silva Valley Rd to El Dorado Hills Blvd							
	EB	3FA	7,310	E	2,680	B	5,234	D
	WB	2FA	5,230	E	5,407	F	3,127	C
Country Club Dr	Silva Valley Parkway to Bass Lake Rd	2A	1,650	E	N/A	---	N/A	---
White Rock Rd	EB US 50 to Old Silva Valley Rd	4AD	3,290	E	1,232	C	1,343	C

N/A – not applicable

TABLE 16
RAMP MERGE / DIVERGE LEVELS OF SERVICE
2016 PLUS PROJECT CONDITIONS

Ramp Junction	2016 plus Project AM Peak Hour				2016 plus Project PM Peak Hour			
	Freeway Volume	Ramp Volume	Density	LOS	Freeway Volume	Ramp Volume	Density	LOS
Silva Valley Parkway EB Off-Ramp	2,364	316	8.3	A	4,577	657	19.1	B
Silva Valley Parkway EB On-Ramp	2,364	290	6.2	A	4,577	564	16.0	B
Silva Valley Parkway WB Off-Ramp	4,762	738	24.4	C	2,816	294	13.7	B
Silva Valley Parkway WB On-Ramp	4,762	527	27.7	C	2,816	355	16.4	B
Notes: - WB = westbound. EB = eastbound Density expressed in passenger cars per mile per lane.								

2016 plus Project Queuing

Table 17 presents information regarding current peak period queuing in lanes at signalized study intersections. The available storage is been presented along with projected peak hour traffic volumes and the 95th percentile queue length for left turn lanes. On approaches with multiple turn lanes the longest queue is identified.

Most intersections have lane storage capacity that can accommodate peak period queues. Those 95th percentile queues with length exceeding the available storage have been highlighted. The 95th percentile queue exceeds available storage in eleven locations.

TABLE 17
2016 PLUS PROJECT PEAK HOUR QUEUES AT SIGNALIZED INTERSECTIONS

Location	Length*	2016 + Project AM Peak Hour		2016 + Project PM Peak Hour	
		VPH	Queue (ft)	VPH	Queue (ft)
1. Silva Valley Parkway / Harvard Way					
NB left turn (110')	110	419	660	162	220
SB left turn (60')	60	46	89	1	<25
SB right turn (180')	180	306	88	42	<25
EB left turn (60')	60	80	123	128	176
3. Silva Valley Parkway / Serrano Parkway					
NB left turn (270')	270	212	293	66	73
SB left turn (150')	150	181	236	165	154
EB left turn (165')	165	32	55	34	46
WB left turn (700')	700	606	409	392	160
7. Silva Valley Parkway / Project Access					
NB left turn (200') †	200	99	92	145	123
SB left turn (200') †	200	22	39	50	70
EB left turn (200') †	200	33	53	92	108
WB left turn (200') †	200	71	90	201	218
9. Silva Valley Parkway / US 50 WB Ramps					
NB left turn (550')	550	118	114	36	45
WB left turn (800')	800	253	123	22	<25
10. Silva Valley Parkway / US 50 EB Ramps					
SB right turn (660')	660	189	<25	351	42
EB left turn (800')	800	192	94	485	192
11. Silva Valley Parkway / Old Silva Valley Parkway (South)					
NB left turn (220')	220	54	43	66	44
SB left turn (300')	300	5	<25	2	<25
EB through-left turn (185')	185	1	<25	1	<25
WB through-left turn (70')	70	6	<25	4	<25
12. White Rock Rd / Valley View Parkway – Vine St					
NB left turn (100')	100	98	153	71	98
SB left turn (105')	105	54	92	209	228
EB left turn (130')	130	5	<25	38	65
WB left turn (120')	120	67	105	50	74
13. White Rock Rd / Post St					
NB left turn (100')	100	43	67	27	48
SB left turn (50')	50	38	66	176	210
EB left turn (80')	80	79	112	164	195
WB left turn (125')	125	22	45	13	33
14. White Rock Rd / Latrobe Rd					
NB left turn (275')	275	155	216	155	227
SB left turn (2 x 250')	250	88	67	304	191
EB left turn (1 x 260', 1 x 400')	400	115	85	264	163
WB left turn (1 x 130', 1 x 180')	180	310	253	245	180

Highlighted values indicate queue length in excess of available storage

* - longest lane for multiple turn lane approaches † assumed length

Non-Automotive Transportation Impacts. Development of the project may result in pedestrians or bicyclists traveling to the site. Pedestrians and cyclists will have access to the project from the neighborhoods along Silva Valley Parkway to the north including the trail system that connects subdivisions to Silva Valley Parkway. Cyclists using Silva Valley Parkway could be expected to stop at the project as part of ride with origin and destination elsewhere. Pedestrian and bicycle traffic from the south will be able to use Silva Valley Parkway or Old Silva Valley Road to access the project; it is expected that most would use Old Silva Valley Road as this provides a bypass from interchange traffic.

Emergency Vehicle Access. The primary access for fire and medical response could be from any of three stations, El Dorado Hills Station 84 located along Francisco Drive, from Station 86 along Bass Lake Road, or from Station 87, the Golden Foothill Station. Access to the east side of the site will allow full access along Silva Valley Parkway from either the Tong Road (gas station entrance) or project access intersections along Silva Valley Parkway while response to the west side will be full access from either the Silva Valley Parkway / Main Access intersection or via Old Silva Valley Road.

NEAR TERM FUTURE IMPACTS (2025)

Basis for Traffic Volume Forecasts

The analysis of the near term 2025 cumulative condition is intended to consider the impact of this project ten years from the current year. Under El Dorado County guidelines the 2025 volumes were calculated using a straight line interpolation between existing traffic levels and projected 2035 traffic projections. The study intersections were balanced using the techniques described in NCHRP Report 255 using the interpolated roadway segment volumes.

2025 Lane Configurations. The configuration of the study area streets and intersections will remain as they are projected to exist with the opening of the Silva Valley Parkway / US 50 interchange in 2016.

2025 Levels of Service

2025 Intersection Levels of Service. Figure 8 displays the 2025 traffic volumes for each study intersection under the No Project conditions. Table 18 summarizes 2025 Levels of Service at the 13 study area intersections during the a.m. and p.m. peak hours. One intersection will operate below the County's LOS threshold, Silva Valley Parkway at Oak Meadow School which will operate at LOS F during the A.M. peak hour. This intersection meets the peak hour signal warrant in the A.M. peak hour.

TABLE 18
2025 PLUS PROJECT PEAK HOUR LEVELS OF SERVICE AT INTERSECTIONS

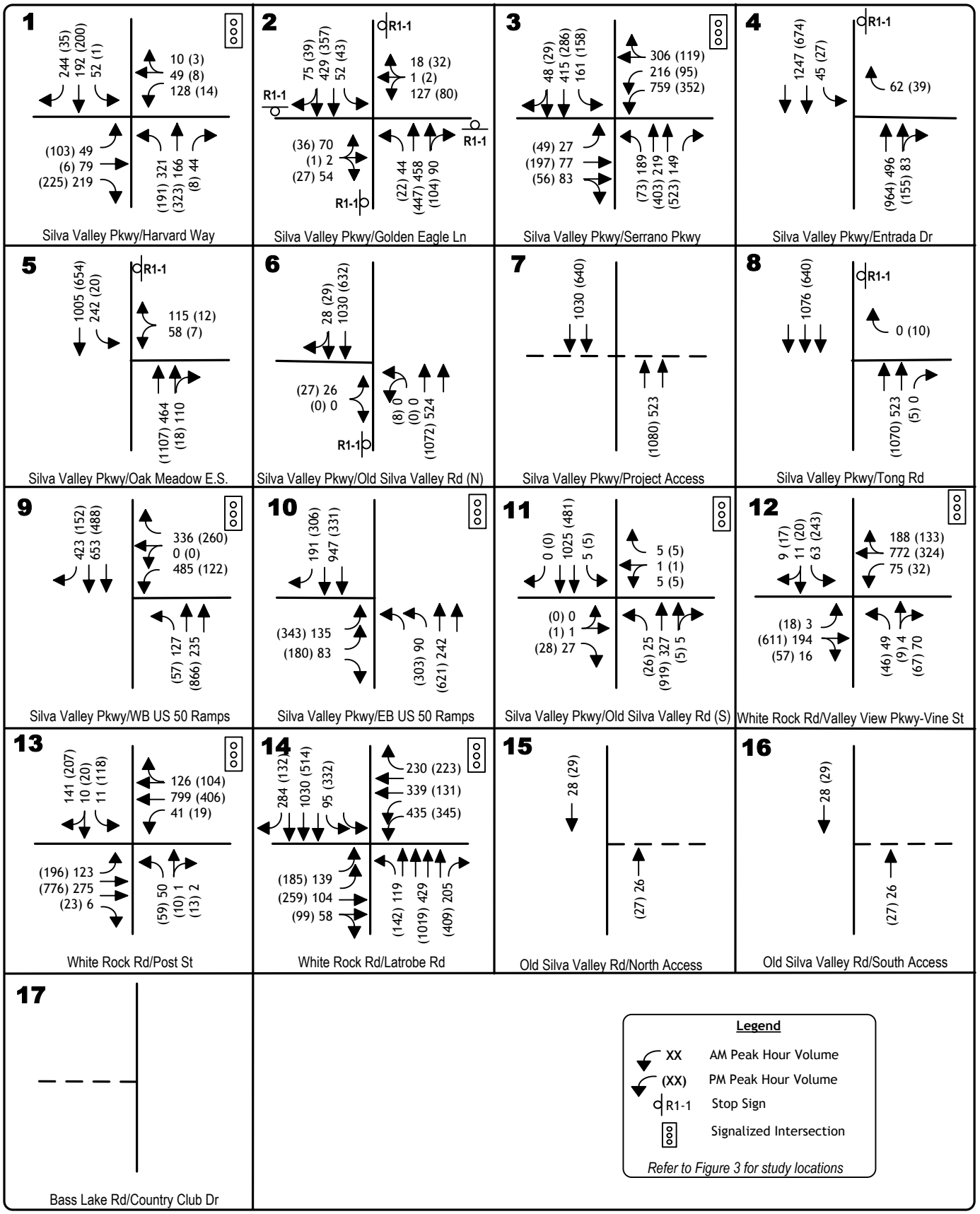
Location	Control	2025 AM Peak Hour		2025 PM Peak Hour		2025 + Project AM Peak Hour		2025 + Project PM Peak Hour		Meets Peak Hour Traffic Signal Warrant?
		LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	
1. Silva Valley Parkway / Harvard Way	Signal	C	31.1	C	21.7	C	31.9	C	22.5	N/A
2. Silva Valley Parkway / Golden Eagle Ln	AWS									Yes†
Overall		C	16.7	B	13.8	C	17.9	C	15.1	
3. Silva Valley Parkway / Serrano Parkway	Signal	D	39.8	C	21.6	D	37.3	C	22.8	N/A
4. Silva Valley Parkway / Entrada Dr	WB Stop									No
SB Left		A	9.0	B	11.8	A	9.2	B	12.4	
WB		B	10.9	B	14.4	B	11.1	C	15.2	
5. Silva Valley Pkwy / Oak Meadow Elementary School	WB Stop									Yes*
SB Left		B	11.7	B	11.3	B	12.3	B	11.8	
WB		F	>999	D	27.2	F	>999	D	32.6	
6. Silva Valley Pkwy / Old Silva Valley Rd (N)	EB Stop									No
NB Left		---	---	A	9.1	B	11.3	A	9.5	
EB		C	23.7	C	19.0	D	26.2	C	20.6	
7. Silva Valley Parkway / Project Access	Signal	N/A	N/A	N/A	N/A	B	19.1	C	27.4	N/A
8. Silva Valley Parkway / Tong Road (Gas Station)	WB Stop									
WB Right		---	---	B	13.1	B	10.8	C	15.4	No
9. US 50 WB Ramps / Silva Valley Parkway	Signal	C	22.2	B	13.1	D	43.5	C	25.1	N/A
10. US 50 EB Ramps / Silva Valley Parkway	Signal	B	11.8	B	19.8	B	12.9	B	19.0	N/A
11. Silva Parkway / Old Silva Valley Road (S)	Signal	A	4.8	A	4.4	A	6.5	A	6.4	N/A
12. White Rock Rd / Valley View Parkway – Vine St	Signal	E	70.4	C	31.3	E	77.3	D	41.0	N/A
13. White Rock Rd / Post St	Signal	C	27.5	C	29.2	C	27.4	C	29.1	N/A
14. Latrobe Rd / White Rock Rd	Signal	D	40.9	D	45.5	D	41.4	D	47.7	N/A
15. Old Silva Valley Road / North Project Access	WB Stop	N/A	N/A	N/A	N/A					No
WB Right						A	8.5	A	8.6	
16. Old Silva Valley Road / South Project Access	WB Stop									No
SB Left		N/A	N/A	N/A	N/A	A	7.5	A	7.6	
WB						A	9.3	A	9.8	

N/A is not applicable

(x) – signalized intersection as part of project

† Meets AM and PM peak hour without and with project

* Meets AM peak hour without and with project



2025 TRAFFIC VOLUMES AND LANE CONFIGURATIONS

KD Anderson & Associates, Inc.
Transportation Engineers

2025 Roadway Segments. Table 19 presents existing Levels of Service for roadway segments based on the thresholds contained in the El Dorado County GP. All roadways except westbound US 50 will operate within acceptable levels of service, at LOS E or better. The westbound lanes, with two general traffic lanes and HOV lane will operate at LOS F in the AM peak hour along both segments east and west of the Silva Valley Parkway interchange.

2025 Freeway Ramp Junction Levels of Service. As indicated earlier the County's Travel Demand Model and straight line interpolation was used to develop directional peak hour freeway volumes at the Silva Valley Parkway Interchange.

The westbound peak AM through volume along US 50 is about 4,942 passenger cars per hour (pcph) while the eastbound through volume is about 2,758 pcph. During the PM peak hour the westbound through volume is about 3,146 pcph while the eastbound through volume is about 4,880 pcph.

Table 20 presents a summary of existing AM peak hour and PM peak hour LOS at the four ramp junctions. The worksheets presenting the calculation of LOS are included in the technical appendix. All on- and off- ramps are projected to operate at LOS D or better.

TABLE 19
2025 ROADWAY SEGMENT LEVELS OF SERVICE

Roadway	Location	Facility Classification	General Plan Standard		2025 Conditions			
			Hourly Volume Threshold	LOS	AM Hourly Volume	LOS	PM Hourly Volume	LOS
Silva Valley Rd	WB US 50 Ramps to Old Silva Valley Rd (North)	4AD	3,290	E	1,647	C	1766	C
	Old Silva Valley Rd (North) to Serrano Parkway	4AD	3,290	E	1,850	C	1,793	C
Old Silva Valley Rd	Silva Valley Parkway to White Rock Rd	Local	---	---	54	---	56	---
US 50	Bass Lake Rd to Silva Valley Rd							
	EB	3FA	7,310	E	3,039	B	5,489	D
	WB	2FA	5,230	E	5,623	F	3,528	C
	Silva Valley Rd to El Dorado Hills Blvd							
	EB							
	WB	3FA	7,310	E	2,976	B	5,403	D
		2FA	5,230	E	5,571	F	3,361	C
Country Club Dr	Silva Valley Parkway to Bass Lake Rd	2A	1,650	E	318	C	187	C
White Rock Rd	EB US 50 to Old Silva Valley Rd	4AD	3,290	E	1,362	C	1,435	C

LOS thresholds exceeded

TABLE 20
RAMP MERGE / DIVERGE LEVELS OF SERVICE
2025 CONDITIONS

Ramp Junction	2025 AM Peak Hour				2025 PM Peak Hour			
	Freeway Volume	Ramp Volume	Density	LOS	Freeway Volume	Ramp Volume	Density	LOS
Silva Valley Parkway EB Off-Ramp	2,758	218	9.4	A	4,880	523	19.6	B
Silva Valley Parkway EB On-Ramp	2,758	281	7.6	A	4,880	609	17.4	B
Silva Valley Parkway WB Off-Ramp	4,942	821	25.3	C	3,146	382	15.7	B
Silva Valley Parkway WB On-Ramp	4,942	550	28.8	D	3,146	209	16.9	B
Notes: - WB = westbound. EB = eastbound Density expressed in passenger cars per mile per lane.								

2025 Queuing. Table 21 presents information regarding current peak period queuing in lanes at signalized study intersections. In each case, the available storage has been presented along with current peak hour traffic volumes and the 95th percentile queue length for left turn lanes. On approaches with multiple turn lanes the longest queue is identified.

Most intersections have lane storage capacity that can accommodate peak period queues. Those 95th percentile queues with length exceeding the available storage have been highlighted. The 95th percentile queue exceeds available storage in nine locations.

TABLE 21
2025 PEAK HOUR QUEUES AT SIGNALIZED INTERSECTIONS

Location	Length*	2025 AM Peak Hour		2025 PM Peak Hour	
		VPH	Queue (feet)	VPH	Queue (feet)
1. Silva Valley Parkway / Harvard Way					
NB left turn (110')	110	321	447	191	242
SB left turn (60')	60	52	98	1	<25
SB right turn (180')	180	244	77	35	<25
EB left turn (60')	60	219	84	225	139
3. Silva Valley Parkway / Serrano Parkway					
NB left turn (270')	270	189	323	73	81
SB left turn (150')	150	161	270	158	155
EB left turn (165')	165	27	58	49	61
WB left turn (700')	700	759	494	352	151
9. Silva Valley Parkway / US 50 WB Ramps					
NB left turn (550')	550	127	140	57	78
WB left turn (800')	800	485	229	122	68
10. Silva Valley Parkway / US 50 EB Ramps					
SB right turn (660')	660	191	<25	306	<25
EB left turn (800')	800	135	72	343	147
11. Silva Valley Parkway / Old Silva Valley Parkway (South)					
NB left turn (220')	220	25	29	26	25
SB left turn (300')	300	5	<25	5	<25
EB through-left turn (185')	185	1	<25	1	<25
WB through-left turn (70')	70	6	<25	6	<25
12. White Rock Rd / Valley View Parkway – Vine St					
NB left turn (100')	100	49	90	46	68
SB left turn (105')	105	63	106	243	250
EB left turn (130')	130	3	<25	18	38
WB left turn (120')	120	75	118	32	53
13. White Rock Rd / Post St					
NB left turn (100')	100	50	77	59	84
SB left turn (50')	50	11	28	118	147
EB left turn (80')	80	123	156	196	226
WB left turn (125')	125	41	68	19	42
14. White Rock Rd / Latrobe Rd					
NB left turn (275')	275	119	175	142	202
SB left turn (2 x 250')	250	95	70	332	206
EB left turn (1 x 260', 1 x 400')	400	139	99	185	123
WB left turn (1 x 130', 1 x 180')	180	435	393	345	296

Highlighted values indicate queue length in excess of available storage

* - longest lane for multiple turn lane approaches

2025 Plus Project Conditions

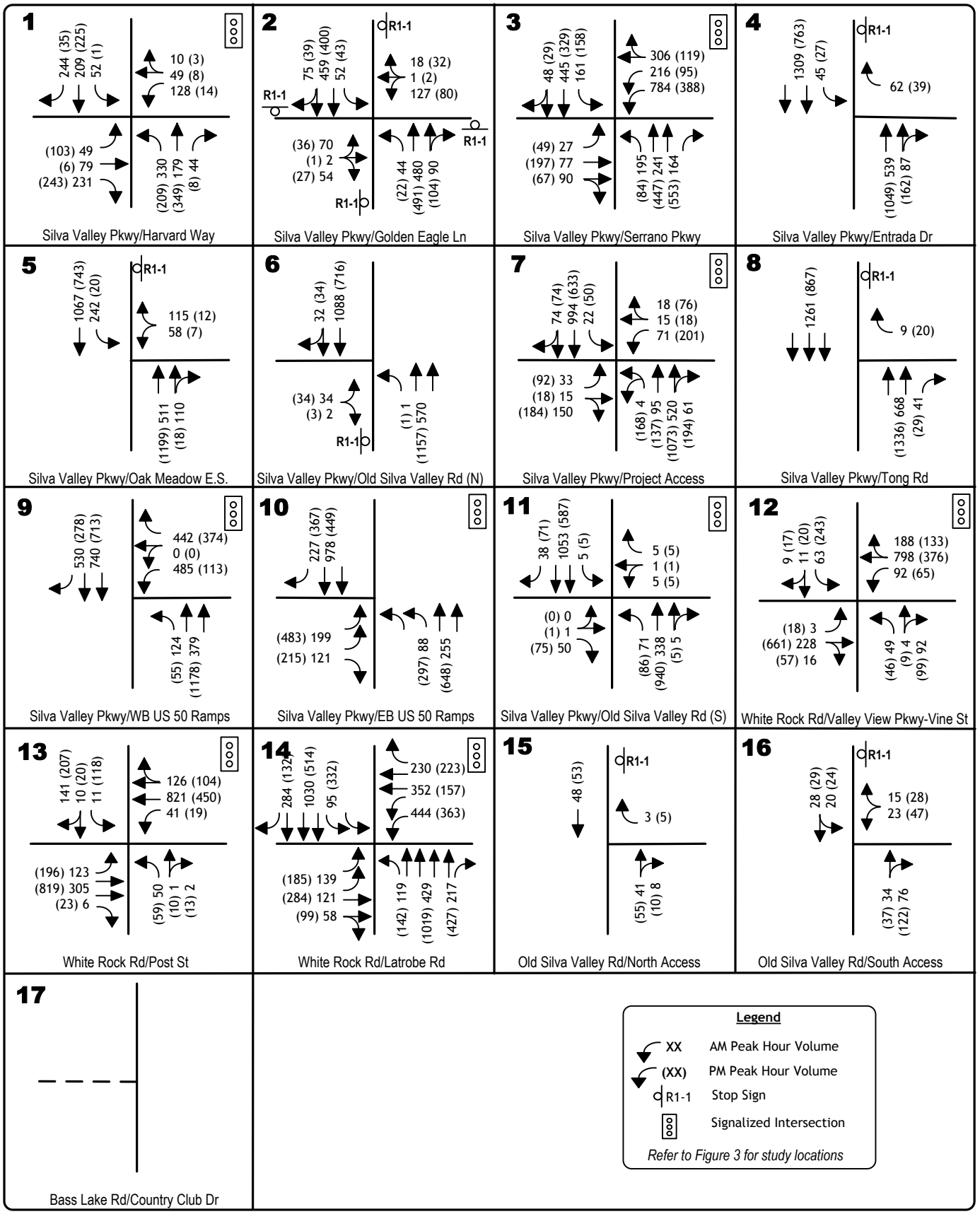
The impacts of developing and operating the project uses on the site have been identified by superimposing project traffic onto background 2025 conditions. Figure 9 displays the "2025 Plus Project" condition for each study intersection in both a.m. and p.m. peak hours. Resulting intersection Levels of Service were then calculated and used as the basis for evaluating potential project impacts.

2025 plus Project Intersection Levels of Service. Table 22 displays the peak hour Levels of Service at each study intersection comparing the "2025 No Project" Levels of Service with the Levels of Service occurring under "2025 Plus Project" conditions. One intersection, the Silva Valley Parkway / Oak Meadow School intersection will operate below the County LOS threshold. The minor street approach will operate at LOS F during the A.M. peak hour. This intersection meets the peak hour signal warrant in the A.M. peak hour.

2025 plus Project Roadway Segments. Table 23 presents 2025 plus Project Levels of Service for roadway segments based on the thresholds contained in the El Dorado County GP. With the project all roadways except westbound US 50 will operate within acceptable levels of service, at LOS E or better. The westbound lanes, with two general traffic lanes and HOV lane will operate at LOS F in the AM peak hour along both segments east and west of the Silva Valley Parkway interchange.

2025 plus Project Freeway Ramp Junction Levels of Service. The westbound peak AM through volume along US 50 is about 4,948 passenger cars per hour (pcph) while the eastbound through volume is about 2,752 pcph. During the PM peak hour the westbound through volume is about 3,146 pcph while the eastbound through volume is about 4,890 pcph.

Table 24 presents a summary of 2025 plus Project AM peak hour and PM peak hour LOS at the four ramp junctions. The worksheets presenting the calculation of LOS are included in the technical appendix. All on- and off- ramps are projected to operate at LOS D or better.



2025 PLUS PROJECT
TRAFFIC VOLUMES AND LANE CONFIGURATIONS

KD Anderson & Associates, Inc.
Transportation Engineers

6260-13 LT 9/1/2015

figure 9

TABLE 23
2025 PLUS PROJECT ROADWAY SEGMENT LEVELS OF SERVICE

Roadway	Location	Facility Classification	General Plan Standard		2025 plus Project Conditions			
			Hourly Volume Threshold	LOS	AM Hourly Volume	LOS	PM Hourly Volume	LOS
Silva Valley Rd	WB US 50 Ramps to Old Silva Valley Rd (North)	4AD	3,290	E	2,091	D	2,543	D
	Old Silva Valley Rd (North) to Serrano Parkway	4AD	3,290	E	2,008	D	2,050	D
Old Silva Valley Rd	Silva Valley Parkway to White Rock Rd	Local	---	---	161	---	230	---
US 50	Bass Lake Rd to Silva Valley Rd							
	EB	3FA	7,310	E	3,067	B	5,554	D
	WB	2FA	5,230	E	5,711	F	3,599	C
	Silva Valley Rd to El Dorado Hills Blvd							
	EB	3FA	7,310	E	3,072	B	5,588	D
	WB	2FA	5,230	E	5,681	F	3,485	C
Country Club Dr	Silva Valley Parkway to Bass Lake Rd	2A	1,650	E	366	C	267	C
White Rock Rd	EB US 50 to Old Silva Valley Rd	4AD	3,290	E	1,462	C	1,609	C
LOS thresholds exceeded								

TABLE 24
RAMP MERGE / DIVERGE LEVELS OF SERVICE
2025 PLUS PROJECT CONDITIONS

Ramp Junction	2025 plus Project AM Peak Hour				2025 plus Project PM Peak Hour			
	Freeway Volume	Ramp Volume	Density	LOS	Freeway Volume	Ramp Volume	Density	LOS
Silva Valley Parkway EB Off-Ramp	2,752	320	9.9	A	4,890	698	20.6	C
Silva Valley Parkway EB On-Ramp	2,752	315	7.9	A	4,890	664	17.8	B
Silva Valley Parkway WB Off-Ramp	4,948	927	25.6	C	3,146	487	15.9	B
Silva Valley Parkway WB On-Ramp	4,948	654	29.7	D	3,146	333	17.9	B
Notes: - WB = westbound. EB = eastbound Density expressed in passenger cars per mile per lane.								

2025 plus Project Queuing. Table 25 presents information regarding current peak period queuing in lanes at signalized study intersections. The available storage is been presented along with projected peak hour traffic volumes and the 95th percentile queue length for left turn lanes. On approaches with multiple turn lanes the longest queue is identified.

Most intersections have lane storage capacity that can accommodate peak period queues. Those 95th percentile queues with length exceeding the available storage have been highlighted. The 95th percentile queue exceeds available storage in thirteen locations.

TABLE 25
2025 PLUS PROJECT PEAK HOUR QUEUES AT SIGNALIZED INTERSECTIONS

Location	Length*	2025 + Project AM Peak Hour		2025 + Project PM Peak Hour	
		VPH	Queue (ft)	VPH	Queue (ft)
1. Silva Valley Parkway / Harvard Way					
NB left turn (110')	110	330	479	209	271
SB left turn (60')	60	52	99	1	<25
SB right turn (180')	180	244	76	35	<25
EB left turn (60')	60	49	85	103	147
3. Silva Valley Parkway / Serrano Parkway					
NB left turn (270')	270	195	350	84	94
SB left turn (150')	150	161	276	158	162
EB left turn (165')	165	27	56	49	63
WB left turn (700')	700	784	508	388	173
Highlighted values indicate queue length in excess of available storage * - longest lane for multiple turn lane approaches † assumed length					

TABLE 25 (cont'd)
2025 PLUS PROJECT PEAK HOUR QUEUES AT SIGNALIZED INTERSECTIONS

Location	Length*	2025 + Project AM Peak Hour		2025 + Project PM Peak Hour	
		VPH	Queue (ft)	VPH	Queue (ft)
7. Silva Valley Parkway / Project Access					
NB left turn (200') †	200	99	114	153	137
SB left turn (200') †	200	22	39	50	70
EB left turn (200') †	200	33	53	92	108
WB left turn (200') †	200	71	106	201	254
9. Silva Valley Parkway / US 50 WB Ramps					
NB left turn (550')	550	124	121	55	73
WB left turn (800')	800	485	229	113	58
10. Silva Valley Parkway / US 50 EB Ramps					
SB right turn (660')	660	227	33	367	<25
EB left turn (800')	800	199	96	483	191
11. Silva Valley Parkway / Old Silva Valley Parkway (South)					
NB left turn (220')	220	71	66	86	64
SB left turn (300')	300	5	<25	5	<25
EB through-left turn (185')	185	1	<25	1	<25
WB through-left turn (70')	70	6	<25	6	<25
12. White Rock Rd / Valley View Parkway – Vine St					
NB left turn (100')	100	49	90	46	72
SB left turn (105')	105	63	106	243	261
EB left turn (130')	130	3	<25	18	39
WB left turn (120')	120	92	136	65	91
13. White Rock Rd / Post St					
NB left turn (100')	100	50	77	59	84
SB left turn (50')	50	11	28	118	148
EB left turn (80')	80	123	156	196	226
WB left turn (125')	125	41	68	19	42
14. White Rock Rd / Latrobe Rd					
NB left turn (275')	275	119	176	142	206
SB left turn (2 x 250')	250	95	70	332	206
EB left turn (1 x 260', 1 x 400')	400	139	99	185	123
WB left turn (1 x 130', 1 x 180')	180	444	404	363	317

Highlighted values indicate queue length in excess of available storage

* - longest lane for multiple turn lane approaches † assumed length

CUMULATIVE IMPACTS (2035)

The analysis of the long term cumulative impact analysis is intended to consider the impact of this project within the context of conditions occurring under the El Dorado County General Plan in the Year 2035. The Bass Lake Road / Country Club Road intersection was also analyzed as part of the Cumulative Impacts scenario.

Basis for Analysis - Regional Traffic Growth. The most recent countywide regional travel demand forecasting model was used as the basis for developing future volumes forecasts in the study area. The study intersections were balanced using the techniques described in NCHRP Report 255.

Year 2035 Lane Configurations. The cumulative analysis assumes regional circulation system improvements will be completed between 2026 and 2035 and are identified in the County's Capital Improvement Program (CIP). The identified projects include:

- Modification of the US 50 / Silva Valley Interchange; this includes addition of free right turn on-ramps for both eastbound and westbound directions and a free northbound on-ramp to eastbound US 50;
- the completion of Country Club Drive from Silva Valley Parkway to east of Bass Lake Road. This includes a two-lane roadway and realignment of Country Club Drive in various segments between Silva Valley Parkway and Bass Lake Road. The Country Club Drive extension is assumed to intersect the Silva Valley Parkway / Old Silva Valley Road intersection. The Silva Valley Parkway / Old Silva Valley Road - Country Club Drive intersection is assumed to be signalized with the following lane configuration – left lane, through lane and through-right lanes along Silva Valley Parkway and a left lane and a through-right lane along the Old Silva Valley Road – Country Club Drive approaches. In addition, it is assumed that the Bass Lake Road intersection will be signalized with left turn lanes installed along each approach to the intersection;
- widening of White Rock Road from west of Old Silva Valley Road to just east of Post Street; this includes widening of the segment to a six lane roadway;
- addition of a third general use westbound lane on US 50; and
- signalization of the Silva Valley Parkway / Golden Eagle Lane intersection.

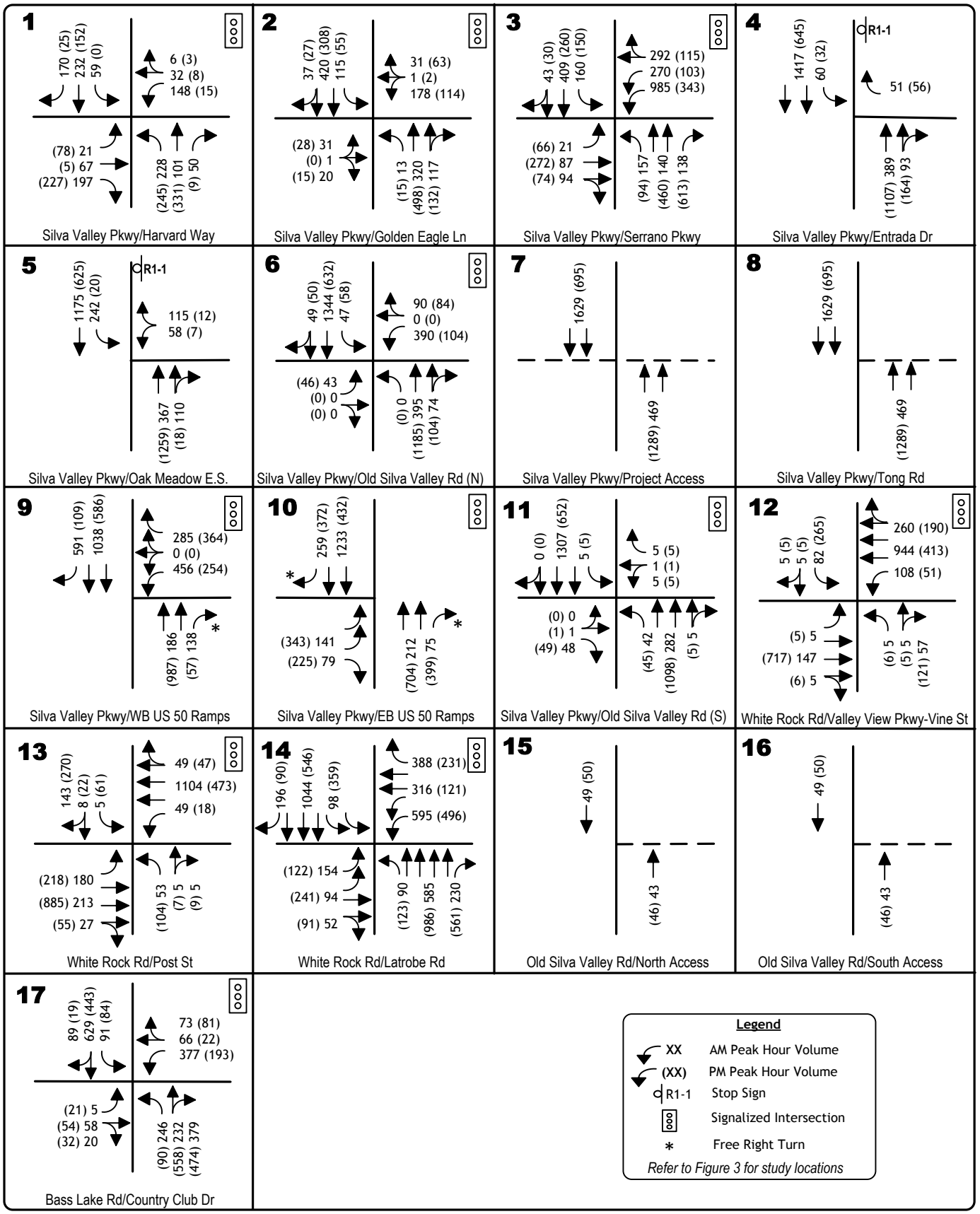
2035 Levels of Service

2035 Intersection Levels of Service. Figure 10 displays the 2035 traffic volumes for each study intersection under the No Project conditions. Table 26 summarizes 2035 Levels of Service at the 14 study area intersections during the a.m. and p.m. peak hours. One intersection, Silva Valley Parkway at Oak Meadow School will operate below the County's LOS threshold. This intersection will operate at LOS F during the A.M. peak hour. The intersection Silva Valley Parkway / Oak Meadow School intersection meets the peak hour signal warrant in the A.M. peak hour.

TABLE 26
2035 PLUS PROJECT PEAK HOUR LEVELS OF SERVICE AT INTERSECTIONS

Location	Control	2035 AM Peak Hour		2035 PM Peak Hour		2035 + Project AM Peak Hour		2035 + Project PM Peak Hour		Meets Peak Hour Traffic Signal Warrant?
		LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	
1. Silva Valley Parkway / Harvard Way	Signal	C	27.5	B	18.2	C	28.0	B	18.7	N/A
2. Silva Valley Parkway / Golden Eagle Ln	Signal	B	14.2	B	12.1	B	14.1	B	12.0	N/A
3. Silva Valley Parkway / Serrano Parkway	Signal	D	37.6	C	21.3	D	39.0	C	27.9	N/A
4. Silva Valley Parkway / Entrada Dr	WB Stop									No
SB Left		A	8.7	B	12.9	A	8.8	B	13.5	
WB		B	10.3	C	16.0	B	10.5	C	16.9	
5. Silva Valley Pkwy / Oak Meadow Elementary School	WB Stop									Yes*
SB Left		A	9.6	B	12.7	A	9.8	B	13.3	
WB		F	141.2	D	32.8	F	189.0	E	39.4	
6. Silva Valley Pkwy / Old Silva Valley Road (N)	Signal	B	19.6	B	12.1	C	27.1	B	10.9	N/A
7. Silva Valley Parkway / Project Access	Signal	N/A	N/A	N/A	N/A	C	22.6	C	28.5	N/A
8. Silva Valley Parkway / Tong Road	WB Stop	N/A	N/A	N/A	N/A					Yes
WB Right						B	10.4	C	17.0	
9.US 50 WB Ramps / Silva Valley Parkway	Signal	B	16.6	B	12.6	B	18.4	B	11.6	N/A
10.US 50 EB Ramps / Silva Valley Parkway	Signal	A	8.3	B	14.4	A	9.9	B	16.6	N/A
11.Silva Parkway / Old Silva Valley Road (S)	Signal	A	5.3	A	4.6	A	7.1	A	6.1	N/A
12. White Rock Rd / Valley View Parkway – Vine St	Signal	B	12.6	B	18.9	B	13.7	C	20.9	N/A
13. White Rock Rd / Post St	Signal	D	40.2	C	31.5	D	40.5	C	31.7	N/A
14. Latrobe Rd / White Rock Rd	Signal	D	36.8	D	39.6	D	37.1	D	47.5	N/A
15. Old Silva Valley Road / North Project Access	WB Stop									No
WB Right		N/A	N/A	N/A	N/A	A	8.6	A	8.7	
16. Old Silva Valley Road / South Project Access	WB Stop	N/A	N/A	N/A	N/A					No
SB Left						A	7.5	A	7.7	
WB						A	9.4	A	9.9	
17. Bass Lake Road / Country Club Drive	Signal	E	75.5	E	60.6	E	76.1	E	60.1	N/A

N/A is not applicable
(x) – signalized intersection as part of project * Meets AM peak hour without and with project



2035 TRAFFIC VOLUMES AND LANE CONFIGURATIONS

KD Anderson & Associates, Inc.
Transportation Engineers

2035 Roadway Segments. Table 27 presents existing Levels of Service for roadway segments based on the thresholds contained in the El Dorado County GP. All roadways will operate within acceptable levels of service, at LOS E or better.

2035 Freeway Ramp Junction Levels of Service. Table 28 presents a summary of 2035 AM peak hour and PM peak hour LOS at the six ramp junctions. The worksheets presenting the calculation of LOS are included in the technical appendix. All on- and off- ramps are projected to operate at LOS D or better.

TABLE 27
2035 ROADWAY SEGMENT LEVELS OF SERVICE

Roadway	Location	Facility Classification	General Plan Standard		2035 Conditions			
			Hourly Volume Threshold	LOS	AM Hourly Volume	LOS	PM Hourly Volume	LOS
Silva Valley Rd	WB US 50 Ramps to Old Silva Valley Rd (North)	4AD	3,290	E	2,203	D	2,046	D
	Old Silva Valley Rd (North) to Serrano Pkwy	4AD	3,290	E	1,925	D	2,055	D
Old Silva Valley Rd	Silva Valley Parkway to White Rock Rd	Local	---	---	92	---	96	---
US 50	Bass Lake Rd to Silva Valley Rd							
	EB	3FA	7,310	E	3,527	B	5,994	D
	WB	3FA	7,310	E	5,886	D	4,132	C
	Silva Valley Rd to El Dorado Hills Blvd							
	EB	3FA	7,310	E	3,413	B	5,790	D
	WB	3FA	7,310	E	5,874	D	3,680	C
Country Club Dr	Silva Valley Parkway to Bass Lake Rd	2A	1,650	E	601	C	350	C
White Rock Rd	EB US 50 to Old Silva Valley Rd	6AD	4,710	E	1,599	C	1,760	C

TABLE 28
RAMP MERGE / DIVERGE LEVELS OF SERVICE
2035 CONDITIONS

Ramp Junction	2035 AM Peak Hour				2035 PM Peak Hour			
	Freeway Volume	Ramp Volume	Density	LOS	Freeway Volume	Ramp Volume	Density	LOS
Silva Valley Parkway EB Off-Ramp	3,193	220	11.2	B	5,222	568	21.2	C
Silva Valley Parkway EB On-Ramp (Diagonal)	3,452	75	12.7	B	5,594	399	22.5	C
Silva Valley Parkway EB On-Ramp (Loop)	3,193	259	8.9	A	5,222	372	16.6	B
Silva Valley Parkway WB Off-Ramp	5,145	741	20.0	C	3,514	618	12.8	B
Silva Valley Parkway WB On-Ramp (Diagonal)	5,283	591	21.7	C	3,571	109	12.1	B
Silva Valley Parkway WB On-Ramp (Loop)	5,145	138	14.5	B	3,514	57	8.4	A
Notes: - WB = westbound. EB = eastbound Density expressed in passenger cars per mile per lane.								

Queuing. Table 29 presents information regarding current peak period queuing in lanes at signalized study intersections. In each case, the available storage has been presented along with current peak hour traffic volumes and the 95th percentile queue length for left turn lanes. On approaches with multiple turn lanes the longest queue is identified.

Most intersections have lane storage capacity that can accommodate peak period queues. Those 95th percentile queues with length exceeding the available storage have been highlighted. The 95th percentile queue exceeds available storage in fourteen locations.

TABLE 29
2035 PEAK HOUR QUEUES AT SIGNALIZED INTERSECTIONS

Location	Length*	2035 AM Peak Hour		2035 PM Peak Hour	
		VPH	Queue (ft)	VPH	Queue (ft)
1. Silva Valley Parkway / Harvard Way					
NB left turn (110')	110	228	368	245	398
SB left turn (60')	60	59	93	0	0
SB right turn (180')	180	170	60	25	0
EB left turn (60')	60	21	36	78	96
2. Silva Valley Parkway / Golden Eagle Lane					
NB left turn (150')	150	13	<25	15	<25
SB left turn (150')	150	115	86	55	51
Highlighted values indicate queue length in excess of available storage * - longest lane for multiple turn lane approaches † assumed length					

TABLE 29 (cont'd)
2035 PEAK HOUR QUEUES AT SIGNALIZED INTERSECTIONS

Location	Length*	2035 AM Peak Hour		2035 PM Peak Hour	
		VPH	Queue (ft)	VPH	Queue (ft)
3. Silva Valley Parkway / Serrano Parkway					
NB left turn (270')	270	157	293	94	108
SB left turn (150')	150	160	298	150	181
EB left turn (165')	165	21	50	66	72
WB left turn (700')	700	985	610	343	165
6. Silva Valley Parkway / Old Silva Valley Road (North) – Country Club Drive					
NB left turn (150')	150	0	0	0	0
SB left turn (200') †	200	47	66	58	68
EB left turn (200') †	200	43	62	46	58
WB left turn (200') †	200	390	378	90	93
9. Silva Valley Parkway / US 50 WB Ramps					
WB left turn (800')	800	456	252	254	174
10. Silva Valley Parkway / US 50 EB Ramps					
EB left turn (800')	800	141	84	343	134
11. Silva Valley Parkway / Old Silva Valley Parkway (South)					
NB left turn (220')	220	42	45	45	37
SB left turn (300')	300	5	<25	5	<25
EB through-left turn (185')	185	1	<25	1	<25
WB through-left turn (70')	70	6	<25	6	<25
12. White Rock Rd / Valley View Parkway – Vine St					
NB left turn (100')	100	5	<25	6	<25
SB left turn (105')	105	82	77	265	223
EB left turn (130')	130	5	<25	5	<25
WB left turn (120')	120	108	96	51	66
13. White Rock Rd / Post St					
NB left turn (100')	100	53	136	104	232
SB left turn (50')	50	5	<25	61	95
EB left turn (80')	80	180	178	218	200
WB left turn (125')	125	49	62	18	31
14. White Rock Rd / Latrobe Rd					
NB left turn (275')	275	90	130	123	166
SB left turn (2 x 250')	250	98	63	359	202
EB left turn (1 x 260', 1 x 400')	400	154	98	122	82
WB left turn (1 x 130', 1 x 180')	180	595	153	496	182
17. Bass Lake Rd / Country Club Dr					
NB left turn (300')	300	246	457	90	157
SB left turn (200')	200	91	193	84	209
EB left turn (200')	200	5	<25	21	55
WB left turn (300')	300	377	630	193	377

Highlighted values indicate queue length in excess of available storage

* - longest lane for multiple turn lane approaches † assumed length

2035 Plus Project Conditions

The impacts of developing and operating the project uses on the site were identified by superimposing project traffic onto background 2035 conditions.

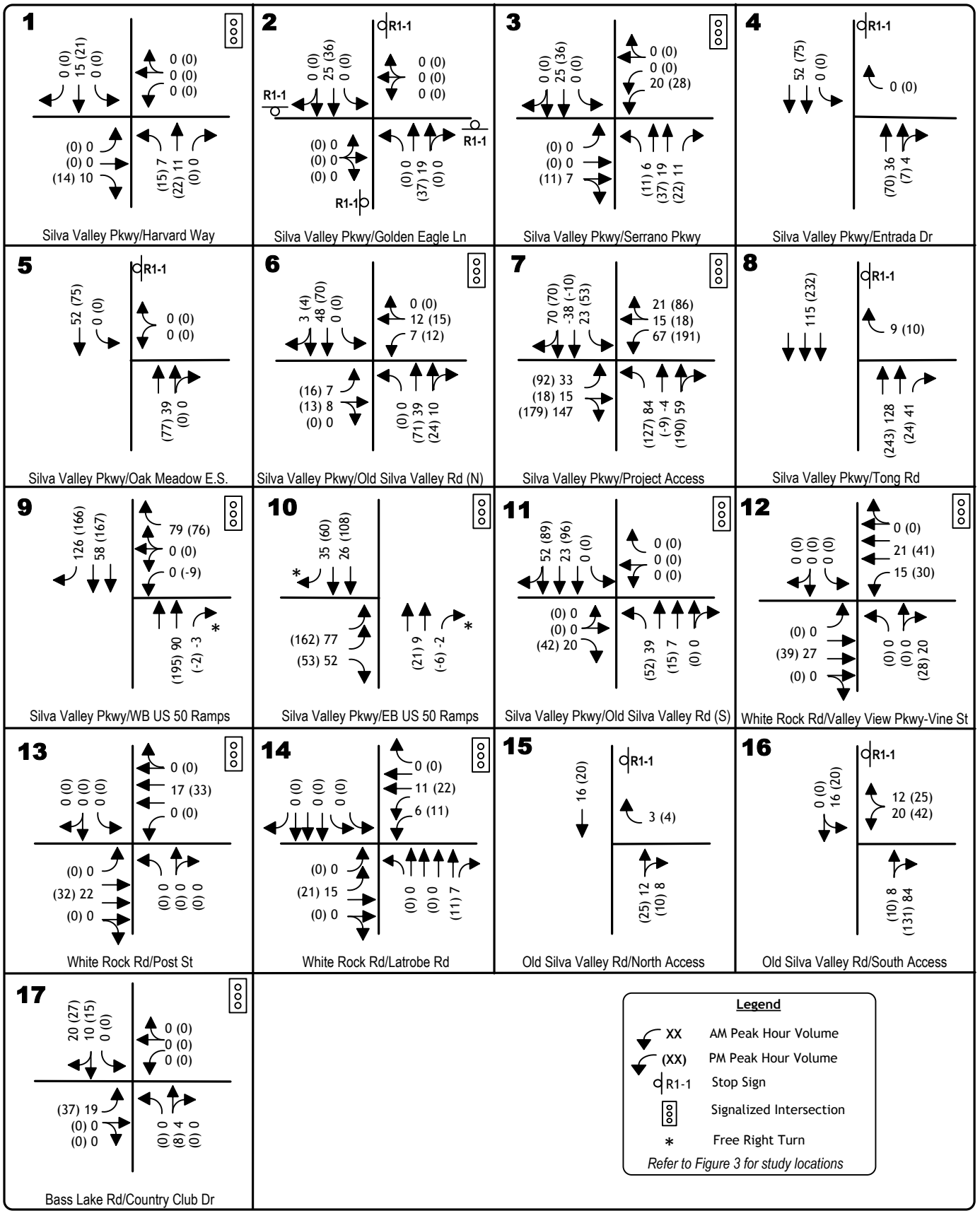
Trip Distribution & Assignment. The distribution of project traffic in the 2035 buildout condition was developed based on the select zone analysis using the County's traffic model and the project location within the model. The residential component of the TAZ #163 was excluded so that the trip distribution reflected specifically the retail portion (i.e. the project) of the TAZ at future year buildout.

'New' project trips are expected to be oriented to the west, south and east in varying percentages, which is shown in Table 30. Figure 11 illustrates the total project trips.

TABLE 30
PROJECT NEW TRIP DISTRIBUTION

Route	% of Total Trips
North on Silva Valley Parkway	
North on Silva Valley Parkway	6%
West on Harvard Way	4%
West on Serrano Parkway	3%
East on Serrano Parkway	6%
East on Entrada Dr	2%
South on White Rock Road	
West of Latrobe Road	6%
South on Latrobe Road	3%
between Valley View Parkway and Post St	2%
south on Valley View Parkway	8%
East	
East on Tong Road / Country Club Drive	12%
East on US 50	7%
West	
West on US 50	41%
Total	100%

Figure 12 presents the "2035 Plus Project" condition for each study intersection in both a.m. and p.m. peak hours. Resulting intersection Levels of Service were then calculated and used as the basis for evaluating potential project impacts.

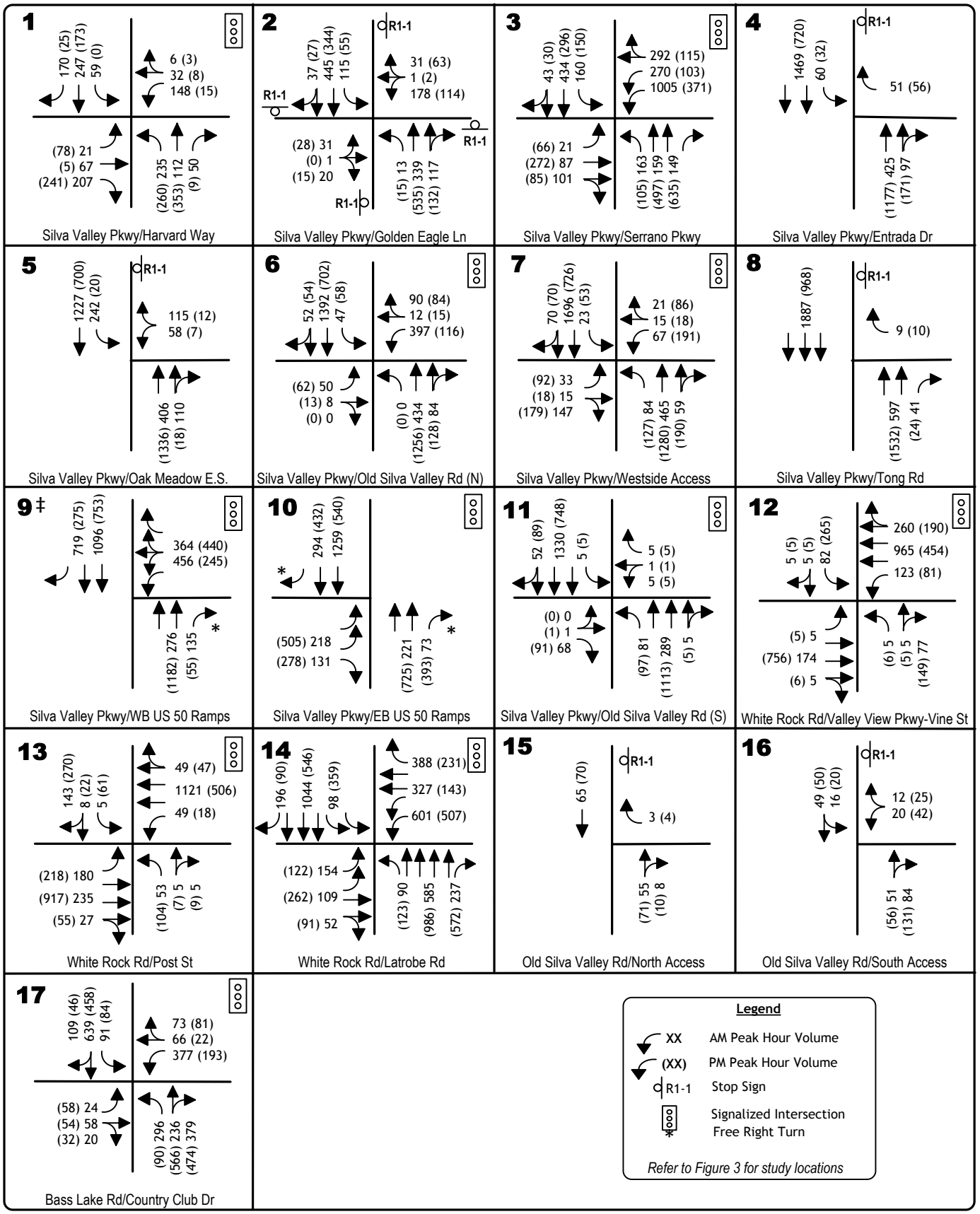


2035 PROJECT ONLY
TRAFFIC VOLUMES AND LANE CONFIGURATIONS

KD Anderson & Associates, Inc.
Transportation Engineers

6260-13 LT 9/1/2015

figure 11



2035 PLUS PROJECT
TRAFFIC VOLUMES AND LANE CONFIGURATIONS

KD Anderson & Associates, Inc.
Transportation Engineers

6260-13 LT 9/1/2015

figure 12

Intersection Levels of Service. Table 31 displays the peak hour Levels of Service at each study intersection comparing the "2035 No Project" Levels of Service with the Levels of Service occurring under "2035 Plus Project" Levels of Service conditions. One intersection, the Silva Valley Parkway / Oak Meadow School intersection will operate below the County LOS threshold. This intersection will operate with the minor street approach at LOS F during the A.M. peak hour. The intersection meets the peak hour signal warrant in the A.M. peak hour.

2035 plus Project Roadway Segments. Table 32 presents existing Levels of Service for roadway segments based on the thresholds contained in the El Dorado County GP. All roadways will operate within acceptable levels of service, at LOS E or better.

2035 plus Project Freeway Ramp Junction Levels of Service. Table 26 presents a summary of 2035 plus Project AM peak hour and PM peak hour LOS at the six ramp junctions. The worksheets presenting the calculation of LOS are included in the technical appendix. All on- and off- ramps are projected to operate at LOS D or better.

TABLE 25
2035 PLUS PROJECT ROADWAY SEGMENT LEVELS OF SERVICE

Roadway	Location	Facility Classification	General Plan Standard		2035 plus Project Conditions			
			Hourly Volume Threshold	LOS	AM Hourly Volume	LOS	PM Hourly Volume	LOS
Silva Valley Rd	WB US 50 Ramps to Old Silva Valley Rd (North)	4AD	3,290	E	2,534	D	2,693	D
	Old Silva Valley Rd (North) to Serrano Pkwy	4AD	3,290	E	2,013	D	2,216	D
Old Silva Valley Rd	Silva Valley Parkway to White Rock Rd	Local	---	---	204	---	279	---
US 50	Bass Lake Rd to Silva Valley Rd							
	EB	3FA	7,310	E	3,550	B	6,064	D
	WB	3FA	7,310	E	5,975	D	4,199	C
	Silva Valley Rd to El Dorado Hills Blvd							
	EB	3FA	7,310	E	3,532	B	6,022	D
	WB	3FA	7,310	E	6,009	D	3,844	C
Country Club Dr	Silva Valley Parkway to Bass Lake Rd	2A	1,650	E	638	C	414	C
White Rock Rd	EB US 50 to Old Silva Valley Rd	6AD	4,710	E	1,684	C	1,936	C

TABLE 26
RAMP MERGE / DIVERGE LEVELS OF SERVICE
2035 PLUS PROJECT CONDITIONS

Ramp Junction	2035 plus Project AM Peak Hour				2035 plus Project PM Peak Hour			
	Freeway Volume	Ramp Volume	Density	LOS	Freeway Volume	Ramp Volume	Density	LOS
Silva Valley Parkway EB Off-Ramp	3,183	349	11.8	B	5,239	783	22.4	C
Silva Valley Parkway EB On-Ramp (Diagonal)	3,480	73	12.8	B	5,677	393	23.0	C
Silva Valley Parkway EB On-Ramp (Loop)	3,183	294	9.1	A	5,239	432	17.2	B
Silva Valley Parkway WB Off-Ramp	5,155	820	20.5	C	3,514	685	13.3	B
Silva Valley Parkway WB On-Ramp (Diagonal)	5,290	719	22.8	C	3,569	275	13.9	B
Silva Valley Parkway WB On-Ramp (Loop)	5,155	135	14.5	B	3,514	55	2.8	A

Notes: - WB = westbound. EB = eastbound
Density expressed in passenger cars per mile per lane.

Queuing. Table 27 presents information regarding current peak period queuing in lanes at signalized study intersections. The available storage is been presented along with projected peak hour traffic volumes and the 95th percentile queue length for left turn lanes. On approaches with multiple turn lanes the longest queue is identified.

Most intersections have lane storage capacity that can accommodate peak period queues. Those 95th percentile queues with length exceeding the available storage have been highlighted. The 95th percentile queue exceeds available storage in fifteen locations.

TABLE 27
2035 PLUS PROJECT PEAK HOUR QUEUES AT SIGNALIZED INTERSECTIONS

Location	Length*	2035 + Project AM Peak Hour		2035 + Project PM Peak Hour	
		VPH	Queue (ft)	VPH	Queue (ft)
1. Silva Valley Parkway / Harvard Way					
NB left turn (110')	110	235	380	260	430
SB left turn (60')	60	59	93	0	0
SB right turn (180')	180	170	60	25	0
EB left turn (60')	60	21	36	78	97
2. Silva Valley Parkway / Golden Eagle Lane					
NB left turn (150')	150	13	<25	15	<25
SB left turn (150')	150	115	88	55	52
3. Silva Valley Parkway / Serrano Parkway					
NB left turn (270')	270	163	306	105	146
SB left turn (150')	150	160	299	150	193
EB left turn (165')	165	21	49	66	68
WB left turn (700')	700	1005	631	371	182
6. Silva Valley Parkway / Old Silva Valley Road (North) – Country Club Drive					
NB left turn (150')	150	0	0	0	0
SB left turn (200') †	200	47	60	58	72
EB left turn (200') †	200	50	65	62	75
WB left turn (200') †	200	397	491	116	120
7. Silva Valley Parkway / Project Access					
NB left turn (200') †	200	84	161	127	112
SB left turn (200') †	200	23	<25	53	81
EB left turn (200') †	200	33	59	92	100
WB left turn (200') †	200	67	137	191	241
9. Silva Valley Parkway / US 50 WB Ramps					
WB left turn (800')	800	456	295	245	173
10. Silva Valley Parkway / US 50 EB Ramps					
EB left turn (800')	800	218	119	505	222
11. Silva Valley Parkway / Old Silva Valley Parkway (South)					
NB left turn (220')	220	81	70	97	68
SB left turn (300')	300	5	<25	5	<25
EB through-left turn (185')	185	1	<25	1	<25
WB through-left turn (70')	70	6	<25	6	<25
12. White Rock Rd / Valley View Parkway – Vine St					
NB left turn (100')	100	5	<25	6	<25
SB left turn (105')	105	82	77	265	225
EB left turn (130')	130	5	<25	5	<25
WB left turn (120')	120	123	108	81	96

Highlighted values indicate queue length in excess of available storage

* - longest lane for multiple turn lane approaches

TABLE 27 (cont'd)
2035 PLUS PROJECT PEAK HOUR QUEUES AT SIGNALIZED INTERSECTIONS

Location	Length*	2035 + Project AM Peak Hour		2035 + Project PM Peak Hour	
		VPH	Queue (ft)	VPH	Queue (ft)
13. White Rock Rd / Post St					
NB left turn (100')	100	53	136	104	232
SB left turn (50')	50	5	<25	61	93
EB left turn (80')	80	180	179	218	197
WB left turn (125')	125	49	62	18	31
14. White Rock Rd / Latrobe Rd					
NB left turn (275')	275	90	130	123	166
SB left turn (2 x 250')	250	98	63	359	202
EB left turn (1 x 260', 1 x 400')	400	154	98	122	75
WB left turn (1 x 130', 1 x 180')	180	601	272	507	286
17. Bass Lake Rd / Country Club Dr					
NB left turn (300')	300	296	469	90	157
SB left turn (200')	200	91	193	84	209
EB left turn (200')	200	24	57	58	109
WB left turn (300')	300	377	654	193	377

Highlighted values indicate queue length in excess of available storage

* - longest lane for multiple turn lane approaches

FINDINGS / RECOMMENDATIONS / MITIGATIONS

The preceding analysis has identified project impacts that may occur without mitigation. The text that follows identifies a strategy for mitigating the impacts of the proposed project. Recommendations are identified for improving facilities that have deficiencies in the roadway network without the project. If the project causes a significant impact, mitigations are identified for the facility.

Existing Conditions

Two study intersections will operate at LOS F. These include the Silva Valley Parkway / Entrada Drive intersection and the Silva Valley Parkway / Oak Meadow Elementary School driveway. Both intersections currently meet the peak hour traffic signal warrant in the A.M. peak hour.

- The County intends to install a "soft" prohibition (i.e. restricted left turn signing) along Entrada Drive to restrict left turn movements from Entrada Drive to southbound Silva Valley Parkway coinciding with the opening of the Silva Valley interchange. Left turning traffic will use Serrano Parkway to enter onto Silva Valley Parkway. The LOS will improve to acceptable conditions with this modification.

- A traffic signal should be installed at the Silva Valley Parkway / Oak Meadow Elementary School driveway. This will improve the intersection level of service to LOS B conditions (12.8 seconds).

No other recommendations are made.

2016 Conditions

- One study intersection, the Silva Valley Parkway / Oak Meadow Elementary School driveway will operate at LOS F. The intersection will meet the peak hour traffic signal warrant in the A.M. peak hour. As noted in the Existing Conditions a traffic signal is identified and should be installed at the school driveway. This will improve the intersection level of service to LOS B conditions (14.4 seconds).

- The westbound roadway along US 50 between Bass Lake Road and Silva Valley Parkway will operate at LOS F in 2016. The County has an identified project, #71330 that will add an auxiliary lane to westbound US 50 on this segment. The project is identified for construction between FY 24/25 and FY 33/34.

- The westbound roadway along US 50 between Silva Valley Parkway and El Dorado Hills Blvd will operate at LOS F in 2016. The County has an identified project, #53120 that will add an auxiliary lane to westbound US 50 on this segment. The project is identified for construction between FY 24/25 and FY 33/34.

No other recommendations are made.

Mitigations for 2016 + Project Conditions

- The project shall contribute its fair share to the cost of regional circulation improvements via the existing countywide traffic impact mitigation (TIM) fee program.

- The Silva Valley Parkway / Oak Meadow Elementary School driveway will operate below the County's LOS threshold. This intersection will operate at LOS F in the A.M. peak hour and meet the peak hour traffic signal warrant in that time period. With signalization the intersection will operate at LOS B (15.4 seconds). The project should contribute their fair share to construct the traffic signal. The fair share is determined by dividing the project traffic by the difference in Cumulative plus Project traffic minus Existing traffic. The fair share for this project is 9.8%.

- The westbound roadway along US 50 between Bass Lake Road and Silva Valley Parkway will operate at LOS F under 2016 plus Project conditions. The County has an identified project, #71330 that will add an auxiliary lane to westbound US 50 on this segment. This project is identified for construction between FY 24/25 and FY 33/34. Until the lane is added this segment will operate with a **significant and unavoidable impact**.

- The westbound roadway along US 50 between Silva Valley Parkway and El Dorado Hills Blvd will operate at LOS F under 2016 plus Project conditions. The County has an identified project, #53120 that will add an auxiliary lane to westbound US 50 on this segment. The project is identified for construction between FY 24/25 and FY 33/34. Until the lane is added this segment will operate with a **significant and unavoidable impact**.

No other mitigations are identified.

2025 Conditions

- One study intersection, the Silva Valley Parkway / Oak Meadow Elementary School driveway will operate at LOS F and will meet the peak hour traffic signal warrant in the A.M. peak hour. As noted in the Existing Conditions a traffic signal is identified and should be installed at the school driveway. This will improve the intersection level of service to LOS B conditions (13.1 seconds).

- The westbound roadway along US 50 between Bass Lake Road and Silva Valley Parkway will operate at LOS F in 2016. The County has an identified project, #71330 that will add an auxiliary lane to westbound US 50 on this segment. The project is identified for construction between FY 24/25 and FY 33/34.

- The westbound roadway along US 50 between Silva Valley Parkway and El Dorado Hills Blvd will operate at LOS F in 2016. The County has an identified project, #53120 that will add an auxiliary lane to westbound US 50 on this segment. The project is identified for construction between FY 24/25 and FY 33/34.

No other recommendations are made.

Mitigations for 2025 + Project Conditions

- The Silva Valley Parkway / Oak Meadow Elementary School driveway will operate below the County's LOS threshold. This intersection will operate at LOS F in the A.M. peak hour and meet the peak hour traffic signal warrant in that time period. With signalization the intersection will operate at LOS B (13.5 seconds). The fair share has been identified in the 2016 plus Project Mitigations.

- The westbound roadway along US 50 between Bass Lake Road and Silva Valley Parkway will operate at LOS F under 2016 plus Project conditions. The County has an identified project, #71330 that will add an auxiliary lane to westbound US 50 on this segment. This project is identified for construction between FY 24/25 and FY 33/34. Until the lane is added this segment will operate with a **significant and unavoidable impact**.

- The westbound roadway along US 50 between Silva Valley Parkway and El Dorado Hills Blvd will operate at LOS F under 2016 plus Project conditions. The County has an identified project, #53120 that will add an auxiliary lane to westbound US 50 on this segment. The project is identified for construction between FY 24/25 and FY 33/34. Until the lane is added this segment will operate with a **significant and unavoidable impact**.

No other mitigations are identified.

2035 Conditions

One intersection will operate at an LOS F condition. This is the Silva Valley Parkway / Oak Meadow Elementary School driveway which will meet the peak hour signal warrant in the A.M. peak hour.

- As noted in the Existing Conditions a traffic signal is identified and should be installed at the school driveway. This will improve the intersection level of service to an LOS A condition (8.6 seconds).

No other improvement recommendations have been made.

Mitigations for 2035 + Project Conditions

- The Silva Valley Parkway / Oak Meadow Elementary School driveway will operate below the County's LOS threshold. This intersection will operate at LOS F in the A.M. peak hour and meet the peak hour traffic signal warrant in that time period. With signalization the intersection will operate at LOS B (8.7 seconds). The fair share has been identified in the 2016 plus Project Mitigations.

No other mitigations are identified.

REFERENCES

1. Transportation Research Board, *Highway Capacity Manual*, 2010
2. Transportation Research Board, Special Report 209, *Highway Capacity Manual*, 2000
3. Caltrans *Highway Design Manual*, 2012
4. El Dorado County Department of Transportation, *2012 West Slope Road / Bridge Capital Improvement Program*, http://www.edcgov.us/Government/DOT/CIP.aspx
5. California *Manual of Uniform Traffic Control Devices*, 2014
6. Institute of Transportation Engineers. 2013. *Trip Generation*, 9th Edition. Washington, D.C.
7. Institute of Transportation Engineers. 2014. *Trip Generation Handbook*, 3rd Edition. Washington, D.C.
8. Transportation Research Board. 1982. National Cooperative Highway Research Program (NCHRP) Report 255, *Highway Traffic Data for Urbanized Area Project Planning and Design.* Washington, D.C.
9. Telephone and E-mail correspondence, Natalie Porter, El Dorado County, January-February, 2015
10. Telephone and E-mail correspondence, Mark Rackovan, City of Folsom, February-March, 2015
11. Telephone and E-mail correspondence, Chirag Safi, Kittelson & Associates, Inc., January-February, 2015
12. *Final Corridor Analysis Report, Green Valley Road*, by Kittelson & Associates, Inc., October, 2014
13. *Wilson Estates Final Traffic Impact Analysis (WO#38)*, by Kimley-Horn and Associates, Inc., March 3, 2011
14. *Green Valley Center Final Traffic Impact Analysis (WO#39)*, by Kimley-Horn and Associates, Inc., March 3, 2011
15. *Dixon Ranch Final Traffic Impact Analysis (WO#41)*, by Kimley-Horn and Associates, Inc., May 9, 2012
16. *Sparks Property (Alto) Draft Traffic Impact & Operations Analysis*, by Kimley-Horn and Associates, Inc., March 7, 2006
17. *Summer Brook Draft Traffic Impact & Operations Analysis*, by Kimley-Horn and Associates, Inc., April, 2007
18. *The Springs Equestrian Center Traffic Impact Assessment*, by KD Anderson and Associates, Inc., August, 2014
19. *Supplemental Traffic Impact Analysis for East Ridge Village*, prepared by TKear, Transportation Planning and Management, Inc.

APPENDIX
FAIR SHARE PERCENTAGES & COSTS

$$\frac{\text{(Future + Project Volumes) - Future}}{\text{(Future + Project) – Existing}}$$

Silva Valley Parkway – Oak Meadow Elementary School

$$\frac{2{,}158 - 2{,}067}{2{,}158 - 1{,}232}$$

Fair Share Percentage: 9.8%

TECHNICAL APPENDIX 1 of 2

FOR

EDH 52 SITE TRAFFIC IMPACT ANALYSIS
Silva Valley Parkway North of US 50

El Dorado Hills, El Dorado County CA

Prepared For:

RSC ENGINEERING, INC
2250 Douglas Blvd, Suite 150
Roseville, CA 95661

Prepared By:

KDAnderson & Associates, Inc.
3853 Taylor Road, Suite G
Loomis, California 95650
(916) 660-1555



September 1, 2015

6260-13

ALL TRAFFIC DATA

6260-13

City of El Dorado Hills
All Vehicles on Unshifted
Peds & Bikes on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7114-001 Silva Valley Parkway-Harvard Way.ppd
Date : 2/12/2015

Unshifted Count = All Vehicles

	Silva Valley Parkway Southbound					Harvard Way Westbound					Silva Valley Parkway Northbound					Harvard Way Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturn Total
07:00	9	42	122	0	173	7	9	4	0	20	99	46	6	17	168	15	11	43	0	69	430	17
07:15	18	36	95	0	149	35	22	2	0	59	77	39	15	34	165	49	34	81	0	164	537	34
07:30	21	56	58	0	135	41	13	5	0	59	47	66	9	59	181	7	35	66	0	108	483	59
07:45	2	43	30	0	75	32	16	4	0	52	45	85	12	26	168	8	6	40	0	54	349	26
Total	50	177	305	0	532	115	60	15	0	190	268	236	42	136	682	79	86	230	0	395	1799	136
08:00	2	36	42	0	80	3	2	1	0	6	56	48	2	14	120	17	2	44	0	63	269	14
08:15	0	45	63	0	108	2	1	0	0	3	85	35	1	7	128	38	0	77	0	115	354	7
08:30	2	44	15	0	61	3	1	0	0	4	50	49	1	0	100	23	4	35	0	62	227	0
08:45	1	43	7	0	51	3	1	0	0	4	15	38	1	0	54	8	4	33	0	45	154	0
Total	5	168	127	0	300	11	5	1	0	17	206	170	5	21	402	86	10	189	0	285	1004	21
16:00	3	35	15	0	53	9	8	1	0	18	29	62	2	1	94	20	0	44	0	64	229	1
16:15	0	45	6	0	51	6	6	2	0	14	30	71	3	0	104	11	1	39	0	51	220	0
16:30	0	52	15	0	67	4	2	1	0	7	32	61	0	0	93	21	1	22	0	44	211	0
16:45	1	54	22	0	77	2	1	0	0	3	49	63	1	1	114	26	3	33	0	62	256	1
Total	4	186	58	0	248	21	17	4	0	42	140	257	6	2	405	78	5	138	0	221	916	2
17:00	0	57	15	0	72	1	1	1	0	3	27	92	3	2	124	46	3	45	0	94	293	2
17:15	2	52	23	0	77	4	3	2	0	9	52	77	2	1	132	36	0	44	0	80	298	1
17:30	1	61	15	0	77	7	3	1	0	11	37	78	2	0	117	47	4	56	0	107	312	0
17:45	0	61	8	0	69	0	3	2	0	5	40	75	0	3	118	22	1	43	0	66	258	3
Total	3	231	61	0	295	12	10	6	0	28	156	322	7	6	491	151	8	188	0	347	1161	6
Grand Total	62	762	551	0	1375	159	92	26	0	277	770	985	60	165	1980	394	109	745	0	1248	4880	165
Apprch %	4.5%	55.4%	40.1%	0.0%		57.4%	33.2%	9.4%	0.0%		38.9%	49.7%	3.0%	8.3%		31.6%	8.7%	59.7%	0.0%			
Total %	1.3%	15.6%	11.3%	0.0%	28.2%	3.3%	1.9%	0.5%	0.0%	5.7%	15.8%	20.2%	1.2%	3.4%	40.6%	8.1%	2.2%	15.3%	0.0%	25.6%	100.0%	

ALL TRAFFIC DATA

City of El Dorado Hills
All Vehicles on Unshifted
Peds & Bikes on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7114-002 Silva Valley Parkway-Golden Eagle Lane.ppd
Date : 2/12/2015

Unshifted Count = All Vehicles

	Silva Valley Parkway Southbound					Walker Park Drive Westbound					Silva Valley Parkway Northbound					Golden Eagle Lane Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturn Total
07:00	1	82	12	0	95	12	0	3	0	15	2	199	5	0	206	13	0	3	0	16	332	0
07:15	2	136	26	0	164	15	0	3	0	18	14	163	9	0	186	22	0	6	0	28	396	0
07:30	4	123	37	1	165	33	1	2	0	36	22	163	14	1	200	36	0	23	0	59	460	2
07:45	2	101	32	3	138	9	1	1	0	11	54	66	5	5	130	38	1	73	0	112	391	8
Total	9	442	107	4	562	69	2	9	0	80	92	591	33	6	722	109	1	105	0	215	1579	10
08:00	3	73	9	10	95	10	0	6	0	16	4	85	8	0	97	24	1	40	0	65	273	10
08:15	1	115	12	0	128	15	0	2	0	17	7	105	6	0	118	11	0	9	0	20	283	0
08:30	3	78	4	0	85	15	0	4	0	19	6	98	1	0	105	5	1	13	0	19	228	0
08:45	2	73	4	0	79	17	0	1	0	18	7	37	5	0	49	8	0	4	0	12	158	0
Total	9	339	29	10	387	57	0	13	0	70	24	325	20	0	369	48	2	66	0	116	942	10
16:00	4	75	9	0	88	7	0	2	0	9	12	88	10	1	111	8	0	13	0	21	229	1
16:15	4	69	9	0	82	8	1	3	0	12	7	75	7	0	89	12	1	8	0	21	204	0
16:30	2	70	6	0	78	5	1	2	0	8	13	80	7	0	100	7	1	8	0	16	202	0
16:45	6	77	11	2	96	9	0	2	0	11	15	99	15	1	130	9	0	12	0	21	258	3
Total	16	291	35	2	344	29	2	9	0	40	47	342	39	2	430	36	2	41	0	79	893	4
17:00	7	83	12	0	102	10	1	4	0	15	6	118	17	0	141	8	1	6	0	15	273	0
17:15	5	81	15	1	102	11	0	3	0	14	6	107	15	0	128	9	1	8	0	18	262	1
17:30	7	99	10	1	117	6	1	3	0	10	12	98	23	1	134	22	3	12	0	37	298	2
17:45	7	87	15	0	109	5	0	2	0	7	10	94	20	0	124	8	0	15	0	23	263	0
Total	26	350	52	2	430	32	2	12	0	46	34	417	75	1	527	47	5	41	0	93	1096	3
Grand Total	60	1422	223	18	1723	187	6	43	0	236	197	1675	167	9	2048	240	10	253	0	503	4510	27
Apprch %	3.5%	82.5%	12.9%	1.0%		79.2%	2.5%	18.2%	0.0%		9.6%	81.8%	8.2%	0.4%		47.7%	2.0%	50.3%	0.0%			
Total %	1.3%	31.5%	4.9%	0.4%	38.2%	4.1%	0.1%	1.0%	0.0%	5.2%	4.4%	37.1%	3.7%	0.2%	45.4%	5.3%	0.2%	5.6%	0.0%	11.2%	100.0%	

ALL TRAFFIC DATA

City of El Dorado Hills
(916) 771-8700
All Vehicles on Unshifted
orders@atdtraffic.com
Peds & Bikes on Bank 1
Nothing on Bank 2

File Name : 15-7114-002 Silva Valley Parkway-Golden Eagle Lane.ppd
Date : 2/12/2015

Unshifted Count = All Vehicles

AM PEAK HOUR	Silva Valley Parkway Southbound					Walker Park Drive Westbound					Silva Valley Parkway Northbound					Golden Eagle Lane Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:00 to 08:00																					
Peak Hour For Entire Intersection Begins at 07:00																					
07:00	1	82	12	0	95	12	0	3	0	15	2	199	5	0	206	13	0	3	0	16	332
07:15	2	136	26	0	164	15	0	3	0	18	14	163	9	0	186	22	0	6	0	28	396
07:30	4	123	37	1	165	33	1	2	0	36	22	163	14	1	200	36	0	23	0	59	460
07:45	2	101	32	3	138	9	1	1	0	11	54	66	5	5	130	38	1	73	0	112	391
Total Volume	9	442	107	4	562	69	2	9	0	80	92	591	33	6	722	109	1	105	0	215	1579
% App Total	1.6%	78.6%	19.0%	0.7%		86.3%	2.5%	11.3%	0.0%		12.7%	81.9%	4.6%	0.8%		50.7%	0.5%	48.8%	0.0%		
PHF	.563	.813	.723	.333	.852	.523	.500	.750	.000	.556	.426	.742	.589	.300	.876	.717	.250	.360	.000	.480	.858

PM PEAK HOUR	Silva Valley Parkway Southbound					Walker Park Drive Westbound					Silva Valley Parkway Northbound					Golden Eagle Lane Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	7	83	12	0	102	10	1	4	0	15	6	118	17	0	141	8	1	6	0	15	273
17:15	5	81	15	1	102	11	0	3	0	14	6	107	15	0	128	9	1	8	0	18	262
17:30	7	99	10	1	117	6	1	3	0	10	12	98	23	1	134	22	3	12	0	37	298
17:45	7	87	15	0	109	5	0	2	0	7	10	94	20	0	124	8	0	15	0	23	263
Total Volume	26	350	52	2	430	32	2	12	0	46	34	417	75	1	527	47	5	41	0	93	1096
% App Total	6.0%	81.4%	12.1%	0.5%		69.6%	4.3%	26.1%	0.0%		6.5%	79.1%	14.2%	0.2%		50.5%	5.4%	44.1%	0.0%		
PHF	.929	.884	.867	.500	.919	.727	.500	.750	.000	.767	.708	.883	.815	.250	.934	.534	.417	.683	.000	.628	.919

ALL TRAFFIC DATA

City of El Dorado Hills
All Vehicles on Unshifted
Peds & Bikes on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7114-003 Silva Valley Parkway-Serrano Parkway.ppd
Date : 2/12/2015

Unshifted Count = All Vehicles

	Silva Valley Parkway Southbound					Serrano Parkway Westbound					Silva Valley Parkway Northbound					Serrano Parkway Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturn Total
07:00	29	38	23	0	90	24	69	118	0	211	0	54	3	0	57	18	23	6	0	47	405	0
07:15	51	67	42	0	160	29	64	122	0	215	11	57	19	0	87	25	18	12	0	55	517	0
07:30	50	89	36	0	175	64	82	107	0	253	50	59	19	5	133	26	29	28	0	83	644	5
07:45	57	88	36	0	181	88	81	61	0	230	43	60	24	62	189	21	51	30	0	102	702	62
Total	187	282	137	0	606	205	296	408	0	909	104	230	65	67	466	90	121	76	0	287	2268	67
08:00	52	61	17	0	130	45	69	57	0	171	22	30	20	20	92	9	32	9	0	50	443	20
08:15	45	60	32	0	137	39	65	70	0	174	6	34	15	0	55	16	28	9	0	53	419	0
08:30	30	48	30	0	108	39	72	68	0	179	25	23	19	0	67	10	35	9	0	54	408	0
08:45	36	41	19	0	96	36	76	29	0	141	13	10	22	1	46	16	39	15	0	70	353	1
Total	163	210	98	0	471	159	282	224	0	665	66	97	76	21	260	51	134	42	0	227	1623	21
16:00	44	33	12	0	89	20	53	30	0	103	15	68	63	0	146	16	69	13	0	98	436	0
16:15	41	39	11	0	91	34	34	23	0	91	16	49	62	0	127	9	39	14	0	62	371	0
16:30	30	34	11	0	75	35	48	25	0	108	16	50	56	0	122	20	69	11	0	100	405	0
16:45	30	60	18	0	108	36	58	37	0	131	20	68	53	0	141	19	70	10	0	99	479	0
Total	145	166	52	0	363	125	193	115	0	433	67	235	234	0	536	64	247	48	0	359	1691	0
17:00	43	45	14	0	102	28	53	34	0	115	18	73	69	0	160	24	55	11	0	90	467	0
17:15	46	37	13	0	96	38	49	47	0	134	23	63	65	0	151	21	77	8	0	106	487	0
17:30	48	48	24	0	120	34	54	37	0	125	15	72	81	0	168	22	68	10	0	100	513	0
17:45	52	42	21	0	115	31	38	36	0	105	23	66	55	0	144	28	87	12	0	127	491	0
Total	189	172	72	0	433	131	194	154	0	479	79	274	270	0	623	95	287	41	0	423	1958	0
Grand Total	684	830	359	0	1873	620	965	901	0	2486	316	836	645	88	1885	300	789	207	0	1296	7540	88
Apprch %	36.5%	44.3%	19.2%	0.0%		24.9%	38.8%	36.2%	0.0%		16.8%	44.4%	34.2%	4.7%		23.1%	60.9%	16.0%	0.0%			
Total %	9.1%	11.0%	4.8%	0.0%	24.8%	8.2%	12.8%	11.9%	0.0%	33.0%	4.2%	11.1%	8.6%	1.2%	25.0%	4.0%	10.5%	2.7%	0.0%	17.2%	100.0%	

ALL TRAFFIC DATA

City of El Dorado Hills
All Vehicles on Unshifted
Peds & Bikes on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7114-003 Silva Valley Parkway-Serrano Parkway.ppd
Date : 2/12/2015

Unshifted Count = All Vehicles

AM PEAK HOUR	Silva Valley Parkway Southbound					Serrano Parkway Westbound					Silva Valley Parkway Northbound					Serrano Parkway Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:15 to 08:15																					
Peak Hour For Entire Intersection Begins at 07:15																					
07:15	51	67	42	0	160	29	64	122	0	215	11	57	19	0	87	25	18	12	0	55	517
07:30	50	89	36	0	175	64	82	107	0	253	50	59	19	5	133	26	29	28	0	83	644
07:45	57	88	36	0	181	88	81	61	0	230	43	60	24	62	189	21	51	30	0	102	702
08:00	52	61	17	0	130	45	69	57	0	171	22	30	20	20	92	9	32	9	0	50	443
Total Volume	210	305	131	0	646	226	296	347	0	869	126	206	82	87	501	81	130	79	0	290	2306
% App Total	32.5%	47.2%	20.3%	0.0%		26.0%	34.1%	39.9%	0.0%		25.1%	41.1%	16.4%	17.4%		27.9%	44.8%	27.2%	0.0%		
PHF	.921	.857	.780	.000	.892	.642	.902	.711	.000	.859	.630	.858	.854	.351	.663	.779	.637	.658	.000	.711	.821

PM PEAK HOUR	Silva Valley Parkway Southbound					Serrano Parkway Westbound					Silva Valley Parkway Northbound					Serrano Parkway Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	43	45	14	0	102	28	53	34	0	115	18	73	69	0	160	24	55	11	0	90	467
17:15	46	37	13	0	96	38	49	47	0	134	23	63	65	0	151	21	77	8	0	106	487
17:30	48	48	24	0	120	34	54	37	0	125	15	72	81	0	168	22	68	10	0	100	513
17:45	52	42	21	0	115	31	38	36	0	105	23	66	55	0	144	28	87	12	0	127	491
Total Volume	189	172	72	0	433	131	194	154	0	479	79	274	270	0	623	95	287	41	0	423	1958
% App Total	43.6%	39.7%	16.6%	0.0%		27.3%	40.5%	32.2%	0.0%		12.7%	44.0%	43.3%	0.0%		22.5%	67.8%	9.7%	0.0%		
PHF	.909	.896	.750	.000	.902	.862	.898	.819	.000	.894	.859	.938	.833	.000	.927	.848	.825	.854	.000	.833	.954

ALL TRAFFIC DATA

City of El Dorado Hills
All Vehicles on Unshifted
Peds & Bikes on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7114-004 Silva Valley Parkway-Entrada Drive.ppd
Date : 2/12/2015

Unshifted Count = All Vehicles

	Silva Valley Parkway Southbound					Entrada Drive Westbound					Silva Valley Parkway Northbound					Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturn Total
07:00	5	64	0	0	69	17	0	24	0	41	0	47	1	0	48	0	0	0	0	0	158	0
07:15	8	103	0	0	111	18	0	27	0	45	0	56	4	0	60	0	0	0	0	0	216	0
07:30	12	179	0	0	191	40	0	34	0	74	0	95	10	0	105	0	0	0	0	0	370	0
07:45	16	240	0	0	256	30	0	22	0	52	0	181	23	0	204	0	0	0	0	0	512	0
Total	41	586	0	0	627	105	0	107	0	212	0	379	38	0	417	0	0	0	0	0	1256	0
08:00	6	117	0	0	123	29	0	20	0	49	0	62	9	0	71	0	0	0	0	0	243	0
08:15	12	98	0	0	110	17	0	16	0	33	0	42	7	0	49	0	0	0	0	0	192	0
08:30	3	99	0	0	102	15	0	20	0	35	0	41	5	0	46	0	0	0	0	0	183	0
08:45	4	85	0	0	89	13	0	15	0	28	0	32	4	0	36	0	0	0	0	0	153	0
Total	25	399	0	0	424	74	0	71	0	145	0	177	25	0	202	0	0	0	0	0	771	0
16:00	8	56	0	0	64	12	0	9	0	21	0	136	23	0	159	0	0	0	0	0	244	0
16:15	8	74	0	0	82	9	0	11	0	20	0	118	22	0	140	0	0	0	0	0	242	0
16:30	9	71	0	0	80	15	0	12	0	27	0	106	22	0	128	0	0	0	0	0	235	0
16:45	8	95	0	0	103	9	0	10	0	19	0	140	20	0	160	0	0	0	0	0	282	0
Total	33	296	0	0	329	45	0	42	0	87	0	500	87	0	587	0	0	0	0	0	1003	0
17:00	11	75	0	0	86	10	0	15	0	25	0	144	29	0	173	0	0	0	0	0	284	0
17:15	11	72	0	0	83	15	0	13	0	28	0	142	33	0	175	0	0	0	0	0	286	0
17:30	17	75	0	0	92	5	0	10	0	15	0	161	31	0	192	0	0	0	0	0	299	0
17:45	11	73	0	0	84	7	0	19	0	26	0	116	26	0	142	0	0	0	0	0	252	0
Total	50	295	0	0	345	37	0	57	0	94	0	563	119	0	682	0	0	0	0	0	1121	0
Grand Total	149	1576	0	0	1725	261	0	277	0	538	0	1619	269	0	1888	0	0	0	0	0	4151	0
Apprch %	8.6%	91.4%	0.0%	0.0%		48.5%	0.0%	51.5%	0.0%		0.0%	85.8%	14.2%	0.0%		0.0%	0.0%	0.0%	0.0%			
Total %	3.6%	38.0%	0.0%	0.0%	41.6%	6.3%	0.0%	6.7%	0.0%	13.0%	0.0%	39.0%	6.5%	0.0%	45.5%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	

ALL TRAFFIC DATA

City of El Dorado Hills
All Vehicles on Unshifted
Peds & Bikes on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7114-004 Silva Valley Parkway-Entrada Drive.ppd
Date : 2/12/2015

Unshifted Count = All Vehicles

AM PEAK HOUR	Silva Valley Parkway Southbound					Entrada Drive Westbound					Silva Valley Parkway Northbound					Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:15 to 08:15																					
Peak Hour For Entire Intersection Begins at 07:15																					
07:15	8	103	0	0	111	18	0	27	0	45	0	56	4	0	60	0	0	0	0	0	216
07:30	12	179	0	0	191	40	0	34	0	74	0	95	10	0	105	0	0	0	0	0	370
07:45	16	240	0	0	256	30	0	22	0	52	0	181	23	0	204	0	0	0	0	0	512
08:00	6	117	0	0	123	29	0	20	0	49	0	62	9	0	71	0	0	0	0	0	243
Total Volume	42	639	0	0	681	117	0	103	0	220	0	394	46	0	440	0	0	0	0	0	1341
% App Total	6.2%	93.8%	0.0%	0.0%		53.2%	0.0%	46.8%	0.0%		0.0%	89.5%	10.5%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.656	.666	.000	.000	.665	.731	.000	.757	.000	.743	.000	.544	.500	.000	.539	.000	.000	.000	.000	.000	.655

PM PEAK HOUR	Silva Valley Parkway Southbound					Entrada Drive Westbound					Silva Valley Parkway Northbound					Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	8	95	0	0	103	9	0	10	0	19	0	140	20	0	160	0	0	0	0	0	282
17:00	11	75	0	0	86	10	0	15	0	25	0	144	29	0	173	0	0	0	0	0	284
17:15	11	72	0	0	83	15	0	13	0	28	0	142	33	0	175	0	0	0	0	0	286
17:30	17	75	0	0	92	5	0	10	0	15	0	161	31	0	192	0	0	0	0	0	299
Total Volume	47	317	0	0	364	39	0	48	0	87	0	587	113	0	700	0	0	0	0	0	1151
% App Total	12.9%	87.1%	0.0%	0.0%		44.8%	0.0%	55.2%	0.0%		0.0%	83.9%	16.1%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.691	.834	.000	.000	.883	.650	.000	.800	.000	.777	.000	.911	.856	.000	.911	.000	.000	.000	.000	.000	.962

ALL TRAFFIC DATA

City of El Dorado Hills
All Vehicles on Unshifted
Peds & Bikes on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7114-005 Silva Valley Parkway-Oak Meadow Elementary
Date : 2/12/2015

Unshifted Count = All Vehicles

	Silva Valley Parkway Southbound					Oak Meadow Elementary Driveway Westbound					Silva Valley Parkway Northbound					Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturn Total
07:00	10	71	0	0	81	3	0	1	0	4	0	47	5	0	52	0	0	0	0	0	137	0
07:15	25	96	0	0	121	5	0	13	0	18	0	49	9	0	58	0	0	0	0	0	197	0
07:30	111	108	0	0	219	16	0	40	0	56	0	42	48	0	90	0	0	0	0	0	365	0
07:45	91	162	0	0	253	28	0	57	0	85	0	53	49	0	102	0	0	0	0	0	440	0
Total	237	437	0	0	674	52	0	111	0	163	0	191	111	0	302	0	0	0	0	0	1139	0
08:00	15	147	0	0	162	9	0	5	0	14	0	50	4	0	54	0	0	0	0	0	230	0
08:15	4	110	0	0	114	0	0	2	0	2	0	45	2	0	47	0	0	0	0	0	163	0
08:30	2	105	0	0	107	1	0	1	0	2	0	35	3	0	38	0	0	0	0	0	147	0
08:45	3	100	0	0	103	4	0	2	0	6	0	33	5	0	38	0	0	0	0	0	147	0
Total	24	462	0	0	486	14	0	10	0	24	0	163	14	0	177	0	0	0	0	0	687	0
16:00	5	64	0	0	69	2	0	8	0	10	0	138	4	0	142	0	0	0	0	0	221	0
16:15	7	76	0	0	83	1	0	5	0	6	0	129	7	0	136	0	0	0	0	0	225	0
16:30	4	86	0	0	90	2	0	4	0	6	0	125	4	0	129	0	0	0	0	0	225	0
16:45	7	93	0	0	100	1	0	3	0	4	0	150	5	0	155	0	0	0	0	0	259	0
Total	23	319	0	0	342	6	0	20	0	26	0	542	20	0	562	0	0	0	0	0	930	0
17:00	5	85	0	0	90	1	0	4	0	5	0	174	7	0	181	0	0	0	0	0	276	0
17:15	4	79	0	0	83	2	0	1	0	3	0	173	3	0	176	0	0	0	0	0	262	0
17:30	4	72	0	0	76	3	0	4	0	7	0	176	3	0	179	0	0	0	0	0	262	0
17:45	5	80	0	0	85	5	0	3	0	8	0	146	2	0	148	0	0	0	0	0	241	0
Total	18	316	0	0	334	11	0	12	0	23	0	669	15	0	684	0	0	0	0	0	1041	0
Grand Total	302	1534	0	0	1836	83	0	153	0	236	0	1565	160	0	1725	0	0	0	0	0	3797	0
Apprch %	16.4%	83.6%	0.0%	0.0%		35.2%	0.0%	64.8%	0.0%		0.0%	90.7%	9.3%	0.0%		0.0%	0.0%	0.0%	0.0%			
Total %	8.0%	40.4%	0.0%	0.0%	48.4%	2.2%	0.0%	4.0%	0.0%	6.2%	0.0%	41.2%	4.2%	0.0%	45.4%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	

ALL TRAFFIC DATA

City of El Dorado Hills
All Vehicles on Unshifted
Peds & Bikes on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7114-005 Silva Valley Parkway-Oak Meadow Elementary
Date : 2/12/2015

Unshifted Count = All Vehicles

AM PEAK HOUR	Silva Valley Parkway Southbound					Oak Meadow Elementary Driveway Westbound					Silva Valley Parkway Northbound					Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:15 to 08:15																					
Peak Hour For Entire Intersection Begins at 07:15																					
07:15	25	96	0	0	121	5	0	13	0	18	0	49	9	0	58	0	0	0	0	0	197
07:30	111	108	0	0	219	16	0	40	0	56	0	42	48	0	90	0	0	0	0	0	365
07:45	91	162	0	0	253	28	0	57	0	85	0	53	49	0	102	0	0	0	0	0	440
08:00	15	147	0	0	162	9	0	5	0	14	0	50	4	0	54	0	0	0	0	0	230
Total Volume	242	513	0	0	755	58	0	115	0	173	0	194	110	0	304	0	0	0	0	0	1232
% App Total	32.1%	67.9%	0.0%	0.0%		33.5%	0.0%	66.5%	0.0%		0.0%	63.8%	36.2%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.545	.792	.000	.000	.746	.518	.000	.504	.000	.509	.000	.915	.561	.000	.745	.000	.000	.000	.000	.000	.700

PM PEAK HOUR	Silva Valley Parkway Southbound					Oak Meadow Elementary Driveway Westbound					Silva Valley Parkway Northbound					Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	7	93	0	0	100	1	0	3	0	4	0	150	5	0	155	0	0	0	0	0	259
17:00	5	85	0	0	90	1	0	4	0	5	0	174	7	0	181	0	0	0	0	0	276
17:15	4	79	0	0	83	2	0	1	0	3	0	173	3	0	176	0	0	0	0	0	262
17:30	4	72	0	0	76	3	0	4	0	7	0	176	3	0	179	0	0	0	0	0	262
Total Volume	20	329	0	0	349	7	0	12	0	19	0	673	18	0	691	0	0	0	0	0	1059
% App Total	5.7%	94.3%	0.0%	0.0%		36.8%	0.0%	63.2%	0.0%		0.0%	97.4%	2.6%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.714	.884	.000	.000	.873	.583	.000	.750	.000	.679	.000	.956	.643	.000	.954	.000	.000	.000	.000	.000	.959

ALL TRAFFIC DATA

6260-13

City of El Dorado Hills
All Vehicles on Unshifted
Peds & Bikes on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7114-001 Silva Valley Parkway-Harvard Way.ppd
Date : 2/12/2015

Unshifted Count = All Vehicles

AM PEAK HOUR	Silva Valley Parkway Southbound					Harvard Way Westbound					Silva Valley Parkway Northbound					Harvard Way Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:00 to 08:00																					
Peak Hour For Entire Intersection Begins at 07:00																					
07:00	9	42	122	0	173	7	9	4	0	20	99	46	6	17	168	15	11	43	0	69	430
07:15	18	36	95	0	149	35	22	2	0	59	77	39	15	34	165	49	34	81	0	164	537
07:30	21	56	58	0	135	41	13	5	0	59	47	66	9	59	181	7	35	66	0	108	483
07:45	2	43	30	0	75	32	16	4	0	52	45	85	12	26	168	8	6	40	0	54	349
Total Volume	50	177	305	0	532	115	60	15	0	190	268	236	42	136	682	79	86	230	0	395	1799
% App Total	9.4%	33.3%	57.3%	0.0%		60.5%	31.6%	7.9%	0.0%		39.3%	34.6%	6.2%	19.9%		20.0%	21.8%	58.2%	0.0%		
PHF	.595	.790	.625	.000	.769	.701	.682	.750	.000	.805	.677	.694	.700	.576	.942	.403	.614	.710	.000	.602	.838

PM PEAK HOUR	Silva Valley Parkway Southbound					Harvard Way Westbound					Silva Valley Parkway Northbound					Harvard Way Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	0	57	15	0	72	1	1	1	0	3	27	92	3	2	124	46	3	45	0	94	293
17:15	2	52	23	0	77	4	3	2	0	9	52	77	2	1	132	36	0	44	0	80	298
17:30	1	61	15	0	77	7	3	1	0	11	37	78	2	0	117	47	4	56	0	107	312
17:45	0	61	8	0	69	0	3	2	0	5	40	75	0	3	118	22	1	43	0	66	258
Total Volume	3	231	61	0	295	12	10	6	0	28	156	322	7	6	491	151	8	188	0	347	1161
% App Total	1.0%	78.3%	20.7%	0.0%		42.9%	35.7%	21.4%	0.0%		31.8%	65.6%	1.4%	1.2%		43.5%	2.3%	54.2%	0.0%		
PHF	.375	.947	.663	.000	.958	.429	.833	.750	.000	.636	.750	.875	.583	.500	.930	.803	.500	.839	.000	.811	.930



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	90	236	110	63	14	410	218	39	46	162	306
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1812		1770	1821		1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	1770	1812		1770	1821		1770	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	98	257	120	68	15	446	237	42	50	176	333
RTOR Reduction (vph)	0	0	225	0	5	0	0	3	0	0	0	277
Lane Group Flow (vph)	87	98	32	120	78	0	446	276	0	50	176	56
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	12.4	12.4	12.4	14.5	14.5		37.5	47.1		7.1	16.7	16.7
Effective Green, g (s)	12.4	12.4	12.4	14.5	14.5		37.5	47.1		7.1	16.7	16.7
Actuated g/C Ratio	0.13	0.13	0.13	0.15	0.15		0.38	0.48		0.07	0.17	0.17
Clearance Time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	221	233	198	259	265		670	866		126	314	267
v/s Ratio Prot	0.05	c0.05		c0.07	0.04		c0.25	0.15		0.03	c0.09	
v/s Ratio Perm			0.02									0.04
v/c Ratio	0.39	0.42	0.16	0.46	0.29		0.67	0.32		0.40	0.56	0.21
Uniform Delay, d1	39.8	40.0	38.7	38.7	37.7		25.5	16.0		43.9	37.8	35.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.2	1.2	0.4	1.3	0.6		2.5	0.2		2.1	2.3	0.4
Delay (s)	41.0	41.2	39.1	40.0	38.3		28.0	16.2		46.0	40.1	35.9
Level of Service	D	D	D	D	D		C	B		D	D	D
Approach Delay (s)		39.9			39.3			23.5			38.1	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	33.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	99.0	Sum of lost time (s)	17.9
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	32	72	67	581	180	315	206	297	161	181	400	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3		4.0	5.3		4.0	5.3	4.0	4.0	5.3	
Lane Util. Factor	1.00	0.95		0.97	1.00		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.93		1.00	0.90		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3283		3433	1685		1770	3539	1583	1770	3475	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3283		3433	1685		1770	3539	1583	1770	3475	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	78	73	632	196	342	224	323	175	197	435	60
RTOR Reduction (vph)	0	56	0	0	49	0	0	0	0	0	10	0
Lane Group Flow (vph)	35	95	0	632	489	0	224	323	175	197	485	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									Free			
Actuated Green, G (s)	4.5	21.5		16.4	33.4		15.6	19.7	90.5	14.3	18.4	
Effective Green, g (s)	4.5	21.5		16.4	33.4		15.6	19.7	90.5	14.3	18.4	
Actuated g/C Ratio	0.05	0.24		0.18	0.37		0.17	0.22	1.00	0.16	0.20	
Clearance Time (s)	4.0	5.3		4.0	5.3		4.0	5.3		4.0	5.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	88	779		622	621		305	770	1583	279	706	
v/s Ratio Prot	c0.02	0.03		c0.18	c0.29		c0.13	0.09		0.11	c0.14	
v/s Ratio Perm									c0.11			
v/c Ratio	0.40	0.12		1.02	0.79		0.73	0.42	0.11	0.71	0.69	
Uniform Delay, d1	41.7	27.1		37.0	25.4		35.5	30.5	0.0	36.1	33.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.9	0.1		40.2	6.5		8.8	0.4	0.1	7.9	2.8	
Delay (s)	44.6	27.2		77.2	31.9		44.3	30.8	0.1	44.0	36.2	
Level of Service	D	C		E	C		D	C	A	D	D	
Approach Delay (s)		30.4			56.4			27.6			38.4	
Approach LOS		C			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	42.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.5	Sum of lost time (s)	18.6
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	253	0	379	121	283	0	0	534	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor				0.95	0.95	1.00	1.00	0.95			0.95	1.00
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1681	1681	1583	1770	3539			3539	1583
Flt Permitted				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1681	1583	1770	3539			3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	275	0	412	132	308	0	0	580	457
RTOR Reduction (vph)	0	0	0	0	0	347	0	0	0	0	0	190
Lane Group Flow (vph)	0	0	0	137	138	65	132	308	0	0	580	267
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				15.0	15.0	15.0	12.5	72.0			55.5	55.5
Effective Green, g (s)				15.0	15.0	15.0	12.5	72.0			55.5	55.5
Actuated g/C Ratio				0.16	0.16	0.16	0.13	0.76			0.58	0.58
Clearance Time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				265	265	249	232	2682			2067	924
v/s Ratio Prot				0.08	c0.08		c0.07	0.09			0.16	
v/s Ratio Perm						0.04						c0.17
v/c Ratio				0.52	0.52	0.26	0.57	0.11			0.28	0.29
Uniform Delay, d1				36.7	36.7	35.1	38.7	3.0			9.8	9.9
Progression Factor				1.00	1.00	1.00	0.76	0.95			1.00	1.00
Incremental Delay, d2				1.7	1.8	0.6	3.2	0.1			0.3	0.8
Delay (s)				38.4	38.5	35.7	32.8	3.0			10.2	10.7
Level of Service				D	D	D	C	A			B	B
Approach Delay (s)		0.0			36.8			11.9			10.4	
Approach LOS		A			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	49.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	128	86	103	271	688	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	139	93	112	295	748	141
RTOR Reduction (vph)	0	84	0	0	0	43
Lane Group Flow (vph)	139	9	112	295	748	98
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	9.5	9.5	7.3	77.5	66.2	66.2
Effective Green, g (s)	9.5	9.5	7.3	77.5	66.2	66.2
Actuated g/C Ratio	0.10	0.10	0.08	0.82	0.70	0.70
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	343	158	263	2887	2466	1103
v/s Ratio Prot	c0.04		c0.03	0.08	c0.21	
v/s Ratio Perm		0.01				0.06
v/c Ratio	0.41	0.06	0.43	0.10	0.30	0.09
Uniform Delay, d1	40.1	38.7	41.8	1.8	5.5	4.7
Progression Factor	1.00	1.00	1.00	1.00	0.97	1.28
Incremental Delay, d2	0.8	0.2	1.1	0.1	0.3	0.2
Delay (s)	40.9	38.9	43.0	1.8	5.7	6.1
Level of Service	D	D	D	A	A	A
Approach Delay (s)	40.1			13.1	5.8	
Approach LOS	D			B	A	

Intersection Summary			
HCM 2000 Control Delay	12.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	42.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1	10	5	1	5	8	374	5	5	771	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	
Flt Protected		1.00	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1863	1583		1788	1583	1770	3533		1770	3539	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1863	1583		1863	1583	1770	3533		1770	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1	11	5	1	5	9	407	5	5	838	0
RTOR Reduction (vph)	0	0	11	0	0	5	0	1	0	0	0	0
Lane Group Flow (vph)	0	1	0	0	6	0	9	411	0	5	838	0
Turn Type		NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						6
Actuated Green, G (s)		0.9	0.9		0.9	0.9	0.9	26.5		0.5	26.1	
Effective Green, g (s)		0.9	0.9		0.9	0.9	0.9	26.5		0.5	26.1	
Actuated g/C Ratio		0.02	0.02		0.02	0.02	0.02	0.66		0.01	0.65	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		42	35		42	35	39	2346		22	2314	
v/s Ratio Prot		0.00					c0.01	0.12		0.00	c0.24	
v/s Ratio Perm			0.00		c0.00	0.00						
v/c Ratio		0.02	0.01		0.14	0.00	0.23	0.18		0.23	0.36	
Uniform Delay, d1		19.1	19.1		19.1	19.1	19.2	2.5		19.5	3.1	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.2	0.1		1.6	0.0	3.0	0.0		5.2	0.1	
Delay (s)		19.3	19.1		20.7	19.1	22.2	2.6		24.7	3.2	
Level of Service		B	B		C	B	C	A		C	A	
Approach Delay (s)		19.2			20.0			3.0			3.4	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	3.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	39.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	38.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	236	30	50	612	123	98	6	76	54	15	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	5.3		3.5	6.0		4.2	4.2		4.2	4.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	0.86		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1831		1770	1816		1770	1604		1770	1727	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1831		1770	1816		1770	1604		1770	1727	
Peak-hour factor, PHF	0.89	0.89	0.89	0.69	0.69	0.69	0.86	0.86	0.86	0.78	0.78	0.78
Adj. Flow (vph)	6	265	34	72	887	178	114	7	88	69	19	18
RTOR Reduction (vph)	0	2	0	0	4	0	0	79	0	0	17	0
Lane Group Flow (vph)	6	297	0	72	1061	0	114	16	0	69	20	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Actuated Green, G (s)	1.0	74.4		8.2	80.9		12.4	12.4		8.5	8.5	
Effective Green, g (s)	1.0	74.4		8.2	80.9		12.4	12.4		8.5	8.5	
Actuated g/C Ratio	0.01	0.62		0.07	0.67		0.10	0.10		0.07	0.07	
Clearance Time (s)	3.5	5.3		3.5	6.0		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	14	1128		120	1217		181	164		124	121	
v/s Ratio Prot	0.00	0.16		c0.04	c0.58		c0.06	0.01		c0.04	0.01	
v/s Ratio Perm												
v/c Ratio	0.43	0.26		0.60	0.87		0.63	0.10		0.56	0.17	
Uniform Delay, d1	59.6	10.6		54.7	15.8		51.9	49.1		54.3	52.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	19.7	0.1		7.8	7.1		6.7	0.3		5.3	0.7	
Delay (s)	79.3	10.7		62.5	22.9		58.7	49.3		59.6	53.4	
Level of Service	E	B		E	C		E	D		E	D	
Approach Delay (s)		12.1			25.4			54.4			57.4	
Approach LOS		B			C			D			E	

Intersection Summary			
HCM 2000 Control Delay	28.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	120.7	Sum of lost time (s)	17.9
Intersection Capacity Utilization	62.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	79	308	1	22	545	189	43	2	7	38	7	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	6.0	6.0	4.5	6.0		5.5	4.5		5.0	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.88		1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3403		1770	1643		1770	1598	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	1770	3403		1770	1643		1770	1598	
Peak-hour factor, PHF	0.83	0.83	0.83	0.80	0.80	0.80	0.63	0.63	0.63	0.83	0.83	0.83
Adj. Flow (vph)	95	371	1	28	681	236	68	3	11	46	8	149
RTOR Reduction (vph)	0	0	0	0	20	0	0	10	0	0	137	0
Lane Group Flow (vph)	95	371	1	28	897	0	68	4	0	46	20	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	11.6	74.7	74.7	5.1	67.5		8.2	6.1		12.1	9.5	
Effective Green, g (s)	11.6	74.7	74.7	5.1	67.5		8.2	6.1		12.1	9.5	
Actuated g/C Ratio	0.10	0.63	0.63	0.04	0.57		0.07	0.05		0.10	0.08	
Clearance Time (s)	5.2	6.0	6.0	4.5	6.0		5.5	4.5		5.0	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	174	2240	1002	76	1946		123	84		181	128	
v/s Ratio Prot	c0.05	0.10		0.02	c0.26		c0.04	0.00		0.03	c0.01	
v/s Ratio Perm			0.00									
v/c Ratio	0.55	0.17	0.00	0.37	0.46		0.55	0.04		0.25	0.16	
Uniform Delay, d1	50.7	8.9	7.9	54.9	14.7		53.1	53.2		48.8	50.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.5	0.2	0.0	3.0	0.8		5.3	0.2		0.7	0.6	
Delay (s)	54.2	9.0	7.9	57.9	15.5		58.4	53.4		49.5	51.1	
Level of Service	D	A	A	E	B		E	D		D	D	
Approach Delay (s)		18.2			16.7			57.6			50.7	
Approach LOS		B			B			E			D	

Intersection Summary			
HCM 2000 Control Delay	23.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	118.0	Sum of lost time (s)	21.2
Intersection Capacity Utilization	53.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	115	117	69	301	327	111	155	278	183	88	1002	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.7		6.0	5.7	5.7	5.0	5.7	5.7	5.0	5.7	5.7
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	0.86	1.00	0.97	0.91	1.00
Frt	1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3342		3433	3539	1583	1770	6408	1583	3433	5085	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3342		3433	3539	1583	1770	6408	1583	3433	5085	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.85	0.85	0.85	0.85	0.85	0.85	0.91	0.91	0.91
Adj. Flow (vph)	122	124	73	354	385	131	182	327	215	97	1101	423
RTOR Reduction (vph)	0	65	0	0	0	110	0	0	120	0	0	244
Lane Group Flow (vph)	122	132	0	354	385	21	182	327	95	97	1101	179
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	10.9	14.5		18.2	21.8	21.8	26.8	59.9	59.9	20.0	53.1	53.1
Effective Green, g (s)	10.9	14.5		18.2	21.8	21.8	26.8	59.9	59.9	20.0	53.1	53.1
Actuated g/C Ratio	0.08	0.11		0.13	0.16	0.16	0.20	0.44	0.44	0.15	0.39	0.39
Clearance Time (s)	6.0	5.7		6.0	5.7	5.7	5.0	5.7	5.7	5.0	5.7	5.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	277	358		462	571	255	351	2843	702	508	2000	622
v/s Ratio Prot	0.04	0.04		c0.10	c0.11		c0.10	0.05		0.03	c0.22	
v/s Ratio Perm						0.01			0.06			0.11
v/c Ratio	0.44	0.37		0.77	0.67	0.08	0.52	0.12	0.14	0.19	0.55	0.29
Uniform Delay, d1	59.1	56.0		56.3	53.3	48.1	48.3	22.0	22.2	50.4	31.7	28.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.6		7.4	3.1	0.1	1.3	0.1	0.4	0.2	1.1	1.2
Delay (s)	60.3	56.6		63.8	56.4	48.2	49.6	22.1	22.6	50.6	32.8	29.2
Level of Service	E	E		E	E	D	D	C	C	D	C	C
Approach Delay (s)		58.0			58.2			29.2			32.9	
Approach LOS		E			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	40.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	22.4
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	48
Intersection LOS	E

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	109	1	105	0	69	2	9	0	98	591	33
Peak Hour Factor	0.92	0.48	0.48	0.48	0.92	0.56	0.56	0.56	0.92	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	227	2	219	0	123	4	16	0	111	672	37
Number of Lanes	0	0	1	0	0	0	1	0	0	1	2	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	3	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	3	3	1
HCM Control Delay	74.7	19.7	49.2
HCM LOS	F	C	E

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	51%	86%	100%	0%	0%
Vol Thru, %	0%	100%	86%	0%	2%	0%	100%	58%
Vol Right, %	0%	0%	14%	49%	11%	0%	0%	42%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	98	394	230	215	80	13	295	254
LT Vol	98	0	0	109	69	13	0	0
Through Vol	0	394	197	1	2	0	295	147
RT Vol	0	0	33	105	9	0	0	107
Lane Flow Rate	111	448	261	448	143	15	347	299
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.277	1	0.607	1	0.406	0.039	0.827	0.69
Departure Headway (Hd)	8.964	8.465	8.365	8.796	10.222	9.2	8.7	8.406
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	403	430	434	412	354	392	419	434
Service Time	6.678	6.179	6.078	6.552	7.927	6.9	6.4	6.106
HCM Lane V/C Ratio	0.275	1.042	0.601	1.087	0.404	0.038	0.828	0.689
HCM Control Delay	15.1	72.9	23.2	74.7	19.7	12.3	41.4	27.8
HCM Lane LOS	C	F	C	F	C	B	E	D
HCM 95th-tile Q	1.1	12.6	3.9	12.3	1.9	0.1	7.7	5.1

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	13	442	107
Peak Hour Factor	0.92	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	15	520	126
Number of Lanes	0	1	2	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	3
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	34.6
HCM LOS	D

Lane

Intersection	
Int Delay, s/veh	40.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	117	103	394	46	42	639
Conflicting Peds, #/hr	0	0	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	85	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	74	74	54	54	67	67
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	158	139	730	85	63	954

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1374	408	0	0	815	0
Stage 1	772	-	-	-	-	-
Stage 2	602	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 137	593	-	-	808	-
Stage 1	416	-	-	-	-	-
Stage 2	510	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 126	593	-	-	807	-
Mov Cap-2 Maneuver	~ 126	-	-	-	-	-
Stage 1	416	-	-	-	-	-
Stage 2	470	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	287.5	0	0.6
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	200	807	-
HCM Lane V/C Ratio	-	-	1.486	0.078	-
HCM Control Delay (s)	-	-	287.5	9.8	-
HCM Lane LOS	-	-	F	A	-
HCM 95th %tile Q(veh)	-	-	18.3	0.3	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	93.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	58	115	194	110	242	513
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	525	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	51	51	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	225	259	147	323	684

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1661	203	0	0	405	0
Stage 1	332	-	-	-	-	-
Stage 2	1329	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.14	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.22	-
Pot Cap-1 Maneuver	~ 97	805	-	-	1150	-
Stage 1	700	-	-	-	-	-
Stage 2	246	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 70	805	-	-	1150	-
Mov Cap-2 Maneuver	~ 70	-	-	-	-	-
Stage 1	700	-	-	-	-	-
Stage 2	177	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 471.6	0	3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	178	1150	-
HCM Lane V/C Ratio	-	-	1.906	0.281	-
HCM Control Delay (s)	-	-	$ 471.6	9.3	-
HCM Lane LOS	-	-	F	A	-
HCM 95th %tile Q(veh)	-	-	25.2	1.2	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	5	5	247	5	5	573
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	5	268	5	5	623

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	905	271	0	0	274	0
Stage 1	271	-	-	-	-	-
Stage 2	634	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	307	768	-	-	1289	-
Stage 1	775	-	-	-	-	-
Stage 2	529	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	305	768	-	-	1289	-
Mov Cap-2 Maneuver	305	-	-	-	-	-
Stage 1	775	-	-	-	-	-
Stage 2	526	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.4	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	437	1289	-
HCM Lane V/C Ratio	-	-	0.025	0.004	-
HCM Control Delay (s)	-	-	13.4	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	5	0	5	5	0	5	5	242	5	5	568	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	5	5	0	5	5	263	5	5	617	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	910	910	620	911	911	266	623	0	0	268	0	0
Stage 1	631	631	-	277	277	-	-	-	-	-	-	-
Stage 2	279	279	-	634	634	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	255	275	488	255	274	773	958	-	-	1296	-	-
Stage 1	469	474	-	729	681	-	-	-	-	-	-	-
Stage 2	728	680	-	467	473	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	251	272	488	250	271	773	958	-	-	1296	-	-
Mov Cap-2 Maneuver	251	272	-	250	271	-	-	-	-	-	-	-
Stage 1	466	471	-	725	677	-	-	-	-	-	-	-
Stage 2	719	676	-	459	470	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.2	14.8	0.2	0.1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	958	-	-	331	378	1296	-	-
HCM Lane V/C Ratio	0.006	-	-	0.033	0.029	0.004	-	-
HCM Control Delay (s)	8.8	0	-	16.2	14.8	7.8	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	132	143	383	142	93	430	296	65	230	396
v/c Ratio	0.49	0.51	0.77	0.55	0.37	0.71	0.35	0.41	0.66	0.66
Control Delay	51.2	51.2	16.1	53.5	45.4	42.8	24.8	61.2	53.2	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.2	51.2	16.1	53.5	45.4	42.8	24.8	61.2	53.2	10.0
Queue Length 50th (ft)	81	87	0	89	52	240	122	41	141	0
Queue Length 95th (ft)	117	125	0	171	113	#693	319	98	252	25
Internal Link Dist (ft)		1626			141		676		2268	
Turn Bay Length (ft)	60					100		60		180
Base Capacity (vph)	598	629	636	607	585	607	948	270	616	764
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.23	0.60	0.23	0.16	0.71	0.31	0.24	0.37	0.52

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	114	294	263	747	323	312	124	236	490
v/c Ratio	0.50	0.41	0.78	0.68	0.96	0.43	0.08	0.71	0.67
Control Delay	45.3	20.3	53.8	22.6	78.1	32.5	0.1	49.3	33.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.3	20.3	53.8	22.6	78.1	32.5	0.1	49.3	33.2
Queue Length 50th (ft)	57	45	134	128	171	75	0	118	110
Queue Length 95th (ft)	97	60	#320	208	#273	94	0	#293	187
Internal Link Dist (ft)		153		168		1623			1819
Turn Bay Length (ft)	165		340		265		180	135	
Base Capacity (vph)	338	1245	338	1304	338	1466	1561	338	1425
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.24	0.78	0.57	0.96	0.21	0.08	0.70	0.34

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	4	247	68	769	144	77	18	18
v/c Ratio	0.03	0.29	0.32	0.72	0.51	0.24	0.11	0.11
Control Delay	35.0	15.5	35.1	19.4	35.1	11.1	35.1	27.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.0	15.5	35.1	19.4	35.1	11.1	35.1	27.5
Queue Length 50th (ft)	2	70	28	234	58	2	7	4
Queue Length 95th (ft)	12	145	55	354	121	36	26	21
Internal Link Dist (ft)		1374		2705		916		934
Turn Bay Length (ft)	200		120		100		100	
Base Capacity (vph)	565	1069	565	1064	940	887	809	799
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.23	0.12	0.72	0.15	0.09	0.02	0.02

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	84	341	1	22	777	65	22	57	143
v/c Ratio	0.52	0.14	0.00	0.21	0.37	0.45	0.16	0.34	0.62
Control Delay	61.3	9.5	0.0	56.8	13.2	60.4	28.5	55.3	22.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.3	9.5	0.0	56.8	13.2	60.4	28.5	55.3	22.1
Queue Length 50th (ft)	62	51	0	16	138	48	4	42	6
Queue Length 95th (ft)	102	87	0	38	204	63	17	77	54
Internal Link Dist (ft)		189			259		567		1162
Turn Bay Length (ft)	100		120	120		100		50	
Base Capacity (vph)	237	2380	1099	105	2115	154	399	193	500
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.14	0.00	0.21	0.37	0.42	0.06	0.30	0.29

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	187	156	264	235	221	89	439	160	130	1164	369
v/c Ratio	0.57	0.42	0.71	0.60	0.60	0.53	0.14	0.19	0.26	0.43	0.36
Control Delay	65.3	41.1	69.0	63.4	13.5	69.4	20.5	1.8	52.4	20.8	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.3	41.1	69.0	63.4	13.5	69.4	20.5	1.8	52.4	20.8	3.1
Queue Length 50th (ft)	82	46	115	105	0	76	60	0	52	214	0
Queue Length 95th (ft)	119	76	156	135	59	122	83	14	84	310	57
Internal Link Dist (ft)		409		264			320			2205	
Turn Bay Length (ft)	300		150		250	280		100	250		250
Base Capacity (vph)	610	1016	385	768	516	167	3078	864	508	2713	1016
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.15	0.69	0.31	0.43	0.53	0.14	0.19	0.26	0.43	0.36

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	151	8	188	12	10	6	162	322	7	3	231	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.99		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1558	1770	1747		1770	1855		1770	1863	1553
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1558	1770	1747		1770	1855		1770	1863	1553
Peak-hour factor, PHF	0.81	0.81	0.81	0.64	0.64	0.64	0.93	0.93	0.93	0.96	0.96	0.96
Adj. Flow (vph)	186	10	232	19	16	9	174	346	8	3	241	64
RTOR Reduction (vph)	0	0	184	0	8	0	0	1	0	0	0	46
Lane Group Flow (vph)	186	10	48	19	17	0	174	353	0	3	241	18
Confl. Peds. (#/hr)			3			4			4			6
Confl. Bikes (#/hr)			1									1
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	15.8	15.8	15.8	6.5	6.5		15.0	36.0		0.7	21.7	21.7
Effective Green, g (s)	15.8	15.8	15.8	6.5	6.5		15.0	36.0		0.7	21.7	21.7
Actuated g/C Ratio	0.21	0.21	0.21	0.08	0.08		0.20	0.47		0.01	0.28	0.28
Clearance Time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	363	382	320	149	147		345	868		16	525	438
v/s Ratio Prot	c0.11	0.01		c0.01	0.01		c0.10	0.19		0.00	c0.13	
v/s Ratio Perm			0.03									0.01
v/c Ratio	0.51	0.03	0.15	0.13	0.11		0.50	0.41		0.19	0.46	0.04
Uniform Delay, d1	27.1	24.4	25.0	32.6	32.5		27.6	13.4		37.8	22.8	20.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.2	0.0	0.2	0.4	0.3		1.2	0.3		5.6	0.6	0.0
Delay (s)	28.4	24.4	25.3	33.0	32.9		28.8	13.8		43.4	23.4	20.1
Level of Service	C	C	C	C	C		C	B		D	C	C
Approach Delay (s)		26.6			32.9			18.7			22.9	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	22.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	76.9	Sum of lost time (s)	17.9
Intersection Capacity Utilization	49.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	95	287	41	131	194	154	79	274	270	189	172	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3		4.0	5.3		4.0	5.3	4.0	4.0	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.93		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3467		1770	3283		1770	3539	1562	1770	3367	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3467		1770	3283		1770	3539	1562	1770	3367	
Peak-hour factor, PHF	0.83	0.83	0.83	0.89	0.89	0.89	0.93	0.93	0.93	0.90	0.90	0.90
Adj. Flow (vph)	114	346	49	147	218	173	85	295	290	210	191	80
RTOR Reduction (vph)	0	10	0	0	129	0	0	0	0	0	41	0
Lane Group Flow (vph)	114	385	0	147	262	0	85	295	290	210	230	0
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			1			1			3			2
Turn Type	Prot	NA		Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases									Free			
Actuated Green, G (s)	8.5	14.6		11.4	17.5		7.5	13.1	72.1	14.4	20.0	
Effective Green, g (s)	8.5	14.6		11.4	17.5		7.5	13.1	72.1	14.4	20.0	
Actuated g/C Ratio	0.12	0.20		0.16	0.24		0.10	0.18	1.00	0.20	0.28	
Clearance Time (s)	4.0	5.3		4.0	5.3		4.0	5.3		4.0	5.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	208	702		279	796		184	643	1562	353	933	
v/s Ratio Prot	0.06	c0.11		c0.08	0.08		0.05	c0.08		c0.12	0.07	
v/s Ratio Perm									c0.19			
v/c Ratio	0.55	0.55		0.53	0.33		0.46	0.46	0.19	0.59	0.25	
Uniform Delay, d1	30.0	25.8		27.9	22.5		30.4	26.3	0.0	26.2	20.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.9	0.9		1.8	0.2		1.8	0.5	0.3	2.7	0.1	
Delay (s)	32.9	26.7		29.7	22.7		32.2	26.9	0.3	28.9	20.3	
Level of Service	C	C		C	C		C	C	A	C	C	
Approach Delay (s)		28.1			24.6			16.0			24.1	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	22.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	72.1	Sum of lost time (s)	18.6
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	48	472	116	14	207	70	82	14	30	152	34	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	5.3		3.5	6.0		4.2	4.2		4.2	4.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.96		1.00	0.90		1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1808		1770	1792		1770	1671		1770	1705	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1808		1770	1792		1770	1671		1770	1705	
Peak-hour factor, PHF	0.91	0.91	0.91	0.78	0.78	0.78	0.81	0.81	0.81	0.90	0.90	0.90
Adj. Flow (vph)	53	519	127	18	265	90	101	17	37	169	38	49
RTOR Reduction (vph)	0	4	0	0	7	0	0	32	0	0	34	0
Lane Group Flow (vph)	53	642	0	18	348	0	101	22	0	169	53	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Actuated Green, G (s)	5.3	40.5		2.6	37.1		10.5	10.5		13.5	13.5	
Effective Green, g (s)	5.3	40.5		2.6	37.1		10.5	10.5		13.5	13.5	
Actuated g/C Ratio	0.06	0.48		0.03	0.44		0.12	0.12		0.16	0.16	
Clearance Time (s)	3.5	5.3		3.5	6.0		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	111	868		54	788		220	208		283	273	
v/s Ratio Prot	c0.03	c0.36		0.01	0.19		c0.06	0.01		c0.10	0.03	
v/s Ratio Perm												
v/c Ratio	0.48	0.74		0.33	0.44		0.46	0.10		0.60	0.19	
Uniform Delay, d1	38.2	17.6		40.0	16.4		34.3	32.7		32.9	30.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.2	3.3		3.6	0.4		1.5	0.2		3.4	0.3	
Delay (s)	41.4	21.0		43.6	16.8		35.8	32.9		36.2	31.0	
Level of Service	D	C		D	B		D	C		D	C	
Approach Delay (s)		22.5			18.1			34.8			34.5	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	24.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	84.3	Sum of lost time (s)	17.9
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	163	683	7	11	341	185	23	9	12	188	10	147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	6.0	6.0	4.5	6.0		5.5	4.5		5.0	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.92		1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3353		1770	1704		1770	1601	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	1770	3353		1770	1704		1770	1601	
Peak-hour factor, PHF	0.85	0.85	0.85	0.88	0.88	0.88	0.69	0.69	0.69	0.78	0.78	0.78
Adj. Flow (vph)	192	804	8	12	388	210	33	13	17	241	13	188
RTOR Reduction (vph)	0	0	4	0	50	0	0	16	0	0	142	0
Lane Group Flow (vph)	192	804	4	12	548	0	33	14	0	241	59	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	20.6	73.1	73.1	3.0	54.8		5.6	5.1		33.8	32.8	
Effective Green, g (s)	20.6	73.1	73.1	3.0	54.8		5.6	5.1		33.8	32.8	
Actuated g/C Ratio	0.15	0.54	0.54	0.02	0.41		0.04	0.04		0.25	0.24	
Clearance Time (s)	5.2	6.0	6.0	4.5	6.0		5.5	4.5		5.0	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	270	1916	857	39	1361		73	64		443	388	
v/s Ratio Prot	c0.11	c0.23		0.01	0.16		0.02	0.01		c0.14	c0.04	
v/s Ratio Perm			0.00									
v/c Ratio	0.71	0.42	0.01	0.31	0.40		0.45	0.21		0.54	0.15	
Uniform Delay, d1	54.4	18.4	14.2	65.0	28.5		63.2	63.0		43.9	40.2	
Progression Factor	0.75	2.05	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.6	0.6	0.0	4.4	0.9		4.4	1.7		1.4	0.2	
Delay (s)	48.2	38.3	14.2	69.4	29.4		67.6	64.7		45.3	40.3	
Level of Service	D	D	B	E	C		E	E		D	D	
Approach Delay (s)		40.0			30.2			66.2			43.0	
Approach LOS		D			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	38.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	21.2
Intersection Capacity Utilization	55.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	286	243	82	197	132	238	140	1057	258	352	479	217
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.7		6.0	5.7	5.7	5.0	5.7	5.7	5.0	5.7	5.7
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	0.86	1.00	0.97	0.91	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3406		3433	3539	1583	1770	6408	1583	3433	5085	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3406		3433	3539	1583	1770	6408	1583	3433	5085	1583
Peak-hour factor, PHF	0.77	0.77	0.77	0.89	0.89	0.89	0.82	0.82	0.82	0.87	0.87	0.87
Adj. Flow (vph)	371	316	106	221	148	267	171	1289	315	405	551	249
RTOR Reduction (vph)	0	26	0	0	0	238	0	0	115	0	0	135
Lane Group Flow (vph)	371	396	0	221	148	29	171	1289	200	405	551	114
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	18.2	21.0		12.0	14.8	14.8	17.7	57.4	57.4	22.2	61.9	61.9
Effective Green, g (s)	18.2	21.0		12.0	14.8	14.8	17.7	57.4	57.4	22.2	61.9	61.9
Actuated g/C Ratio	0.13	0.16		0.09	0.11	0.11	0.13	0.43	0.43	0.16	0.46	0.46
Clearance Time (s)	6.0	5.7		6.0	5.7	5.7	5.0	5.7	5.7	5.0	5.7	5.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	462	529		305	387	173	232	2724	673	564	2331	725
v/s Ratio Prot	c0.11	c0.12		0.06	0.04		0.10	c0.20		c0.12	c0.11	
v/s Ratio Perm						0.02			0.13			0.07
v/c Ratio	0.80	0.75		0.72	0.38	0.17	0.74	0.47	0.30	0.72	0.24	0.16
Uniform Delay, d1	56.7	54.5		59.9	55.9	54.5	56.4	27.9	25.5	53.4	22.2	21.3
Progression Factor	1.00	1.00		0.91	0.80	1.38	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.7	5.7		7.9	0.6	0.4	11.5	0.6	1.1	4.4	0.2	0.5
Delay (s)	66.4	60.2		62.1	45.5	75.7	67.9	28.5	26.7	57.8	22.4	21.8
Level of Service	E	E		E	D	E	E	C	C	E	C	C
Approach Delay (s)		63.1			64.0			32.0			34.2	
Approach LOS		E			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	42.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	22.4
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	12.5
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	47	5	41	0	32	2	12	0	34	417	75
Peak Hour Factor	0.92	0.63	0.63	0.63	0.92	0.77	0.77	0.77	0.92	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	75	8	65	0	42	3	16	0	37	448	81
Number of Lanes	0	0	1	0	0	0	1	0	0	1	2	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	3	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	3	3	1
HCM Control Delay	12.5	11.2	12.9
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	51%	70%	100%	0%	0%
Vol Thru, %	0%	100%	65%	5%	4%	0%	100%	69%
Vol Right, %	0%	0%	35%	44%	26%	0%	0%	31%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	34	278	214	93	46	28	233	169
LT Vol	34	0	0	47	32	28	0	0
Through Vol	0	278	139	5	2	0	233	117
RT Vol	0	0	75	41	12	0	0	52
Lane Flow Rate	37	299	230	148	60	30	254	183
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.065	0.491	0.362	0.285	0.123	0.055	0.425	0.296
Departure Headway (Hd)	6.426	5.919	5.67	6.947	7.406	6.54	6.032	5.813
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	557	607	633	517	483	547	596	616
Service Time	4.174	3.667	3.418	4.704	5.174	4.289	3.782	3.562
HCM Lane V/C Ratio	0.066	0.493	0.363	0.286	0.124	0.055	0.426	0.297
HCM Control Delay	9.6	14.3	11.6	12.5	11.2	9.7	13.2	11
HCM Lane LOS	A	B	B	B	B	A	B	B
HCM 95th-tile Q	0.2	2.7	1.6	1.2	0.4	0.2	2.1	1.2

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	28	350	52
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	30	380	57
Number of Lanes	0	1	2	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	3
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	12.1
HCM LOS	B

Lane

Intersection	
Int Delay, s/veh	2.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	39	48	587	113	47	317
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	85	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	91	91	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	50	62	645	124	53	360

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	994	385	0	0	769	0
Stage 1	707	-	-	-	-	-
Stage 2	287	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	242	613	-	-	841	-
Stage 1	450	-	-	-	-	-
Stage 2	736	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	227	613	-	-	841	-
Mov Cap-2 Maneuver	227	-	-	-	-	-
Stage 1	450	-	-	-	-	-
Stage 2	690	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.1	0	1.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	348	841	-
HCM Lane V/C Ratio	-	-	0.321	0.064	-
HCM Control Delay (s)	-	-	20.1	9.6	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.4	0.2	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	7	12	673	18	20	329
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	525	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	68	68	95	95	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	18	708	19	23	378

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1142	364	0	0	727	0
Stage 1	718	-	-	-	-	-
Stage 2	424	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.14	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.22	-
Pot Cap-1 Maneuver	207	634	-	-	872	-
Stage 1	445	-	-	-	-	-
Stage 2	659	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	202	634	-	-	872	-
Mov Cap-2 Maneuver	202	-	-	-	-	-
Stage 1	445	-	-	-	-	-
Stage 2	642	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16	0	0.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	355	872	-
HCM Lane V/C Ratio	-	-	0.079	0.026	-
HCM Control Delay (s)	-	-	16	9.2	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	5	5	649	5	5	296
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	5	705	5	5	322

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1041	708	0	0	711	0
Stage 1	708	-	-	-	-	-
Stage 2	333	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	255	435	-	-	888	-
Stage 1	488	-	-	-	-	-
Stage 2	726	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	253	435	-	-	888	-
Mov Cap-2 Maneuver	253	-	-	-	-	-
Stage 1	488	-	-	-	-	-
Stage 2	721	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.6	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	320	888	-
HCM Lane V/C Ratio	-	-	0.034	0.006	-
HCM Control Delay (s)	-	-	16.6	9.1	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	5	0	5	5	0	5	5	644	5	5	291	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	5	5	0	5	5	700	5	5	316	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1046	1046	319	1047	1047	703	322	0	0	705	0	0
Stage 1	330	330	-	714	714	-	-	-	-	-	-	-
Stage 2	716	716	-	333	333	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	206	228	722	206	228	438	1238	-	-	893	-	-
Stage 1	683	646	-	422	435	-	-	-	-	-	-	-
Stage 2	421	434	-	681	644	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	201	225	722	202	225	438	1238	-	-	893	-	-
Mov Cap-2 Maneuver	201	225	-	202	225	-	-	-	-	-	-	-
Stage 1	678	641	-	419	432	-	-	-	-	-	-	-
Stage 2	413	431	-	671	639	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.9	18.6	0.1	0.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1238	-	-	314	276	893	-	-
HCM Lane V/C Ratio	0.004	-	-	0.035	0.039	0.006	-	-
HCM Control Delay (s)	7.9	0	-	16.9	18.6	9.1	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	186	10	232	19	25	174	354	3	241	64
v/c Ratio	0.49	0.02	0.45	0.08	0.10	0.48	0.39	0.02	0.55	0.15
Control Delay	36.2	33.0	8.4	34.8	27.2	37.3	18.6	48.3	35.2	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.2	33.0	8.4	34.8	27.2	37.3	18.6	48.3	35.2	4.0
Queue Length 50th (ft)	68	3	0	7	6	64	85	1	87	0
Queue Length 95th (ft)	199	21	44	24	23	215	341	14	280	18
Internal Link Dist (ft)		1626			141		676		2268	
Turn Bay Length (ft)	60					100		60		180
Base Capacity (vph)	1017	1071	992	1034	1023	1034	1460	459	1049	909
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.01	0.23	0.02	0.02	0.17	0.24	0.01	0.23	0.07

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	114	395	147	391	85	295	290	210	271
v/c Ratio	0.45	0.58	0.51	0.41	0.38	0.49	0.19	0.58	0.27
Control Delay	35.4	29.6	35.5	15.4	35.6	30.9	0.3	34.6	19.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.4	29.6	35.5	15.4	35.6	30.9	0.3	34.6	19.1
Queue Length 50th (ft)	47	81	60	43	35	63	0	82	38
Queue Length 95th (ft)	95	126	126	89	84	114	0	177	84
Internal Link Dist (ft)		153		168		1623			1819
Turn Bay Length (ft)	165		340		265		180	135	
Base Capacity (vph)	410	1498	410	1509	410	1779	1562	410	1721
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.26	0.36	0.26	0.21	0.17	0.19	0.51	0.16

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	53	646	18	355	101	54	169	87
v/c Ratio	0.30	0.72	0.13	0.44	0.45	0.22	0.58	0.28
Control Delay	42.3	25.5	42.3	21.0	42.2	19.6	41.7	21.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.3	25.5	42.3	21.0	42.2	19.6	41.7	21.7
Queue Length 50th (ft)	24	214	8	128	45	7	75	19
Queue Length 95th (ft)	70	#601	29	219	98	37	163	67
Internal Link Dist (ft)		1374		2705		916		934
Turn Bay Length (ft)	200		120		100		100	
Base Capacity (vph)	472	894	472	872	786	762	675	676
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.72	0.04	0.41	0.13	0.07	0.25	0.13

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	192	804	8	12	598	33	30	241	201
v/c Ratio	0.71	0.39	0.01	0.14	0.41	0.32	0.29	0.54	0.38
Control Delay	53.4	34.9	0.0	64.6	25.0	68.0	42.1	50.8	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.4	34.9	0.0	64.6	25.0	68.0	42.1	50.8	9.7
Queue Length 50th (ft)	173	345	0	10	163	28	11	191	9
Queue Length 95th (ft)	231	362	m0	31	232	48	31	238	45
Internal Link Dist (ft)		189			259		567		1162
Turn Bay Length (ft)	100		120	120		100		50	
Base Capacity (vph)	279	2043	952	100	1468	177	448	443	565
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.39	0.01	0.12	0.41	0.19	0.07	0.54	0.36

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	371	422	221	148	267	171	1289	315	405	551	249
v/c Ratio	0.80	0.76	0.73	0.38	0.65	0.74	0.47	0.40	0.72	0.24	0.29
Control Delay	70.5	59.5	68.4	47.7	16.2	74.7	29.2	11.6	61.1	23.4	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.5	59.5	68.4	47.7	16.2	74.7	29.2	11.6	61.1	23.4	3.8
Queue Length 50th (ft)	162	176	90	65	76	146	235	62	177	109	0
Queue Length 95th (ft)	184	184	#174	99	138	197	261	120	215	142	46
Internal Link Dist (ft)		409		264			320			2205	
Turn Bay Length (ft)	300		150		250	280		100	250		250
Base Capacity (vph)	488	763	304	505	455	270	2729	788	762	2332	860
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.55	0.73	0.29	0.59	0.63	0.47	0.40	0.53	0.24	0.29

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	90	236	110	63	14	410	218	39	46	162	306
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1812		1770	1821		1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	1770	1812		1770	1821		1770	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	98	257	120	68	15	446	237	42	50	176	333
RTOR Reduction (vph)	0	0	225	0	5	0	0	3	0	0	0	277
Lane Group Flow (vph)	87	98	32	120	78	0	446	276	0	50	176	56
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	12.4	12.4	12.4	14.5	14.5		37.5	47.1		7.1	16.7	16.7
Effective Green, g (s)	12.4	12.4	12.4	14.5	14.5		37.5	47.1		7.1	16.7	16.7
Actuated g/C Ratio	0.13	0.13	0.13	0.15	0.15		0.38	0.48		0.07	0.17	0.17
Clearance Time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	221	233	198	259	265		670	866		126	314	267
v/s Ratio Prot	0.05	c0.05		c0.07	0.04		c0.25	0.15		0.03	c0.09	
v/s Ratio Perm			0.02									0.04
v/c Ratio	0.39	0.42	0.16	0.46	0.29		0.67	0.32		0.40	0.56	0.21
Uniform Delay, d1	39.8	40.0	38.7	38.7	37.7		25.5	16.0		43.9	37.8	35.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.2	1.2	0.4	1.3	0.6		2.5	0.2		2.1	2.3	0.4
Delay (s)	41.0	41.2	39.1	40.0	38.3		28.0	16.2		46.0	40.1	35.9
Level of Service	D	D	D	D	D		C	B		D	D	D
Approach Delay (s)		39.9			39.3			23.5			38.1	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	33.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	99.0	Sum of lost time (s)	17.9
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	32	72	67	581	180	315	206	297	161	181	400	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3		4.0	5.3		4.0	5.3	4.0	4.0	5.3	
Lane Util. Factor	1.00	0.95		0.97	1.00		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.93		1.00	0.90		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3283		3433	1685		1770	3539	1583	1770	3475	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3283		3433	1685		1770	3539	1583	1770	3475	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	78	73	632	196	342	224	323	175	197	435	60
RTOR Reduction (vph)	0	56	0	0	49	0	0	0	0	0	10	0
Lane Group Flow (vph)	35	95	0	632	489	0	224	323	175	197	485	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									Free			
Actuated Green, G (s)	4.5	21.5		16.4	33.4		15.6	19.7	90.5	14.3	18.4	
Effective Green, g (s)	4.5	21.5		16.4	33.4		15.6	19.7	90.5	14.3	18.4	
Actuated g/C Ratio	0.05	0.24		0.18	0.37		0.17	0.22	1.00	0.16	0.20	
Clearance Time (s)	4.0	5.3		4.0	5.3		4.0	5.3		4.0	5.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	88	779		622	621		305	770	1583	279	706	
v/s Ratio Prot	c0.02	0.03		c0.18	c0.29		c0.13	0.09		0.11	c0.14	
v/s Ratio Perm									c0.11			
v/c Ratio	0.40	0.12		1.02	0.79		0.73	0.42	0.11	0.71	0.69	
Uniform Delay, d1	41.7	27.1		37.0	25.4		35.5	30.5	0.0	36.1	33.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.9	0.1		40.2	6.5		8.8	0.4	0.1	7.9	2.8	
Delay (s)	44.6	27.2		77.2	31.9		44.3	30.8	0.1	44.0	36.2	
Level of Service	D	C		E	C		D	C	A	D	D	
Approach Delay (s)		30.4			56.4			27.6			38.4	
Approach LOS		C			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	42.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.5	Sum of lost time (s)	18.6
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	253	0	379	121	283	0	0	534	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor				0.95	0.95	1.00	1.00	0.95			0.95	1.00
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1681	1681	1583	1770	3539			3539	1583
Flt Permitted				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1681	1583	1770	3539			3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	275	0	412	132	308	0	0	580	457
RTOR Reduction (vph)	0	0	0	0	0	347	0	0	0	0	0	190
Lane Group Flow (vph)	0	0	0	137	138	65	132	308	0	0	580	267
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				15.0	15.0	15.0	12.5	72.0			55.5	55.5
Effective Green, g (s)				15.0	15.0	15.0	12.5	72.0			55.5	55.5
Actuated g/C Ratio				0.16	0.16	0.16	0.13	0.76			0.58	0.58
Clearance Time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				265	265	249	232	2682			2067	924
v/s Ratio Prot				0.08	c0.08		c0.07	0.09			0.16	
v/s Ratio Perm						0.04						c0.17
v/c Ratio				0.52	0.52	0.26	0.57	0.11			0.28	0.29
Uniform Delay, d1				36.7	36.7	35.1	38.7	3.0			9.8	9.9
Progression Factor				1.00	1.00	1.00	0.76	0.95			1.00	1.00
Incremental Delay, d2				1.7	1.8	0.6	3.2	0.1			0.3	0.8
Delay (s)				38.4	38.5	35.7	32.8	3.0			10.2	10.7
Level of Service				D	D	D	C	A			B	B
Approach Delay (s)		0.0			36.8			11.9			10.4	
Approach LOS		A			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	49.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	128	86	103	271	688	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	139	93	112	295	748	141
RTOR Reduction (vph)	0	84	0	0	0	43
Lane Group Flow (vph)	139	9	112	295	748	98
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	9.5	9.5	7.3	77.5	66.2	66.2
Effective Green, g (s)	9.5	9.5	7.3	77.5	66.2	66.2
Actuated g/C Ratio	0.10	0.10	0.08	0.82	0.70	0.70
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	343	158	263	2887	2466	1103
v/s Ratio Prot	c0.04		c0.03	0.08	c0.21	
v/s Ratio Perm		0.01				0.06
v/c Ratio	0.41	0.06	0.43	0.10	0.30	0.09
Uniform Delay, d1	40.1	38.7	41.8	1.8	5.5	4.7
Progression Factor	1.00	1.00	1.00	1.00	0.97	1.28
Incremental Delay, d2	0.8	0.2	1.1	0.1	0.3	0.2
Delay (s)	40.9	38.9	43.0	1.8	5.7	6.1
Level of Service	D	D	D	A	A	A
Approach Delay (s)	40.1			13.1	5.8	
Approach LOS	D			B	A	

Intersection Summary			
HCM 2000 Control Delay	12.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	42.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1	10	5	1	5	8	374	5	5	771	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	
Flt Protected		1.00	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1863	1583		1788	1583	1770	3533		1770	3539	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1863	1583		1863	1583	1770	3533		1770	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1	11	5	1	5	9	407	5	5	838	0
RTOR Reduction (vph)	0	0	11	0	0	5	0	1	0	0	0	0
Lane Group Flow (vph)	0	1	0	0	6	0	9	411	0	5	838	0
Turn Type		NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						6
Actuated Green, G (s)		0.9	0.9		0.9	0.9	0.9	26.5		0.5	26.1	
Effective Green, g (s)		0.9	0.9		0.9	0.9	0.9	26.5		0.5	26.1	
Actuated g/C Ratio		0.02	0.02		0.02	0.02	0.02	0.66		0.01	0.65	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		42	35		42	35	39	2346		22	2314	
v/s Ratio Prot		0.00					c0.01	0.12		0.00	c0.24	
v/s Ratio Perm			0.00		c0.00	0.00						
v/c Ratio		0.02	0.01		0.14	0.00	0.23	0.18		0.23	0.36	
Uniform Delay, d1		19.1	19.1		19.1	19.1	19.2	2.5		19.5	3.1	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.2	0.1		1.6	0.0	3.0	0.0		5.2	0.1	
Delay (s)		19.3	19.1		20.7	19.1	22.2	2.6		24.7	3.2	
Level of Service		B	B		C	B	C	A		C	A	
Approach Delay (s)		19.2			20.0			3.0			3.4	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	3.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	39.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	38.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	236	30	50	612	123	98	6	76	54	15	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	5.3		3.5	6.0		4.2	4.2		4.2	4.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	0.86		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1831		1770	1816		1770	1604		1770	1727	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1831		1770	1816		1770	1604		1770	1727	
Peak-hour factor, PHF	0.89	0.89	0.89	0.69	0.69	0.69	0.86	0.86	0.86	0.78	0.78	0.78
Adj. Flow (vph)	6	265	34	72	887	178	114	7	88	69	19	18
RTOR Reduction (vph)	0	2	0	0	3	0	0	76	0	0	16	0
Lane Group Flow (vph)	6	297	0	72	1062	0	114	19	0	69	21	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Actuated Green, G (s)	1.1	34.6		7.1	39.9		10.4	10.4		7.0	7.0	
Effective Green, g (s)	1.1	34.6		7.1	39.9		10.4	10.4		7.0	7.0	
Actuated g/C Ratio	0.01	0.45		0.09	0.52		0.14	0.14		0.09	0.09	
Clearance Time (s)	3.5	5.3		3.5	6.0		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	25	830		164	949		241	218		162	158	
v/s Ratio Prot	0.00	0.16		c0.04	c0.58		c0.06	0.01		c0.04	0.01	
v/s Ratio Perm												
v/c Ratio	0.24	0.36		0.44	1.12		0.47	0.09		0.43	0.13	
Uniform Delay, d1	37.2	13.6		32.7	18.2		30.4	28.8		32.8	31.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.9	0.3		1.9	67.6		1.5	0.2		1.8	0.4	
Delay (s)	42.1	13.9		34.6	85.8		31.9	29.0		34.6	32.2	
Level of Service	D	B		C	F		C	C		C	C	
Approach Delay (s)		14.4			82.5			30.6			33.7	
Approach LOS		B			F			C			C	

Intersection Summary			
HCM 2000 Control Delay	61.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	76.3	Sum of lost time (s)	17.9
Intersection Capacity Utilization	62.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	79	308	1	22	545	189	43	2	7	38	7	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	6.0	6.0	4.5	6.0		5.5	4.5		5.0	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.88		1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3403		1770	1643		1770	1598	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	1770	3403		1770	1643		1770	1598	
Peak-hour factor, PHF	0.83	0.83	0.83	0.80	0.80	0.80	0.63	0.63	0.63	0.83	0.83	0.83
Adj. Flow (vph)	95	371	1	28	681	236	68	3	11	46	8	149
RTOR Reduction (vph)	0	0	0	0	20	0	0	10	0	0	137	0
Lane Group Flow (vph)	95	371	1	28	897	0	68	4	0	46	20	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	11.6	74.7	74.7	5.1	67.5		8.2	6.1		12.1	9.5	
Effective Green, g (s)	11.6	74.7	74.7	5.1	67.5		8.2	6.1		12.1	9.5	
Actuated g/C Ratio	0.10	0.63	0.63	0.04	0.57		0.07	0.05		0.10	0.08	
Clearance Time (s)	5.2	6.0	6.0	4.5	6.0		5.5	4.5		5.0	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	174	2240	1002	76	1946		123	84		181	128	
v/s Ratio Prot	c0.05	0.10		0.02	c0.26		c0.04	0.00		0.03	c0.01	
v/s Ratio Perm			0.00									
v/c Ratio	0.55	0.17	0.00	0.37	0.46		0.55	0.04		0.25	0.16	
Uniform Delay, d1	50.7	8.9	7.9	54.9	14.7		53.1	53.2		48.8	50.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.5	0.2	0.0	3.0	0.8		5.3	0.2		0.7	0.6	
Delay (s)	54.2	9.0	7.9	57.9	15.5		58.4	53.4		49.5	51.1	
Level of Service	D	A	A	E	B		E	D		D	D	
Approach Delay (s)		18.2			16.7			57.6			50.7	
Approach LOS		B			B			E			D	

Intersection Summary			
HCM 2000 Control Delay	23.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	118.0	Sum of lost time (s)	21.2
Intersection Capacity Utilization	53.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	115	117	69	301	327	111	155	278	183	88	1002	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.7		6.0	5.7	5.7	5.0	5.7	5.7	5.0	5.7	5.7
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	0.86	1.00	0.97	0.91	1.00
Frt	1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3342		3433	3539	1583	1770	6408	1583	3433	5085	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3342		3433	3539	1583	1770	6408	1583	3433	5085	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.85	0.85	0.85	0.85	0.85	0.85	0.91	0.91	0.91
Adj. Flow (vph)	122	124	73	354	385	131	182	327	215	97	1101	423
RTOR Reduction (vph)	0	65	0	0	0	110	0	0	120	0	0	244
Lane Group Flow (vph)	122	132	0	354	385	21	182	327	95	97	1101	179
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	10.9	14.5		18.2	21.8	21.8	26.8	59.9	59.9	20.0	53.1	53.1
Effective Green, g (s)	10.9	14.5		18.2	21.8	21.8	26.8	59.9	59.9	20.0	53.1	53.1
Actuated g/C Ratio	0.08	0.11		0.13	0.16	0.16	0.20	0.44	0.44	0.15	0.39	0.39
Clearance Time (s)	6.0	5.7		6.0	5.7	5.7	5.0	5.7	5.7	5.0	5.7	5.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	277	358		462	571	255	351	2843	702	508	2000	622
v/s Ratio Prot	0.04	0.04		c0.10	c0.11		c0.10	0.05		0.03	c0.22	
v/s Ratio Perm						0.01			0.06			0.11
v/c Ratio	0.44	0.37		0.77	0.67	0.08	0.52	0.12	0.14	0.19	0.55	0.29
Uniform Delay, d1	59.1	56.0		56.3	53.3	48.1	48.3	22.0	22.2	50.4	31.7	28.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.6		7.4	3.1	0.1	1.3	0.1	0.4	0.2	1.1	1.2
Delay (s)	60.3	56.6		63.8	56.4	48.2	49.6	22.1	22.6	50.6	32.8	29.2
Level of Service	E	E		E	E	D	D	C	C	D	C	C
Approach Delay (s)		58.0			58.2			29.2			32.9	
Approach LOS		E			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	40.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	22.4
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	21.3
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	97	1	93	0	81	1	9	0	88	586	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	105	1	101	0	88	1	10	0	96	637	51
Number of Lanes	0	0	1	0	0	0	1	0	0	1	2	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	3	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	3	3	1
HCM Control Delay	17.6	14.5	25
HCM LOS	C	B	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	51%	89%	100%	0%	0%
Vol Thru, %	0%	100%	81%	1%	1%	0%	100%	60%
Vol Right, %	0%	0%	19%	49%	10%	0%	0%	40%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	88	391	242	191	91	17	288	239
LT Vol	88	0	0	97	81	17	0	0
Through Vol	0	391	195	1	1	0	288	144
RT Vol	0	0	47	93	9	0	0	95
Lane Flow Rate	96	425	263	208	99	18	313	260
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.197	0.815	0.495	0.464	0.244	0.039	0.623	0.497
Departure Headway (Hd)	7.425	6.912	6.772	8.042	8.894	7.681	7.167	6.881
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	483	522	532	448	404	466	504	522
Service Time	5.173	4.659	4.52	5.793	6.656	5.431	4.917	4.63
HCM Lane V/C Ratio	0.199	0.814	0.494	0.464	0.245	0.039	0.621	0.498
HCM Control Delay	12	33.5	16	17.6	14.5	10.7	21.1	16.3
HCM Lane LOS	B	D	C	C	B	B	C	C
HCM 95th-tile Q	0.7	7.9	2.7	2.4	0.9	0.1	4.2	2.7

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	17	432	95
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	18	470	103
Number of Lanes	0	1	2	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	3
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	18.7
HCM LOS	C

Lane

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	71	594	73	32	1085
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	85	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	77	646	79	35	1179

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1344	363	0	0	725	0
Stage 1	685	-	-	-	-	-
Stage 2	659	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	143	634	-	-	874	-
Stage 1	462	-	-	-	-	-
Stage 2	476	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	137	634	-	-	874	-
Mov Cap-2 Maneuver	137	-	-	-	-	-
Stage 1	462	-	-	-	-	-
Stage 2	457	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.5	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	634	874	-
HCM Lane V/C Ratio	-	-	0.122	0.04	-
HCM Control Delay (s)	-	-	11.5	9.3	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

Intersection	
Int Delay, s/veh	197.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	58	115	552	110	242	843
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	525	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	51	51	75	75	75	75
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	114	225	736	147	323	1124

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2016	441	0	0	883	0
Stage 1	809	-	-	-	-	-
Stage 2	1207	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	~ 52	570	-	-	775	-
Stage 1	403	-	-	-	-	-
Stage 2	250	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 30	570	-	-	775	-
Mov Cap-2 Maneuver	~ 30	-	-	-	-	-
Stage 1	403	-	-	-	-	-
Stage 2	146	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 1540.2	0	2.9
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	81	775	-
HCM Lane V/C Ratio	-	-	4.188	0.416	-
HCM Control Delay (s)	-	-	$ 1540.2	12.9	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	35.8	2.1	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	9	0	0	0	0	0	0	645	0	0	926	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	0	0	0	0	0	0	701	0	0	1007	10

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	1362	1712	508	1016	0	0	701	0	0
Stage 1	1011	1011	-	-	-	-	-	-	-
Stage 2	351	701	-	-	-	-	-	-	-
Critical Hdwy	6.84	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	5.84	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	139	90	510	678	-	-	892	-	-
Stage 1	312	315	-	-	-	-	-	-	-
Stage 2	684	439	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	139	0	510	678	-	-	892	-	-
Mov Cap-2 Maneuver	247	0	-	-	-	-	-	-	-
Stage 1	312	0	-	-	-	-	-	-	-
Stage 2	684	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.2	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR
Capacity (veh/h)	678	-	-	247	892	-	-
HCM Lane V/C Ratio	-	-	-	0.04	-	-	-
HCM Control Delay (s)	0	-	-	20.2	0	-	-
HCM Lane LOS	A	-	-	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	0	645	0	0	926
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	100	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	701	0	0	1007

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1104	351	0	0	701	0
Stage 1	701	-	-	-	-	-
Stage 2	403	-	-	-	-	-
Critical Hdwy	6.29	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.67	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	237	645	-	-	892	-
Stage 1	440	-	-	-	-	-
Stage 2	608	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	237	645	-	-	892	-
Mov Cap-2 Maneuver	237	-	-	-	-	-
Stage 1	440	-	-	-	-	-
Stage 2	608	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	892	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	87	98	257	120	83	446	279	50	176	333
v/c Ratio	0.39	0.42	0.61	0.46	0.31	0.66	0.32	0.33	0.60	0.63
Control Delay	47.6	47.8	12.1	45.7	39.4	35.4	21.5	54.0	49.6	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.6	47.8	12.1	45.7	39.4	35.4	21.5	54.0	49.6	10.5
Queue Length 50th (ft)	48	54	0	66	41	205	95	28	95	0
Queue Length 95th (ft)	122	134	78	148	103	#628	274	87	225	89
Internal Link Dist (ft)		1626			141		676		2268	
Turn Bay Length (ft)	60					100		60		180
Base Capacity (vph)	661	695	752	672	691	672	1052	298	681	790
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.14	0.34	0.18	0.12	0.66	0.27	0.17	0.26	0.42

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	35	151	632	538	224	323	175	197	495
v/c Ratio	0.24	0.19	1.00	0.79	0.72	0.41	0.11	0.70	0.68
Control Delay	46.6	15.9	75.6	33.4	52.5	32.8	0.1	52.0	37.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.6	15.9	75.6	33.4	52.5	32.8	0.1	52.0	37.7
Queue Length 50th (ft)	20	18	~227	254	132	91	0	114	144
Queue Length 95th (ft)	54	46	#382	#501	#277	136	0	#232	204
Internal Link Dist (ft)		153		168		1623			1819
Turn Bay Length (ft)	165		340		265		180	135	
Base Capacity (vph)	326	1356	633	721	326	1211	1583	326	1198
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.11	1.00	0.75	0.69	0.27	0.11	0.60	0.41

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	137	138	412	132	308	580	457
v/c Ratio	0.52	0.52	0.69	0.57	0.11	0.28	0.41
Control Delay	42.2	42.4	10.0	38.8	3.6	11.8	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.2	42.4	10.0	38.8	3.6	11.8	2.7
Queue Length 50th (ft)	81	81	0	52	13	84	0
Queue Length 95th (ft)	129	130	76	115	65	156	52
Internal Link Dist (ft)		222			661	164	
Turn Bay Length (ft)				540			
Base Capacity (vph)	460	460	732	484	2680	2066	1114
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.30	0.56	0.27	0.11	0.28	0.41

Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	139	93	112	295	748	141
v/c Ratio	0.41	0.39	0.35	0.10	0.30	0.12
Control Delay	43.5	13.5	43.1	1.9	6.2	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.5	13.5	43.1	1.9	6.2	1.7
Queue Length 50th (ft)	41	0	33	13	111	4
Queue Length 95th (ft)	69	45	58	24	136	21
Internal Link Dist (ft)	57			498	661	
Turn Bay Length (ft)			390			640
Base Capacity (vph)	939	500	939	2888	2495	1158
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.19	0.12	0.10	0.30	0.12

Intersection Summary



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	1	11	6	5	9	412	5	838
v/c Ratio	0.00	0.03	0.02	0.01	0.03	0.13	0.02	0.26
Control Delay	16.0	0.2	15.3	0.0	15.2	2.0	17.4	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.0	0.2	15.3	0.0	15.2	2.0	17.4	2.8
Queue Length 50th (ft)	0	0	1	0	1	0	1	0
Queue Length 95th (ft)	4	0	10	0	12	45	9	113
Internal Link Dist (ft)	536		1154			422		141
Turn Bay Length (ft)				75	150		100	
Base Capacity (vph)	648	602	648	602	448	3447	224	3396
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.02	0.01	0.01	0.02	0.12	0.02	0.25

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	6	299	72	1065	114	95	69	37
v/c Ratio	0.07	0.26	0.49	0.85	0.61	0.38	0.46	0.23
Control Delay	60.6	13.5	65.3	24.2	65.9	17.2	63.3	35.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.6	13.5	65.3	24.2	65.9	17.2	63.3	35.7
Queue Length 50th (ft)	4	107	53	552	83	5	51	14
Queue Length 95th (ft)	21	189	85	627	152	53	92	42
Internal Link Dist (ft)		1374		2039		916		934
Turn Bay Length (ft)	200		120		100		100	
Base Capacity (vph)	84	1195	191	1259	250	302	383	388
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.25	0.38	0.85	0.46	0.31	0.18	0.10

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	95	371	1	28	917	68	14	46	157
v/c Ratio	0.55	0.16	0.00	0.25	0.45	0.48	0.11	0.23	0.64
Control Delay	61.7	9.6	0.0	57.2	15.2	63.0	28.7	50.9	21.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.7	9.6	0.0	57.2	15.2	63.0	28.7	50.9	21.8
Queue Length 50th (ft)	70	57	0	21	185	50	2	30	6
Queue Length 95th (ft)	112	92	0	45	255	66	13	66	55
Internal Link Dist (ft)		189			259		567		1162
Turn Bay Length (ft)	100		120	120		100		50	
Base Capacity (vph)	238	2376	1097	113	2043	148	391	220	511
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.16	0.00	0.25	0.45	0.46	0.04	0.21	0.31

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	122	197	354	385	131	182	327	215	97	1101	423
v/c Ratio	0.44	0.47	0.76	0.67	0.31	0.52	0.12	0.26	0.19	0.55	0.49
Control Delay	64.2	37.5	68.0	59.2	2.4	55.6	22.8	4.0	51.5	33.1	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.2	37.5	68.0	59.2	2.4	55.6	22.8	4.0	51.5	33.1	5.4
Queue Length 50th (ft)	53	55	151	168	0	147	47	0	39	261	10
Queue Length 95th (ft)	85	85	#242	202	0	215	66	41	67	334	88
Internal Link Dist (ft)		409		264			320			2205	
Turn Bay Length (ft)	250		150		250	280		100	250		250
Base Capacity (vph)	610	1024	463	768	500	351	2843	822	508	1999	866
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.19	0.76	0.50	0.26	0.52	0.12	0.26	0.19	0.55	0.49

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	128	6	222	14	8	4	144	311	7	1	246	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1770		1770	1856		1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	1770	1770		1770	1856		1770	1863	1583
Peak-hour factor, PHF	0.81	0.81	0.81	0.64	0.64	0.64	0.93	0.93	0.93	0.96	0.96	0.96
Adj. Flow (vph)	158	7	274	22	12	6	155	334	8	1	256	44
RTOR Reduction (vph)	0	0	221	0	5	0	0	1	0	0	0	31
Lane Group Flow (vph)	158	7	53	22	13	0	155	341	0	1	256	13
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	14.3	14.3	14.3	6.5	6.5		13.7	34.6		0.6	21.5	21.5
Effective Green, g (s)	14.3	14.3	14.3	6.5	6.5		13.7	34.6		0.6	21.5	21.5
Actuated g/C Ratio	0.19	0.19	0.19	0.09	0.09		0.19	0.47		0.01	0.29	0.29
Clearance Time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	342	360	306	155	155		328	868		14	542	460
v/s Ratio Prot	c0.09	0.00		c0.01	0.01		c0.09	0.18		0.00	c0.14	
v/s Ratio Perm			0.03									0.01
v/c Ratio	0.46	0.02	0.17	0.14	0.08		0.47	0.39		0.07	0.47	0.03
Uniform Delay, d1	26.4	24.1	24.9	31.1	31.0		26.9	12.8		36.4	21.5	18.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.0	0.0	0.3	0.4	0.2		1.1	0.3		2.2	0.7	0.0
Delay (s)	27.4	24.1	25.1	31.5	31.2		28.0	13.1		38.5	22.2	18.8
Level of Service	C	C	C	C	C		C	B		D	C	B
Approach Delay (s)		25.9			31.4			17.7			21.7	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	21.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	73.9	Sum of lost time (s)	17.9
Intersection Capacity Utilization	46.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	34	131	39	356	86	123	55	351	439	165	311	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3		4.0	5.3		4.0	5.3	4.0	4.0	5.3	
Lane Util. Factor	1.00	0.95		0.97	1.00		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.97		1.00	0.91		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3418		3433	1699		1770	3539	1583	1770	3497	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3418		3433	1699		1770	3539	1583	1770	3497	
Peak-hour factor, PHF	0.83	0.83	0.83	0.89	0.89	0.89	0.93	0.93	0.93	0.90	0.90	0.90
Adj. Flow (vph)	41	158	47	400	97	138	59	377	472	183	346	30
RTOR Reduction (vph)	0	29	0	0	46	0	0	0	0	0	5	0
Lane Group Flow (vph)	41	176	0	400	189	0	59	377	472	183	371	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									Free			
Actuated Green, G (s)	6.0	12.6		13.9	20.5		5.1	15.1	73.1	12.9	22.9	
Effective Green, g (s)	6.0	12.6		13.9	20.5		5.1	15.1	73.1	12.9	22.9	
Actuated g/C Ratio	0.08	0.17		0.19	0.28		0.07	0.21	1.00	0.18	0.31	
Clearance Time (s)	4.0	5.3		4.0	5.3		4.0	5.3		4.0	5.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	145	589		652	476		123	731	1583	312	1095	
v/s Ratio Prot	0.02	0.05		c0.12	0.11		0.03	c0.11		c0.10	0.11	
v/s Ratio Perm									c0.30			
v/c Ratio	0.28	0.30		0.61	0.40		0.48	0.52	0.30	0.59	0.34	
Uniform Delay, d1	31.5	26.4		27.1	21.3		32.7	25.8	0.0	27.7	19.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.1	0.3		1.7	0.5		2.9	0.6	0.5	2.8	0.2	
Delay (s)	32.6	26.7		28.9	21.8		35.7	26.4	0.5	30.5	19.5	
Level of Service	C	C		C	C		D	C	A	C	B	
Approach Delay (s)		27.7			26.3			13.5			23.1	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	20.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	73.1	Sum of lost time (s)	18.6
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	31	0	158	38	822	0	0	446	229
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor				0.95	0.95	1.00	1.00	0.95			0.95	1.00
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1681	1681	1583	1770	3539			3539	1583
Flt Permitted				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1681	1583	1770	3539			3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	34	0	172	41	893	0	0	485	249
RTOR Reduction (vph)	0	0	0	0	0	156	0	0	0	0	0	69
Lane Group Flow (vph)	0	0	0	17	17	16	41	893	0	0	485	180
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				8.9	8.9	8.9	5.4	78.1			68.7	68.7
Effective Green, g (s)				8.9	8.9	8.9	5.4	78.1			68.7	68.7
Actuated g/C Ratio				0.09	0.09	0.09	0.06	0.82			0.72	0.72
Clearance Time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				157	157	148	100	2909			2559	1144
v/s Ratio Prot				0.01	0.01		c0.02	c0.25			0.14	
v/s Ratio Perm						c0.01						0.11
v/c Ratio				0.11	0.11	0.11	0.41	0.31			0.19	0.16
Uniform Delay, d1				39.4	39.4	39.4	43.3	2.0			4.2	4.1
Progression Factor				1.00	1.00	1.00	1.13	0.58			1.00	1.00
Incremental Delay, d2				0.3	0.3	0.3	2.6	0.3			0.2	0.3
Delay (s)				39.7	39.7	39.7	51.7	1.4			4.4	4.4
Level of Service				D	D	D	D	A			A	A
Approach Delay (s)		0.0			39.7			3.6			4.4	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	39.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	345	137	219	545	243	244
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	375	149	238	592	264	265
RTOR Reduction (vph)	0	124	0	0	0	111
Lane Group Flow (vph)	375	25	238	592	264	154
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	15.8	15.8	11.9	71.2	55.3	55.3
Effective Green, g (s)	15.8	15.8	11.9	71.2	55.3	55.3
Actuated g/C Ratio	0.17	0.17	0.13	0.75	0.58	0.58
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	570	263	430	2652	2060	921
v/s Ratio Prot	c0.11		c0.07	c0.17	0.07	
v/s Ratio Perm		0.02				0.10
v/c Ratio	0.66	0.09	0.55	0.22	0.13	0.17
Uniform Delay, d1	37.1	33.5	39.1	3.6	9.0	9.2
Progression Factor	1.00	1.00	1.00	1.00	0.71	0.40
Incremental Delay, d2	2.7	0.2	1.5	0.2	0.1	0.4
Delay (s)	39.8	33.7	40.6	3.8	6.5	4.1
Level of Service	D	C	D	A	A	A
Approach Delay (s)	38.1			14.3	5.3	
Approach LOS	D			B	A	

Intersection Summary			
HCM 2000 Control Delay	18.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	33.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1	8	2	1	2	7	762	2	2	379	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	
Flt Protected		1.00	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1863	1583		1803	1583	1770	3538		1770	3539	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1863	1583		1863	1583	1770	3538		1770	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1	9	2	1	2	8	828	2	2	412	0
RTOR Reduction (vph)	0	0	9	0	0	2	0	0	0	0	0	0
Lane Group Flow (vph)	0	1	0	0	3	0	8	830	0	2	412	0
Turn Type		NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						6
Actuated Green, G (s)		0.9	0.9		0.9	0.9	0.9	25.4		0.6	25.1	
Effective Green, g (s)		0.9	0.9		0.9	0.9	0.9	25.4		0.6	25.1	
Actuated g/C Ratio		0.02	0.02		0.02	0.02	0.02	0.65		0.02	0.65	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		43	36		43	36	40	2310		27	2283	
v/s Ratio Prot		0.00					c0.00	c0.23		0.00	0.12	
v/s Ratio Perm			0.00		c0.00	0.00						
v/c Ratio		0.02	0.01		0.07	0.00	0.20	0.36		0.07	0.18	
Uniform Delay, d1		18.6	18.6		18.6	18.6	18.6	3.1		18.9	2.8	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.2	0.1		0.7	0.0	2.5	0.1		1.2	0.0	
Delay (s)		18.8	18.6		19.3	18.6	21.1	3.2		20.0	2.8	
Level of Service		B	B		B	B	C	A		C	A	
Approach Delay (s)		18.6			19.0			3.3			2.9	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	3.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	38.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	37.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	38	512	101	17	243	82	71	12	34	209	37	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	5.3		3.5	6.0		4.2	4.2		4.2	4.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.96		1.00	0.89		1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1817		1770	1792		1770	1657		1770	1709	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1817		1770	1792		1770	1657		1770	1709	
Peak-hour factor, PHF	0.91	0.91	0.91	0.78	0.78	0.78	0.81	0.81	0.81	0.90	0.90	0.90
Adj. Flow (vph)	42	563	111	22	312	105	88	15	42	232	41	50
RTOR Reduction (vph)	0	4	0	0	6	0	0	37	0	0	31	0
Lane Group Flow (vph)	42	670	0	22	411	0	88	20	0	232	60	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Actuated Green, G (s)	4.9	41.0		2.7	38.1		10.2	10.2		17.4	17.4	
Effective Green, g (s)	4.9	41.0		2.7	38.1		10.2	10.2		17.4	17.4	
Actuated g/C Ratio	0.06	0.46		0.03	0.43		0.12	0.12		0.20	0.20	
Clearance Time (s)	3.5	5.3		3.5	6.0		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	98	841		54	771		204	190		348	336	
v/s Ratio Prot	c0.02	c0.37		0.01	0.23		c0.05	0.01		c0.13	0.04	
v/s Ratio Perm												
v/c Ratio	0.43	0.80		0.41	0.53		0.43	0.10		0.67	0.18	
Uniform Delay, d1	40.4	20.2		42.1	18.6		36.5	35.1		32.9	29.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.0	5.3		4.9	0.7		1.5	0.2		4.8	0.3	
Delay (s)	43.4	25.5		47.1	19.3		37.9	35.3		37.6	29.9	
Level of Service	D	C		D	B		D	D		D	C	
Approach Delay (s)		26.5			20.7			36.9			35.5	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	27.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	88.5	Sum of lost time (s)	17.9
Intersection Capacity Utilization	59.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	164	676	8	13	339	171	27	9	12	176	12	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	6.0	6.0	4.5	6.0		5.5	4.5		5.0	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.92		1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3361		1770	1704		1770	1603	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	1770	3361		1770	1704		1770	1603	
Peak-hour factor, PHF	0.85	0.85	0.85	0.88	0.88	0.88	0.69	0.69	0.69	0.78	0.78	0.78
Adj. Flow (vph)	193	795	9	15	385	194	39	13	17	226	15	194
RTOR Reduction (vph)	0	0	4	0	52	0	0	16	0	0	150	0
Lane Group Flow (vph)	193	795	5	15	527	0	39	14	0	226	59	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	18.7	61.8	61.8	3.1	45.5		5.6	4.9		28.2	27.0	
Effective Green, g (s)	18.7	61.8	61.8	3.1	45.5		5.6	4.9		28.2	27.0	
Actuated g/C Ratio	0.16	0.52	0.52	0.03	0.39		0.05	0.04		0.24	0.23	
Clearance Time (s)	5.2	6.0	6.0	4.5	6.0		5.5	4.5		5.0	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	280	1853	829	46	1295		84	70		423	366	
v/s Ratio Prot	c0.11	c0.22		0.01	0.16		0.02	0.01		c0.13	c0.04	
v/s Ratio Perm			0.00									
v/c Ratio	0.69	0.43	0.01	0.33	0.41		0.46	0.20		0.53	0.16	
Uniform Delay, d1	46.9	17.3	13.4	56.4	26.4		54.7	54.6		39.2	36.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.9	0.7	0.0	4.1	1.0		4.0	1.4		1.3	0.2	
Delay (s)	53.8	18.0	13.4	60.5	27.4		58.8	56.0		40.5	36.7	
Level of Service	D	B	B	E	C		E	E		D	D	
Approach Delay (s)		24.9			28.2			57.6			38.6	
Approach LOS		C			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	29.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	118.0	Sum of lost time (s)	21.2
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	264	258	100	227	130	207	155	1034	291	304	475	184
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.7		6.0	5.7	5.7	5.0	5.7	5.7	5.0	5.7	5.7
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	0.86	1.00	0.97	0.91	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3391		3433	3539	1583	1770	6408	1583	3433	5085	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3391		3433	3539	1583	1770	6408	1583	3433	5085	1583
Peak-hour factor, PHF	0.77	0.77	0.77	0.89	0.89	0.89	0.82	0.82	0.82	0.87	0.87	0.87
Adj. Flow (vph)	343	335	130	255	146	233	189	1261	355	349	546	211
RTOR Reduction (vph)	0	36	0	0	0	204	0	0	117	0	0	133
Lane Group Flow (vph)	343	429	0	255	146	29	189	1261	238	349	546	78
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	18.7	22.3		13.4	17.0	17.0	27.3	56.0	56.0	20.9	49.6	49.6
Effective Green, g (s)	18.7	22.3		13.4	17.0	17.0	27.3	56.0	56.0	20.9	49.6	49.6
Actuated g/C Ratio	0.14	0.17		0.10	0.13	0.13	0.20	0.41	0.41	0.15	0.37	0.37
Clearance Time (s)	6.0	5.7		6.0	5.7	5.7	5.0	5.7	5.7	5.0	5.7	5.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	475	560		340	445	199	357	2658	656	531	1868	581
v/s Ratio Prot	c0.10	c0.13		0.07	0.04		c0.11	c0.20		c0.10	0.11	
v/s Ratio Perm						0.02			0.15			0.05
v/c Ratio	0.72	0.77		0.75	0.33	0.15	0.53	0.47	0.36	0.66	0.29	0.13
Uniform Delay, d1	55.7	53.9		59.2	53.8	52.5	48.1	28.8	27.2	53.7	30.3	28.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.4	6.2		9.0	0.4	0.3	1.4	0.6	1.6	2.9	0.4	0.5
Delay (s)	61.0	60.1		68.1	54.2	52.9	49.5	29.4	28.8	56.6	30.7	28.9
Level of Service	E	E		E	D	D	D	C	C	E	C	C
Approach Delay (s)		60.5			59.3			31.4			38.5	
Approach LOS		E			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	42.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	22.4
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	12.7
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	38	1	40	0	44	1	13	0	31	399	80
Peak Hour Factor	0.92	0.63	0.63	0.63	0.92	0.77	0.77	0.77	0.92	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	60	2	63	0	57	1	17	0	33	429	86
Number of Lanes	0	0	1	0	0	0	1	0	0	1	2	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	3	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	3	3	1
HCM Control Delay	12	11.6	12.8
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	48%	76%	100%	0%	0%
Vol Thru, %	0%	100%	62%	1%	2%	0%	100%	73%
Vol Right, %	0%	0%	38%	51%	22%	0%	0%	27%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	31	266	213	79	58	30	268	184
LT Vol	31	0	0	38	44	30	0	0
Through Vol	0	266	133	1	1	0	268	134
RT Vol	0	0	80	40	13	0	0	50
Lane Flow Rate	33	286	229	125	75	33	291	200
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.06	0.474	0.363	0.244	0.156	0.059	0.485	0.322
Departure Headway (Hd)	6.476	5.969	5.702	7.009	7.478	6.5	5.993	5.8
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	552	604	630	510	478	550	600	618
Service Time	4.227	3.719	3.452	4.773	5.249	4.252	3.744	3.551
HCM Lane V/C Ratio	0.06	0.474	0.363	0.245	0.157	0.06	0.485	0.324
HCM Control Delay	9.6	14	11.7	12	11.6	9.7	14.3	11.3
HCM Lane LOS	A	B	B	B	B	A	B	B
HCM 95th-tile Q	0.2	2.5	1.7	0.9	0.5	0.2	2.6	1.4

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	30	402	50
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	33	437	54
Number of Lanes	0	1	2	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	3
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	12.9
HCM LOS	B

Lane

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	25	834	149	21	700
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	85	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	91	91	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	32	916	164	24	795

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1443	540	0	0	1080	0
Stage 1	998	-	-	-	-	-
Stage 2	445	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	123	486	-	-	641	-
Stage 1	317	-	-	-	-	-
Stage 2	613	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	118	486	-	-	641	-
Mov Cap-2 Maneuver	118	-	-	-	-	-
Stage 1	317	-	-	-	-	-
Stage 2	590	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.9	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	486	641	-
HCM Lane V/C Ratio	-	-	0.066	0.037	-
HCM Control Delay (s)	-	-	12.9	10.8	-
HCM Lane LOS	-	-	B	B	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	7	12	971	18	20	680
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	525	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	68	68	95	95	87	87
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	10	18	1022	19	23	782

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1469	521	0	0	1041	0
Stage 1	1032	-	-	-	-	-
Stage 2	437	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	121	505	-	-	676	-
Stage 1	309	-	-	-	-	-
Stage 2	624	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	117	505	-	-	676	-
Mov Cap-2 Maneuver	117	-	-	-	-	-
Stage 1	309	-	-	-	-	-
Stage 2	603	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.1	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	227	676	-
HCM Lane V/C Ratio	-	-	0.123	0.034	-
HCM Control Delay (s)	-	-	23.1	10.5	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	8	0	0	0	0	0	0	964	0	0	670	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	0	0	0	0	0	0	1048	0	0	728	10

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	1257	1781	369	738	0	0	1048	0	0
Stage 1	733	733	-	-	-	-	-	-	-
Stage 2	524	1048	-	-	-	-	-	-	-
Critical Hdwy	6.84	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	5.84	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	163	81	628	864	-	-	660	-	-
Stage 1	436	424	-	-	-	-	-	-	-
Stage 2	559	303	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	163	0	628	864	-	-	660	-	-
Mov Cap-2 Maneuver	296	0	-	-	-	-	-	-	-
Stage 1	436	0	-	-	-	-	-	-	-
Stage 2	559	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.5	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR
Capacity (veh/h)	864	-	-	296	660	-	-
HCM Lane V/C Ratio	-	-	-	0.029	-	-	-
HCM Control Delay (s)	0	-	-	17.5	0	-	-
HCM Lane LOS	A	-	-	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	0	964	0	0	670
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	100	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	1048	0	0	728

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1339	524	0	0	1048	0
Stage 1	1048	-	-	-	-	-
Stage 2	291	-	-	-	-	-
Critical Hdwy	6.29	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.67	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	173	498	-	-	660	-
Stage 1	292	-	-	-	-	-
Stage 2	696	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	173	498	-	-	660	-
Mov Cap-2 Maneuver	173	-	-	-	-	-
Stage 1	292	-	-	-	-	-
Stage 2	696	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	660	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	158	7	274	22	18	155	342	1	256	44
v/c Ratio	0.44	0.02	0.51	0.08	0.07	0.45	0.38	0.01	0.56	0.10
Control Delay	35.3	32.8	8.6	33.5	27.4	36.9	18.0	47.0	34.0	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.3	32.8	8.6	33.5	27.4	36.9	18.0	47.0	34.0	0.4
Queue Length 50th (ft)	56	2	0	8	4	55	78	0	89	0
Queue Length 95th (ft)	168	17	46	26	19	193	323	7	288	0
Internal Link Dist (ft)		1626			141		676		2268	
Turn Bay Length (ft)	60					100		60		180
Base Capacity (vph)	1067	1123	1063	1085	1087	1085	1484	482	1101	973
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.01	0.26	0.02	0.02	0.14	0.23	0.00	0.23	0.05

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	41	205	400	235	59	377	472	183	376
v/c Ratio	0.19	0.37	0.59	0.43	0.29	0.56	0.30	0.56	0.33
Control Delay	31.8	25.5	30.3	20.7	34.5	29.8	0.5	34.2	20.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.8	25.5	30.3	20.7	34.5	29.8	0.5	34.2	20.2
Queue Length 50th (ft)	15	34	79	67	24	77	0	71	67
Queue Length 95th (ft)	45	66	141	143	63	132	0	150	118
Internal Link Dist (ft)		153		168		1623			1819
Turn Bay Length (ft)	165		340		265		180	135	
Base Capacity (vph)	412	1746	800	890	412	1531	1583	412	1518
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.12	0.50	0.26	0.14	0.25	0.30	0.44	0.25

Intersection Summary



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	17	17	172	41	893	485	249
v/c Ratio	0.11	0.11	0.57	0.26	0.31	0.19	0.20
Control Delay	40.1	40.1	14.2	49.3	1.5	4.9	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.1	40.1	14.2	49.3	1.5	4.9	1.2
Queue Length 50th (ft)	10	10	0	23	23	45	0
Queue Length 95th (ft)	30	30	59	46	40	81	26
Internal Link Dist (ft)		222			661	164	
Turn Bay Length (ft)				540			
Base Capacity (vph)	460	460	558	484	2909	2618	1236
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.04	0.31	0.08	0.31	0.19	0.20

Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	375	149	238	592	264	265
v/c Ratio	0.66	0.39	0.55	0.22	0.13	0.26
Control Delay	42.4	8.6	43.7	4.1	7.3	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.4	8.6	43.7	4.1	7.3	1.3
Queue Length 50th (ft)	110	0	70	45	21	0
Queue Length 95th (ft)	148	49	104	79	31	8
Internal Link Dist (ft)	57			498	661	
Turn Bay Length (ft)			390			640
Base Capacity (vph)	939	541	939	2651	2058	1031
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.28	0.25	0.22	0.13	0.26

Intersection Summary



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	1	9	3	2	8	830	2	412
v/c Ratio	0.00	0.03	0.01	0.01	0.02	0.26	0.01	0.13
Control Delay	15.0	0.1	14.3	0.0	14.1	2.5	16.0	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.0	0.1	14.3	0.0	14.1	2.5	16.0	2.6
Queue Length 50th (ft)	0	0	0	0	1	0	0	0
Queue Length 95th (ft)	3	0	6	0	10	96	5	52
Internal Link Dist (ft)	536		1154			422		141
Turn Bay Length (ft)				75	150		100	
Base Capacity (vph)	657	609	657	609	454	3517	227	3453
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.01	0.00	0.00	0.02	0.24	0.01	0.12

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	42	674	22	417	88	57	232	91
v/c Ratio	0.26	0.78	0.16	0.54	0.42	0.25	0.65	0.24
Control Delay	45.2	30.1	45.3	24.3	45.0	20.2	42.3	21.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.2	30.1	45.3	24.3	45.0	20.2	42.3	21.4
Queue Length 50th (ft)	20	260	11	173	42	7	107	22
Queue Length 95th (ft)	63	#693	34	279	95	39	221	72
Internal Link Dist (ft)		1374		2039		916		934
Turn Bay Length (ft)	200		120		100		100	
Base Capacity (vph)	450	864	450	833	750	726	645	647
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.78	0.05	0.50	0.12	0.08	0.36	0.14

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	193	795	9	15	579	39	30	226	209
v/c Ratio	0.69	0.40	0.01	0.15	0.41	0.32	0.27	0.54	0.41
Control Delay	59.2	16.4	0.0	55.9	23.4	58.7	36.6	45.9	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.2	16.4	0.0	55.9	23.4	58.7	36.6	45.9	9.8
Queue Length 50th (ft)	140	156	0	11	142	29	10	155	9
Queue Length 95th (ft)	195	245	0	33	205	48	28	203	46
Internal Link Dist (ft)		189			259		567		1162
Turn Bay Length (ft)	100		120	120		100		50	
Base Capacity (vph)	290	2002	941	98	1428	136	410	422	564
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.40	0.01	0.15	0.41	0.29	0.07	0.54	0.37

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	343	465	255	146	233	189	1261	355	349	546	211
v/c Ratio	0.72	0.78	0.75	0.33	0.58	0.53	0.47	0.46	0.66	0.29	0.30
Control Delay	64.4	58.1	73.4	55.5	12.4	56.1	30.4	15.0	60.1	30.7	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.4	58.1	73.4	55.5	12.4	56.1	30.4	15.0	60.1	30.7	4.7
Queue Length 50th (ft)	150	190	113	62	0	152	229	90	151	121	0
Queue Length 95th (ft)	163	195	159	95	75	219	265	162	191	150	47
Internal Link Dist (ft)		409		264			320			2205	
Turn Bay Length (ft)	250		150		250	280		100	250		250
Base Capacity (vph)	610	1017	356	768	526	357	2659	773	530	1882	719
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.46	0.72	0.19	0.44	0.53	0.47	0.46	0.66	0.29	0.29

Intersection Summary



Lane Group	NBT	SBT
Lane Group Flow (vph)	9	10
v/c Ratio	0.00	0.01
Control Delay	0.0	0.0
Queue Delay	0.0	0.0
Total Delay	0.0	0.0
Queue Length 50th (ft)	0	0
Queue Length 95th (ft)	0	0
Internal Link Dist (ft)	203	437
Turn Bay Length (ft)		
Base Capacity (vph)	1863	1863
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.00	0.01

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	90	248	110	63	14	419	231	39	46	179	306
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1812		1770	1823		1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	1770	1812		1770	1823		1770	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	98	270	120	68	15	455	251	42	50	195	333
RTOR Reduction (vph)	0	0	236	0	5	0	0	3	0	0	0	274
Lane Group Flow (vph)	87	98	34	120	78	0	455	290	0	50	195	59
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	12.5	12.5	12.5	14.6	14.6		37.5	48.2		7.1	17.8	17.8
Effective Green, g (s)	12.5	12.5	12.5	14.6	14.6		37.5	48.2		7.1	17.8	17.8
Actuated g/C Ratio	0.12	0.12	0.12	0.15	0.15		0.37	0.48		0.07	0.18	0.18
Clearance Time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	220	232	197	257	263		661	876		125	330	280
v/s Ratio Prot	0.05	c0.05		c0.07	0.04		c0.26	0.16		0.03	c0.10	
v/s Ratio Perm			0.02									0.04
v/c Ratio	0.40	0.42	0.17	0.47	0.30		0.69	0.33		0.40	0.59	0.21
Uniform Delay, d1	40.4	40.6	39.3	39.3	38.3		26.5	16.1		44.6	37.9	35.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.2	1.2	0.4	1.3	0.6		3.0	0.2		2.1	2.8	0.4
Delay (s)	41.6	41.8	39.7	40.6	38.9		29.5	16.3		46.7	40.7	35.6
Level of Service	D	D	D	D	D		C	B		D	D	D
Approach Delay (s)		40.5			39.9			24.3			38.3	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	33.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.3	Sum of lost time (s)	17.9
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	32	72	74	606	180	315	212	319	176	181	430	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3		4.0	5.3		4.0	5.3	4.0	4.0	5.3	
Lane Util. Factor	1.00	0.95		0.97	1.00		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.92		1.00	0.90		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3270		3433	1685		1770	3539	1583	1770	3479	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3270		3433	1685		1770	3539	1583	1770	3479	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	78	80	659	196	342	230	347	191	197	467	60
RTOR Reduction (vph)	0	61	0	0	50	0	0	0	0	0	9	0
Lane Group Flow (vph)	35	97	0	659	488	0	230	347	191	197	518	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									Free			
Actuated Green, G (s)	4.6	21.6		16.4	33.4		15.9	20.9	91.8	14.3	19.3	
Effective Green, g (s)	4.6	21.6		16.4	33.4		15.9	20.9	91.8	14.3	19.3	
Actuated g/C Ratio	0.05	0.24		0.18	0.36		0.17	0.23	1.00	0.16	0.21	
Clearance Time (s)	4.0	5.3		4.0	5.3		4.0	5.3		4.0	5.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	88	769		613	613		306	805	1583	275	731	
v/s Ratio Prot	c0.02	0.03		c0.19	c0.29		c0.13	0.10		0.11	c0.15	
v/s Ratio Perm									c0.12			
v/c Ratio	0.40	0.13		1.08	0.80		0.75	0.43	0.12	0.72	0.71	
Uniform Delay, d1	42.3	27.7		37.7	26.2		36.1	30.4	0.0	36.8	33.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.9	0.1		58.2	7.1		10.0	0.4	0.2	8.6	3.1	
Delay (s)	45.2	27.7		95.9	33.3		46.0	30.7	0.2	45.4	36.8	
Level of Service	D	C		F	C		D	C	A	D	D	
Approach Delay (s)		30.9			67.7			27.7			39.1	
Approach LOS		C			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	47.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	91.8	Sum of lost time (s)	18.6
Intersection Capacity Utilization	73.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	33	15	150	71	15	18	99	649	61	22	890	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.86		1.00	0.92		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1608		1770	1708		1770	3494		1770	3499	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1608		1770	1708		1770	3494		1770	3499	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	36	16	163	77	16	20	108	705	66	24	967	80
RTOR Reduction (vph)	0	148	0	0	17	0	0	6	0	0	5	0
Lane Group Flow (vph)	36	31	0	77	19	0	108	765	0	24	1042	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	3.6	8.8		7.0	12.2		9.6	60.1		3.1	53.6	
Effective Green, g (s)	3.6	8.8		7.0	12.2		9.6	60.1		3.1	53.6	
Actuated g/C Ratio	0.04	0.09		0.07	0.13		0.10	0.63		0.03	0.56	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	67	148		130	219		178	2210		57	1974	
v/s Ratio Prot	0.02	c0.02		c0.04	c0.01		c0.06	0.22		0.01	c0.30	
v/s Ratio Perm												
v/c Ratio	0.54	0.21		0.59	0.08		0.61	0.35		0.42	0.53	
Uniform Delay, d1	44.9	39.9		42.6	36.5		40.9	8.2		45.1	12.8	
Progression Factor	1.00	1.00		1.00	1.00		0.80	1.34		1.00	1.00	
Incremental Delay, d2	8.1	0.7		7.1	0.2		5.3	0.4		5.0	1.0	
Delay (s)	52.9	40.6		49.7	36.6		38.1	11.4		50.0	13.9	
Level of Service	D	D		D	D		D	B		D	B	
Approach Delay (s)		42.7			45.5			14.7			14.7	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	18.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	59.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	253	0	485	118	363	0	0	621	527
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor				0.95	0.95	1.00	1.00	0.95			0.95	1.00
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1681	1681	1583	1770	3539			3539	1583
Flt Permitted				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1681	1583	1770	3539			3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	275	0	527	128	395	0	0	675	573
RTOR Reduction (vph)	0	0	0	0	0	410	0	0	0	0	0	245
Lane Group Flow (vph)	0	0	0	137	138	117	128	395	0	0	675	328
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				16.3	16.3	16.3	12.3	70.7			54.4	54.4
Effective Green, g (s)				16.3	16.3	16.3	12.3	70.7			54.4	54.4
Actuated g/C Ratio				0.17	0.17	0.17	0.13	0.74			0.57	0.57
Clearance Time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				288	288	271	229	2633			2026	906
v/s Ratio Prot				0.08	c0.08		c0.07	0.11			0.19	
v/s Ratio Perm						0.07						c0.21
v/c Ratio				0.48	0.48	0.43	0.56	0.15			0.33	0.36
Uniform Delay, d1				35.5	35.5	35.2	38.8	3.5			10.7	10.9
Progression Factor				1.00	1.00	1.00	0.74	1.02			1.80	7.44
Incremental Delay, d2				1.2	1.3	1.1	2.9	0.1			0.4	1.0
Delay (s)				36.7	36.8	36.3	31.7	3.7			19.7	82.4
Level of Service				D	D	D	C	A			B	F
Approach Delay (s)		0.0			36.5			10.5			48.5	
Approach LOS		A			D			B			D	

Intersection Summary				
HCM 2000 Control Delay	37.0	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.41			
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	56.3%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	192	124	101	284	719	189
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	209	135	110	309	782	205
RTOR Reduction (vph)	0	119	0	0	0	66
Lane Group Flow (vph)	209	16	110	309	782	139
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	11.1	11.1	7.3	75.9	64.6	64.6
Effective Green, g (s)	11.1	11.1	7.3	75.9	64.6	64.6
Actuated g/C Ratio	0.12	0.12	0.08	0.80	0.68	0.68
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	401	184	263	2827	2406	1076
v/s Ratio Prot	c0.06		c0.03	0.09	c0.22	
v/s Ratio Perm		0.01				0.09
v/c Ratio	0.52	0.09	0.42	0.11	0.33	0.13
Uniform Delay, d1	39.5	37.4	41.8	2.1	6.2	5.3
Progression Factor	1.00	1.00	1.00	1.00	0.66	1.43
Incremental Delay, d2	1.2	0.2	1.1	0.1	0.3	0.2
Delay (s)	40.7	37.6	42.9	2.2	4.5	7.8
Level of Service	D	D	D	A	A	A
Approach Delay (s)	39.5			12.9	5.2	
Approach LOS	D			B	A	

Intersection Summary			
HCM 2000 Control Delay	13.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	43.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1	33	5	1	5	54	385	5	5	799	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected		1.00	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1863	1583		1788	1583	1770	3533		1770	3539	1583
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1863	1583		1863	1583	1770	3533		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1	36	5	1	5	59	418	5	5	868	41
RTOR Reduction (vph)	0	0	34	0	0	5	0	1	0	0	0	15
Lane Group Flow (vph)	0	1	2	0	6	0	59	422	0	5	868	26
Turn Type		NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						6
Actuated Green, G (s)		1.9	1.9		1.9	1.9	2.4	29.3		0.6	27.5	27.5
Effective Green, g (s)		1.9	1.9		1.9	1.9	2.4	29.3		0.6	27.5	27.5
Actuated g/C Ratio		0.04	0.04		0.04	0.04	0.05	0.67		0.01	0.63	0.63
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		80	68		80	68	96	2363		24	2221	993
v/s Ratio Prot		0.00					c0.03	0.12		0.00	c0.25	
v/s Ratio Perm			0.00		c0.00	0.00						0.02
v/c Ratio		0.01	0.02		0.07	0.00	0.61	0.18		0.21	0.39	0.03
Uniform Delay, d1		20.1	20.1		20.1	20.0	20.2	2.7		21.4	4.0	3.1
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		0.1	0.1		0.4	0.0	11.1	0.0		4.3	0.1	0.0
Delay (s)		20.1	20.2		20.5	20.1	31.4	2.8		25.7	4.1	3.1
Level of Service		C	C		C	C	C	A		C	A	A
Approach Delay (s)		20.2			20.3			6.3			4.2	
Approach LOS		C			C			A			A	

Intersection Summary				
HCM 2000 Control Delay	5.4	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.38			
Actuated Cycle Length (s)	43.8	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	39.8%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	270	30	67	638	123	98	6	98	54	15	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	5.3		3.5	6.0		4.2	4.2		4.2	4.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	0.86		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1835		1770	1818		1770	1599		1770	1727	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1835		1770	1818		1770	1599		1770	1727	
Peak-hour factor, PHF	0.89	0.89	0.89	0.69	0.69	0.69	0.86	0.86	0.86	0.78	0.78	0.78
Adj. Flow (vph)	6	303	34	97	925	178	114	7	114	69	19	18
RTOR Reduction (vph)	0	2	0	0	4	0	0	102	0	0	17	0
Lane Group Flow (vph)	6	335	0	97	1099	0	114	19	0	69	20	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Actuated Green, G (s)	1.0	71.5		11.6	81.4		12.4	12.4		8.5	8.5	
Effective Green, g (s)	1.0	71.5		11.6	81.4		12.4	12.4		8.5	8.5	
Actuated g/C Ratio	0.01	0.59		0.10	0.67		0.10	0.10		0.07	0.07	
Clearance Time (s)	3.5	5.3		3.5	6.0		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	14	1082		169	1221		181	163		124	121	
v/s Ratio Prot	0.00	0.18		c0.05	c0.60		c0.06	0.01		c0.04	0.01	
v/s Ratio Perm												
v/c Ratio	0.43	0.31		0.57	0.90		0.63	0.11		0.56	0.17	
Uniform Delay, d1	59.8	12.5		52.4	16.5		52.2	49.4		54.5	53.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	19.7	0.2		4.7	9.3		6.7	0.3		5.3	0.7	
Delay (s)	79.5	12.6		57.1	25.8		58.9	49.7		59.8	53.7	
Level of Service	E	B		E	C		E	D		E	D	
Approach Delay (s)		13.8			28.3			54.2			57.7	
Approach LOS		B			C			D			E	

Intersection Summary			
HCM 2000 Control Delay	30.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	121.2	Sum of lost time (s)	17.9
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	79	338	1	22	567	189	43	2	7	38	7	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	6.0	6.0	4.5	6.0		5.5	4.5		5.0	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.88		1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3407		1770	1643		1770	1598	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	1770	3407		1770	1643		1770	1598	
Peak-hour factor, PHF	0.83	0.83	0.83	0.80	0.80	0.80	0.63	0.63	0.63	0.83	0.83	0.83
Adj. Flow (vph)	95	407	1	28	709	236	68	3	11	46	8	149
RTOR Reduction (vph)	0	0	0	0	18	0	0	10	0	0	137	0
Lane Group Flow (vph)	95	407	1	28	927	0	68	4	0	46	20	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	11.6	74.9	74.9	5.1	67.7		8.0	5.9		12.1	9.5	
Effective Green, g (s)	11.6	74.9	74.9	5.1	67.7		8.0	5.9		12.1	9.5	
Actuated g/C Ratio	0.10	0.63	0.63	0.04	0.57		0.07	0.05		0.10	0.08	
Clearance Time (s)	5.2	6.0	6.0	4.5	6.0		5.5	4.5		5.0	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	174	2246	1004	76	1954		120	82		181	128	
v/s Ratio Prot	c0.05	0.11		0.02	c0.27		c0.04	0.00		0.03	c0.01	
v/s Ratio Perm			0.00									
v/c Ratio	0.55	0.18	0.00	0.37	0.47		0.57	0.04		0.25	0.16	
Uniform Delay, d1	50.7	8.9	7.9	54.9	14.7		53.3	53.4		48.8	50.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.5	0.2	0.0	3.0	0.8		6.0	0.2		0.7	0.6	
Delay (s)	54.2	9.1	7.9	57.9	15.6		59.3	53.6		49.5	51.1	
Level of Service	D	A	A	E	B		E	D		D	D	
Approach Delay (s)		17.6			16.8			58.4			50.7	
Approach LOS		B			B			E			D	

Intersection Summary				
HCM 2000 Control Delay	22.9	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.46			
Actuated Cycle Length (s)	118.0	Sum of lost time (s)	21.2	
Intersection Capacity Utilization	54.3%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	115	134	69	310	340	111	155	278	195	88	1002	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.7		6.0	5.7	5.7	5.0	5.7	5.7	5.0	5.7	5.7
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	0.86	1.00	0.97	0.91	1.00
Frt	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3360		3433	3539	1583	1770	6408	1583	3433	5085	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3360		3433	3539	1583	1770	6408	1583	3433	5085	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.85	0.85	0.85	0.85	0.85	0.85	0.91	0.91	0.91
Adj. Flow (vph)	122	143	73	365	400	131	182	327	229	97	1101	423
RTOR Reduction (vph)	0	60	0	0	0	109	0	0	130	0	0	245
Lane Group Flow (vph)	122	156	0	365	400	22	182	327	99	97	1101	178
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	10.9	15.1		18.9	23.1	23.1	26.7	58.6	58.6	20.0	51.9	51.9
Effective Green, g (s)	10.9	15.1		18.9	23.1	23.1	26.7	58.6	58.6	20.0	51.9	51.9
Actuated g/C Ratio	0.08	0.11		0.14	0.17	0.17	0.20	0.43	0.43	0.15	0.38	0.38
Clearance Time (s)	6.0	5.7		6.0	5.7	5.7	5.0	5.7	5.7	5.0	5.7	5.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	277	375		480	605	270	350	2781	687	508	1954	608
v/s Ratio Prot	0.04	0.05		c0.11	c0.11		c0.10	0.05		0.03	c0.22	
v/s Ratio Perm						0.01			0.06			0.11
v/c Ratio	0.44	0.42		0.76	0.66	0.08	0.52	0.12	0.14	0.19	0.56	0.29
Uniform Delay, d1	59.1	55.9		55.9	52.3	47.0	48.4	22.8	23.1	50.4	32.6	28.8
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.8		7.0	2.7	0.1	1.4	0.1	0.4	0.2	1.2	1.2
Delay (s)	60.3	56.6		62.8	55.0	47.2	49.8	22.9	23.5	50.6	33.8	30.0
Level of Service	E	E		E	E	D	D	C	C	D	C	C
Approach Delay (s)		57.9			57.1			29.7			33.8	
Approach LOS		E			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	41.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	22.4
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	23.5
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	97	1	93	0	81	1	9	0	88	608	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	105	1	101	0	88	1	10	0	96	661	51
Number of Lanes	0	0	1	0	0	0	1	0	0	1	2	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	3	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	3	3	1
HCM Control Delay	18	14.8	28.2
HCM LOS	C	B	D

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	51%	89%	100%	0%	0%
Vol Thru, %	0%	100%	81%	1%	1%	0%	100%	62%
Vol Right, %	0%	0%	19%	49%	10%	0%	0%	38%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	88	405	250	191	91	17	308	249
LT Vol	88	0	0	97	81	17	0	0
Through Vol	0	405	203	1	1	0	308	154
RT Vol	0	0	47	93	9	0	0	95
Lane Flow Rate	96	441	271	208	99	18	335	271
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.199	0.856	0.517	0.471	0.248	0.04	0.673	0.523
Departure Headway (Hd)	7.507	6.993	6.858	8.166	9.031	7.749	7.234	6.96
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	477	515	526	440	398	462	499	517
Service Time	5.259	4.745	4.609	5.923	6.797	5.504	4.989	4.714
HCM Lane V/C Ratio	0.201	0.856	0.515	0.473	0.249	0.039	0.671	0.524
HCM Control Delay	12.1	38.7	16.8	18	14.8	10.8	23.7	17.1
HCM Lane LOS	B	E	C	C	B	B	C	C
HCM 95th-tile Q	0.7	9	2.9	2.5	1	0.1	5	3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	17	462	95
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	18	502	103
Number of Lanes	0	1	2	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	3
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	20.5
HCM LOS	C

Lane

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	71	637	77	32	1147
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	85	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	77	692	84	35	1247

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1427	388	0	0	776	0
Stage 1	734	-	-	-	-	-
Stage 2	693	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	126	611	-	-	836	-
Stage 1	436	-	-	-	-	-
Stage 2	457	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	121	611	-	-	836	-
Mov Cap-2 Maneuver	121	-	-	-	-	-
Stage 1	436	-	-	-	-	-
Stage 2	438	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.7	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	611	836	-
HCM Lane V/C Ratio	-	-	0.126	0.042	-
HCM Control Delay (s)	-	-	11.7	9.5	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

Intersection	
Int Delay, s/veh	232.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	58	115	599	110	242	905
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	525	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	51	51	75	75	75	75
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	114	225	799	147	323	1207

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2121	473	0	0	945	0
Stage 1	872	-	-	-	-	-
Stage 2	1249	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	~ 44	543	-	-	734	-
Stage 1	374	-	-	-	-	-
Stage 2	237	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 25	543	-	-	734	-
Mov Cap-2 Maneuver	~ 25	-	-	-	-	-
Stage 1	374	-	-	-	-	-
Stage 2	133	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 1916.7	0	2.9
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	68	734	-
HCM Lane V/C Ratio	-	-	4.988	0.44	-
HCM Control Delay (s)	-	-	$ 1916.7	13.7	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	37.3	2.3	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	17	2	1	698	984	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	2	1	759	1070	14

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1459	542	1084	0	-	0
Stage 1	1077	-	-	-	-	-
Stage 2	382	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	120	485	639	-	-	-
Stage 1	288	-	-	-	-	-
Stage 2	660	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	120	485	639	-	-	-
Mov Cap-2 Maneuver	226	-	-	-	-	-
Stage 1	288	-	-	-	-	-
Stage 2	659	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.5	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	639	-	239	-	-
HCM Lane V/C Ratio	0.002	-	0.086	-	-
HCM Control Delay (s)	10.6	-	21.5	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	9	800	41	0	1082
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	100	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	10	870	45	0	1176

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1340	435	0	0	870	0
Stage 1	870	-	-	-	-	-
Stage 2	470	-	-	-	-	-
Critical Hdwy	6.29	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.67	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	173	569	-	-	770	-
Stage 1	361	-	-	-	-	-
Stage 2	561	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	173	569	-	-	770	-
Mov Cap-2 Maneuver	173	-	-	-	-	-
Stage 1	361	-	-	-	-	-
Stage 2	561	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	569	770	-
HCM Lane V/C Ratio	-	-	0.017	-	-
HCM Control Delay (s)	-	-	11.4	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	3	16	8	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3	17	9	0	15

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	37	22	0	0	26	0
Stage 1	22	-	-	-	-	-
Stage 2	15	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	975	1055	-	-	1588	-
Stage 1	1001	-	-	-	-	-
Stage 2	1008	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	975	1055	-	-	1588	-
Mov Cap-2 Maneuver	975	-	-	-	-	-
Stage 1	1001	-	-	-	-	-
Stage 2	1008	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.4	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1055	1588	-
HCM Lane V/C Ratio	-	-	0.003	-	-
HCM Control Delay (s)	-	-	8.4	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	23	7	17	76	5	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	8	18	83	5	10

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	81	60	0	0	101	0
Stage 1	60	-	-	-	-	-
Stage 2	21	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	921	1005	-	-	1491	-
Stage 1	963	-	-	-	-	-
Stage 2	1002	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	918	1005	-	-	1491	-
Mov Cap-2 Maneuver	918	-	-	-	-	-
Stage 1	963	-	-	-	-	-
Stage 2	999	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	2.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	937	1491	-
HCM Lane V/C Ratio	-	-	0.035	0.004	-
HCM Control Delay (s)	-	-	9	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	87	98	270	120	83	455	293	50	195	333
v/c Ratio	0.39	0.42	0.62	0.47	0.31	0.69	0.33	0.33	0.62	0.61
Control Delay	48.3	48.6	12.3	46.5	40.1	36.8	21.5	54.8	50.2	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.3	48.6	12.3	46.5	40.1	36.8	21.5	54.8	50.2	10.0
Queue Length 50th (ft)	48	55	0	67	42	216	101	28	107	0
Queue Length 95th (ft)	123	135	80	151	104	#660	289	89	247	88
Internal Link Dist (ft)		1626			141		676		2268	
Turn Bay Length (ft)	60					100		60		180
Base Capacity (vph)	652	686	754	663	683	663	1041	295	673	784
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.14	0.36	0.18	0.12	0.69	0.28	0.17	0.29	0.42

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	35	158	659	538	230	347	191	197	527
v/c Ratio	0.24	0.20	1.06	0.80	0.74	0.42	0.12	0.70	0.70
Control Delay	47.3	15.6	91.0	34.5	54.2	32.7	0.2	53.2	38.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.3	15.6	91.0	34.5	54.2	32.7	0.2	53.2	38.1
Queue Length 50th (ft)	21	18	~250	259	137	99	0	115	156
Queue Length 95th (ft)	55	47	#409	#511	#293	146	0	#236	218
Internal Link Dist (ft)		136		183		1647			1837
Turn Bay Length (ft)	165		340		265		180	135	
Base Capacity (vph)	321	1337	623	711	321	1193	1583	321	1181
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.12	1.06	0.76	0.72	0.29	0.12	0.61	0.45

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	36	179	77	36	108	771	24	1047
v/c Ratio	0.33	0.63	0.51	0.15	0.53	0.33	0.19	0.51
Control Delay	51.0	18.9	53.2	22.6	40.1	11.6	44.9	15.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.0	18.9	53.2	22.6	40.1	11.6	44.9	15.2
Queue Length 50th (ft)	21	9	45	9	61	111	14	197
Queue Length 95th (ft)	53	68	90	35	m92	248	39	325
Internal Link Dist (ft)		194		556		384		783
Turn Bay Length (ft)	200		200		200		200	
Base Capacity (vph)	111	406	167	357	236	2363	124	2068
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.44	0.46	0.10	0.46	0.33	0.19	0.51

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	137	138	527	128	395	675	573
v/c Ratio	0.48	0.48	0.77	0.56	0.15	0.33	0.50
Control Delay	39.3	39.3	12.6	37.7	4.5	23.2	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.3	39.3	12.6	37.7	4.5	23.2	13.3
Queue Length 50th (ft)	80	80	17	62	14	166	105
Queue Length 95th (ft)	123	123	109	114	94	277	273
Internal Link Dist (ft)		222			661	164	
Turn Bay Length (ft)				540			
Base Capacity (vph)	460	460	792	484	2633	2026	1151
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.30	0.67	0.26	0.15	0.33	0.50

Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	209	135	110	309	782	205
v/c Ratio	0.52	0.44	0.34	0.11	0.32	0.18
Control Delay	43.8	11.7	43.1	2.4	4.9	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.8	11.7	43.1	2.4	4.9	1.9
Queue Length 50th (ft)	61	0	32	16	104	6
Queue Length 95th (ft)	94	51	57	29	95	22
Internal Link Dist (ft)	57			498	661	
Turn Bay Length (ft)			390			640
Base Capacity (vph)	939	531	939	2827	2436	1153
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.25	0.12	0.11	0.32	0.18

Intersection Summary

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	1	36	6	5	59	423	5	868	41
v/c Ratio	0.00	0.11	0.02	0.02	0.18	0.14	0.03	0.31	0.03
Control Delay	19.0	2.9	19.0	0.0	18.2	2.5	21.0	5.3	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.0	2.9	19.0	0.0	18.2	2.5	21.0	5.3	0.9
Queue Length 50th (ft)	0	0	1	0	9	0	1	0	0
Queue Length 95th (ft)	4	8	10	0	43	45	10	125	5
Internal Link Dist (ft)	536		1154			422		141	
Turn Bay Length (ft)				75	150		100		
Base Capacity (vph)	580	547	580	547	401	3343	200	3235	1454
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.07	0.01	0.01	0.15	0.13	0.03	0.27	0.03

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	6	337	97	1103	114	121	69	37
v/c Ratio	0.07	0.31	0.55	0.87	0.61	0.45	0.46	0.23
Control Delay	60.8	15.4	64.5	26.2	66.6	16.4	63.5	35.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.8	15.4	64.5	26.2	66.6	16.4	63.5	35.8
Queue Length 50th (ft)	4	130	71	603	84	5	51	14
Queue Length 95th (ft)	21	230	105	662	153	58	92	42
Internal Link Dist (ft)		1374		2039		916		934
Turn Bay Length (ft)	200		120		100		100	
Base Capacity (vph)	83	1112	251	1264	243	318	380	385
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.30	0.39	0.87	0.47	0.38	0.18	0.10

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	95	407	1	28	945	68	14	46	157
v/c Ratio	0.55	0.17	0.00	0.25	0.46	0.50	0.11	0.23	0.64
Control Delay	61.7	9.5	0.0	57.2	15.3	64.2	29.2	50.9	21.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.7	9.5	0.0	57.2	15.3	64.2	29.2	50.9	21.8
Queue Length 50th (ft)	70	63	0	21	193	50	2	30	6
Queue Length 95th (ft)	112	98	0	45	260	67	13	66	55
Internal Link Dist (ft)		189			259		567		1162
Turn Bay Length (ft)	100		120	120		100		50	
Base Capacity (vph)	238	2382	1100	113	2052	145	391	220	511
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.17	0.00	0.25	0.46	0.47	0.04	0.21	0.31

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	122	216	365	400	131	182	327	229	97	1101	423
v/c Ratio	0.44	0.50	0.76	0.66	0.30	0.52	0.12	0.28	0.19	0.56	0.50
Control Delay	64.2	41.2	66.8	57.7	2.2	55.8	23.5	4.0	51.5	34.0	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.2	41.2	66.8	57.7	2.2	55.8	23.5	4.0	51.5	34.0	5.7
Queue Length 50th (ft)	53	66	156	173	0	147	48	0	39	267	13
Queue Length 95th (ft)	85	97	#253	209	0	216	67	42	67	334	93
Internal Link Dist (ft)		409		264			320			2205	
Turn Bay Length (ft)	250		150		250	280		100	250		250
Base Capacity (vph)	610	1025	481	768	500	350	2781	816	508	1967	856
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.21	0.76	0.52	0.26	0.52	0.12	0.28	0.19	0.56	0.49

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	128	6	240	14	8	4	162	337	7	1	271	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1770		1770	1857		1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	1770	1770		1770	1857		1770	1863	1583
Peak-hour factor, PHF	0.81	0.81	0.81	0.64	0.64	0.64	0.93	0.93	0.93	0.96	0.96	0.96
Adj. Flow (vph)	158	7	296	22	12	6	174	362	8	1	282	44
RTOR Reduction (vph)	0	0	240	0	5	0	0	1	0	0	0	31
Lane Group Flow (vph)	158	7	56	22	13	0	174	369	0	1	282	13
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	14.7	14.7	14.7	6.5	6.5		15.0	37.5		0.6	23.1	23.1
Effective Green, g (s)	14.7	14.7	14.7	6.5	6.5		15.0	37.5		0.6	23.1	23.1
Actuated g/C Ratio	0.19	0.19	0.19	0.08	0.08		0.19	0.49		0.01	0.30	0.30
Clearance Time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	337	354	301	149	149		343	902		13	557	473
v/s Ratio Prot	c0.09	0.00		c0.01	0.01		c0.10	0.20		0.00	c0.15	
v/s Ratio Perm			0.04									0.01
v/c Ratio	0.47	0.02	0.19	0.15	0.08		0.51	0.41		0.08	0.51	0.03
Uniform Delay, d1	27.8	25.4	26.2	32.8	32.6		27.8	12.7		38.0	22.3	19.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.0	0.0	0.3	0.5	0.2		1.2	0.3		2.5	0.7	0.0
Delay (s)	28.8	25.4	26.5	33.2	32.8		29.0	13.0		40.5	23.1	19.1
Level of Service	C	C	C	C	C		C	B		D	C	B
Approach Delay (s)		27.3			33.1			18.1			22.6	
Approach LOS		C			C			B			C	

Intersection Summary				
HCM 2000 Control Delay	22.7	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.46			
Actuated Cycle Length (s)	77.2	Sum of lost time (s)	17.9	
Intersection Capacity Utilization	48.6%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	34	131	50	392	86	123	66	395	469	165	354	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3		4.0	5.3		4.0	5.3	4.0	4.0	5.3	
Lane Util. Factor	1.00	0.95		0.97	1.00		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.96		1.00	0.91		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3393		3433	1699		1770	3539	1583	1770	3502	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3393		3433	1699		1770	3539	1583	1770	3502	
Peak-hour factor, PHF	0.83	0.83	0.83	0.89	0.89	0.89	0.93	0.93	0.93	0.90	0.90	0.90
Adj. Flow (vph)	41	158	60	440	97	138	71	425	504	183	393	30
RTOR Reduction (vph)	0	41	0	0	46	0	0	0	0	0	5	0
Lane Group Flow (vph)	41	177	0	440	189	0	71	425	504	183	418	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									Free			
Actuated Green, G (s)	6.3	12.8		15.1	21.6		7.1	15.6	75.2	13.1	21.6	
Effective Green, g (s)	6.3	12.8		15.1	21.6		7.1	15.6	75.2	13.1	21.6	
Actuated g/C Ratio	0.08	0.17		0.20	0.29		0.09	0.21	1.00	0.17	0.29	
Clearance Time (s)	4.0	5.3		4.0	5.3		4.0	5.3		4.0	5.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	148	577		689	488		167	734	1583	308	1005	
v/s Ratio Prot	0.02	0.05		c0.13	0.11		0.04	c0.12		c0.10	0.12	
v/s Ratio Perm									c0.32			
v/c Ratio	0.28	0.31		0.64	0.39		0.43	0.58	0.32	0.59	0.42	
Uniform Delay, d1	32.3	27.3		27.5	21.5		32.1	26.8	0.0	28.6	21.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.0	0.3		2.0	0.5		1.7	1.1	0.5	3.1	0.3	
Delay (s)	33.3	27.6		29.5	22.0		33.9	28.0	0.5	31.7	22.0	
Level of Service	C	C		C	C		C	C	A	C	C	
Approach Delay (s)		28.5			26.9			14.6			24.9	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	21.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	75.2	Sum of lost time (s)	18.6
Intersection Capacity Utilization	55.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	92	15	184	201	15	76	145	960	194	50	663	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.86		1.00	0.87		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1604		1770	1628		1770	3450		1770	3486	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1604		1770	1628		1770	3450		1770	3486	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	100	16	200	218	16	83	158	1043	211	54	721	80
RTOR Reduction (vph)	0	181	0	0	69	0	0	15	0	0	7	0
Lane Group Flow (vph)	100	35	0	218	30	0	158	1239	0	54	794	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	8.7	9.0		15.3	15.6		13.3	48.2		6.5	41.4	
Effective Green, g (s)	8.7	9.0		15.3	15.6		13.3	48.2		6.5	41.4	
Actuated g/C Ratio	0.09	0.09		0.16	0.16		0.14	0.51		0.07	0.44	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	162	151		285	267		247	1750		121	1519	
v/s Ratio Prot	0.06	c0.02		c0.12	0.02		c0.09	c0.36		0.03	0.23	
v/s Ratio Perm												
v/c Ratio	0.62	0.23		0.76	0.11		0.64	0.71		0.45	0.52	
Uniform Delay, d1	41.5	39.8		38.1	33.8		38.6	18.0		42.5	19.6	
Progression Factor	1.00	1.00		1.00	1.00		0.81	1.01		1.00	1.00	
Incremental Delay, d2	6.8	0.8		11.6	0.2		5.0	2.3		2.6	1.3	
Delay (s)	48.4	40.6		49.7	34.0		36.3	20.5		45.1	20.9	
Level of Service	D	D		D	C		D	C		D	C	
Approach Delay (s)		43.1			44.8			22.3			22.4	
Approach LOS		D			D			C			C	

Intersection Summary				
HCM 2000 Control Delay	27.0	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.67			
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	72.7%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	22	0	272	36	1002	0	0	671	355
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor				0.95	0.95	1.00	1.00	0.95			0.95	1.00
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1681	1681	1583	1770	3539			3539	1583
Flt Permitted				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1681	1583	1770	3539			3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	24	0	296	39	1089	0	0	729	386
RTOR Reduction (vph)	0	0	0	0	0	79	0	0	0	0	0	144
Lane Group Flow (vph)	0	0	0	12	12	217	39	1089	0	0	729	242
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				18.1	18.1	18.1	5.3	68.9			59.6	59.6
Effective Green, g (s)				18.1	18.1	18.1	5.3	68.9			59.6	59.6
Actuated g/C Ratio				0.19	0.19	0.19	0.06	0.73			0.63	0.63
Clearance Time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				320	320	301	98	2566			2220	993
v/s Ratio Prot				0.01	0.01		0.02	c0.31			0.21	
v/s Ratio Perm						c0.14						0.15
v/c Ratio				0.04	0.04	0.72	0.40	0.42			0.33	0.24
Uniform Delay, d1				31.3	31.3	36.1	43.3	5.2			8.3	7.8
Progression Factor				1.00	1.00	1.00	0.87	1.00			1.73	5.66
Incremental Delay, d2				0.0	0.0	8.0	2.5	0.5			0.4	0.5
Delay (s)				31.4	31.4	44.1	40.4	5.6			14.7	44.6
Level of Service				C	C	D	D	A			B	D
Approach Delay (s)		0.0			43.1			6.8			25.1	
Approach LOS		A			D			A			C	

Intersection Summary				
HCM 2000 Control Delay	19.3	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.51			
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	51.2%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	485	172	213	572	361	351
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	527	187	232	622	392	382
RTOR Reduction (vph)	0	147	0	0	0	177
Lane Group Flow (vph)	527	40	232	622	392	205
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	20.4	20.4	11.7	66.6	50.9	50.9
Effective Green, g (s)	20.4	20.4	11.7	66.6	50.9	50.9
Actuated g/C Ratio	0.21	0.21	0.12	0.70	0.54	0.54
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	737	339	422	2481	1896	848
v/s Ratio Prot	c0.15		c0.07	c0.18	0.11	
v/s Ratio Perm		0.03				0.13
v/c Ratio	0.72	0.12	0.55	0.25	0.21	0.24
Uniform Delay, d1	34.6	30.1	39.2	5.2	11.5	11.8
Progression Factor	1.00	1.00	1.00	1.00	0.50	1.11
Incremental Delay, d2	3.3	0.2	1.5	0.2	0.2	0.7
Delay (s)	37.9	30.2	40.6	5.4	6.0	13.7
Level of Service	D	C	D	A	A	B
Approach Delay (s)	35.9			15.0	9.8	
Approach LOS	D			B	A	

Intersection Summary			
HCM 2000 Control Delay	19.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	40.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1	55	2	2	2	66	783	2	2	485	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected		1.00	1.00		0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1863	1583		1817	1583	1770	3538		1770	3539	1583
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1863	1583		1863	1583	1770	3538		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1	60	2	2	2	72	851	2	2	527	77
RTOR Reduction (vph)	0	0	57	0	0	2	0	0	0	0	0	32
Lane Group Flow (vph)	0	1	3	0	4	0	72	853	0	2	527	45
Turn Type		NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						6
Actuated Green, G (s)		2.0	2.0		2.0	2.0	2.5	24.8		0.6	22.9	22.9
Effective Green, g (s)		2.0	2.0		2.0	2.0	2.5	24.8		0.6	22.9	22.9
Actuated g/C Ratio		0.05	0.05		0.05	0.05	0.06	0.63		0.02	0.58	0.58
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		94	80		94	80	112	2226		26	2056	920
v/s Ratio Prot		0.00					c0.04	c0.24		0.00	0.15	
v/s Ratio Perm			0.00		c0.00	0.00						0.03
v/c Ratio		0.01	0.04		0.04	0.00	0.64	0.38		0.08	0.26	0.05
Uniform Delay, d1		17.8	17.8		17.8	17.8	18.0	3.6		19.1	4.1	3.6
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		0.0	0.2		0.2	0.0	12.0	0.1		1.3	0.1	0.0
Delay (s)		17.8	18.0		18.0	17.8	30.0	3.7		20.4	4.1	3.6
Level of Service		B	B		B	B	C	A		C	A	A
Approach Delay (s)		18.0			17.9			5.7			4.1	
Approach LOS		B			B			A			A	

Intersection Summary				
HCM 2000 Control Delay	5.6	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.40			
Actuated Cycle Length (s)	39.4	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	38.4%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	38	562	101	50	295	82	71	12	66	209	37	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	5.3		3.5	6.0		4.2	4.2		4.2	4.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	0.87		1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1820		1770	1802		1770	1627		1770	1709	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1820		1770	1802		1770	1627		1770	1709	
Peak-hour factor, PHF	0.91	0.91	0.91	0.78	0.78	0.78	0.81	0.81	0.81	0.90	0.90	0.90
Adj. Flow (vph)	42	618	111	64	378	105	88	15	81	232	41	50
RTOR Reduction (vph)	0	3	0	0	5	0	0	72	0	0	31	0
Lane Group Flow (vph)	42	726	0	64	478	0	88	24	0	232	60	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Actuated Green, G (s)	5.0	41.3		7.5	43.1		10.3	10.3		17.8	17.8	
Effective Green, g (s)	5.0	41.3		7.5	43.1		10.3	10.3		17.8	17.8	
Actuated g/C Ratio	0.05	0.44		0.08	0.46		0.11	0.11		0.19	0.19	
Clearance Time (s)	3.5	5.3		3.5	6.0		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	94	798		141	825		193	178		334	323	
v/s Ratio Prot	0.02	c0.40		c0.04	0.27		c0.05	0.01		c0.13	0.04	
v/s Ratio Perm												
v/c Ratio	0.45	0.91		0.45	0.58		0.46	0.13		0.69	0.19	
Uniform Delay, d1	43.2	24.7		41.3	18.8		39.3	37.9		35.6	32.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.4	14.1		2.3	1.0		1.7	0.3		6.1	0.3	
Delay (s)	46.6	38.8		43.7	19.8		41.0	38.2		41.8	32.3	
Level of Service	D	D		D	B		D	D		D	C	
Approach Delay (s)		39.2			22.6			39.5			39.1	
Approach LOS		D			C			D			D	

Intersection Summary				
HCM 2000 Control Delay	34.2	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.75			
Actuated Cycle Length (s)	94.1	Sum of lost time (s)	17.9	
Intersection Capacity Utilization	68.3%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	164	719	8	13	383	171	27	9	12	176	12	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	6.0	6.0	4.5	6.0		5.5	4.5		5.0	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.92		1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3375		1770	1704		1770	1603	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	1770	3375		1770	1704		1770	1603	
Peak-hour factor, PHF	0.85	0.85	0.85	0.88	0.88	0.88	0.69	0.69	0.69	0.78	0.78	0.78
Adj. Flow (vph)	193	846	9	15	435	194	39	13	17	226	15	194
RTOR Reduction (vph)	0	0	4	0	41	0	0	16	0	0	150	0
Lane Group Flow (vph)	193	846	5	15	588	0	39	14	0	226	59	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	18.7	62.3	62.3	3.1	46.0		5.6	5.0		27.6	26.5	
Effective Green, g (s)	18.7	62.3	62.3	3.1	46.0		5.6	5.0		27.6	26.5	
Actuated g/C Ratio	0.16	0.53	0.53	0.03	0.39		0.05	0.04		0.23	0.22	
Clearance Time (s)	5.2	6.0	6.0	4.5	6.0		5.5	4.5		5.0	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	280	1868	835	46	1315		84	72		414	359	
v/s Ratio Prot	c0.11	c0.24		0.01	0.17		0.02	0.01		c0.13	c0.04	
v/s Ratio Perm			0.00									
v/c Ratio	0.69	0.45	0.01	0.33	0.45		0.46	0.19		0.55	0.16	
Uniform Delay, d1	46.9	17.3	13.2	56.4	26.6		54.7	54.5		39.7	36.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.9	0.8	0.0	4.1	1.1		4.0	1.3		1.5	0.2	
Delay (s)	53.8	18.1	13.2	60.5	27.7		58.8	55.8		41.2	37.0	
Level of Service	D	B	B	E	C		E	E		D	D	
Approach Delay (s)		24.6			28.5			57.5			39.2	
Approach LOS		C			C			E			D	

Intersection Summary				
HCM 2000 Control Delay	29.7	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.53			
Actuated Cycle Length (s)	118.0	Sum of lost time (s)	21.2	
Intersection Capacity Utilization	55.3%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	264	283	100	245	156	207	155	1034	309	304	475	184
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.7		6.0	5.7	5.7	5.0	5.7	5.7	5.0	5.7	5.7
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	0.86	1.00	0.97	0.91	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3401		3433	3539	1583	1770	6408	1583	3433	5085	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3401		3433	3539	1583	1770	6408	1583	3433	5085	1583
Peak-hour factor, PHF	0.77	0.77	0.77	0.89	0.89	0.89	0.82	0.82	0.82	0.87	0.87	0.87
Adj. Flow (vph)	343	368	130	275	175	233	189	1261	377	349	546	211
RTOR Reduction (vph)	0	30	0	0	0	200	0	0	120	0	0	136
Lane Group Flow (vph)	343	468	0	275	175	33	189	1261	257	349	546	75
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	18.7	24.1		13.7	19.1	19.1	26.5	53.9	53.9	20.9	48.3	48.3
Effective Green, g (s)	18.7	24.1		13.7	19.1	19.1	26.5	53.9	53.9	20.9	48.3	48.3
Actuated g/C Ratio	0.14	0.18		0.10	0.14	0.14	0.20	0.40	0.40	0.15	0.36	0.36
Clearance Time (s)	6.0	5.7		6.0	5.7	5.7	5.0	5.7	5.7	5.0	5.7	5.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	475	607		348	500	223	347	2558	632	531	1819	566
v/s Ratio Prot	c0.10	c0.14		0.08	0.05		c0.11	c0.20		c0.10	0.11	
v/s Ratio Perm						0.02			0.16			0.05
v/c Ratio	0.72	0.77		0.79	0.35	0.15	0.54	0.49	0.41	0.66	0.30	0.13
Uniform Delay, d1	55.7	52.8		59.2	52.3	50.8	48.8	30.3	29.1	53.7	31.2	29.2
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.4	6.0		11.6	0.4	0.3	1.7	0.7	1.9	2.9	0.4	0.5
Delay (s)	61.0	58.8		70.8	52.8	51.1	50.6	31.0	31.0	56.6	31.6	29.7
Level of Service	E	E		E	D	D	D	C	C	E	C	C
Approach Delay (s)		59.7			59.5			33.0			39.1	
Approach LOS		E			E			C			D	

Intersection Summary				
HCM 2000 Control Delay	43.6	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.63			
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	22.4	
Intersection Capacity Utilization	61.9%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Intersection	
Intersection Delay, s/veh	13.8
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	38	1	40	0	44	1	13	0	31	443	80
Peak Hour Factor	0.92	0.63	0.63	0.63	0.92	0.77	0.77	0.77	0.92	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	60	2	63	0	57	1	17	0	33	476	86
Number of Lanes	0	0	1	0	0	0	1	0	0	1	2	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	3	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	3	3	1
HCM Control Delay	12.4	11.9	14
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	48%	76%	100%	0%	0%
Vol Thru, %	0%	100%	65%	1%	2%	0%	100%	75%
Vol Right, %	0%	0%	35%	51%	22%	0%	0%	25%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	31	295	228	79	58	30	297	198
LT Vol	31	0	0	38	44	30	0	0
Through Vol	0	295	148	1	1	0	297	148
RT Vol	0	0	80	40	13	0	0	50
Lane Flow Rate	33	318	245	125	75	33	322	216
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.061	0.535	0.395	0.251	0.161	0.06	0.545	0.354
Departure Headway (Hd)	6.57	6.063	5.813	7.205	7.684	6.595	6.088	5.909
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	543	594	617	497	465	541	590	606
Service Time	4.33	3.822	3.572	4.979	5.465	4.356	3.848	3.669
HCM Lane V/C Ratio	0.061	0.535	0.397	0.252	0.161	0.061	0.546	0.356
HCM Control Delay	9.8	15.6	12.4	12.4	11.9	9.8	16	11.9
HCM Lane LOS	A	C	B	B	B	A	C	B
HCM 95th-tile Q	0.2	3.2	1.9	1	0.6	0.2	3.3	1.6

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	30	445	50
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	33	484	54
Number of Lanes	0	1	2	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	3
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	14.1
HCM LOS	B

Lane

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	25	919	156	21	789
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	85	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	91	91	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	32	1010	171	24	897

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1592	591	0	0	1181	0
Stage 1	1096	-	-	-	-	-
Stage 2	496	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	98	450	-	-	587	-
Stage 1	282	-	-	-	-	-
Stage 2	577	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	94	450	-	-	587	-
Mov Cap-2 Maneuver	94	-	-	-	-	-
Stage 1	282	-	-	-	-	-
Stage 2	553	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.6	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	450	587	-
HCM Lane V/C Ratio	-	-	0.071	0.041	-
HCM Control Delay (s)	-	-	13.6	11.4	-
HCM Lane LOS	-	-	B	B	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	7	12	1063	18	20	769
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	525	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	68	68	95	95	87	87
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	10	18	1119	19	23	884

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1616	569	0	0	1138	0
Stage 1	1128	-	-	-	-	-
Stage 2	488	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	96	470	-	-	621	-
Stage 1	275	-	-	-	-	-
Stage 2	588	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	92	470	-	-	621	-
Mov Cap-2 Maneuver	92	-	-	-	-	-
Stage 1	275	-	-	-	-	-
Stage 2	566	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27.6	0	0.3
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	187	621	-
HCM Lane V/C Ratio	-	-	0.149	0.037	-
HCM Control Delay (s)	-	-	27.6	11	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	25	3	1	1052	754	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	3	1	1143	820	15

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1401	417	835	0	-	0
Stage 1	827	-	-	-	-	-
Stage 2	574	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	131	585	794	-	-	-
Stage 1	390	-	-	-	-	-
Stage 2	527	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	131	585	794	-	-	-
Mov Cap-2 Maneuver	262	-	-	-	-	-
Stage 1	390	-	-	-	-	-
Stage 2	526	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.5	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	794	-	278	-	-
HCM Lane V/C Ratio	0.001	-	0.109	-	-
HCM Control Delay (s)	9.5	-	19.5	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	10	1240	24	0	924
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	100	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	11	1348	26	0	1004

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1750	674	0	0	1348	0
Stage 1	1348	-	-	-	-	-
Stage 2	402	-	-	-	-	-
Critical Hdwy	6.29	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.67	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	99	397	-	-	507	-
Stage 1	203	-	-	-	-	-
Stage 2	609	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	99	397	-	-	507	-
Mov Cap-2 Maneuver	99	-	-	-	-	-
Stage 1	203	-	-	-	-	-
Stage 2	609	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	397	507	-
HCM Lane V/C Ratio	-	-	0.027	-	-
HCM Control Delay (s)	-	-	14.3	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	4	24	10	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	4	26	11	0	16

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	48	32	0	0	37	0
Stage 1	32	-	-	-	-	-
Stage 2	16	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	962	1042	-	-	1574	-
Stage 1	991	-	-	-	-	-
Stage 2	1007	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	962	1042	-	-	1574	-
Mov Cap-2 Maneuver	962	-	-	-	-	-
Stage 1	991	-	-	-	-	-
Stage 2	1007	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1042	1574	-
HCM Lane V/C Ratio	-	-	0.004	-	-
HCM Control Delay (s)	-	-	8.5	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	47	16	18	122	6	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	51	17	20	133	7	10

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	109	86	0	0	152	0
Stage 1	86	-	-	-	-	-
Stage 2	23	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	888	973	-	-	1429	-
Stage 1	937	-	-	-	-	-
Stage 2	1000	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	884	973	-	-	1429	-
Mov Cap-2 Maneuver	884	-	-	-	-	-
Stage 1	937	-	-	-	-	-
Stage 2	995	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	905	1429	-
HCM Lane V/C Ratio	-	-	0.076	0.005	-
HCM Control Delay (s)	-	-	9.3	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	158	7	296	22	18	174	370	1	282	44
v/c Ratio	0.45	0.02	0.54	0.09	0.07	0.48	0.39	0.01	0.59	0.09
Control Delay	37.3	34.8	8.9	35.7	29.2	38.1	17.7	50.0	34.9	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.3	34.8	8.9	35.7	29.2	38.1	17.7	50.0	34.9	0.4
Queue Length 50th (ft)	59	2	0	9	5	65	87	0	103	0
Queue Length 95th (ft)	176	17	47	27	20	220	349	7	323	0
Internal Link Dist (ft)		1626			141		676		2268	
Turn Bay Length (ft)	60					100		60		180
Base Capacity (vph)	1021	1075	1038	1038	1041	1038	1451	461	1053	935
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.01	0.29	0.02	0.02	0.17	0.25	0.00	0.27	0.05

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	41	218	440	235	71	425	504	183	423
v/c Ratio	0.19	0.40	0.62	0.43	0.34	0.60	0.32	0.57	0.41
Control Delay	33.0	25.2	31.5	21.3	36.1	30.7	0.5	36.1	22.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.0	25.2	31.5	21.3	36.1	30.7	0.5	36.1	22.8
Queue Length 50th (ft)	16	36	90	70	30	92	0	75	81
Queue Length 95th (ft)	46	67	160	146	73	148	0	154	136
Internal Link Dist (ft)		153		168		1623			1819
Turn Bay Length (ft)	165		340		265		180	135	
Base Capacity (vph)	395	1669	766	856	395	1467	1583	395	1455
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.13	0.57	0.27	0.18	0.29	0.32	0.46	0.29

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	100	216	218	99	158	1254	54	801
v/c Ratio	0.53	0.67	0.76	0.29	0.64	0.69	0.38	0.52
Control Delay	50.5	18.3	56.0	13.0	42.0	21.1	49.3	22.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.5	18.3	56.0	13.0	42.0	21.1	49.3	22.0
Queue Length 50th (ft)	58	9	124	9	68	374	31	176
Queue Length 95th (ft)	108	74	#218	50	123	472	70	284
Internal Link Dist (ft)		302		360		335		759
Turn Bay Length (ft)	200		200		200		200	
Base Capacity (vph)	223	436	316	424	289	1821	142	1553
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.50	0.69	0.23	0.55	0.69	0.38	0.52

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	12	12	296	39	1089	729	386
v/c Ratio	0.04	0.04	0.78	0.25	0.42	0.32	0.33
Control Delay	27.4	27.4	37.5	38.8	6.6	17.5	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.4	27.4	37.5	38.8	6.6	17.5	9.2
Queue Length 50th (ft)	6	6	115	15	198	145	30
Queue Length 95th (ft)	20	20	185	m45	246	283	156
Internal Link Dist (ft)		222			661	164	
Turn Bay Length (ft)				540			
Base Capacity (vph)	530	530	566	186	2566	2279	1157
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.02	0.52	0.21	0.42	0.32	0.33

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

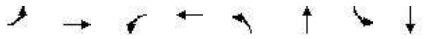


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	527	187	232	622	392	382
v/c Ratio	0.72	0.38	0.55	0.25	0.21	0.37
Control Delay	40.0	6.8	43.7	5.9	6.6	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.0	6.8	43.7	5.9	6.6	3.0
Queue Length 50th (ft)	152	0	69	62	31	11
Queue Length 95th (ft)	192	50	102	103	14	42
Internal Link Dist (ft)	57			498	661	
Turn Bay Length (ft)			390			640
Base Capacity (vph)	939	569	939	2481	1895	1024
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.33	0.25	0.25	0.21	0.37

Intersection Summary

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	1	60	4	2	72	853	2	527	77
v/c Ratio	0.00	0.17	0.01	0.01	0.19	0.29	0.01	0.20	0.06
Control Delay	16.0	5.7	15.5	0.0	15.0	3.4	18.0	5.7	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.0	5.7	15.5	0.0	15.0	3.4	18.0	5.7	3.0
Queue Length 50th (ft)	0	0	1	0	7	0	0	0	0
Queue Length 95th (ft)	3	19	7	0	44	105	5	76	17
Internal Link Dist (ft)	536		1154			422		141	
Turn Bay Length (ft)				75	150		100		
Base Capacity (vph)	644	598	644	598	444	3484	222	3423	1534
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.10	0.01	0.00	0.16	0.24	0.01	0.15	0.05

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	42	729	64	483	88	96	232	91
v/c Ratio	0.28	0.91	0.37	0.57	0.45	0.38	0.69	0.25
Control Delay	48.7	45.2	49.1	24.8	49.1	17.8	47.1	23.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.7	45.2	49.1	24.8	49.1	17.8	47.1	23.1
Queue Length 50th (ft)	24	404	36	214	50	8	130	27
Queue Length 95th (ft)	65	#836	74	337	98	47	228	73
Internal Link Dist (ft)		1374		2039		916		934
Turn Bay Length (ft)	200		120		100		100	
Base Capacity (vph)	419	799	419	840	698	690	600	605
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.91	0.15	0.57	0.13	0.14	0.39	0.15

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	193	846	9	15	629	39	30	226	209
v/c Ratio	0.69	0.42	0.01	0.15	0.44	0.32	0.27	0.55	0.41
Control Delay	59.2	16.3	0.0	55.9	24.4	58.7	36.6	46.9	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.2	16.3	0.0	55.9	24.4	58.7	36.6	46.9	10.1
Queue Length 50th (ft)	140	169	0	11	164	29	10	155	9
Queue Length 95th (ft)	195	252	0	33	224	48	28	210	47
Internal Link Dist (ft)		189			259		567		1162
Turn Bay Length (ft)	100		120	120		100		50	
Base Capacity (vph)	290	2017	947	98	1424	136	410	414	564
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.42	0.01	0.15	0.44	0.29	0.07	0.55	0.37

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	343	498	275	175	233	189	1261	377	349	546	211
v/c Ratio	0.72	0.78	0.79	0.35	0.55	0.55	0.49	0.50	0.66	0.30	0.30
Control Delay	64.4	57.8	75.6	54.1	11.4	57.4	32.0	17.2	60.1	31.5	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.4	57.8	75.6	54.1	11.4	57.4	32.0	17.2	60.1	31.5	4.8
Queue Length 50th (ft)	150	205	123	73	0	153	236	110	151	124	0
Queue Length 95th (ft)	163	209	#180	108	73	#227	273	187	191	150	47
Internal Link Dist (ft)		409		264			320			2205	
Turn Bay Length (ft)	250		150		250	280		100	250		250
Base Capacity (vph)	610	1016	359	768	526	346	2561	752	530	1856	712
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.49	0.77	0.23	0.44	0.55	0.49	0.50	0.66	0.29	0.30

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	49	79	219	128	49	10	321	166	44	52	192	244
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1815		1770	1804		1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	1770	1815		1770	1804		1770	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	53	86	238	139	53	11	349	180	48	57	209	265
RTOR Reduction (vph)	0	0	206	0	5	0	0	5	0	0	0	209
Lane Group Flow (vph)	53	86	32	139	59	0	349	223	0	57	209	56
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	11.9	11.9	11.9	15.4	15.4		25.7	37.3		7.4	19.0	19.0
Effective Green, g (s)	11.9	11.9	11.9	15.4	15.4		25.7	37.3		7.4	19.0	19.0
Actuated g/C Ratio	0.13	0.13	0.13	0.17	0.17		0.29	0.41		0.08	0.21	0.21
Clearance Time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	234	246	209	303	310		505	748		145	393	334
v/s Ratio Prot	0.03	c0.05		c0.08	0.03		c0.20	0.12		0.03	c0.11	
v/s Ratio Perm			0.02									0.04
v/c Ratio	0.23	0.35	0.15	0.46	0.19		0.69	0.30		0.39	0.53	0.17
Uniform Delay, d1	34.9	35.5	34.5	33.5	31.9		28.6	17.6		39.1	31.5	29.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.5	0.9	0.3	1.1	0.3		4.1	0.2		1.8	1.4	0.2
Delay (s)	35.4	36.3	34.9	34.6	32.2		32.6	17.8		40.9	32.9	29.2
Level of Service	D	D	C	C	C		C	B		D	C	C
Approach Delay (s)		35.3			33.8			26.8			31.9	
Approach LOS		D			C			C			C	

Intersection Summary				
HCM 2000 Control Delay	31.1	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.54			
Actuated Cycle Length (s)	89.9	Sum of lost time (s)	17.9	
Intersection Capacity Utilization	52.7%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	27	77	83	759	216	306	189	219	149	161	415	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3		4.0	5.3		4.0	5.3	4.0	4.0	5.3	
Lane Util. Factor	1.00	0.95		0.97	1.00		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.92		1.00	0.91		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3265		3433	1699		1770	3539	1583	1770	3484	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3265		3433	1699		1770	3539	1583	1770	3484	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	29	84	90	825	235	333	205	238	162	175	451	52
RTOR Reduction (vph)	0	72	0	0	44	0	0	0	0	0	9	0
Lane Group Flow (vph)	29	102	0	825	524	0	205	238	162	175	494	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									Free			
Actuated Green, G (s)	2.2	18.2		22.5	38.5		11.2	18.4	88.9	11.2	18.4	
Effective Green, g (s)	2.2	18.2		22.5	38.5		11.2	18.4	88.9	11.2	18.4	
Actuated g/C Ratio	0.02	0.20		0.25	0.43		0.13	0.21	1.00	0.13	0.21	
Clearance Time (s)	4.0	5.3		4.0	5.3		4.0	5.3		4.0	5.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	43	668		868	735		222	732	1583	222	721	
v/s Ratio Prot	c0.02	0.03		c0.24	c0.31		c0.12	0.07		0.10	c0.14	
v/s Ratio Perm									0.10			
v/c Ratio	0.67	0.15		0.95	0.71		0.92	0.33	0.10	0.79	0.69	
Uniform Delay, d1	43.0	29.0		32.7	20.7		38.4	30.0	0.0	37.7	32.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	34.5	0.1		19.5	3.3		39.6	0.3	0.1	16.7	2.7	
Delay (s)	77.5	29.1		52.2	23.9		78.1	30.2	0.1	54.4	35.3	
Level of Service	E	C		D	C		E	C	A	D	D	
Approach Delay (s)		36.0			40.7			38.4			40.2	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	39.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	88.9	Sum of lost time (s)	18.6
Intersection Capacity Utilization	72.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	485	0	336	127	235	0	0	653	423
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor				0.95	0.95	1.00	1.00	0.95			0.95	1.00
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1681	1681	1583	1770	3539			3539	1583
Flt Permitted				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1681	1583	1770	3539			3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	527	0	365	138	255	0	0	710	460
RTOR Reduction (vph)	0	0	0	0	0	282	0	0	0	0	0	224
Lane Group Flow (vph)	0	0	0	263	264	83	138	255	0	0	710	236
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				21.5	21.5	21.5	12.8	65.5			48.7	48.7
Effective Green, g (s)				21.5	21.5	21.5	12.8	65.5			48.7	48.7
Actuated g/C Ratio				0.23	0.23	0.23	0.13	0.69			0.51	0.51
Clearance Time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				380	380	358	238	2440			1814	811
v/s Ratio Prot				0.16	c0.16		c0.08	0.07			c0.20	
v/s Ratio Perm						0.05						0.15
v/c Ratio				0.69	0.69	0.23	0.58	0.10			0.39	0.29
Uniform Delay, d1				33.7	33.7	30.0	38.6	4.9			14.1	13.3
Progression Factor				1.00	1.00	1.00	0.75	1.13			1.00	1.00
Incremental Delay, d2				5.4	5.4	0.3	3.4	0.1			0.6	0.9
Delay (s)				39.1	39.2	30.3	32.3	5.7			14.8	14.2
Level of Service				D	D	C	C	A			B	B
Approach Delay (s)		0.0			35.5			15.0			14.5	
Approach LOS		A			D			B			B	

Intersection Summary				
HCM 2000 Control Delay	22.2	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.50			
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	56.7%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	135	83	90	242	947	191
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	147	90	98	263	1029	208
RTOR Reduction (vph)	0	81	0	0	0	63
Lane Group Flow (vph)	147	9	98	263	1029	145
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	9.7	9.7	7.1	77.3	66.2	66.2
Effective Green, g (s)	9.7	9.7	7.1	77.3	66.2	66.2
Actuated g/C Ratio	0.10	0.10	0.07	0.81	0.70	0.70
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	350	161	256	2879	2466	1103
v/s Ratio Prot	c0.04		c0.03	0.07	c0.29	
v/s Ratio Perm		0.01				0.09
v/c Ratio	0.42	0.06	0.38	0.09	0.42	0.13
Uniform Delay, d1	40.0	38.5	41.9	1.8	6.2	4.8
Progression Factor	1.00	1.00	1.00	1.00	0.93	1.12
Incremental Delay, d2	0.8	0.1	1.0	0.1	0.5	0.2
Delay (s)	40.8	38.7	42.8	1.8	6.2	5.6
Level of Service	D	D	D	A	A	A
Approach Delay (s)	40.0			13.0	6.1	
Approach LOS	D			B	A	

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	49.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1	27	5	1	5	25	327	5	5	1025	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	
Flt Protected		1.00	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1863	1583		1788	1583	1770	3532		1770	3539	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1863	1583		1863	1583	1770	3532		1770	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1	29	5	1	5	27	355	5	5	1114	0
RTOR Reduction (vph)	0	0	28	0	0	5	0	1	0	0	0	0
Lane Group Flow (vph)	0	1	1	0	6	0	27	359	0	5	1114	0
Turn Type		NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						6
Actuated Green, G (s)		1.9	1.9		1.9	1.9	1.1	32.4		0.5	31.8	
Effective Green, g (s)		1.9	1.9		1.9	1.9	1.1	32.4		0.5	31.8	
Actuated g/C Ratio		0.04	0.04		0.04	0.04	0.02	0.69		0.01	0.68	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		75	64		75	64	41	2445		18	2404	
v/s Ratio Prot		0.00					c0.02	0.10		0.00	c0.31	
v/s Ratio Perm			0.00		c0.00	0.00						
v/c Ratio		0.01	0.02		0.08	0.00	0.66	0.15		0.28	0.46	
Uniform Delay, d1		21.6	21.6		21.6	21.5	22.7	2.5		23.0	3.5	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.1	0.1		0.5	0.0	32.2	0.0		8.3	0.1	
Delay (s)		21.6	21.7		22.1	21.6	54.9	2.5		31.2	3.7	
Level of Service		C	C		C	C	D	A		C	A	
Approach Delay (s)		21.7			21.8			6.1			3.8	
Approach LOS		C			C			A			A	

Intersection Summary				
HCM 2000 Control Delay	4.8	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.45			
Actuated Cycle Length (s)	46.8	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	45.0%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	194	16	75	772	188	49	4	70	63	11	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	5.3		3.5	6.0		4.2	4.2		4.2	4.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	0.86		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1841		1770	1808		1770	1600		1770	1734	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1841		1770	1808		1770	1600		1770	1734	
Peak-hour factor, PHF	0.89	0.89	0.89	0.69	0.69	0.69	0.86	0.86	0.86	0.78	0.78	0.78
Adj. Flow (vph)	3	218	18	109	1119	272	57	5	81	81	14	12
RTOR Reduction (vph)	0	2	0	0	4	0	0	75	0	0	11	0
Lane Group Flow (vph)	3	234	0	109	1387	0	57	11	0	81	15	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Actuated Green, G (s)	1.0	75.1		12.6	86.0		9.3	9.3		11.0	11.0	
Effective Green, g (s)	1.0	75.1		12.6	86.0		9.3	9.3		11.0	11.0	
Actuated g/C Ratio	0.01	0.60		0.10	0.69		0.07	0.07		0.09	0.09	
Clearance Time (s)	3.5	5.3		3.5	6.0		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	14	1104		178	1241		131	118		155	152	
v/s Ratio Prot	0.00	0.13		c0.06	c0.77		c0.03	0.01		c0.05	0.01	
v/s Ratio Perm												
v/c Ratio	0.21	0.21		0.61	1.12		0.44	0.09		0.52	0.10	
Uniform Delay, d1	61.7	11.5		54.0	19.6		55.4	54.0		54.6	52.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.6	0.1		6.1	64.2		2.3	0.3		3.2	0.3	
Delay (s)	69.3	11.6		60.1	83.8		57.7	54.4		57.7	52.8	
Level of Service	E	B		E	F		E	D		E	D	
Approach Delay (s)		12.3			82.0			55.7			56.6	
Approach LOS		B			F			E			E	

Intersection Summary				
HCM 2000 Control Delay	70.4	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	1.00			
Actuated Cycle Length (s)	125.2	Sum of lost time (s)	17.9	
Intersection Capacity Utilization	78.2%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	123	275	6	41	799	126	50	1	2	11	10	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	6.0	6.0	4.5	6.0		5.5	4.5		5.0	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.91		1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3467		1770	1695		1770	1602	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	1770	3467		1770	1695		1770	1602	
Peak-hour factor, PHF	0.83	0.83	0.83	0.80	0.80	0.80	0.63	0.63	0.63	0.83	0.83	0.83
Adj. Flow (vph)	148	331	7	51	999	158	79	2	3	13	12	170
RTOR Reduction (vph)	0	0	3	0	8	0	0	3	0	0	154	0
Lane Group Flow (vph)	148	331	4	51	1149	0	79	2	0	13	28	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	15.0	68.8	68.8	10.3	63.4		7.4	12.7		6.2	11.0	
Effective Green, g (s)	15.0	68.8	68.8	10.3	63.4		7.4	12.7		6.2	11.0	
Actuated g/C Ratio	0.13	0.58	0.58	0.09	0.54		0.06	0.11		0.05	0.09	
Clearance Time (s)	5.2	6.0	6.0	4.5	6.0		5.5	4.5		5.0	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	225	2063	922	154	1862		111	182		93	149	
v/s Ratio Prot	c0.08	0.09		0.03	c0.33		c0.04	0.00		0.01	c0.02	
v/s Ratio Perm			0.00									
v/c Ratio	0.66	0.16	0.00	0.33	0.62		0.71	0.01		0.14	0.19	
Uniform Delay, d1	49.1	11.3	10.3	50.6	18.9		54.3	47.0		53.4	49.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.8	0.2	0.0	1.3	1.5		19.3	0.0		0.7	0.6	
Delay (s)	55.8	11.5	10.3	51.9	20.4		73.6	47.1		54.0	50.0	
Level of Service	E	B	B	D	C		E	D		D	D	
Approach Delay (s)		25.0			21.8			72.0			50.3	
Approach LOS		C			C			E			D	

Intersection Summary				
HCM 2000 Control Delay	27.5	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.58			
Actuated Cycle Length (s)	118.0	Sum of lost time (s)	21.2	
Intersection Capacity Utilization	62.3%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	139	104	58	435	339	230	119	429	205	95	1030	284
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.7		6.0	5.7	5.7	5.0	5.7	5.7	5.0	5.7	5.7
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	0.86	1.00	0.97	0.91	1.00
Frt	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3349		3433	3539	1583	1770	6408	1583	3433	5085	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3349		3433	3539	1583	1770	6408	1583	3433	5085	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.85	0.85	0.85	0.85	0.85	0.85	0.91	0.91	0.91
Adj. Flow (vph)	148	111	62	512	399	271	140	505	241	104	1132	312
RTOR Reduction (vph)	0	55	0	0	0	215	0	0	146	0	0	187
Lane Group Flow (vph)	148	118	0	512	399	56	140	505	95	104	1132	125
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	11.6	15.2		24.1	27.7	27.7	19.3	53.3	53.3	20.0	54.0	54.0
Effective Green, g (s)	11.6	15.2		24.1	27.7	27.7	19.3	53.3	53.3	20.0	54.0	54.0
Actuated g/C Ratio	0.09	0.11		0.18	0.21	0.21	0.14	0.39	0.39	0.15	0.40	0.40
Clearance Time (s)	6.0	5.7		6.0	5.7	5.7	5.0	5.7	5.7	5.0	5.7	5.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	294	377		612	726	324	253	2529	624	508	2034	633
v/s Ratio Prot	0.04	0.04		c0.15	c0.11		c0.08	0.08		0.03	c0.22	
v/s Ratio Perm						0.04			0.06			0.08
v/c Ratio	0.50	0.31		0.84	0.55	0.17	0.55	0.20	0.15	0.20	0.56	0.20
Uniform Delay, d1	58.9	55.1		53.5	48.1	44.2	53.8	26.8	26.3	50.5	31.3	26.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.4	0.5		9.7	0.9	0.3	2.6	0.2	0.5	0.2	1.1	0.7
Delay (s)	60.3	55.6		63.2	48.9	44.5	56.4	27.0	26.8	50.7	32.4	27.1
Level of Service	E	E		E	D	D	E	C	C	D	C	C
Approach Delay (s)		57.8			54.1			31.6			32.5	
Approach LOS		E			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	40.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	22.4
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	16.7
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Vol, veh/h	0	70	2	54	0	127	1	18	0	44	458	90	0	52	429	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	76	2	59	0	138	1	20	0	48	498	98	0	57	466	82
Number of Lanes	0	0	1	0	0	0	1	0	0	1	2	0	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	1
HCM Control Delay	14.3	15.8	17.6	16.6
HCM LOS	B	C	C	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	56%	87%	100%	0%	0%
Vol Thru, %	0%	100%	63%	2%	1%	0%	100%	66%
Vol Right, %	0%	0%	37%	43%	12%	0%	0%	34%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	44	305	243	126	146	52	286	218
LT Vol	44	0	0	70	127	52	0	0
Through Vol	0	305	153	2	1	0	286	143
RT Vol	0	0	90	54	18	0	0	75
Lane Flow Rate	48	332	264	137	159	57	311	237
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.097	0.628	0.48	0.306	0.366	0.116	0.593	0.435
Departure Headway (Hd)	7.325	6.813	6.547	8.034	8.31	7.375	6.862	6.615
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	489	531	551	448	433	486	525	545
Service Time	5.069	4.556	4.289	5.783	6.059	5.119	4.605	4.358
HCM Lane V/C Ratio	0.098	0.625	0.479	0.306	0.367	0.117	0.592	0.435
HCM Control Delay	10.9	20.4	15.2	14.3	15.8	11.1	19.2	14.4
HCM Lane LOS	B	C	C	B	C	B	C	B
HCM 95th-tile Q	0.3	4.3	2.6	1.3	1.7	0.4	3.8	2.2

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	62	496	83	45	1247
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	85	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	67	539	90	49	1355

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1360	315	0	0	629	0
Stage 1	584	-	-	-	-	-
Stage 2	776	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	140	681	-	-	949	-
Stage 1	521	-	-	-	-	-
Stage 2	414	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	133	681	-	-	949	-
Mov Cap-2 Maneuver	133	-	-	-	-	-
Stage 1	521	-	-	-	-	-
Stage 2	393	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	681	949	-
HCM Lane V/C Ratio	-	-	0.099	0.052	-
HCM Control Delay (s)	-	-	10.9	9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.2	-

Intersection	
Int Delay, s/veh	168.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	58	115	464	110	242	1005
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	525	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	51	51	75	75	75	75
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	114	225	619	147	323	1340

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2007	383	0	0	765	0
Stage 1	692	-	-	-	-	-
Stage 2	1315	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	~ 53	621	-	-	857	-
Stage 1	463	-	-	-	-	-
Stage 2	219	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 33	621	-	-	857	-
Mov Cap-2 Maneuver	~ 33	-	-	-	-	-
Stage 1	463	-	-	-	-	-
Stage 2	136	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 1363.2	0	2.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	89	857	-
HCM Lane V/C Ratio	-	-	3.811	0.377	-
HCM Control Delay (s)	-	-	$ 1363.2	11.7	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	34.9	1.8	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	26	0	0	524	1030	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	0	0	570	1120	30

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1420	575	1150	0	-	0
Stage 1	1135	-	-	-	-	-
Stage 2	285	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	127	461	603	-	-	-
Stage 1	269	-	-	-	-	-
Stage 2	738	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	127	461	603	-	-	-
Mov Cap-2 Maneuver	221	-	-	-	-	-
Stage 1	269	-	-	-	-	-
Stage 2	738	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	603	-	221	-	-
HCM Lane V/C Ratio	-	-	0.128	-	-
HCM Control Delay (s)	0	-	23.7	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

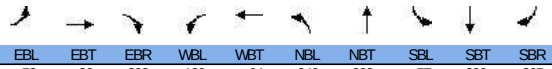
Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	0	523	0	0	1076
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	100	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	568	0	0	1170

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1036	284	0	0	568	0
Stage 1	568	-	-	-	-	-
Stage 2	468	-	-	-	-	-
Critical Hdwy	6.29	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.67	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	260	713	-	-	1000	-
Stage 1	514	-	-	-	-	-
Stage 2	562	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	260	713	-	-	1000	-
Mov Cap-2 Maneuver	260	-	-	-	-	-
Stage 1	514	-	-	-	-	-
Stage 2	562	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1000	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	53	86	238	139	64	349	228	57	209	265
v/c Ratio	0.23	0.35	0.57	0.46	0.20	0.69	0.30	0.32	0.57	0.51
Control Delay	43.3	45.2	11.9	42.5	35.3	40.4	22.4	50.8	43.6	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.3	45.2	11.9	42.5	35.3	40.4	22.4	50.8	43.6	8.9
Queue Length 50th (ft)	26	42	0	67	27	158	76	28	99	0
Queue Length 95th (ft)	84	123	76	173	85	#447	222	98	263	77
Internal Link Dist (ft)		1626			141		676		2268	
Turn Bay Length (ft)	60					100		60		180
Base Capacity (vph)	759	799	815	773	795	773	1199	343	783	819
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.11	0.29	0.18	0.08	0.45	0.19	0.17	0.27	0.32

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	29	174	825	568	205	238	162	175	503
v/c Ratio	0.35	0.26	0.94	0.72	0.90	0.32	0.10	0.77	0.68
Control Delay	58.2	16.0	52.9	24.7	81.3	31.2	0.1	63.5	36.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.2	16.0	52.9	24.7	81.3	31.2	0.1	63.5	36.7
Queue Length 50th (ft)	15	20	213	230	106	54	0	89	123
Queue Length 95th (ft)	#58	50	#494	411	#323	108	0	#270	219
Internal Link Dist (ft)		153		168		1623			1819
Turn Bay Length (ft)	165		340		265		180	135	
Base Capacity (vph)	82	1276	882	1025	227	1298	1583	227	1285
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.14	0.94	0.55	0.90	0.18	0.10	0.77	0.39

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	263	264	365	138	255	710	460
v/c Ratio	0.69	0.69	0.57	0.58	0.10	0.39	0.44
Control Delay	43.1	43.2	6.9	38.3	6.4	16.4	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.1	43.2	6.9	38.3	6.4	16.4	3.3
Queue Length 50th (ft)	151	151	0	76	41	134	0
Queue Length 95th (ft)	229	230	66	140	61	213	57
Internal Link Dist (ft)		222			661	164	
Turn Bay Length (ft)				540			
Base Capacity (vph)	460	460	698	484	2440	1816	1036
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.57	0.52	0.29	0.10	0.39	0.44

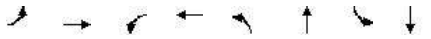
Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	147	90	98	263	1029	208
v/c Ratio	0.42	0.37	0.31	0.09	0.41	0.18
Control Delay	43.5	13.4	42.9	2.0	6.7	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.5	13.4	42.9	2.0	6.7	1.4
Queue Length 50th (ft)	43	0	29	12	179	9
Queue Length 95th (ft)	72	43	53	22	220	26
Internal Link Dist (ft)	57			498	661	
Turn Bay Length (ft)			390			640
Base Capacity (vph)	939	498	939	2880	2498	1179
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.18	0.10	0.09	0.41	0.18

Intersection Summary

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	1	29	6	5	27	360	5	1114
v/c Ratio	0.00	0.10	0.02	0.02	0.09	0.12	0.03	0.37
Control Delay	22.0	1.2	21.5	0.0	20.7	2.2	23.8	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.0	1.2	21.5	0.0	20.7	2.2	23.8	3.6
Queue Length 50th (ft)	0	0	1	0	4	0	1	0
Queue Length 95th (ft)	4	3	11	0	29	38	11	171
Internal Link Dist (ft)	536		1154			422		141
Turn Bay Length (ft)				75	150		100	
Base Capacity (vph)	541	515	541	515	374	3249	187	3150
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.06	0.01	0.01	0.07	0.11	0.03	0.35

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	3	236	109	1391	57	86	81	26
v/c Ratio	0.04	0.22	0.60	1.09	0.43	0.44	0.51	0.16
Control Delay	61.7	13.7	67.4	74.0	65.2	20.6	65.7	36.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.7	13.7	67.4	74.0	65.2	20.6	65.7	36.8
Queue Length 50th (ft)	2	81	82	~1198	43	4	61	10
Queue Length 95th (ft)	14	157	118	#1144	90	52	106	35
Internal Link Dist (ft)		1374		2039		916		934
Turn Bay Length (ft)	200		120		100		100	
Base Capacity (vph)	80	1127	254	1275	232	280	363	365
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.21	0.43	1.09	0.25	0.31	0.22	0.07

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	148	331	7	51	1157	79	5	13	182
v/c Ratio	0.66	0.15	0.01	0.33	0.58	0.60	0.02	0.09	0.68
Control Delay	62.3	11.2	0.0	56.2	19.8	72.4	36.0	49.7	22.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.3	11.2	0.0	56.2	19.8	72.4	36.0	49.7	22.2
Queue Length 50th (ft)	109	56	0	37	297	58	1	10	9
Queue Length 95th (ft)	156	83	0	68	372	77	9	28	60
Internal Link Dist (ft)		189			259		567		1162
Turn Bay Length (ft)	100		120	120		100		50	
Base Capacity (vph)	255	2178	1015	154	1982	136	397	201	528
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.15	0.01	0.33	0.58	0.58	0.01	0.06	0.34

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	148	173	512	399	271	140	505	241	104	1132	312
v/c Ratio	0.50	0.40	0.84	0.55	0.50	0.55	0.20	0.31	0.20	0.56	0.38
Control Delay	64.8	36.4	66.4	51.9	8.6	62.7	27.1	4.4	51.7	32.7	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.8	36.4	66.4	51.9	8.6	62.7	27.1	4.4	51.7	32.7	4.3
Queue Length 50th (ft)	64	50	224	173	0	116	78	0	41	260	0
Queue Length 95th (ft)	99	75	#393	205	57	175	104	44	70	345	62
Internal Link Dist (ft)		409		264			320			2205	
Turn Bay Length (ft)	250		150		250	280		100	250		250
Base Capacity (vph)	610	1018	612	787	562	253	2533	771	508	2034	820
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.17	0.84	0.51	0.48	0.55	0.20	0.31	0.20	0.56	0.38

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	103	6	225	14	8	3	191	323	8	1	200	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1781		1770	1856		1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	1770	1781		1770	1856		1770	1863	1583
Peak-hour factor, PHF	0.81	0.81	0.81	0.64	0.64	0.64	0.93	0.93	0.93	0.96	0.96	0.96
Adj. Flow (vph)	127	7	278	22	12	5	205	347	9	1	208	36
RTOR Reduction (vph)	0	0	228	0	5	0	0	1	0	0	0	26
Lane Group Flow (vph)	127	7	50	22	12	0	205	355	0	1	208	10
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	13.2	13.2	13.2	6.4	6.4		15.6	34.7		0.6	19.7	19.7
Effective Green, g (s)	13.2	13.2	13.2	6.4	6.4		15.6	34.7		0.6	19.7	19.7
Actuated g/C Ratio	0.18	0.18	0.18	0.09	0.09		0.21	0.48		0.01	0.27	0.27
Clearance Time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	320	337	287	155	156		379	884		14	504	428
v/s Ratio Prot	c0.07	0.00		c0.01	0.01		c0.12	c0.19		0.00	0.11	
v/s Ratio Perm			0.03									0.01
v/c Ratio	0.40	0.02	0.18	0.14	0.08		0.54	0.40		0.07	0.41	0.02
Uniform Delay, d1	26.3	24.5	25.2	30.7	30.5		25.4	12.3		35.8	21.8	19.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.8	0.0	0.3	0.4	0.2		1.6	0.3		2.2	0.6	0.0
Delay (s)	27.1	24.5	25.5	31.1	30.7		27.0	12.6		38.0	22.4	19.5
Level of Service	C	C	C	C	C		C	B		D	C	B
Approach Delay (s)		26.0			30.9			17.9			22.0	
Approach LOS		C			C			B			C	

Intersection Summary				
HCM 2000 Control Delay	21.7	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.43			
Actuated Cycle Length (s)	72.8	Sum of lost time (s)	17.9	
Intersection Capacity Utilization	45.1%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	49	197	56	352	95	119	73	403	523	158	286	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3		4.0	5.3		4.0	5.3	4.0	4.0	5.3	
Lane Util. Factor	1.00	0.95		0.97	1.00		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.97		1.00	0.92		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3422		3433	1707		1770	3539	1583	1770	3491	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3422		3433	1707		1770	3539	1583	1770	3491	
Peak-hour factor, PHF	0.83	0.83	0.83	0.89	0.89	0.89	0.93	0.93	0.93	0.90	0.90	0.90
Adj. Flow (vph)	59	237	67	396	107	134	78	433	562	176	318	32
RTOR Reduction (vph)	0	26	0	0	40	0	0	0	0	0	6	0
Lane Group Flow (vph)	59	278	0	396	201	0	78	433	562	176	344	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									Free			
Actuated Green, G (s)	6.6	14.1		14.0	21.5		7.4	16.0	75.6	12.9	21.5	
Effective Green, g (s)	6.6	14.1		14.0	21.5		7.4	16.0	75.6	12.9	21.5	
Actuated g/C Ratio	0.09	0.19		0.19	0.28		0.10	0.21	1.00	0.17	0.28	
Clearance Time (s)	4.0	5.3		4.0	5.3		4.0	5.3		4.0	5.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	154	638		635	485		173	748	1583	302	992	
v/s Ratio Prot	0.03	0.08		c0.12	0.12		0.04	c0.12		c0.10	0.10	
v/s Ratio Perm									c0.35			
v/c Ratio	0.38	0.44		0.62	0.41		0.45	0.58	0.36	0.58	0.35	
Uniform Delay, d1	32.6	27.2		28.4	21.9		32.2	26.8	0.0	28.9	21.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.6	0.5		1.9	0.6		1.9	1.1	0.6	2.9	0.2	
Delay (s)	34.2	27.7		30.3	22.5		34.0	27.9	0.6	31.7	21.7	
Level of Service	C	C		C	C		C	C	A	C	C	
Approach Delay (s)		28.8			27.3			14.0			25.0	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	21.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	75.6	Sum of lost time (s)	18.6
Intersection Capacity Utilization	53.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	122	0	260	57	866	0	0	488	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor				0.95	0.95	1.00	1.00	0.95			0.95	1.00
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1681	1681	1583	1770	3539			3539	1583
Flt Permitted				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1681	1583	1770	3539			3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	133	0	283	62	941	0	0	530	165
RTOR Reduction (vph)	0	0	0	0	0	134	0	0	0	0	0	60
Lane Group Flow (vph)	0	0	0	66	67	149	62	941	0	0	530	105
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				14.7	14.7	14.7	7.7	72.3			60.6	60.6
Effective Green, g (s)				14.7	14.7	14.7	7.7	72.3			60.6	60.6
Actuated g/C Ratio				0.15	0.15	0.15	0.08	0.76			0.64	0.64
Clearance Time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				260	260	244	143	2693			2257	1009
v/s Ratio Prot				0.04	0.04		c0.04	c0.27			0.15	
v/s Ratio Perm						c0.09						0.07
v/c Ratio				0.25	0.26	0.61	0.43	0.35			0.23	0.10
Uniform Delay, d1				35.3	35.3	37.5	41.6	3.7			7.3	6.7
Progression Factor				1.00	1.00	1.00	0.97	0.88			1.00	1.00
Incremental Delay, d2				0.5	0.5	4.3	2.0	0.3			0.2	0.2
Delay (s)				35.8	35.9	41.7	42.4	3.6			7.6	6.9
Level of Service				D	D	D	D	A			A	A
Approach Delay (s)		0.0			39.9			6.0			7.4	
Approach LOS		A			D			A			A	

Intersection Summary				
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.41			
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	46.7%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	343	180	303	621	331	306
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	373	196	329	675	360	333
RTOR Reduction (vph)	0	164	0	0	0	148
Lane Group Flow (vph)	373	32	329	675	360	185
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	15.7	15.7	14.4	71.3	52.9	52.9
Effective Green, g (s)	15.7	15.7	14.4	71.3	52.9	52.9
Actuated g/C Ratio	0.17	0.17	0.15	0.75	0.56	0.56
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	567	261	520	2656	1970	881
v/s Ratio Prot	c0.11		c0.10	c0.19	0.10	
v/s Ratio Perm		0.02				0.12
v/c Ratio	0.66	0.12	0.63	0.25	0.18	0.21
Uniform Delay, d1	37.1	33.8	37.8	3.7	10.4	10.6
Progression Factor	1.00	1.00	1.00	1.00	0.85	1.14
Incremental Delay, d2	2.8	0.2	2.5	0.2	0.2	0.5
Delay (s)	39.9	34.0	40.3	3.9	9.1	12.6
Level of Service	D	C	D	A	A	B
Approach Delay (s)	37.9			15.8	10.7	
Approach LOS	D			B	B	

Intersection Summary			
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	37.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1	28	5	1	5	26	919	5	5	481	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	
Flt Protected		1.00	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1863	1583		1788	1583	1770	3537		1770	3539	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1863	1583		1863	1583	1770	3537		1770	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1	30	5	1	5	28	999	5	5	523	0
RTOR Reduction (vph)	0	0	29	0	0	5	0	0	0	0	0	0
Lane Group Flow (vph)	0	1	1	0	6	0	28	1004	0	5	523	0
Turn Type		NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						6
Actuated Green, G (s)		0.9	0.9		0.9	0.9	1.0	27.8		0.5	27.3	
Effective Green, g (s)		0.9	0.9		0.9	0.9	1.0	27.8		0.5	27.3	
Actuated g/C Ratio		0.02	0.02		0.02	0.02	0.02	0.67		0.01	0.66	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		40	34		40	34	42	2386		21	2345	
v/s Ratio Prot		0.00					c0.02	c0.28		0.00	0.15	
v/s Ratio Perm			0.00		c0.00	0.00						
v/c Ratio		0.03	0.02		0.15	0.00	0.67	0.42		0.24	0.22	
Uniform Delay, d1		19.7	19.7		19.8	19.7	19.9	3.0		20.2	2.8	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.3	0.2		1.7	0.0	33.4	0.1		5.8	0.0	
Delay (s)		20.0	19.9		21.5	19.7	53.3	3.2		26.0	2.8	
Level of Service		B	B		C	B	D	A		C	A	
Approach Delay (s)		19.9			20.7			4.5			3.0	
Approach LOS		B			C			A			A	

Intersection Summary				
HCM 2000 Control Delay	4.4	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.43			
Actuated Cycle Length (s)	41.2	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	42.2%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	18	611	57	32	324	133	46	9	67	243	20	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	5.3		3.5	6.0		4.2	4.2		4.2	4.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.96		1.00	0.87		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1839		1770	1781		1770	1616		1770	1733	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1839		1770	1781		1770	1616		1770	1733	
Peak-hour factor, PHF	0.91	0.91	0.91	0.78	0.78	0.78	0.81	0.81	0.81	0.90	0.90	0.90
Adj. Flow (vph)	20	671	63	41	415	171	57	11	83	270	22	19
RTOR Reduction (vph)	0	2	0	0	7	0	0	75	0	0	15	0
Lane Group Flow (vph)	20	732	0	41	579	0	57	19	0	270	26	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Actuated Green, G (s)	2.7	41.3		4.8	42.7		8.6	8.6		19.2	19.2	
Effective Green, g (s)	2.7	41.3		4.8	42.7		8.6	8.6		19.2	19.2	
Actuated g/C Ratio	0.03	0.45		0.05	0.47		0.09	0.09		0.21	0.21	
Clearance Time (s)	3.5	5.3		3.5	6.0		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	52	833		93	834		167	152		373	365	
v/s Ratio Prot	0.01	c0.40		c0.02	0.32		c0.03	0.01		c0.15	0.02	
v/s Ratio Perm												
v/c Ratio	0.38	0.88		0.44	0.69		0.34	0.12		0.72	0.07	
Uniform Delay, d1	43.4	22.6		41.8	19.1		38.6	37.8		33.5	28.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.7	10.4		3.3	2.5		1.2	0.4		6.8	0.1	
Delay (s)	48.1	33.1		45.2	21.6		39.8	38.2		40.3	28.9	
Level of Service	D	C		D	C		D	D		D	C	
Approach Delay (s)		33.5			23.1			38.8			38.8	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	31.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	91.1	Sum of lost time (s)	17.9
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	196	776	23	19	406	104	59	10	13	118	20	207
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	6.0	6.0	4.5	6.0		5.5	4.5		5.0	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.91		1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3431		1770	1702		1770	1608	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	1770	3431		1770	1702		1770	1608	
Peak-hour factor, PHF	0.85	0.85	0.85	0.88	0.88	0.88	0.69	0.69	0.69	0.78	0.78	0.78
Adj. Flow (vph)	231	913	27	22	461	118	86	14	19	151	26	265
RTOR Reduction (vph)	0	0	11	0	17	0	0	18	0	0	237	0
Lane Group Flow (vph)	231	913	16	22	562	0	86	15	0	151	54	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	23.2	68.9	68.9	4.7	49.7		11.4	5.5		18.9	12.5	
Effective Green, g (s)	23.2	68.9	68.9	4.7	49.7		11.4	5.5		18.9	12.5	
Actuated g/C Ratio	0.20	0.58	0.58	0.04	0.42		0.10	0.05		0.16	0.11	
Clearance Time (s)	5.2	6.0	6.0	4.5	6.0		5.5	4.5		5.0	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	348	2066	924	70	1445		171	79		283	170	
v/s Ratio Prot	c0.13	c0.26		0.01	0.16		0.05	0.01		c0.09	c0.03	
v/s Ratio Perm			0.01									
v/c Ratio	0.66	0.44	0.02	0.31	0.39		0.50	0.19		0.53	0.32	
Uniform Delay, d1	43.8	13.8	10.3	55.1	23.6		50.6	54.1		45.5	48.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.7	0.7	0.0	2.6	0.8		2.3	1.2		1.9	1.1	
Delay (s)	48.5	14.5	10.4	57.7	24.4		52.9	55.3		47.4	49.9	
Level of Service	D	B	B	E	C		D	E		D	D	
Approach Delay (s)		21.1			25.6			53.6			49.1	
Approach LOS		C			C			D			D	

Intersection Summary				
HCM 2000 Control Delay	29.2	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.53			
Actuated Cycle Length (s)	118.0	Sum of lost time (s)	21.2	
Intersection Capacity Utilization	59.4%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	185	259	99	345	131	223	142	1019	409	332	514	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.7		6.0	5.7	5.7	5.0	5.7	5.7	5.0	5.7	5.7
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	0.86	1.00	0.97	0.91	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3392		3433	3539	1583	1770	6408	1583	3433	5085	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3392		3433	3539	1583	1770	6408	1583	3433	5085	1583
Peak-hour factor, PHF	0.77	0.77	0.77	0.89	0.89	0.89	0.82	0.82	0.82	0.87	0.87	0.87
Adj. Flow (vph)	240	336	129	388	147	251	173	1243	499	382	591	152
RTOR Reduction (vph)	0	35	0	0	0	206	0	0	159	0	0	97
Lane Group Flow (vph)	240	430	0	388	147	45	173	1243	340	382	591	55
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	14.7	22.3		16.5	24.1	24.1	24.9	52.3	52.3	21.5	48.9	48.9
Effective Green, g (s)	14.7	22.3		16.5	24.1	24.1	24.9	52.3	52.3	21.5	48.9	48.9
Actuated g/C Ratio	0.11	0.17		0.12	0.18	0.18	0.18	0.39	0.39	0.16	0.36	0.36
Clearance Time (s)	6.0	5.7		6.0	5.7	5.7	5.0	5.7	5.7	5.0	5.7	5.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	373	560		419	631	282	326	2482	613	546	1841	573
v/s Ratio Prot	0.07	c0.13		c0.11	0.04		0.10	0.19		c0.11	0.12	
v/s Ratio Perm						0.03			c0.21			0.03
v/c Ratio	0.64	0.77		0.93	0.23	0.16	0.53	0.50	0.55	0.70	0.32	0.10
Uniform Delay, d1	57.6	53.9		58.6	47.5	46.9	49.8	31.4	32.3	53.7	31.1	28.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.8	6.3		26.2	0.2	0.3	1.7	0.7	3.6	3.9	0.5	0.3
Delay (s)	61.4	60.1		84.9	47.7	47.1	51.4	32.2	35.8	57.6	31.5	28.8
Level of Service	E	E		F	D	D	D	C	D	E	C	C
Approach Delay (s)		60.6			65.9			34.9			40.0	
Approach LOS		E			E			C			D	

Intersection Summary				
HCM 2000 Control Delay	45.5	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.68			
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	22.4	
Intersection Capacity Utilization	63.9%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Intersection	
Intersection Delay, s/veh	13.8
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Vol, veh/h	0	36	1	27	0	80	2	32	0	22	447	104	0	43	357	39
Peak Hour Factor	0.92	0.63	0.63	0.63	0.92	0.77	0.77	0.77	0.92	0.93	0.93	0.93	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	57	2	43	0	104	3	42	0	24	481	112	0	47	388	42
Number of Lanes	0	0	1	0	0	0	1	0	0	1	2	0	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	1
HCM Control Delay	12.2	13.6	14.8	13
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	56%	70%	100%	0%	0%
Vol Thru, %	0%	100%	59%	2%	2%	0%	100%	75%
Vol Right, %	0%	0%	41%	42%	28%	0%	0%	25%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	22	298	253	64	114	43	238	158
LT Vol	22	0	0	36	80	43	0	0
Through Vol	0	298	149	1	2	0	238	119
RT Vol	0	0	104	27	32	0	0	39
Lane Flow Rate	24	320	272	102	148	47	259	172
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.044	0.551	0.445	0.21	0.307	0.089	0.456	0.295
Departure Headway (Hd)	6.697	6.188	5.895	7.437	7.461	6.86	6.351	6.175
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	532	580	607	479	480	520	564	579
Service Time	4.471	3.962	3.669	5.23	5.247	4.639	4.129	3.953
HCM Lane V/C Ratio	0.045	0.552	0.448	0.213	0.308	0.09	0.459	0.297
HCM Control Delay	9.8	16.4	13.4	12.2	13.6	10.3	14.4	11.5
HCM Lane LOS	A	C	B	B	B	B	B	B
HCM 95th-tile Q	0.1	3.3	2.3	0.8	1.3	0.3	2.4	1.2

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	39	964	155	27	674
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	85	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	91	91	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	50	1059	170	31	766

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1589	615	0	0	1230	0
Stage 1	1145	-	-	-	-	-
Stage 2	444	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	98	434	-	-	562	-
Stage 1	265	-	-	-	-	-
Stage 2	614	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	93	434	-	-	562	-
Mov Cap-2 Maneuver	93	-	-	-	-	-
Stage 1	265	-	-	-	-	-
Stage 2	580	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.4	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	434	562	-
HCM Lane V/C Ratio	-	-	0.115	0.055	-
HCM Control Delay (s)	-	-	14.4	11.8	-
HCM Lane LOS	-	-	B	B	-
HCM 95th %tile Q(veh)	-	-	0.4	0.2	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	7	12	1107	18	20	654
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	525	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	68	68	95	95	87	87
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	10	18	1165	19	23	752

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1597	592	0	0	1184	0
Stage 1	1175	-	-	-	-	-
Stage 2	422	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	99	454	-	-	597	-
Stage 1	260	-	-	-	-	-
Stage 2	635	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	95	454	-	-	597	-
Mov Cap-2 Maneuver	95	-	-	-	-	-
Stage 1	260	-	-	-	-	-
Stage 2	611	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27.2	0	0.3
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	190	597	-
HCM Lane V/C Ratio	-	-	0.147	0.039	-
HCM Control Delay (s)	-	-	27.2	11.3	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	27	0	8	1072	632	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	0	9	1165	687	32

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1303	359	718	0	-	0
Stage 1	703	-	-	-	-	-
Stage 2	600	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	152	638	879	-	-	-
Stage 1	452	-	-	-	-	-
Stage 2	511	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	150	638	879	-	-	-
Mov Cap-2 Maneuver	286	-	-	-	-	-
Stage 1	452	-	-	-	-	-
Stage 2	506	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	879	-	286	-	-
HCM Lane V/C Ratio	0.01	-	0.103	-	-
HCM Control Delay (s)	9.1	-	19	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

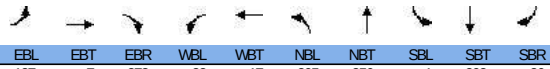
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	10	1070	5	0	640
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	100	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	11	1163	5	0	696

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1441	582	0	0	1163	0
Stage 1	1163	-	-	-	-	-
Stage 2	278	-	-	-	-	-
Critical Hdwy	6.29	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.67	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	151	456	-	-	596	-
Stage 1	254	-	-	-	-	-
Stage 2	707	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	151	456	-	-	596	-
Mov Cap-2 Maneuver	151	-	-	-	-	-
Stage 1	254	-	-	-	-	-
Stage 2	707	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	456	596	-
HCM Lane V/C Ratio	-	-	0.024	-	-
HCM Control Delay (s)	-	-	13.1	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	127	7	278	22	17	205	356	1	208	36
v/c Ratio	0.38	0.02	0.53	0.08	0.06	0.52	0.38	0.01	0.51	0.09
Control Delay	34.8	33.2	9.0	33.1	27.9	34.8	17.6	47.0	34.6	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.8	33.2	9.0	33.1	27.9	34.8	17.6	47.0	34.6	0.4
Queue Length 50th (ft)	44	2	0	8	4	69	77	0	70	0
Queue Length 95th (ft)	139	17	46	26	18	242	336	8	245	0
Internal Link Dist (ft)		1626			141		676		2268	
Turn Bay Length (ft)	60					100		60		180
Base Capacity (vph)	1091	1149	1082	1110	1119	1110	1501	493	1126	994
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.01	0.26	0.02	0.02	0.18	0.24	0.00	0.18	0.04

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	59	304	396	241	78	433	562	176	350
v/c Ratio	0.26	0.51	0.60	0.44	0.36	0.60	0.36	0.56	0.34
Control Delay	34.1	29.3	32.8	22.8	37.1	31.0	0.6	37.0	22.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.1	29.3	32.8	22.8	37.1	31.0	0.6	37.0	22.8
Queue Length 50th (ft)	23	60	83	77	33	94	0	73	65
Queue Length 95th (ft)	61	100	151	159	81	157	0	155	118
Internal Link Dist (ft)		153		168		1623			1819
Turn Bay Length (ft)	165		340		265		180	135	
Base Capacity (vph)	395	1675	767	856	395	1468	1583	395	1453
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.18	0.52	0.28	0.20	0.29	0.36	0.45	0.24

Intersection Summary

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	66	67	283	62	941	530	165
v/c Ratio	0.25	0.26	0.75	0.36	0.35	0.23	0.15
Control Delay	35.1	35.2	28.4	44.1	4.2	9.2	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.1	35.2	28.4	44.1	4.2	9.2	2.3
Queue Length 50th (ft)	37	38	71	27	37	64	0
Queue Length 95th (ft)	68	70	143	78	182	130	31
Internal Link Dist (ft)		222			661	164	
Turn Bay Length (ft)				540			
Base Capacity (vph)	460	460	548	484	2694	2286	1081
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.15	0.52	0.13	0.35	0.23	0.15

Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	373	196	329	675	360	333
v/c Ratio	0.66	0.46	0.63	0.25	0.18	0.32
Control Delay	42.5	8.6	43.2	4.2	10.1	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.5	8.6	43.2	4.2	10.1	2.8
Queue Length 50th (ft)	109	0	97	53	43	0
Queue Length 95th (ft)	147	55	135	91	60	10
Internal Link Dist (ft)	57			498	661	
Turn Bay Length (ft)			390			640
Base Capacity (vph)	939	575	939	2654	1969	1028
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.34	0.35	0.25	0.18	0.32

Intersection Summary

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	1	30	6	5	28	1004	5	523
v/c Ratio	0.00	0.09	0.02	0.01	0.09	0.31	0.02	0.16
Control Delay	16.0	1.7	15.8	0.0	15.3	2.4	17.8	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.0	1.7	15.8	0.0	15.3	2.4	17.8	2.7
Queue Length 50th (ft)	0	0	1	0	4	0	1	0
Queue Length 95th (ft)	4	5	10	0	25	122	9	70
Internal Link Dist (ft)	536		1154			422		141
Turn Bay Length (ft)				75	150		100	
Base Capacity (vph)	620	578	620	578	428	3434	214	3381
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.05	0.01	0.01	0.07	0.29	0.02	0.15

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	20	734	41	586	57	94	270	41
v/c Ratio	0.15	0.88	0.27	0.68	0.34	0.41	0.71	0.11
Control Delay	46.3	38.9	46.7	25.9	46.8	18.3	44.3	19.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.3	38.9	46.7	25.9	46.8	18.3	44.3	19.9
Queue Length 50th (ft)	11	396	23	214	32	6	149	10
Queue Length 95th (ft)	38	#794	53	404	68	44	250	39
Internal Link Dist (ft)		1374		2039		916		934
Turn Bay Length (ft)	200		120		100		100	
Base Capacity (vph)	436	838	436	859	726	712	625	624
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.88	0.09	0.68	0.08	0.13	0.43	0.07

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	231	913	27	22	579	86	33	151	291
v/c Ratio	0.66	0.42	0.03	0.21	0.38	0.51	0.26	0.53	0.75
Control Delay	53.4	15.0	0.0	56.8	24.2	60.3	33.8	52.9	20.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.4	15.0	0.0	56.8	24.2	60.3	33.8	52.9	20.9
Queue Length 50th (ft)	163	200	0	16	148	63	10	109	18
Queue Length 95th (ft)	226	294	0	42	232	84	28	147	57
Internal Link Dist (ft)		189			259		567		1162
Turn Bay Length (ft)	100		120	120		100		50	
Base Capacity (vph)	348	2179	1015	105	1552	174	411	283	600
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.42	0.03	0.21	0.37	0.49	0.08	0.53	0.48

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	240	465	388	147	251	173	1243	499	382	591	152
v/c Ratio	0.64	0.78	0.93	0.23	0.51	0.53	0.50	0.65	0.70	0.32	0.23
Control Delay	65.4	58.3	87.5	49.3	9.7	57.6	32.7	20.3	61.0	31.4	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.4	58.3	87.5	49.3	9.7	57.6	32.7	20.3	61.0	31.4	4.5
Queue Length 50th (ft)	105	190	~196	60	0	141	226	161	167	129	0
Queue Length 95th (ft)	123	196	#296	91	74	202	265	258	206	163	38
Internal Link Dist (ft)		409		264			320			2205	
Turn Bay Length (ft)	250		150		250	280		100	250		250
Base Capacity (vph)	610	1016	418	768	540	326	2484	772	545	1902	691
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.46	0.93	0.19	0.46	0.53	0.50	0.65	0.70	0.31	0.22

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	49	79	231	128	49	10	330	179	44	52	209	244
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1815		1770	1808		1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	1770	1815		1770	1808		1770	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	53	86	251	139	53	11	359	195	48	57	227	265
RTOR Reduction (vph)	0	0	218	0	5	0	0	5	0	0	0	208
Lane Group Flow (vph)	53	86	33	139	59	0	359	238	0	57	227	57
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	12.1	12.1	12.1	15.5	15.5		27.2	39.9		7.4	20.1	20.1
Effective Green, g (s)	12.1	12.1	12.1	15.5	15.5		27.2	39.9		7.4	20.1	20.1
Actuated g/C Ratio	0.13	0.13	0.13	0.17	0.17		0.29	0.43		0.08	0.22	0.22
Clearance Time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	230	242	206	295	303		518	777		141	403	342
v/s Ratio Prot	0.03	c0.05		c0.08	0.03		c0.20	0.13		0.03	c0.12	
v/s Ratio Perm			0.02									0.04
v/c Ratio	0.23	0.36	0.16	0.47	0.19		0.69	0.31		0.40	0.56	0.17
Uniform Delay, d1	36.2	36.8	35.8	34.9	33.3		29.1	17.4		40.6	32.4	29.6
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.5	0.9	0.4	1.2	0.3		4.0	0.2		1.9	1.8	0.2
Delay (s)	36.7	37.7	36.2	36.1	33.6		33.1	17.6		42.5	34.2	29.8
Level of Service	D	D	D	D	C		C	B		D	C	C
Approach Delay (s)		36.6			35.3			26.8			32.9	
Approach LOS		D			D			C			C	

Intersection Summary				
HCM 2000 Control Delay	31.9	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.56			
Actuated Cycle Length (s)	92.8	Sum of lost time (s)	17.9	
Intersection Capacity Utilization	54.1%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	27	77	90	784	216	306	195	241	164	161	445	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3		4.0	5.3		4.0	5.3	4.0	4.0	5.3	
Lane Util. Factor	1.00	0.95		0.97	1.00		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.92		1.00	0.91		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3253		3433	1699		1770	3539	1583	1770	3488	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3253		3433	1699		1770	3539	1583	1770	3488	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	29	84	98	852	235	333	212	262	178	175	484	52
RTOR Reduction (vph)	0	81	0	0	42	0	0	0	0	0	7	0
Lane Group Flow (vph)	29	101	0	852	526	0	212	262	178	175	529	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									Free			
Actuated Green, G (s)	3.4	17.4		30.5	44.5		14.2	21.7	101.9	13.7	21.2	
Effective Green, g (s)	3.4	17.4		30.5	44.5		14.2	21.7	101.9	13.7	21.2	
Actuated g/C Ratio	0.03	0.17		0.30	0.44		0.14	0.21	1.00	0.13	0.21	
Clearance Time (s)	4.0	5.3		4.0	5.3		4.0	5.3		4.0	5.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	59	555		1027	741		246	753	1583	237	725	
v/s Ratio Prot	c0.02	0.03		c0.25	c0.31		c0.12	0.07		0.10	c0.15	
v/s Ratio Perm									c0.11			
v/c Ratio	0.49	0.18		0.83	0.71		0.86	0.35	0.11	0.74	0.73	
Uniform Delay, d1	48.4	36.2		33.3	23.4		42.9	34.1	0.0	42.4	37.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.3	0.2		5.7	3.2		25.2	0.3	0.1	11.4	3.7	
Delay (s)	54.7	36.3		38.9	26.7		68.1	34.4	0.1	53.8	41.4	
Level of Service	D	D		D	C		E	C	A	D	D	
Approach Delay (s)		38.8			34.0			36.0			44.4	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	37.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	101.9	Sum of lost time (s)	18.6
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	33	15	150	71	15	18	99	520	61	22	994	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.86		1.00	0.92		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1608		1770	1708		1770	3484		1770	3503	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1608		1770	1708		1770	3484		1770	3503	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	36	16	163	77	16	20	108	565	66	24	1080	80
RTOR Reduction (vph)	0	148	0	0	18	0	0	7	0	0	5	0
Lane Group Flow (vph)	36	31	0	77	18	0	108	624	0	24	1155	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	3.6	8.8		5.6	10.8		10.6	61.4		3.2	54.0	
Effective Green, g (s)	3.6	8.8		5.6	10.8		10.6	61.4		3.2	54.0	
Actuated g/C Ratio	0.04	0.09		0.06	0.11		0.11	0.65		0.03	0.57	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	67	148		104	194		197	2251		59	1991	
v/s Ratio Prot	0.02	c0.02		c0.04	0.01		c0.06	0.18		0.01	c0.33	
v/s Ratio Perm												
v/c Ratio	0.54	0.21		0.74	0.09		0.55	0.28		0.41	0.58	
Uniform Delay, d1	44.9	39.9		44.0	37.7		39.9	7.2		45.0	13.2	
Progression Factor	1.00	1.00		1.00	1.00		0.79	1.15		1.00	1.00	
Incremental Delay, d2	8.1	0.7		24.3	0.2		2.9	0.3		4.5	1.2	
Delay (s)	52.9	40.6		68.3	37.9		34.5	8.6		49.5	14.4	
Level of Service	D	D		E	D		C	A		D	B	
Approach Delay (s)		42.7			58.6			12.4			15.2	
Approach LOS		D			E			B			B	

Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	62.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	485	0	442	124	379	0	0	740	530
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor				0.95	0.95	1.00	1.00	0.95			0.95	1.00
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1681	1681	1583	1770	3539			3539	1583
Flt Permitted				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1681	1583	1770	3539			3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	527	0	480	135	412	0	0	804	576
RTOR Reduction (vph)	0	0	0	0	0	367	0	0	0	0	0	283
Lane Group Flow (vph)	0	0	0	263	264	113	135	412	0	0	804	293
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				22.0	22.0	22.0	12.6	65.0			48.4	48.4
Effective Green, g (s)				22.0	22.0	22.0	12.6	65.0			48.4	48.4
Actuated g/C Ratio				0.23	0.23	0.23	0.13	0.68			0.51	0.51
Clearance Time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				389	389	366	234	2421			1803	806
v/s Ratio Prot				0.16	c0.16		c0.08	0.12			c0.23	
v/s Ratio Perm						0.07						0.19
v/c Ratio				0.68	0.68	0.31	0.58	0.17			0.45	0.36
Uniform Delay, d1				33.3	33.3	30.2	38.7	5.4			14.8	14.0
Progression Factor				1.00	1.00	1.00	0.71	1.19			1.74	7.92
Incremental Delay, d2				4.6	4.7	0.5	3.4	0.2			0.7	1.1
Delay (s)				37.9	37.9	30.7	30.9	6.5			26.5	112.2
Level of Service				D	D	C	C	A			C	F
Approach Delay (s)		0.0			34.5			12.6			62.3	
Approach LOS		A			C			B			E	

Intersection Summary				
HCM 2000 Control Delay	43.5	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.53			
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	63.1%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	199	121	88	255	978	227
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	216	132	96	277	1063	247
RTOR Reduction (vph)	0	116	0	0	0	79
Lane Group Flow (vph)	216	16	96	277	1063	168
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	11.3	11.3	7.0	75.7	64.7	64.7
Effective Green, g (s)	11.3	11.3	7.0	75.7	64.7	64.7
Actuated g/C Ratio	0.12	0.12	0.07	0.80	0.68	0.68
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	408	188	252	2820	2410	1078
v/s Ratio Prot	c0.06		c0.03	0.08	c0.30	
v/s Ratio Perm		0.01				0.11
v/c Ratio	0.53	0.08	0.38	0.10	0.44	0.16
Uniform Delay, d1	39.4	37.2	41.9	2.1	6.9	5.4
Progression Factor	1.00	1.00	1.00	1.00	0.72	1.47
Incremental Delay, d2	1.2	0.2	1.0	0.1	0.5	0.3
Delay (s)	40.6	37.4	42.9	2.2	5.5	8.2
Level of Service	D	D	D	A	A	A
Approach Delay (s)	39.4			12.7	6.0	
Approach LOS	D			B	A	

Intersection Summary			
HCM 2000 Control Delay	12.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	50.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1	50	5	1	5	71	338	5	5	1053	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected		1.00	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1863	1583		1788	1583	1770	3532		1770	3539	1583
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1863	1583		1863	1583	1770	3532		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1	54	5	1	5	77	367	5	5	1145	41
RTOR Reduction (vph)	0	0	51	0	0	5	0	1	0	0	0	15
Lane Group Flow (vph)	0	1	3	0	6	0	77	371	0	5	1145	26
Turn Type		NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						6
Actuated Green, G (s)		3.1	3.1		3.1	3.1	4.0	37.4		0.6	34.0	34.0
Effective Green, g (s)		3.1	3.1		3.1	3.1	4.0	37.4		0.6	34.0	34.0
Actuated g/C Ratio		0.06	0.06		0.06	0.06	0.08	0.70		0.01	0.64	0.64
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		108	92		108	92	133	2487		20	2266	1013
v/s Ratio Prot		0.00					c0.04	c0.11		0.00	c0.32	
v/s Ratio Perm			0.00		c0.00	0.00						0.02
v/c Ratio		0.01	0.03		0.06	0.00	0.58	0.15		0.25	0.51	0.03
Uniform Delay, d1		23.6	23.6		23.6	23.5	23.7	2.6		26.0	5.1	3.5
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		0.0	0.2		0.2	0.0	6.0	0.0		6.5	0.2	0.0
Delay (s)		23.6	23.7		23.8	23.6	29.7	2.6		32.5	5.3	3.5
Level of Service		C	C		C	C	C	A		C	A	A
Approach Delay (s)		23.7			23.7			7.3			5.3	
Approach LOS		C			C			A			A	

Intersection Summary				
HCM 2000 Control Delay	6.5	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.45			
Actuated Cycle Length (s)	53.1	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	47.4%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	228	16	92	798	188	49	4	92	63	11	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	5.3		3.5	6.0		4.2	4.2		4.2	4.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	0.86		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1844		1770	1810		1770	1596		1770	1734	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1844		1770	1810		1770	1596		1770	1734	
Peak-hour factor, PHF	0.89	0.89	0.89	0.69	0.69	0.69	0.86	0.86	0.86	0.78	0.78	0.78
Adj. Flow (vph)	3	256	18	133	1157	272	57	5	107	81	14	12
RTOR Reduction (vph)	0	1	0	0	4	0	0	99	0	0	11	0
Lane Group Flow (vph)	3	273	0	133	1425	0	57	13	0	81	15	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Actuated Green, G (s)	1.0	73.4		14.3	86.0		9.3	9.3		11.0	11.0	
Effective Green, g (s)	1.0	73.4		14.3	86.0		9.3	9.3		11.0	11.0	
Actuated g/C Ratio	0.01	0.59		0.11	0.69		0.07	0.07		0.09	0.09	
Clearance Time (s)	3.5	5.3		3.5	6.0		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	14	1081		202	1243		131	118		155	152	
v/s Ratio Prot	0.00	0.15		c0.08	c0.79		c0.03	0.01		c0.05	0.01	
v/s Ratio Perm												
v/c Ratio	0.21	0.25		0.66	1.15		0.44	0.11		0.52	0.10	
Uniform Delay, d1	61.7	12.6		53.1	19.6		55.4	54.1		54.6	52.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.6	0.1		7.5	75.7		2.3	0.4		3.2	0.3	
Delay (s)	69.3	12.7		60.6	95.3		57.7	54.5		57.7	52.8	
Level of Service	E	B		E	F		E	D		E	D	
Approach Delay (s)		13.3			92.4			55.6			56.6	
Approach LOS		B			F			E			E	

Intersection Summary				
HCM 2000 Control Delay	77.3	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	1.02			
Actuated Cycle Length (s)	125.2	Sum of lost time (s)	17.9	
Intersection Capacity Utilization	79.6%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	123	305	6	41	821	126	50	1	2	11	10	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	6.0	6.0	4.5	6.0		5.5	4.5		5.0	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.91		1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3468		1770	1695		1770	1602	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	1770	3468		1770	1695		1770	1602	
Peak-hour factor, PHF	0.83	0.83	0.83	0.80	0.80	0.80	0.63	0.63	0.63	0.83	0.83	0.83
Adj. Flow (vph)	148	367	7	51	1026	158	79	2	3	13	12	170
RTOR Reduction (vph)	0	0	3	0	7	0	0	3	0	0	154	0
Lane Group Flow (vph)	148	367	4	51	1177	0	79	2	0	13	28	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	15.0	69.2	69.2	10.3	63.8		7.0	12.3		6.2	11.0	
Effective Green, g (s)	15.0	69.2	69.2	10.3	63.8		7.0	12.3		6.2	11.0	
Actuated g/C Ratio	0.13	0.59	0.59	0.09	0.54		0.06	0.10		0.05	0.09	
Clearance Time (s)	5.2	6.0	6.0	4.5	6.0		5.5	4.5		5.0	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	225	2075	928	154	1875		105	176		93	149	
v/s Ratio Prot	c0.08	0.10		0.03	c0.34		c0.04	0.00		0.01	c0.02	
v/s Ratio Perm			0.00									
v/c Ratio	0.66	0.18	0.00	0.33	0.63		0.75	0.01		0.14	0.19	
Uniform Delay, d1	49.1	11.3	10.1	50.6	18.8		54.6	47.4		53.4	49.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.8	0.2	0.0	1.3	1.6		25.8	0.0		0.7	0.6	
Delay (s)	55.8	11.4	10.1	51.9	20.4		80.4	47.4		54.0	50.0	
Level of Service	E	B	B	D	C		F	D		D	D	
Approach Delay (s)		24.0			21.7			78.5			50.3	
Approach LOS		C			C			E			D	

Intersection Summary				
HCM 2000 Control Delay	27.4	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.59			
Actuated Cycle Length (s)	118.0	Sum of lost time (s)	21.2	
Intersection Capacity Utilization	62.9%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	139	121	58	444	352	230	119	429	217	95	1030	284
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.7		6.0	5.7	5.7	5.0	5.7	5.7	5.0	5.7	5.7
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	0.86	1.00	0.97	0.91	1.00
Frt	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3367		3433	3539	1583	1770	6408	1583	3433	5085	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3367		3433	3539	1583	1770	6408	1583	3433	5085	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.85	0.85	0.85	0.85	0.85	0.85	0.91	0.91	0.91
Adj. Flow (vph)	148	129	62	522	414	271	140	505	255	104	1132	312
RTOR Reduction (vph)	0	53	0	0	0	214	0	0	155	0	0	188
Lane Group Flow (vph)	148	138	0	522	414	57	140	505	100	104	1132	124
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	11.6	15.9		23.9	28.2	28.2	19.2	52.8	52.8	20.0	53.6	53.6
Effective Green, g (s)	11.6	15.9		23.9	28.2	28.2	19.2	52.8	52.8	20.0	53.6	53.6
Actuated g/C Ratio	0.09	0.12		0.18	0.21	0.21	0.14	0.39	0.39	0.15	0.40	0.40
Clearance Time (s)	6.0	5.7		6.0	5.7	5.7	5.0	5.7	5.7	5.0	5.7	5.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	294	396		607	739	330	251	2506	619	508	2018	628
v/s Ratio Prot	0.04	0.04		c0.15	c0.12		c0.08	0.08		0.03	c0.22	
v/s Ratio Perm						0.04			0.06			0.08
v/c Ratio	0.50	0.35		0.86	0.56	0.17	0.56	0.20	0.16	0.20	0.56	0.20
Uniform Delay, d1	58.9	54.8		53.9	47.8	43.8	53.9	27.2	26.7	50.5	31.6	26.6
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.4	0.5		11.7	1.0	0.2	2.7	0.2	0.6	0.2	1.1	0.7
Delay (s)	60.3	55.3		65.6	48.8	44.1	56.6	27.3	27.3	50.7	32.7	27.3
Level of Service	E	E		E	D	D	E	C	C	D	C	C
Approach Delay (s)		57.5			55.0			31.9			32.8	
Approach LOS		E			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	41.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	22.4
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	17.9
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	70	2	54	0	127	1	18	0	44	480	90
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	76	2	59	0	138	1	20	0	48	522	98
Number of Lanes	0	0	1	0	0	0	1	0	0	1	2	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	3	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	3	3	1
HCM Control Delay	14.6	16.1	18.9
HCM LOS	B	C	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	56%	87%	100%	0%	0%
Vol Thru, %	0%	100%	64%	2%	1%	0%	100%	67%
Vol Right, %	0%	0%	36%	43%	12%	0%	0%	33%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	44	320	250	126	146	52	306	228
LT Vol	44	0	0	70	127	52	0	0
Through Vol	0	320	160	2	1	0	306	153
RT Vol	0	0	90	54	18	0	0	75
Lane Flow Rate	48	348	272	137	159	57	333	248
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.098	0.666	0.501	0.311	0.372	0.117	0.641	0.461
Departure Headway (Hd)	7.408	6.895	6.637	8.17	8.443	7.446	6.933	6.696
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	484	525	543	440	427	482	522	538
Service Time	5.154	4.64	4.381	5.922	6.195	5.191	4.677	4.441
HCM Lane V/C Ratio	0.099	0.663	0.501	0.311	0.372	0.118	0.638	0.461
HCM Control Delay	11	22.4	15.9	14.6	16.1	11.2	21.3	15.1
HCM Lane LOS	B	C	C	B	C	B	C	C
HCM 95th-tile Q	0.3	4.9	2.8	1.3	1.7	0.4	4.5	2.4

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	52	459	75
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	57	499	82
Number of Lanes	0	1	2	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	3
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	18
HCM LOS	C

Lane

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	62	539	87	45	1309
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	85	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	67	586	95	49	1423

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1442	340	0	0	680	0
Stage 1	633	-	-	-	-	-
Stage 2	809	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	123	656	-	-	908	-
Stage 1	491	-	-	-	-	-
Stage 2	398	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	116	656	-	-	908	-
Mov Cap-2 Maneuver	116	-	-	-	-	-
Stage 1	491	-	-	-	-	-
Stage 2	377	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	656	908	-
HCM Lane V/C Ratio	-	-	0.103	0.054	-
HCM Control Delay (s)	-	-	11.1	9.2	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.2	-

Intersection	
Int Delay, s/veh	202.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	58	115	511	110	242	1067
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	525	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	51	51	75	75	75	75
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	114	225	681	147	323	1423

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2112	414	0	0	828	0
Stage 1	755	-	-	-	-	-
Stage 2	1357	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	~ 45	593	-	-	812	-
Stage 1	430	-	-	-	-	-
Stage 2	208	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 27	593	-	-	812	-
Mov Cap-2 Maneuver	~ 27	-	-	-	-	-
Stage 1	430	-	-	-	-	-
Stage 2	125	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 1726.4	0	2.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	74	812	-
HCM Lane V/C Ratio	-	-	4.584	0.397	-
HCM Control Delay (s)	-	-	$ 1726.4	12.3	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	36.6	1.9	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	34	2	1	570	1088	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	2	1	620	1183	35

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1512	609	1217	0	-	0
Stage 1	1200	-	-	-	-	-
Stage 2	312	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	111	438	569	-	-	-
Stage 1	248	-	-	-	-	-
Stage 2	715	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	111	438	569	-	-	-
Mov Cap-2 Maneuver	203	-	-	-	-	-
Stage 1	248	-	-	-	-	-
Stage 2	714	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	26.2	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	569	-	209	-	-
HCM Lane V/C Ratio	0.002	-	0.187	-	-
HCM Control Delay (s)	11.3	-	26.2	-	-
HCM Lane LOS	B	-	D	-	-
HCM 95th %tile Q(veh)	0	-	0.7	-	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	9	668	41	0	1261
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	100	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	10	726	45	0	1371

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1274	363	0	0	726	0
Stage 1	726	-	-	-	-	-
Stage 2	548	-	-	-	-	-
Critical Hdwy	6.29	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.67	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	189	634	-	-	873	-
Stage 1	428	-	-	-	-	-
Stage 2	511	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	189	634	-	-	873	-
Mov Cap-2 Maneuver	189	-	-	-	-	-
Stage 1	428	-	-	-	-	-
Stage 2	511	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.8	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	634	873	-
HCM Lane V/C Ratio	-	-	0.015	-	-
HCM Control Delay (s)	-	-	10.8	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	3	41	8	0	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3	45	9	0	52

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	101	49	0	0	53	0
Stage 1	49	-	-	-	-	-
Stage 2	52	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	898	1020	-	-	1553	-
Stage 1	973	-	-	-	-	-
Stage 2	970	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	898	1020	-	-	1553	-
Mov Cap-2 Maneuver	898	-	-	-	-	-
Stage 1	973	-	-	-	-	-
Stage 2	970	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1020	1553	-
HCM Lane V/C Ratio	-	-	0.003	-	-
HCM Control Delay (s)	-	-	8.5	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

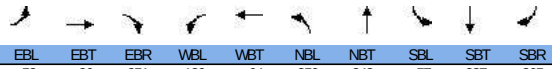
Intersection	
Int Delay, s/veh	2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	23	15	34	76	20	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	16	37	83	22	30

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	152	78	0	0	120	0
Stage 1	78	-	-	-	-	-
Stage 2	74	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	840	983	-	-	1468	-
Stage 1	945	-	-	-	-	-
Stage 2	949	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	827	983	-	-	1468	-
Mov Cap-2 Maneuver	827	-	-	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	935	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	3.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	882	1468	-
HCM Lane V/C Ratio	-	-	0.047	0.015	-
HCM Control Delay (s)	-	-	9.3	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	53	86	251	139	64	359	243	57	227	265
v/c Ratio	0.23	0.36	0.59	0.47	0.21	0.70	0.31	0.33	0.60	0.50
Control Delay	44.6	46.6	12.1	44.2	36.7	41.0	22.3	52.7	44.7	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.6	46.6	12.1	44.2	36.7	41.0	22.3	52.7	44.7	8.6
Queue Length 50th (ft)	27	44	0	70	28	167	83	29	112	0
Queue Length 95th (ft)	85	125	79	176	86	#479	237	99	284	76
Internal Link Dist (ft)		1626			141		676		2268	
Turn Bay Length (ft)	60					100		60		180
Base Capacity (vph)	732	771	802	745	767	745	1158	331	756	799
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.11	0.31	0.19	0.08	0.48	0.21	0.17	0.30	0.33

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	29	182	852	568	212	262	178	175	536
v/c Ratio	0.28	0.31	0.82	0.72	0.84	0.34	0.11	0.73	0.72
Control Delay	57.4	19.0	41.8	27.2	73.3	35.5	0.1	62.2	42.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.4	19.0	41.8	27.2	73.3	35.5	0.1	62.2	42.9
Queue Length 50th (ft)	17	24	235	269	124	69	0	100	153
Queue Length 95th (ft)	56	57	#508	461	#350	131	0	#276	262
Internal Link Dist (ft)		153		168		1623			1819
Turn Bay Length (ft)	165		340		265		180	135	
Base Capacity (vph)	107	1120	1043	996	251	1089	1583	251	1079
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.16	0.82	0.57	0.84	0.24	0.11	0.70	0.50

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	36	179	77	36	108	631	24	1160
v/c Ratio	0.33	0.63	0.61	0.17	0.55	0.26	0.19	0.56
Control Delay	51.0	18.9	63.7	24.0	41.5	8.8	44.3	14.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.0	18.9	63.7	24.0	41.5	8.8	44.3	14.9
Queue Length 50th (ft)	21	9	46	9	47	25	14	220
Queue Length 95th (ft)	53	68	#106	36	m114	183	39	327
Internal Link Dist (ft)		255		599		379		935
Turn Bay Length (ft)	200		200		200		200	
Base Capacity (vph)	111	406	130	322	200	2403	129	2055
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.44	0.59	0.11	0.54	0.26	0.19	0.56

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	263	264	480	135	412	804	576
v/c Ratio	0.68	0.68	0.65	0.57	0.17	0.45	0.53
Control Delay	41.8	41.9	7.5	36.8	7.3	29.5	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.8	41.9	7.5	36.8	7.3	29.5	15.3
Queue Length 50th (ft)	147	148	1	75	74	261	151
Queue Length 95th (ft)	229	230	79	121	101	328	261
Internal Link Dist (ft)		222			661	164	
Turn Bay Length (ft)				540			
Base Capacity (vph)	460	460	780	484	2422	1803	1088
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.57	0.62	0.28	0.17	0.45	0.53

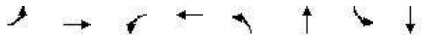
Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	216	132	96	277	1063	247
v/c Ratio	0.53	0.43	0.31	0.10	0.44	0.21
Control Delay	43.8	11.5	43.0	2.4	6.0	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.8	11.5	43.0	2.4	6.0	1.9
Queue Length 50th (ft)	63	0	28	14	138	16
Queue Length 95th (ft)	96	50	52	27	218	33
Internal Link Dist (ft)	57			498	661	
Turn Bay Length (ft)			390			640
Base Capacity (vph)	939	529	939	2820	2440	1168
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.25	0.10	0.10	0.44	0.21

Intersection Summary

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	1	54	6	5	77	372	5	1145	41
v/c Ratio	0.00	0.20	0.02	0.02	0.28	0.13	0.03	0.45	0.04
Control Delay	25.0	6.5	24.8	0.2	25.7	2.5	27.6	7.1	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.0	6.5	24.8	0.2	25.7	2.5	27.6	7.1	0.7
Queue Length 50th (ft)	0	0	2	0	21	11	2	120	0
Queue Length 95th (ft)	4	19	12	0	66	40	12	180	4
Internal Link Dist (ft)	536		1154			422		141	
Turn Bay Length (ft)				75	150		100		
Base Capacity (vph)	464	452	464	452	320	3003	160	2860	1294
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.12	0.01	0.01	0.24	0.12	0.03	0.40	0.03

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	3	274	133	1429	57	112	81	26
v/c Ratio	0.04	0.26	0.64	1.12	0.43	0.51	0.51	0.16
Control Delay	61.7	15.2	66.9	85.7	65.2	20.0	65.7	36.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.7	15.2	66.9	85.7	65.2	20.0	65.7	36.8
Queue Length 50th (ft)	2	100	100	~1261	43	4	61	10
Queue Length 95th (ft)	14	194	136	#1200	90	57	106	35
Internal Link Dist (ft)		1374		2039		916		934
Turn Bay Length (ft)	200		120		100		100	
Base Capacity (vph)	80	1088	297	1275	232	302	363	365
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.25	0.45	1.12	0.25	0.37	0.22	0.07

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	148	367	7	51	1184	79	5	13	182
v/c Ratio	0.66	0.17	0.01	0.33	0.59	0.63	0.03	0.09	0.68
Control Delay	62.3	11.1	0.0	56.2	19.8	75.7	36.0	49.7	22.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.3	11.1	0.0	56.2	19.8	75.7	36.0	49.7	22.2
Queue Length 50th (ft)	109	60	0	37	295	59	1	10	9
Queue Length 95th (ft)	156	92	0	68	385	77	9	28	60
Internal Link Dist (ft)		189			259		567		1162
Turn Bay Length (ft)	100		120	120		100		50	
Base Capacity (vph)	255	2190	1020	154	1993	130	397	201	528
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.17	0.01	0.33	0.59	0.61	0.01	0.06	0.34

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	148	191	522	414	271	140	505	255	104	1132	312
v/c Ratio	0.50	0.43	0.86	0.56	0.50	0.56	0.20	0.33	0.20	0.56	0.38
Control Delay	64.8	38.8	68.3	51.6	8.4	63.1	27.5	4.4	51.7	33.0	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.8	38.8	68.3	51.6	8.4	63.1	27.5	4.4	51.7	33.0	4.4
Queue Length 50th (ft)	64	58	229	179	0	116	79	0	41	262	0
Queue Length 95th (ft)	99	84	#404	211	57	176	105	45	70	345	62
Internal Link Dist (ft)		409		264			320			2205	
Turn Bay Length (ft)	250		150		250	280		100	250		250
Base Capacity (vph)	610	1022	609	787	562	252	2508	774	508	2019	816
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.19	0.86	0.53	0.48	0.56	0.20	0.33	0.20	0.56	0.38

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	103	6	243	14	8	3	209	349	8	1	225	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1781		1770	1856		1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	1770	1781		1770	1856		1770	1863	1583
Peak-hour factor, PHF	0.81	0.81	0.81	0.64	0.64	0.64	0.93	0.93	0.93	0.96	0.96	0.96
Adj. Flow (vph)	127	7	300	22	12	5	225	375	9	1	234	36
RTOR Reduction (vph)	0	0	247	0	5	0	0	1	0	0	0	26
Lane Group Flow (vph)	127	7	53	22	12	0	225	383	0	1	234	10
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	13.5	13.5	13.5	6.4	6.4		17.0	37.7		0.6	21.3	21.3
Effective Green, g (s)	13.5	13.5	13.5	6.4	6.4		17.0	37.7		0.6	21.3	21.3
Actuated g/C Ratio	0.18	0.18	0.18	0.08	0.08		0.22	0.50		0.01	0.28	0.28
Clearance Time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	313	330	280	148	149		395	919		13	521	443
v/s Ratio Prot	c0.07	0.00		c0.01	0.01		c0.13	c0.21		0.00	0.13	
v/s Ratio Perm			0.03									0.01
v/c Ratio	0.41	0.02	0.19	0.15	0.08		0.57	0.42		0.08	0.45	0.02
Uniform Delay, d1	27.7	25.8	26.6	32.3	32.1		26.3	12.2		37.5	22.6	19.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.9	0.0	0.3	0.5	0.2		1.9	0.3		2.5	0.6	0.0
Delay (s)	28.6	25.9	27.0	32.8	32.4		28.2	12.5		40.0	23.2	19.9
Level of Service	C	C	C	C	C		C	B		D	C	B
Approach Delay (s)		27.4			32.6			18.3			22.8	
Approach LOS		C			C			B			C	

Intersection Summary				
HCM 2000 Control Delay	22.5	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.45			
Actuated Cycle Length (s)	76.1	Sum of lost time (s)	17.9	
Intersection Capacity Utilization	47.4%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	49	197	67	388	95	119	84	447	553	158	329	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3		4.0	5.3		4.0	5.3	4.0	4.0	5.3	
Lane Util. Factor	1.00	0.95		0.97	1.00		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.96		1.00	0.92		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3404		3433	1707		1770	3539	1583	1770	3497	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3404		3433	1707		1770	3539	1583	1770	3497	
Peak-hour factor, PHF	0.83	0.83	0.83	0.89	0.89	0.89	0.93	0.93	0.93	0.90	0.90	0.90
Adj. Flow (vph)	59	237	81	436	107	134	90	481	595	176	366	32
RTOR Reduction (vph)	0	34	0	0	40	0	0	0	0	0	6	0
Lane Group Flow (vph)	59	284	0	436	201	0	90	481	595	176	392	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									Free			
Actuated Green, G (s)	7.0	14.5		15.2	22.7		8.0	17.7	79.0	13.0	22.7	
Effective Green, g (s)	7.0	14.5		15.2	22.7		8.0	17.7	79.0	13.0	22.7	
Actuated g/C Ratio	0.09	0.18		0.19	0.29		0.10	0.22	1.00	0.16	0.29	
Clearance Time (s)	4.0	5.3		4.0	5.3		4.0	5.3		4.0	5.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	156	624		660	490		179	792	1583	291	1004	
v/s Ratio Prot	0.03	0.08		c0.13	0.12		0.05	c0.14		c0.10	0.11	
v/s Ratio Perm									c0.38			
v/c Ratio	0.38	0.45		0.66	0.41		0.50	0.61	0.38	0.60	0.39	
Uniform Delay, d1	33.9	28.7		29.5	22.7		33.6	27.5	0.0	30.6	22.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.5	0.5		2.5	0.6		2.2	1.3	0.7	3.5	0.3	
Delay (s)	35.5	29.3		32.0	23.3		35.8	28.9	0.7	34.1	22.9	
Level of Service	D	C		C	C		D	C	A	C	C	
Approach Delay (s)		30.2			28.9			15.0			26.3	
Approach LOS		C			C			B			C	

Intersection Summary				
HCM 2000 Control Delay	22.8	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.60			
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	18.6	
Intersection Capacity Utilization	56.0%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	92	18	184	201	18	76	153	1073	194	50	633	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.86		1.00	0.88		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1609		1770	1638		1770	3458		1770	3484	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1609		1770	1638		1770	3458		1770	3484	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	100	20	200	218	20	83	166	1166	211	54	688	80
RTOR Reduction (vph)	0	181	0	0	71	0	0	13	0	0	8	0
Lane Group Flow (vph)	100	39	0	218	32	0	166	1364	0	54	760	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	8.7	9.2		13.6	14.1		13.4	49.7		6.5	42.8	
Effective Green, g (s)	8.7	9.2		13.6	14.1		13.4	49.7		6.5	42.8	
Actuated g/C Ratio	0.09	0.10		0.14	0.15		0.14	0.52		0.07	0.45	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	162	155		253	243		249	1809		121	1569	
v/s Ratio Prot	0.06	c0.02		c0.12	0.02		c0.09	c0.39		0.03	0.22	
v/s Ratio Perm												
v/c Ratio	0.62	0.25		0.86	0.13		0.67	0.75		0.45	0.48	
Uniform Delay, d1	41.5	39.7		39.8	35.1		38.7	17.8		42.5	18.3	
Progression Factor	1.00	1.00		1.00	1.00		1.07	0.91		1.00	1.00	
Incremental Delay, d2	6.8	0.9		24.6	0.2		5.5	2.5		2.6	1.1	
Delay (s)	48.4	40.6		64.4	35.4		46.9	18.8		45.1	19.4	
Level of Service	D	D		E	D		D	B		D	B	
Approach Delay (s)		43.0			55.1			21.8			21.1	
Approach LOS		D			E			C			C	

Intersection Summary				
HCM 2000 Control Delay	27.4	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.72			
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	76.0%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	113	0	374	55	1178	0	0	713	278
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor				0.95	0.95	1.00	1.00	0.95			0.95	1.00
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1681	1681	1583	1770	3539			3539	1583
Flt Permitted				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1681	1583	1770	3539			3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	123	0	407	60	1280	0	0	775	302
RTOR Reduction (vph)	0	0	0	0	0	46	0	0	0	0	0	143
Lane Group Flow (vph)	0	0	0	61	62	361	60	1280	0	0	775	159
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				25.6	25.6	25.6	7.3	61.4			50.1	50.1
Effective Green, g (s)				25.6	25.6	25.6	7.3	61.4			50.1	50.1
Actuated g/C Ratio				0.27	0.27	0.27	0.08	0.65			0.53	0.53
Clearance Time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				452	452	426	136	2287			1866	834
v/s Ratio Prot				0.04	0.04		0.03	c0.36			0.22	
v/s Ratio Perm						c0.23						0.10
v/c Ratio				0.13	0.14	0.85	0.44	0.56			0.42	0.19
Uniform Delay, d1				26.3	26.3	32.9	41.9	9.3			13.6	11.8
Progression Factor				1.00	1.00	1.00	0.99	1.15			1.55	4.73
Incremental Delay, d2				0.1	0.1	14.4	2.2	0.9			0.6	0.5
Delay (s)				26.4	26.5	47.3	43.7	11.7			21.7	56.2
Level of Service				C	C	D	D	B			C	E
Approach Delay (s)		0.0			42.4			13.1			31.4	
Approach LOS		A			D			B			C	

Intersection Summary				
HCM 2000 Control Delay	25.1	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.67			
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	62.4%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	483	215	297	648	449	367
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	3433	1583	3433	3539	3539	1583
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	3433	1583	3433	3539	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	525	234	323	704	488	399
RTOR Reduction (vph)	0	184	0	0	0	195
Lane Group Flow (vph)	525	50	323	704	488	204
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	20.3	20.3	14.2	66.7	48.5	48.5
Effective Green, g (s)	20.3	20.3	14.2	66.7	48.5	48.5
Actuated g/C Ratio	0.21	0.21	0.15	0.70	0.51	0.51
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	733	338	513	2484	1806	808
v/s Ratio Prot	c0.15		c0.09	c0.20	0.14	
v/s Ratio Perm		0.03				0.13
v/c Ratio	0.72	0.15	0.63	0.28	0.27	0.25
Uniform Delay, d1	34.7	30.3	37.9	5.3	13.2	13.1
Progression Factor	1.00	1.00	1.00	1.00	0.50	0.61
Incremental Delay, d2	3.3	0.2	2.4	0.3	0.3	0.7
Delay (s)	38.0	30.5	40.4	5.5	6.9	8.7
Level of Service	D	C	D	A	A	A
Approach Delay (s)	35.7			16.5	7.7	
Approach LOS	D			B	A	

Intersection Summary			
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	44.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1	75	5	1	5	86	940	5	5	587	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected		1.00	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1863	1583		1788	1583	1770	3537		1770	3539	1583
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1863	1583		1863	1583	1770	3537		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1	82	5	1	5	93	1022	5	5	638	77
RTOR Reduction (vph)	0	0	75	0	0	5	0	0	0	0	0	34
Lane Group Flow (vph)	0	1	7	0	6	0	93	1027	0	5	638	43
Turn Type		NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						6
Actuated Green, G (s)		3.6	3.6		3.6	3.6	4.2	28.7		0.6	25.1	25.1
Effective Green, g (s)		3.6	3.6		3.6	3.6	4.2	28.7		0.6	25.1	25.1
Actuated g/C Ratio		0.08	0.08		0.08	0.08	0.09	0.64		0.01	0.56	0.56
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		149	126		149	126	165	2260		23	1978	884
v/s Ratio Prot		0.00					c0.05	c0.29		0.00	0.18	
v/s Ratio Perm			c0.00		0.00	0.00						0.03
v/c Ratio		0.01	0.05		0.04	0.00	0.56	0.45		0.22	0.32	0.05
Uniform Delay, d1		19.0	19.1		19.1	19.0	19.5	4.1		21.9	5.3	4.5
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		0.0	0.2		0.1	0.0	4.4	0.1		4.7	0.1	0.0
Delay (s)		19.0	19.2		19.2	19.0	23.8	4.3		26.6	5.4	4.5
Level of Service		B	B		B	B	C	A		C	A	A
Approach Delay (s)		19.2			19.1			5.9			5.5	
Approach LOS		B			B			A			A	

Intersection Summary				
HCM 2000 Control Delay	6.4	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.44			
Actuated Cycle Length (s)	44.9	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	43.8%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	18	661	57	65	376	133	46	9	99	243	20	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	5.3		3.5	6.0		4.2	4.2		4.2	4.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.96		1.00	0.86		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1840		1770	1790		1770	1606		1770	1733	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1840		1770	1790		1770	1606		1770	1733	
Peak-hour factor, PHF	0.91	0.91	0.91	0.78	0.78	0.78	0.81	0.81	0.81	0.90	0.90	0.90
Adj. Flow (vph)	20	726	63	83	482	171	57	11	122	270	22	19
RTOR Reduction (vph)	0	2	0	0	6	0	0	111	0	0	15	0
Lane Group Flow (vph)	20	787	0	83	647	0	57	22	0	270	26	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Actuated Green, G (s)	2.8	42.0		8.4	46.9		8.8	8.8		20.1	20.1	
Effective Green, g (s)	2.8	42.0		8.4	46.9		8.8	8.8		20.1	20.1	
Actuated g/C Ratio	0.03	0.44		0.09	0.49		0.09	0.09		0.21	0.21	
Clearance Time (s)	3.5	5.3		3.5	6.0		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	51	800		154	869		161	146		368	360	
v/s Ratio Prot	0.01	c0.43		c0.05	0.36		c0.03	0.01		c0.15	0.01	
v/s Ratio Perm												
v/c Ratio	0.39	0.98		0.54	0.74		0.35	0.15		0.73	0.07	
Uniform Delay, d1	46.0	26.9		42.2	20.0		41.2	40.4		35.7	30.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.9	27.7		3.6	3.5		1.3	0.5		7.4	0.1	
Delay (s)	50.9	54.6		45.8	23.5		42.5	40.9		43.1	30.8	
Level of Service	D	D		D	C		D	D		D	C	
Approach Delay (s)		54.5			26.0			41.4			41.5	
Approach LOS		D			C			D			D	

Intersection Summary				
HCM 2000 Control Delay	41.0	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.81			
Actuated Cycle Length (s)	96.5	Sum of lost time (s)	17.9	
Intersection Capacity Utilization	73.8%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	196	819	23	19	450	104	59	10	13	118	20	207
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	6.0	6.0	4.5	6.0		5.5	4.5		5.0	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.91		1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3440		1770	1702		1770	1608	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	1770	3440		1770	1702		1770	1608	
Peak-hour factor, PHF	0.85	0.85	0.85	0.88	0.88	0.88	0.69	0.69	0.69	0.78	0.78	0.78
Adj. Flow (vph)	231	964	27	22	511	118	86	14	19	151	26	265
RTOR Reduction (vph)	0	0	11	0	16	0	0	18	0	0	237	0
Lane Group Flow (vph)	231	964	16	22	613	0	86	15	0	151	54	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	23.2	68.9	68.9	4.7	49.7		11.4	5.6		18.8	12.5	
Effective Green, g (s)	23.2	68.9	68.9	4.7	49.7		11.4	5.6		18.8	12.5	
Actuated g/C Ratio	0.20	0.58	0.58	0.04	0.42		0.10	0.05		0.16	0.11	
Clearance Time (s)	5.2	6.0	6.0	4.5	6.0		5.5	4.5		5.0	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	348	2066	924	70	1448		171	80		282	170	
v/s Ratio Prot	c0.13	c0.27		0.01	0.18		0.05	0.01		c0.09	c0.03	
v/s Ratio Perm			0.01									
v/c Ratio	0.66	0.47	0.02	0.31	0.42		0.50	0.19		0.54	0.32	
Uniform Delay, d1	43.8	14.0	10.3	55.1	24.1		50.6	54.0		45.6	48.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.7	0.8	0.0	2.6	0.9		2.3	1.1		2.0	1.1	
Delay (s)	48.5	14.8	10.4	57.7	25.0		52.9	55.1		47.5	49.9	
Level of Service	D	B	B	E	C		D	E		D	D	
Approach Delay (s)		21.1			26.1			53.5			49.1	
Approach LOS		C			C			D			D	

Intersection Summary				
HCM 2000 Control Delay	29.1	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.54			
Actuated Cycle Length (s)	118.0	Sum of lost time (s)	21.2	
Intersection Capacity Utilization	60.6%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	185	284	99	363	157	223	142	1019	427	332	514	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.7		6.0	5.7	5.7	5.0	5.7	5.7	5.0	5.7	5.7
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	0.86	1.00	0.97	0.91	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3402		3433	3539	1583	1770	6408	1583	3433	5085	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3402		3433	3539	1583	1770	6408	1583	3433	5085	1583
Peak-hour factor, PHF	0.77	0.77	0.77	0.89	0.89	0.89	0.82	0.82	0.82	0.87	0.87	0.87
Adj. Flow (vph)	240	369	129	408	176	251	173	1243	521	382	591	152
RTOR Reduction (vph)	0	30	0	0	0	203	0	0	169	0	0	98
Lane Group Flow (vph)	240	468	0	408	176	48	173	1243	352	382	591	54
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	14.7	24.1		16.2	25.6	25.6	24.3	50.8	50.8	21.5	48.0	48.0
Effective Green, g (s)	14.7	24.1		16.2	25.6	25.6	24.3	50.8	50.8	21.5	48.0	48.0
Actuated g/C Ratio	0.11	0.18		0.12	0.19	0.19	0.18	0.38	0.38	0.16	0.36	0.36
Clearance Time (s)	6.0	5.7		6.0	5.7	5.7	5.0	5.7	5.7	5.0	5.7	5.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	373	607		411	671	300	318	2411	595	546	1808	562
v/s Ratio Prot	0.07	c0.14		c0.12	0.05		0.10	0.19		c0.11	0.12	
v/s Ratio Perm						0.03			c0.22			0.03
v/c Ratio	0.64	0.77		0.99	0.26	0.16	0.54	0.52	0.59	0.70	0.33	0.10
Uniform Delay, d1	57.6	52.8		59.3	46.6	45.7	50.3	32.6	33.8	53.7	31.7	29.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.8	6.0		42.3	0.2	0.2	1.9	0.8	4.3	3.9	0.5	0.3
Delay (s)	61.4	58.9		101.6	46.9	46.0	52.2	33.4	38.1	57.6	32.2	29.4
Level of Service	E	E		F	D	D	D	C	D	E	C	C
Approach Delay (s)		59.7			73.3			36.3			40.4	
Approach LOS		E			E			D			D	

Intersection Summary				
HCM 2000 Control Delay	47.7	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.71			
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	22.4	
Intersection Capacity Utilization	65.1%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Intersection	
Intersection Delay, s/veh	15.1
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	36	1	27	0	80	2	32	0	22	491	104
Peak Hour Factor	0.92	0.63	0.63	0.63	0.92	0.77	0.77	0.77	0.92	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	57	2	43	0	104	3	42	0	24	528	112
Number of Lanes	0	0	1	0	0	0	1	0	0	1	2	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	3	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	3	3	1
HCM Control Delay	12.6	14.1	16.5
HCM LOS	B	B	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	56%	70%	100%	0%	0%
Vol Thru, %	0%	100%	61%	2%	2%	0%	100%	77%
Vol Right, %	0%	0%	39%	42%	28%	0%	0%	23%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	22	327	268	64	114	43	267	172
LT Vol	22	0	0	36	80	43	0	0
Through Vol	0	327	164	1	2	0	267	133
RT Vol	0	0	104	27	32	0	0	39
Lane Flow Rate	24	352	288	102	148	47	290	187
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.045	0.615	0.481	0.219	0.319	0.09	0.52	0.327
Departure Headway (Hd)	6.9	6.291	6.013	7.754	7.762	7.069	6.558	6.397
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	522	570	593	465	466	510	554	566
Service Time	4.6	4.09	3.812	5.461	5.467	4.769	4.258	4.097
HCM Lane V/C Ratio	0.046	0.618	0.486	0.219	0.318	0.092	0.523	0.33
HCM Control Delay	9.9	18.8	14.3	12.6	14.1	10.5	16.1	12.2
HCM Lane LOS	A	C	B	B	B	B	C	B
HCM 95th-tile Q	0.1	4.2	2.6	0.8	1.4	0.3	3	1.4

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	43	400	39
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	47	435	42
Number of Lanes	0	1	2	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	3
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	14.2
HCM LOS	B

Lane

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	39	1049	162	27	763
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	85	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	91	91	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	50	1153	178	31	867

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1737	665	0	0	1331	0
Stage 1	1242	-	-	-	-	-
Stage 2	495	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	78	403	-	-	514	-
Stage 1	236	-	-	-	-	-
Stage 2	578	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	73	403	-	-	514	-
Mov Cap-2 Maneuver	73	-	-	-	-	-
Stage 1	236	-	-	-	-	-
Stage 2	543	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.2	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	403	514	-
HCM Lane V/C Ratio	-	-	0.124	0.06	-
HCM Control Delay (s)	-	-	15.2	12.4	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0.4	0.2	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	7	12	1199	18	20	743
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	525	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	68	68	95	95	87	87
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	10	18	1262	19	23	854

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1745	641	0	0	1281	0
Stage 1	1272	-	-	-	-	-
Stage 2	473	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	79	422	-	-	549	-
Stage 1	231	-	-	-	-	-
Stage 2	599	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	76	422	-	-	549	-
Mov Cap-2 Maneuver	76	-	-	-	-	-
Stage 1	231	-	-	-	-	-
Stage 2	574	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	32.6	0	0.3
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	158	549	-
HCM Lane V/C Ratio	-	-	0.177	0.042	-
HCM Control Delay (s)	-	-	32.6	11.8	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	0.6	0.1	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	34	3	1	1157	716	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	3	1	1258	778	37

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1428	408	815	0	-	0
Stage 1	797	-	-	-	-	-
Stage 2	631	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	126	593	808	-	-	-
Stage 1	404	-	-	-	-	-
Stage 2	492	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	126	593	808	-	-	-
Mov Cap-2 Maneuver	259	-	-	-	-	-
Stage 1	404	-	-	-	-	-
Stage 2	491	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.6	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	808	-	271	-	-
HCM Lane V/C Ratio	0.001	-	0.148	-	-
HCM Control Delay (s)	9.5	-	20.6	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	20	1336	29	0	867
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	100	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	22	1452	32	0	942

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1829	726	0	0	1452	0
Stage 1	1452	-	-	-	-	-
Stage 2	377	-	-	-	-	-
Critical Hdwy	6.29	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.67	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	89	367	-	-	462	-
Stage 1	178	-	-	-	-	-
Stage 2	628	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	89	367	-	-	462	-
Mov Cap-2 Maneuver	89	-	-	-	-	-
Stage 1	178	-	-	-	-	-
Stage 2	628	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.4	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	367	462	-
HCM Lane V/C Ratio	-	-	0.059	-	-
HCM Control Delay (s)	-	-	15.4	0	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	5	55	10	0	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	5	60	11	0	58

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	123	65	0	0	71	0
Stage 1	65	-	-	-	-	-
Stage 2	58	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	872	999	-	-	1529	-
Stage 1	958	-	-	-	-	-
Stage 2	965	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	872	999	-	-	1529	-
Mov Cap-2 Maneuver	872	-	-	-	-	-
Stage 1	958	-	-	-	-	-
Stage 2	965	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	999	1529	-
HCM Lane V/C Ratio	-	-	0.005	-	-
HCM Control Delay (s)	-	-	8.6	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	47	28	37	122	24	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	51	30	40	133	26	32

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	191	107	0	0	173	0
Stage 1	107	-	-	-	-	-
Stage 2	84	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	798	947	-	-	1404	-
Stage 1	917	-	-	-	-	-
Stage 2	939	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	783	947	-	-	1404	-
Mov Cap-2 Maneuver	783	-	-	-	-	-
Stage 1	917	-	-	-	-	-
Stage 2	921	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	3.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	837	1404	-
HCM Lane V/C Ratio	-	-	0.097	0.019	-
HCM Control Delay (s)	-	-	9.8	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	127	7	300	22	17	225	384	1	234	36
v/c Ratio	0.39	0.02	0.56	0.09	0.06	0.54	0.40	0.01	0.54	0.08
Control Delay	36.9	35.3	9.4	35.4	29.8	35.9	17.3	50.0	35.6	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.9	35.3	9.4	35.4	29.8	35.9	17.3	50.0	35.6	0.4
Queue Length 50th (ft)	46	2	0	8	4	80	86	0	83	0
Queue Length 95th (ft)	147	17	46	27	19	271	363	7	281	0
Internal Link Dist (ft)		1626			141		676		2268	
Turn Bay Length (ft)	60					100		60		180
Base Capacity (vph)	1044	1099	1057	1062	1070	1062	1465	472	1077	955
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.01	0.28	0.02	0.02	0.21	0.26	0.00	0.22	0.04

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	59	318	436	241	90	481	595	176	398
v/c Ratio	0.26	0.53	0.64	0.44	0.41	0.63	0.38	0.58	0.38
Control Delay	35.5	29.9	34.8	23.6	39.0	31.7	0.7	39.4	24.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.5	29.9	34.8	23.6	39.0	31.7	0.7	39.4	24.0
Queue Length 50th (ft)	24	64	98	82	41	110	0	78	80
Queue Length 95th (ft)	63	105	173	165	94	176	0	162	138
Internal Link Dist (ft)		153		168		1623			1819
Turn Bay Length (ft)	165		340		265		180	135	
Base Capacity (vph)	378	1600	733	821	378	1403	1583	378	1392
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.20	0.59	0.29	0.24	0.34	0.38	0.47	0.29

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	100	220	218	103	166	1377	54	768
v/c Ratio	0.53	0.68	0.86	0.33	0.67	0.73	0.38	0.48
Control Delay	50.5	18.8	70.8	14.9	52.2	19.2	49.3	20.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.5	18.8	70.8	14.9	52.2	19.2	49.3	20.0
Queue Length 50th (ft)	58	12	130	11	88	411	31	158
Queue Length 95th (ft)	108	76	#254	55	m137	518	70	251
Internal Link Dist (ft)		368		552		360		969
Turn Bay Length (ft)	200		200		200		200	
Base Capacity (vph)	223	437	260	389	275	1878	143	1604
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.50	0.84	0.26	0.60	0.73	0.38	0.48

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	61	62	407	60	1280	775	302
v/c Ratio	0.13	0.14	0.86	0.36	0.56	0.41	0.31
Control Delay	25.1	25.1	45.9	45.9	12.7	24.0	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.1	25.1	45.9	45.9	12.7	24.0	10.1
Queue Length 50th (ft)	28	28	194	36	331	212	25
Queue Length 95th (ft)	58	60	#309	m73	410	m303	m99
Internal Link Dist (ft)		222			661	164	
Turn Bay Length (ft)				540			
Base Capacity (vph)	530	530	543	186	2287	1896	988
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.12	0.75	0.32	0.56	0.41	0.31

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	525	234	323	704	488	399
v/c Ratio	0.72	0.45	0.63	0.28	0.27	0.40
Control Delay	40.1	6.8	43.2	6.1	7.6	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.1	6.8	43.2	6.1	7.6	2.3
Queue Length 50th (ft)	152	0	95	72	42	0
Queue Length 95th (ft)	191	55	132	119	38	11
Internal Link Dist (ft)	57			498	661	
Turn Bay Length (ft)			390			640
Base Capacity (vph)	939	603	939	2484	1805	1002
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.39	0.34	0.28	0.27	0.40

Intersection Summary

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	1	82	6	5	93	1027	5	638	77
v/c Ratio	0.00	0.25	0.02	0.02	0.29	0.38	0.03	0.28	0.07
Control Delay	18.0	8.3	18.2	0.0	19.7	4.3	21.4	7.6	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.0	8.3	18.2	0.0	19.7	4.3	21.4	7.6	2.8
Queue Length 50th (ft)	0	0	1	0	17	40	1	54	0
Queue Length 95th (ft)	4	30	10	0	64	139	10	95	16
Internal Link Dist (ft)	536		1154			422		141	
Turn Bay Length (ft)				75	150		100		
Base Capacity (vph)	541	518	541	515	374	3379	187	3272	1469
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.16	0.01	0.01	0.25	0.30	0.03	0.19	0.05

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	20	789	83	653	57	133	270	41
v/c Ratio	0.16	1.00	0.44	0.73	0.35	0.51	0.72	0.11
Control Delay	48.9	61.9	50.3	27.7	49.8	18.0	47.2	20.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.9	61.9	50.3	27.7	49.8	18.0	47.2	20.6
Queue Length 50th (ft)	12	~516	48	259	33	6	154	11
Queue Length 95th (ft)	39	#942	91	479	72	49	261	40
Internal Link Dist (ft)		1374		2039		916		934
Turn Bay Length (ft)	200		120		100		100	
Base Capacity (vph)	411	792	411	894	685	696	590	589
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	1.00	0.20	0.73	0.08	0.19	0.46	0.07

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	231	964	27	22	629	86	33	151	291
v/c Ratio	0.66	0.44	0.03	0.21	0.41	0.51	0.25	0.54	0.75
Control Delay	53.4	15.4	0.0	56.8	24.9	60.3	33.4	53.3	20.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.4	15.4	0.0	56.8	24.9	60.3	33.4	53.3	20.9
Queue Length 50th (ft)	163	216	0	16	165	63	10	109	18
Queue Length 95th (ft)	226	315	0	42	256	84	28	148	57
Internal Link Dist (ft)		189			259		567		1162
Turn Bay Length (ft)	100		120	120		100		50	
Base Capacity (vph)	348	2179	1015	105	1555	174	411	281	600
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.44	0.03	0.21	0.40	0.49	0.08	0.54	0.48

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	240	498	408	176	251	173	1243	521	382	591	152
v/c Ratio	0.64	0.78	0.99	0.26	0.50	0.54	0.51	0.68	0.70	0.33	0.23
Control Delay	65.4	57.9	101.4	48.3	9.1	58.8	34.0	21.9	61.0	32.0	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.4	57.9	101.4	48.3	9.1	58.8	34.0	21.9	61.0	32.0	4.6
Queue Length 50th (ft)	105	206	~215	71	0	140	233	177	167	132	0
Queue Length 95th (ft)	123	209	#317	104	72	206	272	281	206	163	38
Internal Link Dist (ft)		409		264			320			2205	
Turn Bay Length (ft)	250		150		250	280		100	250		250
Base Capacity (vph)	610	1015	411	769	541	318	2414	765	546	1872	683
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.49	0.99	0.23	0.46	0.54	0.51	0.68	0.70	0.32	0.22

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

TECHNICAL APPENDIX 2 of 2

FOR

EDH 52 SITE TRAFFIC IMPACT ANALYSIS
Silva Valley Parkway North of US 50

El Dorado Hills, El Dorado County CA

Prepared For:

RSC ENGINEERING, INC
2250 Douglas Blvd, Suite 150
Roseville, CA 95661

Prepared By:

KDAnderson & Associates, Inc.
3853 Taylor Road, Suite G
Loomis, California 95650
(916) 660-1555



September 1, 2015

6260-13

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	21	67	197	148	32	6	228	101	50	59	232	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1816		1770	1771		1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	1770	1816		1770	1771		1770	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	23	73	214	161	35	7	248	110	54	64	252	185
RTOR Reduction (vph)	0	0	184	0	6	0	0	13	0	0	0	144
Lane Group Flow (vph)	23	73	30	161	36	0	248	151	0	64	252	41
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	10.5	10.5	10.5	14.4	14.4		15.9	26.0		6.5	16.6	16.6
Effective Green, g (s)	10.5	10.5	10.5	14.4	14.4		15.9	26.0		6.5	16.6	16.6
Actuated g/C Ratio	0.14	0.14	0.14	0.19	0.19		0.21	0.35		0.09	0.22	0.22
Clearance Time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	246	259	220	338	347		373	611		152	410	348
v/s Ratio Prot	0.01	c0.04		c0.09	0.02		c0.14	0.09		0.04	c0.14	
v/s Ratio Perm			0.02									0.03
v/c Ratio	0.09	0.28	0.14	0.48	0.10		0.66	0.25		0.42	0.61	0.12
Uniform Delay, d1	28.3	29.0	28.4	27.1	25.1		27.3	17.6		32.6	26.5	23.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	0.6	0.3	1.1	0.1		4.4	0.2		1.9	2.7	0.2
Delay (s)	28.4	29.6	28.7	28.2	25.3		31.7	17.9		34.5	29.2	23.6
Level of Service	C	C	C	C	C		C	B		C	C	C
Approach Delay (s)		28.9			27.6			26.2			27.8	
Approach LOS		C			C			C			C	

Intersection Summary				
HCM 2000 Control Delay	27.5	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.53			
Actuated Cycle Length (s)	75.3	Sum of lost time (s)	17.9	
Intersection Capacity Utilization	50.8%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	31	1	20	178	1	31	13	320	117	115	420	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6			4.6		4.0	5.3		4.0	5.3	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.95			0.98		1.00	0.96		1.00	0.99	
Flt Protected		0.97			0.96		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1715			1751		1770	3397		1770	3496	
Flt Permitted		0.80			0.72		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1417			1312		1770	3397		1770	3496	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	34	1	22	193	1	34	14	348	127	125	457	40
RTOR Reduction (vph)	0	17	0	0	13	0	0	74	0	0	12	0
Lane Group Flow (vph)	0	40	0	0	215	0	14	401	0	125	485	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		10.7			10.7		0.7	17.0		4.8	21.1	
Effective Green, g (s)		10.7			10.7		0.7	17.0		4.8	21.1	
Actuated g/C Ratio		0.23			0.23		0.02	0.37		0.10	0.45	
Clearance Time (s)		4.6			4.6		4.0	5.3		4.0	5.3	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		326			302		26	1244		183	1589	
v/s Ratio Prot							0.01	0.12		c0.07	c0.14	
v/s Ratio Perm		0.03			c0.16							
v/c Ratio		0.12			0.71		0.54	0.32		0.68	0.31	
Uniform Delay, d1		14.1			16.4		22.7	10.6		20.1	8.0	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.2			7.7		19.8	0.2		10.1	0.1	
Delay (s)		14.3			24.1		42.5	10.7		30.1	8.1	
Level of Service		B			C		D	B		C	A	
Approach Delay (s)		14.3			24.1			11.6			12.5	
Approach LOS		B			C			B			B	

Intersection Summary				
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.52			
Actuated Cycle Length (s)	46.4	Sum of lost time (s)	13.9	
Intersection Capacity Utilization	47.0%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	21	87	94	985	270	292	157	140	138	160	409	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3		4.0	5.3		4.0	5.3	4.0	4.0	5.3	
Lane Util. Factor	1.00	0.95		0.97	1.00		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.92		1.00	0.92		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3264		3433	1718		1770	3539	1583	1770	3489	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3264		3433	1718		1770	3539	1583	1770	3489	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	23	95	102	1071	293	317	171	152	150	174	445	47
RTOR Reduction (vph)	0	87	0	0	28	0	0	0	0	0	6	0
Lane Group Flow (vph)	23	110	0	1071	582	0	171	152	150	174	486	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									Free			
Actuated Green, G (s)	2.2	16.0		41.4	55.2		13.1	20.7	109.8	13.1	20.7	
Effective Green, g (s)	2.2	16.0		41.4	55.2		13.1	20.7	109.8	13.1	20.7	
Actuated g/C Ratio	0.02	0.15		0.38	0.50		0.12	0.19	1.00	0.12	0.19	
Clearance Time (s)	4.0	5.3		4.0	5.3		4.0	5.3		4.0	5.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	35	475		1294	863		211	667	1583	211	657	
v/s Ratio Prot	c0.01	0.03		c0.31	c0.34		0.10	0.04		c0.10	c0.14	
v/s Ratio Perm									0.09			
v/c Ratio	0.66	0.23		0.83	0.67		0.81	0.23	0.09	0.82	0.74	
Uniform Delay, d1	53.4	41.5		31.0	20.5		47.1	37.8	0.0	47.2	42.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	36.6	0.3		4.5	2.1		20.5	0.2	0.1	22.3	4.4	
Delay (s)	90.1	41.7		35.5	22.6		67.6	37.9	0.1	69.5	46.4	
Level of Service	F	D		D	C		E	D	A	E	D	
Approach Delay (s)		46.8			30.8			36.7			52.4	
Approach LOS		D			C			D			D	

Intersection Summary				
HCM 2000 Control Delay	37.6	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.77			
Actuated Cycle Length (s)	109.8	Sum of lost time (s)	18.6	
Intersection Capacity Utilization	73.3%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	43	0	0	390	0	90	0	395	74	47	1344	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0			4.0		4.0	4.0	
Lane Util. Factor	1.00			1.00	1.00			0.95		1.00	0.95	
Frt	1.00			1.00	0.85			0.98		1.00	0.99	
Flt Protected	0.95			0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1770			1770	1583			3456		1770	3521	
Flt Permitted	0.95			0.95	1.00			1.00		0.95	1.00	
Satd. Flow (perm)	1770			1770	1583			3456		1770	3521	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	0	0	424	0	98	0	429	80	51	1461	53
RTOR Reduction (vph)	0	0	0	0	77	0	0	13	0	0	2	0
Lane Group Flow (vph)	47	0	0	424	21	0	0	496	0	51	1512	0
Turn Type	Prot			Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	4.0			27.3	19.3			47.0		5.4	56.4	
Effective Green, g (s)	4.0			27.3	19.3			47.0		5.4	56.4	
Actuated g/C Ratio	0.04			0.30	0.21			0.51		0.06	0.62	
Clearance Time (s)	4.0			4.0	4.0			4.0		4.0	4.0	
Vehicle Extension (s)	3.0			3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	77			526	333			1771		104	2165	
v/s Ratio Prot	0.03			c0.24	0.01			0.14		0.03	c0.43	
v/s Ratio Perm												
v/c Ratio	0.61			0.81	0.06			0.28		0.49	0.70	
Uniform Delay, d1	43.1			29.8	29.0			12.7		41.8	11.9	
Progression Factor	1.00			1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	13.5			8.8	0.1			0.4		3.6	1.9	
Delay (s)	56.6			38.5	29.0			13.1		45.4	13.8	
Level of Service	E			D	C			B		D	B	
Approach Delay (s)		56.6			36.8			13.1			14.8	
Approach LOS		E			D			B			B	

Intersection Summary				
HCM 2000 Control Delay	19.6	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.81			
Actuated Cycle Length (s)	91.7	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	74.0%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

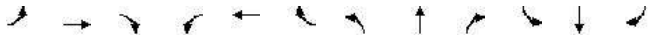
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	456	0	285	0	186	138	0	1038	591
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0		4.0	4.0		4.0	4.0
Lane Util. Factor				0.95	0.91	0.95		0.95	1.00		0.95	1.00
Frt				1.00	0.97	0.85		1.00	0.85		1.00	0.85
Flt Protected				0.95	0.96	1.00		1.00	1.00		1.00	1.00
Satd. Flow (prot)				1681	1579	1504		3539	1583		3539	1583
Flt Permitted				0.95	0.96	1.00		1.00	1.00		1.00	1.00
Satd. Flow (perm)				1681	1579	1504		3539	1583		3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	496	0	310	0	202	150	0	1128	642
RTOR Reduction (vph)	0	0	0	0	11	191	0	0	0	0	0	200
Lane Group Flow (vph)	0	0	0	278	266	60	0	202	150	0	1128	442
Turn Type				Split	NA	Perm		NA	Free		NA	Perm
Protected Phases				8	8			2			6	
Permitted Phases						8			Free			6
Actuated Green, G (s)				26.2	26.2	26.2		75.8	110.0		75.8	75.8
Effective Green, g (s)				26.2	26.2	26.2		75.8	110.0		75.8	75.8
Actuated g/C Ratio				0.24	0.24	0.24		0.69	1.00		0.69	0.69
Clearance Time (s)				4.0	4.0	4.0		4.0			4.0	4.0
Vehicle Extension (s)				3.0	3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)				400	376	358		2438	1583		2438	1090
v/s Ratio Prot				0.17	c0.17			0.06			c0.32	
v/s Ratio Perm						0.04			0.09			0.28
v/c Ratio				0.69	0.71	0.17		0.08	0.09		0.46	0.41
Uniform Delay, d1				38.3	38.4	33.2		5.6	0.0		7.8	7.4
Progression Factor				1.00	1.00	1.00		0.72	1.00		1.00	1.00
Incremental Delay, d2				5.2	6.0	0.2		0.1	0.1		0.6	1.1
Delay (s)				43.4	44.4	33.5		4.1	0.1		8.4	8.5
Level of Service				D	D	C		A	A		A	A
Approach Delay (s)		0.0			40.7			2.4			8.5	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	16.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	141	0	79	0	0	0	0	212	75	0	1233	259
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0					4.0	4.0		4.0	4.0
Lane Util. Factor	0.97		1.00					0.95	1.00		0.95	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3433		1583					3539	1583		3539	1583
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3433		1583					3539	1583		3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	153	0	86	0	0	0	0	230	82	0	1340	282
RTOR Reduction (vph)	0	0	78	0	0	0	0	0	0	0	0	47
Lane Group Flow (vph)	153	0	8	0	0	0	0	230	82	0	1340	235
Turn Type	Prot		Perm					NA	Free		NA	Perm
Protected Phases	4							2			6	
Permitted Phases			4						Free			6
Actuated Green, G (s)	10.4		10.4					91.6	110.0		91.6	91.6
Effective Green, g (s)	10.4		10.4					91.6	110.0		91.6	91.6
Actuated g/C Ratio	0.09		0.09					0.83	1.00		0.83	0.83
Clearance Time (s)	4.0		4.0					4.0			4.0	4.0
Vehicle Extension (s)	3.0		3.0					3.0			3.0	3.0
Lane Grp Cap (vph)	324		149					2947	1583		2947	1318
v/s Ratio Prot	c0.04							0.06			c0.38	
v/s Ratio Perm			0.01						0.05			0.15
v/c Ratio	0.47		0.05					0.08	0.05		0.45	0.18
Uniform Delay, d1	47.2		45.3					1.6	0.0		2.5	1.8
Progression Factor	1.00		1.00					1.00	1.00		1.19	3.27
Incremental Delay, d2	1.1		0.2					0.1	0.1		0.5	0.3
Delay (s)	48.3		45.5					1.7	0.1		3.4	6.2
Level of Service	D		D					A	A		A	A
Approach Delay (s)		47.3			0.0			1.3			3.9	
Approach LOS		D			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	47.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1	48	5	1	5	42	282	5	5	1307	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.91		1.00	0.91	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	
Flt Protected		1.00	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1863	1583		1788	1583	1770	5073		1770	5085	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1863	1583		1863	1583	1770	5073		1770	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1	52	5	1	5	46	307	5	5	1421	0
RTOR Reduction (vph)	0	0	49	0	0	5	0	1	0	0	0	0
Lane Group Flow (vph)	0	1	3	0	6	0	46	311	0	5	1421	0
Turn Type		NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)		3.1	3.1		3.1	3.1	2.5	37.3		0.6	35.4	
Effective Green, g (s)		3.1	3.1		3.1	3.1	2.5	37.3		0.6	35.4	
Actuated g/C Ratio		0.06	0.06		0.06	0.06	0.05	0.70		0.01	0.67	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		108	92		108	92	83	3570		20	3396	
v/s Ratio Prot		0.00					c0.03	0.06		0.00	c0.28	
v/s Ratio Perm			0.00		c0.00	0.00						
v/c Ratio		0.01	0.03		0.06	0.00	0.55	0.09		0.25	0.42	
Uniform Delay, d1		23.5	23.5		23.6	23.5	24.7	2.5		26.0	4.1	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.0	0.1		0.2	0.0	7.8	0.0		6.5	0.1	
Delay (s)		23.5	23.7		23.8	23.5	32.5	2.5		32.5	4.1	
Level of Service		C	C		C	C	C	A		C	A	
Approach Delay (s)		23.7			23.7			6.3			4.2	
Approach LOS		C			C			A			A	

Intersection Summary				
HCM 2000 Control Delay	5.3	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.39			
Actuated Cycle Length (s)	53.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	42.9%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	147	5	108	944	260	5	5	57	82	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	5.3		3.5	6.0		4.2	4.2		4.2	4.2	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.97		1.00	0.86		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5062		1770	4920		1770	1604		1770	1723	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5062		1770	4920		1770	1604		1770	1723	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	160	5	117	1026	283	5	5	62	89	5	5
RTOR Reduction (vph)	0	3	0	0	40	0	0	58	0	0	4	0
Lane Group Flow (vph)	5	162	0	117	1269	0	5	9	0	89	6	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Actuated Green, G (s)	0.8	20.0		7.0	25.5		3.3	3.3		6.4	6.4	
Effective Green, g (s)	0.8	20.0		7.0	25.5		3.3	3.3		6.4	6.4	
Actuated g/C Ratio	0.01	0.37		0.13	0.47		0.06	0.06		0.12	0.12	
Clearance Time (s)	3.5	5.3		3.5	6.0		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	26	1878		229	2327		108	98		210	204	
v/s Ratio Prot	0.00	0.03		c0.07	c0.26		0.00	c0.01		c0.05	0.00	
v/s Ratio Perm												
v/c Ratio	0.19	0.09		0.51	0.55		0.05	0.09		0.42	0.03	
Uniform Delay, d1	26.2	11.0		21.9	10.1		23.8	23.9		22.0	21.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.6	0.0		1.9	0.3		0.2	0.4		1.4	0.1	
Delay (s)	29.8	11.0		23.8	10.3		24.0	24.3		23.4	21.1	
Level of Service	C	B		C	B		C	C		C	C	
Approach Delay (s)		11.6			11.4			24.3			23.2	
Approach LOS		B			B			C			C	

Intersection Summary				
HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.51			
Actuated Cycle Length (s)	53.9	Sum of lost time (s)	17.9	
Intersection Capacity Utilization	51.3%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	180	213	27	49	1104	49	53	5	5	5	8	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6		4.0	4.0		4.0	5.3		4.0	5.3	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.93		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5001		1770	5053		1770	1723		1770	1599	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5001		1770	5053		1770	1723		1770	1599	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	232	29	53	1200	53	58	5	5	5	9	155
RTOR Reduction (vph)	0	11	0	0	4	0	0	4	0	0	138	0
Lane Group Flow (vph)	196	250	0	53	1249	0	58	6	0	5	26	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	49.0	49.0		35.4	35.4		4.6	16.9		0.8	13.1	
Effective Green, g (s)	49.0	49.0		35.4	35.4		4.6	16.9		0.8	13.1	
Actuated g/C Ratio	0.41	0.41		0.29	0.29		0.04	0.14		0.01	0.11	
Clearance Time (s)	4.6	4.6		4.0	4.0		4.0	5.3		4.0	5.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	722	2042		522	1490		67	242		11	174	
v/s Ratio Prot	c0.11	0.05		0.03	c0.25		c0.03	c0.00		0.00	c0.02	
v/s Ratio Perm												
v/c Ratio	0.27	0.12		0.10	0.84		0.87	0.02		0.45	0.15	
Uniform Delay, d1	23.6	22.1		30.7	39.6		57.4	44.4		59.4	48.4	
Progression Factor	0.75	0.71		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.1		0.1	4.3		64.8	0.0		27.0	0.4	
Delay (s)	18.6	15.9		30.8	43.9		122.2	44.5		86.4	48.8	
Level of Service	B	B		C	D		F	D		F	D	
Approach Delay (s)		17.1			43.4			110.8			49.9	
Approach LOS		B			D			F			D	

Intersection Summary				
HCM 2000 Control Delay	40.2	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.46			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.9	
Intersection Capacity Utilization	59.9%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	154	94	52	595	316	388	90	585	230	98	1044	196
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.7		6.0	5.7	5.7	5.0	5.7	5.7	5.0	5.7	5.7
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	0.86	1.00	0.97	0.91	1.00
Frt	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3349		3433	3539	1583	1770	6408	1583	3433	5085	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3349		3433	3539	1583	1770	6408	1583	3433	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	167	102	57	647	343	422	98	636	250	107	1135	213
RTOR Reduction (vph)	0	53	0	0	0	263	0	0	164	0	0	125
Lane Group Flow (vph)	167	106	0	647	343	159	98	636	86	107	1135	88
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	11.6	9.4		26.8	24.6	24.6	11.7	41.4	41.4	20.0	49.7	49.7
Effective Green, g (s)	11.6	9.4		26.8	24.6	24.6	11.7	41.4	41.4	20.0	49.7	49.7
Actuated g/C Ratio	0.10	0.08		0.22	0.21	0.21	0.10	0.34	0.34	0.17	0.41	0.41
Clearance Time (s)	6.0	5.7		6.0	5.7	5.7	5.0	5.7	5.7	5.0	5.7	5.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	331	262		766	725	324	172	2210	546	572	2106	655
v/s Ratio Prot	0.05	0.03		c0.19	0.10		c0.06	0.10		0.03	c0.22	
v/s Ratio Perm						c0.10			0.05			0.06
v/c Ratio	0.50	0.41		0.84	0.47	0.49	0.57	0.29	0.16	0.19	0.54	0.13
Uniform Delay, d1	51.5	52.6		44.6	42.0	42.2	51.7	28.6	27.2	43.0	26.5	21.8
Progression Factor	1.00	1.00		1.23	0.58	0.97	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	1.0		5.4	0.3	0.7	4.3	0.3	0.6	0.2	1.0	0.4
Delay (s)	52.7	53.7		60.5	24.6	41.6	56.0	28.9	27.8	43.2	27.5	22.2
Level of Service	D	D		E	C	D	E	C	C	D	C	C
Approach Delay (s)		53.2			46.1			31.3			27.9	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	36.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.4
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	58	20	377	66	73	246	232	379	91	629	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.92		1.00	0.91		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1790		1770	1717		1770	1689		1770	1828	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1790		1770	1717		1770	1689		1770	1828	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	63	22	410	72	79	267	252	412	99	684	97
RTOR Reduction (vph)	0	9	0	0	24	0	0	39	0	0	4	0
Lane Group Flow (vph)	5	76	0	410	127	0	267	625	0	99	777	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	1.4	14.9		34.0	47.5		22.0	71.4		10.6	60.0	
Effective Green, g (s)	1.4	14.9		34.0	47.5		22.0	71.4		10.6	60.0	
Actuated g/C Ratio	0.01	0.10		0.23	0.32		0.15	0.49		0.07	0.41	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	16	181		409	555		265	820		127	746	
v/s Ratio Prot	0.00	c0.04		c0.23	0.07		c0.15	0.37		0.06	c0.43	
v/s Ratio Perm												
v/c Ratio	0.31	0.42		1.00	0.23		1.01	0.76		0.78	1.04	
Uniform Delay, d1	72.3	61.9		56.5	36.3		62.5	30.8		67.0	43.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	10.9	1.6		45.1	0.2		57.2	4.2		25.4	44.4	
Delay (s)	83.1	63.5		101.6	36.5		119.7	35.1		92.4	87.9	
Level of Service	F	E		F	D		F	D		F	F	
Approach Delay (s)		64.6			84.1			59.3			88.4	
Approach LOS		E			F			E			F	

Intersection Summary				
HCM 2000 Control Delay	75.5	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	0.95			
Actuated Cycle Length (s)	146.9	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	89.7%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	51	389	93	60	1417
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	85	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	55	423	101	65	1540

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1374	262	0	0	524	0
Stage 1	473	-	-	-	-	-
Stage 2	901	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	137	737	-	-	1039	-
Stage 1	593	-	-	-	-	-
Stage 2	357	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	128	737	-	-	1039	-
Mov Cap-2 Maneuver	128	-	-	-	-	-
Stage 1	593	-	-	-	-	-
Stage 2	335	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.3	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	737	1039	-
HCM Lane V/C Ratio	-	-	0.075	0.063	-
HCM Control Delay (s)	-	-	10.3	8.7	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.2	-

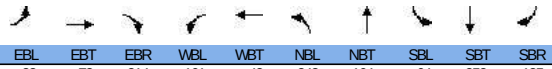
Intersection	
Int Delay, s/veh	12.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	58	115	367	110	242	1175
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	525	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	63	125	399	120	263	1277

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1624	259	0	0	518	0
Stage 1	459	-	-	-	-	-
Stage 2	1165	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	93	740	-	-	1044	-
Stage 1	603	-	-	-	-	-
Stage 2	259	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	70	740	-	-	1044	-
Mov Cap-2 Maneuver	70	-	-	-	-	-
Stage 1	603	-	-	-	-	-
Stage 2	194	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	141.2	0	1.6
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	176	1044	-
HCM Lane V/C Ratio	-	-	1.068	0.252	-
HCM Control Delay (s)	-	-	141.2	9.6	-
HCM Lane LOS	-	-	F	A	-
HCM 95th %tile Q(veh)	-	-	9.2	1	-



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	23	73	214	161	42	248	164	64	252	185
v/c Ratio	0.09	0.28	0.53	0.48	0.12	0.66	0.26	0.34	0.66	0.39
Control Delay	32.2	34.3	10.3	33.0	24.0	42.0	22.3	42.7	39.5	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.2	34.3	10.3	33.0	24.0	42.0	22.3	42.7	39.5	8.2
Queue Length 50th (ft)	9	28	0	61	12	94	44	25	96	0
Queue Length 95th (ft)	36	85	62	152	46	#368	153	93	267	60
Internal Link Dist (ft)		1626			141		676		2268	
Turn Bay Length (ft)	60					100		60		180
Base Capacity (vph)	649	683	716	849	875	374	717	224	581	621
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.11	0.30	0.19	0.05	0.66	0.23	0.29	0.43	0.30

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	57	228	14	475	125	497
v/c Ratio	0.15	0.67	0.09	0.39	0.51	0.29
Control Delay	10.4	26.1	20.4	10.4	27.5	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.4	26.1	20.4	10.4	27.5	7.9
Queue Length 50th (ft)	6	43	3	37	29	32
Queue Length 95th (ft)	28	#133	16	68	#86	78
Internal Link Dist (ft)	567	186		1819		1733
Turn Bay Length (ft)			140		80	
Base Capacity (vph)	410	377	164	1602	246	1763
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.60	0.09	0.30	0.51	0.28

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	23	197	1071	610	171	152	150	174	492
v/c Ratio	0.23	0.40	0.81	0.67	0.79	0.22	0.09	0.81	0.72
Control Delay	59.0	23.6	36.8	23.7	73.4	37.7	0.1	74.9	46.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.0	23.6	36.8	23.7	73.4	37.7	0.1	74.9	46.9
Queue Length 50th (ft)	15	31	311	245	110	44	0	112	157
Queue Length 95th (ft)	50	69	#610	513	#293	85	0	#298	252
Internal Link Dist (ft)		153		168		1623			1819
Turn Bay Length (ft)	165		340		265		180	135	
Base Capacity (vph)	99	1053	1324	1103	216	1011	1583	216	1003
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.19	0.81	0.55	0.79	0.15	0.09	0.81	0.49

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	47	424	98	509	51	1514
v/c Ratio	0.36	0.83	0.15	0.28	0.39	0.69
Control Delay	48.8	45.8	0.5	12.6	49.8	13.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.8	45.8	0.5	12.6	49.8	13.6
Queue Length 50th (ft)	27	228	0	84	29	290
Queue Length 95th (ft)	62	#378	0	117	66	368
Internal Link Dist (ft)			1159	842		742
Turn Bay Length (ft)	200	200			200	
Base Capacity (vph)	140	559	772	1833	140	2193
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.76	0.13	0.28	0.36	0.69

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	278	277	251	202	150	1128	642
v/c Ratio	0.69	0.72	0.46	0.08	0.09	0.46	0.50
Control Delay	46.5	46.0	6.4	4.9	0.1	9.6	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.5	46.0	6.4	4.9	0.1	9.6	2.2
Queue Length 50th (ft)	188	187	0	13	0	171	0
Queue Length 95th (ft)	252	257	57	37	0	289	44
Internal Link Dist (ft)		114		648		164	
Turn Bay Length (ft)							
Base Capacity (vph)	580	554	683	2437	1583	2437	1290
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.50	0.37	0.08	0.09	0.46	0.50

Intersection Summary



Lane Group	EBL	EBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	153	86	230	82	1340	282
v/c Ratio	0.47	0.38	0.08	0.05	0.45	0.21
Control Delay	51.8	14.8	1.8	0.1	3.6	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.1	0.0
Total Delay	51.8	14.8	1.8	0.1	3.7	1.2
Queue Length 50th (ft)	53	0	11	0	108	0
Queue Length 95th (ft)	84	46	20	0	150	7
Internal Link Dist (ft)			852		648	
Turn Bay Length (ft)						640
Base Capacity (vph)	655	371	2948	1583	2948	1365
Starvation Cap Reductn	0	0	0	0	463	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.23	0.08	0.05	0.54	0.21

Intersection Summary

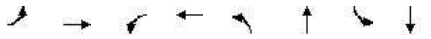
Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	1	52	6	5	46	312	5	1421
v/c Ratio	0.00	0.19	0.02	0.02	0.18	0.07	0.03	0.36
Control Delay	25.0	6.1	24.8	0.2	24.9	2.3	27.6	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.0	6.1	24.8	0.2	24.9	2.3	27.6	4.9
Queue Length 50th (ft)	0	0	2	0	12	6	1	38
Queue Length 95th (ft)	4	18	12	0	45	22	12	136
Internal Link Dist (ft)	560		1154			2511		852
Turn Bay Length (ft)				100	150		100	
Base Capacity (vph)	462	451	462	451	319	4325	159	4119
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.12	0.01	0.01	0.14	0.07	0.03	0.34

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	5	165	117	1309	5	67	89	10
v/c Ratio	0.02	0.08	0.32	0.45	0.02	0.23	0.26	0.03
Control Delay	28.2	15.5	25.7	10.5	26.8	12.0	25.7	19.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.2	15.5	25.7	10.5	26.8	12.0	25.7	19.2
Queue Length 50th (ft)	2	14	34	93	2	2	26	1
Queue Length 95th (ft)	12	32	96	213	12	36	77	14
Internal Link Dist (ft)		1374		2511		916		934
Turn Bay Length (ft)	200		120		100		100	
Base Capacity (vph)	314	2844	562	3144	719	688	1012	987
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.06	0.21	0.42	0.01	0.10	0.09	0.01

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	196	261	53	1253	58	10	5	164
v/c Ratio	0.25	0.12	0.10	0.84	0.85	0.04	0.08	0.60
Control Delay	18.3	14.3	31.1	45.4	130.0	31.8	59.0	18.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.3	14.3	31.1	45.4	130.0	31.8	59.0	18.1
Queue Length 50th (ft)	114	33	30	328	46	3	4	7
Queue Length 95th (ft)	178	62	62	388	#136	19	18	65
Internal Link Dist (ft)		189		259		567		1162
Turn Bay Length (ft)	100		120		100		50	
Base Capacity (vph)	770	2185	531	1520	68	420	63	503
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.12	0.10	0.82	0.85	0.02	0.08	0.33

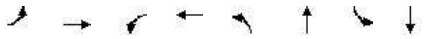
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	167	159	647	343	422	98	636	250	107	1135	213
v/c Ratio	0.50	0.51	0.84	0.47	0.72	0.57	0.29	0.35	0.19	0.54	0.27
Control Delay	56.7	39.8	61.9	25.6	14.7	65.0	29.5	5.1	44.0	28.4	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.7	39.8	61.9	25.6	14.7	65.0	29.5	5.1	44.0	28.4	4.2
Queue Length 50th (ft)	64	40	192	37	20	74	104	0	37	241	0
Queue Length 95th (ft)	98	76	m153	m90	m342	130	133	57	63	299	49
Internal Link Dist (ft)		409		264			320			2205	
Turn Bay Length (ft)	250		150			280		100	250		250
Base Capacity (vph)	486	318	839	729	589	192	2241	716	572	2134	788
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.50	0.77	0.47	0.72	0.51	0.28	0.35	0.19	0.53	0.27

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	5	85	410	151	267	664	99	781
v/c Ratio	0.07	0.55	0.98	0.26	0.99	0.76	0.76	1.02
Control Delay	69.2	69.5	93.5	28.7	111.4	32.9	99.0	78.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.2	69.5	93.5	28.7	111.4	32.9	99.0	78.4
Queue Length 50th (ft)	5	69	383	76	252	443	92	~766
Queue Length 95th (ft)	20	127	#630	150	#457	653	#193	#1075
Internal Link Dist (ft)		845		809		595		545
Turn Bay Length (ft)	200		300		300		200	
Base Capacity (vph)	197	233	418	591	271	877	135	766
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.36	0.98	0.26	0.99	0.76	0.73	1.02

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	78	5	227	15	8	3	245	331	9	0	152	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3			5.3	5.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1793		1770	1855			1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	1770	1863	1583	1770	1793		1770	1855			1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	85	5	247	16	9	3	266	360	10	0	165	27
RTOR Reduction (vph)	0	0	206	0	3	0	0	0	0	0	0	22
Lane Group Flow (vph)	85	5	41	16	9	0	266	370	0	0	165	5
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	10.6	10.6	10.6	5.0	5.0		17.2	33.7			12.5	12.5
Effective Green, g (s)	10.6	10.6	10.6	5.0	5.0		17.2	33.7			12.5	12.5
Actuated g/C Ratio	0.17	0.17	0.17	0.08	0.08		0.27	0.53			0.20	0.20
Clearance Time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3			5.3	5.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	296	312	265	140	141		481	989			368	313
v/s Ratio Prot	c0.05	0.00		c0.01	0.01		c0.15	c0.20			0.09	
v/s Ratio Perm			0.03									0.00
v/c Ratio	0.29	0.02	0.16	0.11	0.07		0.55	0.37			0.45	0.02
Uniform Delay, d1	23.0	21.9	22.5	27.0	26.9		19.7	8.6			22.3	20.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	0.5	0.0	0.3	0.4	0.2		1.4	0.2			0.9	0.0
Delay (s)	23.5	22.0	22.8	27.4	27.1		21.1	8.8			23.2	20.4
Level of Service	C	C	C	C	C		C	A			C	C
Approach Delay (s)		22.9			27.3			14.0			22.8	
Approach LOS		C			C			B			C	

Intersection Summary				
HCM 2000 Control Delay	18.2	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.41			
Actuated Cycle Length (s)	63.2	Sum of lost time (s)	17.9	
Intersection Capacity Utilization	44.1%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	28	0	15	114	2	63	15	498	132	55	308	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6			4.6		4.0	5.3		4.0	5.3	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.95			0.95		1.00	0.97		1.00	0.99	
Flt Protected		0.97			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1719			1720		1770	3428		1770	3497	
Flt Permitted		0.79			0.78		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1398			1382		1770	3428		1770	3497	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	30	0	16	124	2	68	16	541	143	60	335	29
RTOR Reduction (vph)	0	37	0	0	37	0	0	36	0	0	10	0
Lane Group Flow (vph)	0	9	0	0	157	0	16	648	0	60	355	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		8.8			8.8		0.6	20.9		3.0	23.3	
Effective Green, g (s)		8.8			8.8		0.6	20.9		3.0	23.3	
Actuated g/C Ratio		0.19			0.19		0.01	0.45		0.06	0.50	
Clearance Time (s)		4.6			4.6		4.0	5.3		4.0	5.3	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		264			260		22	1537		113	1748	
v/s Ratio Prot							0.01	c0.19		c0.03	0.10	
v/s Ratio Perm		0.01			c0.11							
v/c Ratio		0.03			0.61		0.73	0.42		0.53	0.20	
Uniform Delay, d1		15.4			17.3		22.9	8.7		21.1	6.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.1			4.0		76.4	0.2		4.7	0.1	
Delay (s)		15.5			21.3		99.3	8.9		25.8	6.5	
Level of Service		B			C		F	A		C	A	
Approach Delay (s)		15.5			21.3			11.0			9.3	
Approach LOS		B			C			B			A	

Intersection Summary				
HCM 2000 Control Delay	12.1	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.47			
Actuated Cycle Length (s)	46.6	Sum of lost time (s)	13.9	
Intersection Capacity Utilization	44.9%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	66	272	74	343	103	115	94	460	613	150	260	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3		4.0	5.3		4.0	5.3	4.0	4.0	5.3	
Lane Util. Factor	1.00	0.95		0.97	1.00		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.97		1.00	0.92		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3426		3433	1715		1770	3539	1583	1770	3484	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3426		3433	1715		1770	3539	1583	1770	3484	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	296	80	373	112	125	102	500	666	163	283	33
RTOR Reduction (vph)	0	31	0	0	53	0	0	0	0	0	11	0
Lane Group Flow (vph)	72	345	0	373	184	0	102	500	666	163	305	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									Free			
Actuated Green, G (s)	6.7	11.9		7.1	12.3		6.1	14.0	57.7	6.1	14.0	
Effective Green, g (s)	6.7	11.9		7.1	12.3		6.1	14.0	57.7	6.1	14.0	
Actuated g/C Ratio	0.12	0.21		0.12	0.21		0.11	0.24	1.00	0.11	0.24	
Clearance Time (s)	4.0	5.3		4.0	5.3		4.0	5.3		4.0	5.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	205	706		422	365		187	858	1583	187	845	
v/s Ratio Prot	0.04	0.10		c0.11	0.11		0.06	c0.14		c0.09	0.09	
v/s Ratio Perm									c0.42			
v/c Ratio	0.35	0.49		0.88	0.50		0.55	0.58	0.42	0.87	0.36	
Uniform Delay, d1	23.5	20.2		24.9	20.0		24.5	19.3	0.0	25.4	18.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.0	0.5		19.2	1.1		3.2	1.0	0.8	33.0	0.3	
Delay (s)	24.5	20.7		44.1	21.1		27.7	20.3	0.8	58.4	18.4	
Level of Service	C	C		D	C		C	C	A	E	B	
Approach Delay (s)		21.4			35.2			10.7			32.0	
Approach LOS		C			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	21.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	57.7	Sum of lost time (s)	18.6
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	46	0	0	104	0	84	0	1185	104	58	632	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0			4.0		4.0	4.0	
Lane Util. Factor	1.00			1.00	1.00			0.95		1.00	0.95	
Frt	1.00			1.00	0.85			0.99		1.00	0.99	
Flt Protected	0.95			0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1770			1770	1583			3496		1770	3501	
Flt Permitted	0.95			0.95	1.00			1.00		0.95	1.00	
Satd. Flow (perm)	1770			1770	1583			3496		1770	3501	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	50	0	0	113	0	91	0	1288	113	63	687	54
RTOR Reduction (vph)	0	0	0	0	85	0	0	6	0	0	4	0
Lane Group Flow (vph)	50	0	0	113	6	0	0	1395	0	63	737	0
Turn Type	Prot			Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	3.4			12.5	5.1			49.5		3.9	57.4	
Effective Green, g (s)	3.4			12.5	5.1			49.5		3.9	57.4	
Actuated g/C Ratio	0.04			0.16	0.07			0.64		0.05	0.74	
Clearance Time (s)	4.0			4.0	4.0			4.0		4.0	4.0	
Vehicle Extension (s)	3.0			3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	77			284	103			2221		88	2579	
v/s Ratio Prot	c0.03			c0.06	0.00			c0.40		c0.04	0.21	
v/s Ratio Perm												
v/c Ratio	0.65			0.40	0.06			0.63		0.72	0.29	
Uniform Delay, d1	36.7			29.3	34.1			8.6		36.5	3.4	
Progression Factor	1.00			1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	17.3			0.9	0.2			1.4		24.0	0.3	
Delay (s)	54.0			30.2	34.4			10.0		60.5	3.7	
Level of Service	D			C	C			A		E	A	
Approach Delay (s)		54.0			32.1			10.0			8.1	
Approach LOS		D			C			A			A	

Intersection Summary				
HCM 2000 Control Delay	12.1	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.63			
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	61.8%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	254	0	364	0	987	57	0	586	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0		4.0	4.0		4.0	4.0
Lane Util. Factor				0.95	0.91	0.95		0.95	1.00		0.95	1.00
Frt				1.00	0.88	0.85		1.00	0.85		1.00	0.85
Flt Protected				0.95	0.99	1.00		1.00	1.00		1.00	1.00
Satd. Flow (prot)				1681	1475	1504		3539	1583		3539	1583
Flt Permitted				0.95	0.99	1.00		1.00	1.00		1.00	1.00
Satd. Flow (perm)				1681	1475	1504		3539	1583		3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	276	0	396	0	1073	62	0	637	118
RTOR Reduction (vph)	0	0	0	0	69	69	0	0	0	0	0	37
Lane Group Flow (vph)	0	0	0	235	150	149	0	1073	62	0	637	81
Turn Type				Split	NA	Perm		NA	Free		NA	Perm
Protected Phases				8	8			2			6	
Permitted Phases						8			Free			6
Actuated Green, G (s)				19.1	19.1	19.1		58.9	86.0		58.9	58.9
Effective Green, g (s)				19.1	19.1	19.1		58.9	86.0		58.9	58.9
Actuated g/C Ratio				0.22	0.22	0.22		0.68	1.00		0.68	0.68
Clearance Time (s)				4.0	4.0	4.0		4.0			4.0	4.0
Vehicle Extension (s)				3.0	3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)				373	327	334		2423	1583		2423	1084
v/s Ratio Prot				c0.14	0.10			c0.30			0.18	
v/s Ratio Perm						0.10			0.04			0.05
v/c Ratio				0.63	0.46	0.45		0.44	0.04		0.26	0.07
Uniform Delay, d1				30.3	29.0	28.9		6.1	0.0		5.2	4.5
Progression Factor				1.00	1.00	1.00		1.01	1.00		1.00	1.00
Incremental Delay, d2				3.4	1.0	0.9		0.6	0.0		0.3	0.1
Delay (s)				33.7	30.0	29.8		6.7	0.0		5.5	4.6
Level of Service				C	C	C		A	A		A	A
Approach Delay (s)		0.0			31.2			6.4			5.3	
Approach LOS		A			C			A			A	

Intersection Summary				
HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.49			
Actuated Cycle Length (s)	86.0	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	49.0%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	343	0	225	0	0	0	0	704	339	0	432	372
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0					4.0	4.0		4.0	4.0
Lane Util. Factor	0.97		1.00					0.95	1.00		0.95	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3433		1583					3539	1583		3539	1583
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3433		1583					3539	1583		3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	373	0	245	0	0	0	0	765	368	0	470	404
RTOR Reduction (vph)	0	0	203	0	0	0	0	0	0	0	0	107
Lane Group Flow (vph)	373	0	42	0	0	0	0	765	368	0	470	297
Turn Type	Prot		Perm					NA	Free		NA	Perm
Protected Phases	4							2			6	
Permitted Phases			4						Free			6
Actuated Green, G (s)	14.8		14.8					63.2	86.0		63.2	63.2
Effective Green, g (s)	14.8		14.8					63.2	86.0		63.2	63.2
Actuated g/C Ratio	0.17		0.17					0.73	1.00		0.73	0.73
Clearance Time (s)	4.0		4.0					4.0			4.0	4.0
Vehicle Extension (s)	3.0		3.0					3.0			3.0	3.0
Lane Grp Cap (vph)	590		272					2600	1583		2600	1163
v/s Ratio Prot	c0.11							c0.22			0.13	
v/s Ratio Perm			0.03						0.23			0.19
v/c Ratio	0.63		0.16					0.29	0.23		0.18	0.26
Uniform Delay, d1	33.1		30.3					3.9	0.0		3.5	3.7
Progression Factor	1.00		1.00					1.00	1.00		1.70	7.25
Incremental Delay, d2	2.2		0.3					0.3	0.3		0.1	0.5
Delay (s)	35.3		30.5					4.1	0.3		6.1	27.5
Level of Service	D		C					A	A		A	C
Approach Delay (s)		33.4			0.0			2.9			16.0	
Approach LOS		C			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	86.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	35.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1	49	5	1	5	45	1098	5	5	652	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.91		1.00	0.91	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	
Flt Protected		1.00	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1863	1583		1788	1583	1770	5082		1770	5085	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1863	1583		1863	1583	1770	5082		1770	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1	53	5	1	5	49	1193	5	5	709	0
RTOR Reduction (vph)	0	0	50	0	0	5	0	1	0	0	0	0
Lane Group Flow (vph)	0	1	3	0	6	0	49	1197	0	5	709	0
Turn Type		NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)		2.1	2.1		2.1	2.1	2.5	28.0		0.6	26.1	
Effective Green, g (s)		2.1	2.1		2.1	2.1	2.5	28.0		0.6	26.1	
Actuated g/C Ratio		0.05	0.05		0.05	0.05	0.06	0.66		0.01	0.61	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		91	77		91	77	103	3332		24	3108	
v/s Ratio Prot		0.00					c0.03	c0.24		0.00	0.14	
v/s Ratio Perm			0.00		c0.00	0.00						
v/c Ratio		0.01	0.03		0.07	0.00	0.48	0.36		0.21	0.23	
Uniform Delay, d1		19.3	19.3		19.4	19.3	19.5	3.3		20.8	3.7	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.0	0.2		0.3	0.0	3.4	0.1		4.3	0.0	
Delay (s)		19.4	19.5		19.7	19.3	22.9	3.4		25.1	3.8	
Level of Service		B	B		B	B	C	A		C	A	
Approach Delay (s)		19.5			19.5			4.1			3.9	
Approach LOS		B			B			A			A	

Intersection Summary				
HCM 2000 Control Delay	4.6	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.36			
Actuated Cycle Length (s)	42.7	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	39.0%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	717	6	51	413	190	6	5	121	265	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	5.3		3.5	6.0		4.2	4.2		4.2	4.2	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.95		1.00	0.86		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5079		1770	4845		1770	1594		1770	1723	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5079		1770	4845		1770	1594		1770	1723	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	779	7	55	449	207	7	5	132	288	5	5
RTOR Reduction (vph)	0	1	0	0	81	0	0	121	0	0	4	0
Lane Group Flow (vph)	5	785	0	55	575	0	7	16	0	288	6	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Actuated Green, G (s)	0.9	20.0		4.2	22.6		5.3	5.3		17.0	17.0	
Effective Green, g (s)	0.9	20.0		4.2	22.6		5.3	5.3		17.0	17.0	
Actuated g/C Ratio	0.01	0.31		0.07	0.35		0.08	0.08		0.27	0.27	
Clearance Time (s)	3.5	5.3		3.5	6.0		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	25	1594		116	1718		147	132		472	459	
v/s Ratio Prot	0.00	c0.15		c0.03	c0.12		0.00	c0.01		c0.16	0.00	
v/s Ratio Perm												
v/c Ratio	0.20	0.49		0.47	0.33		0.05	0.12		0.61	0.01	
Uniform Delay, d1	31.0	17.7		28.7	15.0		26.9	27.0		20.4	17.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.9	0.2		3.0	0.1		0.1	0.4		2.3	0.0	
Delay (s)	35.0	18.0		31.7	15.2		27.0	27.5		22.8	17.2	
Level of Service	C	B		C	B		C	C		C	B	
Approach Delay (s)		18.1			16.4			27.4			22.6	
Approach LOS		B			B			C			C	

Intersection Summary				
HCM 2000 Control Delay	18.9	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.48			
Actuated Cycle Length (s)	63.7	Sum of lost time (s)	17.9	
Intersection Capacity Utilization	55.3%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	218	885	55	18	473	47	104	7	9	61	22	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6		4.0	4.0		4.0	5.3		4.0	5.3	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.92		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5041		1770	5016		1770	1708		1770	1604	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5041		1770	5016		1770	1708		1770	1604	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	237	962	60	20	514	51	113	8	10	66	24	293
RTOR Reduction (vph)	0	5	0	0	11	0	0	9	0	0	260	0
Lane Group Flow (vph)	237	1017	0	20	554	0	113	9	0	66	57	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	49.6	49.6		21.6	21.6		17.2	13.9		17.0	13.7	
Effective Green, g (s)	49.6	49.6		21.6	21.6		17.2	13.9		17.0	13.7	
Actuated g/C Ratio	0.41	0.41		0.18	0.18		0.14	0.12		0.14	0.11	
Clearance Time (s)	4.6	4.6		4.0	4.0		4.0	5.3		4.0	5.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	731	2083		318	902		253	197		250	183	
v/s Ratio Prot	0.13	c0.20		0.01	c0.11		c0.06	0.01		0.04	c0.04	
v/s Ratio Perm												
v/c Ratio	0.32	0.49		0.06	0.61		0.45	0.05		0.26	0.31	
Uniform Delay, d1	23.8	25.9		40.8	45.4		47.0	47.2		45.9	48.8	
Progression Factor	0.64	0.66		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	0.5		0.1	1.2		1.3	0.1		0.6	1.0	
Delay (s)	16.1	17.7		40.9	46.6		48.3	47.3		46.5	49.8	
Level of Service	B	B		D	D		D	D		D	D	
Approach Delay (s)		17.4			46.4			48.2			49.2	
Approach LOS		B			D			D			D	

Intersection Summary				
HCM 2000 Control Delay	31.5	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.48			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.9	
Intersection Capacity Utilization	61.8%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	122	241	91	496	121	231	123	986	561	359	546	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.7		6.0	5.7	5.7	5.0	5.7	5.7	5.0	5.7	5.7
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	0.86	1.00	0.97	0.91	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3394		3433	3539	1583	1770	6408	1583	3433	5085	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3394		3433	3539	1583	1770	6408	1583	3433	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	133	262	99	539	132	251	134	1072	610	390	593	98
RTOR Reduction (vph)	0	33	0	0	0	197	0	0	279	0	0	59
Lane Group Flow (vph)	133	328	0	539	132	54	134	1072	331	390	593	39
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	10.8	14.3		22.2	25.7	25.7	13.7	41.1	41.1	20.0	47.4	47.4
Effective Green, g (s)	10.8	14.3		22.2	25.7	25.7	13.7	41.1	41.1	20.0	47.4	47.4
Actuated g/C Ratio	0.09	0.12		0.18	0.21	0.21	0.11	0.34	0.34	0.17	0.39	0.39
Clearance Time (s)	6.0	5.7		6.0	5.7	5.7	5.0	5.7	5.7	5.0	5.7	5.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	308	404		635	757	339	202	2194	542	572	2008	625
v/s Ratio Prot	0.04	c0.10		c0.16	0.04		0.08	0.17		c0.11	0.12	
v/s Ratio Perm						0.03			c0.21			0.02
v/c Ratio	0.43	0.81		0.85	0.17	0.16	0.66	0.49	0.61	0.68	0.30	0.06
Uniform Delay, d1	51.7	51.5		47.3	38.5	38.4	50.9	31.2	32.8	47.0	24.9	22.5
Progression Factor	1.00	1.00		0.85	0.60	0.92	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	11.8		9.6	0.1	0.2	7.9	0.8	5.0	3.3	0.4	0.2
Delay (s)	52.7	63.4		49.6	23.0	35.7	58.9	31.9	37.8	50.4	25.2	22.7
Level of Service	D	E		D	C	D	E	C	D	D	C	C
Approach Delay (s)		60.5			42.0			35.9			34.1	
Approach LOS		E			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	39.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.4
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	21	54	32	193	22	81	90	558	474	84	443	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	0.88		1.00	0.93		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1759		1770	1643		1770	1734		1770	1851	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1759		1770	1643		1770	1734		1770	1851	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	23	59	35	210	24	88	98	607	515	91	482	21
RTOR Reduction (vph)	0	15	0	0	71	0	0	19	0	0	1	0
Lane Group Flow (vph)	23	79	0	210	41	0	98	1103	0	91	502	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	3.5	13.6		18.0	28.1		12.5	90.1		8.0	85.6	
Effective Green, g (s)	3.5	13.6		18.0	28.1		12.5	90.1		8.0	85.6	
Actuated g/C Ratio	0.02	0.09		0.12	0.19		0.09	0.62		0.05	0.59	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	42	164		218	316		151	1072		97	1087	
v/s Ratio Prot	0.01	c0.05		c0.12	0.02		0.06	c0.64		c0.05	0.27	
v/s Ratio Perm												
v/c Ratio	0.55	0.48		0.96	0.13		0.65	1.03		0.94	0.46	
Uniform Delay, d1	70.3	62.7		63.5	48.7		64.5	27.8		68.6	17.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	13.8	2.2		50.2	0.2		9.2	35.0		70.6	0.3	
Delay (s)	84.1	65.0		113.7	48.9		73.7	62.8		139.2	17.3	
Level of Service	F	E		F	D		E	E		F	B	
Approach Delay (s)		68.7			91.2			63.7			36.0	
Approach LOS		E			F			E			D	

Intersection Summary				
HCM 2000 Control Delay	60.6	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	0.96			
Actuated Cycle Length (s)	145.7	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	90.3%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	56	1107	164	32	645
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	85	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	61	1203	178	35	701

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1712	691	0	0	1382	0
Stage 1	1292	-	-	-	-	-
Stage 2	420	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	81	387	-	-	492	-
Stage 1	221	-	-	-	-	-
Stage 2	631	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	75	387	-	-	492	-
Mov Cap-2 Maneuver	75	-	-	-	-	-
Stage 1	221	-	-	-	-	-
Stage 2	586	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16	0	0.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	387	492	-
HCM Lane V/C Ratio	-	-	0.157	0.071	-
HCM Control Delay (s)	-	-	16	12.9	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0.6	0.2	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	7	12	1259	18	20	625
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	525	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	13	1368	20	22	679

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1761	694	0	0	1388	0
Stage 1	1378	-	-	-	-	-
Stage 2	383	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	76	385	-	-	489	-
Stage 1	199	-	-	-	-	-
Stage 2	659	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	73	385	-	-	489	-
Mov Cap-2 Maneuver	73	-	-	-	-	-
Stage 1	199	-	-	-	-	-
Stage 2	629	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	32.8	0	0.4
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	150	489	-
HCM Lane V/C Ratio	-	-	0.138	0.044	-
HCM Control Delay (s)	-	-	32.8	12.7	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	85	5	247	16	12	266	370	165	27
v/c Ratio	0.28	0.02	0.52	0.06	0.04	0.54	0.37	0.46	0.07
Control Delay	28.9	28.0	9.0	26.2	23.2	31.5	14.8	31.2	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.9	28.0	9.0	26.2	23.2	31.5	14.8	31.2	0.3
Queue Length 50th (ft)	21	1	0	4	2	58	39	39	0
Queue Length 95th (ft)	96	13	65	26	20	#398	315	178	0
Internal Link Dist (ft)		1626			141		676	2268	
Turn Bay Length (ft)	60					100			180
Base Capacity (vph)	852	896	890	1114	1129	491	1162	762	723
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.01	0.28	0.01	0.01	0.54	0.32	0.22	0.04

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	46	194	16	684	60	364
v/c Ratio	0.11	0.52	0.09	0.40	0.23	0.18
Control Delay	0.5	18.3	25.1	10.8	23.7	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	0.5	18.3	25.1	10.8	23.7	6.9
Queue Length 50th (ft)	0	34	4	66	14	20
Queue Length 95th (ft)	1	96	21	126	51	64
Internal Link Dist (ft)	567	186		1819		1733
Turn Bay Length (ft)			140		80	
Base Capacity (vph)	651	605	180	2247	271	2337
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.32	0.09	0.30	0.22	0.16

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	72	376	373	237	102	500	666	163	316
v/c Ratio	0.36	0.51	0.89	0.57	0.55	0.58	0.42	0.88	0.37
Control Delay	31.9	21.3	53.5	20.6	40.7	22.3	0.8	74.1	18.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.9	21.3	53.5	20.6	40.7	22.3	0.8	74.1	18.7
Queue Length 50th (ft)	23	54	65	52	34	77	0	56	44
Queue Length 95th (ft)	#72	98	#165	119	#108	131	0	#181	81
Internal Link Dist (ft)		153		168		1623			1819
Turn Bay Length (ft)	165		340		265		180	135	
Base Capacity (vph)	202	1931	419	1074	185	1940	1583	185	1916
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.19	0.89	0.22	0.55	0.26	0.42	0.88	0.16

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	50	113	91	1401	63	741
v/c Ratio	0.35	0.39	0.33	0.58	0.39	0.27
Control Delay	41.3	31.4	4.2	10.8	40.9	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.3	31.4	4.2	10.8	40.9	3.9
Queue Length 50th (ft)	24	48	0	240	30	58
Queue Length 95th (ft)	58	93	8	322	68	82
Internal Link Dist (ft)			734	826		742
Turn Bay Length (ft)	200	200			200	
Base Capacity (vph)	145	330	412	2402	169	2696
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.34	0.22	0.58	0.37	0.27

Intersection Summary

Lane Group	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	235	219	218	1073	62	637	118
v/c Ratio	0.63	0.55	0.54	0.44	0.04	0.26	0.11
Control Delay	36.9	21.4	21.0	7.7	0.0	6.4	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.9	21.4	21.0	7.7	0.0	6.4	1.7
Queue Length 50th (ft)	121	65	63	70	0	60	0
Queue Length 95th (ft)	174	125	118	218	m0	113	20
Internal Link Dist (ft)		114		648		164	
Turn Bay Length (ft)							
Base Capacity (vph)	566	556	566	2424	1583	2424	1121
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.39	0.39	0.44	0.04	0.26	0.11

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

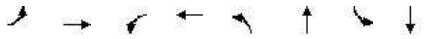


Lane Group	EBL	EBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	373	245	765	368	470	404
v/c Ratio	0.63	0.52	0.29	0.23	0.18	0.32
Control Delay	37.7	8.3	4.5	0.3	6.7	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.7	8.3	4.5	0.3	6.7	4.5
Queue Length 50th (ft)	98	0	58	0	52	0
Queue Length 95th (ft)	134	58	100	0	95	104
Internal Link Dist (ft)			852		648	
Turn Bay Length (ft)						640
Base Capacity (vph)	695	516	2618	1583	2618	1276
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.47	0.29	0.23	0.18	0.32

Intersection Summary

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	1	53	6	5	49	1198	5	709
v/c Ratio	0.00	0.16	0.02	0.02	0.15	0.28	0.03	0.18
Control Delay	17.0	5.3	17.0	0.0	16.8	2.9	19.4	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.0	5.3	17.0	0.0	16.8	2.9	19.4	4.9
Queue Length 50th (ft)	0	0	1	0	7	0	1	0
Queue Length 95th (ft)	4	17	10	0	37	91	9	63
Internal Link Dist (ft)	560		1154			2511		852
Turn Bay Length (ft)				100	150		100	
Base Capacity (vph)	579	546	579	546	400	4917	200	4843
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.10	0.01	0.01	0.12	0.24	0.03	0.15

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	5	786	55	656	7	137	288	10
v/c Ratio	0.03	0.50	0.23	0.35	0.03	0.44	0.59	0.02
Control Delay	35.6	21.2	34.2	13.0	32.7	12.8	28.3	17.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.6	21.2	34.2	13.0	32.7	12.8	28.3	17.2
Queue Length 50th (ft)	2	95	20	45	3	2	102	1
Queue Length 95th (ft)	14	175	66	117	16	55	223	14
Internal Link Dist (ft)		1374		2511		916		934
Turn Bay Length (ft)	200		120		100		100	
Base Capacity (vph)	235	2583	320	2743	539	577	862	842
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.30	0.17	0.24	0.01	0.24	0.33	0.01

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	237	1022	20	565	113	18	66	317
v/c Ratio	0.31	0.46	0.06	0.62	0.44	0.07	0.25	0.77
Control Delay	16.0	16.9	37.5	46.5	55.5	30.2	48.4	20.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.0	16.9	37.5	46.5	55.5	30.2	48.4	20.7
Queue Length 50th (ft)	62	124	13	149	81	6	40	18
Queue Length 95th (ft)	m200	298	31	162	#232	28	95	102
Internal Link Dist (ft)		189		259		567		1162
Turn Bay Length (ft)	100		120		100		50	
Base Capacity (vph)	774	2210	531	1514	254	370	280	609
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.46	0.04	0.37	0.44	0.05	0.24	0.52

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	133	361	539	132	251	134	1072	610	390	593	98
v/c Ratio	0.43	0.83	0.85	0.17	0.47	0.67	0.49	0.74	0.68	0.30	0.14
Control Delay	56.0	62.8	52.8	23.4	7.4	66.8	32.3	16.6	53.8	26.0	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.0	62.8	52.8	23.4	7.4	66.8	32.3	16.6	53.8	26.0	2.6
Queue Length 50th (ft)	51	130	95	25	58	100	196	130	147	119	0
Queue Length 95th (ft)	82	#207	#182	76	130	166	226	283	202	151	21
Internal Link Dist (ft)		409		264			320			2205	
Turn Bay Length (ft)	250		150			280		100	250		250
Base Capacity (vph)	486	446	664	758	536	236	2216	825	572	2012	702
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.81	0.81	0.17	0.47	0.57	0.48	0.74	0.68	0.29	0.14

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	23	94	210	112	98	1122	91	503
v/c Ratio	0.32	0.58	0.95	0.29	0.64	1.02	0.93	0.46
Control Delay	80.3	67.2	111.3	17.1	83.0	57.9	140.1	18.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.3	67.2	111.3	17.1	83.0	57.9	140.1	18.8
Queue Length 50th (ft)	21	71	198	19	90	~1088	87	253
Queue Length 95th (ft)	55	133	#377	76	157	#1437	#209	384
Internal Link Dist (ft)		845		861		595		545
Turn Bay Length (ft)	200		300		300		200	
Base Capacity (vph)	73	233	221	415	184	1102	98	1100
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.40	0.95	0.27	0.53	1.02	0.93	0.46

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	21	67	207	148	32	6	235	112	50	59	247	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1816		1770	1777		1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	1770	1816		1770	1777		1770	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	23	73	225	161	35	7	255	122	54	64	268	185
RTOR Reduction (vph)	0	0	194	0	6	0	0	12	0	0	0	143
Lane Group Flow (vph)	23	73	31	161	36	0	255	164	0	64	268	42
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	10.5	10.5	10.5	14.4	14.4		15.9	26.8		6.5	17.4	17.4
Effective Green, g (s)	10.5	10.5	10.5	14.4	14.4		15.9	26.8		6.5	17.4	17.4
Actuated g/C Ratio	0.14	0.14	0.14	0.19	0.19		0.21	0.35		0.09	0.23	0.23
Clearance Time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	244	257	218	334	343		369	625		151	425	361
v/s Ratio Prot	0.01	c0.04		c0.09	0.02		c0.14	0.09		0.04	c0.14	
v/s Ratio Perm			0.02									0.03
v/c Ratio	0.09	0.28	0.14	0.48	0.11		0.69	0.26		0.42	0.63	0.12
Uniform Delay, d1	28.6	29.4	28.8	27.5	25.5		27.8	17.6		33.0	26.5	23.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	0.6	0.3	1.1	0.1		5.5	0.2		1.9	3.0	0.1
Delay (s)	28.8	30.0	29.1	28.6	25.7		33.3	17.8		34.9	29.5	23.4
Level of Service	C	C	C	C	C		C	B		C	C	C
Approach Delay (s)		29.3			28.0			27.0			28.0	
Approach LOS		C			C			C			C	

Intersection Summary				
HCM 2000 Control Delay	28.0	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.55			
Actuated Cycle Length (s)	76.1	Sum of lost time (s)	17.9	
Intersection Capacity Utilization	52.0%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	31	1	20	178	1	31	13	339	117	115	445	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6			4.6		4.0	5.3		4.0	5.3	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.95			0.98		1.00	0.96		1.00	0.99	
Flt Protected		0.97			0.96		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1715			1751		1770	3403		1770	3499	
Flt Permitted		0.80			0.72		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1417			1312		1770	3403		1770	3499	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	34	1	22	193	1	34	14	368	127	125	484	40
RTOR Reduction (vph)	0	17	0	0	13	0	0	68	0	0	11	0
Lane Group Flow (vph)	0	40	0	0	215	0	14	427	0	125	513	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		10.7			10.7		0.7	17.2		4.8	21.3	
Effective Green, g (s)		10.7			10.7		0.7	17.2		4.8	21.3	
Actuated g/C Ratio		0.23			0.23		0.02	0.37		0.10	0.46	
Clearance Time (s)		4.6			4.6		4.0	5.3		4.0	5.3	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		325			301		26	1256		182	1599	
v/s Ratio Prot							0.01	0.13		c0.07	c0.15	
v/s Ratio Perm		0.03			c0.16							
v/c Ratio		0.12			0.71		0.54	0.34		0.69	0.32	
Uniform Delay, d1		14.2			16.5		22.8	10.6		20.2	8.0	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.2			7.8		19.8	0.2		10.3	0.1	
Delay (s)		14.4			24.3		42.6	10.8		30.4	8.2	
Level of Service		B			C		D	B		C	A	
Approach Delay (s)		14.4			24.3			11.6			12.5	
Approach LOS		B			C			B			B	

Intersection Summary				
HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.53			
Actuated Cycle Length (s)	46.6	Sum of lost time (s)	13.9	
Intersection Capacity Utilization	47.5%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	21	87	101	1005	270	292	163	159	149	160	434	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3		4.0	5.3		4.0	5.3	4.0	4.0	5.3	
Lane Util. Factor	1.00	0.95		0.97	1.00		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.92		1.00	0.92		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3254		3433	1718		1770	3539	1583	1770	3491	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3254		3433	1718		1770	3539	1583	1770	3491	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	23	95	110	1092	293	317	177	173	162	174	472	47
RTOR Reduction (vph)	0	94	0	0	29	0	0	0	0	0	6	0
Lane Group Flow (vph)	23	111	0	1092	581	0	177	173	162	174	513	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									Free			
Actuated Green, G (s)	2.2	16.1		41.4	55.3		13.1	21.5	110.7	13.1	21.5	
Effective Green, g (s)	2.2	16.1		41.4	55.3		13.1	21.5	110.7	13.1	21.5	
Actuated g/C Ratio	0.02	0.15		0.37	0.50		0.12	0.19	1.00	0.12	0.19	
Clearance Time (s)	4.0	5.3		4.0	5.3		4.0	5.3		4.0	5.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	35	473		1283	858		209	687	1583	209	678	
v/s Ratio Prot	c0.01	0.03		c0.32	c0.34		c0.10	0.05		0.10	c0.15	
v/s Ratio Perm									0.10			
v/c Ratio	0.66	0.23		0.85	0.68		0.85	0.25	0.10	0.83	0.76	
Uniform Delay, d1	53.9	41.8		31.8	21.0		47.8	37.8	0.0	47.7	42.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	36.6	0.3		5.6	2.1		25.8	0.2	0.1	23.7	4.8	
Delay (s)	90.5	42.1		37.4	23.1		73.6	38.0	0.1	71.4	47.0	
Level of Service	F	D		D	C		E	D	A	E	D	
Approach Delay (s)		47.0			32.3			38.3			53.1	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	39.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	110.7	Sum of lost time (s)	18.6
Intersection Capacity Utilization	74.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	8	0	397	12	90	0	434	84	47	1392	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			0.95		1.00	0.95	
Frt	1.00	1.00		1.00	0.87			0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863		1770	1616			3453		1770	3520	
Flt Permitted	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863		1770	1616			3453		1770	3520	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	9	0	432	13	98	0	472	91	51	1513	57
RTOR Reduction (vph)	0	0	0	0	86	0	0	15	0	0	2	0
Lane Group Flow (vph)	54	9	0	432	25	0	0	548	0	51	1568	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	15.8	1.4		26.8	12.4			43.9		16.9	64.8	
Effective Green, g (s)	15.8	1.4		26.8	12.4			43.9		16.9	64.8	
Actuated g/C Ratio	0.15	0.01		0.26	0.12			0.42		0.16	0.62	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	266	24		451	190			1443		284	2172	
v/s Ratio Prot	c0.03	0.00		c0.24	0.02			0.16		0.03	c0.45	
v/s Ratio Perm												
v/c Ratio	0.20	0.38		0.96	0.13			0.38		0.18	0.72	
Uniform Delay, d1	39.1	51.4		38.5	41.5			21.1		38.1	13.9	
Progression Factor	1.00	1.00		1.00	1.00			0.90		1.00	1.00	
Incremental Delay, d2	0.4	9.6		31.4	0.3			0.7		0.3	2.1	
Delay (s)	39.5	60.9		70.0	41.8			19.8		38.4	16.0	
Level of Service	D	E		E	D			B		D	B	
Approach Delay (s)		42.5			64.2			19.8			16.7	
Approach LOS		D			E			B			B	

Intersection Summary			
HCM 2000 Control Delay	27.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	33	17	147	67	21	21	84	465	59	23	1696	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.87		1.00	0.93		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1612		1770	1723		1770	3480		1770	3518	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1612		1770	1723		1770	3480		1770	3518	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	36	18	160	73	23	23	91	505	64	25	1843	76
RTOR Reduction (vph)	0	105	0	0	20	0	0	8	0	0	3	0
Lane Group Flow (vph)	36	73	0	73	26	0	91	561	0	25	1916	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	3.0	11.7		5.0	13.7		8.5	69.7		2.6	63.8	
Effective Green, g (s)	3.0	11.7		5.0	13.7		8.5	69.7		2.6	63.8	
Actuated g/C Ratio	0.03	0.11		0.05	0.13		0.08	0.66		0.02	0.61	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	50	179		84	224		143	2310		43	2137	
v/s Ratio Prot	0.02	c0.05		c0.04	0.02		c0.05	0.16		0.01	c0.54	
v/s Ratio Perm												
v/c Ratio	0.72	0.41		0.87	0.12		0.64	0.24		0.58	0.90	
Uniform Delay, d1	50.6	43.4		49.7	40.3		46.8	7.1		50.7	17.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.03	0.77	
Incremental Delay, d2	39.1	1.5		56.4	0.2		8.9	0.2		12.2	4.3	
Delay (s)	89.7	44.9		106.1	40.5		55.7	7.3		64.5	18.1	
Level of Service	F	D		F	D		E	A		E	B	
Approach Delay (s)		52.5			80.7			14.0			18.7	
Approach LOS		D			F			B			B	

Intersection Summary			
HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	456	0	364	135	276	0	0	1096	719
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0		4.0			4.0	4.0
Lane Util. Factor				0.95	0.91	0.95		0.95			0.95	1.00
Frt				1.00	0.94	0.85		1.00			1.00	0.85
Flt Protected				0.95	0.97	1.00		0.98			1.00	1.00
Satd. Flow (prot)				1681	1550	1504		3482			3539	1583
Flt Permitted				0.95	0.97	1.00		0.52			1.00	1.00
Satd. Flow (perm)				1681	1550	1504		1844			3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	496	0	396	147	300	0	0	1191	782
RTOR Reduction (vph)	0	0	0	0	23	211	0	0	0	0	0	252
Lane Group Flow (vph)	0	0	0	312	276	70	0	447	0	0	1191	530
Turn Type				Split	NA	Perm	Perm	NA	Free		NA	Perm
Protected Phases				8	8			2			6	
Permitted Phases						8	2		Free			6
Actuated Green, G (s)				27.4	27.4	27.4		74.6			74.6	74.6
Effective Green, g (s)				27.4	27.4	27.4		74.6			74.6	74.6
Actuated g/C Ratio				0.25	0.25	0.25		0.68			0.68	0.68
Clearance Time (s)				4.0	4.0	4.0		4.0			4.0	4.0
Vehicle Extension (s)				3.0	3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)				418	386	374		1250			2400	1073
v/s Ratio Prot				c0.19	0.18						c0.34	
v/s Ratio Perm						0.05		0.24				0.33
v/c Ratio				0.75	0.72	0.19		0.36			0.50	0.49
Uniform Delay, d1				38.1	37.7	32.5		7.5			8.6	8.6
Progression Factor				1.00	1.00	1.00		1.49			1.00	1.00
Incremental Delay, d2				7.1	6.2	0.2		0.8			0.7	1.6
Delay (s)				45.2	44.0	32.8		12.0			9.3	10.2
Level of Service				D	D	C		B			A	B
Approach Delay (s)		0.0			40.9			12.0			9.7	
Approach LOS		A			D			B			A	

Intersection Summary				
HCM 2000 Control Delay	18.4	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.56			
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	82.4%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	218	0	131	0	0	0	73	221	0	0	1259	294
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0					4.0			4.0	4.0
Lane Util. Factor	0.97		1.00					0.95			0.95	1.00
Frt	1.00		0.85					1.00			1.00	0.85
Flt Protected	0.95		1.00					0.99			1.00	1.00
Satd. Flow (prot)	3433		1583					3496			3539	1583
Flt Permitted	0.95		1.00					0.61			1.00	1.00
Satd. Flow (perm)	3433		1583					2142			3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	237	0	142	0	0	0	79	240	0	0	1368	320
RTOR Reduction (vph)	0	0	77	0	0	0	0	0	0	0	0	61
Lane Group Flow (vph)	237	0	65	0	0	0	0	319	0	0	1368	259
Turn Type	Prot		Perm				Perm	NA	Free		NA	Perm
Protected Phases	4							2			6	
Permitted Phases			4				2		Free			6
Actuated Green, G (s)	12.9		12.9					89.1			89.1	89.1
Effective Green, g (s)	12.9		12.9					89.1			89.1	89.1
Actuated g/C Ratio	0.12		0.12					0.81			0.81	0.81
Clearance Time (s)	4.0		4.0					4.0			4.0	4.0
Vehicle Extension (s)	3.0		3.0					3.0			3.0	3.0
Lane Grp Cap (vph)	402		185					1735			2866	1282
v/s Ratio Prot	c0.07										c0.39	
v/s Ratio Perm			0.04					0.15				0.16
v/c Ratio	0.59		0.35					0.18			0.48	0.20
Uniform Delay, d1	46.0		44.7					2.3			3.2	2.4
Progression Factor	1.00		1.00					1.00			0.80	0.73
Incremental Delay, d2	2.2		1.2					0.2			0.5	0.3
Delay (s)	48.3		45.9					2.6			3.1	2.0
Level of Service	D		D					A			A	A
Approach Delay (s)		47.4			0.0			2.6			2.9	
Approach LOS		D			A			A			A	

Intersection Summary				
HCM 2000 Control Delay	9.9	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.49			
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	59.3%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1	68	5	1	5	81	289	5	5	1330	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.91		1.00	0.91	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		1.00	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1863	1583		1788	1583	1770	5073		1770	5056	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1863	1583		1863	1583	1770	5073		1770	5056	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1	74	5	1	5	88	314	5	5	1446	57
RTOR Reduction (vph)	0	0	70	0	0	5	0	1	0	0	5	0
Lane Group Flow (vph)	0	1	4	0	6	0	88	318	0	5	1498	0
Turn Type		NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)		3.2	3.2		3.2	3.2	6.4	42.7		0.7	37.0	
Effective Green, g (s)		3.2	3.2		3.2	3.2	6.4	42.7		0.7	37.0	
Actuated g/C Ratio		0.05	0.05		0.05	0.05	0.11	0.73		0.01	0.63	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		101	86		101	86	193	3696		21	3192	
v/s Ratio Prot		0.00					c0.05	0.06		0.00	c0.30	
v/s Ratio Perm			0.00		c0.00	0.00						
v/c Ratio		0.01	0.05		0.06	0.00	0.46	0.09		0.24	0.47	
Uniform Delay, d1		26.2	26.3		26.3	26.2	24.5	2.3		28.7	5.7	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.0	0.2		0.2	0.0	1.7	0.0		5.8	0.1	
Delay (s)		26.2	26.5		26.5	26.2	26.2	2.3		34.5	5.8	
Level of Service		C	C		C	C	C	A		C	A	
Approach Delay (s)		26.5			26.4			7.5			5.9	
Approach LOS		C			C			A			A	

Intersection Summary				
HCM 2000 Control Delay	7.1	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.44			
Actuated Cycle Length (s)	58.6	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	45.7%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	174	5	123	965	260	5	5	77	82	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	5.3		3.5	6.0		4.2	4.2		4.2	4.2	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.97		1.00	0.86		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5066		1770	4923		1770	1599		1770	1723	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5066		1770	4923		1770	1599		1770	1723	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	189	5	134	1049	283	5	5	84	89	5	5
RTOR Reduction (vph)	0	3	0	0	40	0	0	77	0	0	4	0
Lane Group Flow (vph)	5	191	0	134	1292	0	5	12	0	89	6	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Actuated Green, G (s)	0.9	20.2		7.1	25.7		4.6	4.6		6.3	6.3	
Effective Green, g (s)	0.9	20.2		7.1	25.7		4.6	4.6		6.3	6.3	
Actuated g/C Ratio	0.02	0.36		0.13	0.46		0.08	0.08		0.11	0.11	
Clearance Time (s)	3.5	5.3		3.5	6.0		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	28	1847		226	2283		146	132		201	195	
v/s Ratio Prot	0.00	0.04		c0.08	c0.26		0.00	c0.01		c0.05	0.00	
v/s Ratio Perm												
v/c Ratio	0.18	0.10		0.59	0.57		0.03	0.09		0.44	0.03	
Uniform Delay, d1	26.9	11.6		22.8	10.8		23.4	23.5		22.9	21.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.0	0.0		4.1	0.3		0.1	0.3		1.6	0.1	
Delay (s)	29.9	11.6		26.9	11.1		23.5	23.8		24.5	21.9	
Level of Service	C	B		C	B		C	C		C	C	
Approach Delay (s)		12.1			12.6			23.8			24.2	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	55.4	Sum of lost time (s)	17.9
Intersection Capacity Utilization	51.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	180	235	27	49	1121	49	53	5	5	5	8	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6		4.0	4.0		4.0	5.3		4.0	5.3	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.93		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5007		1770	5053		1770	1723		1770	1599	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5007		1770	5053		1770	1723		1770	1599	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	255	29	53	1218	53	58	5	5	5	9	155
RTOR Reduction (vph)	0	9	0	0	4	0	0	4	0	0	138	0
Lane Group Flow (vph)	196	275	0	53	1267	0	58	6	0	5	26	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	49.1	49.1		35.4	35.4		4.6	16.8		0.8	13.0	
Effective Green, g (s)	49.1	49.1		35.4	35.4		4.6	16.8		0.8	13.0	
Actuated g/C Ratio	0.41	0.41		0.29	0.29		0.04	0.14		0.01	0.11	
Clearance Time (s)	4.6	4.6		4.0	4.0		4.0	5.3		4.0	5.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	724	2048		522	1490		67	241		11	173	
v/s Ratio Prot	c0.11	0.05		0.03	c0.25		c0.03	c0.00		0.00	c0.02	
v/s Ratio Perm												
v/c Ratio	0.27	0.13		0.10	0.85		0.87	0.02		0.45	0.15	
Uniform Delay, d1	23.6	22.2		30.7	39.8		57.4	44.5		59.4	48.5	
Progression Factor	0.76	0.73		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.1		0.1	4.9		64.8	0.0		27.0	0.4	
Delay (s)	18.8	16.2		30.8	44.7		122.2	44.6		86.4	48.9	
Level of Service	B	B		C	D		F	D		F	D	
Approach Delay (s)		17.3			44.1			110.8			50.0	
Approach LOS		B			D			F			D	

Intersection Summary				
HCM 2000 Control Delay	40.5	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.46			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.9	
Intersection Capacity Utilization	60.2%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	154	109	52	601	327	388	90	585	237	98	1044	196
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.7		6.0	5.7	5.7	5.0	5.7	5.7	5.0	5.7	5.7
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	0.86	1.00	0.97	0.91	1.00
Frt	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3366		3433	3539	1583	1770	6408	1583	3433	5085	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3366		3433	3539	1583	1770	6408	1583	3433	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	167	118	57	653	355	422	98	636	258	107	1135	213
RTOR Reduction (vph)	0	49	0	0	0	262	0	0	170	0	0	126
Lane Group Flow (vph)	167	126	0	653	355	160	98	636	88	107	1135	87
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	11.6	10.3		26.4	25.1	25.1	11.8	40.9	40.9	20.0	49.1	49.1
Effective Green, g (s)	11.6	10.3		26.4	25.1	25.1	11.8	40.9	40.9	20.0	49.1	49.1
Actuated g/C Ratio	0.10	0.09		0.22	0.21	0.21	0.10	0.34	0.34	0.17	0.41	0.41
Clearance Time (s)	6.0	5.7		6.0	5.7	5.7	5.0	5.7	5.7	5.0	5.7	5.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	331	288		755	740	331	174	2184	539	572	2080	647
v/s Ratio Prot	0.05	0.04		c0.19	0.10		c0.06	0.10		0.03	c0.22	
v/s Ratio Perm						c0.10			0.06			0.06
v/c Ratio	0.50	0.44		0.86	0.48	0.48	0.56	0.29	0.16	0.19	0.55	0.13
Uniform Delay, d1	51.5	52.1		45.1	41.7	41.8	51.6	28.9	27.6	43.0	27.0	22.2
Progression Factor	1.00	1.00		1.27	0.53	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	1.1		6.4	0.3	0.7	4.1	0.3	0.6	0.2	1.0	0.4
Delay (s)	52.7	53.2		63.6	22.5	38.5	55.8	29.3	28.3	43.2	28.0	22.6
Level of Service	D	D		E	C	D	E	C	C	D	C	C
Approach Delay (s)		52.9			46.0			31.6			28.3	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	37.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.4
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	58	20	377	66	73	246	236	379	91	639	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.92		1.00	0.91		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1790		1770	1717		1770	1691		1770	1822	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1790		1770	1717		1770	1691		1770	1822	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	63	22	410	72	79	267	257	412	99	695	118
RTOR Reduction (vph)	0	9	0	0	25	0	0	37	0	0	4	0
Lane Group Flow (vph)	26	76	0	410	126	0	267	632	0	99	809	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	5.2	13.3		32.0	40.1		21.0	73.4		10.6	63.0	
Effective Green, g (s)	5.2	13.3		32.0	40.1		21.0	73.4		10.6	63.0	
Actuated g/C Ratio	0.04	0.09		0.22	0.28		0.14	0.51		0.07	0.43	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	63	163		389	473		255	854		129	789	
v/s Ratio Prot	0.01	c0.04		c0.23	0.07		c0.15	0.37		0.06	c0.44	
v/s Ratio Perm												
v/c Ratio	0.41	0.47		1.05	0.27		1.05	0.74		0.77	1.03	
Uniform Delay, d1	68.6	62.6		56.7	41.1		62.2	28.4		66.1	41.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.3	2.1		60.5	0.3		69.2	3.4		23.5	38.7	
Delay (s)	72.9	64.7		117.2	41.4		131.4	31.8		89.6	79.8	
Level of Service	E	E		F	D		F	C		F	E	
Approach Delay (s)		66.6			96.8			60.2			80.9	
Approach LOS		E			F			E			F	

Intersection Summary				
HCM 2000 Control Delay	76.1	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	0.98			
Actuated Cycle Length (s)	145.3	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	91.4%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	51	425	97	60	1469
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	85	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	55	462	105	65	1597

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1444	284	0	0	567	0
Stage 1	515	-	-	-	-	-
Stage 2	929	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	123	713	-	-	1001	-
Stage 1	565	-	-	-	-	-
Stage 2	345	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	115	713	-	-	1001	-
Mov Cap-2 Maneuver	115	-	-	-	-	-
Stage 1	565	-	-	-	-	-
Stage 2	323	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	713	1001	-
HCM Lane V/C Ratio	-	-	0.078	0.065	-
HCM Control Delay (s)	-	-	10.5	8.8	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.2	-

Intersection	
Int Delay, s/veh	16.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	58	115	406	110	242	1227
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	525	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	63	125	441	120	263	1334

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1694	280	0	0	561	0
Stage 1	501	-	-	-	-	-
Stage 2	1193	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	84	717	-	-	1006	-
Stage 1	574	-	-	-	-	-
Stage 2	250	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 62	717	-	-	1006	-
Mov Cap-2 Maneuver	~ 62	-	-	-	-	-
Stage 1	574	-	-	-	-	-
Stage 2	185	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	189	0	1.6
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	158	1006	-
HCM Lane V/C Ratio	-	-	1.19	0.261	-
HCM Control Delay (s)	-	-	189	9.8	-
HCM Lane LOS	-	-	F	A	-
HCM 95th %tile Q(veh)	-	-	10.5	1.1	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	9	597	41	0	1887
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	100	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	10	649	45	0	2051

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1469	324	0	0	649	0
Stage 1	649	-	-	-	-	-
Stage 2	820	-	-	-	-	-
Critical Hdwy	6.29	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.67	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	145	672	-	-	933	-
Stage 1	468	-	-	-	-	-
Stage 2	366	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	145	672	-	-	933	-
Mov Cap-2 Maneuver	145	-	-	-	-	-
Stage 1	468	-	-	-	-	-
Stage 2	366	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	672	933	-
HCM Lane V/C Ratio	-	-	0.015	-	-
HCM Control Delay (s)	-	-	10.4	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	3	55	8	0	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3	60	9	0	71

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	135	64	0	0	68	0
Stage 1	64	-	-	-	-	-
Stage 2	71	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	859	1000	-	-	1533	-
Stage 1	959	-	-	-	-	-
Stage 2	952	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	859	1000	-	-	1533	-
Mov Cap-2 Maneuver	859	-	-	-	-	-
Stage 1	959	-	-	-	-	-
Stage 2	952	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1000	1533	-
HCM Lane V/C Ratio	-	-	0.003	-	-
HCM Control Delay (s)	-	-	8.6	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	20	12	51	84	16	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	13	55	91	17	53

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	189	101	0	0	147	0
Stage 1	101	-	-	-	-	-
Stage 2	88	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	800	954	-	-	1435	-
Stage 1	923	-	-	-	-	-
Stage 2	935	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	790	954	-	-	1435	-
Mov Cap-2 Maneuver	790	-	-	-	-	-
Stage 1	923	-	-	-	-	-
Stage 2	924	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	1.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	844	1435	-
HCM Lane V/C Ratio	-	-	0.041	0.012	-
HCM Control Delay (s)	-	-	9.4	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	23	73	225	161	42	255	176	64	268	185
v/c Ratio	0.09	0.28	0.55	0.48	0.12	0.69	0.28	0.35	0.67	0.38
Control Delay	32.5	34.7	10.4	33.4	24.3	43.7	22.6	43.3	39.6	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.5	34.7	10.4	33.4	24.3	43.7	22.6	43.3	39.6	8.0
Queue Length 50th (ft)	9	29	0	63	13	100	49	25	103	0
Queue Length 95th (ft)	36	85	63	152	46	#380	165	93	#305	60
Internal Link Dist (ft)		1626			141		676		2268	
Turn Bay Length (ft)	60					100		60		180
Base Capacity (vph)	640	674	716	838	863	369	713	221	573	615
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.11	0.31	0.19	0.05	0.69	0.25	0.29	0.47	0.30

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	57	228	14	495	125	524
v/c Ratio	0.16	0.68	0.09	0.40	0.51	0.30
Control Delay	10.6	26.6	20.6	10.8	28.0	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.6	26.6	20.6	10.8	28.0	8.0
Queue Length 50th (ft)	6	44	3	41	29	34
Queue Length 95th (ft)	29	#135	16	72	#88	83
Internal Link Dist (ft)	567	186		1819		1733
Turn Bay Length (ft)			140		80	
Base Capacity (vph)	408	376	163	1592	245	1766
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.61	0.09	0.31	0.51	0.30

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	23	205	1092	610	177	173	162	174	519
v/c Ratio	0.24	0.41	0.83	0.67	0.83	0.25	0.10	0.81	0.74
Control Delay	59.7	23.0	38.5	24.1	78.1	37.8	0.1	76.4	47.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.7	23.0	38.5	24.1	78.1	37.8	0.1	76.4	47.6
Queue Length 50th (ft)	15	31	325	251	116	51	0	114	168
Queue Length 95th (ft)	49	70	#631	515	#306	95	0	#299	267
Internal Link Dist (ft)		153		168		1623			1819
Turn Bay Length (ft)	165		340		265		180	135	
Base Capacity (vph)	98	1048	1311	1093	214	1002	1583	214	993
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.20	0.83	0.56	0.83	0.17	0.10	0.81	0.52

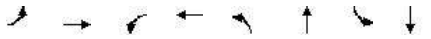
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	54	9	432	111	563	51	1570
v/c Ratio	0.22	0.08	0.96	0.40	0.35	0.16	0.69
Control Delay	40.3	48.1	73.3	16.4	19.5	33.2	14.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.3	48.1	73.3	16.4	19.5	33.2	14.3
Queue Length 50th (ft)	32	6	290	8	125	25	288
Queue Length 95th (ft)	65	22	#491	60	142	60	501
Internal Link Dist (ft)		399		1130	1045		742
Turn Bay Length (ft)	200		200			200	
Base Capacity (vph)	263	195	451	485	1790	338	2282
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.05	0.96	0.23	0.31	0.15	0.69

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	36	178	73	46	91	569	25	1919
v/c Ratio	0.43	0.68	0.87	0.19	0.90	0.23	0.24	0.84
Control Delay	64.4	30.2	118.3	26.6	116.6	6.7	52.7	15.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.4	30.2	118.3	26.6	116.6	6.7	52.7	15.1
Queue Length 50th (ft)	24	39	50	15	62	48	17	267
Queue Length 95th (ft)	#59	104	#137	47	#161	114	m23	m#552
Internal Link Dist (ft)		388		882		384		1045
Turn Bay Length (ft)	200		200		200		200	
Base Capacity (vph)	84	345	84	282	101	2451	105	2278
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.52	0.87	0.16	0.90	0.23	0.24	0.84

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	312	299	281	447	1191	782
v/c Ratio	0.75	0.73	0.48	0.36	0.50	0.59
Control Delay	48.8	44.2	6.4	13.6	10.3	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.8	44.2	6.4	13.6	10.3	2.7
Queue Length 50th (ft)	212	191	0	28	197	0
Queue Length 95th (ft)	295	280	63	187	292	44
Internal Link Dist (ft)		114		648	164	
Turn Bay Length (ft)						
Base Capacity (vph)	519	499	659	1250	2400	1325
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.60	0.43	0.36	0.50	0.59

Intersection Summary

Lane Group	EBL	EBR	NBT	SBT	SBR
Lane Group Flow (vph)	237	142	319	1368	320
v/c Ratio	0.59	0.54	0.18	0.48	0.24
Control Delay	51.9	26.9	2.8	3.3	0.6
Queue Delay	0.0	0.0	0.0	0.1	0.0
Total Delay	51.9	26.9	2.8	3.4	0.6
Queue Length 50th (ft)	82	36	20	105	0
Queue Length 95th (ft)	119	97	37	107	0
Internal Link Dist (ft)			852	648	
Turn Bay Length (ft)					640
Base Capacity (vph)	717	399	1734	2867	1343
Starvation Cap Reductn	0	0	0	398	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.33	0.36	0.18	0.55	0.24

Intersection Summary

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	1	74	6	5	88	319	5	1503
v/c Ratio	0.00	0.24	0.03	0.02	0.33	0.08	0.04	0.44
Control Delay	26.0	3.0	26.5	0.0	27.1	2.2	28.8	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.0	3.0	26.5	0.0	27.1	2.2	28.8	7.2
Queue Length 50th (ft)	0	0	2	0	27	6	2	107
Queue Length 95th (ft)	4	8	12	0	70	22	11	156
Internal Link Dist (ft)	560		1154			2511		852
Turn Bay Length (ft)				100	150		100	
Base Capacity (vph)	408	456	408	456	352	4275	140	3593
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.16	0.01	0.01	0.25	0.07	0.04	0.42

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	5	194	134	1332	5	89	89	10
v/c Ratio	0.02	0.09	0.37	0.48	0.02	0.29	0.28	0.03
Control Delay	28.4	16.4	27.0	11.5	26.6	11.2	26.5	19.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.4	16.4	27.0	11.5	26.6	11.2	26.5	19.4
Queue Length 50th (ft)	2	17	39	95	2	2	26	1
Queue Length 95th (ft)	12	38	108	220	12	41	77	14
Internal Link Dist (ft)		1374		2511		916		934
Turn Bay Length (ft)	200		120		100		100	
Base Capacity (vph)	299	2711	535	2988	685	670	963	940
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.07	0.25	0.45	0.01	0.13	0.09	0.01

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	196	284	53	1271	58	10	5	164
v/c Ratio	0.25	0.13	0.10	0.85	0.87	0.04	0.08	0.60
Control Delay	18.5	14.9	31.1	46.0	134.1	31.8	59.0	18.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.5	14.9	31.1	46.0	134.1	31.8	59.0	18.1
Queue Length 50th (ft)	82	39	30	335	46	3	4	7
Queue Length 95th (ft)	179	73	62	395	#136	19	18	65
Internal Link Dist (ft)		189		259		567		1162
Turn Bay Length (ft)	100		120		100		50	
Base Capacity (vph)	770	2188	531	1520	67	420	63	503
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.13	0.10	0.84	0.87	0.02	0.08	0.33

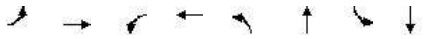
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	167	175	653	355	422	98	636	258	107	1135	213
v/c Ratio	0.50	0.52	0.86	0.48	0.71	0.57	0.29	0.36	0.19	0.54	0.28
Control Delay	56.7	41.7	64.9	23.6	13.8	64.6	29.8	5.1	44.0	28.8	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.7	41.7	64.9	23.6	13.8	64.6	29.8	5.1	44.0	28.8	4.2
Queue Length 50th (ft)	64	47	183	31	7	74	106	0	37	246	0
Queue Length 95th (ft)	98	83	m#272	m91	m338	130	133	58	63	299	49
Internal Link Dist (ft)		409		264			320			2205	
Turn Bay Length (ft)	250		150			280		100	250		250
Base Capacity (vph)	486	393	776	739	592	193	2207	714	572	2107	780
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.45	0.84	0.48	0.71	0.51	0.29	0.36	0.19	0.54	0.27

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	26	85	410	151	267	669	99	813
v/c Ratio	0.28	0.55	1.04	0.30	1.03	0.74	0.76	1.01
Control Delay	73.2	69.5	109.9	34.6	123.7	31.1	99.0	74.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.2	69.5	109.9	34.6	123.7	31.1	99.0	74.6
Queue Length 50th (ft)	24	69	~412	89	~266	435	92	~768
Queue Length 95th (ft)	57	127	#654	158	#469	642	#193	#1105
Internal Link Dist (ft)		845		909		595		545
Turn Bay Length (ft)	200		300		300		200	
Base Capacity (vph)	197	233	394	503	258	900	135	803
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.36	1.04	0.30	1.03	0.74	0.73	1.01

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	78	5	241	15	8	3	260	353	9	0	173	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3			5.3	5.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1793		1770	1856			1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	1770	1863	1583	1770	1793		1770	1856			1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	85	5	262	16	9	3	283	384	10	0	188	27
RTOR Reduction (vph)	0	0	218	0	3	0	0	0	0	0	0	21
Lane Group Flow (vph)	85	5	44	16	9	0	283	394	0	0	188	6
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	10.7	10.7	10.7	5.0	5.0		17.1	34.3			13.2	13.2
Effective Green, g (s)	10.7	10.7	10.7	5.0	5.0		17.1	34.3			13.2	13.2
Actuated g/C Ratio	0.17	0.17	0.17	0.08	0.08		0.27	0.54			0.21	0.21
Clearance Time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3			5.3	5.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	296	311	265	138	140		473	996			384	327
v/s Ratio Prot	c0.05	0.00		c0.01	0.01		c0.16	0.21			c0.10	
v/s Ratio Perm			0.03									0.00
v/c Ratio	0.29	0.02	0.17	0.12	0.07		0.60	0.40			0.49	0.02
Uniform Delay, d1	23.3	22.2	22.8	27.4	27.3		20.4	8.7			22.4	20.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	0.5	0.0	0.3	0.4	0.2		2.0	0.3			1.0	0.0
Delay (s)	23.8	22.2	23.1	27.8	27.5		22.4	9.0			23.4	20.2
Level of Service	C	C	C	C	C		C	A			C	C
Approach Delay (s)		23.2			27.6			14.6			23.0	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	18.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	63.9	Sum of lost time (s)	17.9
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	28	0	15	114	2	63	15	535	132	55	344	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6			4.6		4.0	5.3		4.0	5.3	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.95			0.95		1.00	0.97		1.00	0.99	
Flt Protected		0.97			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1719			1720		1770	3435		1770	3501	
Flt Permitted		0.79			0.78		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1395			1382		1770	3435		1770	3501	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	30	0	16	124	2	68	16	582	143	60	374	29
RTOR Reduction (vph)	0	37	0	0	37	0	0	32	0	0	8	0
Lane Group Flow (vph)	0	9	0	0	157	0	16	693	0	60	395	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		8.8			8.8		0.6	21.4		3.0	23.8	
Effective Green, g (s)		8.8			8.8		0.6	21.4		3.0	23.8	
Actuated g/C Ratio		0.19			0.19		0.01	0.45		0.06	0.51	
Clearance Time (s)		4.6			4.6		4.0	5.3		4.0	5.3	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		260			258		22	1560		112	1769	
v/s Ratio Prot							0.01	c0.20		c0.03	0.11	
v/s Ratio Perm		0.01			c0.11							
v/c Ratio		0.03			0.61		0.73	0.44		0.54	0.22	
Uniform Delay, d1		15.7			17.6		23.2	8.8		21.4	6.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.1			4.2		76.4	0.2		4.9	0.1	
Delay (s)		15.7			21.8		99.6	9.0		26.2	6.6	
Level of Service		B			C		F	A		C	A	
Approach Delay (s)		15.7			21.8			10.9			9.1	
Approach LOS		B			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	47.1	Sum of lost time (s)	13.9
Intersection Capacity Utilization	45.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	66	272	85	371	103	115	105	497	635	150	296	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3		4.0	5.3		4.0	5.3	4.0	4.0	5.3	
Lane Util. Factor	1.00	0.95		0.97	1.00		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.96		1.00	0.92		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3413		3433	1715		1770	3539	1583	1770	3490	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3413		3433	1715		1770	3539	1583	1770	3490	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	296	92	403	112	125	114	540	690	163	322	33
RTOR Reduction (vph)	0	37	0	0	53	0	0	0	0	0	9	0
Lane Group Flow (vph)	72	351	0	403	184	0	114	540	690	163	346	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									Free			
Actuated Green, G (s)	6.8	12.0		7.1	12.3		4.0	14.6	57.3	5.0	15.6	
Effective Green, g (s)	6.8	12.0		7.1	12.3		4.0	14.6	57.3	5.0	15.6	
Actuated g/C Ratio	0.12	0.21		0.12	0.21		0.07	0.25	1.00	0.09	0.27	
Clearance Time (s)	4.0	5.3		4.0	5.3		4.0	5.3		4.0	5.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	210	714		425	368		123	901	1583	154	950	
v/s Ratio Prot	0.04	0.10		c0.12	0.11		0.06	c0.15		c0.09	0.10	
v/s Ratio Perm									c0.44			
v/c Ratio	0.34	0.49		0.95	0.50		0.93	0.60	0.44	1.06	0.36	
Uniform Delay, d1	23.2	20.0		24.9	19.8		26.5	18.8	0.0	26.1	16.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.0	0.5		30.4	1.1		58.3	1.1	0.9	88.9	0.2	
Delay (s)	24.2	20.5		55.3	20.9		84.8	19.9	0.9	115.1	17.1	
Level of Service	C	C		E	C		F	B	A	F	B	
Approach Delay (s)		21.1			42.6			15.6			47.9	
Approach LOS		C			D			B			D	

Intersection Summary				
HCM 2000 Control Delay	27.9	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.74			
Actuated Cycle Length (s)	57.3	Sum of lost time (s)	18.6	
Intersection Capacity Utilization	58.4%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	62	13	0	116	15	84	0	1256	128	58	702	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			0.95		1.00	0.95	
Frt	1.00	1.00		1.00	0.87			0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863		1770	1625			3490		1770	3501	
Flt Permitted	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863		1770	1625			3490		1770	3501	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	67	14	0	126	16	91	0	1365	139	63	763	59
RTOR Reduction (vph)	0	0	0	0	84	0	0	8	0	0	5	0
Lane Group Flow (vph)	67	14	0	126	23	0	0	1496	0	63	817	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	10.6	1.5		15.3	6.2			47.6		5.6	57.2	
Effective Green, g (s)	10.6	1.5		15.3	6.2			47.6		5.6	57.2	
Actuated g/C Ratio	0.12	0.02		0.18	0.07			0.55		0.07	0.67	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	218	32		314	117			1931		115	2328	
v/s Ratio Prot	0.04	c0.01		c0.07	0.01			c0.43		c0.04	0.23	
v/s Ratio Perm												
v/c Ratio	0.31	0.44		0.40	0.19			0.77		0.55	0.35	
Uniform Delay, d1	34.4	41.8		31.3	37.5			15.0		39.0	6.3	
Progression Factor	1.00	1.00		1.00	1.00			0.32		1.00	1.00	
Incremental Delay, d2	0.8	9.3		0.8	0.8			1.7		5.3	0.4	
Delay (s)	35.2	51.1		32.1	38.4			6.5		44.2	6.7	
Level of Service	D	D		C	D			A		D	A	
Approach Delay (s)		37.9			35.0			6.5			9.4	
Approach LOS		D			C			A			A	

Intersection Summary				
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.67			
Actuated Cycle Length (s)	86.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	65.2%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	92	30	179	191	33	86	127	1280	190	53	726	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.87		1.00	0.89		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1624		1770	1661		1770	3470		1770	3493	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1624		1770	1661		1770	3470		1770	3493	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	100	33	195	208	36	93	138	1391	207	58	789	76
RTOR Reduction (vph)	0	173	0	0	79	0	0	12	0	0	8	0
Lane Group Flow (vph)	100	55	0	208	50	0	138	1586	0	58	857	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	7.7	9.5		11.0	12.8		13.8	43.2		6.3	35.7	
Effective Green, g (s)	7.7	9.5		11.0	12.8		13.8	43.2		6.3	35.7	
Actuated g/C Ratio	0.09	0.11		0.13	0.15		0.16	0.50		0.07	0.42	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	158	179		226	247		284	1743		129	1450	
v/s Ratio Prot	0.06	c0.03		c0.12	c0.03		0.08	c0.46		0.03	c0.25	
v/s Ratio Perm												
v/c Ratio	0.63	0.30		0.92	0.20		0.49	0.91		0.45	0.59	
Uniform Delay, d1	37.8	35.2		37.1	32.1		32.9	19.6		38.2	19.5	
Progression Factor	1.00	1.00		1.00	1.00		0.95	0.86		0.86	0.91	
Incremental Delay, d2	8.0	1.0		38.6	0.4		1.1	7.3		2.4	1.7	
Delay (s)	45.8	36.2		75.7	32.5		32.3	24.2		35.1	19.5	
Level of Service	D	D		E	C		C	C		D	B	
Approach Delay (s)		39.1			59.2			24.8			20.5	
Approach LOS		D			E			C			C	

Intersection Summary				
HCM 2000 Control Delay	28.5	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.79			
Actuated Cycle Length (s)	86.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	81.3%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	245	0	440	55	1182	0	0	753	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0		4.0			4.0	4.0
Lane Util. Factor				0.95	0.91	0.95		0.95			0.95	1.00
Frt				1.00	0.87	0.85		1.00			1.00	0.85
Flt Protected				0.95	0.99	1.00		1.00			1.00	1.00
Satd. Flow (prot)				1681	1460	1504		3531			3539	1583
Flt Permitted				0.95	0.99	1.00		0.87			1.00	1.00
Satd. Flow (perm)				1681	1460	1504		3087			3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	266	0	478	60	1285	0	0	818	299
RTOR Reduction (vph)	0	0	0	0	41	41	0	0	0	0	0	97
Lane Group Flow (vph)	0	0	0	239	211	212	0	1345	0	0	818	202
Turn Type				Split	NA	Perm	Perm	NA	Free		NA	Perm
Protected Phases				8	8			2			6	
Permitted Phases						8	2		Free			6
Actuated Green, G (s)				19.8	19.8	19.8		58.2			58.2	58.2
Effective Green, g (s)				19.8	19.8	19.8		58.2			58.2	58.2
Actuated g/C Ratio				0.23	0.23	0.23		0.68			0.68	0.68
Clearance Time (s)				4.0	4.0	4.0		4.0			4.0	4.0
Vehicle Extension (s)				3.0	3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)				387	336	346		2089			2394	1071
v/s Ratio Prot				0.14	c0.14						0.23	
v/s Ratio Perm						0.14		c0.44				0.13
v/c Ratio				0.62	0.63	0.61		0.64			0.34	0.19
Uniform Delay, d1				29.7	29.8	29.7		8.0			5.8	5.2
Progression Factor				1.00	1.00	1.00		0.80			0.37	0.55
Incremental Delay, d2				2.9	3.7	3.2		1.0			0.3	0.3
Delay (s)				32.6	33.4	32.9		7.3			2.5	3.2
Level of Service				C	C	C		A			A	A
Approach Delay (s)		0.0			33.0			7.3			2.7	
Approach LOS		A			C			A			A	

Intersection Summary				
HCM 2000 Control Delay	11.6	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.64			
Actuated Cycle Length (s)	86.0	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	76.4%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	505	0	278	0	0	0	393	725	0	0	540	432
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0					4.0			4.0	4.0
Lane Util. Factor	0.97		1.00					0.95			0.95	1.00
Frt	1.00		0.85					1.00			1.00	0.85
Flt Protected	0.95		1.00					0.98			1.00	1.00
Satd. Flow (prot)	3433		1583					3478			3539	1583
Flt Permitted	0.95		1.00					0.63			1.00	1.00
Satd. Flow (perm)	3433		1583					2231			3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	549	0	302	0	0	0	427	788	0	0	587	470
RTOR Reduction (vph)	0	0	241	0	0	0	0	0	0	0	0	138
Lane Group Flow (vph)	549	0	61	0	0	0	0	1215	0	0	587	332
Turn Type	Prot		Perm				Perm	NA	Free		NA	Perm
Protected Phases	4							2			6	
Permitted Phases			4				2		Free			6
Actuated Green, G (s)	17.3		17.3					60.7			60.7	60.7
Effective Green, g (s)	17.3		17.3					60.7			60.7	60.7
Actuated g/C Ratio	0.20		0.20					0.71			0.71	0.71
Clearance Time (s)	4.0		4.0					4.0			4.0	4.0
Vehicle Extension (s)	3.0		3.0					3.0			3.0	3.0
Lane Grp Cap (vph)	690		318					1574			2497	1117
v/s Ratio Prot	c0.16										0.17	
v/s Ratio Perm			0.04					c0.54				0.21
v/c Ratio	0.80		0.19					0.77			0.24	0.30
Uniform Delay, d1	32.7		28.5					8.2			4.5	4.7
Progression Factor	1.00		1.00					1.00			0.80	2.14
Incremental Delay, d2	6.3		0.3					3.7			0.2	0.6
Delay (s)	39.0		28.8					11.9			3.8	10.7
Level of Service	D		C					B			A	B
Approach Delay (s)		35.4			0.0			11.9			6.9	
Approach LOS		D			A			B			A	

Intersection Summary				
HCM 2000 Control Delay	16.6	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.78			
Actuated Cycle Length (s)	86.0	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	70.8%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1	91	5	1	5	97	1113	5	5	748	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.91		1.00	0.91	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.98	
Flt Protected		1.00	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1863	1583		1788	1583	1770	5082		1770	5004	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1863	1583		1863	1583	1770	5082		1770	5004	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1	99	5	1	5	105	1210	5	5	813	97
RTOR Reduction (vph)	0	0	92	0	0	5	0	1	0	0	21	0
Lane Group Flow (vph)	0	1	7	0	6	0	105	1214	0	5	889	0
Turn Type		NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)		3.2	3.2		3.2	3.2	4.2	28.7		0.6	25.1	
Effective Green, g (s)		3.2	3.2		3.2	3.2	4.2	28.7		0.6	25.1	
Actuated g/C Ratio		0.07	0.07		0.07	0.07	0.09	0.64		0.01	0.56	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		133	113		133	113	167	3277		23	2822	
v/s Ratio Prot		0.00					c0.06	c0.24		0.00	c0.18	
v/s Ratio Perm			c0.00		0.00	0.00						
v/c Ratio		0.01	0.06		0.05	0.00	0.63	0.37		0.22	0.32	
Uniform Delay, d1		19.2	19.3		19.2	19.2	19.4	3.7		21.7	5.1	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.0	0.2		0.1	0.0	7.2	0.1		4.7	0.1	
Delay (s)		19.2	19.5		19.4	19.2	26.6	3.8		26.4	5.2	
Level of Service		B	B		B	B	C	A		C	A	
Approach Delay (s)		19.5			19.3			5.6			5.3	
Approach LOS		B			B			A			A	

Intersection Summary				
HCM 2000 Control Delay	6.1	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.38			
Actuated Cycle Length (s)	44.5	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	39.3%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	756	6	81	454	190	6	5	149	265	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	5.3		3.5	6.0		4.2	4.2		4.2	4.2	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.96		1.00	0.85		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5079		1770	4860		1770	1592		1770	1723	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5079		1770	4860		1770	1592		1770	1723	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	822	7	88	493	207	7	5	162	288	5	5
RTOR Reduction (vph)	0	1	0	0	71	0	0	145	0	0	4	0
Lane Group Flow (vph)	5	828	0	88	629	0	7	22	0	288	6	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Actuated Green, G (s)	1.0	21.0		6.5	25.8		7.4	7.4		16.7	16.7	
Effective Green, g (s)	1.0	21.0		6.5	25.8		7.4	7.4		16.7	16.7	
Actuated g/C Ratio	0.01	0.31		0.09	0.38		0.11	0.11		0.24	0.24	
Clearance Time (s)	3.5	5.3		3.5	6.0		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	25	1550		167	1822		190	171		429	418	
v/s Ratio Prot	0.00	c0.16		c0.05	0.13		0.00	c0.01		c0.16	0.00	
v/s Ratio Perm												
v/c Ratio	0.20	0.53		0.53	0.35		0.04	0.13		0.67	0.01	
Uniform Delay, d1	33.5	19.8		29.7	15.4		27.5	27.8		23.6	19.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.9	0.4		3.0	0.1		0.1	0.3		4.1	0.0	
Delay (s)	37.4	20.2		32.7	15.5		27.6	28.1		27.7	19.8	
Level of Service	D	C		C	B		C	C		C	B	
Approach Delay (s)		20.3			17.5			28.1			27.4	
Approach LOS		C			B			C			C	

Intersection Summary				
HCM 2000 Control Delay	20.9	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.53			
Actuated Cycle Length (s)	68.8	Sum of lost time (s)	17.9	
Intersection Capacity Utilization	58.1%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	218	917	55	18	506	47	104	7	9	61	22	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6		4.0	4.0		4.0	5.3		4.0	5.3	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.92		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5042		1770	5021		1770	1708		1770	1604	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5042		1770	5021		1770	1708		1770	1604	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	237	997	60	20	550	51	113	8	10	66	24	293
RTOR Reduction (vph)	0	5	0	0	11	0	0	9	0	0	260	0
Lane Group Flow (vph)	237	1052	0	20	590	0	113	9	0	66	57	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	49.1	49.1		22.3	22.3		17.1	11.5		19.2	13.6	
Effective Green, g (s)	49.1	49.1		22.3	22.3		17.1	11.5		19.2	13.6	
Actuated g/C Ratio	0.41	0.41		0.19	0.19		0.14	0.10		0.16	0.11	
Clearance Time (s)	4.6	4.6		4.0	4.0		4.0	5.3		4.0	5.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	724	2063		328	933		252	163		283	181	
v/s Ratio Prot	0.13	c0.21		0.01	c0.12		c0.06	0.01		0.04	c0.04	
v/s Ratio Perm												
v/c Ratio	0.33	0.51		0.06	0.63		0.45	0.05		0.23	0.32	
Uniform Delay, d1	24.2	26.5		40.2	45.1		47.1	49.3		44.0	48.9	
Progression Factor	0.64	0.66		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	0.6		0.1	1.4		1.3	0.1		0.4	1.0	
Delay (s)	16.3	18.2		40.3	46.5		48.4	49.5		44.4	49.9	
Level of Service	B	B		D	D		D	D		D	D	
Approach Delay (s)		17.8			46.3			48.5			49.0	
Approach LOS		B			D			D			D	

Intersection Summary				
HCM 2000 Control Delay	31.7	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.50			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.9	
Intersection Capacity Utilization	62.5%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	122	262	91	507	143	231	123	986	572	359	546	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.7		6.0	5.7	5.7	5.0	5.7	5.7	5.0	5.7	5.7
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	0.86	1.00	0.97	0.91	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3402		3433	3539	1583	1770	6408	1583	3433	5085	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3402		3433	3539	1583	1770	6408	1583	3433	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	133	285	99	551	155	251	134	1072	622	390	593	98
RTOR Reduction (vph)	0	29	0	0	0	226	0	0	298	0	0	60
Lane Group Flow (vph)	133	355	0	551	155	25	134	1072	324	390	593	38
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	25.2	14.7		22.4	11.9	11.9	13.7	40.5	40.5	20.0	46.8	46.8
Effective Green, g (s)	25.2	14.7		22.4	11.9	11.9	13.7	40.5	40.5	20.0	46.8	46.8
Actuated g/C Ratio	0.21	0.12		0.19	0.10	0.10	0.11	0.34	0.34	0.17	0.39	0.39
Clearance Time (s)	6.0	5.7		6.0	5.7	5.7	5.0	5.7	5.7	5.0	5.7	5.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	720	416		640	350	156	202	2162	534	572	1983	617
v/s Ratio Prot	0.04	c0.10		c0.16	0.04		0.08	0.17		c0.11	0.12	
v/s Ratio Perm						0.02			c0.20			0.02
v/c Ratio	0.18	0.85		0.86	0.44	0.16	0.66	0.50	0.61	0.68	0.30	0.06
Uniform Delay, d1	39.0	51.6		47.3	50.9	49.5	50.9	31.6	33.1	47.0	25.3	22.9
Progression Factor	1.00	1.00		0.81	1.27	2.94	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	15.5		10.6	0.8	0.4	7.9	0.8	5.1	3.3	0.4	0.2
Delay (s)	39.1	67.1		48.8	65.4	145.7	58.9	32.4	38.2	50.4	25.7	23.1
Level of Service	D	E		D	E	F	E	C	D	D	C	C
Approach Delay (s)		59.9			76.9			36.3			34.3	
Approach LOS		E			E			D			C	

Intersection Summary			
HCM 2000 Control Delay	47.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.4
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	58	54	32	193	22	81	90	566	474	84	458	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	0.88		1.00	0.93		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1759		1770	1643		1770	1735		1770	1837	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1759		1770	1643		1770	1735		1770	1837	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	59	35	210	24	88	98	615	515	91	498	50
RTOR Reduction (vph)	0	15	0	0	75	0	0	19	0	0	2	0
Lane Group Flow (vph)	63	79	0	210	37	0	98	1111	0	91	546	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	9.2	12.9		18.0	21.7		12.5	90.1		8.0	85.6	
Effective Green, g (s)	9.2	12.9		18.0	21.7		12.5	90.1		8.0	85.6	
Actuated g/C Ratio	0.06	0.09		0.12	0.15		0.09	0.62		0.06	0.59	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	112	156		219	245		152	1078		97	1084	
v/s Ratio Prot	0.04	c0.05		c0.12	0.02		0.06	c0.64		c0.05	0.30	
v/s Ratio Perm												
v/c Ratio	0.56	0.51		0.96	0.15		0.64	1.03		0.94	0.50	
Uniform Delay, d1	65.9	63.0		63.1	53.6		64.1	27.5		68.3	17.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.3	2.6		48.6	0.3		9.0	35.6		70.6	0.4	
Delay (s)	72.3	65.6		111.8	53.9		73.1	63.0		138.9	17.7	
Level of Service	E	E		F	D		E	E		F	B	
Approach Delay (s)		68.3			91.6			63.8			34.9	
Approach LOS		E			F			E			C	

Intersection Summary				
HCM 2000 Control Delay	60.1	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	0.96			
Actuated Cycle Length (s)	145.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	90.8%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	56	1177	171	32	720
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	85	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	61	1279	186	35	783

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1833	733	0	0	1465	0
Stage 1	1372	-	-	-	-	-
Stage 2	461	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	68	363	-	-	457	-
Stage 1	201	-	-	-	-	-
Stage 2	601	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	63	363	-	-	457	-
Mov Cap-2 Maneuver	63	-	-	-	-	-
Stage 1	201	-	-	-	-	-
Stage 2	555	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.9	0	0.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	363	457	-
HCM Lane V/C Ratio	-	-	0.168	0.076	-
HCM Control Delay (s)	-	-	16.9	13.5	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0.6	0.2	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	7	12	1336	18	20	700
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	525	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	13	1452	20	22	761

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1886	736	0	0	1472	0
Stage 1	1462	-	-	-	-	-
Stage 2	424	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	62	361	-	-	454	-
Stage 1	179	-	-	-	-	-
Stage 2	628	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	59	361	-	-	454	-
Mov Cap-2 Maneuver	59	-	-	-	-	-
Stage 1	179	-	-	-	-	-
Stage 2	598	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	39.4	0	0.4
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	125	454	-
HCM Lane V/C Ratio	-	-	0.165	0.048	-
HCM Control Delay (s)	-	-	39.4	13.3	-
HCM Lane LOS	-	-	E	B	-
HCM 95th %tile Q(veh)	-	-	0.6	0.1	-

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	10	1532	24	0	968
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	100	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	11	1665	26	0	1052

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2086	833	0	0	1665	0
Stage 1	1665	-	-	-	-	-
Stage 2	421	-	-	-	-	-
Critical Hdwy	6.29	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.67	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	62	312	-	-	382	-
Stage 1	137	-	-	-	-	-
Stage 2	595	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	62	312	-	-	382	-
Mov Cap-2 Maneuver	62	-	-	-	-	-
Stage 1	137	-	-	-	-	-
Stage 2	595	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	312	382	-
HCM Lane V/C Ratio	-	-	0.035	-	-
HCM Control Delay (s)	-	-	17	0	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	4	71	10	0	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	4	77	11	0	76

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	159	83	0	0	88	0
Stage 1	83	-	-	-	-	-
Stage 2	76	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	832	976	-	-	1508	-
Stage 1	940	-	-	-	-	-
Stage 2	947	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	832	976	-	-	1508	-
Mov Cap-2 Maneuver	832	-	-	-	-	-
Stage 1	940	-	-	-	-	-
Stage 2	947	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	976	1508	-
HCM Lane V/C Ratio	-	-	0.004	-	-
HCM Control Delay (s)	-	-	8.7	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	42	25	56	131	20	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	27	61	142	22	54

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	230	132	0	0	203	0
Stage 1	132	-	-	-	-	-
Stage 2	98	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	758	917	-	-	1369	-
Stage 1	894	-	-	-	-	-
Stage 2	926	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	745	917	-	-	1369	-
Mov Cap-2 Maneuver	745	-	-	-	-	-
Stage 1	894	-	-	-	-	-
Stage 2	910	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.9	0	2.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	801	1369	-
HCM Lane V/C Ratio	-	-	0.091	0.016	-
HCM Control Delay (s)	-	-	9.9	7.7	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	85	5	262	16	12	283	394	188	27
v/c Ratio	0.28	0.02	0.54	0.06	0.04	0.58	0.39	0.50	0.06
Control Delay	29.2	28.2	9.0	26.5	23.5	32.7	15.0	31.7	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.2	28.2	9.0	26.5	23.5	32.7	15.0	31.7	0.3
Queue Length 50th (ft)	21	1	0	4	2	65	43	45	0
Queue Length 95th (ft)	97	13	67	26	20	#430	339	201	0
Internal Link Dist (ft)		1626			141		676	2268	
Turn Bay Length (ft)	60					100			180
Base Capacity (vph)	840	885	889	1099	1114	485	1147	752	716
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.01	0.29	0.01	0.01	0.58	0.34	0.25	0.04

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	46	194	16	725	60	403
v/c Ratio	0.11	0.53	0.09	0.42	0.23	0.20
Control Delay	0.5	18.6	25.5	11.0	24.2	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	0.5	18.6	25.5	11.0	24.2	7.0
Queue Length 50th (ft)	0	34	4	73	15	22
Queue Length 95th (ft)	1	97	22	136	52	71
Internal Link Dist (ft)	567	186		1819		1733
Turn Bay Length (ft)			140		80	
Base Capacity (vph)	644	599	178	2224	268	2323
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.32	0.09	0.33	0.22	0.17

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	72	388	403	237	114	540	690	163	355
v/c Ratio	0.35	0.52	0.95	0.56	0.92	0.60	0.44	1.05	0.37
Control Delay	31.3	20.8	64.6	20.4	97.8	22.0	0.9	121.0	17.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.3	20.8	64.6	20.4	97.8	22.0	0.9	121.0	17.5
Queue Length 50th (ft)	23	54	71	51	39	83	0	~59	48
Queue Length 95th (ft)	#68	100	#182	119	#146	139	0	#193	87
Internal Link Dist (ft)		153		168		1623			1819
Turn Bay Length (ft)	165		340		265		180	135	
Base Capacity (vph)	205	1938	422	1081	124	2014	1583	155	2053
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.20	0.95	0.22	0.92	0.27	0.44	1.05	0.17

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	67	14	126	107	1504	63	822
v/c Ratio	0.40	0.10	0.40	0.48	0.72	0.46	0.33
Control Delay	43.7	38.5	35.0	18.7	6.0	48.8	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.7	38.5	35.0	18.7	6.0	48.8	6.0
Queue Length 50th (ft)	35	7	57	8	17	33	80
Queue Length 95th (ft)	75	25	120	53	m365	72	128
Internal Link Dist (ft)		399		1121	1070		742
Turn Bay Length (ft)	200		200			200	
Base Capacity (vph)	169	173	331	322	2099	144	2461
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.08	0.38	0.33	0.72	0.44	0.33

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	100	228	208	129	138	1598	58	865
v/c Ratio	0.55	0.67	0.92	0.40	0.52	0.88	0.38	0.57
Control Delay	47.8	18.5	82.0	15.9	38.4	23.7	39.6	18.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.8	18.5	82.0	15.9	38.4	23.7	39.6	18.8
Queue Length 50th (ft)	52	17	113	18	60	224	30	188
Queue Length 95th (ft)	100	79	#241	64	m112	#605	#81	278
Internal Link Dist (ft)		432		643		365		1070
Turn Bay Length (ft)	200		200		200		200	
Base Capacity (vph)	205	460	226	416	267	1822	154	1522
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.50	0.92	0.31	0.52	0.88	0.38	0.57

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	239	252	253	1345	818	299
v/c Ratio	0.62	0.67	0.66	0.64	0.34	0.26
Control Delay	35.6	31.4	30.5	8.7	2.9	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.6	31.4	30.5	8.7	2.9	1.0
Queue Length 50th (ft)	123	108	104	129	38	4
Queue Length 95th (ft)	173	168	160	237	m80	m13
Internal Link Dist (ft)		114		648	164	
Turn Bay Length (ft)						
Base Capacity (vph)	566	527	542	2089	2395	1168
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.48	0.47	0.64	0.34	0.26

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBR	NBT	SBT	SBR
Lane Group Flow (vph)	549	302	1215	587	470
v/c Ratio	0.80	0.54	0.77	0.23	0.37
Control Delay	42.6	7.8	12.6	3.9	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	42.6	7.8	12.6	3.9	1.8
Queue Length 50th (ft)	140	0	213	71	9
Queue Length 95th (ft)	#222	65	275	30	0
Internal Link Dist (ft)			852	648	
Turn Bay Length (ft)					640
Base Capacity (vph)	709	567	1594	2531	1265
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.77	0.53	0.76	0.23	0.37

Intersection Summary

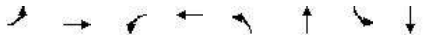
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	1	99	6	5	105	1215	5	910
v/c Ratio	0.00	0.27	0.02	0.01	0.32	0.31	0.03	0.28
Control Delay	18.0	4.7	18.5	0.0	19.6	3.4	21.0	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.0	4.7	18.5	0.0	19.6	3.4	21.0	6.6
Queue Length 50th (ft)	0	0	1	0	21	31	1	51
Queue Length 95th (ft)	4	21	10	0	68	94	10	79
Internal Link Dist (ft)	560		1154			2511		852
Turn Bay Length (ft)				100	150		100	
Base Capacity (vph)	546	563	546	563	377	4883	188	4602
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.18	0.01	0.01	0.28	0.25	0.03	0.20

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	5	829	88	700	7	167	288	10
v/c Ratio	0.03	0.58	0.39	0.36	0.04	0.52	0.65	0.02
Control Delay	36.6	23.8	38.2	13.7	33.2	13.5	32.6	17.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.6	23.8	38.2	13.7	33.2	13.5	32.6	17.7
Queue Length 50th (ft)	2	106	34	52	3	2	107	2
Queue Length 95th (ft)	14	187	96	130	16	59	225	14
Internal Link Dist (ft)		1374		2511		916		934
Turn Bay Length (ft)	200		120		100		100	
Base Capacity (vph)	200	2195	272	2418	458	531	733	716
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.38	0.32	0.29	0.02	0.31	0.39	0.01

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	237	1057	20	601	113	18	66	317
v/c Ratio	0.31	0.48	0.06	0.64	0.45	0.08	0.22	0.77
Control Delay	16.2	17.3	37.1	46.6	55.7	32.8	44.8	20.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.2	17.3	37.1	46.6	55.7	32.8	44.8	20.7
Queue Length 50th (ft)	65	136	13	158	81	6	40	18
Queue Length 95th (ft)	m197	309	31	173	#232	29	93	102
Internal Link Dist (ft)		189		259		567		1162
Turn Bay Length (ft)	100		120		100		50	
Base Capacity (vph)	767	2188	531	1514	252	368	313	609
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.48	0.04	0.40	0.45	0.05	0.21	0.52

Intersection Summary

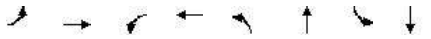
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	133	384	551	155	251	134	1072	622	390	593	98
v/c Ratio	0.18	0.86	0.86	0.44	0.66	0.67	0.50	0.75	0.68	0.30	0.14
Control Delay	40.3	66.6	51.9	67.7	25.9	66.8	32.7	15.7	53.8	26.3	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.3	66.6	51.9	67.7	25.9	66.8	32.7	15.7	53.8	26.3	2.6
Queue Length 50th (ft)	42	143	94	55	75	100	194	117	147	117	0
Queue Length 95th (ft)	75	#232	#286	66	72	166	226	271	202	151	21
Internal Link Dist (ft)		409		264			320			2205	
Turn Bay Length (ft)	250		150			280		100	250		250
Base Capacity (vph)	720	448	663	598	476	236	2196	838	572	1984	693
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.86	0.83	0.26	0.53	0.57	0.49	0.74	0.68	0.30	0.14

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



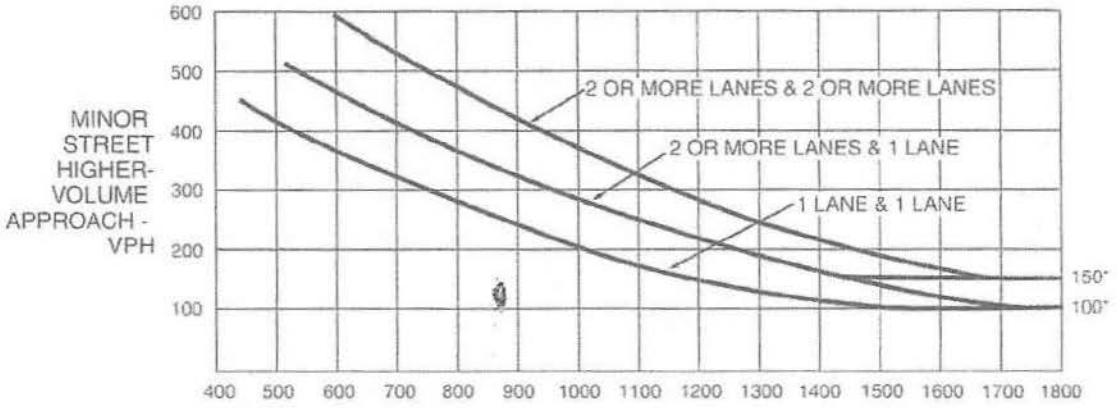
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	63	94	210	112	98	1130	91	548
v/c Ratio	0.49	0.58	0.95	0.35	0.64	1.02	0.93	0.50
Control Delay	77.0	67.2	111.3	20.2	83.0	59.7	140.1	19.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.0	67.2	111.3	20.2	83.0	59.7	140.1	19.6
Queue Length 50th (ft)	58	71	198	20	90	~1104	87	285
Queue Length 95th (ft)	109	133	#377	82	157	#1453	#209	430
Internal Link Dist (ft)		845		909		595		545
Turn Bay Length (ft)	200		300		300		200	
Base Capacity (vph)	196	233	221	326	184	1103	98	1093
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.40	0.95	0.34	0.53	1.02	0.93	0.50

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

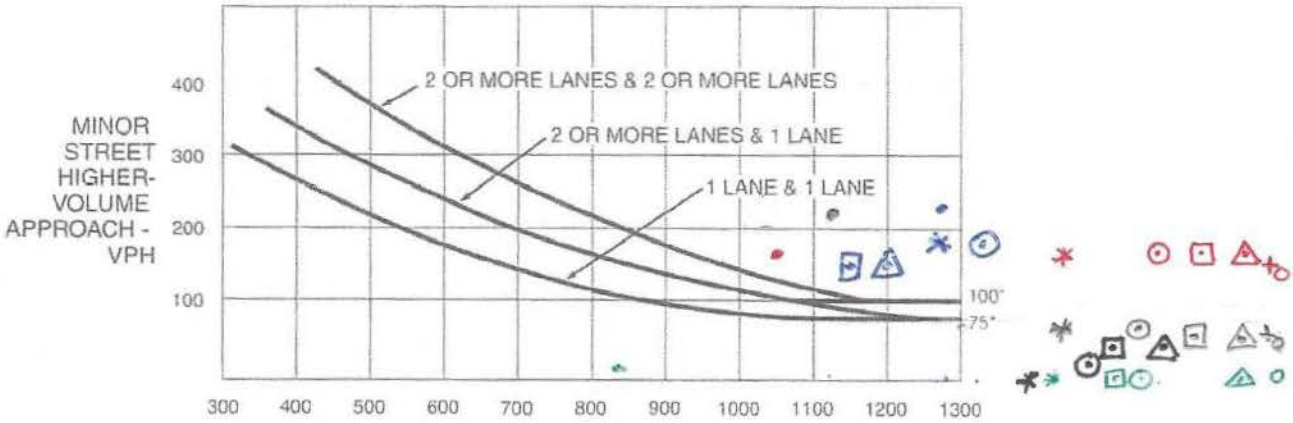
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



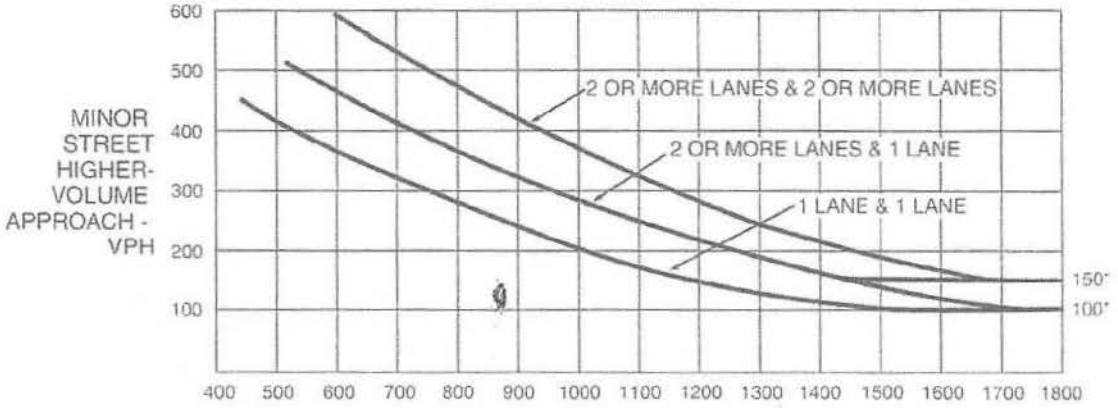
*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

• EXISTING
* 2016
⊙ 2016+ PROJECT
⊡ 2025
△ 2025+ PROJECT
\+ 2035
○ 2035+ PROJECT

SILVA VALLEY PARKWAY AT:

AM
ENTRADA
OAK MEADOW SCHOOL
GOLDEN EAGLE
TONG
OLD SILVA VALLEY ROAD

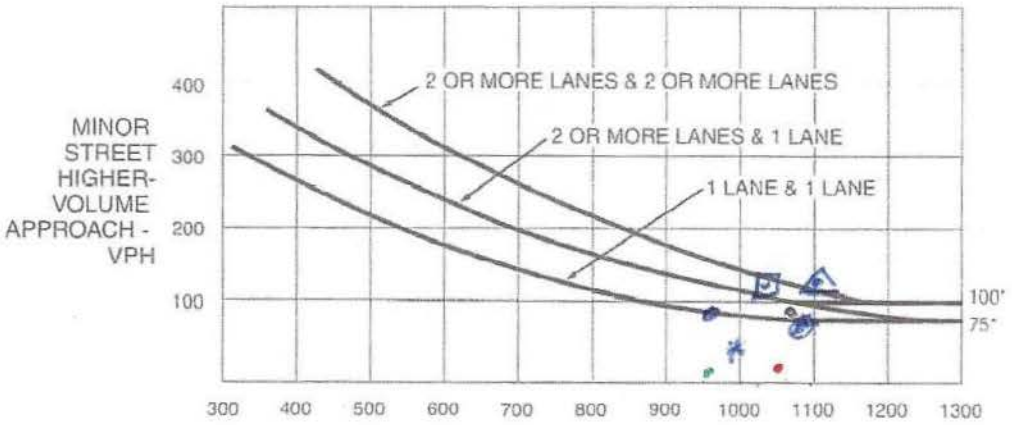
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

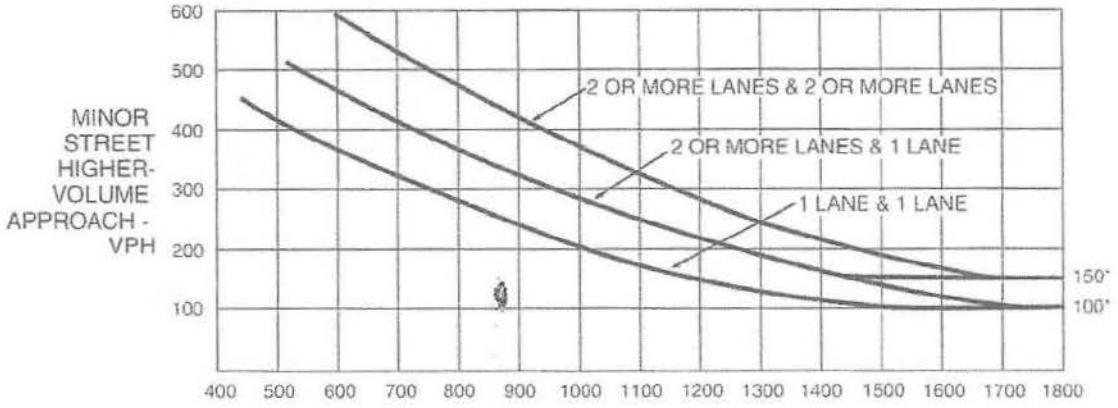
- EXISTING
- 2016
- 2016+ PROJECT
- 2025
- 2025 + PROJECT
- 2035
- 2035 + PROJECT

SILVA VALLEY PARKWAY AT:

PM

ENTRADA
OAK MEADOW SCHOOL
GOLDEN EAGLE
TONG
OLD SILVA VALLEY RD

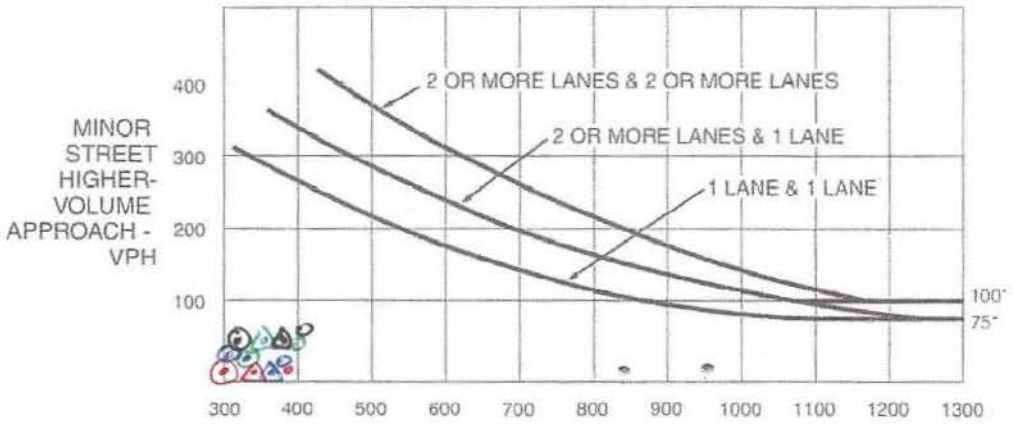
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

- EXISTING
- 2016+PROJECT
- 2025+PROJECT
- 2035+ PROJECT

OLD SILVA VALLEY ROAD AT:

JOERGER CUT-OFF
NORTH ACCESS AM
NORTH ACCESS PM
SOUTH ACCESS AM
SOUTH ACCESS PM



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	58	115	194	110	242	513
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0		4.0	4.0
Lane Util. Factor	1.00		0.95		1.00	1.00
Frt	0.91		0.95		1.00	1.00
Flt Protected	0.98		1.00		0.95	1.00
Satd. Flow (prot)	1668		3347		1770	1863
Flt Permitted	0.98		1.00		0.95	1.00
Satd. Flow (perm)	1668		3347		1770	1863
Peak-hour factor, PHF	0.51	0.51	0.75	0.75	0.75	0.75
Adj. Flow (vph)	114	225	259	147	323	684
RTOR Reduction (vph)	124	0	114	0	0	0
Lane Group Flow (vph)	215	0	292	0	323	684
Turn Type	Prot		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	10.5		10.1		12.9	27.0
Effective Green, g (s)	10.5		10.1		12.9	27.0
Actuated g/C Ratio	0.23		0.22		0.28	0.59
Clearance Time (s)	4.0		4.0		4.0	4.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	384		742		501	1105
v/s Ratio Prot	c0.13		0.09		0.18	c0.37
v/s Ratio Perm						
v/c Ratio	0.56		0.39		0.64	0.62
Uniform Delay, d1	15.5		15.1		14.3	5.9
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	1.9		0.3		2.8	1.0
Delay (s)	17.3		15.4		17.1	7.0
Level of Service	B		B		B	A
Approach Delay (s)	17.3		15.4			10.2
Approach LOS	B		B			B

Intersection Summary			
HCM 2000 Control Delay	12.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	45.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	44.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	58	115	552	110	242	843
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0		4.0	4.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frt	0.91		0.98		1.00	1.00
Flt Protected	0.98		1.00		0.95	1.00
Satd. Flow (prot)	1701		3462		1805	3539
Flt Permitted	0.98		1.00		0.95	1.00
Satd. Flow (perm)	1701		3462		1805	3539
Peak-hour factor, PHF	0.51	0.51	0.75	0.75	0.75	0.75
Adj. Flow (vph)	114	225	736	147	323	1124
RTOR Reduction (vph)	128	0	27	0	0	0
Lane Group Flow (vph)	211	0	856	0	323	1124
Heavy Vehicles (%)	0%	0%	2%	0%	0%	2%
Turn Type	Prot		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	11.0		17.1		12.8	33.9
Effective Green, g (s)	11.0		17.1		12.8	33.9
Actuated g/C Ratio	0.21		0.32		0.24	0.64
Clearance Time (s)	4.0		4.0		4.0	4.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	353		1119		436	2267
v/s Ratio Prot	c0.12		c0.25		c0.18	0.32
v/s Ratio Perm						
v/c Ratio	0.60		0.76		0.74	0.50
Uniform Delay, d1	19.0		16.1		18.5	5.0
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	2.7		3.2		6.7	0.2
Delay (s)	21.7		19.3		25.2	5.2
Level of Service	C		B		C	A
Approach Delay (s)	21.7		19.3			9.6
Approach LOS	C		B			A

Intersection Summary			
HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	52.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	58	115	599	110	242	905
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0		4.0	4.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frt	0.91		0.98		1.00	1.00
Flt Protected	0.98		1.00		0.95	1.00
Satd. Flow (prot)	1701		3467		1805	3539
Flt Permitted	0.98		1.00		0.95	1.00
Satd. Flow (perm)	1701		3467		1805	3539
Peak-hour factor, PHF	0.51	0.51	0.75	0.75	0.75	0.75
Adj. Flow (vph)	114	225	799	147	323	1207
RTOR Reduction (vph)	129	0	23	0	0	0
Lane Group Flow (vph)	210	0	923	0	323	1207
Heavy Vehicles (%)	0%	0%	2%	0%	0%	2%
Turn Type	Prot		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	11.1		19.3		12.9	36.2
Effective Green, g (s)	11.1		19.3		12.9	36.2
Actuated g/C Ratio	0.20		0.35		0.23	0.65
Clearance Time (s)	4.0		4.0		4.0	4.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	341		1210		421	2316
v/s Ratio Prot	c0.12		c0.27		c0.18	0.34
v/s Ratio Perm						
v/c Ratio	0.62		0.76		0.77	0.52
Uniform Delay, d1	20.2		16.0		19.8	5.0
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	3.3		4.6		8.2	0.8
Delay (s)	23.5		20.5		28.0	5.8
Level of Service	C		C		C	A
Approach Delay (s)	23.5		20.5			10.5
Approach LOS	C		C			B

Intersection Summary			
HCM 2000 Control Delay	15.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	55.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	53.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	58	115	464	110	242	1005
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0		4.0	4.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frt	0.91		0.97		1.00	1.00
Flt Protected	0.98		1.00		0.95	1.00
Satd. Flow (prot)	1701		3450		1805	3539
Flt Permitted	0.98		1.00		0.95	1.00
Satd. Flow (perm)	1701		3450		1805	3539
Peak-hour factor, PHF	0.51	0.51	0.75	0.75	0.75	0.75
Adj. Flow (vph)	114	225	619	147	323	1340
RTOR Reduction (vph)	127	0	33	0	0	0
Lane Group Flow (vph)	212	0	733	0	323	1340
Heavy Vehicles (%)	0%	0%	2%	0%	0%	2%
Turn Type	Prot		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	10.9		15.7		13.2	32.9
Effective Green, g (s)	10.9		15.7		13.2	32.9
Actuated g/C Ratio	0.21		0.30		0.25	0.64
Clearance Time (s)	4.0		4.0		4.0	4.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	357		1045		459	2247
v/s Ratio Prot	c0.12		c0.21		c0.18	0.38
v/s Ratio Perm						
v/c Ratio	0.59		0.70		0.70	0.60
Uniform Delay, d1	18.5		16.0		17.5	5.6
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	2.6		2.1		4.9	0.4
Delay (s)	21.1		18.1		22.4	6.0
Level of Service	C		B		C	A
Approach Delay (s)	21.1		18.1			9.2
Approach LOS	C		B			A

Intersection Summary			
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	51.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	50.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	58	115	511	110	242	1067
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0		4.0	4.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frt	0.91		0.97		1.00	1.00
Flt Protected	0.98		1.00		0.95	1.00
Satd. Flow (prot)	1701		3457		1805	3539
Flt Permitted	0.98		1.00		0.95	1.00
Satd. Flow (perm)	1701		3457		1805	3539
Peak-hour factor, PHF	0.51	0.51	0.75	0.75	0.75	0.75
Adj. Flow (vph)	114	225	681	147	323	1423
RTOR Reduction (vph)	128	0	30	0	0	0
Lane Group Flow (vph)	211	0	798	0	323	1423
Heavy Vehicles (%)	0%	0%	2%	0%	0%	2%
Turn Type	Prot		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	10.9		16.7		12.8	33.5
Effective Green, g (s)	10.9		16.7		12.8	33.5
Actuated g/C Ratio	0.21		0.32		0.24	0.64
Clearance Time (s)	4.0		4.0		4.0	4.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	353		1101		440	2262
v/s Ratio Prot	c0.12		c0.23		c0.18	0.40
v/s Ratio Perm						
v/c Ratio	0.60		0.72		0.73	0.63
Uniform Delay, d1	18.8		15.8		18.2	5.7
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	2.7		2.4		6.2	0.6
Delay (s)	21.5		18.2		24.5	6.3
Level of Service	C		B		C	A
Approach Delay (s)	21.5		18.2			9.6
Approach LOS	C		B			A

Intersection Summary			
HCM 2000 Control Delay	13.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	52.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	51.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	58	115	367	110	242	1175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0		4.0	4.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frt	0.91		0.97		1.00	1.00
Flt Protected	0.98		1.00		0.95	1.00
Satd. Flow (prot)	1668		3416		1770	3539
Flt Permitted	0.98		1.00		0.95	1.00
Satd. Flow (perm)	1668		3416		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	125	399	120	263	1277
RTOR Reduction (vph)	108	0	40	0	0	0
Lane Group Flow (vph)	80	0	479	0	263	1277
Turn Type	Prot		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	6.2		16.7		9.4	30.1
Effective Green, g (s)	6.2		16.7		9.4	30.1
Actuated g/C Ratio	0.14		0.38		0.21	0.68
Clearance Time (s)	4.0		4.0		4.0	4.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	233		1287		375	2404
v/s Ratio Prot	c0.05		0.14		c0.15	c0.36
v/s Ratio Perm						
v/c Ratio	0.35		0.37		0.70	0.53
Uniform Delay, d1	17.2		10.0		16.2	3.6
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	0.9		0.2		5.8	0.2
Delay (s)	18.1		10.2		22.0	3.8
Level of Service	B		B		C	A
Approach Delay (s)	18.1		10.2			6.9
Approach LOS	B		B			A

Intersection Summary			
HCM 2000 Control Delay	8.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	44.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	58	115	406	110	242	1227
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0		4.0	4.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frt	0.91		0.97		1.00	1.00
Flt Protected	0.98		1.00		0.95	1.00
Satd. Flow (prot)	1668		3426		1770	3539
Flt Permitted	0.98		1.00		0.95	1.00
Satd. Flow (perm)	1668		3426		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	125	441	120	263	1334
RTOR Reduction (vph)	108	0	34	0	0	0
Lane Group Flow (vph)	80	0	527	0	263	1334
Turn Type	Prot		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	6.2		17.4		9.5	30.9
Effective Green, g (s)	6.2		17.4		9.5	30.9
Actuated g/C Ratio	0.14		0.39		0.21	0.69
Clearance Time (s)	4.0		4.0		4.0	4.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	229		1321		372	2424
v/s Ratio Prot	c0.05		0.15		c0.15	c0.38
v/s Ratio Perm						
v/c Ratio	0.35		0.40		0.71	0.55
Uniform Delay, d1	17.6		10.1		16.5	3.6
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	0.9		0.2		6.0	0.3
Delay (s)	18.6		10.3		22.5	3.9
Level of Service	B		B		C	A
Approach Delay (s)	18.6		10.3			6.9
Approach LOS	B		B			A

Intersection Summary			
HCM 2000 Control Delay	8.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	45.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	50.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Roadway Segment Level of Service - 2016 No Project Conditions

	Roadway Segment	Roadway			AM Peak Hour			PM Peak Hour		
		Lanes	Type	Capacity	Volume	V/C	LOS	Volume	V/C	LOS
1	Silva Valley Parkway - U.S. 50 to Old Silva Valley Road (North)	4	Arterial	3,290	1,623	0.49	C	1,669	0.51	C
2	Silva Valley Parkway - Old Silva Valley Road to Serrano Parkway	4	Arterial	3,290	1,782	0.54	C	1,683	0.51	C
3	Old Silva Valley Road - Silva Valley Parkway to White Rock Road	2	Local	---	20	---	---	17	---	---
4	U.S. 50 Westbound - Bass Lake Road to Silva Valley Parkway	3	Freeway	5,230	5,391	1.03	**F**	3,004	0.57	C
5	U.S. 50 Eastbound - Silva Valley Parkway to Bass Lake Road	4	Freeway	7,310	2,599	0.36	B	5,036	0.69	C
6	U.S. 50 Westbound - Silva Valley Parkway to Latrobe Road	3	Freeway	5,230	5,300	1.01	**F**	3,082	0.59	C
7	U.S. 50 Eastbound - Latrobe Road to Silva Valley Parkway	4	Freeway	7,310	2,580	0.35	B	5,055	0.69	C
8	Country Club Drive Extension - Silva Valley Parkway to Bass Lake Road	2	Arterial	1,650	59	0.04	C	32	0.02	C
9	White Rock Road - US 50 EB Ramps to Old Silva Valley Rd	4	Arterial	3,290	1,155	0.35	C	1,145	0.35	C

Notes: V/C = Volume-to-Capacity Ratio. LOS = Level of Service. Bold font indicates LOS E or F.
Country Club Drive and Old Silva Valley Road function as Collectors. The County LOS thresholds do not have a Collector classification. Therefore, Country Club Drive and Old Silva Valley Road are analyzed as Arterials.

Sources: El Dorado County Community Development Agency. 2014. Transportation Impact Study Guidelines.

Roadway Segment Level of Service - 2016 Plus Project Conditions

	Roadway Segment	Roadway			AM Peak Hour			PM Peak Hour		
		Lanes	Type	Capacity	Volume	V/C	LOS	Volume	V/C	LOS
1	Silva Valley Parkway - U.S. 50 to Old Silva Valley Road (North)	4	Arterial	3,290	1,996	0.61	D	2,347	0.71	D
2	Silva Valley Parkway - Old Silva Valley Road to Serrano Parkway	4	Arterial	3,290	1,887	0.57	D	1,864	0.57	D
3	Old Silva Valley Road - Silva Valley Parkway to White Rock Road	2	Local	---	125	---	---	196	---	---
4	U.S. 50 Westbound - Bass Lake Road to Silva Valley Parkway	3	Freeway	5,230	5,500	1.05	**F**	3,110	0.59	C
5	U.S. 50 Eastbound - Silva Valley Parkway to Bass Lake Road	4	Freeway	7,310	2,654	0.36	B	5,111	0.70	D
6	U.S. 50 Westbound - Silva Valley Parkway to Latrobe Road	3	Freeway	5,230	5,407	1.03	**F**	3,127	0.60	C
7	U.S. 50 Eastbound - Latrobe Road to Silva Valley Parkway	4	Freeway	7,310	2,680	0.37	B	5,234	0.72	D
8	Country Club Drive Extension - Silva Valley Parkway to Bass Lake Road	2	Arterial	1,650	***			***		
9	White Rock Road - US 50 EB Ramps to Old Silva Valley Rd	4	Arterial	3,290	1,232	0.37	C	1,343	0.41	C

Notes: V/C = Volume-to-Capacity Ratio. LOS = Level of Service. Bold font indicates LOS E or F. *** - Not constructed until 2025
Country Club Drive and Old Silva Valley Road function as Collectors. The County LOS thresholds do not have a Collector classification.
Therefore, Country Club Drive and Old Silva Valley Road are analyzed as Arterials.

Sources: El Dorado County Community Development Agency. 2014. Transportation Impact Study Guidelines.

Table ___ Roadway Segment Level of Service - 2025 No Project Conditions

	Roadway Segment	Roadway			AM Peak Hour			PM Peak Hour		
		Lanes	Type	Capacity	Volume	V/C	LOS	Volume	V/C	LOS
1	Silva Valley Parkway - U.S. 50 to Old Silva Valley Road (North)	4	Arterial	3,290	1,647	0.50	C	1,766	0.54	C
2	Silva Valley Parkway - Old Silva Valley Road to Serrano Parkway	4	Arterial	3,290	1,850	0.56	C	1,793	0.54	C
3	Old Silva Valley Road - Silva Valley Parkway to White Rock Road	2	Local	---	54	---	---	56	---	---
4	U.S. 50 Westbound - Bass Lake Road to Silva Valley Parkway	3	Freeway	5,230	5,623	1.08	**F**	3,528	0.67	C
5	U.S. 50 Eastbound - Silva Valley Parkway to Bass Lake Road	4	Freeway	7,310	3,039	0.42	B	5,489	0.75	D
6	U.S. 50 Westbound - Silva Valley Parkway to Latrobe Road	3	Freeway	5,230	5,571	1.07	**F**	3,361	0.64	C
7	U.S. 50 Eastbound - Latrobe Road to Silva Valley Parkway	4	Freeway	7,310	2,976	0.41	B	5,403	0.74	D
8	Country Club Drive Extension - Silva Valley Parkway to Bass Lake Road	2	Arterial	1,650	318	0.19	C	187	0.11	C
9	White Rock Road - US 50 EB Ramps to Old Silva Valley Rd	4	Arterial	3,290	1,362	0.41	C	1,435	0.44	C

Notes: V/C = Volume-to-Capacity Ratio. LOS = Level of Service. Bold font indicates LOS E or F.
Country Club Drive and Old Silva Valley Road function as Collectors. The County LOS thresholds do not have a Collector classification. Therefore, Country Club Drive and Old Silva Valley Road are analyzed as Arterials.

Sources: El Dorado County Community Development Agency. 2014. Transportation Impact Study Guidelines.

Table ___. Roadway Segment Level of Service - 2025 Plus Project Conditions

	Roadway Segment	Roadway			AM Peak Hour			PM Peak Hour		
		Lanes	Type	Capacity	Volume	V/C	LOS	Volume	V/C	LOS
1	Silva Valley Parkway - U.S. 50 to Old Silva Valley Road (North)	4	Arterial	3,290	2,091	0.64	D	2,543	0.77	D
2	Silva Valley Parkway - Old Silva Valley Road to Serrano Parkway	4	Arterial	3,290	2,008	0.61	D	2,050	0.62	D
3	Old Silva Valley Road - Silva Valley Parkway to White Rock Road	2	Local	---	161	---	---	230	---	---
4	U.S. 50 Westbound - Bass Lake Road to Silva Valley Parkway	3	Freeway	5,230	5,711	1.09	**F**	3,599	0.69	C
5	U.S. 50 Eastbound - Silva Valley Parkway to Bass Lake Road	4	Freeway	7,310	3,067	0.42	B	5,554	0.76	D
6	U.S. 50 Westbound - Silva Valley Parkway to Latrobe Road	3	Freeway	5,230	5,681	1.09	**F**	3,485	0.67	C
7	U.S. 50 Eastbound - Latrobe Road to Silva Valley Parkway	4	Freeway	7,310	3,072	0.42	B	5,588	0.76	D
8	Country Club Drive Extension - Silva Valley Parkway to Bass Lake Road	2	Arterial	1,650	366	0.22	C	267	0.16	C
9	White Rock Road - US 50 EB Ramps to Old Silva Valley Rd	4	Arterial	3,290	1,462	0.44	C	1,609	0.49	C

Notes: V/C = Volume-to-Capacity Ratio. LOS = Level of Service. Bold font indicates LOS E or F.
Country Club Drive and Old Silva Valley Road function as Collectors. The County LOS thresholds do not have a Collector classification. Therefore, Country Club Drive and Old Silva Valley Road are analyzed as Arterials.

Sources: El Dorado County Community Development Agency. 2014. Transportation Impact Study Guidelines.

Roadway Segment Level of Service - 2035 No Project Conditions

	Roadway Segment	Roadway			AM Peak Hour			PM Peak Hour		
		Lanes	Type	Capacity	Volume	V/C	LOS	Volume	V/C	LOS
1	Silva Valley Parkway - U.S. 50 to Old Silva Valley Road (North)	4	Arterial	3,290	2,203	0.67	D	2,046	0.62	D
2	Silva Valley Parkway - Old Silva Valley Road to Serrano Parkway	4	Arterial	3,290	1,925	0.59	D	2,055	0.62	D
3	Old Silva Valley Road - Silva Valley Parkway to White Rock Road	2	Local	---	92	---	---	96	---	---
4	U.S. 50 Westbound - Bass Lake Road to Silva Valley Parkway	4	Freeway	7,310	5,886	0.81	D	4,132	0.57	C
5	U.S. 50 Eastbound - Silva Valley Parkway to Bass Lake Road	4	Freeway	7,310	3,527	0.48	B	5,994	0.82	D
6	U.S. 50 Westbound - Silva Valley Parkway to Latrobe Road	4	Freeway	7,310	5,874	0.80	D	3,680	0.50	C
7	U.S. 50 Eastbound - Latrobe Road to Silva Valley Parkway	4	Freeway	7,310	3,413	0.47	B	5,790	0.79	D
8	Country Club Drive Extension - Silva Valley Parkway to Bass Lake Road	2	Arterial	1,650	601	0.36	C	350	0.21	C
9	White Rock Road - US 50 EB Ramps to Old Silva Valley Rd	6	Arterial	4,710	1,599	0.34	C	1,760	0.37	C

Notes: V/C = Volume-to-Capacity Ratio. LOS = Level of Service. Bold font indicates LOS E or F.
Country Club Drive and Old Silva Valley Road function as Collectors. The County LOS thresholds do not have a Collector classification. Therefore, Country Club Drive and Old Silva Valley Road are analyzed as Arterials.

Sources: El Dorado County Community Development Agency. 2014. Transportation Impact Study Guidelines.

Roadway Segment Level of Service - 2035 Plus Project Conditions

	Roadway Segment	Roadway			AM Peak Hour			PM Peak Hour		
		Lanes	Type	Capacity	Volume	V/C	LOS	Volume	V/C	LOS
1	Silva Valley Parkway - U.S. 50 to Old Silva Valley Road (North)	4	Arterial	3,290	2,534	0.77	D	2,693	0.82	D
2	Silva Valley Parkway - Old Silva Valley Road to Serrano Parkway	4	Arterial	3,290	2,013	0.61	D	2,216	0.67	D
3	Old Silva Valley Road - Silva Valley Parkway to White Rock Road	2	Local	---	204	---	---	279	---	---
4	U.S. 50 Westbound - Bass Lake Road to Silva Valley Parkway	4	Freeway	7,310	5,975	0.82	D	4,199	0.57	C
5	U.S. 50 Eastbound - Silva Valley Parkway to Bass Lake Road	4	Freeway	7,310	3,550	0.49	B	6,064	0.83	D
6	U.S. 50 Westbound - Silva Valley Parkway to Latrobe Road	4	Freeway	7,310	6,009	0.82	D	3,844	0.53	C
7	U.S. 50 Eastbound - Latrobe Road to Silva Valley Parkway	4	Freeway	7,310	3,532	0.48	B	6,022	0.82	D
8	Country Club Drive Extension - Silva Valley Parkway to Bass Lake Road	2	Arterial	1,650	638	0.39	C	414	0.25	C
9	White Rock Road - US 50 EB Ramps to Old Silva Valley Rd	6	Arterial	4,710	1,684	0.36	C	1,936	0.41	C

Notes: V/C = Volume-to-Capacity Ratio. LOS = Level of Service. Bold font indicates LOS E or F.
Country Club Drive and Old Silva Valley Road function as Collectors. The County LOS thresholds do not have a Collector classification. Therefore, Country Club Drive and Old Silva Valley Road are analyzed as Arterials.

Sources: El Dorado County Community Development Agency. 2014. Transportation Impact Study Guidelines.

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 EB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley EB Off-Ramp
Date Performed	4/7/2015	Jurisdiction	El Dorado County
Analysis Time Period	AM Peak Hour	Analysis Year	2016

Project Description 2016 No EDH 52 Project

Inputs

Upstream Adj Ramp		Freeway		Downstream Adj Ramp	
☐ Yes	☐ On	Freeway Number of Lanes, N	4	☐ Yes	☐ On
☑ No	☐ Off	Ramp Number of Lanes, N	1	☑ No	☐ Off
L_{up} =	ft	Acceleration Lane Length, L_A		L_{down} =	ft
V_u =	veh/h	Deceleration Lane Length L_D	800	V_D =	veh/h
		Freeway Volume, V_F	2366		
		Ramp Volume, V_R	214		
		Freeway Free-Flow Speed, S_{FF}	55.0		
		Ramp Free-Flow Speed, S_{FR}	35.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2366	0.94	Level	3	1	0.983	1.00	2560
Ramp	214	0.94	Level	3	1	0.983	1.00	232
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 1247 pc/h

V_3 or V_{av34} 656 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2560	Exhibit 13-8	9000	No
$V_{FO} = V_F - V_R$	2328	Exhibit 13-8	9000	No
V_R	232	Exhibit 13-10	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1247	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 7.8 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.449 (Exhibit 13-12)

S_R= 49.2 mph (Exhibit 13-12)

S_0= 60.3 mph (Exhibit 13-12)

S = 54.3 mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

HCS2010™ Version 6.65 Generated: 4/7/2015 11:01 AM

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 EB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley EB On-Ramp
Date Performed	4/7/2015	Jurisdiction	El Dorado County
Analysis Time Period	AM Peak Hour	Analysis Year	2016

Project Description 2016 No EDH 52 Project

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 2366	
	Ramp Volume, V_R: 233	
	Freeway Free-Flow Speed, S_{FF}: 55.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2366	0.94	Level	3	1	0.983	1.00	2560
Ramp	233	0.94	Level	3	1	0.983	1.00	252
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.186 using Equation (Exhibit 13-6)

V_{12} = 477 pc/h

V_3 or V_{av34} 1041 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1024 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2812	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1276	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 5.9 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.230 (Exibit 13-11)

S_R = 52.0 mph (Exhibit 13-11)

S_0 = 54.0 mph (Exhibit 13-11)

S = 53.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 WB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley WB Off-Ramp
Date Performed	4/7/2015	Jurisdiction	El Dorado County
Analysis Time Period	AM Peak Hour	Analysis Year	2016

Project Description 2016 No EDH 52 Project

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D: 1000	V_D = veh/h
	Freeway Volume, V_F: 4759	
	Ramp Volume, V_R: 632	
	Freeway Free-Flow Speed, S_{FF}: 55.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4759	0.94	Level	3	1	0.983	1.00	5149
Ramp	632	0.94	Level	3	1	0.983	1.00	684
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.600 using Equation (Exhibit 13-7)

V_{12} = 3362 pc/h

V_3 or V_{av34} 1787 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5149	Exhibit 13-8	6750	No
$V_{FO} = V_F - V_R$	4465	Exhibit 13-8	6750	No
V_R	684	Exhibit 13-10	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3362	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 24.2 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.490 (Exhibit 13-12)

S_R = 48.6 mph (Exhibit 13-12)

S_0 = 57.3 mph (Exhibit 13-12)

S = 51.3 mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 WB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley WB On-Ramp
Date Performed	4/7/2015	Jurisdiction	El Dorado County
Analysis Time Period	AM Peak Hour	Analysis Year	2016

Project Description 2016 No EDH 52 Project

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1000	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 4759	
	Ramp Volume, V_R: 541	
	Freeway Free-Flow Speed, S_{FF}: 55.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4759	0.94	Level	3	1	0.983	1.00	5149
Ramp	541	0.94	Level	3	1	0.983	1.00	585
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.605 using Equation (Exhibit 13-6)

V_{12} = 3118 pc/h

V_3 or V_{av34} 2031 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes,V_{12a} = 3118 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5734	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3703	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 27.8 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.409 (Exibit 13-11)

S_R= 49.7 mph (Exhibit 13-11)

S_0= 49.5 mph (Exhibit 13-11)

S = 49.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 EB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley EB Off-Ramp
Date Performed	4/7/2015	Jurisdiction	El Dorado County
Analysis Time Period	PM Peak Hour	Analysis Year	2016

Project Description 2016 No EDH 52 Project

Inputs

Upstream Adj Ramp		Freeway		Downstream Adj Ramp	
☐ Yes	☐ On	Number of Lanes, N	4	☐ Yes	☐ On
☑ No	☐ Off	Ramp Number of Lanes, N	1	☑ No	☐ Off
L_{up} =	ft	Acceleration Lane Length, L_A		L_{down} =	ft
V_u =	veh/h	Deceleration Lane Length L_D	800	V_D =	veh/h
		Freeway Volume, V_F	4573		
		Ramp Volume, V_R	482		
		Freeway Free-Flow Speed, S_{FF}	55.0		
		Ramp Free-Flow Speed, S_{FR}	35.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4573	0.94	Level	3	1	0.983	1.00	4948
Ramp	482	0.94	Level	3	1	0.983	1.00	521
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 2451 pc/h

V_3 or V_{av34} 1248 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4948	Exhibit 13-8	9000	No
$V_{FO} = V_F - V_R$	4427	Exhibit 13-8	9000	No
V_R	521	Exhibit 13-10	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2451	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 18.1 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.475 (Exhibit 13-12)

S_R = 48.8 mph (Exhibit 13-12)

S_0 = 59.4 mph (Exhibit 13-12)

S = 53.6 mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 EB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley EB On-Ramp
Date Performed	4/7/2015	Jurisdiction	El Dorado County
Analysis Time Period	PM Peak Hour	Analysis Year	2016

Project Description 2016 No EDH 52 Project

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 4573	
	Ramp Volume, V_R: 463	
	Freeway Free-Flow Speed, S_{FF}: 55.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4573	0.94	Level	3	1	0.983	1.00	4948
Ramp	463	0.94	Level	3	1	0.983	1.00	501
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.155 using Equation (Exhibit 13-6)

V_{12} = 768 pc/h

V_3 or V_{av34} = 2090 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1979 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5449	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2480	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 15.2 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.263 (Exibit 13-11)

S_R = 51.6 mph (Exhibit 13-11)

S_0 = 51.5 mph (Exhibit 13-11)

S = 51.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 WB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley WB Off-Ramp
Date Performed	4/7/2015	Jurisdiction	El Dorado County
Analysis Time Period	PM Peak Hour	Analysis Year	2016

Project Description 2016 No EDH 52 Project

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D: 1000	V_D = veh/h
	Freeway Volume, V_F: 2815	
	Ramp Volume, V_R: 189	
	Freeway Free-Flow Speed, S_{FF}: 55.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2815	0.94	Level	3	1	0.983	1.00	3046
Ramp	189	0.94	Level	3	1	0.983	1.00	204
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.674 using Equation (Exhibit 13-7)

V_{12} = 2121 pc/h

V_3 or V_{av34} 925 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3046	Exhibit 13-8	6750	No
$V_{FO} = V_F - V_R$	2842	Exhibit 13-8	6750	No
V_R	204	Exhibit 13-10	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2121	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 13.5 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.446 (Exhibit 13-12)

S_R = 49.2 mph (Exhibit 13-12)

S_0 = 60.3 mph (Exhibit 13-12)

S = 52.1 mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

HCS2010™ Version 6.65 Generated: 4/7/2015 11:05 AM

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 WB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley WB On-Ramp
Date Performed	4/7/2015	Jurisdiction	El Dorado County
Analysis Time Period	PM Peak Hour	Analysis Year	2016

Project Description 2016 No EDH 52 Project

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1000	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 2815	
	Ramp Volume, V_R: 267	
	Freeway Free-Flow Speed, S_{FF}: 55.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2815	0.94	Level	3	1	0.983	1.00	3046
Ramp	267	0.94	Level	3	1	0.983	1.00	289
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.605 using Equation (Exhibit 13-6)

V_{12} = 1844 pc/h

V_3 or V_{av34} 1202 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes,V_{12a} = 1844 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3335	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2133	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 15.7 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.284 (Exibit 13-11)

S_R= 51.3 mph (Exhibit 13-11)

S_0= 52.5 mph (Exhibit 13-11)

S = 51.7 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 EB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley EB Off-Ramp
Date Performed	8/24/2015	Jurisdiction	El Dorado County
Analysis Time Period	AM Peak Hour	Analysis Year	2016

Project Description 2016 Plus EDH 52 Project

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☐ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	800
Freeway Volume, V_F	2364
Ramp Volume, V_R	316
Freeway Free-Flow Speed, S_{FF}	55.0
Ramp Free-Flow Speed, S_{FR}	35.0

Dow
Ram
☐ Y
☐ N
L_{down}
V_D =

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V
Freeway	2364	0.94	Level	3	1	0.983	1.00	
Ramp	316	0.94	Level	3	1	0.983	1.00	
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or

P_{FD} = 0.436 using Equatior

V_{12} = 1308 pc/h

V_3 or V_{av34} 625 pc/h (Equation

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-19)

Capacity Checks

	Actual	Capacity	
V_F	2558	Exhibit 13-8	
$V_{FO} = V_F - V_R$	2216	Exhibit 13-8	
V_R	342	Exhibit 13-10	

Flow Entering Diverge Influence A

	Actual	Max Desirable	
V_{12}	1308	Exhibit 13-8	440

Level of Service Determination (if

$D_R = 4.252 + 0.0086\ V_{12} - 0.009$ L

D_R = 8.3 (pc/mi/ln)

LOS = (Exhibit 13-2)	LOS = A (Exhibit 13-2)
Speed Determination	***Speed Determination***
M_S = (Exibit 13-11)	D_s = 0.459 (Exhibit 13-12)
S_R= mph (Exhibit 13-11)	S_R= 49.0 mph (Exhibit 13-12)
S_0= mph (Exhibit 13-11)	S_0= 60.3 mph (Exhibit 13-12)
S = mph (Exhibit 13-13)	S = 54.0 mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved *HCS2010*™ Version 6.65 Generated: 8/24/2015 3:28 PM

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 EB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley EB On-Ramp
Date Performed	8/24/2015	Jurisdiction	El Dorado County
Analysis Time Period	AM Peak Hour	Analysis Year	2016

Project Description 2016 Plus EDH 52 Project

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☐ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	1500
Deceleration Lane Length L_D	
Freeway Volume, V_F	2364
Ramp Volume, V_R	
Freeway Free-Flow Speed, S_{FF}	55.0
Ramp Free-Flow Speed, S_{FR}	35.0

Downr Ramp

☐ Y

☐ N

L_{down}

V_D =

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V
Freeway	2364	0.94	Level	3	1	0.983	1.00	
Ramp		0.94	Level	3	1	0.983	1.00	
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.181 using Equation (Exhibit 13-6)

V_{12} = 464 pc/h

V_3 or V_{av34} 1047 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = 1023 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2849	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1314	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or

P_{FD} = using Equation (Exh

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 o

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-13-19)

Capacity Checks

	Actual	Capacity	
V_F		Exhibit 13-8	
$V_{FO} = V_F - V_R$		Exhibit 13-8	
V_R		Exhibit 13-10	

Flow Entering Diverge Influence A

	Actual	Max Desirable	
V_{12}		Exhibit 13-8	

Level of Service Determination (if

$D_R = 4.252 + 0.0086\ V_{12} - 0.009$ L

D_R =	6.2 (pc/mi/ln)	D_R =	(pc/mi/ln)
LOS =	A (Exhibit 13-2)	LOS =	(Exhibit 13-2)
Speed Determination		***Speed Determination***	
M_S =	0.231 (Exibit 13-11)	D_s =	(Exhibit 13-12)
S_R=	52.0 mph (Exhibit 13-11)	S_R=	mph (Exhibit 13-12)
S_0=	54.0 mph (Exhibit 13-11)	S_0=	mph (Exhibit 13-12)
S =	53.1 mph (Exhibit 13-13)	S =	mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved *HCS2010*™ Version 6.65 Generated: 8/24/2015 3:30 PM

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 WB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley WB Off-Ramp
Date Performed	8/24/2015	Jurisdiction	El Dorado County
Analysis Time Period	AM Peak Hour	Analysis Year	2016

Project Description 2016 Plus EDH 52 Project

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☐ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1000
Freeway Volume, V_F	4762
Ramp Volume, V_R	738
Freeway Free-Flow Speed, S_{FF}	55.0
Ramp Free-Flow Speed, S_{FR}	35.0

Dow
Ram
☐ Y
☐ N
L_{down}
V_D =

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V
Freeway	4762	0.94	Level	3	1	0.983	1.00	
Ramp	738	0.94	Level	3	1	0.983	1.00	
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or

P_{FD} = 0.594 using Equatior

V_{12} = 3386 pc/h

V_3 or V_{av34} 1766 pc/h (Equation

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-19)

Capacity Checks

	Actual	Capacity	
V_F	5152	Exhibit 13-8	
$V_{FO} = V_F - V_R$	4354	Exhibit 13-8	
V_R	798	Exhibit 13-10	

Flow Entering Diverge Influence A

	Actual	Max Desirable	
V_{12}	3386	Exhibit 13-8	440

Level of Service Determination (if

$D_R = 4.252 + 0.0086\ V_{12} - 0.009$ L

D_R = 24.4 (pc/mi/ln)

LOS = (Exhibit 13-2)	LOS = C (Exhibit 13-2)
Speed Determination	***Speed Determination***
M_S = (Exibit 13-11)	D_s = 0.500 (Exhibit 13-12)
S_R= mph (Exhibit 13-11)	S_R= 48.5 mph (Exhibit 13-12)
S_0= mph (Exhibit 13-11)	S_0= 57.3 mph (Exhibit 13-12)
S = mph (Exhibit 13-13)	S = 51.2 mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved *HCS2010*™ Version 6.65 Generated: 8/24/2015 3:32 PM

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 WB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley WB On-Ramp
Date Performed	8/24/2015	Jurisdiction	El Dorado County
Analysis Time Period	AM Peak Hour	Analysis Year	2016

Project Description 2016 Plus EDH 52 Project

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☒ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1000	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 4762	
	Ramp Volume, V_R: 527	
	Freeway Free-Flow Speed, S_{FF}: 55.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4762	0.94	Level	3	1	0.983	1.00	5152
Ramp	527	0.94	Level	3	1	0.983	1.00	570
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.605 using Equation (Exhibit 13-6)

V_{12} = 3120 pc/h

V_3 or V_{av34} = 2032 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☒ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = 3120 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5722	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3690	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 27.7 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.407 (Exibit 13-11)

S_R = 49.7 mph (Exhibit 13-11)

S_0 = 49.5 mph (Exhibit 13-11)

S = 49.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 EB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley EB Off-Ramp
Date Performed	8/24/2015	Jurisdiction	El Dorado County
Analysis Time Period	PM Peak Hour	Analysis Year	2016

Project Description 2016 Plus EDH 52 Project

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☐ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	800
Freeway Volume, V_F	4577
Ramp Volume, V_R	657
Freeway Free-Flow Speed, S_{FF}	55.0
Ramp Free-Flow Speed, S_{FR}	35.0

Dow
Ram
☐ Y
☐ N
L_{down}
V_D =

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V
Freeway	4577	0.94	Level	3	1	0.983	1.00	
Ramp	657	0.94	Level	3	1	0.983	1.00	
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or

P_{FD} = 0.436 using Equatior

V_{12} = 2560 pc/h

V_3 or V_{av34} 1196 pc/h (Equation

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-19)

Capacity Checks

	Actual	Capacity	
V_F	4952	Exhibit 13-8	
$V_{FO} = V_F - V_R$	4241	Exhibit 13-8	
V_R	711	Exhibit 13-10	

Flow Entering Diverge Influence A

	Actual	Max Desirable	
V_{12}	2560	Exhibit 13-8	440

Level of Service Determination (if

$D_R = 4.252 + 0.0086\ V_{12} - 0.009$ L

D_R = 19.1 (pc/mi/ln)

LOS = (Exhibit 13-2)	LOS = B (Exhibit 13-2)
Speed Determination	***Speed Determination***
M_S = (Exibit 13-11)	D_s = 0.492 (Exhibit 13-12)
S_R= mph (Exhibit 13-11)	S_R= 48.6 mph (Exhibit 13-12)
S_0= mph (Exhibit 13-11)	S_0= 59.6 mph (Exhibit 13-12)
S = mph (Exhibit 13-13)	S = 53.3 mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved *HCS2010*™ Version 6.65 Generated: 8/24/2015 3:38 PM

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 EB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley EB On-Ramp
Date Performed	8/24/2015	Jurisdiction	El Dorado County
Analysis Time Period	PM Peak Hour	Analysis Year	2016

Project Description 2016 Plus EDH 52 Project

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☐ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	1500
Deceleration Lane Length L_D	
Freeway Volume, V_F	4577
Ramp Volume, V_R	564
Freeway Free-Flow Speed, S_{FF}	55.0
Ramp Free-Flow Speed, S_{FR}	35.0

Downr Ramp

☐ Y

☐ N

L_{down}

V_D =

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V
Freeway	4577	0.94	Level	3	1	0.983	1.00	
Ramp	564	0.94	Level	3	1	0.983	1.00	
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.142 using Equation (Exhibit 13-6)

V_{12} = 701 pc/h

V_3 or V_{av34} 2125 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = 1980 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5562	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2590	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or

P_{FD} = using Equation (Exh

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 o

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-13-19)

Capacity Checks

	Actual	Capacity	
V_F		Exhibit 13-8	
$V_{FO} = V_F - V_R$		Exhibit 13-8	
V_R		Exhibit 13-10	

Flow Entering Diverge Influence A

	Actual	Max Desirable	
V_{12}		Exhibit 13-8	

Level of Service Determination (if

$D_R = 4.252 + 0.0086\ V_{12} - 0.009$ L

D_R =	16.0 (pc/mi/ln)
LOS =	B (Exhibit 13-2)

Speed Determination

M_S =	0.268 (Exibit 13-11)
S_R=	51.5 mph (Exhibit 13-11)
S_0=	51.5 mph (Exhibit 13-11)
S =	51.5 mph (Exhibit 13-13)

D_R =	(pc/mi/ln)
LOS =	(Exhibit 13-2)

Speed Determination

D_s =	(Exhibit 13-12)
S_R=	mph (Exhibit 13-12)
S_0=	mph (Exhibit 13-12)
S =	mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 WB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley WB Off-Ramp
Date Performed	8/24/2015	Jurisdiction	El Dorado County
Analysis Time Period	PM Peak Hour	Analysis Year	2016

Project Description 2016 Plus EDH 52 Project

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☐ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1000
Freeway Volume, V_F	2816
Ramp Volume, V_R	294
Freeway Free-Flow Speed, S_{FF}	55.0
Ramp Free-Flow Speed, S_{FR}	35.0

Dow
Ram
☐ Y
☐ N
L_{down}
V_D =

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V
Freeway	2816	0.94	Level	3	1	0.983	1.00	
Ramp	294	0.94	Level	3	1	0.983	1.00	
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or

P_{FD} = 0.669 using Equatior

V_{12} = 2144 pc/h

V_3 or V_{av34} 903 pc/h (Equation

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-19)

Capacity Checks

	Actual	Capacity	
V_F	3047	Exhibit 13-8	
$V_{FO} = V_F - V_R$	2729	Exhibit 13-8	
V_R	318	Exhibit 13-10	

Flow Entering Diverge Influence A

	Actual	Max Desirable	
V_{12}	2144	Exhibit 13-8	440

Level of Service Determination (if

$D_R = 4.252 + 0.0086\ V_{12} - 0.009$ L

D_R = 13.7 (pc/mi/ln)

LOS = (Exhibit 13-2)	LOS = B (Exhibit 13-2)
Speed Determination	***Speed Determination***
M_S = (Exibit 13-11)	D_s = 0.457 (Exhibit 13-12)
S_R= mph (Exhibit 13-11)	S_R= 49.1 mph (Exhibit 13-12)
S_0= mph (Exhibit 13-11)	S_0= 60.3 mph (Exhibit 13-12)
S = mph (Exhibit 13-13)	S = 51.9 mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved *HCS2010*™ Version 6.65 Generated: 8/24/2015 3:40 PM

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 WB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley WB On-Ramp
Date Performed	8/24/2015	Jurisdiction	El Dorado County
Analysis Time Period	PM Peak Hour	Analysis Year	2016

Project Description 2016 Plus EDH 52 Project

Inputs

Upstream Adj Ramp			Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N	3	☐ Yes ☐ On
☒ No ☐ Off	Ramp Number of Lanes, N	1	☒ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A	1000	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D		V_D = veh/h
	Freeway Volume, V_F	2816	
	Ramp Volume, V_R	355	
	Freeway Free-Flow Speed, S_{FF}	55.0	
	Ramp Free-Flow Speed, S_{FR}	35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2816	0.94	Level	3	1	0.983	1.00	3047
Ramp	355	0.94	Level	3	1	0.983	1.00	384
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.605 using Equation (Exhibit 13-6)

V_{12} = 1845 pc/h

V_3 or V_{av34} 1202 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☒ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = 1845 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3431	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2229	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 16.4 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.287 (Exibit 13-11)

S_R = 51.3 mph (Exhibit 13-11)

S_0 = 52.5 mph (Exhibit 13-11)

S = 51.7 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 EB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley EB Off-Ramp
Date Performed	4/7/2015	Jurisdiction	El Dorado County
Analysis Time Period	AM Peak Hour	Analysis Year	2025

Project Description 2025 No EDH 52 Project

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	4	Downstream Adj Ramp	
☐ Yes	☐ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☑ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	ft	Deceleration Lane Length L_D	800	L_{down} =	ft
V_u =	veh/h	Freeway Volume, V_F	2758	V_D =	veh/h
		Ramp Volume, V_R	218		
		Freeway Free-Flow Speed, S_{FF}	55.0		
		Ramp Free-Flow Speed, S_{FR}	35.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2758	0.94	Level	3	1	0.983	1.00	2984
Ramp	218	0.94	Level	3	1	0.983	1.00	236
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 1434 pc/h

V_3 or V_{av34} 775 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2984	Exhibit 13-8	9000	No
$V_{FO} = V_F - V_R$	2748	Exhibit 13-8	9000	No
V_R	236	Exhibit 13-10	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1434	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 9.4 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.449 (Exhibit 13-12)

S_R = 49.2 mph (Exhibit 13-12)

S_0 = 60.3 mph (Exhibit 13-12)

S = 54.4 mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 EB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley EB On-Ramp
Date Performed	4/7/2015	Jurisdiction	El Dorado County
Analysis Time Period	AM Peak Hour	Analysis Year	2025

Project Description 2025 No EDH 52 Project

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 2758	
	Ramp Volume, V_R: 281	
	Freeway Free-Flow Speed, S_{FF}: 55.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2758	0.94	Level	3	1	0.983	1.00	2984
Ramp	281	0.94	Level	3	1	0.983	1.00	304
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.180 using Equation (Exhibit 13-6)

V_{12} = 537 pc/h

V_3 or V_{av34} 1223 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes,V_{12a} = 1193 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3288	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1497	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 7.6 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.233 (Exibit 13-11)

S_R= 52.0 mph (Exhibit 13-11)

S_0= 53.6 mph (Exhibit 13-11)

S = 52.8 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 WB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley WB Off-Ramp
Date Performed	4/7/2015	Jurisdiction	El Dorado County
Analysis Time Period	AM Peak Hour	Analysis Year	2025

Project Description 2025 No EDH 52 Project

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☒ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D: 1000	V_D = veh/h
	Freeway Volume, V_F: 4942	
	Ramp Volume, V_R: 821	
	Freeway Free-Flow Speed, S_{FF}: 55.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4942	0.94	Level	3	1	0.983	1.00	5347
Ramp	821	0.94	Level	3	1	0.983	1.00	888
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.585 using Equation (Exhibit 13-7)

V_{12} = 3499 pc/h

V_3 or V_{av34} 1848 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☒ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☒ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5347	Exhibit 13-8	6750	No
$V_{FO} = V_F - V_R$	4459	Exhibit 13-8	6750	No
V_R	888	Exhibit 13-10	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3499	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 25.3 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.508 (Exhibit 13-12)

S_R = 48.4 mph (Exhibit 13-12)

S_0 = 57.0 mph (Exhibit 13-12)

S = 51.1 mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 WB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley WB On-Ramp
Date Performed	4/7/2015	Jurisdiction	El Dorado County
Analysis Time Period	AM Peak Hour	Analysis Year	2025

Project Description 2025 No EDH 52 Project

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☒ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1000	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 4942	
	Ramp Volume, V_R: 550	
	Freeway Free-Flow Speed, S_{FF}: 55.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4942	0.94	Level	3	1	0.983	1.00	5347
Ramp	550	0.94	Level	3	1	0.983	1.00	595
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.605 using Equation (Exhibit 13-6)

V_{12} = 3238 pc/h

V_3 or V_{av34} 2109 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☒ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☒ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5942	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3833	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 28.8 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.431 (Exibit 13-11)

S_R= 49.4 mph (Exhibit 13-11)

S_0= 49.2 mph (Exhibit 13-11)

S = 49.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 EB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley EB Off-Ramp
Date Performed	4/7/2015	Jurisdiction	El Dorado County
Analysis Time Period	PM Peak Hour	Analysis Year	2025

Project Description 2025 No EDH 52 Project

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D: 800	V_D = veh/h
	Freeway Volume, V_F: 4880	
	Ramp Volume, V_R: 523	
	Freeway Free-Flow Speed, S_{FF}: 55.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4880	0.94	Level	3	1	0.983	1.00	5280
Ramp	523	0.94	Level	3	1	0.983	1.00	566
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 2621 pc/h

V_3 or V_{av34} 1329 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5280	Exhibit 13-8	9000	No
$V_{FO} = V_F - V_R$	4714	Exhibit 13-8	9000	No
V_R	566	Exhibit 13-10	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2621	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 19.6 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.479 (Exhibit 13-12)

S_R = 48.8 mph (Exhibit 13-12)

S_0 = 59.1 mph (Exhibit 13-12)

S = 53.5 mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 EB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley EB On-Ramp
Date Performed	4/7/2015	Jurisdiction	El Dorado County
Analysis Time Period	PM Peak Hour	Analysis Year	2025

Project Description 2025 No EDH 52 Project

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 4880	
	Ramp Volume, V_R: 609	
	Freeway Free-Flow Speed, S_{FF}: 55.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4880	0.94	Level	3	1	0.983	1.00	5280
Ramp	609	0.94	Level	3	1	0.983	1.00	659
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.135 using Equation (Exhibit 13-6)

V_{12} = 715 pc/h

V_3 or V_{av34} = 2282 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2112 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5939	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2771	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 17.4 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.278 (Exibit 13-11)

S_R = 51.4 mph (Exhibit 13-11)

S_0 = 51.1 mph (Exhibit 13-11)

S = 51.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 WB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley WB Off-Ramp
Date Performed	4/7/2015	Jurisdiction	El Dorado County
Analysis Time Period	PM Peak Hour	Analysis Year	2025

Project Description 2025 No EDH 52 Project

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☒ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D: 1000	V_D = veh/h
	Freeway Volume, V_F: 3146	
	Ramp Volume, V_R: 382	
	Freeway Free-Flow Speed, S_{FF}: 55.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3146	0.94	Level	3	1	0.983	1.00	3404
Ramp	382	0.94	Level	3	1	0.983	1.00	413
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.656 using Equation (Exhibit 13-7)

V_{12} = 2375 pc/h

V_3 or V_{av34} 1029 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☒ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☒ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3404	Exhibit 13-8	6750	No
$V_{FO} = V_F - V_R$	2991	Exhibit 13-8	6750	No
V_R	413	Exhibit 13-10	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2375	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 15.7 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.465 (Exhibit 13-12)

S_R = 49.0 mph (Exhibit 13-12)

S_0 = 60.2 mph (Exhibit 13-12)

S = 51.9 mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 WB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley WB On-Ramp
Date Performed	4/7/2015	Jurisdiction	El Dorado County
Analysis Time Period	PM Peak Hour	Analysis Year	2025

Project Description 2025 No EDH 52 Project

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☒ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1000	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3146	
	Ramp Volume, V_R: 209	
	Freeway Free-Flow Speed, S_{FF}: 55.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3146	0.94	Level	3	1	0.983	1.00	3404
Ramp	209	0.94	Level	3	1	0.983	1.00	226
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.605 using Equation (Exhibit 13-6)

V_{12} = 2061 pc/h

V_3 or V_{av34} = 1343 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☒ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☒ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3630	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2287	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 16.9 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.289 (Exibit 13-11)

S_R = 51.2 mph (Exhibit 13-11)

S_0 = 52.0 mph (Exhibit 13-11)

S = 51.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 EB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley EB Off-Ramp
Date Performed	8/24/2015	Jurisdiction	El Dorado County
Analysis Time Period	AM Peak Hour	Analysis Year	2025

Project Description 2025 Plus EDH 52 Project

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☐ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	800
Freeway Volume, V_F	2752
Ramp Volume, V_R	320
Freeway Free-Flow Speed, S_{FF}	55.0
Ramp Free-Flow Speed, S_{FR}	35.0

Dow
Ram
☐ Y
☐ N
L_{down}
V_D =

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V
Freeway	2752	0.94	Level	3	1	0.983	1.00	
Ramp	320	0.94	Level	3	1	0.983	1.00	
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or

P_{FD} = 0.436 using Equatior

V_{12} = 1493 pc/h

V_3 or V_{av34} 742 pc/h (Equation

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-19)

Capacity Checks

	Actual	Capacity	
V_F	2977	Exhibit 13-8	
$V_{FO} = V_F - V_R$	2631	Exhibit 13-8	
V_R	346	Exhibit 13-10	

Flow Entering Diverge Influence A

	Actual	Max Desirable	
V_{12}	1493	Exhibit 13-8	440

Level of Service Determination (if

$D_R = 4.252 + 0.0086\ V_{12} - 0.009$ L

D_R = 9.9 (pc/mi/ln)

LOS = (Exhibit 13-2)	LOS = A (Exhibit 13-2)
Speed Determination	***Speed Determination***
M_S = (Exibit 13-11)	D_s = 0.459 (Exhibit 13-12)
S_R= mph (Exhibit 13-11)	S_R= 49.0 mph (Exhibit 13-12)
S_0= mph (Exhibit 13-11)	S_0= 60.3 mph (Exhibit 13-12)
S = mph (Exhibit 13-13)	S = 54.1 mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 EB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley EB On-Ramp
Date Performed	8/24/2015	Jurisdiction	El Dorado County
Analysis Time Period	AM Peak Hour	Analysis Year	2025

Project Description 2025 Plus EDH 52 Project

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☐ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	1500
Deceleration Lane Length L_D	
Freeway Volume, V_F	2752
Ramp Volume, V_R	315
Freeway Free-Flow Speed, S_{FF}	55.0
Ramp Free-Flow Speed, S_{FR}	35.0

Downr
Ramp
☐ Y
☐ N
L_{down}
V_D =

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V
Freeway	2752	0.94	Level	3	1	0.983	1.00	
Ramp	315	0.94	Level	3	1	0.983	1.00	
UpStream								
DownStream								

Merge Areas | **Diverge Areas**

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.175 using Equation (Exhibit 13-6)

V_{12} = 521 pc/h

V_3 or V_{av34} 1228 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = 1190 pc/h (Equation 13-16, 13-18, or 13-19)

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or

P_{FD} = using Equation (Exh

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 o

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3318	Exhibit 13-8		No

	Actual	Capacity	
V_F		Exhibit 13-8	
$V_{FO} = V_F - V_R$		Exhibit 13-8	
V_R		Exhibit 13-10	

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1531	Exhibit 13-8	4600:All	No

Flow Entering Diverge Influence A

	Actual	Max Desirable	
V_{12}		Exhibit 13-8	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

Level of Service Determination (if

$D_R = 4.252 + 0.0086 V_{12} - 0.009$ L

D_R =	7.9 (pc/mi/ln)	D_R =	(pc/mi/ln)
LOS =	A (Exhibit 13-2)	LOS =	(Exhibit 13-2)
Speed Determination		***Speed Determination***	
M_S =	0.234 (Exibit 13-11)	D_s =	(Exhibit 13-12)
S_R=	52.0 mph (Exhibit 13-11)	S_R=	mph (Exhibit 13-12)
S_0=	53.6 mph (Exhibit 13-11)	S_0=	mph (Exhibit 13-12)
S =	52.8 mph (Exhibit 13-13)	S =	mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved *HCS2010*™ Version 6.65 Generated: 8/24/2015 3:49 PM

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 WB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley WB Off-Ramp
Date Performed	8/24/2015	Jurisdiction	El Dorado County
Analysis Time Period	AM Peak Hour	Analysis Year	2025

Project Description 2025 Plus EDH 52 Project

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☒ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D: 1000	V_D = veh/h
	Freeway Volume, V_F: 4948	
	Ramp Volume, V_R: 927	
	Freeway Free-Flow Speed, S_{FF}: 55.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4948	0.94	Level	3	1	0.983	1.00	5353
Ramp	927	0.94	Level	3	1	0.983	1.00	1003
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.580 using Equation (Exhibit 13-7)

V_{12} = 3526 pc/h

V_3 or V_{av34} 1827 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☒ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☒ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5353	Exhibit 13-8	6750	No
$V_{FO} = V_F - V_R$	4350	Exhibit 13-8	6750	No
V_R	1003	Exhibit 13-10	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3526	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 25.6 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.518 (Exhibit 13-12)

S_R = 48.3 mph (Exhibit 13-12)

S_0 = 57.1 mph (Exhibit 13-12)

S = 51.0 mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

HCS2010™ Version 6.65

Generated: 8/26/2015 12:40 PM

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 WB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley WB On-Ramp
Date Performed	8/24/2015	Jurisdiction	El Dorado County
Analysis Time Period	AM Peak Hour	Analysis Year	2025

Project Description 2025 Plus EDH 52 Project

Inputs

Upstream Adj Ramp			Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N	3	☐ Yes ☐ On
☒ No ☐ Off	Ramp Number of Lanes, N	1	☒ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A	1000	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D		V_D = veh/h
	Freeway Volume, V_F	4948	
	Ramp Volume, V_R	654	
	Freeway Free-Flow Speed, S_{FF}	55.0	
	Ramp Free-Flow Speed, S_{FR}	35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4948	0.94	Level	3	1	0.983	1.00	5353
Ramp	654	0.94	Level	3	1	0.983	1.00	708
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.605 using Equation (Exhibit 13-6)

V_{12} = 3241 pc/h

V_3 or V_{av34} 2112 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☒ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = 3241 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6061	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3949	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 29.7 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.453 (Exibit 13-11)

S_R = 49.1 mph (Exhibit 13-11)

S_0 = 49.2 mph (Exhibit 13-11)

S = 49.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

HCS2010™ Version 6.65

Generated: 8/26/2015 12:41 PM

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 EB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley EB Off-Ramp
Date Performed	8/24/2015	Jurisdiction	El Dorado County
Analysis Time Period	PM Peak Hour	Analysis Year	2025

Project Description 2025 Plus EDH 52 Project

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☐ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	800
Freeway Volume, V_F	4890
Ramp Volume, V_R	698
Freeway Free-Flow Speed, S_{FF}	55.0
Ramp Free-Flow Speed, S_{FR}	35.0

Dow
Ram
☐ Y
☐ N
L_{down}
V_D =

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V
Freeway	4890	0.94	Level	3	1	0.983	1.00	
Ramp	698	0.94	Level	3	1	0.983	1.00	
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or

P_{FD} = 0.436 using Equatior

V_{12} = 2733 pc/h

V_3 or V_{av34} 1279 pc/h (Equation

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-19)

Capacity Checks

	Actual	Capacity	
V_F	5291	Exhibit 13-8	
$V_{FO} = V_F - V_R$	4536	Exhibit 13-8	
V_R	755	Exhibit 13-10	

Flow Entering Diverge Influence A

	Actual	Max Desirable	
V_{12}	2733	Exhibit 13-8	440

Level of Service Determination (if

$D_R = 4.252 + 0.0086\ V_{12} - 0.009$ L

D_R = 20.6 (pc/mi/ln)

LOS = (Exhibit 13-2)	LOS = C (Exhibit 13-2)
Speed Determination	***Speed Determination***
M_S = (Exibit 13-11)	D_s = 0.496 (Exhibit 13-12)
S_R= mph (Exhibit 13-11)	S_R= 48.6 mph (Exhibit 13-12)
S_0= mph (Exhibit 13-11)	S_0= 59.2 mph (Exhibit 13-12)
S = mph (Exhibit 13-13)	S = 53.2 mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved *HCS2010*™ Version 6.65 Generated: 8/24/2015 3:52 PM

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 EB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley EB On-Ramp
Date Performed	8/24/2015	Jurisdiction	El Dorado County
Analysis Time Period	PM Peak Hour	Analysis Year	2025

Project Description 2025 Plus EDH 52 Project

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☐ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	1500
Deceleration Lane Length L_D	
Freeway Volume, V_F	4890
Ramp Volume, V_R	664
Freeway Free-Flow Speed, S_{FF}	55.0
Ramp Free-Flow Speed, S_{FR}	35.0

Downr Ramp

☐ Y

☐ N

L_{down}

V_D =

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V
Freeway	4890	0.94	Level	3	1	0.983	1.00	
Ramp	664	0.94	Level	3	1	0.983	1.00	
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.128 using Equation (Exhibit 13-6)

V_{12} = 678 pc/h

V_3 or V_{av34} 2306 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = 2116 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6009	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2834	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or

P_{FD} = using Equation (Exh

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 o

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-13-19)

Capacity Checks

	Actual	Capacity	
V_F		Exhibit 13-8	
$V_{FO} = V_F - V_R$		Exhibit 13-8	
V_R		Exhibit 13-10	

Flow Entering Diverge Influence A

	Actual	Max Desirable	
V_{12}		Exhibit 13-8	

Level of Service Determination (if

$D_R = 4.252 + 0.0086\ V_{12} - 0.009$ L

D_R =	17.8 (pc/mi/ln)	D_R =	(pc/mi/ln)
LOS =	B (Exhibit 13-2)	LOS =	(Exhibit 13-2)
Speed Determination		***Speed Determination***	
M_S =	0.282 (Exibit 13-11)	D_s =	(Exhibit 13-12)
S_R=	51.3 mph (Exhibit 13-11)	S_R=	mph (Exhibit 13-12)
S_0=	51.1 mph (Exhibit 13-11)	S_0=	mph (Exhibit 13-12)
S =	51.2 mph (Exhibit 13-13)	S =	mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved *HCS2010*™ Version 6.65 Generated: 8/24/2015 3:53 PM

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 WB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley WB Off-Ramp
Date Performed	8/24/2015	Jurisdiction	El Dorado County
Analysis Time Period	PM Peak Hour	Analysis Year	2025

Project Description 2025 Plus EDH 52 Project

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☒ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D: 1000	V_D = veh/h
	Freeway Volume, V_F: 3146	
	Ramp Volume, V_R: 487	
	Freeway Free-Flow Speed, S_{FF}: 55.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3146	0.94	Level	3	1	0.983	1.00	3404
Ramp	487	0.94	Level	3	1	0.983	1.00	527
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.651 using Equation (Exhibit 13-7)

V_{12} = 2399 pc/h

V_3 or V_{av34} 1005 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☒ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☒ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3404	Exhibit 13-8	6750	No
$V_{FO} = V_F - V_R$	2877	Exhibit 13-8	6750	No
V_R	527	Exhibit 13-10	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2399	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 15.9 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.475 (Exhibit 13-12)

S_R = 48.8 mph (Exhibit 13-12)

S_0 = 60.3 mph (Exhibit 13-12)

S = 51.7 mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 WB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley WB On-Ramp
Date Performed	8/24/2015	Jurisdiction	El Dorado County
Analysis Time Period	PM Peak Hour	Analysis Year	2025

Project Description 2025 Plus EDH 52 Project

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☒ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1000	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3146	
	Ramp Volume, V_R: 333	
	Freeway Free-Flow Speed, S_{FF}: 55.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3146	0.94	Level	3	1	0.983	1.00	3404
Ramp	333	0.94	Level	3	1	0.983	1.00	360
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.605 using Equation (Exhibit 13-6)

V_{12} = 2061 pc/h

V_3 or V_{av34} = 1343 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☒ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = 2061 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3764	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2421	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 17.9 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.295 (Exibit 13-11)

S_R = 51.2 mph (Exhibit 13-11)

S_0 = 52.0 mph (Exhibit 13-11)

S = 51.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

HCS2010™ Version 6.65

Generated: 8/26/2015 12:43 PM

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 EB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley EB Off-Ramp
Date Performed	4/7/2015	Jurisdiction	El Dorado County
Analysis Time Period	AM Peak Hour	Analysis Year	2035

Project Description 2035 No EDH 52 Project

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D: 800	V_D = veh/h
	Freeway Volume, V_F: 3193	
	Ramp Volume, V_R: 220	
	Freeway Free-Flow Speed, S_{FF}: 55.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3193	0.94	Level	3	1	0.983	1.00	3455
Ramp	220	0.94	Level	3	1	0.983	1.00	238
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 1641 pc/h

V_3 or V_{av34} 907 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3455	Exhibit 13-8	9000	No
$V_{FO} = V_F - V_R$	3217	Exhibit 13-8	9000	No
V_R	238	Exhibit 13-10	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1641	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 11.2 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.449 (Exhibit 13-12)

S_R= 49.2 mph (Exhibit 13-12)

S_0= 60.3 mph (Exhibit 13-12)

S = 54.5 mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

HCS2010™ Version 6.65 Generated: 4/7/2015 11:48 AM

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 EB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley EB On-Ramp Diag
Date Performed	4/7/2015	Jurisdiction	El Dorado County
Analysis Time Period	AM Peak Hour	Analysis Year	2035

Project Description 2035 No EDH 52 Project

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 800	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3452	
	Ramp Volume, V_R: 75	
	Freeway Free-Flow Speed, S_{FF}: 55.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3452	0.94	Level	3	1	0.983	1.00	3735
Ramp	75	0.94	Level	3	1	0.983	1.00	81
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.208 using Equation (Exhibit 13-6)

V_{12} = 776 pc/h

V_3 or V_{av34} = 1479 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1494 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3816	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1575	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 12.7 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.284 (Exibit 13-11)

S_R = 51.3 mph (Exhibit 13-11)

S_0 = 52.8 mph (Exhibit 13-11)

S = 52.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 EB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley EB On-Ramp Loop
Date Performed	4/7/2015	Jurisdiction	El Dorado County
Analysis Time Period	AM Peak Hour	Analysis Year	2035

Project Description 2035 No EDH 52 Project

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3193	
	Ramp Volume, V_R: 259	
	Freeway Free-Flow Speed, S_{FF}: 55.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3193	0.94	Level	3	1	0.983	1.00	3455
Ramp	259	0.94	Level	3	1	0.983	1.00	280
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.183 using Equation (Exhibit 13-6)

V_{12} = 632 pc/h

V_3 or V_{av34} = 1411 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1382 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3735	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1662	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 8.9 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.237 (Exibit 13-11)

S_R = 51.9 mph (Exhibit 13-11)

S_0 = 53.1 mph (Exhibit 13-11)

S = 52.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 WB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley WB Off-Ramp
Date Performed	4/7/2015	Jurisdiction	El Dorado County
Analysis Time Period	AM Peak Hour	Analysis Year	2035

Project Description 2035 No EDH 52 Project

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D: 1000	V_D = veh/h
	Freeway Volume, V_F: 5145	
	Ramp Volume, V_R: 741	
	Freeway Free-Flow Speed, S_{FF}: 55.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5145	0.94	Level	3	1	0.983	1.00	5566
Ramp	741	0.94	Level	3	1	0.983	1.00	802
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 2879 pc/h

V_3 or V_{av34} 1343 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5566	Exhibit 13-8	9000	No
$V_{FO} = V_F - V_R$	4764	Exhibit 13-8	9000	No
V_R	802	Exhibit 13-10	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2879	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 20.0 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.500 (Exhibit 13-12)

S_R = 48.5 mph (Exhibit 13-12)

S_0 = 59.0 mph (Exhibit 13-12)

S = 53.1 mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 WB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley WB On-Ramp Diag
Date Performed	4/7/2015	Jurisdiction	El Dorado County
Analysis Time Period	AM Peak Hour	Analysis Year	2035

Project Description 2035 No EDH 52 Project

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1000	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 5283	
	Ramp Volume, V_R: 591	
	Freeway Free-Flow Speed, S_{FF}: 55.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5283	0.94	Level	3	1	0.983	1.00	5716
Ramp	591	0.94	Level	3	1	0.983	1.00	639
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.138 using Equation (Exhibit 13-6)

V_{12} = 788 pc/h

V_3 or V_{av34} = 2464 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2286 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6355	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2925	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 21.7 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.324 (Exibit 13-11)

S_R = 50.8 mph (Exhibit 13-11)

S_0 = 50.6 mph (Exhibit 13-11)

S = 50.7 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 WB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley WB On-Ramp Loop
Date Performed	4/7/2015	Jurisdiction	El Dorado County
Analysis Time Period	AM Peak Hour	Analysis Year	2035

Project Description 2035 No EDH 52 Project

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 5145	
	Ramp Volume, V_R: 138	
	Freeway Free-Flow Speed, S_{FF}: 55.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5145	0.94	Level	3	1	0.983	1.00	5566
Ramp	138	0.94	Level	3	1	0.983	1.00	149
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.199 using Equation (Exhibit 13-6)

V_{12} = 1109 pc/h

V_3 or V_{av34} 2228 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2226 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5715	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2375	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 14.5 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.258 (Exibit 13-11)

S_R = 51.6 mph (Exhibit 13-11)

S_0 = 50.8 mph (Exhibit 13-11)

S = 51.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 EB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley EB Off-Ramp
Date Performed	4/7/2015	Jurisdiction	El Dorado County
Analysis Time Period	PM Peak Hour	Analysis Year	2035

Project Description 2035 No EDH 52 Project

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D: 800	V_D = veh/h
	Freeway Volume, V_F: 5222	
	Ramp Volume, V_R: 568	
	Freeway Free-Flow Speed, S_{FF}: 55.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5222	0.94	Level	3	1	0.983	1.00	5650
Ramp	568	0.94	Level	3	1	0.983	1.00	615
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 2810 pc/h

V_3 or V_{av34} 1420 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5650	Exhibit 13-8	9000	No
$V_{FO} = V_F - V_R$	5035	Exhibit 13-8	9000	No
V_R	615	Exhibit 13-10	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2810	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 21.2 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.483 (Exhibit 13-12)

S_R = 48.7 mph (Exhibit 13-12)

S_0 = 58.7 mph (Exhibit 13-12)

S = 53.3 mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

HCS2010™ Version 6.65 Generated: 4/7/2015 11:51 AM

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 EB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley EB On-Ramp Diag
Date Performed	4/7/2015	Jurisdiction	El Dorado County
Analysis Time Period	PM Peak Hour	Analysis Year	2035

Project Description 2035 No EDH 52 Project

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 800	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 5594	
	Ramp Volume, V_R: 399	
	Freeway Free-Flow Speed, S_{FF}: 55.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5594	0.94	Level	3	1	0.983	1.00	6052
Ramp	399	0.94	Level	3	1	0.983	1.00	432
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.164 using Equation (Exhibit 13-6)

V_{12} = 991 pc/h

V_3 or V_{av34} = 2530 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2420 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6484	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2852	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 22.5 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.333 (Exibit 13-11)

S_R = 50.7 mph (Exhibit 13-11)

S_0 = 50.3 mph (Exhibit 13-11)

S = 50.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 EB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley EB On-Ramp Loop
Date Performed	4/6/2015	Jurisdiction	El Dorado County
Analysis Time Period	PM Peak Hour	Analysis Year	2035

Project Description 2035 No EDH 52 Project

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 5222	
	Ramp Volume, V_R: 372	
	Freeway Free-Flow Speed, S_{FF}: 55.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5222	0.94	Level	3	1	0.983	1.00	5650
Ramp	372	0.94	Level	3	1	0.983	1.00	402
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.168 using Equation (Exhibit 13-6)

V_{12} = 947 pc/h

V_3 or V_{av34} = 2351 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2260 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6052	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2662	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 16.6 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.272 (Exibit 13-11)

S_R = 51.5 mph (Exhibit 13-11)

S_0 = 50.7 mph (Exhibit 13-11)

S = 51.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 WB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley WB Off-Ramp
Date Performed	4/7/2015	Jurisdiction	El Dorado County
Analysis Time Period	PM Peak Hour	Analysis Year	2035

Project Description 2035 No EDH 52 Project

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D: 1000	V_D = veh/h
	Freeway Volume, V_F: 3514	
	Ramp Volume, V_R: 618	
	Freeway Free-Flow Speed, S_{FF}: 55.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3514	0.94	Level	3	1	0.983	1.00	3802
Ramp	618	0.94	Level	3	1	0.983	1.00	669
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 2035 pc/h

V_3 or V_{av34} 883 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3802	Exhibit 13-8	9000	No
$V_{FO} = V_F - V_R$	3133	Exhibit 13-8	9000	No
V_R	669	Exhibit 13-10	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2035	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 12.8 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.488 (Exhibit 13-12)

S_R = 48.7 mph (Exhibit 13-12)

S_0 = 60.3 mph (Exhibit 13-12)

S = 53.5 mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 WB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley WB On-Ramp Diag
Date Performed	4/7/2015	Jurisdiction	El Dorado County
Analysis Time Period	PM Peak Hour	Analysis Year	2035

Project Description 2035 No EDH 52 Project

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1000	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3571	
	Ramp Volume, V_R: 109	
	Freeway Free-Flow Speed, S_{FF}: 55.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3571	0.94	Level	3	1	0.983	1.00	3864
Ramp	109	0.94	Level	3	1	0.983	1.00	118
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.203 using Equation (Exhibit 13-6)

V_{12} = 785 pc/h

V_3 or V_{av34} = 1539 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1545 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3982	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1663	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 12.1 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.272 (Exibit 13-11)

S_R = 51.5 mph (Exhibit 13-11)

S_0 = 52.6 mph (Exhibit 13-11)

S = 52.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 WB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley WB On-Ramp Loop
Date Performed	4/7/2015	Jurisdiction	El Dorado County
Analysis Time Period	PM Peak Hour	Analysis Year	2035

Project Description 2035 No EDH 52 Project

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3514	
	Ramp Volume, V_R: 57	
	Freeway Free-Flow Speed, S_{FF}: 55.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3514	0.94	Level	3	1	0.983	1.00	3802
Ramp	57	0.94	Level	3	1	0.983	1.00	62
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.210 using Equation (Exhibit 13-6)

V_{12} = 799 pc/h

V_3 or V_{av34} = 1501 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1520 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3864	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1582	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 8.4 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.235 (Exibit 13-11)

S_R = 51.9 mph (Exhibit 13-11)

S_0 = 52.7 mph (Exhibit 13-11)

S = 52.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 EB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley EB Off-Ramp
Date Performed	8/24/2015	Jurisdiction	El Dorado County
Analysis Time Period	AM Peak Hour	Analysis Year	2035

Project Description 2035 Plus EDH 52 Project

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☐ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	800
Freeway Volume, V_F	3183
Ramp Volume, V_R	349
Freeway Free-Flow Speed, S_{FF}	55.0
Ramp Free-Flow Speed, S_{FR}	35.0

Dow
Ram
☐ Y
☐ N
L_{down}
V_D =

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V
Freeway	3183	0.94	Level	3	1	0.983	1.00	
Ramp	349	0.94	Level	3	1	0.983	1.00	
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or

P_{FD} = 0.436 using Equatior

V_{12} = 1715 pc/h

V_3 or V_{av34} 864 pc/h (Equation

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-19)

Capacity Checks

	Actual	Capacity	
V_F	3444	Exhibit 13-8	
$V_{FO} = V_F - V_R$	3066	Exhibit 13-8	
V_R	378	Exhibit 13-10	

Flow Entering Diverge Influence A

	Actual	Max Desirable	
V_{12}	1715	Exhibit 13-8	440

Level of Service Determination (if

$D_R = 4.252 + 0.0086\ V_{12} - 0.009$ L

D_R = 11.8 (pc/mi/ln)

LOS = (Exhibit 13-2)	LOS = B (Exhibit 13-2)
Speed Determination	***Speed Determination***
M_S = (Exibit 13-11)	D_s = 0.462 (Exhibit 13-12)
S_R= mph (Exhibit 13-11)	S_R= 49.0 mph (Exhibit 13-12)
S_0= mph (Exhibit 13-11)	S_0= 60.3 mph (Exhibit 13-12)
S = mph (Exhibit 13-13)	S = 54.1 mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved *HCS2010*™ Version 6.65 Generated: 8/24/2015 4:27 PM

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 EB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley EB On-Ramp Diag
Date Performed	8/24/2015	Jurisdiction	El Dorado County
Analysis Time Period	AM Peak Hour	Analysis Year	2035

Project Description 2035 Plus EDH 52 Project

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☐ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	800
Deceleration Lane Length L_D	
Freeway Volume, V_F	3480
Ramp Volume, V_R	73
Freeway Free-Flow Speed, S_{FF}	55.0
Ramp Free-Flow Speed, S_{FR}	35.0

Downr Ramp

☐ Y

☐ N

L_{down}

V_D =

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V
Freeway	3480	0.94	Level	3	1	0.983	1.00	
Ramp	73	0.94	Level	3	1	0.983	1.00	
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.208 using Equation (Exhibit 13-6)

V_{12} = 783 pc/h

V_3 or V_{av34} 1491 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = 1506 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3844	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1585	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or

P_{FD} = using Equation (Exh

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 o

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-13-19)

Capacity Checks

	Actual	Capacity	
V_F		Exhibit 13-8	
$V_{FO} = V_F - V_R$		Exhibit 13-8	
V_R		Exhibit 13-10	

Flow Entering Diverge Influence A

	Actual	Max Desirable	
V_{12}		Exhibit 13-8	

Level of Service Determination (if

$D_R = 4.252 + 0.0086\ V_{12} - 0.009$ L

D_R =	12.8 (pc/mi/ln)	D_R =	(pc/mi/ln)
LOS =	B (Exhibit 13-2)	LOS =	(Exhibit 13-2)
Speed Determination		***Speed Determination***	
M_S =	0.284 (Exibit 13-11)	D_s =	(Exhibit 13-12)
S_R=	51.3 mph (Exhibit 13-11)	S_R=	mph (Exhibit 13-12)
S_0=	52.7 mph (Exhibit 13-11)	S_0=	mph (Exhibit 13-12)
S =	52.1 mph (Exhibit 13-13)	S =	mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved *HCS2010*™ Version 6.65 Generated: 8/24/2015 4:29 PM

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 EB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley EB On-Ramp Loop
Date Performed	8/24/2015	Jurisdiction	El Dorado County
Analysis Time Period	AM Peak Hour	Analysis Year	2035

Project Description 2035 Plus EDH 52 Project

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☐ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	1500
Deceleration Lane Length L_D	
Freeway Volume, V_F	3183
Ramp Volume, V_R	294
Freeway Free-Flow Speed, S_{FF}	55.0
Ramp Free-Flow Speed, S_{FR}	35.0

Downr Ramp

☐ Y

☐ N

L_{down}

V_D =

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V
Freeway	3183	0.94	Level	3	1	0.983	1.00	
Ramp	294	0.94	Level	3	1	0.983	1.00	
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.178 using Equation (Exhibit 13-6)

V_{12} = 613 pc/h

V_3 or V_{av34} 1415 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = 1377 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3762	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1695	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or

P_{FD} = using Equation (Exh

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 o

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-13-19)

Capacity Checks

	Actual	Capacity	
V_F		Exhibit 13-8	
$V_{FO} = V_F - V_R$		Exhibit 13-8	
V_R		Exhibit 13-10	

Flow Entering Diverge Influence A

	Actual	Max Desirable	
V_{12}		Exhibit 13-8	

Level of Service Determination (if

$D_R = 4.252 + 0.0086\ V_{12} - 0.009$ L

D_R =	9.1 (pc/mi/ln)	D_R =	(pc/mi/ln)
LOS =	A (Exhibit 13-2)	LOS =	(Exhibit 13-2)
Speed Determination		***Speed Determination***	
M_S =	0.237 (Exibit 13-11)	D_s =	(Exhibit 13-12)
S_R=	51.9 mph (Exhibit 13-11)	S_R=	mph (Exhibit 13-12)
S_0=	53.1 mph (Exhibit 13-11)	S_0=	mph (Exhibit 13-12)
S =	52.5 mph (Exhibit 13-13)	S =	mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved *HCS2010*™ Version 6.65 Generated: 8/24/2015 4:31 PM

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 WB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley WB Off-Ramp
Date Performed	8/24/2015	Jurisdiction	El Dorado County
Analysis Time Period	AM Peak Hour	Analysis Year	2035

Project Description 2035 Plus EDH 52 Project

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☐ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1000
Freeway Volume, V_F	5155
Ramp Volume, V_R	820
Freeway Free-Flow Speed, S_{FF}	55.0
Ramp Free-Flow Speed, S_{FR}	35.0

Dow
Ram
☐ Y
☐ N
L_{down}
V_D =

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V
Freeway	5155	0.94	Level	3	1	0.983	1.00	
Ramp	820	0.94	Level	3	1	0.983	1.00	
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or

P_{FD} = 0.436 using Equatior

V_{12} = 2932 pc/h

V_3 or V_{av34} 1322 pc/h (Equation

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-19)

Capacity Checks

	Actual	Capacity	
V_F	5577	Exhibit 13-8	
$V_{FO} = V_F - V_R$	4690	Exhibit 13-8	
V_R	887	Exhibit 13-10	

Flow Entering Diverge Influence A

	Actual	Max Desirable	
V_{12}	2932	Exhibit 13-8	440

Level of Service Determination (if

$D_R = 4.252 + 0.0086\ V_{12} - 0.009$ L

D_R = 20.5 (pc/mi/ln)

LOS = (Exhibit 13-2)	LOS = C (Exhibit 13-2)
Speed Determination	***Speed Determination***
M_S = (Exibit 13-11)	D_s = 0.508 (Exhibit 13-12)
S_R= mph (Exhibit 13-11)	S_R= 48.4 mph (Exhibit 13-12)
S_0= mph (Exhibit 13-11)	S_0= 59.1 mph (Exhibit 13-12)
S = mph (Exhibit 13-13)	S = 52.9 mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved *HCS2010*™ Version 6.65 Generated: 8/24/2015 4:34 PM

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 WB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley WB On-Ramp Diag
Date Performed	8/24/2015	Jurisdiction	El Dorado County
Analysis Time Period	AM Peak Hour	Analysis Year	2035

Project Description 2035 Plus EDH 52 Project

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☐ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	1000
Deceleration Lane Length L_D	
Freeway Volume, V_F	5290
Ramp Volume, V_R	719
Freeway Free-Flow Speed, S_{FF}	55.0
Ramp Free-Flow Speed, S_{FR}	35.0

Downr Ramp

☐ Y

☐ N

L_{down}

V_D =

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V
Freeway	5290	0.94	Level	3	1	0.983	1.00	
Ramp	719	0.94	Level	3	1	0.983	1.00	
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.121 using Equation (Exhibit 13-6)

V_{12} = 690 pc/h

V_3 or V_{av34} 2516 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = 2289 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6501	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3067	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or

P_{FD} = using Equation (Exh

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 o

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-13-19)

Capacity Checks

	Actual	Capacity	
V_F		Exhibit 13-8	
$V_{FO} = V_F - V_R$		Exhibit 13-8	
V_R		Exhibit 13-10	

Flow Entering Diverge Influence A

	Actual	Max Desirable	
V_{12}		Exhibit 13-8	

Level of Service Determination (if

$D_R = 4.252 + 0.0086\ V_{12} - 0.009$ L

D_R =	22.8 (pc/mi/ln)	D_R =	(pc/mi/ln)
LOS =	C (Exhibit 13-2)	LOS =	(Exhibit 13-2)
Speed Determination		***Speed Determination***	
M_S =	0.335 (Exibit 13-11)	D_s =	(Exhibit 13-12)
S_R=	50.6 mph (Exhibit 13-11)	S_R=	mph (Exhibit 13-12)
S_0=	50.6 mph (Exhibit 13-11)	S_0=	mph (Exhibit 13-12)
S =	50.6 mph (Exhibit 13-13)	S =	mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved *HCS2010*™ Version 6.65 Generated: 8/24/2015 4:36 PM

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 WB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley WB On-Ramp Loop
Date Performed	8/24/2015	Jurisdiction	El Dorado County
Analysis Time Period	AM Peak Hour	Analysis Year	2035

Project Description 2035 Plus EDH 52 Project

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☐ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	1500
Deceleration Lane Length L_D	
Freeway Volume, V_F	5155
Ramp Volume, V_R	135
Freeway Free-Flow Speed, S_{FF}	55.0
Ramp Free-Flow Speed, S_{FR}	35.0

Downr Ramp

☐ Y

☐ N

L_{down}

V_D =

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V
Freeway	5155	0.94	Level	3	1	0.983	1.00	
Ramp	135	0.94	Level	3	1	0.983	1.00	
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.200 using Equation (Exhibit 13-6)

V_{12} = 1113 pc/h

V_3 or V_{av34} 2232 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = 2230 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5723	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2376	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or

P_{FD} = using Equation (Exh

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 o

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-13-19)

Capacity Checks

	Actual	Capacity	
V_F		Exhibit 13-8	
$V_{FO} = V_F - V_R$		Exhibit 13-8	
V_R		Exhibit 13-10	

Flow Entering Diverge Influence A

	Actual	Max Desirable	
V_{12}		Exhibit 13-8	

Level of Service Determination (if

$D_R = 4.252 + 0.0086\ V_{12} - 0.009$ L

D_R =	14.5 (pc/mi/ln)
LOS =	B (Exhibit 13-2)

Speed Determination	
M_S =	0.258 (Exibit 13-11)
S_R=	51.6 mph (Exhibit 13-11)
S_0=	50.8 mph (Exhibit 13-11)
S =	51.1 mph (Exhibit 13-13)

D_R =	(pc/mi/ln)
LOS =	(Exhibit 13-2)

Speed Determination	
D_s =	(Exhibit 13-12)
S_R=	mph (Exhibit 13-12)
S_0=	mph (Exhibit 13-12)
S =	mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 EB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley EB Off-Ramp
Date Performed	8/24/2015	Jurisdiction	El Dorado County
Analysis Time Period	PM Peak Hour	Analysis Year	2035

Project Description 2035 Plus EDH 52 Project

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☐ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	800
Freeway Volume, V_F	5239
Ramp Volume, V_R	783
Freeway Free-Flow Speed, S_{FF}	55.0
Ramp Free-Flow Speed, S_{FR}	35.0

Dow
Ram
☐ Y
☐ N
L_{down}
V_D =

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V
Freeway	5239	0.94	Level	3	1	0.983	1.00	
Ramp	783	0.94	Level	3	1	0.983	1.00	
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or

P_{FD} = 0.436 using Equatior

V_{12} = 2949 pc/h

V_3 or V_{av34} 1359 pc/h (Equation

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-19)

Capacity Checks

	Actual	Capacity	
V_F	5668	Exhibit 13-8	
$V_{FO} = V_F - V_R$	4821	Exhibit 13-8	
V_R	847	Exhibit 13-10	

Flow Entering Diverge Influence A

	Actual	Max Desirable	
V_{12}	2949	Exhibit 13-8	440

Level of Service Determination (if

$D_R = 4.252 + 0.0086\ V_{12} - 0.009$ L

D_R = 22.4 (pc/mi/ln)

LOS = (Exhibit 13-2)	LOS = C (Exhibit 13-2)
Speed Determination	***Speed Determination***
M_S = (Exibit 13-11)	D_s = 0.504 (Exhibit 13-12)
S_R= mph (Exhibit 13-11)	S_R= 48.4 mph (Exhibit 13-12)
S_0= mph (Exhibit 13-11)	S_0= 58.9 mph (Exhibit 13-12)
S = mph (Exhibit 13-13)	S = 53.0 mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved *HCS2010*™ Version 6.65 Generated: 8/24/2015 4:40 PM

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 EB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley EB On-Ramp Diag
Date Performed	8/24/2015	Jurisdiction	El Dorado County
Analysis Time Period	PM Peak Hour	Analysis Year	2035

Project Description 2035 Plus EDH 52 Project

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☐ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	800
Deceleration Lane Length L_D	
Freeway Volume, V_F	5677
Ramp Volume, V_R	432
Freeway Free-Flow Speed, S_{FF}	55.0
Ramp Free-Flow Speed, S_{FR}	35.0

Downr Ramp

☐ Y

☐ N

L_{down}

V_D =

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V
Freeway	5677	0.94	Level	3	1	0.983	1.00	
Ramp	432	0.94	Level	3	1	0.983	1.00	
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.159 using Equation (Exhibit 13-6)

V_{12} = 979 pc/h

V_3 or V_{av34} 2581 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = 2456 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6609	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2923	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or

P_{FD} = using Equation (Exh

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 o

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-13-19)

Capacity Checks

	Actual	Capacity	
V_F		Exhibit 13-8	
$V_{FO} = V_F - V_R$		Exhibit 13-8	
V_R		Exhibit 13-10	

Flow Entering Diverge Influence A

	Actual	Max Desirable	
V_{12}		Exhibit 13-8	

Level of Service Determination (if

$D_R = 4.252 + 0.0086\ V_{12} - 0.009$ L

D_R =	23.0 (pc/mi/ln)	D_R =	(pc/mi/ln)
LOS =	C (Exhibit 13-2)	LOS =	(Exhibit 13-2)
Speed Determination		***Speed Determination***	
M_S =	0.338 (Exibit 13-11)	D_s =	(Exhibit 13-12)
S_R=	50.6 mph (Exhibit 13-11)	S_R=	mph (Exhibit 13-12)
S_0=	50.2 mph (Exhibit 13-11)	S_0=	mph (Exhibit 13-12)
S =	50.4 mph (Exhibit 13-13)	S =	mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved *HCS2010*™ Version 6.65 Generated: 8/24/2015 4:41 PM

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 EB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley EB On-Ramp Loop
Date Performed	8/24/2015	Jurisdiction	El Dorado County
Analysis Time Period	PM Peak Hour	Analysis Year	2035

Project Description 2035 Plus EDH 52 Project

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☐ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	1500
Deceleration Lane Length L_D	
Freeway Volume, V_F	5239
Ramp Volume, V_R	
Freeway Free-Flow Speed, S_{FF}	55.0
Ramp Free-Flow Speed, S_{FR}	35.0

Downr Ramp

☐ Y

☐ N

L_{down}

V_D =

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V
Freeway	5239	0.94	Level	3	1	0.983	1.00	
Ramp		0.94	Level	3	1	0.983	1.00	
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.159 using Equation (Exhibit 13-6)

V_{12} = 899 pc/h

V_3 or V_{av34} 2384 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = 2267 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6142	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2741	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or

P_{FD} = using Equation (Exh

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 o

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-13-19)

Capacity Checks

	Actual	Capacity	
V_F		Exhibit 13-8	
$V_{FO} = V_F - V_R$		Exhibit 13-8	
V_R		Exhibit 13-10	

Flow Entering Diverge Influence A

	Actual	Max Desirable	
V_{12}		Exhibit 13-8	

Level of Service Determination (if

$D_R = 4.252 + 0.0086\ V_{12} - 0.009$ L

D_R =	17.2 (pc/mi/ln)	D_R =	(pc/mi/ln)
LOS =	B (Exhibit 13-2)	LOS =	(Exhibit 13-2)
Speed Determination		***Speed Determination***	
M_S =	0.276 (Exibit 13-11)	D_s =	(Exhibit 13-12)
S_R=	51.4 mph (Exhibit 13-11)	S_R=	mph (Exhibit 13-12)
S_0=	50.7 mph (Exhibit 13-11)	S_0=	mph (Exhibit 13-12)
S =	51.0 mph (Exhibit 13-13)	S =	mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved *HCS2010*™ Version 6.65 Generated: 8/24/2015 4:42 PM

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 WB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley WB Off-Ramp
Date Performed	8/24/2015	Jurisdiction	El Dorado County
Analysis Time Period	PM Peak Hour	Analysis Year	2035

Project Description 2035 Plus EDH 52 Project

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☐ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1000
Freeway Volume, V_F	3514
Ramp Volume, V_R	
Freeway Free-Flow Speed, S_{FF}	55.0
Ramp Free-Flow Speed, S_{FR}	35.0

Dow
Ram
☐ Y
☐ N
L_{down}
V_D =

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V
Freeway	3514	0.94	Level	3	1	0.983	1.00	
Ramp		0.94	Level	3	1	0.983	1.00	
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or

P_{FD} = 0.436 using Equatior

V_{12} = 2093 pc/h

V_3 or V_{av34} 854 pc/h (Equation

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-19)

Capacity Checks

	Actual	Capacity	
V_F	3802	Exhibit 13-8	
$V_{FO} = V_F - V_R$	3030	Exhibit 13-8	
V_R	772	Exhibit 13-10	

Flow Entering Diverge Influence A

	Actual	Max Desirable	
V_{12}	2093	Exhibit 13-8	440

Level of Service Determination (if

$D_R = 4.252 + 0.0086\ V_{12} - 0.009$ L

D_R = 13.3 (pc/mi/ln)

LOS = (Exhibit 13-2)	LOS = B (Exhibit 13-2)
Speed Determination	***Speed Determination***
M_S = (Exibit 13-11)	D_s = 0.497 (Exhibit 13-12)
S_R= mph (Exhibit 13-11)	S_R= 48.5 mph (Exhibit 13-12)
S_0= mph (Exhibit 13-11)	S_0= 60.3 mph (Exhibit 13-12)
S = mph (Exhibit 13-13)	S = 53.2 mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved *HCS2010*™ Version 6.65 Generated: 8/24/2015 4:44 PM

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 WB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley WB On-Ramp Diag
Date Performed	8/24/2015	Jurisdiction	El Dorado County
Analysis Time Period	PM Peak Hour	Analysis Year	2035

Project Description 2035 Plus EDH 52 Project

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☐ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	1000
Deceleration Lane Length L_D	
Freeway Volume, V_F	3569
Ramp Volume, V_R	
Freeway Free-Flow Speed, S_{FF}	55.0
Ramp Free-Flow Speed, S_{FR}	35.0

Downr Ramp

☐ Y

☐ N

L_{down}

V_D =

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V
Freeway	3569	0.94	Level	3	1	0.983	1.00	
Ramp		0.94	Level	3	1	0.983	1.00	
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.172 using Equation (Exhibit 13-6)

V_{12} = 663 pc/h

V_3 or V_{av34} 1599 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = 1544 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4229	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1912	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or

P_{FD} = using Equation (Exh

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 o

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-13-19)

Capacity Checks

	Actual	Capacity	
V_F		Exhibit 13-8	
$V_{FO} = V_F - V_R$		Exhibit 13-8	
V_R		Exhibit 13-10	

Flow Entering Diverge Influence A

	Actual	Max Desirable	
V_{12}		Exhibit 13-8	

Level of Service Determination (if

$D_R = 4.252 + 0.0086\ V_{12} - 0.009$ L

D_R =	13.9 (pc/mi/ln)	D_R =	(pc/mi/ln)
LOS =	B (Exhibit 13-2)	LOS =	(Exhibit 13-2)
Speed Determination		***Speed Determination***	
M_S =	0.277 (Exibit 13-11)	D_s =	(Exhibit 13-12)
S_R=	51.4 mph (Exhibit 13-11)	S_R=	mph (Exhibit 13-12)
S_0=	52.6 mph (Exhibit 13-11)	S_0=	mph (Exhibit 13-12)
S =	52.1 mph (Exhibit 13-13)	S =	mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved *HCS2010*™ Version 6.65 Generated: 8/24/2015 4:47 PM

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Shijo	Freeway/Dir of Travel	US 50 WB
Agency or Company	KD Anderson & Associates	Junction	Silva Valley WB On-Ramp Loop
Date Performed	8/24/2015	Jurisdiction	El Dorado County
Analysis Time Period	PM Peak Hour	Analysis Year	2035

Project Description 2035 Plus EDH 52 Project

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☐ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	1500
Deceleration Lane Length L_D	
Freeway Volume, V_F	3514
Ramp Volume, V_R	55
Freeway Free-Flow Speed, S_{FF}	55.0
Ramp Free-Flow Speed, S_{FR}	35.0

Down Ramp

☐ Y

☐ N

L_{down}

V_D =

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V
Freeway	3514	0.94	Level	3	1	0.983	1.00	
Ramp	55	0.94	Level	3	1	0.983	1.00	
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.210 using Equation (Exhibit 13-6)

V_{12} = 800 pc/h

V_3 or V_{av34} 1501 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3862	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	860	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or

P_{FD} = using Equation (Exh

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 o

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-1 13-19)

Capacity Checks

	Actual	Capacity	
V_F		Exhibit 13-8	
$V_{FO} = V_F - V_R$		Exhibit 13-8	
V_R		Exhibit 13-10	

Flow Entering Diverge Influence A

	Actual	Max Desirable	
V_{12}		Exhibit 13-8	

Level of Service Determination (if

$D_R = 4.252 + 0.0086\ V_{12} - 0.009$ L

D_R =	2.8 (pc/mi/ln)	D_R =	(pc/mi/ln)
LOS =	A (Exhibit 13-2)	LOS =	(Exhibit 13-2)
Speed Determination		***Speed Determination***	
M_S =	0.225 (Exibit 13-11)	D_s =	(Exhibit 13-12)
S_R=	52.1 mph (Exhibit 13-11)	S_R=	mph (Exhibit 13-12)
S_0=	51.4 mph (Exhibit 13-11)	S_0=	mph (Exhibit 13-12)
S =	51.5 mph (Exhibit 13-13)	S =	mph (Exhibit 13-13)

Copyright © 2014 University of Florida, All Rights Reserved

El Dorado Hills 52 Drainage Report

Highway 50 and Silva Valley Parkway
El Dorado Hills, California
El Dorado County

Prepared by:

AECOM

October, 2015

Table of Contents

1 Introduction....1
2 Hydrology....2
2.1 Existing Conditions....2
2.2 Proposed Conditions....9
2.3 Conclusions....18

List of Figures

Figure 1 - Vicinity Map....1
Figure 2 - Existing Drainage Area Map....3
Figure 3 - HEC-HMS Existing Basin Model Schematic....8
Figure 4- Proposed Drainage Area Map....10
Figure 5- Proposed Detention Pond....15
Figure 6 - HEC-HMS Proposed Basin Model Schematic....17

List of Tables

Table 1 - Average Rainfall for the Project Location....5
Table 2 - Summary of Time of Travel and Time of Concentration....6
Table 3 - Summary of Land Cover....8
Table 4 - Summary of Hydrology Results for Existing Conditions....9
Table 5 - Summary of Land Cover....12
Table 6 - Summary of Time of Travel and Time of Concentration....13
Table 7 - Summary of Lag Times....13
Table 8 - Detention Pond Stage-Storage-Discharge Input....16
Table 9 - Summary of Hydrology Results for Proposed Conditions....18

1 Introduction

This drainage analysis was conducted for the proposed commercial development on Silva Valley Parkway located just north of Highway 50 on Silva Valley Parkway in El Dorado Hills, California as shown in Figure 1.

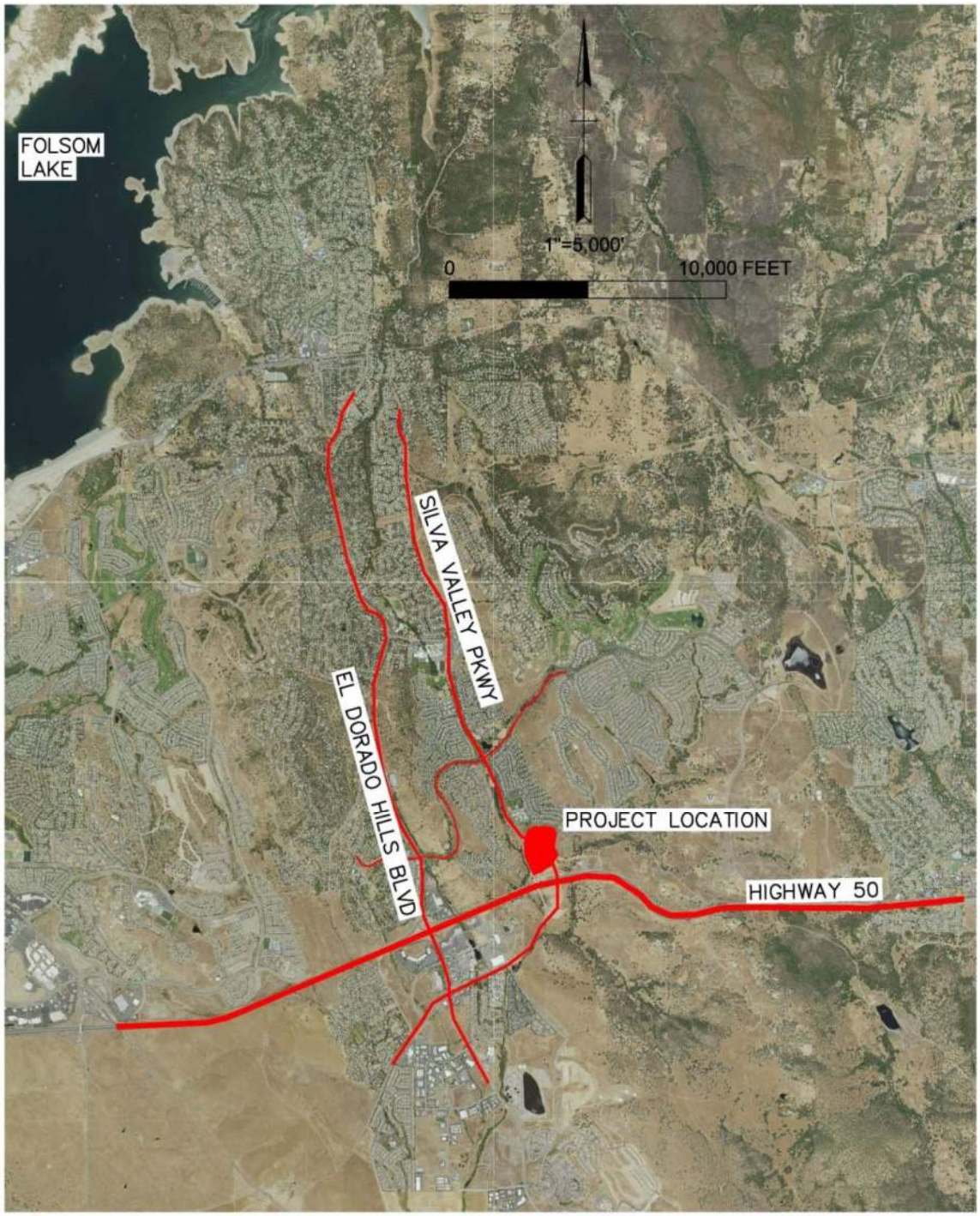


Figure 1 - Vicinity Map

This project location is at the very bottom of a large drainage shed (763 acres) that contributes flows to a culvert under Highway 50. Much of the drainage shed (88%) flows around the project, however, about 50 acres must be conveyed through the site. This report was developed for the following:

1. To determine how much flow must be conveyed through the site
2. Determine downstream impacts due to this development
3. Develop proposed improvements to minimize the downstream impacts

Limited development has occurred downstream of this project site along Carson Creek.

2 Hydrology

The hydrologic conditions were investigated to estimate the 2, 10 and 100-year, 24-hour storm event peak discharge from the contributing drainage area. The peak discharge at the culvert under Highway 50 for the existing and proposed conditions was calculated using the U.S. Corps of Engineers' HEC-HMS rainfall-runoff modeling program. The SCS Unit Hydrograph method was used to model the rainfall-runoff relationships of the corresponding drainage area. The hydrologic model input parameters required for peak discharge calculation are described below.

2.1 Existing Conditions

Drainage Area

The contributing drainage area of 763 acres, as shown on Figure 2, was determined by using USGS HUC-12 boundary lines and USGS Quadrangle maps.



Figure 2 - Existing Drainage Area Map

Rainfall

The 2, 10, and 100-year, 24-hour design storm depths for the project area were obtained from The County of El Dorado Drainage Manual, adopted in March 1995. The storm depths for the 2, 10 and 100-year, 24-hour events are summarized in Table 1 below.

Table 1 - Average Rainfall for the Project Location

Storm Event	Precipitation (in.)
2-year, 24-hour	2.45
10-year, 24-hour	3.61
100-year, 24-hour	5.12

According to the County of El Dorado Drainage Manual, El Dorado County requires use of the Soil Conservation Service (SCS) Type I distribution for catchments with an elevation less than 1,640 feet and use of Type IA distribution for those above 1,640 feet. The elevation of the proposed project area is below 1,640 feet, and therefore the Type I distribution was used.

Time of Concentration

Travel time (T_t) was calculated using the following equations from Technical Release 55 (TR-55):

Sheet Flow:

$$T_t = \frac{0.42(nL)^{0.8}}{(P_2)^{0.5} s^{0.4}}$$

Where:

T_t = travel time (minutes)

n = Manning's roughness coefficient

L = flow length (feet)

P_2 = 2-year, 24-hour rainfall (inches)

s = slope of hydraulic grade line (feet/feet)

Shallow Concentrated Flow and Channel Flow:

$$T_t = \frac{L}{60V}$$

Where:

T_t = travel time (minutes)

L = flow length (feet)

V = average velocity (ft/s)

Velocity for Shallow Concentrated Flow for an Unpaved Channel:

$$V = 16.1345\sqrt{s}$$

Where:

V = average velocity (ft/s)

s = slope of hydraulic grade line (feet/feet)

Velocity for Channel Flow:

$$V = \frac{1.49 r^{2/3} s^{1/2}}{n}$$

Where:

V= average velocity (ft/s)

r = hydraulic radius (ft)

s = slope of hydraulic grade line (feet/feet)

n = Manning's roughness coefficient

Table 2 below summarizes the travel time for each type of flow in the existing drainage area. The time of concentration (T_c) is equal to the total travel time, which is equal to 50 minutes for the existing drainage area.

Table 2 - Summary of Time of Travel and Time of Concentration

Flow Type	Travel Time (min)	Length (ft)
Sheet Flow	20.6	300
Shallow Concentrated Flow	6.5	2,383
Channel Flow (30" Pipe)	7.7	4,469
Channel Flow	15.2	6,620
T_c:	50.0	

Lag Time

According to the SCS, for average conditions the lag time can be estimated at 60% of the time of concentration. Therefore, the lag time for the existing drainage area was calculated to be 30 minutes.

Runoff Curve Number

Runoff curve numbers were developed to determine runoff losses due to infiltration and interception per the NRCS TR-55 manual. The runoff curve numbers were determined by reviewing available land cover and hydrologic soil group data. The existing drainage area consists primarily of herbaceous land and developed residential land. Aerial imagery was reviewed to verify the land cover types within the drainage area. NRCS Web Soil Survey data was used to determine the hydrologic soil group classifications within the drainage area. The area consists of hydrologic soil type D.

A weighted curve number was calculated for the contributing drainage area. Table 3 below summarizes the land cover found within the drainage area and the associated curve number.

Table 3 - Summary of Land Cover

Land Cover Type	Percentage of Total Drainage Area	Curve Number for Soil Type D
Residential (1/4 acre lot)	41.5%	87
Herbaceous – mixture of grass, weeds, and low-growing brush	52.5%	85
Streets and Roads – Paved	4.5%	98
Open Space (lawn) – Good Condition	1.5%	80
Weighted Curve Number:		**86**

Results

A HEC-HMS hydrologic model was developed to estimate the peak discharge for the drainage area for the 2, 10 and 100-year, 24-hour storms. Figure 3 below shows the HEC-HMS schematic of the existing conditions model developed for this analysis.

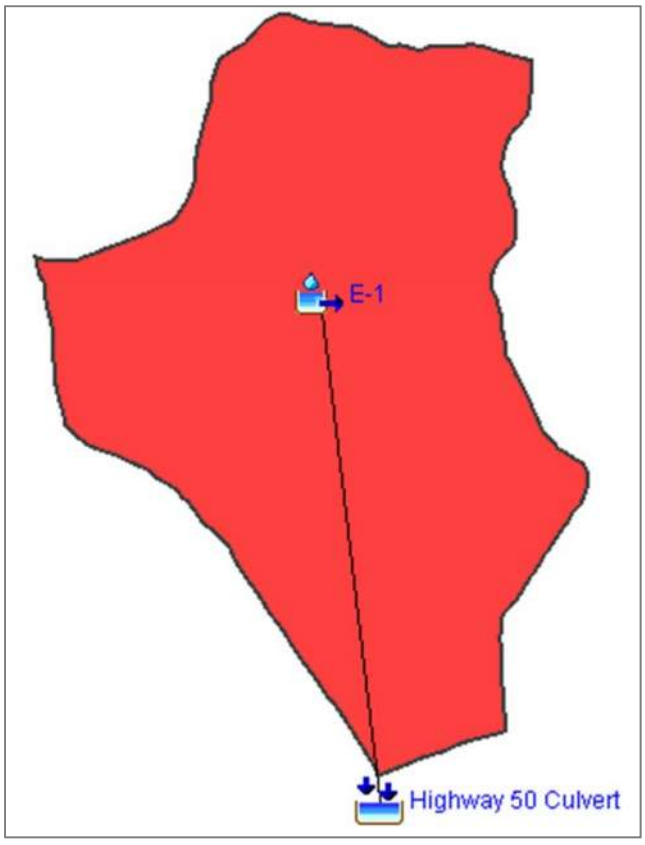


Figure 3 - HEC-HMS Existing Basin Model Schematic

Table 4 below summarizes the HEC-HMS model results.

Table 4 - Summary of Hydrology Results for Existing Conditions

Storm Event	Area (Acres)	24-hour precipitation (inches)	Curve Number	Peak Discharge (cfs)
2-year, 24-hour	763	2.45	86	319
10-year, 24-hour	763	3.61	86	611
100-year, 24-hour	763	5.12	86	1,014

2.2 Proposed Conditions

Drainage Areas

The contributing drainage area consists of the following four watersheds:

Proposed Shed 1 (P-1) consists of 670-acre area of the existing shed, excluding the project area and the residential area north of the project that will drain onto the project site. This is primarily made up of residential and herbaceous land.

Proposed Shed 2 (P-2) consists of the 49-acre residential area north of the project site that will drain onto the project site.

Proposed Shed 3(P-3) consists of the 27-acre commercial project area north of Silva Valley Parkway.

Proposed Shed 4 (P-4) consists of the 18-acre commercial project area south of Silva Valley Parkway.

Figure 4 shows the boundaries of each drainage area.



Figure 4- Proposed Drainage Area Map

Runoff Curve Number

The drainage area for the project site consists of the commercial and business land cover type, while the surrounding drainage areas consist primarily of herbaceous land and developed residential land. Table 5 below summarizes the land cover found within the drainage area and the associated curve number.

Table 5 - Summary of Land Cover

Land Cover Type	Percentage of Total Drainage Area	Curve Number for Soil Type D
Proposed – Shed 1		
Residential (1/4 acre lot)	41.5%	87
Herbaceous – mixture of grass, weeds, and low-growing brush	52.5%	85
Streets and Roads – Paved	4.5%	98
Open Space (lawn) – Good Condition	1.5%	80
	Weighted Curve Number:	86
Proposed – Shed 2		
Residential (1/4 acre lot)	62.1%	87
Herbaceous – mixture of grass, weeds, and low-growing brush	37.9%	85
	Weighted Curve Number:	86
Proposed – Shed 3		
Commercial and Business	100.0%	95
Proposed – Shed 4		
Commercial and Business	100%	95

Time of Concentration

Table 6 below summarizes the travel time for each type of flow in the drainage areas. The time of concentration (T_c) for each drainage area is equal to the total travel time.

Table 6 - Summary of Time of Travel and Time of Concentration

Flow Type	Travel Time (min)	Length (ft)
Proposed – Shed 1		
Sheet Flow	20.6	300
Shallow Concentrated Flow	6.5	2,383
Channel Flow (30" Pipe)	7.7	4,469
Channel Flow	15.2	6,620
T_c:	50.0	
Proposed – Shed 2		
Sheet Flow	27.2	300
Shallow Concentrated Flow	4.5	1,490
Channel Flow (30" Pipe)	3.6	1,352
T_c:	35.3	
Proposed – Shed 3		
Sheet Flow	30.8	300
Shallow Concentrated Flow	0.5	158
Channel Flow (21" Pipe)	3.5	1,508
T_c:	34.8	
Proposed – Shed 3		
Sheet Flow	29.7	300
Shallow Concentrated Flow	0.5	155
Channel Flow (21" Pipe)	2.9	1,440
T_c:	33.1	

Lag Time

The lag time for each drainage area is shown in Table 7 below.

Table 7 - Summary of Lag Times

Drainage Area	Lag Time (minutes)
Proposed – Shed 1	30.0
Proposed – Shed 2	21.2
Proposed – Shed 3	20.9
Proposed – Shed 4	19.9

Hydromodification Requirements

El Dorado County is covered under the West Slope Phase II Municipal Separate Storm Sewer Systems (MS4) NPDES Permit. Hydromodification standards are included in Section E.12 Post Construction Storm Water Management Program. In the geomorphic province that the proposed project is located, the MS4 Permit requires that post-project runoff not exceed the estimated pre-project flow rate for the 2-year, 24-hour storm.

A detention basin, located in the southeast corner of the project site, was designed to comply with the hydromodification requirements. This earthen basin with a capacity of 1.2 acre-feet would have 2:1 side slopes and a depth of 14 feet will detain runoff from the project site. An 18"

outfall pipe will release the runoff into the nearby stream. As required, the peak discharge for the 2-year, 24-hour event at the Highway 50 Culvert was estimated to be 315 cfs with the detention basin which is lower than the estimated 319 cfs under the existing conditions. Flows in excess of the 2-yr, 24-hour event will be discharged over a one-foot deep by 80-feet long concrete weir on the west bank of the basin. Figure 5 shows the proposed pond's location.

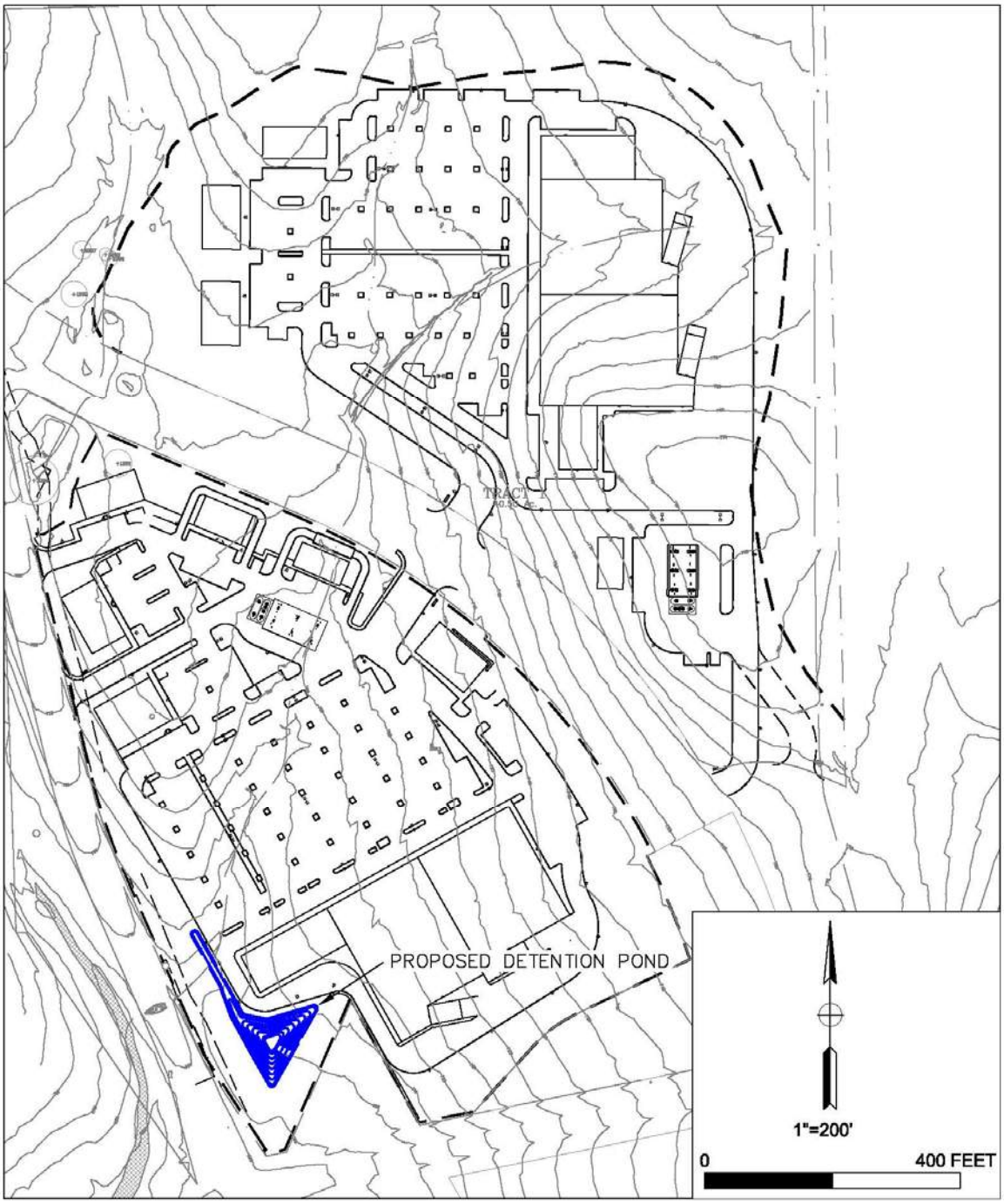


Figure 5- Proposed Detention Pond

HEC-RAS was used to develop the stage-discharge curves shown in for the detention basin drainage pipe and weir. The 18" outfall would be about 170-feet long and was analyzed in HEC-RAs as a culvert. Table 8 shows the stage-storage-discharge input for the pond.

Table 8 - Detention Pond Stage-Storage-Discharge Input

Stage (ft)	Storage Acre-Feet	Discharge (cfs)
711.0	0.00000	0
712.0	0.00720	4
714.0	0.05075	16
716.0	0.12800	24
718.0	0.24749	29
720.0	0.41842	31
722.0	0.65486	32
724.1	1.00705	34
724.2	1.02690	35
724.3	1.04696	40
724.7	1.13199	110
725.0	1.22000	180

Results

The existing HEC-HMS hydrologic model was revised to estimate the peak discharge for the 2, 10 and 100-year, 24-hour storms. Figure 6 below shows the HEC-HMS schematic of the proposed conditions model developed for this analysis.

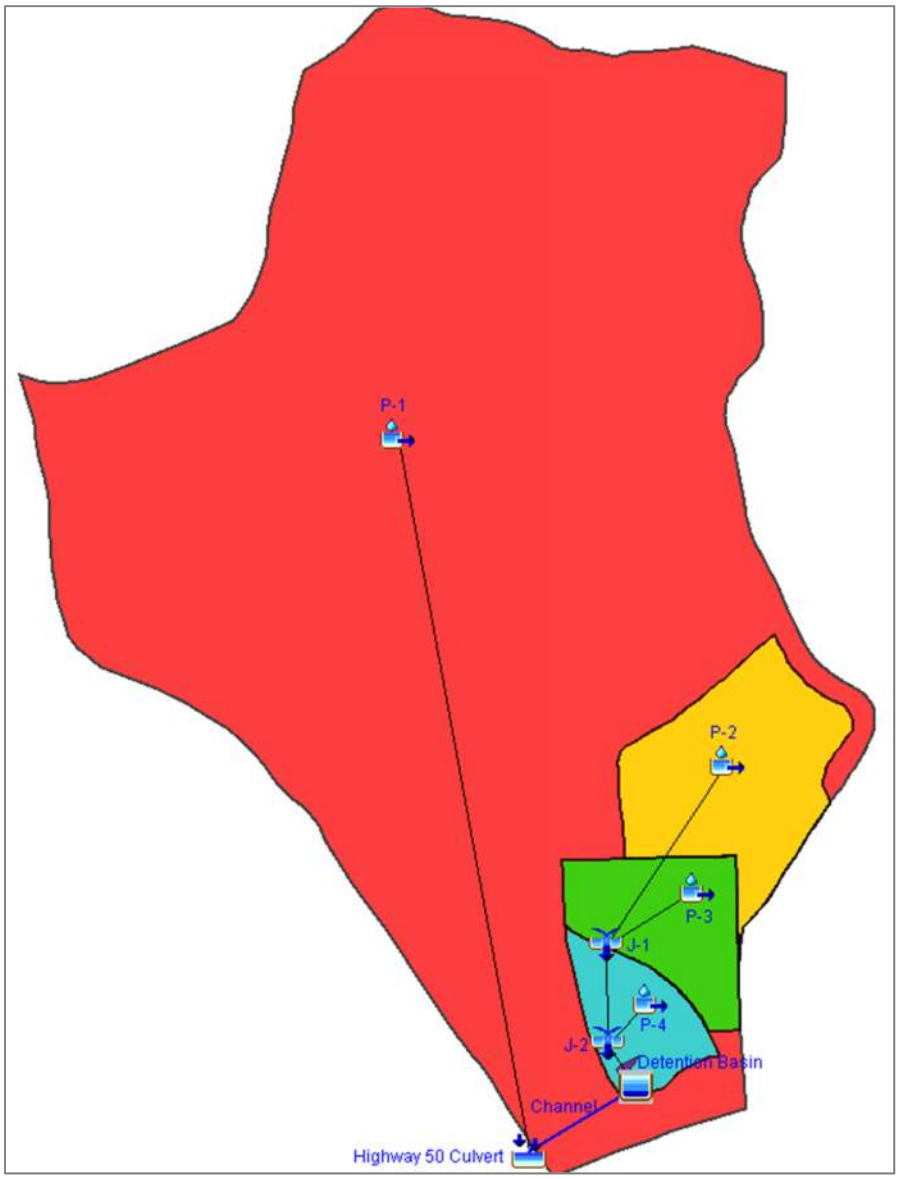


Figure 6 - HEC-HMS Proposed Basin Model Schematic

Table 9 below summarizes the HEC-HMS model results.

Table 9 - Summary of Hydrology Results for Proposed Conditions

			Peak Discharge for Storm Event (cfs)		
Hydrologic Element	**Area (Acres)**	**Curve Number**	**2-yr, 24-hr**	**10-yr, 24-hr**	**100-yr, 24-hr**
Proposed – Shed 1	670.0	86.0	278	532	883
Proposed – Shed 2	49.0	86.0	25	47	78
Proposed – Shed 3	27.0	95.0	24	38	55
Junction 1	-	-	49	85	133
Proposed – Shed 4	18	95	16	25	37
Junction 2	-	-	64	110	170
Detention Basin	-	-	46	110	169
Highway 50 Culvert	-	-	315	633	1,040

2.3 Conclusions

Downstream impacts due to the construction of the project will be minimal. The proposed detention basin limits the peak, 2-year flows to less than existing conditions. 10-year flows would be increased by about 4% and 100-year flows about 3%. With little development downstream the chance of increased damages due to flooding is insignificant.

EL DORADO COUNTY PLANNING SERVICES

REQUIRED SUBMITTAL INFORMATION

for

LOT LINE ADJUSTMENT, BOUNDARY LINE AGREEMENT & MERGE

The following information must be provided with all applications. **If all the information is not provided, the application will be deemed incomplete and will not be accepted**. For your convenience, please use the check (√) column on the left to be sure you have all the required submittal information. **All plans and maps MUST be folded to 8 ½" x11".**

Check (√) Applicant	Check (√) County		
☐	☐	1)	Application form completed and signed.
☐	☐	2)	Letter of authorization from **all** property owners authorizing applicant/agent to act on their behalf.
☐	☐	3)	Proof of ownership (Grant Deed), if the property has changed title since the last tax roll.
☐	☐	4)	A copy of official Assessor's map, showing the property outline in red.
☐	☐	5)	One full-sized site plan drawn to scale and of sufficient size to allow for a clear delineation of the following required information (where applicable) and one 11x17" version of the full-sized site plan that includes a graphic scale:
☐	☐	a.	Show entirety of parcels with dimensions.
☐	☐	b.	North arrow.
☐	☐	c.	Scale.
☐	☐	d.	Existing property lines (dashed **- - - -**).
☐	☐	e.	Proposed property line boundaries (solid **——**).
☐	☐	f.	Acreage of existing lots.
☐	☐	g.	Acreage of resulting lots.
☐	☐	h.	All existing and proposed structures.
☐	☐	i.	Identify public water and waste water purveyors and location.
☐	☐	j.	Exact location of existing and proposed septic system and wells.
☐	☐	k.	Exact location of all roads and utility easements, including the purpose and width.
☐	☐	l.	Percent of grade on proposed road easements.
☐	☐	m.	Accurate dimensions on those areas affected by the proposed adjustments.
☐	☐	n.	Signature block for Planning Services Division approval, as follows:

Approved by Planning Services Division: _____

Date: _____

Check (√) Applicant	County		
☐	☐	6)	An 8 ½ x 11" vicinity map showing the location of the project in relation to the distance to major roads, intersections, and town sites.
☐	☐	7)	The existing lots were created originally by (check): ☐ Subdivision, ☒ Parcel Map, ☐ Clear Certificate of Compliance, or ☐ Proof of Development eligibility. If created by other than a Subdivision, Parcel Map, or a clear Certificate of Compliance, you will be a required to show proof of development eligibility prior to submitting this application.

NOTE: APPLICATIONS WILL BE ACCEPTED BY APPOINTMENT. MAKE YOUR APPOINTMENT IN ADVANCE BY CALLING THE PLANNING SERVICES DIVISION AT (530) 621-5355.

APPLICATIONS CAN ALSO BE SUBMITTED BY MAIL TO INCLUDE THE FEE BY CHECK MADE OUT TO EL DORADO COUNTY. IF INFORMATION IS MISSING FROM THE APPLICATION, THE APPLICANT WILL NEED TO PICK UP THE APPLICATION AND RESUBMIT WITH THE NECESSARY DOCUMENTS BY APPOINTMENT, ONLY.

STAFF ONLY
Legal Parcel Review

☐ Okay. No further review required.

☐ Needs further review.

FILE # LLA21-0009

EL DORADO COUNTY DEVELOPMENT SERVICES DEPARTMENT

Lot Line Adjustment, Boundary Line Agreement & Merge Application

PROPERTY OWNER EDH 52 GP Phone 916 383-2500 E-mail angeloc@aktdev.com

Mailing Address 7919 Folsom Blvd., Ste. 300 Sacramento, CA 95826
P.O. Box or Street / City / State / ZIP

APN 122-720-018 Property Size acres/sq.ft. 15.74 ac Zone CR-PD GPD commercial TRA 054-069

PROPERTY OWNER Mee Capital Investments Phone 916 383-2500 E-mail angeloc@aktdev.com

Mailing Address 7919 Folsom Blvd., Ste. 300 Sacramento, CA 95826
P.O. Box or Street / City / State / ZIP

APN 122-720-002 Property Size acres/sq.ft. 1.38 Zoned CL GPD commercial TRA 054-007

List Additional Property Owners on Separate Sheet

APPLICANT/AGENT AKT Investments Phone 916 383-2500 E-mail angeloc@aktdev.com

Mailing Address 7919 Folsom Blvd., Ste. 300 Sacramento, CA 95826
P.O. Box or Street / City / State / ZIP

ENGINEER/SURVEYOR RSC Engineering, Inc. c/o Tiffany Wilson 916-788-2884 E-mail t.wilson@rsc-engr.com

Mailing Address 1420 Rocky Ridge Dr., Ste. 150 Roseville, CA 95661
P.O. Box or Street / City / State / ZIP

LOCATION: The property is located on the W (N / E / W / S) side of Silva Valley Parkway (Street or Road)

N (N / E / W / S) of the intersection with Highway 50 (Major Street or Road) in the El Dorado Hills (Community) area.

PURPOSE FOR Lot Line Adjustment/Boundary Line Agreement Merge:

to develop the site for a future Costco

X _____ Date _____
Signature of property owner or authorized agent

I, C.L. Raffety, hereby certify that according to the records of this office, there are no delinquent taxes owed on the above referenced Assessor's Parcels (APN). This statement is valid through _____

Dated _____ By _____
C.L. Raffety, Treasurer-Tax Collector, Deputy

FOR OFFICE USE ONLY

Date _____ Fee $ _____ Receipt # _____ Rec'd by _____

Census _____ Supervisor District _____ Section _____ Township _____ Range _____

ACTION BY PLANNING SERVICES DIVISION

Date _____
(Expires one year from date of approval)

Approved _____ Denied _____

Staff Signature and Title

ACTION BY COUNTY SURVEYOR

Date _____

Approved _____ Denied _____

County Surveyor

NOTE: Approval of this application must be referred to your title company for any necessary modifications of prior deeds of trust or any other encumbrance that may need to be modified. (06/16)

Additional Property Owner for LLA21-0009

Property Owner: County of El Dorado

Mailing Address: 2850 Fairlane Court Placerville, CA 95667

Phone Number: 530-621-5932

Email: Andrew.gaber@edcgov.us

APN: 122-720-003

Property Size: 0.51 ac.

Zone: TC

GPD: Commercial

TRA: N/A

POR. SEC. 1, T.9N., R.8E., M.D.M.

122:72

N

1 " = 400 '

***PARCEL NOTES**

(2) - RS 16/147/2, 0.52 A

(10) - PRS 33/150, 0.028 A, NA

(12) - PRS 18/97/1, 0.756 A, NA

Bk 121 Pg 14

Pg 04

Pg 09

Pg 08

Pg 10

Pg 58

Pg 16

Pg 14

Pg 03

Pg 13

Pg 59

Pg 01

Bk 121 Pg 15

Bk 121 Pg 12

Bk 121 Pg 28

Bk 121 Pg 16

Bk 118 Pg 12

Bk 118 Pg 17

Bk 119 Pg 04

SILVA VALLEY PKY

MERTOLA DR

PONTA DELGADO CT

D'AMAXIO

VILLAGE GREEN DR

DEPEYSTER WAY

BEVINGER DR

RUSSI RANCH DR

CNTR. SEC 1

1312.52'

612.72'

RS 32/43/2 & POR 1

(15)

48.29 A

(TOTAL)

1323.00'

603.22'

CLARKSVILLE CRSG

537.99'

(8) NA 1.29 A

(15) 1.36 A

309.16'

326.41'

(14)

593.43'

393.00'

320.0'

(10)

RS 33/150/2

(6)

2.31 A

RS 33/150/1

(13)

3.86 A

(7)

27.01 A

(4)

5.12 A

NA

EXIT 31

369.60'

138.58'

620.57'

215.96'

(2)

256.17'

182.45'

424.08'

N 09°45'04" E

182.68'

(12)* NA

RS 32/88

711.76'

378.83'

N 0°30'12" W

777.88'

OLD BASS LAKE RD

US HWY 50

(14)

475.64'

681.21'

RS 16/147/3

NA

(3)

1.11 A

189.03'

268.56'

RS 32/43/1

POR

SILVA VALLEY PKY

587.42'

RS 32/43/2

(15)

6.330 A

475.36'

525.09'

525.43'

EXIT 31

CLARKSVILLE CROSSING

JOERGER CUTOFF RD

ROCK RD

WHITE

OLD WHITE ROCK RD

OLD WHITE ROCK RD

N. 1/4 COR. SEC. 12

1

2

11

12

THIS MAP IS NOT A SURVEY, it is prepared by the El Dorado Co. Assessor's office for assessment purposes only. Area calculations and characteristics are not guaranteed. Users should verify items such as dimensions and acreage.

Acreages Are Estimates

Adjacent Map Pages Shown in Grey Text
Assessor's Parcel Numbers Shown in Circles

Rev. JUL 28, 2016

Assessor's Map Bk. 122 - Pg. 72
County of El Dorado, CA

POR. SEC. 1, T.9N., R.8E., M.D.M.

122:72

N

1 " = 400 '

*PARCEL NOTES

(2) - RS 16/147/2, 0.52 A

(10) - PRS 33/150, 0.028 A, NA

(12) - PRS 18/97/1, 0.756 A, NA

Bk 121 Pg 14

Bk 121 Pg 15

Bk 121 Pg 12

Bk 121 Pg 28

Bk 121 Pg 16

Bk 119 Pg 04

Bk 118 Pg 12

Bk 118 Pg 17

Pg 01

Pg 03

Pg 04

Pg 08

Pg 09

Pg 10

Pg 13

Pg 14

Pg 16

Pg 58

Pg 59

SILVA VALLEY PKY

MERTOLA DR

PONTA DELGADO CT

DYTMAXIC

VILLAGE GREEN DR

BEVINGER DR

DEPEYSTER WAY

RUSSI RANCH DR

CNTR. SEC. 1

1312.52'

612.72'

1323.00'

RS 32/43/2 & POR 1

(15)

48.29 A

(TOTAL)

603.27'

CLARKSVILLE CRSG

537.99'

TONG RD

593.43'

393.00'

320.0'

N 01°06'12" W

777.88'

OLD BASS LAKE RD

(8) NA

(15) 1.297 A

309.16'

326.41'

182.45'

256.17'

(2)

215.96'

620.57'

138.58'

(15) 1.38 A

(14)

369.60'

EXIT 31

(4) 5.12 A

NA

RS 33/150/1

(13) 3.86 A

RS 33/150/2

(6) 2.31 A

(7)

(7) 27.01 A

(10)

N 09°45'04" E

182.68'

(12)* NA

424.08'

RS 32/88

711.76'

378.83'

RS 16/147/3

NA (3) 1.11 A

169.03'

268.56'

475.64'

POR RS 32/43/1

(14)

681.21'

SILVA VALLEY PKY

587.42'

RS 32/43/2

(15) 6.330 A

475.36'

525.09'

525.43'

EXIT 31

CLARKSVILLE CROSSING

JOERGER CUTOFF RD

ROCK RD

WHITE ROCK RD

OLD WHITE ROCK RD

US HWY 50

N. 1/4 COR. SEC. 12

1

2

11

12

THIS MAP IS NOT A SURVEY, it is prepared by the El Dorado Co. Assessor's office for assessment purposes only. Area calculations and characteristics are not guaranteed. Users should verify items such as dimensions and acreage.

Acreages Are Estimates

Adjacent Map Pages Shown in Grey Text
Assessor's Parcel Numbers Shown in Circles

Rev. JUL 28, 2016

Assessor's Map Bk. 122 - Pg. 72
County of El Dorado, CA

EDH 52 MAP CORRECTION
Owner/Applicant: EDH 52

Z16-0008

COMMUNITY DEVELOPMENT AGENCY
DEVELOPMENT SERVICES DIVISION
http://www.edcgov.us/DevServices/

PLACERVILLE OFFICE:
2850 Fairlane Court, Placerville, CA 95667
BUILDING
(530) 621-5315 / (530) 622-1708 Fax
bldgdept@edcgov.us
PLANNING
(530) 621-5355 / (530) 642-0508 Fax
planning@edcgov.us

LAKE TAHOE OFFICE:
3368 Lake Tahoe Blvd., Suite 302
South Lake Tahoe, CA 96150
(530) 573-3330
(530) 542-9082 Fax
tahoebuild@edcgov.us

October 3, 2016

Jose Crummett, El Dorado County GIS Manager
360 Fair Lane
Placerville, CA 95667

RE: Approval of Administrative Zoning Map Correction for APN: 122-720-15
File references: Z04-0016 and Z16-0008 (EDH 52 Property)

Mr. Crummett:

This letter is to notify you that the Planning Director has approved on this date the Administrative Zoning Map Correction to add the Planned Development (PD) combining zone to APN 122-720-15.

Please amend the County GIS Zoning maps accordingly.

The PD combining zone for APN 122-720-15 (formerly 122-720-09) was erroneously removed during the Zoning Ordinance Update approved on December 15, 2015. The PD combining zone was approved by Board of Supervisors through Ordinance 4975 on March 13, 2012 and implements General Plan Policy 2.2.6.1, specifically requiring that this property have the PD zone.

The approval of this Zoning Map Correction is based on the following Findings of Approval:

FINDINGS FOR APPROVAL

1. The Administrative Zoning Map Correction is authorized by and complies with Zoning Ordinance Section 130.10.030.D.5 (Map Corrections) (Attachment 1). Approval of the zoning map correction is based on historical data, prior zoning maps, and clear legislative intent.

2. The applicant initiated rezone of the property (Z04-0016) was approved by the Board of Supervisors on March 13, 2012 through Ordinance 4975 which rezoned the property from One-Family Residential-Planned Development (R1) to Commercial-Planned Development (C-PD) (Attachment 2).

3. General Plan Policy 2.2.6.1 provides clear legislative intent in that the lot, identified as Village P of the El Dorado Hills Specific Plan, was to be rezoned to include the Planned Development Overlay (-PD): "Those lands within the El Dorado Hills Specific Plan known as Villages P, Q, and V shall be rezoned to include the Planned Development Overlay (-PD) as part of any development application."

4. The Board's adoption of the Zoning Maps on December 15, 2015 did not intend to remove the PD combining zone because:

    a. there was no specific direction to remove the PD combining zone,
    b. Planning staff had no reason for the removal of the zone, and
    c. the removal of the combining zone conflicts with General Plan Policy 2.2.6.1.

5. Approval of the rezone from R1 to C-PD included adoption of a Negative Declaration. It has been determined that pursuant to the California Environmental Quality Act (CEQA) Guidelines Sections 15162 and 15164, there is no substantial evidence requiring the preparation of a Subsequent Negative Declaration or an Addendum to the existing Negative Declaration, adopted by the Board of Supervisors on March 13, 2012.

Sincerely,

Roger Trout

ROGER P. TROUT
Development Services Director

Attachments: Attachment 1: Zoning Ordinance Section 130.10.030.D.5
Attachment 2: Fully Executed Ordinance No. 4975

Cc: Tiffany Wilson, RSC Engineering, Inc., 2250 Douglas Boulevard, Suite 150, Roseville, CA 95661
AKT Investments, Inc., Mark Enes, 7700 College Town Drive, Ste. 101, Sacramento, CA 95826
Tiffany Schmid, Principal Planner
Rich Briner, County Surveyor
Shawna Purvines, Acting Assistant Community Development Agency Director

County to correct any such mapping error within 180 days from the date the inconsistency is discovered. The correction of a mapping error shall be exempt from the County's customary application and processing fees. To ensure timely resolution of mapping errors, the County shall schedule hearings for amendments to the Zoning Ordinance at least quarterly.

130.10.030 Responsibility for Administration

A. Responsible Bodies and Individuals. This Title shall be administered by:

1. The El Dorado County Board of Supervisors, hereafter referred to as the Board;
2. The Planning Commission, hereafter referred to as the Commission;
3. The County Zoning Administrator, hereafter referred to as the Zoning Administrator;
4. The County Agricultural Commission, hereafter referred to as the Ag Commission;
5. The Director of the Development Services Department or designee, hereafter referred to as the Director; and
6. The Development Services Department hereafter referred to as the Department.

B. Advisory Committees. The Board may appoint Advisory Committees to review design review applications, or provide input on other issues of concern to the Board or the Commission. These Advisory Committees include, but are not necessarily limited to, the following:

1. Cameron Park Design Review Committee
2. El Dorado Hills Design Review Committee
3. Pollock Pines Design Review Committee
4. The County's Economic Development Advisory Committee ("EDAC")
5. Diamond Springs-El Dorado Community Advisory Committee
6. Meyers Area Plan Advisory Committee

C. Responsibility and Authority of the Director. The duties and responsibilities of the Director are those enumerated in Article 6 (Zoning Ordinance Administration), in this Title and in other Titles of the County Code of Ordinances. Whenever this Title refers to the Director, it is expressly understood to include Department staff acting under the

direction and control of the Director, and whenever this Title refers to the Department it is expressly understood to describe Department staff acting under the direction and control of the Director.

D. Rules of Application. This Title shall be applied in the following manner:

1. **Minimum Requirements.** The provisions of this Title shall be deemed to be the minimum standards unless stated otherwise (for example, maximum building height or maximum density). These standards shall apply to all buildings, structures and uses, except where this Title provides for the exercise of discretion or where a Variance is granted.

2. **Conflicting Provisions.** If conflicts occur between different requirements of this Title, or between provisions of this Title and requirements imposed by other provisions of the County Code of Ordinances or other laws, and regulations adopted by the County, the more stringent development requirement or greater restriction on the use of land or buildings shall apply.

3. **Single Lot Containing Multiple Zones.** Where the boundaries of the zone designation are not coterminous with the property line boundaries, a single lot will contain multiple zones. In that event, the County shall first determine if the zone boundary appears to be the result of a mapping error. In that case, the mapping error shall be resolved as provided in Subsection D.5 (Map Corrections) below.

   Where the County determines that a mapping error has not occurred, the uses of the lot shall be consistent with the zone as shown for the portion of the lot on which the use is proposed. Multiple uses of a lot with multiple zones are expressly allowed consistent with the requirements of each zone. The precise location of the uses may be modified by a planned development or specific plan. Any uncertainty as to the boundaries of each zone within the lot shall be determined pursuant to Subsection D.4 (Map Boundaries) below.

4. **Map Boundaries.** Where the boundaries of any zone shown on the zoning maps are uncertain, the following rules shall apply to resolve the uncertainty:

   a. Where a zone boundary approximately follows a lot line, or road or street, such lot line or the centerline of the road or street shall be construed to be the boundary.

   b. Where a zone boundary approximately follows a stream or river, ridge line or other distinct geographic or topographic feature, such stream or geographic feature shall be construed to be the boundary.

   c. If a zone divides a lot, and the boundary line location is not otherwise designated, the location of the boundary shall be determined by the use of the scale appearing on the zoning map.

5. **Map Corrections.** Where a zone boundary appears to be in error, the Director may make the correction based on historical data, prior zoning maps, clear legislative intent, and other available information. Where the record is unclear, the zoning shall be reviewed by the Commission to determine if the map is in error. If, after review of the record, the Commission finds that the map is in error, they shall direct the Director to correct said error by revising the official maps accordingly within 30 days of the Commission's review.

130.10.040 Applicability of Zoning Ordinance

A. **Area of Applicability.** The provisions of this Title shall apply to all lands within the unincorporated area of the County of El Dorado except as provided in Subsection B (Exemptions from Zone Ordinance Requirements) below.

B. **Exemptions from Zone Ordinance Requirements.** The provisions of this Title do not apply to the following activities, uses, and structures, except where provisions of a memorandum of understanding between the County and another governmental agency provide for County regulatory authority or otherwise provided by law:

1. Activities of the Federal Government on federally owned or leased land.

2. Activities of the State of California or any agency of the state on state owned or leased land.

3. Activities of a local agency, as defined in California Government Code Section 53090, as provided in Section 53091 et seq.

4. The location and construction of facilities for water and electrical energy as provided in California Government Code Section 53091.

5. Tribal lands which are not subject to the jurisdiction of the County.

6. Existing and future preemptions of local land use authority resulting from State Law.

C. **Effect of Zoning Ordinance Changes on Projects in Progress.** The enactment of this Title or amendments hereto may have the effect of imposing different standards on development or new uses from that which previously applied. Following the effective date of this Title the following provisions shall apply:

1. **Pending Applications.** Applications which have been determined by the Department to be complete and in compliance with California Government Code Section 65943 before the effective date of this Title, or any amendment hereto, shall comply with the provisions of this Title in effect on the date that the application is deemed complete.

PFF:km
EDH52Rez
03/05/12

ORDINANCE NO. 4975

THE BOARD OF SUPERVISORS OF THE COUNTY OF EL DORADO DOES ORDAIN AS FOLLOWS:

RELATED TO REZONING IN THE EL DORADO HILLS AREA
PETITIONED BY EDH 52 PARTNERS

Section 1. The Official Zoning Map for the El Dorado Hills Area is hereby amended to rezone the following described lands from One-Family Residential (R1) zone to Commercial-Planned Development (C-PD) zone:

El Dorado Hills Area

A portion of Assessor's Parcel No. 122-720-09, being described as a portion of Section 1, Township 9 North, Range 8 East, M.D.M., consisting of 57.78 acres (see Exhibit A Attached hereto)

Section 2. This ordinance shall take effect and shall become effective thirty (30) days following the adoption hereof.

PASSED AND ADOPTED by the Board of Supervisors of the County of El Dorado at a regular meeting of said Board, held on the 13 day of MARCH, 2012, by the following vote of said Board:

Ayes: Ron Briggs, Raymond J. Nutting
John R. Knight, James R. Sweeney

Noes: None
Absent: Norma Santiago

ATTEST
SUZANNE ALLEN DE SANCHEZ
Clerk of the Board of Supervisors
By _____
Deputy Clerk

_____
Chairman, Board of Supervisors
John R. Knight

APPROVED AS TO FORM
LOUIS B. GREEN
COUNTY COUNSEL
By _____
Name Paula Frantz
Title Deputy County Counsel

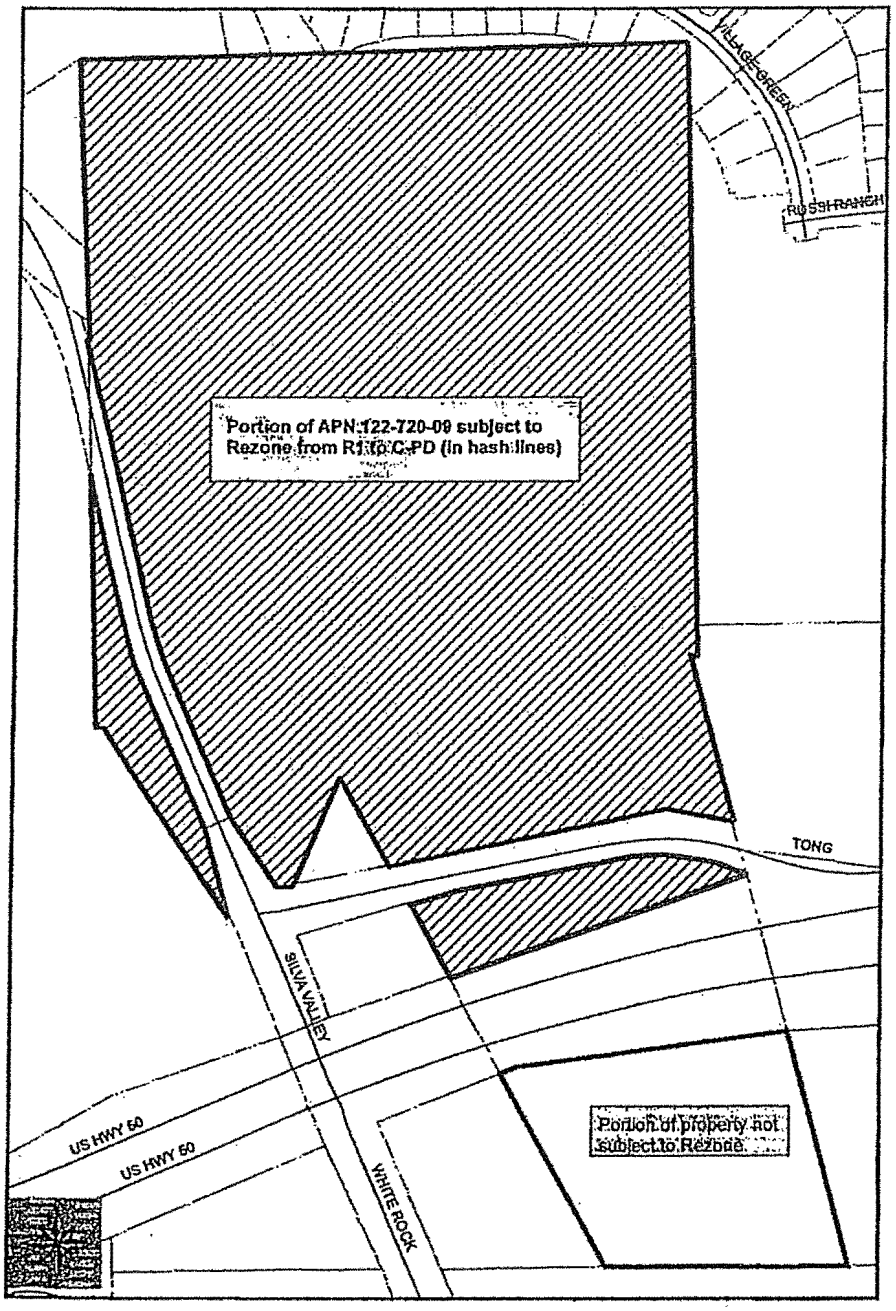
I CERTIFY THAT:
THE FOREGOING INSTRUMENT IS A CORRECT COPY OF THE ORIGINAL ON FILE IN THIS OFFICE

Date _____
ATTEST: SUZANNE ALLEN DE SANCHEZ, Clerk of the Board of Supervisors
of the County of El Dorado, State of California.

By _____
Deputy Clerk

Attachment 2

EXHIBIT A


VILLAGE GREEN
ROSSI RANCH
Portion of APN 122-720-09 subject to Rezone from R1 to C-PD (in hash lines)
TONG
SILVA VALLEY
US HWY 50
US HWY 50
WHITE ROCK
Portion of property not subject to Rezone

PROJECT CHECKLIST

Z16-0008	EDH 52 MAP CORRECTION Owner/Applicant: EDH 52
Project Number(s)	Project Name

Assigned Planner: Rob Peters Assignment Date: _____

Type of Review: ☑ Staff Level (Admin) ☐ ZA ☐ PC ☐ BOS

☑ LMIS J08 information added

LEGISTAR ITEM # 12-0283 (If previously heard by PC or BOS; Including all project-related items.)

PUBLIC HEARING NOTIFICATION REQUIREMENTS: ☐ 500 feet ☐ 1,000 feet ☐ ½ mile ☐ 1 mile N/A

TYPE OF PROJECT: ☐ Flat Fee ☐ Time & Materials N/A

EARLY CONSULTATION AND TAC

Design Committee Review Needed? ☐ No ☐ Yes *(Identify one)*
- ☐ *Cameron Park DRC*
- ☐ *Diamond Springs-El Dorado CAC*
- ☐ *Pollock Pines DRC*

- ☐ EPR (Early Project Review)
- ☐ Agency Distribution List
- ☐ Project Description
- ☐ AB52 Consultation
- ☐ Physical Sign Posting
- ☐ Public Outreach

Distribution Period: ☐ 15 Days ☐ 30 Days Ends: _____

TAC Meeting Required? ☐ No ☐ Yes Time Needed: _____

NEGATIVE DECLARATION

State Clearinghouse? ☑ No ☐ Yes *(Include NOC Form; Notify Admin)*

LAFCO Annexation Required? ☑ No ☐ Yes *(Circulate to LAFCO)*

- ☑ Staff Report / Letter
- ☑ Exhibits (Labeled)
- ☑ Negative Declaration Form and Initial Study (Signed by Planner and Principal Planner)
  - Previously Adopted

APPROVALS: [signature] 10/03/16 [signature] 10-3-16
Principal Planner (Date) Director (Date)

Comments:

CATEGORICALLY EXEMPT

- ☐ Staff Report
- ☐ Exhibits (Labeled)

APPROVALS: _____ _____
Principal Planner (Date) Director (Date)

Comments:

EL DORADO COUNTY
COMMUNITY DEVELOPMENT AGENCY

AGREEMENT FOR PAYMENT OF PROCESSING FEES

Business or Name of Financially Responsible Party	Project/Facility Number

the FINANCIALLY RESPONSIBLE PARTY (hereinafter FRP), agrees as follows:

1. This project/facility is subject to time and materials method of billing or raises issues that may require significant staff and/or consultant time which might not be covered by the initial processing deposit/fee detailed in the approved Board of Supervisors Community Development Agency Consolidated Fee Schedule, and other County department fee schedules as applicable, as amended from time to time. Therefore, the FRP for this project will be billed at the approved rate for time and materials for the processing of this project. The fee initially collected will be a deposit toward subsequent billings.

2. Accounting of time spent on the project and/or applicable fees will be detailed in a statement/invoice sent to the FRP.

3. The FRP is responsible for payment of all permit processing costs and/or applicable fees associated with this project/facility. If payment is not received within 90 days of the date of an invoice, the County may elect to stop work and close the file. The County may require a new application and/or new deposit before resuming processing of the project. Projects with an outstanding balance due on their account that are not paid in full by the scheduled appearance on the Planning Commission, Zoning Administrator, or Board of Supervisors agenda will not proceed until after any balance due is paid.

4. If during the course of processing, the FRP changes, the new FRP must complete an Agreement for Payment, which will release the previous FRP from further financial obligations and designate the new FRP.

5. The FRP understands and agrees that if the FRP owes any overdue balance for processing a project/permit of more than 90 days, Community Development Agency will not accept any subsequent applications from the FRP until the outstanding balance due is paid.

6. FRP agrees to pay any and all remaining fees applicable under the approved Board of Supervisors Community Development Agency Consolidated Fee Schedule, and any other fees associated with the processing of the project that may be charged by County Departments outside of the Community Development Agency, prior to map clearance for recordation or clearance for record of survey or issuance of any building or grading permits or any other permits under authority of the Community Development Agency. No clearances or permits will be issued without receipt of full payment of fees applicable under the approved Board of Supervisors Community Development Agency Consolidated Fee Schedule, or any other fees associated with the processing of the project that may be charged by County Departments outside of the Community Development Agency, unless waived or adjusted in accordance with County Board of Supervisors Policy B-2.

7. If the FRP appeals a decision on this project/facility, the costs of processing the appeal will be charged to the FRP pursuant to the fees applicable under the approved Board of Supervisors Community Development Agency Consolidated Fee Schedule, and other County department fee schedules as applicable, at the time of Appeal.

8. If payment is not received within 90 days of said statement/invoice, collection will be initiated. Unpaid balances turned over to County Revenue Recovery will be assessed an additional fourteen percent (14%).

9. A processing fee will be charged for any check returned for insufficient funds, up to the maximum allowed by the State of California.

Executed this _____ day of _____ 20 _____

FINANCIALLY RESPONSIBLE PARTY

Business/ Name _____ Representative Name _____

_____
Street Address

_____
City State Zip

FINANCIALLY RESPONSIBLE PARTY/Representative: _____
Signature

Reviewed by: _____
CDA Representative

CHANGE OF FINANCIALLY RESPONSIBLE PARTY (FRP)

If this document supersedes a previous Agreement for Payment, due to change in financial responsibility, the previous FRP must also sign to acknowledge release of responsibilities. Upon project completion, any remaining deposit will be refunded to the FRP currently on record.

PREVIOUS FINANCIALLY RESPONSIBLE PARTY:

_____ _____
Print Name Signature

_____
Street City State Zip

Date of release of financial responsibility: _____

EL DORADO COUNTY
COMMUNITY DEVELOPMENT AGENCY

AGREEMENT FOR PAYMENT OF PROCESSING FEES

COSTCO FOR EDH 52 COSTCO NORTH SIDE	PD 15-0001; Z17-004 LLA21-0009
Business or Name of Financially Responsible Party	Project/Facility Number

the FINANCIALLY RESPONSIBLE PARTY (hereinafter FRP), agrees as follows:

1. This project/facility is subject to time and materials method of billing or raises issues that may require significant staff and/or consultant time which might not be covered by the initial processing deposit/fee detailed in the approved Board of Supervisors Community Development Agency Consolidated Fee Schedule, and other County department fee schedules as applicable, as amended from time to time. Therefore, the FRP for this project will be billed at the approved rate for time and materials for the processing of this project. The fee initially collected will be a deposit toward subsequent billings.

2. Accounting of time spent on the project and/or applicable fees will be detailed in a statement/invoice sent to the FRP.

3. The FRP is responsible for payment of all permit processing costs and/or applicable fees associated with this project/facility. If payment is not received within 90 days of the date of an invoice, the County may elect to stop work and close the file. The County may require a new application and/or new deposit before resuming processing of the project. Projects with an outstanding balance due on their account that are not paid in full by the scheduled appearance on the Planning Commission, Zoning Administrator, or Board of Supervisors agenda will not proceed until after any balance due is paid.

4. If during the course of processing, the FRP changes, the new FRP must complete an Agreement for Payment, which will release the previous FRP from further financial obligations and designate the new FRP.

5. The FRP understands and agrees that if the FRP owes any overdue balance for processing a project/permit of more than 90 days, Community Development Agency will not accept any subsequent applications from the FRP until the outstanding balance due is paid.

6. FRP agrees to pay any and all remaining fees applicable under the approved Board of Supervisors Community Development Agency Consolidated Fee Schedule, and any other fees associated with the processing of the project that may be charged by County Departments outside of the Community Development Agency, prior to map clearance for recordation or clearance for record of survey or issuance of any building or grading permits or any other permits under authority of the Community Development Agency. No clearances or permits will be issued without receipt of full payment of fees applicable under the approved Board of Supervisors Community Development Agency Consolidated Fee Schedule, or any other fees associated with the processing of the project that may be charged by County Departments outside of the Community Development Agency, unless waived or adjusted in accordance with County Board of Supervisors Policy B-2.

7. If the FRP appeals a decision on this project/facility, the costs of processing the appeal will be charged to the FRP pursuant to the fees applicable under the approved Board of Supervisors Community Development Agency Consolidated Fee Schedule, and other County department fee schedules as applicable, at the time of Appeal.

8. If payment is not received within 90 days of said statement/invoice, collection will be initiated. Unpaid balances turned over to County Revenue Recovery will be assessed an additional fourteen percent (14%).

9. A processing fee will be charged for any check returned for insufficient funds, up to the maximum allowed by the State of California.

Executed this 14 day of JULY 20 21

FINANCIALLY RESPONSIBLE PARTY

Business/ Name: COSTCO WHOLESALE

Representative Name: KIM KATZ

999 LAKE DR
Street Address

ISSAQUAH WA 98027
City State Zip

FINANCIALLY RESPONSIBLE PARTY/Representative: KK FOR COSTCO WHOLESALE CORP.
Signature

Reviewed by: _____
CDA Representative

CHANGE OF FINANCIALLY RESPONSIBLE PARTY (FRP)

If this document supersedes a previous Agreement for Payment, due to change in financial responsibility, the previous FRP must also sign to acknowledge release of responsibilities. Upon project completion, any remaining deposit will be refunded to the FRP currently on record.

PREVIOUS FINANCIALLY RESPONSIBLE PARTY:

Print Name _____ Signature _____

Street _____ City _____ State _____ Zip _____

Date of release of financial responsibility: _____



EL DORADO HILLS SELF STORAGE

SILIVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
AKT PROPERTIES

DATE: 6-2-17

WEST ELEVATION DESIGN THEME

P4

Stark Designs
ARCHITECTURE
2411 Saint Andrews Dr.
Rocklin, CA 95765
916 390-2236

© 2017

1dws@sbcglobal.net

STAFFORD
KING
WIESE
ARCHITECTS

ARCHITECTURE
PLANNING
INTERIORS

Design Guidelines

These Guidelines will serve to further define the design theme and its application to the multiple project buildings. The design theme for the project is based on the existing building design theme of the Serrano area which is a California/Mediterranean style, examples of which are contained in this guideline.

Where single tenant types (hotel and retail shops) occur, the guidelines contain specific architectural design for these buildings. Where multiple tenant types (drive-thru restaurants and fuel stations) occur, the guidelines contain a typical example of the design intent for that tenant type. Each of these specific tenants will use the typical example shown and vary their design to add individuality and yet maintain a common thread of colors, materials, and design elements as shown in this guideline. No building design for any tenant type shall be repeated.

Each building shall vary in building height to achieve more visual interest and distinct building character, avoiding the monotony of continuous building height. Each building shall combine horizontal and vertical elements to provide variation, interest and rhythm within and among the buildings. In no case shall any roof mounted equipment be higher than the lowest parapet height of the building.

The color and material palette for the project contains multiple options for color and materials. The intent is for these options to occur in various combinations throughout the project so that each building is unique in its design and materials while maintaining design continuity among the buildings. The proposed colors and materials of the palette must be maintained throughout the development.

Within the development all sides of all buildings will be visible from adjacent roadways and properties. The architecture of all sides of all buildings must, therefore, be of equal quality and attention. Screening is required for loading and storage areas, utilities meters and boxes by the use of landscaping, walls, fences in combination.

The use of colored concrete, concrete pavers, accent patterns, etc. shall be encouraged in the flatwork areas around the buildings. Provisions for gathering and resting areas shall be accomplished by the use of intimate seating areas in near proximity of the building.

622 20th Street Sacramento, CA 95811 916.930.5900 SKWAIA.COM

622 20th Street Sacramento, CA 95811 916.930.5900 SKWAIA.COM



EDH 52

EDH 52 - SOUTH

EL DORADO HILLS, CA **June 9, 2017**

STAFFORD KING WIESE
ARCHITECTS

SKW #04999.00

622 20th Street Sacramento, CA 95811 916.930.5900 SKWAIA.COM



PROPOSED SHOPS BUILDING (FRONT ELEVATION)

EDH 52

EDH 52 - SOUTH

EL DORADO HILLS, CA

June 9, 2017

STAFFORD KING WIESE
ARCHITECTS

SKW #04999.00

622 20th Street Sacramento, CA 95811 916.930.5900 SKWAIA.COM



EDH 52

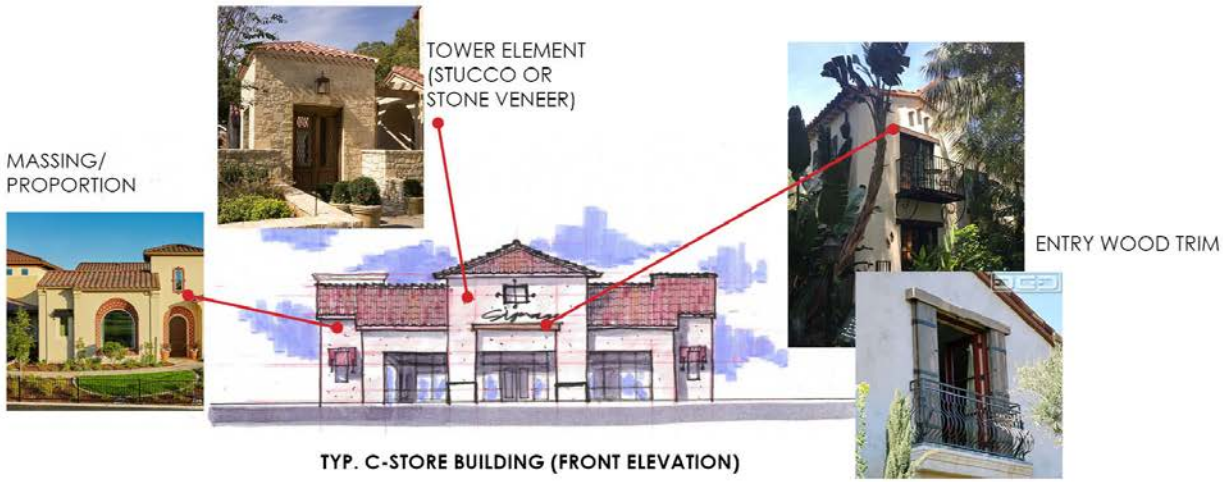
EDH 52 - SOUTH

EL DORADO HILLS, CA **June 9, 2017**

STAFFORD KING WIESE
ARCHITECTS

SKW #04999.00

622 20th Street Sacramento, CA 95811 916.930.5900 SKWAIA.COM



TYP. C-STORE BUILDING (FRONT ELEVATION)



TYP. END ELEVATION



TYP. SIDE ELEVATION

GAS CANOPY ELEVATIONS

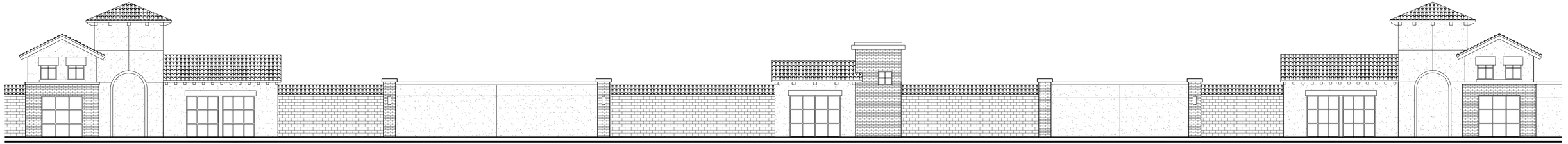
EDH 52

EDH 52 - SOUTH

EL DORADO HILLS, CA **June 9, 2017**

STAFFORD KING WIESE
ARCHITECTS

SKW #04999.00



EL DORADO HILLS SELF STORAGE

SILIVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
AKT PROPERTIES

DATE: 8-1-17

WEST ELEVATION DESIGN THEME

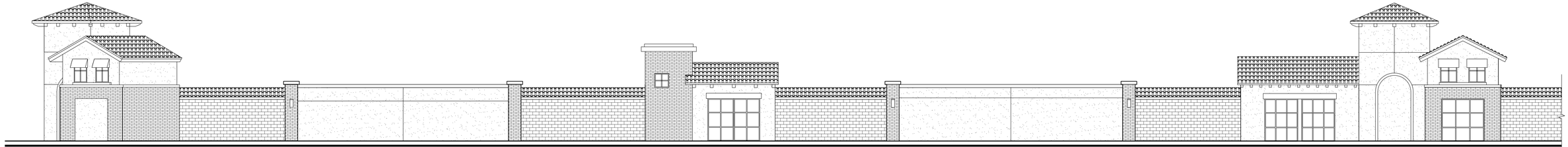
P1

Stark Designs
ARCHITECTURE

2411 Saint Andrews Dr.
Rocklin, CA 95765
916 390-2236

© 2017

1dws@sbcglobal.net



EL DORADO HILLS SELF STORAGE

SILIVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
AKT PROPERTIES

DATE: 8-1-17

SOUTH ELEVATION DESIGN THEME P 2

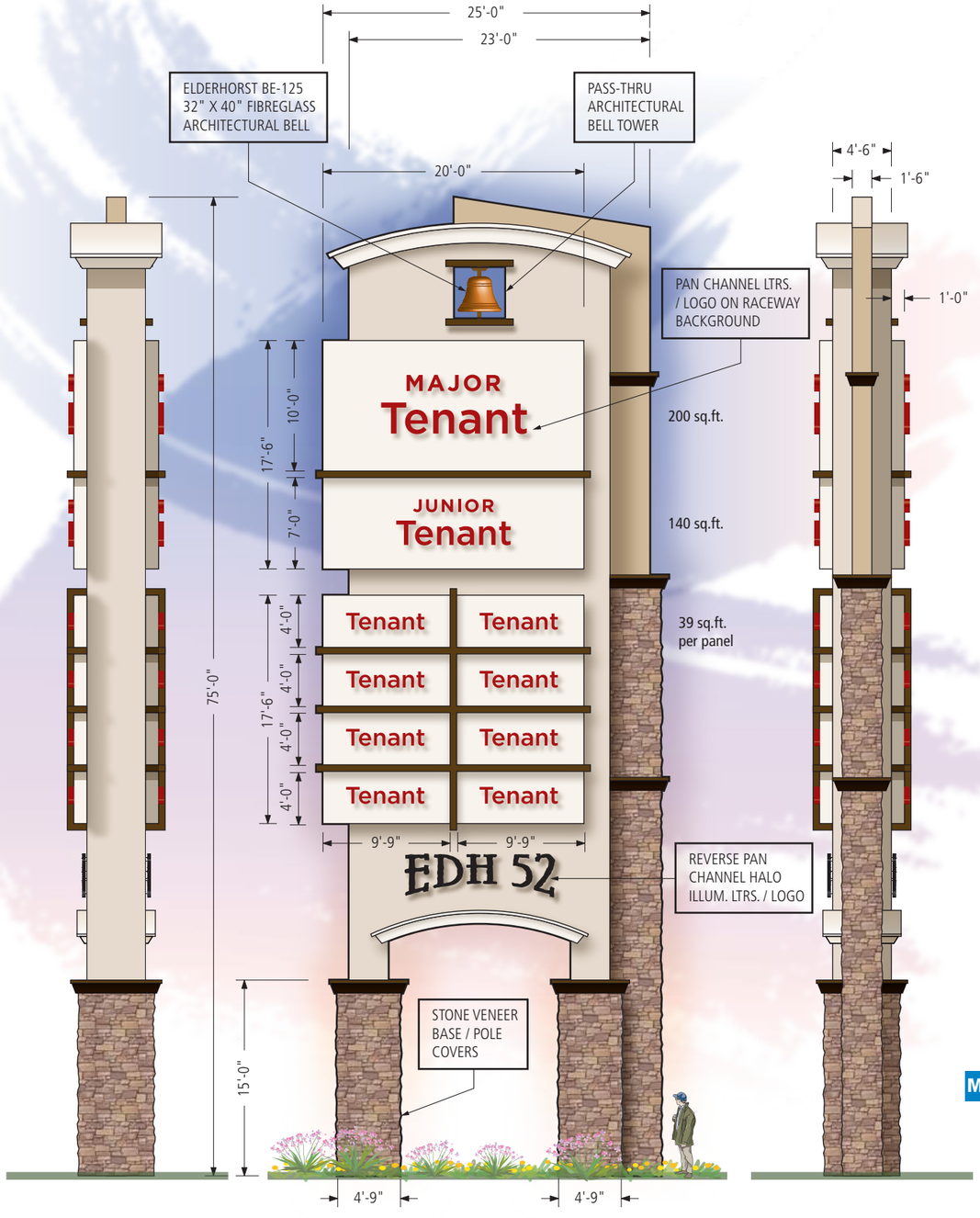
Stark Designs
ARCHITECTURE

2411 Saint Andrews Dr.
Rocklin, CA 95765
916 390-2236

1dws@sbcglobal.net

© 2017

Pylon & Monument Sign Concepts



P1 End View
Scale 3/32" = 1'-0"

P1 D/F Shared Tenant Pylon Sign
Scale 3/32" = 1'-0"
Sign Area: 652.00 sq.ft. total

P1 End View
Scale 3/32" = 1'-0"

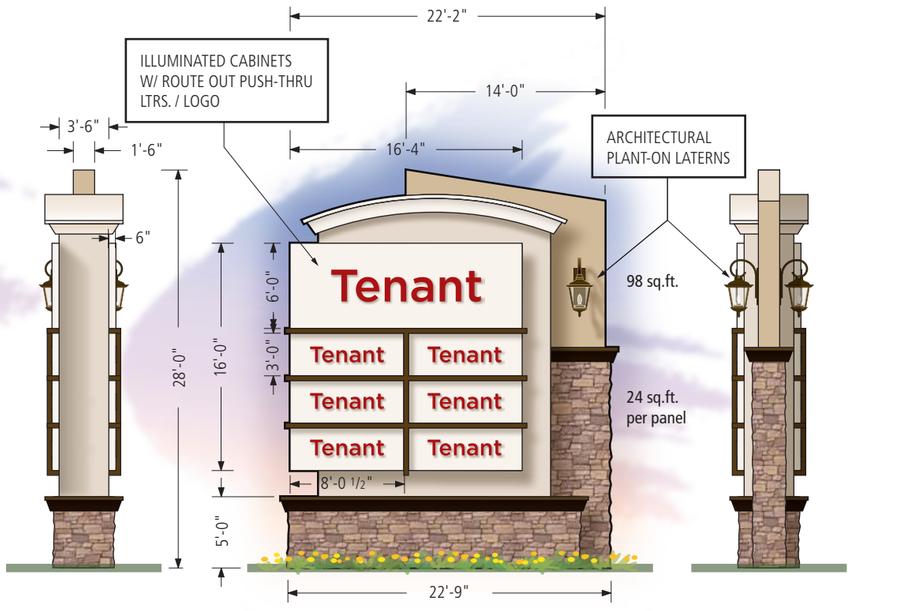
Freestanding Shopping Center / Tenant Signs Scope of Work

- Two (2) 75' D/F shared tenant pylon signs with one (1) Major Tenant panel and one (1) Junior Tenant Panel with eight (8) Shop Tenant panels.

- Six (6) 28' D/F shared tenant monument signs with one (1) Featured Tenant panel and six (6) Shop Tenant panels.

Pylon Sign
Tenant cabinets (tenant panels) to be fabricated aluminum construction with texcote finish to match/compliment color scheme of shopping center development. Base to be stone veneer to match shopping center development.
Tenant names/logos to be fabricated aluminum, pan channel construction with color scheme and content per tenant specifications, flush mounted to tenant panel background. Fabricated pan channel letters/logo to be internally illuminated with White LEDs. Tenant panel backgrounds to be consistant color throughout.

Monument Signs
Tenant cabinets (tenant panels) to be fabricated aluminum construction with texcote finish to match/compliment color scheme of shopping center development. Base to be stone veneer to match shopping center development.
Tenant names/logos to be routed out, with acrylic push-thru graphics and vinyl film overlays on faces of graphics. Color scheme and content of push-thru graphics per tenant specifications. Tenant panel backgrounds to be consistant color throughout. Cabinets to be internally illuminated with White LEDs.



M1 **M2** End View
Scale 3/32" = 1'-0"

M1 **M2** D/F Shared Tenant Monument Sign
Scale 3/32" = 1'-0"
Sign Area: 242.00 sq.ft. total

M1 **M2** End View
Scale 3/32" = 1'-0"

ESTABLISHED 1946
PACIFIC NEON

2939 Academy Way
Sacramento, California 95815

Tel 916.927.0527
Fax 916. 927.2414
www.pacificneon.com

Project No: **17-0596-03**

Account Executive: Ralph Cundiff

Project:
EDH 52
Pylon Sign Concept

Address:
Hwy 50 & Silva Valley Parkway
El Dorado Hills, CA

Drawn By: William Dickson
Date: 8.21.17
Revision: 9.26.17
9.28.17

Customer Approval:

U.L. Listed
Signs to be manufactured to U.L. Specifications and will bear the U.L. Label(s). The sign is intended to be installed in accordance with the requirements of Article 600 of the National Electrical Code and/or other applicable local codes. This includes proper grounding and bonding of the sign.

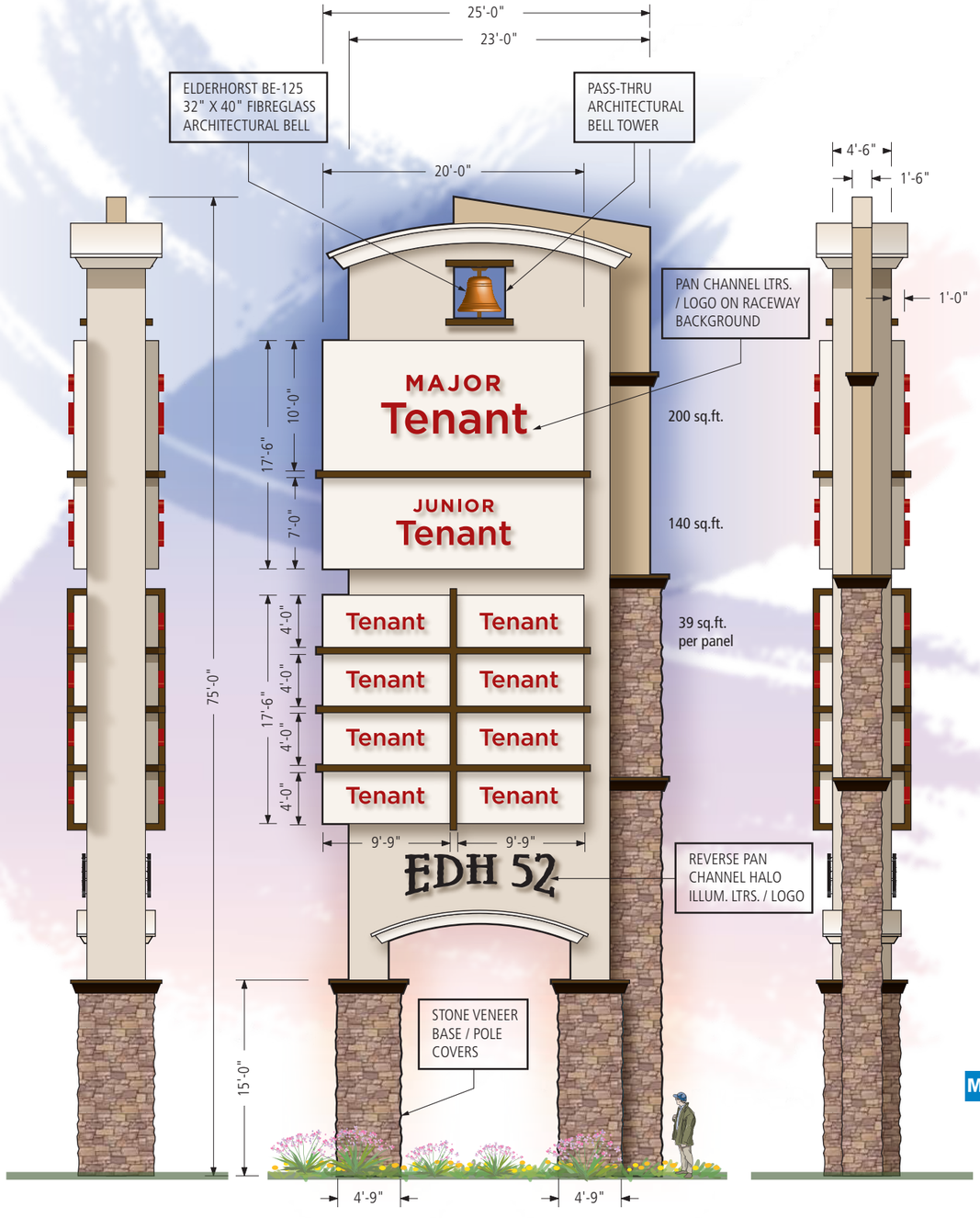
Electrical Circuits
Customer to provide primary dedicated electrical circuit(s) with a separate ground to the electrical panel. L.E.D. Electronics to have a separate dedicated 120V complete circuit (No shared neutral). Common ground to electrical panel acceptable.

Copyright ©2017
All print and electronic art remains the sole, copyrighted property of Pacific Neon Company and are not to be distributed, copied, e-mailed or transferred in any way without prior written release from Pacific Neon Company.

California Title 24 Compliant

Sheet No. 1

Pylon & Monument Sign Concepts



P1 End View
Scale 3/32" = 1'-0"

P1 D/F Shared Tenant Pylon Sign
Scale 3/32" = 1'-0"
Sign Area: 652.00 sq.ft. total

P1 End View
Scale 3/32" = 1'-0"

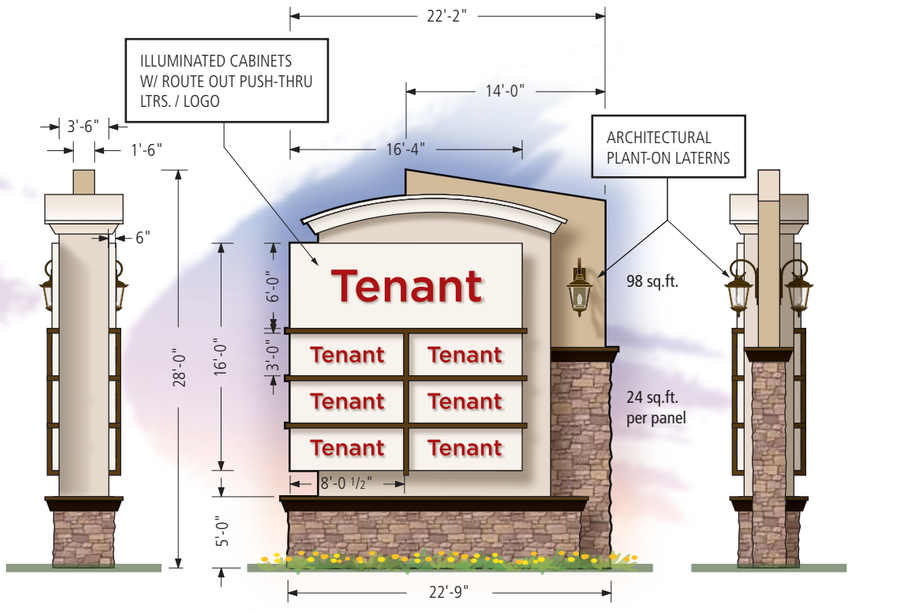
Freestanding Shopping Center / Tenant Signs Scope of Work

- Two (2) 75' D/F shared tenant pylon signs with one (1) Major Tenant panel and one (1) Junior Tenant Panel with eight (8) Shop Tenant panels.

- Six (6) 28' D/F shared tenant monument signs with one (1) Featured Tenant panel and six (6) Shop Tenant panels.

Pylon Sign
Tenant cabinets (tenant panels) to be fabricated aluminum construction with texcote finish to match/compliment color scheme of shopping center development. Base to be stone veneer to match shopping center development.
Tenant names/logos to be fabricated aluminum, pan channel construction with color scheme and content per tenant specifications, flush mounted to tenant panel background. Fabricated pan channel letters/logo to be internally illuminated with White LEDs. Tenant panel backgrounds to be consistant color throughout.

Monument Signs
Tenant cabinets (tenant panels) to be fabricated aluminum construction with texcote finish to match/compliment color scheme of shopping center development. Base to be stone veneer to match shopping center development.
Tenant names/logos to be routed out, with acrylic push-thru graphics and vinyl film overlays on faces of graphics. Color scheme and content of push-thru graphics per tenant specifications. Tenant panel backgrounds to be consistant color throughout. Cabinets to be internally illuminated with White LEDs.



M1 **M2** End View
Scale 3/32" = 1'-0"

M1 **M2** D/F Shared Tenant Monument Sign
Scale 3/32" = 1'-0"
Sign Area: 242.00 sq.ft. total

M1 **M2** End View
Scale 3/32" = 1'-0"

ESTABLISHED 1946
PACIFIC NEON

2939 Academy Way
Sacramento, California 95815

Tel 916.927.0527
Fax 916. 927.2414
www.pacificneon.com

Project No: **17-0596-03**

Account Executive: Ralph Cundiff

Project:
EDH 52
Pylon Sign Concept

Address:
Hwy 50 & Silva Valley Parkway
El Dorado Hills, CA

Drawn By: William Dickson
Date: 8.21.17
Revision: 9.26.17
9.28.17

Customer Approval:

U.L. Listed
Signs to be manufactured to U.L. Specifications and will bear the U.L. Label(s). The sign is intended to be installed in accordance with the requirements of Article 600 of the National Electrical Code and/or other applicable local codes. This includes proper grounding and bonding of the sign.

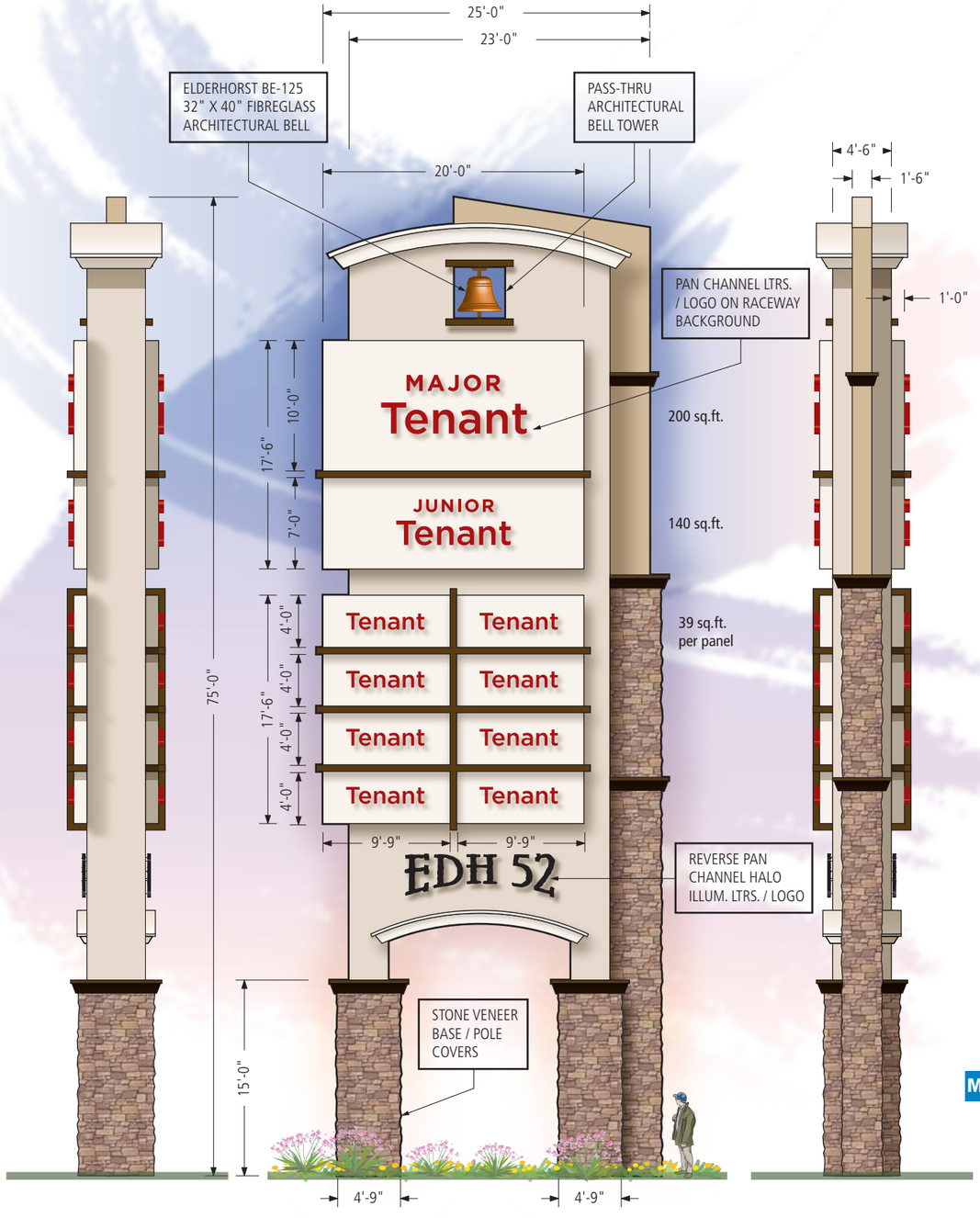
Electrical Circuits
Customer to provide primary dedicated electrical circuit(s) with a separate ground to the electrical panel. L.E.D. Electronics to have a separate dedicated 120V complete circuit (No shared neutral). Common ground to electrical panel acceptable.

Copyright ©2017
All print and electronic art remains the sole, copyrighted property of Pacific Neon Company and are not to be distributed, copied, e-mailed or transferred in any way without prior written release from Pacific Neon Company.

California Title 24 Compliant

Sheet No. 1

Pylon & Monument Sign Concepts



P1 End View
Scale 3/32" = 1'-0"

P1 D/F Shared Tenant Pylon Sign
Scale 3/32" = 1'-0"
Sign Area: 652.00 sq.ft. total

P1 End View
Scale 3/32" = 1'-0"

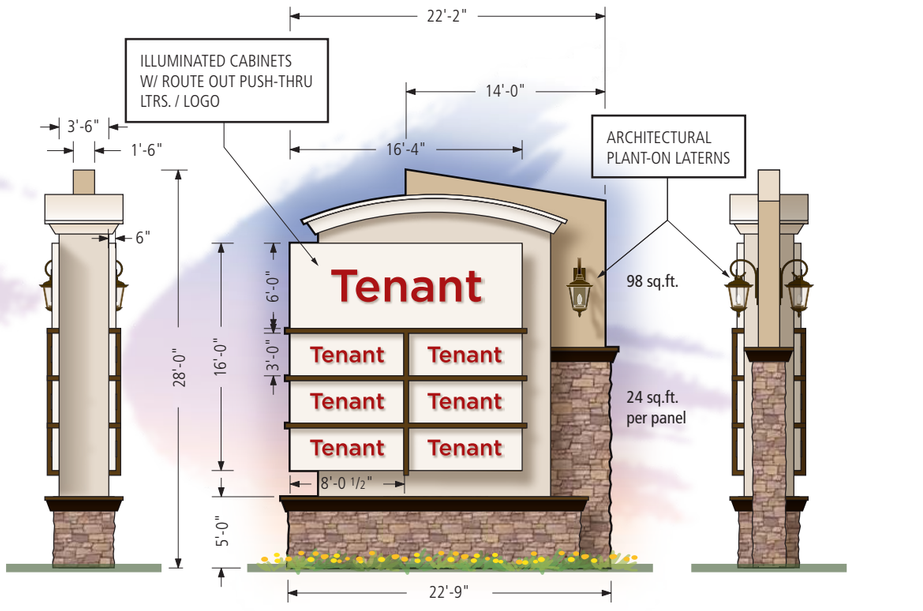
Freestanding Shopping Center / Tenant Signs Scope of Work

- Two (2) 75' D/F shared tenant pylon signs with one (1) Major Tenant panel and one (1) Junior Tenant Panel with eight (8) Shop Tenant panels.

- Six (6) 28' D/F shared tenant monument signs with one (1) Featured Tenant panel and six (6) Shop Tenant panels.

Pylon Sign
Tenant cabinets (tenant panels) to be fabricated aluminum construction with texcote finish to match/compliment color scheme of shopping center development. Base to be stone veneer to match shopping center development.
Tenant names/logos to be fabricated aluminum, pan channel construction with color scheme and content per tenant specifications, flush mounted to tenant panel background. Fabricated pan channel letters/logo to be internally illuminated with White LEDs. Tenant panel backgrounds to be consistant color throughout.

Monument Signs
Tenant cabinets (tenant panels) to be fabricated aluminum construction with texcote finish to match/compliment color scheme of shopping center development. Base to be stone veneer to match shopping center development.
Tenant names/logos to be routed out, with acrylic push-thru graphics and vinyl film overlays on faces of graphics. Color scheme and content of push-thru graphics per tenant specifications. Tenant panel backgrounds to be consistant color throughout. Cabinets to be internally illuminated with White LEDs.



M1 **M2** End View
Scale 3/32" = 1'-0"

M1 **M2** D/F Shared Tenant Monument Sign
Scale 3/32" = 1'-0"
Sign Area: 242.00 sq.ft. total

M1 **M2** End View
Scale 3/32" = 1'-0"

ESTABLISHED 1946
PACIFIC NEON

2939 Academy Way
Sacramento, California 95815

Tel 916.927.0527
Fax 916. 927.2414
www.pacificneon.com

Project No: **17-0596-03**

Account Executive: Ralph Cundiff

Project:
EDH 52
Pylon Sign Concept

Address:
Hwy 50 & Silva Valley Parkway
El Dorado Hills, CA

Drawn By: William Dickson
Date: 8.21.17
Revision: 9.26.17
9.28.17

Customer Approval:

U.L. Listed
Signs to be manufactured to U.L. Specifications and will bear the U.L. Label(s). The sign is intended to be installed in accordance with the requirements of Article 600 of the National Electrical Code and/or other applicable local codes. This includes proper grounding and bonding of the sign.

Electrical Circuits
Customer to provide primary dedicated electrical circuit(s) with a separate ground to the electrical panel. L.E.D. Electronics to have a separate dedicated 120V complete circuit (No shared neutral). Common ground to electrical panel acceptable.

Copyright ©2017
All print and electronic art remains the sole, copyrighted property of Pacific Neon Company and are not to be distributed, copied, e-mailed or transferred in any way without prior written release from Pacific Neon Company.

California Title 24 Compliant

Sheet No. 1

FILE # Z17-0004

EL DORADO COUNTY PLANNING SERVICES

ZONE CHANGE & GENERAL PLAN AMENDMENT APPLICATION

ASSESSOR'S PARCEL NO.(S) 122-720-15

PROJECT NAME/REQUEST: (Describe proposed use) Rezone the property from PD-CR to PD-CC to allow more uses that align with the tenant mix proposed in a shopping center. This will also allow the approval of a mini storage with a CUP.

IF SUBDIVISION/PARCEL MAP: Create 10 lots, ranging in size from _____ to _____ acre(s) / SF

IF ZONE CHANGE: From PD-CR to PD-CC IF GENERAL PLAN AMENDMENT: From - _____ to - _____

IF TIME EXTENSION, REVISION, CORRECTION: Original approval date - _____ Expiration date - _____

APPLICANT/AGENT RSC Engineering, Inc.

Mailing Address 2250 Douglas Blvd., Ste. 150 Roseville, CA 95661

Phone (916) 788-2884 FAX (916) 788-4408

PROPERTY OWNER EDH 52, GP

Mailing Address 7700 College Town Drive, Ste. 101 Sacramento, CA 95826

Phone (916) 383-2500 FAX _____

LIST ADDITIONAL PROPERTY OWNERS ON SEPARATE SHEET IF APPLICABLE

ENGINEER/ARCHITECT RSC Engineering, Inc.

Mailing Address Same as above

Phone _____ FAX _____

LOCATION: The property is located on the East (N/E/W/S) side of Old Silva Valley Road (street or road)

0 feet/miles North (N/E/W/S) of the intersection with Tong Road (major street or road)

in the El Dorado Hills area. PROPERTY SIZE 41.87 acres (acreage / square footage)

X _____ Date 9-11-17
Signature of property owner or authorized agent

FOR OFFICE USE ONLY

Date_____ Fee $_____ Receipt #_____ Rec'd by_____ Census_____

Zoning_____ GPD_____ Supervisor Dist _____ Sec/Twn/Rng _____

ACTION BY: ☐ **PLANNING COMMISSION**

Hearing Date_____

☐ Approved ☐ Denied (Findings and/or conditions attached)

_____
Executive Secretary

ACTION BY BOARD OF SUPERVISORS

Hearing Date_____

☐ Approved ☐ Denied (Findings and/or conditions attached)

_____
Executive Secretary

(Revised 07/07)

FILE # PD15-0001

EL DORADO COUNTY PLANNING DEPARTMENT

APPLICATION FOR Planned Development

ASSESSOR'S PARCEL NO.(s) 122-720-~~09~~ 15

PROJECT NAME/REQUEST: (Describe proposed use) EDH 52 Retail Shopping Center

IF SUBDIVISION/PARCEL MAP: Create _____ lots, ranging in size from _____ to _____ acre(s) / SF

IF ZONE CHANGE: From _____ to _____ IF GENERAL PLAN AMENDMENT: From _____ to _____

IF TIME EXTENSION, REVISION, CORRECTION: Original approval date _____ Expiration date _____

APPLICANT/AGENT RSC Engineering, Inc.

Mailing Address 2250 Douglas Blvd., Ste. 150 Roseville, CA 95661

Phone (916) 788-2884 FAX (916) 788-4408

PROPERTY OWNER EDH 52 GP

Mailing Address 7700 College Town Drive, Ste. 101 Sacramento, CA 95826

Phone (916) 383-2500 FAX (916) 383-0552

RECEIVED
PLANNING DEPARTMENT
2015 JAN -5 PM 3:01

LIST ADDITIONAL PROPERTY OWNERS ON SEPARATE SHEET IF APPLICABLE

ENGINEER/ARCHITECT RSC Engineering, Inc.

Mailing Address 2250 Douglas Blvd., Ste. 150 Roseville, CA 95661

Phone (916) 788-2884 FAX (916) 788-4408

LOCATION: The property is located on the E (N/E/W/S) side of Silva Valley Road (street or road)

0 feet feet/miles N (N/E/W/S) of the intersection with Tong Road (major street or road)

in the El Dorado Hills area. PROPERTY SIZE 48.14 ac. (acreage / square footage)

X _____ Date 12/22/14
signature of property owner or authorized agent

FOR OFFICE USE ONLY

Date 1/5/15 Fee $ 6,417.00 Receipt # _____ Rec'd by JMP Census —

Zoning C GPD C Supervisor Dist 1/2 Sec/Twn/Rng 1/9N/8E

ACTION BY:
- ☐ PLANNING COMMISSION
- ☐ ZONING ADMINISTRATOR
- ☐ PLANNING DIRECTOR

Hearing Date _____

☐ Approved ☐ Denied (findings and/or conditions attached)

_____
Executive Secretary

ACTION BY BOARD OF SUPERVISORS

Hearing Date _____

☐ Approved ☐ Denied (findings and/or conditions attached)

APPEAL: ☐ Approved ☐ Denied

_____
Executive Secretary

Revised 07/02)

Z17-0004/P17-0007/S17-0017 **PD 15-0001**

EL DORADO COUNTY PLANNING SERVICES

2850 Fairlane Court, Placerville, CA 95667 (530) 621-5355 http://edcgov.us/Planning/

CONDITIONAL/MINOR USE PERMIT

FILE # S17-0007

ASSESSOR'S PARCEL NO.(s) 122-720-15

PROJECT NAME/REQUEST: (Describe proposed use) Conditional Use Permit for self storage

APPLICANT/AGENT RSC Engineering, inc. Tiffany Wilson

Mailing Address 2250 Douglas Blvd., Ste. 150 (P.O. Box or Street) Roseville (City) CA 95661 (State & Zip)

Phone (916) 788-2884 EMAIL: t.wilson@rsc-engr.com

PROPERTY OWNER EDH 52, GP

Mailing Address 7700 College Town Drive, Suite 101 (P.O. Box or Street) Sacramento (City) CA 95826 (State & Zip)

Phone (916) 383-2500 EMAIL: angeloc@aktdev.com

LIST ADDITIONAL PROPERTY OWNERS ON SEPARATE SHEET IF APPLICABLE

ENGINEER/ARCHITECT RSC Engineering, Inc. Jai Singh

Mailing Address 2250 Douglas Blvd., Ste. 150 (P.O. Box or Street) Roseville (City) CA 95661 (State & Zip)

Phone (916) 788-2884 EMAIL: j.singh@rsc-engr.com

LOCATION: The property is located on the East (N/E/W/S) side of Old Silva Valley Road (street or road)

0 feet/miles North (N/E/W/S) of the intersection with Tong Road (major street or road)

in the El Dorado Hills area. PROPERTY SIZE 41.87 acres (acreage / square footage)

X [signature] Date 9-11-17

signature of property owner or authorized agent

FOR OFFICE USE ONLY

Date_____ Fee $_____ Receipt #_____ Rec'd by_____ Census _____

Zoning_____ GPD_____ Supervisor Dist_____ Sec_____ Twn_____ Rng_____

ACTION BY _____PLANNING COMMISSION _____ZONING ADMINISTRATOR

Hearing Date _____

Approved _____ Denied _____
findings and/or conditions attached

_____
Executive Secretary

ACTION BY BOARD OF SUPERVISORS

Hearing Date _____

Approved _____ Denied _____
findings and/or conditions attached

APPEAL:
Approved _____ Denied _____

(Application Revised 4/2016)

FILE # P17-0007

EL DORADO COUNTY PLANNING SERVICES

TENTATIVE PARCEL MAP APPLICATION

ASSESSOR'S PARCEL NUMBER(s) 122-720-15

PROJECT NAME/REQUEST: (Describe proposed use)

To subdivide the southern parcel into 8 smaller lots for retail use and the northern side into 2 additional lots for a total of 10 lots. See attached project description.

IF SUBDIVISION/PARCEL MAP: Create 10 lots, ranging in size from _____ to _____ acre(s) / square feet

IF ZONE CHANGE: From PD-CR to PD-CC IF GENERAL PLAN AMENDMENT: From - _____ to - _____

IF TIME EXTENSION, REVISION, or CORRECTION: Original approval date - _____ Expiration date - _____

APPLICANT/AGENT RSC Engineering, Inc.

Mailing Address 2250 Douglas Blvd., Ste.150 (P.O. Box or Street) Roseville (City) California (State) 95661 (ZIP)

Phone (916) 788-2884 FAX (916) 788-4408

PROPERTY OWNER EDH 52 GP

Mailing Address 7700 College Town Dr. #101 (P.O. Box or Street) Sacramento (City) California (State) 95826 (ZIP)

Phone (916) 383-2500 FAX ( )

LIST ADDITIONAL PROPERTY OWNERS ON SEPARATE SHEET IF APPLICABLE

ENGINEER/ARCHITECT RSC Engineering, Inc. Same as above

Mailing Address _____ (P.O. Box or Street) <pick from list> (City) (State) (ZIP)

Phone ( ) FAX ( )

LOCATION: The property is located on the East (N/E/W/S) side of Old Silva Valley Road (Street or Road)

0 feet/miles North (N/E/W/S) of the intersection with Tong Road (Major Street or Road)

in the El Dorado Hills area. PROPERTY SIZE 41.87 (Acreage / Square Feet)

Signature of property owner or authorized agent _____ Date 9-11-17

FOR OFFICE USE ONLY

Date _____ Fee $ _____ Receipt # _____ Rec'd by _____ Census _____

Zoning _____ GPD _____ Supervisor District _____ Sec _____ Twn _____ Rng _____

ACTION BY: ☐ PLANNING COMMISSION ☐ ZONING ADMINISTRATOR

Hearing Date _____

Approved _____ Denied _____ (Findings and/or conditions attached)

Executive Secretary

(Revised 06/07)

ACTION BY BOARD OF SUPERVISORS

Hearing Date _____

Approved _____ Denied _____ (Findings and/or conditions attached)

APPEAL:

Approved _____ Denied _____

RESET Z17-0004/P17-0007/S17-0017/PD15-0001

File # _____
Date Filed: _____

EL DORADO COUNTY PLANNING SERVICES

ENVIRONMENTAL QUESTIONNAIRE

Project Title EDH 52

Lead Agency EL DORADO COUNTY

Name of Owner EDH 52, GP Telephone (916) 383-2500

Address 7700 COLLEGE TOWN DR., STE. 101 SACRAMENTO, CA 95826

Name of Applicant RSC ENGINEERING, INC. Telephone (916) 788-2884

Address 2250 DOUGLAS BLVD., STE. 150 ROSEVILLE, CA 95661

Project Location NE CORNER OF OLD SILVA VALLEY ROAD & HIGHWAY 50

Assessor's Parcel Number(s) 122-720-15

Acreage 41.87 AC, Zoning PD-CR

Please answer all of the following questions as completely as possible. Subdivisions and other major projects will require a Technical Supplement to be filed together with this form.

1. Type of project and description: _____

2. What is the number of units/parcels proposed? 11

GEOLOGY AND SOILS

3. Identify the percentage of land in the following slope categories:

X 0 to 10% X 11 to 15% X 16 to 20% X 21 to 29% X over 30%

4. Have you observed any building or soil settlement, landslides, rock falls or avalanches on this property or in the nearby surrounding area? No

5. Could the project affect any existing agriculture uses or result in the loss of agricultural land?
No

DRAINAGE AND HYDROLOGY

6. Is the project located within the flood plain of any stream or river? If so, which one?
No

7. What is the distance to the nearest body of water, river, stream or year-round drainage channel?
2/3 miles Name of the water body? Carson Creek

8. Will the project result in the direct or indirect discharge of silt or any other particles in noticeable amount into any lakes, rivers or streams? No

9. Will the project result in the physical alteration of a natural body of water or drainage way?
If so, in what way? No

10. Does the project area contain any wet meadows, marshes or other perennially wet areas?
Yes, wetlands

VEGETATION AND WILDLIFE

11. What is the predominant vegetative cover on the site (trees, brush, grass, etc.)? Estimate percentage of each: 98% grasses, 2% oak woodland

12. How many trees of 6-inch diameter will be removed when this project is implemented?

FIRE PROTECTION

13. In what structural fire protection district (if any) is the project located? El Dorado Hills

14. What is the nearest emergency source of water for fire protection purposes (hydrant, pond, etc.)?
hydrant on Silva Valley Parkway

15. What is the distance to the nearest fire station? 2.25 miles at Bass Lake Station

16. Will the project create any dead-end roads greater than 500 feet in length?
No

17. Will the project involve the burning of any material including brush, trees and construction materials?
No

NOISE QUALITY

18. Is the project near an industrial area, freeway, major highway or airport? If so, how far?
Freeway approximately 150' south

19. What types of noise would be created by the establishment of this land use, both during and after construction? typical construction of a retail center and typical operation noises like truck traffic and HVAC units during operation

AIR QUALITY

20. Would any noticeable amounts of air pollution, such as smoke, dust or odors, be produced by this project? No

WATER QUALITY

21. Is the proposed water source: X public or ___private, X treated or ___untreated?
Name the system: EID

22. What is the water use (residential, agricultural, industrial or commercial)?
Commercial

AESTHETICS

23. Will the project obstruct scenic views from existing residential areas, public lands, public bodies of water or roads? No

ARCHAEOLOGY/HISTORY

24. Do you know of any archaeological or historical areas within the boundaries or adjacent to the project? (e.g., Indian burial grounds, gold mines, etc.) Yes.

SEWAGE

25. What is the proposed method of sewage disposal? ____ septic system X sanitation district
Name of district: EID

26. Would the project require a change in sewage disposal methods from those currently used in the vicinity? No

TRANSPORTATION

27. Will the project create any traffic problems or change any existing roads, highways or existing traffic patterns? None expected. A traffic study will be prepared.

28. Will the project reduce or restrict access to public lands, parks or any public facilities?
No

GROWTH-INDUCING IMPACTS

29. Will the project result in the introduction of activities not currently found within the community?
No

30. Would the project serve to encourage development of presently undeveloped areas, or increases in development intensity of already developed areas (include the introduction of new or expanded public utilities, new industry, commercial facilities or recreation activities)? No

31. Will the project require the extension of existing public utility lines? If so, identify and give distances:
Yes.

GENERAL

32. Does the project involve lands currently protected under the Williamson Act or an Open Space Agreement? No

33. Will the project involve the application, use or disposal of potentially hazardous materials, including pesticides, herbicides, other toxic substances or radioactive material?
No

34. Will the proposed project result in the removal of a natural resource for commercial purposes (including rock, sand, gravel, trees, minerals or top soil)?
No

35. Could the project create new, or aggravate existing health problems (including, but not limited to, flies, mosquitos, rodents and other disease vectors)?
No

36. Will the project displace any community residents? No

DISCUSS ANY YES ANSWERS TO THE PREVIOUS QUESTIONS (attach additional sheets if necessary)

MITIGATION MEASURES (attach additional sheets if necessary)

Proposed mitigation measures for any of the above questions where there will be an adverse impact:

Form completed by: RSC Engineering, Inc **Date:** 9-13-17

Owner

EDH 52 GP

7700 College Town Drive, Suite 101

Sacramento, CA 95826

(916) 383-2500

Applicant/Engineer

RSC Engineering, Inc.

2250 Douglas Blvd., Suite 150

Roseville, CA 95661

(916) 788-2884

RSC ENGINEERING

October 9, 2017 104-003A

County of El Dorado
Development Services Department-Planning Division
2850 Fairlane Court
Placerville, CA 95667

Attention: Mel Pabalinas

Subject: EDH 52 (PD15-0001)

Dear Mel,

As you are aware this project was put on hold for some time until such time that more specific details could be provided regarding the proposed project. We are resubmitting the PD application package based on the incomplete letter dated August 12, 2015. We also have added 3 new entitlements to the project which include a rezone, tentative parcel map, and conditional use permit. We also prepared an annotated response to your letter, which is attached, explaining how each of the items was addressed.

Forms and Maps (F&M) Required

1. Four copies of a tree preservation plan is provided with this submittal.
2. A preliminary drainage report is included with the submittal.
3. We understand a noise analysis will be prepared as part of the EIR document and will not be required to continue moving the project forward.
4. We understand an air quality impact analysis will be prepared as part of the EIR document and will not be required to continue moving the project forward.
5. We understand a traffic analysis will be prepared as part of the EIR document and will not be required to continue moving the project forward.

Site Plan Requirements

1. The entire parcel of land along with perimeter dimensions are shown on the updated site plan detail sheets.
2. A note has been added on the site plan stating that all existing easements have widths that vary. All existing easements are shown on the site plan

RSC Engineering, Inc.
Consulting Engineers

2250 Douglas Blvd.
Suite 150
Roseville, CA 95661
916.788.2884
Fax 916.788.4408
rsc-engr.com

with their purpose. Proposed easements are not known at this time and will be determined during the improvements plan preparation.

3. Typical parking stall and loading stall dimensions are shown on the site plan. Compact stalls and standard stall depths and widths are also noted in the notes section.
4. Retaining walls are proposed along the roadways due to grade differences. The walls are shown on the site plan and grading plan.
5. Monument signs are proposed at each entry. See project description for details on the proposed freestanding signage.
6. Please see the preliminary utility plan for the proposed fire hydrant locations.
7. All adjacent parcels including parcel owners and APN's are shown on the site plan detail sheets.
8. Location of neighboring school is shown on Sheet SP3.

Plan of Building Elevations

1. Typical elevations for all sides of the proposed building types are provided.
2. Proposed highway signs and monument sign locations are shown on the proposed site plan. See project description for details on the proposed freestanding signage.

Advisories

1. This project will mitigate for oak trees removed as part of the project. A preserve area is available for a portion of the mitigation at the northern corner of the south site. An offsite preserve area will be needed for the remaining mitigation oak trees. A total of 1.18 acres of mitigation planting or 236 oak trees will be planted.
2. Deleted.
3. It is our understanding a FIA is not required with this submittal. A modified scope will be coordinated with the County at a late date.
4. The project description has been updated to reflect the comments listed in the letter.
5. The new project description will be the one used by the EIR Consultant when selected.
6. The site plan and landscape plan have been adjusted to have a single overall sheet and subsequent details sheets for better clarity. The grading and utility plans have one sheet for each project site (north and south)

The project is proposing a rezone from PD-CR to PD-CC. A rezone exhibit and application is provided with this submittal. The project will also include a tentative parcel map to subdivide the property into 12 lots. This will include 8 on the south side and 4 on the north side. This tentative parcel map assumes a large lot 4 parcel map has recorded that separates the north and south lots and creates a

lot of the mini-storage use and future Country Club Drive extension roadway. Finally, a conditional use permit is being requested to allow the mini-storage use as a conditional use within the proposed PD-CC zone.

We look forward to your review of our third submittal and moving forward with the EIR. Please call if there are any questions.

Sincerely,

Tiffany Ann Wilson, AICP
Managing Planner

Cc: Mark Enes
Angelo Christie

EDH 52

OVERALL COMMERCIAL CENTER

PROJECT DESCRIPTION

October 5, 2017

DESCRIPTION AND PURPOSE OF THE REQUEST

The owner is requesting approval to construct two (2) new commercial centers (collectively, the "Project") in El Dorado County on APN 122-720-15. The property is located north of Highway 50 and Tong Road, east of Old Silva Valley Parkway, and is bisected by Silva Valley Parkway. The northern portion of the property is approximately 17.07 acres (North Site) and the southern portion is approximately 15.73 acres (South Site), net of the right of way for roads. There is a 7.69-acre area on the North Site for the right of way associated with the future extension of Country Club Drive. There is a 1.38-acre open space area west of Old Silva Valley Road that will not be developed.

The County is reviewing the owner's request as a single application and project for local entitlement and California Environmental Quality Act purposes. However, the owner views the North Site and the South Site as two distinct projects, and each constitutes a separate "integrated development" pursuant to El Dorado County Code Section 130.16.120. Accordingly, the owner will seek separate wetlands permits from the Army Corps of Engineers for each. The maximum building area for the South Site will be approximately 110,000 square feet and may include the following uses: hotel, drive through uses, gas station with car wash, grocery, pharmacy, retail, food uses, outdoor patio, medical office, surgery center, office, technical school, outdoor storage and outdoor sales. The maximum building area for the North Site will be approximately 180,000 square feet and may include self-storage, grocery, and other commercial uses.

The Project requires a Planned Development application because the property is zoned PD-CR. A rezone is proposed to PD-CC to allow more uses primarily seen in a shopping center setting and to allow a self-storage use with the approval of a conditional use permit. In addition, a design review permit will be required for signage and a tentative parcel map is proposed to subdivide the parcels further for purposes of sale, lease or financing of the property.

PROJECT OBJECTIVES

- Develop two high-quality planned commercial developments on currently vacant and underutilized land adjacent to Highway 50 adequately served by public services and utilities.
- Promote economic growth and diverse new employment and retail/service opportunities for County residents.
- Develop architectural and landscaping designs that soften the scale and mass of the buildings, create a pleasant and attractive appearance, and complement the surrounding area.

- Develop site plans that minimize potential access and circulation conflicts between automobiles and pedestrians, provide adequate off-street parking for store customers and employees, and minimize impacts to the surrounding area.

SITE INFORMATION

Location

The proposed Project is located in El Dorado County. The Project site is on the north side of Highway 50 and is bisected by Silva Valley Parkway. It is bordered by existing residences and an elementary school to the north, vacant land to the east, Old Silva Valley Road to the west, and Highway 50 to the south.

Site Description

The Project site is currently vacant. The site consists of annual grassland with small oak woodlands throughout the Project. Slivers of wetlands and riparian areas are located on site.

DESCRIPTION OF THE PROPOSED PROJECT

The maximum building area for the South Site will be approximately 110,000 square feet and may include the following uses: hotel, drive through uses, gas station with car wash, grocery, pharmacy, retail, food uses, outdoor patio, medical office, surgery center, office, technical school, outdoor storage and outdoor sales. The maximum building area for the North Site will be approximately 180,000 square feet and may include self-storage, grocery, and other community-serving commercial uses.

Design

The design theme for the Project is based on the existing building design theme of the Serrano area which is a California/Mediterranean style, examples of which are included in the design guidelines proposed for this project.

Where single tenant types (hotel and retail shops) occur, the guidelines contain specific architectural design for these buildings. Where multiple tenant types (drive-thru restaurants and fuel stations) occur, the guidelines contain a typical example of the design intent for that tenant type. Each of these specific tenants will use the typical example shown and vary their design to add individuality and yet maintain a common thread of colors, materials, and design elements as shown in the guidelines. No building design for any tenant type shall be repeated.

Each building shall vary in building height to achieve more visual interest and distinct building character, avoiding the monotony of continuous building height. Each building shall combine horizontal and vertical elements to provide variation, interest and rhythm within and among the buildings. In no case shall any roof mounted equipment be higher than the lowest parapet height of the building.

The color and material palette for the project contains multiple options for color and materials. The intent is for these options to occur in various combinations throughout the project so that each building is unique in its design and materials while maintaining design continuity among the buildings. The proposed colors and materials of the palette must be maintained throughout the development.

Within the development all sides of all buildings will be visible from adjacent roadways and properties. The architecture of all sides of all buildings must, therefore, be of equal quality and attention. Screening is required for loading and storage areas, utilities meters and boxes by the use of landscaping, walls, fences in combination.

The use of colored concrete, concrete pavers, accent patterns, etc. shall be encouraged in the flatwork areas around the buildings. Provisions for gathering and resting areas shall be accomplished by the use of intimate seating areas in near proximity of the building.

Sustainability Features

The proposed Project will incorporate sustainability features per the California Title 24 energy requirements.

SIGNAGE

Proposed highway-oriented and monument sign locations are depicted on the proposed site plan.

One highway-oriented sign is proposed on the South Site within 100 feet of the freeway right of way and therefore requires a Design Review Permit. A second highway-oriented sign is proposed on the North Site greater than 100 feet from the freeway right of way. The owner is requesting certain deviations from Chapter 130.16 of the County Code for the proposed highway-oriented signs, including a reduction in the minimum separation between highway-oriented signs, a reduction in the minimum setback from the adjacent residential district (North Site only), an increase in the maximum allowed area, and an increase in the maximum allowed height. Each highway-oriented sign will be a 75 foot tenant pylon sign allowing advertising from either commercial center and will include one (1) major tenant panel, one (1) junior tenant panel, and eight (8) shop tenant panels. The proposed sign area for each highway-oriented sign is 652 square feet. The highway-oriented signs will have a stone veneer base, fabricated aluminum panels, and texcote finish to compliment the color scheme of the commercial centers. Tenant names and logos will be fabricated aluminum, pan channel construction. Tenant names and logos will be flush mounted to the panel background and internally illuminated with white LED lights. Colors will comply with tenant specifications.

The owner is also requesting certain deviations from Chapter 130.16 of the County Code for the proposed monument signs, including a reduction in the minimum separation between monument signs, an increase in the maximum number of signs allowed per street frontage, an increase in the maximum allowed area, and an increase in the maximum allowed height. The developer is proposing six (6) 28 foot tenant monument signs allowing advertising from either commercial center. Each monument sign will have one (1) featured tenant panel and six (6) shop tenant panels. The proposed area for each monument sign is 242 square feet. The monument signs

will have a stone veneer base, fabricated aluminum panels, and texcote finish to compliment the color scheme of the commercial centers. Tenant names and logos will be routed out with acrylic push-through graphics and vinyl film overlays. Tenant names will be internally illuminated with white LED lights. Colors will comply with tenant specifications.

Building signs will be a part of a separate sign permit and are not proposed at this time.

SITE ACCESS

It is anticipated that the Project site will have multiple points of access. A traffic signal is proposed at the main driveway and Silva Valley Parkway to provide access to both the South Site and the North Site. A right in and right out access driveway is proposed on Silva Valley Parkway north of the signalized driveway and at the old Tong Road location to provide access to the North Site. Two full access driveways are proposed on Old Silva Valley Road to provide additional points of access to the South Site.

LOADING

The North Site includes the potential for a truck dock with up to 4 loading spaces located at the rear of the proposed stores.

PARKING LOT

The North Site proposes a main parking lot area in front of the buildings. The parking lot will provide approximately 204 parking spaces, proposed at 90 degrees to maximize the number of stalls on the site. This number includes 9 accessible parking stalls and 29 compact stalls (14%).

The South Site proposes a main parking lot area in front of the buildings. The parking lot will provide approximately 521 parking spaces, proposed at 90 degrees to maximize the number of stalls on the site. This number includes 16 accessible parking stalls, 24 compact stalls (5%), and 10 RV stalls.

ADA parking will comply with the County Code and Title 24 requirements.

BICYCLE PARKING

The Project will provide bicycle parking spaces (lockers and racks) throughout the site that will meet County and Title 24 requirements.

PEDESTRIAN CIRCULATION

A pedestrian walkway for each portion of the Project will connect the buildings to Silva Valley Parkway.

LANDSCAPING

The Project will include a variety of drought tolerant landscaping options. The landscaping will provide screening along the boundary which will consist of evergreen trees and shrub rows. Shade trees with large canopy coverage will be planted in the parking lot for shade. Planting at the entries will be highlighted and defined by seasonal accented trees and shrubs with the use of colorful plant material. Shrubs will be low growing to maintain line of sight to the street. Along the streets, plantings will incorporate shade trees and mixed species and forms of shrubs to create interest, color, and buffering from the shopping center.

In addition to the proposed shopping center landscaping, this Project will mitigate for oak trees removed as part of the Project. A preserve area is available for a portion of the mitigation oak trees. The preserve area is located at the northwest corner of the southern site. An offsite preserve area will be needed for the remaining mitigation oak trees. Based on the Tree Survey, Preservation, and Replacement Plan dated September 18, 2017 by Foothill Associates, a total of 1.18 acres of mitigation planting or 236 oak trees will be planted. Planting will be according to the planting details provided in the plan.

LIGHTING

The Project will provide various single, two- or four-light fixtures throughout the parking areas and driveways. The overall height of the lighting, including the lighting fixtures and a three foot base, will be 33 feet in the parking lot and 25 feet along the perimeter and main drive aisles. LED luminaires will be used for the parking lot lights.

GRADING

A preliminary grading plan has been prepared for review as part of the application submittals. Each site is designed to balance independently and it is the intent of this application to allow for mass grading of both sites individually.

ON-SITE IMPROVEMENTS

The Project is designed to allow either the North Site or the South Site to develop independent from the other. Mass grading of each site to accommodate future development will occur in the first phase of development, including filling of the permitted wetlands and permitted tree removal. In the event the South Site develops first, utility crossings under Silva Valley Parkway will be constructed as part of the South Site infrastructure work to serve the North Site. In the event the North Site develops first, interim facilities will be constructed on the North Site.

The second phase will include construction of the parking, landscaping, lighting, utility infrastructure, and driveways designed to support the buildings. Site improvements will be constructed in various phases depending on the extent of development occurring at any given time. Buildings can be started once site improvements are sufficiently completed to allow construction and emergency fire access.

As preservation of 90% of the existing oak tree canopy is not feasible, this Project will be requesting relief from General Plan Policy 7.4.4.4 due to topographic constraints and the need to grade the site in relation to Silva Valley Parkway.

OFF-SITE IMPROVEMENTS

A proposed traffic signal and appurtenant facilities will be located on Silva Valley Parkway at the center of the Project to provide a connection to both the South Site and the North Site.

A right in and right out access driveway is proposed on Silva Valley Parkway north of the signalized driveway and at the old Tong Road location to provide access to the North Site. Two full access driveways are proposed on Old Silva Valley Road to provide additional points of access to the South Site. A reservation for 7.65 acres of future right of way is proposed along the outer boundary of the North Site.

UTILITY INFRASTRUCTURE

The property will need to annex into El Dorado Irrigation District (EID) in order to acquire sanitary sewer and water service. EID stated in its August 29, 2014 Facilities Improvement Letter that there should be adequate water supply and sewer capacity available to serve the Project. The Project will tie into the existing 18-inch potable water main and the 21-inch gravity sewer line in Old Silva Valley Road. An updated Facilities Improvement Letter will be requested through EID at the appropriate time.

The property will also annex into the El Dorado Hills County Water District (Fire Protection) prior to building permit issuance.

Sanitary service and potable water for the North Site will be provided by public (EID) sanitary sewer and water lines that cross the South Site. Reclaimed water is available for non-potable irrigation use and will be provided by extending an existing reclaimed line in Silva Valley Parkway north of the Project site.

Dry utilities (electric, gas, telephone and cable TV) will be provided from existing infrastructure located to the north of the Project site in Silva Valley Parkway. Dry utilities will need to be extended along the frontage of both the North Site and the South Site.

STORM DRAINAGE DESCRIPTION

The on-site drainage system will connect to El Dorado County's storm drain infrastructure in Old Silva Valley Road. The Project has typical pollutant sources from parking lot runoff, loading/unloading areas, outdoor storage areas, and a trash compactor. This Project proposes underground water quality vaults as the form of treatment for the site.

A proposed detention basin is located at the southwest corner of the property. It will be sized to serve both the South Site and the North Site. As with sanitary sewer and water, drainage facilities will be constructed on the South Site to transmit storm water runoff from the North Site to the detention basin.

TRUCK CIRCULATION

Truck access will be allowed at all driveway locations depending on the size of the delivery truck and direction of travel.

OTHER GOVERNMENTAL AGENCY APPROVALS

Additional subsequent approvals and permits that may be required from local, regional, state, and federal agencies are identified below.

- El Dorado Irrigation District -Water and Sewer-Annexation and Utility Approval
- El Dorado County Resource Conservation District-Onsite Plan Approval
- El Dorado Hills County Water District (Fire Protection)-Annexation and Fire Approval
- El Dorado County Air Quality Management District-Air Quality Permit
- El Dorado County Department of Transportation -Encroachment Permit/Grading Permit/Onsite Plan Approval
- El Dorado County Building Services-Building Permit/Sign Permit
- Central Valley Regional Water Quality Control Board-NPDES General Permit for Stormwater Discharge
- California Department of Fish and Wildlife-Wetland Approval
- Army Corps-Wetland Approval
- LAFCO-Annexation approval for EID and El Dorado Fire Protection District

STAFFORD
KING
WIESE
ARCHITECTS

Design Guidelines

ARCHITECTURE

PLANNING

INTERIORS

These Guidelines will serve to further define the design theme and its application to the multiple project buildings. The design theme for the project is based on the existing building design theme of the Serrano area which is a California/Mediterranean style, examples of which are contained in this guideline.

Where single tenant types (hotel and retail shops) occur, the guidelines contain specific architectural design for these buildings. Where multiple tenant types (drive-thru restaurants and fuel stations) occur, the guidelines contain a typical example of the design intent for that tenant type. Each of these specific tenants will use the typical example shown and vary their design to add individuality and yet maintain a common thread of colors, materials, and design elements as shown in this guideline. No building design for any tenant type shall be repeated.

Each building shall vary in building height to achieve more visual interest and distinct building character, avoiding the monotony of continuous building height. Each building shall combine horizontal and vertical elements to provide variation, interest and rhythm within and among the buildings. In no case shall any roof mounted equipment be higher than the lowest parapet height of the building.

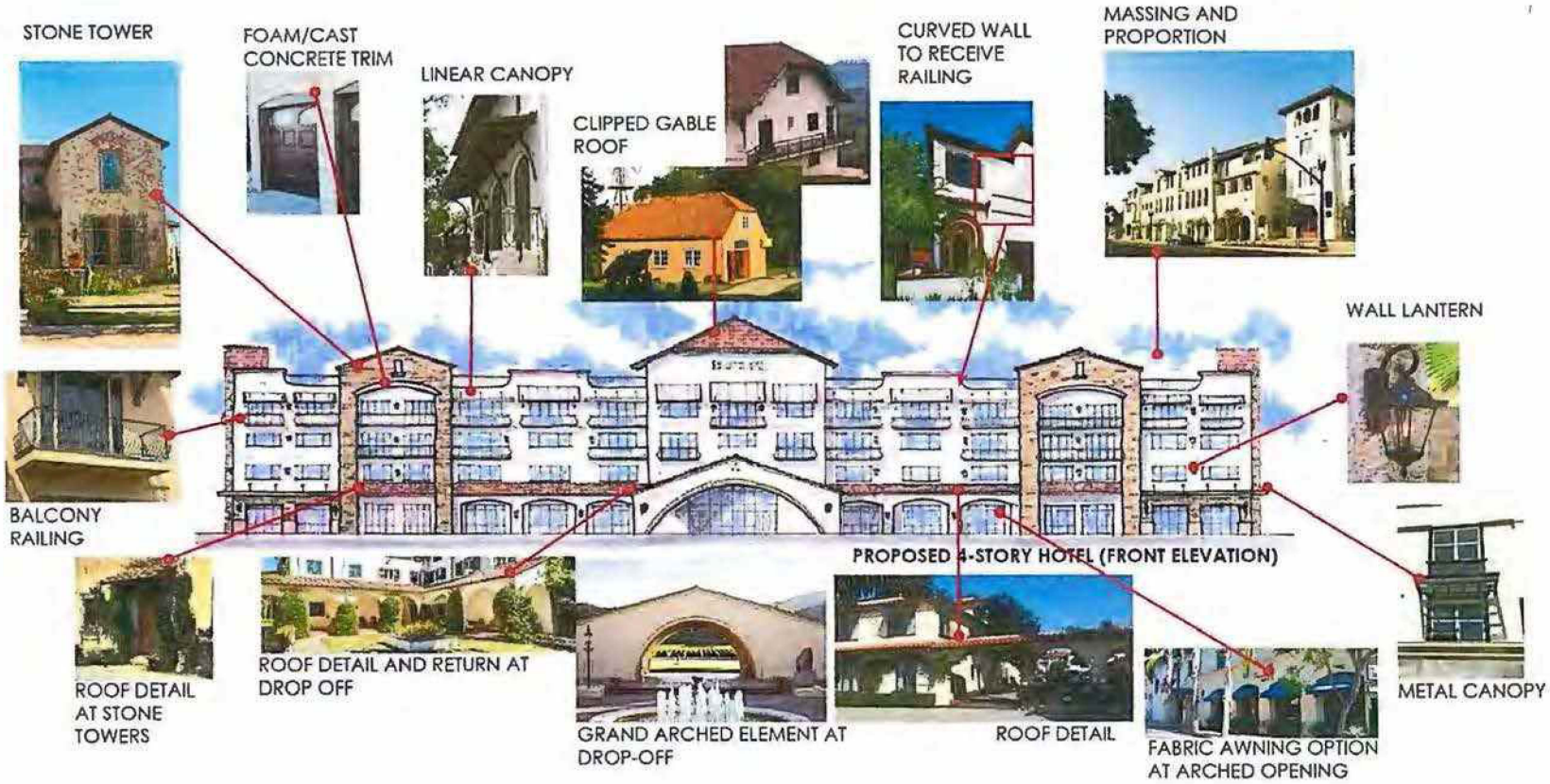
The color and material palette for the project contains multiple options for color and materials. The intent is for these options to occur in various combinations throughout the project so that each building is unique in its design and materials while maintaining design continuity among the buildings. The proposed colors and materials of the palette must be maintained throughout the development.

Within the development all sides of all buildings will be visible from adjacent roadways and properties. The architecture of all sides of all buildings must, therefore, be of equal quality and attention. Screening is required for loading and storage areas, utilities meters and boxes by the use of landscaping, walls, fences in combination.

The use of colored concrete, concrete pavers, accent patterns, etc. shall be encouraged in the flatwork areas around the buildings. Provisions for gathering and resting areas shall be accomplished by the use of intimate seating areas in near proximity of the building.

622 20th Street Sacramento, CA 95811 916.930.5900 SKWAIA.COM

622 20th Street Sacramento, CA 95811 916.930.5900 SKWAIA.COM



EDH 52

EDH 52 - SOUTH

EL DORADO HILLS, CA **June 9, 2017**

STAFFORD KING WIESE
ARCHITECTS

SKW #04999.00

622 20th Street Sacramento, CA 95811 916.930.5900 SKWAIA.COM



PROPOSED SHOPS BUILDING (FRONT ELEVATION)

EDH 52

EDH 52 - SOUTH

EL DORADO HILLS, CA **June 9, 2017**

STAFFORD KING WIESE
ARCHITECTS

SKW #04999.00

622 20th Street Sacramento, CA 95811 916.930.5900 SKWAIA.COM



EDH 52

EDH 52 - SOUTH

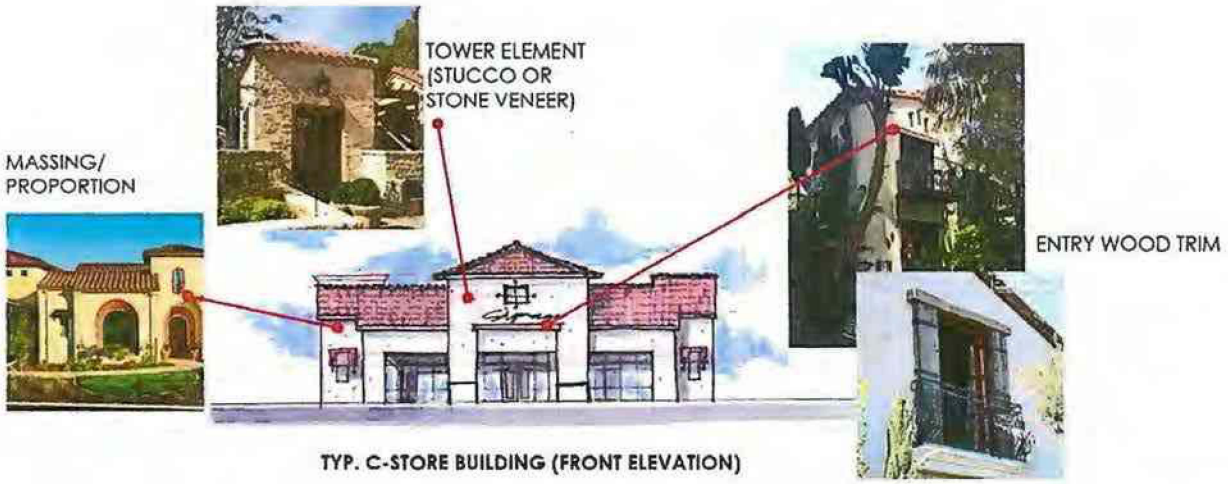
EL DORADO HILLS, CA

June 9, 2017

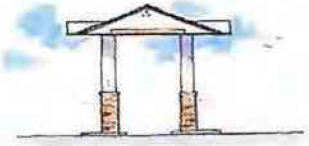
STAFFORD KING WIESE
ARCHITECTS

SKW #04999.00

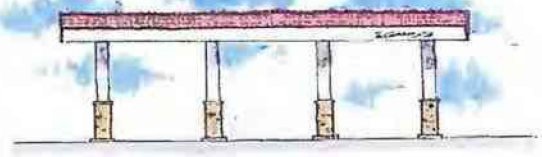
622 20th Street Sacramento, CA 95811 916.930.5900 SKWAIA.COM



TYP. C-STORE BUILDING (FRONT ELEVATION)



TYP. END ELEVATION



TYP. SIDE ELEVATION

GAS CANOPY ELEVATIONS

EDH 52

EDH 52 - SOUTH

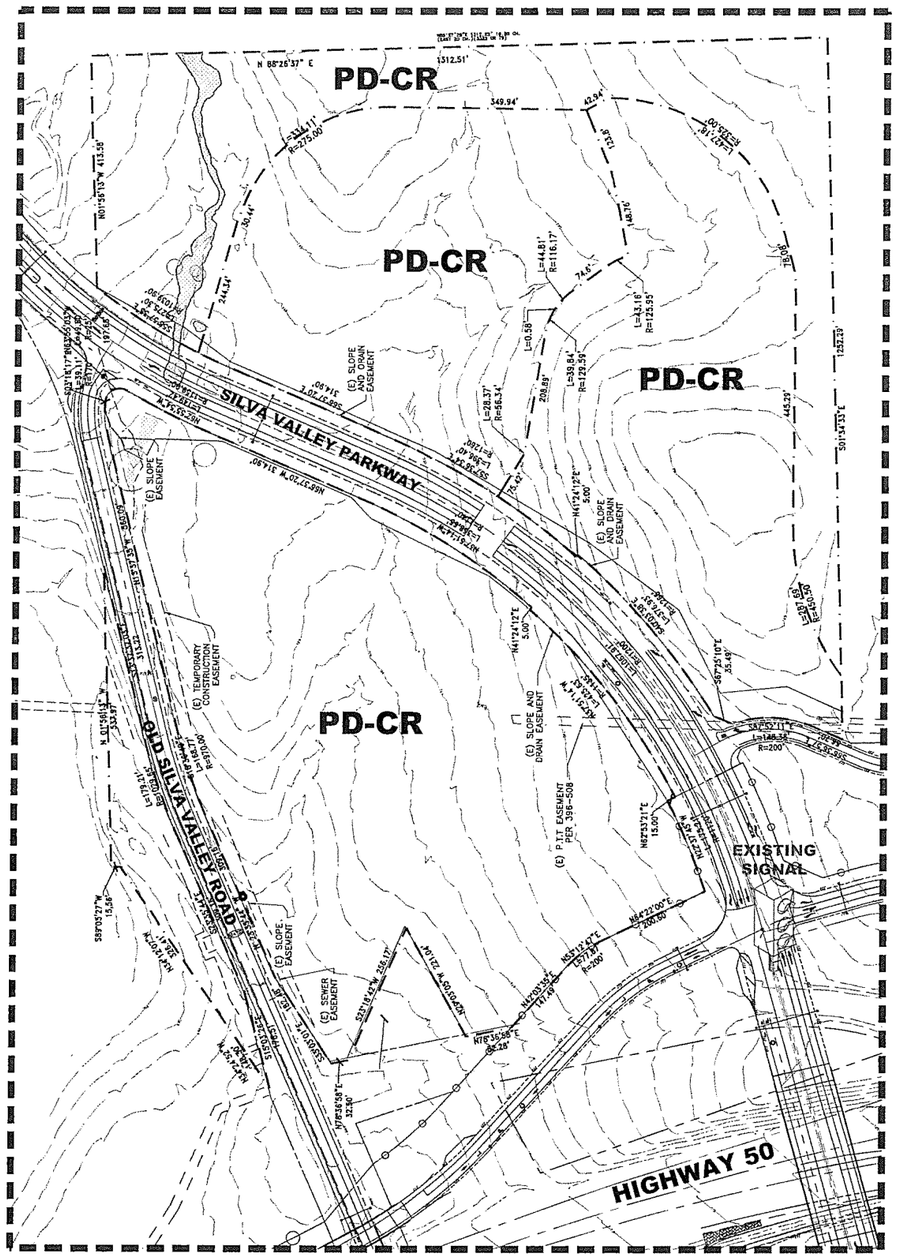
EL DORADO HILLS, CA

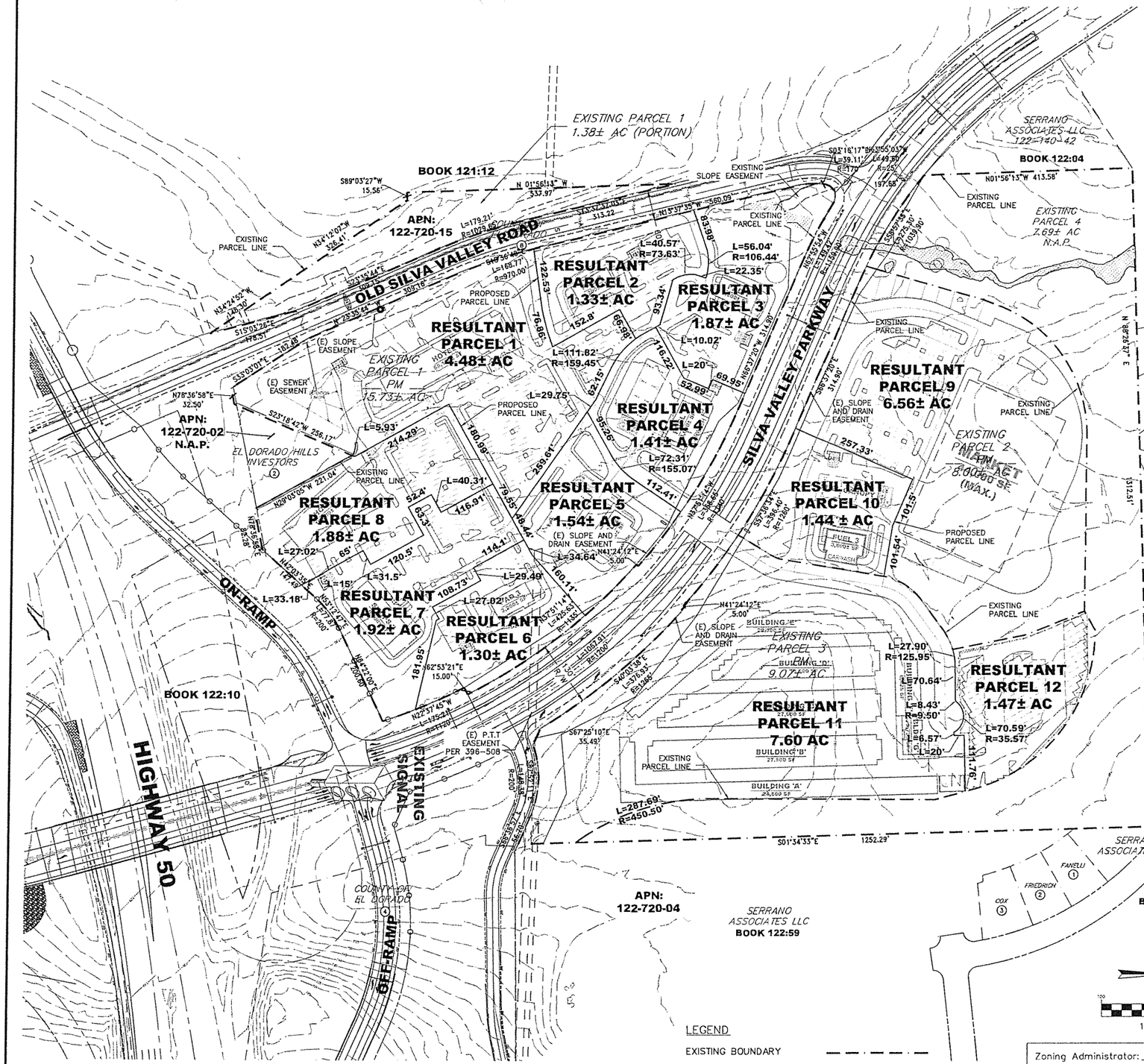
June 9, 2017

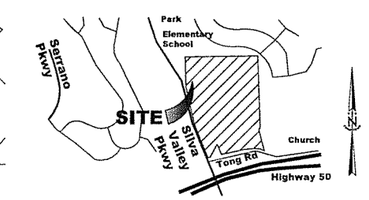
STAFFORD KING WIESE
ARCHITECTS

SKW #04999.00

Z17-0004/P17-0007/S17-0017/PD15-0001


PD-CR
PD-CR
PD-CR
PD-CR
SILVA VALLEY PARKWAY
OLD SILVA VALLEY ROAD
HIGHWAY 50
EXISTING SIGNAL
(E) SLOPE AND DRAIN EASEMENT
(E) SLOPE EASEMENT
(E) TEMPORARY CONSTRUCTION EASEMENT
(E) P.I.T. EASEMENT PER 398-508
(E) SEWER EASEMENT
N 88°26'37" E 1312.51'
S 89°05'27" W 15.58'
N 01°35'15" W 413.55'
S 01°34'33" E 1252.23'
S 01°34'33" E 1255.29'
N 89°22'00" E 200.00'
S 52°18'42" E 256.07'
N 37°41'18" E 50.00'
N 52°18'42" W 256.07'
S 37°41'18" W 50.00'
N 78°16'48" E 66.28'
N 11°43'12" E 5.00'
S 67°16'48" W 66.28'
S 37°41'18" W 50.00'
N 67°16'48" E 66.28'
N 52°18'42" W 256.07'
N 37°41'18" E 50.00'
S 52°18'42" E 256.07'
N 89°22'00" E 200.00'
N 67°16'48" E 66.28'
N 11°43'12" E 5.00'
S 67°16'48" W 66.28'
S 37°41'18" W 50.00





VICINITY MAP

OWNER:
EDH 52
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

NO.	DESCRIPTION	DRN WC	BY	DATE CITY APPROVED

REGISTERED PROFESSIONAL ENGINEER
RICHARD S. CRAIG
No.29051
Mar. 31, 2019
CIVIL
STATE OF CALIFORNIA

RSC ENGINEERING
2250 Douglas Blvd. Suite 150
Roseville, CA 95661
Ph:916.788.2884 Fax:916.788.4408

OWNER
EDH 52 GP
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826

APPLICANT/ENGINEER
RSC ENGINEERING, INC.
2250 DOUGLAS BLVD., SUITE 150
ROSEVILLE, CA 95661

SCALE
1" = 100'

CONTOUR INTERVAL
5'

SOURCE OF TOPOGRAPHY
CTA ENGINEERING & SURVEYING, JULY 2007

SECTION, TOWNSHIP AND RANGE
1, 9N, 8E M.D.M.

ASSESSORS PARCEL NUMBER
122-720-15-100

PRESENT ZONING
PLANNED DEVELOPMENT COMMERCIAL (PD-CR)

UTILITY PROVIDERS

WATER	EL DORADO IRRIGATION DISTRICT
SANITARY SEWER	EL DORADO IRRIGATION DISTRICT
STORM DRAIN	EL DORADO COUNTY
FIRE	EL DORADO FIRE PROTECTION DISTRICT
ELECTRIC	PG&E
GAS	PG&E
TELEPHONE	AT&T
CABLE	AT&T
FIRE PROTECTION	EL DORADO HILLS FIRE DEPARTMENT

EXISTING ACREAGE SUMMARY

PARCEL 1:	17.11± AC
PARCEL 2:	8.00± AC
PARCEL 3:	9.07± AC
TOTAL:	34.18± AC

PROPOSED ACREAGE SUMMARY

PARCEL 1:	4.48± AC
PARCEL 2:	1.33± AC
PARCEL 3:	1.87± AC
PARCEL 4:	1.41± AC
PARCEL 5:	1.54± AC
PARCEL 6:	1.30± AC
PARCEL 7:	1.92± AC
PARCEL 8:	1.88± AC
PARCEL 9:	6.56± AC
PARCEL 10:	1.44± AC
PARCEL 11:	7.60± AC
PARCEL 12:	1.47± AC
TOTAL:	34.18± AC

NUMBER OF PARCELS: 12
MINIMUM PARCEL SIZE: 1.30± AC

NOTES

1. REFER TO FINAL PARCEL MAP FOR EXACT DIMENSIONS
2. FLOOD ZONE R1, FEMA NO. 060040 0700D, DATED 10/18/1995
3. WIDTH OF EXISTING EASEMENTS VARIES.

1 inch = 100 ft.

LEGEND
EXISTING BOUNDARY
PROPOSED PARCEL LINE
PROPOSED SETBACK
EXISTING EASEMENT
EXISTING WETLANDS

Zoning Administrator: _____
Approval/Denial Date: _____
Board of Supervisors: _____
Approval/Denial Date: _____

PROJECT NO:	104-003A
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

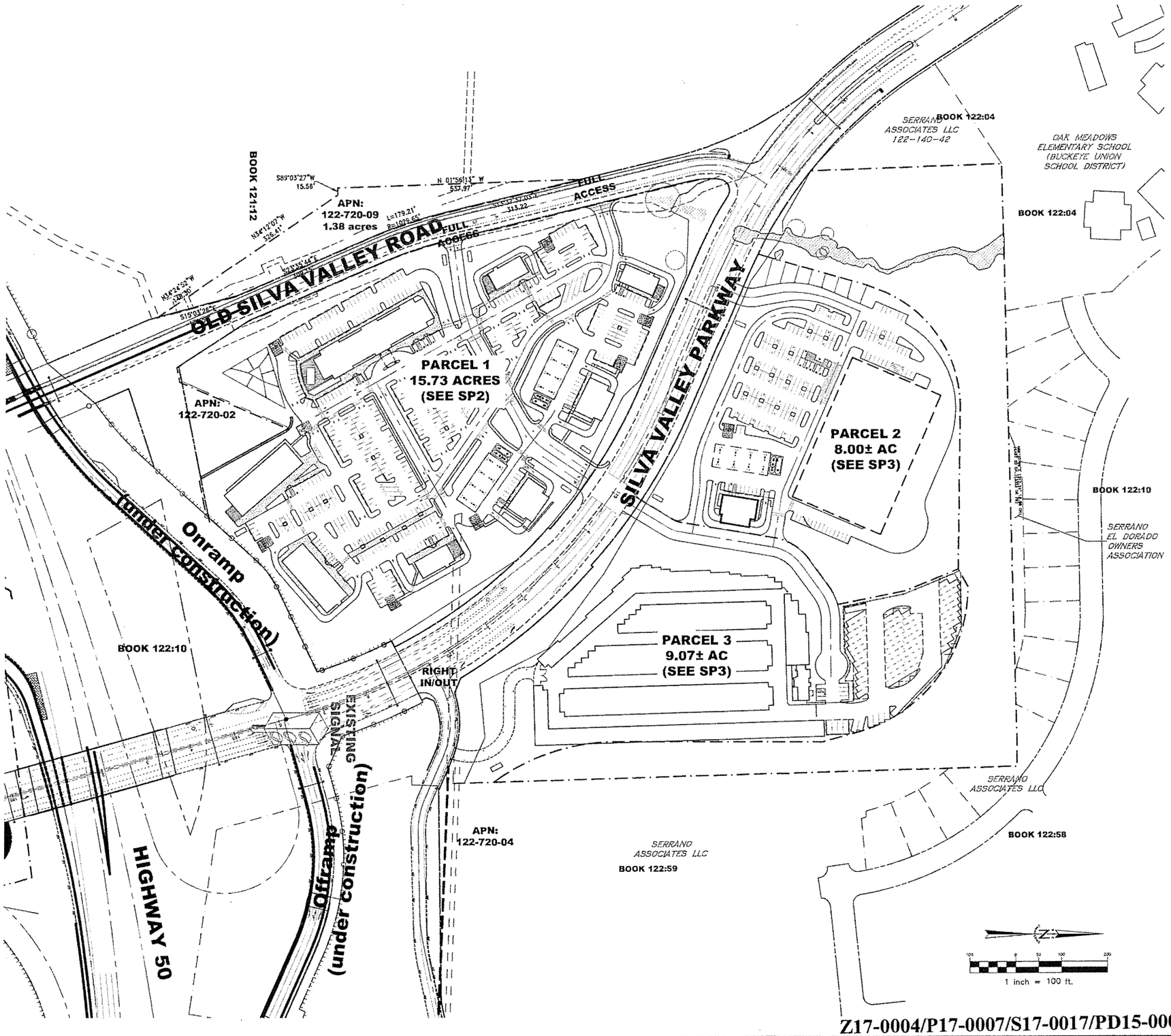
TENTATIVE PARCEL MAP FOR EDH52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95762
EL DORADO COUNTY

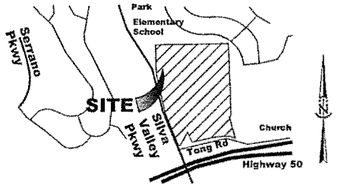
SHEET TITLE
TENTATIVE PARCEL MAP

SHEET NO.
TM
OF 1

DATE: SEPTEMBER 18, 2017

Z17-0004/P17-0007/S17-0017/PD15-0001





OWNER

EDH 52 G.P.
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826

APPLICANT/ENGINEER

RSC ENGINEERING, INC.
2250 DOUGLAS BLVD., SUITE 150
ROSEVILLE, CA 95661

SITE DATA

NORTH AREA	17.07± ACRES
SOUTH AREA	15.73± ACRES
TOTAL SITE:	32.80± ACRES
TOTAL BUILDING AREA:	273,378± S.F
LOT COVERAGE:	19.1%
LAND USE CLASSIFICATION:	COMMERCIAL
ZONING CLASSIFICATION:	PLANNED DEVELOPMENT COMMERCIAL (PD-R)

APN: 122-720-15-100

UTILITY PROVIDERS

WATER	EL DORADO IRRIGATION DISTRICT
SANITARY SEWER	EL DORADO IRRIGATION DISTRICT
STORM DRAIN	EL DORADO COUNTY
FIRE	EL DORADO FIRE PROTECTION DISTRICT
ELECTRIC	PG&E
GAS	PG&E
TELEPHONE	AT&T
CABLE	AT&T

NOTES

1. PARKING SHOWN CONTAINS 90° PARKING SPACES.
2. TYPICAL PARKING STALL DIMENSIONS:
   STANDARD STALLS WIDTH: 9.0' DEPTH: 19.0'
   COMPACT STALLS WIDTH: 9.0' DEPTH: 15.0'
   TWO WAY AISLES: 25'
3. TREES AND WETLANDS NOT SHOWN ON SITE PLAN ARE PROPOSED TO BE REMOVED AND FILLED PER COUNTY MITIGATION AND ARMY CORP PERMIT.
4. BOUNDARY INFORMATION IS SHOWN ON SUBSEQUENT SHEETS.
5. OFFSITE PROPERTY OWNER AND APN IS SHOWN ON SUBSEQUENT SHEETS.
6. EXISTING EASEMENT WIDTHS VARY. PROPOSED EASEMENTS ARE UNKNOWN AT THIS TIME.

OVERALL SITE ANALYSIS

BUILDINGS:

NORTH AREA:	177,958	SF
SOUTH AREA:	105,420	SF
TOTAL:	273,378	SF

PARKING STALLS:

NORTH AREA:	256 (INC. 9 ADA SPACES, 29 COMPACT SPACES AND 52 RV SPACES)
SOUTH AREA:	521 (INC. 16 ADA SPACES, 24 COMPACT AND 10 RV SPACES)
TOTAL PARKING:	726 SPACES
OVERALL PARKING RATIO:	4.87 SPACES/1,000 SF

Z17-0004/P17-0007/S17-0017/PD15-0001

OWNER:
EDH 52
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

REV NO.	DESCRIPTION	DRN BY	DATE APPROVED

REGISTERED PROFESSIONAL ENGINEER
RICHARD S. CRANE
No. 25013
Mar. 31, 2019
CIVIL
STATE OF CALIFORNIA

RSC ENGINEERING
2250 Douglas Blvd. Suite 150
Roseville, CA 95661
Ph:916.788.2884 Fax:916.788.4408

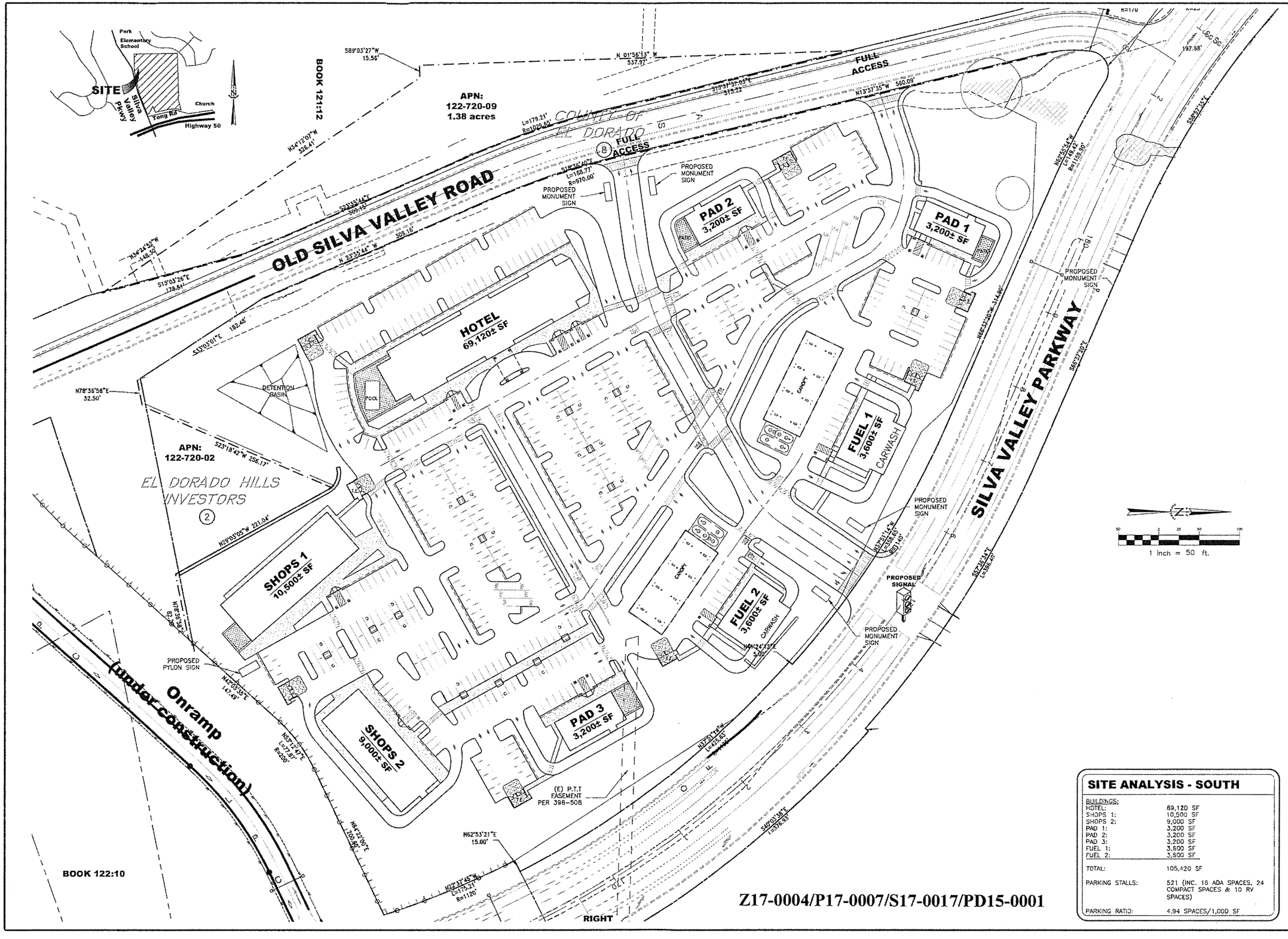
PROJECT NO:	104-003
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

PLANNED DEVELOPMENT APPLICATION FOR EDH 52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

SHEET TITLE
PRELIMINARY OVERALL SITE PLAN

SHEET NO.
SP1
OF 8

DATE: OCTOBER 2, 2017



Z17-0004/P17-0007/S17-0017/PD15-0001

SITE ANALYSIS - SOUTH

BUILDINGS:	
HOTEL:	69,120 SF
SHOPS 1:	10,500 SF
SHOPS 2:	9,000 SF
PAD 1:	3,200 SF
PAD 2:	3,200 SF
PAD 3:	3,200 SF
FUEL 1:	3,600 SF
FUEL 2:	3,600 SF
TOTAL:	105,420 SF
PARKING STALLS:	521 (INC. 16 ADA SPACES, 24 COMPACT SPACES & 10 RV SPACES)
PARKING RATIO:	4.94 SPACES/1,000 SF

OWNER:
EDH 52
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 383-2300

NO.	DESCRIPTION	DRC MTG	BY	DATE CITY APPROVED
1				
2				
3				
4				
5				

REGISTERED PROFESSIONAL ENGINEER RICHARD S. CRANSTON No. 25053 Mar. 31, 2019 CIVIL STATE OF CALIFORNIA

RSC ENGINEERING
2250 Douglas Blvd. Suite 150
Roseville, CA 95661
Ph: 916.788.2864 Fax: 916.788.4408

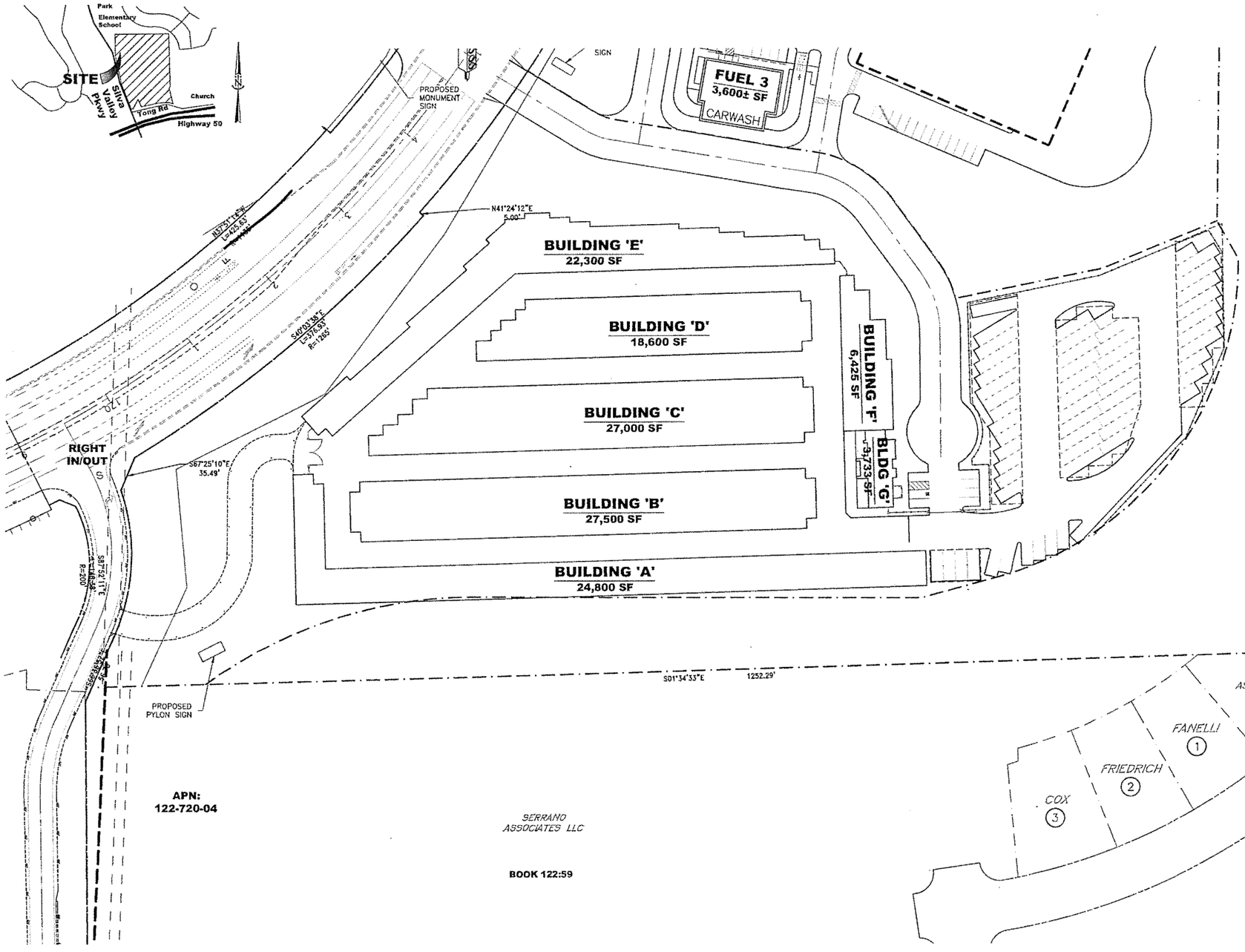
PROJECT NO:	104-003
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

PLANNED DEVELOPMENT APPLICATION FOR EDH 52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

SHEET TITLE
PRELIMINARY SOUTH SITE PLAN

SHEET NO.
SP2
OF 8

DATE: OCTOBER 2, 2017



SITE ANALYSIS - NORTH

STORAGE FACILITY:	
PROPOSED BUILDING "A"	24,800 SF
PROPOSED BUILDING "B"	27,500 SF
PROPOSED BUILDING "C"	27,000 SF
PROPOSED BUILDING "D"	18,600 SF
PROPOSED BUILDING "E"	22,300 SF
PROPOSED BUILDING "F"	6,425 SF
PROPOSED BUILDING "G"	3,733 SF
TOTAL	177,558 SF
PARKING:	
STANDARD:	6 SPACES
HANDICAP:	1 SPACES
RV:	51 SPACES
TOTAL:	58 SPACES

Z17-0004/P17-0007/S17-0017/PD15-0001

OWNER:
EDH 52
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 383-2300

NO.	DESCRIPTION	DWG INT.	BY	DATE CITY APPROVED
1				
2				
3				
4				
5				

REGISTERED PROFESSIONAL ENGINEER
WILLIAM S. CRAVEN
No. 29033
Rev. 11, 2019
CIVIL
STATE OF CALIFORNIA

RSC ENGINEERING
2250 Douglas Blvd, Suite 150
Roseville, CA 95661
Ph: 916.788.2884 Fax: 916.788.4408

PROJECT NO: 104-003
DRAWN BY: RSC Eng
CHECKED BY: RSC Eng
DESIGNED BY: RSC Eng

PLANNED DEVELOPMENT APPLICATION FOR EDH 52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

SHEET TITLE
PRELIMINARY OVERALL SITE PLAN

SHEET NO.
SP4
OF **8**

DATE: OCTOBER 2, 2017

DRAWINGS OR CONTENTS IN ANY FORM OR MANNER WHATSOEVER WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION OF FUHRMAN LEAMY LAND GROUP. YOUR USE, TITLE TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING WRITTEN PERMISSION AND CONSENT.
FUHRMAN LEAMY LAND GROUP HEREBY EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS. THESE PLANS AND DRAWINGS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN

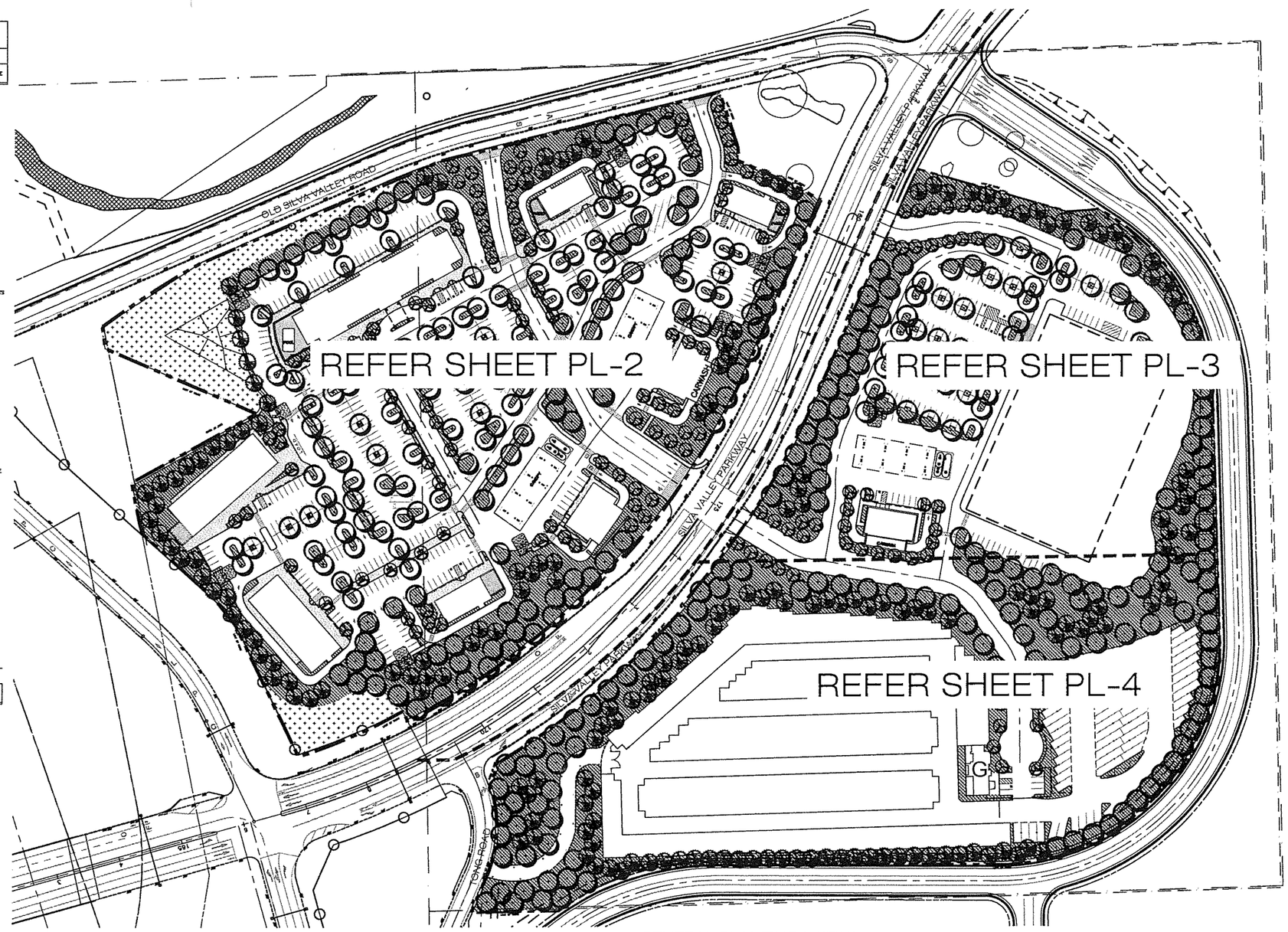
EDH 52 PRELIMINARY PLANT MATERIAL LIST AND LEGEND

TREES

SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE	REMARKS	WATER USE
	CANOPY/SHADE TREES LARGE EVERGREEN OR DECIDUOUS 30' TO 35' DIAMETER TREES USED TO PROVIDE SHADE			
	CELTIS SINENSIS CHINESE HACKBERRY	15 G	40'H x 30'W	MED
	ELAEOCARPUS DECIPIENS JAPANESE BLUEBERRY TREE	15 G	40'H x 28'W	MED
	LIRIODENDRON TULIPIFERA TULIP TREE	15 G	80'H x 35'W	MED
	MAGNOLIA GRANDIFLORA 'D.D. BLANCHARD' SOUTHERN MAGNOLIA	15 G	45'H x 30'W	MED
	PISTACIA CHINENSIS 'KEITH DAVEY' CHINESE PISTACHE	15 G	40'H x 35'W	LOW
	PLATANUS ACERIFOLIA 'BLOODGOOD' LONDON PLANE TREE	15 G	40'H x 30'W	MED
	TILIA CORDATA 'GREENSPIRE' LITTLE-LEAF LINDEN	15 G	35'H x 25'W	MED
	ULMUS PARVIFOLIA 'ALLEE' ALLEE CHINESE EVERGREEN ELM	15 G	50'H x 30'W	MED
	ZELKOVA SERRATA 'VILLAGE GREEN' SAWLEAF ZELKOVA	15 G	45'H x 35'W	MED
	SCREEN TREES EVERGREEN TREES USED TO SCREEN THE PROJECT FROM THE SURROUNDING DEVELOPMENTS			
	ARBUTUS 'MARINA' MARINA STRAWBERRY TREE	15 G	30'H x 25'W	LOW
	CEDRUS DEODARA DEODAR CEDAR	15 G	50'H x 25'W	LOW
	CUPRESSOCYPARIS LEYLANDII LEYLAND CYPRESS	15 G	50'H x 12'W	MED
	CUPRESSUS GLABRA 'BLUE ICE' BLUE ICE ARIZONA CYPRESS	15 G	25'H x 12'W	LOW
	LAURUS 'SARATOGA' SARATOGA SWEET BAY	15 G	25'H x 25'W	LOW
	PINUS ELDARICA MONDELL PINE	15 G	30'H x 20'W	LOW
	PRUNUS CAROLINIANA CAROLINA CHERRY LAUREL	15 G	25'H x 20'W	LOW
	QUERCUS SUBER CORK OAK	15 G	45'H x 45'W	LOW
	QUERCUS WISLIZENII INTERIOR LIVE OAK	15 G	40'H x 40'	LOW
	ACCENT TREES EVERGREEN OR DECIDUOUS TREES USED TO PROVIDE COLOR, DENOTE ENTRIES AND CREATE PEDESTRIAN SCALE			
	CARPINUS BETULUS 'FASTIGIATA' EUROPEAN HORNBEAM	15 G	30'H x 20'W	MED
	CERCIS CANADENSIS 'FOREST PANSY' FOREST PANSY REDBUD	15 G	20'H x 25'W	MED
	CERCIS OCCIDENTALIS WESTERN REDBUD	15 G	15'H x 12'W	LOW
	LAGERSTROEMIA INDICA x FAURIEI 'MUSKOGEE' LAVENDER CRAPE MYRTLE	15 G	25'H x 15'W MULTI-TRUNK	LOW
	LAGERSTROEMIA INDICA x FAURIEI 'NATCHEZ' WHITE CRAPE MYRTLE	15 G	22'H x 12'W MULTI-TRUNK	LOW
	MAGNOLIA GRANDIFLORA 'LITTLE GEM' COMPACT SOUTHERN MAGNOLIA	15 G	22'H x 12'W	MED
	NYSSA SYLVATICA TUPELO	15 G	40'H x 16'W	MED
	PRUNUS CERASIFERA 'KRAUTER VESUVIUS' PURPLE-LEAF FLOWERING PLUM	15 G	18'H x 15'W	MED
	PYRUS CALLERYANA 'RED SPIRE' RED SPIRE PEAR	15 G	30'H x 20'W	MED
	VITEX AGNUS-CASTUS BLUE CHASTE TREE	15 G	15'H x 15'W	LOW

SHRUBS & GROUNDCOVERS

SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE	REMARKS	WATER USE
	BACKGROUND OR FOUNDATION SHRUBS LARGE EVERGREEN SHRUBS USED FOR REDUCING BUILDING MASS OR SCREENING			
	ARBUTUS UNEDO 'COMPACTA' DWARF STRAWBERRY TREE	5 G	8'H x 8'W	LOW
	CEANOTHUS SPP. WILD LILAC	5 G	8'H x 8'W	LOW
	CHOISYA TERNATA MEXICAN ORANGE	5 G	6'H x 6'W	MED
	LEUCOPHYLLUM FRUTESCENS TEXAS RANGER	5 G	7'H x 7'W	LOW
	NERIUM OLEANDER 'RED' RED OLEANDER	5 G	10'H x 10'W	LOW
	RHAMNUS CALIFORNICA 'EVE CASE' COFFEEBERRY	5 G	6'H x 6'W	LOW
	RHAPHIOLEPIS INDICA SPP. INDIAN HAWTHORN	5 G	5'H x 6'W	MED
	XYLOSMA CONGESTUM 'COMPACTA' COMPACT SHINY XYLOSMA	5 G	7'H x 7'W	LOW
	FACER SHRUBS EVERGREEN OR DECIDUOUS SHRUBS USED FOR LAYERING OF PLANT MATERIAL, SEASONAL COLOR, AND SOFTENING OF BUILDING EDGE AND FOUNDATION SHRUBS.			
	AZALEA SPP. AZALEA	5 G	3'H x 3'W	MED
	CALLISTEMON VIMINALIS 'LITTLE JOHN' DWARF BOTTLEBRUSH	5 G	3'H x 3'W	LOW
	CISTUS SP. ROCKROSE	5 G	3'H x 5'W	LOW
	LOROPETALUM CHINENSES 'MONRAZ' RAZZLEBERRIE FRINGE FLOWER	5 G	6'H x 4'W	MED
	LEUCOPHYLLUM ZYGOPHYLLUM BLUE RANGER	5 G	3'H x 3'W	LOW
	PITTOSPORUM TOBIRA 'WHEELDI'S DWARF' DWARF MOCK ORANGE	5 G	3'H w 4'W	MED
	RHAPHIOLEPIS UMBELLATA 'MINOR' DWARF YEDDO HAWTHORN	5 G	3'H x 3'W	LOW
	WESTRINGIA ROSMARINIFORMIS 'MORNING LIGHT' VARIEGATED COAST ROSEMARY	5 G	3'H x 3'W	LOW
	ACCENT SHRUBS EVERGREEN OR PERENNIAL SHRUBS USED FOR AESTHETIC VALUE IN LANDSCAPE THROUGH BLOOM, COLOR, OR OVERALL CHARACTER.			
	AGAVE SPP. AGAVE	5 G	VARIES	LOW
	BERBERIS THUNBERGII 'CRIMSON PYGMY' RED DWARF JAPANESE BARBERRY	5 G	1.5'H x 2.5'W	MED
	BOUTELOUA GRACILIS 'BLOND AMBITION' BLUE GRAMA GRASS	1 G	3'H x 3'W	LOW
	CALAMAGROSTIS x ACUTIFLORA 'KARL FOERSTER' FEATHER REED GRASS	1 G	2.5'H x 2.5'W	LOW
	HEMEROCALLIS HYBRIDS EVERGREEN DAYLILY	1 G	VARIES X 2'W	MED
	KNIPHOFIA UVARIA RED HOT POKER	1 G	3'H x 3'W	LOW
	LAVANDULA SPP. LAVENDER	1 G	VARIES	LOW
	MUHLENBERGIA CAPILLARIS PINK MUHLY	5 G	3'H x6'W	LOW
	NANDINA DOMESTICA 'COMPACTA' COMPACT HEAVENLY BAMBOO	1 G/5 G	4'H x 3'W	LOW
	PHORMIUM HYBRIDS NEW ZEALAND FLAX	1 G/5 G	VARIES	MED/LOW
	GROUNDCOVER MATERIAL EVERGREEN OR PERENNIAL SHRUBS TO 30" HIGH, USED TO BLANKET LARGER AREAS AND AS A FILLER BETWEEN SITE WORK EDGES AND FACER SHRUBS.			
	BACCHARIS PILULARIS 'PIGEON POINT' DWARF COYOTE BUSH	1 G	2.5'H x 7'W	LOW
	COPROSMA KIRKII KIRK'S COPROSMA	1 G	2'H x 5'W	LOW
	FESTUCA GLAUCA 'SEISKYOU BLUE' BLUE FESCUE	1 G	1'H x 1'W	MED
	HYPERICUM CALYCINUM CREEPING ST. JOHN'S WORT	1 G	1'H x 3'W	MED
	LANTANA MONTEVIDENSIS PURPLE TRAILING LANTANA	1 G	2'H x 6'W	LOW
	LONICERA JAPONICA 'HALLIANA' HALL'S HONEYSUCKLE	1 G	1.5'H x 4.5'W	MED
	ROSA BANKSIAE 'LUTEA' YELLOW LADY BANKS ROSE	1 G	4'H x 8'W	LOW
	ROSA FLOWER CARPET FLOWER CARPET ROSE	1 G/5 G	2'H x 3'W	MED
	ROSMARINUS OFFICINALIS 'PROSTRATUS' DWARF ROSEMARY	1 G	2'H x 6'W	LOW
	TRACHELOSPERMUM JASMINOIDES STAR JASMINE	1 G	1.5'H x 6'W	MED
	VINCA MINOR DWARF PERIWINKLE	1 G	0.5'H x 3'W	MED
	BUFFER PLANTING MIX OF NATIVE PLANT MATERIAL USED AS A NATURAL TRANSITION FROM THE EDGES OF THE SITE TO ADJACENT PROPERTIES. PLANT MATERIAL TO BE USED AS A NATURAL FILLER WILL BE HYDROSEEDED.			
	ARTEMISIA CALIFORNICA CALIFORNIA SAGEBRUSH	---	---	LOW
	CEANOTHUS SPP. CALIFORNIA LILAC	---	---	LOW
	ERIOPHYLLUM CONFERTIFLORUM 'DANA GOLD' GOLDEN YARROW	---	---	LOW
	ESCHSCHOLZIA CALIFORNICA CALIFORNIA POPPY	---	---	LOW
	ROMNEYA COULTERI MATILIJA POPPY	---	---	LOW
	MIMULUS SPP. MONKEY FLOWER	---	---	LOW
	NASSELLA PULCHRA PURPLE NEEDLE GRASS	---	---	LOW
	WATER QUALITY BASIN PLANTS ADAPTABLE TO WET CONDITIONS.			
	JUNCUS PATENS GREY RUSH	---	---	HIGH
	JUNCUS EFFUSUS SOFT RUSH	---	---	HIGH
	NASELLA PULCHERS PURPLE NEEDLE GRASS	---	---	MED
	BIOSWALE SOD NATIVE BLEND FOR SWALE BOTTOM	---	---	MED



GENERAL PLANTING NOTES

1. ALL PLANTING AREAS SHALL BE IRRIGATED WITH AN AUTOMATIC IRRIGATION SYSTEM.
2. ALL SHRUB AND GROUNDCOVER AREAS SHALL RECEIVE A 2" LAYER OF BARK CHIP MULCH TOP DRESSING.
3. REDWOOD HEADERBOARD SHALL BE INSTALLED BETWEEN LAWN AND SHRUB AREAS.
4. ALL GROUND MOUNTED HVAC UNITS, GAS & ELECTRICAL METERS, AND EQUIPMENT ETC. SHALL RECEIVE SHRUB SCREENING IN SHRUB AND GROUNDCOVER AREAS AROUND BUILDINGS.
5. TRASH ENCLOSURES SHALL BE SCREENED WITH TREES AND SHRUB PLANTING.

SCALE: 1" = 80' - 0"

0' 40' 80' 160' 320'

UNDERGROUND SERVICE ALERT
CALL TOLL FREE
1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG

Z17-0004/P17-0007/S17-0017/PD15-0001

FUHRMAN LEAMY
LAND GROUP
DESIGN · SERVICE · SOLUTIONS
2140 PROFESSIONAL DRIVE, SUITE 115
ROSEVILLE, CALIFORNIA 95661
916.783.5263 · FLLANDGROUP.COM

JOB NO. : RSC 17080

CONSULTANT

PROJECT:

EDH 52

HWY 50 & SILVA VALLEY
EL DORADO HILLS, CA

CLIENT:

RSC ENGINEERING, INC

REVISIONS	DATE
1	
2	
3	
4	
5	

ISSUE		DATE
1	1ST SUBMITTAL	09.15.2017
2		
3		
4		
5		

REGISTERED LANDSCAPE ARCHITECT
KEVIN C. FOSTER
No. 5196
EXP. 12-31-18
STATE OF CALIFORNIA

DRAWN : JM
CHECKED : KCL
SCALE: : 1" = 80'-0"

SHEET TITLE:

PRELIMINARY LANDSCAPE PLAN: OVERALL

SHEET

PL-1

1 OF 4 SHEETS

STREETSCAPE INTENT

AREAS FRONTING THE STREETS WILL INCORPORATE SHADE TREES ALONG WITH MIXED SPECIES AND FORMS OF SHRUBS FOR INTEREST, COLOR, AND BUFFERING OF THE SHOPPING CENTER FROM THE STREETS. SHRUB MASSES WILL UTILIZE DROUGHT TOLERANT SPECIES WHERE APPROPRIATE.

PARKING LOT INTENT

THE PRIMARY TREES WILL PROVIDE A CANOPY OF SHADE. UNDERSTORY PLANTINGS WITHIN THE PARKING LOT WILL CONSIST OF LOW SHRUBS AND/OR GROUNDCOVERS.

SCREENING INTENT

PRIMARY PLANTING ALONG THE PROPERTY BOUNDARIES WILL CONSIST OF EVERGREEN TREES AND SHRUB ROWS TO SCREEN ADJACENT PROPERTIES.

ENTRY TREATMENT INTENT

PLANTING AT THE ENTRIES WILL BE HIGHLIGHTED & DEFINED BY SEASONAL ACCENTED TREES & SHRUBS WITH THE USE OF COLORFUL PLANT MATERIAL. SHRUBS WILL BE LOW TO MAINTAIN SIGHT LINES.

OLD SILVA VALLEY ROAD

SILVA VALLEY PARKWAY

HOTEL 69,120± SF

PAD 1 3,200± SF

PAD 2 3,200± SF

PAD 3 3,200± SF

FUEL 1 3,600± SF CARWASH

FUEL 2 3,600± SF CARWASH

SHOPS 1 10,500± SF

SHOPS 2 9,000± SF

DETENTION BASIN

POOL

PATIO

MATCHLINE A - SEE SHEET PL-3

MATCHLINE B - SEE SHEET PL-4

MATCHLINE C - SEE SHEET PL-3

MATCHLINE C - SEE SHEET PL-4

UNDERGROUND SERVICE ALERT
CALL TOLL FREE
1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG

SCALE: 1" = 50' - 0"

0' 25' 50' 100' 200'

Z17-0004/P17-0007/S17-0017/PD15-0001

FUHRMAN LEAMY LAND GROUP, HAS AND SHALL HEREBY EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS. THESE PLANS AND DRAWINGS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER, NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING WRITTEN PERMISSION AND CONSENT OF FUHRMAN LEAMY LAND GROUP.

FUHRMAN LEAMY
LAND GROUP
DESIGN • SERVICE • SOLUTIONS
2140 PROFESSIONAL DRIVE, SUITE 115
ROSEVILLE, CALIFORNIA 95661
916.783.5263 • FLLANDGROUP.COM

JOB NO. : RSC.17080

CONSULTANT

PROJECT:
EDH 52

HWY 50 & SILVA VALLEY
EL DORADO HILLS, CA

CLIENT:
RSC ENGINEERING, INC

REVISIONS	DATE
1	
2	
3	
4	
5	

ISSUE		DATE
1	1ST SUBMITTAL	09.15.2017
2		
3		
4		
5		

REGISTERED LANDSCAPE ARCHITECT
KEVIN C. LEAMY
No. 5461
12-31-18
Date
STATE OF CALIFORNIA

DRAWN : XX
CHECKED : KCL
SCALE: : 1" = 50'-0"

SHEET TITLE:
PRELIMINARY LANDSCAPE PLAN

SHEET
PL-2
OF 4 SHEETS

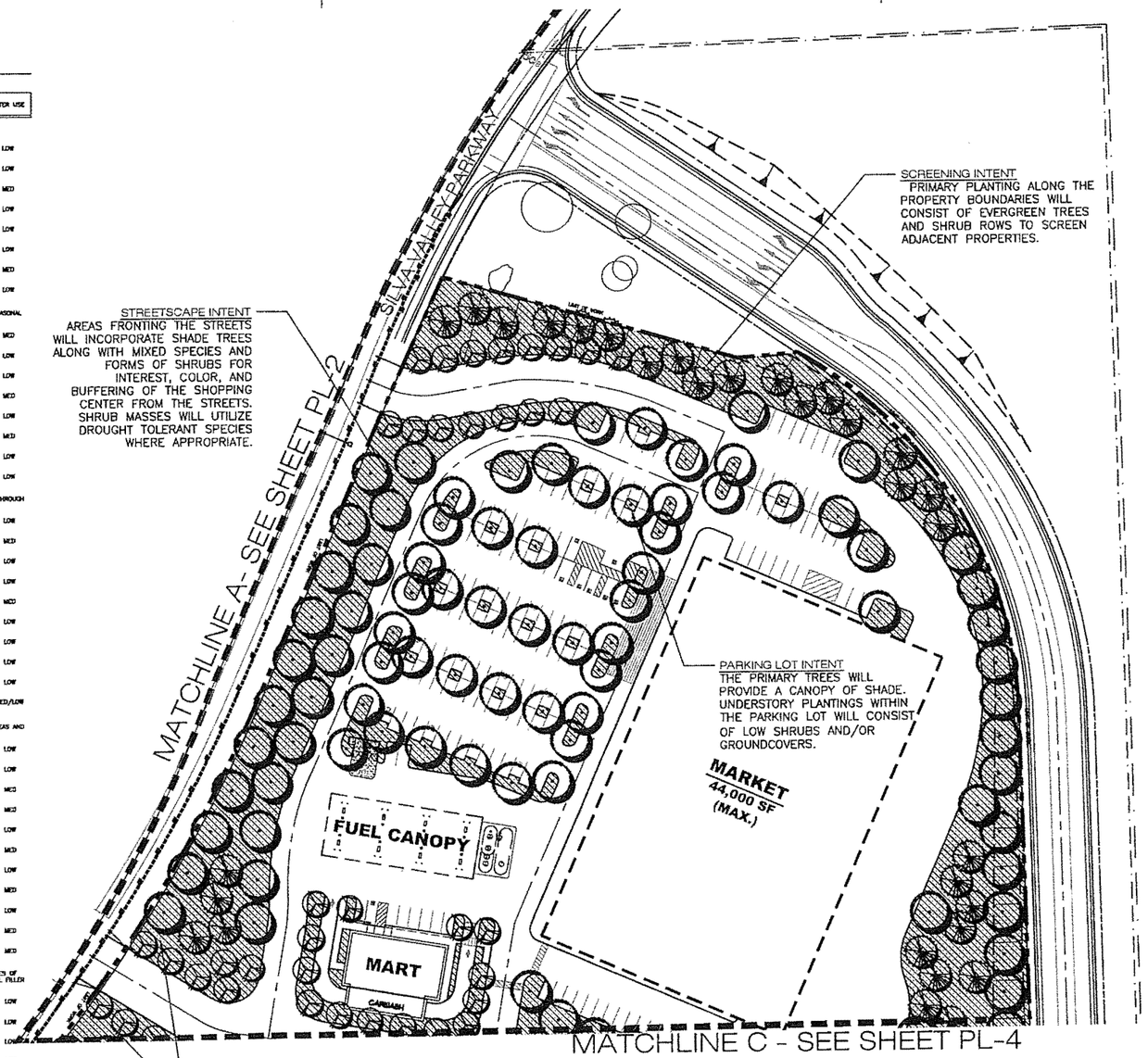
EDH 52 PRELIMINARY PLANT MATERIAL LIST AND LEGEND

TREES

SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE	REMARKS	WATER USE
	CANOPY/SHADE TREES LARGE EVERGREEN OR DECIDUOUS 30' TO 35' DIAMETER TREES USED TO PROVIDE SHADE			
	CELTIS SINENSIS CHINESE HACKBERRY	15 G	40'H x 30'W	MED
	ELAEOCARPUS DECIPIENS JAPANESE BLUEBERRY TREE	15 G	40'H x 28'W	MED
	LIRIODENDRON TULIPIFERA TULIP TREE	15 G	60'H x 35'W	MED
	MAGNOLIA GRANDIFLORA 'D.D. BLANCHARD' SOUTHERN MAGNOLIA	15 G	45'H x 30'W	MED
	PISTACIA CHINENSIS 'KEITH DAVEY' CHINESE PISTACHE	15 G	40'H x 35'W	LOW
	PLATANUS ACERIFOLIA 'BLOODGOOD' LONDON PLANE TREE	15 G	40'H x 36'W	MED
	TILIA CORDATA 'GREENSPIRE' LITTLE-LEAF LINDEN	15 G	35'H x 25'W	MED
	ULMUS PARVIFOLIA 'ALLEE' ALLEE CHINESE EVERGREEN ELM	15 G	50'H x 30'W	MED
	ZELKOVA SERRATA 'VILLAGE GREEN' SAWLEAF ZELKOVA	15 G	45'H x 35'W	MED
	SCREEN TREES EVERGREEN TREES USED TO SCREEN THE PROJECT FROM THE SURROUNDING DEVELOPMENTS			
	ARBUTUS 'MARINA' MARINA STRAWBERRY TREE	15 G	30'H x 25'W	LOW
	CEDRUS DEODARA DEODAR CEDAR	15 G	60'H x 25'W	LOW
	CUPRESSOCYPARIS LEYLANDII LEYLAND CYPRESS	15 G	50'H x 12'W	MED
	CUPRESSUS GLABRA 'BLUE ICE' BLUE ICE ARIZONA CYPRESS	15 G	25'H x 12'W	LOW
	LAURUS 'SARATOGA' SARATOGA SWEET BAY	15 G	25'H x 25'W	LOW
	PINUS ELDARICA MONDELL PINE	15 G	50'H x 20'W	LOW
	PRUNUS CAROLINIANA CAROLINA CHERRY LAUREL	15 G	25'H x 20'W	LOW
	QUERCUS SUBER CORK OAK	15 G	45'H x 45'W	LOW
	QUERCUS WISLIZENII INTERIOR LIVE OAK	15 G	40'H x 40'	LOW
	ACCENT TREES EVERGREEN OR DECIDUOUS TREES USED TO PROVIDE COLOR, DEMOTE ENTRIES AND CREATE PEDESTRIAN SCALE			
	CARPINUS BETULUS 'FASTIGIATA' EUROPEAN HORNBEAM	15 G	30'H x 20'W	MED
	CERCIS CANADENSIS 'FOREST PANSY' FOREST PANSY REDBUD	15 G	20'H x 25'W	MED
	CERCIS OCCIDENTALIS WESTERN REDBUD	15 G	15'H x 12'W	LOW
	LAGERSTROEMIA INDICA x FAURIEI 'MUSKOGEE' LAVENDER CRAPE MYRTLE	15 G	25'H x 15'W MULTI-TRUNK	LOW
	LAGERSTROEMIA INDICA x FAURIEI 'NATCHEZ' WHITE CRAPE MYRTLE	15 G	30'H x 15'W MULTI-TRUNK	LOW
	MAGNOLIA GRANDIFLORA 'LITTLE GEM' COMPACT SOUTHERN MAGNOLIA	15 G	25'H x 12'W	MED
	NYSSA SYLVATICA TUPELO	15 G	40'H x 18'W	MED
	PRUNUS CERASIFERA 'KRAUTER VESUVIUS' PURPLE-LEAF FLOWERING PLUM	15 G	18'H x 15'W	MED
	PYRUS CALLERYANA 'RED SPIRE' RED SPIRE PEAR	15 G	30'H x 20'W	MED
	VITEX AGNUS-CASTUS BLUE CHASTE TREE	15 G	15'H x 15'W	LOW

SHRUBS & GROUNDCOVERS

SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE	REMARKS	WATER USE
	BACKGROUND OR FOUNDATION SHRUBS LARGE EVERGREEN SHRUBS USED FOR REDUCING BUILDING MASS OR SCREENING			
	ARBUTUS UNEDO 'COMPACTA' DWARF STRAWBERRY TREE	5 G	8'H x 6'W	LOW
	CEANOTHUS SPP. WILD LILAC	5 G	8'H x 6'W	LOW
	CHOISYA TERNATA MEXICAN ORANGE	5 G	6'H x 6'W	MED
	LEUCOPHYLLUM FRUTESCENS TEXAS RANGER	5 G	7'H x 7'W	LOW
	NERIUM OLEANDER 'RED' RED OLEANDER	5 G	10'H x 10'W	LOW
	RHAMNUS CALIFORNICA 'EVE CASE' COFFEEBERRY	5 G	8'H x 6'W	LOW
	RHAPHIOLEPIS INDICA SPP. INDIAN HAWTHORN	5 G	5'H x 5'W	MED
	XYLOSMA CONGESTUM 'COMPACTA' COMPACT SHINY XYLOSMA	5 G	7'H x 7'W	LOW
	FACER SHRUBS EVERGREEN OR DECIDUOUS SHRUBS USED FOR LAYERING OF PLANT MATERIAL, SEASONAL COLOR AND SOFTENING OF BUILDING EDGE AND FOUNDATION SHRUBS.			
	AZALEA SPP. AZALEA	5 G	3'H x 3'W	MED
	CALLISTEMON VIMINALIS 'LITTLE JOHN' DWARF BOTTLEBRUSH	5 G	3'H x 3'W	LOW
	CISTUS SP. ROCKROSE	5 G	3'H x 5'W	LOW
	LOROPETALUM CHINENSIS 'NOMAS' RAZZLEBERRY FRINGE FLOWER	5 G	3'H x 4'W	MED
	LEUCOPHYLLUM ZYGOPHYLLUM BLUE RANGER	5 G	3'H x 3'W	LOW
	PITTOSPORUM TOBIRA 'WHEELER'S DWARF' DWARF MOCK ORANGE	5 G	3'H x 4'W	MED
	RHAPHIOLEPIS UMBELLATA 'MINOR' DWARF YEDDO HAWTHORN	5 G	3'H x 3'W	LOW
	WESTRINGIA ROSMARINIFORMIS 'MORNING LIGHT' VARIEGATED COAST ROSEMARY	5 G	3'H x 3'W	LOW
	ACCENT SHRUBS EVERGREEN OR PERENNIAL SHRUBS USED FOR AESTHETIC VALUE IN LANDSCAPE THROUGH BLOOM, COLOR, OR OVERALL CHARACTER.			
	AGAVE SPP. AGAVE	5 G	VARIES	LOW
	BERBERIS THUNBERGII 'CRIMSON PYGMY' RED DWARF JAPANESE BARBERRY	5 G	1.5'H x 2.5'W	MED
	BOUTELOUA GRACILIS 'BLOND AMBITION' BLUE GRAMA GRASS	1 G	3'H x 3'W	LOW
	CALAMAGROSTIS x ACUTIFLORA 'KARL FOERSTER' FEATHER REED GRASS	1 G	2.5'H x 2.5'W	LOW
	HEMEROCALLIS HYBRIDS EVERGREEN DAYLILY	1 G	VARIES X 2'W	MED
	KNIPHOFIA UVARIA RED HOT POKER	1 G	3'H x 3'W	LOW
	LAVANDULA SPP. LAVENDER	1 G	VARIES	LOW
	MUHLENBERGIA CAPILLARIS PINK MUHLY	5 G	3'H x6'W	LOW
	NANDINA DOMESTICA 'COMPACTA' COMPACT HEAVENLY BAMBOO	1 G/5 G	4'H x 3'W	LOW
	PHORMIUM HYBRIDS NEW ZEALAND FLAX	1 G/5 G	VARIES	MED/LOW
	GROUNDCOVER MATERIAL EVERGREEN OR PERENNIAL SHRUBS TO 30" HIGH, USED TO BLANKET LARGER AREAS AND AS A FILLER BETWEEN SITE WORK EDGES AND FACER SHRUBS.			
	BACCHARIS PILULARIS 'PIGEON POINT' DWARF COYOTE BUSH	1 G	2.5'H x 7'W	LOW
	COPROSMA KIRKII KIRK'S COPROSMA	1 G	2'H x 5'W	LOW
	FESTUCA GLAUCA 'SEASYOU BLUE' BLUE FESCUE	1 G	1'H x 1'W	MED
	HYPERICUM CALYCINUM CREEPING ST. JOHNS WORT	1 G	1'H x 3'W	MED
	LANTANA MONTEVIDENSIS PURPLE TRAILING LANTANA	1 G	2'H x 8'W	LOW
	LONICERA JAPONICA 'HALLIANA' HALL'S HONEYSUCKLE	1 G	1.5'H x 4.5'W	MED
	ROSA BANKSIAE 'LUTEA' YELLOW LADY BANKS ROSE	1 G	4'H x 8'W	LOW
	ROSA FLOWER CARPET FLOWER CARPET ROSE	1 G/5 G	2'H x 3'W	MED
	ROSMARINUS OFFICINALIS 'PROSTRATUS' DWARF ROSEMARY	1 G	2'H x 6'W	LOW
	TRACHELOSPERMUM JASMINOIDES STAR JASMINE	1 G	1.5'H x 6'W	MED
	VINCA MINOR DWARF PERIWINKLE	1 G	0.5'H x 3'W	MED
	BUFFER PLANTING MIX OF NATIVE PLANT MATERIAL USED AS A NATURAL TRANSITION FROM THE EDGES OF THE SITE TO ADJACENT PROPERTIES. PLANT MATERIAL TO BE USED AS A NATURAL FILLER WILL BE HYDROSEEDED.			
	ARTEMISIA CALIFORNICA CALIFORNIA SAGEBRUSH	---	---	LOW
	CEANOTHUS SPP. CALIFORNIA LILAC	---	---	LOW
	FREMONTODENDRON 'DARA GOLD' FLANNEL BUSH	---	---	LOW
	ESCHSCHOLZIA CALIFORNICA CALIFORNIA POPPY	---	---	LOW
	ROMNEYA COULTERI MATILIJA POPPY	---	---	LOW
	MIMULUS SPP. MONKEY FLOWER	---	---	LOW
	NASSELLA PULCHRA PURPLE NEEDLE GRASS	---	---	LOW
	WATER QUALITY BASIN PLANTS ADAPTABLE TO WET CONDITIONS.			
	JUNCUS PATENS GREY RUSH	---	---	HIGH
	JUNCUS EFFUSUS SOFT RUSH	---	---	HIGH
	NASSELLA PULCHRA PURPLE NEEDLE GRASS	---	---	MED
	BIOSWALE SOD NATIVE BLEND FOR SWALE BOTTOM	---	---	MED



SCALE: 1" = 50' - 0"

0' 25' 50' 100' 200'

UNDERGROUND SERVICE ALERT
CALL TOLL FREE
1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG

Z17-0004/P17-0007/S17-0017/PD15-0001

FUHRMAN LEAMY LAND GROUP
DESIGN • SERVICE • SOLUTIONS
2140 PROFESSIONAL DRIVE, SUITE 115
ROSEVILLE, CALIFORNIA 95661
916.783.5263 • FLLANDGROUP.COM

JOB NO. : RSC17080

CONSULTANT

PROJECT:
EDH 52

HWY 50 & SILVA VALLEY
EL DORADO HILLS, CA

CLIENT:
RSC ENGINEERING, INC

REVISIONS	DATE
△	
△	
△	
△	

ISSUE		DATE
1	1ST SUBMITTAL	09.15.2017
2		
3		
4		
5		

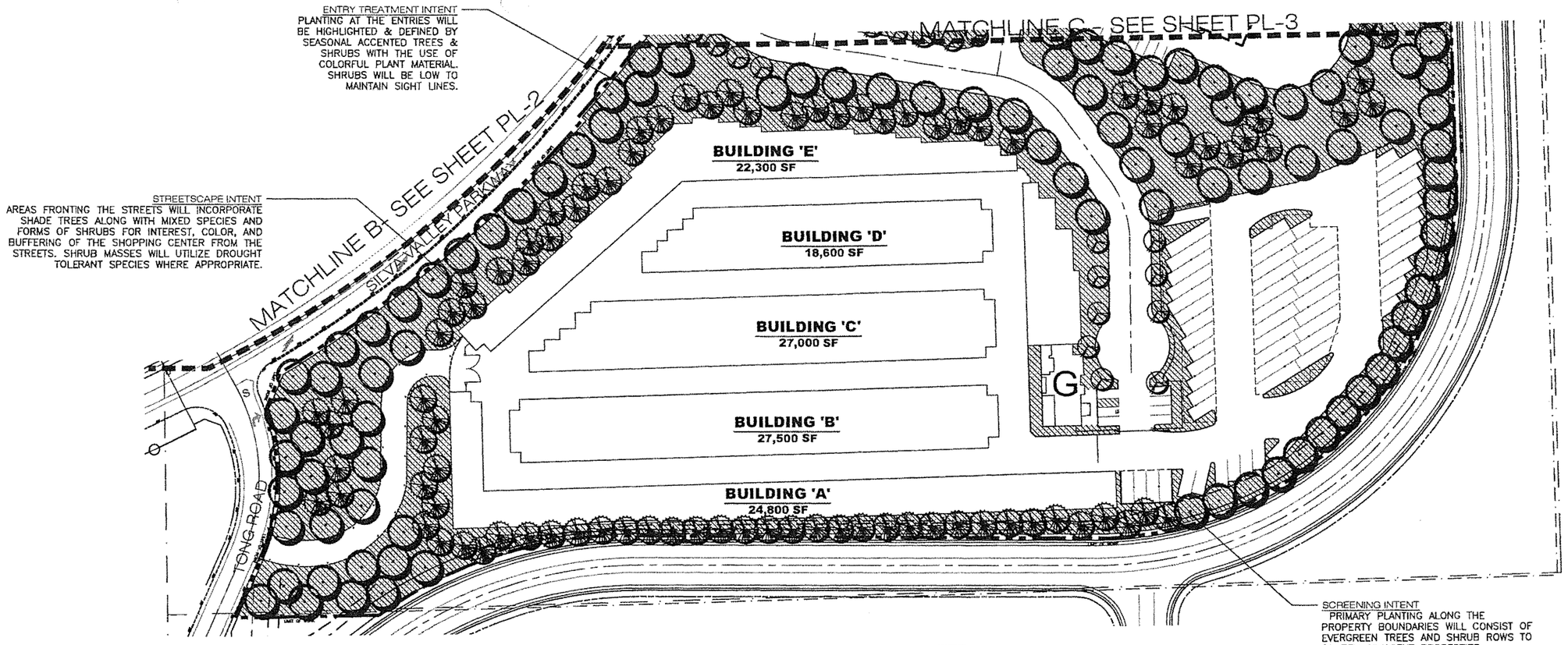
REGISTERED LANDSCAPE ARCHITECT
KEVIN C. LEAMY
No. 5641
07-18
STATE OF CALIFORNIA
NOT VALID FOR CONSTRUCTION

DRAWN : JM
CHECKED : KCL
SCALE: : 1" = 50'-0"

SHEET TITLE:
PRELIMINARY LANDSCAPE PLAN

SHEET
PL-3
3 OF 4 SHEETS

FUHRMAN LEAMY LAND GROUP HEREBY EXPRESSLY RESERVES TO ITSELF ANY COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS. THESE PLANS AND DRAWINGS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF FUHRMAN LEAMY LAND GROUP, NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT.



EDH 52 PRELIMINARY PLANT MATERIAL LIST AND LEGEND

TREES

SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE	REMARKS	WATER USE

CANOPY/SHADE TREES
LARGE EVERGREEN OR DECIDUOUS 30' TO 35' DIAMETER TREES USED TO PROVIDE SHADE

CELTIS SINENSIS CHINESE HACKBERRY	15 G	40'H x 30'W	MED
ELAEOCARPUS DECIPIENS JAPANESE BLUEBERRY TREE	15 G	40'H x 28'W	MED
LIRIODENDRON TULIPIFERA TULIP TREE	15 G	60'H x 35'W	MED
MAGNOLIA GRANDIFLORA 'D.D. BLANCHARD' SOUTHERN MAGNOLIA	15 G	45'H x 30'W	MED
PISTACIA CHINENSIS 'KEITH DAVEY' CHINESE PISTACHE	15 G	40'H x 35'W	LOW
PLATANUS ACERIFOLIA 'BLOODGOOD' LONDON PLANE TREE	15 G	40'H x 30'W	MED
TILIA CORDATA 'GREENSPIRE' LITTLE-LEAF LINDEN	15 G	35'H x 25'W	MED
ULMUS PARVIFOLIA 'ALLEE' ALLEE CHINESE EVERGREEN ELM	15 G	50'H x 30'W	MED
ZELKOVA SERRATA 'VILLAGE GREEN' SAWLEAF ZELKOVA	15 G	45'H x 35'W	MED

SCREEN TREES
EVERGREEN TREES USED TO SCREEN THE PROJECT FROM THE SURROUNDING DEVELOPMENTS

ARBUTUS 'MARINA' MARINA STRAWBERRY TREE	15 G	30'H x 25'W	LOW
CEDRUS DEODARA DEODAR CEDAR	15 G	50'H x 25'W	LOW
CUPRESSOCYPARIS LEYLANDII LEYLAND CYPRESS	15 G	60'H x 12'W	MED
CUPRESSUS GLABRA 'BLUE ICE' BLUE ICE ARIZONA CYPRESS	15 G	25'H x 12'W	LOW
LAURUS 'SARATOGA' SARATOGA SWEET BAY	15 G	25'H x 25'W	LOW
PINUS ELDARICA MONDELL PINE	15 G	30'H x 20'W	LOW
PRUNUS CAROLINIANA CAROLINA CHERRY LAUREL	15 G	25'H x 20'W	LOW
QUERCUS SUBER CORK OAK	15 G	45'H x 45'W	LOW
QUERCUS WISLIZENI INTERIOR LIVE OAK	15 G	40'H x 45'	LOW

ACCENT TREES
EVERGREEN OR DECIDUOUS TREES USED TO PROVIDE COLOR, DENOTE ENTRIES AND CREATE PEDESTRIAN SCALE

CARPINUS BETULUS 'FASTIGIATA' EUROPEAN HORNBEAM	15 G	30'H x 20'W	MED
CERCIS CANADENSIS 'FOREST PANSY' FOREST PANSY REDBUD	15 G	20'H x 25'W	MED
CERCIS OCCIDENTALIS WESTERN REDBUD	15 G	15'H x 12'W	LOW
LAGERSTROEMIA INDICA x FAURIEI 'MUSKOGEE' LAVENDER CRAPE MYRTLE	15 G	25'H x 15'W MULTI-TRUNK	LOW
LAGERSTROEMIA INDICA x FAURIEI 'NATCHEZ' WHITE CRAPE MYRTLE	15 G	25'H x 12'W MULTI-TRUNK	LOW
MAGNOLIA GRANDIFLORA 'LITTLE GEM' COMPACT SOUTHERN MAGNOLIA	15 G	25'H x 12'W	MED
NYSSA SYLVATICA TUPELO	15 G	40'H x 15'W	MED
PRUNUS CERASIFERA 'KRAUTER VESUVIUS' PURPLE-LEAF FLOWERING PLUM	15 G	15'H x 15'W	MED
PYRUS CALLERYANA 'RED SPIRE' RED SPIRE PEAR	15 G	30'H x 20'W	MED
VITEX AGNUS-CASTUS BLUE CHASTE TREE	15 G	15'H x 15'W	LOW

SHRUBS & GROUNDCOVERS

SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE	REMARKS	WATER USE

BACKGROUND OR FOUNDATION SHRUBS
LARGE EVERGREEN SHRUBS USED FOR REDUCING BUILDING MASS OR SCREENING

ARBUTUS UNEDO 'COMPACTA' DWARF STRAWBERRY TREE	5 G	8'H x 8'W	LOW
CEANOTHUS SPP. WILD LILAC	5 G	6'H x 6'W	LOW
CHOISYA TERNATA MEXICAN ORANGE	5 G	6'H x 6'W	MED
LEUCOPHYLLUM FRUTESCENS TEXAS RANGER	5 G	7'H x 7'W	LOW
NERIUM OLEANDER 'PETITE' RED OLEANDER	5 G	10'H x 10'W	LOW
PRUNUS CALIFORNICA 'ONE CASE' COFFEEBERRY	5 G	8'H x 8'W	LOW
RHAPHIOLEPIS INDICA SPP. INDIAN HAWTHORN	5 G	5'H x 5'W	MED
XYLOSMA CONGESTUM 'COMPACTA' COMPACT SHINY XYLOSMA	5 G	7'H x 7'W	LOW

FACER SHRUBS
EVERGREEN OR DECIDUOUS SHRUBS USED FOR LAYERING OF PLANT MATERIAL, SEASONAL COLOR AND SOFTENING OF BUILDING EDGE AND FOUNDATION SHRUBS.

AZALEA SPP. AZALEA	5 G	3'H x 3'W	MED
CALLISTEMON VIMINALIS 'LITTLE JOHN' DWARF BOTTLEBRUSH	5 G	3'H x 3'W	LOW
CISTUS SP. ROCKROSE	5 G	3'H x 5'W	LOW
LORIOPETALUM CHINENSIS 'MONRAZ' RAZZLEBERRY FRINGE FLOWER	5 G	5'H x 4'W	MED
LEUCOPHYLLUM ZYGOPHYLLUM BLUE RANGER	5 G	3'H x 3'W	LOW
PITTOSPORUM TOBIRA 'WHEELER'S DWARF' DWARF MOCK ORANGE	5 G	3'H x 4'W	MED
RHAPHIOLEPIS UMBELLATA 'MINOR' DWARF YEDDO HAWTHORN	5 G	3'H x 3'W	LOW
WESTRINGIA ROSMARINIFORMIS 'MORNING LIGHT' VARIEGATED COAST ROSEMARY	5 G	3'H x 3'W	LOW

ACCENT SHRUBS
EVERGREEN OR PERENNIAL SHRUBS USED FOR AESTHETIC VALUE IN LANDSCAPE THROUGH BLOOM, COLOR, OR OVERALL CHARACTER.

AGAVE SPP. AGAVE	5 G	VARIES	LOW
BERBERIS THUNBERGII 'CRIMSON PYGMY' RED DWARF JAPANESE BARBERRY	5 G	1.5'H x 2.5'W	MED
BOUTELOUA GRACILIS 'BLOND AMBITION' BLUE GRAMA GRASS	1 G	3'H x 3'W	LOW
CALAMAGROSTIS x ACUTIFLORA 'KARL FOERSTER' FEATHER REED GRASS	1 G	2.5'H x 2.5'W	LOW
HEMEROCALLIS HYBRIDS EVERGREEN DAYLILY	1 G	VARIES X 2'W	MED
KNEPHOFIA UVARIA RED HOT POKER	1 G	3'H x 3'W	LOW
LAVANDULA SPP. LAVENDER	1 G	VARIES	LOW
MUHLENBERGIA CAPILLARIS PINK MUHLY	5 G	3'H x6'W	LOW
NANDINA DOMESTICA 'COMPACTA' COMPACT HEAVENLY BAMBOO	1 G/5 G	4'H x 3'W	LOW
PHORMIUM HYBRIDS NEW ZEALAND FLAX	1 G/5 G	VARIES	MED/LOW

GROUNDCOVER MATERIAL
EVERGREEN OR PERENNIAL SHRUBS TO 30" HIGH, USED TO BLANKET LARGER AREAS AND AS A FILLER BETWEEN SITE WORK EDGES AND FACER SHRUBS.

BACCHARIS PILULARIS 'PIGEON POINT' DWARF COYOTE BUSH	1 G	2.5'H x 7'W	LOW
COPROSMA KIRKII KIRK'S COPROSMA	1 G	2'H x 5'W	LOW
FESTUCA GLAUCA 'SEASIDE BLUE' BLUE FESCUE	1 G	1'H x 1'W	MED
HYPERICUM CALYCINUM GROWING ST. JOHN'S WORT	1 G	1'H x 3'W	MED
LANTANA MONTEVIDENSIS PURPLE TRAILING LANTANA	1 G	2'H x 6'W	LOW
LONICERA JAPONICA 'HALLIANA' HALL'S HONEYSUCKLE	1 G	1.5'H x 6.5'W	MED
ROSA BANKSIAE 'LUTEA' YELLOW LADY BANKS ROSE	1 G	4'H x 6'W	LOW
ROSA FLOWER CARPET FLOWER CARPET ROSE	1 G/5 G	2'H x 3'W	MED
ROSMARINUS OFFICINALIS 'PROSTRATUS' DWARF ROSEMARY	1 G	2'H x 6'W	LOW
TRACHELOSPERMUM JASMINOIDES STAR JASMINE	1 G	1.5'H x 6'W	MED
VINCA MINOR DWARF PERIWINKLE	1 G	0.5'H x 3'W	MED

BUFFER PLANTING
MIX OF NATIVE PLANT MATERIAL USED AS A NATURAL TRANSITION FROM THE EDGES OF THE SITE TO ADJACENT PROPERTIES. PLANT MATERIAL TO BE USED AS A NATURAL FILLER WILL BE HYDROSEEDED.

ARTEMISIA CALIFORNICA CALIFORNIA SAGEBRUSH	---	---	LOW
CEANOTHUS SPP. CALIFORNIA LILAC	---	---	LOW
FREMONTODENDRON 'DARA GOLD' FLANNEL BUSH	---	---	LOW
ESCHSCHOLZIA CALIFORNICA CALIFORNIA POPPY	---	---	LOW
ROMNEYA COULTERI MATILIJA POPPY	---	---	LOW
MIMULUS SPP. MONKEY FLOWER	---	---	LOW
NASSELLA PULCHRA PURPLE NEEDLE GRASS	---	---	LOW

WATER QUALITY BASIN
PLANTS ADAPTABLE TO WET CONDITIONS.

JUNCUS PATENS GREY RUSH	---	---	HIGH
JUNCUS EFFUSUS SOFT RUSH	---	---	HIGH
NASSELLA PULCHRA PURPLE NEEDLE GRASS	---	---	MED
BIOSWALE SOD NATIVE BLEND FOR SWALE BOTTOM	---	---	MED

SCALE: 1" = 50' - 0"
0' 25' 50' 100' 200'

UNDERGROUND SERVICE ALERT
CALL TOLL FREE
1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG

Z17-0004/P17-0007/S17-0017/PD15-0001

FURNISHED OR CREATED IN ANY FORM OR MANNER WHATSOEVER WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION OF FUHRMAN LEAMY LAND GROUP. NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING WRITTEN PERMISSION AND CONSENT.
FUHRMAN LEAMY LAND GROUP HEREBY EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS. THESE PLANS AND DRAWINGS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN

FUHRMAN LEAMY
LAND GROUP
DESIGN • SERVICE • SOLUTIONS
2140 PROFESSIONAL DRIVE, SUITE 115
ROSEVILLE, CALIFORNIA 95661
916.783.5263 • FLLANDGROUP.COM
JOB NO. : RSC.17080
CONSULTANT

PROJECT:
EDH 52

HWY 50 & SILVA VALLEY
EL DORADO HILLS, CA
CLIENT:
RSC ENGINEERING, INC

REVISIONS	DATE
1	
2	
3	
4	
5	

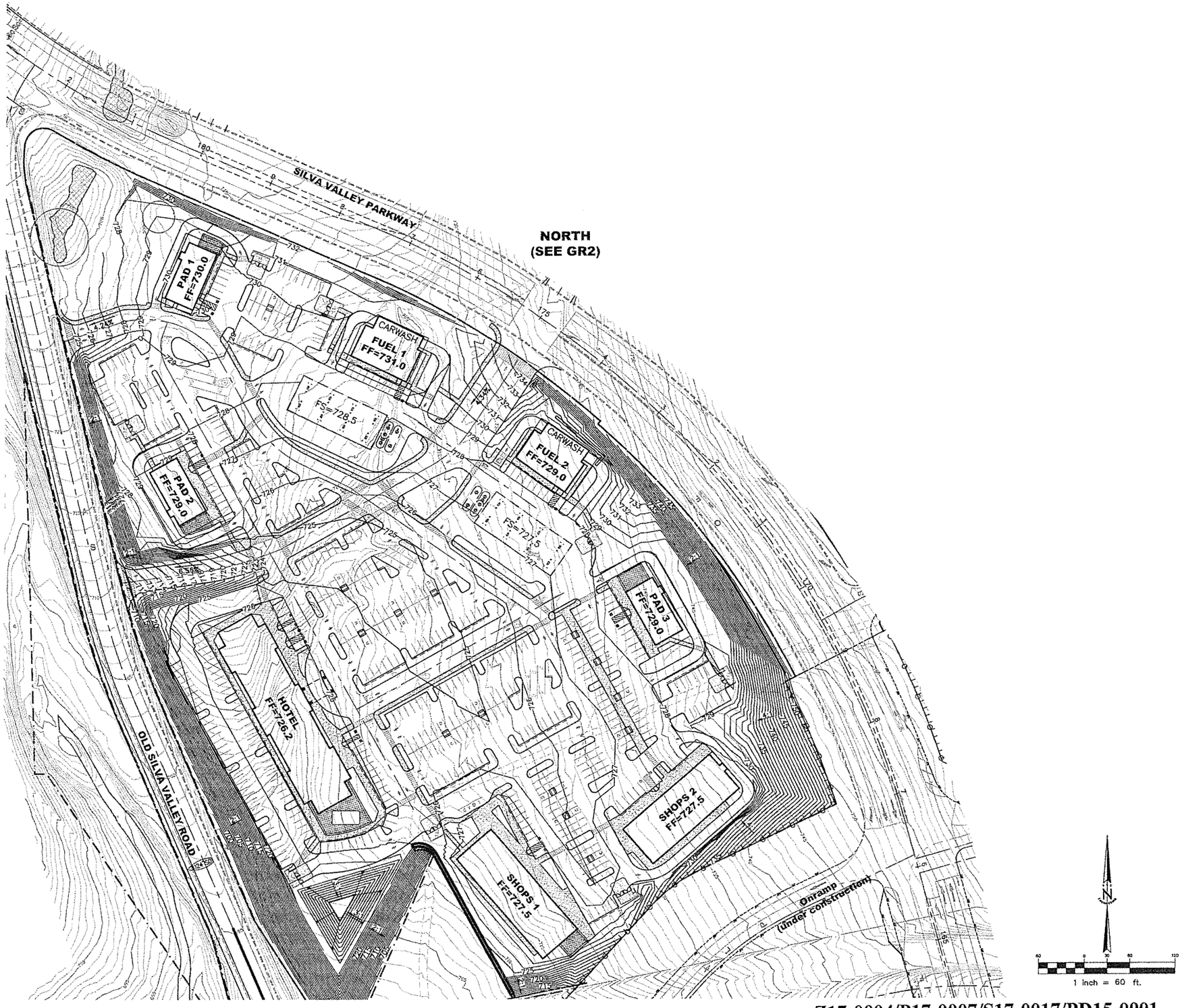
ISSUE		DATE
1	1ST SUBMITTAL	09.15.2017
2		
3		
4		
5		

REGISTERED LANDSCAPE ARCHITECT
KEITH C. LEAMY
No. 5107
06-01-18
RENEWAL DATE
STATE OF CALIFORNIA
NOT FOR CONSTRUCTION

DRAWN : JM
CHECKED : KCL
SCALE : 1" = 50'-0"

SHEET TITLE:
PRELIMINARY LANDSCAPE PLAN

SHEET
PL-4
4 OF 4 SHEETS



Z17-0004/P17-0007/S17-0017/PD15-0001

OWNER:

EDH 52
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

NO.	DESCRIPTION	DRN. BY	DATE CITY APPROVED
1			
2			
3			
4			
5			
6			

REGISTERED PROFESSIONAL ENGINEER
RICHARD S. CAMPBELL
No. 29033
Mar. 31, 2019
CIVIL
STATE OF CALIFORNIA

RSC ENGINEERING
2250 Douglas Blvd. Suite 150
Roseville, CA 95661
Ph: 916.788.2864 Fax: 916.788.4408

PROJECT NO: 104-003
DRAWN BY: RSC Eng
CHECKED BY: RSC Eng
DESIGNED BY: RSC Eng

PLANNED DEVELOPMENT APPLICATION FOR EDH 52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

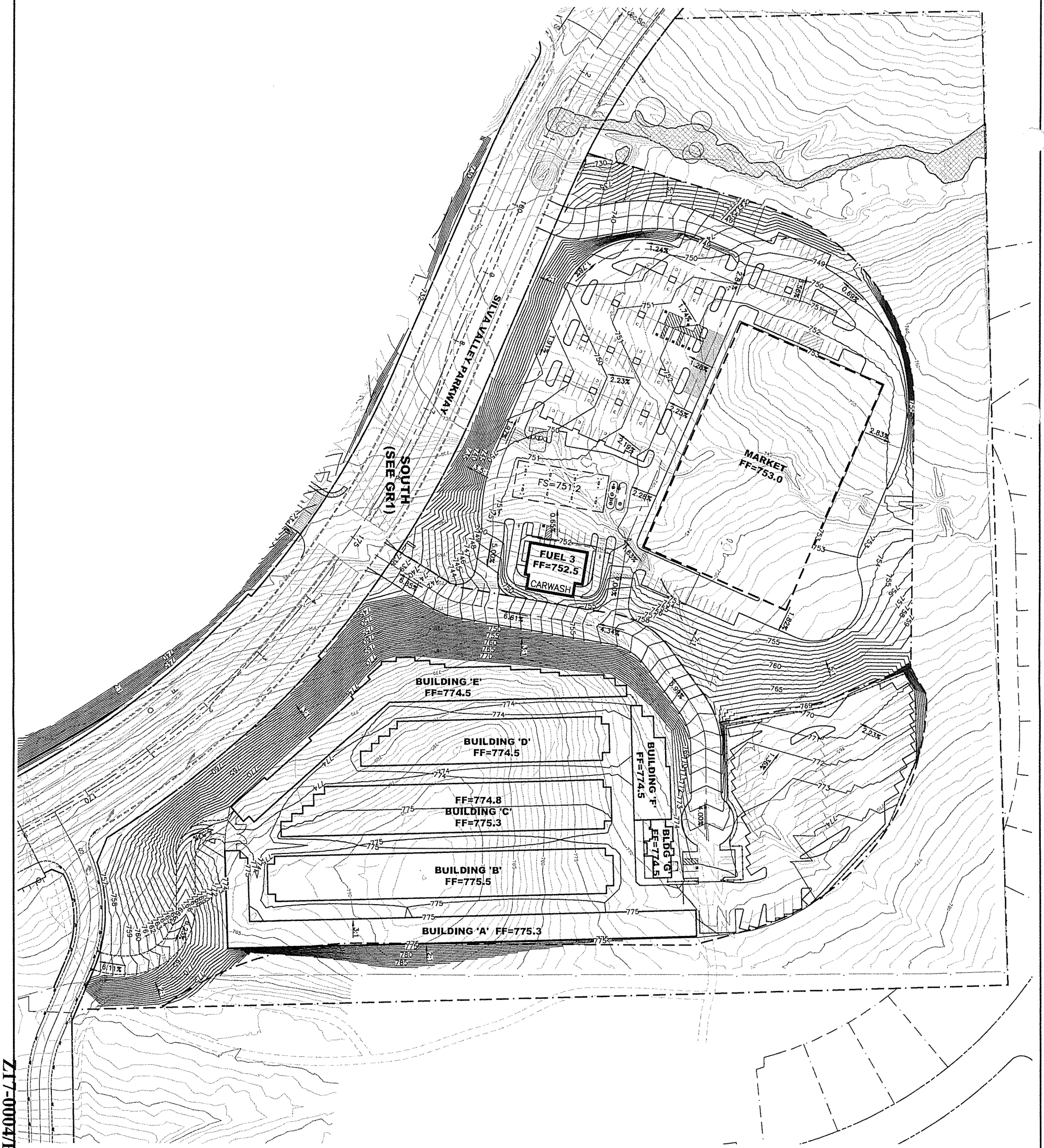
SHEET TITLE
PRELIMINARY GRADING PLAN SOUTH

SHEET NO.
GR1
OF 8

DATE: SEPTEMBER 18, 2017

LAST MODIFIED: Sep 13, 17 - 13:38
PLOT DATE: Sep 13, 2017 - 13:38 PM

P:\104-003A\Planning\Conceptual\104003A_XSUPER.XU.dwg
P:\104-003A\Planning\Conceptual\104003A_XADJLOT03.dwg
P:\104-003A\Planning\Conceptual\104003A_XPRPH2.dwg
P:\104-003A\Planning\Conceptual\104003A_XBOAD-GD09.dwg
P:\104-003A\Planning\Conceptual\104003A_XPOAD-SHP3.dwg
P:\104-003A\Planning\Conceptual\104003A_XLOT6.dwg
P:\104-003A\Planning\Conceptual\104003A_XTOPO-PROP.dwg



ZI7-0004/PI7-0007/SI7-0017/PD15-0001

PLANNED DEVELOPMENT APPLICATION FOR EDH 52

HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

SHEET TITLE
PRELIMINARY GRADING PLAN NORTH

SHEET NO.
GR2
OF 8

DATE: SEPTEMBER 18, 2017

DESIGNED BY: RSC Eng
CHECKED BY: RSC Eng
DRAWN BY: RSC Eng
PROJECT NO: 104-003

RSC ENGINEERING
2250 Douglas Blvd. Suite 150
Roseville, CA 95661
Ph: 916.788.2884 Fax: 916.788.4408

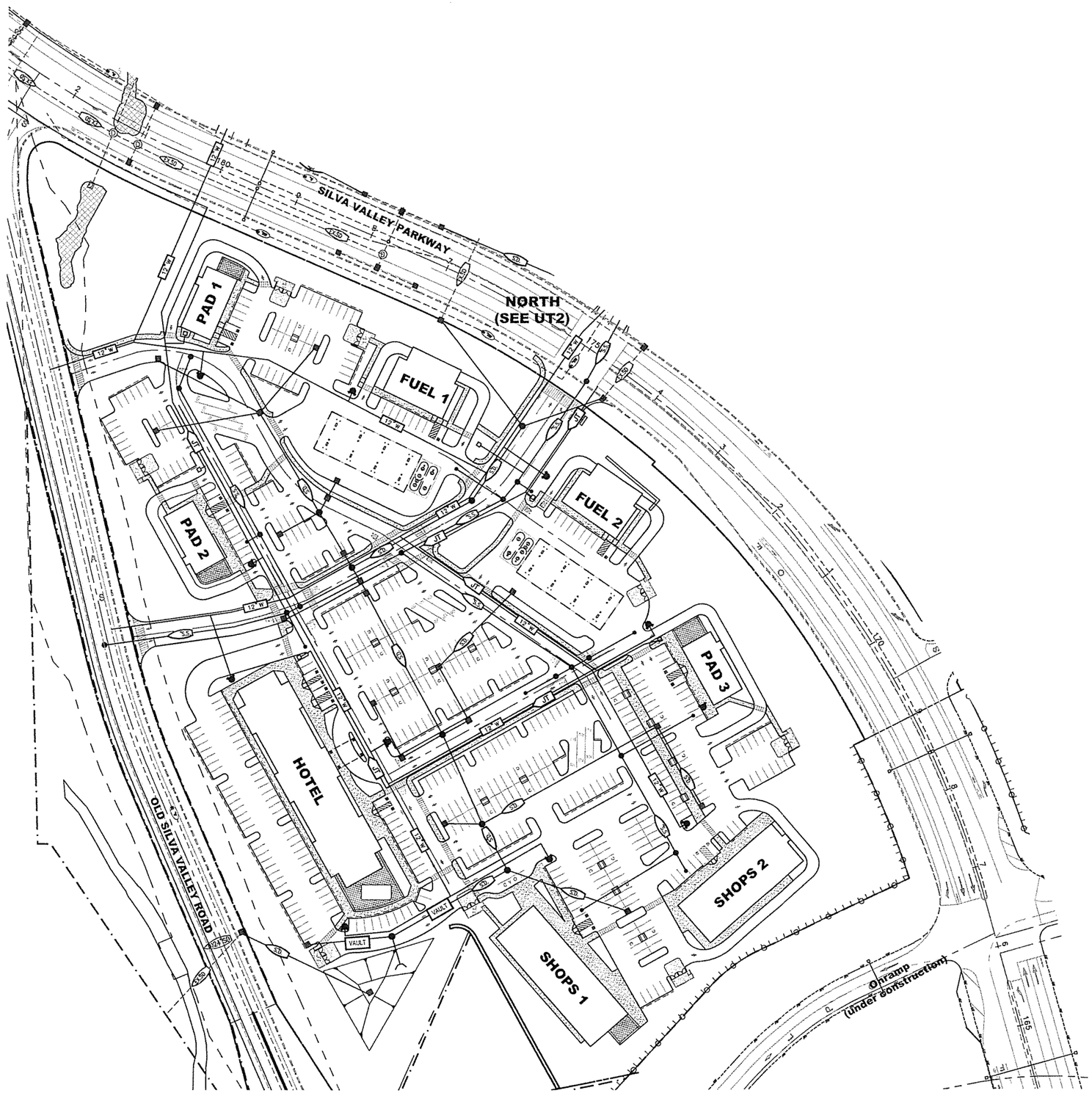
REGISTERED PROFESSIONAL ENGINEER
RICHARD S. CRAVEZ
No. 28033
Exp. 11/17/17
STATE OF CALIFORNIA

REV NO.	DESCRIPTION	ENG INT.	BY CITY	DATE APPROVED
1				
2				
3				
4				
5				

OWNER:

EDH 52

7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 383-2500



LEGEND

- VAULT — STORM WATER QUALITY TREATMENT DEVICE
- STORM WATER QUALITY INLETS
- PROPOSED FIRE HYDRANT
- EXISTING DOMESTIC WATER
- EXISTING RECLAIMED WATER
- EXISTING SANITARY SEWER
- EXISTING STORM DRAIN
- PROPOSED DOMESTIC WATER
- PROPOSED RECLAIMED WATER
- PROPOSED SANITARY SEWER
- PROPOSED STORM DRAIN
- JT — PROPOSED JOINT TRENCH

N

60 0 30 60 120

1 inch = 60 ft.

Z17-0004/P17-0007/S17-0017/PD15-0001

OWNER:

EDH 52
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

REV NO	DESCRIPTION	DRN BY	BY	DATE
			CITY	APPROVED

REGISTERED PROFESSIONAL ENGINEER
RICHARD S. CRAVEN
No. 29033
Mar. 31, 2019
CIVIL
STATE OF CALIFORNIA

RSC ENGINEERING
2250 Douglas Blvd. Suite 150
Roseville, CA 95661
Ph: 916.788.2864 Fax: 916.788.4408

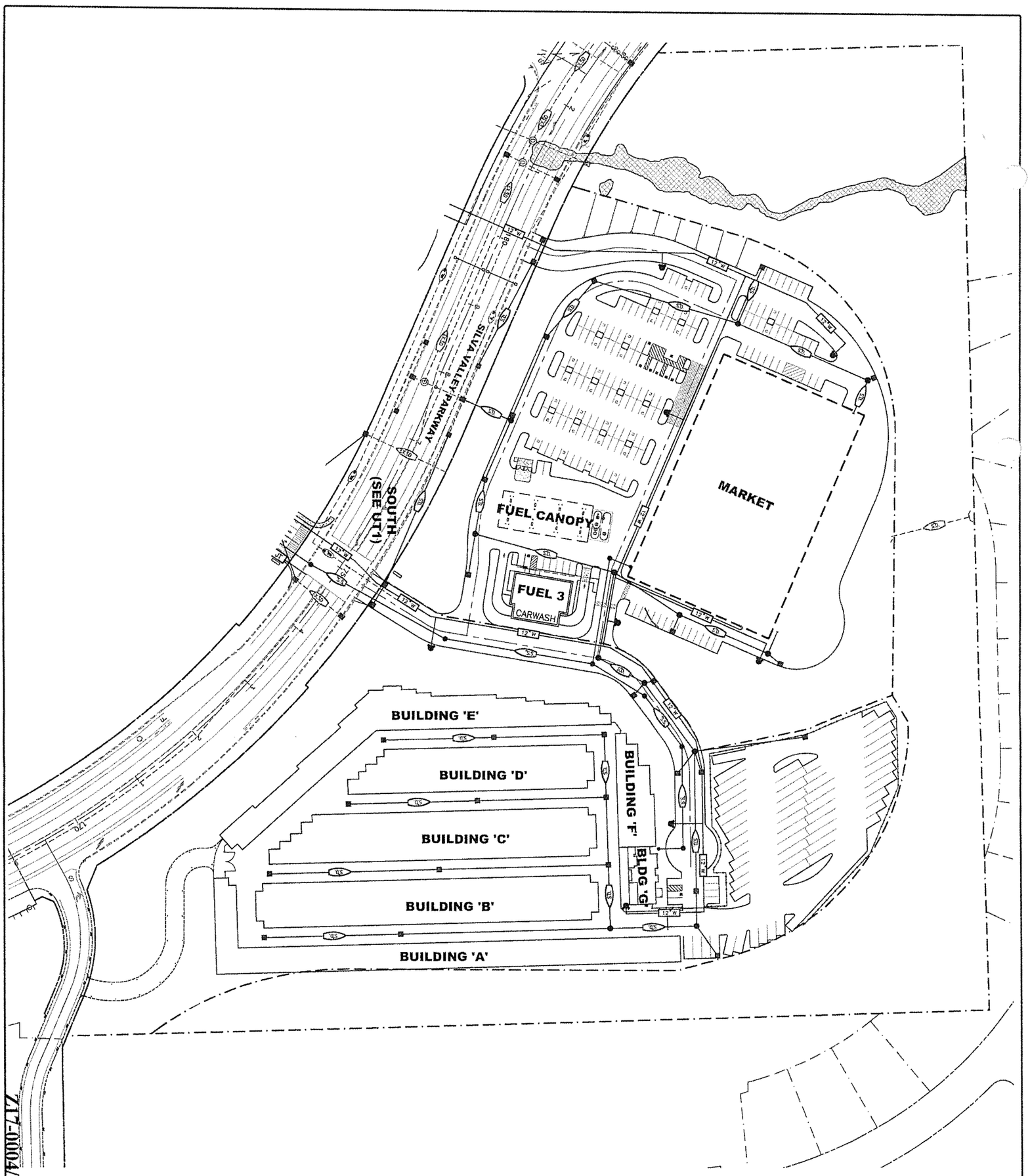
PROJECT NO:	104-003
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

PLANNED DEVELOPMENT APPLICATION FOR EDH 52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

SHEET TITLE
PRELIMINARY UTILITY PLAN SOUTH

SHEET NO.
UT1
OF **8**

DATE: SEPTEMBER 18, 2017



LEGEND

- STORM WATER QUALITY TREATMENT DEVICE (VAULT)
- STORM WATER QUALITY INLETS
- PROPOSED FIRE HYDRANT
- EXISTING DOMESTIC WATER
- EXISTING RECLAIMED WATER
- EXISTING SANITARY SEWER
- EXISTING STORM DRAIN
- PROPOSED DOMESTIC WATER
- PROPOSED RECLAIMED WATER
- PROPOSED SANITARY SEWER
- PROPOSED STORM DRAIN
- PROPOSED JOINT TRENCH

1 inch = 60 ft.

Z17-0004/P17-0007/S17-0017/PD15-000

DATE: SEPTEMBER 18, 2017

SHEET NO. UT2 OF 8

SHEET TITLE: PRELIMINARY UTILITY PLAN NORTH

PLANNED DEVELOPMENT APPLICATION FOR EDH 52

HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

PROJECT NO: 104-003
DRAWN BY: RSC Eng
CHECKED BY: RSC Eng
DESIGNED BY: RSC Eng

RSC ENGINEERING
2250 Douglas Blvd. Suite 150
Roseville, CA 95661
Ph:916.788.2884 Fax:916.788.4408

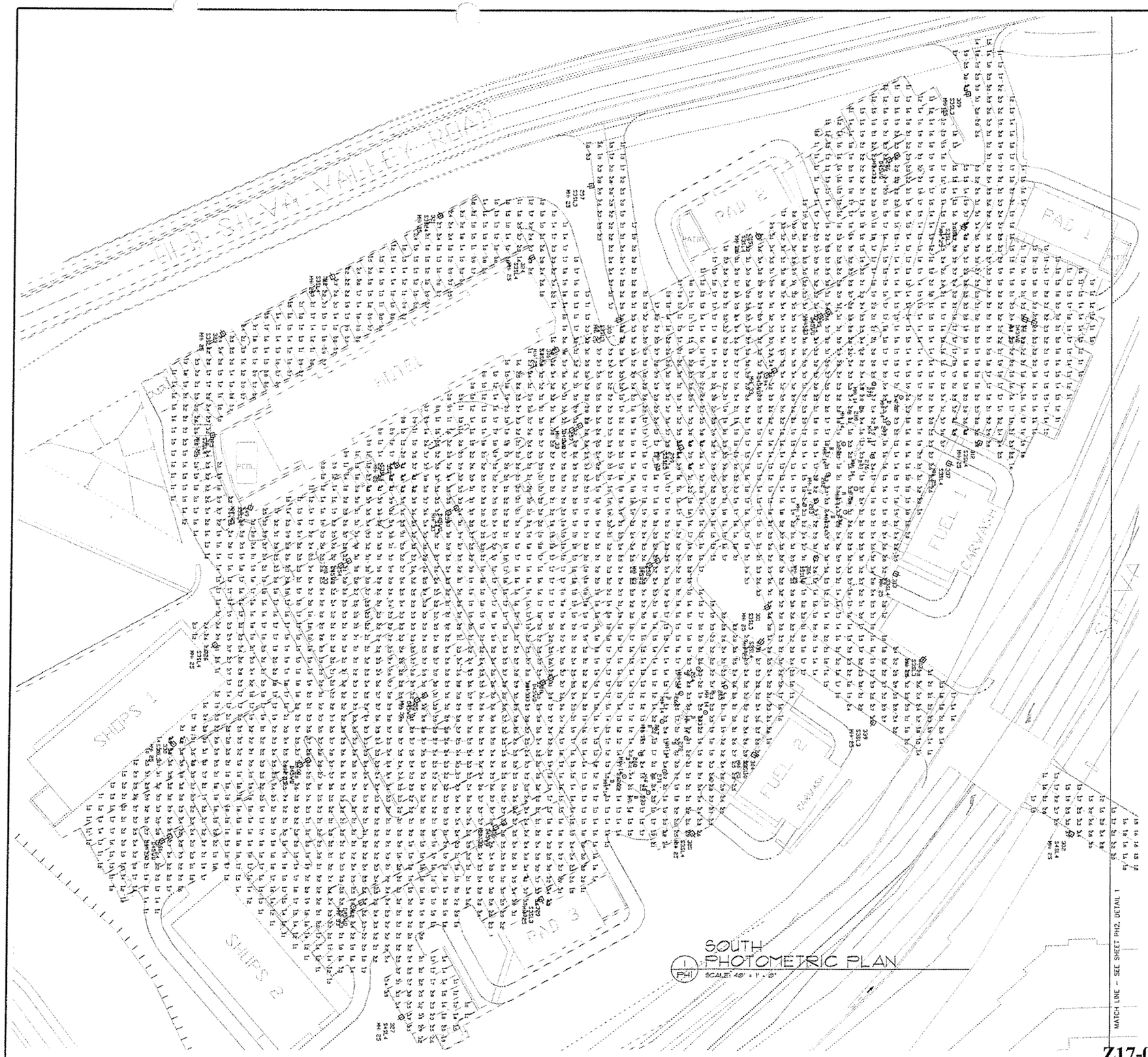
REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA — MICHAEL J. CASTRO

REV BY.	DESCRIPTION	CHD INT.	BY	DATE CITY APPROVED
△				
△				
△				
△				
△				

OWNER:

EDH 52

7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 383-2500



1 PH1 SOUTH PHOTOMETRIC PLAN
SCALE: 40' = 1'-0"

FIXTURE KEY

355 — FIXTURE NUMBER FOR REFERENCE
S35L4H — FIXTURE TYPE – SEE SCHEDULE
MH: 25 — MOUNTING HEIGHT OF LIGHT SOURCE EQUAL TO POLE HEIGHT PLUS BASE

N

40 0 20 40 80
1 inch = 40 ft.

Z17-0004/P17-0007/S17-0017/PD15-0001

OWNER:

EDH 52
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 383-2560

NO.	DESCRIPTION	BY	DATE APPROVED
△			
△			
△			
△			
△			

RSC ENGINEERING
2250 Douglas Blvd, Suite 150
Roseville, CA 95661
Ph: 916.782.2834 Fax: 916.788.1408

No. 9668 Exp. 9-19 — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

9/18/17

PROJECT NO:	104-003
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

PLANNED DEVELOPMENT APPLICATION FOR EDH 52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

SHEET TITLE
PHOTOMETRIC SITE PLAN SOUTH

SHEET NO.
PH1
1 OF 2

DATE: SEPTEMBER 18, 2017

Calculation Summary					
Label	CalcType	Max	Min	Max/Min	Avg
CalcPts	Illuminance	6.4	0.5	12.80	2.15

Luminaire Schedule						
Symbol	Label	Arrangement	LLF	Lum. Watts	Qty	Description
	B	SINGLE	1.000	16.52	30	Lithonia - DLCFM 15 WH
	S3SL3	SINGLE	0.850	157	11	McGraw Edison - GLEON-AE-03-LED-E1-SL3
	S3SL4	SINGLE	0.850	157	32	McGraw Edison - GLEON-AE-03-LED-E1-SL4
	S3SL4H	SINGLE	0.850	157	4	McGraw Edison - GLEON-AE-03-LED-E1-SL4-HSS
	S4SL4	SINGLE	0.850	213	4	McGraw Edison - GLEON-AE-04-LED-E1-SL4
	S4SL4H	SINGLE	0.850	213	3	McGraw Edison - GLEON-AE-04-LED-E1-SL4-HSS
	D45WQ	BACK-BACK	0.920	213	24	McGraw Edison - GLEON-AE-04-LED-E1-SWQ



1 PH2 NORTH PHOTOMETRIC PLAN
SCALE: 40' x 1' - 0"



2 PH2 NORTH-EAST PHOTOMETRIC PLAN
SCALE: 40' x 1' - 0"

Z17-0004/P17-0007/S17-0017/PD15-0001

OWNER:
EDH 52
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

REV NO	DESCRIPTION	DES BY	DATE
			CITY APPROVED

RSC ENGINEERING
2250 Douglas Blvd, Suite 150
Roseville, CA 95661
Ph: 916.788.2884 Fax: 916.788.4408

PROJECT NO:	104-003
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

PLANNED DEVELOPMENT APPLICATION FOR EDH 52

HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

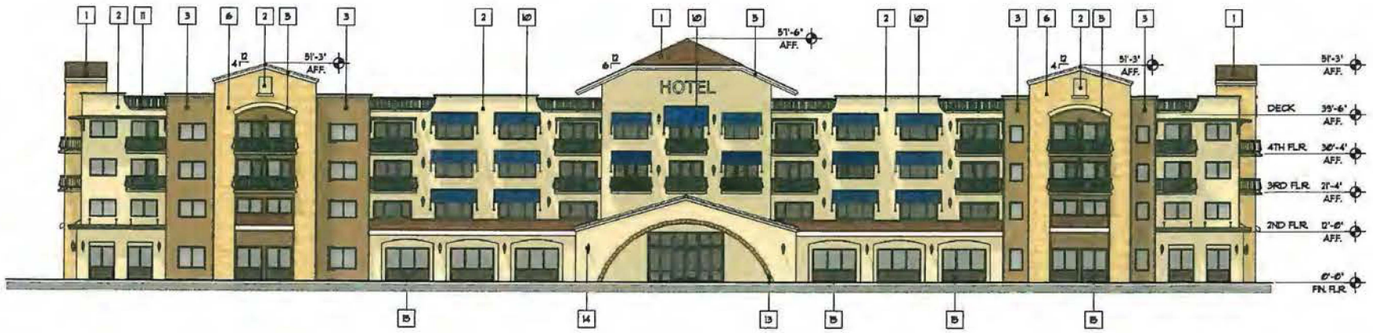
SHEET TITLE
PHOTOMETRIC SITE PLAN NORTH

SHEET NO.
PH2
2 OF 2

DATE: SEPTEMBER 18, 2017

STAFFORD
KING
WIESE
ARCHITECTS

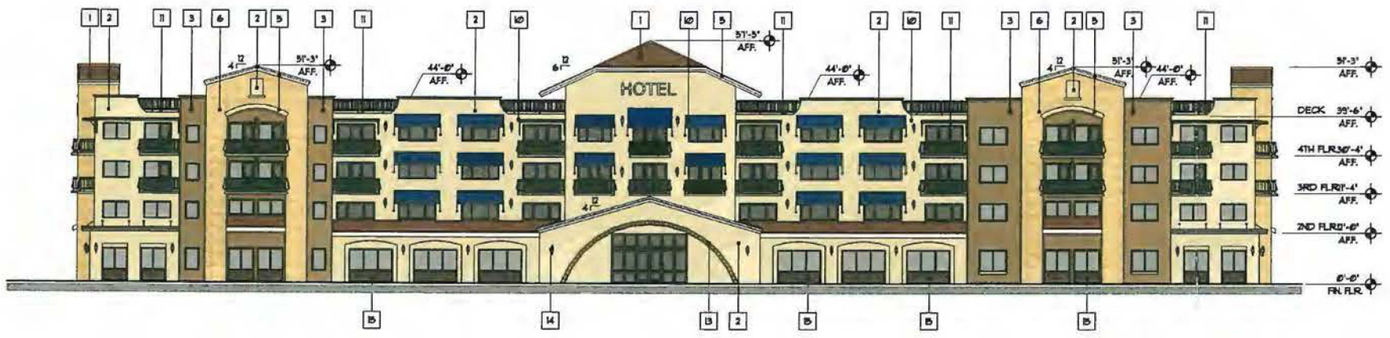
622 20TH STREET
SACRAMENTO, CALIFORNIA 95811
916.930.5900
www.skwarchitects.com



FRONT ELEVATION (EAST)



RIGHT ELEVATION (NORTH)



REAR ELEVATION (WEST)



LEFT ELEVATION (SOUTH)

MATERIAL AND COLOR SCHEDULE

	MATERIAL	MANUFACTURER	COLOR/STYLE
1	ROOF TILE	EAGLE ROOFING	STANDARD SELECT-3723 ADOBE BLEND OR DESIGNER SELECT- 8HC 8111 FUESTA DEL SOL BLEND
2	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6143 ALMOND LATTE
3	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6144 GRAHAM CRACKER
4	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6368 WALRUS
5	PAINT-CORNICE/FASCIA TRIMS	DUNN EDWARDS PAINTS	DE6211 LIGHT BEIGE
6	STONE VENEER	CREATIVE MINES	COYOTE CRAFT FARMHOUSE LEDGE
7	STONE VENEER	CREATIVE MINES	BISON CRAFT FOOTHILL RUBBLE
8	METAL CANOPY	PRE-FABRICATED	PAINT TO MATCH DARK BRONZE
9	FABRIC AWNING	SUNBRELLA	BURGUNDY PLUS 8431-0000
10	FABRIC AWNING	SUNBRELLA	MEDITERRANEAN BLUE TWEED 6053-0000
11	WROUGHT IRON RAILING & ORNAMENTS	PRE-FABRICATED	PRE-FINISHED FLAT BLACK
12	WOOD STAIN AT HEADERS	PPG-FLOOD STAIN	713 OXFORD BROWN (SEMI-OPAQUE ON PRESSURE TREATED WOOD
13	DECORATIVE TILES	TBD	MEDITERRANEAN INSPIRED PAINTED TILES
14	ARCHITECTURAL LIGHTING	FEMCO LIGHTING (SOLID STATE LIGHTING)	CARLSBAD RADIANT-WALL MOUNT SMALL SIZE-(DARK BRONZE)
15	STOREFRONT	TBD	DARK BRONZE ANODIZED

Z17-0004/P17-0007/S17-0017/PD15-0001

CLIENT AND PROJECT

EDH 52
7700 College Town Drive, Suite 101
Sacramento, CA 95826
(P) 916.383.2500

EDH 52

Highway 50 & Silva Valley Parkway
El Dorado Hills, CA 95751
El Dorado County

SCALE 1/16" = 1'-0"

8' 0' 16' 32' 48'

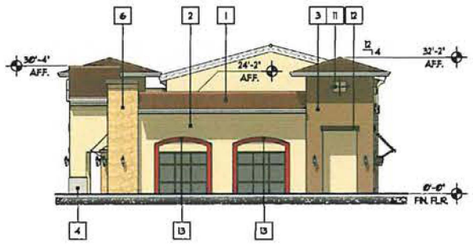
SHEET TITLE

BUILDING ELEVATION
HOTEL

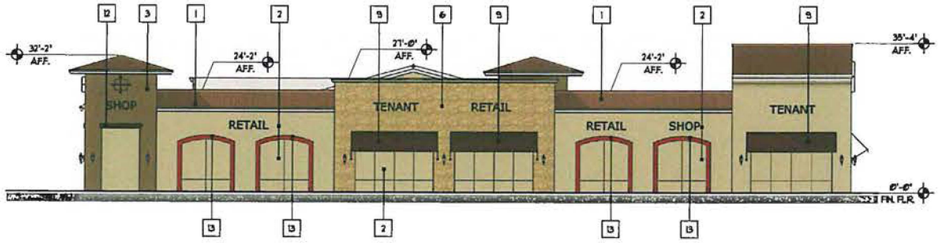
PROJECT NO.	SHEET NO.
04999.00	A1
DRAWN BY: RC	CHECKED BY: MM
ISSUE DATE: SEPTEMBER 12, 2017	



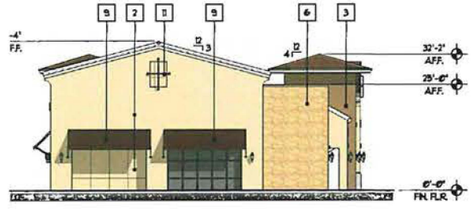
FRONT ELEVATION (EAST)



RIGHT ELEVATION (NORTH)



REAR ELEVATION (WEST)



LEFT ELEVATION (SOUTH)

MATERIAL AND COLOR SCHEDULE

	MATERIAL	MANUFACTURER	COLOR/STYLE
1	ROOF TILE	EAGLE ROOFING	STANDARD SELECT-3723 ADOBE BLEND OR DESIGNER SELECT- 8HC 811 FIESTA DEL SOL BLEND
2	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6143 ALMOND LATTE
3	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6144 GRAHAM CRACKER
4	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6368 WALRUS
5	PAINT-CORNICE/FASCIA TRIMS	DUNN EDWARDS PAINTS	DE6211 LIGHT BEIGE
6	STONE VENEER	CREATIVE MINES	COYOTE CRAFT FARMHOUSE LEDGE
7	STONE VENEER	CREATIVE MINES	BISON CRAFT FOOTHILL RUBBLE
8	METAL CANOPY	PRE-FABRICATED	PAINT TO MATCH DARK BRONZE

	MATERIAL	MANUFACTURER	COLOR/STYLE
9	FABRIC AWNING	SUNBRELLA	BURGUNDY PLUS 8431-0000
10	FABRIC AWNING	SUNBRELLA	MEDITERRANEAN BLUE TWEED 6053-0000
11	WROUGHT IRON RAILING & ORNAMENTS	PRE-FABRICATED	PRE-FINISHED FLAT BLACK
12	WOOD STAIN AT HEADERS	PPG-FLOOD STAIN	TB OXFORD BROWN (SEMI-OPAQUE ON PRESSURE TREATED WOOD
13	DECORATIVE TILES	TBD	MEDITERRANEAN INSPIRED PAINTED TILES
14	ARCHITECTURAL LIGHTING	PEMCO LIGHTING (SOLID STATE LIGHTING)	CARLSBAD RADIANT-WALL MOUNT SMALL SIZE-(DARK BRONZE)
15	STOREFRONT	TBD	DARK BRONZE ANODIZED

Z17-0004/P17-0007/S17-0017/PD15-0001

STAFFORD KING WIESE ARCHITECTS

622 20TH STREET
SACRAMENTO, CALIFORNIA 95811
916.930.5900
www.skwarchitects.com

CLIENT AND PROJECT

EDH 52
7700 College Town Drive, Suite 101
Sacramento, CA 95826
(P) 916.383.2500

EDH 52

Highway 50 & Silva Valley Parkway
El Dorado Hills, CA 95751
El Dorado County

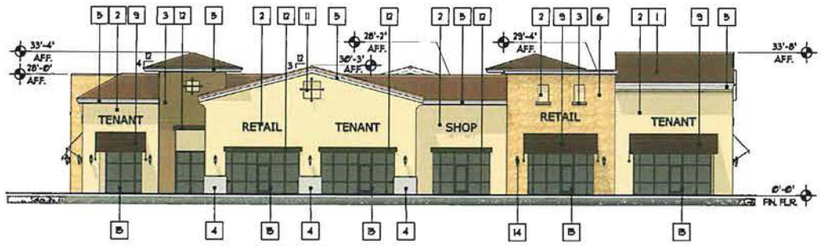
SCALE 1/16" = 1'-0"

8'
0' 16' 32' 48'

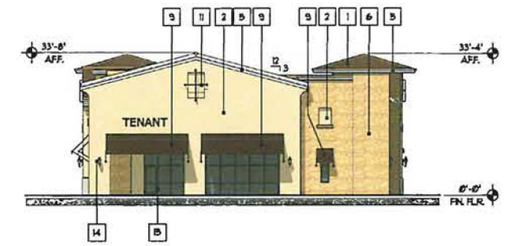
SHEET TITLE

BUILDING ELEVATION
RETAIL S-1

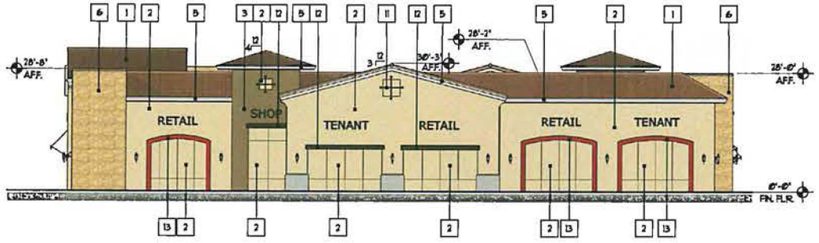
PROJECT NO. 04999.00	SHEET NO A2
DRAWN BY RC	CHECKED BY MM
ISSUE DATE SEPTEMBER 12, 2017	



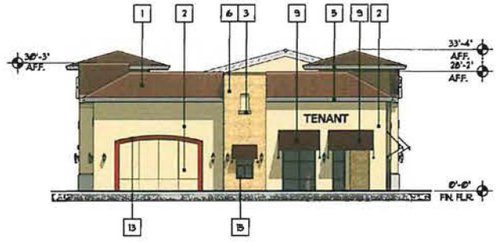
FRONT ELEVATION (NORTH)



RIGHT ELEVATION (WEST)



REAR ELEVATION (SOUTH)



LEFT ELEVATION (EAST)

MATERIAL AND COLOR SCHEDULE

	MATERIAL	MANUFACTURER	COLOR/STYLE
1	ROOF TILE	EAGLE ROOFING	STANDARD SELECT-3723 ADOBE BLEND OR DESIGNER SELECT- SHC 8111 PUEBTA DEL SOL BLEND
2	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6143 ALMOND LATTE
3	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6144 GRAHAM CRACKER
4	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6368 WALRUS
5	PAINT-CORNICE/FASCIA TRIMS	DUNN EDWARDS PAINTS	DE6211 LIGHT BEIGE
6	STONE VENEER	CREATIVE MINES	COYOTE CRAFT FARMHOUSE LEDGE
7	STONE VENEER	CREATIVE MINES	BISON CRAFT FOOTHILL RUBBLE
8	METAL CANOPY	PRE-FABRICATED	PAINT TO MATCH DARK BRONZE
9	FABRIC AWNING	SUNBRELLA	BURGUNDY PLUS 8431-0000
10	FABRIC AWNING	SUNBRELLA	MEDITERRANEAN BLUE TWEED 6053-0000
11	WROUGHT IRON RAILING & ORNAMENTS	PRE-FABRICATED	PRE-FINISHED FLAT BLACK
12	WOOD STAIN AT HEADERS	PPG-FLOOD STAIN	713 OXFORD BROWN (SEMI-OPAQUE ON PRESSURE TREATED WOOD
13	DECORATIVE TILES	TBD	MEDITERRANEAN INSPIRED PAINTED TILES
14	ARCHITECTURAL LIGHTING	PEMCO LIGHTING (SOLID STATE LIGHTING)	CARLSBAD RADIANT-WALL MOUNT SMALL SIZE-(DARK BRONZE)
15	STOREFRONT	TBD	DARK BRONZE ANODIZED

Z17-0004/P17-0007/S17-0017/PD15-0001

STAFFORD KING WIESE ARCHITECTS

622 20TH STREET
SACRAMENTO, CALIFORNIA 95811
916.930.5900
www.skwarchitects.com

CLIENT AND PROJECT

EDH 52
7700 College Town Drive, Suite 101
Sacramento, CA 95826
(P) 916.383.2500

EDH 52

Highway 50 & Silva Valley Parkway
El Dorado Hills, CA 95751
El Dorado County

SCALE 1/16" = 1'-0"

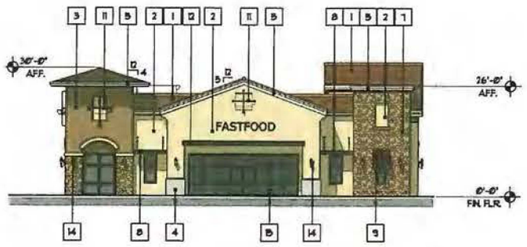
8' 0' 16' 32' 48'

SHEET TITLE

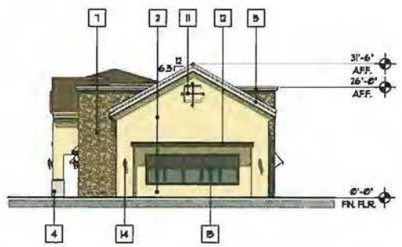
BUILDING ELEVATION
RETAIL S-2

PROJECT NO.	SHEET NO.
04999.00	A3
DRAWN BY: RC	CHECKED BY: MM
ISSUE DATE: SEPTEMBER 12, 2017	

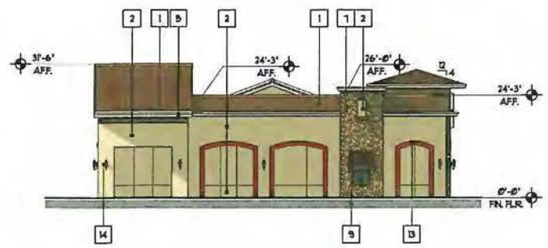
RESTAURANT / FASTFOOD PAD



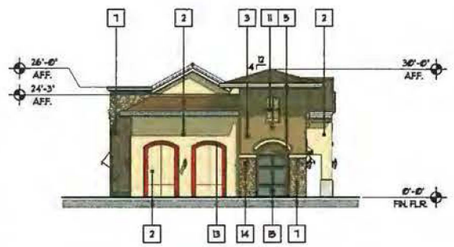
FRONT ELEVATION (TYPICAL)



RIGHT ELEVATION (TYPICAL)

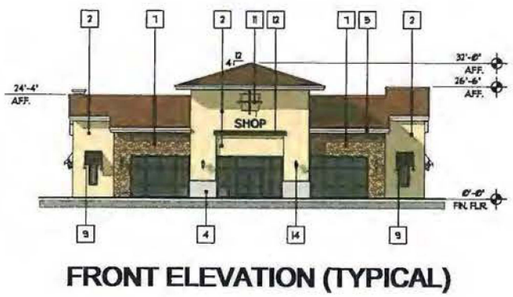


REAR ELEVATION (TYPICAL)



LEFT ELEVATION (TYPICAL)

FUEL STATION / CONVENIENCE STORE



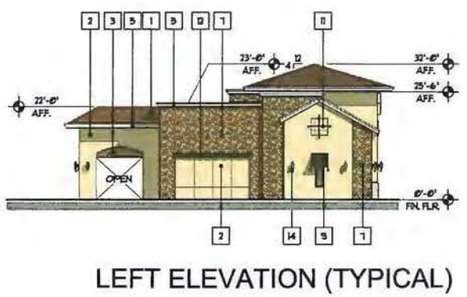
FRONT ELEVATION (TYPICAL)



RIGHT ELEVATION (TYPICAL)

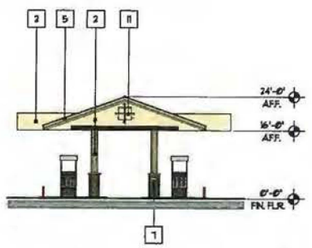


REAR ELEVATION (TYPICAL)

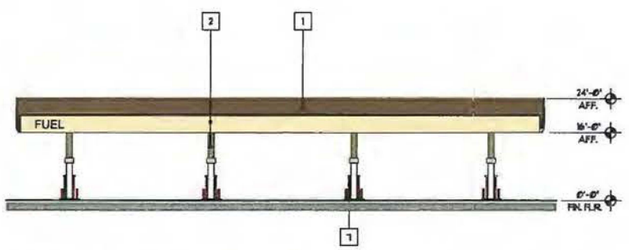


LEFT ELEVATION (TYPICAL)

GAS PUMP CANOPY



FRONT/REAR ELEVATION



SIDE ELEVATION (TYPICAL)

MATERIAL AND COLOR SCHEDULE

	MATERIAL	MANUFACTURER	COLOR/STYLE
1	ROOF TILE	EAGLE ROOFING	STANDARD SELECT-3723 ADOBE BLEND OR DESIGNER SELECT- 8HC 811 FUESTA DEL SOL BLEND
2	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6143 ALMOND LATTE
3	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6144 GRAHAM CRACKER
4	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6368 WALRUS
5	PAINT-CORNICE/FASCIA TRIMS	DUNN EDWARDS PAINTS	DE6211 LIGHT BEIGE
6	STONE VENEER	CREATIVE MINES	COYOTE CRAFT FARMHOUSE LEDGE
7	STONE VENEER	CREATIVE MINES	BISON CRAFT FOOTHILL RUBBLE
8	METAL CANOPY	PRE-FABRICATED	PAINT TO MATCH DARK BRONZE
9	FABRIC AWNING	SUNBRELLA	BURGUNDY PLUS 8431-0000
10	FABRIC AWNING	SUNBRELLA	MEDITERRANEAN BLUE TWEED 6053-0000
11	WROUGHT IRON RAILING & ORNAMENTS	PRE-FABRICATED	PRE-FINISHED FLAT BLACK
12	WOOD STAIN AT HEADERS	PPG-FLOOD STAIN	713 OXFORD BROWN (SEMI-OPAQUE ON PRESSURE TREATED WOOD
13	DECORATIVE TILES	TBD	MEDITERRANEAN INSPIRED PAINTED TILES
14	ARCHITECTURAL LIGHTING	PEMCO LIGHTING (SOLID STATE LIGHTING)	CARLSBAD RADIANT-WALL MOUNT SMALL SIZE-(DARK BRONZE)
15	STOREFRONT	TBD	DARK BRONZE ANODIZED

Z17-0004/P17-0007/S17-0017/PD15-0001

STAFFORD KING WIESE ARCHITECTS

622 20TH STREET
SACRAMENTO, CALIFORNIA 95811
916.930.5900
www.skwarchitects.com

CLIENT AND PROJECT

EDH 52
7700 College Town Drive, Suite 101
Sacramento, CA 95826
(P) 916.383.2500

EDH 52

Highway 50 & Silva Valley Parkway
El Dorado Hills, CA 95751
El Dorado County

SCALE 1/16" = 1'-0"

8' 0' 16' 32' 48'

SHEET TITLE

BUILDING ELEVATION

FASTFOOD, C-STORE, GAS
TYPICAL ELEVATIONS

PROJECT NO.	SHEET NO.
04999.00	A4
DRAWN BY: RC	CHECKED BY: MM
ISSUE DATE: SEPTEMBER 12, 2017	

32-43

RECORD OF SURVEY

A PORTION OF THE SW 1/4 SECTION 1, T. 9 N., R. 8 E., M.D.M.
County of El Dorado, State of California
APRIL, 2010 PAGE 1 OF 1 SCALE: 1"=200'

cta Engineering & Surveying
Civil Engineering • Land Surveying • Land Planning
3233 Monier Circle, Rancho Cordova, CA 95742

BASIS OF BEARINGS

THE BASIS OF BEARING FOR THIS SURVEY IS IDENTICAL TO THAT CERTAIN RECORD OF SURVEY FILED IN THE OFFICE OF THE COUNTY RECORDER OF EL DORADO COUNTY IN BOOK 16 OF SURVEYS, PAGE 147, WHICH IS THE CALIFORNIA COORDINATE SYSTEM, ZONE II. ALL DISTANCES ARE GROUND DISTANCES. MULTIPLY DISTANCE SHOWN BY 0.99991 TO OBTAIN GRID DISTANCE.

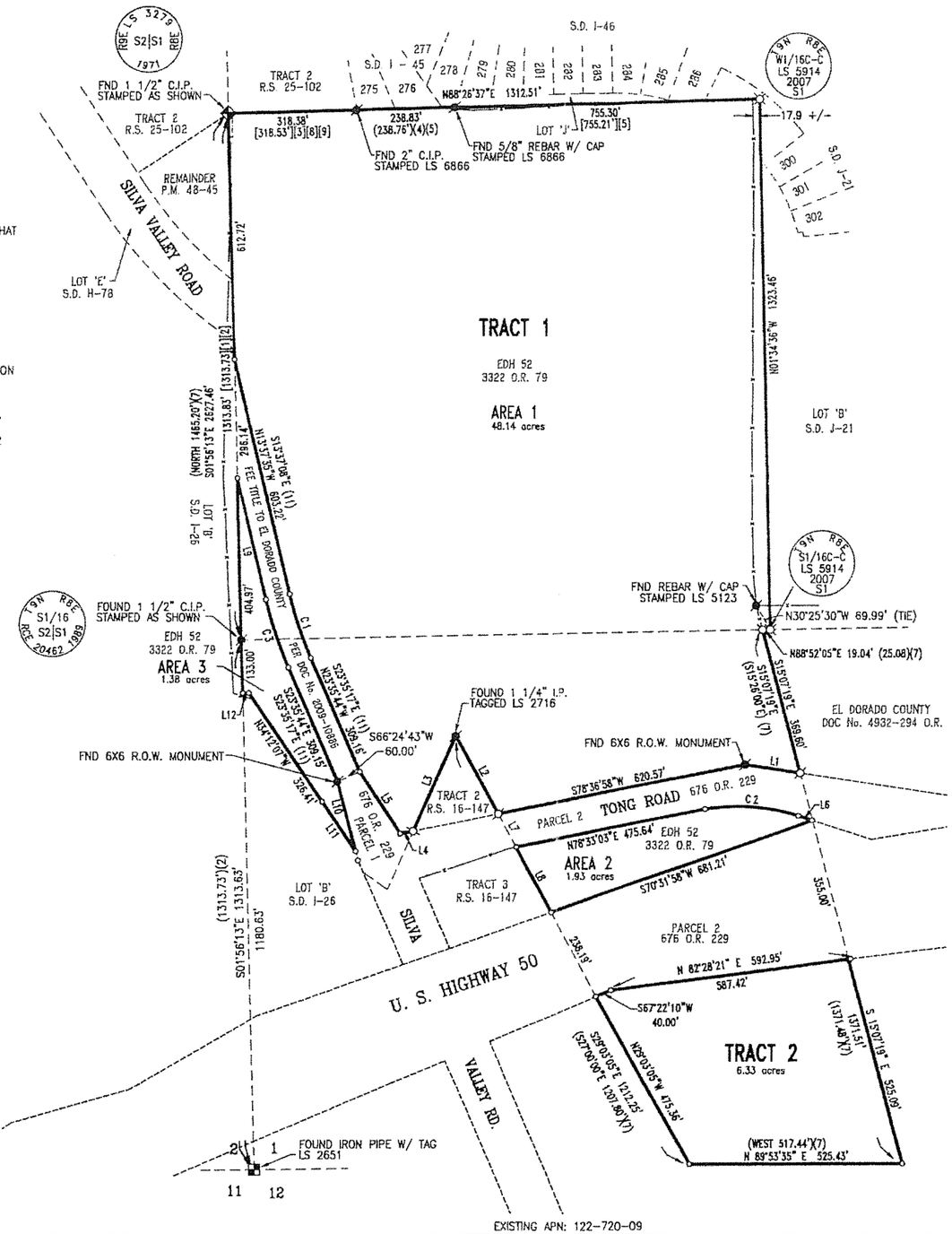
NOTE

1) THE PURPOSE OF THIS SURVEY IS TO COMPLY WITH SECTION 8762(B)(4) OF THE PROFESSIONAL LAND SURVEYORS ACT.

2) TRACT 1 INCLUDES THE LANDS DESCRIBED IN BOOK 3322, PAGE 79, EXCEPTING THOSE PORTIONS GRANTED TO THE COUNTY OF EL DORADO IN DOC. NO. 2009-10886. TRACT 2 REFLECTS THE BALANCE OF ASSESSOR'S PARCEL NO. 122-720-09. IT IS NOT THE INTENT OF THIS SURVEY TO REFLECT LINES OF ACTUAL OWNERSHIP.

REFERENCES

1) RS 16-147
2) SD H-78
3) SD I-19
4) SD I-45
5) SD I-46
6) SD J-21
7) OR 3322-79
8) PM 47-18
9) RS 25-102
10) PM 48-45
11) DOC No. 2009-10886



LINE DATA TABLE				
LINE	BEARING	DISTANCE	RECORD DATA	
L1	S81°22'06"E	138.58'		
L2	N29°03'05"W	221.04'	N29°15'23"W[1]	220.67'[1]
L3	S23°18'42"W	256.17'	S16°00'00"W[7]	255.66'[1]
L4	N78°36'58"E	32.50'		
L5	S33°03'01"E	182.48'		
L6	N72°08'58"W	36.48'		
L7	N29°03'05"W	93.86'		
L8	N29°03'05"W	183.80'	S29°15'23"W[1]	183.69'[1]
L9	N13°37'35"W	313.22'	S13°37'08"E[1]	
L10	N15°03'26"W	178.51'		
L11	S34°24'52"E	148.30'		
L12	N89°03'27"E	15.56'	WEST[7]	52.80'[7]

CURVE DATA TABLE					
CURVE	RADIUS	DELTA	CH. BEARING	CH.DISTANCE	RECORD DATA
C1	970.00'	09°58'08"	S18°36'40"E	168.56'	S18°36'13"E [11]
C2	500.00'	26°44'25"	N85°48'45"W	231.24'	
C3	1030.00'	09°58'08"	S18°36'40"E	178.98'	S18°36'13"E [11]

LEGEND

- DIMENSION POINT
- FOUND MONUMENT AS NOTED
- SET 5/8" REBAR WITH ALUMINUM CAP
- SET 1-1/2" C.I.P. STAMPED LS 5914 AS NOTED
- SECTION CORNER, FOUND AS NOTED
- QUARTER SECTION CORNER, FOUND/SET AS NOTED
- EXISTING FENCE

SURVEYOR'S STATEMENT

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE PROFESSIONAL LAND SURVEYOR'S ACT AT THE REQUEST OF EDH 52 IN JUNE, 2007

04-01-2010

KEVIN A. HEENEY, L.S. 5914

LICENSED LAND SURVEYOR KEVIN A. HEENEY NO. 5914 Exp. 12-31-2010 STATE OF CALIFORNIA

COUNTY SURVEYOR'S STATEMENT

THIS MAP HAS BEEN EXAMINED IN ACCORDANCE WITH SECTION 8766 OF THE PROFESSIONAL LAND SURVEYOR'S ACT THIS 2ND DAY OF APRIL, 2010.

DANIEL S. RUSSELL

DANIEL S. RUSSELL, L.S. 5017
COUNTY SURVEYOR
COUNTY OF EL DORADO, CALIFORNIA

BY: _____
RICHARD L. BRINER, L.S. 5084
DEPUTY SURVEYOR
COUNTY OF EL DORADO, CALIFORNIA

LICENSED LAND SURVEYOR RICHARD L. BRINER No. 5084 Exp. 6-30-11 STATE OF CALIFORNIA

RECORDER'S STATEMENT

FILED THIS 6 DAY OF April, 2010 AT 11:36:36
IN BOOK 32 OF RECORD OF SURVEYS AT PAGE 43, AT THE REQUEST OF CTA ENGINEERING AND SURVEYING.

DOC. No. 2010-14985

William E. Schultz
WILLIAM E. SCHULTZ
COUNTY RECORDER, CLERK
COUNTY OF EL DORADO, CALIFORNIA

BY: _____ DEPUTY

32-43

Z17-0004/P17-0007/S17-0017/PD15-0001

32-43

M:\03-023-002\EDH 52_RDS.dwg, RDS, 3/31/2010 11:55:41 AM, kheeney

POR. SEC. 1, T.9N., R.8E., M.D.M.

122:72

N

1 " = 400 '

Bk 121 Pg 14

Pg 04

Pg 08

Pg 09

Pg 10

Pg 58

Pg 16

Pg 14

Pg 03

Pg 01

Pg 13

Pg 59

SILVA VALLEY PKY

DYMAXIC

VILLAGE GREEN DR

BEEKSTER WAY

BEVINGER DR

RUSSI RANCH DR

CNTR. SEC. 1

MERIDIAN DR

PONTA DELGADO CT

1312.52'

612.72'

RS 32/43/2 & POR 1

15

48.29 A (TOTAL)

1323.00'

603.22'

CLARKSVILLE CRSG

537.99'

8 NA

15 1.257 A

309.16'

326.41'

1.38 A

192.46'

266.17'

2

215.96'

620.57'

138.58'

369.60'

EXIT 31

4 5.12 A

593.43'

14

TONG RD

393.00'

10

320.0'

RS 33/150/2

6 2.31 A

RS 33/150/1

13 3.86 A

7

27.01 A

N 09°45'04" E

182.68'

12 NA

424.08'

RS 32/88

711.76'

378.83'

N 01°06'12" W

777.88'

OLD BASS LAKE RD

Bk 119 Pg 04

*PARCEL NOTES

2 - RS 16/147/2, 0.52 A

10 - PRS 33/150, 0.028 A, NA

12 - PRS 18/97/1, 0.756 A, NA

Bk 121 Pg 15

Bk 121 Pg 12

Bk 121 Pg 16

Bk 121 Pg 28

RS 16/147/3

NA 3 1.11 A

169.03'

268.56'

475.64'

POR RS 32/43/1

14

681.21'

SILVA VALLEY PKY

587.42'

RS 32/43/2

15 6.330 A

475.96'

525.09'

525.43'

EXIT 31

CLARKSVILLE CROSSING

ROCK RD

WHITE

OLD WHITE ROCK RD

US HWY 50

JOERGER CUTOFF RD

Bk 118 Pg 12

Bk 118 Pg 17

OLD WHITE ROCK RD

N. 1/4 COR. SEC. 12

1

2

11

12

THIS MAP IS NOT A SURVEY, it is prepared by the El Dorado Co. Assessor's office for assessment purposes only. Area calculations and characteristics are not guaranteed. Users should verify items such as dimensions and acreage.

Acreages Are Estimates

Adjacent Map Pages Shown in Grey Text
Assessor's Parcel Numbers Shown in Circles

Rev. JUL 28, 2016

Z17-0004/P17-0007/S17-0017/PD15-0001

Assessor's Map Bk. 122 - Pg. 72
County of El Dorado, CA

Material and Color Board



1



2 3 4 5

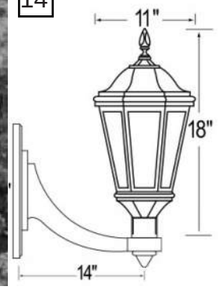


12





14





11

9



10





13 SAMPLE TILE OPTIONS





6



8 15

7



MATERIAL AND COLOR SCHEDULE

	MATERIAL	MANUFACTURER	COLOR/STYLE
1	ROOF TILE	EAGLE ROOFING	STANDARD SELECT-3723 ADOBE BLEND OR DESIGNER SELECT- 9HC 8711 PUESTA DEL SOL BLEND
2	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6143 ALMOND LATTE
3	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6144 GRAHAM CRACKER
4	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6368 WALRUS
5	PAINT-CORNICE/FASCIA TRIMS	DUNN EDWARDS PAINTS	DE6211 LIGHT BEIGE
6	STONE VENEER	CREATIVE MINES	COYOTE CRAFT FARMHOUSE LEDGE
7	STONE VENEER	CREATIVE MINES	BISON CRAFT FOOTHILL RUBBLE
8	METAL CANOPY	PRE-FABRICATED	PAINT TO MATCH DARK BRONZE
9	FABRIC AWNING	SUNBRELLA	BURGUNDY PLUS 8431-0000
10	FABRIC AWNING	SUNBRELLA	MEDITERRANEAN BLUE TWEED 6053-0000
11	WROUGHT IRON RAILING & ORNAMENTS	PRE-FABRICATED	PRE-FINISHED FLAT BLACK
12	WOOD STAIN AT HEADERS	PPG-FLOOD STAIN	713 OXFORD BROWN (SEMI-OPAQUE ON PRESSURE TREATED WOOD
13	DECORATIVE TILES	TBD	MEDITERRANEAN INSPIRED PAINTED TILES
14	ARCHITECTURAL LIGHTING	PEMCO LIGHTING (SOLID STATE LIGHTING)	CARLSBAD RADIANT-WALL MOUNT SMALL SIZE-(DARK BRONZE)
15	STOREFRONT	TBD	DARK BRONZE ANODIZED

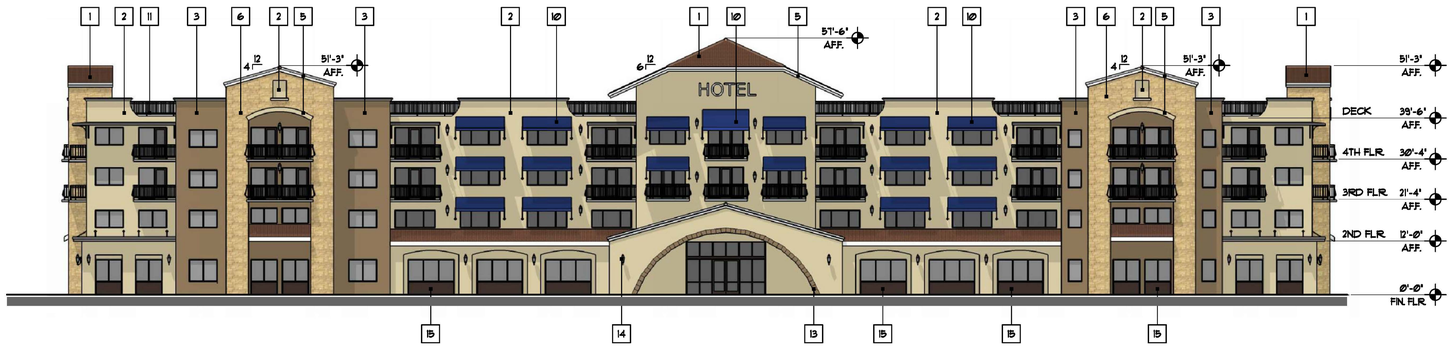
EDH52

EL DORADO HILLS

El Dorado Hills, CA **September 12, 2017**

STAFFORD KING WIESE
ARCHITECTS

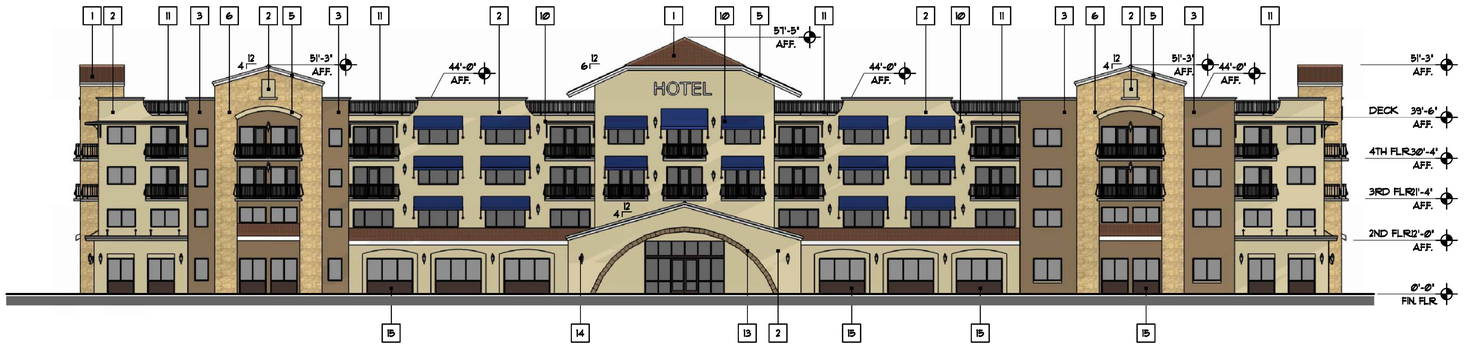
SKW #04999.00



FRONT ELEVATION (EAST)



RIGHT ELEVATION (NORTH)



REAR ELEVATION (WEST)



LEFT ELEVATION (SOUTH)

MATERIAL AND COLOR SCHEDULE

	MATERIAL	MANUFACTURER	COLOR/STYLE
1	ROOF TILE	EAGLE ROOFING	STANDARD SELECT-3723 ADOBE BLEND OR DESIGNER SELECT- SHC 8711 FUESTA DEL SOL BLEND
2	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6143 ALMOND LATTE
3	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6144 GRAHAM CRACKER
4	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6368 WALRUS
5	PAINT-CORNICE/FASCIA TRIMS	DUNN EDWARDS PAINTS	DE6211 LIGHT BEIGE
6	STONE VENEER	CREATIVE MINES	COYOTE CRAFT FARMHOUSE LEDGE
7	STONE VENEER	CREATIVE MINES	BISON CRAFT FOOTHILL RUBBLE
8	METAL CANOPY	PRE-FABRICATED	PAINT TO MATCH DARK BRONZE

	MATERIAL	MANUFACTURER	COLOR/STYLE
9	FABRIC AWNING	SUNBRELLA	BURGUNDY PLUS 8431-0000
10	FABRIC AWNING	SUNBRELLA	MEDITERRANEAN BLUE TWEED 6053-0000
11	WROUGHT IRON RAILING & ORNAMENTS	PRE-FABRICATED	PRE-FINISHED FLAT BLACK
12	WOOD STAIN AT HEADERS	PPG-FLOOD STAIN	713 OXFORD BROWN (SEMI-OPAQUE ON PRESSURE TREATED WOOD
13	DECORATIVE TILES	TBD	MEDITERRANEAN INSPIRED PAINTED TILES
14	ARCHITECTURAL LIGHTING	PEMCO LIGHTING (SOLID STATE LIGHTING)	CARLSBAD RADIANT-WALL MOUNT SMALL SIZE-(DARK BRONZE)
15	STOREFRONT	TBD	DARK BRONZE ANODIZED

STAFFORD KING WIESE ARCHITECTS

622 20TH STREET
SACRAMENTO, CALIFORNIA 95811
916.930.5900
www.skwarchitects.com

CLIENT AND PROJECT

EDH 52
7700 College Town Drive, Suite 101
Sacramento, CA 95826
(P) 916.383.2500

EDH 52

Highway 50 & Silva Valley Parkway
El Dorado Hills, CA 95751
El Dorado County

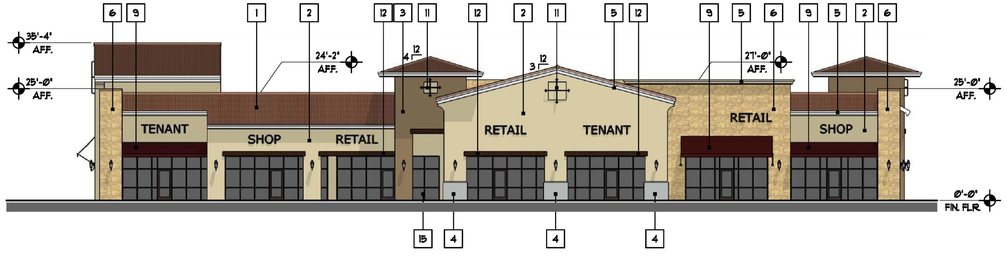
SCALE 1/16" = 1'-0"

8'
0' 16' 32' 48'

SHEET TITLE

BUILDING ELEVATION
HOTEL

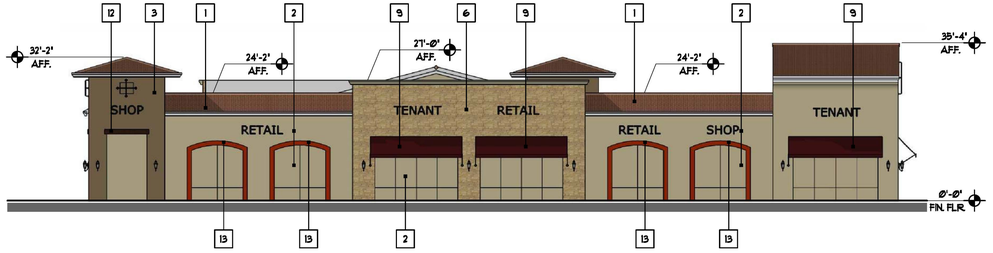
PROJECT NO. 04999.00	SHEET NO. A1
DRAWN BY RC / CHECKED BY MM	
ISSUE DATE SEPTEMBER 12, 2017	



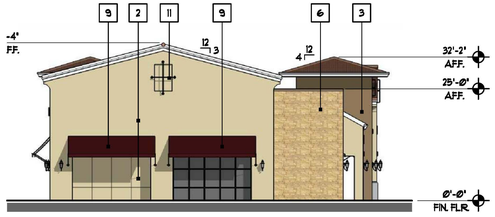
FRONT ELEVATION (EAST)



RIGHT ELEVATION (NORTH)



REAR ELEVATION (WEST)



LEFT ELEVATION (SOUTH)

MATERIAL AND COLOR SCHEDULE

	MATERIAL	MANUFACTURER	COLOR/STYLE
1	ROOF TILE	EAGLE ROOFING	STANDARD SELECT-3723 ADOBE BLEND OR DESIGNER SELECT- SHC 8711 FUESTA DEL SOL BLEND
2	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6143 ALMOND LATTE
3	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6144 GRAHAM CRACKER
4	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6368 WALRUS
5	PAINT-CORNICE/FASCIA TRIMS	DUNN EDWARDS PAINTS	DE6211 LIGHT BEIGE
6	STONE VENEER	CREATIVE MINES	COYOTE CRAFT FARMHOUSE LEDGE
7	STONE VENEER	CREATIVE MINES	BISON CRAFT FOOTHILL RUBBLE
8	METAL CANOPY	PRE-FABRICATED	PAINT TO MATCH DARK BRONZE

	MATERIAL	MANUFACTURER	COLOR/STYLE
9	FABRIC AWNING	SUNBRELLA	BURGUNDY PLUS 8431-0000
10	FABRIC AWNING	SUNBRELLA	MEDITERRANEAN BLUE TWEED 6053-0000
11	WROUGHT IRON RAILING & ORNAMENTS	PRE-FABRICATED	PRE-FINISHED FLAT BLACK
12	WOOD STAIN AT HEADERS	PPG-FLOOD STAIN	713 OXFORD BROWN (SEMI-OPAQUE ON PRESSURE TREATED WOOD
13	DECORATIVE TILES	TBD	MEDITERRANEAN INSPIRED PAINTED TILES
14	ARCHITECTURAL LIGHTING	PEMCO LIGHTING (SOLID STATE LIGHTING)	CARLSBAD RADIANT-WALL MOUNT SMALL SIZE-(DARK BRONZE)
15	STOREFRONT	TBD	DARK BRONZE ANODIZED

STAFFORD KING WIESE ARCHITECTS

622 20TH STREET
SACRAMENTO, CALIFORNIA 95811
916.930.5900
www.skwarchitects.com

CLIENT AND PROJECT

EDH 52
7700 College Town Drive, Suite 101
Sacramento, CA 95826
(P) 916.383.2500

EDH 52

Highway 50 & Silva Valley Parkway
El Dorado Hills, CA 95751
El Dorado County

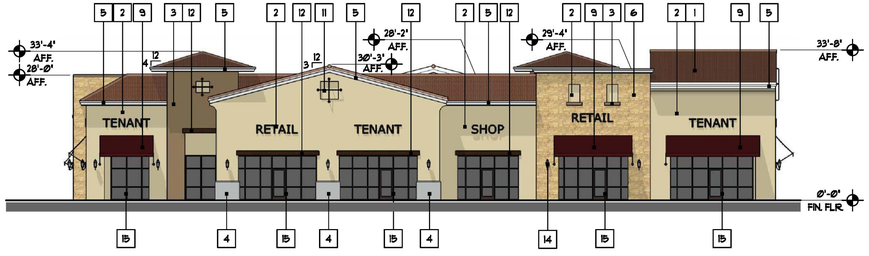
SCALE 1/16" = 1'-0"

8'
0' 16' 32' 48'

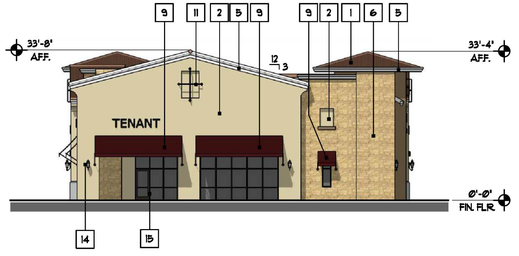
SHEET TITLE

BUILDING ELEVATION
RETAIL S-1

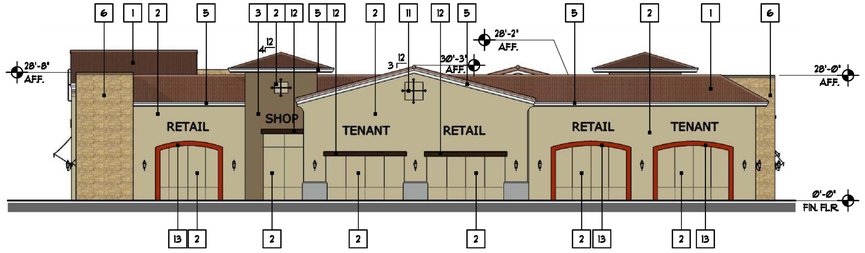
PROJECT NO. 04999.00	SHEET NO. A2
DRAWN BY RC / CHECKED BY MM	
ISSUE DATE SEPTEMBER 12, 2017	



FRONT ELEVATION (NORTH)



RIGHT ELEVATION (WEST)



REAR ELEVATION (SOUTH)



LEFT ELEVATION (EAST)

MATERIAL AND COLOR SCHEDULE

	MATERIAL	MANUFACTURER	COLOR/STYLE
1	ROOF TILE	EAGLE ROOFING	STANDARD SELECT-3723 ADOBE BLEND OR DESIGNER SELECT- SHC 8711 FUESTA DEL SOL BLEND
2	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6143 ALMOND LATTE
3	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6144 GRAHAM CRACKER
4	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6368 WALRUS
5	PAINT-CORNICE/FASCIA TRIMS	DUNN EDWARDS PAINTS	DE6211 LIGHT BEIGE
6	STONE VENEER	CREATIVE MINES	COYOTE CRAFT FARMHOUSE LEDGE
7	STONE VENEER	CREATIVE MINES	BISON CRAFT FOOTHILL RUBBLE
8	METAL CANOPY	PRE-FABRICATED	PAINT TO MATCH DARK BRONZE

	MATERIAL	MANUFACTURER	COLOR/STYLE
9	FABRIC AWNING	SUNBRELLA	BURGUNDY PLUS 8431-0000
10	FABRIC AWNING	SUNBRELLA	MEDITERRANEAN BLUE TWEED 6053-0000
11	WROUGHT IRON RAILING & ORNAMENTS	PRE-FABRICATED	PRE-FINISHED FLAT BLACK
12	WOOD STAIN AT HEADERS	PPG-FLOOD STAIN	713 OXFORD BROWN (SEMI-OPAQUE ON PRESSURE TREATED WOOD
13	DECORATIVE TILES	TBD	MEDITERRANEAN INSPIRED PAINTED TILES
14	ARCHITECTURAL LIGHTING	PEMCO LIGHTING (SOLID STATE LIGHTING)	CARLSBAD RADIANT-WALL MOUNT SMALL SIZE-(DARK BRONZE)
15	STOREFRONT	TBD	DARK BRONZE ANODIZED

STAFFORD KING WIESE ARCHITECTS

622 20TH STREET
SACRAMENTO, CALIFORNIA 95811
916.930.5900
www.skwarchitects.com

CLIENT AND PROJECT

EDH 52
7700 College Town Drive, Suite 101
Sacramento, CA 95826
(P) 916.383.2500

EDH 52

Highway 50 & Silva Valley Parkway
El Dorado Hills, CA 95751
El Dorado County

SCALE 1/16" = 1'-0"

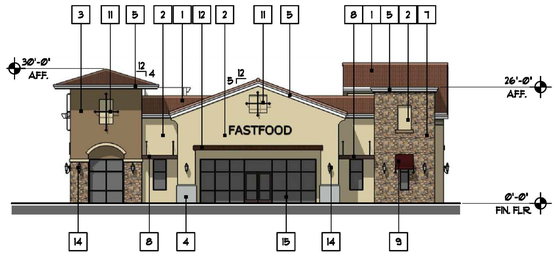
8'
0' 16' 32' 48'

SHEET TITLE

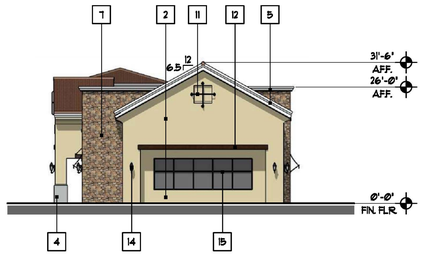
BUILDING ELEVATION
RETAIL S-2

PROJECT NO. 04999.00	SHEET NO. A3
DRAWN BY RC / CHECKED BY MM	
ISSUE DATE SEPTEMBER 12, 2017	

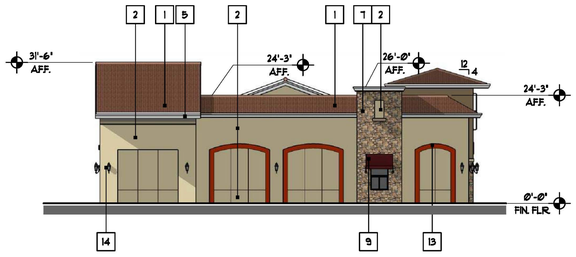
RESTAURANT / FASTFOOD PAD



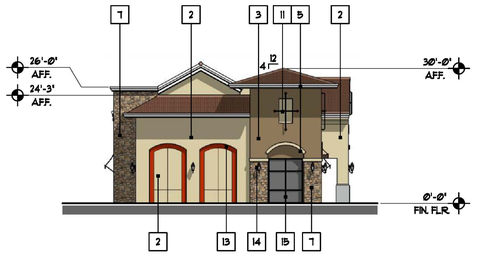
FRONT ELEVATION (TYPICAL)



RIGHT ELEVATION (TYPICAL)

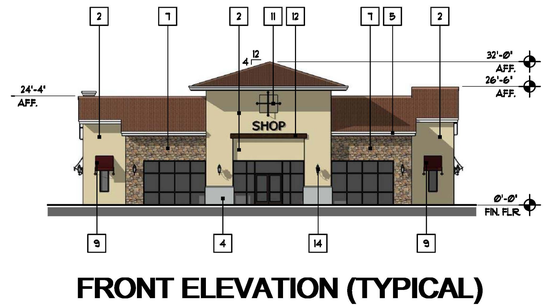


REAR ELEVATION (TYPICAL)

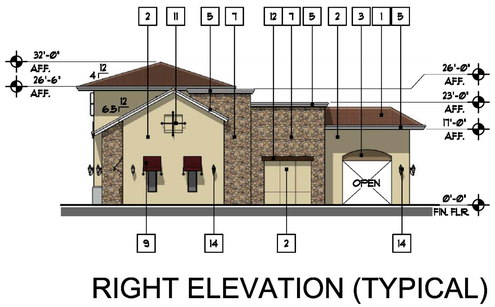


LEFT ELEVATION (TYPICAL)

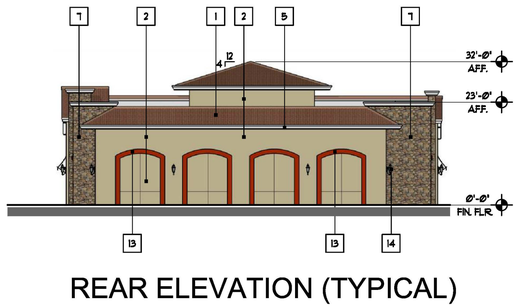
FUEL STATION / CONVENIENCE STORE



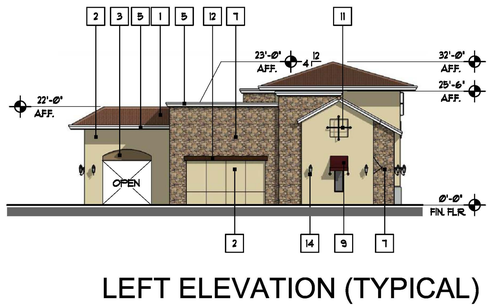
FRONT ELEVATION (TYPICAL)



RIGHT ELEVATION (TYPICAL)

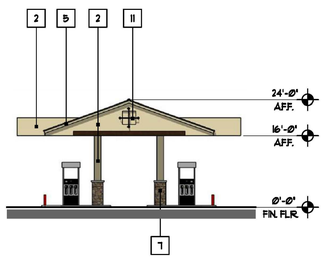


REAR ELEVATION (TYPICAL)

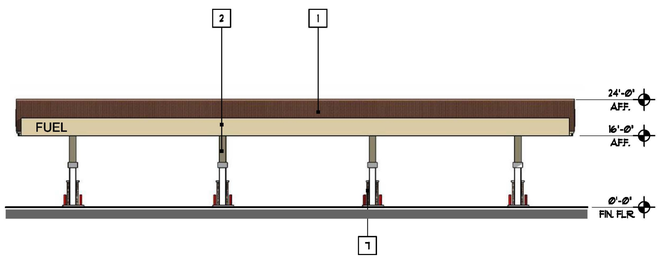


LEFT ELEVATION (TYPICAL)

GAS PUMP CANOPY



FRONT/REAR ELEVATION



SIDE ELEVATION (TYPICAL)

MATERIAL AND COLOR SCHEDULE

	MATERIAL	MANUFACTURER	COLOR/STYLE
1	ROOF TILE	EAGLE ROOFING	STANDARD SELECT-3723 ADOBE BLEND OR DESIGNER SELECT- SHC 8111 FUESTA DEL SOL BLEND
2	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6143 ALMOND LATTE
3	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6144 GRAHAM CRACKER
4	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6368 WALRUS
5	PAINT-CORNICE/FASCIA TRIMS	DUNN EDWARDS PAINTS	DE6211 LIGHT BEIGE
6	STONE VENEER	CREATIVE MINES	COYOTE CRAFT FARMHOUSE LEDGE
7	STONE VENEER	CREATIVE MINES	BISON CRAFT FOOTHILL RUBBLE
8	METAL CANOPY	PRE-FABRICATED	PAINT TO MATCH DARK BRONZE

	MATERIAL	MANUFACTURER	COLOR/STYLE
9	FABRIC AWNING	SUNBRELLA	BURGUNDY PLUS 8431-0000
10	FABRIC AWNING	SUNBRELLA	MEDITERRANEAN BLUE TWEED 6053-0000
11	WROUGHT IRON RAILING & ORNAMENTS	PRE-FABRICATED	PRE-FINISHED FLAT BLACK
12	WOOD STAIN AT HEADERS	PPG-FLOOD STAIN	713 OXFORD BROWN (SEMI-OPAQUE ON PRESSURE TREATED WOOD
13	DECORATIVE TILES	TBD	MEDITERRANEAN INSPIRED PAINTED TILES
14	ARCHITECTURAL LIGHTING	PEMCO LIGHTING (SOLID STATE LIGHTING)	CARLSBAD RADIANT-WALL MOUNT SMALL SIZE-(DARK BRONZE)
15	STOREFRONT	TBD	DARK BRONZE ANODIZED

STAFFORD KING WIESE ARCHITECTS

622 20TH STREET
SACRAMENTO, CALIFORNIA 95811
916.930.5900
www.skwarchitects.com

CLIENT AND PROJECT

EDH 52
7700 College Town Drive, Suite 101
Sacramento, CA 95826
(P) 916.383.2500

EDH 52

Highway 50 & Silva Valley Parkway
El Dorado Hills, CA 95751
El Dorado County

SCALE 1/16" = 1'-0"

8'
0' 16' 32' 48'

SHEET TITLE

BUILDING ELEVATION

FASTFOOD, C-STORE, GAS
TYPICAL ELEVATIONS

PROJECT NO. 04999.00	SHEET NO. A4
DRAWN BY RC / CHECKED BY MM	
ISSUE DATE SEPTEMBER 12, 2017	

FUHRMAN LEAMY LAND GROUP HEREBY EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS. THESE PLANS AND DRAWINGS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER, NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION OF FUHRMAN LEAMY LAND GROUP, NOR WITHOUT FIRST OBTAINING WRITTEN PERMISSION AND CONSENT.

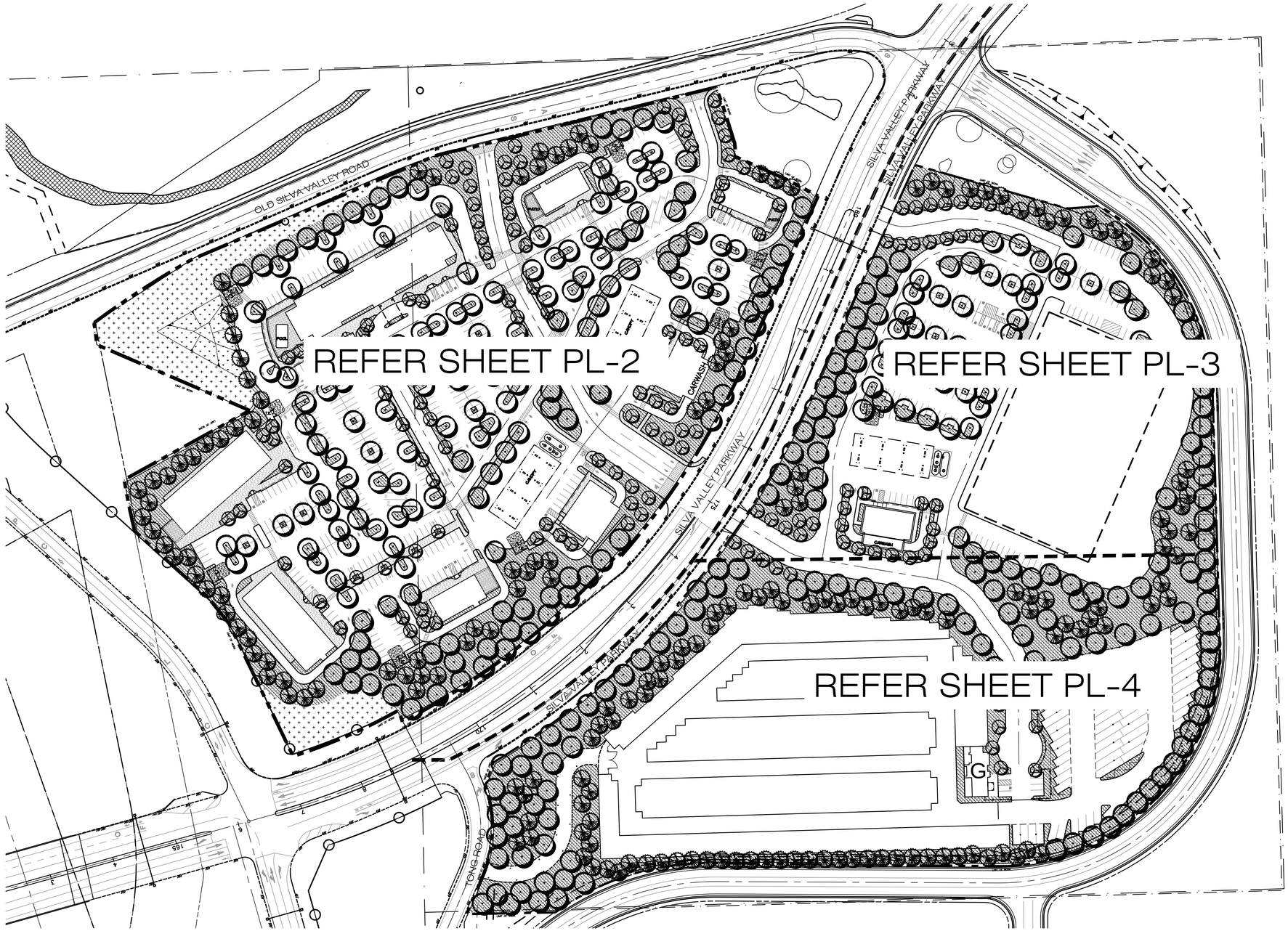
EDH 52 PRELIMINARY PLANT MATERIAL LIST AND LEGEND

TREES

SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE	REMARKS	WATER USE
	CANOPY/SHADE TREES LARGE EVERGREEN OR DECIDUOUS 30' TO 35' DIAMETER TREES USED TO PROVIDE SHADE			
	CELTIS SINENSIS / CHINESE HACKBERRY	15 G	40'H x 30'W	MED
	ELAEOCARPUS DECIPIENS / JAPANESE BLUEBERRY TREE	15 G	40'H x 28'W	MED
	LIRIODENDRON TULIPIFERA / TULIP TREE	15 G	60'H x 35'W	MED
	MAGNOLIA GRANDIFLORA 'D.D. BLANCHARD' / SOUTHERN MAGNOLIA	15 G	45'H x 30'W	MED
	PISTACIA CHINENSIS 'KEITH DAVEY' / CHINESE PISTACHE	15 G	40'H x 35'W	LOW
	PLATANUS ACERIFOLIA 'BLOODGOOD' / LONDON PLANE TREE	15 G	40'H x 30'W	MED
	TILIA CORDATA 'GREENSPIRE' / LITTLE-LEAF LINDEN	15 G	35'H x 25'W	MED
	ULMUS PARVIFOLIA 'ALLEE' / ALLEE CHINESE EVERGREEN ELM	15 G	50'H x 30'W	MED
	ZELKOVA SERRATA 'VILLAGE GREEN' / SAWLEAF ZELKOVA	15 G	45'H x 35'W	MED
	SCREEN TREES EVERGREEN TREES USED TO SCREEN THE PROJECT FROM THE SURROUNDING DEVELOPMENTS			
	ARBUTUS 'MARINA' / MARINA STRAWBERRY TREE	15 G	30'H x 25'W	LOW
	CEDRUS DEODARA / DEODAR CEDAR	15 G	50'H x 25'W	LOW
	CUPRESSOCYPARIS LEYLANDII / LEYLAND CYPRESS	15 G	50'H x 12'W	MED
	CUPRESSUS GLABRA 'BLUE ICE' / BLUE ICE ARIZONA CYPRESS	15 G	25'H x 12'W	LOW
	LAURUS 'SARATOGA' / SARATOGA SWEET BAY	15 G	25'H x 25'W	LOW
	PINUS ELDARICA / MONDELL PINE	15 G	50'H x 20'W	LOW
	PRUNUS CAROLINIANA / CAROLINA CHERRY LAUREL	15 G	25'H x 20'W	LOW
	QUERCUS SUBER / CORK OAK	15 G	45'H x 45'W	LOW
	QUERCUS WISLIZENII / INTERIOR LIVE OAK	15 G	40'H x 45'	LOW
	ACCENT TREES EVERGREEN OR DECIDUOUS TREES USED TO PROVIDE COLOR, DENOTE ENTIRES AND CREATE PEDESTRIAN SCALE			
	CARPINUS BETULUS 'FASTIGIATA' / EUROPEAN HORNBEAM	15 G	30'H x 20'W	MED
	CERCIS CANADENSIS 'FOREST PANSY' / FOREST PANSY REDBUD	15 G	20'H x 25'W	MED
	CERCIS OCCIDENTALIS / WESTERN REDBUD	15 G	15'H x 12'W	LOW
	LAGERSTROEMIA INDICA x FAURIEI 'MUSKOGEE' / LAVENDER CRAPE MYRTLE	15 G	25'H x 15'W MULTI-TRUNK	LOW
	LAGERSTROEMIA INDICA x FAURIEI 'NATCHEZ' / WHITE CRAPE MYRTLE	15 G	22'H x 12'W MULTI-TRUNK	LOW
	MAGNOLIA GRANDIFLORA 'LITTLE GEM' / COMPACT SOUTHERN MAGNOLIA	15 G	22'H x 12'W	MED
	NYSSA SYLVATICA / TUPELO	15 G	40'H x 18'W	MED
	PRUNUS CERASIFERA 'KRAUTER VESUVIUS' / PURPLE-LEAF FLOWERING PLUM	15 G	18'H x 15'W	MED
	PYRUS CALLERYANA 'RED SPIRE' / RED SPIRE PEAR	15 G	30'H x 20'W	MED
	VITEX AGNUS-CASTUS BLUE / CHASTE TREE	15 G	15'H x 15'W	LOW

SHRUBS & GROUNDCOVERS

SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE	REMARKS	WATER USE
	BACKGROUND OR FOUNDATION SHRUBS LARGE EVERGREEN SHRUBS USED FOR REDUCING BUILDING MASS OR SCREENING			
	ARBUTUS UNEDO 'COMPACTA' / DWARF STRAWBERRY TREE	5 G	8'H x 8'W	LOW
	CEANOTHUS SPP. / WILD LILAC	5 G	6'H x 6'W	LOW
	CHOISYA TERNATA / MEXICAN ORANGE	5 G	6'H x 6'W	MED
	LEUCOPHYLLUM FRUTESCENS / TEXAS RANGER	5 G	7'H x 7'W	LOW
	NERIUM OLEANDER 'RED' / RED OLEANDER	5 G	10'H x 10'W	LOW
	RHAMNUS CALIFORNICA 'EVE CASE' / COFFEEBERRY	5 G	6'H x 6'W	LOW
	RHAPHIOLEPIS INDICA SPP. / INDIAN HAWTHORN	5 G	5'H x 5'W	MED
	XYLOSMA CONGESTUM 'COMPACTA' / COMPACT SHINY XYLOSMA	5 G	7'H x 7'W	LOW
	FACER SHRUBS EVERGREEN OR DECIDUOUS SHRUBS USED FOR LAYERING OF PLANT MATERIAL, SEASONAL COLOR AND SOFTENING OF BUILDING EDGE AND FOUNDATION SHRUBS.			
	AZALEA SPP. / AZALEA	5 G	3'H x 3'W	MED
	CALLISTEMON VIMINALIS 'LITTLE JOHN' / DWARF BOTTLEBRUSH	5 G	3'H x 3'W	LOW
	CISTUS SP. / ROCKROSE	5 G	3'H x 5'W	LOW
	LOROPETULUM CHINENSIS 'MONRAZ' / RAZZLEBERRI FRINGE FLOWER	5 G	5'H x 4'W	MED
	LEUCOPHYLLUM ZYGOPHYLLUM / BLUE RANGER	5 G	3'H x 3'W	LOW
	PITTOSPORUM TOBIRA 'WHEELER'S DWARF' / DWARF MOCK ORANGE	5 G	3'H w 4'W	MED
	RHAPHIOLEPIS UMBELLATA 'MINOR' / DWARF YEDDO HAWTHORN	5 G	3'H x 3'W	LOW
	WESTRINGIA ROSMARINIFORMIS 'MORNING LIGHT' / VARIEGATED COAST ROSEMARY	5 G	3'H x 3'W	LOW
	ACCENT SHRUBS EVERGREEN OR PERENNIAL SHRUBS USED FOR AESTHETIC VALUE IN LANDSCAPE THROUGH BLOOM, COLOR, OR OVERALL CHARACTER.			
	AGAVE SPP. / AGAVE	5 G	VARIES	LOW
	BERBERIS THUNBERGII 'CRIMSON PYGMY' / RED DWARF JAPANESE BARBERRY	5 G	1.5'H x 2.5'W	MED
	BOUTELOUA GRACILIS 'BLOND AMBITION' / BLUE GRAMA GRASS	1 G	3'H x 3'W	LOW
	CALAMAGROSTIS x ACUTIFLORA 'KARL FOERSTER' / FEATHER REED GRASS	1 G	2.5'H x 2.5'W	LOW
	HEMEROCALLIS HYBRIDS / EVERGREEN DAYLILY	1 G	VARIES X 2'W	MED
	KNIPHOFIA UVARIA / RED HOT POKER	1 G	3'H x 3'W	LOW
	LAVANDULA SPP. / LAVENDER	1 G	VARIES	LOW
	MUHLENBERGIA CAPILLARIS / PINK MUHLY	5 G	3'H x6'W	LOW
	NANDINA DOMESTICA 'COMPACTA' / COMPACT HEAVENLY BAMBOO	1 G/5 G	4'H x 3'W	LOW
	PHORMIUM HYBRIDS / NEW ZEALAND FLAX	1 G/5 G	VARIES	MED/LOW
	GROUNDCOVER MATERIAL EVERGREEN OR PERENNIAL SHRUBS TO 30" HIGH, USED TO BLANKET LARGER AREAS AND AS A FILLER BETWEEN SITE WORK EDGES AND FACER SHRUBS.			
	BACCHARIS PILULARIS 'PIGEON POINT' / DWARF COYOTE BUSH	1 G	2.5'H x 7'W	LOW
	COPROSMA KIRKII / KIRK'S COPROSMA	1 G	2'H x 5'W	LOW
	FESTUCA GLAUCA 'SISKIYOU BLUE' / BLUE FESCUE	1 G	1'H x 1'W	MED
	HYPERICUM CALYCINUM / CREEPING ST. JOHNS WORT	1 G	1'H x 3'W	MED
	LANTANA MONTEVIDENSIS / PURPLE TRAILING LANTANA	1 G	2'H x 6'W	LOW
	LONICERA JAPONICA 'HALLIANA' / HALL'S HONEYSUCKLE	1 G	1.5'H x 4.5'W	MED
	ROSA BANKSIAE 'LUTEA' / YELLOW LADY BANKS ROSE	1 G	4'H x 8'W	LOW
	ROSA FLOWER CARPET / FLOWER CARPET ROSE	1 G/5 G	2'H x 3'W	MED
	ROSMARINUS OFFICINALIS 'PROSTRATUS' / DWARF ROSEMARY	1 G	2'H x 6'W	LOW
	TRACHELOSPERMUM JASMINOIDES / STAR JASMINE	1 G	1.5'H x 8'W	MED
	VINCA MINOR / DWARF PERIWINKLE	1 G	0.5'H x 3'W	MED
	BUFFER PLANTING MIX OF NATIVE PLANT MATERIAL USED AS A NATURAL TRANSITION FROM THE EDGES OF THE SITE TO ADJACENT PROPERTIES. PLANT MATERIAL TO BE USED AS A NATURAL FILLER WILL BE HYDROSEEDED.			
	ARTEMISIA CALIFORNICA / CALIFORNIA SAGEBRUSH	---	---	LOW
	CEANOTHUS SPP. / CALIFORNIA LILAC	---	---	LOW
	FREMONTODENDRON 'DARA GOLD' / FLANNEL BUSH	---	---	LOW
	ESCHSCHOLZIA CALIFORNICA / CALIFORNIA POPPY	---	---	LOW
	ROMINEYA COULTERI / MATILIJA POPPY	---	---	LOW
	MIMULUS SPP. / MONKEY FLOWER	---	---	LOW
	NASSELLA PULCHRA / PURPLE NEEDLE GRASS	---	---	LOW
	WATER QUALITY BASIN PLANTS ADAPTABLE TO WET CONDITIONS.			
	JUNCUS PATENS / GREY RUSH	---	---	HIGH
	JUNCUS EFFUSUS / SOFT RUSH	---	---	HIGH
	NASELLA PULCHERS / PURPLE NEEDLE GRASS	---	---	MED
	BIOSWALE SOD / NATIVE BLEND FOR SWALE BOTTOM	---	---	MED



GENERAL PLANTING NOTES

1. ALL PLANTING AREAS SHALL BE IRRIGATED WITH AN AUTOMATIC IRRIGATION SYSTEM.
2. ALL SHRUB AND GROUNDCOVER AREAS SHALL RECEIVE A 2" LAYER OF BARK CHIP MULCH TOP DRESSING.
3. REDWOOD HEADERBOARD SHALL BE INSTALLED BETWEEN LAWN AND SHRUB AREAS.
4. ALL GROUND MOUNTED HVAC UNITS, GAS & ELECTRICAL METERS, AND EQUIPMENT ETC. SHALL RECEIVE SHRUB SCREENING IN SHRUB AND GROUNDCOVER AREAS AROUND BUILDINGS.
5. TRASH ENCLOSURES SHALL BE SCREENED WITH TREES AND SHRUB PLANTING.

SCALE: 1" = 80'-0"

0' 80' 320'

40' 160'

UNDERGROUND SERVICE ALERT
CALL TOLL FREE
1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG

FUHRMAN LEAMY
LAND GROUP
DESIGN • SERVICE • SOLUTIONS
2140 PROFESSIONAL DRIVE, SUITE 115
ROSEVILLE, CALIFORNIA 95661
916.783.5263 • FLLANDGROUP.COM

JOB NO. : RSC:17080

CONSULTANT

PROJECT:

EDH 52

HWY 50 & SILVA VALLEY
EL DORADO HILLS, CA

CLIENT:

RSC ENGINEERING, INC

REVISIONS	DATE
1	
2	
3	
4	
5	

ISSUE		DATE
1	1ST SUBMITTAL	09.15.2017
2		
3		
4		
5		

REGISTERED LANDSCAPE ARCHITECT
KEVIN C. [illegible]
No. [illegible]
REGISTRATION
12-31-18
Renewal Date
Date
STATE OF CALIFORNIA
NOT FOR CONSTRUCTION

DRAWN : JM
CHECKED : KCL
SCALE: : 1" = 80'-0"

SHEET TITLE:

PRELIMINARY LANDSCAPE PLAN: OVERALL

SHEET

PL-1

1 OF 4 SHEETS

STREETSCAPE INTENT
AREAS FRONTING THE STREETS WILL INCORPORATE SHADE TREES ALONG WITH MIXED SPECIES AND FORMS OF SHRUBS FOR INTEREST, COLOR, AND BUFFERING OF THE SHOPPING CENTER FROM THE STREETS. SHRUB MASSES WILL UTILIZE DROUGHT TOLERANT SPECIES WHERE APPROPRIATE.

PARKING LOT INTENT
THE PRIMARY TREES WILL PROVIDE A CANOPY OF SHADE. UNDERSTORY PLANTINGS WITHIN THE PARKING LOT WILL CONSIST OF LOW SHRUBS AND/OR GROUNDCOVERS.

SCREENING INTENT
PRIMARY PLANTING ALONG THE PROPERTY BOUNDARIES WILL CONSIST OF EVERGREEN TREES AND SHRUB ROWS TO SCREEN ADJACENT PROPERTIES.

ENTRY TREATMENT INTENT
PLANTING AT THE ENTRIES WILL BE HIGHLIGHTED & DEFINED BY SEASONAL ACCENTED TREES & SHRUBS WITH THE USE OF COLORFUL PLANT MATERIAL. SHRUBS WILL BE LOW TO MAINTAIN SIGHT LINES.

OLD SILVA VALLEY ROAD

SILVA VALLEY PARKWAY

HOTEL
69,120± SF

PAD 1
3,200± SF

PAD 2
3,200± SF

PAD 3
3,200± SF

FUEL 1
3,600± SF
CARWASH

FUEL 2
3,600± SF
CARWASH

SHOPS 1
10,500± SF

SHOPS 2
9,000± SF

DETENTION BASIN

POOL

PATIO

CANOPY

LIMIT OF WORK

MATCHLINE A - SEE SHEET PL-3

MATCHLINE B - SEE SHEET PL-4

MATCHLINE C - SEE SHEET PL-3

MATCHLINE C - SEE SHEET PL-4

UNDERGROUND SERVICE ALERT
CALL TOLL FREE
1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG

SCALE: 1" = 50' - 0"
0' 50' 200'
25' 100'

FUHRMAN LEAMY LAND GROUP HEREBY EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS. THESE PLANS AND DRAWINGS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION OF FUHRMAN LEAMY LAND GROUP. IN THE EVENT OF UNAUTHORIZED REUSE OF THESE PLANS BY ANY THIRD PARTY, THAT PARTY SHALL INDEMNIFY AND HOLD HARMLESS FUHRMAN LEAMY LAND GROUP FROM ANY AND ALL CLAIMS, DAMAGES, AND EXPENSES, INCLUDING ATTORNEY'S FEES, ARISING OUT OF SUCH REUSE.

FUHRMAN LEAMY
LAND GROUP
DESIGN • SERVICE • SOLUTIONS
2140 PROFESSIONAL DRIVE, SUITE 115
ROSEVILLE, CALIFORNIA 95661
916.783.5263 • FLLANDGROUP.COM

JOB NO. : RSC:17080

CONSULTANT

PROJECT:
EDH 52

HWY 50 & SILVA VALLEY
EL DORADO HILLS, CA

CLIENT:
RSC ENGINEERING, INC

REVISIONS	DATE
1	
2	
3	
4	
5	

ISSUE		DATE
1	1ST SUBMITTAL	09.15.2017
2		
3		
4		
5		

REGISTERED LANDSCAPE ARCHITECT
KEVIN C. LEAMY
No. 4980
12-31-18
Renewal Date
STATE OF CALIFORNIA
NOT FOR CONSTRUCTION

DRAWN : XX
CHECKED : KCL
SCALE: : 1" = 50'-0"

SHEET TITLE:
PRELIMINARY LANDSCAPE PLAN

SHEET
PL-2

2 OF 4 SHEETS

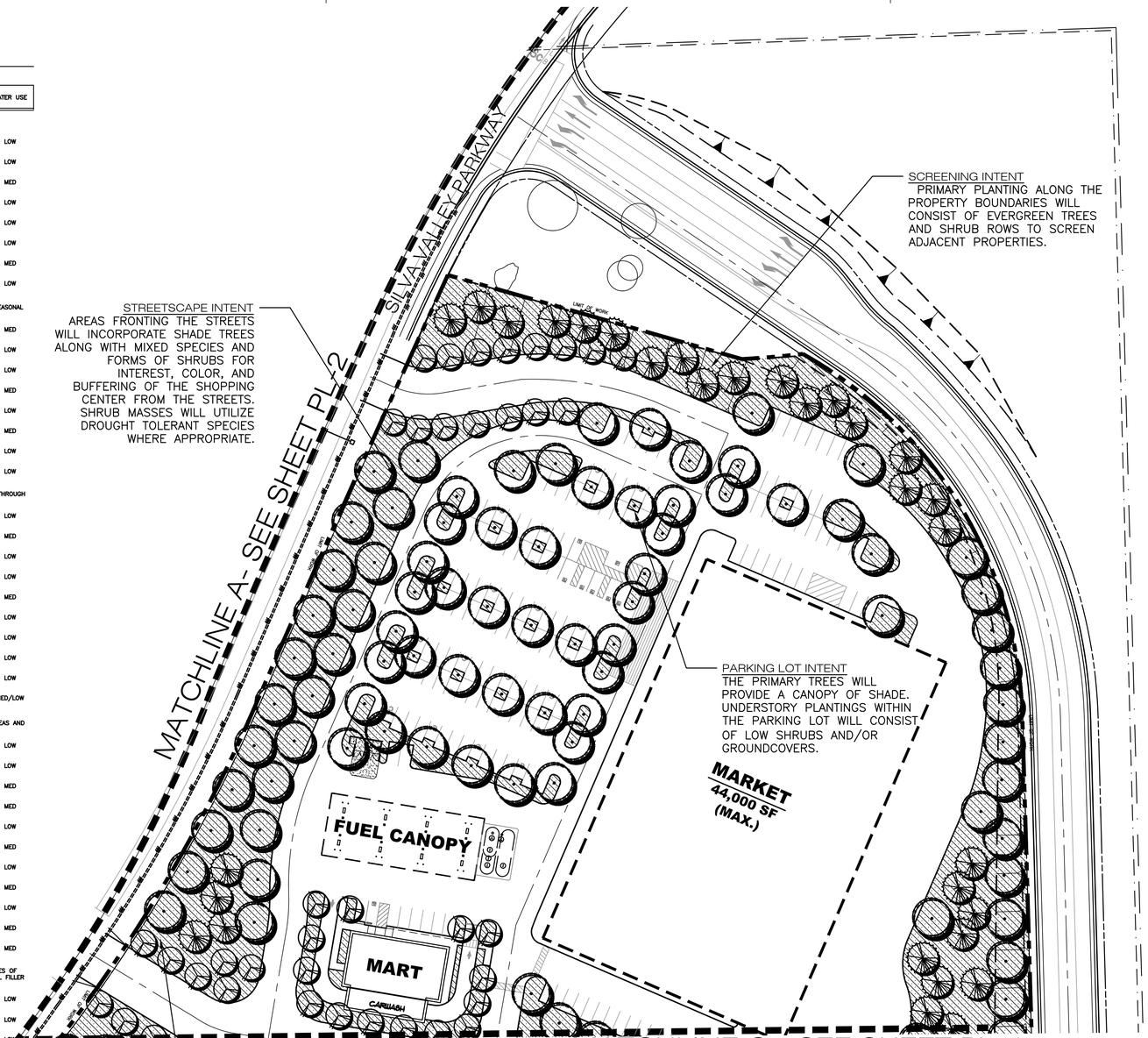
EDH 52 PRELIMINARY PLANT MATERIAL LIST AND LEGEND

TREES

SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE	REMARKS	WATER USE
	CANOPY/SHADE TREES LARGE EVERGREEN OR DECIDUOUS 30' TO 35' DIAMETER TREES USED TO PROVIDE SHADE			
	CELTIS SINENSIS CHINESE HACKBERRY	15 G	40'H x 30'W	MED
	ELAEOCARPUS DECIPIENS JAPANESE BLUEBERRY TREE	15 G	40'H x 28'W	MED
	LIRIODENDRON TULIPIFERA TULIP TREE	15 G	60'H x 35'W	MED
	MAGNOLIA GRANDIFLORA 'D.D. BLANCHARD' SOUTHERN MAGNOLIA	15 G	45'H x 30'W	MED
	PISTACIA CHINENSIS 'KEITH DAVEY' CHINESE PISTACHE	15 G	40'H x 35'W	LOW
	PLATANUS ACERIFOLIA 'BLOODGOOD' LONDON PLANE TREE	15 G	40'H x 30'W	MED
	TILIA CORDATA 'GREENSPIRE' LITTLE-LEAF LINDEN	15 G	35'H x 25'W	MED
	ULMUS PARVIFOLIA 'ALLEE' ALLEE CHINESE EVERGREEN ELM	15 G	50'H x 30'W	MED
	ZELKOVA SERRATA 'VILLAGE GREEN' SAWLEAF ZELKOVA	15 G	45'H x 35'W	MED
	SCREEN TREES EVERGREEN TREES USED TO SCREEN THE PROJECT FROM THE SURROUNDING DEVELOPMENTS			
	ARBUTUS 'MARINA' MARINA STRAWBERRY TREE	15 G	30'H x 25'W	LOW
	CEDRUS DEODARA DEODAR CEDAR	15 G	50'H x 25'W	LOW
	CUPRESSOCYPARIS LEYLANDII LEYLAND CYPRESS	15 G	50'H x 12'W	MED
	CUPRESSUS GLABRA 'BLUE ICE' BLUE ICE ARIZONA CYPRESS	15 G	25'H x 12'W	LOW
	LAURUS 'SARATOGA' SARATOGA SWEET BAY	15 G	25'H x 25'W	LOW
	PINUS ELDARICA MONDELL PINE	15 G	50'H x 20'W	LOW
	PRUNUS CAROLINIANA CAROLINA CHERRY LAUREL	15 G	25'H x 20'W	LOW
	QUERCUS SUBER CORK OAK	15 G	45'H x 45'W	LOW
	QUERCUS WISLIZENII INTERIOR LIVE OAK	15 G	40'H x 45'	LOW
	ACCENT TREES EVERGREEN OR DECIDUOUS TREES USED TO PROVIDE COLOR, DENOTE ENTIRES AND CREATE PEDESTRIAN SCALE			
	CARPINUS BETULUS 'FASTIGIATA' EUROPEAN HORNBEAM	15 G	30'H x 20'W	MED
	CERCIS CANADENSIS 'FOREST PANSY' FOREST PANSY REDBUD	15 G	20'H x 25'W	MED
	CERCIS OCCIDENTALIS WESTERN REDBUD	15 G	15'H x 12'W	LOW
	LAGERSTROEMIA INDICA x FAURIEI 'MUSKOGEE' LAVENDER CRAPE MYRTLE	15 G	25'H x 15'W MULTI-TRUNK	LOW
	LAGERSTROEMIA INDICA x FAURIEI 'NATCHEZ' WHITE CRAPE MYRTLE	15 G	22'H x 12'W MULTI-TRUNK	LOW
	MAGNOLIA GRANDIFLORA 'LITTLE GEM' COMPACT SOUTHERN MAGNOLIA	15 G	22'H x 12'W	MED
	NYSSA SYLVATICA TUPELO	15 G	40'H x 18'W	MED
	PRUNUS CERASIFERA 'KRAUTER VESUVIUS' PURPLE-LEAF FLOWERING PLUM	15 G	18'H x 15'W	MED
	PYRUS CALLERYANA 'RED SPIRE' RED SPIRE PEAR	15 G	30'H x 20'W	MED
	VITEX AGNUS-CASTUS BLUE CHASTE TREE	15 G	15'H x 15'W	LOW

SHRUBS & GROUNDCOVERS

SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE	REMARKS	WATER USE
	BACKGROUND OR FOUNDATION SHRUBS LARGE EVERGREEN SHRUBS USED FOR REDUCING BUILDING MASS OR SCREENING			
	ARBUTUS UNEDO 'COMPACTA' DWARF STRAWBERRY TREE	5 G	8'H x 8'W	LOW
	CEANOTHUS SPP. WILD LILAC	5 G	6'H x 6'W	LOW
	CHOISYA TERNATA MEXICAN ORANGE	5 G	6'H x 6'W	MED
	LEUCOPHYLLUM FRUTESCENS TEXAS RANGER	5 G	7'H x 7'W	LOW
	NERIUM OLEANDER 'RED' RED OLEANDER	5 G	10'H x 10'W	LOW
	RHAMNUS CALIFORNICA 'EVE CASE' COFFEEBERRY	5 G	6'H x 6'W	LOW
	RHAPHIOLEPIS INDICA SPP. INDIAN HAWTHORN	5 G	5'H x 5'W	MED
	XYLOSMA CONGESTUM 'COMPACTA' COMPACT SHINY XYLOSMA	5 G	7'H x 7'W	LOW
	FACER SHRUBS EVERGREEN OR DECIDUOUS SHRUBS USED FOR LAYERING OF PLANT MATERIAL, SEASONAL COLOR AND SOFTENING OF BUILDING EDGE AND FOUNDATION SHRUBS.			
	AZALEA SPP. AZALEA	5 G	3'H x 3'W	MED
	CALLISTEMON VIMINALIS 'LITTLE JOHN' DWARF BOTTLEBRUSH	5 G	3'H x 3'W	LOW
	CISTUS SP. ROCKROSE	5 G	3'H x 5'W	LOW
	LOROPETULUM CHINENSIS 'MONRAZ' RAZZLEBERRI FRINGE FLOWER	5 G	5'H x 4'W	MED
	LEUCOPHYLLUM ZYGOPHYLLUM BLUE RANGER	5 G	3'H x 3'W	LOW
	PITTOSPORUM TOBIRA 'WHEELER'S DWARF' DWARF MOCK ORANGE	5 G	3'H w 4'W	MED
	RHAPHIOLEPIS UMBELLATA 'MINOR' DWARF YEDDO HAWTHORN	5 G	3'H x 3'W	LOW
	WESTRINGIA ROSMARINIFORMIS 'MORNING LIGHT' VARIEGATED COAST ROSEMARY	5 G	3'H x 3'W	LOW
	ACCENT SHRUBS EVERGREEN OR PERENNIAL SHRUBS USED FOR AESTHETIC VALUE IN LANDSCAPE THROUGH BLOOM, COLOR, OR OVERALL CHARACTER.			
	AGAVE SPP. AGAVE	5 G	VARIES	LOW
	BERBERIS THUNBERGII 'CRIMSON PYGMY' RED DWARF JAPANESE BARBERRY	5 G	1.5'H x 2.5'W	MED
	BOUTELOUA GRACILIS 'BLOND AMBITION' BLUE GRAMA GRASS	1 G	3'H x 3'W	LOW
	CALAMAGROSTIS x ACUTIFLORA 'KARL FOERSTER' FEATHER REED GRASS	1 G	2.5'H x 2.5'W	LOW
	HEMEROCALLIS HYBRIDS EVERGREEN DAYLILY	1 G	VARIES X 2'W	MED
	KNIPHOFIA UVARIA RED HOT POKER	1 G	3'H x 3'W	LOW
	LAVANDULA SPP. LAVENDER	1 G	VARIES	LOW
	MUHLENBERGIA CAPILLARIS PINK MUHLY	5 G	3'H x6'W	LOW
	NANDINA DOMESTICA 'COMPACTA' COMPACT HEAVENLY BAMBOO	1 G/5 G	4'H x 3'W	LOW
	PHORMIUM HYBRIDS NEW ZEALAND FLAX	1 G/5 G	VARIES	MED/LOW
	GROUNDCOVER MATERIAL EVERGREEN OR PERENNIAL SHRUBS TO 30" HIGH. USED TO BLANKET LARGER AREAS AND AS A FILLER BETWEEN SITE WORK EDGES AND FACER SHRUBS.			
	BACCHARIS PILULARIS 'PIGEON POINT' DWARF COYOTE BUSH	1 G	2.5'H x 7'W	LOW
	COPROSMA KIRKII KIRK'S COPROSMA	1 G	2'H x 5'W	LOW
	FESTUCA GLAUCA 'SISKIYOU BLUE' BLUE FESCUE	1 G	1'H x 1'W	MED
	HYPERICUM CALYCINUM CREEPING ST. JOHNS WORT	1 G	1'H x 3'W	MED
	LANTANA MONTEVIDENSIS PURPLE TRAILING LANTANA	1 G	2'H x 6'W	LOW
	LONICERA JAPONICA 'HALLIANA' HALL'S HONEYSUCKLE	1 G	1.5'H x 4.5'W	MED
	ROSA BANKSIAE 'LUTEA' YELLOW LADY BANKS ROSE	1 G	4'H x 8'W	LOW
	ROSA FLOWER CARPET FLOWER CARPET ROSE	1 G/5 G	2'H x 3'W	MED
	ROSMARINUS OFFICINALIS 'PROSTRATUS' DWARF ROSEMARY	1 G	2'H x 6'W	LOW
	TRACHELOSPERMUM JASMINOIDES STAR JASMINE	1 G	1.5'H x 8'W	MED
	VINCA MINOR DWARF PERIWINKLE	1 G	0.5'H x 3'W	MED
	BUFFER PLANTING MIX OF NATIVE PLANT MATERIAL USED AS A NATURAL TRANSITION FROM THE EDGES OF THE SITE TO ADJACENT PROPERTIES. PLANT MATERIAL TO BE USED AS A NATURAL FILLER WILL BE HYDROSEEDED.			
	ARTEMISIA CALIFORNICA CALIFORNIA SAGEBRUSH	---	---	LOW
	CEANOTHUS SPP. CALIFORNIA LILAC	---	---	LOW
	FREMONTODENDRON 'DARA GOLD' FLANNEL BUSH	---	---	LOW
	ESCHSCHOLZIA CALIFORNICA CALIFORNIA POPPY	---	---	LOW
	ROMNEYA COULTERI MATILIJA POPPY	---	---	LOW
	MIMULUS SPP. MONKEY FLOWER	---	---	LOW
	NASSELLA PULCHRA PURPLE NEEDLE GRASS	---	---	LOW
	WATER QUALITY BASIN PLANTS ADAPTABLE TO WET CONDITIONS.			
	JUNCUS PATENS GREY RUSH	---	---	HIGH
	JUNCUS EFFUSUS SOFT RUSH	---	---	HIGH
	NASELLA PULCHERS PURPLE NEEDLE GRASS	---	---	MED
	BIOSWALE SOD NATIVE BLEND FOR SWALE BOTTOM	---	---	MED



STREETSCAPE INTENT
AREAS FRONTING THE STREETS WILL INCORPORATE SHADE TREES ALONG WITH MIXED SPECIES AND FORMS OF SHRUBS FOR INTEREST, COLOR, AND BUFFERING OF THE SHOPPING CENTER FROM THE STREETS. SHRUB MASSES WILL UTILIZE DROUGHT TOLERANT SPECIES WHERE APPROPRIATE.

SCREENING INTENT
PRIMARY PLANTING ALONG THE PROPERTY BOUNDARIES WILL CONSIST OF EVERGREEN TREES AND SHRUB ROWS TO SCREEN ADJACENT PROPERTIES.

PARKING LOT INTENT
THE PRIMARY TREES WILL PROVIDE A CANOPY OF SHADE. UNDERSTORY PLANTINGS WITHIN THE PARKING LOT WILL CONSIST OF LOW SHRUBS AND/OR GROUNDCOVERS.

ENTRY TREATMENT INTENT
PLANTING AT THE ENTRIES WILL BE HIGHLIGHTED & DEFINED BY SEASONAL ACCENTED TREES & SHRUBS WITH THE USE OF COLORFUL PLANT MATERIAL. SHRUBS WILL BE LOW TO MAINTAIN SIGHT LINES.

SCALE: 1" = 50' - 0"
0' 25' 50' 100' 200'

UNDERGROUND SERVICE ALERT
CALL TOLL FREE
1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG

FUHRMAN LEAMY LAND GROUP HEREBY EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS. THESE PLANS AND DRAWINGS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION OF FUHRMAN LEAMY LAND GROUP, NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING WRITTEN PERMISSION AND CONSENT.

FUHRMAN LEAMY
LAND GROUP
DESIGN • SERVICE • SOLUTIONS
2140 PROFESSIONAL DRIVE, SUITE 115
ROSEVILLE, CALIFORNIA 95661
916.783.5263 • FLLANDGROUP.COM

JOB NO. : RSC:17080

CONSULTANT

PROJECT:
EDH 52

HWY 50 & SILVA VALLEY
EL DORADO HILLS, CA

CLIENT:
RSC ENGINEERING, INC

REVISIONS	DATE
1	
2	
3	
4	

ISSUE		DATE
1	1ST SUBMITTAL	09.15.2017
2		
3		
4		
5		

REGISTERED LANDSCAPE ARCHITECT
KEVIN C. LEAMY
No. 4765
12-31-18
Renewal Date
STATE OF CALIFORNIA

DRAWN : JM
CHECKED : KCL
SCALE: : 1" = 50'-0"

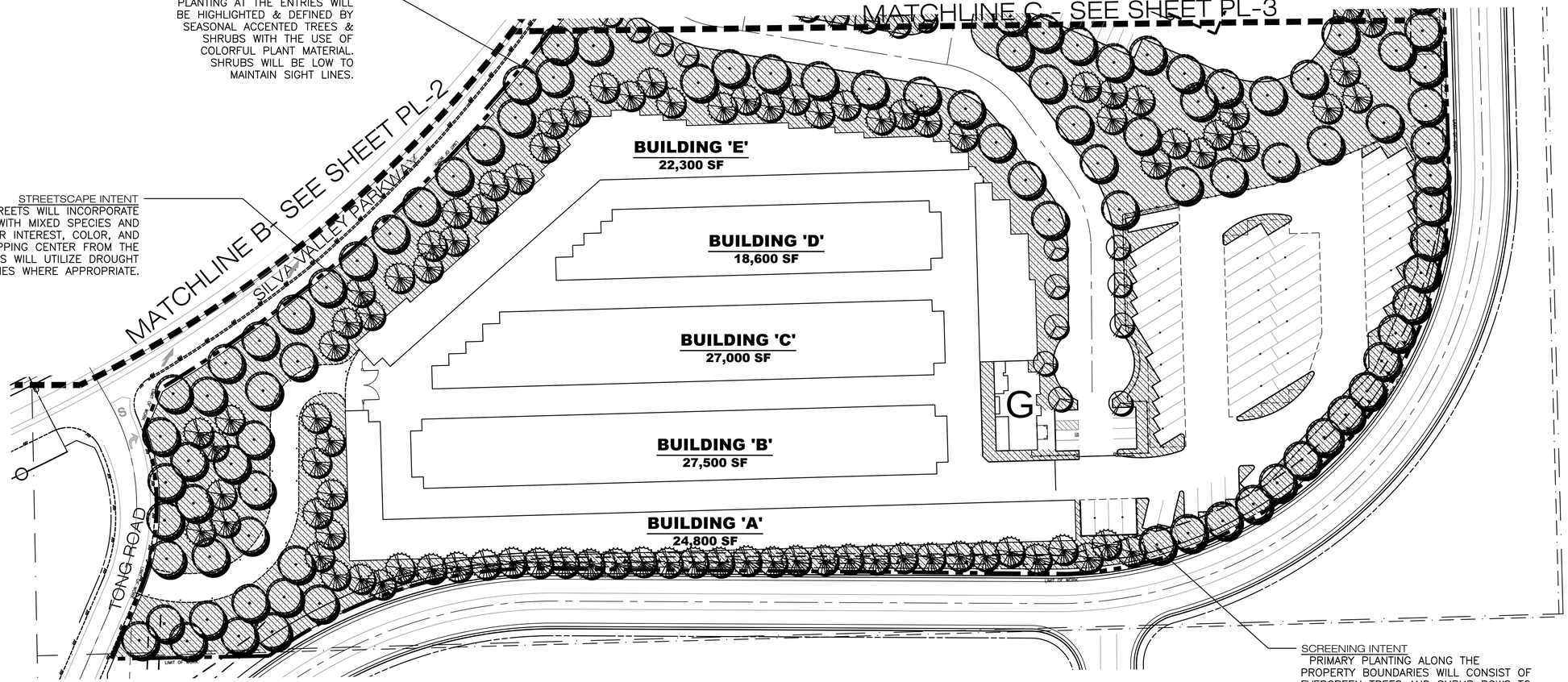
SHEET TITLE:
PRELIMINARY LANDSCAPE PLAN

SHEET
PL-3
3 OF 4 SHEETS

FURHMAN LEAMY LAND GROUP HEREBY EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS. THESE PLANS AND DRAWINGS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION OF FURHMAN LEAMY LAND GROUP, NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING WRITTEN PERMISSION AND CONSENT.

ENTRY TREATMENT INTENT
PLANTING AT THE ENTRIES WILL BE HIGHLIGHTED & DEFINED BY SEASONAL ACCENTED TREES & SHRUBS WITH THE USE OF COLORFUL PLANT MATERIAL. SHRUBS WILL BE LOW TO MAINTAIN SIGHT LINES.

STREETSCAPE INTENT
AREAS FRONTING THE STREETS WILL INCORPORATE SHADE TREES ALONG WITH MIXED SPECIES AND FORMS OF SHRUBS FOR INTEREST, COLOR, AND BUFFERING OF THE SHOPPING CENTER FROM THE STREETS. SHRUB MASSES WILL UTILIZE DROUGHT TOLERANT SPECIES WHERE APPROPRIATE.



SCREENING INTENT
PRIMARY PLANTING ALONG THE PROPERTY BOUNDARIES WILL CONSIST OF EVERGREEN TREES AND SHRUB ROWS TO SCREEN ADJACENT PROPERTIES.

EDH 52 PRELIMINARY PLANT MATERIAL LIST AND LEGEND

TREES

SYMBOL	BOTANICAL NAME COMMON NAME	SIZE	REMARKS	WATER USE
	CANOPY/SHADE TREES LARGE EVERGREEN OR DECIDUOUS 30' TO 35' DIAMETER TREES USED TO PROVIDE SHADE			
	CELTIS SINENSIS CHINESE HACKBERRY	15 G	40'H x 30'W	MED
	ELAEOCARPUS DECIPIENS JAPANESE BLUEBERRY TREE	15 G	40'H x 28'W	MED
	LIRODENDRON TULIPIFERA TULIP TREE	15 G	60'H x 35'W	MED
	MAGNOLIA GRANDIFLORA 'D.D. BLANCHARD' SOUTHERN MAGNOLIA	15 G	45'H x 30'W	MED
	PISTACIA CHINENSIS 'KEITH DAVEY' CHINESE PISTACHE	15 G	40'H x 35'W	LOW
	PLATANUS ACERIFOLIA 'BLOODGOOD' LONDON PLANE TREE	15 G	40'H x 30'W	MED
	TILIA CORDATA 'GREENSPIRE' LITTLE-LEAF LINDEN	15 G	35'H x 25'W	MED
	ULMUS PARVIFOLIA 'ALLEE' ALLEE CHINESE EVERGREEN ELM	15 G	50'H x 30'W	MED
	ZELKOVA SERRATA 'VILLAGE GREEN' SAWLEAF ZELKOVA	15 G	45'H x 35'W	MED
	SCREEN TREES EVERGREEN TREES USED TO SCREEN THE PROJECT FROM THE SURROUNDING DEVELOPMENTS			
	ARBUTUS 'MARINA' MARINA STRAWBERRY TREE	15 G	30'H x 25'W	LOW
	CEDRUS DEODARA DEODAR CEDAR	15 G	50'H x 25'W	LOW
	CUPRESSOCYPARIS LEYLANDII LEYLAND CYPRESS	15 G	50'H x 12'W	MED
	CUPRESSUS GLABRA 'BLUE ICE' BLUE ICE ARIZONA CYPRESS	15 G	25'H x 12'W	LOW
	LAURUS 'SARATOGA' SARATOGA SWEET BAY	15 G	25'H x 25'W	LOW
	PINUS ELDARICA MONDELL PINE	15 G	50'H x 20'W	LOW
	PRUNUS CAROLINIANA CAROLINA CHERRY LAUREL	15 G	25'H x 20'W	LOW
	QUERCUS SUBER CORK OAK	15 G	45'H x 45'W	LOW
	QUERCUS WISLIZENII INTERIOR LIVE OAK	15 G	40'H x 45'	LOW
	ACCENT TREES EVERGREEN OR DECIDUOUS TREES USED TO PROVIDE COLOR, DENOTE ENTIRES AND CREATE PEDESTRIAN SCALE			
	CARPINUS BETULUS 'FASTIGIATA' EUROPEAN HORNBEAM	15 G	30'H x 20'W	MED
	CERCIS CANADENSIS 'FOREST PANSY' FOREST PANSY REDBUD	15 G	20'H x 25'W	MED
	CERCIS OCCIDENTALIS WESTERN REDBUD	15 G	15'H x 12'W	LOW
	LAGERSTROEMIA INDICA x FAURIEI 'MUSKOGEE' LAVENDER CRAPE MYRTLE	15 G	25'H x 15'W MULTI-TRUNK	LOW
	LAGERSTROEMIA INDICA x FAURIEI 'NATCHEZ' WHITE CRAPE MYRTLE	15 G	22'H x 12'W MULTI-TRUNK	LOW
	MAGNOLIA GRANDIFLORA 'LITTLE GEM' COMPACT SOUTHERN MAGNOLIA	15 G	22'H x 12'W	MED
	NYSSA SYLVATICA TUPELO	15 G	40'H x 18'W	MED
	PRUNUS CERASIFERA 'KRAUTER VESUVIUS' PURPLE-LEAF FLOWERING PLUM	15 G	18'H x 15'W	MED
	PYRUS CALLERYANA 'RED SPIRE' RED SPIRE PEAR	15 G	30'H x 20'W	MED
	VITEX AGNUS-CASTUS BLUE CHASTE TREE	15 G	15'H x 15'W	LOW

SHRUBS & GROUNDCOVERS

SYMBOL	BOTANICAL NAME COMMON NAME	SIZE	REMARKS	WATER USE
	BACKGROUND OR FOUNDATION SHRUBS LARGE EVERGREEN SHRUBS USED FOR REDUCING BUILDING MASS OR SCREENING			
	ARBUTUS UNEDO 'COMPACTA' DWARF STRAWBERRY TREE	5 G	8'H x 8'W	LOW
	CEANOTHUS SPP. WILD LILAC	5 G	6'H x 6'W	LOW
	CHOISYA TERNATA MEXICAN ORANGE	5 G	6'H x 6'W	MED
	LEUCOPHYLLUM FRUTESCENS TEXAS RANGER	5 G	7'H x 7'W	LOW
	NERIUM OLEANDER 'RED' RED OLEANDER	5 G	10'H x 10'W	LOW
	RHAMNUS CALIFORNICA 'EVE CASE' COFFEEBERRY	5 G	6'H x 6'W	LOW
	RHAPHIOLEPIS INDICA SPP. INDIAN HAWTHORN	5 G	5'H x 5'W	MED
	XYLOSMA CONGESTUM 'COMPACTA' COMPACT SHINY XYLOSMA	5 G	7'H x 7'W	LOW
	FACER SHRUBS EVERGREEN OR DECIDUOUS SHRUBS USED FOR LAYERING OF PLANT MATERIAL, SEASONAL COLOR AND SOFTENING OF BUILDING EDGE AND FOUNDATION SHRUBS.			
	AZALEA SPP. AZALEA	5 G	3'H x 3'W	MED
	CALLISTEMON VIMINALIS 'LITTLE JOHN' DWARF BOTTLEBRUSH	5 G	3'H x 3'W	LOW
	CISTUS SP. ROCKROSE	5 G	3'H x 5'W	LOW
	LOROPETULUM CHINENSIS 'MONRAZ' RAZZLEBERRI FRINGE FLOWER	5 G	5'H x 4'W	MED
	LEUCOPHYLLUM ZYGOPHYLLUM BLUE RANGER	5 G	3'H x 3'W	LOW
	PITTOSPORUM TOBIRA 'WHEELER'S DWARF' DWARF MOCK ORANGE	5 G	3'H w 4'W	MED
	RHAPHIOLEPIS UMBELLATA 'MINOR' DWARF YEDDO HAWTHORN	5 G	3'H x 3'W	LOW
	WESTRINGIA ROSMARINIFORMIS 'MORNING LIGHT' VARIEGATED COAST ROSEMARY	5 G	3'H x 3'W	LOW
	ACCENT SHRUBS EVERGREEN OR PERENNIAL SHRUBS USED FOR AESTHETIC VALUE IN LANDSCAPE THROUGH BLOOM, COLOR, OR OVERALL CHARACTER.			
	AGAVE SPP. AGAVE	5 G	VARIES	LOW
	BERBERIS THUNBERGII 'CRIMSON PYGMY' RED DWARF JAPANESE BARBERRY	5 G	1.5'H x 2.5'W	MED
	BOUTELOUA GRACILIS 'BLOND AMBITION' BLUE GRAMA GRASS	1 G	3'H x 3'W	LOW
	CALAMAGROSTIS x ACUTIFLORA 'KARL FOERSTER' FEATHER REED GRASS	1 G	2.5'H x 2.5'W	LOW
	HEMEROCALLIS HYBRIDS EVERGREEN DAYLILY	1 G	VARIES X 2'W	MED
	KNIPHOFIA UVARIA RED HOT POKER	1 G	3'H x 3'W	LOW
	LAVANDULA SPP. LAVENDER	1 G	VARIES	LOW
	MUHLENBERGIA CAPILLARIS PINK MUHLY	5 G	3'H x6'W	LOW
	NANDINA DOMESTICA 'COMPACTA' COMPACT HEAVENLY BAMBOO	1 G/5 G	4'H x 3'W	LOW
	PHORMIUM HYBRIDS NEW ZEALAND FLAX	1 G/5 G	VARIES	MED/LOW
	GROUNDCOVER MATERIAL EVERGREEN OR PERENNIAL SHRUBS TO 30" HIGH, USED TO BLANKET LARGER AREAS AND AS A FILLER BETWEEN SITE WORK EDGES AND FACER SHRUBS.			
	BACCHARIS PILULARIS 'PIGEON POINT' DWARF COYOTE BUSH	1 G	2.5'H x 7'W	LOW
	COPROSMA KIRKII KIRK'S COPROSMA	1 G	2'H x 5'W	LOW
	FESTUCA GLAUCA 'SISKIYOU BLUE' BLUE FESCUE	1 G	1'H x 1'W	MED
	HYPERICUM CALYCINUM CREEPING ST. JOHNS WORT	1 G	1'H x 3'W	MED
	LANTANA MONTEVIDENSIS PURPLE TRAILING LANTANA	1 G	2'H x 6'W	LOW
	LONICERA JAPONICA 'HALLIANA' HALL'S HONEYSUCKLE	1 G	1.5'H x 4.5'W	MED
	ROSA BANKSIAE 'LUTEA' YELLOW LADY BANKS ROSE	1 G	4'H x 8'W	LOW
	ROSA FLOWER CARPET FLOWER CARPET ROSE	1 G/5 G	2'H x 3'W	MED
	ROSMARINUS OFFICINALIS 'PROSTRATUS' DWARF ROSEMARY	1 G	2'H x 6'W	LOW
	TRACHELOSPERMUM JASMINOIDES STAR JASMINE	1 G	1.5'H x 8'W	MED
	VINCA MINOR DWARF PERIWINKLE	1 G	0.5'H x 3'W	MED
	BUFFER PLANTING MIX OF NATIVE PLANT MATERIAL USED AS A NATURAL TRANSITION FROM THE EDGES OF THE SITE TO ADJACENT PROPERTIES. PLANT MATERIAL TO BE USED AS A NATURAL FILLER WILL BE HYDROSEEDED.			
	ARTEMISIA CALIFORNICA CALIFORNIA SAGEBRUSH	---	---	LOW
	CEANOTHUS SPP. CALIFORNIA LILAC	---	---	LOW
	FREMONTODENDRON 'DARA GOLD' FLANNEL BUSH	---	---	LOW
	ESCHSCHOLZIA CALIFORNICA CALIFORNIA POPPY	---	---	LOW
	ROMNEYA COULTERI MATILIJA POPPY	---	---	LOW
	MIMULUS SPP. MONKEY FLOWER	---	---	LOW
	NASSELLA PULCHRA PURPLE NEEDLE GRASS	---	---	LOW
	WATER QUALITY BASIN PLANTS ADAPTABLE TO WET CONDITIONS.			
	JUNCUS PATENS GREY RUSH	---	---	HIGH
	JUNCUS EFFUSUS SOFT RUSH	---	---	HIGH
	NASELLA PULCHERS PURPLE NEEDLE GRASS	---	---	MED
	BIOSWALE SOD NATIVE BLEND FOR SWALE BOTTOM	---	---	MED

SCALE: 1" = 50' - 0"
0' 25' 50' 100' 200'

UNDERGROUND SERVICE ALERT
CALL TOLL FREE
1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG

FUHRMAN LEAMY
LAND GROUP
DESIGN • SERVICE • SOLUTIONS
2140 PROFESSIONAL DRIVE, SUITE 115
ROSEVILLE, CALIFORNIA 95661
916.783.5263 • FLLANDGROUP.COM

JOB NO. : RSC:17080

CONSULTANT

PROJECT:
EDH 52

HWY 50 & SILVA VALLEY
EL DORADO HILLS, CA

CLIENT:
RSC ENGINEERING, INC

REVISIONS	DATE
1	
2	
3	
4	

ISSUE		DATE
1	1ST SUBMITTAL	09.15.2017
2		
3		
4		
5		

REGISTERED LANDSCAPE ARCHITECT
KEVIN C. KELLEMINISTON
No. 4906
EXP. 01-31-18
Renewal Date
Date
NOT STATE OF CALIFORNIA

DRAWN : JM
CHECKED : KCL
SCALE: : 1" = 50'-0"

SHEET TITLE:
PRELIMINARY LANDSCAPE PLAN

SHEET
PL-4

4 OF 4 SHEETS

DRAWING: G:\Dropbox\AcadData\2017\17102 EDH 52 - RSC\170918 17102 EDH 52.dwg
USER: WNORBERG
LAST MODIFIED: Sep. 18, 17 - 16:24
PLOT DATE: Sep 18, 2017 - 4:58:21 PM

Xrefs: G:\Dropbox\AcadData\2017\17102 EDH 52 - RSC\Photometric Calculations\170918 17102 EDH-52.dwg



FIXTURE KEY

355
S3SL4H
MH: 25

FIXTURE NUMBER FOR REFERENCE
FIXTURE TYPE - SEE SCHEDULE
MOUNTING HEIGHT OF LIGHT SOURCE
EQUAL TO POLE HEIGHT PLUS BASE

N

1 inch = 40 ft.

PLANNED DEVELOPMENT APPLICATION FOR EDH 52

HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

SHEET TITLE
PHOTOMETRIC SITE PLAN SOUTH

SHEET NO.
PH1
1 OF **2**

DATE: SEPTEMBER 18, 2017

PROJECT NO: 104-003
DRAWN BY: RSC Eng
CHECKED BY: RSC Eng
DESIGNED BY: RSC Eng

RSC ENGINEERING
2250 Douglas Blvd. Suite 150
Roseville, CA 95661
Ph: 916.788.2884 Fax: 916.788.4408

REGISTERED PROFESSIONAL ENGINEER
WILLIAM V. NORBERG
No.9668
Exp.9-30-18
ELECTRICAL
STATE OF CALIFORNIA
9/18/17

REV NO.	DESCRIPTION	ENG INT.	BY	DATE
△			CITY	APPROVED
△				
△				
△				
△				

OWNER:

EDH 52

7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

DRAWING: G:\Dropbox\AcadData\2017\17102 EDH 52 - RSC\170918 17102 EDH 52.dwg
USER: WNORBERG
LAST MODIFIED: Sep. 18, 17 - 16:24
PLOT DATE: Sep 18, 2017 - 4:58:39 PM

Xrefs: G:\Dropbox\AcadData\2017\17102 EDH 52 - RSC\Photometric Calculations\170918 17102 EDH-52.dwg



Calculation Summary

Label	CalcType		Max	Min	Max/Min	Avg
CalcPts	Illuminance		6.4	0.5	12.80	215

Luminaire Schedule

Symbol	Label	Arrangement	LLF	Lum. Watts	Qty	Description
⊙	B	SINGLE	1.000	16.52	30	Lithonia - DLCFM 15 WH
	S3SL3	SINGLE	0.850	157	11	McGraw Edison - GLEON-AE-03-LED-E1-SL3
	S3SL4	SINGLE	0.850	157	32	McGraw Edison - GLEON-AE-03-LED-E1-SL4
	S3SL4H	SINGLE	0.850	157	4	McGraw Edison - GLEON-AE-03-LED-E1-SL4-HSS
	S4SL4	SINGLE	0.850	213	4	McGraw Edison - GLEON-AE-04-LED-E1-SL4
	S4SL4H	SINGLE	0.850	213	3	McGraw Edison - GLEON-AE-04-LED-E1-SL4-HSS
	D45WQ	BACK-BACK	0.920	213	24	McGraw Edison - GLEON-AE-04-LED-E1-5WQ

SHEET TITLE	SHEET NO.	DATE
PHOTOMETRIC SITE PLAN NORTH	PH2 2 OF 2	DATE: SEPTEMBER 18, 2017

PLANNED DEVELOPMENT APPLICATION FOR EDH 52

HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

PROJECT NO:	104-003
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

RSC ENGINEERING
2250 Douglas Blvd. Suite 150
Roseville, CA 95661
Ph: 916.788.2884 Fax: 916.788.4408

REGISTERED PROFESSIONAL ENGINEER
WILLIAM V. NORBERG
No.9668
Exp.9-30-18
ELECTRICAL
STATE OF CALIFORNIA
9/18/17

REV NO.	DESCRIPTION	ENG INT.	BY	DATE
△				
△				
△				
△				
△				
			CITY	APPROVED

OWNER:

EDH 52

7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

Biological Resources Assessment

±34-Acre El Dorado Hills 52
El Dorado County, California

Prepared for:

EDH 52, GP

October 6, 2017

Prepared by:

FOOTHILL ASSOCIATES

© 2017

TABLE OF CONTENTS

1.0 Introduction 1
1.1. Project Description 1
2.0 Regulatory Framework 2
2.1. Federal Regulations 2
2.1.1. Federal Endangered Species Act 2
2.1.2. Migratory Bird Treaty Act 2
2.1.3. The Bald and Golden Eagle Protection Act 2
2.2. State Jurisdiction 3
2.2.1. California Endangered Species Act 3
2.2.2. California Department of Fish and Game Codes 3
2.2.3. Native Plant Protection Act 3
2.3. Jurisdictional Waters 3
2.3.1. Federal Jurisdiction 3
2.3.2. State Jurisdiction 5
2.4. CEQA Significance 5
2.4.1. California Native Plant Society 6
2.4.2. California Department of Fish and Wildlife Species of Concern 7
2.5. El Dorado County Policies and Regulations 7
2.5.1. El Dorado County General Plan 7
2.5.2. El Dorado Hills Specific Plan 7
2.5.3. El Dorado County Tree Ordinance 8
2.6. El Dorado Hills Community Services District Policies 8
3.0 Methods 9
4.0 Results 11
4.1. Site Location and Description 11
4.2. Physical Features 11
4.2.1. Topography and Drainage 11
4.2.2. Soils 11
4.3. Biological Communities 11
4.3.1. Annual Grassland 12
4.3.2. Riparian Woodland 12

4.3.3. Valley Oak Woodland 12
4.3.4. Seasonal Wetland 12
4.3.5. Perennial Marsh 13
4.3.6. Disturbed/ Developed 13
4.4. Special-Status Species 13
4.4.1. Listed and Special-Status Plants 14
4.4.2. Listed and Special-Status Wildlife 14
4.5. Sensitive Habitats 18
4.5.1. Potential Jurisdictional Waters of the U.S. and State 18
4.5.2. Riparian Habitat 18
4.5.3. Oak Trees and Oak Woodlands 18
4.5.4. Purple Needlegrass 19
4.6. Wildlife Migration Corridors and Important Biological Corridors 19
5.0 Conclusions and Recommendations 20
5.1. Special-Status Plant Species 20
5.2. Valley Elderberry Longhorn Beetle 20
5.3. Western Pond Turtle 21
5.4. Blainville's Horned Lizard 21
5.5. Foothill Yellow-Legged Frog 22
5.6. Western Spadefoot 22
5.7. Golden Eagle 23
5.8. Tricolored Blackbird 23
5.9. Burrowing Owl 23
5.10. Other Raptors and Migratory Birds 23
5.11. American Badger 24
5.12. Special-Status Bat Species 25
5.13. Sensitive Habitats 25
5.13.1. Jurisdictional Waters 25
5.13.2. Oak Woodlands 26
5.13.3. Riparian Habitats 26
5.13.4. Purple Needlegrass Grassland 26
5.14. Summary of Avoidance and Minimization Measures 26
6.0 References 28

List of Figures

Figure 1 — Site and Vicinity 32
Figure 2 — Soils 33
Figure 3 — Biological Communities 34
Figure 4— Annual Grassland for Golden Eagle Foraging Habitat within the Vicinity of the Study Area 35

List of Appendices

Appendix A — Selected General and Specific Plan Policies
Appendix B — Regionally Occurring Listed and Special-Status Species
Appendix C — Plants and Wildlife Observed in the Study Area

Executive Summary

Foothill Associates' biologists conducted a biological resources assessment (BRA) and focused surveys for western burrowing owl, special-status plants, and California red-legged frog on the El Dorado Hills 52 Study Area located within El Dorado County, California. The purpose of this BRA is to summarize the general biological resources on the Study Area, to assess the suitability of the Study Area to support special-status species and sensitive habitat types, to summarize the results of various focused surveys, and to provide recommendations for regulatory permitting or further analysis that may be required prior to development activities occurring on the Study Area.

The El Dorado Hills 52 Study Area (Study Area) consists of ±34 acres of land that is primarily annual grassland. The Study Area is bifurcated by Silva Valley Parkway. A former home site is located on the southern portion of the property and a large part of the northern portion was used to stockpile soil during the construction of the adjacent Silva Valley Parkway – U.S. Highway 50 Interchange Project. Land uses surrounding the Study Area include an elementary school, residences, and U.S. Highway 50.

Known or potential biological constraints within the Study Area include:

- Potential habitat for special-status plant species;
- Potential habitat for valley elderberry longhorn beetle;
- Potential habitat for western pond turtle;
- Potential habitat for Blainville's horned lizard;
- Potential habitat for foothill yellow-legged frog;
- Potential habitat for western spadefoot;
- Potential foraging habitat for golden eagle;
- Potential foraging habitat for tricolored blackbird;
- Potential habitat for burrowing owl;
- Potential nesting sites and foraging habitat for raptors and other birds;
- Potential habitat for American badger;
- Potential habitat for special-status bat species including pallid bat and silver-haired bat; and
- Sensitive habitats, including potentially jurisdictional waters of the U.S. (seasonal wetlands, perennial marsh, and ephemeral and perennial drainages), riparian habitat, valley oak woodland, and purple needlegrass grassland.

1.0 INTRODUCTION

This report summarizes the findings of a BRA, focused surveys for burrowing owl, California red-legged frog, and special-status plants and an aquatic resources delineation completed for the ±34-acre El Dorado Hills 52 Study Area, located within El Dorado County, California. This document addresses the onsite physical features, as well as plant communities present and the common plant and wildlife species occurring, or potentially occurring, in the Study Area. Furthermore, the suitability of habitats to support special-status species and sensitive habitats are analyzed and recommendations are provided for any regulatory permitting or further analysis required prior to development activities occurring on the Study Area.

1.1. Project Description

Development proposed within the Study Area will ultimately result in the development of approximately 32-acres of commercial development. The northern portion of the Study Area is approximately 17.07 acres (North Site) and the southern portion is approximately 15.73 acres (South Site), net of the right-of-way for roads. Development is designed to allow either the North Site or the South Site to develop independent from the other. Proposed improvements will include construction of commercial buildings and associated parking, utilities, and storm water management facilities as well as multiple points of access, and a new traffic signal on Silva Valley Parkway. Ancillary amenities include pedestrian walkways, bicycle parking, signage and lighting and landscaping. A 7.69-acre area within the North Site is dedicated right-of-way associated with the future extension of Country Club Drive. A 1.38-acre open space area west of Old Silva Valley Road will not be developed.

2.0 REGULATORY FRAMEWORK

Federal, State, and local environmental laws, regulations, and policies relevant to the California Environmental Quality Act (CEQA) review process are summarized below. The CEQA significance criteria are also included in this section.

2.1. Federal Regulations

2.1.1. Federal Endangered Species Act

The U.S. Congress passed the Federal Endangered Species Act (FESA) in 1973 to protect those species that are endangered or threatened with extinction. FESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

FESA prohibits the "take" of endangered or threatened wildlife species. "Take" is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (FESA Section 3 [(3) (19)]). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 CFR §17.3). Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR §17.3). Actions that result in take can result in civil or criminal penalties.

In the context of the proposed project, FESA consultation with the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS) would be initiated if development resulted in take of a threatened or endangered species or if issuance of a Section 404 permit or other federal agency action could result in take of an endangered species or adversely modify critical habitat of such a species.

2.1.2. Migratory Bird Treaty Act

Raptors (birds of prey), migratory birds, and other avian species are protected by a number of State and federal laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior.

2.1.3. The Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (Eagle Act) prohibits the taking or possession of and commerce in bald and golden eagles with limited exceptions. Under the Eagle Act, it is a violation to "*take, possess, sell, purchase, barter, offer to sell, transport, export or import, at any time or in any manner, any bald eagle commonly known as the American eagle, or golden eagle, alive or dead, or any part, nest, or egg, thereof*." Take is defined to include pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, and disturb. Disturb is further defined in 50 CFR Part 22.3 as "*to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available (1) injury to*

an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

2.2. State Jurisdiction

2.2.1. California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA is similar to the FESA but pertains to State-listed endangered and threatened species. CESA requires state agencies to consult with the California Department of Fish and Wildlife (CDFW), when preparing CEQA documents. The purpose is to ensure that the State lead agency actions do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available (Fish and Game Code §2080). CESA directs agencies to consult with CDFW on projects or actions that could affect listed species, directs CDFW to determine whether jeopardy would occur and allows CDFW to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. CESA allows CDFW to authorize exceptions to the State's prohibition against take of a listed species if the "take" of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (Fish & Game Code § 2081).

2.2.2. California Department of Fish and Game Codes

A number of species have been designated "fully protected" species under Sections 5515, 5050, 3511, and 4700 of the Fish and Game Code, but are not listed as endangered (Section 2062) or threatened (Section 2067) species under CESA. Except for take related to scientific research, all take of fully protected species is prohibited. The California Fish and Game Code defines take as "*hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.*" Additionally, Section 3503 of the California Fish and Game Code prohibits the killing of birds or the destruction of bird nests.

2.2.3. Native Plant Protection Act

The Native Plant Protection Act (NPPA), enacted in 1977, allows the Fish and Game Commission to designate plants as rare or endangered. There are 64 species, subspecies, and varieties of plants protected under the NPPA. The NPPA prohibits take of endangered or rare native plants, with some exceptions for agricultural and nursery operations and emergencies. Vegetation removal from canals, roads, and other sites, changes in land use, and certain other situations require proper advance notification to CDFW.

2.3. Jurisdictional Waters

2.3.1. Federal Jurisdiction

The U.S. Army Corps of Engineers (Corps) regulates discharge of dredge or fill material into waters of the U.S. under Section 404 of the Clean Water Act (CWA). "Discharges of fill material"

is defined as the addition of fill material into waters of the U.S., including, but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §328.2(f)].

Waters of the U.S. include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows. Boundaries between jurisdictional waters and uplands are determined in a variety of ways depending on which type of waters is present. Methods for delineating wetlands and non-tidal waters are described below.

- Wetlands are defined as "*those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions*" [33 C.F.R. §328.3(b)]. Presently, to be a wetland, a site must exhibit three wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology existing under the "normal circumstances" for the site.
- The lateral extent of non-tidal waters is determined by delineating the ordinary high-water mark (OHWM) [33 C.F.R. §328.4(c)(1)]. The OHWM is defined by the Corps as "*that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas*" [33 C.F.R. §328.3(e)].

An aquatic feature is determined to be a water of the U.S. based on nexus with a traditionally navigable water pursuant to the Supreme Court's decision in the consolidated cases *Rapanos v. United States* and *Carabell v. United States* (126 S. Ct. 2208) and agency guidance subsequent to this decision. Under these rules, the Corps asserts jurisdiction over wetlands adjacent to traditional navigable waters, relatively permanent non-navigable tributaries (i.e., waters that have a continuous flow at least three months out of the year), and wetlands that abut relatively permanent tributaries. The Corps determines jurisdiction over waters that are non-navigable tributaries that are not relatively permanent, and wetlands adjacent to these tributaries, by making a determination whether such waters "significantly affect the chemical, physical, and biological integrity of other jurisdictional waters more readily understood as "navigable." Finally, the Corps generally does not consider the following to be "waters of the United States": swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent or short duration flow) and ditches "wholly in and draining only uplands…which do not carry a relatively permanent flow of water." Navigable waters of the United States are defined as waters that have been used in the past, are now used, or are susceptible to use as a means to transport interstate or foreign commerce up to the head of navigation.

2.3.2. State Jurisdiction

Regional Water Quality Control Boards

Discharges of fill or waste material to waters of the State are regulated by the State Water Resources Control Board (SWRCB) through its Regional Water Quality Control Boards (RWQCB) under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act (contained in the California Water Code). All waters of the U.S. are also considered waters of the State. In addition, other aquatic features that are not subject to Corps' jurisdiction, such as roadside ditches or isolated wetlands, may be considered waters of the State. This determination will be made by RWQCB staff on a case-by-case basis.

Section 401 of the CWA requires an applicant to obtain "water quality certification" to ensure compliance with State water quality standards before certain federal licenses or permits may be issued. Section 13260(a) of the Porter-Cologne Water Quality Control Act requires any person discharging waste, including dredged or fill material, or proposing to discharge waste, other than to a community sewer system, within any region that could affect the quality of the waters of the State (all surface and subsurface waters) to file a report of waste discharge. The permits subject to Section 401 include CWA Section 404 permits issued by the Corps. Waste discharge requirements under the Porter-Cologne Water Quality Control Act were typically waived for projects that required certification. Discharges to waters of the State that are not subject to a CWA Section 404 permit rely on the report of waste discharge process.

California Department of Fish and Wildlife

The CDFW is a trustee agency that has jurisdiction under Section 1600 *et seq.* of the California Fish and Game Code. Under Sections 1602 and 1603, a private party must notify CDFW if a proposed project will "*substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds…except when the department has been notified pursuant to Section 1601.*" Additionally, CDFW asserts jurisdiction over native riparian habitat adjacent to aquatic features, including native trees over 4-inches in diameter at breast height (DBH). If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFW may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the parties involved, they may enter into an agreement with CDFW identifying the approved activities and associated mitigation measures. Generally, CDFW recommends submitting an application for a Streambed Alteration Agreement (SAA) for any work done within the lateral limit of water flow or the edge of riparian vegetation, whichever is greater.

2.4. CEQA Significance

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study Checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. Based on these

examples, impacts to biological resources would normally be considered significant if the project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and
- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional or state habitat conservation plan.

An evaluation of whether or not an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, State, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of, an important resource on a population-wide or region-wide basis.

2.4.1. California Native Plant Society

The California Native Plant Society (CNPS) maintains a rank of plant species native to California that have low population numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the *Inventory of Rare and Endangered Vascular Plants of California*. Potential impacts to populations of CNPS-ranked plants receive consideration under CEQA review. The following identifies the definitions of the CNPS ranks:

- Rank 1A: Plants presumed Extinct in California
- Rank 1B: Plants Rare, Threatened, or Endangered in California and elsewhere
- Rank 2: Plants Rare, Threatened, or Endangered in California, but more numerous elsewhere

- Rank 3: Plants about which we need more information – A Review List
- Rank 4: Plants of limited distribution – A Watch List

All plants appearing on CNPS Rank 1 or 2 are considered to meet CEQA Guidelines Section 15380 criteria. While only some of the plants ranked 3 and 4 meet the definitions of threatened or endangered species, the CNPS recommends that all Rank 3 and Rank 4 plants be evaluated for consideration under CEQA.

2.4.2. California Department of Fish and Wildlife Species of Concern

Some additional fish, amphibian, reptile, bird, and mammal species may receive consideration by CDFW and lead agencies during the CEQA process, in addition to species that are formally listed under FESA and CESA or are fully protected. These species are included on the *Special Animals List*, which is maintained by CDFW. This list tracks species in California whose numbers, reproductive success, or habitat may be in decline. In addition to "Species of Special Concern" (SSC), the *Special Animals List* includes species that are tracked in the California Natural Diversity Database (CNDDB), but warrant no legal protection. These species are identified as "California Special Animals" (CSA).

2.5. El Dorado County Policies and Regulations

2.5.1. El Dorado County General Plan

In addition to the federal and State regulations described above, the *County of El Dorado General Plan* identifies goals, objectives, and policies to provide further protection to biological resources within the County's limits (El Dorado County 2004). Applicable General Plan policies are summarized below and included in **Appendix A**.

The General Plan's *Conservation Element* sets a number of goals to conserve, enhance, and manage water resources, wildlife, fisheries, vegetation, and wildlife habitat resources. In furtherance of these goals, the County has established a number of policies designed to minimize impacts to sensitive species and habitats. Policy 7.3.3.4 requires setbacks from riparian areas and wetlands. Policy 7.4.1.6 requires that development projects be designed to avoid fragmentation of sensitive habitats to the greatest extent feasible. A number of policies related to Objective 7.42 require preservation of wildlife migration and movement corridors, including increased oak canopy retention requirements and prohibition of fences or other structures that would restrict wildlife movement.

2.5.2. El Dorado Hills Specific Plan

In addition to federal and State regulations, the *El Dorado Hills Specific Plan* (Specific Plan) identifies goals, objectives, and policies regarding establishment and maintenance of open space and wetland areas. The construction of the El Dorado Hills 52 Project is in conformance with this Specific Plan. Applicable Specific Plan requirements are included in **Appendix A**.

2.5.3. El Dorado County Tree Ordinance

The County of El Dorado currently regulates impacts to oak woodland canopy under General Plan Policy 7.4.4.4. All oak trees, of all sizes, are included in the measurement of oak canopy. All new development projects on parcels greater than 1 acre with at least 1 percent canopy cover must adhere to the retention standard described in Option A of the policy. Canopy retention requirements are based on the amount of existing canopy on the site. In addition to preservation of existing oak woodland canopy, mitigation for impacts to oak woodland canopy is required at a 1:1 ratio. Application of the policy is described in the Interim Interpretive Guidelines for General Plan Policy 7.4.4.4 (Option A), which was last amended on October 12, 2007. The policy states that mitigation can be in the form of on-site or off-site planting of oak trees or acorns, or obtaining an offsite conservation easement to protect existing oak woodland habitat in lieu of planting. As per the Guidelines, a Monitoring and Reporting Plan needs to be prepared and is subject to maintenance and monitoring for up to ten years.

The County is in the process of revising the *El Dorado County Oak Resources Management Plan* (ORMP), which is expected to be adopted and go into effect in the near future. Under the proposed new plan, an oak woodland removal permit will be required prior to removal of oak trees that are part of an oak woodland. Mitigation requirements will be based on the percentage of existing oak woodland removed ranging from 1:1 mitigation for zero to 50 percent removal to 2:1 mitigation for more than 75 percent removal. Mitigation may be completed with a combination of the following options: acquisition of an off-site conservation easement, payment of in-lieu fees, or either on-site or off-site replacement planting of up to 50 percent of the required mitigation area. A tree removal permit shall be required prior to the removal of any oak tree not located in an oak woodland and for removal of all Heritage Trees (native oaks with a trunk diameter of 36” or greater at breast height). Trees removed under permit shall require replacement planting or payment of in-lieu fees in an amount equivalent to the number of trunk inches removed.

2.6. El Dorado Hills Community Services District Policies

In addition to federal and State regulations, the El Dorado Hills Community Services District (EDHCSD) identifies goals, objectives, and policies regarding oak tree preservation. Applicable policies are included in **Appendix A**.

3.0 METHODS

Available information pertaining to the natural resources of the region was reviewed. All references reviewed for this assessment are listed in the **References** section. The following site-specific information was reviewed:

- California Department of Fish and Wildlife (CDFW). 2017. *California Natural Diversity Data Base* (CNDDB: *Clarksville, Pilot Hill, Coloma, Shingle Springs, Latrobe, Folsom SE, Buffalo Creek*, *Rocklin*, and *Folsom* U.S. Geological Survey (USGS) 7.5-minute series quadrangles), Sacramento, CA. Accessed [8/15/2017] (**Appendix B**);
- California Native Plant Society (CNPS). 2017. *Inventory of Rare and Endangered Plants* (online edition, v8-02) (CNPS: *Clarksville, Pilot Hill, Coloma, Shingle Springs, Latrobe, Folsom SE, Buffalo Creek*, *Rocklin*, and *Folsom* quadrangles). Accessed [8/15/2017] (**Appendix B**);
- U.S. Fish and Wildlife Service (USFWS). 2017. *Information for Planning and Conservation* (IPaC) *Official Species List*: *El Dorado Hills 52*. Accessed [8/15/2017] (**Appendix B**);
- U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). 2015. Web Soil Survey. Available online at: http://websoilsurvey.sc.egov.usda.gov/App/HomePage.html. Accessed [8/15/2017]; and
- U.S. Geological Survey. 1967. Photorevised 1980. *Clarksville, California*. 7.5-minute series topographic quadrangle. United States Department of Interior; and
- Biological reports and associated documents previously prepared for the Study Area.

Prior to the site survey, existing information, including the previous wetland delineation and soil maps, were reviewed and the results of the records search and five-mile radius CNNDB query were summarized in a table (**Appendix B**). General field surveys of the Study Area were conducted on April 5, 2013 and August 8, 2017. The Study Area was systematically surveyed on foot with binoculars to ensure total search coverage, with special attention given to identifying those portions of the Study Area with the potential for supporting special-status species and sensitive habitats. During the field surveys, biologists recorded plant and animal species observed (**Appendix C**), as well as characterized biological communities occurring onsite. Following the site survey, the potential for each species identified in the records search to occur in the Study Area was determined based on the site surveys, soils, and species-specific information, as shown in **Appendix B**.

A wetland delineation was performed separately utilizing the Corps 1987 three-parameter methodology to delineate potentially jurisdictional waters of the U.S. on the ±200-acre Silva Valley Interchange Project, which includes the Study Area. The Corps issued a Preliminary Jurisdictional Determination for the aquatic features delineated within the Study Area on June 30, 2009 (SPK-2005-00070), as part of the Silva Valley Interchange Project, concurring with the amount of jurisdictional aquatic features mapped. The delineation has since expired. Therefore,

an updated delineation was performed on December 15, 2015. The results of the wetland delineation are summarized herein and are discussed in detail under a separate cover (Foothill Associates 2017a). The results are considered preliminary until the Corps verifies the findings.

Botanical inventories were conducted on April 24, 2015, May 26, 2015, and June 16, 2015. The botanical inventories were conducted in accordance with CDFW's (CDFG 2009) protocol plant surveys. The results of the botanical surveys are summarized herein and are discussed in detail under a separate cover (Foothill Associates 2016c). A complete list of plants observed within the Study Area is provided in **Appendix C**.

Protocol-level burrowing owl surveys were conducted on March 12, 2015, April 24, 2015, May 26, 2015, and June 16, 2015. The surveys were conducted in accordance with the *Staff Report on Burrowing Owl Mitigation* (CDFW 2012). The results of the burrowing owl surveys are summarized herein and are discussed in detail under a separate cover (Foothill Associates 2016c).

Protocol-level breeding season California red-legged frog (CRLF) surveys were conducted on January 12 and 26, 2016 and February 2 and 9, 2016. The protocol-level breeding season surveys were conducted in accordance with the *Revised Guidance on Site Assessment and Field Surveys for the California Red-legged Frog* (USFWS 2005; CRLF Guidance). The results of the protocol-level breeding season surveys are summarized herein and are discussed in detail under a separate cover (Foothill Associates 2016a).

An oak woodland analysis was performed to document the extent of the existing oak trees in the Study Area and impacts from the proposed project. The oak woodland report is contained under separate cover (Foothill Associates 2017b).

4.0 RESULTS

4.1. Site Location and Description

The Study Area is located in in El Dorado County adjacent to U.S. Highway 50 immediately east of Silva Valley Parkway and north of Tong Road. Land uses surrounding the Study Area include residential development to the north and paved roads, oak woodland, and annual grassland to the east, west, and south. The Study Area is located within Township 9 North, Range 8 East, Section 1 of the *Clarksvill*e USGS 7.5-minute series quadrangle. The approximate location of the center of the Study Area is 38° 39' 40.160" North, 121° 3' 23.354" West (**Figure 1**).

The Study Area consists of approximately 34 acres of land that is primarily annual grassland. The Study Area is bifurcated by Silva Valley Parkway. Two drainage corridors cross the Study Area from the northeast to the southwest.

4.2. Physical Features

4.2.1. Topography and Drainage

Topography within the Study Area ranges from relatively level to moderately sloped with elevations ranging from approximately 700 to 800 feet above mean sea level (MSL) (~210-240 meters). Surface runoff flows through and exits the Study Area via riverine drainages, which run in a northeast to southwest direction.

4.2.2. Soils

The Natural Resources Conservation Service (NRCS) has mapped one soil unit within the Study Area (**Figure 2**): **Auburn Silt Loam, 2 to 30 Percent Slopes**. General characteristics associated with this soil type are described below (USDA, NRCS 1974).

- **(AwD) Auburn Silt Loam, 2 to 30 Percent Slopes**: The soils in this series are well drained. Permeability is moderate. Vegetation associated with this soil series includes annual grasses, forbs, and oaks. The hydric soils list for El Dorado County does not identify this soil type as hydric (USDA, NRCS 2015).

4.3. Biological Communities

Six major biological communities occur in the Study Area including annual grassland, riparian woodland, valley oak woodland, seasonal wetland, perennial marsh, and disturbed/developed. These communities provide habitat to a number of common species of wildlife and may provide suitable habitat for special-status species. It should be noted that wetlands may occur within a biological community. For instance, a creek surrounded by riparian woodland would be included within the riparian woodland for the purposes of determining biological community acreage. Vernal pools and seasonal wetlands may be included in the annual grassland community and are often used by wildlife from the annual grassland. However, a very different aquatic habitat, such as a perennial marsh, is considered its own biological community. Dominant vegetation observed within each biological community is discussed in detail below. A

comprehensive list of plants observed within the Study Area is provided in **Appendix C**. The location and extent of each biological community are depicted in **Figure 3**.

4.3.1. Annual Grassland

Annual grassland dominates both the northern and southern portions of the Study Area (**Figure 3**). This vegetation community is characterized primarily by an assemblage of non-native annual grasses and forbs. Dominant vegetation includes ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), and wild oat (*Avena fatua*) intermixed with red-stemmed filaree (*Erodium cicutarium*), popcornflower (*Plagiobothrys* sp.), black mustard (*Brassica nigra*), winter vetch (*Vicia villosa*), scarlet pimpernel (*Anagallis arvensis*), St. John's wort (*Hypericum perforatum*), brodiaea (*Brodiaea elegans*), fiddleneck (*Amsinckia* sp.), rose clover (*Trifolium hirtum*), and milk-thistle (*Silybum marianum*).

Two areas within the annual grassland contain purple needlegrass within the southern portion of the Study Area (**Figure 3**). The purple needlegrass is interspersed with northern willow herb (*Epilobium ciliatum*), ripgut brome, soft chess, and wild oat.

The annual grassland community includes small ephemeral and perennial drainages. The ephemeral drainage is mostly unvegetated and highly seasonal. The perennial drainage has a small clump of willows (*Salix* sp.) and broadleaf cattail (*Typha latifolia*) and is otherwise minimally vegetated.

4.3.2. Riparian Woodland

Riparian woodland habitat occurs within the along perennial drainage on the western boundary of the Study Area (**Figure 3**). Dominant vegetation includes broadleaf cattail, willow, spike rush (*Eleocharis macrostachya*), pennyroyal (*Mentha pulegium*), Himalayan blackberry (*Rubus armeniacus*), and valley oak (*Quercus lobata*).

4.3.3. Valley Oak Woodland

Valley oak woodland is found in a small area on the southwest boundary of the Study Area where a small stand of mature valley oak trees overhangs a small perennial drainage (**Figure 3**). The understory is primarily annual grassland with small areas of milkweed (*Asclepias fascicularis*) and pennyroyal immediately adjacent to the drainage.

4.3.4. Seasonal Wetland

A number of seasonal wetland features are found in the Study Area (**Figure 3**). Most are associated with the eastern drainage system. The seasonal wetlands include riverine, depressional, and slope topography, but the vegetation is similar throughout the Study Area. Dominant vegetation in the seasonal wetlands includes rabbitsfoot grass (*Polypogon monspeliensis*), spike rush (*Eleocharis macrostachya*), nutsedge (*Cyperus eragrostis*), curly dock (*Rumex crispus*), pennyroyal, coyote-thistle (*Eryngium vaseyi*), brome fescue (*Festuca bromoides*), ryegrass, annual hair grass (*Deschampsia danthonioides*), and rye grass (*Festuca perennis*).

4.3.5. Perennial Marsh

Perennial marsh habitat is found in the southern portion of the Study Area (**Figure 3**). It is dominated by common knotweed (*Persicaria lapathifolia*) and curly dock with areas of dense cattails, Himalayan blackberry, and a small clump of willows.

4.3.6. Disturbed/ Developed

Disturbed/developed areas in the Study Area include graded roads and a stockpile area (**Figure 3**). The disturbed/developed areas are sparsely vegetated with red-stemmed filaree, soft chess, wild oat, and winter vetch.

4.4. Special-Status Species

Special-status species are plant and animal species that have been afforded special recognition by federal, State, or local resource agencies or organizations. Listed and special-status species are of relatively limited distribution and may require specialized habitat conditions. Special-status species are defined as meeting one or more of the following criteria:

- Listed or proposed for listing under CESA or FESA;
- Protected under other regulations (e.g. Migratory Bird Treaty Act);
- Included on the CDFW Special Animals List;
- Identified as Rank 1-4 by CNPS; or
- Receive consideration during environmental review under CEQA.

Special-status species considered for this analysis are based on queries of the CNDDB, the USFWS, and CNPS ranked species (online versions) for the *Clarksville* and eight surrounding quadrangles. **Appendix B** includes the common name and scientific name for each species, regulatory status (federal, State, local, CNPS), habitat descriptions, and potential for occurrence in the Study Area. The following set of criteria has been used to determine each species' potential for occurrence in the Study Area:

- **Present**: Species known to occur within the Study Area based on CNDDB records and/or observed within the Study Area during the biological surveys.
- **High**: Species known to occur on or in the vicinity of the Study Area (based on CNDDB records within five miles and/or based on professional expertise specific to the Study Area or species) and there is suitable habitat within the Study Area.
- **Low**: Species known to occur in the vicinity of the Study Area and there is marginal habitat within the Study Area **-OR-** Species is not known to occur in the vicinity of the Study Area, however, there is suitable habitat on the Study Area.
- **None**: Species is not known to occur on or in the vicinity of the Study Area and there is no suitable habitat within the Study Area -**OR-** Species was surveyed for during the

appropriate season with negative results **-OR-** The Study Area occurs outside of the known elevation or geographic ranges.

Only those species that are known to be *present* or have a *high* or *low* potential for occurrence are discussed further in the following sections. Species that were determined to have a potential for occurrence but for which focused surveys were conducted with negative results are not discussed further in this report. Detailed results of focused surveys are contained under separate covers.

4.4.1. Listed and Special-Status Plants

According to the records search, 30 special-status plant species have the potential to occur on or in the vicinity of the Study Area. Based on field observations and literature review, four species were determined to have the potential for occurrence to occur on the Study Area: big-scale balsamroot (*Balsamorhiza macrolep*is var. *macrolepis*), Boggs Lake hedge-hyssop (*Gratiola heterosepala*), dwarf downingia (*Downingia pusilla*), and Sanford's arrowhead (*Sagittaria sanfordii*). Focused botanical surveys were conducted in 2015 during the bloom period of these plants. No special-status plant species were found.

4.4.2. Listed and Special-Status Wildlife

According to the records search, 41 special-status animal species have the potential to occur onsite or in the vicinity. Based on field observations and literature review, 15 species were determined to have the potential for occurrence to occur in the Study Area. Protocol surveys for burrowing owl (*Athene cunicularia*) and California red-legged frog (*Rana draytonii*) were conducted in 2015 and 2016. No observations or evidence of either species was found.

Species that are known to be *present* or that are considered to have a *high* potential to occur onsite include: western pond turtle (*Emys marmorata*) and raptors and other migratory birds. Species that are considered to have a *low* potential to occur onsite include: valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), Blainville's horned lizard (*Phrynosoma blainvillii*), foothill yellow-legged frog (*Rana boylii*), western spadefoot (*Spea hammondii*), golden eagle (*Aquila chrysaetos*), tricolored blackbird (*Agelaius tricolor*), American badger (*Taxidea taxus*), and special-status bat species.

Wildlife Species with a High Potential for Occurrence

Western Pond Turtle

Western pond turtles are found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches with suitable basking sites (Californiaherps 2017). Suitable aquatic habitat typically has a muddy or rocky bottom and has emergent aquatic vegetation for cover (Stebbins 2003). Western pond turtles nest and overwinter in areas of sparse vegetation comprised of grassland and forbs with less than ten percent slopes, less than 492 feet (150 meters) from aquatic habitat (Rosenberg *et. al.* 2009). There are three CNDDB records for this species within five miles of the Study Area (CDFW 2017a). The riverine perennial marsh, perennial drainage, and surrounding riparian habitat provide aquatic habitat and the surrounding annual grassland

provides upland habitat. This species was not observed within the Study Area during the biological surveys. This species has a *high* potential to occur within the Study Area.

Nesting Birds and Raptors

The nests of raptors and most other birds are protected under the MBTA. Raptors are also protected by Section 3503.5 of the California Fish and Game Code, which makes it illegal to destroy any active raptor nest. Additionally, the USFWS and CDFW identified a number of avian species of conservation concern that do not have specific statutory protection. Avian species forage and nest in a variety of habitats throughout El Dorado County. As shown in **Appendix B**, the riparian and valley oak woodlands, perennial marsh, and annual grasslands on and surrounding the Study Area may provide nesting or foraging habitat for raptors and other protected birds, including: white-tailed kite (*Elanus leucurus*), Cooper's hawk (*Accipiter cooperii*), ferruginous hawk (*Buteo regalis*), merlin (*Falco columbarius*), grasshopper sparrow (*Ammodramus savannarum*), and purple martin (*Progne subis*). Raptors and other protected migratory birds have a high potential to occur in the Study Area.

Wildlife Species with a Low Potential for Occurrence

Valley Elderberry Longhorn Beetle

The USFWS has determined the range of the valley elderberry longhorn beetle (VELB) to include the watersheds of the American, San Joaquin, and Sacramento Rivers and their tributaries up to approximately 3,000 feet above MSL (USFWS 1980). Typically, the beetles are found on elderberry shrubs within riparian plant communities. Some studies have found that multiple elderberry shrubs clumped together provide superior habitat for the beetle while isolated elderberry shrubs are less likely to support beetle populations. Typical plant species that co-occur with the elderberry shrubs include California sycamore (*Platanus racemosa*), willow, blackberry, and western poison oak (*Toxicodendron diversilobum*) (USFWS 1984). Beetles require elderberry stems with at least one-inch diameter at ground level (dgl) in order for the larvae to utilize the stems (USFWS 1999). The valley elderberry longhorn beetle depends on elderberry shrubs for its entire lifecycle. Adults are typically active from March through May during the flowering period of the elderberry shrub. The female lays its eggs on the leaves and stems of the elderberry shrub. The larvae emerge within a few days and burrow into the elderberry stem. The larvae feed on the stem pith until they pupate. When the host shrub begins flowering, the pupa emerges from the stem as an adult (Barr 1991). There is one CNDDB record of valley elderberry longhorn beetle listed within five miles of the Study Area (CDFW 2017a). One blue elderberry (*Sambucus nigra* ssp. *caerulea*) stem measuring one-inch dgl and several stems less than one-inch dgl occurs within the riparian habitat within the western portion of the Study Area (**Figure 3**). No exit holes were observed. This species has a *low* potential to occur within the Study Area.

Blainville's Horned Lizard

Blainville's horned lizard inhabits open areas of sandy soil and low vegetation in valleys, foothills, and semiarid mountains from sea level to 8,000 feet above MSL. It is typically found in grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose

soil. This species is often found in lowlands along sandy washes with scattered shrubs and along dirt roads, and frequently found near ant hills (Zeiner *et. al.* 1988). There are two CNDDB records of this species within five miles of the Study Area (CDFW 2017a). The species was not observed within the Study Area during the biological surveys. The annual grassland within the Study Area provides minimal habitat for the Blainville's horned lizard due to lack of sandy washes. Therefore, this species has a *low* potential to occur within the Study Area.

Foothill Yellow-Legged Frog

The Foothill yellow-legged frog (FYLF) is a moderate-sized frog (1.5-3.5" long) found on the western slope of the Sierras and along the coast. It has vague dorsolateral folds, horizontal pupils, yellow coloring on the underside of its hind legs, and a granular skin texture that covers the eardrums of colors that harmonize with the surroundings. The FYLF is a stream or river frog of chaparral, forest, and woodland ecozones. This species breeds after the high-water flows subside, mid-March to early June. The FYLF resides in streams and the associated riparian habitat. Metamorphosis generally occurs in three to four months and FYLF reach sexual maturity typically the first summer after they have metamorphosed. Breeding sties occur in shallow, slow flowing water with some pebble and/or cobble substrate. The introductions of bullfrogs and mosquitofish have led to declines in populations in California and Oregon. The perennial drainages provide marginal habitat for this species but there are no CNDDB records of this species within five miles of the Study Area (CDFW 2017a) and the species was not observed within the Study Area during the biological surveys. Therefore, this species has a *low* potential to occur within the Study Area.

Western Spadefoot

Western spadefoot occurs throughout the Central Valley and on the coast from Point Conception, south to the Mexican border. This species occurs from sea level up to 4,500 feet above MSL, in the southern Sierra foothills. Western spadefoot individuals are most commonly found in grassland habitats with temporary pools of water, but they have also been found in open chaparral and valley-foothill pine-oak woodlands (Stebbins 2003). This species spends most of the year underground, where members seek refuge from desiccating by constructing and residing in small burrows. This species often breeds in temporary pools and quiet streams between the months of January and May. There are no CNDDB records for this species within five miles of the Study Area (CDFW 2017a). The species was not observed within the Study Area during the biological surveys. The depressional seasonal wetlands provide low quality breeding habitat given that they do not likely hold water for long enough for the western spadefoot to breed. This species has a *low* potential for utilizing the annual grassland as upland aestivation given the limited aquatic habitat available within the Study Area for breeding.

Golden Eagle

Golden eagles live in semi-open habitats where they have easy access to their primary prey of small to medium-sized mammals. Grasslands, deserts, savannahs, and early successional stages of forest and shrub habitats provide necessary foraging habitat. Nests are placed on cliffs or large trees and are maintained year after year. Breeding occurs from January through August (Kochert *et al.* 2002). Golden eagle home range territories vary widely from 8 to 77 square

miles (McGrady 1997) and are estimated to average 48 square miles in northern California (Zeiner *et al.* 1990). Breeding territories range from 8 to 21 square miles, or 3 to 5 miles surrounding the nest, but activity is often concentrated in a smaller core area. Although only one nest is used each year, a territory may contain multiple alternate nests. Typically, there are between 6 and 14 nests are found in a territory (Kochert *et al.* 2002). Golden eagles may use the same nest for multiple years or use new nest sites every year (Watson 2010).

There is one known occurrence approximately two miles northwest of the Study Area. This active nest was located in a foothill pine on a hillslope surrounded by oak woodland. Existing residences are located uphill within 300 feet of the nest on the north and east. Two juvenile and two adult golden eagles were observed at the nest in August 2013. A pair of adult eagles returned to the nest in 2014 and successfully raised one eaglet, which fledged by June 18, 2014. However, the nest tree fell over during a storm in November 2014. A golden eagle nest was subsequently identified in a foothill pine approximately 2.5 miles northwest of the Study Area on March 6, 2015. The new nest occurred within a foothill pine on a hillslope surrounded by oak woodland, approximately 25 feet from a residential dwelling. This foothill pine died in late 2015. The eagles relocated to another foothill pine downhill from their first nest location in 2016, but this nest is not active in 2017. The current nest location is unknown as of the writing of this report.

No golden eagles were observed during the biological surveys of the Study Area. Although the Study Area does not provide suitable nest trees, the annual grassland provides foraging habitat. This species has a *low* potential to occur within the Study Area.

Tricolored Blackbird

The tricolored blackbird is a colonial species that occurs in pastures, dry seasonal pools, and agricultural fields in the Central Valley and the surrounding foothills. This species usually nests within dense cattails (*Typha* sp.) or tules (*Scirpus* sp.) in emergent wetlands. Tricolored blackbird also nests in thickets of blackberry (*Rubus* sp.), wild rose (*Rosa* sp.), willows, and tall herbs (Zeiner *et. al.* 1990). Nesting locations typically must be large enough to support a minimum colony of approximately fifty pairs (Zeiner *et. al.* 1990). There are three CNDDB records for this species within five miles of the Study Area (CDFW 2017a). The perennial marsh and surrounding riparian habitat could provide nesting habitat, though these areas are not large enough to support colonies. The annual grassland provides foraging habitat for this species. This species was not observed during the biological surveys of the Study Area. This species has a *low* potential to occur within the Study Area.

American Badger

American badgers are found in dry, open habitats including grassland and open woodland. Suitable burrowing habitat requires dry, sandy soil. Breeding occurs in summer and early fall, with young being born from March to April (Nature Serve 2015). There are no CNDDB records for this species within five miles of the Study Area (CDFW 2017a). The annual grassland provides habitat for this species, however, very few potential burrow sites that could be utilized by this species were observed during the biological surveys. No American badgers were

observed during the biological surveys. This species has a *low* potential to occur within the Study Area.

Special-Status Bats

California is home to several special-status bat species, including pallid bat (*Antrozous pallidus*) and silver-haired bat (*Lasionycteris noctivagans*). Bat numbers are in decline throughout the U.S. due to loss of roosting habitat, habitat conversion, and habitat alteration. There are no CNDDB records for bats within five miles of the Study Area (CDFW 2017a). No bats were observed roosting or foraging during the biological surveys. However, the riparian habitat and isolated trees within the annual grassland provide roosting habitat for these species. This species has a *low* potential to occur within the Study Area.

4.5. Sensitive Habitats

Sensitive habitats include those that are of special concern to resource agencies or those that are protected under CEQA, Section 1600 of the California Fish and Game Code, and/or Sections 401 and 404 of the Clean Water Act. Additionally, sensitive habitats are protected under the specific policies outlined in the *El Dorado County General Plan*. Sensitive habitats known to occur onsite are seasonal wetlands, perennial marsh, ephemeral and perennial drainages, riparian woodland, oak woodlands, and purple needlegrass grassland (**Figure 3**).

4.5.1. Potential Jurisdictional Waters of the U.S. and State

Potential jurisdictional waters of the U.S. and State located in the Study Area total approximately 0.57 acres. This acreage includes 0.01 acres of depressional seasonal wetland, 0.07 acres of slope seasonal wetland, 0.05 acres of riverine seasonal wetland, 0.31 acres of riverine perennial marsh, 0.05 acres of ephemeral drainage, and 0.07 acres of perennial drainage (**Figure 3**). To date the Corps has not verified these acreages. As discussed in **Section 2.3**, jurisdictional waters of the U.S. are subject to Section 404 of CWA and are regulated by the Corps.

4.5.2. Riparian Habitat

A total of 0.15 acres of riparian habitat are located in the Study Area along the northern perennial drainage (**Figure 3**). As discussed in **Section 2.2**, riparian areas, defined as the outermost bank or the edge of riparian vegetation, whichever is greater, may be subject CDFW jurisdiction under Section 1602 of the Fish and Game Code. Additionally, CDFW may exert jurisdiction over the drainages and other riverine aquatic features. CDFW should be consulted prior to disturbance or development to determine whether issuance of a Section 1602 Lake or Streambed Alteration Agreement is required.

4.5.3. Oak Trees and Oak Woodlands

A total of ten oak trees protected under Policy 7.4.5.2, consisting of nine valley oaks (*Quercus lobata*) and one blue oak (*Quercus douglasii*) are present in the Study Area. In total, there is 0.55 acres of oak canopy in the Study Area, which is equivalent to 1.6 percent canopy cover (**Figure 3**). Oak woodland habitat is currently regulated under Section 7.4.4.4 of the *El Dorado*

County General Plan (refer to Section 3.8.1, 3.9, and 3.10) based on canopy coverage. The Study Area is within the area covered by the *El Dorado Hills Specific Plan*, which generally describes preservation criteria for oak trees within designated open space areas.

4.5.4. Purple Needlegrass

Approximately 0.33 acres of purple needlegrass are interspersed within the annual grassland. Purple needlegrass grassland is listed as a sensitive plant community on the CDFW Natural Communities List and is required to be considered in CEQA documents. In order for purple needlegrass grassland to be considered a natural community, at least five percent of the species is required as a characteristic to dominant species in the herbaceous layer and the species is usually greater than 10 percent relative cover of the herbaceous layer (Sawyer *et al.* 2009). These mapped areas contain greater than 10 percent relative cover within the herbaceous layer. Therefore, the two polygons of purple needlegrass are considered a sensitive habitat since the acreage meets the minimum percentage criteria necessary to be considered a purple needlegrass grassland natural community.

4.6. Wildlife Migration Corridors and Important Biological Corridors

Wildlife corridors link together areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife habitat. Fragmentation can also occur when a portion of one or more habitats is converted into another habitat, such as when woodland or scrub habitat is altered or converted into grasslands after a disturbance such as fire, mudslide, or grading activities. Wildlife corridors mitigate the effects of this fragmentation by: (1) allowing animals to move between remaining habitats, thereby permitting depleted populations to be replenished and promoting genetic exchange; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk of catastrophic events (such as fire or disease) on population or local species extinction; and (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs. The Study Area does not link two significant natural areas and is surrounded by similar habitat types; therefore, it is not considered a wildlife migration corridor.

The *El Dorado County General Plan* identifies a number of Important Biological Corridors (IBC). The Study Area is not located within any existing IBC.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Known or potential biological constraints within the Study Area include:

- Potential habitat for special-status plant species;
- Potential habitat for valley elderberry longhorn beetle;
- Potential habitat for western pond turtle;
- Potential habitat for Blainville's horned lizard;
- Potential habitat for foothill yellow-legged frog;
- Potential habitat for western spadefoot;
- Potential foraging habitat for golden eagle;
- Potential foraging habitat for tricolored blackbird;
- Potential habitat for burrowing owl;
- Potential nesting sites and foraging habitat for raptors and other birds;
- Potential habitat for American badger;
- Potential habitat for special-status bat species including pallid bat and silver-haired bat; and
- Sensitive habitats, including potentially jurisdictional waters of the U.S. (seasonal wetlands, perennial marsh, and ephemeral and perennial drainages), riparian habitat, valley oak woodland, and purple needlegrass grassland.

5.1. Special-Status Plant Species

Botanical inventories were conducted on April 24, 2015, May 26, 2015, and June 16, 2015. No special-status plants occur within the Study Area. However, if construction does not commence within two years of the 2015 botanical inventories, additional botanical inventories are recommended to ensure that populations have not established in the intervening years, in accordance with CDFW's (CDFG 2009) plant protocols.

5.2. Valley Elderberry Longhorn Beetle

Although no VELB were observed, there is a low potential for VELB to be present in the Study Area due to a single blue elderberry shrub observed within southern portion of the Study Area. According to the USFWS *Conservation Guidelines for Valley Elderberry Longhorn Beetle* (Guidelines; USFWS 1999), encroachment within 100 feet from elderberry shrubs with stems measuring at least one-inch dgl should be approved by the USFWS and a minimum setback of 20 feet from the driplines of the elderberry shrubs must be maintained. Project activities that will encroach into the 20-foot minimum setback area are assumed to adversely affect VELB. Project activities that may directly or indirectly affect elderberry shrubs with stems measuring at least one-inch dgl require minimization measures including planting replacement habitat or

purchasing mitigation credits from a USFWS-approved mitigation bank. The mitigation ratios vary based on whether exit holes are present and whether the shrubs occur within riparian habitat.

The outer edge of the non-development area is approximately 25 feet from the elderberry shrub measuring one-inch dgl. Therefore, the proposed project would not adversely affect potential habitat for VELB. However, the project proponent should consult with the USFWS to establish avoidance measures to ensure that no indirect effects associated with the encroachment of 100-foot avoidance buffer would occur. At minimum, high visibility construction fencing followed by silt fencing should be placed around the perimeter of the open space area. Signs should be erected approximately 20 feet apart along the high visibility construction fencing with the following information, "*This area is habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the FESA, as amended. Violators are subject to prosecution, fines, and imprisonment.*" The signs should be clearly readable from a distance of 20 feet, and must be maintained for the duration of construction.

5.3. Western Pond Turtle

The perennial marsh and perennial drainages and surrounding uplands within the Study Area may be suitable habitat for western pond turtle and they are known to occur in the vicinity. Filling of these features could impact this species, if present. In addition, vegetation clearing and grading within the surrounding uplands could impact this species, if present.

A pre-construction survey for western pond turtle should be conducted within 14 days of the initiation of construction by a qualified biologist prior to any construction activity that would directly impact pond or stream habitat or disturb the ground within 300 feet of aquatic habitat. If no western pond turtles are observed, a letter report should be prepared to document the survey, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey or halts for more than 14 days a new survey should be conducted prior to reinitiating construction.

If western pond turtles are found during the pre-construction survey, then a qualified biological monitor should be onsite during initial clearing and grading within 300 feet of a drainage, pond, or other aquatic habitat. The biological monitor will relocate any western pond turtles found within the construction footprint to suitable habitat away from the construction zone, but within the vicinity of the Study Area, if required. In addition, a pre-construction worker awareness training should be conducted alerting workers to the presence of and protections for the western pond turtle.

5.4. Blainville's Horned Lizard

The annual grassland within the Study Area provides a low potential for Blainville's horned lizard to occur given the lack of sandy soil. Pre-construction surveys for Blainville's horned lizard are recommended within 14 days prior to the start of ground disturbance. If no Blainville's horned lizards are observed, then no additional measures are recommended. If construction

does not commence within 14 days of the pre-construction survey or halts for more than 14 days, a new survey is recommended.

If Blainville's horned lizards are found, additional avoidance measures are recommended including having a qualified biologist conduct a pre-construction survey within 24 hours prior to commencement of construction activities, performing a worker awareness training to all construction workers, and being present on the Study Area during grading activities for the purpose of relocating any Blainville's horned lizards found within the construction footprint to suitable habitat away from the construction zone, but within the Study Area.

5.5. Foothill Yellow-Legged Frog

The perennial drainages and surrounding uplands within the Study Area provide potential habitat for foothill yellow-legged frog. A qualified biologist should conduct a pre-construction survey of the drainages and uplands within 150 feet for foothill yellow-legged frog within 14 days prior to commencement of construction activities. If no foothill yellow-legged frog are observed, then a letter report documenting the results of the survey should be provided to the applicant for their records, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, a new survey is recommended.

If any foothill yellow-legged frog are found, additional avoidance measures are recommended including having a qualified biologist conduct a pre-construction survey within 24 hours prior to commencement of construction activities, performing a worker awareness training to all construction workers, and being present on the Study Area during grading activities for the purpose of relocating any foothill yellow-legged frog found within the construction footprint to suitable habitat away from the construction zone, but within the Study Area.

5.6. Western Spadefoot

The annual grassland within the Study Area provides a low potential for upland aestivation habitat and the depressional seasonal wetland provide low quality breeding habitat for western spadefoot. A qualified biologist should conduct a pre-construction survey for western spadefoot within 14 days prior to commencement of construction activities. If no western spadefoot are observed, then a letter report documenting the results of the survey should be provided to the applicant for their records, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, a new survey is recommended.

If any western spadefoot are found, additional avoidance measures are recommended including having a qualified biologist conduct a pre-construction survey within 24 hours prior to commencement of construction activities, performing a worker awareness training to all construction workers, and being present on the Study Area during grading activities for the purpose of relocating any western spadefoot found within the construction footprint to suitable habitat away from the construction zone, but within the Study Area.

5.7. Golden Eagle

Although the Study Area does not provide suitable nest trees, the annual grassland provides foraging habitat for golden eagle. A map identifying suitable foraging habitat for golden eagle within a three-mile radius of the last known location of the nest, which includes the Study Area, is provided in **Figure 4**. There is over 4,495 acres of potential foraging habitat surrounding the nest, based on an assessment of current aerial photographs. The project will result in the removal of 27.71 acres of annual grassland. The removal of approximately 0.62 percent of foraging habitat would have no impact on this species. Therefore, no additional measures are recommended.

5.8. Tricolored Blackbird

Although the Study Area does not provide suitable nesting areas for a tricolored blackbird colony, the annual grassland provides suitable foraging habitat. There are currently no requirements for conservation or mitigation for tricolored blackbird foraging habitat. Therefore, no additional measures are recommended.

5.9. Burrowing Owl

Although burrowing owl has a low potential to occur within the annual grassland, given the lack of suitable burrows and that they were not observed during the protocol-level breeding and non-breeding season surveys (Foothill Associates 2016b) or any other biological surveys conducted within the Study Area, they are not currently present. However, the species could occupy the Study Area in the future. The project proponent should conduct a take avoidance survey within 30 days prior to commencement of construction, in accordance with the 2012 *California Department of Fish and Wildlife Staff Report on Burrowing Owl Mitigation* (2012 Staff Report) (CDFW 2012). The survey area includes an approximately 500-foot (150-meter) buffer around the Study Area, where access is permitted. If the surveys are negative, then no additional measures are recommended.

If burrows are observed within 500 feet of the Study Area, an impact assessment should be prepared and submitted to the CDFW, in accordance with the 2012 Staff Report. If it is determined that project activities may result in impacts to nesting, occupied, and satellite burrows and/or burrowing owl habitat, the project proponent should consult with CDFW and develop a detailed mitigation plan such that the habitat acreage, number of burrows, and burrowing owls impacted are replaced. The mitigation plan should be based on the requirements set forth in Appendix A of the 2012 Staff Report.

5.10. Other Raptors and Migratory Birds

Several species of raptors and other migratory birds may forage and nest in the Study Area, including the special-status species white-tailed kite, Cooper's hawk, golden eagle, ferruginous hawk, merlin, grasshopper sparrow, and purple martin. Active nests are protected by the California Fish and Game Code Section 3503.5 and the MBTA. Construction activities could result in disturbance of nest sites through temporary increases in ambient noise levels and increased human activity. In addition, vegetation clearing operations, including pruning or

removal of trees and shrubs, could impact nesting birds if these activities occur during the nesting season (February 15 to August 31). All vegetation clearing including removal of trees and shrubs should be completed between September 1 to February 14, if feasible.

If vegetation removal and grading activities begin during the nesting season (February 15 to August 31), a qualified biologist should conduct a pre-construction survey of the project footprint for active nests. Additionally, the surrounding 500 feet should be surveyed for active raptor nests. The pre-construction survey should be conducted within 14 days prior to commencement of ground-disturbing activities. If the pre-construction survey shows that there is no evidence of active nests, a letter report should be prepared to document the survey, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, an additional survey is required prior to starting work.

If nests are found and considered to be active, the project biologist should establish buffer zones to prohibit construction activities and minimize nest disturbance until the young have successfully fledged. Buffer width will depend on the species in question, surrounding existing disturbances, and specific site characteristics, but may range from 20 feet for some songbirds to 250 feet for most raptors. If active nests are found within any trees slated for removal, then an appropriate buffer should be established around the trees and the trees should not be removed until a biologist determines that the nestlings have successfully fledged. In addition, a pre-construction worker awareness training should be conducted alerting workers to the presence of and protections for the active avian nests. If construction activities are proposed to begin during the non-breeding season (September 1 through January 31), a survey is not required and no further studies are necessary.

5.11. American Badger

The annual grassland provides habitat for American badger. A qualified biologist should conduct a pre-construction survey for American badger within 14 days prior to the start of ground disturbance. If no American badgers are observed, then a letter report documenting the results of the survey should be provided to the project proponent for their records, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, a new survey is recommended.

If American badgers or their dens are found, additional avoidance measures are recommended including having a qualified biologist conduct a pre-construction survey within 24 hours prior to commencement of construction activities, performing a worker awareness training to all construction workers, and being present on the Study Area during grading activities for the purpose of temporarily halting construction activities until the biologist determines that the badger has left the construction footprint on its own accord.

5.12. Special-Status Bat Species

The existing riparian and oak woodlands provide potential roosting habitat for various bat species that occur in the vicinity of the Study Area. Removal of trees could impact bats should they be roosting in areas proposed for removal.

A qualified biologist should conduct a preconstruction survey within 14 days prior to clearing or grading operations and removal of trees. If no bats are observed, a letter report should be prepared to document the survey, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, an additional survey is required prior to starting work.

If special-status bat species are present and roosting on or within 100 feet of the Study Area, then the biologist should establish an appropriate buffer around the roost site. At minimum, no trees should be removed until the biologist has determined that the bat is no longer roosting in the tree. Additional mitigation measures for bat species, such as installation of bat boxes or alternate roost structures, would be recommended only if special-status bat species are found to be roosting within the project area. In addition, a pre-construction worker awareness training should be conducted alerting workers to the presence of and protections for various bat species.

5.13. Sensitive Habitats

5.13.1.Jurisdictional Waters

Since proposed construction activities will impact aquatic features located in the Study Area, a Section 404 permit should be obtained from the Corps and a Section 401 Water Quality Certification should be obtained for the Regional Water Quality Control Board (RWQCB) prior to the start of construction. Any waters of the U.S. or jurisdictional wetlands that would be lost or disturbed should be replaced or rehabilitated on a “no-net-loss” basis in accordance with the Corps mitigation guidelines. Habitat restoration, rehabilitation, and/or replacement should be at a location and by methods agreeable to the agencies.

If a 404 permit is required for the proposed project, water quality concerns during construction would be addressed in a Section 401 water quality certification from the Regional Water Quality Control Board. A Storm Water Pollution Prevention Plan (SWPPP) would also be required during construction activities. SWPPPs are required in issuance of a National Pollutant Discharge Elimination System (NPDES) construction discharge permit by the U.S. Environmental Protection Agency. Implementation of Best Management Practices (BMPs) during construction is standard in most SWPPPs and water quality certifications. Examples of BMPs include stockpiling of debris away from regulated wetlands and waterways; immediate removal of debris piles from the site during the rainy season; use of silt fencing and construction fencing around regulated waterways; and use of drip pans under work vehicles and containment of fuel waste throughout the site during construction.

5.13.2. Oak Woodlands

The Project would result in the removal of 9 protected oak trees, resulting in impacts to 0.45-acres of oak canopy. To mitigate for the biological resources impact associated with the loss of oak woodlands associated with the project, a combination of avoidance, protection, onsite replacement, where feasible, and offsite preservation or creation of oak woodland habitat is recommended. Tree protection measures should be implemented around trees to remain in the Study Area as detailed in the project's Tree Survey, Preservation, and Replacement Plan.

5.13.3. Riparian Habitats

Although proposed construction activities will not remove riparian woodland habitat, other drainages and riverine features that will be impacted may be subject to CDFW jurisdiction. It is recommended that a Streambed Alteration Agreement application be submitted to CDFW, pursuant to Section 1600 of the CDFW Code, for any activities affecting the bed, bank or associated riparian vegetation of the stream. If required, the project applicant should coordinate with CDFW in developing appropriate mitigation, and should abide by the conditions of any executed permits.

5.13.4. Purple Needlegrass Grassland

The proposed project would result in the removal of purple needlegrass grassland. Therefore, the acreage of removal should be replaced at a 1:1 ratio. The mitigation location may occur within project's open space areas currently characterized by annual grassland or may occur off-site. Purple needlegrass plants in areas slated for removal should be salvaged to the extent feasible and replanted within the open space area. If this is infeasible, then seedlings/saplings from a local nursery should be obtained. A mitigation and monitoring plan should be prepared outlining methods to be used, success criteria to be met, and adaptive management strategies will be completed prior to project construction. At minimum, the purple needlegrass creation areas shall be monitored twice annually for the first year and once annually for the four subsequent years for a total of five years, success criteria should be established to ensure an 80 percent success rate is met by the fifth year, and adaptive management techniques should be implemented to ensure that the 80 percent success rate is met by the fifth year. This plan may be combined with the Operations and Management Plan for the open space area.

5.14. Summary of Avoidance and Minimization Measures

- Obtain a Section 404 Clean Water Act Permit, 401 Water Quality Certification, and SAA prior to the start of construction;
- Conduct botanical inventories for potentially occurring special-status plants if construction does not commence within two years of the 2015 botanical inventories;
- Conduct clearing and tree and shrub removal operations between September 16 and February 28 to minimize potential impacts to nesting birds;
- If construction begins during the nesting season (March 1 – September 15) conduct a pre-construction survey for active bird nests within the Study Area;

- Conduct a take avoidance survey for burrowing owl within 30 days prior to commencement of construction activities, in accordance with the 2012 Staff Report;
- Within 14 days prior to the initiation of construction activities, conduct a pre-construction survey for coast horned lizard, foothill yellow-legged frog, western pond turtle, American badger, and special-status bat species;
- Implement the tree avoidance, maintenance, and mitigation measures as described in the Tree Survey, Preservation, and Replacement Plan (Foothill Associates 2017); and
- Mitigate for the removal of purple needlegrass grassland at a 1:1 ratio and prepare a mitigation and monitoring plan.

6.0 REFERENCES

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, eds. 2012. *The Jepson Manual: Vascular Plants of California*, *2nd Edition*. University of California, Berkeley.

Barbour, Michael G., Todd Keeler-Wolf, and Allan A. Schoenherr, Editors. 2007. *Terrestrial Vegetation of California*, Third Edition. University of California Press, Berkeley and Los Angeles, California.

Barr, C.B. 1991. The distribution, habitat, and status of the valley elderberry longhorn beetle *Desmocerus californicus dimorphus*. U.S. Fish and Wildlife Service: Sacramento, CA.

Bloom, P. and D. Van De Water. 1994. *Swainson's Hawk in Life on the Edge: A Guide to California's Endangered Natural Resources: Wildlife*. BioSystems Books, Santa Cruz, California.

Bradbury, M., Estep, J.A., and D. Anderson. In Preparation. *Migratory Patterns and Wintering Range of the Central Valley Swainson's Hawk*.

Calflora. 2017. *The Calflora Database: Information on California plants for Education, Research and Conservation*. Berkeley, California. Available online at: http://www.calflora.org. [Accessed 8/15/2017].

Californiaherps. 2017. *A Guide to the Amphibians and Reptiles of California*. Available online at: http://californiaherps.com. [Accessed 8/15/2017].

California Department of Fish and Wildlife (CDFW). 2009. *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Natural Communities*. State of California, California Natural Resources Agency. Department of Fish and Wildlife. November 24, 2009.

CDFW. 2012. *Staff Report on Burrowing Owl Mitigation*. State of California Natural Resources Agency Department of Fish and Game. March 7, 2012.

CDFW. 2017a. *California Natural Diversity Data Base* (CNDDB: *Clarksville, Pilot Hill, Coloma, Shingle Springs, Latrobe, Folsom SE, Buffalo Creek*, *Rocklin*, and *Folsom* U.S. Geological Survey (USGS) 7.5-minute series quadrangles), Sacramento, CA. Accessed [8/15/2017].

CDFW. 2017b. *Special Animals List*. Available online at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline. Accessed [8/21/2017].

California Native Plant Society (CNPS). 2017. *Inventory of Rare and Endangered Plants* (online edition, v8-02) (CNPS: *Clarksville, Pilot Hill, Coloma, Shingle Springs, Latrobe, Folsom SE, Buffalo Creek*, *Rocklin*, and *Folsom* quadrangles). Accessed [8/15/2017].

California Wildlife Habitat Relationship System (CWHR). Various years. Various *Life History Accounts* and *Range Maps*. California Department of Fish and Wildlife, Sacramento, California. Available online at: http://www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx. [Accessed 8/15/2017].

El Dorado County. 2004. *El Dorado County General Plan*. Placerville, California. 2004.

El Dorado Hills Community Services District. 2008. *Design Review Committee Guideline/Covenants, Conditions & Restrictions Manual Revised July 15, 2008*. El Dorado Hills Community Services District. Available online at: http://www.edhcsd.org/downloadable_documents.html. [Accessed 8/15/2017].

Foothill Associates. 2009. *Delineation of Waters of the United States for the Silva Valley Interchange ±200-Acre Site, El Dorado County, California*. Originally prepared in 2005. Revised April 22, 2009.

Foothill Associates. 2012a. *California Red-Legged Frog Surveys on the Proposed Silva Valley Parkway Interchange Project (SPK-2005-00070), El Dorado County, California*. Prepared for El Dorado County, dated November 13, 2012.

Foothill Associates. 2012b. *Survey for Potential Habitat for the Valley Elderberry Longhorn Beetle (Desmocerus californicus dimorphus) for the Proposed Silva Valley Parkway Interchange Project (08ESMF00-2011-TA-0871-1), El Dorado County, California*. Prepared for the U.S. Fish and Wildlife Service dated April 19, 2012.

Foothill Associates. 2013. *California Red-Legged Frog Surveys on the Proposed Silva Valley Parkway Interchange Project (SPK-2005-00070), El Dorado County, California*. Prepared for El Dorado County, dated April 2, 2013.

Foothill Associates. 2015. *El Dorado Hills 52 Tree Survey, Preservation, and Replacement Plan*. Dated October 20, 2015.

Foothill Associates. 2016a. *California Red-Legged Frog (Rana draytonii) Breeding Season Survey Report for the 32-Acre El Dorado Hills 52 Project, El Dorado County, California*. August 30, 2016.

Foothill Associates. 2016b. *Results of the Protocol Level Burrowing Owl Surveys Letter Report for the El Dorado Hills 52 Project, El Dorado County, California*. February 22, 2016.

Foothill Associates. 2016c. *Results of the Protocol Level Special-Status Plant Surveys Letter Report for the El Dorado Hills 52 Project, El Dorado County, California*. February 25, 2016.

Foothill Associates. 2017a. *Aquatic Resources Delineation Report for the El Dorado Hills 52 ±32-Acre Site, El Dorado County, California*. September 18, 2017.

Foothill Associates. 2017b. *El Dorado Hills 52 Tree Survey, Preservation, and Replacement Plan*. September 18, 2017.

Kochert, M. N., K. Steenhof, C. L. Mcintyre and E. H. Craig. 2002. Golden Eagle (Aquila chrysaetos), *The Birds of North America Online* (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Available online at: http://bna.birds.cornell.edu/bna/species/684.

McGrady, M.J. 1997. "*Golden Eagle*". Birds of the Western Palearctic Update, 1: 99-114.

Nature Serve. 2017. *Nature Serve Explorer*: *An Online Encyclopedia of Life* [Web Application]. Version 7.1. NatureServe, Arlington, Virginia. Available online at: http://www.natureserve.org/explorer. [Accessed 8/21/2017].

Poulin, Ray, L. Danielle Todd, E. A. Haug, B. A. Millsap and M. S. Martell. 2011. Burrowing Owl (*Athene cunicularia*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online at: http://bna.birds.cornell.edu/bna/species/061. doi:10.2173/bna.61. [Accessed 8/21/2017].

Rana Resources. 2013. Mark Jennings. Personal Communication. September 18, 2013.

Rosenberg, D., J. Gervais, and D. Vesely. 2009. *Conservation Assessment of the Western Pond Turtle in Oregon* (*Actinemys marmorata*). Version 1.0. November 2009. U.S.D.I. Bureau of Land Management and Fish and Wildlife Service. U.S.D.A. Forest Service Region 6. Oregon Department of Fish and Wildlife, City of Portland. Metro.

Sawyer, John O. and Todd Keeler-Wolf. 2009. *A Manual of California Vegetation*. California Native Plant Society, Sacramento, California.

Stebbins, R. C. 2003. *Western Amphibians and Reptiles*, *3rd Edition*. Boston: Houghton Mifflin Co.

Thorpe, Robin. Quoted in "*The Day the First Bumble Bee Arrived*" on Bug Squad. May 2, 2106. Available online at: http://ucanr.edu/blogs/blogcore/postdetail.cfm?postnum=20925. [Accessed 8/21/2017].

U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS). 1974. *Soil Survey of El Dorado Area, California*. USDA, NRCS, in cooperation with the Regents of the University of California (Agricultural Experiment Station).

USDA, NRCS. 2017. *National Hydric Soils List by State*. Available online at: http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/. Accessed [8/15/2017].

USDA, NRCS. 2017. *Web Soil Survey*. Available online at: http://websoilsurvey.sc.egov.usda.gov/App/HomePage.html. Accessed [8/15/2017].

U.S. Fish and Wildlife Service (USFWS). 1980. *Listing the Valley Elderberry Longhorn Beetle as a Threatened Species with Critical Habitat. Federal Register 45:52803–52807*.

USFWS. 1984. *Recovery Plan for the Valley Elderberry Longhorn Beetle*. U.S. Fish and Wildlife Service, Endangered Species Program: Portland, Oregon.

USFWS. 1999. *Conservation Guidelines for the Valley Elderberry Longhorn Beetle: Sacramento, California*.

USFWS. 2002. *Recovery Plan for the California Red-legged Frog* (*Rana aurora draytonii*). U.S. Fish and Wildlife Service, Portland, Oregon. viii + 173 pp.

USFWS. 2005. *Revised Guidance on Site Assessment and Field Surveys for the California Red-legged Frog*.

USFWS. 2010. *Interim Golden Eagle Inventory and Monitoring Protocols; and Other Recommendations*. Available online at: http://www.fws.gov/southwest/es/oklahoma/documents/te_species/wind%20power/usfws_interim_goea_monitoring_protocol_10march2010.pdf.

USFWS. 2011. *California Red-legged Frog* (*Rana draytonii*). U.S. Fish and Wildlife Service: Arcata Fish and Wildlife Office, Pacific Southwest Region. Last updated on April 11, 2011.

USFWS. 2012. *Informal Endangered Species Act Consultation on the Proposed Silva Valley Parkway Interchange Project (SPK-2005-00070), El Dorado County, California*. Letter addressed to the U.S. Army Corps of Engineers, dated August 6, 2012.

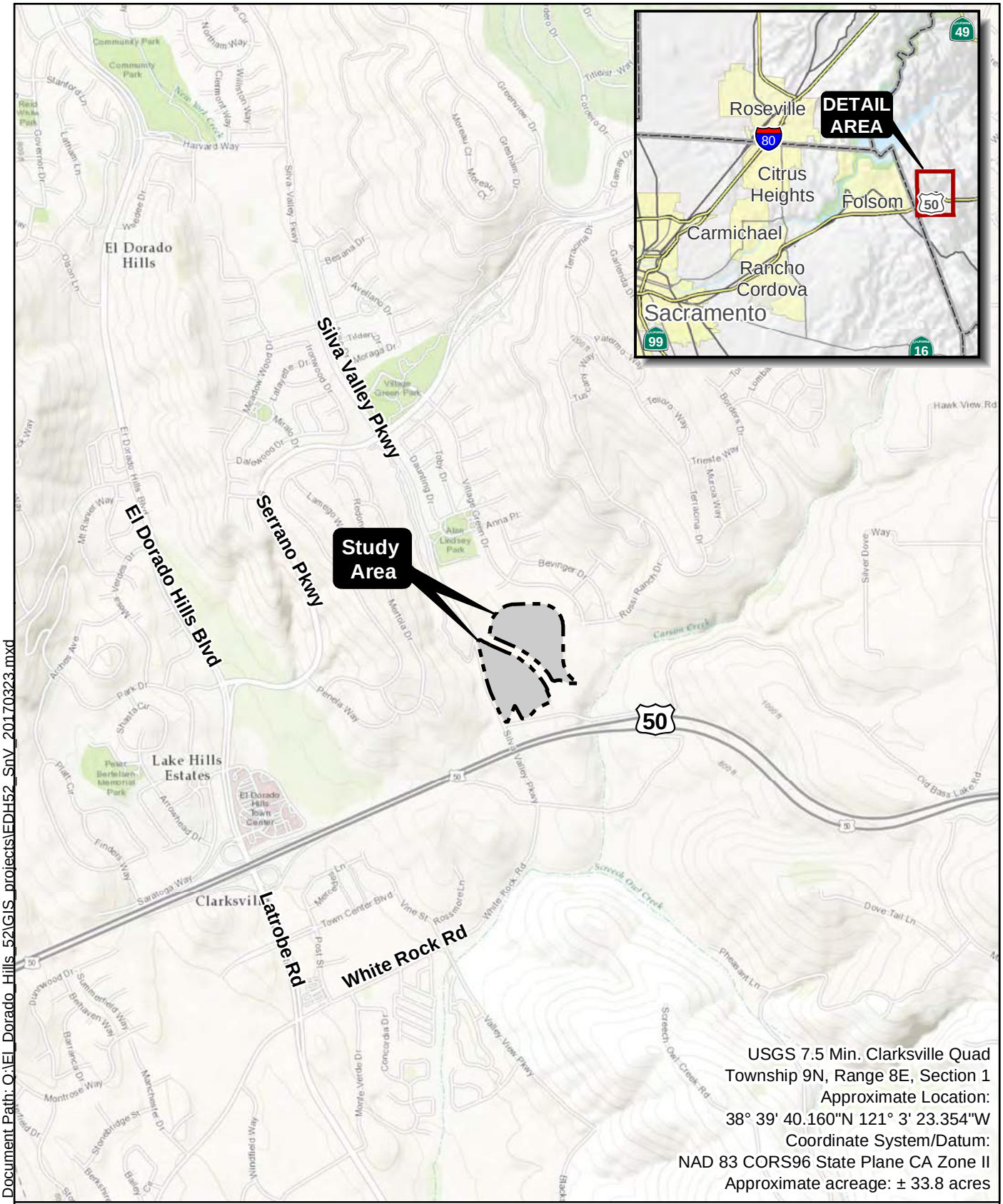
USFWS. 2017. *Information for Planning and Conservation* (IPaC) *Official Species List*: *El Dorado Hills 52*. Accessed [8/15/2017]

U.S. Geological Survey (USGS). 1967. Photorevised 1980. *Clarksville, California*. 7.5 -minute series topographic quadrangle. U.S. Department of the Interior.

Watson, Jeff. 2010. *The Golden Eagle*. 2nd Edition. London: A&C Black Publishers.

Zeiner D.C., W.R. Laudenslayer Jr., K.E. Mayer, and M. White, eds. 1988. *California's Wildlife, Volume I, Amphibians and Reptiles.* State of California: The Resource Agency, Department of Fish and Game, Sacramento, CA.

Zeiner, D.C., W.R. Laudenslayer Jr., K.E. Mayer, and M. White, eds. 1990. *California's Wildlife Volume II: Birds*. State of California: The Resource Agency, Department of Fish and Game, Sacramento, CA.



Document Path: Q:\El_Dorado_Hills_52\GIS_projects\EDH52_SnV_20170323.mxd

USGS 7.5 Min. Clarksville Quad
Township 9N, Range 8E, Section 1
Approximate Location:
38° 39' 40.160"N 121° 3' 23.354"W
Coordinate System/Datum:
NAD 83 CORS96 State Plane CA Zone II
Approximate acreage: ± 33.8 acres

SITE AND VICINITY

FOOTHILL ASSOCIATES
ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE

© 2017

N

0 1000 2000
Feet
1 in = 2,000 feet

Drawn By: MUB
QA/QC: AMP
Date: 08/18/2017

FIGURE 1



Document Path: Q:\El Dorado Hills 52\GIS projects\Soils 20150922.mxd

SOILS

FOOTHILL ASSOCIATES
ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE

© 2017

N

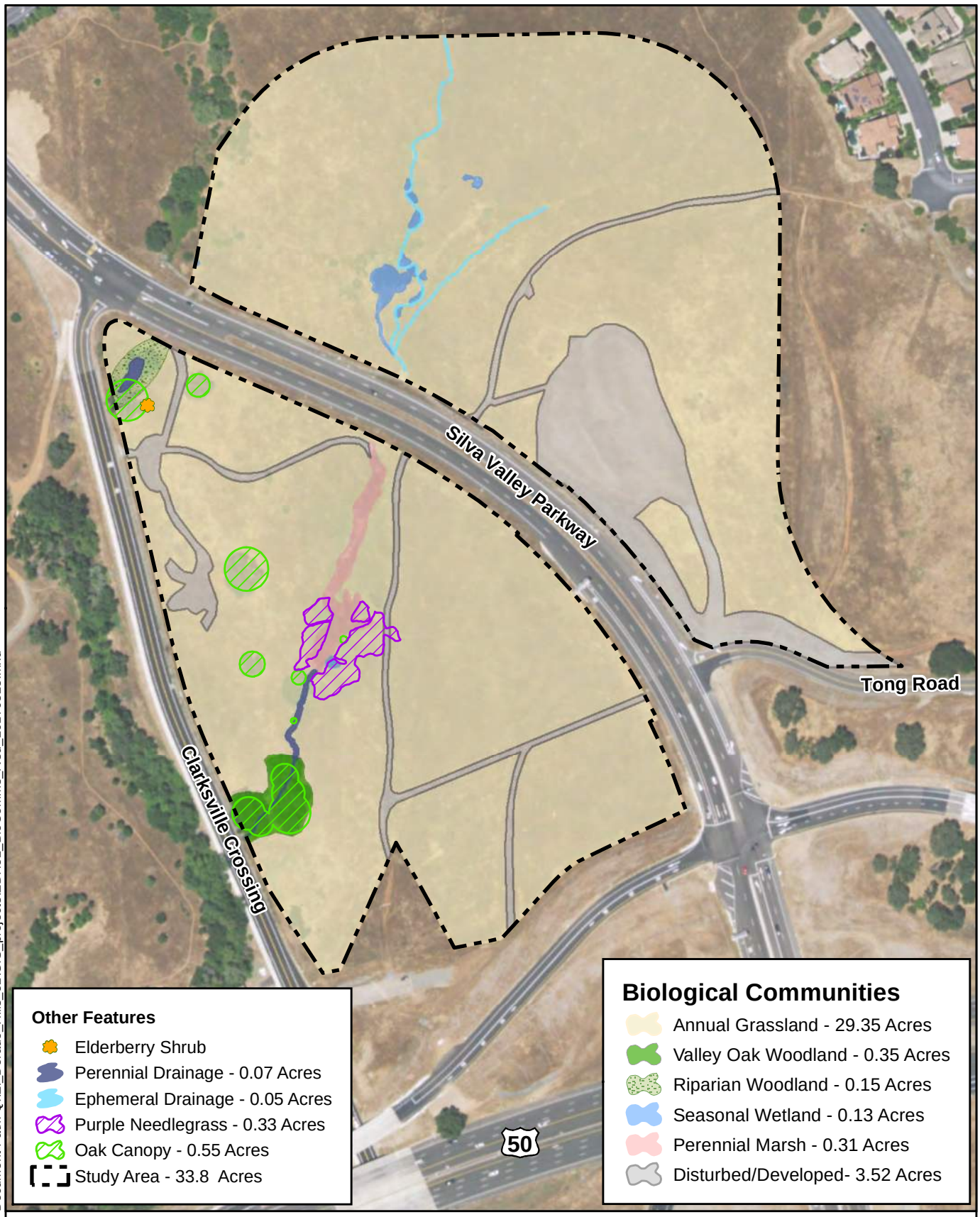
0 125 250
Feet
1 inch = 250 feet

Drawn By: MUB
QA/QC: AMP
Date: 08/15/2017

FIGURE 2

EL DORADO HILLS 52 PROPERTY

Document Name: Soils_20150922.mxd : : 8/18/2017 5:51:25 PM



Document Path: Q:\El_Dorado_Hills_52\GIS_projects\EDH52_BioComms_rvsd_20170323.mxd

BIOLOGICAL COMMUNITIES

FOOTHILL ASSOCIATES
ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE

© 2017

N

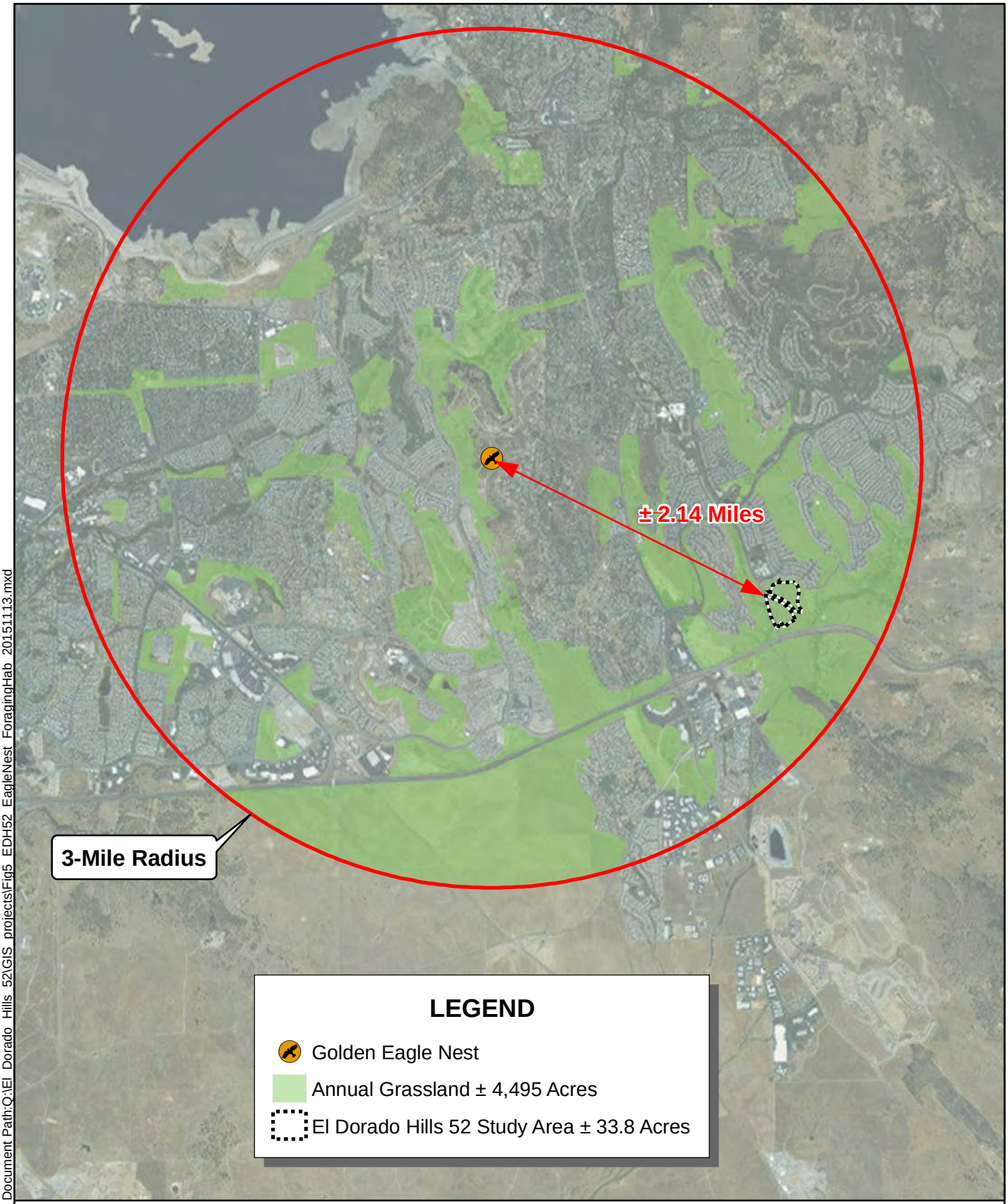
0 125 250
Scale in Feet
1 inch = 250 feet

Drawn By: MUB
QA/QC: AMP
Date: 08/23/2017

FIGURE 3

EL DORADO HILLS 52 PROPERTY

Document Name: EDH52_BioComms_rvsd_20170323.mxd : Date Saved: 8/23/2017 2:19:21 PM



Document Path:Q:\El Dorado Hills 52\GIS projects\Fig5 EDH52 EagleNest ForagingHab 20151113.mxd

ANNUAL GRASSLAND FOR GOLDEN EAGLE FORAGING HABITAT WITHIN THE VICINITY OF THE STUDY AREA

FOOTHILL ASSOCIATES
ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE

© 2017

N

0 0.5 1
Miles
1:60,000

Drawn By: MUB
QA/QC: AMP
Date: 08/18/2017

FIGURE 4

EL DORADO HILLS 52 PROPERTY

Document Name: Fig5_EDH52_EagleNest_ForagingHab_20151113 : 10/2/2017 11:35:25 AM

Appendix A — Selected General and Specific Plan Policies

El Dorado County General Plan

Conservation and Protection of Water Resources

GOAL 7.3: WATER QUALITY AND QUANTITY
Conserve, enhance, and manage water resources and protect their quality from degradation.

OBJECTIVE 7.3.1: WATER RESOURCE PROTECTION
Preserve and protect the supply and quality of the County's water resources including the protection of critical watersheds, riparian zones, and aquifers.

Policy 7.3.1.1 Encourage the use of Best Management Practices, as identified by the Soil Conservation Service, in watershed lands as a means to prevent erosion, siltation, and flooding.

Policy 7.3.1.2 Establish water conservation programs that include both drought tolerant landscaping and efficient building design requirements as well as incentives for the conservation and wise use of water.

Policy 7.3.1.3 The County shall develop the criteria and draft an ordinance to allow and encourage the use of domestic gray water for landscape irrigation purposes. (See Title 22 of the State Water Code and the Graywater Regulations of the Uniform Plumbing Code).

OBJECTIVE 7.3.2: WATER QUALITY
Maintenance of and, where possible, improvement of the quality of underground and surface water.

Policy 7.3.2.1 Stream and lake embankments shall be protected from erosion, and streams and lakes shall be protected from excessive turbidity.

Policy 7.3.2.2 Projects requiring a grading permit shall have an erosion control program approved, where necessary.

Policy 7.3.2.3 Where practical and when warranted by the size of the project, parking lot storm drainage shall include facilities to separate oils and salts from storm water in accordance with the recommendations of the Storm Water Quality Task Force's California Storm Water Best Management Practices Handbooks (1993).

Policy 7.3.2.4 The County should evaluate feasible alternatives to the use of salt for ice control on County roads.

Policy 7.3.2.5 As a means to improve the water quality affecting the County's recreational waters, enhanced and increased detailed analytical water quality studies and

monitoring should be implemented to identify and reduce point and non-point pollutants and contaminants. Where such studies or monitoring reports have identified sources of pollution, the County shall propose means to prevent, control, or treat identified pollutants and contaminants.

OBJECTIVE 7.3.3: WETLANDS

Protection of natural and man-made wetlands, vernal pools, wet meadows, and riparian areas from impacts related to development for their importance to wildlife habitat, water purification, scenic values, and unique and sensitive plant life.

Policy 7.3.3.1 *For projects that would result in the discharge of material to or that may affect the function and value of river, stream, lake, pond, or wetland features, the application shall include a delineation of all such features. For wetlands, the delineation shall be conducted using the U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual*

Policy 7.3.3.2 *Intentionally blank*

Policy 7.3.3.3 *The County shall develop a database of important surface water features, including lake, river, stream, pond, and wetland resources.*

Policy 7.3.3.4 *The Zoning Ordinance shall be amended to provide buffers and special setbacks for the protection of riparian areas and wetlands. The County shall encourage the incorporation of protected areas into conservation easements or natural resource protection areas.*

Exceptions to riparian and wetland buffer and setback requirements shall be provided to permit necessary road and bridge repair and construction, trail construction, and other recreational access structures such as docks and piers, or where such buffers deny reasonable use of the property, but only when appropriate mitigation measures and Best Management Practices are incorporated into the project. Exceptions shall also be provided for horticultural and grazing activities on agriculturally zoned lands that utilize "best management practices (BMPs)" as recommended by the County Agricultural Commission and adopted by the Board of Supervisors.

Until standards for buffers and special setbacks are established in the Zoning Ordinance, the County shall apply a minimum setback of 100 feet from all perennial streams, rivers, lakes, and 50 feet from intermittent streams and wetlands. These interim standards may be modified in a particular instance if more detailed information relating to slope, soil stability, vegetation, habitat, or other site- or project-specific conditions supplied as part of the review for a specific project demonstrates that a different setback is necessary or would be sufficient to protect the particular riparian area at issue.

For projects where the County allows an exception to wetland and riparian buffers, development in or immediately adjacent to such features shall be planned so that impacts on the resources are minimized. If avoidance and minimization are not feasible, the County shall make findings, based on documentation provided by the project proponent, that avoidance and minimization are infeasible.

Policy 7.3.3.5 *Rivers, streams, lakes and ponds, and wetlands shall be integrated into new development in such a way that they enhance the aesthetic and natural character of the site while disturbance to the resource is avoided or minimized and fragmentation is limited.*

OBJECTIVE 7.3.4: DRAINAGE
Protection and utilization of natural drainage patterns.

Policy 7.3.4.1 *Natural watercourses shall be integrated into new development in such a way that they enhance the aesthetic and natural character of the site without disturbance.*

Policy 7.3.4.2 *Modification of natural stream beds and flow shall be regulated to ensure that adequate mitigation measures are utilized.*

OBJECTIVE 7.3.5: WATER CONSERVATION
Conservation of water resources, encouragement of water conservation, and construction of wastewater disposal systems designed to reclaim and re-use treated wastewater on agricultural crops and for other irrigation and wildlife enhancement projects.

Policy 7.3.5.1 *Drought-tolerant plant species, where feasible, shall be used for landscaping of commercial development. Where the use of drought-tolerant native plant species is feasible, they should be used instead of non-native plant species.*

Policy 7.3.5.2 *A list of appropriate local indigenous drought tolerant plant materials shall be maintained by the County Planning Department and made available to the public.*

Policy 7.3.5.3 *The County Parks and Recreation Division shall use drought tolerant landscaping for all new parks and park improvement projects.*

Policy 7.3.5.4 *Require efficient water conveyance systems in new construction. Establish a program of ongoing conversion of open ditch systems shall be considered for conversion to closed conduits, reclaimed water supplies, or both, as circumstances permit.*

Policy 7.3.5.5 *Encourage water reuse programs to conserve raw or potable water supplies consistent with State Law.*

Conservation of Biological Resources

GOAL 7.4: WILDLIFE AND VEGETATION RESOURCES
Identify, conserve, and manage wildlife, wildlife habitat, fisheries, and vegetation resources of significant biological, ecological, and recreational value.

OBJECTIVE 7.4.1: RARE, THREATENED, AND ENDANGERED SPECIES
The County shall protect State and federally recognized rare, threatened, or endangered species and their habitats consistent with Federal and State laws.

Policy 7.4.1.1 *The County shall continue to provide for the permanent protection of the eight sensitive plant species known as the Pine Hill endemics and their habitat through the establishment and management of ecological preserves consistent with County Code Chapter 17.71 and the USFWS's Gabbro Soil Plants for the Central Sierra Nevada Foothills Recovery Plan (USFWS 2002).*

Policy 7.4.1.2 *Private land for preserve sites will be purchased only from willing sellers.*

Policy 7.4.1.3 *Limit land uses within established preserve areas to activities deemed compatible. Such uses may include passive recreation, research and scientific study, and education. In conjunction with use as passive recreational areas, develop a rare plant educational and interpretive program.*

Policy 7.4.1.4 *Proposed rare, threatened, or endangered species preserves, as approved by the County Board of Supervisors, shall be designated Ecological Preserve (-EP) overlay on the General Plan land use map.*

Policy 7.4.1.5 *Species, habitat, and natural community preservation/conservation strategies shall be prepared to protect special-status plant and animal species and natural communities and habitats when discretionary development is proposed on lands with such resources unless it is determined that those resources exist, and either are or can be protected, on public lands or private Natural Resource lands.*

Policy 7.4.1.6 *All development projects involving discretionary review shall be designed to avoid disturbance or fragmentation of important habitats to the extent reasonably feasible. Where avoidance is not possible, the development shall be required to fully mitigate the effects of important habitat loss and fragmentation. Mitigation shall be defined in the Integrated Natural Resources Management Plan (INRMP) (see Policy 7.4.2.8 and Implementation Measure CO-M).*

The County Agricultural Commission, Plant and Wildlife Technical Advisory Committee, representatives of the agricultural community, academia, and other

stakeholders shall be involved and consulted in defining the important habitats of the County and in the creation and implementation of the INRMP.

Policy 7.4.1.7 The County shall continue to support the Noxious Weed Management Group in its efforts to reduce and eliminate noxious weed infestations to protect native habitats and to reduce fire hazards.

OBJECTIVE 7.4.2: IDENTIFY AND PROTECT RESOURCES
Identification and protection, where feasible, of critical fish and wildlife habitat including deer winter, summer, and fawning ranges; deer migration routes; stream and river riparian habitat; lake shore habitat; fish spawning areas; wetlands; wildlife corridors; and diverse wildlife habitat.

Policy 7.4.2.1 To the extent feasible in light of other General Plan policies and to the extent permitted by State law, the County of El Dorado will protect identified critical fish and wildlife habitat, as identified on the Important Biological Resources Map maintained at the Planning Department, through any of the following techniques: utilization of open space, Natural Resource land use designation, clustering, large lot design, setbacks, etc.

Policy 7.4.2.2 Where critical wildlife areas and migration corridors are identified during review of projects; the County shall protect the resources from degradation by requiring all portions of the Site that contain or influence said areas to be retained as non-disturbed natural areas through mandatory clustered development on suitable portions of the Site or other means such as density transfers if clustering cannot be achieved. The setback distance for designated or protected migration corridors shall be determined as part of the project's environmental analysis. The intent and emphasis of the Open Space land use designation and of the non-disturbance policy is to ensure continued viability of contiguous or interdependent habitat areas and the preservation of all movement corridors between related habitats. The intent of mandatory clustering is to provide a mechanism for natural resource protection while allowing appropriate development of private property. Horticultural and grazing projects on agriculturally designated lands are exempt from the restrictions placed on disturbance of natural areas when utilizing "Best Management Practices" (BMPs) recommended by the County Agricultural Commission and adopted by the Board of Supervisors when not subject to Policy 7.1.2.7.

Policy 7.4.2.3 Consistent with Policy 9.1.3.1 of the Parks and Recreation Element, low impact uses such as trails and linear parks may be provided within river and stream buffers if all applicable mitigation measures are incorporated into the design.

Policy 7.4.2.4 Establish and manage wildlife habitat corridors within public parks and natural resource protection areas to allow for wildlife use. Recreational uses within these areas shall be limited to those activities that do not require grading or vegetation removal.

Policy 7.4.2.5 Setbacks from all rivers, streams, and lakes shall be included in the Zoning Ordinance for all ministerial and discretionary development projects.

Policy 7.4.2.6 El Dorado County Biological Community Conservation Plans shall be required to protect, to the extent feasible, rare, threatened, and endangered plant species only when existing federal or State plans for non-jurisdictional areas do not provide adequate protection.

Policy 7.4.2.7 The County shall form a Plant and Wildlife Technical Advisory Committee to advise the Planning Commission and Board of Supervisors on plant and wildlife issues, and the committee should be formed of local experts, including agricultural, fire protection, and forestry representatives, who will consult with other experts with special expertise on various plant and wildlife issues, including representatives of regulatory agencies. The Committee shall formulate objectives which will be reviewed by the Planning Commission and Board of Supervisors.

Policy 7.4.2.8 Develop within five years and implement an Integrated Natural Resources Management Plan (INRMP) that identifies important habitat in the County and establishes a program for effective habitat preservation and management. The INRMP shall include the following components:

A. Habitat Inventory. This part of the INRMP shall inventory and map the following important habitats in El Dorado County:

1. *Habitats that support special-status species;*
2. *Aquatic environments including streams, rivers, and lakes;*
3. *Wetland and riparian habitat;*
4. *Important habitat for migratory deer herds; and*
5. *Large expanses of native vegetation.*

The County should update the inventory every three years to identify the amount of important habitat protected, by habitat type, through County programs and the amount of important habitat removed because of new development during that period. The inventory and mapping effort shall be developed with the assistance of the Plant and Wildlife Technical Advisory Committee, CDFW, and USFWS. The

inventory shall be maintained and updated by the County Planning Department and shall be publicly accessible.

B. *Habitat Protection Strategy. This component shall describe a strategy for protecting important habitats based on coordinated land acquisitions (see item D below) and management of acquired land. The goal of the strategy shall be to conserve and restore contiguous blocks of important habitat to offset the effects of increased habitat loss and fragmentation elsewhere in the county. The Habitat Protection Strategy should be updated at least once every five years based on the results of the habitat monitoring program (item F below). Consideration of wildlife movement will be given by the County on all future 4- and 6-lane roadway construction projects. When feasible, natural undercrossings along proposed roadway alignments that could be utilized by terrestrial wildlife for movement will be preserved and enhanced.*

C. *Mitigation Assistance. This part of the INRMP shall establish a program to facilitate mitigation of impacts to biological resources resulting from projects approved by the County that are unable to avoid impacts on important habitats. The program may include development of mitigation banks, maintenance of lists of potential mitigation options, and incentives for developers and landowner participation in the habitat acquisition and management components of the INRMP.*

D. *Habitat Acquisition. Based on the Habitat Protection Strategy and in coordination with the Mitigation Assistance program, the INRMP shall include a program for identifying habitat acquisition opportunities involving willing sellers. Acquisition may be by state or federal land management agencies, private land trusts or mitigation banks, the County, or other public or private organizations. Lands may be acquired in fee or protected through acquisition of a conservation easement designed to protect the core habitat values of the land while allowing other uses by the fee owner. The program should identify opportunities for partnerships between the County and other organizations for habitat acquisition and management. In evaluating proposed acquisitions, consideration will be given to site specific features (e.g., condition and threats to habitat, presence of special-status species), transaction related features (e.g., level of protection gained, time frame for purchase completion, relative costs), and regional considerations (e.g., connectivity with adjacent protected lands and important habitat, achieves multiple agency and community benefits). Parcels that include important habitat and are located generally to the west of the El Dorado National Forest should be given priority for acquisition. Priority will also be given to parcels that would preserve natural wildlife movement corridors such as*

crossing under major roadways (e.g., U.S. Highway 50 and across canyons). All land acquired shall be added to the Ecological Preserve overlay area.

E. *Habitat Management. Each property or easement acquired through the INRMP should be evaluated to determine whether the biological resources would benefit from restoration or management actions. Examples of the many types of restoration or management actions that could be undertaken to improve current habitat conditions include: removal of non-native plant species, planting native species, repair and rehabilitation of severely grazed riparian and upland habitats, removal of culverts and other structures that impede movement by native fishes, construction of roadway under and overcrossing that would facilitate movement by terrestrial wildlife, and installation of erosion control measures on land adjacent to sensitive wetland and riparian habitat.*

F. *Monitoring. The INRMP shall include a habitat monitoring program that covers all areas under the Ecological Preserve overlay together with all lands acquired as part of the INRMP. Monitoring results shall be incorporated into future County planning efforts so as to more effectively conserve and restore important habitats. The results of all special-status species monitoring shall be reported to the CNDDB. Monitoring results shall be compiled into an annual report to be presented to the Board of Supervisors.*

G. *Public Participation. The INRMP shall be developed with and include provisions for public participation and informal consultation with local, state, and federal agencies having jurisdiction over natural resources within the County.*

H. *Funding. The County shall develop a conservation fund to ensure adequate funding of the INRMP, including habitat maintenance and restoration. Funding may be provided from grants, mitigation fees, and the County general fund. The INRMP annual report described under item F above shall include information on current funding levels and shall project anticipated funding needs and anticipated and potential funding sources for the following five years.*

Policy 7.4.2.9 *The Important Biological Corridor (-IBC) overlay shall apply to lands identified as having high wildlife habitat values because of extent, habitat function, connectivity, and other factors. Lands located within the overlay district shall be subject to the following provisions except that where the overlay is applied to lands that are also subject to the Agricultural District (-A) overlay or that are within the Agricultural Lands (AL) designation, the land use restrictions associated with the -IBC policies will not apply to the extent that the agricultural practices do not interfere with the purposes of the -IBC overlay.*

- *Increased minimum parcel size;*
- *Higher canopy-retention standards and/or different mitigation standards/thresholds for oak woodlands;*
- *Lower thresholds for grading permits;*
- *Higher wetlands/riparian retention standards and/or more stringent mitigation requirements for wetland/riparian habitat loss;*
- *Increased riparian corridor and wetland setbacks;*
- *Greater protection for rare plants (e.g., no disturbance at all or disturbance only as recommended by U.S. Fish and Wildlife Service/California Department of Fish and Wildlife);*
- *Standards for retention of contiguous areas/large expanses of other (non-oak or non-sensitive) plant communities;*
- *Building permits discretionary or some other type of "site review" to ensure that canopy is retained;*
- *More stringent standards for lot coverage, floor area ratio (FAR), and building height; and*
- *No hindrances to wildlife movement (e.g., no fences that would restrict wildlife movement).*

The standards listed above shall be included in the Zoning Ordinance.

Wildland Fire Safe measures are exempt from this policy, except that Fire Safe measures will be designed insofar as possible to be consistent with the objectives of the Important Biological Corridor.

OBJECTIVE 7.4.3: COORDINATION WITH APPROPRIATE AGENCIES
Coordination of wildlife and vegetation protection programs with appropriate federal and State agencies.

OBJECTIVE 7.4.5: NATIVE VEGETATION AND LANDMARK TREES
Protect and maintain native trees including oaks and landmark and heritage trees.

Policy 7.4.5.1 A tree survey, preservation, and replacement plan shall be required to be filed with the County prior to issuance of a grading permit for discretionary permits on all high-density residential, multifamily residential, commercial, and industrial projects. To ensure that proposed replacement trees survive, a mitigation monitoring plan should be incorporated into discretionary projects when applicable and shall include provisions for necessary replacement of trees.

Policy 7.4.5.2 It shall be the policy of the County to preserve native oaks wherever feasible, through the review of all proposed development activities where such trees are present on either public or private property, while at the same time recognizing individual rights to develop private property in a reasonable manner. To ensure that oak tree loss is reduced to reasonable acceptable levels, the County shall develop and implement an Oak Tree Preservation Ordinance that includes the following components:

A. Oak Tree Removal Permit Process. Except under special exemptions, a tree removal permit shall be required by the County for removal of any native oak tree with a single main trunk of at least 6 inches diameter at breast height (dbh), or a multiple trunk with an aggregate of at least 10 inches dbh. Special exemptions when a tree removal permit is not needed shall include removal of trees less than 36 inches dbh on 1) lands in Williamson Act Contracts, Farmland Security Zone Programs, Timber Production Zones, Agricultural Districts, designated Agricultural Land (AL), and actions pursuant to a Fire Safe plan; 2) all single family residential lots of one acre or less that cannot be further subdivided; 3) when a native oak tree is cut down on the owner's property for the owner's personal use; and 4) when written approval has been received from the County Planning Department. In passing judgment upon tree removal permit applications, the County may impose such reasonable conditions of approval as are necessary to protect the health of existing oak trees, the public and the surrounding property, or sensitive habitats. The County Planning Department may condition any removal of native oaks upon the replacement of trees in kind. The replacement requirement shall be calculated based upon an inch for inch replacement of removed oaks. The total of replacement trees shall have a combined diameter of the tree(s) removed. Replacement trees may be planted onsite or in other areas to the satisfaction of the County Planning Department. The County may also condition any tree removal permit that would affect sensitive habitat (e.g., valley oak woodland), on preparation of a Biological Resources Study and an Important Habitat Mitigation Program as described in Policy 7.4.1.6. If an application is denied, the County shall provide written notification, including the reasons for denial, to the applicant.

B. Tree Removal Associated with Discretionary Project. Any person desiring to remove a native oak shall provide the County with the following as part of the project application:

- *A written statement by the applicant or an arborist stating the justification for the development activity, identifying how trees in the vicinity of the project or construction site will be protected and stating*

that all construction activity will follow approved preservation methods;

- *A site map plan that identifies all native oaks on the project site; and*
- *A report by a certified arborist that provides specific information for all native oak trees on the project site.*

C. *Commercial Firewood Cutting. Fuel wood production is considered commercial when a party cuts firewood for sale or profit. An oak tree removal permit shall be required for commercial firewood cutting of any native oak tree. In reviewing a permit application, the Planning Department shall consider the following:*

- *Whether the trees to be removed would have a significant negative environmental impact;*
- *Whether the proposed removal would not result in clear-cutting, but will result in thinning or stand improvement;*
- *Whether replanting would be necessary to ensure adequate regeneration;*
- *Whether the removal would create the potential for soil erosion;*
- *Whether any other limitations or conditions should be imposed in accordance with sound tree management practices; and*
- *What the extent of the resulting canopy cover would be.*

D. *Penalties. Fines will be issued to any person, firm, or corporation that is not exempt from the ordinance who damages or destroys an oak tree without first obtaining an oak tree removal permit. Fines may be as high as three times the current market value of replacement trees as well as the cost of replacement, and/or replacement of up to three times the number of trees required by the ordinance. If oak trees are removed without a tree removal permit, the County Planning Department may choose to deny or defer approval of any application for development of that property for a period of up to 5 years. All monies received for replacement of illegally removed or damaged trees shall be deposited in the County's Integrated Natural Resources Management Plan (INRMP) conservation fund.*

Preservation of Open Space

GOAL 7.6: OPEN SPACE CONSERVATION

Conserve open space land for the continuation of the County's rural character, commercial agriculture, forestry and other productive uses, the enjoyment of scenic beauty and recreation, the protection of natural resources, for protection from natural hazards, and for wildlife habitat.

OBJECTIVE 7.6.1: IMPORTANCE OF OPEN SPACE

Consideration of open space as an important factor in the County's quality of life.

Policy 7.6.1.1 *The General Plan land use map shall include an Open Space land use designation. The purpose of this designation is to implement the goals and objectives of the Land Use and the Conservation and Open Space Elements by serving one or more of the purposes stated below. In addition, the designations on the land use map for Rural Residential and Natural Resource areas are also intended to implement said goals and objectives. Primary purposes of open space include:*

A. Conserving natural resource areas required for the conservation of plant and animal life including habitat for fish and wildlife species; areas required for ecologic and other scientific study purposes; rivers, streams, banks of rivers and streams and watershed lands;

B. Conserving natural resource lands for the managed production of resources including forest products, rangeland, agricultural lands important to the production of food and fiber; and areas containing important mineral deposits;

C. Maintaining areas of importance for outdoor recreation including areas of outstanding scenic, historic and cultural value; areas particularly suited for park and recreation purposes including those providing access to lake shores, beaches and rivers and streams; and areas which serve as links between major recreation and open space reservations including utility easements, banks of rivers and streams, trails and scenic highway corridors;

D. Delineating open space for public health and safety including, but not limited to, areas which require special management or regulation because of hazardous or special conditions such as earthquake fault zones, unstable soil areas, flood plains, watersheds, areas presenting high fire risks, areas required for the protection of water quality and water reservoirs, and areas required for the protection and enhancement of air quality; and

E. Providing for open spaces to create buffers which may be landscaped to minimize the adverse impact of one land use on another.

Policy 7.6.1.2 *The County will provide for Open Space lands through:*

A. The designation of land as Open Space;

B. The designation of land for low-intensity land uses as provided in the Rural Residential and Natural Resource land use designations;

C. *Local implementation of the Federal Emergency Management Agency's National Flood Insurance Program;*

D. *Local implementation of the State Land Conservation Act Program; and*

E. *Open space land set aside through Planned Developments (PDs).*

Policy 7.6.1.3 *The County shall implement Policy 7.6.1.1 through zoning regulations and the administration thereof. It is intended that certain districts and certain requirements in zoning regulations carry out the purposes set forth in Policy 7.6.1.1 as follows:*

A. *The Open Space (OS) Zoning District is consistent with and shall implement the Open Space designation of the General Plan land use map and all other land use designations.*

B. *The Agricultural (A), Exclusive Agricultural (AE), Planned Agricultural (PA), Select Agricultural (SA-10), and Timberland Production Zone (TPZ) zoning districts are consistent with Policy 7.6.1.1 and serve one or more of the purposes set forth therein.*

C. *Zoning regulations shall provide for setbacks from all flood plains, streams, lakes, rivers and canals to maintain Purposes A, B, C, and D set forth in Policy 7.6.1.1.*

D. *Zoning regulations shall provide for maintenance of permanent open space in residential, commercial, industrial, agricultural, and residential agricultural zone districts based on standards established in those provisions of the County Code. The regulations shall minimize impacts on wetlands, flood plains, streams, lakes, rivers, canals, and slopes in excess of 30 percent and shall maintain Purposes A, B, C, and D in Policy 7.6.1.1.*

E. *Landscaping requirements in zoning regulations shall provide for vegetative buffers between incompatible land uses in order to maintain Purpose E in Policy 7.6.1.1.*

F. *Zoning regulations shall provide for Mineral Resource Combining Zone Districts and/or other appropriate mineral zoning categories which shall be applied to lands found to contain important mineral deposits if development of the resource can occur in compliance with all other policies of the General Plan. Those regulations shall maintain Purposes A, B, C, D, and E of Policy 7.6.1.1.*

Policy 7.6.1.4 *The creation of new open space areas, including Ecological Preserves, common areas of new subdivisions, and recreational areas, shall include wildfire safety planning.*

El Dorado Hills Specific Plan

1.4.1.1 Site Development and Grading

The policies set forth in the Specific Plan are intended to maintain, to the maximum extent possible, the natural land forms and to exercise control over vegetation removal, landscaping, and grading. Grading controls are intended to reduce soil erosion to a minimum to ensure capability with adjacent terrain.

a) *Grading for roadways, driveways, building pads, and onsite improvements shall be minimized.*

b) *Grading volumes of cut-and-fill material shall be minimized and balanced onsite wherever possible. Larger grading volumes may be acceptable where improved visual and environmental effects would result.*

c) *Residential structures or accessory structures on slopes in access of 20 percent shall be carefully designed through use of erosion controls, engineered grading, and use of post and beam or step-footing construction to ensure long-term slope stability. Benched hillsides for building sites shall be avoided and split-level structures encouraged.*

d) *A plan to minimize impact to oak trees shall be submitted to the El Dorado County Community Development Department prior to approval of any tentative map. The plan will include, at a minimum, the locations and sizes of individual trees that should not be impacted.*

e) *A minimum of 20 percent of all roadside trees and parking lot trees shall be native oaks.*

f) *Removal of oak trees and other large native trees with trunk circumferences of 25 inches at 4.5 feet above grade shall be avoided where feasible. A tree replacement policy is provided in the Design Guidelines on file with the County of El Dorado.*

g) *To avoid damage to root systems of retained trees, residential construction shall not occur within the canopy area of oak trees over 30 inches in circumference at breast height, and shall be subject to review as provided in the Design Guidelines.*

h) *Landscaping in improved common areas shall be of drought-resistant varieties.*

i) *To preserve the vegetative character of the Plan Area, the planting of native trees, shrubs, and ground cover shall be encouraged in all new landscaping.*

j) *Landscaping in areas adjacent to natural open spaces shall be fire resistant.*

k) *Site design, building orientation, and street and lot patterns shall follow solar orientation principles to the maximum extent practicable to maximize energy conservation.*

l) Archaeological test excavations for selected locations within the Plan Area shall be required as a condition of approval of tentative subdivision maps.

m) As part of the tentative map approval, areas having expansive clays and seasonably wet areas shall be identified by a geotechnical engineer. Such areas, if deemed to be potential construction hazards, shall be subject to further evaluation and identification to determine appropriate mitigation measures.

n) To the maximum extent feasible, development shall be sited and designed to avoid impacts to culturally significant sties identified by the Final EIR for the Plan Area as EDH-26 and EDH-29.

o) Where feasible, and given the physical constraints of the Plan Area, subdivisions and other new development shall be designed to facilitate solar use as a means of reducing total energy consumption. The design elements that shall be considered include:

- *Solar orientation*
- *Shade Control*
- *Wind Management*
- *Solar access*

p) The Design Guidelines shall be one of the implementation measures of the Specific Plan.

1.4.1.2 Development Near Native Oak Trees

These guidelines are for the protection of healthy oak trees that will remain after construction in developed areas. The term circumference is breast height (CBH) refers to the trunk measurement of either one trunk or the addition of all trunks in a multi-trunked tree. The respective measure in circumference would also apply. Also refer to **Section 3.10** for Oak Tree Preservation Guidelines.

a) Protect all oak trees larger than 25 inches CBH o the maximum extent feasible. Priority will be given to oaks larger than 56 inches CBH.

b) Trees to be saved will be surrounded by a barrier or fence installed at the dripline and flagged.

c) Pruning of limbs will be confined to low-hanging branches over roads and sidewalks, and large branches that are weak or may reasonably appear to pose a safety hazard. Pruning paint will not be used under any circumstances. Pruning cuts will be made cleanly to avoid damaged to the "bark ridge" tissue of adjacent limbs.

d) The El Dorado County Planning Department will be responsible for enforcement of oak tree protection during construction.

e) In development areas, no oak trees larger than 25 inches CBH will be removed until a site survey and inspection report is performed.

1.4.1.5 Vegetation and Fire Hazards

In areas of planned development:

a) All potentially dry herbaceous vegetation will be mowed or disked within a 50-foot radius of all construction site activity.

b) Disking or mowing will be done to keep herbaceous vegetation under 3 inches in height at all construction sites.

c) No construction equipment or vehicles will be allowed within 50 feet of the unmowed perimeter.

d) Firebreaks will be installed by disking or mowing a trail that is satisfactory to the El Dorado Hills Fire Development. Mowing is preferred to disking or scraping because the latter two practices promote invasion of noxious weed species on fire trails.

e) Temporary or permanent firebreaks will be installed on all ridgelines, crossing all areas in the vicinity of construction and grading activity, prior to beginning work.

f) Firebreak installation will avoid the removal of native oaks and other native trees.

1.4.8 Natural Open Space Policies

The Natural Open Space Policies are to guide the preservation, management, and maintenance of these areas in relation to adjacent land uses.

1.4.8.1 General Policies

a) The boundaries of natural open space shall blend with the boundaries of the development as to enhance the integration of open space and developed areas.

b) Perimeter fencing may be permitted for rural parcels as provided in the El Dorado County Design Guidelines and CC&Rs.

c) Increased runoff from adjacent development will require erosion control measures to be coordinated with landscape design of adjacent development areas. Emphasis shall be placed on methods that rely on natural drainage systems and minimize change to the existing condition of creek channels within open space areas.

d) An Open Space Management Plan shall be completed and submitted to the El Dorado County Community Development Department prior to approval of any tentative map creating open space. It shall be an implementation mechanism of the Specific Plan in order to set forth procedures and responsibilities as to the ownership, preservation, and management of public and private natural open space areas. The Open Space Management Plan shall consider dedication to the County of El Dorado of easements

over the public open space areas, should dedication of fee ownership of these areas be made to any other entity. The open space plan shall be reviewed by the El Dorado Hills Fire Department. The plan shall also include, at a minimum:

1. *The locations of fire access roads, fuel breaks, and passive recreation trails.*
2. *Control burning techniques.*
3. *Guidelines established in the Open Space Guidelines for El Dorado County*
4. *Investigation of opportunities for wildlife use of water in open space areas as a part of ongoing wildlife maintenance.*

1.4.8.2 Riparian and Other Drainageway Policies

A 200-foot-wide undeveloped buffer zone shall be established along Carson Creek in accordance with California Department of Fish and Wildlife requirements. In this buffer, vegetation removal shall be for the purpose of drainage improvements. In consideration of setback reductions for purposes of a gold course, the County shall consider such mitigation measures as additional plantings, erosion controls, and other habitat improvement and protection steps.

a) *Drainageway easements shall specifically preclude erection of structures and vegetation removal, except for drainage improvements, and shall forestall other site development not consistent with the purpose of these areas.*

b) *Drainageways located on privately owned property shall be placed within recorded easements that provide for routine maintenance and pedestrian access.*

c) *A 100-foot-wide buffer (50 feet horizontal on each side as measured from centerline of the creek) of natural vegetation shall be maintained along all intermittent creeks.*

d) *Grazing shall not be allowed in riparian buffer zones.*

e) *Plantings of riparian trees and shrubs shall be situated according to the flood and soil moisture tolerances of individual species as in Appendix C of the Specific Plan.*

f) *Areas disturbed during construction shall be replanted with native riparian species listed in Appendix C of the Specific Plan. Replanting will include a mandatory 3-year maintenance and irrigation period.*

g) *Riparian vegetation on the golf course areas shall be kept naturally dense and unpruned except where needed for crossings, ball pay passages, and personal and fire safety.*

h) *Pedestrian, vehicular, and utility bridges over creeks, if feasible, will be oriented at right angles to the waterway to minimize loss of vegetation.*

i) The capacity of flow under bridges and culverts will be designed to reduce the need for extensive vegetation clearing near the structures.

j) Periodic vegetation removal to ensure adequate floodway capacity in drainages will be performed to promote an overstory of mature individual riparian trees spaced to accommodate designed flows.

El Dorado Hills Community Services District Policies

5.27 Oak Tree Preservation

5.27.3 General Requirements for Development Activity in the Protected Zone of Protected Trees

The importance of oak tree preservation is recognized with tree protection provisions in the Covenants, Conditions, and Restrictions (CC&Rs) of the most units in El Dorado Hills and in County Code 17.73 titled Oak Woodland Conservation prior to initiating any activity that may affect an oak tree on their land or on that of an adjoining property, owners of property in El Dorado Hills should check their CC&Rs carefully to determine whether Design Review Committee (DRC) approval is required.

5.27.4 Removal of Protected Trees

It shall be the policy of the DRC to preserve protected trees wherever feasible while recognizing individual rights to develop private property in a reasonable manner. It shall be the responsibility of the applicant to demonstrate the need for any oak tree removal. In determining whether to approval the removal or major trimming of a protected tree, the DRC will consider the following listed factors and, depending upon particular circumstances, may consider others which are not listed:

a) The degree to which the tree will be an obstacle to approval development activity.

b) The condition of the tree with respect to disease, general health, damage, danger of falling.

c) The effect removal would have upon safety, public health, remaining trees, and the beauty and general welfare of the area.

d) The effect removal would have upon soil stability, erosion, particularly near water courses and on slopes.

e) Present and future shade effect with respect to cooling and solar power/heating.

f) Whether or not there are feasible alternative measures to removal.

g) Applicants may be required to provide an arborist report from an arborist who would not be performing any eventual tree removal or major limbing. Alternatively, and it is discretion the DRC may employ an arborist of its choice.

5.27.5 Protecting Oak Trees During Development Activity

Property owners are responsible for taking the following measures to protect oak trees, except any approval from removal during development activity.

a) *Erect protective orange "ski fencing" around the protected zone of each protected tree or group of trees within 50 feet of development activity prior to initiating work and excluded from the enclosed protected zone any work related activity such as storage and vehicle parking.*

b) *Exert every reasonable effort to preserve undisturbed the natural ground within protected zones.*

c) *If it is absolutely necessary to trench within a protected zone, if boring or drilling would not be feasible, excavate by hand under the supervision of a certified arborist. Do not cut any root larger than two inches in diameter; keep the exposed root moist and cover with soil as quickly as feasible. Sever small roots neatly, trim and cover quickly.*

d) *Make no grade changed within the protected zone unless specifically indicated in the approved plans.*

5.27.6 Mitigation EDHCSD Tree Preservation Fund, Public Education

In the event the owner of property with protected trees removed or significantly damages one or more of them without approval, the DRC, at its discretion, may require mitigation by planting a proportionate number of diameter inches of replacement oak trees on the owner's property or by assessing a fee at the rate of $200 per diameter inch (amount tripled for unapproved removal of a landmark tree) to compensate for the expense of planting a proportionate number of diameter inches of oak trees on public property or by a combination of these alternatives.

In the event the owner of the property with protection trees applies for approval of a protect that will damage protected trees, and the DRC determines they could be reasonably be preserved, the DRC, at its sole discretion, may offer the applicant the option of an approval in exchange for on-site mitigation or payment of a mitigation fee based upon the number of diameter inches that applicant would remove.

Mitigation fees paid by property owners are held by the EDHCSD in a Tree Preservation Fund until used to cover the expense of mitigation planting or for related purposes. It is widely recognized that the loss of oak tree is partly the result of the lack of public awareness on oak preservation. A portion of the funds collected for mitigation may be used to establish and promote educational programs to improve this situation.

Regulatory Status Legend

FE = Federal endangered FT = Federal threatened FC = Federal candidate PT = Federal proposed threatened FPD = Federal proposed for delisting FD = Federal delisted FSC = Federal Species of Concern	CE = California state endangered CT = California state threatened CFP = California fully protected CSC = California Species of Special Concern CSA = California Special Animals List CR = California state rare CC = California candidate	1A = plants presumed extinct in California 1B = plants rare, threatened, or endangered in California and elsewhere 2 = plants rare, threatened, or endangered in California, but common elsewhere 3 = plants about which we need more information 4 = plants of limited distribution

Table 1 — Legally Protected Species

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Plants				
Boggs Lake hedge-hyssop *Gratiola heterosepala*	CE; 1B	Annual herb found on clay soils in vernal pools and along the lake margins of marshes and swamps from 10 to 2,375 meters.	Blooming period: April – August	**None**; the riverine perennial marsh within the Study Area provides marginal habitat for this species. but it was not found during focused protocol surveys during the bloom period (Foothill Associates 2016c).
El Dorado bedstraw *Galium californicum* ssp. *sierrae*	FE; CR; 1B	Perennial herb found on gabbroic substrate in chaparral, cismontane woodland, and lower montane coniferous forest from 100 to 585 meters.	Blooming period: May – June.	**None**; there is no suitable soil for this species within the Study Area.
Layne's butterweed (=ragwort) *Packera layneae*	FT; CR; 1B	Perennial herb found on serpentine or gabbroic, rocky substrate in cismontane woodland or chaparral from 200 to 1,085 meters.	Blooming period: April – August.	**None**; there is no suitable soil for this species within the Study Area.
Legenere *Legenere limosa*	CT; 1B	Annual herb found in vernal pools from 1 to 880 meters.	Blooming period: April – June.	**None**; there is no vernal pool habitat within the Study Area.
Pine Hill ceanothus *Ceanothus roderickii*	FE; CR; 1B	Perennial evergreen shrub found on serpentinite or gabbroic substrate in chaparral or cismontane woodland from 245 to 1,090 meters.	Blooming period: April – June.	**None**; there is no suitable soil for this species within the Study Area.
Pine Hill flannelbush *Fremontodendron decumbens*	FE; CR; 1B	Perennial evergreen shrub found in chaparral and cismontane woodland on rocky gabbroic or serpentinite soils from 425 to 760 meters.	Blooming period: April-July	**None**; there is no suitable soil for this species within the Study Area.
Sacramento orcutt grass *Orcuttia viscida*	FE; CE; 1B	Annual herb found in vernal pools from 30 to 100 meters.	Blooming period: April – September.	**None**; the Study Area does not provide suitable habitat for this species.
Slender orcutt grass *Orcuttia tenuis*	FT; CE; 1B	Annual herb found in vernal pools that are often gravelly, from 35 to 1,760 meters.	Blooming period: May – October.	**None**; the Study Area does not provide suitable habitat for this species.
Stebbins' morning glory *Calystegia stebbinsii*	FE; CE; 1B	Perennial rhizomatous herb found occasionally in openings of chaparral and cismontane woodland on gabbro or serpentinite soils from 185 to 1,090 meters.	Blooming period: April – July.	**None**; there is no suitable soil for this species within the Study Area.
Invertebrates				
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT	Blue elderberry shrubs usually associated with riparian areas.	Adults emerge in spring until June. Exit holes visible year – round.	**Low**; small elderberry shrubs were observed in the Study Area but no exit holes were observed.
Vernal pool fairy shrimp *Branchinecta lynchi*	FT	Vernal pools, swales, and ephemeral freshwater habitat.	USFWS protocol-level wet-season sampling and/or dry season cyst identification.	**None**; the Study Area does not provide suitable habitat for this species.
Vernal pool tadpole shrimp *Lepidurus packardi*	FE	Vernal pools, swales, and ephemeral freshwater habitat.	USFWS protocol-level wet-season sampling and/or dry season cyst identification.	**None**; the Study Area does not provide suitable habitat for this species.
Fish				
Central Valley steelhead *Oncorhynchus mykiss*	FT	Rivers and streams tributary to the Sacramento-San Joaquin Rivers and Delta ecosystems.	Spawn in winter and spring.	**None**; the Study Area does not provide suitable habitat for this species.
Delta smelt *Hypomesus transpacificus*	FT; CE	Found in estuarine waters. Majority of life span is spent within the freshwater outskirts of the mixing zone (saltwater-freshwater interface) within the Delta.	December – July (Spawn) Year-round (Present in delta)	**None**; the Study Area does not provide suitable habitat for this species.
Amphibians/ Reptiles				
California red-legged frog *Rana draytonii*	FT; CSC	Requires a permanent water source and is typically found along quiet, slow-moving streams, ponds, or marsh communities with emergent vegetation. Believed extirpated from the Central Valley floor since 1970s.	Aquatic surveys of breeding sites between January and September. Optimally after April 15.	**None**; the riverine perennial marsh and perennial drainage within the Study Area provide marginal habitat for this species, but no evidence of CRLF was observed during protocol breeding and non-breeding surveys (Foothill Associates 2016a).
California tiger salamander *Ambystoma californiense*	FT; CT	Required ponded water for breeding. Adults spend summer in small mammal burrows. This species is not known to occur within El Dorado County. There are no recorded instances of CTS north of the Cosumnes River and east of the Sacramento River despite extensive surveys.	March – June	**None**; the Study Area occurs outside of the known extant geographic range for this species.
Foothill yellow-legged frog *Rana boylii*	CC	Typically found in shaded, shallow, slow moving streams or channels with rocky or muddy bottoms. Typically stays within ~150' of water.	Breeds from mid-March to early June. Most active diurnally. Hibernates and aestivates.	**Low**; perennial drainage provides potential habitat for this species, but there are no known occurrences within 5 miles.

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Giant garter snake *Thamnophis gigas*	FT; CT	Found in agricultural wetlands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands. Upland habitat should have burrows or other soil crevices suitable for snakes to reside during their dormancy period (November – mid March). This species is known from Sacramento, Sutter, Butte, Colusa, and Glenn counties.	Active outside of dormancy period November-mid March	**None**; the Study Area occurs outside of the known geographic range for this species.
Birds				
Bald eagle *Haliaeetus leucocephalus*	FD; CFP, CE	Breeding habitat most commonly includes areas within 2.5 miles (4.0 kilometers) of coastal areas, bays, rivers, lakes, and reservoirs. Nests usually are in tall trees or on pinnacles or cliffs near water.	Winter	**None**; there is no potential habitat for this species within the Study Area.
Bank swallow *Riparia*	CT	Nests in riverbanks and forages over riparian areas and adjacent uplands.	April – July	**None**; there is no potential nesting habitat for this species within the Study Area.
California black rail *Laterallus jamaicensis coturniculus*	CT	Saltwater, brackish, and freshwater marshes that remain shallowly inundated year-round.	Year – round	**None**; the Study Area occurs outside of the geographical range for this species.
Golden eagle *Aquila chrysaetos*	CFP (nesting and wintering)	Open and semi-open areas up to 12,000 feet in elevation. Builds large stick nests on cliffs, in trees, or on man-made structures.	Year – round	**Low**; although the Study Area provides foraging habitat, there is no breeding habitat present within the Study Area and no nests have been observed.
Swainson's hawk *Buteo swainsoni*	CT	Nest peripherally to Valley riparian systems lone trees or groves of trees in agricultural fields. Valley oak, Fremont cottonwood, walnut, and large willow trees, ranging in height from 41 to 82 feet, are the most commonly used nest trees in the Central Valley.	March – October	**None**; the Study Area occurs outside of the known geographical range for this species.
Tricolored blackbird *Agelaius tricolor*	CC; CSC (nesting colony)	Nests in dense blackberry, cattail, tules, bulrushes, sedges, willow, or wild rose within freshwater marshes. Nests in large colonies of at least 50 pairs (up to thousands of individuals). May forage up to 4 miles from nest site.	Year – round	**Low**; the riverine perennial marsh is not large enough to support breeding colonies, but colonies are recorded within 4 miles of the Study Area so the area may be used for foraging.
White-tailed kite *Elanus leucurus*	CFP (nesting)	Nests in isolated trees or woodland areas with suitable open foraging habitat.	February 15 – August 31	**High**; the riparian habitat and isolated trees within the annual grassland provide breeding habitat for this species.
Mammals				
Fisher *Martes pennanti*	PT; CSC	Occurs in intermediate to large-tree stages of coniferous and deciduous forests.	Year – round	**None**; there is no habitat for this species within the Study Area.

Table 1 includes federal threatened or endangered species and eagles, and State threatened, endangered, or fully protected species.

Table 2 — Species Subject to CEQA Review

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Plants				
Ahart's dwarf rush *Juncus leiospermus* var. *ahartii*	1B	Annual herb found in mesic areas in valley and foothill grasslands from 30 to 229 meters.	Blooming period: April – August.	**None**; the Study Area does not provide habitat for this species.
Big-scale balsamroot *Balsamorhiza macrolepis*	1B	Perennial herb found in chaparral, cismontane woodland, valley and foothill grassland, sometimes on serpentinite soils from 90 to 1,555 meters in elevation.	Blooming period: March – June	**None**; the annual grassland within the Study Area provides marginal habitat for this species. but it was not found during focused protocol surveys during the bloom period (Foothill Associates 2016c).
chaparral sedge *Carex xerophila*	1B	Perennial herb found on gabbroic or serpentine soils in chaparral, woodlands, and coniferous forest between 440 and 770 meters.	Blooming period: March – June	**None**; there is no suitable soil for this species within the Study Area.
Dwarf downingia *Downingia pusilla*	2	Annual herb found occasionally in mesic areas within valley and foothill grassland and vernal pools from 1 to 445 meters.	Blooming period: March – May.	**None**; the annual grassland within the Study Area provides marginal habitat for this species. but it was not found during focused protocol surveys during the bloom period (Foothill Associates 2016c).
El Dorado bedstraw *Galium californicum* ssp. *sierrae*	FE; CR; 1B	Perennial herb found on gabbroic substrate in chaparral, cismontane woodland, and lower montane coniferous forest from 100 to 585 meters.	Blooming period: May – June.	**None**; there is no suitable soil for this species within the Study Area.
Jepson's onion *Allium jepsonii*	1B	Perennial bulbiferous herb found on serpentine or volcanic soils in chaparral, lower montane coniferous forest, and cismontane woodland from 300 to 1,320 meters.	Blooming period: April – August.	**None**; there is no suitable soil for this species within the Study Area.
Parry's horkelia *Horkelia parryi*	1B	Perennial herb found on Ione formation in chaparral and cismontane woodland from 80 to 1,070 meters.	Blooming period: April – September	**None**; there is no suitable soil for this species within the Study Area.
Pincushion navarretia *Navarretia myersii*	1B	Annual herb found in vernal pools, which are often acidic, from 20 to 330 meters.	Blooming period: April – May.	**None**; there is no vernal pool habitat within the Study Area.
Red Hills soaproot *Chlorogalum grandiflorum*	1B	Perennial bulbiferous herb found on gabbro, serpentine, or other soils in chaparral, cismontane woodland, and lower montane coniferous forest from 245 to 1,240 meters.	Blooming period: May - June	**None**; original site surveys were conducted within the evident and identifiable bloom period for this species and this species was not observed within the Study Area.
Sanford's arrowhead *Sagittaria sanfordii*	1B	Perennial rhizomatous herb found in marshes and swamps in assorted shallow freshwater areas from 0 to 650 meters.	Blooming period: May – October.	**None**; the riverine perennial marsh within the Study Area provides marginal habitat for this species. but it was not found during focused protocol surveys during the bloom period (Foothill Associates 2016c).
Starved daisy *Erigeron miser*	1B	Perennial herb found on rocky ground in upper montane coniferous forest from 1,840 to 2,620 meters.	Blooming period: June – October.	**None**; the Study Area does not provide habitat for this species and is outside the known elevational range.
Tuolumne button-celery *Eryngium pinnatisectum*	1B	Annual to perennial herb found in mesic areas in cismontane woodland, lower montane coniferous forest, and vernal pools from 70 to 915 meters.	Blooming period: May – August	**None**; original site surveys were conducted within the evident and identifiable bloom period for this species and this species was not observed within the Study Area.
Amphibians/ Reptiles				
Blainville's (Coast) horned lizard *Phrynosoma blainvillii*	CSC	Inhabits open areas of sandy soils and low vegetation in valleys, foothills, and semiarid mountains. Found in grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose sandy soil. Often found in lowlands along sandy washes with scattered shrubs and along dirt roads, and frequently found near ant hills.	Year – round (excluding extended periods of low temperatures or extreme heat).	**Low**; the Study Area provides marginal habitat within the annual grassland. However, the Study Area lacks suitable sandy washes and low scattered bushes or shrubs.
Western pond turtle *Emys marmorata*	CSC	Agricultural wetlands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands.	Active outside of dormancy period November – February	**High**; the perennial drainage and riverine perennial marsh within the Study Area provide habitat for this species.
Western spadefoot *Spea hammondii*	CSC	Found in open grasslands and woodlands. Breeds in seasonal ponds and vernal pools.	Year – round	**Low**; there is minimal potential breeding habitat for this species in the Study Area in the depressional seasonal wetlands.

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Birds				
Burrowing owl *Athene cunicularia*	CSC (burrow sites and some wintering sites)	Nests in burrows in the ground, often in old ground squirrel burrows or badger, within open dry grassland and desert habitat. The burrows are found in dry, level, open terrain, including prairie, plains, desert, and grassland with low height vegetation for foraging and available perches, such as fences, utility poles, posts, or raised rodent mounds.	Year – round; Breeding season surveys between March and August.	**Low**; the annual grassland within the Study Area provides potential habitat for this species, however, few burrows that could be occupied by this species was observed and this species was not observed during the protocol level surveys conducted within the Study Area.
Cooper's hawk *Accipiter cooperii*	CSA (Nesting)	Found in cismontane woodland, riparian forest, riparian woodland, and upper montane coniferous forest.	Year – round	**Low;** the woodlands on site provide potential nesting and foraging habitat.
Double crested cormorant *Phalacrocorax auritus*	CSA (Nesting colony)	Breeds on ponds, lakes, artificial impoundments, slow-moving rivers, lagoons, estuaries, and open coastlines.	Migrate and winter non-breeding.	**None;** there is no suitable nesting habitat in the Study Area.
Ferruginous hawk *Buteo regalis*	CSA (Wintering)	Overwintering occurs in grasslands or deserts with abundant prey species (rabbits, pocket gophers, or prairie dogs).	Wintering	**Low**; the annual grassland habitat within the Study Area provides habitat for this species.
Grasshopper sparrow *Ammodramus savannarum*	CSC	Frequents dense, dry, or well drained grassland, especially native grassland. Nests at base of overhanging clump of grass.	April – July	**Low**; the annual grassland habitat within the Study Area provides habitat for this species.
Great blue heron *Ardea herodias*	CSA (Nesting colony)	Inhabits both freshwater and saltwater habitats and forages in grassland and agricultural field. Breeding colonies are located within 2 to 4 miles of feeding areas, often in isolated swamps or on islands, and near lakes and ponds bordered by forests.	Year – round	**None;** there is no suitable nesting habitat in the Study Area.
Great egret *Ardea alba*	CSA (Nesting colony)	Nests in colonies in large trees usually near water. Nesting colonies must be relatively isolated from human activities. Forages in shallow water in a variety of habitats.	Year – round	**None;** there is no suitable nesting habitat in the Study Area.
Merlin *Falco columbarius*	CSA (Wintering)	Winter in open and semi-open habitats that include estuaries, Great Basin grassland, and valley and foothill grasslands.	Wintering	**Low**; the annual grassland habitat within the Study Area provides habitat for this species.
Osprey *Pandion haliaetus*	CSA	Found in a variety of habitats nearby water sources.	Breeding	**None**; the Study Area does not provide suitable habitat for this species.
Purple martin *Progne subis*	CSC	Often nests in tall, old trees near body of water in woodland and conifer habitats. Feed in open areas near water and nest in tree cavities.	Year – round	**Low**; the Study Area does provide potential nesting habitat for this species.
Mammals				
American badger *Taxidea taxus*	CSC	Found in a variety of grasslands, shrublands, and open woodlands throughout California.	Year – round	**Low**; the annual grassland within the Study Area provides habitat, however, very few burrows that could be utilized by this species are present within the Study Area.
Pallid bat *Antrozous pallidus*	CSC	Most abundant in oak woodland, savannah, and riparian habitats. Roosts in crevices and hollows in trees, rocks, cliffs, bridges, and buildings.	Year – round	**Low**; the trees within the riparian habitat and isolated trees within the annual grassland provide roosting habitat for this species.
Silver-haired bat *Lasionycteris noctivagans*	CSA	Forests near water. Roosts in hollow trees, snags, buildings, rock crevices, caves, and under bark. Forages in ~300' home range over water and open brushy areas.	Dusk between spring and fall.	**Low**; there is marginal habitat in the woodlands for this species on the Study Area

Table 2 includes state and federal species of concern and Rank 1 and 2 CNPS species.

Table 3 — Other Species of Interest

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Plants				
Bisbee Peak rush-rose *Crocanthemum suffrutescens*	3.2	Perennial evergreen shrub often found on gabbroic or lone soil and often in burned or disturbed areas within chaparral from 75 to 670 meters.	Blooming period: April – August.	**None**; the Study Area does not provide habitat for this species.
Brandegee's clarkia *Clarkia biloba* ssp. *brandegeeae*	4	Annual herb found often in roadcuts within chaparral, cismontane woodland, and lower montane coniferous forest from 75 to 915 meters.	Blooming period: May – July.	**None**; the woodlands within the Study Area provide marginal habitat for this species. but it was not found during focused protocol surveys during the bloom period (Foothill Associates 2016c).
Brewer's calandrinia *Calandrinia breweri*	4	Annual herb found on sandy or loamy, disturbed sites and burns within chaparral and coastal scrub from 10 to 1,220 meters.	Blooming period: March – June.	**None**; the Study Area does not provide habitat for this species.
Fresno ceanothus *Ceanothus fresnensis*	4	Perennial evergreen shrub found occasionally in openings of cismontane woodland and lower montane coniferous forest from 900 to 2,103 meters.	Blooming period: May – July.	**None**; the Study Area occurs outside of the known elevation range for this species.
Hernandez bluecurls *Trichostema rubisepalum*	4	Annual herb found on volcanic or serpentinite, gravelly substrate within broad-leafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and vernal pools from 300 to 1,435 meters.	Blooming period: June – August.	**None**; there is no suitable soil for this species within the Study Area.
Humboldt lily *Lilium humboldtii* ssp. *humboldtii*	4	Perennial bulbiferous herb found in openings of chaparral, cismontane woodland, and lower montane coniferous forest from 90 to 1,280 meters.	Blooming period: May – July.	**None**; the woodlands within the Study Area provide marginal habitat for this species. but it was not found during focused protocol surveys during the bloom period (Foothill Associates 2016c).
Jepson's woolly sunflower *Eriophyllum jepsonii*	4	Perennial herb sometimes found on serpentinite substrate within chaparral, cismontane woodland, and coastal scrub from 200 to 1,025 meters.	Blooming period: April – June.	**None**; the Study Area does not contain the soils required for this species.
Sanborn's onion *Allium sanbornii* var. *sanbornii*	4	Perennial bulbiferous herb usually found on serpentinite, gravelly substrate within chaparral, cismontane woodland, and lower montane coniferous forest from 260 to 1,510 meters.	Blooming period: May – September.	**None**; there is no suitable soil for this species within the Study Area.
Streambank spring beauty *Claytonia parviflora* ssp. *grandiflora*	4	Annual herb found on rocky substrate within cismontane woodland from 250 to 1,200 meters.	Blooming period: February – May.	**None**; the Study Area does not provide habitat for this species and is outside of the known elevational range.
Invertebrates				
Alabaster Cave harvestman *Banksula californica*	CSA	Found in caves in the Sierra Nevada.	Year-round	**None**; there is no suitable habitat for this species in the Study Area.
Blennosperma vernal pool andrenid bee *Andrena blennospermaties*	CSA	Found in upland areas near vernal pools; dependent on populations of blennosperma flowers. Slender, dark-olive green bees with pale apical bands on the dorsum of the abdominal segments; females measure 8.5-9.5 mm, males 7-8 mm.	Year-round	**None**; there is no suitable habitat for this species in the Study Area.
California linderiella *Linderiella occidentalis*	CSA	Inhabits vernal pools, swales, and ephemeral freshwater habitat.	Wet-season sampling and/or dry season cyst identification.	**None**; the seasonal swales in the Study Area provide marginal habitat, but the Study Area is outside the locally recorded range of the species.
Cosumnes Stripetail *Cosumnoperla hypocrena*	CSA	Freshwater intermittent streams in the American River and Cosumnes River basins between 300 and 1500 meters.	Year – round	**None**; the Study Area is outside the geographic range of the species.
Hairy Water flea *Dumontia oregonensis*	CSA	Vernal pools, seasonal pools, and streams from Jackson County, Oregon to Sacramento and Solano Counties in California.	Wet Season	**None**; the Study Area is outside the geographic range of the species.
Mid-valley fairy shrimp *Branchinecta mesovallensis*	CSA	Inhabits vernal pools, swales, and ephemeral freshwater habitat.	Wet-season sampling and/or dry season cyst identification.	**None**; the Study Area is outside the geographic range of the species.
Ricksecker's water scavenger beetle *Hydrochara ricksecker*i	CSA	A small aquatic beetle known from pond habitats in the San Francisco Bay Area.	Year-round	**None**; there is no habitat for this species within the Study Area.
Western bumble bee *Bombus occidentalis*	CSA	Generally, nests underground in abandoned rodent burrows and bird nests. Forages on a wide variety of flowers. Found in Coast range north of Monterey County, Sierra mountain range north of Tuolumne County, and around the delta region of Contra Costa County.	New colonies established in spring. Overwinter in shallow burrows.	**None**; the Study Area is outside the geographic range of the species.

Table 3 includes Rank 3 and 4 CNPS species and non-listed invertebrates, which may not be subject to CEQA review.

Appendix C — Plants and Wildlife Observed in the Study Area

Appendix C
Wildlife Observed in the Study Area

Species	Common Name
Birds	
Agelaius phoeniceus	Red-winged blackbird
Buteo jamaicensis	Red-tailed hawk
Callipepla californica	California quail
Carpodacus mexicanus	House finch
Cathartes aura	Turkey vulture
Euphagus cyanocephalus	Brewer's blackbird
Falco sparverius	American kestrel
Melanerpes formicivorus	Acorn woodpecker
Meleagris gallopavo	Wild turkey
Sayornis nigricans	Black phoebe
Sturnella neglecta	Western meadowlark
Sturnus vulgaris	European starling
Zenaida macroura	Mourning dove
Mammals	
Microtus agrestis	Vole
Lepus californicus	Black-tailed jackrabbit
Plestiodon skiltonianus	Western skink
Sceloporus occidentalis	Western fence lizard
Sylvilagus sp.	Cottontail rabbit

Appendix C
Plants Observed in the Study Area

Genus	Species	Common Name	Wetland Indicator Status
Adoxaceae	*Sambucus nigra* ssp. caerulea	Blue elderberry	FACU
Apiaceae	*Eryngium vaseyi*	Coyote-thistle	FACW
Apocynaceae	*Asclepias fascicularis*	Mexican whorled milkweed	FAC
Asteraceae	*Anaphalis margaritacea*	Pearly everlasting	FACU
Asteraceae	*Artemisia douglasiana*	California mugwort	FAC
Asteraceae	*Baccharis pilularis*	Coyote brush	NI
Asteraceae	*Carduus pycnocephalus* ssp. pycnocephalus	Italian thistle	NI
Asteraceae	*Holocarpha virgata*	Tarweed, tarplant	NI
Asteraceae	*Hypochaeris glabra*	Smooth cat's ear	NI
Asteraceae	*Lactuca serriola*	Prickly lettuce	FACU
Asteraceae	*Silybum marianum*	Milk thistle	NI
Boraginaceae	*Amsinckia menziesii*	Fiddleneck	NI
Boraginaceae	*Phacelia cicutaria*	Phacelia	NI
Boraginaceae	*Plagiobothrys fulvus*	Common popcornflower	NI
Brassicaceae	*Brassica napus*	Swede rape, rapeseed	NI
Brassicaceae	*Brassica nigra*	Black mustard	NI
Caryophyllaceae	*Spergularia bocconi*	Boccon's sand spurry	FACW
Cyperaceae	*Cyperus eragrostis*	Nutsedge	FACW
Cyperaceae	*Eleocharis macrostachya*	Spikerush	OBL
Cyperaceae	*Schoenoplectus acutus* var. occidentalis	Tule	OBL
Euphorbiaceae	*Croton setiger*	Turkey-mullein	NI
Fabaceae	*Trifolium hirtum*	Rose clover	NI
Fagaceae	*Quercus lobata*	Valley oak	FACU
Fagaceae	*Quercus wislizeni*	Interior live oak	NI
Gentianaceae	*Zeltnera muehlenbergii*	Muehlenberg's centaury	FAC
Geraniaceae	*Erodium botrys*	Broadleaf filaree	FACU
Geraniaceae	*Erodium cicutarium*	Cutleaf filaree	NI
Geraniaceae	*Geranium molle*	Crane's bill geranium	NI
Hypericaceae	*Hypericum perforatum*	St. John's wort	FACU
Lamiaceae	*Mentha pulegium*	Pennyroyal	OBL
Marsileaceae	*Pilularia americana*	American pillwort	OBL
Moraceae	*Ficus carica*	Edible fig	FACU
Myrsinaceae	*Lysimachia arvensis*	Scarlet pimpernel	FAC
Onagraceae	*Epilobium ciliatum*	Northern willow herb	FACW
Papaveraceae	*Eschscholzia californica*	California poppy	NI
Papaveraceae	*Eschscholzia casespitosa*	Foothill poppy	NI
Poaceae	*Aira caryophyllea*	Silver hair grass	FACU
Poaceae	*Avena fatua*	Wild oat	UPL
Poaceae	*Bromus diandrus*	Ripgut grass	NI
Poaceae	*Bromus hordeaceus*	Soft chess	FACU
Poaceae	*Deschampsia danthonioides*	Annual hair grass	FACW
Poaceae	*Elymus caput-medusae*	Medusa head	NI
Poaceae	*Festuca bromoides*	Brome fescue	FACU
Poaceae	*Festuca perennis*	Rye grass	FAC
Poaceae	*Hordeum murinum*	Foxtail	FACU
Poaceae	*Polypogon monspeliensis*	Annual beard grass, rabbitfoot grass	FACW
Poaceae	*Stipa pulchra*	Purple needle grass	NI
Poaceae	*Vulpia myuros*	Foxtail fescue	FACU
Polygonaceae	*Persicaria lapathifolia*	Common knotweed	FACW
Polygonaceae	*Rumex crispus*	Curly dock	FAC
Rosaceae	*Rubus armeniacus*	Himalayan blackberry	FAC
Salicaceae	*Populus fremontii* ssp. fremontii	Alamo or Fremont cottonwood	NI
Salicaceae	*Salix* sp.	Willow	FACW
Scrophulariaceae	*Verbascum blattaria*	Moth mullein	UPL
Sonchus	*Sonchus asper*	Sow thistle, prickly sow thistle	FAC
Themidaceae	*Brodiaea elegans* ssp. elegans	Harvest brodiaea	FACU
Typhaceae	*Typha angustifolia*	Narrow-leaved cattail	OBL
Typhaceae	*Typha latifolia*	Common cattail, broadleaf cattail	OBL
Vicia	*Vicia villosa*	Hairy vetch	NI

Biological Resources Assessment

±34-Acre El Dorado Hills 52
El Dorado County, California

Prepared for:

EDH 52, GP

October 6, 2017

Prepared by:

FOOTHILL ASSOCIATES

© 2017

TABLE OF CONTENTS

1.0 Introduction 1
1.1. Project Description 1
2.0 Regulatory Framework 2
2.1. Federal Regulations 2
2.1.1. Federal Endangered Species Act 2
2.1.2. Migratory Bird Treaty Act 2
2.1.3. The Bald and Golden Eagle Protection Act 2
2.2. State Jurisdiction 3
2.2.1. California Endangered Species Act 3
2.2.2. California Department of Fish and Game Codes 3
2.2.3. Native Plant Protection Act 3
2.3. Jurisdictional Waters 3
2.3.1. Federal Jurisdiction 3
2.3.2. State Jurisdiction 5
2.4. CEQA Significance 5
2.4.1. California Native Plant Society 6
2.4.2. California Department of Fish and Wildlife Species of Concern 7
2.5. El Dorado County Policies and Regulations 7
2.5.1. El Dorado County General Plan 7
2.5.2. El Dorado Hills Specific Plan 7
2.5.3. El Dorado County Tree Ordinance 8
2.6. El Dorado Hills Community Services District Policies 8
3.0 Methods 9
4.0 Results 11
4.1. Site Location and Description 11
4.2. Physical Features 11
4.2.1. Topography and Drainage 11
4.2.2. Soils 11
4.3. Biological Communities 11
4.3.1. Annual Grassland 12
4.3.2. Riparian Woodland 12

4.3.3. Valley Oak Woodland 12
4.3.4. Seasonal Wetland 12
4.3.5. Perennial Marsh 13
4.3.6. Disturbed/ Developed 13
4.4. Special-Status Species 13
4.4.1. Listed and Special-Status Plants 14
4.4.2. Listed and Special-Status Wildlife 14
4.5. Sensitive Habitats 18
4.5.1. Potential Jurisdictional Waters of the U.S. and State 18
4.5.2. Riparian Habitat 18
4.5.3. Oak Trees and Oak Woodlands 18
4.5.4. Purple Needlegrass 19
4.6. Wildlife Migration Corridors and Important Biological Corridors 19
5.0 Conclusions and Recommendations 20
5.1. Special-Status Plant Species 20
5.2. Valley Elderberry Longhorn Beetle 20
5.3. Western Pond Turtle 21
5.4. Blainville's Horned Lizard 21
5.5. Foothill Yellow-Legged Frog 22
5.6. Western Spadefoot 22
5.7. Golden Eagle 23
5.8. Tricolored Blackbird 23
5.9. Burrowing Owl 23
5.10. Other Raptors and Migratory Birds 23
5.11. American Badger 24
5.12. Special-Status Bat Species 25
5.13. Sensitive Habitats 25
5.13.1. Jurisdictional Waters 25
5.13.2. Oak Woodlands 26
5.13.3. Riparian Habitats 26
5.13.4. Purple Needlegrass Grassland 26
5.14. Summary of Avoidance and Minimization Measures 26
6.0 References 28

List of Figures

Figure 1 — Site and Vicinity 32
Figure 2 — Soils 33
Figure 3 — Biological Communities 34
Figure 4— Annual Grassland for Golden Eagle Foraging Habitat within the Vicinity of the Study Area 35

List of Appendices

Appendix A — Selected General and Specific Plan Policies
Appendix B — Regionally Occurring Listed and Special-Status Species
Appendix C — Plants and Wildlife Observed in the Study Area

Executive Summary

Foothill Associates' biologists conducted a biological resources assessment (BRA) and focused surveys for western burrowing owl, special-status plants, and California red-legged frog on the El Dorado Hills 52 Study Area located within El Dorado County, California. The purpose of this BRA is to summarize the general biological resources on the Study Area, to assess the suitability of the Study Area to support special-status species and sensitive habitat types, to summarize the results of various focused surveys, and to provide recommendations for regulatory permitting or further analysis that may be required prior to development activities occurring on the Study Area.

The El Dorado Hills 52 Study Area (Study Area) consists of ±34 acres of land that is primarily annual grassland. The Study Area is bifurcated by Silva Valley Parkway. A former home site is located on the southern portion of the property and a large part of the northern portion was used to stockpile soil during the construction of the adjacent Silva Valley Parkway – U.S. Highway 50 Interchange Project. Land uses surrounding the Study Area include an elementary school, residences, and U.S. Highway 50.

Known or potential biological constraints within the Study Area include:

- Potential habitat for special-status plant species;
- Potential habitat for valley elderberry longhorn beetle;
- Potential habitat for western pond turtle;
- Potential habitat for Blainville's horned lizard;
- Potential habitat for foothill yellow-legged frog;
- Potential habitat for western spadefoot;
- Potential foraging habitat for golden eagle;
- Potential foraging habitat for tricolored blackbird;
- Potential habitat for burrowing owl;
- Potential nesting sites and foraging habitat for raptors and other birds;
- Potential habitat for American badger;
- Potential habitat for special-status bat species including pallid bat and silver-haired bat; and
- Sensitive habitats, including potentially jurisdictional waters of the U.S. (seasonal wetlands, perennial marsh, and ephemeral and perennial drainages), riparian habitat, valley oak woodland, and purple needlegrass grassland.

1.0 INTRODUCTION

This report summarizes the findings of a BRA, focused surveys for burrowing owl, California red-legged frog, and special-status plants and an aquatic resources delineation completed for the ±34-acre El Dorado Hills 52 Study Area, located within El Dorado County, California. This document addresses the onsite physical features, as well as plant communities present and the common plant and wildlife species occurring, or potentially occurring, in the Study Area. Furthermore, the suitability of habitats to support special-status species and sensitive habitats are analyzed and recommendations are provided for any regulatory permitting or further analysis required prior to development activities occurring on the Study Area.

1.1. Project Description

Development proposed within the Study Area will ultimately result in the development of approximately 32-acres of commercial development. The northern portion of the Study Area is approximately 17.07 acres (North Site) and the southern portion is approximately 15.73 acres (South Site), net of the right-of-way for roads. Development is designed to allow either the North Site or the South Site to develop independent from the other. Proposed improvements will include construction of commercial buildings and associated parking, utilities, and storm water management facilities as well as multiple points of access, and a new traffic signal on Silva Valley Parkway. Ancillary amenities include pedestrian walkways, bicycle parking, signage and lighting and landscaping. A 7.69-acre area within the North Site is dedicated right-of-way associated with the future extension of Country Club Drive. A 1.38-acre open space area west of Old Silva Valley Road will not be developed.

2.0 REGULATORY FRAMEWORK

Federal, State, and local environmental laws, regulations, and policies relevant to the California Environmental Quality Act (CEQA) review process are summarized below. The CEQA significance criteria are also included in this section.

2.1. Federal Regulations

2.1.1. Federal Endangered Species Act

The U.S. Congress passed the Federal Endangered Species Act (FESA) in 1973 to protect those species that are endangered or threatened with extinction. FESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

FESA prohibits the "take" of endangered or threatened wildlife species. "Take" is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (FESA Section 3 [(3) (19)]). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 CFR §17.3). Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR §17.3). Actions that result in take can result in civil or criminal penalties.

In the context of the proposed project, FESA consultation with the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS) would be initiated if development resulted in take of a threatened or endangered species or if issuance of a Section 404 permit or other federal agency action could result in take of an endangered species or adversely modify critical habitat of such a species.

2.1.2. Migratory Bird Treaty Act

Raptors (birds of prey), migratory birds, and other avian species are protected by a number of State and federal laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior.

2.1.3. The Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (Eagle Act) prohibits the taking or possession of and commerce in bald and golden eagles with limited exceptions. Under the Eagle Act, it is a violation to "*take, possess, sell, purchase, barter, offer to sell, transport, export or import, at any time or in any manner, any bald eagle commonly known as the American eagle, or golden eagle, alive or dead, or any part, nest, or egg, thereof*." Take is defined to include pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, and disturb. Disturb is further defined in 50 CFR Part 22.3 as "*to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available (1) injury to*

an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

2.2. State Jurisdiction

2.2.1. California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA is similar to the FESA but pertains to State-listed endangered and threatened species. CESA requires state agencies to consult with the California Department of Fish and Wildlife (CDFW), when preparing CEQA documents. The purpose is to ensure that the State lead agency actions do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available (Fish and Game Code §2080). CESA directs agencies to consult with CDFW on projects or actions that could affect listed species, directs CDFW to determine whether jeopardy would occur and allows CDFW to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. CESA allows CDFW to authorize exceptions to the State's prohibition against take of a listed species if the "take" of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (Fish & Game Code § 2081).

2.2.2. California Department of Fish and Game Codes

A number of species have been designated "fully protected" species under Sections 5515, 5050, 3511, and 4700 of the Fish and Game Code, but are not listed as endangered (Section 2062) or threatened (Section 2067) species under CESA. Except for take related to scientific research, all take of fully protected species is prohibited. The California Fish and Game Code defines take as "*hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.*" Additionally, Section 3503 of the California Fish and Game Code prohibits the killing of birds or the destruction of bird nests.

2.2.3. Native Plant Protection Act

The Native Plant Protection Act (NPPA), enacted in 1977, allows the Fish and Game Commission to designate plants as rare or endangered. There are 64 species, subspecies, and varieties of plants protected under the NPPA. The NPPA prohibits take of endangered or rare native plants, with some exceptions for agricultural and nursery operations and emergencies. Vegetation removal from canals, roads, and other sites, changes in land use, and certain other situations require proper advance notification to CDFW.

2.3. Jurisdictional Waters

2.3.1. Federal Jurisdiction

The U.S. Army Corps of Engineers (Corps) regulates discharge of dredge or fill material into waters of the U.S. under Section 404 of the Clean Water Act (CWA). "Discharges of fill material"

is defined as the addition of fill material into waters of the U.S., including, but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §328.2(f)].

Waters of the U.S. include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows. Boundaries between jurisdictional waters and uplands are determined in a variety of ways depending on which type of waters is present. Methods for delineating wetlands and non-tidal waters are described below.

- Wetlands are defined as "*those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions*" [33 C.F.R. §328.3(b)]. Presently, to be a wetland, a site must exhibit three wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology existing under the "normal circumstances" for the site.
- The lateral extent of non-tidal waters is determined by delineating the ordinary high-water mark (OHWM) [33 C.F.R. §328.4(c)(1)]. The OHWM is defined by the Corps as "*that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas*" [33 C.F.R. §328.3(e)].

An aquatic feature is determined to be a water of the U.S. based on nexus with a traditionally navigable water pursuant to the Supreme Court's decision in the consolidated cases *Rapanos v. United States* and *Carabell v. United States* (126 S. Ct. 2208) and agency guidance subsequent to this decision. Under these rules, the Corps asserts jurisdiction over wetlands adjacent to traditional navigable waters, relatively permanent non-navigable tributaries (i.e., waters that have a continuous flow at least three months out of the year), and wetlands that abut relatively permanent tributaries. The Corps determines jurisdiction over waters that are non-navigable tributaries that are not relatively permanent, and wetlands adjacent to these tributaries, by making a determination whether such waters "significantly affect the chemical, physical, and biological integrity of other jurisdictional waters more readily understood as "navigable." Finally, the Corps generally does not consider the following to be "waters of the United States": swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent or short duration flow) and ditches "wholly in and draining only uplands…which do not carry a relatively permanent flow of water." Navigable waters of the United States are defined as waters that have been used in the past, are now used, or are susceptible to use as a means to transport interstate or foreign commerce up to the head of navigation.

2.3.2. State Jurisdiction

Regional Water Quality Control Boards

Discharges of fill or waste material to waters of the State are regulated by the State Water Resources Control Board (SWRCB) through its Regional Water Quality Control Boards (RWQCB) under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act (contained in the California Water Code). All waters of the U.S. are also considered waters of the State. In addition, other aquatic features that are not subject to Corps' jurisdiction, such as roadside ditches or isolated wetlands, may be considered waters of the State. This determination will be made by RWQCB staff on a case-by-case basis.

Section 401 of the CWA requires an applicant to obtain "water quality certification" to ensure compliance with State water quality standards before certain federal licenses or permits may be issued. Section 13260(a) of the Porter-Cologne Water Quality Control Act requires any person discharging waste, including dredged or fill material, or proposing to discharge waste, other than to a community sewer system, within any region that could affect the quality of the waters of the State (all surface and subsurface waters) to file a report of waste discharge. The permits subject to Section 401 include CWA Section 404 permits issued by the Corps. Waste discharge requirements under the Porter-Cologne Water Quality Control Act were typically waived for projects that required certification. Discharges to waters of the State that are not subject to a CWA Section 404 permit rely on the report of waste discharge process.

California Department of Fish and Wildlife

The CDFW is a trustee agency that has jurisdiction under Section 1600 *et seq.* of the California Fish and Game Code. Under Sections 1602 and 1603, a private party must notify CDFW if a proposed project will "*substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds…except when the department has been notified pursuant to Section 1601.*" Additionally, CDFW asserts jurisdiction over native riparian habitat adjacent to aquatic features, including native trees over 4-inches in diameter at breast height (DBH). If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFW may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the parties involved, they may enter into an agreement with CDFW identifying the approved activities and associated mitigation measures. Generally, CDFW recommends submitting an application for a Streambed Alteration Agreement (SAA) for any work done within the lateral limit of water flow or the edge of riparian vegetation, whichever is greater.

2.4. CEQA Significance

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study Checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. Based on these

examples, impacts to biological resources would normally be considered significant if the project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and
- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional or state habitat conservation plan.

An evaluation of whether or not an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, State, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of, an important resource on a population-wide or region-wide basis.

2.4.1. California Native Plant Society

The California Native Plant Society (CNPS) maintains a rank of plant species native to California that have low population numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the *Inventory of Rare and Endangered Vascular Plants of California*. Potential impacts to populations of CNPS-ranked plants receive consideration under CEQA review. The following identifies the definitions of the CNPS ranks:

- Rank 1A: Plants presumed Extinct in California
- Rank 1B: Plants Rare, Threatened, or Endangered in California and elsewhere
- Rank 2: Plants Rare, Threatened, or Endangered in California, but more numerous elsewhere

- Rank 3: Plants about which we need more information – A Review List
- Rank 4: Plants of limited distribution – A Watch List

All plants appearing on CNPS Rank 1 or 2 are considered to meet CEQA Guidelines Section 15380 criteria. While only some of the plants ranked 3 and 4 meet the definitions of threatened or endangered species, the CNPS recommends that all Rank 3 and Rank 4 plants be evaluated for consideration under CEQA.

2.4.2. California Department of Fish and Wildlife Species of Concern

Some additional fish, amphibian, reptile, bird, and mammal species may receive consideration by CDFW and lead agencies during the CEQA process, in addition to species that are formally listed under FESA and CESA or are fully protected. These species are included on the *Special Animals List*, which is maintained by CDFW. This list tracks species in California whose numbers, reproductive success, or habitat may be in decline. In addition to "Species of Special Concern" (SSC), the *Special Animals List* includes species that are tracked in the California Natural Diversity Database (CNDDB), but warrant no legal protection. These species are identified as "California Special Animals" (CSA).

2.5. El Dorado County Policies and Regulations

2.5.1. El Dorado County General Plan

In addition to the federal and State regulations described above, the *County of El Dorado General Plan* identifies goals, objectives, and policies to provide further protection to biological resources within the County's limits (El Dorado County 2004). Applicable General Plan policies are summarized below and included in **Appendix A**.

The General Plan's *Conservation Element* sets a number of goals to conserve, enhance, and manage water resources, wildlife, fisheries, vegetation, and wildlife habitat resources. In furtherance of these goals, the County has established a number of policies designed to minimize impacts to sensitive species and habitats. Policy 7.3.3.4 requires setbacks from riparian areas and wetlands. Policy 7.4.1.6 requires that development projects be designed to avoid fragmentation of sensitive habitats to the greatest extent feasible. A number of policies related to Objective 7.42 require preservation of wildlife migration and movement corridors, including increased oak canopy retention requirements and prohibition of fences or other structures that would restrict wildlife movement.

2.5.2. El Dorado Hills Specific Plan

In addition to federal and State regulations, the *El Dorado Hills Specific Plan* (Specific Plan) identifies goals, objectives, and policies regarding establishment and maintenance of open space and wetland areas. The construction of the El Dorado Hills 52 Project is in conformance with this Specific Plan. Applicable Specific Plan requirements are included in **Appendix A**.

2.5.3. El Dorado County Tree Ordinance

The County of El Dorado currently regulates impacts to oak woodland canopy under General Plan Policy 7.4.4.4. All oak trees, of all sizes, are included in the measurement of oak canopy. All new development projects on parcels greater than 1 acre with at least 1 percent canopy cover must adhere to the retention standard described in Option A of the policy. Canopy retention requirements are based on the amount of existing canopy on the site. In addition to preservation of existing oak woodland canopy, mitigation for impacts to oak woodland canopy is required at a 1:1 ratio. Application of the policy is described in the Interim Interpretive Guidelines for General Plan Policy 7.4.4.4 (Option A), which was last amended on October 12, 2007. The policy states that mitigation can be in the form of on-site or off-site planting of oak trees or acorns, or obtaining an offsite conservation easement to protect existing oak woodland habitat in lieu of planting. As per the Guidelines, a Monitoring and Reporting Plan needs to be prepared and is subject to maintenance and monitoring for up to ten years.

The County is in the process of revising the *El Dorado County Oak Resources Management Plan* (ORMP), which is expected to be adopted and go into effect in the near future. Under the proposed new plan, an oak woodland removal permit will be required prior to removal of oak trees that are part of an oak woodland. Mitigation requirements will be based on the percentage of existing oak woodland removed ranging from 1:1 mitigation for zero to 50 percent removal to 2:1 mitigation for more than 75 percent removal. Mitigation may be completed with a combination of the following options: acquisition of an off-site conservation easement, payment of in-lieu fees, or either on-site or off-site replacement planting of up to 50 percent of the required mitigation area. A tree removal permit shall be required prior to the removal of any oak tree not located in an oak woodland and for removal of all Heritage Trees (native oaks with a trunk diameter of 36” or greater at breast height). Trees removed under permit shall require replacement planting or payment of in-lieu fees in an amount equivalent to the number of trunk inches removed.

2.6. El Dorado Hills Community Services District Policies

In addition to federal and State regulations, the El Dorado Hills Community Services District (EDHCSD) identifies goals, objectives, and policies regarding oak tree preservation. Applicable policies are included in **Appendix A**.

3.0 METHODS

Available information pertaining to the natural resources of the region was reviewed. All references reviewed for this assessment are listed in the **References** section. The following site-specific information was reviewed:

- California Department of Fish and Wildlife (CDFW). 2017. *California Natural Diversity Data Base* (CNDDB: *Clarksville, Pilot Hill, Coloma, Shingle Springs, Latrobe, Folsom SE, Buffalo Creek*, *Rocklin*, and *Folsom* U.S. Geological Survey (USGS) 7.5-minute series quadrangles), Sacramento, CA. Accessed [8/15/2017] (**Appendix B**);
- California Native Plant Society (CNPS). 2017. *Inventory of Rare and Endangered Plants* (online edition, v8-02) (CNPS: *Clarksville, Pilot Hill, Coloma, Shingle Springs, Latrobe, Folsom SE, Buffalo Creek*, *Rocklin*, and *Folsom* quadrangles). Accessed [8/15/2017] (**Appendix B**);
- U.S. Fish and Wildlife Service (USFWS). 2017. *Information for Planning and Conservation* (IPaC) *Official Species List*: *El Dorado Hills 52*. Accessed [8/15/2017] (**Appendix B**);
- U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). 2015. Web Soil Survey. Available online at: http://websoilsurvey.sc.egov.usda.gov/App/HomePage.html. Accessed [8/15/2017]; and
- U.S. Geological Survey. 1967. Photorevised 1980. *Clarksville, California*. 7.5-minute series topographic quadrangle. United States Department of Interior; and
- Biological reports and associated documents previously prepared for the Study Area.

Prior to the site survey, existing information, including the previous wetland delineation and soil maps, were reviewed and the results of the records search and five-mile radius CNNDB query were summarized in a table (**Appendix B**). General field surveys of the Study Area were conducted on April 5, 2013 and August 8, 2017. The Study Area was systematically surveyed on foot with binoculars to ensure total search coverage, with special attention given to identifying those portions of the Study Area with the potential for supporting special-status species and sensitive habitats. During the field surveys, biologists recorded plant and animal species observed (**Appendix C**), as well as characterized biological communities occurring onsite. Following the site survey, the potential for each species identified in the records search to occur in the Study Area was determined based on the site surveys, soils, and species-specific information, as shown in **Appendix B**.

A wetland delineation was performed separately utilizing the Corps 1987 three-parameter methodology to delineate potentially jurisdictional waters of the U.S. on the ±200-acre Silva Valley Interchange Project, which includes the Study Area. The Corps issued a Preliminary Jurisdictional Determination for the aquatic features delineated within the Study Area on June 30, 2009 (SPK-2005-00070), as part of the Silva Valley Interchange Project, concurring with the amount of jurisdictional aquatic features mapped. The delineation has since expired. Therefore,

an updated delineation was performed on December 15, 2015. The results of the wetland delineation are summarized herein and are discussed in detail under a separate cover (Foothill Associates 2017a). The results are considered preliminary until the Corps verifies the findings.

Botanical inventories were conducted on April 24, 2015, May 26, 2015, and June 16, 2015. The botanical inventories were conducted in accordance with CDFW's (CDFG 2009) protocol plant surveys. The results of the botanical surveys are summarized herein and are discussed in detail under a separate cover (Foothill Associates 2016c). A complete list of plants observed within the Study Area is provided in **Appendix C**.

Protocol-level burrowing owl surveys were conducted on March 12, 2015, April 24, 2015, May 26, 2015, and June 16, 2015. The surveys were conducted in accordance with the *Staff Report on Burrowing Owl Mitigation* (CDFW 2012). The results of the burrowing owl surveys are summarized herein and are discussed in detail under a separate cover (Foothill Associates 2016c).

Protocol-level breeding season California red-legged frog (CRLF) surveys were conducted on January 12 and 26, 2016 and February 2 and 9, 2016. The protocol-level breeding season surveys were conducted in accordance with the *Revised Guidance on Site Assessment and Field Surveys for the California Red-legged Frog* (USFWS 2005; CRLF Guidance). The results of the protocol-level breeding season surveys are summarized herein and are discussed in detail under a separate cover (Foothill Associates 2016a).

An oak woodland analysis was performed to document the extent of the existing oak trees in the Study Area and impacts from the proposed project. The oak woodland report is contained under separate cover (Foothill Associates 2017b).

4.0 RESULTS

4.1. Site Location and Description

The Study Area is located in in El Dorado County adjacent to U.S. Highway 50 immediately east of Silva Valley Parkway and north of Tong Road. Land uses surrounding the Study Area include residential development to the north and paved roads, oak woodland, and annual grassland to the east, west, and south. The Study Area is located within Township 9 North, Range 8 East, Section 1 of the *Clarksvill*e USGS 7.5-minute series quadrangle. The approximate location of the center of the Study Area is 38° 39' 40.160" North, 121° 3' 23.354" West (**Figure 1**).

The Study Area consists of approximately 34 acres of land that is primarily annual grassland. The Study Area is bifurcated by Silva Valley Parkway. Two drainage corridors cross the Study Area from the northeast to the southwest.

4.2. Physical Features

4.2.1. Topography and Drainage

Topography within the Study Area ranges from relatively level to moderately sloped with elevations ranging from approximately 700 to 800 feet above mean sea level (MSL) (~210-240 meters). Surface runoff flows through and exits the Study Area via riverine drainages, which run in a northeast to southwest direction.

4.2.2. Soils

The Natural Resources Conservation Service (NRCS) has mapped one soil unit within the Study Area (**Figure 2**): **Auburn Silt Loam, 2 to 30 Percent Slopes**. General characteristics associated with this soil type are described below (USDA, NRCS 1974).

- **(AwD) Auburn Silt Loam, 2 to 30 Percent Slopes**: The soils in this series are well drained. Permeability is moderate. Vegetation associated with this soil series includes annual grasses, forbs, and oaks. The hydric soils list for El Dorado County does not identify this soil type as hydric (USDA, NRCS 2015).

4.3. Biological Communities

Six major biological communities occur in the Study Area including annual grassland, riparian woodland, valley oak woodland, seasonal wetland, perennial marsh, and disturbed/developed. These communities provide habitat to a number of common species of wildlife and may provide suitable habitat for special-status species. It should be noted that wetlands may occur within a biological community. For instance, a creek surrounded by riparian woodland would be included within the riparian woodland for the purposes of determining biological community acreage. Vernal pools and seasonal wetlands may be included in the annual grassland community and are often used by wildlife from the annual grassland. However, a very different aquatic habitat, such as a perennial marsh, is considered its own biological community. Dominant vegetation observed within each biological community is discussed in detail below. A

comprehensive list of plants observed within the Study Area is provided in **Appendix C**. The location and extent of each biological community are depicted in **Figure 3**.

4.3.1. Annual Grassland

Annual grassland dominates both the northern and southern portions of the Study Area (**Figure 3**). This vegetation community is characterized primarily by an assemblage of non-native annual grasses and forbs. Dominant vegetation includes ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), and wild oat (*Avena fatua*) intermixed with red-stemmed filaree (*Erodium cicutarium*), popcornflower (*Plagiobothrys* sp.), black mustard (*Brassica nigra*), winter vetch (*Vicia villosa*), scarlet pimpernel (*Anagallis arvensis*), St. John's wort (*Hypericum perforatum*), brodiaea (*Brodiaea elegans*), fiddleneck (*Amsinckia* sp.), rose clover (*Trifolium hirtum*), and milk-thistle (*Silybum marianum*).

Two areas within the annual grassland contain purple needlegrass within the southern portion of the Study Area (**Figure 3**). The purple needlegrass is interspersed with northern willow herb (*Epilobium ciliatum*), ripgut brome, soft chess, and wild oat.

The annual grassland community includes small ephemeral and perennial drainages. The ephemeral drainage is mostly unvegetated and highly seasonal. The perennial drainage has a small clump of willows (*Salix* sp.) and broadleaf cattail (*Typha latifolia*) and is otherwise minimally vegetated.

4.3.2. Riparian Woodland

Riparian woodland habitat occurs within the along perennial drainage on the western boundary of the Study Area (**Figure 3**). Dominant vegetation includes broadleaf cattail, willow, spike rush (*Eleocharis macrostachya*), pennyroyal (*Mentha pulegium*), Himalayan blackberry (*Rubus armeniacus*), and valley oak (*Quercus lobata*).

4.3.3. Valley Oak Woodland

Valley oak woodland is found in a small area on the southwest boundary of the Study Area where a small stand of mature valley oak trees overhangs a small perennial drainage (**Figure 3**). The understory is primarily annual grassland with small areas of milkweed (*Asclepias fascicularis*) and pennyroyal immediately adjacent to the drainage.

4.3.4. Seasonal Wetland

A number of seasonal wetland features are found in the Study Area (**Figure 3**). Most are associated with the eastern drainage system. The seasonal wetlands include riverine, depressional, and slope topography, but the vegetation is similar throughout the Study Area. Dominant vegetation in the seasonal wetlands includes rabbitsfoot grass (*Polypogon monspeliensis*), spike rush (*Eleocharis macrostachya*), nutsedge (*Cyperus eragrostis*), curly dock (*Rumex crispus*), pennyroyal, coyote-thistle (*Eryngium vaseyi*), brome fescue (*Festuca bromoides*), ryegrass, annual hair grass (*Deschampsia danthonioides*), and rye grass (*Festuca perennis*).

4.3.5. Perennial Marsh

Perennial marsh habitat is found in the southern portion of the Study Area (**Figure 3**). It is dominated by common knotweed (*Persicaria lapathifolia*) and curly dock with areas of dense cattails, Himalayan blackberry, and a small clump of willows.

4.3.6. Disturbed/ Developed

Disturbed/developed areas in the Study Area include graded roads and a stockpile area (**Figure 3**). The disturbed/developed areas are sparsely vegetated with red-stemmed filaree, soft chess, wild oat, and winter vetch.

4.4. Special-Status Species

Special-status species are plant and animal species that have been afforded special recognition by federal, State, or local resource agencies or organizations. Listed and special-status species are of relatively limited distribution and may require specialized habitat conditions. Special-status species are defined as meeting one or more of the following criteria:

- Listed or proposed for listing under CESA or FESA;
- Protected under other regulations (e.g. Migratory Bird Treaty Act);
- Included on the CDFW Special Animals List;
- Identified as Rank 1-4 by CNPS; or
- Receive consideration during environmental review under CEQA.

Special-status species considered for this analysis are based on queries of the CNDDB, the USFWS, and CNPS ranked species (online versions) for the *Clarksville* and eight surrounding quadrangles. **Appendix B** includes the common name and scientific name for each species, regulatory status (federal, State, local, CNPS), habitat descriptions, and potential for occurrence in the Study Area. The following set of criteria has been used to determine each species' potential for occurrence in the Study Area:

- **Present**: Species known to occur within the Study Area based on CNDDB records and/or observed within the Study Area during the biological surveys.
- **High**: Species known to occur on or in the vicinity of the Study Area (based on CNDDB records within five miles and/or based on professional expertise specific to the Study Area or species) and there is suitable habitat within the Study Area.
- **Low**: Species known to occur in the vicinity of the Study Area and there is marginal habitat within the Study Area **-OR-** Species is not known to occur in the vicinity of the Study Area, however, there is suitable habitat on the Study Area.
- **None**: Species is not known to occur on or in the vicinity of the Study Area and there is no suitable habitat within the Study Area -**OR-** Species was surveyed for during the

appropriate season with negative results **-OR-** The Study Area occurs outside of the known elevation or geographic ranges.

Only those species that are known to be *present* or have a *high* or *low* potential for occurrence are discussed further in the following sections. Species that were determined to have a potential for occurrence but for which focused surveys were conducted with negative results are not discussed further in this report. Detailed results of focused surveys are contained under separate covers.

4.4.1. Listed and Special-Status Plants

According to the records search, 30 special-status plant species have the potential to occur on or in the vicinity of the Study Area. Based on field observations and literature review, four species were determined to have the potential for occurrence to occur on the Study Area: big-scale balsamroot (*Balsamorhiza macrolep*is var. *macrolepis*), Boggs Lake hedge-hyssop (*Gratiola heterosepala*), dwarf downingia (*Downingia pusilla*), and Sanford's arrowhead (*Sagittaria sanfordii*). Focused botanical surveys were conducted in 2015 during the bloom period of these plants. No special-status plant species were found.

4.4.2. Listed and Special-Status Wildlife

According to the records search, 41 special-status animal species have the potential to occur onsite or in the vicinity. Based on field observations and literature review, 15 species were determined to have the potential for occurrence to occur in the Study Area. Protocol surveys for burrowing owl (*Athene cunicularia*) and California red-legged frog (*Rana draytonii*) were conducted in 2015 and 2016. No observations or evidence of either species was found.

Species that are known to be *present* or that are considered to have a *high* potential to occur onsite include: western pond turtle (*Emys marmorata*) and raptors and other migratory birds. Species that are considered to have a *low* potential to occur onsite include: valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), Blainville's horned lizard (*Phrynosoma blainvillii*), foothill yellow-legged frog (*Rana boylii*), western spadefoot (*Spea hammondii*), golden eagle (*Aquila chrysaetos*), tricolored blackbird (*Agelaius tricolor*), American badger (*Taxidea taxus*), and special-status bat species.

Wildlife Species with a High Potential for Occurrence

Western Pond Turtle

Western pond turtles are found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches with suitable basking sites (Californiaherps 2017). Suitable aquatic habitat typically has a muddy or rocky bottom and has emergent aquatic vegetation for cover (Stebbins 2003). Western pond turtles nest and overwinter in areas of sparse vegetation comprised of grassland and forbs with less than ten percent slopes, less than 492 feet (150 meters) from aquatic habitat (Rosenberg *et. al.* 2009). There are three CNDDB records for this species within five miles of the Study Area (CDFW 2017a). The riverine perennial marsh, perennial drainage, and surrounding riparian habitat provide aquatic habitat and the surrounding annual grassland

provides upland habitat. This species was not observed within the Study Area during the biological surveys. This species has a *high* potential to occur within the Study Area.

Nesting Birds and Raptors

The nests of raptors and most other birds are protected under the MBTA. Raptors are also protected by Section 3503.5 of the California Fish and Game Code, which makes it illegal to destroy any active raptor nest. Additionally, the USFWS and CDFW identified a number of avian species of conservation concern that do not have specific statutory protection. Avian species forage and nest in a variety of habitats throughout El Dorado County. As shown in **Appendix B**, the riparian and valley oak woodlands, perennial marsh, and annual grasslands on and surrounding the Study Area may provide nesting or foraging habitat for raptors and other protected birds, including: white-tailed kite (*Elanus leucurus*), Cooper's hawk (*Accipiter cooperii*), ferruginous hawk (*Buteo regalis*), merlin (*Falco columbarius*), grasshopper sparrow (*Ammodramus savannarum*), and purple martin (*Progne subis*). Raptors and other protected migratory birds have a high potential to occur in the Study Area.

Wildlife Species with a Low Potential for Occurrence

Valley Elderberry Longhorn Beetle

The USFWS has determined the range of the valley elderberry longhorn beetle (VELB) to include the watersheds of the American, San Joaquin, and Sacramento Rivers and their tributaries up to approximately 3,000 feet above MSL (USFWS 1980). Typically, the beetles are found on elderberry shrubs within riparian plant communities. Some studies have found that multiple elderberry shrubs clumped together provide superior habitat for the beetle while isolated elderberry shrubs are less likely to support beetle populations. Typical plant species that co-occur with the elderberry shrubs include California sycamore (*Platanus racemosa*), willow, blackberry, and western poison oak (*Toxicodendron diversilobum*) (USFWS 1984). Beetles require elderberry stems with at least one-inch diameter at ground level (dgl) in order for the larvae to utilize the stems (USFWS 1999). The valley elderberry longhorn beetle depends on elderberry shrubs for its entire lifecycle. Adults are typically active from March through May during the flowering period of the elderberry shrub. The female lays its eggs on the leaves and stems of the elderberry shrub. The larvae emerge within a few days and burrow into the elderberry stem. The larvae feed on the stem pith until they pupate. When the host shrub begins flowering, the pupa emerges from the stem as an adult (Barr 1991). There is one CNDDB record of valley elderberry longhorn beetle listed within five miles of the Study Area (CDFW 2017a). One blue elderberry (*Sambucus nigra* ssp. *caerulea*) stem measuring one-inch dgl and several stems less than one-inch dgl occurs within the riparian habitat within the western portion of the Study Area (**Figure 3**). No exit holes were observed. This species has a *low* potential to occur within the Study Area.

Blainville's Horned Lizard

Blainville's horned lizard inhabits open areas of sandy soil and low vegetation in valleys, foothills, and semiarid mountains from sea level to 8,000 feet above MSL. It is typically found in grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose

soil. This species is often found in lowlands along sandy washes with scattered shrubs and along dirt roads, and frequently found near ant hills (Zeiner *et. al.* 1988). There are two CNDDB records of this species within five miles of the Study Area (CDFW 2017a). The species was not observed within the Study Area during the biological surveys. The annual grassland within the Study Area provides minimal habitat for the Blainville's horned lizard due to lack of sandy washes. Therefore, this species has a *low* potential to occur within the Study Area.

Foothill Yellow-Legged Frog

The Foothill yellow-legged frog (FYLF) is a moderate-sized frog (1.5-3.5" long) found on the western slope of the Sierras and along the coast. It has vague dorsolateral folds, horizontal pupils, yellow coloring on the underside of its hind legs, and a granular skin texture that covers the eardrums of colors that harmonize with the surroundings. The FYLF is a stream or river frog of chaparral, forest, and woodland ecozones. This species breeds after the high-water flows subside, mid-March to early June. The FYLF resides in streams and the associated riparian habitat. Metamorphosis generally occurs in three to four months and FYLF reach sexual maturity typically the first summer after they have metamorphosed. Breeding sties occur in shallow, slow flowing water with some pebble and/or cobble substrate. The introductions of bullfrogs and mosquitofish have led to declines in populations in California and Oregon. The perennial drainages provide marginal habitat for this species but there are no CNDDB records of this species within five miles of the Study Area (CDFW 2017a) and the species was not observed within the Study Area during the biological surveys. Therefore, this species has a *low* potential to occur within the Study Area.

Western Spadefoot

Western spadefoot occurs throughout the Central Valley and on the coast from Point Conception, south to the Mexican border. This species occurs from sea level up to 4,500 feet above MSL, in the southern Sierra foothills. Western spadefoot individuals are most commonly found in grassland habitats with temporary pools of water, but they have also been found in open chaparral and valley-foothill pine-oak woodlands (Stebbins 2003). This species spends most of the year underground, where members seek refuge from desiccating by constructing and residing in small burrows. This species often breeds in temporary pools and quiet streams between the months of January and May. There are no CNDDB records for this species within five miles of the Study Area (CDFW 2017a). The species was not observed within the Study Area during the biological surveys. The depressional seasonal wetlands provide low quality breeding habitat given that they do not likely hold water for long enough for the western spadefoot to breed. This species has a *low* potential for utilizing the annual grassland as upland aestivation given the limited aquatic habitat available within the Study Area for breeding.

Golden Eagle

Golden eagles live in semi-open habitats where they have easy access to their primary prey of small to medium-sized mammals. Grasslands, deserts, savannahs, and early successional stages of forest and shrub habitats provide necessary foraging habitat. Nests are placed on cliffs or large trees and are maintained year after year. Breeding occurs from January through August (Kochert *et al.* 2002). Golden eagle home range territories vary widely from 8 to 77 square

miles (McGrady 1997) and are estimated to average 48 square miles in northern California (Zeiner *et al.* 1990). Breeding territories range from 8 to 21 square miles, or 3 to 5 miles surrounding the nest, but activity is often concentrated in a smaller core area. Although only one nest is used each year, a territory may contain multiple alternate nests. Typically, there are between 6 and 14 nests are found in a territory (Kochert *et al.* 2002). Golden eagles may use the same nest for multiple years or use new nest sites every year (Watson 2010).

There is one known occurrence approximately two miles northwest of the Study Area. This active nest was located in a foothill pine on a hillslope surrounded by oak woodland. Existing residences are located uphill within 300 feet of the nest on the north and east. Two juvenile and two adult golden eagles were observed at the nest in August 2013. A pair of adult eagles returned to the nest in 2014 and successfully raised one eaglet, which fledged by June 18, 2014. However, the nest tree fell over during a storm in November 2014. A golden eagle nest was subsequently identified in a foothill pine approximately 2.5 miles northwest of the Study Area on March 6, 2015. The new nest occurred within a foothill pine on a hillslope surrounded by oak woodland, approximately 25 feet from a residential dwelling. This foothill pine died in late 2015. The eagles relocated to another foothill pine downhill from their first nest location in 2016, but this nest is not active in 2017. The current nest location is unknown as of the writing of this report.

No golden eagles were observed during the biological surveys of the Study Area. Although the Study Area does not provide suitable nest trees, the annual grassland provides foraging habitat. This species has a *low* potential to occur within the Study Area.

Tricolored Blackbird

The tricolored blackbird is a colonial species that occurs in pastures, dry seasonal pools, and agricultural fields in the Central Valley and the surrounding foothills. This species usually nests within dense cattails (*Typha* sp.) or tules (*Scirpus* sp.) in emergent wetlands. Tricolored blackbird also nests in thickets of blackberry (*Rubus* sp.), wild rose (*Rosa* sp.), willows, and tall herbs (Zeiner *et. al.* 1990). Nesting locations typically must be large enough to support a minimum colony of approximately fifty pairs (Zeiner *et. al.* 1990). There are three CNDDB records for this species within five miles of the Study Area (CDFW 2017a). The perennial marsh and surrounding riparian habitat could provide nesting habitat, though these areas are not large enough to support colonies. The annual grassland provides foraging habitat for this species. This species was not observed during the biological surveys of the Study Area. This species has a *low* potential to occur within the Study Area.

American Badger

American badgers are found in dry, open habitats including grassland and open woodland. Suitable burrowing habitat requires dry, sandy soil. Breeding occurs in summer and early fall, with young being born from March to April (Nature Serve 2015). There are no CNDDB records for this species within five miles of the Study Area (CDFW 2017a). The annual grassland provides habitat for this species, however, very few potential burrow sites that could be utilized by this species were observed during the biological surveys. No American badgers were

observed during the biological surveys. This species has a *low* potential to occur within the Study Area.

Special-Status Bats

California is home to several special-status bat species, including pallid bat (*Antrozous pallidus*) and silver-haired bat (*Lasionycteris noctivagans*). Bat numbers are in decline throughout the U.S. due to loss of roosting habitat, habitat conversion, and habitat alteration. There are no CNDDB records for bats within five miles of the Study Area (CDFW 2017a). No bats were observed roosting or foraging during the biological surveys. However, the riparian habitat and isolated trees within the annual grassland provide roosting habitat for these species. This species has a *low* potential to occur within the Study Area.

4.5. Sensitive Habitats

Sensitive habitats include those that are of special concern to resource agencies or those that are protected under CEQA, Section 1600 of the California Fish and Game Code, and/or Sections 401 and 404 of the Clean Water Act. Additionally, sensitive habitats are protected under the specific policies outlined in the *El Dorado County General Plan*. Sensitive habitats known to occur onsite are seasonal wetlands, perennial marsh, ephemeral and perennial drainages, riparian woodland, oak woodlands, and purple needlegrass grassland (**Figure 3**).

4.5.1. Potential Jurisdictional Waters of the U.S. and State

Potential jurisdictional waters of the U.S. and State located in the Study Area total approximately 0.57 acres. This acreage includes 0.01 acres of depressional seasonal wetland, 0.07 acres of slope seasonal wetland, 0.05 acres of riverine seasonal wetland, 0.31 acres of riverine perennial marsh, 0.05 acres of ephemeral drainage, and 0.07 acres of perennial drainage (**Figure 3**). To date the Corps has not verified these acreages. As discussed in **Section 2.3**, jurisdictional waters of the U.S. are subject to Section 404 of CWA and are regulated by the Corps.

4.5.2. Riparian Habitat

A total of 0.15 acres of riparian habitat are located in the Study Area along the northern perennial drainage (**Figure 3**). As discussed in **Section 2.2**, riparian areas, defined as the outermost bank or the edge of riparian vegetation, whichever is greater, may be subject CDFW jurisdiction under Section 1602 of the Fish and Game Code. Additionally, CDFW may exert jurisdiction over the drainages and other riverine aquatic features. CDFW should be consulted prior to disturbance or development to determine whether issuance of a Section 1602 Lake or Streambed Alteration Agreement is required.

4.5.3. Oak Trees and Oak Woodlands

A total of ten oak trees protected under Policy 7.4.5.2, consisting of nine valley oaks (*Quercus lobata*) and one blue oak (*Quercus douglasii*) are present in the Study Area. In total, there is 0.55 acres of oak canopy in the Study Area, which is equivalent to 1.6 percent canopy cover (**Figure 3**). Oak woodland habitat is currently regulated under Section 7.4.4.4 of the *El Dorado*

County General Plan (refer to Section 3.8.1, 3.9, and 3.10) based on canopy coverage. The Study Area is within the area covered by the *El Dorado Hills Specific Plan*, which generally describes preservation criteria for oak trees within designated open space areas.

4.5.4. Purple Needlegrass

Approximately 0.33 acres of purple needlegrass are interspersed within the annual grassland. Purple needlegrass grassland is listed as a sensitive plant community on the CDFW Natural Communities List and is required to be considered in CEQA documents. In order for purple needlegrass grassland to be considered a natural community, at least five percent of the species is required as a characteristic to dominant species in the herbaceous layer and the species is usually greater than 10 percent relative cover of the herbaceous layer (Sawyer *et al.* 2009). These mapped areas contain greater than 10 percent relative cover within the herbaceous layer. Therefore, the two polygons of purple needlegrass are considered a sensitive habitat since the acreage meets the minimum percentage criteria necessary to be considered a purple needlegrass grassland natural community.

4.6. Wildlife Migration Corridors and Important Biological Corridors

Wildlife corridors link together areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife habitat. Fragmentation can also occur when a portion of one or more habitats is converted into another habitat, such as when woodland or scrub habitat is altered or converted into grasslands after a disturbance such as fire, mudslide, or grading activities. Wildlife corridors mitigate the effects of this fragmentation by: (1) allowing animals to move between remaining habitats, thereby permitting depleted populations to be replenished and promoting genetic exchange; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk of catastrophic events (such as fire or disease) on population or local species extinction; and (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs. The Study Area does not link two significant natural areas and is surrounded by similar habitat types; therefore, it is not considered a wildlife migration corridor.

The *El Dorado County General Plan* identifies a number of Important Biological Corridors (IBC). The Study Area is not located within any existing IBC.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Known or potential biological constraints within the Study Area include:

- Potential habitat for special-status plant species;
- Potential habitat for valley elderberry longhorn beetle;
- Potential habitat for western pond turtle;
- Potential habitat for Blainville's horned lizard;
- Potential habitat for foothill yellow-legged frog;
- Potential habitat for western spadefoot;
- Potential foraging habitat for golden eagle;
- Potential foraging habitat for tricolored blackbird;
- Potential habitat for burrowing owl;
- Potential nesting sites and foraging habitat for raptors and other birds;
- Potential habitat for American badger;
- Potential habitat for special-status bat species including pallid bat and silver-haired bat; and
- Sensitive habitats, including potentially jurisdictional waters of the U.S. (seasonal wetlands, perennial marsh, and ephemeral and perennial drainages), riparian habitat, valley oak woodland, and purple needlegrass grassland.

5.1. Special-Status Plant Species

Botanical inventories were conducted on April 24, 2015, May 26, 2015, and June 16, 2015. No special-status plants occur within the Study Area. However, if construction does not commence within two years of the 2015 botanical inventories, additional botanical inventories are recommended to ensure that populations have not established in the intervening years, in accordance with CDFW's (CDFG 2009) plant protocols.

5.2. Valley Elderberry Longhorn Beetle

Although no VELB were observed, there is a low potential for VELB to be present in the Study Area due to a single blue elderberry shrub observed within southern portion of the Study Area. According to the USFWS *Conservation Guidelines for Valley Elderberry Longhorn Beetle* (Guidelines; USFWS 1999), encroachment within 100 feet from elderberry shrubs with stems measuring at least one-inch dgl should be approved by the USFWS and a minimum setback of 20 feet from the driplines of the elderberry shrubs must be maintained. Project activities that will encroach into the 20-foot minimum setback area are assumed to adversely affect VELB. Project activities that may directly or indirectly affect elderberry shrubs with stems measuring at least one-inch dgl require minimization measures including planting replacement habitat or

purchasing mitigation credits from a USFWS-approved mitigation bank. The mitigation ratios vary based on whether exit holes are present and whether the shrubs occur within riparian habitat.

The outer edge of the non-development area is approximately 25 feet from the elderberry shrub measuring one-inch dgl. Therefore, the proposed project would not adversely affect potential habitat for VELB. However, the project proponent should consult with the USFWS to establish avoidance measures to ensure that no indirect effects associated with the encroachment of 100-foot avoidance buffer would occur. At minimum, high visibility construction fencing followed by silt fencing should be placed around the perimeter of the open space area. Signs should be erected approximately 20 feet apart along the high visibility construction fencing with the following information, "*This area is habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the FESA, as amended. Violators are subject to prosecution, fines, and imprisonment.*" The signs should be clearly readable from a distance of 20 feet, and must be maintained for the duration of construction.

5.3. Western Pond Turtle

The perennial marsh and perennial drainages and surrounding uplands within the Study Area may be suitable habitat for western pond turtle and they are known to occur in the vicinity. Filling of these features could impact this species, if present. In addition, vegetation clearing and grading within the surrounding uplands could impact this species, if present.

A pre-construction survey for western pond turtle should be conducted within 14 days of the initiation of construction by a qualified biologist prior to any construction activity that would directly impact pond or stream habitat or disturb the ground within 300 feet of aquatic habitat. If no western pond turtles are observed, a letter report should be prepared to document the survey, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey or halts for more than 14 days a new survey should be conducted prior to reinitiating construction.

If western pond turtles are found during the pre-construction survey, then a qualified biological monitor should be onsite during initial clearing and grading within 300 feet of a drainage, pond, or other aquatic habitat. The biological monitor will relocate any western pond turtles found within the construction footprint to suitable habitat away from the construction zone, but within the vicinity of the Study Area, if required. In addition, a pre-construction worker awareness training should be conducted alerting workers to the presence of and protections for the western pond turtle.

5.4. Blainville's Horned Lizard

The annual grassland within the Study Area provides a low potential for Blainville's horned lizard to occur given the lack of sandy soil. Pre-construction surveys for Blainville's horned lizard are recommended within 14 days prior to the start of ground disturbance. If no Blainville's horned lizards are observed, then no additional measures are recommended. If construction

does not commence within 14 days of the pre-construction survey or halts for more than 14 days, a new survey is recommended.

If Blainville's horned lizards are found, additional avoidance measures are recommended including having a qualified biologist conduct a pre-construction survey within 24 hours prior to commencement of construction activities, performing a worker awareness training to all construction workers, and being present on the Study Area during grading activities for the purpose of relocating any Blainville's horned lizards found within the construction footprint to suitable habitat away from the construction zone, but within the Study Area.

5.5. Foothill Yellow-Legged Frog

The perennial drainages and surrounding uplands within the Study Area provide potential habitat for foothill yellow-legged frog. A qualified biologist should conduct a pre-construction survey of the drainages and uplands within 150 feet for foothill yellow-legged frog within 14 days prior to commencement of construction activities. If no foothill yellow-legged frog are observed, then a letter report documenting the results of the survey should be provided to the applicant for their records, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, a new survey is recommended.

If any foothill yellow-legged frog are found, additional avoidance measures are recommended including having a qualified biologist conduct a pre-construction survey within 24 hours prior to commencement of construction activities, performing a worker awareness training to all construction workers, and being present on the Study Area during grading activities for the purpose of relocating any foothill yellow-legged frog found within the construction footprint to suitable habitat away from the construction zone, but within the Study Area.

5.6. Western Spadefoot

The annual grassland within the Study Area provides a low potential for upland aestivation habitat and the depressional seasonal wetland provide low quality breeding habitat for western spadefoot. A qualified biologist should conduct a pre-construction survey for western spadefoot within 14 days prior to commencement of construction activities. If no western spadefoot are observed, then a letter report documenting the results of the survey should be provided to the applicant for their records, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, a new survey is recommended.

If any western spadefoot are found, additional avoidance measures are recommended including having a qualified biologist conduct a pre-construction survey within 24 hours prior to commencement of construction activities, performing a worker awareness training to all construction workers, and being present on the Study Area during grading activities for the purpose of relocating any western spadefoot found within the construction footprint to suitable habitat away from the construction zone, but within the Study Area.

5.7. Golden Eagle

Although the Study Area does not provide suitable nest trees, the annual grassland provides foraging habitat for golden eagle. A map identifying suitable foraging habitat for golden eagle within a three-mile radius of the last known location of the nest, which includes the Study Area, is provided in **Figure 4**. There is over 4,495 acres of potential foraging habitat surrounding the nest, based on an assessment of current aerial photographs. The project will result in the removal of 27.71 acres of annual grassland. The removal of approximately 0.62 percent of foraging habitat would have no impact on this species. Therefore, no additional measures are recommended.

5.8. Tricolored Blackbird

Although the Study Area does not provide suitable nesting areas for a tricolored blackbird colony, the annual grassland provides suitable foraging habitat. There are currently no requirements for conservation or mitigation for tricolored blackbird foraging habitat. Therefore, no additional measures are recommended.

5.9. Burrowing Owl

Although burrowing owl has a low potential to occur within the annual grassland, given the lack of suitable burrows and that they were not observed during the protocol-level breeding and non-breeding season surveys (Foothill Associates 2016b) or any other biological surveys conducted within the Study Area, they are not currently present. However, the species could occupy the Study Area in the future. The project proponent should conduct a take avoidance survey within 30 days prior to commencement of construction, in accordance with the 2012 *California Department of Fish and Wildlife Staff Report on Burrowing Owl Mitigation* (2012 Staff Report) (CDFW 2012). The survey area includes an approximately 500-foot (150-meter) buffer around the Study Area, where access is permitted. If the surveys are negative, then no additional measures are recommended.

If burrows are observed within 500 feet of the Study Area, an impact assessment should be prepared and submitted to the CDFW, in accordance with the 2012 Staff Report. If it is determined that project activities may result in impacts to nesting, occupied, and satellite burrows and/or burrowing owl habitat, the project proponent should consult with CDFW and develop a detailed mitigation plan such that the habitat acreage, number of burrows, and burrowing owls impacted are replaced. The mitigation plan should be based on the requirements set forth in Appendix A of the 2012 Staff Report.

5.10. Other Raptors and Migratory Birds

Several species of raptors and other migratory birds may forage and nest in the Study Area, including the special-status species white-tailed kite, Cooper's hawk, golden eagle, ferruginous hawk, merlin, grasshopper sparrow, and purple martin. Active nests are protected by the California Fish and Game Code Section 3503.5 and the MBTA. Construction activities could result in disturbance of nest sites through temporary increases in ambient noise levels and increased human activity. In addition, vegetation clearing operations, including pruning or

removal of trees and shrubs, could impact nesting birds if these activities occur during the nesting season (February 15 to August 31). All vegetation clearing including removal of trees and shrubs should be completed between September 1 to February 14, if feasible.

If vegetation removal and grading activities begin during the nesting season (February 15 to August 31), a qualified biologist should conduct a pre-construction survey of the project footprint for active nests. Additionally, the surrounding 500 feet should be surveyed for active raptor nests. The pre-construction survey should be conducted within 14 days prior to commencement of ground-disturbing activities. If the pre-construction survey shows that there is no evidence of active nests, a letter report should be prepared to document the survey, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, an additional survey is required prior to starting work.

If nests are found and considered to be active, the project biologist should establish buffer zones to prohibit construction activities and minimize nest disturbance until the young have successfully fledged. Buffer width will depend on the species in question, surrounding existing disturbances, and specific site characteristics, but may range from 20 feet for some songbirds to 250 feet for most raptors. If active nests are found within any trees slated for removal, then an appropriate buffer should be established around the trees and the trees should not be removed until a biologist determines that the nestlings have successfully fledged. In addition, a pre-construction worker awareness training should be conducted alerting workers to the presence of and protections for the active avian nests. If construction activities are proposed to begin during the non-breeding season (September 1 through January 31), a survey is not required and no further studies are necessary.

5.11. American Badger

The annual grassland provides habitat for American badger. A qualified biologist should conduct a pre-construction survey for American badger within 14 days prior to the start of ground disturbance. If no American badgers are observed, then a letter report documenting the results of the survey should be provided to the project proponent for their records, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, a new survey is recommended.

If American badgers or their dens are found, additional avoidance measures are recommended including having a qualified biologist conduct a pre-construction survey within 24 hours prior to commencement of construction activities, performing a worker awareness training to all construction workers, and being present on the Study Area during grading activities for the purpose of temporarily halting construction activities until the biologist determines that the badger has left the construction footprint on its own accord.

5.12. Special-Status Bat Species

The existing riparian and oak woodlands provide potential roosting habitat for various bat species that occur in the vicinity of the Study Area. Removal of trees could impact bats should they be roosting in areas proposed for removal.

A qualified biologist should conduct a preconstruction survey within 14 days prior to clearing or grading operations and removal of trees. If no bats are observed, a letter report should be prepared to document the survey, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, an additional survey is required prior to starting work.

If special-status bat species are present and roosting on or within 100 feet of the Study Area, then the biologist should establish an appropriate buffer around the roost site. At minimum, no trees should be removed until the biologist has determined that the bat is no longer roosting in the tree. Additional mitigation measures for bat species, such as installation of bat boxes or alternate roost structures, would be recommended only if special-status bat species are found to be roosting within the project area. In addition, a pre-construction worker awareness training should be conducted alerting workers to the presence of and protections for various bat species.

5.13. Sensitive Habitats

5.13.1.Jurisdictional Waters

Since proposed construction activities will impact aquatic features located in the Study Area, a Section 404 permit should be obtained from the Corps and a Section 401 Water Quality Certification should be obtained for the Regional Water Quality Control Board (RWQCB) prior to the start of construction. Any waters of the U.S. or jurisdictional wetlands that would be lost or disturbed should be replaced or rehabilitated on a “no-net-loss” basis in accordance with the Corps mitigation guidelines. Habitat restoration, rehabilitation, and/or replacement should be at a location and by methods agreeable to the agencies.

If a 404 permit is required for the proposed project, water quality concerns during construction would be addressed in a Section 401 water quality certification from the Regional Water Quality Control Board. A Storm Water Pollution Prevention Plan (SWPPP) would also be required during construction activities. SWPPPs are required in issuance of a National Pollutant Discharge Elimination System (NPDES) construction discharge permit by the U.S. Environmental Protection Agency. Implementation of Best Management Practices (BMPs) during construction is standard in most SWPPPs and water quality certifications. Examples of BMPs include stockpiling of debris away from regulated wetlands and waterways; immediate removal of debris piles from the site during the rainy season; use of silt fencing and construction fencing around regulated waterways; and use of drip pans under work vehicles and containment of fuel waste throughout the site during construction.

5.13.2. Oak Woodlands

The Project would result in the removal of 9 protected oak trees, resulting in impacts to 0.45-acres of oak canopy. To mitigate for the biological resources impact associated with the loss of oak woodlands associated with the project, a combination of avoidance, protection, onsite replacement, where feasible, and offsite preservation or creation of oak woodland habitat is recommended. Tree protection measures should be implemented around trees to remain in the Study Area as detailed in the project's Tree Survey, Preservation, and Replacement Plan.

5.13.3. Riparian Habitats

Although proposed construction activities will not remove riparian woodland habitat, other drainages and riverine features that will be impacted may be subject to CDFW jurisdiction. It is recommended that a Streambed Alteration Agreement application be submitted to CDFW, pursuant to Section 1600 of the CDFW Code, for any activities affecting the bed, bank or associated riparian vegetation of the stream. If required, the project applicant should coordinate with CDFW in developing appropriate mitigation, and should abide by the conditions of any executed permits.

5.13.4. Purple Needlegrass Grassland

The proposed project would result in the removal of purple needlegrass grassland. Therefore, the acreage of removal should be replaced at a 1:1 ratio. The mitigation location may occur within project's open space areas currently characterized by annual grassland or may occur off-site. Purple needlegrass plants in areas slated for removal should be salvaged to the extent feasible and replanted within the open space area. If this is infeasible, then seedlings/saplings from a local nursery should be obtained. A mitigation and monitoring plan should be prepared outlining methods to be used, success criteria to be met, and adaptive management strategies will be completed prior to project construction. At minimum, the purple needlegrass creation areas shall be monitored twice annually for the first year and once annually for the four subsequent years for a total of five years, success criteria should be established to ensure an 80 percent success rate is met by the fifth year, and adaptive management techniques should be implemented to ensure that the 80 percent success rate is met by the fifth year. This plan may be combined with the Operations and Management Plan for the open space area.

5.14. Summary of Avoidance and Minimization Measures

- Obtain a Section 404 Clean Water Act Permit, 401 Water Quality Certification, and SAA prior to the start of construction;
- Conduct botanical inventories for potentially occurring special-status plants if construction does not commence within two years of the 2015 botanical inventories;
- Conduct clearing and tree and shrub removal operations between September 16 and February 28 to minimize potential impacts to nesting birds;
- If construction begins during the nesting season (March 1 – September 15) conduct a pre-construction survey for active bird nests within the Study Area;

- Conduct a take avoidance survey for burrowing owl within 30 days prior to commencement of construction activities, in accordance with the 2012 Staff Report;
- Within 14 days prior to the initiation of construction activities, conduct a pre-construction survey for coast horned lizard, foothill yellow-legged frog, western pond turtle, American badger, and special-status bat species;
- Implement the tree avoidance, maintenance, and mitigation measures as described in the Tree Survey, Preservation, and Replacement Plan (Foothill Associates 2017); and
- Mitigate for the removal of purple needlegrass grassland at a 1:1 ratio and prepare a mitigation and monitoring plan.

6.0 REFERENCES

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, eds. 2012. *The Jepson Manual: Vascular Plants of California*, *2nd Edition*. University of California, Berkeley.

Barbour, Michael G., Todd Keeler-Wolf, and Allan A. Schoenherr, Editors. 2007. *Terrestrial Vegetation of California*, Third Edition. University of California Press, Berkeley and Los Angeles, California.

Barr, C.B. 1991. The distribution, habitat, and status of the valley elderberry longhorn beetle *Desmocerus californicus dimorphus*. U.S. Fish and Wildlife Service: Sacramento, CA.

Bloom, P. and D. Van De Water. 1994. *Swainson's Hawk in Life on the Edge: A Guide to California's Endangered Natural Resources: Wildlife*. BioSystems Books, Santa Cruz, California.

Bradbury, M., Estep, J.A., and D. Anderson. In Preparation. *Migratory Patterns and Wintering Range of the Central Valley Swainson's Hawk*.

Calflora. 2017. *The Calflora Database: Information on California plants for Education, Research and Conservation*. Berkeley, California. Available online at: http://www.calflora.org. [Accessed 8/15/2017].

Californiaherps. 2017. *A Guide to the Amphibians and Reptiles of California*. Available online at: http://californiaherps.com. [Accessed 8/15/2017].

California Department of Fish and Wildlife (CDFW). 2009. *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Natural Communities*. State of California, California Natural Resources Agency. Department of Fish and Wildlife. November 24, 2009.

CDFW. 2012. *Staff Report on Burrowing Owl Mitigation*. State of California Natural Resources Agency Department of Fish and Game. March 7, 2012.

CDFW. 2017a. *California Natural Diversity Data Base* (CNDDB: *Clarksville, Pilot Hill, Coloma, Shingle Springs, Latrobe, Folsom SE, Buffalo Creek*, *Rocklin*, and *Folsom* U.S. Geological Survey (USGS) 7.5-minute series quadrangles), Sacramento, CA. Accessed [8/15/2017].

CDFW. 2017b. *Special Animals List*. Available online at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline. Accessed [8/21/2017].

California Native Plant Society (CNPS). 2017. *Inventory of Rare and Endangered Plants* (online edition, v8-02) (CNPS: *Clarksville, Pilot Hill, Coloma, Shingle Springs, Latrobe, Folsom SE, Buffalo Creek*, *Rocklin*, and *Folsom* quadrangles). Accessed [8/15/2017].

California Wildlife Habitat Relationship System (CWHR). Various years. Various *Life History Accounts* and *Range Maps*. California Department of Fish and Wildlife, Sacramento, California. Available online at: http://www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx. [Accessed 8/15/2017].

El Dorado County. 2004. *El Dorado County General Plan*. Placerville, California. 2004.

El Dorado Hills Community Services District. 2008. *Design Review Committee Guideline/Covenants, Conditions & Restrictions Manual Revised July 15, 2008*. El Dorado Hills Community Services District. Available online at: http://www.edhcsd.org/downloadable_documents.html. [Accessed 8/15/2017].

Foothill Associates. 2009. *Delineation of Waters of the United States for the Silva Valley Interchange ±200-Acre Site, El Dorado County, California*. Originally prepared in 2005. Revised April 22, 2009.

Foothill Associates. 2012a. *California Red-Legged Frog Surveys on the Proposed Silva Valley Parkway Interchange Project (SPK-2005-00070), El Dorado County, California*. Prepared for El Dorado County, dated November 13, 2012.

Foothill Associates. 2012b. *Survey for Potential Habitat for the Valley Elderberry Longhorn Beetle (Desmocerus californicus dimorphus) for the Proposed Silva Valley Parkway Interchange Project (08ESMF00-2011-TA-0871-1), El Dorado County, California*. Prepared for the U.S. Fish and Wildlife Service dated April 19, 2012.

Foothill Associates. 2013. *California Red-Legged Frog Surveys on the Proposed Silva Valley Parkway Interchange Project (SPK-2005-00070), El Dorado County, California*. Prepared for El Dorado County, dated April 2, 2013.

Foothill Associates. 2015. *El Dorado Hills 52 Tree Survey, Preservation, and Replacement Plan*. Dated October 20, 2015.

Foothill Associates. 2016a. *California Red-Legged Frog (Rana draytonii) Breeding Season Survey Report for the 32-Acre El Dorado Hills 52 Project, El Dorado County, California*. August 30, 2016.

Foothill Associates. 2016b. *Results of the Protocol Level Burrowing Owl Surveys Letter Report for the El Dorado Hills 52 Project, El Dorado County, California*. February 22, 2016.

Foothill Associates. 2016c. *Results of the Protocol Level Special-Status Plant Surveys Letter Report for the El Dorado Hills 52 Project, El Dorado County, California*. February 25, 2016.

Foothill Associates. 2017a. *Aquatic Resources Delineation Report for the El Dorado Hills 52 ±32-Acre Site, El Dorado County, California*. September 18, 2017.

Foothill Associates. 2017b. *El Dorado Hills 52 Tree Survey, Preservation, and Replacement Plan*. September 18, 2017.

Kochert, M. N., K. Steenhof, C. L. Mcintyre and E. H. Craig. 2002. Golden Eagle (Aquila chrysaetos), *The Birds of North America Online* (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Available online at: http://bna.birds.cornell.edu/bna/species/684.

McGrady, M.J. 1997. "*Golden Eagle*". Birds of the Western Palearctic Update, 1: 99-114.

Nature Serve. 2017. *Nature Serve Explorer*: *An Online Encyclopedia of Life* [Web Application]. Version 7.1. NatureServe, Arlington, Virginia. Available online at: http://www.natureserve.org/explorer. [Accessed 8/21/2017].

Poulin, Ray, L. Danielle Todd, E. A. Haug, B. A. Millsap and M. S. Martell. 2011. Burrowing Owl (*Athene cunicularia*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online at: http://bna.birds.cornell.edu/bna/species/061. doi:10.2173/bna.61. [Accessed 8/21/2017].

Rana Resources. 2013. Mark Jennings. Personal Communication. September 18, 2013.

Rosenberg, D., J. Gervais, and D. Vesely. 2009. *Conservation Assessment of the Western Pond Turtle in Oregon* (*Actinemys marmorata*). Version 1.0. November 2009. U.S.D.I. Bureau of Land Management and Fish and Wildlife Service. U.S.D.A. Forest Service Region 6. Oregon Department of Fish and Wildlife, City of Portland. Metro.

Sawyer, John O. and Todd Keeler-Wolf. 2009. *A Manual of California Vegetation*. California Native Plant Society, Sacramento, California.

Stebbins, R. C. 2003. *Western Amphibians and Reptiles*, *3rd Edition*. Boston: Houghton Mifflin Co.

Thorpe, Robin. Quoted in "*The Day the First Bumble Bee Arrived*" on Bug Squad. May 2, 2106. Available online at: http://ucanr.edu/blogs/blogcore/postdetail.cfm?postnum=20925. [Accessed 8/21/2017].

U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS). 1974. *Soil Survey of El Dorado Area, California*. USDA, NRCS, in cooperation with the Regents of the University of California (Agricultural Experiment Station).

USDA, NRCS. 2017. *National Hydric Soils List by State*. Available online at: http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/. Accessed [8/15/2017].

USDA, NRCS. 2017. *Web Soil Survey*. Available online at: http://websoilsurvey.sc.egov.usda.gov/App/HomePage.html. Accessed [8/15/2017].

U.S. Fish and Wildlife Service (USFWS). 1980. *Listing the Valley Elderberry Longhorn Beetle as a Threatened Species with Critical Habitat. Federal Register 45:52803–52807*.

USFWS. 1984. *Recovery Plan for the Valley Elderberry Longhorn Beetle*. U.S. Fish and Wildlife Service, Endangered Species Program: Portland, Oregon.

USFWS. 1999. *Conservation Guidelines for the Valley Elderberry Longhorn Beetle: Sacramento, California*.

USFWS. 2002. *Recovery Plan for the California Red-legged Frog* (*Rana aurora draytonii*). U.S. Fish and Wildlife Service, Portland, Oregon. viii + 173 pp.

USFWS. 2005. *Revised Guidance on Site Assessment and Field Surveys for the California Red-legged Frog*.

USFWS. 2010. *Interim Golden Eagle Inventory and Monitoring Protocols; and Other Recommendations*. Available online at: http://www.fws.gov/southwest/es/oklahoma/documents/te_species/wind%20power/usfws_interim_goea_monitoring_protocol_10march2010.pdf.

USFWS. 2011. *California Red-legged Frog* (*Rana draytonii*). U.S. Fish and Wildlife Service: Arcata Fish and Wildlife Office, Pacific Southwest Region. Last updated on April 11, 2011.

USFWS. 2012. *Informal Endangered Species Act Consultation on the Proposed Silva Valley Parkway Interchange Project (SPK-2005-00070), El Dorado County, California*. Letter addressed to the U.S. Army Corps of Engineers, dated August 6, 2012.

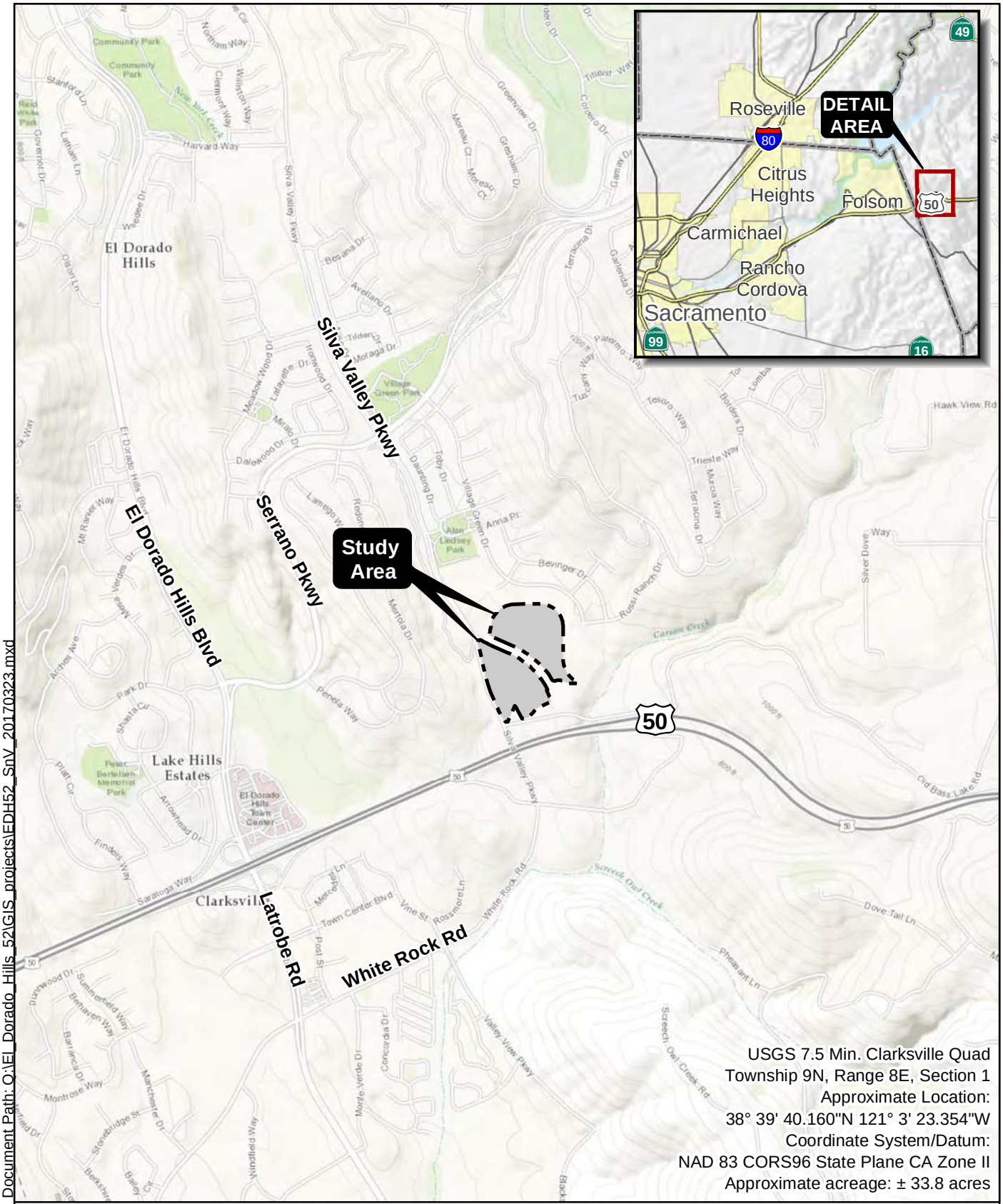
USFWS. 2017. *Information for Planning and Conservation* (IPaC) *Official Species List*: *El Dorado Hills 52*. Accessed [8/15/2017]

U.S. Geological Survey (USGS). 1967. Photorevised 1980. *Clarksville, California*. 7.5 -minute series topographic quadrangle. U.S. Department of the Interior.

Watson, Jeff. 2010. *The Golden Eagle*. 2nd Edition. London: A&C Black Publishers.

Zeiner D.C., W.R. Laudenslayer Jr., K.E. Mayer, and M. White, eds. 1988. *California's Wildlife, Volume I, Amphibians and Reptiles.* State of California: The Resource Agency, Department of Fish and Game, Sacramento, CA.

Zeiner, D.C., W.R. Laudenslayer Jr., K.E. Mayer, and M. White, eds. 1990. *California's Wildlife Volume II: Birds*. State of California: The Resource Agency, Department of Fish and Game, Sacramento, CA.



Document Path: Q:\El_Dorado_Hills_52\GIS_projects\EDH52_SnV_20170323.mxd

USGS 7.5 Min. Clarksville Quad
Township 9N, Range 8E, Section 1
Approximate Location:
38° 39' 40.160"N 121° 3' 23.354"W
Coordinate System/Datum:
NAD 83 CORS96 State Plane CA Zone II
Approximate acreage: ± 33.8 acres

SITE AND VICINITY

FOOTHILL ASSOCIATES
ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE

© 2017

N

0 1000 2000
Feet
1 in = 2,000 feet

Drawn By: MUB
QA/QC: AMP
Date: 08/18/2017

FIGURE 1



Document Path: Q:\El Dorado Hills 52\GIS projects\Soils 20150922.mxd

SOILS

FOOTHILL ASSOCIATES
ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE

© 2017

N

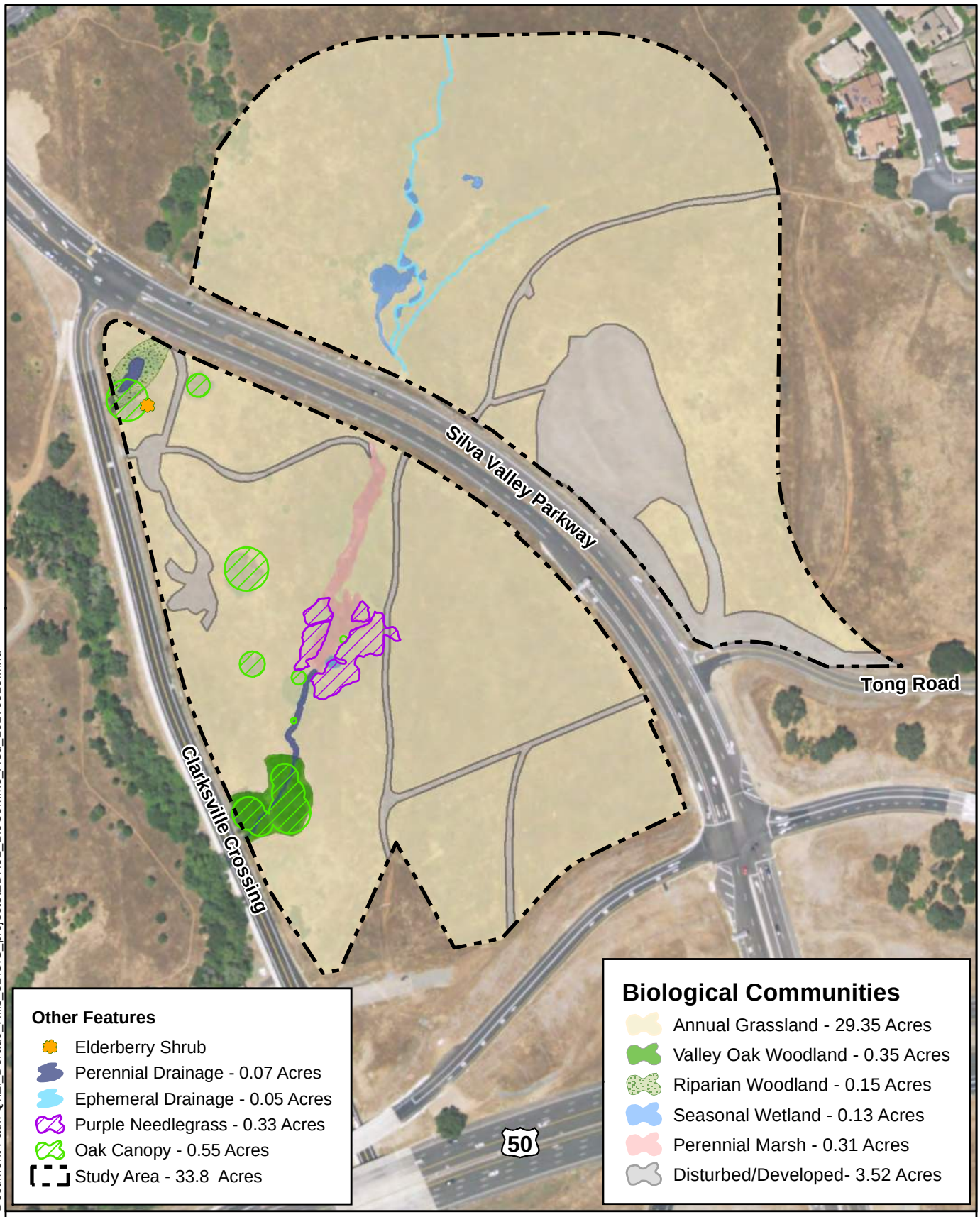
0 125 250
Feet
1 inch = 250 feet

Drawn By: MUB
QA/QC: AMP
Date: 08/15/2017

FIGURE 2

EL DORADO HILLS 52 PROPERTY

Document Name: Soils_20150922.mxd : : 8/18/2017 5:51:25 PM



Document Path: Q:\El_Dorado_Hills_52\GIS_projects\EDH52_BioComms_rvsd_20170323.mxd

BIOLOGICAL COMMUNITIES

FOOTHILL ASSOCIATES
ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE

© 2017

N

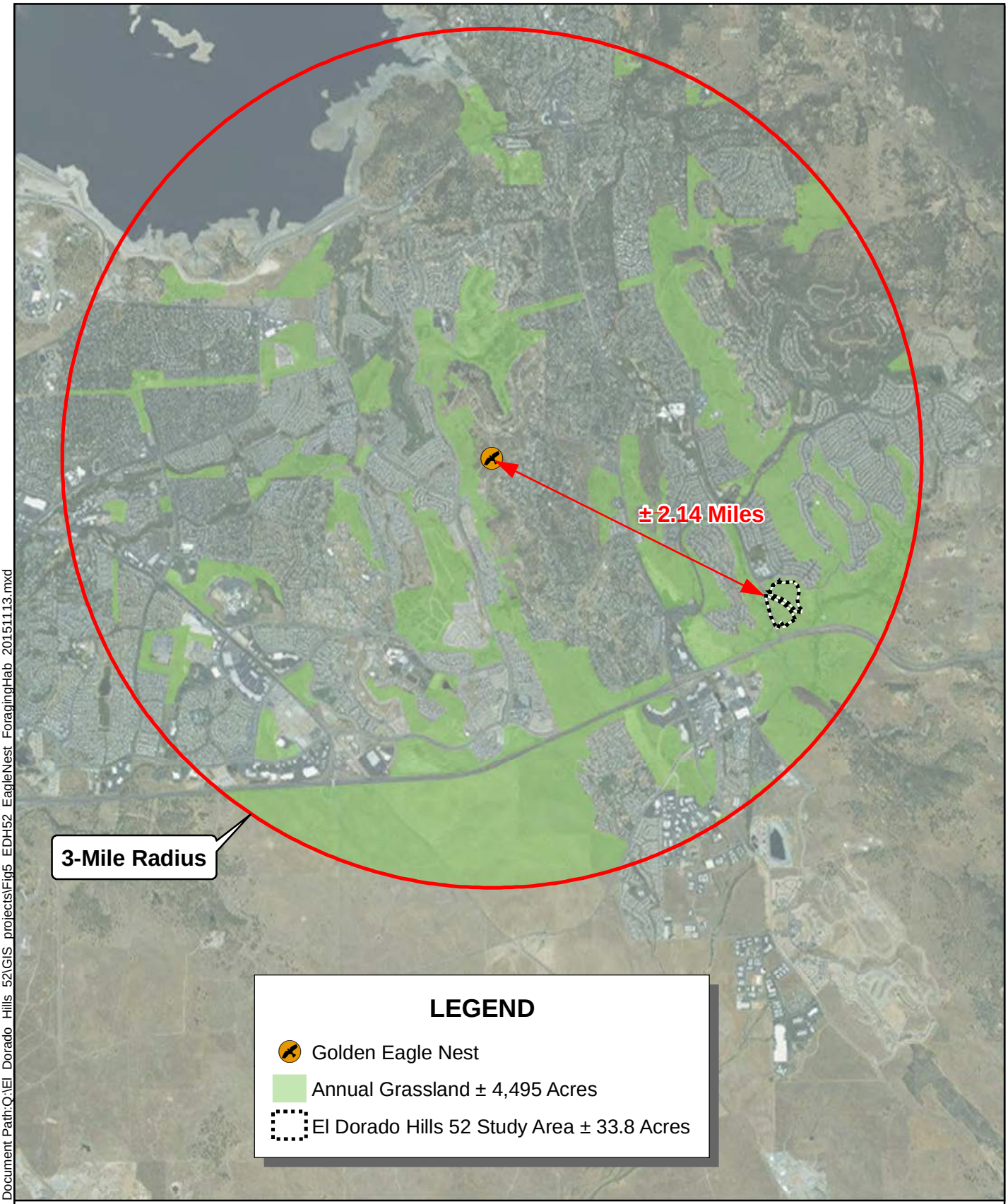
0 125 250
Scale in Feet
1 inch = 250 feet

Drawn By: MUB
QA/QC: AMP
Date: 08/23/2017

FIGURE 3

EL DORADO HILLS 52 PROPERTY

Document Name: EDH52_BioComms_rvsd_20170323.mxd : Date Saved: 8/23/2017 2:19:21 PM



Document Path:Q:\El Dorado Hills 52\GIS projects\Fig5 EDH52 EagleNest ForagingHab 20151113.mxd

ANNUAL GRASSLAND FOR GOLDEN EAGLE FORAGING HABITAT WITHIN THE VICINITY OF THE STUDY AREA

FOOTHILL ASSOCIATES
ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE

© 2017

N

0 0.5 1
Miles
1:60,000

Drawn By: MUB
QA/QC: AMP
Date: 08/18/2017

FIGURE 4

EL DORADO HILLS 52 PROPERTY

Document Name: Fig5_EDH52_EagleNest_ForagingHab_20151113 : 10/2/2017 11:35:25 AM

Appendix A — Selected General and Specific Plan Policies

El Dorado County General Plan

Conservation and Protection of Water Resources

GOAL 7.3: WATER QUALITY AND QUANTITY
Conserve, enhance, and manage water resources and protect their quality from degradation.

OBJECTIVE 7.3.1: WATER RESOURCE PROTECTION
Preserve and protect the supply and quality of the County's water resources including the protection of critical watersheds, riparian zones, and aquifers.

Policy 7.3.1.1 Encourage the use of Best Management Practices, as identified by the Soil Conservation Service, in watershed lands as a means to prevent erosion, siltation, and flooding.

Policy 7.3.1.2 Establish water conservation programs that include both drought tolerant landscaping and efficient building design requirements as well as incentives for the conservation and wise use of water.

Policy 7.3.1.3 The County shall develop the criteria and draft an ordinance to allow and encourage the use of domestic gray water for landscape irrigation purposes. (See Title 22 of the State Water Code and the Graywater Regulations of the Uniform Plumbing Code).

OBJECTIVE 7.3.2: WATER QUALITY
Maintenance of and, where possible, improvement of the quality of underground and surface water.

Policy 7.3.2.1 Stream and lake embankments shall be protected from erosion, and streams and lakes shall be protected from excessive turbidity.

Policy 7.3.2.2 Projects requiring a grading permit shall have an erosion control program approved, where necessary.

Policy 7.3.2.3 Where practical and when warranted by the size of the project, parking lot storm drainage shall include facilities to separate oils and salts from storm water in accordance with the recommendations of the Storm Water Quality Task Force's California Storm Water Best Management Practices Handbooks (1993).

Policy 7.3.2.4 The County should evaluate feasible alternatives to the use of salt for ice control on County roads.

Policy 7.3.2.5 As a means to improve the water quality affecting the County's recreational waters, enhanced and increased detailed analytical water quality studies and

monitoring should be implemented to identify and reduce point and non-point pollutants and contaminants. Where such studies or monitoring reports have identified sources of pollution, the County shall propose means to prevent, control, or treat identified pollutants and contaminants.

OBJECTIVE 7.3.3: WETLANDS

Protection of natural and man-made wetlands, vernal pools, wet meadows, and riparian areas from impacts related to development for their importance to wildlife habitat, water purification, scenic values, and unique and sensitive plant life.

Policy 7.3.3.1 *For projects that would result in the discharge of material to or that may affect the function and value of river, stream, lake, pond, or wetland features, the application shall include a delineation of all such features. For wetlands, the delineation shall be conducted using the U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual*

Policy 7.3.3.2 *Intentionally blank*

Policy 7.3.3.3 *The County shall develop a database of important surface water features, including lake, river, stream, pond, and wetland resources.*

Policy 7.3.3.4 *The Zoning Ordinance shall be amended to provide buffers and special setbacks for the protection of riparian areas and wetlands. The County shall encourage the incorporation of protected areas into conservation easements or natural resource protection areas.*

Exceptions to riparian and wetland buffer and setback requirements shall be provided to permit necessary road and bridge repair and construction, trail construction, and other recreational access structures such as docks and piers, or where such buffers deny reasonable use of the property, but only when appropriate mitigation measures and Best Management Practices are incorporated into the project. Exceptions shall also be provided for horticultural and grazing activities on agriculturally zoned lands that utilize "best management practices (BMPs)" as recommended by the County Agricultural Commission and adopted by the Board of Supervisors.

Until standards for buffers and special setbacks are established in the Zoning Ordinance, the County shall apply a minimum setback of 100 feet from all perennial streams, rivers, lakes, and 50 feet from intermittent streams and wetlands. These interim standards may be modified in a particular instance if more detailed information relating to slope, soil stability, vegetation, habitat, or other site- or project-specific conditions supplied as part of the review for a specific project demonstrates that a different setback is necessary or would be sufficient to protect the particular riparian area at issue.

For projects where the County allows an exception to wetland and riparian buffers, development in or immediately adjacent to such features shall be planned so that impacts on the resources are minimized. If avoidance and minimization are not feasible, the County shall make findings, based on documentation provided by the project proponent, that avoidance and minimization are infeasible.

Policy 7.3.3.5 *Rivers, streams, lakes and ponds, and wetlands shall be integrated into new development in such a way that they enhance the aesthetic and natural character of the site while disturbance to the resource is avoided or minimized and fragmentation is limited.*

OBJECTIVE 7.3.4: DRAINAGE
Protection and utilization of natural drainage patterns.

Policy 7.3.4.1 *Natural watercourses shall be integrated into new development in such a way that they enhance the aesthetic and natural character of the site without disturbance.*

Policy 7.3.4.2 *Modification of natural stream beds and flow shall be regulated to ensure that adequate mitigation measures are utilized.*

OBJECTIVE 7.3.5: WATER CONSERVATION
Conservation of water resources, encouragement of water conservation, and construction of wastewater disposal systems designed to reclaim and re-use treated wastewater on agricultural crops and for other irrigation and wildlife enhancement projects.

Policy 7.3.5.1 *Drought-tolerant plant species, where feasible, shall be used for landscaping of commercial development. Where the use of drought-tolerant native plant species is feasible, they should be used instead of non-native plant species.*

Policy 7.3.5.2 *A list of appropriate local indigenous drought tolerant plant materials shall be maintained by the County Planning Department and made available to the public.*

Policy 7.3.5.3 *The County Parks and Recreation Division shall use drought tolerant landscaping for all new parks and park improvement projects.*

Policy 7.3.5.4 *Require efficient water conveyance systems in new construction. Establish a program of ongoing conversion of open ditch systems shall be considered for conversion to closed conduits, reclaimed water supplies, or both, as circumstances permit.*

Policy 7.3.5.5 *Encourage water reuse programs to conserve raw or potable water supplies consistent with State Law.*

Conservation of Biological Resources

GOAL 7.4: WILDLIFE AND VEGETATION RESOURCES
Identify, conserve, and manage wildlife, wildlife habitat, fisheries, and vegetation resources of significant biological, ecological, and recreational value.

OBJECTIVE 7.4.1: RARE, THREATENED, AND ENDANGERED SPECIES
The County shall protect State and federally recognized rare, threatened, or endangered species and their habitats consistent with Federal and State laws.

Policy 7.4.1.1 *The County shall continue to provide for the permanent protection of the eight sensitive plant species known as the Pine Hill endemics and their habitat through the establishment and management of ecological preserves consistent with County Code Chapter 17.71 and the USFWS's Gabbro Soil Plants for the Central Sierra Nevada Foothills Recovery Plan (USFWS 2002).*

Policy 7.4.1.2 *Private land for preserve sites will be purchased only from willing sellers.*

Policy 7.4.1.3 *Limit land uses within established preserve areas to activities deemed compatible. Such uses may include passive recreation, research and scientific study, and education. In conjunction with use as passive recreational areas, develop a rare plant educational and interpretive program.*

Policy 7.4.1.4 *Proposed rare, threatened, or endangered species preserves, as approved by the County Board of Supervisors, shall be designated Ecological Preserve (-EP) overlay on the General Plan land use map.*

Policy 7.4.1.5 *Species, habitat, and natural community preservation/conservation strategies shall be prepared to protect special-status plant and animal species and natural communities and habitats when discretionary development is proposed on lands with such resources unless it is determined that those resources exist, and either are or can be protected, on public lands or private Natural Resource lands.*

Policy 7.4.1.6 *All development projects involving discretionary review shall be designed to avoid disturbance or fragmentation of important habitats to the extent reasonably feasible. Where avoidance is not possible, the development shall be required to fully mitigate the effects of important habitat loss and fragmentation. Mitigation shall be defined in the Integrated Natural Resources Management Plan (INRMP) (see Policy 7.4.2.8 and Implementation Measure CO-M).*

The County Agricultural Commission, Plant and Wildlife Technical Advisory Committee, representatives of the agricultural community, academia, and other

stakeholders shall be involved and consulted in defining the important habitats of the County and in the creation and implementation of the INRMP.

Policy 7.4.1.7 The County shall continue to support the Noxious Weed Management Group in its efforts to reduce and eliminate noxious weed infestations to protect native habitats and to reduce fire hazards.

OBJECTIVE 7.4.2: IDENTIFY AND PROTECT RESOURCES
Identification and protection, where feasible, of critical fish and wildlife habitat including deer winter, summer, and fawning ranges; deer migration routes; stream and river riparian habitat; lake shore habitat; fish spawning areas; wetlands; wildlife corridors; and diverse wildlife habitat.

Policy 7.4.2.1 To the extent feasible in light of other General Plan policies and to the extent permitted by State law, the County of El Dorado will protect identified critical fish and wildlife habitat, as identified on the Important Biological Resources Map maintained at the Planning Department, through any of the following techniques: utilization of open space, Natural Resource land use designation, clustering, large lot design, setbacks, etc.

Policy 7.4.2.2 Where critical wildlife areas and migration corridors are identified during review of projects; the County shall protect the resources from degradation by requiring all portions of the Site that contain or influence said areas to be retained as non-disturbed natural areas through mandatory clustered development on suitable portions of the Site or other means such as density transfers if clustering cannot be achieved. The setback distance for designated or protected migration corridors shall be determined as part of the project's environmental analysis. The intent and emphasis of the Open Space land use designation and of the non-disturbance policy is to ensure continued viability of contiguous or interdependent habitat areas and the preservation of all movement corridors between related habitats. The intent of mandatory clustering is to provide a mechanism for natural resource protection while allowing appropriate development of private property. Horticultural and grazing projects on agriculturally designated lands are exempt from the restrictions placed on disturbance of natural areas when utilizing "Best Management Practices" (BMPs) recommended by the County Agricultural Commission and adopted by the Board of Supervisors when not subject to Policy 7.1.2.7.

Policy 7.4.2.3 Consistent with Policy 9.1.3.1 of the Parks and Recreation Element, low impact uses such as trails and linear parks may be provided within river and stream buffers if all applicable mitigation measures are incorporated into the design.

Policy 7.4.2.4 Establish and manage wildlife habitat corridors within public parks and natural resource protection areas to allow for wildlife use. Recreational uses within these areas shall be limited to those activities that do not require grading or vegetation removal.

Policy 7.4.2.5 Setbacks from all rivers, streams, and lakes shall be included in the Zoning Ordinance for all ministerial and discretionary development projects.

Policy 7.4.2.6 El Dorado County Biological Community Conservation Plans shall be required to protect, to the extent feasible, rare, threatened, and endangered plant species only when existing federal or State plans for non-jurisdictional areas do not provide adequate protection.

Policy 7.4.2.7 The County shall form a Plant and Wildlife Technical Advisory Committee to advise the Planning Commission and Board of Supervisors on plant and wildlife issues, and the committee should be formed of local experts, including agricultural, fire protection, and forestry representatives, who will consult with other experts with special expertise on various plant and wildlife issues, including representatives of regulatory agencies. The Committee shall formulate objectives which will be reviewed by the Planning Commission and Board of Supervisors.

Policy 7.4.2.8 Develop within five years and implement an Integrated Natural Resources Management Plan (INRMP) that identifies important habitat in the County and establishes a program for effective habitat preservation and management. The INRMP shall include the following components:

A. Habitat Inventory. This part of the INRMP shall inventory and map the following important habitats in El Dorado County:

1. *Habitats that support special-status species;*
2. *Aquatic environments including streams, rivers, and lakes;*
3. *Wetland and riparian habitat;*
4. *Important habitat for migratory deer herds; and*
5. *Large expanses of native vegetation.*

The County should update the inventory every three years to identify the amount of important habitat protected, by habitat type, through County programs and the amount of important habitat removed because of new development during that period. The inventory and mapping effort shall be developed with the assistance of the Plant and Wildlife Technical Advisory Committee, CDFW, and USFWS. The

inventory shall be maintained and updated by the County Planning Department and shall be publicly accessible.

B. *Habitat Protection Strategy. This component shall describe a strategy for protecting important habitats based on coordinated land acquisitions (see item D below) and management of acquired land. The goal of the strategy shall be to conserve and restore contiguous blocks of important habitat to offset the effects of increased habitat loss and fragmentation elsewhere in the county. The Habitat Protection Strategy should be updated at least once every five years based on the results of the habitat monitoring program (item F below). Consideration of wildlife movement will be given by the County on all future 4- and 6-lane roadway construction projects. When feasible, natural undercrossings along proposed roadway alignments that could be utilized by terrestrial wildlife for movement will be preserved and enhanced.*

C. *Mitigation Assistance. This part of the INRMP shall establish a program to facilitate mitigation of impacts to biological resources resulting from projects approved by the County that are unable to avoid impacts on important habitats. The program may include development of mitigation banks, maintenance of lists of potential mitigation options, and incentives for developers and landowner participation in the habitat acquisition and management components of the INRMP.*

D. *Habitat Acquisition. Based on the Habitat Protection Strategy and in coordination with the Mitigation Assistance program, the INRMP shall include a program for identifying habitat acquisition opportunities involving willing sellers. Acquisition may be by state or federal land management agencies, private land trusts or mitigation banks, the County, or other public or private organizations. Lands may be acquired in fee or protected through acquisition of a conservation easement designed to protect the core habitat values of the land while allowing other uses by the fee owner. The program should identify opportunities for partnerships between the County and other organizations for habitat acquisition and management. In evaluating proposed acquisitions, consideration will be given to site specific features (e.g., condition and threats to habitat, presence of special-status species), transaction related features (e.g., level of protection gained, time frame for purchase completion, relative costs), and regional considerations (e.g., connectivity with adjacent protected lands and important habitat, achieves multiple agency and community benefits). Parcels that include important habitat and are located generally to the west of the El Dorado National Forest should be given priority for acquisition. Priority will also be given to parcels that would preserve natural wildlife movement corridors such as*

crossing under major roadways (e.g., U.S. Highway 50 and across canyons). All land acquired shall be added to the Ecological Preserve overlay area.

E. *Habitat Management. Each property or easement acquired through the INRMP should be evaluated to determine whether the biological resources would benefit from restoration or management actions. Examples of the many types of restoration or management actions that could be undertaken to improve current habitat conditions include: removal of non-native plant species, planting native species, repair and rehabilitation of severely grazed riparian and upland habitats, removal of culverts and other structures that impede movement by native fishes, construction of roadway under and overcrossing that would facilitate movement by terrestrial wildlife, and installation of erosion control measures on land adjacent to sensitive wetland and riparian habitat.*

F. *Monitoring. The INRMP shall include a habitat monitoring program that covers all areas under the Ecological Preserve overlay together with all lands acquired as part of the INRMP. Monitoring results shall be incorporated into future County planning efforts so as to more effectively conserve and restore important habitats. The results of all special-status species monitoring shall be reported to the CNDDB. Monitoring results shall be compiled into an annual report to be presented to the Board of Supervisors.*

G. *Public Participation. The INRMP shall be developed with and include provisions for public participation and informal consultation with local, state, and federal agencies having jurisdiction over natural resources within the County.*

H. *Funding. The County shall develop a conservation fund to ensure adequate funding of the INRMP, including habitat maintenance and restoration. Funding may be provided from grants, mitigation fees, and the County general fund. The INRMP annual report described under item F above shall include information on current funding levels and shall project anticipated funding needs and anticipated and potential funding sources for the following five years.*

Policy 7.4.2.9 *The Important Biological Corridor (-IBC) overlay shall apply to lands identified as having high wildlife habitat values because of extent, habitat function, connectivity, and other factors. Lands located within the overlay district shall be subject to the following provisions except that where the overlay is applied to lands that are also subject to the Agricultural District (-A) overlay or that are within the Agricultural Lands (AL) designation, the land use restrictions associated with the -IBC policies will not apply to the extent that the agricultural practices do not interfere with the purposes of the -IBC overlay.*

- *Increased minimum parcel size;*
- *Higher canopy-retention standards and/or different mitigation standards/thresholds for oak woodlands;*
- *Lower thresholds for grading permits;*
- *Higher wetlands/riparian retention standards and/or more stringent mitigation requirements for wetland/riparian habitat loss;*
- *Increased riparian corridor and wetland setbacks;*
- *Greater protection for rare plants (e.g., no disturbance at all or disturbance only as recommended by U.S. Fish and Wildlife Service/California Department of Fish and Wildlife);*
- *Standards for retention of contiguous areas/large expanses of other (non-oak or non-sensitive) plant communities;*
- *Building permits discretionary or some other type of "site review" to ensure that canopy is retained;*
- *More stringent standards for lot coverage, floor area ratio (FAR), and building height; and*
- *No hindrances to wildlife movement (e.g., no fences that would restrict wildlife movement).*

The standards listed above shall be included in the Zoning Ordinance.

Wildland Fire Safe measures are exempt from this policy, except that Fire Safe measures will be designed insofar as possible to be consistent with the objectives of the Important Biological Corridor.

OBJECTIVE 7.4.3: COORDINATION WITH APPROPRIATE AGENCIES
Coordination of wildlife and vegetation protection programs with appropriate federal and State agencies.

OBJECTIVE 7.4.5: NATIVE VEGETATION AND LANDMARK TREES
Protect and maintain native trees including oaks and landmark and heritage trees.

Policy 7.4.5.1 A tree survey, preservation, and replacement plan shall be required to be filed with the County prior to issuance of a grading permit for discretionary permits on all high-density residential, multifamily residential, commercial, and industrial projects. To ensure that proposed replacement trees survive, a mitigation monitoring plan should be incorporated into discretionary projects when applicable and shall include provisions for necessary replacement of trees.

Policy 7.4.5.2 It shall be the policy of the County to preserve native oaks wherever feasible, through the review of all proposed development activities where such trees are present on either public or private property, while at the same time recognizing individual rights to develop private property in a reasonable manner. To ensure that oak tree loss is reduced to reasonable acceptable levels, the County shall develop and implement an Oak Tree Preservation Ordinance that includes the following components:

A. Oak Tree Removal Permit Process. Except under special exemptions, a tree removal permit shall be required by the County for removal of any native oak tree with a single main trunk of at least 6 inches diameter at breast height (dbh), or a multiple trunk with an aggregate of at least 10 inches dbh. Special exemptions when a tree removal permit is not needed shall include removal of trees less than 36 inches dbh on 1) lands in Williamson Act Contracts, Farmland Security Zone Programs, Timber Production Zones, Agricultural Districts, designated Agricultural Land (AL), and actions pursuant to a Fire Safe plan; 2) all single family residential lots of one acre or less that cannot be further subdivided; 3) when a native oak tree is cut down on the owner's property for the owner's personal use; and 4) when written approval has been received from the County Planning Department. In passing judgment upon tree removal permit applications, the County may impose such reasonable conditions of approval as are necessary to protect the health of existing oak trees, the public and the surrounding property, or sensitive habitats. The County Planning Department may condition any removal of native oaks upon the replacement of trees in kind. The replacement requirement shall be calculated based upon an inch for inch replacement of removed oaks. The total of replacement trees shall have a combined diameter of the tree(s) removed. Replacement trees may be planted onsite or in other areas to the satisfaction of the County Planning Department. The County may also condition any tree removal permit that would affect sensitive habitat (e.g., valley oak woodland), on preparation of a Biological Resources Study and an Important Habitat Mitigation Program as described in Policy 7.4.1.6. If an application is denied, the County shall provide written notification, including the reasons for denial, to the applicant.

B. Tree Removal Associated with Discretionary Project. Any person desiring to remove a native oak shall provide the County with the following as part of the project application:

- *A written statement by the applicant or an arborist stating the justification for the development activity, identifying how trees in the vicinity of the project or construction site will be protected and stating*

that all construction activity will follow approved preservation methods;

- *A site map plan that identifies all native oaks on the project site; and*
- *A report by a certified arborist that provides specific information for all native oak trees on the project site.*

C. *Commercial Firewood Cutting. Fuel wood production is considered commercial when a party cuts firewood for sale or profit. An oak tree removal permit shall be required for commercial firewood cutting of any native oak tree. In reviewing a permit application, the Planning Department shall consider the following:*

- *Whether the trees to be removed would have a significant negative environmental impact;*
- *Whether the proposed removal would not result in clear-cutting, but will result in thinning or stand improvement;*
- *Whether replanting would be necessary to ensure adequate regeneration;*
- *Whether the removal would create the potential for soil erosion;*
- *Whether any other limitations or conditions should be imposed in accordance with sound tree management practices; and*
- *What the extent of the resulting canopy cover would be.*

D. *Penalties. Fines will be issued to any person, firm, or corporation that is not exempt from the ordinance who damages or destroys an oak tree without first obtaining an oak tree removal permit. Fines may be as high as three times the current market value of replacement trees as well as the cost of replacement, and/or replacement of up to three times the number of trees required by the ordinance. If oak trees are removed without a tree removal permit, the County Planning Department may choose to deny or defer approval of any application for development of that property for a period of up to 5 years. All monies received for replacement of illegally removed or damaged trees shall be deposited in the County's Integrated Natural Resources Management Plan (INRMP) conservation fund.*

Preservation of Open Space

GOAL 7.6: OPEN SPACE CONSERVATION

Conserve open space land for the continuation of the County's rural character, commercial agriculture, forestry and other productive uses, the enjoyment of scenic beauty and recreation, the protection of natural resources, for protection from natural hazards, and for wildlife habitat.

OBJECTIVE 7.6.1: IMPORTANCE OF OPEN SPACE

Consideration of open space as an important factor in the County's quality of life.

Policy 7.6.1.1 *The General Plan land use map shall include an Open Space land use designation. The purpose of this designation is to implement the goals and objectives of the Land Use and the Conservation and Open Space Elements by serving one or more of the purposes stated below. In addition, the designations on the land use map for Rural Residential and Natural Resource areas are also intended to implement said goals and objectives. Primary purposes of open space include:*

A. Conserving natural resource areas required for the conservation of plant and animal life including habitat for fish and wildlife species; areas required for ecologic and other scientific study purposes; rivers, streams, banks of rivers and streams and watershed lands;

B. Conserving natural resource lands for the managed production of resources including forest products, rangeland, agricultural lands important to the production of food and fiber; and areas containing important mineral deposits;

C. Maintaining areas of importance for outdoor recreation including areas of outstanding scenic, historic and cultural value; areas particularly suited for park and recreation purposes including those providing access to lake shores, beaches and rivers and streams; and areas which serve as links between major recreation and open space reservations including utility easements, banks of rivers and streams, trails and scenic highway corridors;

D. Delineating open space for public health and safety including, but not limited to, areas which require special management or regulation because of hazardous or special conditions such as earthquake fault zones, unstable soil areas, flood plains, watersheds, areas presenting high fire risks, areas required for the protection of water quality and water reservoirs, and areas required for the protection and enhancement of air quality; and

E. Providing for open spaces to create buffers which may be landscaped to minimize the adverse impact of one land use on another.

Policy 7.6.1.2 *The County will provide for Open Space lands through:*

A. The designation of land as Open Space;

B. The designation of land for low-intensity land uses as provided in the Rural Residential and Natural Resource land use designations;

C. *Local implementation of the Federal Emergency Management Agency's National Flood Insurance Program;*

D. *Local implementation of the State Land Conservation Act Program; and*

E. *Open space land set aside through Planned Developments (PDs).*

Policy 7.6.1.3 *The County shall implement Policy 7.6.1.1 through zoning regulations and the administration thereof. It is intended that certain districts and certain requirements in zoning regulations carry out the purposes set forth in Policy 7.6.1.1 as follows:*

A. *The Open Space (OS) Zoning District is consistent with and shall implement the Open Space designation of the General Plan land use map and all other land use designations.*

B. *The Agricultural (A), Exclusive Agricultural (AE), Planned Agricultural (PA), Select Agricultural (SA-10), and Timberland Production Zone (TPZ) zoning districts are consistent with Policy 7.6.1.1 and serve one or more of the purposes set forth therein.*

C. *Zoning regulations shall provide for setbacks from all flood plains, streams, lakes, rivers and canals to maintain Purposes A, B, C, and D set forth in Policy 7.6.1.1.*

D. *Zoning regulations shall provide for maintenance of permanent open space in residential, commercial, industrial, agricultural, and residential agricultural zone districts based on standards established in those provisions of the County Code. The regulations shall minimize impacts on wetlands, flood plains, streams, lakes, rivers, canals, and slopes in excess of 30 percent and shall maintain Purposes A, B, C, and D in Policy 7.6.1.1.*

E. *Landscaping requirements in zoning regulations shall provide for vegetative buffers between incompatible land uses in order to maintain Purpose E in Policy 7.6.1.1.*

F. *Zoning regulations shall provide for Mineral Resource Combining Zone Districts and/or other appropriate mineral zoning categories which shall be applied to lands found to contain important mineral deposits if development of the resource can occur in compliance with all other policies of the General Plan. Those regulations shall maintain Purposes A, B, C, D, and E of Policy 7.6.1.1.*

Policy 7.6.1.4 *The creation of new open space areas, including Ecological Preserves, common areas of new subdivisions, and recreational areas, shall include wildfire safety planning.*

El Dorado Hills Specific Plan

1.4.1.1 Site Development and Grading

The policies set forth in the Specific Plan are intended to maintain, to the maximum extent possible, the natural land forms and to exercise control over vegetation removal, landscaping, and grading. Grading controls are intended to reduce soil erosion to a minimum to ensure capability with adjacent terrain.

a) *Grading for roadways, driveways, building pads, and onsite improvements shall be minimized.*

b) *Grading volumes of cut-and-fill material shall be minimized and balanced onsite wherever possible. Larger grading volumes may be acceptable where improved visual and environmental effects would result.*

c) *Residential structures or accessory structures on slopes in access of 20 percent shall be carefully designed through use of erosion controls, engineered grading, and use of post and beam or step-footing construction to ensure long-term slope stability. Benched hillsides for building sites shall be avoided and split-level structures encouraged.*

d) *A plan to minimize impact to oak trees shall be submitted to the El Dorado County Community Development Department prior to approval of any tentative map. The plan will include, at a minimum, the locations and sizes of individual trees that should not be impacted.*

e) *A minimum of 20 percent of all roadside trees and parking lot trees shall be native oaks.*

f) *Removal of oak trees and other large native trees with trunk circumferences of 25 inches at 4.5 feet above grade shall be avoided where feasible. A tree replacement policy is provided in the Design Guidelines on file with the County of El Dorado.*

g) *To avoid damage to root systems of retained trees, residential construction shall not occur within the canopy area of oak trees over 30 inches in circumference at breast height, and shall be subject to review as provided in the Design Guidelines.*

h) *Landscaping in improved common areas shall be of drought-resistant varieties.*

i) *To preserve the vegetative character of the Plan Area, the planting of native trees, shrubs, and ground cover shall be encouraged in all new landscaping.*

j) *Landscaping in areas adjacent to natural open spaces shall be fire resistant.*

k) *Site design, building orientation, and street and lot patterns shall follow solar orientation principles to the maximum extent practicable to maximize energy conservation.*

l) Archaeological test excavations for selected locations within the Plan Area shall be required as a condition of approval of tentative subdivision maps.

m) As part of the tentative map approval, areas having expansive clays and seasonably wet areas shall be identified by a geotechnical engineer. Such areas, if deemed to be potential construction hazards, shall be subject to further evaluation and identification to determine appropriate mitigation measures.

n) To the maximum extent feasible, development shall be sited and designed to avoid impacts to culturally significant sties identified by the Final EIR for the Plan Area as EDH-26 and EDH-29.

o) Where feasible, and given the physical constraints of the Plan Area, subdivisions and other new development shall be designed to facilitate solar use as a means of reducing total energy consumption. The design elements that shall be considered include:

- *Solar orientation*
- *Shade Control*
- *Wind Management*
- *Solar access*

p) The Design Guidelines shall be one of the implementation measures of the Specific Plan.

1.4.1.2 Development Near Native Oak Trees

These guidelines are for the protection of healthy oak trees that will remain after construction in developed areas. The term circumference is breast height (CBH) refers to the trunk measurement of either one trunk or the addition of all trunks in a multi-trunked tree. The respective measure in circumference would also apply. Also refer to **Section 3.10** for Oak Tree Preservation Guidelines.

a) Protect all oak trees larger than 25 inches CBH o the maximum extent feasible. Priority will be given to oaks larger than 56 inches CBH.

b) Trees to be saved will be surrounded by a barrier or fence installed at the dripline and flagged.

c) Pruning of limbs will be confined to low-hanging branches over roads and sidewalks, and large branches that are weak or may reasonably appear to pose a safety hazard. Pruning paint will not be used under any circumstances. Pruning cuts will be made cleanly to avoid damaged to the "bark ridge" tissue of adjacent limbs.

d) The El Dorado County Planning Department will be responsible for enforcement of oak tree protection during construction.

e) In development areas, no oak trees larger than 25 inches CBH will be removed until a site survey and inspection report is performed.

1.4.1.5 Vegetation and Fire Hazards

In areas of planned development:

a) All potentially dry herbaceous vegetation will be mowed or disked within a 50-foot radius of all construction site activity.

b) Disking or mowing will be done to keep herbaceous vegetation under 3 inches in height at all construction sites.

c) No construction equipment or vehicles will be allowed within 50 feet of the unmowed perimeter.

d) Firebreaks will be installed by disking or mowing a trail that is satisfactory to the El Dorado Hills Fire Development. Mowing is preferred to disking or scraping because the latter two practices promote invasion of noxious weed species on fire trails.

e) Temporary or permanent firebreaks will be installed on all ridgelines, crossing all areas in the vicinity of construction and grading activity, prior to beginning work.

f) Firebreak installation will avoid the removal of native oaks and other native trees.

1.4.8 Natural Open Space Policies

The Natural Open Space Policies are to guide the preservation, management, and maintenance of these areas in relation to adjacent land uses.

1.4.8.1 General Policies

a) The boundaries of natural open space shall blend with the boundaries of the development as to enhance the integration of open space and developed areas.

b) Perimeter fencing may be permitted for rural parcels as provided in the El Dorado County Design Guidelines and CC&Rs.

c) Increased runoff from adjacent development will require erosion control measures to be coordinated with landscape design of adjacent development areas. Emphasis shall be placed on methods that rely on natural drainage systems and minimize change to the existing condition of creek channels within open space areas.

d) An Open Space Management Plan shall be completed and submitted to the El Dorado County Community Development Department prior to approval of any tentative map creating open space. It shall be an implementation mechanism of the Specific Plan in order to set forth procedures and responsibilities as to the ownership, preservation, and management of public and private natural open space areas. The Open Space Management Plan shall consider dedication to the County of El Dorado of easements

over the public open space areas, should dedication of fee ownership of these areas be made to any other entity. The open space plan shall be reviewed by the El Dorado Hills Fire Department. The plan shall also include, at a minimum:

1. *The locations of fire access roads, fuel breaks, and passive recreation trails.*
2. *Control burning techniques.*
3. *Guidelines established in the Open Space Guidelines for El Dorado County*
4. *Investigation of opportunities for wildlife use of water in open space areas as a part of ongoing wildlife maintenance.*

1.4.8.2 Riparian and Other Drainageway Policies

A 200-foot-wide undeveloped buffer zone shall be established along Carson Creek in accordance with California Department of Fish and Wildlife requirements. In this buffer, vegetation removal shall be for the purpose of drainage improvements. In consideration of setback reductions for purposes of a gold course, the County shall consider such mitigation measures as additional plantings, erosion controls, and other habitat improvement and protection steps.

a) *Drainageway easements shall specifically preclude erection of structures and vegetation removal, except for drainage improvements, and shall forestall other site development not consistent with the purpose of these areas.*

b) *Drainageways located on privately owned property shall be placed within recorded easements that provide for routine maintenance and pedestrian access.*

c) *A 100-foot-wide buffer (50 feet horizontal on each side as measured from centerline of the creek) of natural vegetation shall be maintained along all intermittent creeks.*

d) *Grazing shall not be allowed in riparian buffer zones.*

e) *Plantings of riparian trees and shrubs shall be situated according to the flood and soil moisture tolerances of individual species as in Appendix C of the Specific Plan.*

f) *Areas disturbed during construction shall be replanted with native riparian species listed in Appendix C of the Specific Plan. Replanting will include a mandatory 3-year maintenance and irrigation period.*

g) *Riparian vegetation on the golf course areas shall be kept naturally dense and unpruned except where needed for crossings, ball pay passages, and personal and fire safety.*

h) *Pedestrian, vehicular, and utility bridges over creeks, if feasible, will be oriented at right angles to the waterway to minimize loss of vegetation.*

i) The capacity of flow under bridges and culverts will be designed to reduce the need for extensive vegetation clearing near the structures.

j) Periodic vegetation removal to ensure adequate floodway capacity in drainages will be performed to promote an overstory of mature individual riparian trees spaced to accommodate designed flows.

El Dorado Hills Community Services District Policies

5.27 Oak Tree Preservation

5.27.3 General Requirements for Development Activity in the Protected Zone of Protected Trees

The importance of oak tree preservation is recognized with tree protection provisions in the Covenants, Conditions, and Restrictions (CC&Rs) of the most units in El Dorado Hills and in County Code 17.73 titled Oak Woodland Conservation prior to initiating any activity that may affect an oak tree on their land or on that of an adjoining property, owners of property in El Dorado Hills should check their CC&Rs carefully to determine whether Design Review Committee (DRC) approval is required.

5.27.4 Removal of Protected Trees

It shall be the policy of the DRC to preserve protected trees wherever feasible while recognizing individual rights to develop private property in a reasonable manner. It shall be the responsibility of the applicant to demonstrate the need for any oak tree removal. In determining whether to approval the removal or major trimming of a protected tree, the DRC will consider the following listed factors and, depending upon particular circumstances, may consider others which are not listed:

a) The degree to which the tree will be an obstacle to approval development activity.

b) The condition of the tree with respect to disease, general health, damage, danger of falling.

c) The effect removal would have upon safety, public health, remaining trees, and the beauty and general welfare of the area.

d) The effect removal would have upon soil stability, erosion, particularly near water courses and on slopes.

e) Present and future shade effect with respect to cooling and solar power/heating.

f) Whether or not there are feasible alternative measures to removal.

g) Applicants may be required to provide an arborist report from an arborist who would not be performing any eventual tree removal or major limbing. Alternatively, and it is discretion the DRC may employ an arborist of its choice.

5.27.5 Protecting Oak Trees During Development Activity

Property owners are responsible for taking the following measures to protect oak trees, except any approval from removal during development activity.

a) *Erect protective orange "ski fencing" around the protected zone of each protected tree or group of trees within 50 feet of development activity prior to initiating work and excluded from the enclosed protected zone any work related activity such as storage and vehicle parking.*

b) *Exert every reasonable effort to preserve undisturbed the natural ground within protected zones.*

c) *If it is absolutely necessary to trench within a protected zone, if boring or drilling would not be feasible, excavate by hand under the supervision of a certified arborist. Do not cut any root larger than two inches in diameter; keep the exposed root moist and cover with soil as quickly as feasible. Sever small roots neatly, trim and cover quickly.*

d) *Make no grade changed within the protected zone unless specifically indicated in the approved plans.*

5.27.6 Mitigation EDHCSD Tree Preservation Fund, Public Education

In the event the owner of property with protected trees removed or significantly damages one or more of them without approval, the DRC, at its discretion, may require mitigation by planting a proportionate number of diameter inches of replacement oak trees on the owner's property or by assessing a fee at the rate of $200 per diameter inch (amount tripled for unapproved removal of a landmark tree) to compensate for the expense of planting a proportionate number of diameter inches of oak trees on public property or by a combination of these alternatives.

In the event the owner of the property with protection trees applies for approval of a protect that will damage protected trees, and the DRC determines they could be reasonably be preserved, the DRC, at its sole discretion, may offer the applicant the option of an approval in exchange for on-site mitigation or payment of a mitigation fee based upon the number of diameter inches that applicant would remove.

Mitigation fees paid by property owners are held by the EDHCSD in a Tree Preservation Fund until used to cover the expense of mitigation planting or for related purposes. It is widely recognized that the loss of oak tree is partly the result of the lack of public awareness on oak preservation. A portion of the funds collected for mitigation may be used to establish and promote educational programs to improve this situation.

Regulatory Status Legend

FE = Federal endangered FT = Federal threatened FC = Federal candidate PT = Federal proposed threatened FPD = Federal proposed for delisting FD = Federal delisted FSC = Federal Species of Concern	CE = California state endangered CT = California state threatened CFP = California fully protected CSC = California Species of Special Concern CSA = California Special Animals List CR = California state rare CC = California candidate	1A = plants presumed extinct in California 1B = plants rare, threatened, or endangered in California and elsewhere 2 = plants rare, threatened, or endangered in California, but common elsewhere 3 = plants about which we need more information 4 = plants of limited distribution

Table 1 — Legally Protected Species

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Plants				
Boggs Lake hedge-hyssop *Gratiola heterosepala*	CE; 1B	Annual herb found on clay soils in vernal pools and along the lake margins of marshes and swamps from 10 to 2,375 meters.	Blooming period: April – August	**None**; the riverine perennial marsh within the Study Area provides marginal habitat for this species. but it was not found during focused protocol surveys during the bloom period (Foothill Associates 2016c).
El Dorado bedstraw *Galium californicum* ssp. *sierrae*	FE; CR; 1B	Perennial herb found on gabbroic substrate in chaparral, cismontane woodland, and lower montane coniferous forest from 100 to 585 meters.	Blooming period: May – June.	**None**; there is no suitable soil for this species within the Study Area.
Layne's butterweed (=ragwort) *Packera layneae*	FT; CR; 1B	Perennial herb found on serpentine or gabbroic, rocky substrate in cismontane woodland or chaparral from 200 to 1,085 meters.	Blooming period: April – August.	**None**; there is no suitable soil for this species within the Study Area.
Legenere *Legenere limosa*	CT; 1B	Annual herb found in vernal pools from 1 to 880 meters.	Blooming period: April – June.	**None**; there is no vernal pool habitat within the Study Area.
Pine Hill ceanothus *Ceanothus roderickii*	FE; CR; 1B	Perennial evergreen shrub found on serpentinite or gabbroic substrate in chaparral or cismontane woodland from 245 to 1,090 meters.	Blooming period: April – June.	**None**; there is no suitable soil for this species within the Study Area.
Pine Hill flannelbush *Fremontodendron decumbens*	FE; CR; 1B	Perennial evergreen shrub found in chaparral and cismontane woodland on rocky gabbroic or serpentinite soils from 425 to 760 meters.	Blooming period: April-July	**None**; there is no suitable soil for this species within the Study Area.
Sacramento orcutt grass *Orcuttia viscida*	FE; CE; 1B	Annual herb found in vernal pools from 30 to 100 meters.	Blooming period: April – September.	**None**; the Study Area does not provide suitable habitat for this species.
Slender orcutt grass *Orcuttia tenuis*	FT; CE; 1B	Annual herb found in vernal pools that are often gravelly, from 35 to 1,760 meters.	Blooming period: May – October.	**None**; the Study Area does not provide suitable habitat for this species.
Stebbins' morning glory *Calystegia stebbinsii*	FE; CE; 1B	Perennial rhizomatous herb found occasionally in openings of chaparral and cismontane woodland on gabbro or serpentinite soils from 185 to 1,090 meters.	Blooming period: April – July.	**None**; there is no suitable soil for this species within the Study Area.
Invertebrates				
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT	Blue elderberry shrubs usually associated with riparian areas.	Adults emerge in spring until June. Exit holes visible year – round.	**Low**; small elderberry shrubs were observed in the Study Area but no exit holes were observed.
Vernal pool fairy shrimp *Branchinecta lynchi*	FT	Vernal pools, swales, and ephemeral freshwater habitat.	USFWS protocol-level wet-season sampling and/or dry season cyst identification.	**None**; the Study Area does not provide suitable habitat for this species.
Vernal pool tadpole shrimp *Lepidurus packardi*	FE	Vernal pools, swales, and ephemeral freshwater habitat.	USFWS protocol-level wet-season sampling and/or dry season cyst identification.	**None**; the Study Area does not provide suitable habitat for this species.
Fish				
Central Valley steelhead *Oncorhynchus mykiss*	FT	Rivers and streams tributary to the Sacramento-San Joaquin Rivers and Delta ecosystems.	Spawn in winter and spring.	**None**; the Study Area does not provide suitable habitat for this species.
Delta smelt *Hypomesus transpacificus*	FT; CE	Found in estuarine waters. Majority of life span is spent within the freshwater outskirts of the mixing zone (saltwater-freshwater interface) within the Delta.	December – July (Spawn) Year-round (Present in delta)	**None**; the Study Area does not provide suitable habitat for this species.
Amphibians/ Reptiles				
California red-legged frog *Rana draytonii*	FT; CSC	Requires a permanent water source and is typically found along quiet, slow-moving streams, ponds, or marsh communities with emergent vegetation. Believed extirpated from the Central Valley floor since 1970s.	Aquatic surveys of breeding sites between January and September. Optimally after April 15.	**None**; the riverine perennial marsh and perennial drainage within the Study Area provide marginal habitat for this species, but no evidence of CRLF was observed during protocol breeding and non-breeding surveys (Foothill Associates 2016a).
California tiger salamander *Ambystoma californiense*	FT; CT	Required ponded water for breeding. Adults spend summer in small mammal burrows. This species is not known to occur within El Dorado County. There are no recorded instances of CTS north of the Cosumnes River and east of the Sacramento River despite extensive surveys.	March – June	**None**; the Study Area occurs outside of the known extant geographic range for this species.
Foothill yellow-legged frog *Rana boylii*	CC	Typically found in shaded, shallow, slow moving streams or channels with rocky or muddy bottoms. Typically stays within ~150' of water.	Breeds from mid-March to early June. Most active diurnally. Hibernates and aestivates.	**Low**; perennial drainage provides potential habitat for this species, but there are no known occurrences within 5 miles.

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Giant garter snake *Thamnophis gigas*	FT; CT	Found in agricultural wetlands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands. Upland habitat should have burrows or other soil crevices suitable for snakes to reside during their dormancy period (November – mid March). This species is known from Sacramento, Sutter, Butte, Colusa, and Glenn counties.	Active outside of dormancy period November-mid March	**None**; the Study Area occurs outside of the known geographic range for this species.
Birds				
Bald eagle *Haliaeetus leucocephalus*	FD; CFP, CE	Breeding habitat most commonly includes areas within 2.5 miles (4.0 kilometers) of coastal areas, bays, rivers, lakes, and reservoirs. Nests usually are in tall trees or on pinnacles or cliffs near water.	Winter	**None**; there is no potential habitat for this species within the Study Area.
Bank swallow *Riparia*	CT	Nests in riverbanks and forages over riparian areas and adjacent uplands.	April – July	**None**; there is no potential nesting habitat for this species within the Study Area.
California black rail *Laterallus jamaicensis coturniculus*	CT	Saltwater, brackish, and freshwater marshes that remain shallowly inundated year-round.	Year – round	**None**; the Study Area occurs outside of the geographical range for this species.
Golden eagle *Aquila chrysaetos*	CFP (nesting and wintering)	Open and semi-open areas up to 12,000 feet in elevation. Builds large stick nests on cliffs, in trees, or on man-made structures.	Year – round	**Low**; although the Study Area provides foraging habitat, there is no breeding habitat present within the Study Area and no nests have been observed.
Swainson's hawk *Buteo swainsoni*	CT	Nest peripherally to Valley riparian systems lone trees or groves of trees in agricultural fields. Valley oak, Fremont cottonwood, walnut, and large willow trees, ranging in height from 41 to 82 feet, are the most commonly used nest trees in the Central Valley.	March – October	**None**; the Study Area occurs outside of the known geographical range for this species.
Tricolored blackbird *Agelaius tricolor*	CC; CSC (nesting colony)	Nests in dense blackberry, cattail, tules, bulrushes, sedges, willow, or wild rose within freshwater marshes. Nests in large colonies of at least 50 pairs (up to thousands of individuals). May forage up to 4 miles from nest site.	Year – round	**Low**; the riverine perennial marsh is not large enough to support breeding colonies, but colonies are recorded within 4 miles of the Study Area so the area may be used for foraging.
White-tailed kite *Elanus leucurus*	CFP (nesting)	Nests in isolated trees or woodland areas with suitable open foraging habitat.	February 15 – August 31	**High**; the riparian habitat and isolated trees within the annual grassland provide breeding habitat for this species.
Mammals				
Fisher *Martes pennanti*	PT; CSC	Occurs in intermediate to large-tree stages of coniferous and deciduous forests.	Year – round	**None**; there is no habitat for this species within the Study Area.

Table 1 includes federal threatened or endangered species and eagles, and State threatened, endangered, or fully protected species.

Table 2 — Species Subject to CEQA Review

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Plants				
Ahart's dwarf rush *Juncus leiospermus* var. *ahartii*	1B	Annual herb found in mesic areas in valley and foothill grasslands from 30 to 229 meters.	Blooming period: April – August.	**None**; the Study Area does not provide habitat for this species.
Big-scale balsamroot *Balsamorhiza macrolepis*	1B	Perennial herb found in chaparral, cismontane woodland, valley and foothill grassland, sometimes on serpentinite soils from 90 to 1,555 meters in elevation.	Blooming period: March – June	**None**; the annual grassland within the Study Area provides marginal habitat for this species. but it was not found during focused protocol surveys during the bloom period (Foothill Associates 2016c).
chaparral sedge *Carex xerophila*	1B	Perennial herb found on gabbroic or serpentine soils in chaparral, woodlands, and coniferous forest between 440 and 770 meters.	Blooming period: March – June	**None**; there is no suitable soil for this species within the Study Area.
Dwarf downingia *Downingia pusilla*	2	Annual herb found occasionally in mesic areas within valley and foothill grassland and vernal pools from 1 to 445 meters.	Blooming period: March – May.	**None**; the annual grassland within the Study Area provides marginal habitat for this species. but it was not found during focused protocol surveys during the bloom period (Foothill Associates 2016c).
El Dorado bedstraw *Galium californicum* ssp. *sierrae*	FE; CR; 1B	Perennial herb found on gabbroic substrate in chaparral, cismontane woodland, and lower montane coniferous forest from 100 to 585 meters.	Blooming period: May – June.	**None**; there is no suitable soil for this species within the Study Area.
Jepson's onion *Allium jepsonii*	1B	Perennial bulbiferous herb found on serpentine or volcanic soils in chaparral, lower montane coniferous forest, and cismontane woodland from 300 to 1,320 meters.	Blooming period: April – August.	**None**; there is no suitable soil for this species within the Study Area.
Parry's horkelia *Horkelia parryi*	1B	Perennial herb found on Ione formation in chaparral and cismontane woodland from 80 to 1,070 meters.	Blooming period: April – September	**None**; there is no suitable soil for this species within the Study Area.
Pincushion navarretia *Navarretia myersii*	1B	Annual herb found in vernal pools, which are often acidic, from 20 to 330 meters.	Blooming period: April – May.	**None**; there is no vernal pool habitat within the Study Area.
Red Hills soaproot *Chlorogalum grandiflorum*	1B	Perennial bulbiferous herb found on gabbro, serpentine, or other soils in chaparral, cismontane woodland, and lower montane coniferous forest from 245 to 1,240 meters.	Blooming period: May - June	**None**; original site surveys were conducted within the evident and identifiable bloom period for this species and this species was not observed within the Study Area.
Sanford's arrowhead *Sagittaria sanfordii*	1B	Perennial rhizomatous herb found in marshes and swamps in assorted shallow freshwater areas from 0 to 650 meters.	Blooming period: May – October.	**None**; the riverine perennial marsh within the Study Area provides marginal habitat for this species. but it was not found during focused protocol surveys during the bloom period (Foothill Associates 2016c).
Starved daisy *Erigeron miser*	1B	Perennial herb found on rocky ground in upper montane coniferous forest from 1,840 to 2,620 meters.	Blooming period: June – October.	**None**; the Study Area does not provide habitat for this species and is outside the known elevational range.
Tuolumne button-celery *Eryngium pinnatisectum*	1B	Annual to perennial herb found in mesic areas in cismontane woodland, lower montane coniferous forest, and vernal pools from 70 to 915 meters.	Blooming period: May – August	**None**; original site surveys were conducted within the evident and identifiable bloom period for this species and this species was not observed within the Study Area.
Amphibians/ Reptiles				
Blainville's (Coast) horned lizard *Phrynosoma blainvillii*	CSC	Inhabits open areas of sandy soils and low vegetation in valleys, foothills, and semiarid mountains. Found in grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose sandy soil. Often found in lowlands along sandy washes with scattered shrubs and along dirt roads, and frequently found near ant hills.	Year – round (excluding extended periods of low temperatures or extreme heat).	**Low**; the Study Area provides marginal habitat within the annual grassland. However, the Study Area lacks suitable sandy washes and low scattered bushes or shrubs.
Western pond turtle *Emys marmorata*	CSC	Agricultural wetlands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands.	Active outside of dormancy period November – February	**High**; the perennial drainage and riverine perennial marsh within the Study Area provide habitat for this species.
Western spadefoot *Spea hammondii*	CSC	Found in open grasslands and woodlands. Breeds in seasonal ponds and vernal pools.	Year – round	**Low**; there is minimal potential breeding habitat for this species in the Study Area in the depressional seasonal wetlands.

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Birds				
Burrowing owl *Athene cunicularia*	CSC (burrow sites and some wintering sites)	Nests in burrows in the ground, often in old ground squirrel burrows or badger, within open dry grassland and desert habitat. The burrows are found in dry, level, open terrain, including prairie, plains, desert, and grassland with low height vegetation for foraging and available perches, such as fences, utility poles, posts, or raised rodent mounds.	Year – round; Breeding season surveys between March and August.	**Low**; the annual grassland within the Study Area provides potential habitat for this species, however, few burrows that could be occupied by this species was observed and this species was not observed during the protocol level surveys conducted within the Study Area.
Cooper's hawk *Accipiter cooperii*	CSA (Nesting)	Found in cismontane woodland, riparian forest, riparian woodland, and upper montane coniferous forest.	Year – round	**Low;** the woodlands on site provide potential nesting and foraging habitat.
Double crested cormorant *Phalacrocorax auritus*	CSA (Nesting colony)	Breeds on ponds, lakes, artificial impoundments, slow-moving rivers, lagoons, estuaries, and open coastlines.	Migrate and winter non-breeding.	**None;** there is no suitable nesting habitat in the Study Area.
Ferruginous hawk *Buteo regalis*	CSA (Wintering)	Overwintering occurs in grasslands or deserts with abundant prey species (rabbits, pocket gophers, or prairie dogs).	Wintering	**Low**; the annual grassland habitat within the Study Area provides habitat for this species.
Grasshopper sparrow *Ammodramus savannarum*	CSC	Frequents dense, dry, or well drained grassland, especially native grassland. Nests at base of overhanging clump of grass.	April – July	**Low**; the annual grassland habitat within the Study Area provides habitat for this species.
Great blue heron *Ardea herodias*	CSA (Nesting colony)	Inhabits both freshwater and saltwater habitats and forages in grassland and agricultural field. Breeding colonies are located within 2 to 4 miles of feeding areas, often in isolated swamps or on islands, and near lakes and ponds bordered by forests.	Year – round	**None;** there is no suitable nesting habitat in the Study Area.
Great egret *Ardea alba*	CSA (Nesting colony)	Nests in colonies in large trees usually near water. Nesting colonies must be relatively isolated from human activities. Forages in shallow water in a variety of habitats.	Year – round	**None;** there is no suitable nesting habitat in the Study Area.
Merlin *Falco columbarius*	CSA (Wintering)	Winter in open and semi-open habitats that include estuaries, Great Basin grassland, and valley and foothill grasslands.	Wintering	**Low**; the annual grassland habitat within the Study Area provides habitat for this species.
Osprey *Pandion haliaetus*	CSA	Found in a variety of habitats nearby water sources.	Breeding	**None**; the Study Area does not provide suitable habitat for this species.
Purple martin *Progne subis*	CSC	Often nests in tall, old trees near body of water in woodland and conifer habitats. Feed in open areas near water and nest in tree cavities.	Year – round	**Low**; the Study Area does provide potential nesting habitat for this species.
Mammals				
American badger *Taxidea taxus*	CSC	Found in a variety of grasslands, shrublands, and open woodlands throughout California.	Year – round	**Low**; the annual grassland within the Study Area provides habitat, however, very few burrows that could be utilized by this species are present within the Study Area.
Pallid bat *Antrozous pallidus*	CSC	Most abundant in oak woodland, savannah, and riparian habitats. Roosts in crevices and hollows in trees, rocks, cliffs, bridges, and buildings.	Year – round	**Low**; the trees within the riparian habitat and isolated trees within the annual grassland provide roosting habitat for this species.
Silver-haired bat *Lasionycteris noctivagans*	CSA	Forests near water. Roosts in hollow trees, snags, buildings, rock crevices, caves, and under bark. Forages in ~300' home range over water and open brushy areas.	Dusk between spring and fall.	**Low**; there is marginal habitat in the woodlands for this species on the Study Area

Table 2 includes state and federal species of concern and Rank 1 and 2 CNPS species.

Table 3 — Other Species of Interest

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Plants				
Bisbee Peak rush-rose *Crocanthemum suffrutescens*	3.2	Perennial evergreen shrub often found on gabbroic or lone soil and often in burned or disturbed areas within chaparral from 75 to 670 meters.	Blooming period: April – August.	**None**; the Study Area does not provide habitat for this species.
Brandegee's clarkia *Clarkia biloba* ssp. *brandegeeae*	4	Annual herb found often in roadcuts within chaparral, cismontane woodland, and lower montane coniferous forest from 75 to 915 meters.	Blooming period: May – July.	**None**; the woodlands within the Study Area provide marginal habitat for this species. but it was not found during focused protocol surveys during the bloom period (Foothill Associates 2016c).
Brewer's calandrinia *Calandrinia breweri*	4	Annual herb found on sandy or loamy, disturbed sites and burns within chaparral and coastal scrub from 10 to 1,220 meters.	Blooming period: March – June.	**None**; the Study Area does not provide habitat for this species.
Fresno ceanothus *Ceanothus fresnensis*	4	Perennial evergreen shrub found occasionally in openings of cismontane woodland and lower montane coniferous forest from 900 to 2,103 meters.	Blooming period: May – July.	**None**; the Study Area occurs outside of the known elevation range for this species.
Hernandez bluecurls *Trichostema rubisepalum*	4	Annual herb found on volcanic or serpentinite, gravelly substrate within broad-leafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and vernal pools from 300 to 1,435 meters.	Blooming period: June – August.	**None**; there is no suitable soil for this species within the Study Area.
Humboldt lily *Lilium humboldtii* ssp. *humboldtii*	4	Perennial bulbiferous herb found in openings of chaparral, cismontane woodland, and lower montane coniferous forest from 90 to 1,280 meters.	Blooming period: May – July.	**None**; the woodlands within the Study Area provide marginal habitat for this species. but it was not found during focused protocol surveys during the bloom period (Foothill Associates 2016c).
Jepson's woolly sunflower *Eriophyllum jepsonii*	4	Perennial herb sometimes found on serpentinite substrate within chaparral, cismontane woodland, and coastal scrub from 200 to 1,025 meters.	Blooming period: April – June.	**None**; the Study Area does not contain the soils required for this species.
Sanborn's onion *Allium sanbornii* var. *sanbornii*	4	Perennial bulbiferous herb usually found on serpentinite, gravelly substrate within chaparral, cismontane woodland, and lower montane coniferous forest from 260 to 1,510 meters.	Blooming period: May – September.	**None**; there is no suitable soil for this species within the Study Area.
Streambank spring beauty *Claytonia parviflora* ssp. *grandiflora*	4	Annual herb found on rocky substrate within cismontane woodland from 250 to 1,200 meters.	Blooming period: February – May.	**None**; the Study Area does not provide habitat for this species and is outside of the known elevational range.
Invertebrates				
Alabaster Cave harvestman *Banksula californica*	CSA	Found in caves in the Sierra Nevada.	Year-round	**None**; there is no suitable habitat for this species in the Study Area.
Blennosperma vernal pool andrenid bee *Andrena blennospermaties*	CSA	Found in upland areas near vernal pools; dependent on populations of blennosperma flowers. Slender, dark-olive green bees with pale apical bands on the dorsum of the abdominal segments; females measure 8.5-9.5 mm, males 7-8 mm.	Year-round	**None**; there is no suitable habitat for this species in the Study Area.
California linderiella *Linderiella occidentalis*	CSA	Inhabits vernal pools, swales, and ephemeral freshwater habitat.	Wet-season sampling and/or dry season cyst identification.	**None**; the seasonal swales in the Study Area provide marginal habitat, but the Study Area is outside the locally recorded range of the species.
Cosumnes Stripetail *Cosumnoperla hypocrena*	CSA	Freshwater intermittent streams in the American River and Cosumnes River basins between 300 and 1500 meters.	Year – round	**None**; the Study Area is outside the geographic range of the species.
Hairy Water flea *Dumontia oregonensis*	CSA	Vernal pools, seasonal pools, and streams from Jackson County, Oregon to Sacramento and Solano Counties in California.	Wet Season	**None**; the Study Area is outside the geographic range of the species.
Mid-valley fairy shrimp *Branchinecta mesovallensis*	CSA	Inhabits vernal pools, swales, and ephemeral freshwater habitat.	Wet-season sampling and/or dry season cyst identification.	**None**; the Study Area is outside the geographic range of the species.
Ricksecker's water scavenger beetle *Hydrochara ricksecker*i	CSA	A small aquatic beetle known from pond habitats in the San Francisco Bay Area.	Year-round	**None**; there is no habitat for this species within the Study Area.
Western bumble bee *Bombus occidentalis*	CSA	Generally, nests underground in abandoned rodent burrows and bird nests. Forages on a wide variety of flowers. Found in Coast range north of Monterey County, Sierra mountain range north of Tuolumne County, and around the delta region of Contra Costa County.	New colonies established in spring. Overwinter in shallow burrows.	**None**; the Study Area is outside the geographic range of the species.

Table 3 includes Rank 3 and 4 CNPS species and non-listed invertebrates, which may not be subject to CEQA review.

Appendix C — Plants and Wildlife Observed in the Study Area

Appendix C
Wildlife Observed in the Study Area

Species	Common Name
Birds	
Agelaius phoeniceus	Red-winged blackbird
Buteo jamaicensis	Red-tailed hawk
Callipepla californica	California quail
Carpodacus mexicanus	House finch
Cathartes aura	Turkey vulture
Euphagus cyanocephalus	Brewer's blackbird
Falco sparverius	American kestrel
Melanerpes formicivorus	Acorn woodpecker
Meleagris gallopavo	Wild turkey
Sayornis nigricans	Black phoebe
Sturnella neglecta	Western meadowlark
Sturnus vulgaris	European starling
Zenaida macroura	Mourning dove
Mammals	
Microtus agrestis	Vole
Lepus californicus	Black-tailed jackrabbit
Plestiodon skiltonianus	Western skink
Sceloporus occidentalis	Western fence lizard
Sylvilagus sp.	Cottontail rabbit

Appendix C
Plants Observed in the Study Area

Genus	Species	Common Name	Wetland Indicator Status
Adoxaceae	*Sambucus nigra* ssp. caerulea	Blue elderberry	FACU
Apiaceae	*Eryngium vaseyi*	Coyote-thistle	FACW
Apocynaceae	*Asclepias fascicularis*	Mexican whorled milkweed	FAC
Asteraceae	*Anaphalis margaritacea*	Pearly everlasting	FACU
Asteraceae	*Artemisia douglasiana*	California mugwort	FAC
Asteraceae	*Baccharis pilularis*	Coyote brush	NI
Asteraceae	*Carduus pycnocephalus* ssp. pycnocephalus	Italian thistle	NI
Asteraceae	*Holocarpha virgata*	Tarweed, tarplant	NI
Asteraceae	*Hypochaeris glabra*	Smooth cat's ear	NI
Asteraceae	*Lactuca serriola*	Prickly lettuce	FACU
Asteraceae	*Silybum marianum*	Milk thistle	NI
Boraginaceae	*Amsinckia menziesii*	Fiddleneck	NI
Boraginaceae	*Phacelia cicutaria*	Phacelia	NI
Boraginaceae	*Plagiobothrys fulvus*	Common popcornflower	NI
Brassicaceae	*Brassica napus*	Swede rape, rapeseed	NI
Brassicaceae	*Brassica nigra*	Black mustard	NI
Caryophyllaceae	*Spergularia bocconi*	Boccon's sand spurry	FACW
Cyperaceae	*Cyperus eragrostis*	Nutsedge	FACW
Cyperaceae	*Eleocharis macrostachya*	Spikerush	OBL
Cyperaceae	*Schoenoplectus acutus* var. occidentalis	Tule	OBL
Euphorbiaceae	*Croton setiger*	Turkey-mullein	NI
Fabaceae	*Trifolium hirtum*	Rose clover	NI
Fagaceae	*Quercus lobata*	Valley oak	FACU
Fagaceae	*Quercus wislizeni*	Interior live oak	NI
Gentianaceae	*Zeltnera muehlenbergii*	Muehlenberg's centaury	FAC
Geraniaceae	*Erodium botrys*	Broadleaf filaree	FACU
Geraniaceae	*Erodium cicutarium*	Cutleaf filaree	NI
Geraniaceae	*Geranium molle*	Crane's bill geranium	NI
Hypericaceae	*Hypericum perforatum*	St. John's wort	FACU
Lamiaceae	*Mentha pulegium*	Pennyroyal	OBL
Marsileaceae	*Pilularia americana*	American pillwort	OBL
Moraceae	*Ficus carica*	Edible fig	FACU
Myrsinaceae	*Lysimachia arvensis*	Scarlet pimpernel	FAC
Onagraceae	*Epilobium ciliatum*	Northern willow herb	FACW
Papaveraceae	*Eschscholzia californica*	California poppy	NI
Papaveraceae	*Eschscholzia casespitosa*	Foothill poppy	NI
Poaceae	*Aira caryophyllea*	Silver hair grass	FACU
Poaceae	*Avena fatua*	Wild oat	UPL
Poaceae	*Bromus diandrus*	Ripgut grass	NI
Poaceae	*Bromus hordeaceus*	Soft chess	FACU
Poaceae	*Deschampsia danthonioides*	Annual hair grass	FACW
Poaceae	*Elymus caput-medusae*	Medusa head	NI
Poaceae	*Festuca bromoides*	Brome fescue	FACU
Poaceae	*Festuca perennis*	Rye grass	FAC
Poaceae	*Hordeum murinum*	Foxtail	FACU
Poaceae	*Polypogon monspeliensis*	Annual beard grass, rabbitfoot grass	FACW
Poaceae	*Stipa pulchra*	Purple needle grass	NI
Poaceae	*Vulpia myuros*	Foxtail fescue	FACU
Polygonaceae	*Persicaria lapathifolia*	Common knotweed	FACW
Polygonaceae	*Rumex crispus*	Curly dock	FAC
Rosaceae	*Rubus armeniacus*	Himalayan blackberry	FAC
Salicaceae	*Populus fremontii* ssp. fremontii	Alamo or Fremont cottonwood	NI
Salicaceae	*Salix* sp.	Willow	FACW
Scrophulariaceae	*Verbascum blattaria*	Moth mullein	UPL
Sonchus	*Sonchus asper*	Sow thistle, prickly sow thistle	FAC
Themidaceae	*Brodiaea elegans* ssp. elegans	Harvest brodiaea	FACU
Typhaceae	*Typha angustifolia*	Narrow-leaved cattail	OBL
Typhaceae	*Typha latifolia*	Common cattail, broadleaf cattail	OBL
Vicia	*Vicia villosa*	Hairy vetch	NI

Biological Resources Assessment

±34-Acre El Dorado Hills 52
El Dorado County, California

Prepared for:

EDH 52, GP

October 6, 2017

Prepared by:

FOOTHILL ASSOCIATES

© 2017

TABLE OF CONTENTS

1.0 Introduction 1
1.1. Project Description 1
2.0 Regulatory Framework 2
2.1. Federal Regulations 2
2.1.1. Federal Endangered Species Act 2
2.1.2. Migratory Bird Treaty Act 2
2.1.3. The Bald and Golden Eagle Protection Act 2
2.2. State Jurisdiction 3
2.2.1. California Endangered Species Act 3
2.2.2. California Department of Fish and Game Codes 3
2.2.3. Native Plant Protection Act 3
2.3. Jurisdictional Waters 3
2.3.1. Federal Jurisdiction 3
2.3.2. State Jurisdiction 5
2.4. CEQA Significance 5
2.4.1. California Native Plant Society 6
2.4.2. California Department of Fish and Wildlife Species of Concern 7
2.5. El Dorado County Policies and Regulations 7
2.5.1. El Dorado County General Plan 7
2.5.2. El Dorado Hills Specific Plan 7
2.5.3. El Dorado County Tree Ordinance 8
2.6. El Dorado Hills Community Services District Policies 8
3.0 Methods 9
4.0 Results 11
4.1. Site Location and Description 11
4.2. Physical Features 11
4.2.1. Topography and Drainage 11
4.2.2. Soils 11
4.3. Biological Communities 11
4.3.1. Annual Grassland 12
4.3.2. Riparian Woodland 12

4.3.3. Valley Oak Woodland 12
4.3.4. Seasonal Wetland 12
4.3.5. Perennial Marsh 13
4.3.6. Disturbed/ Developed 13
4.4. Special-Status Species 13
4.4.1. Listed and Special-Status Plants 14
4.4.2. Listed and Special-Status Wildlife 14
4.5. Sensitive Habitats 18
4.5.1. Potential Jurisdictional Waters of the U.S. and State 18
4.5.2. Riparian Habitat 18
4.5.3. Oak Trees and Oak Woodlands 18
4.5.4. Purple Needlegrass 19
4.6. Wildlife Migration Corridors and Important Biological Corridors 19
5.0 Conclusions and Recommendations 20
5.1. Special-Status Plant Species 20
5.2. Valley Elderberry Longhorn Beetle 20
5.3. Western Pond Turtle 21
5.4. Blainville's Horned Lizard 21
5.5. Foothill Yellow-Legged Frog 22
5.6. Western Spadefoot 22
5.7. Golden Eagle 23
5.8. Tricolored Blackbird 23
5.9. Burrowing Owl 23
5.10. Other Raptors and Migratory Birds 23
5.11. American Badger 24
5.12. Special-Status Bat Species 25
5.13. Sensitive Habitats 25
5.13.1. Jurisdictional Waters 25
5.13.2. Oak Woodlands 26
5.13.3. Riparian Habitats 26
5.13.4. Purple Needlegrass Grassland 26
5.14. Summary of Avoidance and Minimization Measures 26
6.0 References 28

List of Figures

Figure 1 — Site and Vicinity 32
Figure 2 — Soils 33
Figure 3 — Biological Communities 34
Figure 4— Annual Grassland for Golden Eagle Foraging Habitat within the Vicinity of the Study Area 35

List of Appendices

Appendix A — Selected General and Specific Plan Policies
Appendix B — Regionally Occurring Listed and Special-Status Species
Appendix C — Plants and Wildlife Observed in the Study Area

Executive Summary

Foothill Associates' biologists conducted a biological resources assessment (BRA) and focused surveys for western burrowing owl, special-status plants, and California red-legged frog on the El Dorado Hills 52 Study Area located within El Dorado County, California. The purpose of this BRA is to summarize the general biological resources on the Study Area, to assess the suitability of the Study Area to support special-status species and sensitive habitat types, to summarize the results of various focused surveys, and to provide recommendations for regulatory permitting or further analysis that may be required prior to development activities occurring on the Study Area.

The El Dorado Hills 52 Study Area (Study Area) consists of ±34 acres of land that is primarily annual grassland. The Study Area is bifurcated by Silva Valley Parkway. A former home site is located on the southern portion of the property and a large part of the northern portion was used to stockpile soil during the construction of the adjacent Silva Valley Parkway – U.S. Highway 50 Interchange Project. Land uses surrounding the Study Area include an elementary school, residences, and U.S. Highway 50.

Known or potential biological constraints within the Study Area include:

- Potential habitat for special-status plant species;
- Potential habitat for valley elderberry longhorn beetle;
- Potential habitat for western pond turtle;
- Potential habitat for Blainville's horned lizard;
- Potential habitat for foothill yellow-legged frog;
- Potential habitat for western spadefoot;
- Potential foraging habitat for golden eagle;
- Potential foraging habitat for tricolored blackbird;
- Potential habitat for burrowing owl;
- Potential nesting sites and foraging habitat for raptors and other birds;
- Potential habitat for American badger;
- Potential habitat for special-status bat species including pallid bat and silver-haired bat; and
- Sensitive habitats, including potentially jurisdictional waters of the U.S. (seasonal wetlands, perennial marsh, and ephemeral and perennial drainages), riparian habitat, valley oak woodland, and purple needlegrass grassland.

1.0 INTRODUCTION

This report summarizes the findings of a BRA, focused surveys for burrowing owl, California red-legged frog, and special-status plants and an aquatic resources delineation completed for the ±34-acre El Dorado Hills 52 Study Area, located within El Dorado County, California. This document addresses the onsite physical features, as well as plant communities present and the common plant and wildlife species occurring, or potentially occurring, in the Study Area. Furthermore, the suitability of habitats to support special-status species and sensitive habitats are analyzed and recommendations are provided for any regulatory permitting or further analysis required prior to development activities occurring on the Study Area.

1.1. Project Description

Development proposed within the Study Area will ultimately result in the development of approximately 32-acres of commercial development. The northern portion of the Study Area is approximately 17.07 acres (North Site) and the southern portion is approximately 15.73 acres (South Site), net of the right-of-way for roads. Development is designed to allow either the North Site or the South Site to develop independent from the other. Proposed improvements will include construction of commercial buildings and associated parking, utilities, and storm water management facilities as well as multiple points of access, and a new traffic signal on Silva Valley Parkway. Ancillary amenities include pedestrian walkways, bicycle parking, signage and lighting and landscaping. A 7.69-acre area within the North Site is dedicated right-of-way associated with the future extension of Country Club Drive. A 1.38-acre open space area west of Old Silva Valley Road will not be developed.

2.0 REGULATORY FRAMEWORK

Federal, State, and local environmental laws, regulations, and policies relevant to the California Environmental Quality Act (CEQA) review process are summarized below. The CEQA significance criteria are also included in this section.

2.1. Federal Regulations

2.1.1. Federal Endangered Species Act

The U.S. Congress passed the Federal Endangered Species Act (FESA) in 1973 to protect those species that are endangered or threatened with extinction. FESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

FESA prohibits the "take" of endangered or threatened wildlife species. "Take" is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (FESA Section 3 [(3) (19)]). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 CFR §17.3). Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR §17.3). Actions that result in take can result in civil or criminal penalties.

In the context of the proposed project, FESA consultation with the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS) would be initiated if development resulted in take of a threatened or endangered species or if issuance of a Section 404 permit or other federal agency action could result in take of an endangered species or adversely modify critical habitat of such a species.

2.1.2. Migratory Bird Treaty Act

Raptors (birds of prey), migratory birds, and other avian species are protected by a number of State and federal laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior.

2.1.3. The Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (Eagle Act) prohibits the taking or possession of and commerce in bald and golden eagles with limited exceptions. Under the Eagle Act, it is a violation to "*take, possess, sell, purchase, barter, offer to sell, transport, export or import, at any time or in any manner, any bald eagle commonly known as the American eagle, or golden eagle, alive or dead, or any part, nest, or egg, thereof*." Take is defined to include pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, and disturb. Disturb is further defined in 50 CFR Part 22.3 as "*to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available (1) injury to*

an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

2.2. State Jurisdiction

2.2.1. California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA is similar to the FESA but pertains to State-listed endangered and threatened species. CESA requires state agencies to consult with the California Department of Fish and Wildlife (CDFW), when preparing CEQA documents. The purpose is to ensure that the State lead agency actions do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available (Fish and Game Code §2080). CESA directs agencies to consult with CDFW on projects or actions that could affect listed species, directs CDFW to determine whether jeopardy would occur and allows CDFW to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. CESA allows CDFW to authorize exceptions to the State's prohibition against take of a listed species if the "take" of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (Fish & Game Code § 2081).

2.2.2. California Department of Fish and Game Codes

A number of species have been designated "fully protected" species under Sections 5515, 5050, 3511, and 4700 of the Fish and Game Code, but are not listed as endangered (Section 2062) or threatened (Section 2067) species under CESA. Except for take related to scientific research, all take of fully protected species is prohibited. The California Fish and Game Code defines take as "*hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.*" Additionally, Section 3503 of the California Fish and Game Code prohibits the killing of birds or the destruction of bird nests.

2.2.3. Native Plant Protection Act

The Native Plant Protection Act (NPPA), enacted in 1977, allows the Fish and Game Commission to designate plants as rare or endangered. There are 64 species, subspecies, and varieties of plants protected under the NPPA. The NPPA prohibits take of endangered or rare native plants, with some exceptions for agricultural and nursery operations and emergencies. Vegetation removal from canals, roads, and other sites, changes in land use, and certain other situations require proper advance notification to CDFW.

2.3. Jurisdictional Waters

2.3.1. Federal Jurisdiction

The U.S. Army Corps of Engineers (Corps) regulates discharge of dredge or fill material into waters of the U.S. under Section 404 of the Clean Water Act (CWA). "Discharges of fill material"

is defined as the addition of fill material into waters of the U.S., including, but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §328.2(f)].

Waters of the U.S. include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows. Boundaries between jurisdictional waters and uplands are determined in a variety of ways depending on which type of waters is present. Methods for delineating wetlands and non-tidal waters are described below.

- Wetlands are defined as "*those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions*" [33 C.F.R. §328.3(b)]. Presently, to be a wetland, a site must exhibit three wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology existing under the "normal circumstances" for the site.
- The lateral extent of non-tidal waters is determined by delineating the ordinary high-water mark (OHWM) [33 C.F.R. §328.4(c)(1)]. The OHWM is defined by the Corps as "*that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas*" [33 C.F.R. §328.3(e)].

An aquatic feature is determined to be a water of the U.S. based on nexus with a traditionally navigable water pursuant to the Supreme Court's decision in the consolidated cases *Rapanos v. United States* and *Carabell v. United States* (126 S. Ct. 2208) and agency guidance subsequent to this decision. Under these rules, the Corps asserts jurisdiction over wetlands adjacent to traditional navigable waters, relatively permanent non-navigable tributaries (i.e., waters that have a continuous flow at least three months out of the year), and wetlands that abut relatively permanent tributaries. The Corps determines jurisdiction over waters that are non-navigable tributaries that are not relatively permanent, and wetlands adjacent to these tributaries, by making a determination whether such waters "significantly affect the chemical, physical, and biological integrity of other jurisdictional waters more readily understood as "navigable." Finally, the Corps generally does not consider the following to be "waters of the United States": swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent or short duration flow) and ditches "wholly in and draining only uplands…which do not carry a relatively permanent flow of water." Navigable waters of the United States are defined as waters that have been used in the past, are now used, or are susceptible to use as a means to transport interstate or foreign commerce up to the head of navigation.

2.3.2. State Jurisdiction

Regional Water Quality Control Boards

Discharges of fill or waste material to waters of the State are regulated by the State Water Resources Control Board (SWRCB) through its Regional Water Quality Control Boards (RWQCB) under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act (contained in the California Water Code). All waters of the U.S. are also considered waters of the State. In addition, other aquatic features that are not subject to Corps' jurisdiction, such as roadside ditches or isolated wetlands, may be considered waters of the State. This determination will be made by RWQCB staff on a case-by-case basis.

Section 401 of the CWA requires an applicant to obtain "water quality certification" to ensure compliance with State water quality standards before certain federal licenses or permits may be issued. Section 13260(a) of the Porter-Cologne Water Quality Control Act requires any person discharging waste, including dredged or fill material, or proposing to discharge waste, other than to a community sewer system, within any region that could affect the quality of the waters of the State (all surface and subsurface waters) to file a report of waste discharge. The permits subject to Section 401 include CWA Section 404 permits issued by the Corps. Waste discharge requirements under the Porter-Cologne Water Quality Control Act were typically waived for projects that required certification. Discharges to waters of the State that are not subject to a CWA Section 404 permit rely on the report of waste discharge process.

California Department of Fish and Wildlife

The CDFW is a trustee agency that has jurisdiction under Section 1600 *et seq.* of the California Fish and Game Code. Under Sections 1602 and 1603, a private party must notify CDFW if a proposed project will "*substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds…except when the department has been notified pursuant to Section 1601.*" Additionally, CDFW asserts jurisdiction over native riparian habitat adjacent to aquatic features, including native trees over 4-inches in diameter at breast height (DBH). If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFW may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the parties involved, they may enter into an agreement with CDFW identifying the approved activities and associated mitigation measures. Generally, CDFW recommends submitting an application for a Streambed Alteration Agreement (SAA) for any work done within the lateral limit of water flow or the edge of riparian vegetation, whichever is greater.

2.4. CEQA Significance

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study Checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. Based on these

examples, impacts to biological resources would normally be considered significant if the project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and
- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional or state habitat conservation plan.

An evaluation of whether or not an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, State, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of, an important resource on a population-wide or region-wide basis.

2.4.1. California Native Plant Society

The California Native Plant Society (CNPS) maintains a rank of plant species native to California that have low population numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the *Inventory of Rare and Endangered Vascular Plants of California*. Potential impacts to populations of CNPS-ranked plants receive consideration under CEQA review. The following identifies the definitions of the CNPS ranks:

- Rank 1A: Plants presumed Extinct in California
- Rank 1B: Plants Rare, Threatened, or Endangered in California and elsewhere
- Rank 2: Plants Rare, Threatened, or Endangered in California, but more numerous elsewhere

- Rank 3: Plants about which we need more information – A Review List
- Rank 4: Plants of limited distribution – A Watch List

All plants appearing on CNPS Rank 1 or 2 are considered to meet CEQA Guidelines Section 15380 criteria. While only some of the plants ranked 3 and 4 meet the definitions of threatened or endangered species, the CNPS recommends that all Rank 3 and Rank 4 plants be evaluated for consideration under CEQA.

2.4.2. California Department of Fish and Wildlife Species of Concern

Some additional fish, amphibian, reptile, bird, and mammal species may receive consideration by CDFW and lead agencies during the CEQA process, in addition to species that are formally listed under FESA and CESA or are fully protected. These species are included on the *Special Animals List*, which is maintained by CDFW. This list tracks species in California whose numbers, reproductive success, or habitat may be in decline. In addition to "Species of Special Concern" (SSC), the *Special Animals List* includes species that are tracked in the California Natural Diversity Database (CNDDB), but warrant no legal protection. These species are identified as "California Special Animals" (CSA).

2.5. El Dorado County Policies and Regulations

2.5.1. El Dorado County General Plan

In addition to the federal and State regulations described above, the *County of El Dorado General Plan* identifies goals, objectives, and policies to provide further protection to biological resources within the County's limits (El Dorado County 2004). Applicable General Plan policies are summarized below and included in **Appendix A**.

The General Plan's *Conservation Element* sets a number of goals to conserve, enhance, and manage water resources, wildlife, fisheries, vegetation, and wildlife habitat resources. In furtherance of these goals, the County has established a number of policies designed to minimize impacts to sensitive species and habitats. Policy 7.3.3.4 requires setbacks from riparian areas and wetlands. Policy 7.4.1.6 requires that development projects be designed to avoid fragmentation of sensitive habitats to the greatest extent feasible. A number of policies related to Objective 7.42 require preservation of wildlife migration and movement corridors, including increased oak canopy retention requirements and prohibition of fences or other structures that would restrict wildlife movement.

2.5.2. El Dorado Hills Specific Plan

In addition to federal and State regulations, the *El Dorado Hills Specific Plan* (Specific Plan) identifies goals, objectives, and policies regarding establishment and maintenance of open space and wetland areas. The construction of the El Dorado Hills 52 Project is in conformance with this Specific Plan. Applicable Specific Plan requirements are included in **Appendix A**.

2.5.3. El Dorado County Tree Ordinance

The County of El Dorado currently regulates impacts to oak woodland canopy under General Plan Policy 7.4.4.4. All oak trees, of all sizes, are included in the measurement of oak canopy. All new development projects on parcels greater than 1 acre with at least 1 percent canopy cover must adhere to the retention standard described in Option A of the policy. Canopy retention requirements are based on the amount of existing canopy on the site. In addition to preservation of existing oak woodland canopy, mitigation for impacts to oak woodland canopy is required at a 1:1 ratio. Application of the policy is described in the Interim Interpretive Guidelines for General Plan Policy 7.4.4.4 (Option A), which was last amended on October 12, 2007. The policy states that mitigation can be in the form of on-site or off-site planting of oak trees or acorns, or obtaining an offsite conservation easement to protect existing oak woodland habitat in lieu of planting. As per the Guidelines, a Monitoring and Reporting Plan needs to be prepared and is subject to maintenance and monitoring for up to ten years.

The County is in the process of revising the *El Dorado County Oak Resources Management Plan* (ORMP), which is expected to be adopted and go into effect in the near future. Under the proposed new plan, an oak woodland removal permit will be required prior to removal of oak trees that are part of an oak woodland. Mitigation requirements will be based on the percentage of existing oak woodland removed ranging from 1:1 mitigation for zero to 50 percent removal to 2:1 mitigation for more than 75 percent removal. Mitigation may be completed with a combination of the following options: acquisition of an off-site conservation easement, payment of in-lieu fees, or either on-site or off-site replacement planting of up to 50 percent of the required mitigation area. A tree removal permit shall be required prior to the removal of any oak tree not located in an oak woodland and for removal of all Heritage Trees (native oaks with a trunk diameter of 36” or greater at breast height). Trees removed under permit shall require replacement planting or payment of in-lieu fees in an amount equivalent to the number of trunk inches removed.

2.6. El Dorado Hills Community Services District Policies

In addition to federal and State regulations, the El Dorado Hills Community Services District (EDHCSD) identifies goals, objectives, and policies regarding oak tree preservation. Applicable policies are included in **Appendix A**.

3.0 METHODS

Available information pertaining to the natural resources of the region was reviewed. All references reviewed for this assessment are listed in the **References** section. The following site-specific information was reviewed:

- California Department of Fish and Wildlife (CDFW). 2017. *California Natural Diversity Data Base* (CNDDB: *Clarksville, Pilot Hill, Coloma, Shingle Springs, Latrobe, Folsom SE, Buffalo Creek*, *Rocklin*, and *Folsom* U.S. Geological Survey (USGS) 7.5-minute series quadrangles), Sacramento, CA. Accessed [8/15/2017] (**Appendix B**);
- California Native Plant Society (CNPS). 2017. *Inventory of Rare and Endangered Plants* (online edition, v8-02) (CNPS: *Clarksville, Pilot Hill, Coloma, Shingle Springs, Latrobe, Folsom SE, Buffalo Creek*, *Rocklin*, and *Folsom* quadrangles). Accessed [8/15/2017] (**Appendix B**);
- U.S. Fish and Wildlife Service (USFWS). 2017. *Information for Planning and Conservation* (IPaC) *Official Species List*: *El Dorado Hills 52*. Accessed [8/15/2017] (**Appendix B**);
- U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). 2015. Web Soil Survey. Available online at: http://websoilsurvey.sc.egov.usda.gov/App/HomePage.html. Accessed [8/15/2017]; and
- U.S. Geological Survey. 1967. Photorevised 1980. *Clarksville, California*. 7.5-minute series topographic quadrangle. United States Department of Interior; and
- Biological reports and associated documents previously prepared for the Study Area.

Prior to the site survey, existing information, including the previous wetland delineation and soil maps, were reviewed and the results of the records search and five-mile radius CNNDB query were summarized in a table (**Appendix B**). General field surveys of the Study Area were conducted on April 5, 2013 and August 8, 2017. The Study Area was systematically surveyed on foot with binoculars to ensure total search coverage, with special attention given to identifying those portions of the Study Area with the potential for supporting special-status species and sensitive habitats. During the field surveys, biologists recorded plant and animal species observed (**Appendix C**), as well as characterized biological communities occurring onsite. Following the site survey, the potential for each species identified in the records search to occur in the Study Area was determined based on the site surveys, soils, and species-specific information, as shown in **Appendix B**.

A wetland delineation was performed separately utilizing the Corps 1987 three-parameter methodology to delineate potentially jurisdictional waters of the U.S. on the ±200-acre Silva Valley Interchange Project, which includes the Study Area. The Corps issued a Preliminary Jurisdictional Determination for the aquatic features delineated within the Study Area on June 30, 2009 (SPK-2005-00070), as part of the Silva Valley Interchange Project, concurring with the amount of jurisdictional aquatic features mapped. The delineation has since expired. Therefore,

an updated delineation was performed on December 15, 2015. The results of the wetland delineation are summarized herein and are discussed in detail under a separate cover (Foothill Associates 2017a). The results are considered preliminary until the Corps verifies the findings.

Botanical inventories were conducted on April 24, 2015, May 26, 2015, and June 16, 2015. The botanical inventories were conducted in accordance with CDFW's (CDFG 2009) protocol plant surveys. The results of the botanical surveys are summarized herein and are discussed in detail under a separate cover (Foothill Associates 2016c). A complete list of plants observed within the Study Area is provided in **Appendix C**.

Protocol-level burrowing owl surveys were conducted on March 12, 2015, April 24, 2015, May 26, 2015, and June 16, 2015. The surveys were conducted in accordance with the *Staff Report on Burrowing Owl Mitigation* (CDFW 2012). The results of the burrowing owl surveys are summarized herein and are discussed in detail under a separate cover (Foothill Associates 2016c).

Protocol-level breeding season California red-legged frog (CRLF) surveys were conducted on January 12 and 26, 2016 and February 2 and 9, 2016. The protocol-level breeding season surveys were conducted in accordance with the *Revised Guidance on Site Assessment and Field Surveys for the California Red-legged Frog* (USFWS 2005; CRLF Guidance). The results of the protocol-level breeding season surveys are summarized herein and are discussed in detail under a separate cover (Foothill Associates 2016a).

An oak woodland analysis was performed to document the extent of the existing oak trees in the Study Area and impacts from the proposed project. The oak woodland report is contained under separate cover (Foothill Associates 2017b).

4.0 RESULTS

4.1. Site Location and Description

The Study Area is located in in El Dorado County adjacent to U.S. Highway 50 immediately east of Silva Valley Parkway and north of Tong Road. Land uses surrounding the Study Area include residential development to the north and paved roads, oak woodland, and annual grassland to the east, west, and south. The Study Area is located within Township 9 North, Range 8 East, Section 1 of the *Clarksvill*e USGS 7.5-minute series quadrangle. The approximate location of the center of the Study Area is 38° 39' 40.160" North, 121° 3' 23.354" West (**Figure 1**).

The Study Area consists of approximately 34 acres of land that is primarily annual grassland. The Study Area is bifurcated by Silva Valley Parkway. Two drainage corridors cross the Study Area from the northeast to the southwest.

4.2. Physical Features

4.2.1. Topography and Drainage

Topography within the Study Area ranges from relatively level to moderately sloped with elevations ranging from approximately 700 to 800 feet above mean sea level (MSL) (~210-240 meters). Surface runoff flows through and exits the Study Area via riverine drainages, which run in a northeast to southwest direction.

4.2.2. Soils

The Natural Resources Conservation Service (NRCS) has mapped one soil unit within the Study Area (**Figure 2**): **Auburn Silt Loam, 2 to 30 Percent Slopes**. General characteristics associated with this soil type are described below (USDA, NRCS 1974).

- **(AwD) Auburn Silt Loam, 2 to 30 Percent Slopes**: The soils in this series are well drained. Permeability is moderate. Vegetation associated with this soil series includes annual grasses, forbs, and oaks. The hydric soils list for El Dorado County does not identify this soil type as hydric (USDA, NRCS 2015).

4.3. Biological Communities

Six major biological communities occur in the Study Area including annual grassland, riparian woodland, valley oak woodland, seasonal wetland, perennial marsh, and disturbed/developed. These communities provide habitat to a number of common species of wildlife and may provide suitable habitat for special-status species. It should be noted that wetlands may occur within a biological community. For instance, a creek surrounded by riparian woodland would be included within the riparian woodland for the purposes of determining biological community acreage. Vernal pools and seasonal wetlands may be included in the annual grassland community and are often used by wildlife from the annual grassland. However, a very different aquatic habitat, such as a perennial marsh, is considered its own biological community. Dominant vegetation observed within each biological community is discussed in detail below. A

comprehensive list of plants observed within the Study Area is provided in **Appendix C**. The location and extent of each biological community are depicted in **Figure 3**.

4.3.1. Annual Grassland

Annual grassland dominates both the northern and southern portions of the Study Area (**Figure 3**). This vegetation community is characterized primarily by an assemblage of non-native annual grasses and forbs. Dominant vegetation includes ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), and wild oat (*Avena fatua*) intermixed with red-stemmed filaree (*Erodium cicutarium*), popcornflower (*Plagiobothrys* sp.), black mustard (*Brassica nigra*), winter vetch (*Vicia villosa*), scarlet pimpernel (*Anagallis arvensis*), St. John's wort (*Hypericum perforatum*), brodiaea (*Brodiaea elegans*), fiddleneck (*Amsinckia* sp.), rose clover (*Trifolium hirtum*), and milk-thistle (*Silybum marianum*).

Two areas within the annual grassland contain purple needlegrass within the southern portion of the Study Area (**Figure 3**). The purple needlegrass is interspersed with northern willow herb (*Epilobium ciliatum*), ripgut brome, soft chess, and wild oat.

The annual grassland community includes small ephemeral and perennial drainages. The ephemeral drainage is mostly unvegetated and highly seasonal. The perennial drainage has a small clump of willows (*Salix* sp.) and broadleaf cattail (*Typha latifolia*) and is otherwise minimally vegetated.

4.3.2. Riparian Woodland

Riparian woodland habitat occurs within the along perennial drainage on the western boundary of the Study Area (**Figure 3**). Dominant vegetation includes broadleaf cattail, willow, spike rush (*Eleocharis macrostachya*), pennyroyal (*Mentha pulegium*), Himalayan blackberry (*Rubus armeniacus*), and valley oak (*Quercus lobata*).

4.3.3. Valley Oak Woodland

Valley oak woodland is found in a small area on the southwest boundary of the Study Area where a small stand of mature valley oak trees overhangs a small perennial drainage (**Figure 3**). The understory is primarily annual grassland with small areas of milkweed (*Asclepias fascicularis*) and pennyroyal immediately adjacent to the drainage.

4.3.4. Seasonal Wetland

A number of seasonal wetland features are found in the Study Area (**Figure 3**). Most are associated with the eastern drainage system. The seasonal wetlands include riverine, depressional, and slope topography, but the vegetation is similar throughout the Study Area. Dominant vegetation in the seasonal wetlands includes rabbitsfoot grass (*Polypogon monspeliensis*), spike rush (*Eleocharis macrostachya*), nutsedge (*Cyperus eragrostis*), curly dock (*Rumex crispus*), pennyroyal, coyote-thistle (*Eryngium vaseyi*), brome fescue (*Festuca bromoides*), ryegrass, annual hair grass (*Deschampsia danthonioides*), and rye grass (*Festuca perennis*).

4.3.5. Perennial Marsh

Perennial marsh habitat is found in the southern portion of the Study Area (**Figure 3**). It is dominated by common knotweed (*Persicaria lapathifolia*) and curly dock with areas of dense cattails, Himalayan blackberry, and a small clump of willows.

4.3.6. Disturbed/ Developed

Disturbed/developed areas in the Study Area include graded roads and a stockpile area (**Figure 3**). The disturbed/developed areas are sparsely vegetated with red-stemmed filaree, soft chess, wild oat, and winter vetch.

4.4. Special-Status Species

Special-status species are plant and animal species that have been afforded special recognition by federal, State, or local resource agencies or organizations. Listed and special-status species are of relatively limited distribution and may require specialized habitat conditions. Special-status species are defined as meeting one or more of the following criteria:

- Listed or proposed for listing under CESA or FESA;
- Protected under other regulations (e.g. Migratory Bird Treaty Act);
- Included on the CDFW Special Animals List;
- Identified as Rank 1-4 by CNPS; or
- Receive consideration during environmental review under CEQA.

Special-status species considered for this analysis are based on queries of the CNDDB, the USFWS, and CNPS ranked species (online versions) for the *Clarksville* and eight surrounding quadrangles. **Appendix B** includes the common name and scientific name for each species, regulatory status (federal, State, local, CNPS), habitat descriptions, and potential for occurrence in the Study Area. The following set of criteria has been used to determine each species' potential for occurrence in the Study Area:

- **Present**: Species known to occur within the Study Area based on CNDDB records and/or observed within the Study Area during the biological surveys.
- **High**: Species known to occur on or in the vicinity of the Study Area (based on CNDDB records within five miles and/or based on professional expertise specific to the Study Area or species) and there is suitable habitat within the Study Area.
- **Low**: Species known to occur in the vicinity of the Study Area and there is marginal habitat within the Study Area **-OR-** Species is not known to occur in the vicinity of the Study Area, however, there is suitable habitat on the Study Area.
- **None**: Species is not known to occur on or in the vicinity of the Study Area and there is no suitable habitat within the Study Area -**OR-** Species was surveyed for during the

appropriate season with negative results **-OR-** The Study Area occurs outside of the known elevation or geographic ranges.

Only those species that are known to be *present* or have a *high* or *low* potential for occurrence are discussed further in the following sections. Species that were determined to have a potential for occurrence but for which focused surveys were conducted with negative results are not discussed further in this report. Detailed results of focused surveys are contained under separate covers.

4.4.1. Listed and Special-Status Plants

According to the records search, 30 special-status plant species have the potential to occur on or in the vicinity of the Study Area. Based on field observations and literature review, four species were determined to have the potential for occurrence to occur on the Study Area: big-scale balsamroot (*Balsamorhiza macrolep*is var. *macrolepis*), Boggs Lake hedge-hyssop (*Gratiola heterosepala*), dwarf downingia (*Downingia pusilla*), and Sanford's arrowhead (*Sagittaria sanfordii*). Focused botanical surveys were conducted in 2015 during the bloom period of these plants. No special-status plant species were found.

4.4.2. Listed and Special-Status Wildlife

According to the records search, 41 special-status animal species have the potential to occur onsite or in the vicinity. Based on field observations and literature review, 15 species were determined to have the potential for occurrence to occur in the Study Area. Protocol surveys for burrowing owl (*Athene cunicularia*) and California red-legged frog (*Rana draytonii*) were conducted in 2015 and 2016. No observations or evidence of either species was found.

Species that are known to be *present* or that are considered to have a *high* potential to occur onsite include: western pond turtle (*Emys marmorata*) and raptors and other migratory birds. Species that are considered to have a *low* potential to occur onsite include: valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), Blainville's horned lizard (*Phrynosoma blainvillii*), foothill yellow-legged frog (*Rana boylii*), western spadefoot (*Spea hammondii*), golden eagle (*Aquila chrysaetos*), tricolored blackbird (*Agelaius tricolor*), American badger (*Taxidea taxus*), and special-status bat species.

Wildlife Species with a High Potential for Occurrence

Western Pond Turtle

Western pond turtles are found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches with suitable basking sites (Californiaherps 2017). Suitable aquatic habitat typically has a muddy or rocky bottom and has emergent aquatic vegetation for cover (Stebbins 2003). Western pond turtles nest and overwinter in areas of sparse vegetation comprised of grassland and forbs with less than ten percent slopes, less than 492 feet (150 meters) from aquatic habitat (Rosenberg *et. al.* 2009). There are three CNDDB records for this species within five miles of the Study Area (CDFW 2017a). The riverine perennial marsh, perennial drainage, and surrounding riparian habitat provide aquatic habitat and the surrounding annual grassland

provides upland habitat. This species was not observed within the Study Area during the biological surveys. This species has a *high* potential to occur within the Study Area.

Nesting Birds and Raptors

The nests of raptors and most other birds are protected under the MBTA. Raptors are also protected by Section 3503.5 of the California Fish and Game Code, which makes it illegal to destroy any active raptor nest. Additionally, the USFWS and CDFW identified a number of avian species of conservation concern that do not have specific statutory protection. Avian species forage and nest in a variety of habitats throughout El Dorado County. As shown in **Appendix B**, the riparian and valley oak woodlands, perennial marsh, and annual grasslands on and surrounding the Study Area may provide nesting or foraging habitat for raptors and other protected birds, including: white-tailed kite (*Elanus leucurus*), Cooper's hawk (*Accipiter cooperii*), ferruginous hawk (*Buteo regalis*), merlin (*Falco columbarius*), grasshopper sparrow (*Ammodramus savannarum*), and purple martin (*Progne subis*). Raptors and other protected migratory birds have a high potential to occur in the Study Area.

Wildlife Species with a Low Potential for Occurrence

Valley Elderberry Longhorn Beetle

The USFWS has determined the range of the valley elderberry longhorn beetle (VELB) to include the watersheds of the American, San Joaquin, and Sacramento Rivers and their tributaries up to approximately 3,000 feet above MSL (USFWS 1980). Typically, the beetles are found on elderberry shrubs within riparian plant communities. Some studies have found that multiple elderberry shrubs clumped together provide superior habitat for the beetle while isolated elderberry shrubs are less likely to support beetle populations. Typical plant species that co-occur with the elderberry shrubs include California sycamore (*Platanus racemosa*), willow, blackberry, and western poison oak (*Toxicodendron diversilobum*) (USFWS 1984). Beetles require elderberry stems with at least one-inch diameter at ground level (dgl) in order for the larvae to utilize the stems (USFWS 1999). The valley elderberry longhorn beetle depends on elderberry shrubs for its entire lifecycle. Adults are typically active from March through May during the flowering period of the elderberry shrub. The female lays its eggs on the leaves and stems of the elderberry shrub. The larvae emerge within a few days and burrow into the elderberry stem. The larvae feed on the stem pith until they pupate. When the host shrub begins flowering, the pupa emerges from the stem as an adult (Barr 1991). There is one CNDDB record of valley elderberry longhorn beetle listed within five miles of the Study Area (CDFW 2017a). One blue elderberry (*Sambucus nigra* ssp. *caerulea*) stem measuring one-inch dgl and several stems less than one-inch dgl occurs within the riparian habitat within the western portion of the Study Area (**Figure 3**). No exit holes were observed. This species has a *low* potential to occur within the Study Area.

Blainville's Horned Lizard

Blainville's horned lizard inhabits open areas of sandy soil and low vegetation in valleys, foothills, and semiarid mountains from sea level to 8,000 feet above MSL. It is typically found in grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose

soil. This species is often found in lowlands along sandy washes with scattered shrubs and along dirt roads, and frequently found near ant hills (Zeiner *et. al.* 1988). There are two CNDDB records of this species within five miles of the Study Area (CDFW 2017a). The species was not observed within the Study Area during the biological surveys. The annual grassland within the Study Area provides minimal habitat for the Blainville's horned lizard due to lack of sandy washes. Therefore, this species has a *low* potential to occur within the Study Area.

Foothill Yellow-Legged Frog

The Foothill yellow-legged frog (FYLF) is a moderate-sized frog (1.5-3.5" long) found on the western slope of the Sierras and along the coast. It has vague dorsolateral folds, horizontal pupils, yellow coloring on the underside of its hind legs, and a granular skin texture that covers the eardrums of colors that harmonize with the surroundings. The FYLF is a stream or river frog of chaparral, forest, and woodland ecozones. This species breeds after the high-water flows subside, mid-March to early June. The FYLF resides in streams and the associated riparian habitat. Metamorphosis generally occurs in three to four months and FYLF reach sexual maturity typically the first summer after they have metamorphosed. Breeding sties occur in shallow, slow flowing water with some pebble and/or cobble substrate. The introductions of bullfrogs and mosquitofish have led to declines in populations in California and Oregon. The perennial drainages provide marginal habitat for this species but there are no CNDDB records of this species within five miles of the Study Area (CDFW 2017a) and the species was not observed within the Study Area during the biological surveys. Therefore, this species has a *low* potential to occur within the Study Area.

Western Spadefoot

Western spadefoot occurs throughout the Central Valley and on the coast from Point Conception, south to the Mexican border. This species occurs from sea level up to 4,500 feet above MSL, in the southern Sierra foothills. Western spadefoot individuals are most commonly found in grassland habitats with temporary pools of water, but they have also been found in open chaparral and valley-foothill pine-oak woodlands (Stebbins 2003). This species spends most of the year underground, where members seek refuge from desiccating by constructing and residing in small burrows. This species often breeds in temporary pools and quiet streams between the months of January and May. There are no CNDDB records for this species within five miles of the Study Area (CDFW 2017a). The species was not observed within the Study Area during the biological surveys. The depressional seasonal wetlands provide low quality breeding habitat given that they do not likely hold water for long enough for the western spadefoot to breed. This species has a *low* potential for utilizing the annual grassland as upland aestivation given the limited aquatic habitat available within the Study Area for breeding.

Golden Eagle

Golden eagles live in semi-open habitats where they have easy access to their primary prey of small to medium-sized mammals. Grasslands, deserts, savannahs, and early successional stages of forest and shrub habitats provide necessary foraging habitat. Nests are placed on cliffs or large trees and are maintained year after year. Breeding occurs from January through August (Kochert *et al.* 2002). Golden eagle home range territories vary widely from 8 to 77 square

miles (McGrady 1997) and are estimated to average 48 square miles in northern California (Zeiner *et al.* 1990). Breeding territories range from 8 to 21 square miles, or 3 to 5 miles surrounding the nest, but activity is often concentrated in a smaller core area. Although only one nest is used each year, a territory may contain multiple alternate nests. Typically, there are between 6 and 14 nests are found in a territory (Kochert *et al.* 2002). Golden eagles may use the same nest for multiple years or use new nest sites every year (Watson 2010).

There is one known occurrence approximately two miles northwest of the Study Area. This active nest was located in a foothill pine on a hillslope surrounded by oak woodland. Existing residences are located uphill within 300 feet of the nest on the north and east. Two juvenile and two adult golden eagles were observed at the nest in August 2013. A pair of adult eagles returned to the nest in 2014 and successfully raised one eaglet, which fledged by June 18, 2014. However, the nest tree fell over during a storm in November 2014. A golden eagle nest was subsequently identified in a foothill pine approximately 2.5 miles northwest of the Study Area on March 6, 2015. The new nest occurred within a foothill pine on a hillslope surrounded by oak woodland, approximately 25 feet from a residential dwelling. This foothill pine died in late 2015. The eagles relocated to another foothill pine downhill from their first nest location in 2016, but this nest is not active in 2017. The current nest location is unknown as of the writing of this report.

No golden eagles were observed during the biological surveys of the Study Area. Although the Study Area does not provide suitable nest trees, the annual grassland provides foraging habitat. This species has a *low* potential to occur within the Study Area.

Tricolored Blackbird

The tricolored blackbird is a colonial species that occurs in pastures, dry seasonal pools, and agricultural fields in the Central Valley and the surrounding foothills. This species usually nests within dense cattails (*Typha* sp.) or tules (*Scirpus* sp.) in emergent wetlands. Tricolored blackbird also nests in thickets of blackberry (*Rubus* sp.), wild rose (*Rosa* sp.), willows, and tall herbs (Zeiner *et. al.* 1990). Nesting locations typically must be large enough to support a minimum colony of approximately fifty pairs (Zeiner *et. al.* 1990). There are three CNDDB records for this species within five miles of the Study Area (CDFW 2017a). The perennial marsh and surrounding riparian habitat could provide nesting habitat, though these areas are not large enough to support colonies. The annual grassland provides foraging habitat for this species. This species was not observed during the biological surveys of the Study Area. This species has a *low* potential to occur within the Study Area.

American Badger

American badgers are found in dry, open habitats including grassland and open woodland. Suitable burrowing habitat requires dry, sandy soil. Breeding occurs in summer and early fall, with young being born from March to April (Nature Serve 2015). There are no CNDDB records for this species within five miles of the Study Area (CDFW 2017a). The annual grassland provides habitat for this species, however, very few potential burrow sites that could be utilized by this species were observed during the biological surveys. No American badgers were

observed during the biological surveys. This species has a *low* potential to occur within the Study Area.

Special-Status Bats

California is home to several special-status bat species, including pallid bat (*Antrozous pallidus*) and silver-haired bat (*Lasionycteris noctivagans*). Bat numbers are in decline throughout the U.S. due to loss of roosting habitat, habitat conversion, and habitat alteration. There are no CNDDB records for bats within five miles of the Study Area (CDFW 2017a). No bats were observed roosting or foraging during the biological surveys. However, the riparian habitat and isolated trees within the annual grassland provide roosting habitat for these species. This species has a *low* potential to occur within the Study Area.

4.5. Sensitive Habitats

Sensitive habitats include those that are of special concern to resource agencies or those that are protected under CEQA, Section 1600 of the California Fish and Game Code, and/or Sections 401 and 404 of the Clean Water Act. Additionally, sensitive habitats are protected under the specific policies outlined in the *El Dorado County General Plan*. Sensitive habitats known to occur onsite are seasonal wetlands, perennial marsh, ephemeral and perennial drainages, riparian woodland, oak woodlands, and purple needlegrass grassland (**Figure 3**).

4.5.1. Potential Jurisdictional Waters of the U.S. and State

Potential jurisdictional waters of the U.S. and State located in the Study Area total approximately 0.57 acres. This acreage includes 0.01 acres of depressional seasonal wetland, 0.07 acres of slope seasonal wetland, 0.05 acres of riverine seasonal wetland, 0.31 acres of riverine perennial marsh, 0.05 acres of ephemeral drainage, and 0.07 acres of perennial drainage (**Figure 3**). To date the Corps has not verified these acreages. As discussed in **Section 2.3**, jurisdictional waters of the U.S. are subject to Section 404 of CWA and are regulated by the Corps.

4.5.2. Riparian Habitat

A total of 0.15 acres of riparian habitat are located in the Study Area along the northern perennial drainage (**Figure 3**). As discussed in **Section 2.2**, riparian areas, defined as the outermost bank or the edge of riparian vegetation, whichever is greater, may be subject CDFW jurisdiction under Section 1602 of the Fish and Game Code. Additionally, CDFW may exert jurisdiction over the drainages and other riverine aquatic features. CDFW should be consulted prior to disturbance or development to determine whether issuance of a Section 1602 Lake or Streambed Alteration Agreement is required.

4.5.3. Oak Trees and Oak Woodlands

A total of ten oak trees protected under Policy 7.4.5.2, consisting of nine valley oaks (*Quercus lobata*) and one blue oak (*Quercus douglasii*) are present in the Study Area. In total, there is 0.55 acres of oak canopy in the Study Area, which is equivalent to 1.6 percent canopy cover (**Figure 3**). Oak woodland habitat is currently regulated under Section 7.4.4.4 of the *El Dorado*

County General Plan (refer to Section 3.8.1, 3.9, and 3.10) based on canopy coverage. The Study Area is within the area covered by the *El Dorado Hills Specific Plan*, which generally describes preservation criteria for oak trees within designated open space areas.

4.5.4. Purple Needlegrass

Approximately 0.33 acres of purple needlegrass are interspersed within the annual grassland. Purple needlegrass grassland is listed as a sensitive plant community on the CDFW Natural Communities List and is required to be considered in CEQA documents. In order for purple needlegrass grassland to be considered a natural community, at least five percent of the species is required as a characteristic to dominant species in the herbaceous layer and the species is usually greater than 10 percent relative cover of the herbaceous layer (Sawyer *et al.* 2009). These mapped areas contain greater than 10 percent relative cover within the herbaceous layer. Therefore, the two polygons of purple needlegrass are considered a sensitive habitat since the acreage meets the minimum percentage criteria necessary to be considered a purple needlegrass grassland natural community.

4.6. Wildlife Migration Corridors and Important Biological Corridors

Wildlife corridors link together areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife habitat. Fragmentation can also occur when a portion of one or more habitats is converted into another habitat, such as when woodland or scrub habitat is altered or converted into grasslands after a disturbance such as fire, mudslide, or grading activities. Wildlife corridors mitigate the effects of this fragmentation by: (1) allowing animals to move between remaining habitats, thereby permitting depleted populations to be replenished and promoting genetic exchange; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk of catastrophic events (such as fire or disease) on population or local species extinction; and (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs. The Study Area does not link two significant natural areas and is surrounded by similar habitat types; therefore, it is not considered a wildlife migration corridor.

The *El Dorado County General Plan* identifies a number of Important Biological Corridors (IBC). The Study Area is not located within any existing IBC.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Known or potential biological constraints within the Study Area include:

- Potential habitat for special-status plant species;
- Potential habitat for valley elderberry longhorn beetle;
- Potential habitat for western pond turtle;
- Potential habitat for Blainville's horned lizard;
- Potential habitat for foothill yellow-legged frog;
- Potential habitat for western spadefoot;
- Potential foraging habitat for golden eagle;
- Potential foraging habitat for tricolored blackbird;
- Potential habitat for burrowing owl;
- Potential nesting sites and foraging habitat for raptors and other birds;
- Potential habitat for American badger;
- Potential habitat for special-status bat species including pallid bat and silver-haired bat; and
- Sensitive habitats, including potentially jurisdictional waters of the U.S. (seasonal wetlands, perennial marsh, and ephemeral and perennial drainages), riparian habitat, valley oak woodland, and purple needlegrass grassland.

5.1. Special-Status Plant Species

Botanical inventories were conducted on April 24, 2015, May 26, 2015, and June 16, 2015. No special-status plants occur within the Study Area. However, if construction does not commence within two years of the 2015 botanical inventories, additional botanical inventories are recommended to ensure that populations have not established in the intervening years, in accordance with CDFW's (CDFG 2009) plant protocols.

5.2. Valley Elderberry Longhorn Beetle

Although no VELB were observed, there is a low potential for VELB to be present in the Study Area due to a single blue elderberry shrub observed within southern portion of the Study Area. According to the USFWS *Conservation Guidelines for Valley Elderberry Longhorn Beetle* (Guidelines; USFWS 1999), encroachment within 100 feet from elderberry shrubs with stems measuring at least one-inch dgl should be approved by the USFWS and a minimum setback of 20 feet from the driplines of the elderberry shrubs must be maintained. Project activities that will encroach into the 20-foot minimum setback area are assumed to adversely affect VELB. Project activities that may directly or indirectly affect elderberry shrubs with stems measuring at least one-inch dgl require minimization measures including planting replacement habitat or

purchasing mitigation credits from a USFWS-approved mitigation bank. The mitigation ratios vary based on whether exit holes are present and whether the shrubs occur within riparian habitat.

The outer edge of the non-development area is approximately 25 feet from the elderberry shrub measuring one-inch dgl. Therefore, the proposed project would not adversely affect potential habitat for VELB. However, the project proponent should consult with the USFWS to establish avoidance measures to ensure that no indirect effects associated with the encroachment of 100-foot avoidance buffer would occur. At minimum, high visibility construction fencing followed by silt fencing should be placed around the perimeter of the open space area. Signs should be erected approximately 20 feet apart along the high visibility construction fencing with the following information, "*This area is habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the FESA, as amended. Violators are subject to prosecution, fines, and imprisonment.*" The signs should be clearly readable from a distance of 20 feet, and must be maintained for the duration of construction.

5.3. Western Pond Turtle

The perennial marsh and perennial drainages and surrounding uplands within the Study Area may be suitable habitat for western pond turtle and they are known to occur in the vicinity. Filling of these features could impact this species, if present. In addition, vegetation clearing and grading within the surrounding uplands could impact this species, if present.

A pre-construction survey for western pond turtle should be conducted within 14 days of the initiation of construction by a qualified biologist prior to any construction activity that would directly impact pond or stream habitat or disturb the ground within 300 feet of aquatic habitat. If no western pond turtles are observed, a letter report should be prepared to document the survey, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey or halts for more than 14 days a new survey should be conducted prior to reinitiating construction.

If western pond turtles are found during the pre-construction survey, then a qualified biological monitor should be onsite during initial clearing and grading within 300 feet of a drainage, pond, or other aquatic habitat. The biological monitor will relocate any western pond turtles found within the construction footprint to suitable habitat away from the construction zone, but within the vicinity of the Study Area, if required. In addition, a pre-construction worker awareness training should be conducted alerting workers to the presence of and protections for the western pond turtle.

5.4. Blainville's Horned Lizard

The annual grassland within the Study Area provides a low potential for Blainville's horned lizard to occur given the lack of sandy soil. Pre-construction surveys for Blainville's horned lizard are recommended within 14 days prior to the start of ground disturbance. If no Blainville's horned lizards are observed, then no additional measures are recommended. If construction

does not commence within 14 days of the pre-construction survey or halts for more than 14 days, a new survey is recommended.

If Blainville's horned lizards are found, additional avoidance measures are recommended including having a qualified biologist conduct a pre-construction survey within 24 hours prior to commencement of construction activities, performing a worker awareness training to all construction workers, and being present on the Study Area during grading activities for the purpose of relocating any Blainville's horned lizards found within the construction footprint to suitable habitat away from the construction zone, but within the Study Area.

5.5. Foothill Yellow-Legged Frog

The perennial drainages and surrounding uplands within the Study Area provide potential habitat for foothill yellow-legged frog. A qualified biologist should conduct a pre-construction survey of the drainages and uplands within 150 feet for foothill yellow-legged frog within 14 days prior to commencement of construction activities. If no foothill yellow-legged frog are observed, then a letter report documenting the results of the survey should be provided to the applicant for their records, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, a new survey is recommended.

If any foothill yellow-legged frog are found, additional avoidance measures are recommended including having a qualified biologist conduct a pre-construction survey within 24 hours prior to commencement of construction activities, performing a worker awareness training to all construction workers, and being present on the Study Area during grading activities for the purpose of relocating any foothill yellow-legged frog found within the construction footprint to suitable habitat away from the construction zone, but within the Study Area.

5.6. Western Spadefoot

The annual grassland within the Study Area provides a low potential for upland aestivation habitat and the depressional seasonal wetland provide low quality breeding habitat for western spadefoot. A qualified biologist should conduct a pre-construction survey for western spadefoot within 14 days prior to commencement of construction activities. If no western spadefoot are observed, then a letter report documenting the results of the survey should be provided to the applicant for their records, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, a new survey is recommended.

If any western spadefoot are found, additional avoidance measures are recommended including having a qualified biologist conduct a pre-construction survey within 24 hours prior to commencement of construction activities, performing a worker awareness training to all construction workers, and being present on the Study Area during grading activities for the purpose of relocating any western spadefoot found within the construction footprint to suitable habitat away from the construction zone, but within the Study Area.

5.7. Golden Eagle

Although the Study Area does not provide suitable nest trees, the annual grassland provides foraging habitat for golden eagle. A map identifying suitable foraging habitat for golden eagle within a three-mile radius of the last known location of the nest, which includes the Study Area, is provided in **Figure 4**. There is over 4,495 acres of potential foraging habitat surrounding the nest, based on an assessment of current aerial photographs. The project will result in the removal of 27.71 acres of annual grassland. The removal of approximately 0.62 percent of foraging habitat would have no impact on this species. Therefore, no additional measures are recommended.

5.8. Tricolored Blackbird

Although the Study Area does not provide suitable nesting areas for a tricolored blackbird colony, the annual grassland provides suitable foraging habitat. There are currently no requirements for conservation or mitigation for tricolored blackbird foraging habitat. Therefore, no additional measures are recommended.

5.9. Burrowing Owl

Although burrowing owl has a low potential to occur within the annual grassland, given the lack of suitable burrows and that they were not observed during the protocol-level breeding and non-breeding season surveys (Foothill Associates 2016b) or any other biological surveys conducted within the Study Area, they are not currently present. However, the species could occupy the Study Area in the future. The project proponent should conduct a take avoidance survey within 30 days prior to commencement of construction, in accordance with the 2012 *California Department of Fish and Wildlife Staff Report on Burrowing Owl Mitigation* (2012 Staff Report) (CDFW 2012). The survey area includes an approximately 500-foot (150-meter) buffer around the Study Area, where access is permitted. If the surveys are negative, then no additional measures are recommended.

If burrows are observed within 500 feet of the Study Area, an impact assessment should be prepared and submitted to the CDFW, in accordance with the 2012 Staff Report. If it is determined that project activities may result in impacts to nesting, occupied, and satellite burrows and/or burrowing owl habitat, the project proponent should consult with CDFW and develop a detailed mitigation plan such that the habitat acreage, number of burrows, and burrowing owls impacted are replaced. The mitigation plan should be based on the requirements set forth in Appendix A of the 2012 Staff Report.

5.10. Other Raptors and Migratory Birds

Several species of raptors and other migratory birds may forage and nest in the Study Area, including the special-status species white-tailed kite, Cooper's hawk, golden eagle, ferruginous hawk, merlin, grasshopper sparrow, and purple martin. Active nests are protected by the California Fish and Game Code Section 3503.5 and the MBTA. Construction activities could result in disturbance of nest sites through temporary increases in ambient noise levels and increased human activity. In addition, vegetation clearing operations, including pruning or

removal of trees and shrubs, could impact nesting birds if these activities occur during the nesting season (February 15 to August 31). All vegetation clearing including removal of trees and shrubs should be completed between September 1 to February 14, if feasible.

If vegetation removal and grading activities begin during the nesting season (February 15 to August 31), a qualified biologist should conduct a pre-construction survey of the project footprint for active nests. Additionally, the surrounding 500 feet should be surveyed for active raptor nests. The pre-construction survey should be conducted within 14 days prior to commencement of ground-disturbing activities. If the pre-construction survey shows that there is no evidence of active nests, a letter report should be prepared to document the survey, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, an additional survey is required prior to starting work.

If nests are found and considered to be active, the project biologist should establish buffer zones to prohibit construction activities and minimize nest disturbance until the young have successfully fledged. Buffer width will depend on the species in question, surrounding existing disturbances, and specific site characteristics, but may range from 20 feet for some songbirds to 250 feet for most raptors. If active nests are found within any trees slated for removal, then an appropriate buffer should be established around the trees and the trees should not be removed until a biologist determines that the nestlings have successfully fledged. In addition, a pre-construction worker awareness training should be conducted alerting workers to the presence of and protections for the active avian nests. If construction activities are proposed to begin during the non-breeding season (September 1 through January 31), a survey is not required and no further studies are necessary.

5.11. American Badger

The annual grassland provides habitat for American badger. A qualified biologist should conduct a pre-construction survey for American badger within 14 days prior to the start of ground disturbance. If no American badgers are observed, then a letter report documenting the results of the survey should be provided to the project proponent for their records, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, a new survey is recommended.

If American badgers or their dens are found, additional avoidance measures are recommended including having a qualified biologist conduct a pre-construction survey within 24 hours prior to commencement of construction activities, performing a worker awareness training to all construction workers, and being present on the Study Area during grading activities for the purpose of temporarily halting construction activities until the biologist determines that the badger has left the construction footprint on its own accord.

5.12. Special-Status Bat Species

The existing riparian and oak woodlands provide potential roosting habitat for various bat species that occur in the vicinity of the Study Area. Removal of trees could impact bats should they be roosting in areas proposed for removal.

A qualified biologist should conduct a preconstruction survey within 14 days prior to clearing or grading operations and removal of trees. If no bats are observed, a letter report should be prepared to document the survey, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, an additional survey is required prior to starting work.

If special-status bat species are present and roosting on or within 100 feet of the Study Area, then the biologist should establish an appropriate buffer around the roost site. At minimum, no trees should be removed until the biologist has determined that the bat is no longer roosting in the tree. Additional mitigation measures for bat species, such as installation of bat boxes or alternate roost structures, would be recommended only if special-status bat species are found to be roosting within the project area. In addition, a pre-construction worker awareness training should be conducted alerting workers to the presence of and protections for various bat species.

5.13. Sensitive Habitats

5.13.1.Jurisdictional Waters

Since proposed construction activities will impact aquatic features located in the Study Area, a Section 404 permit should be obtained from the Corps and a Section 401 Water Quality Certification should be obtained for the Regional Water Quality Control Board (RWQCB) prior to the start of construction. Any waters of the U.S. or jurisdictional wetlands that would be lost or disturbed should be replaced or rehabilitated on a “no-net-loss” basis in accordance with the Corps mitigation guidelines. Habitat restoration, rehabilitation, and/or replacement should be at a location and by methods agreeable to the agencies.

If a 404 permit is required for the proposed project, water quality concerns during construction would be addressed in a Section 401 water quality certification from the Regional Water Quality Control Board. A Storm Water Pollution Prevention Plan (SWPPP) would also be required during construction activities. SWPPPs are required in issuance of a National Pollutant Discharge Elimination System (NPDES) construction discharge permit by the U.S. Environmental Protection Agency. Implementation of Best Management Practices (BMPs) during construction is standard in most SWPPPs and water quality certifications. Examples of BMPs include stockpiling of debris away from regulated wetlands and waterways; immediate removal of debris piles from the site during the rainy season; use of silt fencing and construction fencing around regulated waterways; and use of drip pans under work vehicles and containment of fuel waste throughout the site during construction.

5.13.2. Oak Woodlands

The Project would result in the removal of 9 protected oak trees, resulting in impacts to 0.45-acres of oak canopy. To mitigate for the biological resources impact associated with the loss of oak woodlands associated with the project, a combination of avoidance, protection, onsite replacement, where feasible, and offsite preservation or creation of oak woodland habitat is recommended. Tree protection measures should be implemented around trees to remain in the Study Area as detailed in the project's Tree Survey, Preservation, and Replacement Plan.

5.13.3. Riparian Habitats

Although proposed construction activities will not remove riparian woodland habitat, other drainages and riverine features that will be impacted may be subject to CDFW jurisdiction. It is recommended that a Streambed Alteration Agreement application be submitted to CDFW, pursuant to Section 1600 of the CDFW Code, for any activities affecting the bed, bank or associated riparian vegetation of the stream. If required, the project applicant should coordinate with CDFW in developing appropriate mitigation, and should abide by the conditions of any executed permits.

5.13.4. Purple Needlegrass Grassland

The proposed project would result in the removal of purple needlegrass grassland. Therefore, the acreage of removal should be replaced at a 1:1 ratio. The mitigation location may occur within project's open space areas currently characterized by annual grassland or may occur off-site. Purple needlegrass plants in areas slated for removal should be salvaged to the extent feasible and replanted within the open space area. If this is infeasible, then seedlings/saplings from a local nursery should be obtained. A mitigation and monitoring plan should be prepared outlining methods to be used, success criteria to be met, and adaptive management strategies will be completed prior to project construction. At minimum, the purple needlegrass creation areas shall be monitored twice annually for the first year and once annually for the four subsequent years for a total of five years, success criteria should be established to ensure an 80 percent success rate is met by the fifth year, and adaptive management techniques should be implemented to ensure that the 80 percent success rate is met by the fifth year. This plan may be combined with the Operations and Management Plan for the open space area.

5.14. Summary of Avoidance and Minimization Measures

- Obtain a Section 404 Clean Water Act Permit, 401 Water Quality Certification, and SAA prior to the start of construction;
- Conduct botanical inventories for potentially occurring special-status plants if construction does not commence within two years of the 2015 botanical inventories;
- Conduct clearing and tree and shrub removal operations between September 16 and February 28 to minimize potential impacts to nesting birds;
- If construction begins during the nesting season (March 1 – September 15) conduct a pre-construction survey for active bird nests within the Study Area;

- Conduct a take avoidance survey for burrowing owl within 30 days prior to commencement of construction activities, in accordance with the 2012 Staff Report;
- Within 14 days prior to the initiation of construction activities, conduct a pre-construction survey for coast horned lizard, foothill yellow-legged frog, western pond turtle, American badger, and special-status bat species;
- Implement the tree avoidance, maintenance, and mitigation measures as described in the Tree Survey, Preservation, and Replacement Plan (Foothill Associates 2017); and
- Mitigate for the removal of purple needlegrass grassland at a 1:1 ratio and prepare a mitigation and monitoring plan.

6.0 REFERENCES

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, eds. 2012. *The Jepson Manual: Vascular Plants of California*, *2nd Edition*. University of California, Berkeley.

Barbour, Michael G., Todd Keeler-Wolf, and Allan A. Schoenherr, Editors. 2007. *Terrestrial Vegetation of California*, Third Edition. University of California Press, Berkeley and Los Angeles, California.

Barr, C.B. 1991. The distribution, habitat, and status of the valley elderberry longhorn beetle *Desmocerus californicus dimorphus*. U.S. Fish and Wildlife Service: Sacramento, CA.

Bloom, P. and D. Van De Water. 1994. *Swainson's Hawk in Life on the Edge: A Guide to California's Endangered Natural Resources: Wildlife*. BioSystems Books, Santa Cruz, California.

Bradbury, M., Estep, J.A., and D. Anderson. In Preparation. *Migratory Patterns and Wintering Range of the Central Valley Swainson's Hawk*.

Calflora. 2017. *The Calflora Database: Information on California plants for Education, Research and Conservation*. Berkeley, California. Available online at: http://www.calflora.org. [Accessed 8/15/2017].

Californiaherps. 2017. *A Guide to the Amphibians and Reptiles of California*. Available online at: http://californiaherps.com. [Accessed 8/15/2017].

California Department of Fish and Wildlife (CDFW). 2009. *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Natural Communities*. State of California, California Natural Resources Agency. Department of Fish and Wildlife. November 24, 2009.

CDFW. 2012. *Staff Report on Burrowing Owl Mitigation*. State of California Natural Resources Agency Department of Fish and Game. March 7, 2012.

CDFW. 2017a. *California Natural Diversity Data Base* (CNDDB: *Clarksville, Pilot Hill, Coloma, Shingle Springs, Latrobe, Folsom SE, Buffalo Creek*, *Rocklin*, and *Folsom* U.S. Geological Survey (USGS) 7.5-minute series quadrangles), Sacramento, CA. Accessed [8/15/2017].

CDFW. 2017b. *Special Animals List*. Available online at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline. Accessed [8/21/2017].

California Native Plant Society (CNPS). 2017. *Inventory of Rare and Endangered Plants* (online edition, v8-02) (CNPS: *Clarksville, Pilot Hill, Coloma, Shingle Springs, Latrobe, Folsom SE, Buffalo Creek*, *Rocklin*, and *Folsom* quadrangles). Accessed [8/15/2017].

California Wildlife Habitat Relationship System (CWHR). Various years. Various *Life History Accounts* and *Range Maps*. California Department of Fish and Wildlife, Sacramento, California. Available online at: http://www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx. [Accessed 8/15/2017].

El Dorado County. 2004. *El Dorado County General Plan*. Placerville, California. 2004.

El Dorado Hills Community Services District. 2008. *Design Review Committee Guideline/Covenants, Conditions & Restrictions Manual Revised July 15, 2008*. El Dorado Hills Community Services District. Available online at: http://www.edhcsd.org/downloadable_documents.html. [Accessed 8/15/2017].

Foothill Associates. 2009. *Delineation of Waters of the United States for the Silva Valley Interchange ±200-Acre Site, El Dorado County, California*. Originally prepared in 2005. Revised April 22, 2009.

Foothill Associates. 2012a. *California Red-Legged Frog Surveys on the Proposed Silva Valley Parkway Interchange Project (SPK-2005-00070), El Dorado County, California*. Prepared for El Dorado County, dated November 13, 2012.

Foothill Associates. 2012b. *Survey for Potential Habitat for the Valley Elderberry Longhorn Beetle (Desmocerus californicus dimorphus) for the Proposed Silva Valley Parkway Interchange Project (08ESMF00-2011-TA-0871-1), El Dorado County, California*. Prepared for the U.S. Fish and Wildlife Service dated April 19, 2012.

Foothill Associates. 2013. *California Red-Legged Frog Surveys on the Proposed Silva Valley Parkway Interchange Project (SPK-2005-00070), El Dorado County, California*. Prepared for El Dorado County, dated April 2, 2013.

Foothill Associates. 2015. *El Dorado Hills 52 Tree Survey, Preservation, and Replacement Plan*. Dated October 20, 2015.

Foothill Associates. 2016a. *California Red-Legged Frog (Rana draytonii) Breeding Season Survey Report for the 32-Acre El Dorado Hills 52 Project, El Dorado County, California*. August 30, 2016.

Foothill Associates. 2016b. *Results of the Protocol Level Burrowing Owl Surveys Letter Report for the El Dorado Hills 52 Project, El Dorado County, California*. February 22, 2016.

Foothill Associates. 2016c. *Results of the Protocol Level Special-Status Plant Surveys Letter Report for the El Dorado Hills 52 Project, El Dorado County, California*. February 25, 2016.

Foothill Associates. 2017a. *Aquatic Resources Delineation Report for the El Dorado Hills 52 ±32-Acre Site, El Dorado County, California*. September 18, 2017.

Foothill Associates. 2017b. *El Dorado Hills 52 Tree Survey, Preservation, and Replacement Plan*. September 18, 2017.

Kochert, M. N., K. Steenhof, C. L. Mcintyre and E. H. Craig. 2002. Golden Eagle (Aquila chrysaetos), *The Birds of North America Online* (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Available online at: http://bna.birds.cornell.edu/bna/species/684.

McGrady, M.J. 1997. "*Golden Eagle*". Birds of the Western Palearctic Update, 1: 99-114.

Nature Serve. 2017. *Nature Serve Explorer*: *An Online Encyclopedia of Life* [Web Application]. Version 7.1. NatureServe, Arlington, Virginia. Available online at: http://www.natureserve.org/explorer. [Accessed 8/21/2017].

Poulin, Ray, L. Danielle Todd, E. A. Haug, B. A. Millsap and M. S. Martell. 2011. Burrowing Owl (*Athene cunicularia*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online at: http://bna.birds.cornell.edu/bna/species/061. doi:10.2173/bna.61. [Accessed 8/21/2017].

Rana Resources. 2013. Mark Jennings. Personal Communication. September 18, 2013.

Rosenberg, D., J. Gervais, and D. Vesely. 2009. *Conservation Assessment of the Western Pond Turtle in Oregon* (*Actinemys marmorata*). Version 1.0. November 2009. U.S.D.I. Bureau of Land Management and Fish and Wildlife Service. U.S.D.A. Forest Service Region 6. Oregon Department of Fish and Wildlife, City of Portland. Metro.

Sawyer, John O. and Todd Keeler-Wolf. 2009. *A Manual of California Vegetation*. California Native Plant Society, Sacramento, California.

Stebbins, R. C. 2003. *Western Amphibians and Reptiles*, *3rd Edition*. Boston: Houghton Mifflin Co.

Thorpe, Robin. Quoted in "*The Day the First Bumble Bee Arrived*" on Bug Squad. May 2, 2106. Available online at: http://ucanr.edu/blogs/blogcore/postdetail.cfm?postnum=20925. [Accessed 8/21/2017].

U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS). 1974. *Soil Survey of El Dorado Area, California*. USDA, NRCS, in cooperation with the Regents of the University of California (Agricultural Experiment Station).

USDA, NRCS. 2017. *National Hydric Soils List by State*. Available online at: http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/. Accessed [8/15/2017].

USDA, NRCS. 2017. *Web Soil Survey*. Available online at: http://websoilsurvey.sc.egov.usda.gov/App/HomePage.html. Accessed [8/15/2017].

U.S. Fish and Wildlife Service (USFWS). 1980. *Listing the Valley Elderberry Longhorn Beetle as a Threatened Species with Critical Habitat. Federal Register 45:52803–52807*.

USFWS. 1984. *Recovery Plan for the Valley Elderberry Longhorn Beetle*. U.S. Fish and Wildlife Service, Endangered Species Program: Portland, Oregon.

USFWS. 1999. *Conservation Guidelines for the Valley Elderberry Longhorn Beetle: Sacramento, California*.

USFWS. 2002. *Recovery Plan for the California Red-legged Frog* (*Rana aurora draytonii*). U.S. Fish and Wildlife Service, Portland, Oregon. viii + 173 pp.

USFWS. 2005. *Revised Guidance on Site Assessment and Field Surveys for the California Red-legged Frog*.

USFWS. 2010. *Interim Golden Eagle Inventory and Monitoring Protocols; and Other Recommendations*. Available online at: http://www.fws.gov/southwest/es/oklahoma/documents/te_species/wind%20power/usfws_interim_goea_monitoring_protocol_10march2010.pdf.

USFWS. 2011. *California Red-legged Frog* (*Rana draytonii*). U.S. Fish and Wildlife Service: Arcata Fish and Wildlife Office, Pacific Southwest Region. Last updated on April 11, 2011.

USFWS. 2012. *Informal Endangered Species Act Consultation on the Proposed Silva Valley Parkway Interchange Project (SPK-2005-00070), El Dorado County, California*. Letter addressed to the U.S. Army Corps of Engineers, dated August 6, 2012.

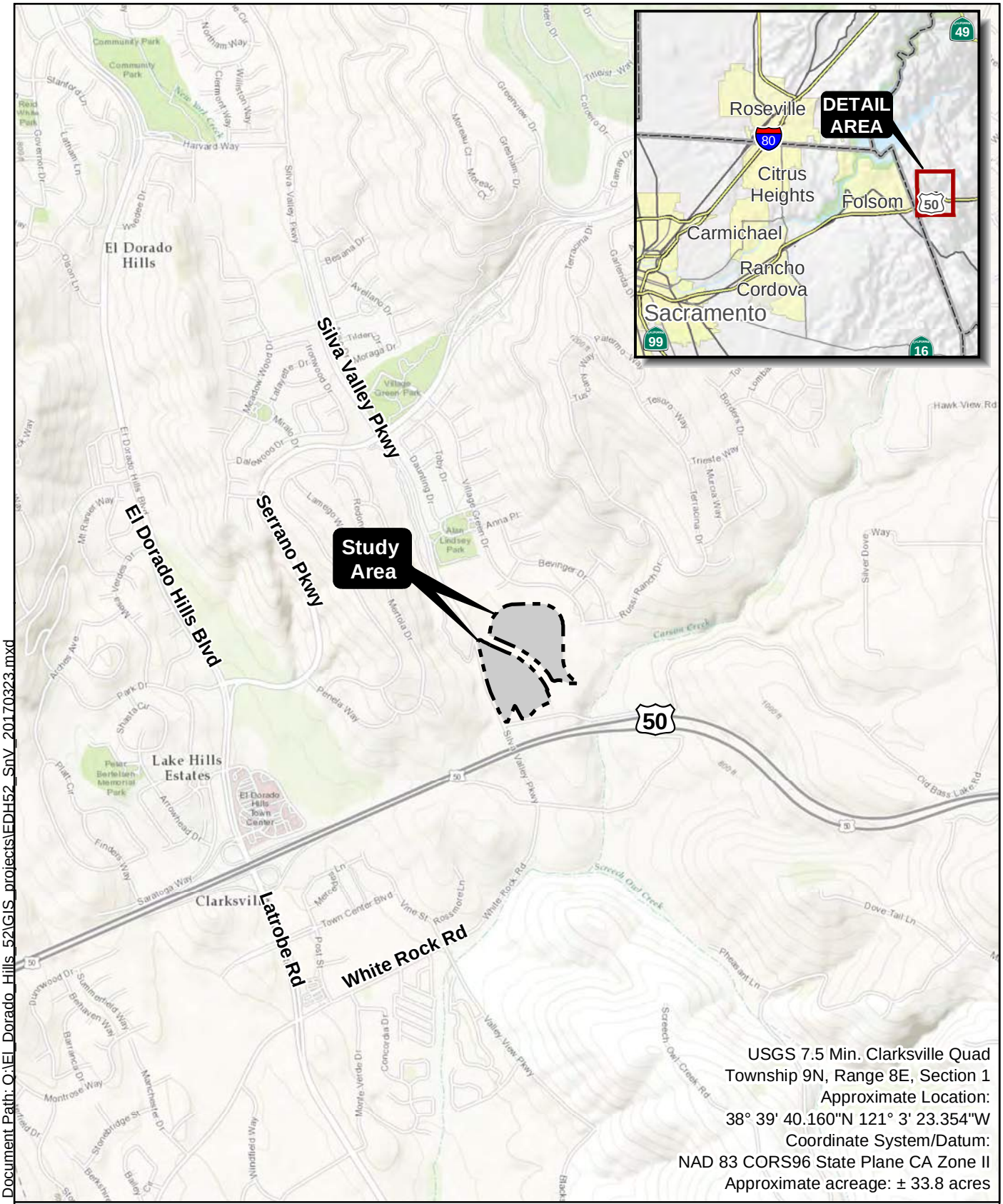
USFWS. 2017. *Information for Planning and Conservation* (IPaC) *Official Species List*: *El Dorado Hills 52*. Accessed [8/15/2017]

U.S. Geological Survey (USGS). 1967. Photorevised 1980. *Clarksville, California*. 7.5 -minute series topographic quadrangle. U.S. Department of the Interior.

Watson, Jeff. 2010. *The Golden Eagle*. 2nd Edition. London: A&C Black Publishers.

Zeiner D.C., W.R. Laudenslayer Jr., K.E. Mayer, and M. White, eds. 1988. *California's Wildlife, Volume I, Amphibians and Reptiles.* State of California: The Resource Agency, Department of Fish and Game, Sacramento, CA.

Zeiner, D.C., W.R. Laudenslayer Jr., K.E. Mayer, and M. White, eds. 1990. *California's Wildlife Volume II: Birds*. State of California: The Resource Agency, Department of Fish and Game, Sacramento, CA.



Document Path: Q:\El_Dorado_Hills_52\GIS_projects\EDH52_SnV_20170323.mxd

USGS 7.5 Min. Clarksville Quad
Township 9N, Range 8E, Section 1
Approximate Location:
38° 39' 40.160"N 121° 3' 23.354"W
Coordinate System/Datum:
NAD 83 CORS96 State Plane CA Zone II
Approximate acreage: ± 33.8 acres

SITE AND VICINITY

FOOTHILL ASSOCIATES
ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE

© 2017

N

0 1000 2000
Feet
1 in = 2,000 feet

Drawn By: MUB
QA/QC: AMP
Date: 08/18/2017

FIGURE 1



Document Path: Q:\El Dorado Hills 52\GIS projects\Soils 20150922.mxd

SOILS

FOOTHILL ASSOCIATES
ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE

© 2017

N

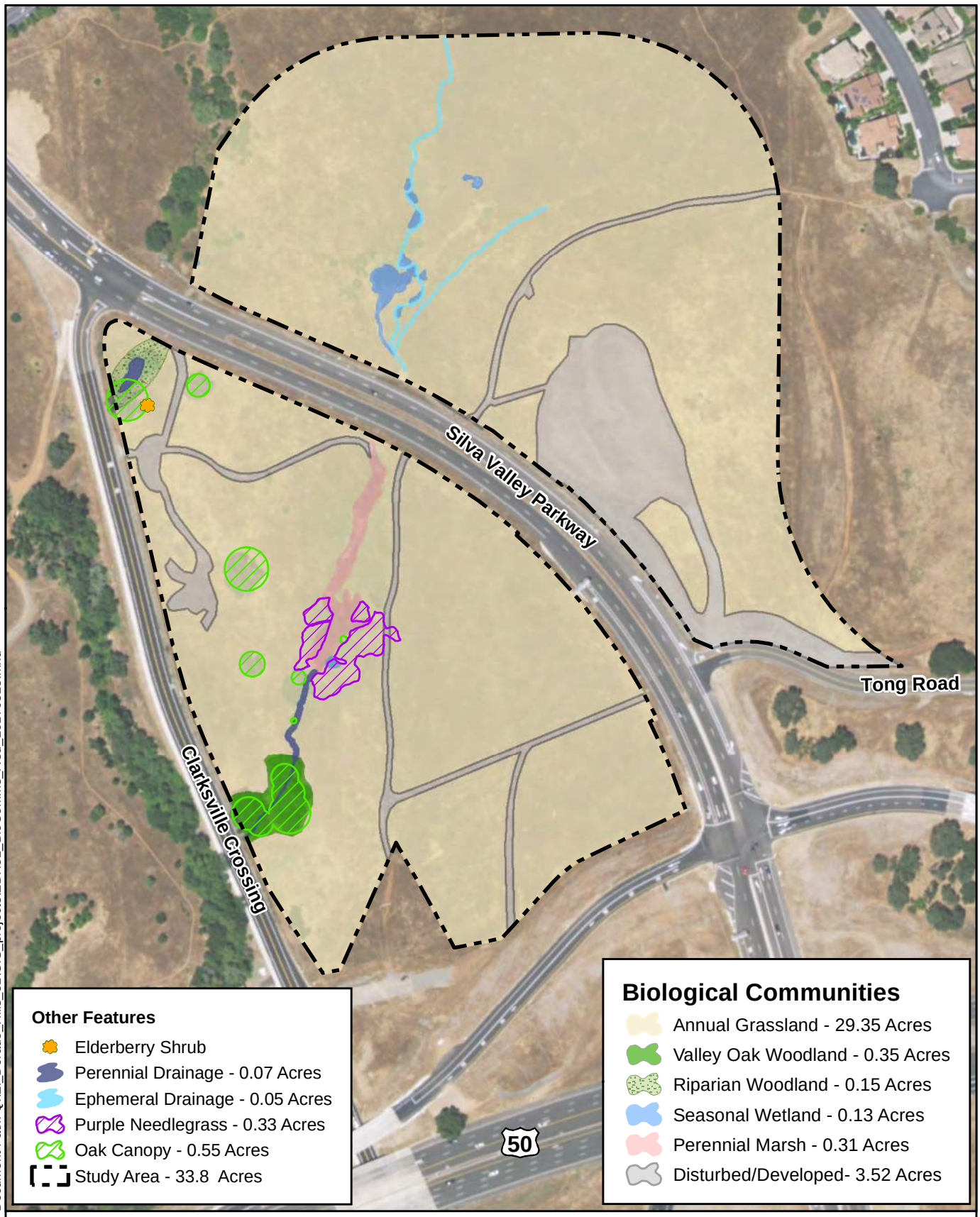
0 125 250
Feet
1 inch = 250 feet

Drawn By: MUB
QA/QC: AMP
Date: 08/15/2017

FIGURE 2

EL DORADO HILLS 52 PROPERTY

Document Name: Soils_20150922.mxd : : 8/18/2017 5:51:25 PM



Document Path: Q:\El_Dorado_Hills_52\GIS_projects\EDH52_BioComms_rvsd_20170323.mxd

BIOLOGICAL COMMUNITIES

FOOTHILL ASSOCIATES
ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE

© 2017

N

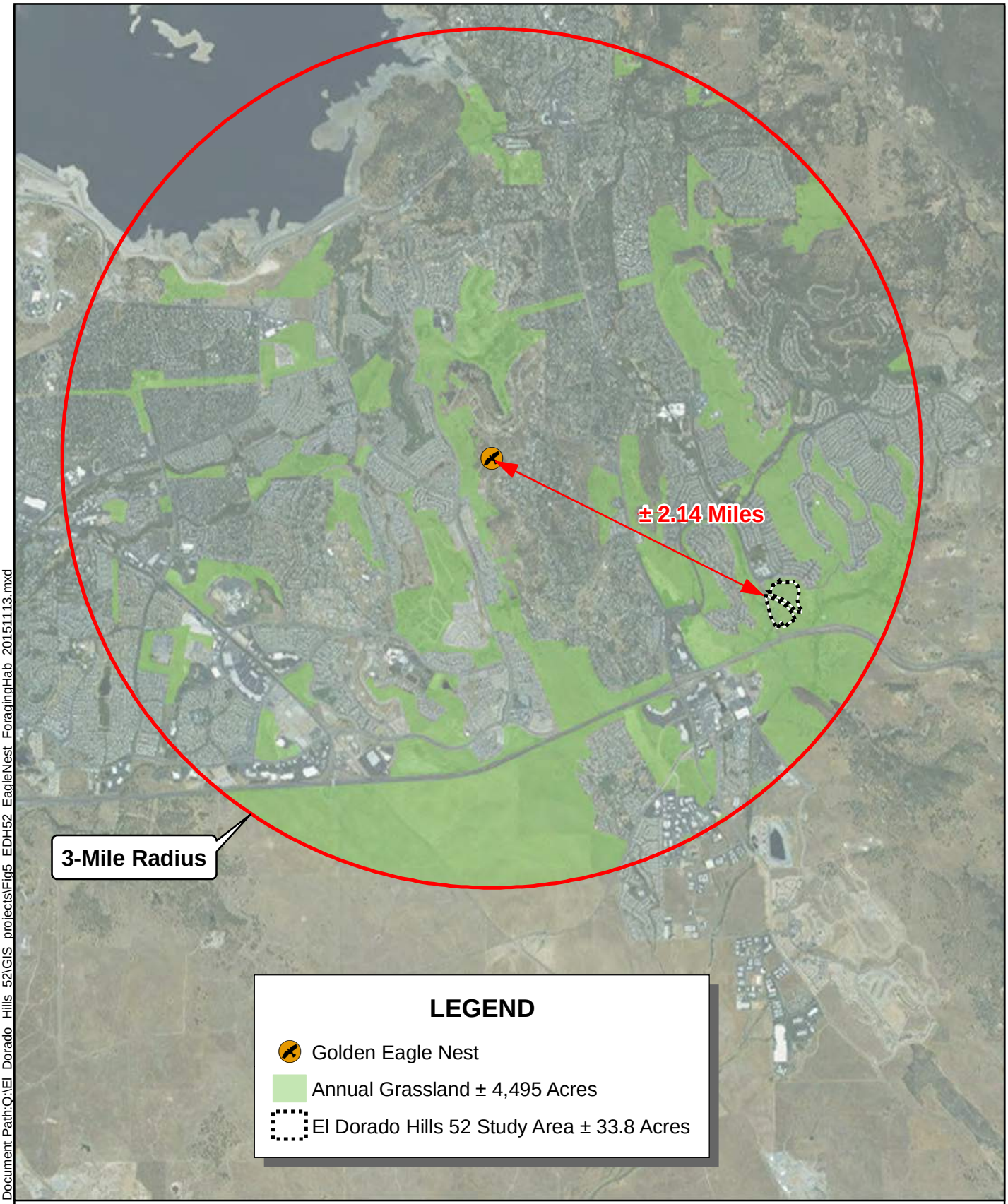
0 125 250
Scale in Feet
1 inch = 250 feet

Drawn By: MUB
QA/QC: AMP
Date: 08/23/2017

FIGURE 3

EL DORADO HILLS 52 PROPERTY

Document Name: EDH52_BioComms_rvsd_20170323.mxd : Date Saved: 8/23/2017 2:19:21 PM



Document Path:Q:\El Dorado Hills 52\GIS projects\Fig5 EDH52 EagleNest ForagingHab 20151113.mxd

ANNUAL GRASSLAND FOR GOLDEN EAGLE FORAGING HABITAT WITHIN THE VICINITY OF THE STUDY AREA

FOOTHILL ASSOCIATES
ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE

© 2017

N

0 0.5 1
Miles
1:60,000

Drawn By: MUB
QA/QC: AMP
Date: 08/18/2017

FIGURE 4

EL DORADO HILLS 52 PROPERTY

Document Name: Fig5_EDH52_EagleNest_ForagingHab_20151113 : 10/2/2017 11:35:25 AM

Appendix A — Selected General and Specific Plan Policies

El Dorado County General Plan

Conservation and Protection of Water Resources

GOAL 7.3: WATER QUALITY AND QUANTITY
Conserve, enhance, and manage water resources and protect their quality from degradation.

OBJECTIVE 7.3.1: WATER RESOURCE PROTECTION
Preserve and protect the supply and quality of the County's water resources including the protection of critical watersheds, riparian zones, and aquifers.

Policy 7.3.1.1 Encourage the use of Best Management Practices, as identified by the Soil Conservation Service, in watershed lands as a means to prevent erosion, siltation, and flooding.

Policy 7.3.1.2 Establish water conservation programs that include both drought tolerant landscaping and efficient building design requirements as well as incentives for the conservation and wise use of water.

Policy 7.3.1.3 The County shall develop the criteria and draft an ordinance to allow and encourage the use of domestic gray water for landscape irrigation purposes. (See Title 22 of the State Water Code and the Graywater Regulations of the Uniform Plumbing Code).

OBJECTIVE 7.3.2: WATER QUALITY
Maintenance of and, where possible, improvement of the quality of underground and surface water.

Policy 7.3.2.1 Stream and lake embankments shall be protected from erosion, and streams and lakes shall be protected from excessive turbidity.

Policy 7.3.2.2 Projects requiring a grading permit shall have an erosion control program approved, where necessary.

Policy 7.3.2.3 Where practical and when warranted by the size of the project, parking lot storm drainage shall include facilities to separate oils and salts from storm water in accordance with the recommendations of the Storm Water Quality Task Force's California Storm Water Best Management Practices Handbooks (1993).

Policy 7.3.2.4 The County should evaluate feasible alternatives to the use of salt for ice control on County roads.

Policy 7.3.2.5 As a means to improve the water quality affecting the County's recreational waters, enhanced and increased detailed analytical water quality studies and

monitoring should be implemented to identify and reduce point and non-point pollutants and contaminants. Where such studies or monitoring reports have identified sources of pollution, the County shall propose means to prevent, control, or treat identified pollutants and contaminants.

OBJECTIVE 7.3.3: WETLANDS

Protection of natural and man-made wetlands, vernal pools, wet meadows, and riparian areas from impacts related to development for their importance to wildlife habitat, water purification, scenic values, and unique and sensitive plant life.

Policy 7.3.3.1 *For projects that would result in the discharge of material to or that may affect the function and value of river, stream, lake, pond, or wetland features, the application shall include a delineation of all such features. For wetlands, the delineation shall be conducted using the U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual*

Policy 7.3.3.2 *Intentionally blank*

Policy 7.3.3.3 *The County shall develop a database of important surface water features, including lake, river, stream, pond, and wetland resources.*

Policy 7.3.3.4 *The Zoning Ordinance shall be amended to provide buffers and special setbacks for the protection of riparian areas and wetlands. The County shall encourage the incorporation of protected areas into conservation easements or natural resource protection areas.*

Exceptions to riparian and wetland buffer and setback requirements shall be provided to permit necessary road and bridge repair and construction, trail construction, and other recreational access structures such as docks and piers, or where such buffers deny reasonable use of the property, but only when appropriate mitigation measures and Best Management Practices are incorporated into the project. Exceptions shall also be provided for horticultural and grazing activities on agriculturally zoned lands that utilize "best management practices (BMPs)" as recommended by the County Agricultural Commission and adopted by the Board of Supervisors.

Until standards for buffers and special setbacks are established in the Zoning Ordinance, the County shall apply a minimum setback of 100 feet from all perennial streams, rivers, lakes, and 50 feet from intermittent streams and wetlands. These interim standards may be modified in a particular instance if more detailed information relating to slope, soil stability, vegetation, habitat, or other site- or project-specific conditions supplied as part of the review for a specific project demonstrates that a different setback is necessary or would be sufficient to protect the particular riparian area at issue.

For projects where the County allows an exception to wetland and riparian buffers, development in or immediately adjacent to such features shall be planned so that impacts on the resources are minimized. If avoidance and minimization are not feasible, the County shall make findings, based on documentation provided by the project proponent, that avoidance and minimization are infeasible.

Policy 7.3.3.5 *Rivers, streams, lakes and ponds, and wetlands shall be integrated into new development in such a way that they enhance the aesthetic and natural character of the site while disturbance to the resource is avoided or minimized and fragmentation is limited.*

OBJECTIVE 7.3.4: DRAINAGE
Protection and utilization of natural drainage patterns.

Policy 7.3.4.1 *Natural watercourses shall be integrated into new development in such a way that they enhance the aesthetic and natural character of the site without disturbance.*

Policy 7.3.4.2 *Modification of natural stream beds and flow shall be regulated to ensure that adequate mitigation measures are utilized.*

OBJECTIVE 7.3.5: WATER CONSERVATION
Conservation of water resources, encouragement of water conservation, and construction of wastewater disposal systems designed to reclaim and re-use treated wastewater on agricultural crops and for other irrigation and wildlife enhancement projects.

Policy 7.3.5.1 *Drought-tolerant plant species, where feasible, shall be used for landscaping of commercial development. Where the use of drought-tolerant native plant species is feasible, they should be used instead of non-native plant species.*

Policy 7.3.5.2 *A list of appropriate local indigenous drought tolerant plant materials shall be maintained by the County Planning Department and made available to the public.*

Policy 7.3.5.3 *The County Parks and Recreation Division shall use drought tolerant landscaping for all new parks and park improvement projects.*

Policy 7.3.5.4 *Require efficient water conveyance systems in new construction. Establish a program of ongoing conversion of open ditch systems shall be considered for conversion to closed conduits, reclaimed water supplies, or both, as circumstances permit.*

Policy 7.3.5.5 *Encourage water reuse programs to conserve raw or potable water supplies consistent with State Law.*

Conservation of Biological Resources

GOAL 7.4: WILDLIFE AND VEGETATION RESOURCES
Identify, conserve, and manage wildlife, wildlife habitat, fisheries, and vegetation resources of significant biological, ecological, and recreational value.

OBJECTIVE 7.4.1: RARE, THREATENED, AND ENDANGERED SPECIES
The County shall protect State and federally recognized rare, threatened, or endangered species and their habitats consistent with Federal and State laws.

Policy 7.4.1.1 *The County shall continue to provide for the permanent protection of the eight sensitive plant species known as the Pine Hill endemics and their habitat through the establishment and management of ecological preserves consistent with County Code Chapter 17.71 and the USFWS's Gabbro Soil Plants for the Central Sierra Nevada Foothills Recovery Plan (USFWS 2002).*

Policy 7.4.1.2 *Private land for preserve sites will be purchased only from willing sellers.*

Policy 7.4.1.3 *Limit land uses within established preserve areas to activities deemed compatible. Such uses may include passive recreation, research and scientific study, and education. In conjunction with use as passive recreational areas, develop a rare plant educational and interpretive program.*

Policy 7.4.1.4 *Proposed rare, threatened, or endangered species preserves, as approved by the County Board of Supervisors, shall be designated Ecological Preserve (-EP) overlay on the General Plan land use map.*

Policy 7.4.1.5 *Species, habitat, and natural community preservation/conservation strategies shall be prepared to protect special-status plant and animal species and natural communities and habitats when discretionary development is proposed on lands with such resources unless it is determined that those resources exist, and either are or can be protected, on public lands or private Natural Resource lands.*

Policy 7.4.1.6 *All development projects involving discretionary review shall be designed to avoid disturbance or fragmentation of important habitats to the extent reasonably feasible. Where avoidance is not possible, the development shall be required to fully mitigate the effects of important habitat loss and fragmentation. Mitigation shall be defined in the Integrated Natural Resources Management Plan (INRMP) (see Policy 7.4.2.8 and Implementation Measure CO-M).*

The County Agricultural Commission, Plant and Wildlife Technical Advisory Committee, representatives of the agricultural community, academia, and other

stakeholders shall be involved and consulted in defining the important habitats of the County and in the creation and implementation of the INRMP.

Policy 7.4.1.7 The County shall continue to support the Noxious Weed Management Group in its efforts to reduce and eliminate noxious weed infestations to protect native habitats and to reduce fire hazards.

OBJECTIVE 7.4.2: IDENTIFY AND PROTECT RESOURCES
Identification and protection, where feasible, of critical fish and wildlife habitat including deer winter, summer, and fawning ranges; deer migration routes; stream and river riparian habitat; lake shore habitat; fish spawning areas; wetlands; wildlife corridors; and diverse wildlife habitat.

Policy 7.4.2.1 To the extent feasible in light of other General Plan policies and to the extent permitted by State law, the County of El Dorado will protect identified critical fish and wildlife habitat, as identified on the Important Biological Resources Map maintained at the Planning Department, through any of the following techniques: utilization of open space, Natural Resource land use designation, clustering, large lot design, setbacks, etc.

Policy 7.4.2.2 Where critical wildlife areas and migration corridors are identified during review of projects; the County shall protect the resources from degradation by requiring all portions of the Site that contain or influence said areas to be retained as non-disturbed natural areas through mandatory clustered development on suitable portions of the Site or other means such as density transfers if clustering cannot be achieved. The setback distance for designated or protected migration corridors shall be determined as part of the project's environmental analysis. The intent and emphasis of the Open Space land use designation and of the non-disturbance policy is to ensure continued viability of contiguous or interdependent habitat areas and the preservation of all movement corridors between related habitats. The intent of mandatory clustering is to provide a mechanism for natural resource protection while allowing appropriate development of private property. Horticultural and grazing projects on agriculturally designated lands are exempt from the restrictions placed on disturbance of natural areas when utilizing "Best Management Practices" (BMPs) recommended by the County Agricultural Commission and adopted by the Board of Supervisors when not subject to Policy 7.1.2.7.

Policy 7.4.2.3 Consistent with Policy 9.1.3.1 of the Parks and Recreation Element, low impact uses such as trails and linear parks may be provided within river and stream buffers if all applicable mitigation measures are incorporated into the design.

Policy 7.4.2.4 Establish and manage wildlife habitat corridors within public parks and natural resource protection areas to allow for wildlife use. Recreational uses within these areas shall be limited to those activities that do not require grading or vegetation removal.

Policy 7.4.2.5 Setbacks from all rivers, streams, and lakes shall be included in the Zoning Ordinance for all ministerial and discretionary development projects.

Policy 7.4.2.6 El Dorado County Biological Community Conservation Plans shall be required to protect, to the extent feasible, rare, threatened, and endangered plant species only when existing federal or State plans for non-jurisdictional areas do not provide adequate protection.

Policy 7.4.2.7 The County shall form a Plant and Wildlife Technical Advisory Committee to advise the Planning Commission and Board of Supervisors on plant and wildlife issues, and the committee should be formed of local experts, including agricultural, fire protection, and forestry representatives, who will consult with other experts with special expertise on various plant and wildlife issues, including representatives of regulatory agencies. The Committee shall formulate objectives which will be reviewed by the Planning Commission and Board of Supervisors.

Policy 7.4.2.8 Develop within five years and implement an Integrated Natural Resources Management Plan (INRMP) that identifies important habitat in the County and establishes a program for effective habitat preservation and management. The INRMP shall include the following components:

A. Habitat Inventory. This part of the INRMP shall inventory and map the following important habitats in El Dorado County:

1. *Habitats that support special-status species;*
2. *Aquatic environments including streams, rivers, and lakes;*
3. *Wetland and riparian habitat;*
4. *Important habitat for migratory deer herds; and*
5. *Large expanses of native vegetation.*

The County should update the inventory every three years to identify the amount of important habitat protected, by habitat type, through County programs and the amount of important habitat removed because of new development during that period. The inventory and mapping effort shall be developed with the assistance of the Plant and Wildlife Technical Advisory Committee, CDFW, and USFWS. The

inventory shall be maintained and updated by the County Planning Department and shall be publicly accessible.

B. *Habitat Protection Strategy. This component shall describe a strategy for protecting important habitats based on coordinated land acquisitions (see item D below) and management of acquired land. The goal of the strategy shall be to conserve and restore contiguous blocks of important habitat to offset the effects of increased habitat loss and fragmentation elsewhere in the county. The Habitat Protection Strategy should be updated at least once every five years based on the results of the habitat monitoring program (item F below). Consideration of wildlife movement will be given by the County on all future 4- and 6-lane roadway construction projects. When feasible, natural undercrossings along proposed roadway alignments that could be utilized by terrestrial wildlife for movement will be preserved and enhanced.*

C. *Mitigation Assistance. This part of the INRMP shall establish a program to facilitate mitigation of impacts to biological resources resulting from projects approved by the County that are unable to avoid impacts on important habitats. The program may include development of mitigation banks, maintenance of lists of potential mitigation options, and incentives for developers and landowner participation in the habitat acquisition and management components of the INRMP.*

D. *Habitat Acquisition. Based on the Habitat Protection Strategy and in coordination with the Mitigation Assistance program, the INRMP shall include a program for identifying habitat acquisition opportunities involving willing sellers. Acquisition may be by state or federal land management agencies, private land trusts or mitigation banks, the County, or other public or private organizations. Lands may be acquired in fee or protected through acquisition of a conservation easement designed to protect the core habitat values of the land while allowing other uses by the fee owner. The program should identify opportunities for partnerships between the County and other organizations for habitat acquisition and management. In evaluating proposed acquisitions, consideration will be given to site specific features (e.g., condition and threats to habitat, presence of special-status species), transaction related features (e.g., level of protection gained, time frame for purchase completion, relative costs), and regional considerations (e.g., connectivity with adjacent protected lands and important habitat, achieves multiple agency and community benefits). Parcels that include important habitat and are located generally to the west of the El Dorado National Forest should be given priority for acquisition. Priority will also be given to parcels that would preserve natural wildlife movement corridors such as*

crossing under major roadways (e.g., U.S. Highway 50 and across canyons). All land acquired shall be added to the Ecological Preserve overlay area.

E. *Habitat Management. Each property or easement acquired through the INRMP should be evaluated to determine whether the biological resources would benefit from restoration or management actions. Examples of the many types of restoration or management actions that could be undertaken to improve current habitat conditions include: removal of non-native plant species, planting native species, repair and rehabilitation of severely grazed riparian and upland habitats, removal of culverts and other structures that impede movement by native fishes, construction of roadway under and overcrossing that would facilitate movement by terrestrial wildlife, and installation of erosion control measures on land adjacent to sensitive wetland and riparian habitat.*

F. *Monitoring. The INRMP shall include a habitat monitoring program that covers all areas under the Ecological Preserve overlay together with all lands acquired as part of the INRMP. Monitoring results shall be incorporated into future County planning efforts so as to more effectively conserve and restore important habitats. The results of all special-status species monitoring shall be reported to the CNDDB. Monitoring results shall be compiled into an annual report to be presented to the Board of Supervisors.*

G. *Public Participation. The INRMP shall be developed with and include provisions for public participation and informal consultation with local, state, and federal agencies having jurisdiction over natural resources within the County.*

H. *Funding. The County shall develop a conservation fund to ensure adequate funding of the INRMP, including habitat maintenance and restoration. Funding may be provided from grants, mitigation fees, and the County general fund. The INRMP annual report described under item F above shall include information on current funding levels and shall project anticipated funding needs and anticipated and potential funding sources for the following five years.*

Policy 7.4.2.9 *The Important Biological Corridor (-IBC) overlay shall apply to lands identified as having high wildlife habitat values because of extent, habitat function, connectivity, and other factors. Lands located within the overlay district shall be subject to the following provisions except that where the overlay is applied to lands that are also subject to the Agricultural District (-A) overlay or that are within the Agricultural Lands (AL) designation, the land use restrictions associated with the -IBC policies will not apply to the extent that the agricultural practices do not interfere with the purposes of the -IBC overlay.*

- *Increased minimum parcel size;*
- *Higher canopy-retention standards and/or different mitigation standards/thresholds for oak woodlands;*
- *Lower thresholds for grading permits;*
- *Higher wetlands/riparian retention standards and/or more stringent mitigation requirements for wetland/riparian habitat loss;*
- *Increased riparian corridor and wetland setbacks;*
- *Greater protection for rare plants (e.g., no disturbance at all or disturbance only as recommended by U.S. Fish and Wildlife Service/California Department of Fish and Wildlife);*
- *Standards for retention of contiguous areas/large expanses of other (non-oak or non-sensitive) plant communities;*
- *Building permits discretionary or some other type of "site review" to ensure that canopy is retained;*
- *More stringent standards for lot coverage, floor area ratio (FAR), and building height; and*
- *No hindrances to wildlife movement (e.g., no fences that would restrict wildlife movement).*

The standards listed above shall be included in the Zoning Ordinance.

Wildland Fire Safe measures are exempt from this policy, except that Fire Safe measures will be designed insofar as possible to be consistent with the objectives of the Important Biological Corridor.

OBJECTIVE 7.4.3: COORDINATION WITH APPROPRIATE AGENCIES
Coordination of wildlife and vegetation protection programs with appropriate federal and State agencies.

OBJECTIVE 7.4.5: NATIVE VEGETATION AND LANDMARK TREES
Protect and maintain native trees including oaks and landmark and heritage trees.

Policy 7.4.5.1 A tree survey, preservation, and replacement plan shall be required to be filed with the County prior to issuance of a grading permit for discretionary permits on all high-density residential, multifamily residential, commercial, and industrial projects. To ensure that proposed replacement trees survive, a mitigation monitoring plan should be incorporated into discretionary projects when applicable and shall include provisions for necessary replacement of trees.

Policy 7.4.5.2 It shall be the policy of the County to preserve native oaks wherever feasible, through the review of all proposed development activities where such trees are present on either public or private property, while at the same time recognizing individual rights to develop private property in a reasonable manner. To ensure that oak tree loss is reduced to reasonable acceptable levels, the County shall develop and implement an Oak Tree Preservation Ordinance that includes the following components:

A. Oak Tree Removal Permit Process. Except under special exemptions, a tree removal permit shall be required by the County for removal of any native oak tree with a single main trunk of at least 6 inches diameter at breast height (dbh), or a multiple trunk with an aggregate of at least 10 inches dbh. Special exemptions when a tree removal permit is not needed shall include removal of trees less than 36 inches dbh on 1) lands in Williamson Act Contracts, Farmland Security Zone Programs, Timber Production Zones, Agricultural Districts, designated Agricultural Land (AL), and actions pursuant to a Fire Safe plan; 2) all single family residential lots of one acre or less that cannot be further subdivided; 3) when a native oak tree is cut down on the owner's property for the owner's personal use; and 4) when written approval has been received from the County Planning Department. In passing judgment upon tree removal permit applications, the County may impose such reasonable conditions of approval as are necessary to protect the health of existing oak trees, the public and the surrounding property, or sensitive habitats. The County Planning Department may condition any removal of native oaks upon the replacement of trees in kind. The replacement requirement shall be calculated based upon an inch for inch replacement of removed oaks. The total of replacement trees shall have a combined diameter of the tree(s) removed. Replacement trees may be planted onsite or in other areas to the satisfaction of the County Planning Department. The County may also condition any tree removal permit that would affect sensitive habitat (e.g., valley oak woodland), on preparation of a Biological Resources Study and an Important Habitat Mitigation Program as described in Policy 7.4.1.6. If an application is denied, the County shall provide written notification, including the reasons for denial, to the applicant.

B. Tree Removal Associated with Discretionary Project. Any person desiring to remove a native oak shall provide the County with the following as part of the project application:

- *A written statement by the applicant or an arborist stating the justification for the development activity, identifying how trees in the vicinity of the project or construction site will be protected and stating*

that all construction activity will follow approved preservation methods;

- *A site map plan that identifies all native oaks on the project site; and*
- *A report by a certified arborist that provides specific information for all native oak trees on the project site.*

C. *Commercial Firewood Cutting. Fuel wood production is considered commercial when a party cuts firewood for sale or profit. An oak tree removal permit shall be required for commercial firewood cutting of any native oak tree. In reviewing a permit application, the Planning Department shall consider the following:*

- *Whether the trees to be removed would have a significant negative environmental impact;*
- *Whether the proposed removal would not result in clear-cutting, but will result in thinning or stand improvement;*
- *Whether replanting would be necessary to ensure adequate regeneration;*
- *Whether the removal would create the potential for soil erosion;*
- *Whether any other limitations or conditions should be imposed in accordance with sound tree management practices; and*
- *What the extent of the resulting canopy cover would be.*

D. *Penalties. Fines will be issued to any person, firm, or corporation that is not exempt from the ordinance who damages or destroys an oak tree without first obtaining an oak tree removal permit. Fines may be as high as three times the current market value of replacement trees as well as the cost of replacement, and/or replacement of up to three times the number of trees required by the ordinance. If oak trees are removed without a tree removal permit, the County Planning Department may choose to deny or defer approval of any application for development of that property for a period of up to 5 years. All monies received for replacement of illegally removed or damaged trees shall be deposited in the County's Integrated Natural Resources Management Plan (INRMP) conservation fund.*

Preservation of Open Space

GOAL 7.6: OPEN SPACE CONSERVATION

Conserve open space land for the continuation of the County's rural character, commercial agriculture, forestry and other productive uses, the enjoyment of scenic beauty and recreation, the protection of natural resources, for protection from natural hazards, and for wildlife habitat.

OBJECTIVE 7.6.1: IMPORTANCE OF OPEN SPACE

Consideration of open space as an important factor in the County's quality of life.

Policy 7.6.1.1 *The General Plan land use map shall include an Open Space land use designation. The purpose of this designation is to implement the goals and objectives of the Land Use and the Conservation and Open Space Elements by serving one or more of the purposes stated below. In addition, the designations on the land use map for Rural Residential and Natural Resource areas are also intended to implement said goals and objectives. Primary purposes of open space include:*

A. Conserving natural resource areas required for the conservation of plant and animal life including habitat for fish and wildlife species; areas required for ecologic and other scientific study purposes; rivers, streams, banks of rivers and streams and watershed lands;

B. Conserving natural resource lands for the managed production of resources including forest products, rangeland, agricultural lands important to the production of food and fiber; and areas containing important mineral deposits;

C. Maintaining areas of importance for outdoor recreation including areas of outstanding scenic, historic and cultural value; areas particularly suited for park and recreation purposes including those providing access to lake shores, beaches and rivers and streams; and areas which serve as links between major recreation and open space reservations including utility easements, banks of rivers and streams, trails and scenic highway corridors;

D. Delineating open space for public health and safety including, but not limited to, areas which require special management or regulation because of hazardous or special conditions such as earthquake fault zones, unstable soil areas, flood plains, watersheds, areas presenting high fire risks, areas required for the protection of water quality and water reservoirs, and areas required for the protection and enhancement of air quality; and

E. Providing for open spaces to create buffers which may be landscaped to minimize the adverse impact of one land use on another.

Policy 7.6.1.2 *The County will provide for Open Space lands through:*

A. The designation of land as Open Space;

B. The designation of land for low-intensity land uses as provided in the Rural Residential and Natural Resource land use designations;

C. *Local implementation of the Federal Emergency Management Agency's National Flood Insurance Program;*

D. *Local implementation of the State Land Conservation Act Program; and*

E. *Open space land set aside through Planned Developments (PDs).*

Policy 7.6.1.3 *The County shall implement Policy 7.6.1.1 through zoning regulations and the administration thereof. It is intended that certain districts and certain requirements in zoning regulations carry out the purposes set forth in Policy 7.6.1.1 as follows:*

A. *The Open Space (OS) Zoning District is consistent with and shall implement the Open Space designation of the General Plan land use map and all other land use designations.*

B. *The Agricultural (A), Exclusive Agricultural (AE), Planned Agricultural (PA), Select Agricultural (SA-10), and Timberland Production Zone (TPZ) zoning districts are consistent with Policy 7.6.1.1 and serve one or more of the purposes set forth therein.*

C. *Zoning regulations shall provide for setbacks from all flood plains, streams, lakes, rivers and canals to maintain Purposes A, B, C, and D set forth in Policy 7.6.1.1.*

D. *Zoning regulations shall provide for maintenance of permanent open space in residential, commercial, industrial, agricultural, and residential agricultural zone districts based on standards established in those provisions of the County Code. The regulations shall minimize impacts on wetlands, flood plains, streams, lakes, rivers, canals, and slopes in excess of 30 percent and shall maintain Purposes A, B, C, and D in Policy 7.6.1.1.*

E. *Landscaping requirements in zoning regulations shall provide for vegetative buffers between incompatible land uses in order to maintain Purpose E in Policy 7.6.1.1.*

F. *Zoning regulations shall provide for Mineral Resource Combining Zone Districts and/or other appropriate mineral zoning categories which shall be applied to lands found to contain important mineral deposits if development of the resource can occur in compliance with all other policies of the General Plan. Those regulations shall maintain Purposes A, B, C, D, and E of Policy 7.6.1.1.*

Policy 7.6.1.4 *The creation of new open space areas, including Ecological Preserves, common areas of new subdivisions, and recreational areas, shall include wildfire safety planning.*

El Dorado Hills Specific Plan

1.4.1.1 Site Development and Grading

The policies set forth in the Specific Plan are intended to maintain, to the maximum extent possible, the natural land forms and to exercise control over vegetation removal, landscaping, and grading. Grading controls are intended to reduce soil erosion to a minimum to ensure capability with adjacent terrain.

a) *Grading for roadways, driveways, building pads, and onsite improvements shall be minimized.*

b) *Grading volumes of cut-and-fill material shall be minimized and balanced onsite wherever possible. Larger grading volumes may be acceptable where improved visual and environmental effects would result.*

c) *Residential structures or accessory structures on slopes in access of 20 percent shall be carefully designed through use of erosion controls, engineered grading, and use of post and beam or step-footing construction to ensure long-term slope stability. Benched hillsides for building sites shall be avoided and split-level structures encouraged.*

d) *A plan to minimize impact to oak trees shall be submitted to the El Dorado County Community Development Department prior to approval of any tentative map. The plan will include, at a minimum, the locations and sizes of individual trees that should not be impacted.*

e) *A minimum of 20 percent of all roadside trees and parking lot trees shall be native oaks.*

f) *Removal of oak trees and other large native trees with trunk circumferences of 25 inches at 4.5 feet above grade shall be avoided where feasible. A tree replacement policy is provided in the Design Guidelines on file with the County of El Dorado.*

g) *To avoid damage to root systems of retained trees, residential construction shall not occur within the canopy area of oak trees over 30 inches in circumference at breast height, and shall be subject to review as provided in the Design Guidelines.*

h) *Landscaping in improved common areas shall be of drought-resistant varieties.*

i) *To preserve the vegetative character of the Plan Area, the planting of native trees, shrubs, and ground cover shall be encouraged in all new landscaping.*

j) *Landscaping in areas adjacent to natural open spaces shall be fire resistant.*

k) *Site design, building orientation, and street and lot patterns shall follow solar orientation principles to the maximum extent practicable to maximize energy conservation.*

l) Archaeological test excavations for selected locations within the Plan Area shall be required as a condition of approval of tentative subdivision maps.

m) As part of the tentative map approval, areas having expansive clays and seasonably wet areas shall be identified by a geotechnical engineer. Such areas, if deemed to be potential construction hazards, shall be subject to further evaluation and identification to determine appropriate mitigation measures.

n) To the maximum extent feasible, development shall be sited and designed to avoid impacts to culturally significant sties identified by the Final EIR for the Plan Area as EDH-26 and EDH-29.

o) Where feasible, and given the physical constraints of the Plan Area, subdivisions and other new development shall be designed to facilitate solar use as a means of reducing total energy consumption. The design elements that shall be considered include:

- *Solar orientation*
- *Shade Control*
- *Wind Management*
- *Solar access*

p) The Design Guidelines shall be one of the implementation measures of the Specific Plan.

1.4.1.2 Development Near Native Oak Trees

These guidelines are for the protection of healthy oak trees that will remain after construction in developed areas. The term circumference is breast height (CBH) refers to the trunk measurement of either one trunk or the addition of all trunks in a multi-trunked tree. The respective measure in circumference would also apply. Also refer to **Section 3.10** for Oak Tree Preservation Guidelines.

a) Protect all oak trees larger than 25 inches CBH o the maximum extent feasible. Priority will be given to oaks larger than 56 inches CBH.

b) Trees to be saved will be surrounded by a barrier or fence installed at the dripline and flagged.

c) Pruning of limbs will be confined to low-hanging branches over roads and sidewalks, and large branches that are weak or may reasonably appear to pose a safety hazard. Pruning paint will not be used under any circumstances. Pruning cuts will be made cleanly to avoid damaged to the "bark ridge" tissue of adjacent limbs.

d) The El Dorado County Planning Department will be responsible for enforcement of oak tree protection during construction.

e) In development areas, no oak trees larger than 25 inches CBH will be removed until a site survey and inspection report is performed.

1.4.1.5 Vegetation and Fire Hazards

In areas of planned development:

a) All potentially dry herbaceous vegetation will be mowed or disked within a 50-foot radius of all construction site activity.

b) Disking or mowing will be done to keep herbaceous vegetation under 3 inches in height at all construction sites.

c) No construction equipment or vehicles will be allowed within 50 feet of the unmowed perimeter.

d) Firebreaks will be installed by disking or mowing a trail that is satisfactory to the El Dorado Hills Fire Development. Mowing is preferred to disking or scraping because the latter two practices promote invasion of noxious weed species on fire trails.

e) Temporary or permanent firebreaks will be installed on all ridgelines, crossing all areas in the vicinity of construction and grading activity, prior to beginning work.

f) Firebreak installation will avoid the removal of native oaks and other native trees.

1.4.8 Natural Open Space Policies

The Natural Open Space Policies are to guide the preservation, management, and maintenance of these areas in relation to adjacent land uses.

1.4.8.1 General Policies

a) The boundaries of natural open space shall blend with the boundaries of the development as to enhance the integration of open space and developed areas.

b) Perimeter fencing may be permitted for rural parcels as provided in the El Dorado County Design Guidelines and CC&Rs.

c) Increased runoff from adjacent development will require erosion control measures to be coordinated with landscape design of adjacent development areas. Emphasis shall be placed on methods that rely on natural drainage systems and minimize change to the existing condition of creek channels within open space areas.

d) An Open Space Management Plan shall be completed and submitted to the El Dorado County Community Development Department prior to approval of any tentative map creating open space. It shall be an implementation mechanism of the Specific Plan in order to set forth procedures and responsibilities as to the ownership, preservation, and management of public and private natural open space areas. The Open Space Management Plan shall consider dedication to the County of El Dorado of easements

over the public open space areas, should dedication of fee ownership of these areas be made to any other entity. The open space plan shall be reviewed by the El Dorado Hills Fire Department. The plan shall also include, at a minimum:

1. *The locations of fire access roads, fuel breaks, and passive recreation trails.*
2. *Control burning techniques.*
3. *Guidelines established in the Open Space Guidelines for El Dorado County*
4. *Investigation of opportunities for wildlife use of water in open space areas as a part of ongoing wildlife maintenance.*

1.4.8.2 Riparian and Other Drainageway Policies

A 200-foot-wide undeveloped buffer zone shall be established along Carson Creek in accordance with California Department of Fish and Wildlife requirements. In this buffer, vegetation removal shall be for the purpose of drainage improvements. In consideration of setback reductions for purposes of a gold course, the County shall consider such mitigation measures as additional plantings, erosion controls, and other habitat improvement and protection steps.

a) *Drainageway easements shall specifically preclude erection of structures and vegetation removal, except for drainage improvements, and shall forestall other site development not consistent with the purpose of these areas.*

b) *Drainageways located on privately owned property shall be placed within recorded easements that provide for routine maintenance and pedestrian access.*

c) *A 100-foot-wide buffer (50 feet horizontal on each side as measured from centerline of the creek) of natural vegetation shall be maintained along all intermittent creeks.*

d) *Grazing shall not be allowed in riparian buffer zones.*

e) *Plantings of riparian trees and shrubs shall be situated according to the flood and soil moisture tolerances of individual species as in Appendix C of the Specific Plan.*

f) *Areas disturbed during construction shall be replanted with native riparian species listed in Appendix C of the Specific Plan. Replanting will include a mandatory 3-year maintenance and irrigation period.*

g) *Riparian vegetation on the golf course areas shall be kept naturally dense and unpruned except where needed for crossings, ball pay passages, and personal and fire safety.*

h) *Pedestrian, vehicular, and utility bridges over creeks, if feasible, will be oriented at right angles to the waterway to minimize loss of vegetation.*

i) The capacity of flow under bridges and culverts will be designed to reduce the need for extensive vegetation clearing near the structures.

j) Periodic vegetation removal to ensure adequate floodway capacity in drainages will be performed to promote an overstory of mature individual riparian trees spaced to accommodate designed flows.

El Dorado Hills Community Services District Policies

5.27 Oak Tree Preservation

5.27.3 General Requirements for Development Activity in the Protected Zone of Protected Trees

The importance of oak tree preservation is recognized with tree protection provisions in the Covenants, Conditions, and Restrictions (CC&Rs) of the most units in El Dorado Hills and in County Code 17.73 titled Oak Woodland Conservation prior to initiating any activity that may affect an oak tree on their land or on that of an adjoining property, owners of property in El Dorado Hills should check their CC&Rs carefully to determine whether Design Review Committee (DRC) approval is required.

5.27.4 Removal of Protected Trees

It shall be the policy of the DRC to preserve protected trees wherever feasible while recognizing individual rights to develop private property in a reasonable manner. It shall be the responsibility of the applicant to demonstrate the need for any oak tree removal. In determining whether to approval the removal or major trimming of a protected tree, the DRC will consider the following listed factors and, depending upon particular circumstances, may consider others which are not listed:

a) The degree to which the tree will be an obstacle to approval development activity.

b) The condition of the tree with respect to disease, general health, damage, danger of falling.

c) The effect removal would have upon safety, public health, remaining trees, and the beauty and general welfare of the area.

d) The effect removal would have upon soil stability, erosion, particularly near water courses and on slopes.

e) Present and future shade effect with respect to cooling and solar power/heating.

f) Whether or not there are feasible alternative measures to removal.

g) Applicants may be required to provide an arborist report from an arborist who would not be performing any eventual tree removal or major limbing. Alternatively, and it is discretion the DRC may employ an arborist of its choice.

5.27.5 Protecting Oak Trees During Development Activity

Property owners are responsible for taking the following measures to protect oak trees, except any approval from removal during development activity.

a) *Erect protective orange "ski fencing" around the protected zone of each protected tree or group of trees within 50 feet of development activity prior to initiating work and excluded from the enclosed protected zone any work related activity such as storage and vehicle parking.*

b) *Exert every reasonable effort to preserve undisturbed the natural ground within protected zones.*

c) *If it is absolutely necessary to trench within a protected zone, if boring or drilling would not be feasible, excavate by hand under the supervision of a certified arborist. Do not cut any root larger than two inches in diameter; keep the exposed root moist and cover with soil as quickly as feasible. Sever small roots neatly, trim and cover quickly.*

d) *Make no grade changed within the protected zone unless specifically indicated in the approved plans.*

5.27.6 Mitigation EDHCSD Tree Preservation Fund, Public Education

In the event the owner of property with protected trees removed or significantly damages one or more of them without approval, the DRC, at its discretion, may require mitigation by planting a proportionate number of diameter inches of replacement oak trees on the owner's property or by assessing a fee at the rate of $200 per diameter inch (amount tripled for unapproved removal of a landmark tree) to compensate for the expense of planting a proportionate number of diameter inches of oak trees on public property or by a combination of these alternatives.

In the event the owner of the property with protection trees applies for approval of a protect that will damage protected trees, and the DRC determines they could be reasonably be preserved, the DRC, at its sole discretion, may offer the applicant the option of an approval in exchange for on-site mitigation or payment of a mitigation fee based upon the number of diameter inches that applicant would remove.

Mitigation fees paid by property owners are held by the EDHCSD in a Tree Preservation Fund until used to cover the expense of mitigation planting or for related purposes. It is widely recognized that the loss of oak tree is partly the result of the lack of public awareness on oak preservation. A portion of the funds collected for mitigation may be used to establish and promote educational programs to improve this situation.

Regulatory Status Legend

FE = Federal endangered FT = Federal threatened FC = Federal candidate PT = Federal proposed threatened FPD = Federal proposed for delisting FD = Federal delisted FSC = Federal Species of Concern	CE = California state endangered CT = California state threatened CFP = California fully protected CSC = California Species of Special Concern CSA = California Special Animals List CR = California state rare CC = California candidate	1A = plants presumed extinct in California 1B = plants rare, threatened, or endangered in California and elsewhere 2 = plants rare, threatened, or endangered in California, but common elsewhere 3 = plants about which we need more information 4 = plants of limited distribution

Table 1 — Legally Protected Species

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Plants				
Boggs Lake hedge-hyssop *Gratiola heterosepala*	CE; 1B	Annual herb found on clay soils in vernal pools and along the lake margins of marshes and swamps from 10 to 2,375 meters.	Blooming period: April – August	**None**; the riverine perennial marsh within the Study Area provides marginal habitat for this species. but it was not found during focused protocol surveys during the bloom period (Foothill Associates 2016c).
El Dorado bedstraw *Galium californicum* ssp. *sierrae*	FE; CR; 1B	Perennial herb found on gabbroic substrate in chaparral, cismontane woodland, and lower montane coniferous forest from 100 to 585 meters.	Blooming period: May – June.	**None**; there is no suitable soil for this species within the Study Area.
Layne's butterweed (=ragwort) *Packera layneae*	FT; CR; 1B	Perennial herb found on serpentine or gabbroic, rocky substrate in cismontane woodland or chaparral from 200 to 1,085 meters.	Blooming period: April – August.	**None**; there is no suitable soil for this species within the Study Area.
Legenere *Legenere limosa*	CT; 1B	Annual herb found in vernal pools from 1 to 880 meters.	Blooming period: April – June.	**None**; there is no vernal pool habitat within the Study Area.
Pine Hill ceanothus *Ceanothus roderickii*	FE; CR; 1B	Perennial evergreen shrub found on serpentinite or gabbroic substrate in chaparral or cismontane woodland from 245 to 1,090 meters.	Blooming period: April – June.	**None**; there is no suitable soil for this species within the Study Area.
Pine Hill flannelbush *Fremontodendron decumbens*	FE; CR; 1B	Perennial evergreen shrub found in chaparral and cismontane woodland on rocky gabbroic or serpentinite soils from 425 to 760 meters.	Blooming period: April-July	**None**; there is no suitable soil for this species within the Study Area.
Sacramento orcutt grass *Orcuttia viscida*	FE; CE; 1B	Annual herb found in vernal pools from 30 to 100 meters.	Blooming period: April – September.	**None**; the Study Area does not provide suitable habitat for this species.
Slender orcutt grass *Orcuttia tenuis*	FT; CE; 1B	Annual herb found in vernal pools that are often gravelly, from 35 to 1,760 meters.	Blooming period: May – October.	**None**; the Study Area does not provide suitable habitat for this species.
Stebbins' morning glory *Calystegia stebbinsii*	FE; CE; 1B	Perennial rhizomatous herb found occasionally in openings of chaparral and cismontane woodland on gabbro or serpentinite soils from 185 to 1,090 meters.	Blooming period: April – July.	**None**; there is no suitable soil for this species within the Study Area.
Invertebrates				
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT	Blue elderberry shrubs usually associated with riparian areas.	Adults emerge in spring until June. Exit holes visible year – round.	**Low**; small elderberry shrubs were observed in the Study Area but no exit holes were observed.
Vernal pool fairy shrimp *Branchinecta lynchi*	FT	Vernal pools, swales, and ephemeral freshwater habitat.	USFWS protocol-level wet-season sampling and/or dry season cyst identification.	**None**; the Study Area does not provide suitable habitat for this species.
Vernal pool tadpole shrimp *Lepidurus packardi*	FE	Vernal pools, swales, and ephemeral freshwater habitat.	USFWS protocol-level wet-season sampling and/or dry season cyst identification.	**None**; the Study Area does not provide suitable habitat for this species.
Fish				
Central Valley steelhead *Oncorhynchus mykiss*	FT	Rivers and streams tributary to the Sacramento-San Joaquin Rivers and Delta ecosystems.	Spawn in winter and spring.	**None**; the Study Area does not provide suitable habitat for this species.
Delta smelt *Hypomesus transpacificus*	FT; CE	Found in estuarine waters. Majority of life span is spent within the freshwater outskirts of the mixing zone (saltwater-freshwater interface) within the Delta.	December – July (Spawn) Year-round (Present in delta)	**None**; the Study Area does not provide suitable habitat for this species.
Amphibians/ Reptiles				
California red-legged frog *Rana draytonii*	FT; CSC	Requires a permanent water source and is typically found along quiet, slow-moving streams, ponds, or marsh communities with emergent vegetation. Believed extirpated from the Central Valley floor since 1970s.	Aquatic surveys of breeding sites between January and September. Optimally after April 15.	**None**; the riverine perennial marsh and perennial drainage within the Study Area provide marginal habitat for this species, but no evidence of CRLF was observed during protocol breeding and non-breeding surveys (Foothill Associates 2016a).
California tiger salamander *Ambystoma californiense*	FT; CT	Required ponded water for breeding. Adults spend summer in small mammal burrows. This species is not known to occur within El Dorado County. There are no recorded instances of CTS north of the Cosumnes River and east of the Sacramento River despite extensive surveys.	March – June	**None**; the Study Area occurs outside of the known extant geographic range for this species.
Foothill yellow-legged frog *Rana boylii*	CC	Typically found in shaded, shallow, slow moving streams or channels with rocky or muddy bottoms. Typically stays within ~150' of water.	Breeds from mid-March to early June. Most active diurnally. Hibernates and aestivates.	**Low**; perennial drainage provides potential habitat for this species, but there are no known occurrences within 5 miles.

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Giant garter snake *Thamnophis gigas*	FT; CT	Found in agricultural wetlands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands. Upland habitat should have burrows or other soil crevices suitable for snakes to reside during their dormancy period (November – mid March). This species is known from Sacramento, Sutter, Butte, Colusa, and Glenn counties.	Active outside of dormancy period November-mid March	**None**; the Study Area occurs outside of the known geographic range for this species.
Birds				
Bald eagle *Haliaeetus leucocephalus*	FD; CFP, CE	Breeding habitat most commonly includes areas within 2.5 miles (4.0 kilometers) of coastal areas, bays, rivers, lakes, and reservoirs. Nests usually are in tall trees or on pinnacles or cliffs near water.	Winter	**None**; there is no potential habitat for this species within the Study Area.
Bank swallow *Riparia*	CT	Nests in riverbanks and forages over riparian areas and adjacent uplands.	April – July	**None**; there is no potential nesting habitat for this species within the Study Area.
California black rail *Laterallus jamaicensis coturniculus*	CT	Saltwater, brackish, and freshwater marshes that remain shallowly inundated year-round.	Year – round	**None**; the Study Area occurs outside of the geographical range for this species.
Golden eagle *Aquila chrysaetos*	CFP (nesting and wintering)	Open and semi-open areas up to 12,000 feet in elevation. Builds large stick nests on cliffs, in trees, or on man-made structures.	Year – round	**Low**; although the Study Area provides foraging habitat, there is no breeding habitat present within the Study Area and no nests have been observed.
Swainson's hawk *Buteo swainsoni*	CT	Nest peripherally to Valley riparian systems lone trees or groves of trees in agricultural fields. Valley oak, Fremont cottonwood, walnut, and large willow trees, ranging in height from 41 to 82 feet, are the most commonly used nest trees in the Central Valley.	March – October	**None**; the Study Area occurs outside of the known geographical range for this species.
Tricolored blackbird *Agelaius tricolor*	CC; CSC (nesting colony)	Nests in dense blackberry, cattail, tules, bulrushes, sedges, willow, or wild rose within freshwater marshes. Nests in large colonies of at least 50 pairs (up to thousands of individuals). May forage up to 4 miles from nest site.	Year – round	**Low**; the riverine perennial marsh is not large enough to support breeding colonies, but colonies are recorded within 4 miles of the Study Area so the area may be used for foraging.
White-tailed kite *Elanus leucurus*	CFP (nesting)	Nests in isolated trees or woodland areas with suitable open foraging habitat.	February 15 – August 31	**High**; the riparian habitat and isolated trees within the annual grassland provide breeding habitat for this species.
Mammals				
Fisher *Martes pennanti*	PT; CSC	Occurs in intermediate to large-tree stages of coniferous and deciduous forests.	Year – round	**None**; there is no habitat for this species within the Study Area.

Table 1 includes federal threatened or endangered species and eagles, and State threatened, endangered, or fully protected species.

Table 2 — Species Subject to CEQA Review

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Plants				
Ahart's dwarf rush *Juncus leiospermus* var. *ahartii*	1B	Annual herb found in mesic areas in valley and foothill grasslands from 30 to 229 meters.	Blooming period: April – August.	**None**; the Study Area does not provide habitat for this species.
Big-scale balsamroot *Balsamorhiza macrolepis*	1B	Perennial herb found in chaparral, cismontane woodland, valley and foothill grassland, sometimes on serpentinite soils from 90 to 1,555 meters in elevation.	Blooming period: March – June	**None**; the annual grassland within the Study Area provides marginal habitat for this species. but it was not found during focused protocol surveys during the bloom period (Foothill Associates 2016c).
chaparral sedge *Carex xerophila*	1B	Perennial herb found on gabbroic or serpentine soils in chaparral, woodlands, and coniferous forest between 440 and 770 meters.	Blooming period: March – June	**None**; there is no suitable soil for this species within the Study Area.
Dwarf downingia *Downingia pusilla*	2	Annual herb found occasionally in mesic areas within valley and foothill grassland and vernal pools from 1 to 445 meters.	Blooming period: March – May.	**None**; the annual grassland within the Study Area provides marginal habitat for this species. but it was not found during focused protocol surveys during the bloom period (Foothill Associates 2016c).
El Dorado bedstraw *Galium californicum* ssp. *sierrae*	FE; CR; 1B	Perennial herb found on gabbroic substrate in chaparral, cismontane woodland, and lower montane coniferous forest from 100 to 585 meters.	Blooming period: May – June.	**None**; there is no suitable soil for this species within the Study Area.
Jepson's onion *Allium jepsonii*	1B	Perennial bulbiferous herb found on serpentine or volcanic soils in chaparral, lower montane coniferous forest, and cismontane woodland from 300 to 1,320 meters.	Blooming period: April – August.	**None**; there is no suitable soil for this species within the Study Area.
Parry's horkelia *Horkelia parryi*	1B	Perennial herb found on Ione formation in chaparral and cismontane woodland from 80 to 1,070 meters.	Blooming period: April – September	**None**; there is no suitable soil for this species within the Study Area.
Pincushion navarretia *Navarretia myersii*	1B	Annual herb found in vernal pools, which are often acidic, from 20 to 330 meters.	Blooming period: April – May.	**None**; there is no vernal pool habitat within the Study Area.
Red Hills soaproot *Chlorogalum grandiflorum*	1B	Perennial bulbiferous herb found on gabbro, serpentine, or other soils in chaparral, cismontane woodland, and lower montane coniferous forest from 245 to 1,240 meters.	Blooming period: May - June	**None**; original site surveys were conducted within the evident and identifiable bloom period for this species and this species was not observed within the Study Area.
Sanford's arrowhead *Sagittaria sanfordii*	1B	Perennial rhizomatous herb found in marshes and swamps in assorted shallow freshwater areas from 0 to 650 meters.	Blooming period: May – October.	**None**; the riverine perennial marsh within the Study Area provides marginal habitat for this species. but it was not found during focused protocol surveys during the bloom period (Foothill Associates 2016c).
Starved daisy *Erigeron miser*	1B	Perennial herb found on rocky ground in upper montane coniferous forest from 1,840 to 2,620 meters.	Blooming period: June – October.	**None**; the Study Area does not provide habitat for this species and is outside the known elevational range.
Tuolumne button-celery *Eryngium pinnatisectum*	1B	Annual to perennial herb found in mesic areas in cismontane woodland, lower montane coniferous forest, and vernal pools from 70 to 915 meters.	Blooming period: May – August	**None**; original site surveys were conducted within the evident and identifiable bloom period for this species and this species was not observed within the Study Area.
Amphibians/ Reptiles				
Blainville's (Coast) horned lizard *Phrynosoma blainvillii*	CSC	Inhabits open areas of sandy soils and low vegetation in valleys, foothills, and semiarid mountains. Found in grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose sandy soil. Often found in lowlands along sandy washes with scattered shrubs and along dirt roads, and frequently found near ant hills.	Year – round (excluding extended periods of low temperatures or extreme heat).	**Low**; the Study Area provides marginal habitat within the annual grassland. However, the Study Area lacks suitable sandy washes and low scattered bushes or shrubs.
Western pond turtle *Emys marmorata*	CSC	Agricultural wetlands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands.	Active outside of dormancy period November – February	**High**; the perennial drainage and riverine perennial marsh within the Study Area provide habitat for this species.
Western spadefoot *Spea hammondii*	CSC	Found in open grasslands and woodlands. Breeds in seasonal ponds and vernal pools.	Year – round	**Low**; there is minimal potential breeding habitat for this species in the Study Area in the depressional seasonal wetlands.

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Birds				
Burrowing owl *Athene cunicularia*	CSC (burrow sites and some wintering sites)	Nests in burrows in the ground, often in old ground squirrel burrows or badger, within open dry grassland and desert habitat. The burrows are found in dry, level, open terrain, including prairie, plains, desert, and grassland with low height vegetation for foraging and available perches, such as fences, utility poles, posts, or raised rodent mounds.	Year – round; Breeding season surveys between March and August.	**Low**; the annual grassland within the Study Area provides potential habitat for this species, however, few burrows that could be occupied by this species was observed and this species was not observed during the protocol level surveys conducted within the Study Area.
Cooper's hawk *Accipiter cooperii*	CSA (Nesting)	Found in cismontane woodland, riparian forest, riparian woodland, and upper montane coniferous forest.	Year – round	**Low;** the woodlands on site provide potential nesting and foraging habitat.
Double crested cormorant *Phalacrocorax auritus*	CSA (Nesting colony)	Breeds on ponds, lakes, artificial impoundments, slow-moving rivers, lagoons, estuaries, and open coastlines.	Migrate and winter non-breeding.	**None;** there is no suitable nesting habitat in the Study Area.
Ferruginous hawk *Buteo regalis*	CSA (Wintering)	Overwintering occurs in grasslands or deserts with abundant prey species (rabbits, pocket gophers, or prairie dogs).	Wintering	**Low**; the annual grassland habitat within the Study Area provides habitat for this species.
Grasshopper sparrow *Ammodramus savannarum*	CSC	Frequents dense, dry, or well drained grassland, especially native grassland. Nests at base of overhanging clump of grass.	April – July	**Low**; the annual grassland habitat within the Study Area provides habitat for this species.
Great blue heron *Ardea herodias*	CSA (Nesting colony)	Inhabits both freshwater and saltwater habitats and forages in grassland and agricultural field. Breeding colonies are located within 2 to 4 miles of feeding areas, often in isolated swamps or on islands, and near lakes and ponds bordered by forests.	Year – round	**None;** there is no suitable nesting habitat in the Study Area.
Great egret *Ardea alba*	CSA (Nesting colony)	Nests in colonies in large trees usually near water. Nesting colonies must be relatively isolated from human activities. Forages in shallow water in a variety of habitats.	Year – round	**None;** there is no suitable nesting habitat in the Study Area.
Merlin *Falco columbarius*	CSA (Wintering)	Winter in open and semi-open habitats that include estuaries, Great Basin grassland, and valley and foothill grasslands.	Wintering	**Low**; the annual grassland habitat within the Study Area provides habitat for this species.
Osprey *Pandion haliaetus*	CSA	Found in a variety of habitats nearby water sources.	Breeding	**None**; the Study Area does not provide suitable habitat for this species.
Purple martin *Progne subis*	CSC	Often nests in tall, old trees near body of water in woodland and conifer habitats. Feed in open areas near water and nest in tree cavities.	Year – round	**Low**; the Study Area does provide potential nesting habitat for this species.
Mammals				
American badger *Taxidea taxus*	CSC	Found in a variety of grasslands, shrublands, and open woodlands throughout California.	Year – round	**Low**; the annual grassland within the Study Area provides habitat, however, very few burrows that could be utilized by this species are present within the Study Area.
Pallid bat *Antrozous pallidus*	CSC	Most abundant in oak woodland, savannah, and riparian habitats. Roosts in crevices and hollows in trees, rocks, cliffs, bridges, and buildings.	Year – round	**Low**; the trees within the riparian habitat and isolated trees within the annual grassland provide roosting habitat for this species.
Silver-haired bat *Lasionycteris noctivagans*	CSA	Forests near water. Roosts in hollow trees, snags, buildings, rock crevices, caves, and under bark. Forages in ~300' home range over water and open brushy areas.	Dusk between spring and fall.	**Low**; there is marginal habitat in the woodlands for this species on the Study Area

Table 2 includes state and federal species of concern and Rank 1 and 2 CNPS species.

Table 3 — Other Species of Interest

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Plants				
Bisbee Peak rush-rose *Crocanthemum suffrutescens*	3.2	Perennial evergreen shrub often found on gabbroic or lone soil and often in burned or disturbed areas within chaparral from 75 to 670 meters.	Blooming period: April – August.	**None**; the Study Area does not provide habitat for this species.
Brandegee's clarkia *Clarkia biloba* ssp. *brandegeeae*	4	Annual herb found often in roadcuts within chaparral, cismontane woodland, and lower montane coniferous forest from 75 to 915 meters.	Blooming period: May – July.	**None**; the woodlands within the Study Area provide marginal habitat for this species. but it was not found during focused protocol surveys during the bloom period (Foothill Associates 2016c).
Brewer's calandrinia *Calandrinia breweri*	4	Annual herb found on sandy or loamy, disturbed sites and burns within chaparral and coastal scrub from 10 to 1,220 meters.	Blooming period: March – June.	**None**; the Study Area does not provide habitat for this species.
Fresno ceanothus *Ceanothus fresnensis*	4	Perennial evergreen shrub found occasionally in openings of cismontane woodland and lower montane coniferous forest from 900 to 2,103 meters.	Blooming period: May – July.	**None**; the Study Area occurs outside of the known elevation range for this species.
Hernandez bluecurls *Trichostema rubisepalum*	4	Annual herb found on volcanic or serpentinite, gravelly substrate within broad-leafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and vernal pools from 300 to 1,435 meters.	Blooming period: June – August.	**None**; there is no suitable soil for this species within the Study Area.
Humboldt lily *Lilium humboldtii* ssp. *humboldtii*	4	Perennial bulbiferous herb found in openings of chaparral, cismontane woodland, and lower montane coniferous forest from 90 to 1,280 meters.	Blooming period: May – July.	**None**; the woodlands within the Study Area provide marginal habitat for this species. but it was not found during focused protocol surveys during the bloom period (Foothill Associates 2016c).
Jepson's woolly sunflower *Eriophyllum jepsonii*	4	Perennial herb sometimes found on serpentinite substrate within chaparral, cismontane woodland, and coastal scrub from 200 to 1,025 meters.	Blooming period: April – June.	**None**; the Study Area does not contain the soils required for this species.
Sanborn's onion *Allium sanbornii* var. *sanbornii*	4	Perennial bulbiferous herb usually found on serpentinite, gravelly substrate within chaparral, cismontane woodland, and lower montane coniferous forest from 260 to 1,510 meters.	Blooming period: May – September.	**None**; there is no suitable soil for this species within the Study Area.
Streambank spring beauty *Claytonia parviflora* ssp. *grandiflora*	4	Annual herb found on rocky substrate within cismontane woodland from 250 to 1,200 meters.	Blooming period: February – May.	**None**; the Study Area does not provide habitat for this species and is outside of the known elevational range.
Invertebrates				
Alabaster Cave harvestman *Banksula californica*	CSA	Found in caves in the Sierra Nevada.	Year-round	**None**; there is no suitable habitat for this species in the Study Area.
Blennosperma vernal pool andrenid bee *Andrena blennospermaties*	CSA	Found in upland areas near vernal pools; dependent on populations of blennosperma flowers. Slender, dark-olive green bees with pale apical bands on the dorsum of the abdominal segments; females measure 8.5-9.5 mm, males 7-8 mm.	Year-round	**None**; there is no suitable habitat for this species in the Study Area.
California linderiella *Linderiella occidentalis*	CSA	Inhabits vernal pools, swales, and ephemeral freshwater habitat.	Wet-season sampling and/or dry season cyst identification.	**None**; the seasonal swales in the Study Area provide marginal habitat, but the Study Area is outside the locally recorded range of the species.
Cosumnes Stripetail *Cosumnoperla hypocrena*	CSA	Freshwater intermittent streams in the American River and Cosumnes River basins between 300 and 1500 meters.	Year – round	**None**; the Study Area is outside the geographic range of the species.
Hairy Water flea *Dumontia oregonensis*	CSA	Vernal pools, seasonal pools, and streams from Jackson County, Oregon to Sacramento and Solano Counties in California.	Wet Season	**None**; the Study Area is outside the geographic range of the species.
Mid-valley fairy shrimp *Branchinecta mesovallensis*	CSA	Inhabits vernal pools, swales, and ephemeral freshwater habitat.	Wet-season sampling and/or dry season cyst identification.	**None**; the Study Area is outside the geographic range of the species.
Ricksecker's water scavenger beetle *Hydrochara ricksecker*i	CSA	A small aquatic beetle known from pond habitats in the San Francisco Bay Area.	Year-round	**None**; there is no habitat for this species within the Study Area.
Western bumble bee *Bombus occidentalis*	CSA	Generally, nests underground in abandoned rodent burrows and bird nests. Forages on a wide variety of flowers. Found in Coast range north of Monterey County, Sierra mountain range north of Tuolumne County, and around the delta region of Contra Costa County.	New colonies established in spring. Overwinter in shallow burrows.	**None**; the Study Area is outside the geographic range of the species.

Table 3 includes Rank 3 and 4 CNPS species and non-listed invertebrates, which may not be subject to CEQA review.

Appendix C — Plants and Wildlife Observed in the Study Area

Appendix C
Wildlife Observed in the Study Area

Species	Common Name
Birds	
Agelaius phoeniceus	Red-winged blackbird
Buteo jamaicensis	Red-tailed hawk
Callipepla californica	California quail
Carpodacus mexicanus	House finch
Cathartes aura	Turkey vulture
Euphagus cyanocephalus	Brewer's blackbird
Falco sparverius	American kestrel
Melanerpes formicivorus	Acorn woodpecker
Meleagris gallopavo	Wild turkey
Sayornis nigricans	Black phoebe
Sturnella neglecta	Western meadowlark
Sturnus vulgaris	European starling
Zenaida macroura	Mourning dove
Mammals	
Microtus agrestis	Vole
Lepus californicus	Black-tailed jackrabbit
Plestiodon skiltonianus	Western skink
Sceloporus occidentalis	Western fence lizard
Sylvilagus sp.	Cottontail rabbit

Appendix C
Plants Observed in the Study Area

Genus	Species	Common Name	Wetland Indicator Status
Adoxaceae	*Sambucus nigra* ssp. caerulea	Blue elderberry	FACU
Apiaceae	*Eryngium vaseyi*	Coyote-thistle	FACW
Apocynaceae	*Asclepias fascicularis*	Mexican whorled milkweed	FAC
Asteraceae	*Anaphalis margaritacea*	Pearly everlasting	FACU
Asteraceae	*Artemisia douglasiana*	California mugwort	FAC
Asteraceae	*Baccharis pilularis*	Coyote brush	NI
Asteraceae	*Carduus pycnocephalus* ssp. pycnocephalus	Italian thistle	NI
Asteraceae	*Holocarpha virgata*	Tarweed, tarplant	NI
Asteraceae	*Hypochaeris glabra*	Smooth cat's ear	NI
Asteraceae	*Lactuca serriola*	Prickly lettuce	FACU
Asteraceae	*Silybum marianum*	Milk thistle	NI
Boraginaceae	*Amsinckia menziesii*	Fiddleneck	NI
Boraginaceae	*Phacelia cicutaria*	Phacelia	NI
Boraginaceae	*Plagiobothrys fulvus*	Common popcornflower	NI
Brassicaceae	*Brassica napus*	Swede rape, rapeseed	NI
Brassicaceae	*Brassica nigra*	Black mustard	NI
Caryophyllaceae	*Spergularia bocconi*	Boccon's sand spurry	FACW
Cyperaceae	*Cyperus eragrostis*	Nutsedge	FACW
Cyperaceae	*Eleocharis macrostachya*	Spikerush	OBL
Cyperaceae	*Schoenoplectus acutus* var. occidentalis	Tule	OBL
Euphorbiaceae	*Croton setiger*	Turkey-mullein	NI
Fabaceae	*Trifolium hirtum*	Rose clover	NI
Fagaceae	*Quercus lobata*	Valley oak	FACU
Fagaceae	*Quercus wislizeni*	Interior live oak	NI
Gentianaceae	*Zeltnera muehlenbergii*	Muehlenberg's centaury	FAC
Geraniaceae	*Erodium botrys*	Broadleaf filaree	FACU
Geraniaceae	*Erodium cicutarium*	Cutleaf filaree	NI
Geraniaceae	*Geranium molle*	Crane's bill geranium	NI
Hypericaceae	*Hypericum perforatum*	St. John's wort	FACU
Lamiaceae	*Mentha pulegium*	Pennyroyal	OBL
Marsileaceae	*Pilularia americana*	American pillwort	OBL
Moraceae	*Ficus carica*	Edible fig	FACU
Myrsinaceae	*Lysimachia arvensis*	Scarlet pimpernel	FAC
Onagraceae	*Epilobium ciliatum*	Northern willow herb	FACW
Papaveraceae	*Eschscholzia californica*	California poppy	NI
Papaveraceae	*Eschscholzia casespitosa*	Foothill poppy	NI
Poaceae	*Aira caryophyllea*	Silver hair grass	FACU
Poaceae	*Avena fatua*	Wild oat	UPL
Poaceae	*Bromus diandrus*	Ripgut grass	NI
Poaceae	*Bromus hordeaceus*	Soft chess	FACU
Poaceae	*Deschampsia danthonioides*	Annual hair grass	FACW
Poaceae	*Elymus caput-medusae*	Medusa head	NI
Poaceae	*Festuca bromoides*	Brome fescue	FACU
Poaceae	*Festuca perennis*	Rye grass	FAC
Poaceae	*Hordeum murinum*	Foxtail	FACU
Poaceae	*Polypogon monspeliensis*	Annual beard grass, rabbitfoot grass	FACW
Poaceae	*Stipa pulchra*	Purple needle grass	NI
Poaceae	*Vulpia myuros*	Foxtail fescue	FACU
Polygonaceae	*Persicaria lapathifolia*	Common knotweed	FACW
Polygonaceae	*Rumex crispus*	Curly dock	FAC
Rosaceae	*Rubus armeniacus*	Himalayan blackberry	FAC
Salicaceae	*Populus fremontii* ssp. fremontii	Alamo or Fremont cottonwood	NI
Salicaceae	*Salix* sp.	Willow	FACW
Scrophulariaceae	*Verbascum blattaria*	Moth mullein	UPL
Sonchus	*Sonchus asper*	Sow thistle, prickly sow thistle	FAC
Themidaceae	*Brodiaea elegans* ssp. elegans	Harvest brodiaea	FACU
Typhaceae	*Typha angustifolia*	Narrow-leaved cattail	OBL
Typhaceae	*Typha latifolia*	Common cattail, broadleaf cattail	OBL
Vicia	*Vicia villosa*	Hairy vetch	NI

COMMUNITY DEVELOPMENT SERVICES
PLANNING AND BUILDING DEPARTMENT

2850 Fairlane Court, Placerville, CA 95667
Phone: (530) 621-5355 www.edcgov.us/Planning/

CONDITIONAL/MINOR USE PERMIT

PURPOSE

Within each zone district there are land uses permitted by right and land uses permitted only by approval of a minor or conditional use permit. Land uses which are permitted by right are typically authorized by issuance of a building permit or business license. Those uses which are permitted only by the use permit process are those which are not typically found in the applicable zoning district and may be injurious to the neighborhood if not properly controlled. However, the use permit may be approved after public notice, public hearing, and subject to conditions which may limit or control the use.

Minor Use Permit. A Minor Use Permit is a process for reviewing uses and activities that are typically compatible with other allowed uses within a zone but due to their nature require consideration of site design and adjacent uses. Minor Use Permits provide for a discretionary review of minor projects or uses that are allowed, but do not meet the standards for administrative review. Unless the project incorporates standards or conditions that are capable of mitigating potentially significant environmental impacts to a level less than significant or is determined to be exempt from CEQA, it will be processed as a Conditional Use Permit.

A Minor Use Permit shall also be necessary for permitting oak tree/oak woodland removal in association with ministerial development (e.g., building or grading permits) where replacement planting or Oak Woodlands conservation (i.e. retention) is requested (either on-site or off-site), in accordance with Section 130.39.060.D (Mitigation – Oak Woodland Removal) of the Zoning Ordinance.

Conditional Use Permit. The determination for a Conditional Use Permit shall be made by the Director based on the nature of the application and the policy issues raised by the project.

REQUIRED FINDINGS

In accordance with Section 130.52.020 and 130.52.021 of the Zoning Ordinance, the following findings must be made by the Zoning Administrator or Planning Commission before the Minor/conditional use permit can be approved:

1. The issuance of the permit is consistent with the General Plan;

2. The proposed use would not be detrimental to the public health, safety and welfare, or injurious to the neighborhood; and

3. The proposed use is specifically permitted by minor/conditional use permit pursuant to this Title.

PROCESS

1. Applicant/agent prepares all required submittal information and makes an appointment to submit the application to Planning Services.

2. Planner is assigned and the application is distributed to affected agencies for consultation and recommendation.

3. Assigned planner and representative from Transportation Division perform site visit and meet on-site with the applicant/agent, if necessary.

4. Draft environmental document is prepared and conditions of approval are drafted (or recommendation for denial is proposed).

Based upon the provisions set forth in the California Environmental Quality Act (CEQA), a Negative Declaration or Mitigated Negative Declaration may be prepared for a proposed project that *will not* have significant environmental impacts, or where those impacts can be mitigated to a less than significant level, respectively. However, if the project *will* have significant environmental impacts that cannot be mitigated, an Environmental Impact Report (EIR) is required. Certain projects may be listed in CEQA as Statutorily or Categorically Exempt from those provisions, in which case the timing and processing of the project is expedited. If it is determined that an EIR is required for your project, processing of the application is placed on "hold" status. The project only proceeds if the applicant agrees to fund the more costly EIR process. The applicant has the right to appeal the decision to require an EIR to the Board of Supervisors.

5. Applicant/agent meet with the Technical Advisory Committee (TAC - staff representatives of affected agencies) to discuss environmental review, conditions of approval (or recommendation for denial), and potential hearing date(s).

   NOTE: This is a critical meeting and it is absolutely necessary for the applicant or agent to attend. If issues arise which cannot be resolved at this meeting, the application will either be placed on hold or the meeting rescheduled when the issue is resolved.

6. Project is noticed in the local newspaper advertising the required 30-day public review period for Negative Declarations as set by State law, or noting the project is Categorically Exempt from CEQA review.

7. Applicant receives the staff report at least two weeks prior to the public hearing which includes staff recommendation and proposed conditions of approval or mitigation measures.

8. Public hearing is conducted before the Zoning Administrator or Planning Commission where a final decision is made unless appealed by the applicant or affected party

9. An appeal may be filed by either the applicant or affected party within ten working days after decision (see Appeal process below).

TIMING

Steps 1 through 5 are typically completed within 60 days. The remaining steps are more flexible depending on the complexity of the application. Most applications will reach public hearing in four months. If appealed, an additional 30 days is required for the Board of Supervisors to hear the matter.

HEARING

Applications must be heard by either the Zoning Administrator (minor use permit applications) or the Planning Commission (conditional use permit applications), depending on the complexity of the application. More complex applications are typically heard by the Planning Commission. All public hearings are advertised in a local newspaper and notice is mailed to all property owners within a minimum 1,000-foot radius of the subject property.

APPEALS

If an appeal is made, the matter is heard at a public hearing of the Planning Commission or Board of Supervisors, depending on whether a minor or conditional use permit, with notice given as described above. Said appeal is usually heard 30 days after Zoning Administrator or Planning Commission decision.

FEES

Current application fees may be obtained by contacting Planning Services at (530) 621-5355 or by accessing Planning Services online fee schedule at www.edcgov.us/Government/planning/Pages/fees.aspx.

NOTE: Should your application be denied, application fees are nonrefundable. Should you request withdrawal of the application before a decision has been made, you may receive only that portion of the fee which has not yet been expended. If the public hearing notice has been advertised, fees are nonrefundable.

NOTE: In accordance with State Legislation (AB3158), you will be required to pay a State Department of Fish and Wildlife fee after approval of your application prior to the County filing the Notice of Determination on your project. This fee that increases annually, less $50.00 processing fee, is forwarded to the State Department of Fish and Wildlife and is used to help defray the cost of managing and protecting the State's fish and wildlife resources. If the project is found to have no effect on fish and game resources or otherwise exempt, only the $50.00 processing fee is required to file the Notice of Exemption with the State. These fees are due immediately after project approval, checks payable to "El Dorado County" and submitted to Planning Services for processing.

CONVERSION TO TIME AND MATERIALS

When in the opinion of the Development Services Director the required fee for an application is going to be inadequate to cover processing costs due to the complexity of the project or potential controversy that it may generate, the Development Services Director may convert the application to a time and materials process. When this conversion is proposed, the applicant will be notified in writing and will be requested to submit a deposit in an amount estimated to be sufficient to cover the remaining staff work to bring the application to a final decision. Staff work on the application will stop until a deposit is provided. Normally this conversion will occur when it is obvious the required fee is going to be insufficient, which would typically occur during or soon after the Technical Advisory committee meeting. However, it could occur later in the project if controversy becomes more evident and/or revisions are proposed to the project to mitigate project impacts or neighbor concerns. After the conversion, the applicant will receive a monthly statement/bill identifying the remaining processing fee and/or deposit, or the amount due if deposited funds have been exhausted. If monies are owed, they shall be paid before action by the hearing body.

CONDITIONS OF APPROVAL

As an applicant, you should be aware that environmental mitigation measures or other requirements will likely be made conditions of approval. Depending on the nature of the application, conditions of approval might involve landscaping, protection of riparian areas, fencing, paving of parking or access road, limited hours of operation, etc.

If your application involves a building permit, you should be aware of other costs that may be part of the building permit process that typically follows approval of an application. In addition to normal building permit fees, you will likely be required to pay traffic impact mitigation (TIM) fees, school fees based on square footage of the proposed building, plus fire and solid waste fees. The County Building Services has an informational document on commercial projects which identifies the extent of fees that may be required. It is also beneficial to contact those departments or agencies requiring the fees to determine actual estimated costs.

DEED RESTRICTIONS

Please review and understand any private deed restrictions recorded against your property to insure your proposed application does not violate such deed restrictions. If a conflict exists between the deed restrictions and your application, the County can still approve your application and issue necessary permits. However, County approval does not absolve your obligation to comply with deed restrictions.

APPLICATION

If the application and submittal requirements are not attached to this information packet, please contact Planning Services. You may also call Planning Services at **(530) 621-5355** for general assistance.

APPOINTMENT

Applications are accepted by appointment only. Please call ahead for an appointment with a planner when you are ready to submit your application. Please have all required submittal information completed before your appointment. Appointments are generally made within 48 hours of your call to Planning Services at (**530) 621-5355**.

COMMUNITY DEVELOPMENT SERVICES
PLANNING AND BUILDING DEPARTMENT

2850 Fairlane Court, Placerville, CA 95667

Phone: (530) 621-5355 www.edcgov.us/Planning/

Conditional/Minor Use Permit

REQUIRED SUBMITTAL INFORMATION

The following items 1 through 9 must be provided with all applications. The remaining items shall be required where applicable. **If all the required and applicable information is not provided, the application will be deemed incomplete and will not be accepted**. For your convenience, please use the check (√) column on the left to be sure you have all the required and applicable information. **All plans and maps MUST be folded to 8½" x 11".**

FORMS AND MAPS REQUIRED

Check (√) Applicant	Check (√) County		
_____	_____	1)	Application form, completed and signed.
_____	_____	2)	Letter of authorization from all property owners authorizing agent to act as applicant, when applicable.
_____	_____	3)	Proof of ownership (Grant Deed), if the property has changed title since the last tax roll.
_____	_____	4)	A copy of official Assessor's map, showing the property outlined in red.
_____	_____	5)	An 8 ½ x 11" vicinity map showing the location of the project in relation to the distance to major roads, intersections, and town sites.
_____	_____	6)	Environmental Questionnaire form, completed and signed.
_____	_____	7)	Provide name, mailing address and phone number of all property owners and their agents.
_____	_____	8)	A record search for archaeological resources shall be conducted through the North Central Information Center located at CSU-Sacramento, 6000 J Street, Adams Bldg, #103, Sacramento, CA 95819-6100, phone number (916) 278-6217. If the record search identifies a need for a field survey, a survey shall be required. (A list of Archaeological Consultants and survey requirements is available at the Planning Department.) Archaeological surveys shall meet the "Guidelines for Cultural Resource Studies" approved by the Board of Supervisors, available at the Planning Department.
_____	___	9)	A traffic impact determination shall be provided utilizing El Dorado County's "Transportation Impact Study (TIS) – Initial Determination Form, located on the Planning Services website under "Applications and Forms".
_____	___	10)	If public sewer or water service is proposed, obtain and provide a Facilities Improvement Letter if the project is located within the EID service area, or a similar letter if located in another sewer/water district.

FORMS AND MAPS REQUIRED

Check (√)
Applicant County

_____ _____ 11) If off-site sewer or water facilities are proposed to serve the project, provide four (4) copies of a map showing location and size of proposed facilities. If ground water is to be used for domestic water, submit a report noting well production data for adjacent parcels, or submit a hydrological report prepared by a geologist noting the potential for water based on the nature of project site geology.

_____ _____ 12) In an accompanying report, provide the following data for area on each proposed parcel that is to be used for sewage disposal:

_____ _____ a) Percolation rate and location of test on 4.5 acres or smaller
_____ _____ b) Depth of soil and location of test
_____ _____ c) Depth of groundwater and location of test
_____ _____ d) Direction and percent of slope of the ground
_____ _____ e) Location, if present, of rivers, streams, springs, areas subject to inundation, rock outcropping, lava caps, cuts, fills, and easements
_____ _____ f) Identify the area to be used for sewage disposal
_____ _____ g) Such additional data and information as may be required by the Division Director of Environmental Management to assess the source of potable water, the disposal of sewage and other liquid wastes, the disposal of solid wastes, drainage, and erosion control

_____ _____ 13) Preceding parcel map, final map, or record of survey, if any exists.

_____ _____ 14) Preliminary grading, drainage plan, and report. The plan should be of sufficient detail to identify the scope of grading, including quantities, depths of cut and fills (for roads and driveways where cuts/fills exceed 6 feet, and mass pad graded lots), location of existing drainage, proposed modifications, and impacts to downstream facilities. (See Section 110.14.240 of County Grading Ordinance for submittal detail)

_____ _____ 15) If located within one of the five Ecological Preserve - EP overlay zones (Mitigation Area 0), rare plants may exist on-site. The State Department of Fish & Wildlife will require an on-site biological plant survey to determine the extent and location of rare plants on the project site. Such a survey can only occur from March 15 through August 15 when plants are readily visible. Therefore, if the State Department of Fish & Wildlife requires the plant survey, a substantial delay in the processing of your application could result. To avoid potential delays, you may choose to provide this survey with application submittal. (A list of possible Botanical Consultants is available at Planning Services.)

____ _____ 16) Name and address of Homeowner's Association, CSA 9 Zone of Benefit, or other road maintenance entity if it exists in the project area.

____ _____ 17) A site-specific wetland investigation shall be required on projects with identified wetlands as delineated on the applicable U.S.G.S. Quadrangle and/or by site visit, when proposed improvements will directly impact the wetland (reduce the size of the wetland area) or lie near the wetlands. (Available from Planning Services are the U.S. Corps of Engineers requirements for a wetlands delineation study. A list of qualified consultants is also available.)

_____ _____ 18) An acoustical analysis shall be provided whenever a noise-sensitive land use (residences, hospitals, churches, libraries) are proposed adjacent to a major transportation source, or adjacent or near existing stationary noise sources. Such study shall define the existing and projected noise levels and define how the project will comply with standards set forth in the General Plan.

_____ _____ 19) Where potential for special status plant and/or animal habitats are identified on the parcel(s), an on-site biological study shall be required to determine if the site contains special status plant or animal species or natural communities and habitats.

_____ _____ 20) An air quality impact analysis shall be provided utilizing the El Dorado County Air Pollution Control District's "Guide to Air Quality Assessment."

OAK TREE/OAK WOODLAND REMOVAL

The following supplemental information shall be required if any Oak Woodlands, Individual Native Oak Trees, or Heritage Trees, as defined in Section 130.39.030 (Definitions) will be impacted by the project (i.e. cut down) consistent with Section 130.39.070 (Oak Tree and Oak Woodland Removal Permits – Discretionary Development Projects).

Check (√)
Applicant County

_____ _____ 1) Oak Resources Code Compliance Certificate.

_____ _____ 2) Oak Resources Technical Report prepared by a Qualified Professional consistent with Section 2.5 (Oak Resources Technical Reports) of the Oak Resources Management Plan.

_____ _____ 3) Completed Oak Resources Technical Report Checklist, including supplemental data for impacted Individual Native Oak Trees within Oak Woodlands, as applicable.

_____ _____ 4) Security deposit for on-site oak tree/oak woodland retention and/or replacement planting (if proposed as part of project mitigation) consistent with Section 130.39.070.F (Security Deposit for On-Site Oak Tree/Oak Woodland Retention and Section 130.30.070.G (Security Deposit for On-Site Oak Tree/Oak Woodland Replacement Planting).

_____ _____ 5) Reason and objective for impact to oak trees and/or oak woodlands.

SITE PLAN REQUIREMENTS

Five (5) copies plus an electronic copy (CD-ROM or other medium) of the site plan detailing what exists on the site at time of application shall be submitted on 24"' x 36" sheets or smaller, drawn to scale, and of sufficient size to clearly show all details and required data. **All plans MUST be folded to 8½" x 11", plus one 8½" x 11" reduction. NO ROLLED DRAWINGS WILL BE ACCEPTED.**

For your convenience, please check the Applicant column on the left to be sure you have all the required submittal information.

Check (√)
Applicant County

_____ _____ 1) Project name (if applicable).

_____ _____ 2) Name, address of applicant and designer (if applicable).

_____ _____ 3) Date, north arrow, and scale.

_____ _____ 4) Entire parcel of land showing perimeter with dimensions.

_____ _____ 5) All roads, alleys, streets, and their names.

_____ _____ 6) Location of easements, their purpose and width.

_____ _____ 7) All existing and proposed uses (i.e. buildings, driveways, dwellings, utility transmission lines, etc.).

_____ _____ 8) Parking and loading stalls with dimensions (refer to Zoning Ordinance Chapter 130.35 and the Community Design Standards-Parking and Loading Standards).

_____ _____ 9) Trash and litter storage or collection areas, and propane tank location(s).

_____ _____ 10) Total gross square footage of proposed buildings.

_____ _____ 11) Proposed/existing fences or walls.

_____ _____ 12) Sign locations and sizes (if proposed) (refer to Zoning Ordinance Chapter 130.16).

_____ _____ 13) Pedestrian walkways, courtyards, etc. (if proposed).

_____ _____ 14) Exterior lighting plan (if proposed), along with a Photometric Study and fixture specifications (refer to Zoning Ordinance Chapter 130.34 and the Community Design Standards-Outdoor Lighting Standards) .

_____ _____ 15) Existing/proposed water, sewer, septic systems, and wells (if applicable).

_____ _____ 16) Existing/proposed fire hydrants.

_____ _____ 17) Tentative subdivision or parcel map (if applicable).

_____ _____ 18) Public uses (schools, parks, etc.)

_____ _____ 19) The location, if present, of rock outcropping, lava caps, drainage courses, lakes, canals, reservoirs, rivers, streams, spring areas subject to inundation and wetlands. (Show respective 100-foot and 50-foot septic system setbacks when a septic system is proposed).

_____ _____ 20) Identify areas subject to a 100-year flood on perennial streams or creeks, and show high water level (100-year) on map. Where this data is not readily available, January 1997 flood level can be shown if known. (Refer to the Federal Emergency Management Agency (FEMA) website).

_____ _____ 21) Note any proposed trails within the project; and where applicable, connection to existing or proposed trail systems.

PRELIMINARY LANDSCAPE PLAN REQUIREMENTS

Required when parking facilities are proposed or otherwise at planner's discretion. (Refer to Zoning Ordinance Chapter 130.33 and the Community Design Standards – Landscaping and Irrigation Standards).
(Five (5) copies plus an electronic copy (CD-ROM or other medium), **folded to 8½" x 11", plus one 11" x 17" reduction).**

Check (√) Applicant	County		
_____	_____	1)	Location, quantity, and a gallon size of proposed plant material (See Zoning Ordinance Chapter 130.33 and the Community Design Standards – Landscaping and Irrigation Standards).
_____	_____	2)	Note quantity/type of trees to be removed.
_____	_____	3)	Location, general type (pine, oak, etc.) and size of all existing trees, in those areas that are subject to grading or otherwise may be removed/affected by proposed improvements. Note quantity of trees to be removed.
_____	_____	4)	List of both common and botanical names of plant material (use of drought tolerant species is highly recommended). A recommended list of drought-tolerant species is available at Planning Services.
_____	_____	5)	Location of irrigation proposed. (NOTE: The final Landscape Plan will ultimately be required to meet the County's Water Conserving Landscape Standards. Copies are available at Planning Services).

PRELIMINARY GRADING AND DRAINAGE PLAN

Required whenever any grading is proposed.
(Five (5) copies plus an electronic copy (CD-ROM or other medium), **folded to 8½" x 11", plus one 8.5" x 11" reduction).**

Check (√) Applicant	County		
_____	_____	1)	Contours or slope data (pursuant to Chapter 110.14 of County Code Grading, Erosion, and Sediment Control Ordinance).
_____	_____	2)	Drainage improvements, culverts, drains, etc.
	_____	3)	Limits of cut and fill._____

PLAN OF BUILDING ELEVATIONS

Required whenever a new structure or addition is proposed.
(Five (5) copies plus an electronic copy (CD-ROM or other medium), **folded to 8½" x 11", plus one 8.5" x 11" reduction).**

Check (√) Applicant	County		
_____	_____	1)	Building design, elevations of all sides.
_____	_____	2)	Exterior materials, finishes, and colors.
_____	_____	3)	Existing/proposed signs showing location, height and dimensions. Include sign plan for project with multiple businesses.

Planning Services reserves the right to require additional project information as provided by Section 15060 of the California Environment Quality Act, or as required by the General Plan development policies, when such is necessary to complete the environmental assessment.

NOTE: APPLICATION WILL BE ACCEPTED BY APPOINTMENT ONLY. MAKE YOUR APPOINTMENT IN ADVANCE BY CALLING (530) 621-5355.

COMMUNITY DEVELOPMENT SERVICES
PLANNING AND BUILDING DEPARTMENT

2850 Fairlane Court, Placerville, CA 95667
Phone: (530) 621-5355 www.edcgov.us/Planning/

EL DORADO COUNTY PLANNING SERVICES

ENVIRONMENTAL QUESTIONNAIRE

File Number _____

Date Filed _____

Project Title _____ Lead Agency _____

Name of Owner _____ Telephone _____

Address _____

Name of Applicant _____ Telephone _____

Address _____

Project Location _____

Assessor's Parcel Number(s)_____Acreage_____Zoning _____

Please answer all of the following questions as completely as possible. Subdivisions and other major projects will require a Technical Supplement to be filed together with this form.

1. Type of project and description:

2. What is the number of units/parcels proposed? _____

GEOLOGY AND SOILS

3. Identify the percentage of land in the following slope categories:

☐ 0 to 10% ☐ 11 to 15% ☐ 16 to 20% ☐ 21 to 29% ☐ over 30%

4. Have you observed any building or soil settlement, landslides, rock falls or avalanches on this property or in the nearby surrounding area? _____

5. Could the project affect any existing agriculture uses or result in the loss of agricultural land? _____

DRAINAGE AND HYDROLOGY

6. Is the project located within the flood plain of any stream or river?_____
   If so, which one?_____
7. What is the distance to the nearest body of water, river, stream or year-round drainage channel?
   _____ Name of the water body?_____
8. Will the project result in the direct or indirect discharge of silt or any other particles in noticeable amount into any lakes, rivers or streams? _____
9. Will the project result in the physical alteration of a natural body of water or drainage way?
   If so, in what way? _____
10. Does the project area contain any wet meadows, marshes or other perennially wet areas?

VEGETATION AND WILDLIFE

11. What is the predominant vegetative cover on the site (trees, brush, grass, etc.)? Estimate percentage of each:

12. How many trees of 6-inch diameter will be removed when this project is implemented?

_____

FIRE PROTECTION

13. In what structural fire protection district (if any) is the project located? _____
14. What is the nearest emergency source of water for fire protection purposes (hydrant, pond, etc.)? _____
15. What is the distance to the nearest fire station? _____
16. Will the project create any dead-end roads greater than 500 feet in length? _____
17. Will the project involve the burning of any material including brush, trees and construction materials? _____

NOISE QUALITY

18. Is the project near an industrial area, freeway, major highway or airport? _____
    If so, how far? _____
19. What types of noise would be created by the establishment of this land use, both during and after construction? _____

AIR QUALITY

20. Would any noticeable amounts of air pollution, such as smoke, dust or odors, be produced by this project? _____

WATER QUALITY

21. Is the proposed water source ☐ public or ☐ private, ☐ treated or ☐ untreated?

22. What is the water use (residential, agricultural, industrial or commercial)? _____

AESTHETICS

23. Will the project obstruct scenic views from existing residential areas, public lands, and/or public bodies of water or roads? _____

ARCHAEOLOGY/HISTORY

24. Do you know of any archaeological or historical areas within the boundaries or adjacent to the project? (e.g., Indian burial grounds, gold mines, etc.) _____

SEWAGE

25. What is the proposed method of sewage disposal? ☐ septic system ☐ sanitation district
Name of district: _____

26. Would the project require a change in sewage disposal methods from those currently used in the vicinity? _____

TRANSPORTATION

27. Will the project create any traffic problems or change any existing roads, highways or existing traffic patterns? _____

28. Will the project reduce or restrict access to public lands, parks or any public facilities?

_____

GROWTH-INDUCING IMPACTS

29. Will the project result in the introduction of activities not currently found within the community? _____

30. Would the project serve to encourage development of presently undeveloped areas, or increases in development intensity of already developed areas (include the introduction of new or expanded public utilities, new industry, commercial facilities or recreation activities)?

31. Will the project require the extension of existing public utility lines? _____
If so, identify and give distances: _____

GENERAL

32. Does the project involve lands currently protected under the Williamson Act or an Open Space Agreement? _____

33. Will the project involve the application, use or disposal of potentially hazardous materials, including pesticides, herbicides, other toxic substances or radioactive material?

_____

34. Will the proposed project result in the removal of a natural resource for commercial purposes (including rock, sand, gravel, trees, minerals or top soil)?

35. Could the project create new, or aggravate existing health problems (including, but not limited to, flies, mosquitoes, rodents and other disease vectors)? _____

36. Will the project displace any community residents? _____

DISCUSS ANY YES ANSWERS TO THE PREVIOUS QUESTIONS (attached additional sheets if necessary)

MITIGATION MEASURES (attached additional sheets if necessary)

Proposed mitigation measures for any of the above questions where there will be an adverse impact:

Form Completed by:_____ Date:_____

COMMUNITY DEVELOPMENT SERVICES
PLANNING AND BUILDING DEPARTMENT

2850 Fairlane Court, Placerville, CA 95667
Phone: (530) 621-5355 www.edcgov.us/Planning/

APPLICATION FOR: CONDITIONAL/MINOR USE PERMIT FILE # _____

ASSESSOR'S PARCEL NO.(s) _____

PROJECT NAME/REQUEST: (Describe proposed use)_____

_____

_____

APPLICANT/AGENT _____

Mailing Address _____
P.O. Box or Street City State & Zip

Phone ( )_____ EMAIL: _____

PROPERTY OWNER _____

Mailing Address _____
P.O. Box or Street City State & Zip

Phone ( )_____EMAIL: _____

LIST ADDITIONAL PROPERTY OWNERS ON SEPARATE SHEET IF APPLICABLE

ENGINEER/ARCHITECT _____

Mailing Address _____
P.O. Box or Street City State & Zip

Phone ( )_____EMAIL: _____

LOCATION: The property is located on the_____side of _____
N / E / W / S street or road

_____feet/miles_____of the intersection with _____
N / E / W / S major street or road

in the_____area. PROPERTY SIZE _____
acreage / square footage

X_____Date_____
signature of property owner or authorized agent

FOR OFFICE USE ONLY

Date_____Fee $_____Receipt #_____Rec'd by_____Census _____

Zoning_____GPD_____Supervisor Dist_____Sec_____Twn_____Rng_____

ACTION BY _____**PLANNING COMMISSION**
_____**ZONING ADMINISTRATOR**

Hearing Date _____

Approved_____Denied _____
findings and/or conditions attached

_____
Executive Secretary

ACTION BY BOARD OF SUPERVISORS

Hearing Date _____

Approved_____Denied _____
findings and/or conditions attached

APPEAL:
Approved_____Denied _____

Revised 11/2017

EDH Retail Shopping Center

Thursday, January 04, 2018
11:00 AM to 12:00 PM
TAC Conference Room/Optional Call-in: 1-866-740-1260 code: 5979027

Scheduled Attendees: Mel Pabalinas, Principal Planner
Michael Concepcion, Associate Planner
Pat Angell, Ascent Environmental
Kristen Stoner, Ascent Environmental
Angelo Christie, AKT
Tim Taron, HSM
Tiffany Wilson, RSC

Agenda

1) New Planner- Michael Concepcion

2) Next Steps

A) Project Review

B) EIR

1) NOP/Scoping Meeting

2) Administrative Procedures (ie. Mailing of Notices, Website Posting, Newspaper Noticing)

C) Agency Review

3) Other Topics

A) Status of Studies

B) Project/EIR Schedule

C) EDH 52 Tentative Parcel Map

D) Schedule of Project Meetings

Meeting Notes:

RSC ENGINEERING

January 9, 2018 104-003A

County of El Dorado
Development Services Department-Planning Division
2850 Fairlane Court
Placerville, CA 95667

Attention: Michael Concepcion

Subject: EDH 52 (PD15-0001)

Dear Michael,

We are responding to the County's letter dated November 9, 2017 regarding a few advisory items necessary to process the project. We have provided:

1. The Oak Resources Technical Report has been updated based on the new Oak Resource Management Plan adopted on October 23, 2017. Four copies are included with this submittal.
2. An updated FIL is in process with EID. It is anticipated the new FIL will be available at the end of January. We submitted the application on December 5th. EID's turnaround is estimated at 8 weeks. We will forward a copy of the new FIL once received.
3. The Rezone exhibit has been revised to show the correct designations. Twenty-five (25) full size copies folded and one 8x11 reduction are provided with this submittal.
4. As you are aware the Client has selected Ascent Environmental for preparation of the EIR document.

Please call if there are any questions.

Sincerely,

Tiffany Wilson

Tiffany Ann Wilson, AICP
Managing Planner

Cc: Angelo Christie; AKT Development

Enclosures

RSC Engineering, Inc.
Consulting Engineers

2250 Douglas Blvd.
Suite 150
Roseville, CA 95661
916.788.2884
Fax 916.788.4408
rsc-engr.com

El Dorado Irrigation District

Letter No.: DS0118-007

January 12, 2018

VIA FIRST-CLASS MAIL

Angelo Christie
EDH 52 GP
7700 College Town Drive, Suite 150
Sacramento, CA 95826

Subject: Facility Improvement Letter (FIL), EDH 52 -**Annexation**
Assessor's Parcel No. (s) 122-720-15 (Outside)

Dear Mr. Christie:

This letter is in response to your request dated December 4, 2017 and is valid for a period of three years. If Improvement plans for your project are not submitted to El Dorado Irrigation District (EID or District) within three years of the date of this letter, a new FIL will be required.

Design drawings for your project must be in conformance with the District's *Water, Sewer and Recycled Water Design and Construction Standards*.

This proposed project is a commercial development on 41.87 acres. Water and sewer service, recycled water service, private fire service and fire hydrants are requested. The property is **not** within the District boundary and will require annexation before service can be obtained.

This letter is not a commitment to serve, but does address the location and approximate capacity of existing facilities that may be available to serve your project.

Water Supply
As of January 1, 2017, there were approximately 15,591 equivalent dwelling units (EDUs) of water supply available in the El Dorado Hills Water Supply Region. Your project as proposed on this date would require 55 EDUs of water supply.

Water Facilities
An 18-inch water line is located along the western property boundary of the parcel to be developed. The El Dorado Hills Fire Department has determined that the minimum fire flow for this project is 2,875 GPM for a 3-hour duration while maintaining a 20-psi residual pressure. According to the District's hydraulic model, the existing system can deliver the required fire flow. In order to receive service, you must construct a water line extension connecting to the 18-

inch water line previously identified. The hydraulic grade line for the existing water distribution facilities is 960 feet above mean sea level at static conditions and 890 feet above mean sea level during fire flow and maximum day demands.

The flow predicted above was developed using a computer model and is not an actual field flow test.

Recycled Water Facilities

There is an 18-inch recycled water line located along the western property boundary of the parcel to be developed. In order to receive service from this line an extension of facilities of adequate size must be constructed.

The following items must be provided to and/or approved by the District before delivery of recycled water:

1. Non-Residential Sites:
   a. A User Reclamation Plan (URP) prepared in accordance with the Recycled Water On-site Design and Construction Standards; and
   b. On-site recycled water plans submitted with improvement plans.
2. Residential Sites:
   a. An Engineer's Report as described in California Code of Regulations, Title 22; and
   b. On-site recycled water landscape plans submitted for each individual home lot or standard plans to be used with production homes.

The Engineer's Report and/or User Reclamation Plan will need to be revised and approved before the District approves the project development plans. All costs for these studies, plans, and reports will be borne by the applicant.

Sewer Facilities

There is a 21-inch gravity sewer line (Silva Valley – EDH Sewer Line) located along the western property boundary. This sewer line has adequate capacity at this time. In order to receive service from this line, an extension of facilities of adequate size must be constructed. This sewer line is being evaluated for potential upsizing in the District's Wastewater Facilities Master Plan. The District will monitor the available capacity in this line and will be responsible for constructing upgrades as needed. The recommended capacity improvements and the timing of implementation will be included in the District's 5-year CIP, subject to Board approval.

Your project as proposed on this date would require 55 EDUs of sewer service.

Easement Requirements

Proposed water lines, sewer lines and related facilities must be located within an easement accessible by conventional maintenance vehicles. When the water lines or waste water lines are within streets, they shall be located within the paved section of the roadway. No structures will be permitted within the easements of any existing or proposed facilities. The District must have unobstructed access to these easements at all times, and does not generally allow water or waste water facilities along lot lines.

Easements for any new District facilities constructed by this project must be granted to the District prior to District approval of water and/or waste water improvement plans, whether on-site or off-site. In addition, due to either nonexistent or prescriptive easements for some older facilities, any existing on-site District facilities that will remain in place after the development of this property must also have an easement granted to the District.

Environmental

The County is the lead agency for environmental review of this project per Section 15051 of the California Environmental Quality Act Guidelines (CEQA). The County's environmental document should include a review of both off-site and on-site water and sewer facilities that may be constructed by this project. You may be requested to submit a copy of the County's environmental document to the District if your project involves significant off-site facilities. If the County's environmental document does not address all water and waste water facilities and they are not exempt from environmental review, a supplemental environmental document will be required. This document would be prepared by a consultant. It could require several months to prepare and you would be responsible for its cost.

Annexation

The applicant is charged for all costs associated with the annexation proposal. A preliminary cost benefit analysis has been completed. This project as currently defined will not have a negative financial impact on the District. Please contact Development Services regarding the annexation process.

Summary

Service to this proposed development is contingent upon the following:

- Annexation approval from the District's Board of Directors and El Dorado County Local Agency Formation Commission;
- Payment of District Annexation Impact Fee (Contact Development Services for fee calculation);
- Inclusion of lands into the District's service area from the United States Department of the Interior Bureau of Reclamation (Contact Development Services for more information);

- The availability of uncommitted water supplies at the time service is requested;
- Approval of the County's environmental document by the District (if requested);
- Approval of a Facility Plan Report by the District;
- Approval of an extension of facilities application by the District;
- Approval of facility improvement plans by the District;
- Construction by the developer of all on-site and off-site proposed water and sewer facilities;
- Acceptance of these facilities by the District; and
- Payment of all District connection costs.

Services shall be provided in accordance with El Dorado Irrigation District Board Policies and Administrative Regulations, as amended from time-to-time. As they relate to conditions of and fees for extension of service, District Administrative Regulations will apply as of the date of a fully executed Extension of Facilities Agreement.

If you have any questions, please contact me at (530) 642-4054.

Sincerely,

Mike Brink, P.E.
Supervising Civil Engineer

MB/MM:ms

Enclosures: System Map

cc w/ System Map:

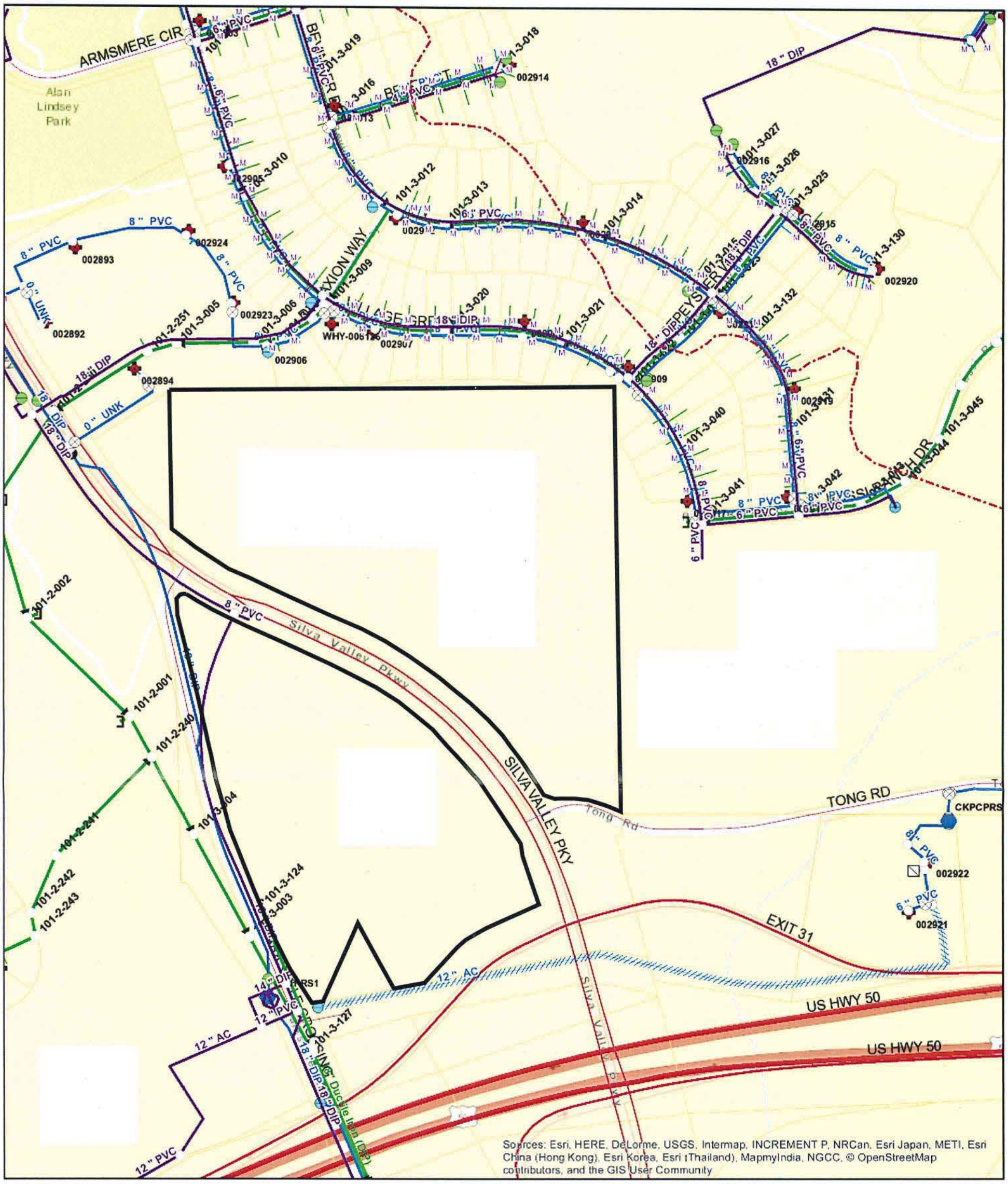
José C. Henríquez, Executive Officer
El Dorado County LAFCO
Via email - jhenriquez@edlafco.us

Marshall Cox – Fire Marshal
El Dorado Hills Fire Department
Via email - mcox@edhfire.com

Roger Trout, Director
El Dorado County Development Services Department
Via email - roger.trout@edcgov.us

Tiffany Wilson
RSC Engineering, Inc.
Via email – T.Wilson@rsc-engr.com

ArcGIS Web Map



Author: EID

WARNING: No accuracy of map implied until field checked by EID. Exact pipe locations must be field verified.

DATE: January 11,2018

EDH 52 - Annexation

APN:122-720-15

EID

El Dorado County | Esri., Inc., City of Naperville, Illinois | El Dorado Irrigation District | County of Sacramento, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, NGA, USGS |

El Dorado Irrigation District

Letter No.: DS1218-271

December 6, 2018

VIA E-MAIL

EDH 52 GP
Attn: Angelo Christie
Via Email: angeloc@aktinvestments.com

Subject: Facility Improvement Letter (FIL) 2782FIL, EDH 52 –**Annexation - REVISED**
Assessor's Parcel No. 122-720-15 (Outside)

Dear Mr. Christie:

This revised letter is in response to your request dated December 4, 2017 and is valid for a period of three years. If Improvement plans for your project are not submitted to El Dorado Irrigation District (EID or District) within three years of the date of this letter, a new FIL will be required. This letter supersedes the letter dated January 12, 2018 and reflects the removal of recycled water which is not available at this parcel.

Design drawings for your project must be in conformance with the District's *Water, Sewer and Recycled Water Design and Construction Standards*.

This proposed project is a commercial development on 48.29 acres. Water, sewer service, private fire service and fire hydrants are requested. The property is **not** within the District boundary and will require annexation before service can be obtained.

This letter is not a commitment to serve, but does address the location and approximate capacity of existing facilities that may be available to serve your project.

Water Supply
As of January 1, 2017, there were approximately 15,591 equivalent dwelling units (EDUs) of water supply available in the El Dorado Hills Water Supply Region. Your project as proposed on this date would require 65 EDUs of water supply.

Water Facilities
An 18-inch water line is located along the western property boundary of the parcel to be developed. The El Dorado Hills Fire Department has determined that the minimum fire flow for this project is 2,875 GPM for a 3-hour duration while maintaining a 20-psi residual pressure. According to the District's hydraulic model, the existing system can deliver the required fire

flow. In order to receive service, you must construct a water line extension connecting to the 18-inch water line previously identified. The hydraulic grade line for the existing water distribution facilities is 960 feet above mean sea level at static conditions and 890 feet above mean sea level during fire flow and maximum day demands.

The flow predicted above was developed using a computer model and is not an actual field flow test.

Sewer Facilities

There is a 21-inch gravity sewer line (Silva Valley – EDH Sewer Line) located along the western property boundary. This sewer line has adequate capacity at this time. In order to receive service from this line, an extension of facilities of adequate size must be constructed. This sewer line is being evaluated for potential upsizing in the District's Wastewater Facilities Master Plan. The District will monitor the available capacity in this line and will be responsible for constructing upgrades as needed. The recommended capacity improvements and the timing of implementation will be included in the District's 5-year CIP, subject to Board approval. Your project as proposed on this date would require 55 EDUs of sewer service.

Easement Requirements

Proposed water lines, sewer lines and related facilities must be located within an easement accessible by conventional maintenance vehicles. When the water lines or waste water lines are within streets, they shall be located within the paved section of the roadway. No structures will be permitted within the easements of any existing or proposed facilities. The District must have unobstructed access to these easements at all times, and does not generally allow water or waste water facilities along lot lines.

Easements for any new District facilities constructed by this project must be granted to the District prior to District approval of water and/or waste water improvement plans, whether on-site or off-site. In addition, due to either non-existent or prescriptive easements for some older facilities, any existing on-site District facilities that will remain in place after the development of this property must also have an easement granted to the District.

Environmental

The County is the lead agency for environmental review of this project per Section 15051 of the California Environmental Quality Act Guidelines (CEQA). The County's environmental document should include a review of both off-site and on-site water and sewer facilities that may be constructed by this project. You may be requested to submit a copy of the County's environmental document to the District if your project involves significant off-site facilities. If the County's environmental document does not address all water and waste water facilities and they are not exempt from environmental review, a supplemental environmental document will be

required. This document would be prepared by a consultant. It could require several months to prepare and you would be responsible for its cost.

Annexation

The applicant is charged for all costs associated with the annexation proposal. A preliminary cost benefit analysis has been completed. This project as currently defined will not have a negative financial impact on the District. Please contact Development Services regarding the annexation process.

Summary

Service to this proposed development is contingent upon the following:

- Annexation approval from the District's Board of Directors and El Dorado County Local Agency Formation Commission;
- Payment of District Annexation Impact Fees (Contact Development Services for fee calculation);
- Inclusion of lands into the District's service area from the United States Department of the Interior Bureau of Reclamation (Contact Development Services for more information);
- The availability of uncommitted water supplies at the time service is requested;
- Approval of the County's environmental document by the District (if requested);
- Approval of an extension of facilities application by the District;
- Approval of facility improvement plans by the District;
- Construction by the developer of all on-site and off-site proposed water and sewer facilities;
- Acceptance of these facilities by the District; and
- Payment of all District connection costs.

Services shall be provided in accordance with El Dorado Irrigation District Board Policies and Administrative Regulations, as amended from time-to-time. As they relate to conditions of and fees for extension of service, District Administrative Regulations will apply as of the date of a fully executed Extension of Facilities Agreement.

If you have any questions, please contact me at (530) 642-4054.

Sincerely,

Mike Brink, P.E.
Supervising Civil Engineer

MB/MM:gp

Enclosures: System Map

cc w/ System Map:

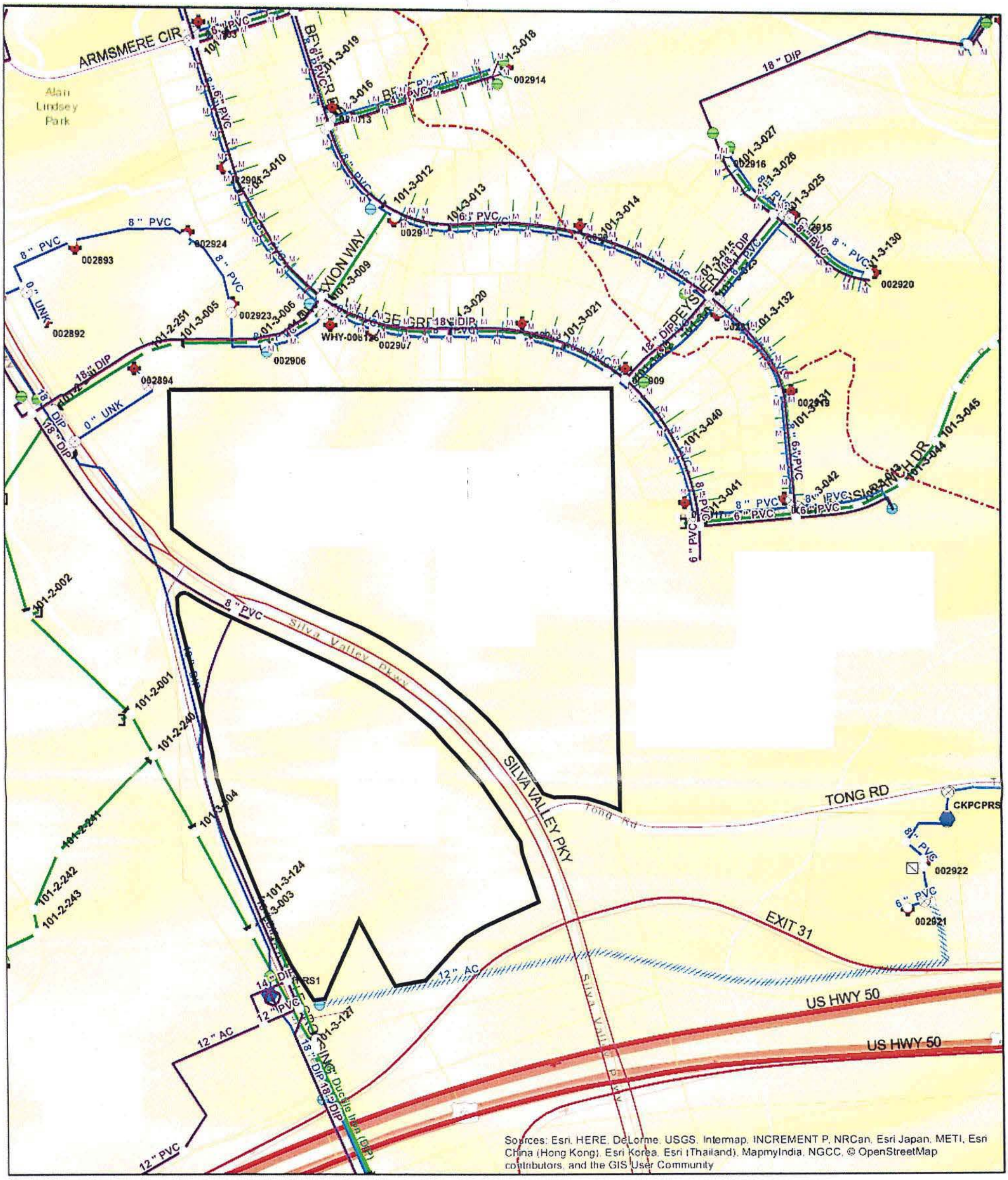
José C. Henríquez, Executive Officer
El Dorado County LAFCO
Via email - jhenriquez@edlafco.us

Marshall Cox – Fire Marshal
El Dorado Hills Fire Department
Via email - mcox@edhfire.com

Tiffany Schmid, Director
El Dorado County Development Services Department
Via email – tiffany.schmid@edcgov.us

Tiffany Wilson
RSC Engineering, Inc.
Via email – T.Wilson@rsc-engr.com

ArcGIS Web Map



DATE: January 11,2018

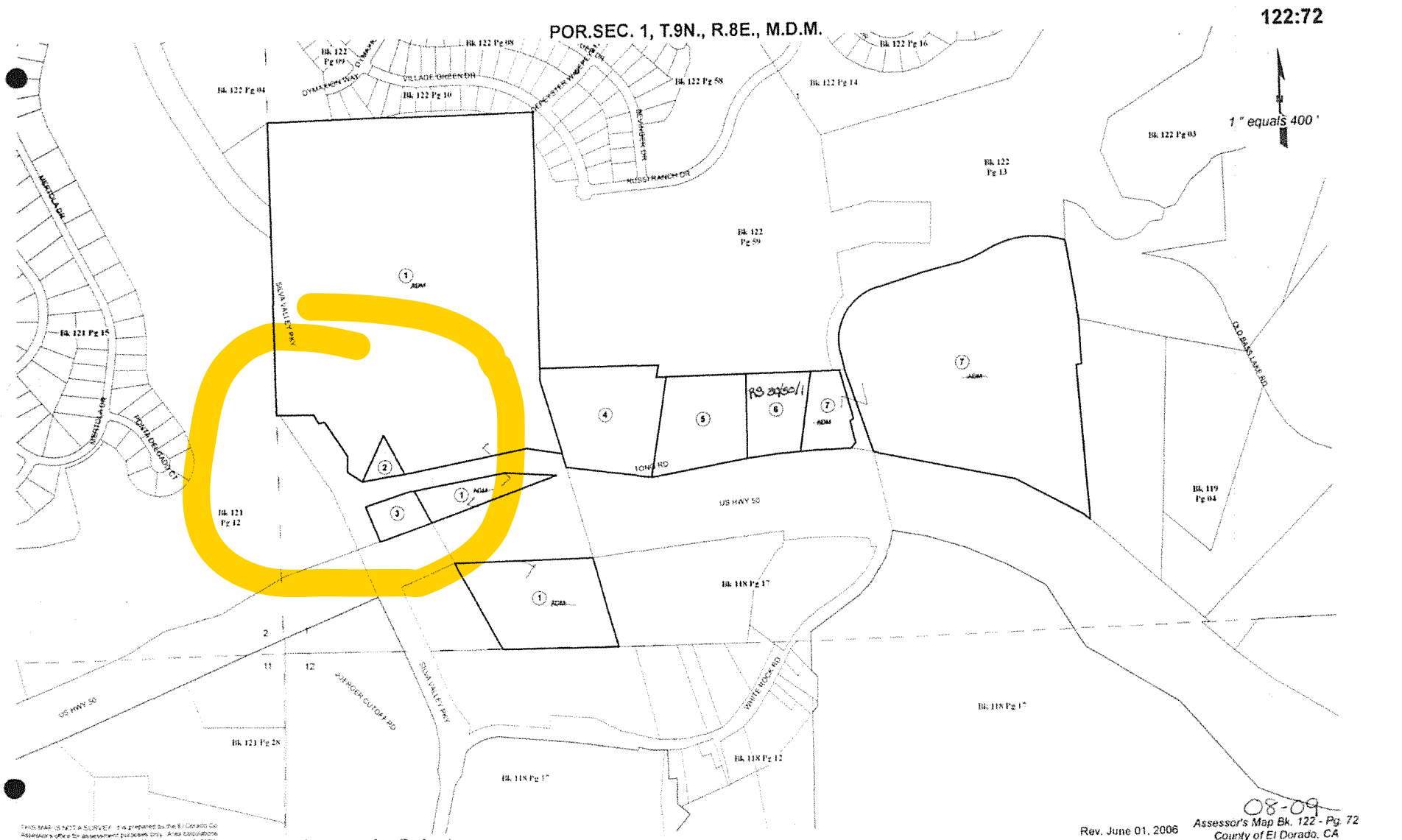
EDH 52 - Annexation

APN:122-720-15

Author: EID

WARNING: No accuracy of map implied until field checked by EID. Exact pipe locations must be field verified.

El Dorado County | Esri., Inc., City of Naperville, Illinois | El Dorado Irrigation District | County of Sacramento, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, NGA, USGS |


POR.SEC. 1, T.9N., R.8E., M.D.M.
122:72
1" equals 400'
Bk. 122 Pg 04
Bk. 122 Pg 09
Bk. 122 Pg 08
Bk. 122 Pg 10
Bk. 122 Pg 58
Bk. 122 Pg 14
Bk. 122 Pg 16
Bk. 122 Pg 03
Bk. 122 Pg 13
Bk. 122 Pg 59
Bk. 121 Pg 15
Bk. 121 Pg 12
Bk. 119 Pg 04
Bk. 118 Pg 17
Bk. 118 Pg 12
Bk. 123 Pg 28
OLYMPIC VALLEY RD
VILLAGE GREEN DR
DEER VALLEY WAY
RUSSI RANCH DR
MEADOW LA DR
SILVA VALLEY PKWY
SPRUCE LA DR
FONTANA RANCH CT
TONE RD
US HWY 50
JOHNGER CUTOFF RD
WHITE ROCK RD
OLD BASS LAKE RD
ADJM
RS exempt
Acreages Are Estimates
Rev. June 01, 2006
08-09
Assessor's Map Bk. 122 - Pg. 72
County of El Dorado, CA

POR.SEC. 1, T.9N., R.8E., M.D.M.

122:72



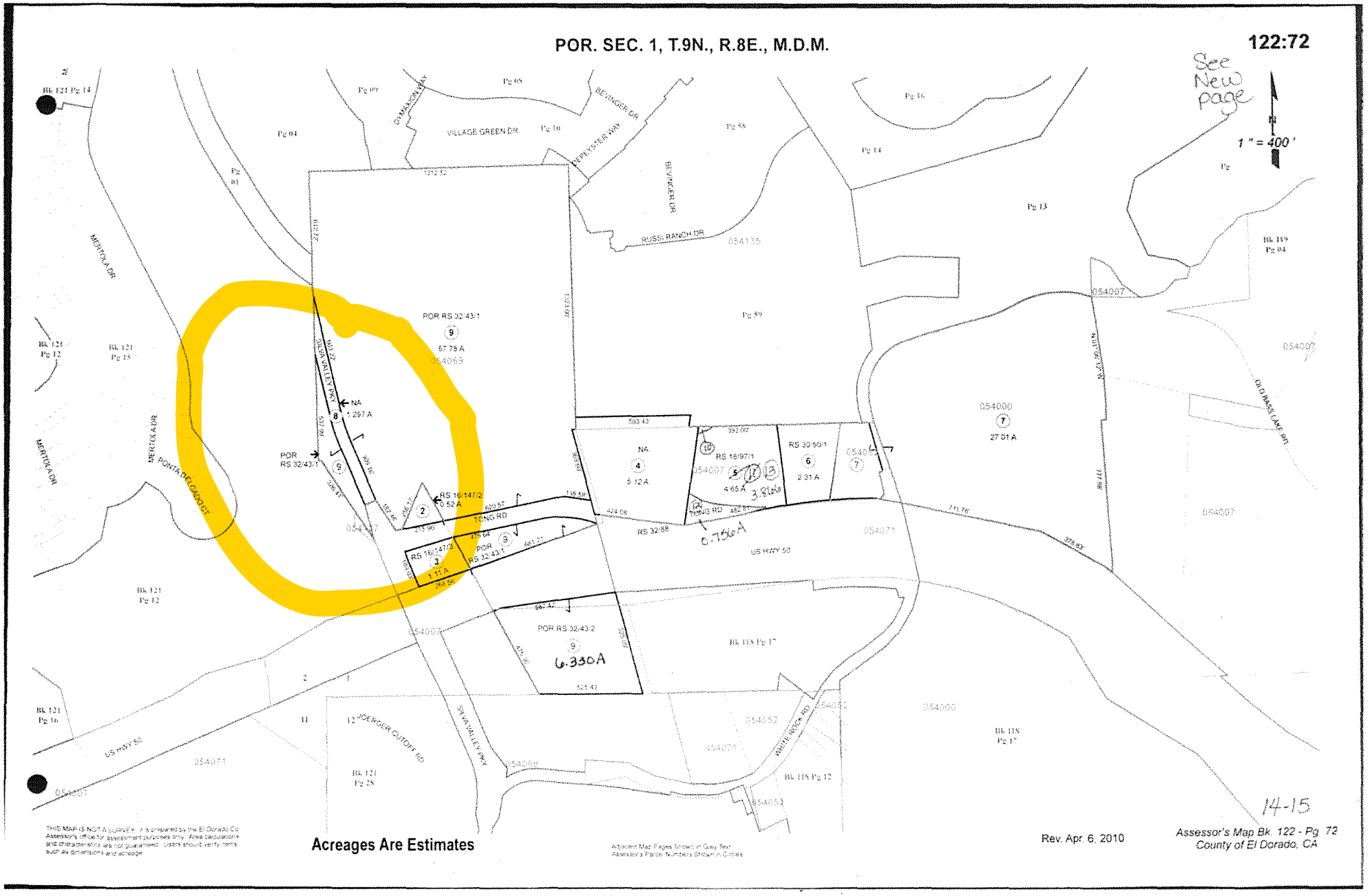
This MAP IS NOT A SURVEY. It is prepared by the El Dorado Co Assessor's office for assessment purposes only. Area calculations and dimensions are not guaranteed. Users should verify items such as dimensions and acreage.

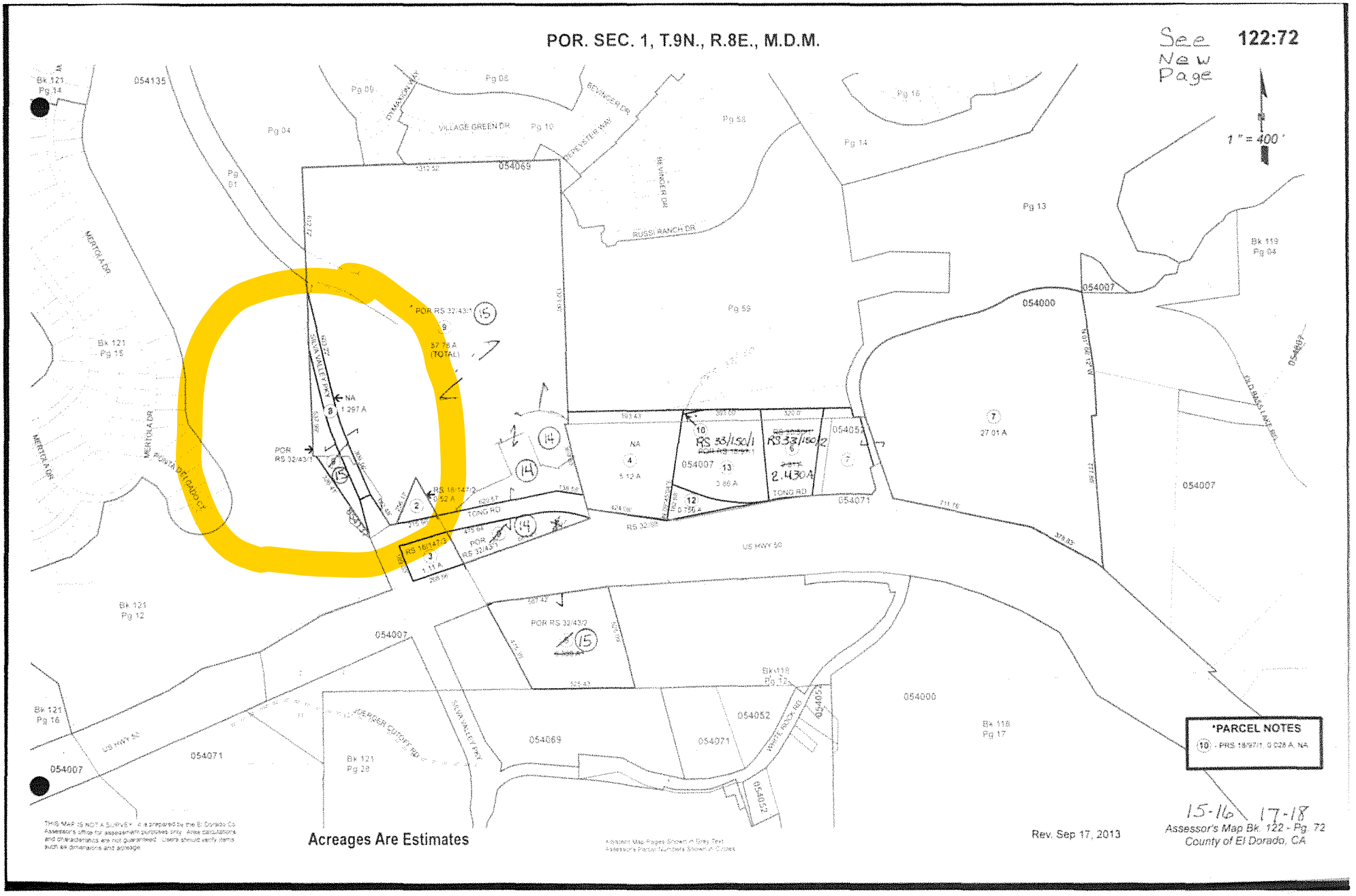
Acreages Are Estimates

Rev. July 24, 2007

11-12
08-09

Assessor's Map Bk. 122 - Pg. 72
County of El Dorado, CA


POR. SEC. 1, T.9N., R.8E., M.D.M.
122:72
See New page
1 " = 400 '
MERTOLA DR
PONTA DR
VILLAGE GREEN DR
BEVINGER DR
RUSSI RANCH DR
SILVA VALLEY PKY
TONG RD
US HWY 50
JOERGER CUTOFF RD
WHITE ROCK RD
OLD PASS LANE DR
POR RS 32/43/1
57.75 A
NA
1.297 A
RS 16/147/2
0.52 A
RS 16/147/3
1.17 A
NA
5.12 A
RS 18/97/1
4.65 A
RS 30/50/1
2.31 A
RS 32/88
0.75±A
POR RS 32/43/2
6.330A
27.01 A
3.8±A
14-15
Acreages Are Estimates
Rev. Apr. 6, 2010
Assessor's Map Bk. 122 - Pg 72
County of El Dorado, CA


POR. SEC. 1, T.9N., R.8E., M.D.M.
See New Page
122:72
1" = 400'
PARCEL NOTES
(10) - PRS 18/97/1, 0.028 A, NA
RS 33/150/1
RS 33/150/2
2.430A
Acreages Are Estimates
Rev. Sep 17, 2013
15-16 17-18
Assessor's Map Bk. 122 - Pg. 72
County of El Dorado, CA

EDH-52 COMMERCIAL DEVELOPMENT-SOUTH

APPLICATIONS: P17-007/S17-0017/Z17-004/PD15-001

SILVA VALLEY PARKWAY, EL DORADO HILLS, CA

NOVEMBER 12, 2020

PROJECT DIRECTORY

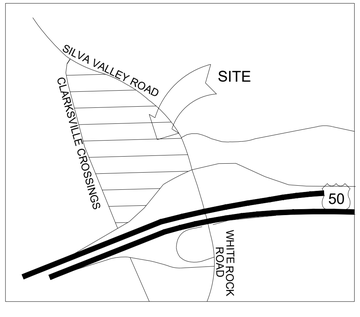
APPLICANT:
COSTCO WHOLESALE
999 LAKE DRIVE
ISSAQUAH, WA 98027
PHONE: (425) 427-7540
CONTACT: KIM KATZ

CIVIL ENGINEER/SURVEY:
KIER & WRIGHT
2995 PROSPECT PARK DRIVE, SUITE 100
RANCHO CORDOVA, CA 95670
PHONE: (970) 970-5184 x 3214
CONTACT: JARED MEREDITH

LANDSCAPE ARCHITECT:
DAVID BABCOCK & ASSOCIATES
3581 MT. DIABLO BLVD., SUITE 235
LAFAYETTE, CA. 94549
PHONE: (925) 283-5070
CONTACT: JEFF BERBERICH

ARCHITECTS:
MG2
1101 SECOND AVENUE SUITE 100
SEATTLE, WA 98101
PHONE: (425) 463-1314
CONTACT: JOSEPH WELCH

DAVID BABCOCK & ASSOCIATES
3581 MOUNT DIABLO BLVD., SUITE 235
LAFAYETTE, CA. 94549
PHONE: (925) 283-5070
CONTACT: JEFF BERBERICH



VICINITY MAP

N.T.S.



LOCATION MAP

N.T.S.

PROJECT DATA

PROJECT LOCATION:	Silva Valley Parkway El Dorado Hills, Ca
APN:	122-720-15
CURRENT ZONING:	CR-PD Commercial Regional Planned Development
PROPOSED ZONING:	CR-PD Commercial Regional Planned Development
SITE AREA:	+/-17.05 Acres
JURISDICTION:	El Dorado County
BOUNDARIES INFORMATION:	This plan has been prepared using the Topographic survey dated March 2019 prepared by Kier & Wright

SHEET INDEX

1. TITLE SHEET
2. SITE CONTEXT PHOTOS
3. EXISTING AND PROPOSED ZONING EXHIBIT
4. CONCEPT SITE PLAN LOWER LEVEL PLAN
5. CONCEPT SITE PLAN UPPER LEVEL PLAN
6. SITE SECTIONS
7. PRELIMINARY FLOOR PLAN
8. PRELIMINARY FUEL FACILITY PLAN
9. EXISTING CONTEXT
10. COSTCO DESIGN INSPIRATION
11. CONCEPT ELEVATIONS
12. CONCEPT WAREHOUSE MATERIALS
13. CONCEPT SIGNAGE
14. PRELIMINARY LANDSCAPE PLAN
15. C1 TOPOGRAPHIC SURVEY
16. C2 PRELIMINARY GRADING AND DRAINAGE PLAN
17. C3 PRELIMINARY UTILITY PLAN
18. C4 PRELIMINARY STORMWATER QUALITY CONTROL PLAN
19. SE-1 SITE LIGHTING PLAN

DBA #P.290

DB+A
DAVID BABCOCK ✦ ASSOCIATES
ARCHITECTURE PLANNING LANDSCAPE
3581 MT. DIABLO BLVD., SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070



1 VIEW OF SITE ALONG SILVA VALLEY PARKWAY AT WEST HWY 50



2 VIEW OF SITE ALONG SILVA VALLEY PARKWAY



3 VIEW AT MAIN ENTRY ALONG SILVA VALLEY PARKWAY



4 VIEW AT CLARKSVILLE CROSSING AND SILVA VALLEY PARKWAY



5 VIEW LOOKING SITE ALONG CLARKSVILLE CROSSING AT NORTHWEST CORNER



6 VIEW ALONG CLARKSVILLE CROSSING AT SOUTHWEST CORNER



PHOTO KEY PLAN

NORTH

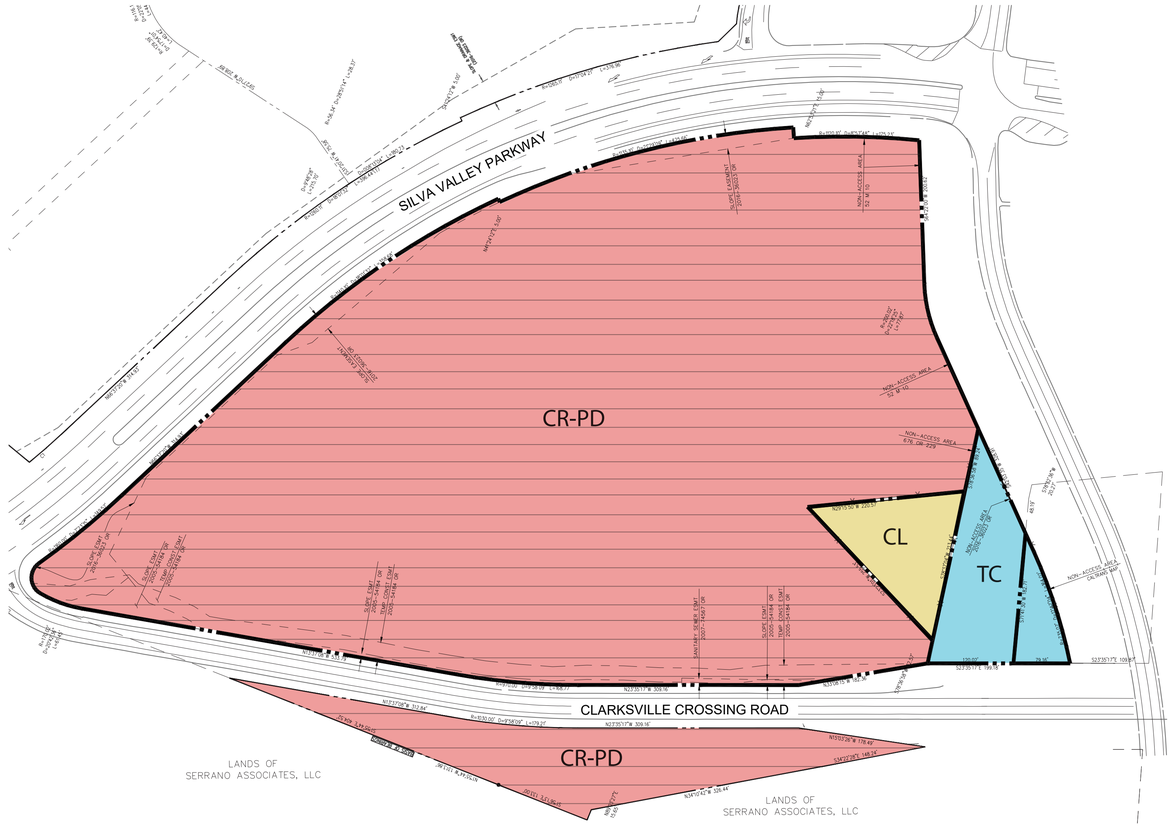
DBA # P.290

DB+A
DAVID BABCOCK + ASSOCIATES
ARCHITECTURE LANDSCAPE PLANNING
3581 MT. DIABLO BLVD. , SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

COSTCO EL DORADO HILLS

SITE CONTEXT PHOTOS

NOT TO SCALE
NOVEMBER 12, 2020

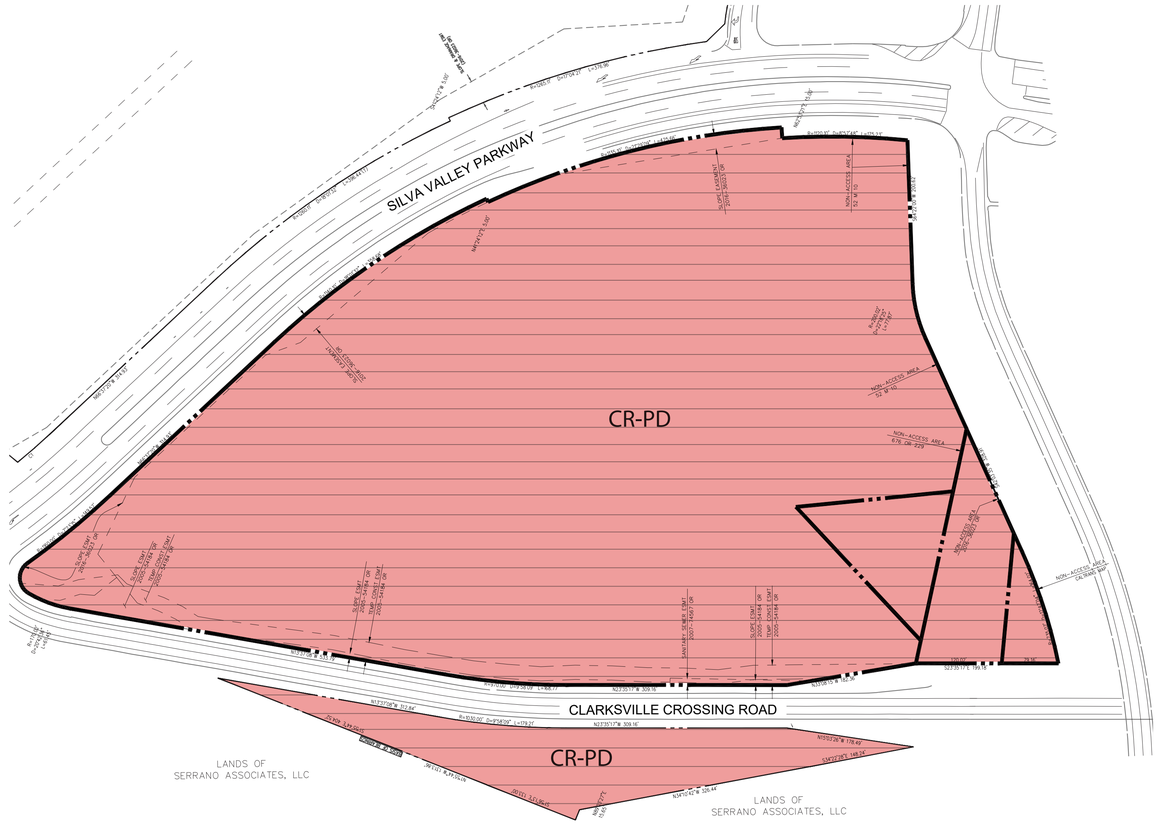


EXISTING ZONING: CR-PD, CL, TC
EXISTING ACREAGE: ± 17.05 AC

CR-PD
Commercial Regional Planned Development

CL
Commercial Limited

TC
Transportation Corridor



PROPOSED ZONING: CR-PD
PROPOSED ACREAGE: ± 17.05 AC

CR-PD
Commercial Regional Planned Development

DBA # P.290

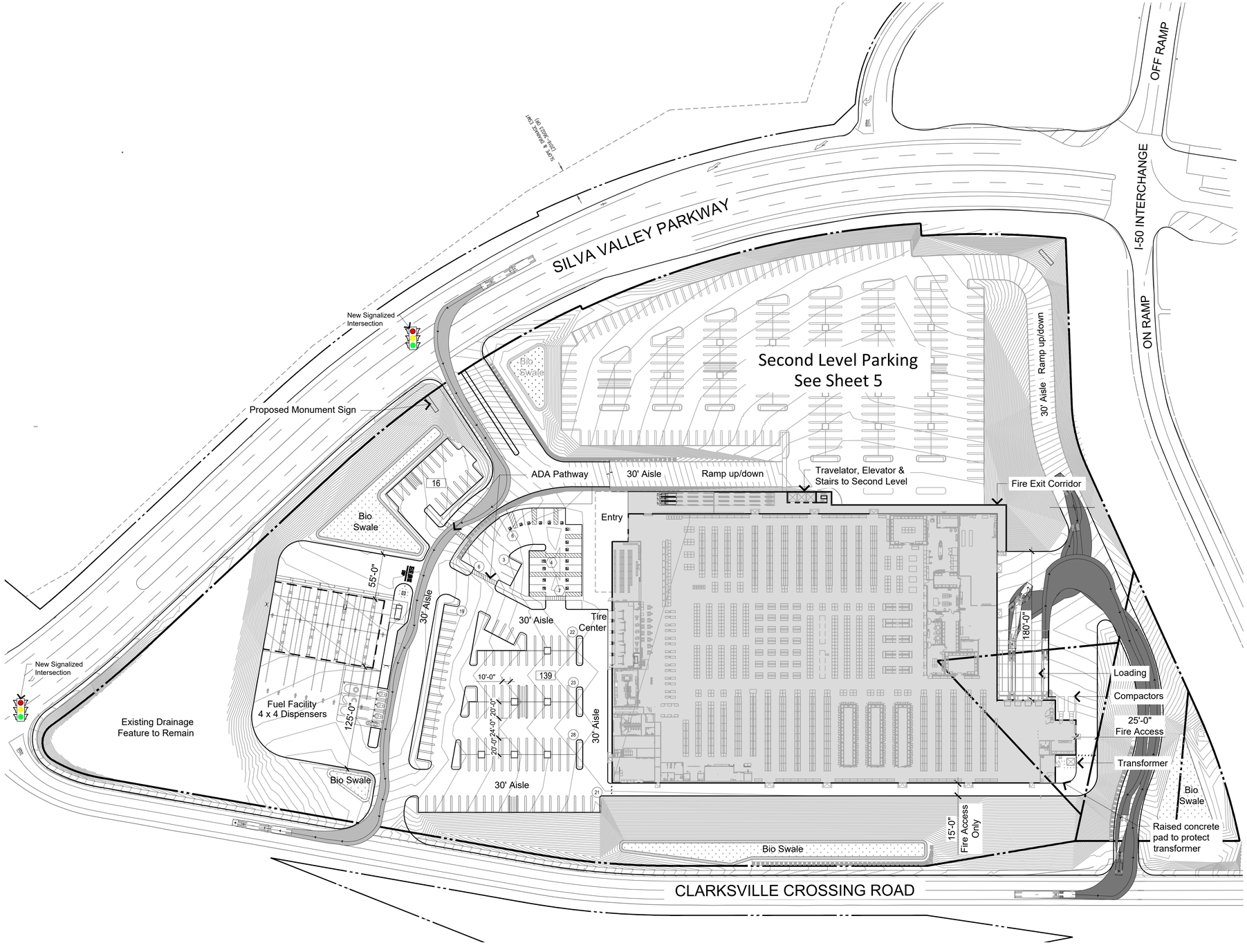
DB+A
DAVID BABCOCK + ASSOCIATES
ARCHITECTURE LANDSCAPE PLANNING
3581 MT. DIABLO BLVD. , SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

COSTCO EL DORADO HILLS

EXISTING AND PROPOSED ZONING EXHIBIT

0 50' 100' 200'
SCALE 1"= 100'
NOVEMBER 12, 2020

NORTH
PLAN



BUILDING DATA

Warehouse Building	±160,325 s.f.

PARKING DATA

Lower Level Parking	155 stalls
10' wide stalls: Lower Level	121 stalls
Accessible stalls (inclusive of 3 Van stalls):	17 stalls
10' wide stalls - EV Capable Stalls:	17 stalls
Upper Level Parking	670 stalls
Total Parking Provided:	825 stalls (5.1 / 1,000)
Parking Required: (Per El Dorado County)	642 stalls (4.0 / 1,000)

TRUCK LEGEND

- Warehouse Delivery Truck Route
- Fuel Delivery Truck Route

DBA #P.290

DB+A
DAVID BABCOCK + ASSOCIATES
ARCHITECTURE PLANNING LANDSCAPE
3581 MT. DIABLO BLVD. , SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

COSTCO EL DORADO HILLS

CONCEPT SITE PLAN LOWER LEVEL PLAN

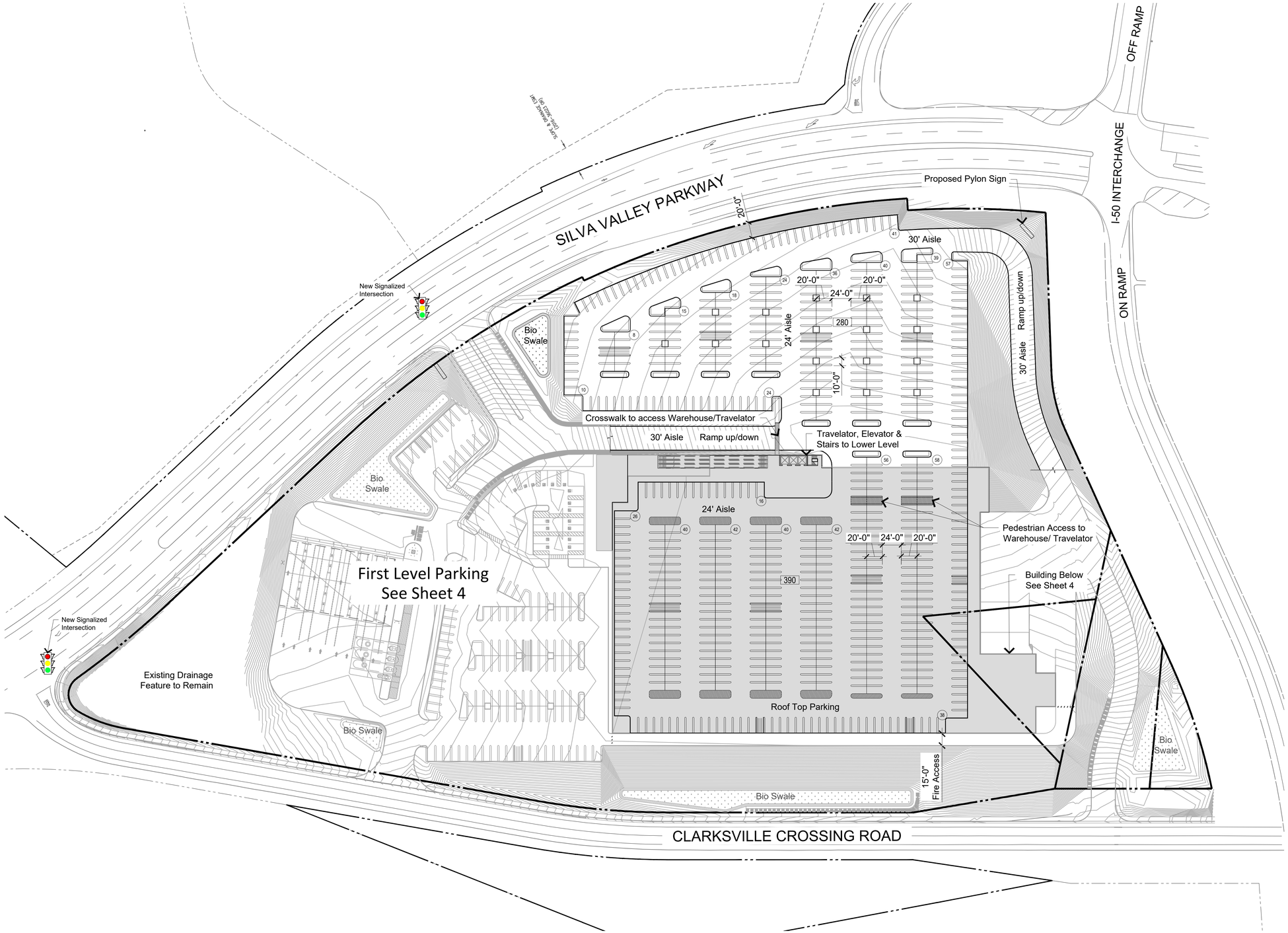
0 15' 30' 60' 120'

SCALE 1" = 60'

NOVEMBER 12, 2020

NORTH

PLAN



DBA #P.290

DB+A
DAVID BABCOCK + ASSOCIATES
ARCHITECTURE PLANNING LANDSCAPE
3581 MT. DIABLO BLVD., SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

COSTCO EL DORADO HILLS

CONCEPT SITE PLAN UPPER LEVEL PLAN

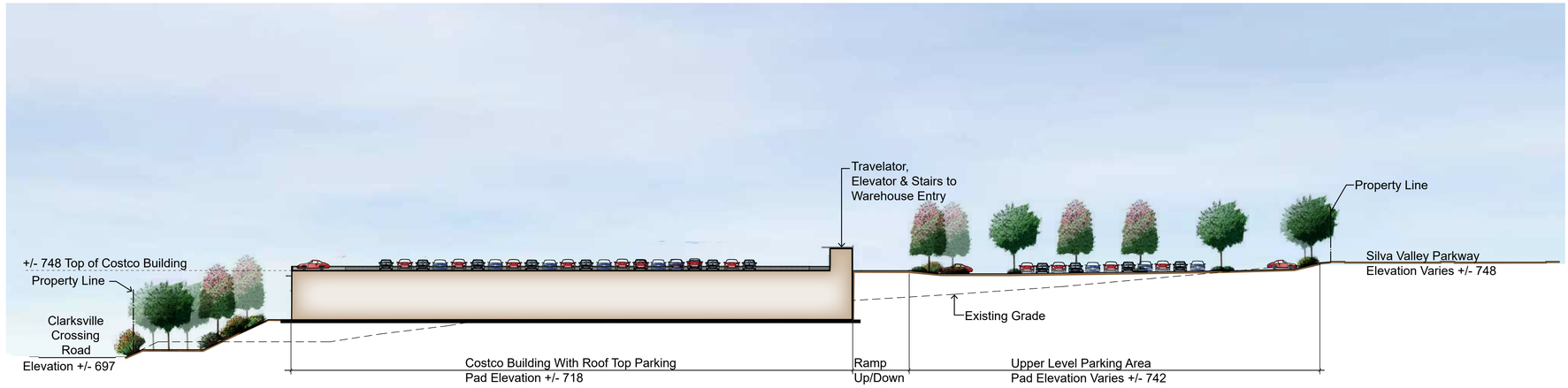
0 15' 30' 60' 120'

SCALE 1" = 60'

NOVEMBER 12, 2020

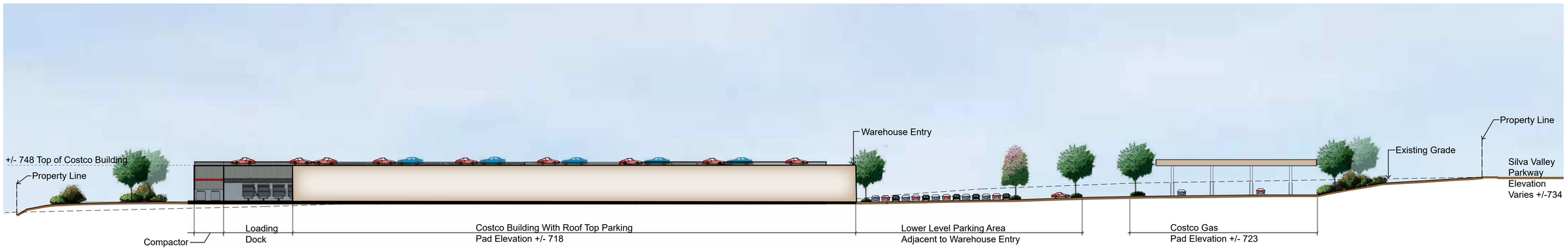
NORTH

PLAN



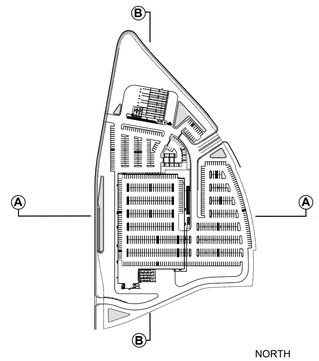
SECTION A

Scale: 1"= 40'-0"



SECTION B

Scale: 1"= 40'-0"



KEY MAP

Scale: N.T.S.

NORTH

DBA # P.290

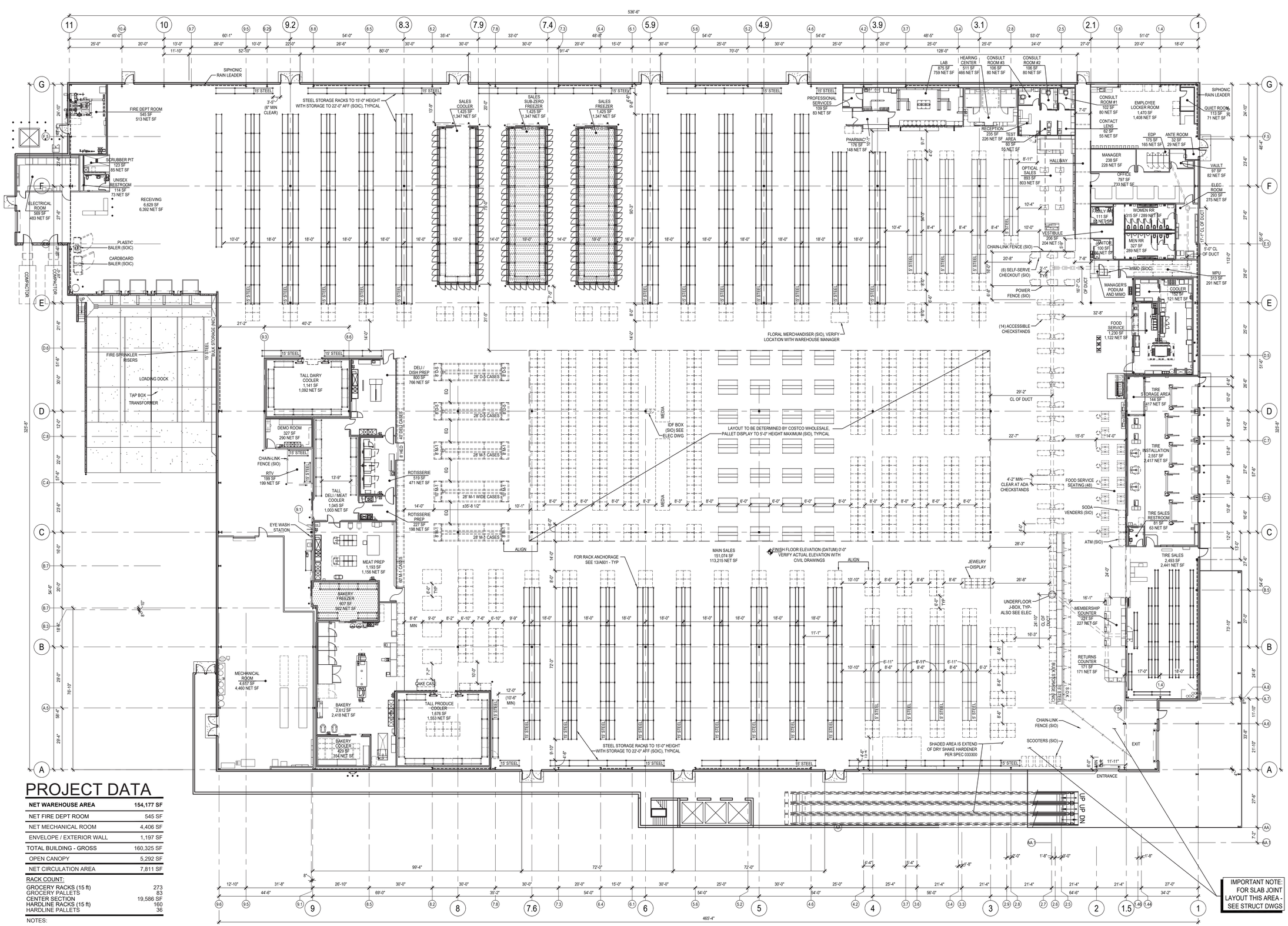
DB+A

DAVID BABCOCK + ASSOCIATES
ARCHITECTURE LANDSCAPE PLANNING
3581 MT. DIABLO BLVD. , SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

COSTCO EL DORADO HILLS

SITE SECTIONS

NOVEMBER 12, 2020



PROJECT DATA

NET WAREHOUSE AREA	**154,177 SF**
NET FIRE DEPT ROOM	545 SF
NET MECHANICAL ROOM	4,406 SF
ENVELOPE / EXTERIOR WALL	1,197 SF
TOTAL BUILDING - GROSS	160,325 SF
OPEN CANOPY	5,292 SF
NET CIRCULATION AREA	7,811 SF

RACK COUNT:

GROCERY RACKS (15 ft)	273
GROCERY PALLETS	83
CENTER SECTION	19,586 SF
HARDLINE RACKS (15 ft)	160
HARDLINE PALLETS	36

NOTES:

COSTCO WHOLESALE

EL DORADO HILLS, CA

PRELIMINARY FLOOR PLAN

NOVEMBER 12, 2020

APPROVED BY:

PRESIDENT DATE:

EXECUTIVE VP DATE:

SENIOR VP DATE:

REGIONAL VP DATE:

0 10' 20' 40'

1" = 20'-0"

COSTCO WHOLESALE

US MASTER

1101 Second Ave, Ste 100
Seattle, WA 98101

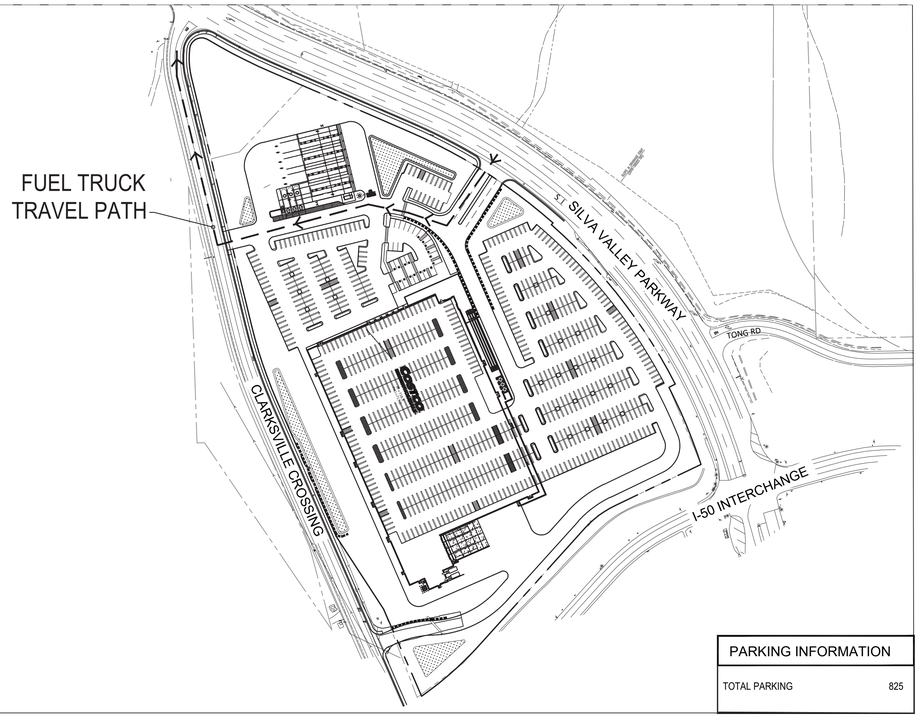
206 962 6500
MG2.com

MG2

19-5017-01
NOVEMBER 12, 2020

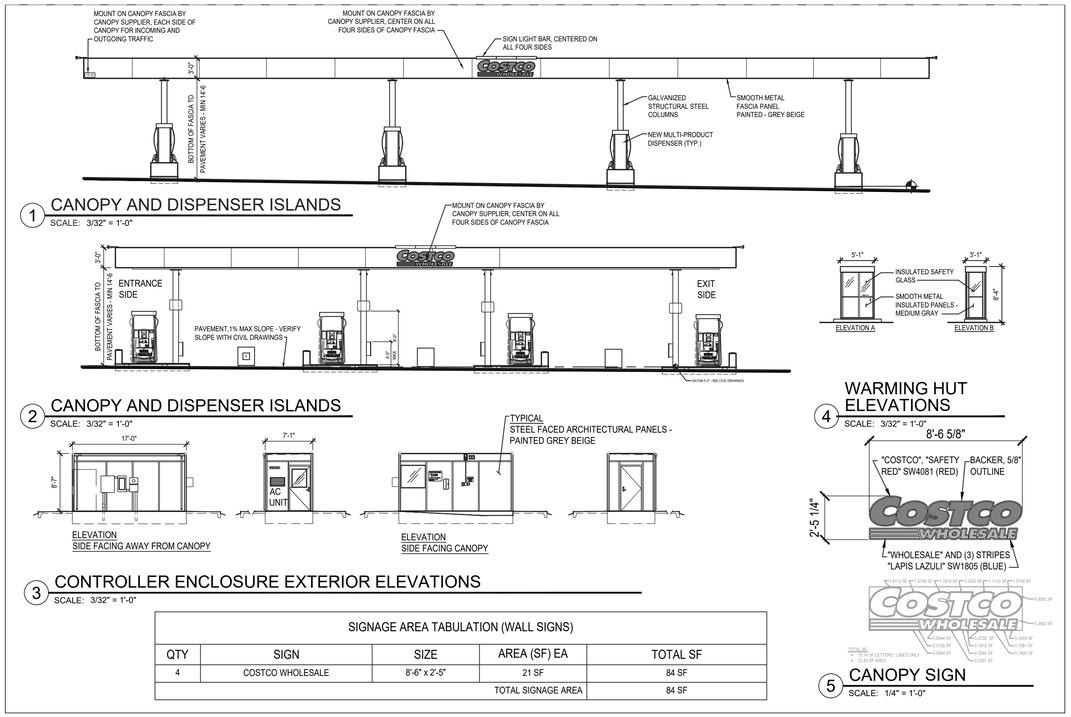
SHEET
7
OF 19

© MG2, Inc. All rights reserved. No part of this document may be reproduced in any form or by any means without permission in writing from MG2.



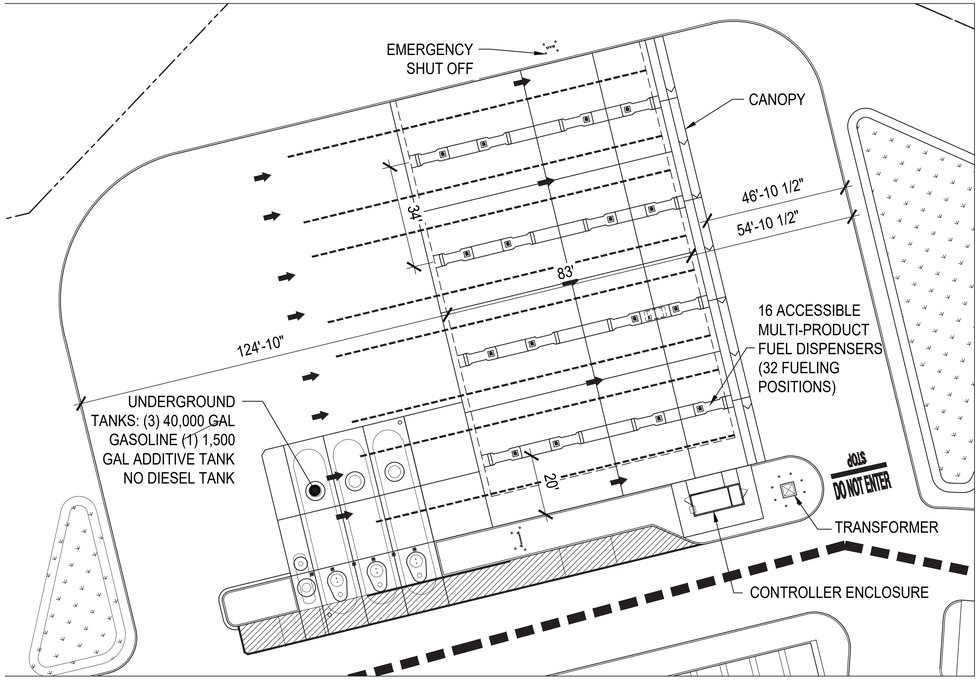
PARKING INFORMATION	
TOTAL PARKING	825

CONCEPT FUEL TRUCK ROUTE



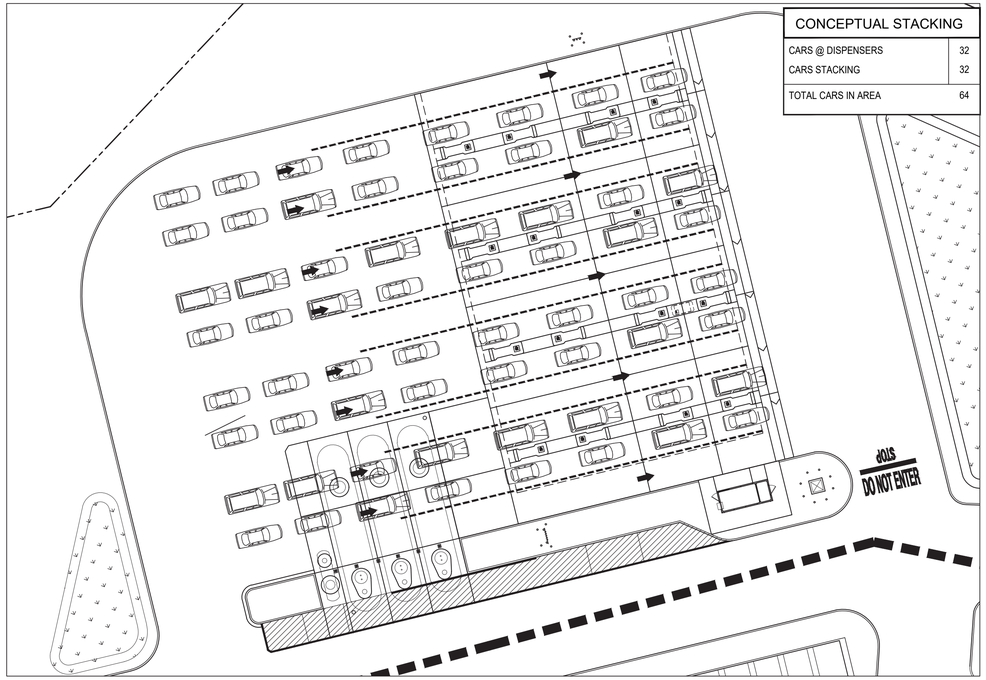
SIGNAGE AREA TABULATION (WALL SIGNS)				
QTY	SIGN	SIZE	AREA (SF) EA	TOTAL SF
4	COSTCO WHOLESALE	8'-6" x 2'-5"	21 SF	84 SF
			TOTAL SIGNAGE AREA	84 SF

CONCEPT ELEVATIONS



NO DIESEL

DETAIL SITE PLAN



CONCEPTUAL STACKING	
CARS @ DISPENSERS	32
CARS STACKING	32
TOTAL CARS IN AREA	64

STACKING PLAN

COSTCO WHOLESALE

EL DORADO HILLS, CA

PRELIMINARY FUEL FACILITY

NOVEMBER 12, 2020

COSTCO WHOLESALE
EL DORADO HILLS, CA

1101 Second Ave, Ste 100
Seattle, WA 98101
206 962 6500
MG2.com
MG2

19-5017-01
NOVEMBER 12 , 2020

SHEET
8
OF 19

© MG2, Inc. All rights reserved. No part of this document may be reproduced in any form or by any means without permission in writing from MG2.


TARGET


Pharmacy
SAFEWAY

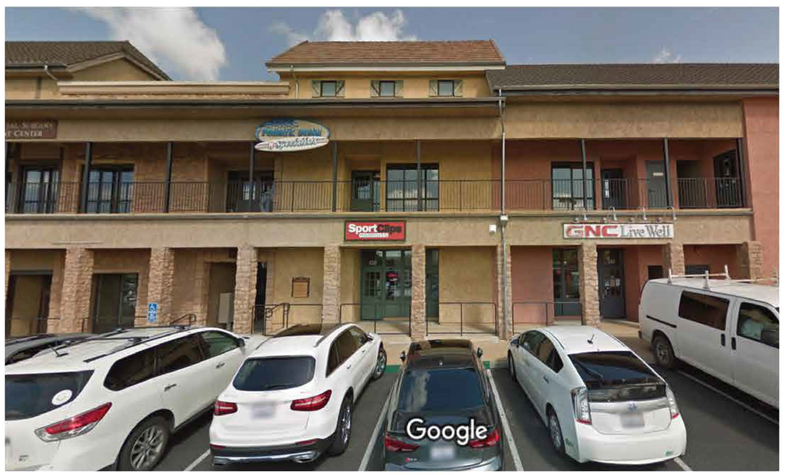

REGAL CINEMAS 14
IMAX

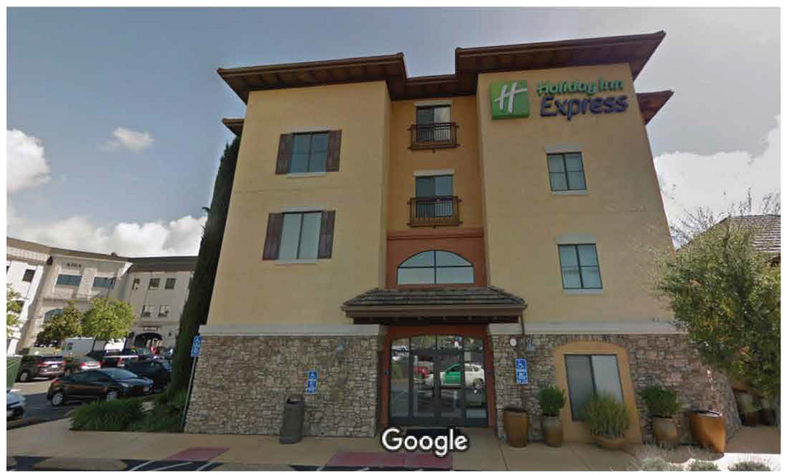

Welcome
Google


Salon Capelli
SUSHI KUMA
Google


STOP
Google

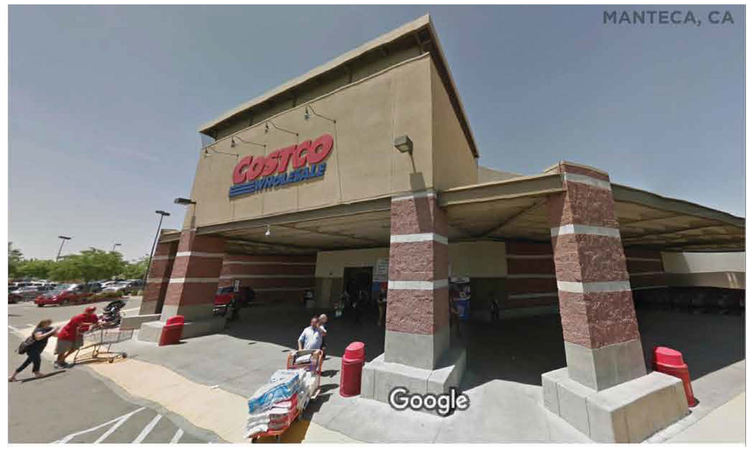

Google


GNC Live Well!
Google


Holiday Inn Express
Google

















MG2

NOVEMBER 12, 2020
PROJECT# 19-5017-01
EL DORADO HILLS, CA

COSTCO DESIGN INSPIRATION

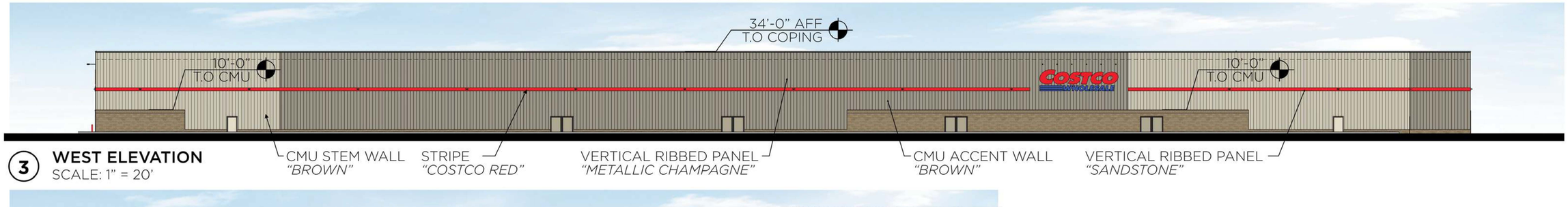
COSTCO WHOLESALE



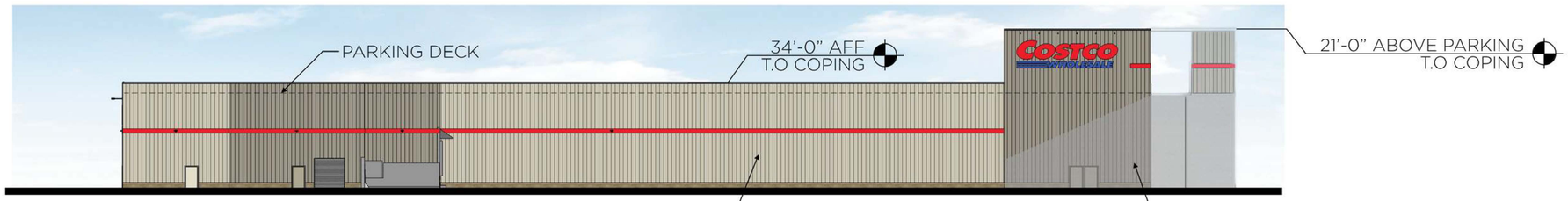
1 EAST ELEVATION
SCALE: 1" = 20'



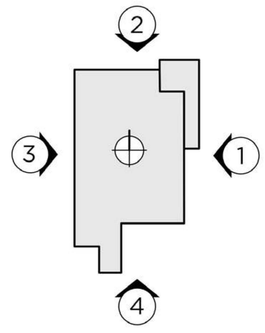
2 NORTH ELEVATION
SCALE: 1" = 20'



3 WEST ELEVATION
SCALE: 1" = 20'



4 SOUTH ELEVATION
SCALE: 1" = 20'



MG2

NOVEMBER 12, 2020
PROJECT# 19-5017-01
EL DORADO HILLS, CA

CONCEPT ELEVATIONS

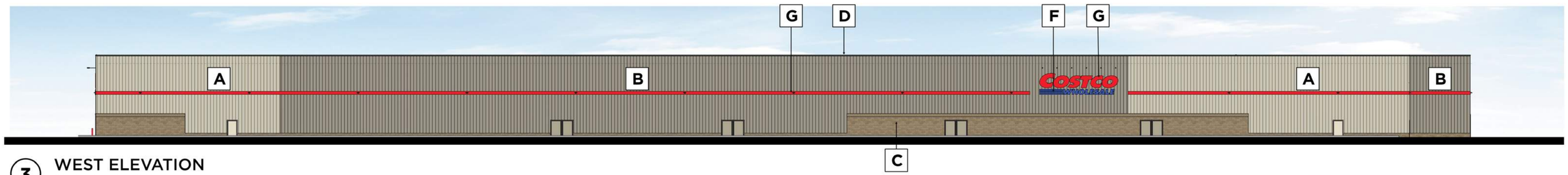
COSTCO WHOLESALE



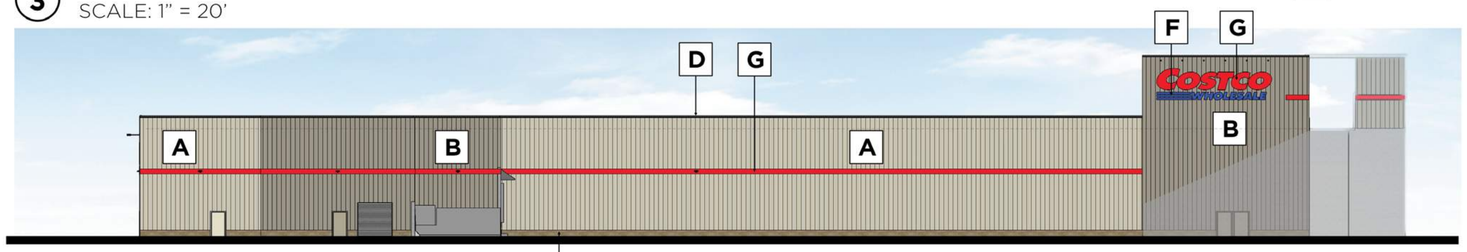
1 **EAST ELEVATION**
SCALE: 1" = 20'



2 **NORTH ELEVATION**
SCALE: 1" = 20'



3 **WEST ELEVATION**
SCALE: 1" = 20'



4 **SOUTH ELEVATION**
SCALE: 1" = 20'



VERTICAL RIBBED PANEL
"SANDSTONE"



VERTICAL RIBBED PANEL
"METALLIC CHAMPAGNE"



SPLIT FACE CMU
"BROWN"



CORNICE/ COPING "SLATE GREY"



CONCRETE
"NATURAL"



'WHOLESALE'
"COSTCO BLUE"



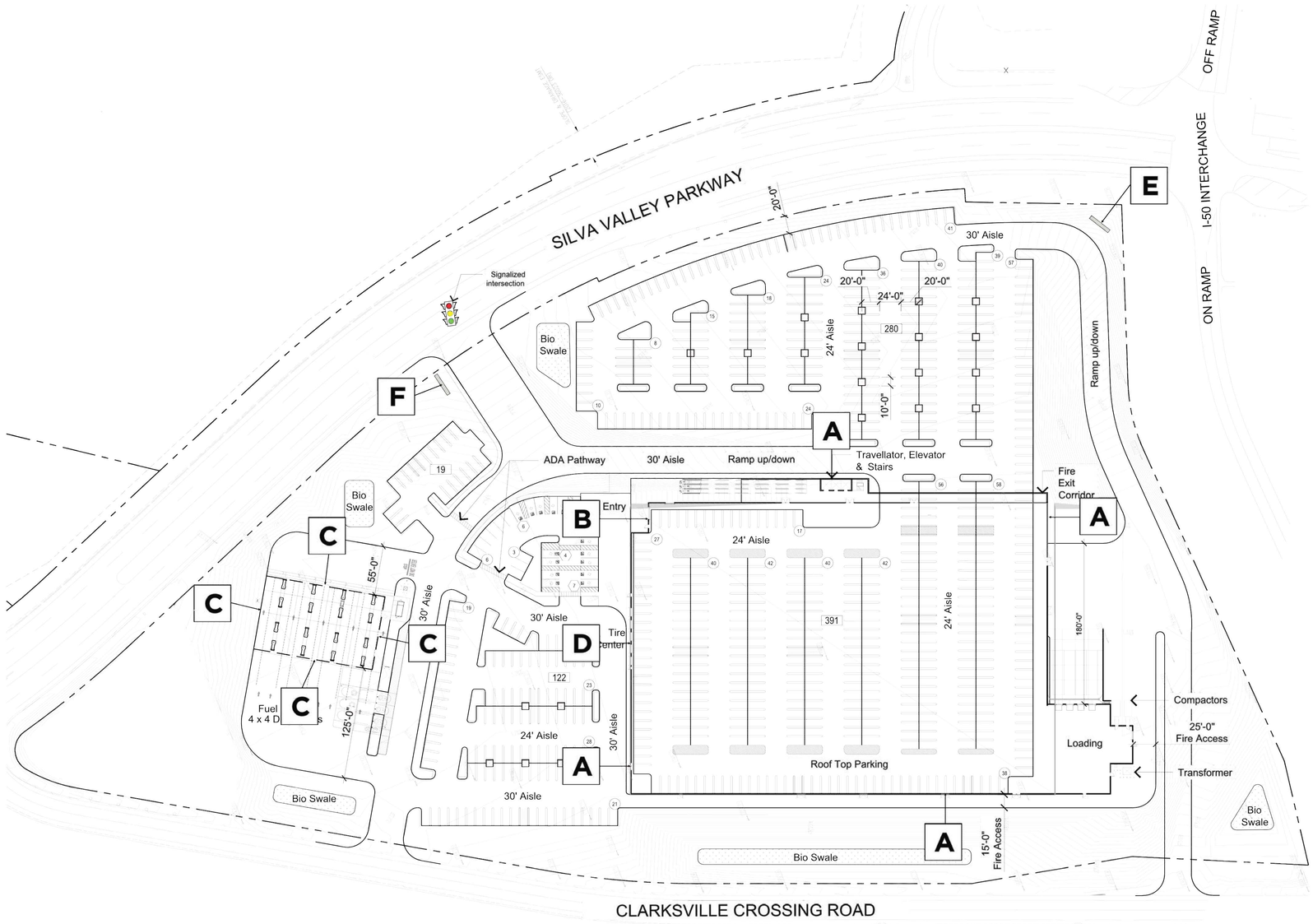
'COSTCO' AND ACCENT STRIPE
"SAFETY RED"

MG2

NOVEMBER 12, 2020
PROJECT# 19-5017-01
EL DORADO HILLS, CA

CONCEPT WAREHOUSE MATERIALS

COSTCO WHOLESALE





A WAREHOUSE SIGN
SCALE: NTS



B ENTRY CANOPY/ WAY FINDING SIGN
SCALE: NTS



C FUEL FACILITY SIGN
SCALE: NTS



D MISCELLANEOUS
SCALE: NTS

SIGN TABLE

IDENTITY	*QUANTITY*	*SIGN*	*SIZE*	*AREA (EACH)*	*TOTAL SF*
A	4	COSTCO WHOLESALE	6'-0" C	280 SF	***1,120 SF***
B	2	COSTCO WHOLESALE	5'-0" C	175 SF	***350 SF***
C	4	COSTCO WHOLESALE	2'-0" C	21 SF	***84 SF***
D	1	TIRE CENTER	1'-9" X 17'-4"	31 SF	***31 SF***
E	1	PYLON SIGN	16'-0" X 28'-2"	451 SF	***451 SF***
F	1	MONUMENT SIGN	16'-0" X 16'-4"	261 SF	***261 SF***
			TOTAL SIGN AREA:		**2,298 SF**



IRRIGATION DESIGN STATEMENT:

The irrigation system will be a water efficient low flow, point source system designed to provide adequate watering to support plant growth and insure deeply rooted plant material while avoiding excess water application. The system will be programmable, allowing operation during late night and or early morning hours, with multiple start times and cycles. The system will interface with a weather based sensor that will adjust the amount of water applied to the plant material based on daily weather conditions. Irrigation materials specified for the site will be selected on the basis of durability and ease of maintenance. Landscape irrigation will comply with the California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELO).

Plant Legend

Trees

Symbols	Botanical / Common Name	Size	WUCOLS (Water Use Classification of Landscape Species)	Comments
	Trees			
	Acer platanoides ‘Crimson King’ / Crimson King Norway Maple	24” box	M	Matched Standards
	Lagerstroemia hyb. ‘Muskogee’ / Muskogee (Lavender) Crape Myrtle	24” box	L	Matched Standards
	Lagerstroemia hyb. ‘Tuscarora’ / Pink/Red Flowering Crape Myrtle	24” box	L	Matched Standards
	Zelkova serrata ‘Green Vase’ / Green Vase Zelkova	24” box	L	Matched Standards
	Quercus frainetto ‘Forest Green’ / Forest Green Italian Oak	24” box	L	Matched Standards
	Quercus ilex / Holly Oak	24” box	L	Matched Standards
	Quercus lobata / Valley Oak	24” box	L	Matched Standards
	Cedrus deodora / Deodar Cedar	24” box	L	Matched Standards
	Shrubs, Perennials, Ornamental Grasses, Ground Covers and Vine			
	Arbutus unedo ‘Compacta’ / Compact Strawberry Tree	15 gal.	L	
	Ceanothus ‘Concha’ / Concha Ceanothus	5 gal.	L	
	Cotoneaster dammeri ‘Lowfast’ / Lowfast Bearberry Cotoneaster	1 gal.	M	
	Dietes grandiflora 'Variegata' / Striped Fortnight Lily	1 gal.	L	
	Dianella revolute ‘Little Rev’ / Litlle Rev Dianella	1 gal.	L	
	Eleagnus x ebbingei ‘Gilt Edge’ / Gilt Edge Silver Berry	5 gal.	L	
	Festuca mairei / Atlas Fescue	1 gal.	L	
	Muhlenbergia capillaris ‘Regal Mist’ / Regal Mist Muhly Grass	1 gal.	L	
	Pennisetum orientale / Oriental Fountain Grass	1 gal.	L	
	Juniperus chinensis ‘Mint Julep’ / Mint Julep Juniper	5 gal.	L	
	Juniperus horizontalis ‘Blue Chip’ / Blue Chip Juniper	1 gal.	L	
	Phlomis fruticosa / Jerusalem Sage	1 gal.	L	
	Rosa ‘Meidrifora’ / Coral Drift Rose	1 gal.	M	
	Rosa banksiae ‘Lutea’ / Yellow Lady Banks Climbing Rose	5 gal.	M	
	Salvia leucantha ‘Santa Barbara’ / Santa Barbara Sage	1 gal.	L	
	Rosmarinus o. ‘Huntington Blue’ / Huntington Blue Rosemary	1 gal.	L	
	Stormwater Treatment Planter (SWTP)			
	Trees			
	Quercus virginiana / Southern Live Oak	24” box	M	Matched Standards
	Perennials and Grasses			
	Chondropetalum tectorum / Cape Rush	5 gal.	L	
	Deschampsia cespitosa / Tufted Hairgrass	1 gal.	L	
	Juncus patens ‘Elk Blue’ / Elk Blue Gray Rush	1 gal.	M	
	Muhlenbergia rigens / Deer Grass	1 gal.	L	
	Nepeta racemosa ‘Walker’s Low’ / Walker’s Low Catmint	1 gal.	L	

WUCOLS LEGEND:

L Low Water Use

M Moderate Water Use

DBA # 290

DB+A

DAVID BABCOCK + ASSOCIATES
ARCHITECTURE LANDSCAPE PLANNING
3581 MT. DIABLO BLVD., SUITE 235
LAFAYETTE, CALIFORNIA 94549
t: 925.283.5070

COSTCO EL DORADO HILLS

PRELIMINARY LANDSCAPE PLAN

0 20’ 40’ 80’ 160’

SCALE 1"= 80'

NOVEMBER 12, 2020

NORTH

PLAN

NOTES

1. THIS PLOT WAS PREPARED FROM INFORMATION FURNISHED IN PRELIMINARY TITLE REPORTS, PREPARED BY FIRST AMERICAN TITLE INSURANCE COMPANY, DATED JANUARY 9, 2019, NUMBER NCS-942714-WA1 & NUMBER NCS-942715-WA1. NO LIABILITY IS ASSUMED FOR MATTERS OF RECORD NOT STATED IN SAID PRELIMINARY TITLE REPORT THAT MAY AFFECT THE TITLE LINES, OR EXCEPTIONS, OR EASEMENTS OF THE PROPERTY.

2. ALL DISTANCES AND ELEVATIONS SHOWN HEREON ARE IN FEET AND DECIMALS THEREOF.

3. THE TYPES, LOCATIONS, SIZES AND/OR DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS TOPOGRAPHIC SURVEY WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS AND DEPTHS OF SUCH UNDERGROUND UTILITIES. (A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND UTILITIES). HOWEVER, THE ENGINEER CAN ASSUME NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF ITS DELINEATION OF SUCH UNDERGROUND UTILITIES WHICH MAY BE ENCOUNTERED, BUT WHICH ARE NOT SHOWN ON THESE DRAWINGS.

4. PHYSICAL ITEMS SHOWN ON THIS SURVEY ARE LIMITED TO THOSE ITEMS VISIBLE AS OF THE DATE OF THIS SURVEY. SUBSURFACE STRUCTURES, IF ANY, ARE NOT SHOWN. SAID SUBSURFACE OBJECTS MAY INCLUDE, BUT ARE NOT LIMITED TO, CONCRETE FOOTINGS, SLABS, SHORING, STRUCTURAL PILES, UTILITY VAULTS, PIPING, UNDERGROUND TANKS, AND ANY OTHER SUBSURFACE STRUCTURES NOT REVEALED BY A SURFACE INSPECTION.

5. THE SUBJECT PROPERTY IS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) FOR EL DORADO COUNTY, CALIFORNIA, MAP NUMBER 06017C0725E FOR COMMUNITY NUMBER 060040 (EL DORADO COUNTY), WITH AN EFFECTIVE DATE OF SEPTEMBER 26, 2008, AS BEING LOCATED IN FLOOD ZONE "X-UNSHADED". ACCORDING TO FEMA THE DEFINITION OF ZONE "X-UNSHADED" IS: AREA OF MINIMAL FLOOD HAZARD.

6. BENCHMARK:
CAL-TRANS TBM, NGS DISK ON TOP OF HEADWALL AT THE NORTHWEST CORNER OF THE BRIDGE ON CLARKSVILLE CROSSING AS TAKEN FROM THE CALTRANS IMPROVEMENT PLANS, SHEET 14 (PC-1) OF THE SILVA VALLEY CONSTRUCTION PLANS DATED JANUARY 4, 2013.
(PID: JS0692) ELEVATION= 673.08 FEET (NGVD 1929 DATUM)

7. BASIS OF BEARINGS:
THE BEARING OF NORTH 88° 27' 28" EAST, TAKEN ON THE NORTHERLY LINE OF PARCEL 4 AS SHOWN ON THAT CERTAIN PARCEL MAP FILED FOR RECORD ON DECEMBER 28, 2018, IN BOOK 52 OF MAPS AT PAGE 10, OFFICIAL RECORDS OF EL DORADO COUNTY WAS TAKEN AS THE BASIS FOR ALL BEARINGS SHOWN HEREON.

8. CORNER RECORD NOTE:
THE DEVELOPER AND/OR CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION AND FILING OF PRE-CONSTRUCTION AND POST-CONSTRUCTION CORNER RECORDS FOR ANY MONUMENTS OR PROPERTY CORNERS SHOWN HEREON THAT MAY BE DESTROYED DURING IMPROVEMENTS TO THE SUBJECT PROPERTY AS DEFINED IN SECTION 8771(B) OF THE PROFESSIONAL LAND SURVEYORS ACT.

10. THE AERIAL MAPPING WAS PREPARED USING COMPUTER ASSISTED, PHOTOGRAMMETRIC METHODS BY COOPER AERIAL SURVEYS CO., IN PHOENIX ARIZONA. JOB NUMBER 1901022. IN AREAS OF DENSE VEGETATION, ACCURACY OF CONTOURS MAY DEVIATE FROM ACCEPTED ACCURACY STANDARDS. DATE OF PHOTOGRAPHY 02-22-19, ORIGINAL COMPILED MAP SCALE 1"=40', CONTOUR INTERVAL 1 FOOT. THE GRID IS BASED ON PHOTOGRAMMETRIC METHODS COMPILED ON DIGITAL STEREO WORKSTATIONS USING AERIAL PHOTOGRAPHY. CONTROL SURVEY PERFORMED BY KIER & WRIGHT, LIVERMORE, CA.

7/XX/2019
PREPARED BY OR UNDER THE SUPERVISION OF DATE
RODNEY A. STEWART II, P.L.S. 9225

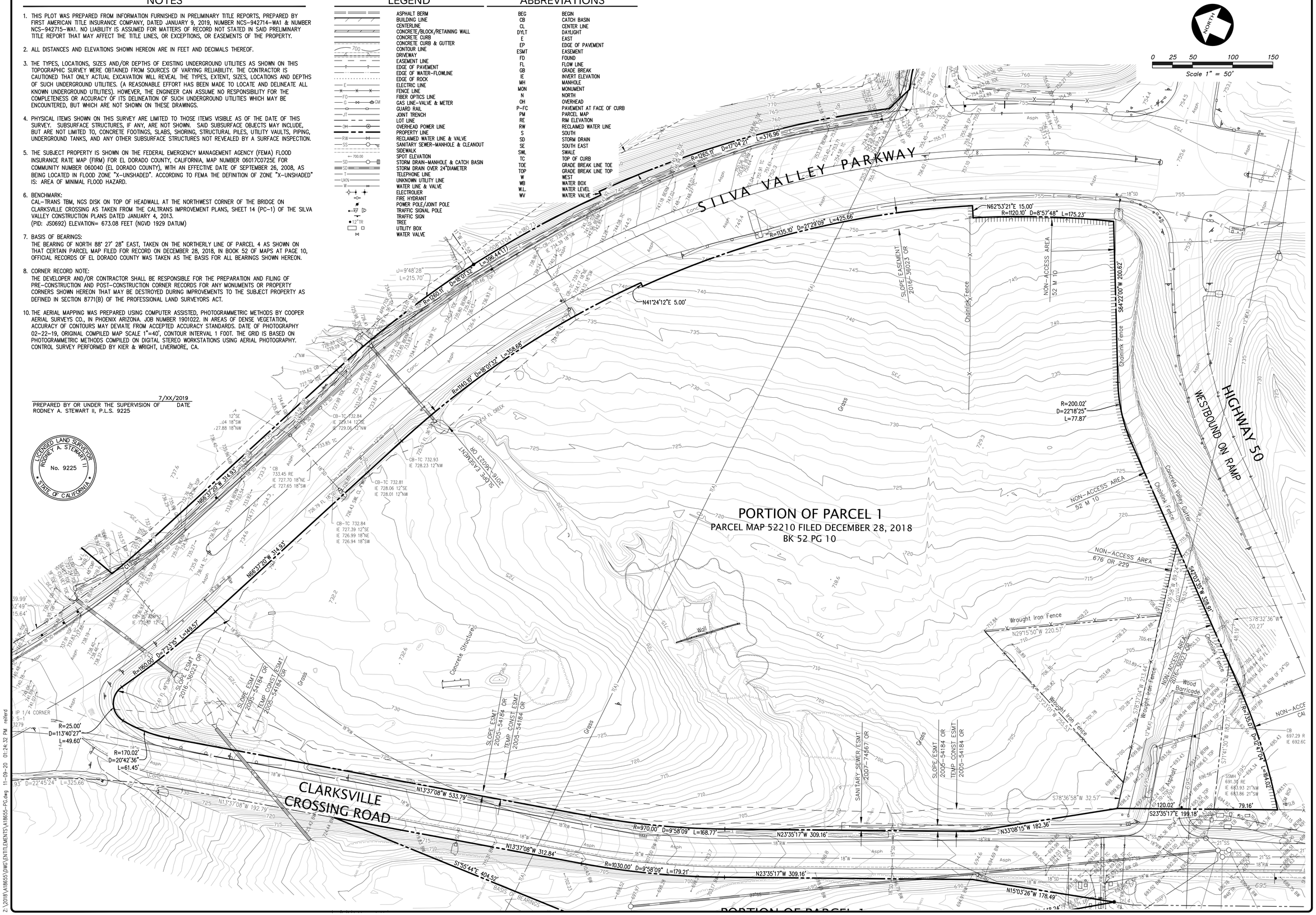
LICENSED LAND SURVEYOR
RODNEY A. STEWART II
No. 9225
STATE OF CALIFORNIA

LEGEND

ASPHALT BERM
BUILDING LINE
CENTERLINE
CONCRETE/BLOCK/RETAINING WALL
CONCRETE CURB
CONCRETE CURB & GUTTER
CONTOUR LINE
DRIVEWAY
EASEMENT LINE
EDGE OF PAVEMENT
EDGE OF WATER-FLOWLINE
EDGE OF ROCK
ELECTRIC LINE
FENCE LINE
FIBER OPTICS LINE
GAS LINE-VALVE & METER
GUARD RAIL
JOINT TRENCH
LOT LINE
OVERHEAD POWER LINE
PROPERTY LINE
RECLAIMED WATER LINE & VALVE
SANITARY SEWER-MANHOLE & CLEANOUT
SIDEWALK
SPOT ELEVATION
STORM DRAIN-MANHOLE & CATCH BASIN
STORM DRAIN OVER 24"DIAMETER
TELEPHONE LINE
UNKNOWN UTILITY LINE
WATER LINE & VALVE
ELECTROLIER
FIRE HYDRANT
POWER POLE/JOINT POLE
TRAFFIC SIGNAL POLE
TRAFFIC SIGN
TREE
UTILITY BOX
WATER VALVE

ABBREVIATIONS

BEG	BEGIN
CB	CATCH BASIN
CL	CENTER LINE
DYLT	DAYLIGHT
E	EAST
EP	EDGE OF PAVEMENT
ESMT	EASEMENT
FD	FOUND
FL	FLOW LINE
GB	GRADE BREAK
IE	INVERT ELEVATION
MH	MANHOLE
MON	MONUMENT
N	NORTH
OH	OVERHEAD
P-FC	PAVEMENT AT FACE OF CURB
PM	PARCEL MAP
RE	RIM ELEVATION
RW	RECLAIMED WATER LINE
S	SOUTH
SD	STORM DRAIN
SE	SOUTH EAST
SWL	SWALE
TC	TOP OF CURB
TGE	GRADE BREAK LINE TOE
TOP	GRADE BREAK LINE TOP
W	WEST
WB	WATER BOX
W.L.	WATER LEVEL
WV	WATER VALVE



REVISION	NO.	BY

KIER+WRIGHT
2995 Prospect Park Drive, Ste. 100
Rancho Cordova, CA 95670
Phone: (916) 970-5784
www.kierwright.com

TOPOGRAPHIC SURVEY
OF
EL DORADO HILLS COSTCO
FOR
COSTCO WHOLESALE CORPORATION
CALIFORNIA
EL DORADO HILLS,

DATE	SEPTEMBER, 2020
SCALE	AS SHOWN
DESIGNER	PMB
DRAFTER	REE
JOB NO.	A18655
SHEET	C1
OF	SHEETS

Z:\2018\A18655\DWG\ENTITLEMENTS\A18655-PG.dwg 11-09-20 01:24:32 PM reiferd

LEGEND

△	AREA DRAIN
□	STORM DRAIN CATCH BASIN(SDCB)
■	STORM DRAIN JUNCTION BOX(SDJB)
●	STORM DRAIN MANHOLE(SDMH)
FL	FLOW LINE
FF	FINISH FLOOR
FES	FLARED END SECTION
TOW	TOP OF WALL
CONF	CONFORM TO EXISTING
PV	PAVEMENT
RE	RIM ELEVATION
23.8	SPOT ELEVATION
X"SD	STORM DRAIN LINE
TC	TOP OF CURB
▬▬▬	ROCK WALL

NORTH

0 25 50 100 150

Scale 1" = 50'

SILVA VALLEY PARKWAY

HIGHWAY 50 WESTBOUND ON RAMP

CLARKSVILLE CROSSING ROAD

MEDIAN IMPROVEMENTS FOR NEW LEFT TURN LANE

PROPOSED CURB AND GUTTER WITH SIDEWALK

PROPOSED SIDEWALK

COSTCO WHOLESALE

FF=718.0

EXISTING UTILITY VAULTS AND BOXES TO REMAIN

S78°32'36"W 20.27'

NO.	REVISION	BY

KIER+WRIGHT

2995 Prospect Park Drive, Ste. 100
Rancho Cordova, CA 95670
Phone: (916) 970-5784
www.kierwright.com

PRELIMINARY GRADING AND DRAINAGE PLAN
OF
EL DORADO HILLS COSTCO
FOR
COSTCO WHOLESALE CORPORATION
CALIFORNIA
EL DORADO HILLS,

DATE	SEPTEMBER, 2020
SCALE	AS SHOWN
DESIGNER	PMB
DRAFTER	REE
JOB NO.	A18655
SHEET	C2
OF	SHEETS

Z:\2018\A18655\CWC\ENTITLEMENTS\A18655-PG.dwg 11-09-20 01:24:50 PM rellerd

LEGEND

ASR	AUTOMATIC SPRINKLER RISER
RE	RIM ELEVATION
TC	TOP OF CURB
WS	WATER SERVICE
	EXISTING UTILITY TO BE ABANDONDED BY REMOVAL
FS	FIRE SERVICE
SS	SANITARY SEWER
COTG	CLEANOUT TO GRADE
	STORM DRAIN LINE
	AREA DRAIN
	STORM DRAIN CATCH BASIN
	STORM DRAIN JUNCTION BOX
	STORM DRAIN MANHOLE
	BACK FLOW PREVENTION DEVICE
	FIRE DEPARTMENT CONNECTION
	FIRE HYDRANT & VALVE
	POST INDICATOR VALVE
SSMH	SANITARY SEWER MANHOLE
	SINGLE CHECK VALVE
SDMH	STORM DRAIN MANHOLE
	WATER METER
	CURB CUT

NORTH

0 25 50 100 150

Scale 1" = 50'

SILVA VALLEY PARKWAY

HIGHWAY 50 WESTBOUND ON RAMP

CLARKSVILLE CROSSING ROAD

COSTCO WHOLESALE

FF=718.0

NEW SIGNALIZED INTERSECTION

8"SS STUB

12"W STUB FOR FUTURE EXTENSION BY EID

GREASE INTERCEPTOR

SAND OIL SEPARATOR

EX. 21" SS TO BE REMOVED NORTH OF PROPOSED MANHOLE.

EXISTING VAULTS AND BOXES TO REMAIN

NO.	REVISION	BY

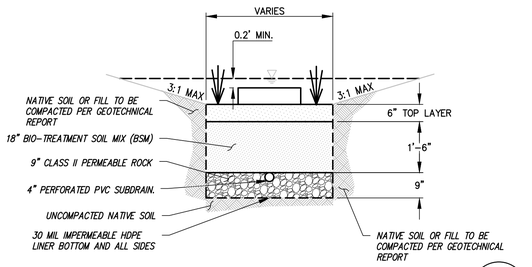
KIER+WRIGHT

2995 Prospect Park Drive, Ste. 100
Rancho Cordova, CA 95670
Phone: (916) 970-5784
www.kierwright.com

PRELIMINARY UTILITY PLAN
OF
EL DORADO HILLS COSTCO
FOR
COSTCO WHOLESALE CORPORATION
CALIFORNIA
EL DORADO HILLS,

DATE	SEPTEMBER, 2020
SCALE	AS SHOWN
DESIGNER	PMB
DRAFTER	REE
JOB NO.	A18655
SHEET	C3
OF	SHEETS

Z:\2018\A18655\DWG\ENTITLEMENTS\A18655-PG.dwg 11-09-20 01:25:07 PM reiferd



TYPICAL BIORETENTION PLANTER AREA

NOT TO SCALE

1

LEGEND

- TRIBUTARY AREA LIMITS
- BIO-RETENTION AREA
- IMPERVIOUS ROOFTOP
- IMPERVIOUS PAVEMENT
- X — NODE
- X.XX — AREA (ACRES)

NORTH

0 25 50 100 150

Scale 1" = 50'

TRIBUTARY SITE NUMBER	TRIBUTARY AREA (SF)	TRIBUTARY AREA (ACRES)	IMPERVIOUS (SF)	PERVIOUS (SF)	4% OF IMPERVIOUS TREATMENT (SF)	PLANTER TREATMENT (SF)	TREATMENT AREA (%)
1	3,028	0.07	1,118	1,909	45	0	0.00%
2	38,425	0.88	0	38,425	0	0	0.00%
3	29,586	0.68	17,560	10,774	702	1,252	7.13%
4	242,548	5.57	189,235	47,034	7,569	6,279	3.32%
5	18,470	0.42	2,434	16,036	97	0	0.00%
6	155,250	3.56	119,926	29,312	4,797	6,012	5.01%
7	160,369	3.68	101,530	54,872	4,061	3,967	3.91%
8	94,612	2.17	74,074	18,528	2,963	2,010	2.71%
Total	742,289	17	505,877	216,891	20,235	19,520	3.86%

SILVA VALLEY PARKWAY

HIGHWAY 50 WESTBOUND ON RAMP

CLARKSVILLE CROSSING ROAD

COSTCO WHOLESALE

FF=718.0

BIORETENTION AREA #8 = 2,010 SF

BIORETENTION AREA #6 = 6,012 SF

BIORETENTION AREA #3 = 1,252 SF

BIORETENTION AREA #5 = 6,279 SF

BIORETENTION AREA #7 = 3,967 SF

1 0.07 | 2 0.88 | 3 0.68 | 4 5.57 | 5 0.40 | 6 3.56 | 7 3.71 | 8 2.17

SDMH RE 737.62 | SDCB RE 735.50 FL 735.00 | BUBBLER RE 720.61 FL 720.00 | SDMH RE 731.45 | SDMH RE 731.68 | SDCB RE 720.50 FL 720.00 | BUBBLER RE 720.50 FL 720.00 | SDMH RE 722.29 | SDMH RE 722.06 | OWS RE 723.86 | SDCB RE 723.97 | SDJB RE 727.03 | CB-TC RE 724.89 | SDCB RE 716.72 | SDCB RE 716.85 | SDCB RE 718.17 | SDCB RE 716.83 | CB-TC RE 720.66 | CB-TC RE 721.21 | CB-TC RE 717.97 | CB-TC RE 717.00 | SDCB RE 717.10 | SDCB RE 717.10 | SDJB RE 747.69 | CB-TC RE 741.26 | CB-TC RE 742.82 | CB-TC RE 726.15 | SDCB RE 725.88 | CB-TC RE 717.21 FL 716.71 | CB-TC RE 717.04 | SDCB RE 748.00 | SDCB RE 748.00 | SDCB RE 748.00 | SDCB RE 748.00 | SDCB RE 748.00 | SDCB RE 748.00 | CB-TC RE 707.46 | CB-TC RE 707.93 | CB-TC RE 700.68 FL 700.18 | CB-TC RE 717.75 | SDMH RE 697.02 | BUBBLER RE 697.50 FL 697.00 | CB-TC RE 699.73 | SDCB RE 697.50 FL 697.00 | SDMH RE 696.00 | SDMH RE 694.54 | CB-TC RE 693.57 | CB-TC RE 693.32 | SDMH RE 695.42 | SDCB RE 693.23 | CB-TC RE 696.00 | CB-TC RE 717.90 | BUBBLER RE 699.50 FL 699.00 | SDCB RE 699.50 FL 699.00 | BUBBLER RE 699.50 FL 699.00 | SDCB RE 720.00 | SDMH RE 720.86 | SDCB RE 721.73 | CB-TC RE 717.41 | 12" FES RE 714.25 | 36" FES | 30" FES

18"SD(PUBLIC) | 12"SD | 6"SD | 24"SD(PUBLIC) | 36"SD(PUBLIC)

KIER+WRIGHT
2995 Prospect Park Drive, Ste. 100
Rancho Cordova, CA 95670
Phone: (916) 970-5784
www.kierwright.com

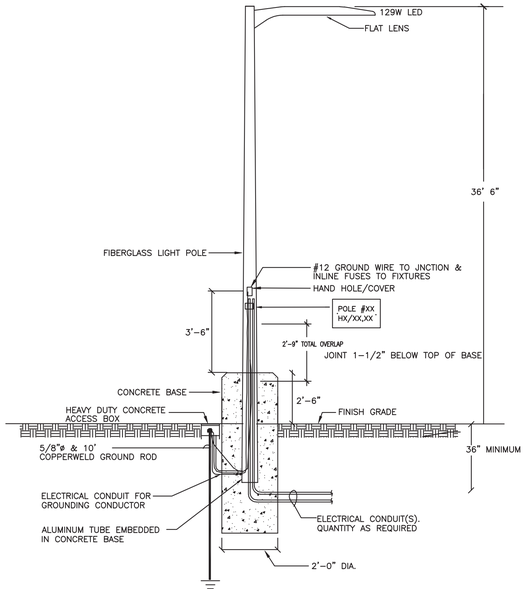
PRELIMINARY STORM WATER QUALITY CONTROL PLAN
OF
EL DORADO HILLS COSTCO
FOR
COSTCO WHOLESALE CORPORATION
CALIFORNIA
EL DORADO HILLS,

DATE	SEPTEMBER, 2020
SCALE	AS SHOWN
DESIGNER	PMB
DRAFTER	REE
JOB NO.	A18655
SHEET	C4
OF	SHEETS

REVISION | BY | NO.

REVISION | BY | NO.

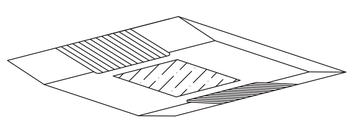
Z:\2018\A18655\DWG\ENTITLEMENTS\A18655-PG.dwg 11-09-20 01:25:22 PM rellerd



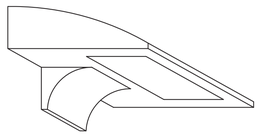
NOTE: PROVIDE CONCRETE J-BOX AS REQUIRED.
THIS DETAIL IS FOR ELECTRICAL CONDUITS ROUTING ONLY.
SEE STRUCTURAL DRAWINGS S0.2 FOR DETAILS.

POLE DETAIL
SCALE: NTS

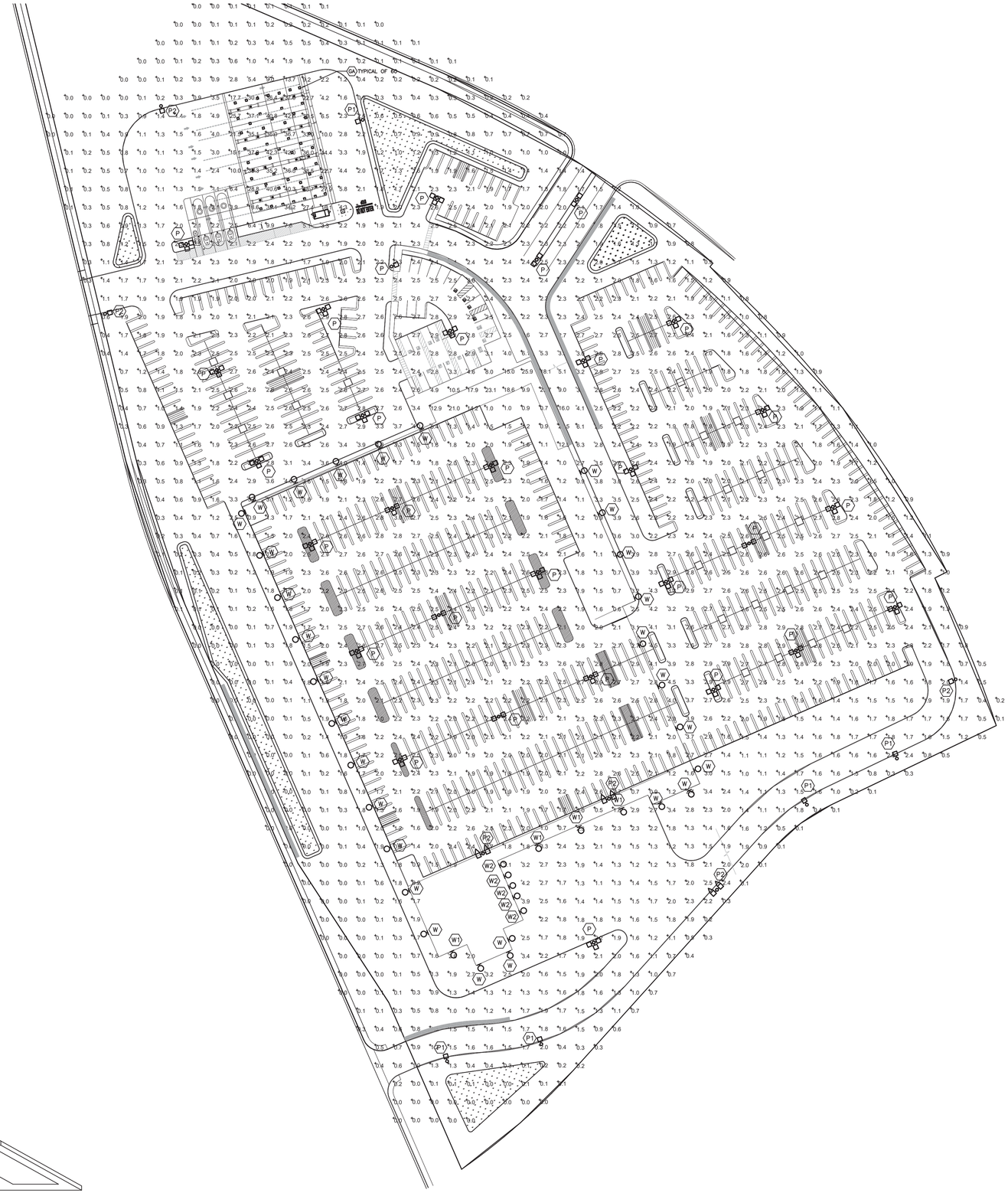
FIXTURE DESCRIPTION	
P	COOPER GALLEON GLEON-AF-04-LED-E1-5WQ-600-BZ, 129W TYPE 5 DISTRIBUTION. FIBERGLASS POLE 36'-6" ABOVE GRADE, WITH 2'-6" BASE.
P1	COOPER GALLEON GLEON-AF-04-LED-E1-SL3-600-HSS-BZ, 129W TYPE 3 DISTRIBUTION. FIBERGLASS POLE 36'-6" ABOVE GRADE, WITH 2'-6" BASE. (ROTATED OPTICS FOR 2 HEAD POLE)
P2	COOPER GALLEON GLEON-AF-04-LED-E1-SL4-600-HSS-BZ, 129W TYPE 4 DISTRIBUTION. FIBERGLASS POLE 36'-6" ABOVE GRADE, WITH 2'-6" BASE. (ROTATED OPTICS FOR 2 HEAD POLE)
W	LITH DSXW2 LED 40K 30C 350 T2M, 36W LED, 17' MOUNTING HEIGHT
W1	LITH DSXW2 LED 40K 30C 530 T4M, 54W LED, 17' MOUNTING HEIGHT
W2	LITH DSXW2 LED 40K 20C 350 TFTM, 25W LED, 17' MOUNTING HEIGHT
GA	96W LED, SURFACE SYMETRIC DOWN LIGHT, FLAT LENS, 18' MOUNTING HEIGHT
L	60W LED, SURFACE SYMETRIC DOWN LIGHT, FLAT LENS, 18' MOUNTING HEIGHT



FUEL FACILITY, CANOPY - LED (GA,L)
NO SCALE



TYPICAL WALL PACK DETAIL (W)
SCALE: NTS



SITE LIGHTING PLAN
SCALE: 1" = 60'-0"

PLANNING SUBMITTAL

ISSUE DATE: NOVEMBER 2020
REVISION DATE:
DRAWN: JGM
CHECKED: ANT/JGM
ARCHITECT REFERENCE NO: 19-5017-01

T.E., Inc.
830 N. RIVERSIDE DRIVE
SUITE #200
RENTON, WA 98057
PHONE: 425-970-3753
FAX: 425-970-3756

SILVA VALLEY PARKWAY
EL DORADO HILLS, CA

© NO PART OF THIS DOCUMENT MAY BE USED OR COPIED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN CONSENT OF T.E.INC.

SITE LIGHTING PLAN

PROJECT NO: 19-427

SE-1

K:\2019\420-429\19-427 - Costco - El Dorado Hills - CA - DD Package_427ES-1.dwg, 11/5/2020 10:46:19 AM, TLeitch



RSC ENGINEERING, INC.
1420 ROCKY RIDGE DRIVE,
STE. 150
ROSEVILLE, CA 95661
T: 916.788.2884
WWW.RSC-ENGR.COM

DBA # P.290

DB+A
DAVID BABCOCK + ASSOCIATES
ARCHITECTURE LANDSCAPE PLANNING
3581 MT. DIABLO BLVD., SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

EDH-52 COMMERCIAL DEVELOPMENT

OVERALL SITE PLAN

0 50' 100' 200'

SCALE 1"= 100'

NOVEMBER 12, 2020

NORTH

SHEET 1 of 1

EDH 52-COSTCO

OVERALL COMMERCIAL CENTER

PROJECT DESCRIPTION

November 13, 2020

DESCRIPTION AND PURPOSE OF THE REQUEST

The owner is pleased to submit this revised application requesting approval to construct two (2) new commercial centers (collectively, the "Project") in El Dorado County encompassing APNs: 122-720-002, 018, 019, 020 & 021. In addition, a portion of 122-720-003 and the unused former Tong Road right-of-way between Silva Valley Parkway and Clarksville Crossing are proposed to be a part of the project. The property is located north of Highway 50 and Tong Road, east of Clarksville Crossing, and is bisected by Silva Valley Parkway. The northern portion of the property is approximately 18.26 acres (North Site) and the southern portion is approximately 17.05 acres (South Site), net of the right of way for roads. There is a 6.57-acre area on the North Site for the right of way associated with the future extension of Country Club Drive. There is a 1.38-acre area west of Clarksville Crossing on the South Site that will not be developed as part of the Project.

The revised application seeks a series of zoning changes to facilitate development of the Project, including a rezone proposed on the North Site to CC-PD to allow more uses primarily seen in a shopping center setting and to allow a self-storage use with the approval of a conditional use permit. In addition, the application proposes to extend the existing CR-PD zoning to the entire South Site to enable development of a commercial center there.

The Project is within the Planned Development Overlay zone such that a Development Plan Permit is required. To reflect the separate needs of each commercial center, the revised application includes two separate Development Plan Permit packages: one for the North Site and one for the South Site. Each Development Plan Permit will address the design guidelines and signage for the corresponding portion of the Project. In addition, the owner has processed separate wetlands permits from the Army Corps of Engineers for each area. However, both the North Site and the South Site are one "project" for purposes of evaluating the Project's environmental impacts under the California Environmental Quality Act ("CEQA").

The maximum building area for the South Site will be approximately 161,000 square feet and includes, without limitation, a Costco warehouse retail center, tire sales and installation, motor vehicle fuel sales, optical exams and optical sales, photo center and processing, hearing aid testing and sales, food service preparation and sales, meat preparation and sales, bakery and sales of baked goods, alcohol sales, and propane refueling and sales adjacent to tire sales and installation facility. Temporary outdoor sales may occur within the parking field adjacent to the warehouse for seasonal sales, such as Christmas trees from late November through December. The building area for the North Site will be approximately 162,000 square feet and may include the following uses: drive through uses, gas station with car wash, food uses, outdoor patio, outdoor storage and outdoor sales and other retail and offices uses permitted in the CR zone.

ENTITLEMENTS REQUESTED

Overall Project:

- As preservation of 90% of the existing oak tree canopy is not feasible, this Project will be requesting relief from General Plan Policy 7.4.4.4 due to topographic constraints and the need to grade the site in relation to Silva Valley Parkway.

North Site:

- Rezoning from CR-PD to CC-PD zoning designation;
- Development Plan Permit approval to cover:
    - the site plan, building design, and preliminary landscape plan, storm drainage, and grading;
    - design guidelines;
    - a signage program;
- Tentative Parcel Map to reconfigure existing and create four new parcels for purposes of sale, lease or financing of the North Site.

South Site:

- Abandonment of the former Tong Road extension right of way and disposition of subsequent parcel;
- Disposition of County-owned land near Highway 50;
- Extension of existing CR-PD zoning designation for the entire South Site;
- Development Plan Permit approval to cover:
    - the site plan, building design, and preliminary landscape plan, storm drainage, and grading;
    - design guidelines;
    - a signage program that will allow for the size and square footage of the typical signage program for the warehouse, fuel facility, and pylon and monument signage;
- Lot Line adjustment and merger to configure up to four parcels for the South Site.

Each of the entitlements described above will be analyzed in an Environmental Impact Report to study the impacts and potential mitigation measures required for the Project.

PROJECT OBJECTIVES

Overall Project:

- Develop two high-quality planned commercial developments on currently vacant and underutilized land adjacent to Highway 50 adequately served by public services and utilities.
- Promote economic growth and diverse new employment and retail/service opportunities for County residents.
- Increase the number of employees and contribute to the local job/housing balance.

North Site:

- Develop architectural and landscaping designs that soften the scale and mass of the buildings, create a pleasant and attractive appearance, and complement the surrounding area.
- Develop site plans that minimize potential access and circulation conflicts between automobiles and pedestrians, provide adequate off-street parking for store customers and employees, and minimize impacts to the surrounding area.

South Site:

- Construct and operate a new Costco warehouse that serves the local community with goods and services from both nationally known businesses but also more regional and local businesses.
- Reduce energy consumption by incorporating sustainable design features and systems with enhanced energy efficiencies meeting State and federal code requirements.
- Provide a Costco warehouse in a location that is convenient for its members, the community, and employees to travel to shop and work.
- Provide a state-of-the-art Costco warehouse to better serve the membership in the greater El Dorado Hills area.
- Meet member demand for high-quality gasoline at a fair price via a new Fuel Facility developed in conjunction with the proposed warehouse.

- Enhance the area with a warehouse that is architecturally designed to be responsive to the El Dorado Hills area design context and sensitive to the adjacent community, future development(s) and compatible with the need for a new warehouse in this market area.

- Continue and increase contribution to the County's tax base by Costco.

- Expand the space available for integrated retail sales of goods and services in El Dorado Hills market.

- Minimize circulation conflicts between automobiles and pedestrians.

- Provide a Costco warehouse in a location that is serviced by adequate existing infrastructure including roadways and utilities.

- Develop a Costco warehouse that is large enough to accommodate all the uses and services Costco provides to its members elsewhere.

- Locate a Costco warehouse on a site Costco can purchase (rather than lease) to protect its substantial investment of time, money and goodwill in the location.

SITE INFORMATION

Location

The proposed Project is in El Dorado County. The Project site is on the north side of Highway 50 and is bisected by Silva Valley Parkway. It is bordered by existing residences and an elementary school to the north, vacant land to the east, Clarksville Crossing to the west, and Highway 50 to the south.

Site Description

The Project site is currently vacant. A small portion of the unused Tong Road right-of-way is proposed to be included in the South Site. The site consists of annual grassland with small oak woodlands. Slivers of wetlands and riparian areas are located on site.

DESCRIPTION OF THE PROPOSED PROJECT

The maximum building area for the South Site will be approximately 161,000 square feet and includes, without limitation, a Costco warehouse retail center, tire sales and installation, motor vehicle fuel sales, optical exams and optical sales, photo center and processing, hearing aid testing and sales, food service preparation and sales, meat preparation and sales, bakery and sales of baked goods, alcohol sales, and propane refueling and sales adjacent to tire sales and installation facility. Temporary outdoor sales may occur within the parking field adjacent to the warehouse for seasonal sales, such as Christmas trees from late November through December. The building area for the North Site will be approximately 162,000 square feet and may include the following uses: drive through uses, gas station with car wash, food uses, outdoor patio, outdoor storage and outdoor sales and other retail and offices uses permitted in the CC zone.

North Site Architecture

The design theme for the North Site is based on the existing building design theme of the Serrano area, which is a California/Mediterranean style, examples of which are included in the design guidelines proposed for the North Site.

Where single tenant types (retail shops) occur, the guidelines contain specific architectural design for these buildings. Where multiple tenant types (drive-thru restaurants and fuel stations) occur, the guidelines contain a typical example of the design intent for that tenant type. Each of these specific tenants will use the typical example shown and vary their design to add individuality and yet maintain a common thread of colors, materials, and design elements as shown in the guidelines. No building design for any tenant type shall be repeated on the North Site.

Each building on the North Site shall vary in building height to achieve more visual interest and distinct building character, avoiding the monotony of continuous building height. Each building shall combine horizontal and vertical elements to provide variation, interest and rhythm within and among the buildings. In no case shall any roof mounted equipment be higher than the lowest parapet height of the building.

The color and material palette for the North Site contains multiple options for color and materials. The intent is for these options to occur in various combinations throughout the North Site so that each building is unique in its design and materials while maintaining design continuity among the buildings. The proposed colors and materials of the palette must be maintained throughout the development of the North Site.

Within the development of the North Site, all sides of all buildings will be visible from adjacent roadways and properties. The architecture of all sides of all buildings must, therefore, be of equal quality and attention. Screening is required for loading and storage areas, utilities meters and boxes using landscaping, walls, fences in combination.

The use of colored concrete, concrete pavers, accent patterns, etc. shall be encouraged in the flatwork areas around the buildings. Provisions for gathering and resting areas shall be accomplished using intimate seating areas in near proximity of the building.

South Site Architecture

The warehouse design is proposed to be contemporary and will set the standard for large format retail facades with variety of massing and appropriate materials for the building. By combining concrete masonry block and architectural metal panels, Costco intends to create a scale and architectural interest to minimize the visual impact of a large retail warehouse. By use of design techniques such as the location of building materials, landscaping, and the incorporation of varying parapet cap heights, Costco can successfully break the long elevations both horizontally vertically. The technique of breaking a long elevation into smaller elements with varied materials and colors is used to create a more pedestrian-friendly scale in the proposed design. The proposed colors are warm natural earth tones, which will relate to the proposed surrounding development by utilizing similar building materials and architectural detailing.

The South Site has been designed to utilize the existing slope of the site by locating the warehouse at the lower elevation of the site and providing ramps to access the roof top and upper level of parking. The lower level of the plan is proposed to include 155 parking spaces adjacent to the warehouse entry at the northwest corner of the building. Vehicle access to the 670 parking spaces at the second level would be provided by two ramps on the east and west sides of the warehouse. A travelator, elevators, and stairs on the east side of the second level would provide pedestrian access from second level parking down to the lower level and entry to the warehouse The main entry feature to the warehouse is proposed to be oriented towards the northwest so that the loading dock and truck deliveries would be accessed and oriented towards Interstate 50 to provide greater separation with the existing residences.

The warehouse is proposed to include one customer entrance to the main Costco store that would be located at the northwest corner. The El Dorado Hills Costco is expected to include a bakery, pharmacy, optical center with optical exams and retail optical sales, hearing aid testing center, food court, and a photo center along with the sales of approximately 4,000 products. The warehouse would include a five bay Tire Center, a +/-5,300 square-foot facility with member access via the inside of the main Costco building, which would include tire sales and a tire installation facility. A promotional vehicle may be on display near the entry to the building. This vehicle would be only to promote online or offsite vehicle sales; no vehicles are proposed to be sold on site.

South Site Fuel Facility

The members-only Costco fuel facility proposed on the South Site would include a +/-11,200 square-foot canopy and a +/-125 square-foot controller enclosure that will be located on the southern portion of the planting island of the fuel station to house the control equipment. The controller enclosure would be built with steel walls and finished with paint to match the warehouse building colors. There would be four covered fueling bays, each with four two-sided fuel dispensers so as to provide for the fueling of eight cars at each island for a total of 32 fueling positions. The fueling station would also have 8 stacking lanes, allowing approximately 40 cars to wait for pumps at any given time in addition to the 32 cars at the dispensers. The dispensers would be fully automated and self-service for Costco members only. A Costco attendant would be present at all times of operation to oversee operations and assist members. Four underground fuel tanks would also be installed at the southern edge of the gas station. Lights would be recessed into the canopy to provide both lighting during operating hours and a lower level of security lighting after hours.

Costco Operations

It is anticipated that the El Dorado Hills Costco warehouse and fuel will employ approximately 165 to 170 employees.

Costco Wholesale is a membership-only retail/wholesale business, selling high quality national brands and private label merchandise for commercial and personal use. The warehouse hours are anticipated to be Monday through Friday from 9:00 am to 8:30 pm, and Saturday and Sunday from 9:00 am to 7:00 pm. The fuel facility hours are anticipated to be daily from 5:00 am to 10:00 pm.

Costco anticipates an average of about 10 trucks delivering goods on a typical weekday. The trucks range in size from 26 feet long for single-axle trailers to 70 feet long for double-axle trailers.

Receiving time is from 2:00 a.m. to 1:00 p.m., averaging 2 to 3 trucks per hour, with most of the deliveries completed before the 10:00 a.m. opening time. Deliveries to the warehouse are made primarily in Costco trucks from its freight consolidation facility in Tracy, California, coming to the site from Interstate 50, and accessing the site from Silva Valley Parkway.

It is estimated that fuel will be delivered to the gasoline facility in two to three trucks per day. The largest fuel trucks are approximately 70 feet long. While delivering the fuel, the truck will be parked over the underground tanks located on the east side of the gas facility. The truck will not block access to any of the fueling positions or occupy any queuing space or parking spaces. The fuel facility is located and specifically designed to avoid traffic and queuing conflicts with the warehouse.

In order to open and operate the gas facility, Costco will have to meet requirements of local, state and federal regulators and agencies, including the County Fire Department, the County Department of Environmental Health, the Air Quality Management District, the State Water Resources Control Board, the California Environmental Protection Agency, and the United States Environmental Protection Agency.

The tire center typically will receive shipments of tires one to two times per week in single- or double-trailer trucks of up to 70 feet in length, and the same delivery truck will pick up old tires for recycling. Deliveries to and pickups from the tire center will be scheduled for pre-opening hours, typically about 6:00 a.m.

Sustainability Features

The entire proposed Project will incorporate sustainability features per the California Title 24 energy requirements. In addition, to reduce energy consumption and promote sustainability, Costco will incorporate many energy saving measures when constructing a new facility. Below are some of the significant practices that Costco currently incorporates into new buildings that help conserve energy and other natural resources that are expected to be used in connection with the development of the South Site:

- Parking lot light standards will be designed in order to provide even light distribution, and utilize less energy compared to a greater number of fixtures at lower heights. The use of LED lamps can provide a higher level of perceived brightness with less energy than other lamps such as high-pressure sodium.

- New and renewable building materials are typically extracted and manufactured within the region. When masonry and concrete are used, the materials purchased are local to the project, minimizing the transportation distances and impact to local road networks.

- The use of pre-manufactured building components, including structural framing and metal panels, helps to minimize waste during construction.

- Pre-manufactured metal wall panels with insulation carry a higher R-Value and greater solar reflectivity to help conserve energy as compared to other

materials. Building heat absorption is further reduced by a decrease in the thermal mass of the metal wall when compared to a typical masonry block wall.

- A substantial amount of the proposed plant material for the South Site is climate adapted to the region and will use less water than other common species.

- The irrigation system includes the use of deep root watering bubblers for parking lot trees to minimize usage and ensure that water goes directly to the intended planting areas.

- Storm water management plans are designed to maintain quality control and storm water discharge rates based on the County requirements.

- High-efficiency restroom fixtures can achieve a 40% decrease and water savings over U.S. standards.

- Commissioning of mechanical systems will occur to ensure that the HVAC systems are preforming as designed. HVAC comfort systems can be controlled by a computerized building management system to maximize efficiency.

- HVAC units planned for the South Site are high efficiency direct ducted units, which have phased out the use of HCFC's completely, long before the Montreal Protocol timeline.

- Parking lot and exterior lights can be controlled by a photo sensor and time clock.

- Lighting is controlled by the overall project energy management system.

- Energy efficient Transformers (i.e., Square D Type EE transformers) are planned to be used.

- Variable speed motors will be used on make-up air units and booster pumps.

- Gas water heaters are direct vent and 94% efficient or greater.

- Reclaim tanks are used to capture heat released by refrigeration equipment to heat domestic water in lieu of venting heat to the outside.

- The Main Building structure is a pre-engineered system that uses 100% recycled steel materials and is designed to minimize the amount of material used.

- Construction waste is recycled whenever possible.

- Floor sealant is No-VOC and represents over 80% of the floor area.

- CO2 is monitored throughout the warehouse.
- Extensive recycling/reuse program is implemented for warehouse and office space including tires, cardboard, grease, plastics, and electronic waste.
- Use of plastic shopping bags is avoided.
- Suppliers are required to reduce packaging and consider alternative packaging solutions.
- Distribution facilities are strategically located to minimize miles traveled for delivery.
- Deliveries are made in full trucks.
- All Costco trucks are equipped with an engine idle shut off timers.

SIGNAGE

Proposed highway-oriented and monument sign locations are depicted on the proposed site plan for both the North Site and the South Site.

North Site

A highway-oriented sign is proposed on the North Site greater than 100 feet from the freeway right of way. The owner is requesting certain deviations from Chapter 130.36 of the County Code for the proposed highway-oriented signs, including a reduction in the minimum separation between highway-oriented signs, a reduction in the minimum setback from the adjacent residential district (North Site only), an increase in the maximum allowed area, and an increase in the maximum allowed height. Each highway-oriented sign will be a 75-foot tenant pylon sign allowing advertising from either commercial center and will include one (1) major tenant panel, one (1) junior tenant panel, and eight (8) shop tenant panels. The proposed sign area for each highway-oriented sign is 652 square feet. The highway-oriented signs will have a stone veneer base, fabricated aluminum panels, and texcote finish to compliment the color scheme of the commercial centers. Tenant names and logos will be fabricated aluminum, pan channel construction. Tenant names and logos will be flush mounted to the panel background and internally illuminated with white LED lights. Colors will comply with tenant specifications.

The owner is also requesting certain deviations from Chapter 130.36 of the County Code for the proposed monument signs, including an increase in the maximum allowed area, and an increase in the maximum allowed height. The developer is proposing two (2) 28-foot tenant monument signs on the North Site. Each monument sign will have one (1) featured tenant panel and six (6) shop tenant panels. The proposed area for each monument sign is 242 square feet. The monument signs will have a stone veneer base, fabricated aluminum panels, and texcote finish to compliment the color scheme of the commercial centers. Tenant names and logos will be routed out with acrylic push-through graphics and vinyl film overlays. Tenant names will be internally illuminated with white LED lights. Colors will comply with tenant specifications.

Building signs for the North Site will be a part of a separate sign permit and are not proposed at this time.

South Site

On the South Site, proposed signage includes the Costco warehouse typical signage, a pylon signage at the southeast corner of the parcel at Silva Valley Parkway, and a monument sign located at the northern side of the main entry. The south site is requesting deviations from Chapter 130.36 of the County Code, including an increase in maximum allowed sign area and an increase in maximum allowed sign height.

Building signage consists of the signature Costco red and blue corporate colors. The signage is scaled appropriately to the mass of the building elevations to not overwhelm but to reinforce the brand that Costco has established. The warehouse wall signage will consist of externally illuminated reverse pan channel letters, and the gas station signage will also be externally illuminated.

A pylon sign oriented towards Highway 50 will be located at the southeast corner of the site adjacent to Silva Valley Parkway. The sign will be approximately 56' tall and 23' wide with multiple internally illuminated panels for tenant identification for businesses located on the North Site. A monument sign located on the north side of the main entry will also be include as part of the project signage. The sign will be approximately 16' tall and 17' wide with multiple internally illuminated panels for tenant identification for businesses located on the North Site.

SITE ACCESS

It is anticipated that the Project site will have multiple points of access. A traffic signal is proposed at the main driveway and Silva Valley Parkway to provide access to both the South Site and the North Site. The project also proposes a new signalized intersection at Silva Valley Parkway and Clarksville Road.

North Site

A portion of Country Club Drive extension will be constructed to a secondary full access to the north site. An emergency access to Tong Road from the self-storage facility is proposed. Three full access driveways are proposed on Clarksville Crossing to provide additional points of access from the north Site to the South Site.

South Site

Access to the warehouse and fuel facility will be from Interstate 50 at Silva Valley Parkway from a proposed signalized intersection at the northern portion of the site. An ADA compliant pedestrian pathway will extend from the warehouse to the northern property boundary where it will connect to Silva Valley Parkway. The project provides oversized parking stalls of 10' x 20' that are larger than the minimum El Dorado County requirements to provide members with easier accessibility to vehicles.

LOADING

The South Site truck loading dock is located at the southwest corner of the building adjacent to Interstate 50. The bay doors will be equipped with sealed gaskets to limit noise impacts. A smaller on grade door is also located on the south side of the building. This door is to receive bread delivery and Federal Express type trucks. A transformer and two trash compactors will also be located along the south edge of the building proposed for the South Site. Dense landscape material provides the necessary screening to this area (see South Site Landscape Plan).

PARKING LOT

The North Site proposes a main parking lot area in front of the buildings. The parking lot will provide approximately 156 parking spaces, proposed at 90 degrees to maximize the number of stalls on the site. This number includes 11 accessible parking stalls and 8 compact stalls (5%) and 6 RV stalls.

The South Site proposes 825 total parking stalls, which exceeds the required El Dorado County parking requirement of 642 stalls. Approximately 155 parking stalls are provided on grade adjacent to the warehouse entry and tire center. The remaining 670 parking stalls are provided on the upper lever and roof of the warehouse. The project provides oversized parking stalls of 10' x 20' that are larger than the minimum El Dorado County requirements to provide members with easier and safer accessibility to vehicles.

ADA parking will comply with the County Code and Title 24 requirements.

BICYCLE PARKING

The Project will provide bicycle parking spaces (lockers and racks) throughout the site that will meet County and Title 24 requirements.

PEDESTRIAN CIRCULATION

A pedestrian walkway for each portion of the Project will connect the buildings to Silva Valley Parkway.

LANDSCAPING

The Project will include a variety of drought tolerant landscaping options. The North Site landscaping will provide screening along the boundary which will consist of evergreen trees and shrub rows. Shade trees with large canopy coverage will be planted in the North Site parking lot for shade. Planting at the North Site entries will be highlighted and defined by seasonal accented trees and shrubs with the use of colorful plant material. Shrubs will be low growing to maintain line of sight to the street. Along the streets, plantings will incorporate shade trees and mixed species and forms of shrubs to create interest, color, and buffering from the North Site shopping center.

The South Site landscape plan includes a mix of climate adapted shrubs and grasses, and a variety of shade trees. The South Site landscape design has incorporated a generous perimeter buffer which includes evergreen and deciduous trees and shrubs to enhance the streetscape. Landscape islands are typically provided at one island per 5 lineal parking spaces in the South Site parking field to provide shading of the parking lot with the parking lot trees and landscaping per County requirements. The South Site landscape plan has been designed to assist with the screening of the second level parking. The proposed trees and landscaping will meet El Dorado County requirements of 50% shading on the site at the lower level parking, with the second level deck of parking meeting this requirement only where trees can be planted due to the roof top parking structure.

The project proposes to pay in-lieu fees as mitigation for the loss of the oak woodland.

LIGHTING

The North Site will provide various single, two- or four-light fixtures throughout the parking areas and driveways. The overall height of the lighting on the North Site, including the lighting fixtures and a three-foot base, will be 33 feet in the parking lot, 25 feet along the perimeter and main drive aisles and 16' around drive thru lanes. LED luminaires will be used for the parking lot lights.

The South Site parking lot will be illuminated with standard downward LED fixtures affixed to a 37' foot light pole. The lighting fixtures are of a "shoe-box" style. Parking lot light standards are designed to provide even light distribution for vehicle and pedestrian safety. The parking lot lights will be timer controlled to limit lighting after the warehouse has closed and most employees are gone from the warehouse. Parking lot lighting will only remain on to provide security and emergency lighting only along the main driveways. Lighting fixtures will also be located on the building approximately every 40 feet around the exterior of the building to provide safety and security. Parking and site lighting will incorporate the use of cutoff lenses to keep light from overflowing beyond the South Site boundaries.

GRADING

A preliminary grading plan has been prepared for review as part of the application submittals. Each site is designed to balance independently, and it is the intent of this application to allow for mass grading of both sites individually.

ON-SITE IMPROVEMENTS

The Project is designed to allow either the North Site or the South Site to develop independent from the other. Mass grading of each site to accommodate future development will occur in the first phase of development, including filling of the permitted wetlands and permitted tree removal. In the event the South Site develops first, utility crossings under Silva Valley Parkway will be constructed as part of the South Site infrastructure work to serve the North Site. In the event the North Site develops first, interim facilities will be constructed on the North Site.

Following grading, construction of the parking, landscaping, lighting, utility infrastructure, and driveways will occur. Site improvements will be constructed in various phases depending on the extent of development occurring at any given time. Buildings can be started once site improvements are sufficiently completed to allow construction and emergency fire access.

OFF-SITE IMPROVEMENTS

A proposed traffic signal and appurtenant facilities will be located on Silva Valley Parkway at the center of the Project to provide a connection to both the South Site and the North Site.

A portion of Country Club Drive extension will be constructed up to the secondary access point to the North Site.

UTILITY INFRASTRUCTURE

The property will need to annex into El Dorado Irrigation District (EID) in order to acquire sanitary sewer and water service. EID stated in its December 6, 2018 Facilities Improvement Letter that there should be adequate water supply and sewer capacity available to serve a similar type project. The Project will tie into the existing 18-inch potable water main and the 21-inch gravity sewer line in Clarksville Crossing. An updated Facilities Improvement Letter will be requested through EID at the appropriate time.

The property will also annex into the El Dorado Hills County Water District (Fire Protection) prior to building permit issuance.

Sanitary service and potable water for the North Site will be provided by public (EID) sanitary sewer and water lines that cross the South Site. Reclaimed water is available for non-potable irrigation use and will be provided by extending an existing reclaimed line in Silva Valley Parkway north of the Project site.

Dry utilities (electric, gas, telephone, and cable TV) will be provided from existing infrastructure located to the north of the Project site in Silva Valley Parkway. Dry utilities will need to be extended along the frontage of both the North Site and the South Site.

STORM DRAINAGE DESCRIPTION

The on-site drainage system will connect to El Dorado County's storm drain infrastructure in Clarksville Crossing. The Project has typical pollutant sources from parking lot runoff, loading/unloading areas, outdoor storage areas, and a trash compactor. This Project proposes bioretention areas and underground water quality vaults as the form of treatment for the site.

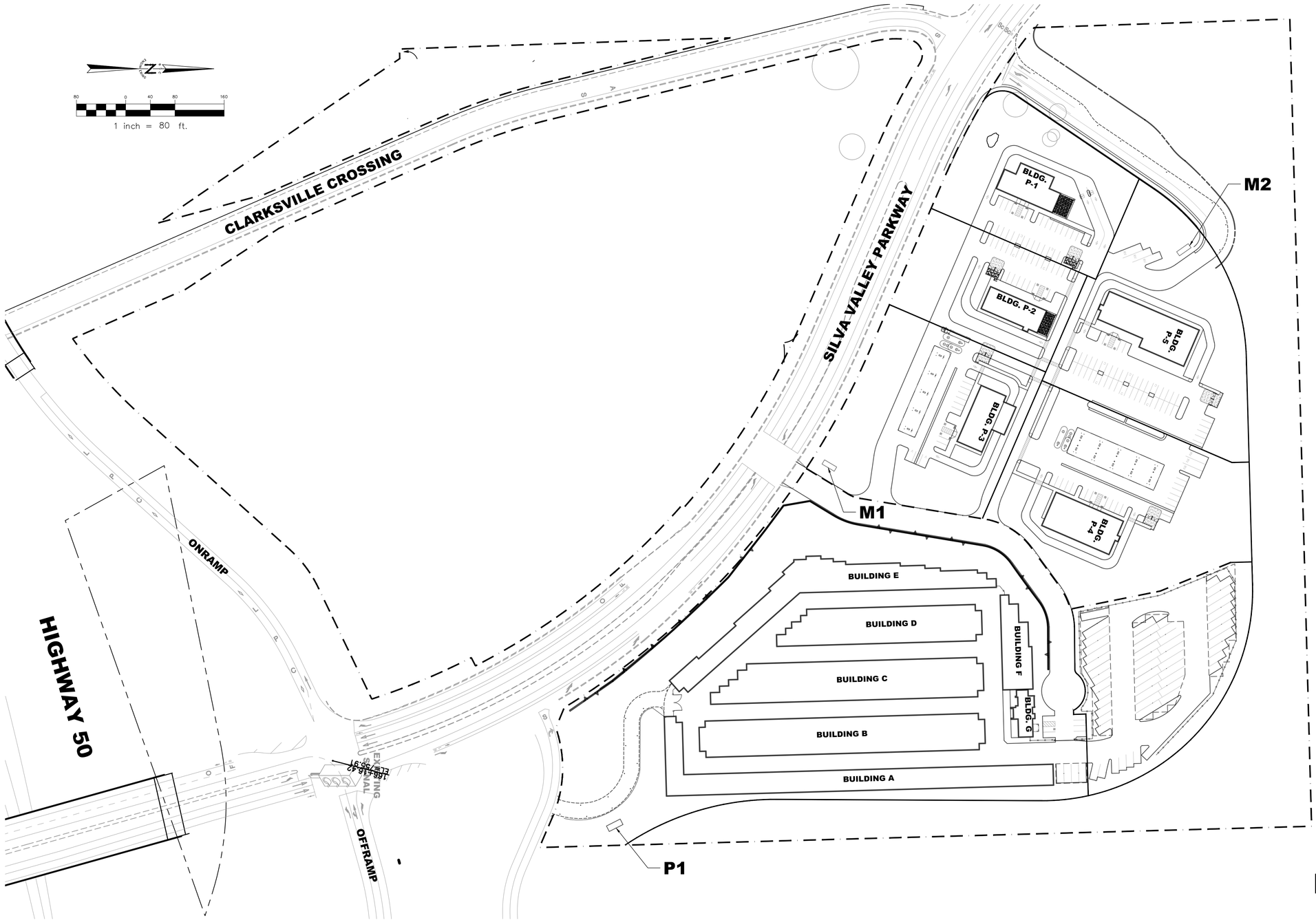
TRUCK CIRCULATION

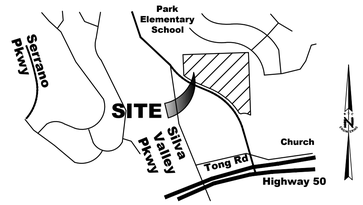
Truck access will be allowed at all driveway locations depending on the size of the delivery truck and direction of travel.

OTHER GOVERNMENTAL AGENCY APPROVALS

Additional subsequent approvals and permits that may be required from local, regional, state, and federal agencies are identified below.

- El Dorado Irrigation District -Water and Sewer-Annexation and Utility Approval
- El Dorado County Resource Conservation District-Onsite Plan Approval
- El Dorado Hills County Water District (Fire Protection)-Annexation and Fire Approval
- El Dorado County Air Quality Management District-Air Quality Permit
- El Dorado County Department of Transportation -Encroachment Permit/Grading Permit/Onsite Plan Approval
- El Dorado County Building Services-Building Permit/Sign Permit
- Central Valley Regional Water Quality Control Board-NPDES General Permit for Stormwater Discharge
- California Department of Fish and Wildlife-Wetland Approval
- Army Corps-Wetland Permitting for each side
- LAFCO-Annexation approval for EID and El Dorado Fire Protection District along with the Bureau of Land Reclamation



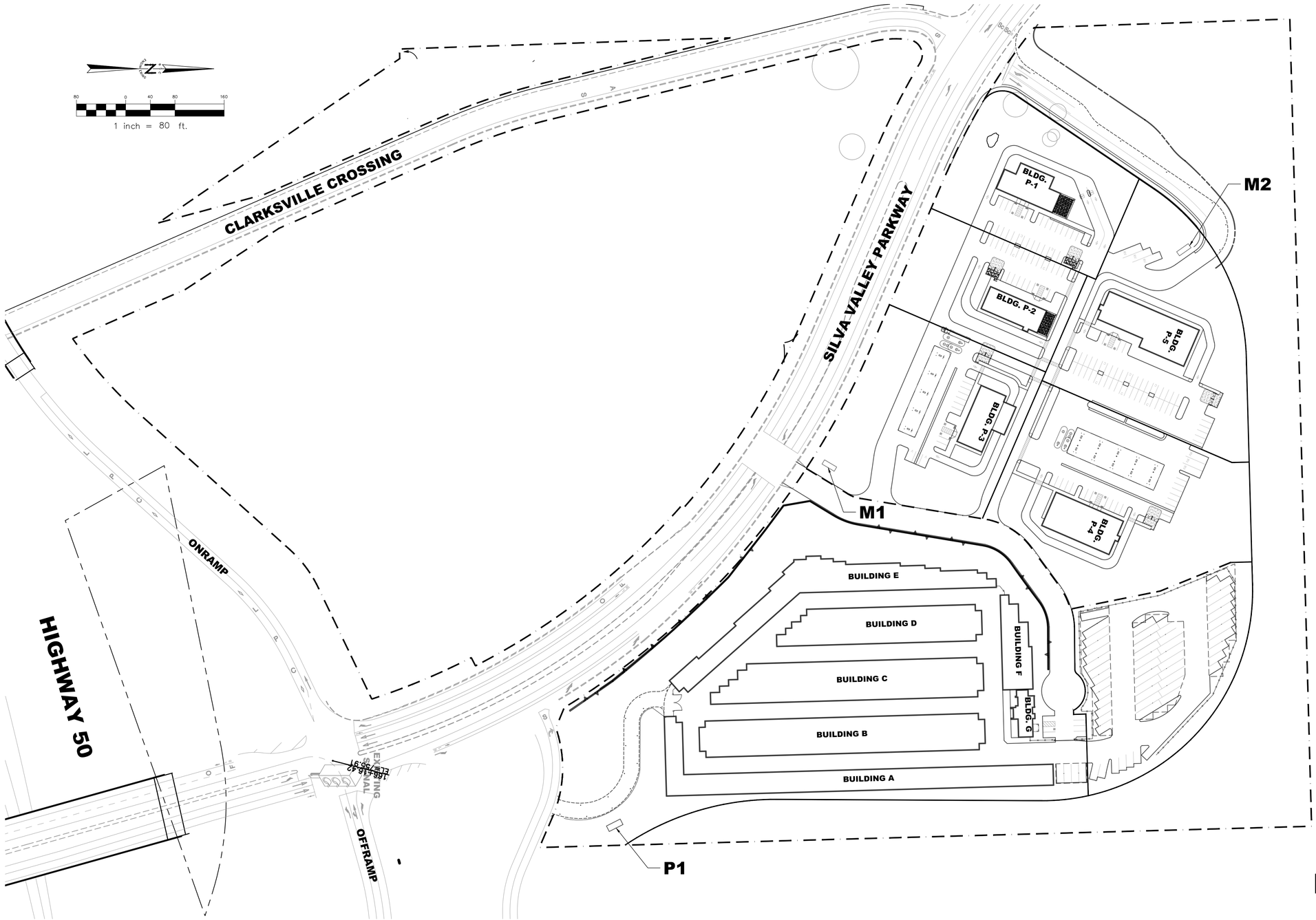


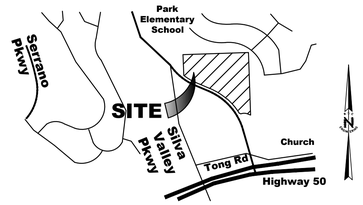
LEGEND:

M - MONUMENT SIGN
P - PYLON SIGN

EDH 52
PYLON & MONUMENT SIGN CONCEPT

DATE: NOVEMBER 13, 2020
SHEET 9 OF 12





LEGEND:

M - MONUMENT SIGN
P - PYLON SIGN

EDH 52
PYLON & MONUMENT SIGN CONCEPT

DATE: NOVEMBER 13, 2020
SHEET 9 OF 12

El Dorado Hills 52 Project

Aquatic Resources Delineation Report

November 2020 | AKT-20

Prepared for:

EDH 52, General Partnership
7919 Folsom Boulevard, Suite 300
Sacramento, CA 95826

Prepared by:

HELIX Environmental Planning, Inc.
1677 Eureka Road, Suite 100
Roseville, CA 95661

El Dorado Hills 52 Project

Aquatic Resources Delineation Report

Prepared for:

EDH 52, General Partnership
7919 Folsom Boulevard, Suite 300
Sacramento, CA 95826

Prepared by:

HELIX Environmental Planning, Inc.
1677 Eureka Road, Suite 100
Roseville, CA 95661

November 2020 | AKT-20

This page intentionally left blank

TABLE OF CONTENTS

Section **Page**

EXECUTIVE SUMMARY ES-1

1.0 INTRODUCTION 1

1.1 Project Location 1
1.2 Driving Directions 1
1.3 Agent Contact information 1
1.4 Regulatory Setting 2
1.4.1 Waters of the U.S. 2
1.4.2 Waters of the State 3

2.0 ENVIRONMENTAL SETTING 4

2.1 Location Description 4
2.2 Existing Conditions 4
2.3 Field Conditions 4
2.4 Interstate or Foreign Commerce Connection 5

3.0 METHODS 5

3.1 Data Gathering 5
3.2 Boundaries of the Delineation 5
3.3 Determination Procedures 5
3.3.1 Delineation Methods 5
3.3.2 Determination of Potential Jurisdiction 6
3.3.3 Plant/Habitat Nomenclature 8

4.0 RESULTS 8

4.1 Vegetation Communities/Habitat Types 8
4.1.1 Non-Native Annual Grassland 8
4.1.2 Riparian Woodland 8
4.1.3 Valley Oak Woodland 8
4.1.4 Disturbed/Developed 9
4.2 Climate 9
4.3 Soils 9
4.4 Hydrology 9
4.5 USFWS National Wetlands Inventory 9

5.0 AQUATIC RESOURCES 9

5.1.1 Seasonal Wetland 10
5.1.2 Seep 10
5.1.3 Wetland Swale 10
5.1.4 Ephemeral Drainage 11
5.1.5 Intermittent Drainage 11

TABLE OF CONTENTS (cont.)

Section **Page**

5.2 Potential Waters of the U.S. 12
5.3 Potential Waters of the State 12

6.0 SUMMARY 13

7.0 REFERENCES 14

LIST OF APPENDICES

A Figures
B Aquatic Resources Delineation Map
C List of Plants Observed in the Study Area
D Representative Site Photos
E Data Sheets

LIST OF TABLES

No. **Title** **Page**

1 Aquatic Resources in the Study Area 12

ACRONYMS AND ABBREVIATIONS

APN	Assessor's Parcel Number
CVRWQCB	Central Valley Regional Water Quality Control Board
CWA	Clean Water Act
FAC	Facultative Plants
FACU	Facultative upland plants
FACW	Facultative wetland plants
HELIX	HELIX Environmental Planning, Inc.
msl	mean sea level
NRCS	Natural Resource Conservation Service
OBL	obligate wetland plants
OHWM	Ordinary High Water Mark
PCC	Prior Converted Cropland
RWQCB	Regional Water Quality Control Board
SWRCB	State Water Resources Control Board
UPL	Upland
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WQC	Water Quality Certification

This page intentionally left blank

EXECUTIVE SUMMARY

This report presents the results of a delineation of the aquatic resources at the ±36-acre El Dorado Hills 52 site (Study Area), located in western El Dorado County, California. Aquatic resources were identified and delineated following the technical guidelines provided in the *Corps of Engineers Wetlands Delineation Manual* (USACE Manual) (Environmental Laboratory 1987), the U.S. Army Corps of Engineers (USACE) Arid West Regional Supplement (Supplement) (USACE 2008), the USACE *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Field Guide) (Lichvar and McColley 2008), and the 2020 Navigable Waters Protection Rule. The Supplement and Field Guide present wetland and OHWM indicators, delineation guidance, and other information that is specific to the Arid West Region.

A total of 0.740 acre of aquatic resources and other waters of the U.S. were mapped within the Study Area. This acreage consists of 0.133 acre of seasonal wetlands, 0.007 acre of seep, 0.006 acre of wetland swale, 0.234 acre of ephemeral drainage, and 0.360 acre of intermittent drainage. Approximately 17.9 acres of the northern portion of the Study Area was previously verified by the USACE in August of 2019 to contain 0.19 acre of waters of the U.S. (SPK-2013-00090). This acreage was carried forward in this delineation.

This page intentionally left blank

1.0 INTRODUCTION

HELIX Environmental Planning, Inc. (HELIX) prepared this aquatic resources delineation report to present the results of a formal delineation of potential jurisdictional wetlands and other waters of the U.S. and State on the ±36-acre El Dorado Hills 52 Study Area (Appendix A, Figure 1). This report was prepared in accordance with the *Minimum Standards for Acceptance of Aquatic Resources Delineation Reports* (USACE 2016) and presents the results of HELIX's review of available literature, aerial photographs, soil surveys, and fieldwork in the Study Area. The purpose of our delineation was to identify aquatic resources on the project site that potentially qualify as waters of the U.S. and/or waters of the State of California. Waters of the U.S. and State on the site are subject to regulatory jurisdiction by the U.S. Army Corps of Engineers (USACE) and the Central Valley Regional Water Quality Control Board (CVRWQCB). Impacts to such resources may require obtaining permits from one or both of these agencies. The results presented in this document are preliminary unless and until concurrence is received from the USACE or the CVRWQCB.

1.1 PROJECT LOCATION

The ±36-acre Study Area is located in El Dorado County north of U.S. Highway 50. It is bifurcated by Silva Valley Parkway and bordered on the west by Clarksville Crossing and on the southeast by Tong Road. The Study Area is located within Township 9 North, Range 8 East, Section 1 of the *Clarksvill*e USGS 7.5-minute series quadrangle (Appendix A, Figure 2). The approximate center of the Study Area is at latitude 38.662023° and longitude -121.055946°, NAD 83, and is located at an elevation between 705 feet and 795 feet above mean sea level (msl).

1.2 DRIVING DIRECTIONS

From downtown Sacramento, travel east on U.S. Route 50 for approximately 25 miles, toward El Dorado Hills and exit on Silva Valley Parkway (exit 31) and turn right (south). Travel south on Silva Valley Parkway for approximately 0.2 mile and turn right (north) on Old Silva Valley Parkway and travel approximately 0.3 mile. The Study Area is located on the east side of the road and parking is available on the side of the road or on turnouts.

1.3 AGENT CONTACT INFORMATION

Property Owner:
EDH 52 General Partnership
7919 Folsom Boulevard, Suite 300
Sacramento, CA 95826
Phone: (916) 383-2500
Email: angeloc@aktinvestments.com
Contact: Angelo Christie

Agent/Delineator:
HELIX Environmental Planning, Inc.
11 Natoma Street, Suite 150
Folsom, CA 95630
Phone: (916) 365-8700
Email: PatrickM@helixepi.com
Contact: Patrick Martin

1.4 REGULATORY SETTING

1.4.1 Waters of the U.S.

Any person, firm, or agency planning to alter or work in "waters of the U.S.," including the discharge of dredged or fill material, must first obtain authorization from the USACE under Section 404 of the Clean Water Act (CWA; 33 USC 1344). Permits, licenses, variances, or similar authorization may also be required by other federal, state, and local statutes. Section 10 of the Rivers and Harbors Act prohibits the obstruction or alteration of navigable waters of the U.S. without a permit from USACE (33 USC 403).

On April 21, 2020, the Environmental Protection Agency (EPA) and USACE published the Navigable Waters Protection Rule to define "Waters of the United States" in the Federal Register. On June 22, 2020 the Navigable Waters Protection Rule: Definition of "Waters of the United States" (NWPR) became effective in 49 states, including California, and in all US territories.

The NWPR regulates traditional navigable waters and perennial or intermittent tributary systems, and defines four categories of regulated waters including:

- The territorial seas and traditional navigable waters;
- Perennial and intermittent tributaries to those waters;
- Certain lakes, ponds, and impoundments; and
- Wetlands adjacent to jurisdictional waters.

The NWPR also defines 12 categories of exempted aquatic resources:

- Waters not listed as waters of the U.S.
- Groundwater
- Ephemeral features
- Diffuse stormwater run-off
- Ditches not identified as waters of the U.S.
- Prior converted cropland (PCC)
- Artificially irrigated areas
- Artificial lakes and ponds
- Water-filled depressions incidental to mining or construction activity
- Stormwater control features
- Groundwater recharge, water reuse, and wastewater recycling structures
- Waste treatment systems

With non-tidal waters, in the absence of adjacent wetlands, the extent of USACE jurisdiction extends to the ordinary high water mark (OHWM) – the line on the shore established by fluctuations of water and indicated by a clear, natural line impressed on the bank, shelving, changes in soil character, destruction of terrestrial vegetation, or the presence of litter and debris. Wetlands are defined in 33 CFR Part 328 as:

> "those areas that are inundated or saturated by surface or ground water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions."

Federal and state regulations pertaining to waters of the U.S., including wetlands, are discussed below.

Clean Water Act (33 USC 1251-1376). The CWA provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters.

Section 401 requires that an applicant for a federal license or permit that allows activities resulting in a discharge to waters of the U.S. must obtain a state certification that the discharge complies with other provisions of CWA. The Regional Water Quality Control Board (RWQCB) administers the certification program in California and may require State Water Quality Certification before other permits are issued.

Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the U.S.

Section 404 establishes a permit program administered by USACE that regulates the discharge of dredged or fill material into waters of the U.S. (including wetlands). Implementing regulations by USACE are found at 33 CFR Parts 320-332. The Section 404 (b)(1) Guidelines were developed by the USEPA in conjunction with USACE (40 CFR Part 230), allowing the discharge of dredged or fill material for non-water dependent uses into special aquatic sites only if there is no practicable alternative that would have less adverse impacts.

1.4.2 Waters of the State

Any action requiring a CWA Section 404 permit, or a Rivers and Harbors Act Section 10 permit, must also obtain a CWA Section 401 Water Quality Certification. The State of California Water Quality Certification (WQC) Program was formally initiated by the State Water Resources Control Board (SWRCB) in 1990 under the requirements stipulated by Section 401 of the Federal Clean Water Act. Although the Clean Water Act is a Federal law, Section 401 of the CWA recognizes that states have the primary authority and responsibility for setting water quality standards. In California, under Section 401, the State and Regional Water Boards are the authorities that certify that issuance of a federal license or permit does not violate California's water quality standards (i.e., that they do not violate Porter-Cologne and the Water Code). The WQC Program currently issues the WQC for discharges requiring USACE permits for fill and dredge discharges within Waters of the United States, and now also implements the State's wetland protection and hydromodification regulation program under the Porter Cologne Water Quality Control Act.

On May 28, 2020, the SWRCB implemented the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures) for inclusion in the forthcoming Water Quality Control Plan for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California (SWRCB 2019). The Procedures consist of four major elements:

I. A wetland definition;
II. A framework for determining if a feature that meets the wetland definition is a water of the state;
III. Wetland delineation procedures; and
IV. Procedures for the submittal, review and approval of applications for Water Quality Certifications and Waste Discharge Requirements for dredge or fill activities.

Under the Procedures and the State Water Code (Water Code §13050(e)), "Waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state." "Waters of the State" includes all "Waters of the U.S."

More specifically, a wetland is defined as: "*An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation*." The wetland definition encompasses the full range of wetland types commonly recognized in California, including some features not protected under federal law, and reflects current scientific understanding of the formation and functioning of wetlands (SWRCB 2019).

Unless excluded by the Procedures, any activity that could result in discharge of dredged or fill material to Waters of the State, which includes Waters of the U.S. and non-federal Waters of the State, requires filing of an application under the Procedures.

2.0 ENVIRONMENTAL SETTING

2.1 LOCATION DESCRIPTION

The ±36-acre Study Area is located in El Dorado County north of U.S. Highway 50. It is bifurcated by Silva Valley Parkway and bordered on the west by Clarksville Crossing and on the southeast by Tong Road. The Study Area is located within Township 9 North, Range 8 East, Section 1 of the *Clarksvill*e USGS 7.5-minute series quadrangle. The approximate center of the Study Area is latitude 38.662023° and longitude -121.055946° (Appendix A, Figure 1). The elevation on the site is approximately 705 to 795 feet above msl. Appendix A, Figure 3 is an aerial photograph of the project site and vicinity. Surface runoff flows through and exits the Study Area via ephemeral and intermittent drainages, which flow in a northeast to southwest direction. Slopes range from less than one percent to 30 percent.

2.2 EXISTING CONDITIONS

The Study Area is split into a northern portion and a southern portion, which are bisected by Silva Valley Parkway that runs in a general northwest to southeast direction. Land uses surrounding the Study Area include residential development and an elementary school to the north and paved roads and undeveloped land to the east, west, and south.

2.3 FIELD CONDITIONS

Fieldwork for the aquatic resource delineation was conducted on October 13, 2020 and the weather during the site visit was sunny and warm. The climate of El Dorado Hills is Mediterranean, characterized by wet, cool winters and dry, hot summers. The nearest weather station is the Sacramento Executive Airport weather station in Sacramento, California, located approximately 26 miles west of the project site. Average daily maximum and minimum temperatures are 92° and 59° Fahrenheit (F) in July and 56° and 39° F in January (NRCS 2020a). The mean annual precipitation is 17.8 inches, with 100 percent occurring as rain from September through May. The weather station received approximately 6.14 inches of rainfall this rain season starting in October (NRCS 2020a). In the previous year, the weather station received 24.6 inches, which is 138% of normal (NRCS 2020a).

2.4 INTERSTATE OR FOREIGN COMMERCE CONNECTION

The Study Area is located in the Upper Cosumnes watershed (USGS Hydrologic Unit Code (HUC8) 18040013). The Study Area is upslope of an unnamed tributary to Carson Creek, which is tributary to Deer Creek and the Cosumnes River. The Cosumnes River is tributary to the Mokelumne River, a traditional navigable water used in interstate and foreign commerce.

3.0 METHODS

3.1 DATA GATHERING

The following sources were used in preparation of this jurisdictional delineation:

- Aerial photography taken November 7, 2019 downloaded from Esri®,
- U.S. Fish and Wildlife Service's (USFWS) National Wetland Inventory online wetland mapper (USFWS 2020),
- Natural Resources Conservation Service (NRCS) web soil survey (NRCS 2020b),
- Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987),
- Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008),
- Field Indicators of Hydric Soils in the United States (Version 8.2) (NRCS 2018),
- A Field Guide to the Identification of the OHWM in the Arid West Region of the Western United States (Lichvar and McColley 2008), and
- USACE 2018 National Wetland Plant List for the Arid West (USACE 2018).

3.2 BOUNDARIES OF THE DELINEATION

The delineation area includes the entire 36-acre Study Area. Refer to the delineation map in Appendix B for the limits of the delineation.

3.3 DETERMINATION PROCEDURES

3.3.1 Delineation Methods

Fieldwork for the jurisdictional delineation was conducted by HELIX biologist Patrick Martin and Halie Goeman in accordance with the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987), the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008), and the Corps of Engineers *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Field Guide) (Lichvar and McColley 2008). Vegetation, soils, and hydrologic characteristics were visually

assessed by walking meandering transects through the entire project site to obtain 100 percent visual coverage. The plant species identifiable at the time of the survey were recorded (refer to Appendix C for the list of plants observed with the wetland indicator status for each species). Representative photographs are included as Appendix D.

The three-parameter method was used to determine the presence/absence of wetlands, which involves identifying indicators of hydrophytic vegetation, hydric soils, and wetland hydrology according to the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008) and the Arid West 2018Regional Wetland Plant List (USACE 2018). In the field, a Munsell Color (Gregtag Macbeth 2000) chart was used to determine moist soil colors. A total of three additional data points were taken throughout the Study Area in 2020 to classify the site's soils, vegetation, and hydrologic characteristics and the accompanying data forms are included in Appendix E. The extent of wetlands and other waters within the Study Area were mapped in the field with a tablet wirelessly connected to an Arrow GPS unit with sub-meter accuracy. These data were exported into ArcMap 10.7.1® and used to produce the map of aquatic features in the delineation area and calculate the acreage of each aquatic feature.

3.3.2 Determination of Potential Jurisdiction

Waters of the U.S.

Under the NWPR, the USACE and EPA regulate traditional navigable waters and perennial or intermittent tributary systems. The four categories of regulated waters include:

I. The territorial seas and traditional navigable waters;
II. Perennial and intermittent tributaries to those waters;
III. Certain lakes, ponds, and impoundments; and
IV. Wetlands adjacent to jurisdictional waters.

The NWPR excludes from the definition of ''waters of the United States'' all waters or features not mentioned above. In addition to this general exclusion, the NWPR clarifies that waters of the U.S. do not include the following:

- Groundwater, including groundwater drained through subsurface drainage systems;
- Ephemeral features that flow only in direct response to precipitation, including ephemeral streams, swales, gullies, rills, and pools;
- Diffuse stormwater runoff and directional sheet flow over upland;
- Ditches that are not traditional navigable waters, tributaries, or that are not constructed in adjacent wetlands, subject to certain limitations;
- Prior converted cropland;
- Artificially irrigated areas that would revert to upland if artificial irrigation ceases;
- Artificial lakes and ponds that are not jurisdictional impoundments and that are constructed or excavated in upland or non-jurisdictional waters;

- Water-filled depressions constructed or excavated in upland or in non-jurisdictional waters incidental to mining or construction activity, and pits excavated in upland or in non-jurisdictional waters for the purpose of obtaining fill, sand, or gravel;

- Stormwater control features constructed or excavated in upland or in non-jurisdictional waters to convey, treat, infiltrate, or store stormwater runoff;

- Groundwater recharge, water reuse, and wastewater recycling structures constructed or excavated in upland or in non-jurisdictional waters; and

- Waste treatment systems.

Waters of the State

The RWQCB will assert jurisdiction over any waters of the State, including wetlands, regardless of whether or not the feature qualifies as waters of the U.S. Under the Procedures and the State Water Code (Water Code §13050(e)), "Waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state." "Waters of the State" includes all "Waters of the U.S." The following wetlands are waters of the State:

1. Natural wetlands,

2. Wetlands created by modification of a surface water of the state,

3. Artificial wetlands that meet any of the following criteria:

    a. Approved by an agency as compensatory mitigation for impacts to other Waters of the State, except where the approving agency explicitly identifies the mitigation as being of limited duration;

    b. Specifically identified in a water quality control plan as a wetland or other water of the state;

    c. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape; or

    d. Greater than or equal to one acre in size, unless the artificial wetland was constructed, and is currently used and maintained, primarily for one or more of the following purposes (i.e., the following artificial wetlands are not Waters of the State unless they also satisfy the criteria set forth in 2, 3a, or 3b):
        i. Industrial or municipal wastewater treatment or disposal,
        ii. Settling of sediment,
        iii. Detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial 58 stormwater permitting program,
        iv. Treatment of surface waters,
        v. Agricultural crop irrigation or stock watering,
        vi. Fire suppression,
        vii. Industrial processing or cooling,
        viii. Active surface mining – even if the site is managed for interim wetlands functions and values,

ix. Log storage,
x. Treatment, storage, or distribution of recycled water,
xi. Maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits), or
xii. Fields flooded for rice growing.

All artificial wetlands that are less than an acre in size and do not satisfy the criteria set forth in 2, 3.a, 3.b, or 3.c are not Waters of the State.

3.3.3 Plant/Habitat Nomenclature

Habitat nomenclature is generally derived from *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988). Plant nomenclature is taken from The Jepson Manual: Vascular Plants of California, second edition (Baldwin et al. 2012).

4.0 RESULTS

4.1 VEGETATION COMMUNITIES/HABITAT TYPES

Terrestrial biological habitats and land covers present within the Study Area include non-native annual grassland, riparian woodland, valley oak woodland, and disturbed/developed, which are described in detail below. Aquatic resources are described in Section 5.0.

4.1.1 Non-Native Annual Grassland

Non-native annual grassland dominates the northern and southern portions of the Study Area. This vegetation community is characterized primarily by an assemblage of non-native annual grasses and forbs. Dominant vegetation includes ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), and wild oat (*Avena fatua*) intermixed with red-stemmed filaree (*Erodium cicutarium*), popcornflower (*Plagiobothrys* sp.), black mustard (*Brassica nigra*), winter vetch (*Vicia villosa*), scarlet pimpernel (*Anagallis arvensis*), St. John's wort (*Hypericum perforatum*), brodiaea (*Brodiaea elegans*), fiddleneck (*Amsinckia* sp.), rose clover (*Trifolium hirtum*), and milk-thistle (*Silybum marianum*). Isolated valley oak (*Quercus lobata*) trees also occur in the non-native annual grassland.

4.1.2 Riparian Woodland

Riparian habitat occurs along the riverine perennial marsh and perennial drainage in the northern drainage system. Dominant vegetation includes broadleaf cattail (*Typha latifolia*), willow (*Salix* sp.), spike rush (*Eleocharis macrostachya*), pennyroyal (*Mentha pulegium*), Himalayan blackberry (*Rubus armeniacus*), Fremont cottonwood (*Populus fremontii*), and isolated valley oak trees.

4.1.3 Valley Oak Woodland

Valley oak woodland is found in a small area on the southwest boundary of the Study Area where a small stand of mature valley oak trees overhangs a small perennial drainage. The understory is primarily annual grassland with small areas of milkweed (*Asclepias fascicularis*) and pennyroyal immediately adjacent to the drainage.

4.1.4 Disturbed/Developed

Disturbed/developed areas occur throughout the Study Area. Disturbed/developed areas include graded roads and a stockpile area. The ruderal/disturbed areas are sparsely vegetated with red-stemmed filaree, soft chess, wild oat, and winter vetch.

4.2 CLIMATE

The climate of El Dorado County is Mediterranean, characterized by wet, cool winters and dry, hot summers. The nearest weather station with complete climate data is the Sacramento Executive Airport weather station in Sacramento, California, located approximately 26 miles west of the project site. Average daily maximum and minimum temperatures are 92° and 59° Fahrenheit (F) in July and 56° and 39° F in January (NRCS 2020a). The mean annual precipitation is 17.8 inches, with 100 percent occurring as rain from September through May. The weather station received approximately 6.14 inches of rainfall this rain season starting in October (NRCS 2020a). In the previous year, the weather station received 24.6 inches, which is 138% of normal (NRCS 2020a).

4.3 SOILS

The Natural Resources Conservation Service (NRCS) has mapped one soil unit within the Study Area (Appendix A, Figure 4). Auburn Silt Loam, 2 to 30 Percent Slopes. General characteristics associated with this soil type are described below (USDA, NRCS 2020b).

Auburn Silt Loam, 2 to 30 Percent Slopes (AwD): The soils in this series are well drained. Permeability is moderate. Vegetation associated with this soil series includes annual grasses, forbs, and oaks. The hydric soils list for El Dorado County does not identify this soil as hydric (USDA, NRCS 2020c).

4.4 HYDROLOGY

The Study Area is located in the Upper Cosumnes River watershed (HUC8 18040013). The hydrologic regime on the Study Area is predominantly year-round irrigation runoff from the adjacent development to the north, seasonal stormwater runoff, and direct precipitation, which primarily falls between November and March. Annual average precipitation is approximately 15 to 20 inches. Surface water runoff runs in a general northeast to southwest direction.

4.5 USFWS NATIONAL WETLANDS INVENTORY

The USFWS National Wetlands Inventory online database was reviewed to determine if there are any wetlands or other waters of the U.S. mapped by the USFWS in the Study Area or vicinity. The National Wetlands Inventory does not identify any wetlands or other waters of the U.S. in the Study Area. Off-site and to the west and east, the NWI identifies an unnamed tributary to Carson Creek (Appendix A, Figure 5).

5.0 AQUATIC RESOURCES

A total of 0.740 acre of aquatic resources and other waters of the U.S. were mapped within the Study Area. This acreage consists of 0.133 acre of seasonal wetlands, 0.007 acre of seep, 0.006 acre of wetland

swale, 0.234 acre of ephemeral drainage, and 0.360 acre of intermittent drainage (Appendix B). This acreage includes 0.19 acre of waters of the U.S. that was previously verified by the USACE within a 17.9-acre portion of the northern portion of the Study Area (SPK-2013-00090). This previously verified acreage was carried forward in this delineation. A description of all of the features delineated within the Study Area are provided in the following sections.

5.1.1 Seasonal Wetland

A total of 0.133 acre of seasonal wetlands has been delineated within the Study Area (Appendix B). Seasonal wetlands are often depressions or topographic folds within the landscape that inundate for short periods of time following intense rains, but do not maintain seasonal aquatic or saturated soil conditions for durations long enough for colonization by perennial, obligate plant species. As such, plant species in seasonal wetlands are generally of two types: species that can tolerate short periods of inundation but have not adapted to withstand sustained aquatic or saturated soil conditions, and short-lived (primarily annual) species that take advantage of ephemeral aquatic and/or saturated soil conditions. Many of the seasonal wetlands within the Study Area are adjacent to the ephemeral drainage on the northern portion of the Study Area. There are also two depressional seasonal wetlands on the Study Area appear to have formed as a result of historic excavation as they are located next to large, steep mounds. Dominant vegetation includes rabbitsfoot grass (*Polypogon monspeliensis*), spike rush, and nutsedge (*Cyperus eragrostis*).

5.1.2 Seep

A total of 0.007 acre of seep has been delineated within the Study Area (Appendix B). Seeps are characterized as areas where subsurface flows intersects the soil surface. Typically, water flows from seeps persist for some period after the rainy season or, more rarely, nearly year-round. Seeps accessing sufficient amounts of subsurface water can support isolated wetland vegetation (such as on a hillside) or they may form the headwaters of other jurisdictional drainage or wetland features, such as wetland swales. Vegetation in seeps often consists of plant species associated with seasonal and semi-permanent marsh habitats. When seeps are active for only short periods beyond the rainy season and into the warm season, herbaceous perennial wetland species typically dominate, as is typical of the seeps within the Study Area. Vegetation in the seep include consisted almost entirely of iris leaved rush (*Juncus xiphioides*) (OBL). Hydric soil indicators in the seep included a redox dark surface with distinct or prominent redoximorphic features located along root channels of living roots and as concentrations in the matrix. Wetland hydrology requirements were met by oxidized rhizospheres, saturation visible on aerial imagery and the FAC-neutral test.

5.1.3 Wetland Swale

A total of 0.006 acre of wetland swale was delineated on the Study Area (Appendix B). The wetland swale within the Study Area is associated with SW-3 on the northern portion of the Study Area and conveys water from that feature to ED-16 during high flow events. Dominant vegetation occurring within the wetland swale includes curly dock (*Rumex crispus*), pennyroyal, coyote-thistle (*Eryngium vaseyi*), brome fescue (*Festuca bromoides*), rye grass, annual hair grass (*Deschampsia danthonioides*), and rabbitsfoot grass.

5.1.4 Ephemeral Drainage

A total of 0.234 acre of ephemeral drainages have been delineated within the Study Area (Appendix B). Ephemeral drainages are not wetlands as they do not meet the three-parameter criteria for vegetation, hydrology, and soils but do convey water and exhibit an ordinary high water mark. Water flows within ephemeral drainages are fed primarily by precipitation and surface water runoff. These features convey water during and immediately after storm events, but do not flow continuously throughout the winter and spring. Typically, these features exhibit a defined bed and bank and show signs of scouring as a result of rapid flow events. Although the channels of the ephemeral drainages within the Study Area are largely unvegetated, what vegetation is present includes winter vetch, ripgut brome, ryegrass, phacelia (*Phacelia cicutaria*), and medusahead (*Elymus caput-medusae*).

5.1.5 Intermittent Drainage

A total of 0.360 acre of intermittent drainage (ID-18) has been delineated within the Study Area (Appendix B). Intermittent drainages receive substantial seasonal flows of significant velocity and may appear as perennial features during the normal wet season. These seasonal flows often scour the channel of vegetation. Intermittent drainages may support fringe wetland vegetation types, such as seasonal or semi-permanent marsh or riparian wetlands. Conversely, intermittent drainages may be associated with hydrophytic vegetation communities that lack further wetland indicators. A typical hydroperiod of intermittent drainages is one that begins with the onset of substantial rains in the normal wet season and persists for an extended, variable amount of time into summer.

A brick check dam has been constructed across a portion of the feature near datapoint 4a (Appendix B). This check dam has resulted in periods of water backing up during flow events that have supported the establishment of hydrophytic emergent vegetation upstream of datapoint 4a. The area containing emergent vegetation is dominated by common knotweed (*Persicaria lapathifolia*) and curly dock with areas of dense cattails and Himalayan blackberry and a small clump of willows. This area is entirely within the ordinary high water mark of the intermittent drainage.

Table 1 below provides a summary of aquatic resources mapped within the Study Area.

Table 1
AQUATIC RESOURCES IN THE STUDY AREA

Feature	Lat./Long.	Cowardin Classification[1]	Area (ac.)	Area (sq. ft.)	Length (ft.)	Avg. Width (ft.)
Wetlands						
SW-1	38.66254651 / -121.0564125	PEM2	0.008	348.48	--	--
SW-2	38.66215585 / -121.0582332	PEM2	0.007	304.92	--	--
SW-3	38.662031 / -121.056976	PEM2	0.075	3267.00	--	--
SW-4	38.66253163/ -121.0568429	PEM2	0.003	130.68	--	--
SW-5	38.66247183/ -121.0568167	PEM2	0.005	217.80	--	--
SW-6	38.66235351/ -121.0567944	PEM2	0.010	435.60	--	--
SW-7	38.6621443/ -121.0568692	PEM2	0.006	261.36	--	--
SW-8	38.66207073/ -121.0567484	PEM2	0.004	174.24	--	--
SW-9	38.66196011/ -121.0567973	PEM2	0.003	130.68	--	--
SW-10	38.66196011/ -121.0567973	PEM2	0.004	174.24	--	--
SW-11	38.66189125/ -121.0569108	PEM2	0.002	87.12	--	--
SW-12	38.66012735/ -121.0573589	PEM2	0.007	304.92	--	--
SP-13	38.660456/ -121.057044	PEM1	0.007	304.92	--	--
WS-13	38.661785/ -121.057015	PEM2	0.006	261.36	88	--
		Wetlands Total	**0.147**	**6,403.32**	**88**	**--**
Other Waters						
ED-15	38.661593/ -121.058623	R4SB	0.028	1219.68	73	--
ED-16	38.66240343/ -121.0567807	R4SB	0.036	1568.16	724	--
ED-17	38.66209325/ -121.0564943	R4SB	0.018	784.08	398	--
ED-18	38.662473/ -121.058284	R4SB	0.151	6577.56	333	--
ID-19	38.660444/ -121.05731	R4SB	0.360	15681.6	982	--
		Other Waters Total	**0.593**	**25,831.08**	**2510**	**--**
		Total Aquatic Resources	**0.740**	**31,874.40**	**2,598**	**--**

[1] Cowardin Codes for Wetlands: System (P = Palustrine; R = Riverine) Subsystem (4 = Intermittent) – Class (EM = Emergent; SB = Streambed) – Subclass (1 = Persistent; 2 = Non-persistent; 7 = Vegetated) – Modifiers (E = Seasonally Flooded/Saturated; K = Artificial; f = Farmed; x = Excavated).

5.2 POTENTIAL WATERS OF THE U.S.

Ephemeral drainages are currently not considered to be jurisdictional features under the 2020 Navigable Waters Protection Rule (see Section 1.4.1). Therefore, the 0.234 acre of ephemeral drainages within the Study Area would not be expected to be considered waters of the U.S. Seasonal wetland 1 and seasonal wetland 2 (total of 0.015 acre) may also not be considered waters of the U.S. as they appear to have formed from historic excavations and are therefore a product of upland excavations and likely isolated from the remaining of the aquatic features on the site. The seep (0.007 acre) may also not be considered a water to the U.S. since it is not adjacent to the intermittent drainage feature and otherwise appears to be hydrologically isolated. The remaining 0.484 acres of aquatic resources within the Study Area would be expected to be considered waters of the U.S. subject to verification by the USACE.

5.3 POTENTIAL WATERS OF THE STATE

All aquatic resources in the Study Area (0.740 acre) are expected to be considered waters of the State subject to verification by the CVRWQCB under current regulatory guidance (see Section 1.4.2).

6.0 SUMMARY

HELIX conducted an aquatic resources delineation of the 36-acre Study Area in El Dorado Hills in El Dorado County. A total of 0.740 acre of aquatic resources was mapped within the Study Area. This acreage is comprised of 0.133 acre of seasonal wetland, 0.007 acre of seep, 0.006 acre of wetland swale, 0.234 acre of ephemeral drainage, and 0.360 acre of intermittent drainage. This aquatic resource delineation is preliminary and subject to verification by the resource agencies.

7.0 REFERENCES

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, D.H. Wilken, editors. 2012. The Jepson Manual: Vascular Plants of California, second edition. University of California Press, Berkeley.

Environmental Laboratory. 1987. Wetlands Research Program Technical Report Y-87-1 Corps of Engineers Wetland Delineation Manual. January 1987

Gregtag Macbeth. 2000. Munsell Soil Color Charts. New Windsor, NY.

Lichvar, Robert W. and Shawn McColley. 2008. *A Field Guide to the Identification of the Ordinary High-Water Mark (OHWM) in the Arid West Region of the Western United States*. Vicksburg, MS: U.S. Army Corps of Engineers Research and Development Center.

Mayer, K.E. and W.F. Laudenslayer. 1988. A Guide to Wildlife Habitats of California. State of California, Resources Agency, Department of Fish and Game, Sacramento, CA 166pp.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture (NRCS). 2018. Field Indicators of Hydric Soils in the United States, Version 8.2. L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.

2020a. Climate Data and Summary Reports from AgACIS. Accessed online September 2, 2020 at: http://agacis.rcc-acis.org/?fips= 06067.

2020b. Web Soil Survey. Available online at: http://websoilsurvey.nrcs.usda.gov/. Accessed October 13, 2020.

2020c. National List of Hydric Soils. Available online at: https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcseprd1316620.html https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/. Accessed October 13, 2020.

State Water Resources Control Board (SWRCB). 2019. *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*. Available online at: https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/procedures_conformed.pdf.

U.S. Army Corps of Engineers (USACE). 2018. Arid West 2018 Regional Wetland Plant List.

2016. Minimum Standards for Acceptance of Aquatic Resource Delineation Reports (Sacramento District).

2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). J.S. Wakeley, R.W. Lichvar, and C.V. Noble, eds., Technical Report prepared for the U.S. Army Engineer Research and Development Center, Vicksburg, MS.

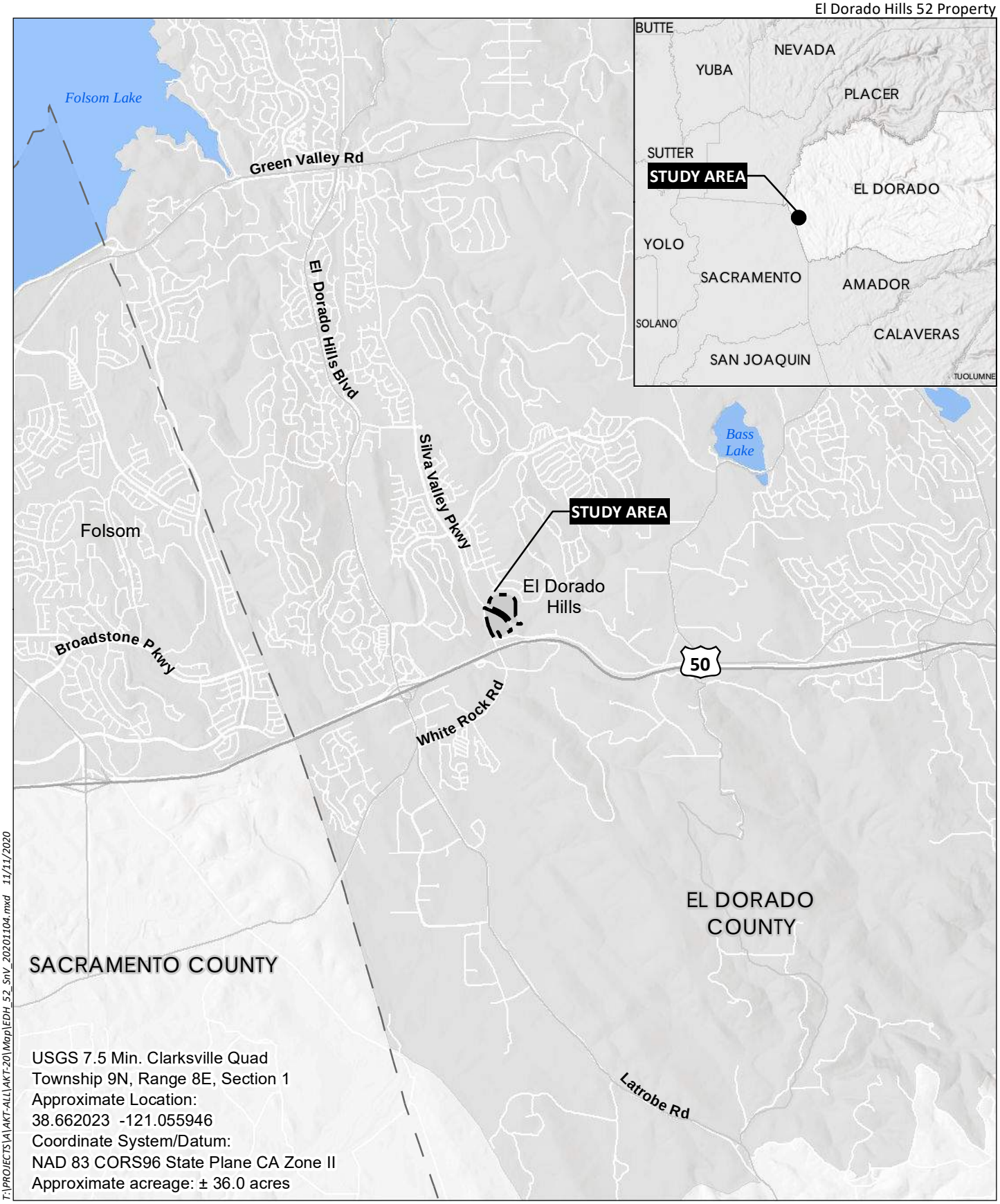
U.S. Fish and Wildlife Service (USFWS). 2020. National Wetlands Inventory. Accessed online October 13, 2020 at: < http://www.fws.gov/wetlands/Data/mapper.html>.

This page intentionally left blank

Appendix A

Figures

This page intentionally left blank



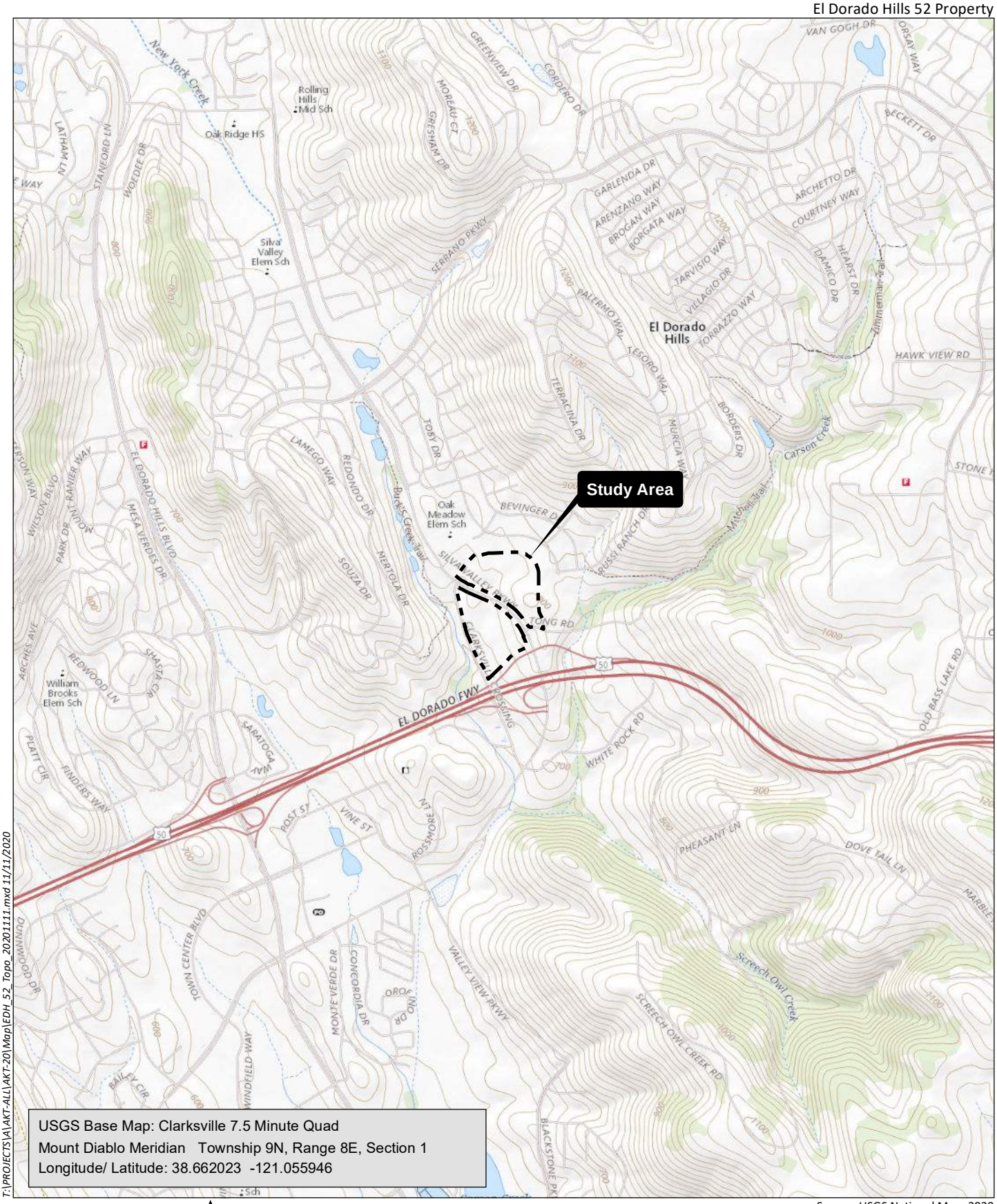
T:\PROJECTS\AI\AKT-ALL\AKT-20\Map\EDH_52_SnV_20201104.mxd 11/11/2020

Source: Base Map Layers (Esri, USGS, NGA, NASA)

HELIX Environmental Planning

Site and Vicinity Map

Figure 1



USGS Base Map: Clarksville 7.5 Minute Quad
Mount Diablo Meridian Township 9N, Range 8E, Section 1
Longitude/ Latitude: 38.662023 -121.055946

T:\PROJECTS\A\AKT-ALL\AKT-20\Map\EDH_52_Topo_20201111.mxd 11/11/2020

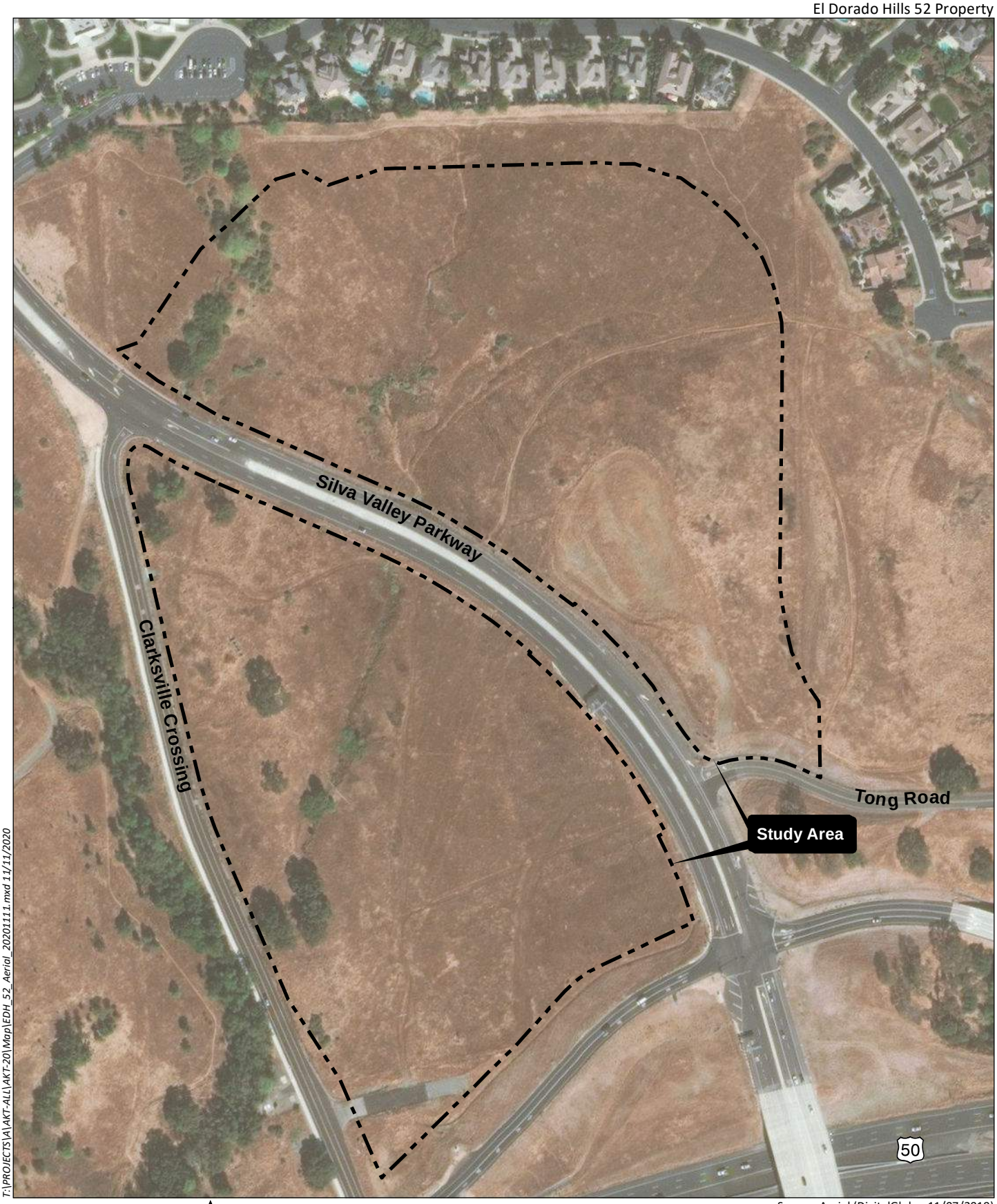
0 2,000 Feet

Source: USGS National Map, 2020

HELIX Environmental Planning

Topographic Map

Figure 2



T:\PROJECTS\A\AKT-ALL\AKT-20\Map\EDH_52_Aerial_20201111.mxd 11/11/2020

0 250 Feet

Source: Aerial (DigitalGlobe, 11/07/2019)

HELIX Environmental Planning

Aerial Map

Figure 3



HELIX Environmental Planning

Soils Map

Figure 4



T:\PROJECTS\A\AKT-ALL\AKT-20\Map\EDH_52_ANWI_20201111.mxd 11/20/2020

Source: NWI, 2020; Aerial (DigitalGlobe, 11/7/2019)

HELIX Environmental Planning

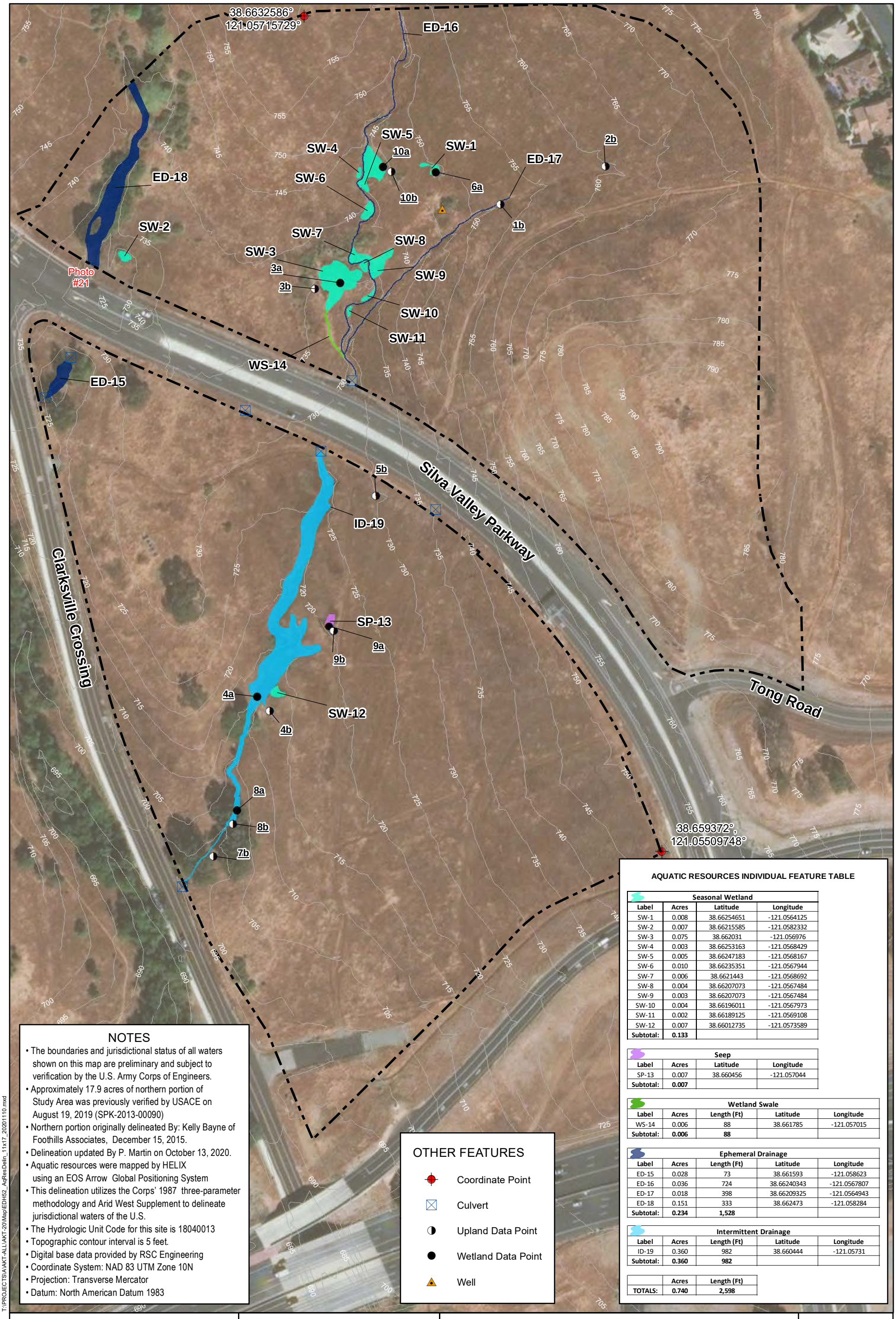
National Wetland Inventory Map

Figure 5

Appendix B

Aquatic Resources Delineation Map

This page intentionally left blank



NOTES

- The boundaries and jurisdictional status of all waters shown on this map are preliminary and subject to verification by the U.S. Army Corps of Engineers.
- Approximately 17.9 acres of northern portion of Study Area was previously verified by USACE on August 19, 2019 (SPK-2013-00090)
- Northern portion originally delineated By: Kelly Bayne of Foothills Associates, December 15, 2015.
- Delineation updated By P. Martin on October 13, 2020.
- Aquatic resources were mapped by HELIX using an EOS Arrow Global Positioning System
- This delineation utilizes the Corps' 1987 three-parameter methodology and Arid West Supplement to delineate jurisdictional waters of the U.S.
- The Hydrologic Unit Code for this site is 18040013
- Topographic contour interval is 5 feet.
- Digital base data provided by RSC Engineering
- Coordinate System: NAD 83 UTM Zone 10N
- Projection: Transverse Mercator
- Datum: North American Datum 1983

OTHER FEATURES

- Coordinate Point
- Culvert
- Upland Data Point
- Wetland Data Point
- Well

AQUATIC RESOURCES INDIVIDUAL FEATURE TABLE

Seasonal Wetland

Label	Acres	Latitude	Longitude
SW-1	0.008	38.66254651	-121.0564125
SW-2	0.007	38.66215585	-121.0582332
SW-3	0.075	38.662031	-121.056976
SW-4	0.003	38.66253163	-121.0568429
SW-5	0.005	38.66247183	-121.0568167
SW-6	0.010	38.66235351	-121.0567944
SW-7	0.006	38.6621443	-121.0568692
SW-8	0.004	38.66207073	-121.0567484
SW-9	0.003	38.66207073	-121.0567484
SW-10	0.004	38.66196011	-121.0567973
SW-11	0.002	38.66189125	-121.0569108
SW-12	0.007	38.66012735	-121.0573589
Subtotal:	**0.133**		

Seep

Label	Acres	Latitude	Longitude
SP-13	0.007	38.660456	-121.057044
Subtotal:	**0.007**		

Wetland Swale

Label	Acres	Length (Ft)	Latitude	Longitude
WS-14	0.006	88	38.661785	-121.057015
Subtotal:	**0.006**	**88**		

Ephemeral Drainage

Label	Acres	Length (Ft)	Latitude	Longitude
ED-15	0.028	73	38.661593	-121.058623
ED-16	0.036	724	38.66240343	-121.0567807
ED-17	0.018	398	38.66209325	-121.0564943
ED-18	0.151	333	38.662473	-121.058284
Subtotal:	**0.234**	**1,528**		

Intermittent Drainage

Label	Acres	Length (Ft)	Latitude	Longitude
ID-19	0.360	982	38.660444	-121.05731
Subtotal:	**0.360**	**982**		

	Acres	Length (Ft)
TOTALS:	**0.740**	**2,598**

T:\PROJECTS\AKT-ALL\AKT-20\Map\EDH52_ AqResDelin_11x17_20201110.mxd

HELIX Environmental Planning

USACE REGULATORY FILE #:
VERIFIED BY: TBD
DATE OF VERIFICATION: TBD

REVISIONS

DATE	DESCRIPTION	BY

0 150 300
Feet
1 inch = 150 feet
N

Drawn By: JCD

AQUATIC RESOURCES DELINEATION MAP

El Dorado Hills 52

El Dorado Hills, El Dorado County, California

November 10, 2020

Appendix B

Appendix C

List of Plants Observed in the Study Area

This page intentionally left blank

Appendix C
List of Plants Observed within the Study Area

Family	Scientific Name	Common Name	Indicator Status*
Fabaceae	*Acmispom americanus* var. *americanus*	American bird's foot trefoil	UPL
Poaceae	*Aegilops cylindrica*	Jointed goat grass	--
Poaceae	*Avena fatua*	Wildoats	--
Asteraceae	*Baccharis pilularis* ssp. *Consanguinea*	Coyote brush	--
Poaceae	*Briza minor*	Little rattlesnake grass	FAC
Themidaceae	*Brodiaea elegans*	Harvest brodiaea	FACU
Poaceae	*Bromus diandrus*	Ripgut brome	--
Poaceae	*Bromus hordeaceus*	Soft brome	FACU
Asteraceae	*Carduus pycnocephalus*	Italian thistle	--
Asteraceae	*Centromadia fitchii*	Spikeweed	FACU
Agavaceae	*Chlorogalum pomeridianum* var. *pomeridianum*	Common soaproot	--
Asteraceae	*Cirsium vulgare*	Bull thistle	FACU
Euphorbiaceae	*Croton setiger*	Turkey mullein	--
Convolvulaceae	*Cuscuta californica*	California dodder	--
Poaceae	*Cynodon dactylon*	Bermuda grass	FACU
Cyperaceae	*Cyperus eragrostis*	Tall cyperus	FACW
Apiaceae	*Daucus pusillus*	Wild carrot	UPL
Poaceae	*Deschampsia danthonioides*	Annual hair grass	FACW
Poaceae	*Deschampsia elongata*	Slender hair grass	FACW
Themidaceae	*Dichelostemma capitatum* ssp. *Capitatum*	Wild hyacinth	FACU
Asteraceae	*Dittrichia graveolens*	Stinkwort	--
Campanulaceae	*Downingia* spp.	Downingia	OBL
Cyperaceae	*Eleocharis acicularis*	Needle spikerush	OBL
Cyperaceae	*Eleocharis macrostachya*	Pale spikerush	OBL
Poaceae	*Elymus caput-medusae*	Medusahead	--
Onagraceae	*Epilobium brachycarpum*	annual willowherb	FAC
Onagraceae	*Epilobium* cf. *ciliatum*	Fringed willowherb	FACW
Onagraceae	*Epilobium densifolrum*	Denseflower willowherb	FACW
Geraniaceae	*Erodium botrys*	Big heron bill	FACU
Geraniaceae	*Erodium cicutarium*	Coastal heron's bill	--
Apiaceae	*Eryngium castrense*	Great Valley button-celery	OBL
Phrymaceae	*Erythranthe guttata* (*Mimulus guttatus*)	Yellow monkey flower	OBL
Poaceae	*Festuca microstachys*	Small fescue	--
Poaceae	*Festuca myuros*	Rattail sixweeks grass	FACU
Poaceae	*Festuca perennis*	Italian rye grass	FAC
Rhamnaceae	*Frangula californica* ssp. *Tomentella*	Hoary coffeeberry	--
Poaceae	*Gastridium phleoides*	Nit grass	FACU
Geraniaceae	*Geranium dissectum*	Cutleaf geranium	--
Geraniaceae	*Geranium molle*	Crane's bill geranium	--
Poaceae	*Glyceria declinata*	Low manna grass	FACW
Asteraceae	*Holocarpha virgata* ssp. *virgata*	Narrow tarplant	--
Poaceae	*Hordeum marinum*	Barley	FAC
Hypericaceae	*Hypericum perforatum* ssp. *Perforatum*	Klamathweed	FACU
Asteraceae	*Hypochaeris glabra*	Smooth cat's-ear	--
Juncaceae	*Juncus bufonius*	Toad rush	FACW
Juncaceae	*Juncus capitatus*	Leafy bracted dwarf rush	FACU

Appendix C (cont.)
List of Plants Observed within the Study Area

Family	Scientific Name	Common Name	Indicator Status*
Juncaceae	*Juncus* cf. *mexicanus*	Mexican rush	FACW
Juncaceae	*Juncus* cf. *tenuis*	Slender rush	FACW
Juncaceae	*Juncus xiphioides*	Iris leaved rush	OBL
Asteraceae	*Lactuca serriola*	Prickly lettuce	FACU
Asteraceae	*Lasthenia fremontii*	Vernal pool goldfields	OBL
Asteraceae	*Leontodon saxatilis*	Hairy hawkbit	FACU
Linaceae	*Linum usitatissimum*	Common flax	--
Lythraceae	*Lythrum hyssopifolia*	Hyssop loosestrife	OBL
Lamiaceae	*Mentha pulegium*	Pennyroyal	OBL
Poaceae	*Muhlenbergia rigens*	Deer grass	FAC
Polemoniaceae	*Navarretia intertexta*	Interwoven navarretia	FACW
Poaceae	*Paspalum dilatatum*	Dallis grass	FAC
Polygonaceae	*Persicaria* sp.	Smartweed	OBL
Boraginaceae	*Plagiobothrys stipitatus*	Stalked popcorn-flower	FACW
Poaceae	*Pleuropogon californicus*	Semaphore grass	OBL
Poaceae	*Poa annua*	Annual blue grass	FAC
Lamiaceae	*Pogogyne zizyphoroides*	Sacramento Mesa-mint	OBL
Poaceae	*Polypogon monspeliensis*	Rabbitsfoot grass	FACW
Salicaceae	*Populus fremontii [deltoides]* ssp. *fremontii*	Fremont's cottonwood	FAC
Rosaceae	*Prunus* sp.	Cherry tree	FACU
Fagaceae	*Quercus douglasii*	Blue oak	--
Fagaceae	*Quercus wislizeni*	Interior live oak	--
Ranunculaceae	*Ranunculus bonariensis* var. *trisepalus*	Vernal pool buttercup	OBL
Ranunculaceae	*Ranunculus muricatus*	Spiny buttercup	FACW
Brassicaceae	*Rorippa curvissiliqua*	Curvepod yellow cress	OBL
Rosaceae	*Rubus armeniacus*	Himalayan blackberry	FAC
Polygonaceae	*Rumex crispus*	Curly dock	FAC
Polygonaceae	*Rumex pulcher*	fiddledock	FAC
Salicaceae	*Salix exigua*	Narrow leaved willow	FACW
Salicaceae	*Salix* cf. *lasiolepis*	Arroyo willow	FACW
Asteraceae	*Senecio vulgaris*	Common groundsel	FACU
Asteraceae	*Sonchus asper*	Prickly sow thistle	FAC
Poaceae	*Stipa pulchra*	Purple needle grass	--
Lamiaceae	*Trichostema lanceolata*	Vinegar weed	FACU
Fabaceae	*Trifolium variegatum*	Variegated clover	FAC
Typhaceae	*Typha* sp.	Cattail	OBL
Scrophulariaceae	*Verbascum blattaria*	Moth mullein	UPL
Plantaginaceae	*Veronica* cf. *americana*	American brooklime	OBL
Fabaceae	*Vicia sativa*	Spring vetch	FACU
Gentianaceae	*Zeltnera muehlenbergii*	Muehlenberg's centaury	FAC

Scientific and common names from:

Baldwin, B.G.. D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, D.H. Wilken, editors. 2012. The Jepson Manual: Vascular Plants of California, second edition. University of California Press, Berkley

or

U.S. Army Corps of Engineers Cold Regions Research and Engineering Laboratory, *Arid West 2018 Regional Wetland Plant List*

* Acronyms: FAC – facultative, FACU – facultative upland, FACW – facultative wetland, OBL – obligate, UPL – upland; -- Not Listed (considered upland) (USACE 2018)

Appendix D

Representative Site Photos

This page intentionally left blank



Photo 1: View of wetland data point 7B. Taken 10/13/20.



Photo 2: View of wetland data point 8A. Taken 10/13/20.



Photo 3: View of upland data point 8B. Taken 10/13/20.



Photo 4: View of wetland data point 9A. Taken 10/13/20.



Photo 5. View of upland data point 9B. Taken 10/13/20.



Photo 6. View of wetland data point 10A. Taken 10/13/20.



Photo 7. View of upland data point 10B. Taken 10/13/20.

Appendix E

Data Sheets

This page intentionally left blank

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Dec. 15, 2015

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 1B

Investigator(s): Kelly Bayne and Charlotte Marks Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 38 39 44.15"N Long: 121 03 22.66"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Ephemeral drainage; although the soils do not meet the definition of a wetland, the feature has an OHWM. Therefore, it is considered an ephemeral drainage.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Festuca perennis	5	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	5 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 95 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 1B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	7.5YR 3/2	100	None				Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ **No** ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✓ Water Marks (B1) (**Riverine**)
- ✓ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Dec. 15, 2015

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 2B

Investigator(s): Kelly Bayne and Charlotte Marks Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR): C Lat: 38 39 45.19"N Long: 121 03 19.74"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Erodium botrys	40	Yes	FACU
2. Holocarpha virgata	20	Yes	UPL
3. Hordeum murinum	40	Yes	FACU
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species _____	x 1 =	_____
FACW species _____	x 2 =	_____
FAC species _____	x 3 =	_____
FACU species 80	x 4 =	320
UPL species 20	x 5 =	100
Column Totals: 100 (A)		420 (B)

Prevalence Index = B/A = 4.2

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 2B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 3/4	100	None				Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Dec. 15, 2015

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 3A

Investigator(s): Kelly Bayne and Charlotte Marks Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 3

Subregion (LRR): C Lat: 38 39 42.86"N Long: 121 03 24.91"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Eleocharis macrostachya	100	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 3A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 3/2	80	7.5YR 4/6	20	C	PL	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Dec. 15, 2015

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 3B

Investigator(s): Kelly Bayne and Charlotte Marks Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): none Slope (%): 3

Subregion (LRR): C Lat: 38 39 43.18"N Long: 121 03 25.71"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Erodium botrys	40	Yes	FACU
2. Holocarpha virgata	20	Yes	UPL
3. Hordeum murinum	40	Yes	FACU
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species _____	x 1 =	_____
FACW species _____	x 2 =	_____
FAC species _____	x 3 =	_____
FACU species 80	x 4 =	320
UPL species 20	x 5 =	100
Column Totals: 100 (A)		420 (B)

Prevalence Index = B/A = 4.2

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 3B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 3/4	100	None				Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Dec. 15, 2015

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 4A

Investigator(s): Kelly Bayne and Charlotte Marks Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Perennial marsh Local relief (concave, convex, none): concave Slope (%): 3

Subregion (LRR): C Lat: 38 39 36.82"N Long: 121 03 26.80"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Eleocharis macrostachya	95	Yes	FACW
2. Typha sp.	5	No	OBL
3.			
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 4A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/2	80	10YR4/6	20	C	PL	Clay/Loa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 3

Water Table Present? Yes ✓ No ___ Depth (inches): 1

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 6

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Dec. 15, 2015

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 4B

Investigator(s): Kelly Bayne and Charlotte Marks Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 2

Subregion (LRR): C Lat: 38 39 36.25"N Long: 121 03 26.29"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____ No ✓	
Wetland Hydrology Present?	Yes _____ No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Eleocharis macrostachya	91	Yes	FACW
2. Erodium cicutarium	5	N	UPL
3. Geranium molle	2	N	UPL
4. Hypericum perforatum	2	N	FACU
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 4B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/3	100	None				Loam	Roots

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Dec. 15, 2015

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 5B

Investigator(s): Kelly Bayne and Charlotte Marks Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 2

Subregion (LRR): C Lat: 38 39 36.25"N Long: 121 03 26.29"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Avena fatua	70	Yes	UPL
2. Erodium cicutarium	5	No	UPL
3. Geranium molle	2	No	UPL
4. Holocarpha virgata	5	No	UPL
5. Bromus hordeaceus	18	No	FACU
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species 18	x 4 =	72
UPL species 82	x 5 =	410
Column Totals: 100 (A)		482 (B)

Prevalence Index = B/A = 4.82

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 5B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/3	100	None				Loam	Roots

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Dec. 15, 2015

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 6A

Investigator(s): Kelly Bayne and Charlotte Marks Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 38 39 37.64"N Long: 121 03 25.63"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation ✓, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Appears man-made; depressional with perimeter mound. No vegetation at time of sampling.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

no vegetation present at time of survey; assumed to be wet.

SOIL

Sampling Point: 6A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	7.5YR 3/2	95	7.5YR 5/8	5	C	PL	Loam	Distinct mottles

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Oct. 13, 2020

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 7B

Investigator(s): Patrick Martin, Halie Goeman Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 38 39 37.64"N Long: 121 03 25.63"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation ✓, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Low area along ephemeral stream with hydrophytes, but supports a dominance of upland vegetation and lacks other wetland criteria. This is likely a floodplain in uplands that rarely floods.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1. Quercus lobata	5	Y	FACU
2.			
3.			
4.			
5.			
	5	= Total Cover	
Herb Stratum (Plot size: _____)			
1. Carex praegracilis	40	Y	FACW
2. Avena fatua	10	N	--
3. Stipa pulchra	12	Y	--
4. Deschampsia danthonioides	10	N	FACW
5. Bromus madritensis	8	N	UPL
6. Torilis arvensis	5	N	--
7. Bromus diandrus	10	N	--
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

Dominated by upland species and supports some hydrophytes.

SOIL

Sampling Point: 7B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/4	100					silt Loam	rocky

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

No hydric soil indicators detected.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Oct. 13, 2020

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 8A

Investigator(s): Patrick Martin, Halie Goeman Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 38 39 37.64"N Long: 121 03 25.63"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation ✓, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Herbaceous riparian wetland along ephemeral stream.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Deschampsia danthonioides	15	Y	FACW
2. Eleocharis macrostachya	20	Y	OBL
3. Torilis arvensis	5	N	--
4. Bromus diandrus	10	N	--
5. Stipa pulchra	5	N	--
6.			
7.			
8.			
	55 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 45 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Dominated by hydrophytes.

SOIL

Sampling Point: 8A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 4/2	90	7.5YR 4/6	10	C	M	silt Loam	rocky

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** _____

Remarks:

Prominent redoximorphic features in the matrix and pore linings in depleted soil support the hydric soil indicator Depleted Matrix (F3).

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ✓ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Low area likely floods during precipitation events and likely has a high water table during the growing season.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Oct. 13, 2020

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 8B

Investigator(s): Patrick Martin, Halie Goeman Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 38 39 37.64"N Long: 121 03 25.63"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation ✓, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Low floodplain dominated by upland vegetation.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Quercus lobata	8	Y	FACU
2.			
3.			
4.			
5.			
	8 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Bromus diandrus	40	Y	--
2. Carduus pycnocephalus ssp. pycnocephalus	10	Y	--
3.			
4.			
5.			
6.			
7.			
8.			
	50 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 50 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species 8	x 4 = 32
UPL species 50	x 5 = 250
Column Totals: 58 (A)	282 (B)

Prevalence Index = B/A = 4.9

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

Dominated by upland vegetation.

SOIL

Sampling Point: 8B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 4/2	90	7.5YR 4/6	10	C	M/PL	silt Loam	rocky

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** _____

Remarks:

Prominent redoximorphic features in the matrix and pore linings in depleted soil support the hydric soil indicator Depleted Matrix (F3).

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Low area likely floods during precipitation events and likely stays saturated enough to form oxidized rhizospheres along the living root channels.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Oct. 13, 2020

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 9A

Investigator(s): Patrick Martin, Halie Goeman Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 38 39 37.64"N Long: 121 03 25.63"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation ✓, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Seep spring dominated by obligate wetland plant Juncus xiphioides.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Baccharis pilularis	10	Y	--
2.			
3.			
4.			
5.			
	10 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Juncus xiphioides	90	Y	OBL
2. Stipa pulchra	10	N	--
3.			
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 90	x 1 = 90
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species 20	x 5 = 100
Column Totals: 110 (A)	190 (B)

Prevalence Index = B/A = 1.7

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Isolated patch of Juncus xiphioides represents a seep spring. Occurs in annual grassland where perennial bunchgrass Stipa pulchra is encroaching on this seep spring.

SOIL

Sampling Point: 9A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	7.5YR 3/2	90	7.5YR 4/6	10	C	M/PL	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** _____

Remarks:

Prominent redoximorphic features in the matrix and pore linings on a dark surface support the hydric soil indicator Redox Dark Surface (F6).

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Seep spring dominated by obligate wetland plants likely has a high water table during the growing season.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Oct. 13, 2020

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 9B

Investigator(s): Patrick Martin, Halie Goeman Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 38 39 37.64"N Long: 121 03 25.63"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation ✓, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Seep spring dominated by obligate wetland plant Juncus xiphioides.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Stipa pulchra	90	Y	--
2. Epilobium brachycarpum	10	N	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

Stipa pulchra perennial grassland on edge of seep spring.

SOIL

Sampling Point: 9B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	7.5YR 3/3	100					Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✓

Remarks:

No hydric soil indicators detected.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No wetland hydrology indicators detected.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Oct. 13, 2020

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 10A

Investigator(s): Patrick Martin, Halie Goeman Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 38 39 37.64"N Long: 121 03 25.63"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation ✓, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Herbaceous seasonal wetland along stream.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Epilobium brachycarpum	25	Y	FAC
2. Lythrum hyssopifolium	20	Y	OBL
3. Briza minor	10	N	FAC
4. Polygon monspeliensis	20	Y	FACW
5. Mentha pulegium	25	Y	OBL
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Dominated entirely by hydrophytes.

SOIL

Sampling Point: 10A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 3/2	90	7.5YR 4/6	10	C	M/PL	clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

Prominent redoximorphic features on a dark surface fulfill hydric soil criteria for Redox Dark Surface (F6).

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Seasonal wetland along drainage is very wet. Soil is damp in the soil pit but it is not saturated. During the growing season, this data point likely has a high water table.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Oct. 13, 2020

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 10B

Investigator(s): Patrick Martin, Halie Goeman Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 38 39 37.64"N Long: 121 03 25.63"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation ✓, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Upland area along seasonal wetland near stream.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Acmispon americanus	25	Y	UPL
2. Lactuca seriola	20	Y	FACU
3. Epilobium brachycarpum	20	Y	FAC
4. Bromus hordeaceus	20	Y	FACU
5.			
6.			
7.			
8.			
	85 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 15 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species 20	x 3 =	60
FACU species 40	x 4 =	160
UPL species 25	x 5 =	250
Column Totals: 85 (A)		345 (B)

Prevalence Index = B/A = 4.1

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

Dominated by upland vegetation.

SOIL

Sampling Point: 10B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5YR 3/4	100					clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Hardpan

Depth (inches): 4

Hydric Soil Present? Yes _____ No ✓

Remarks:

No hydric soil indicators detected. Hard layer at 4 inches.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No wetland hydrology detected.

El Dorado Hills 52 Project

Aquatic Resources Delineation Report

November 2020 | AKT-20

Prepared for:

EDH 52, General Partnership
7919 Folsom Boulevard, Suite 300
Sacramento, CA 95826

Prepared by:

HELIX Environmental Planning, Inc.
1677 Eureka Road, Suite 100
Roseville, CA 95661

El Dorado Hills 52 Project

Aquatic Resources Delineation Report

Prepared for:

EDH 52, General Partnership
7919 Folsom Boulevard, Suite 300
Sacramento, CA 95826

Prepared by:

HELIX Environmental Planning, Inc.
1677 Eureka Road, Suite 100
Roseville, CA 95661

November 2020 | AKT-20

This page intentionally left blank

TABLE OF CONTENTS

Section **Page**

EXECUTIVE SUMMARY ES-1

1.0 INTRODUCTION 1

1.1 Project Location 1
1.2 Driving Directions 1
1.3 Agent Contact information 1
1.4 Regulatory Setting 2
1.4.1 Waters of the U.S. 2
1.4.2 Waters of the State 3

2.0 ENVIRONMENTAL SETTING 4

2.1 Location Description 4
2.2 Existing Conditions 4
2.3 Field Conditions 4
2.4 Interstate or Foreign Commerce Connection 5

3.0 METHODS 5

3.1 Data Gathering 5
3.2 Boundaries of the Delineation 5
3.3 Determination Procedures 5
3.3.1 Delineation Methods 5
3.3.2 Determination of Potential Jurisdiction 6
3.3.3 Plant/Habitat Nomenclature 8

4.0 RESULTS 8

4.1 Vegetation Communities/Habitat Types 8
4.1.1 Non-Native Annual Grassland 8
4.1.2 Riparian Woodland 8
4.1.3 Valley Oak Woodland 8
4.1.4 Disturbed/Developed 9
4.2 Climate 9
4.3 Soils 9
4.4 Hydrology 9
4.5 USFWS National Wetlands Inventory 9

5.0 AQUATIC RESOURCES 9

5.1.1 Seasonal Wetland 10
5.1.2 Seep 10
5.1.3 Wetland Swale 10
5.1.4 Ephemeral Drainage 11
5.1.5 Intermittent Drainage 11

TABLE OF CONTENTS (cont.)

Section **Page**

5.2 Potential Waters of the U.S. 12
5.3 Potential Waters of the State 12

6.0 SUMMARY 13

7.0 REFERENCES 14

LIST OF APPENDICES

A Figures
B Aquatic Resources Delineation Map
C List of Plants Observed in the Study Area
D Representative Site Photos
E Data Sheets

LIST OF TABLES

No. **Title** **Page**

1 Aquatic Resources in the Study Area 12

ACRONYMS AND ABBREVIATIONS

APN	Assessor's Parcel Number
CVRWQCB	Central Valley Regional Water Quality Control Board
CWA	Clean Water Act
FAC	Facultative Plants
FACU	Facultative upland plants
FACW	Facultative wetland plants
HELIX	HELIX Environmental Planning, Inc.
msl	mean sea level
NRCS	Natural Resource Conservation Service
OBL	obligate wetland plants
OHWM	Ordinary High Water Mark
PCC	Prior Converted Cropland
RWQCB	Regional Water Quality Control Board
SWRCB	State Water Resources Control Board
UPL	Upland
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WQC	Water Quality Certification

This page intentionally left blank

EXECUTIVE SUMMARY

This report presents the results of a delineation of the aquatic resources at the ±36-acre El Dorado Hills 52 site (Study Area), located in western El Dorado County, California. Aquatic resources were identified and delineated following the technical guidelines provided in the *Corps of Engineers Wetlands Delineation Manual* (USACE Manual) (Environmental Laboratory 1987), the U.S. Army Corps of Engineers (USACE) Arid West Regional Supplement (Supplement) (USACE 2008), the USACE *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Field Guide) (Lichvar and McColley 2008), and the 2020 Navigable Waters Protection Rule. The Supplement and Field Guide present wetland and OHWM indicators, delineation guidance, and other information that is specific to the Arid West Region.

A total of 0.740 acre of aquatic resources and other waters of the U.S. were mapped within the Study Area. This acreage consists of 0.133 acre of seasonal wetlands, 0.007 acre of seep, 0.006 acre of wetland swale, 0.234 acre of ephemeral drainage, and 0.360 acre of intermittent drainage. Approximately 17.9 acres of the northern portion of the Study Area was previously verified by the USACE in August of 2019 to contain 0.19 acre of waters of the U.S. (SPK-2013-00090). This acreage was carried forward in this delineation.

This page intentionally left blank

1.0 INTRODUCTION

HELIX Environmental Planning, Inc. (HELIX) prepared this aquatic resources delineation report to present the results of a formal delineation of potential jurisdictional wetlands and other waters of the U.S. and State on the ±36-acre El Dorado Hills 52 Study Area (Appendix A, Figure 1). This report was prepared in accordance with the *Minimum Standards for Acceptance of Aquatic Resources Delineation Reports* (USACE 2016) and presents the results of HELIX's review of available literature, aerial photographs, soil surveys, and fieldwork in the Study Area. The purpose of our delineation was to identify aquatic resources on the project site that potentially qualify as waters of the U.S. and/or waters of the State of California. Waters of the U.S. and State on the site are subject to regulatory jurisdiction by the U.S. Army Corps of Engineers (USACE) and the Central Valley Regional Water Quality Control Board (CVRWQCB). Impacts to such resources may require obtaining permits from one or both of these agencies. The results presented in this document are preliminary unless and until concurrence is received from the USACE or the CVRWQCB.

1.1 PROJECT LOCATION

The ±36-acre Study Area is located in El Dorado County north of U.S. Highway 50. It is bifurcated by Silva Valley Parkway and bordered on the west by Clarksville Crossing and on the southeast by Tong Road. The Study Area is located within Township 9 North, Range 8 East, Section 1 of the *Clarksvill*e USGS 7.5-minute series quadrangle (Appendix A, Figure 2). The approximate center of the Study Area is at latitude 38.662023° and longitude -121.055946°, NAD 83, and is located at an elevation between 705 feet and 795 feet above mean sea level (msl).

1.2 DRIVING DIRECTIONS

From downtown Sacramento, travel east on U.S. Route 50 for approximately 25 miles, toward El Dorado Hills and exit on Silva Valley Parkway (exit 31) and turn right (south). Travel south on Silva Valley Parkway for approximately 0.2 mile and turn right (north) on Old Silva Valley Parkway and travel approximately 0.3 mile. The Study Area is located on the east side of the road and parking is available on the side of the road or on turnouts.

1.3 AGENT CONTACT INFORMATION

Property Owner:
EDH 52 General Partnership
7919 Folsom Boulevard, Suite 300
Sacramento, CA 95826
Phone: (916) 383-2500
Email: angeloc@aktinvestments.com
Contact: Angelo Christie

Agent/Delineator:
HELIX Environmental Planning, Inc.
11 Natoma Street, Suite 150
Folsom, CA 95630
Phone: (916) 365-8700
Email: PatrickM@helixepi.com
Contact: Patrick Martin

1.4 REGULATORY SETTING

1.4.1 Waters of the U.S.

Any person, firm, or agency planning to alter or work in "waters of the U.S.," including the discharge of dredged or fill material, must first obtain authorization from the USACE under Section 404 of the Clean Water Act (CWA; 33 USC 1344). Permits, licenses, variances, or similar authorization may also be required by other federal, state, and local statutes. Section 10 of the Rivers and Harbors Act prohibits the obstruction or alteration of navigable waters of the U.S. without a permit from USACE (33 USC 403).

On April 21, 2020, the Environmental Protection Agency (EPA) and USACE published the Navigable Waters Protection Rule to define "Waters of the United States" in the Federal Register. On June 22, 2020 the Navigable Waters Protection Rule: Definition of "Waters of the United States" (NWPR) became effective in 49 states, including California, and in all US territories.

The NWPR regulates traditional navigable waters and perennial or intermittent tributary systems, and defines four categories of regulated waters including:

- The territorial seas and traditional navigable waters;
- Perennial and intermittent tributaries to those waters;
- Certain lakes, ponds, and impoundments; and
- Wetlands adjacent to jurisdictional waters.

The NWPR also defines 12 categories of exempted aquatic resources:

- Waters not listed as waters of the U.S.
- Groundwater
- Ephemeral features
- Diffuse stormwater run-off
- Ditches not identified as waters of the U.S.
- Prior converted cropland (PCC)
- Artificially irrigated areas
- Artificial lakes and ponds
- Water-filled depressions incidental to mining or construction activity
- Stormwater control features
- Groundwater recharge, water reuse, and wastewater recycling structures
- Waste treatment systems

With non-tidal waters, in the absence of adjacent wetlands, the extent of USACE jurisdiction extends to the ordinary high water mark (OHWM) – the line on the shore established by fluctuations of water and indicated by a clear, natural line impressed on the bank, shelving, changes in soil character, destruction of terrestrial vegetation, or the presence of litter and debris. Wetlands are defined in 33 CFR Part 328 as:

> "those areas that are inundated or saturated by surface or ground water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions."

Federal and state regulations pertaining to waters of the U.S., including wetlands, are discussed below.

Clean Water Act (33 USC 1251-1376). The CWA provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters.

Section 401 requires that an applicant for a federal license or permit that allows activities resulting in a discharge to waters of the U.S. must obtain a state certification that the discharge complies with other provisions of CWA. The Regional Water Quality Control Board (RWQCB) administers the certification program in California and may require State Water Quality Certification before other permits are issued.

Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the U.S.

Section 404 establishes a permit program administered by USACE that regulates the discharge of dredged or fill material into waters of the U.S. (including wetlands). Implementing regulations by USACE are found at 33 CFR Parts 320-332. The Section 404 (b)(1) Guidelines were developed by the USEPA in conjunction with USACE (40 CFR Part 230), allowing the discharge of dredged or fill material for non-water dependent uses into special aquatic sites only if there is no practicable alternative that would have less adverse impacts.

1.4.2 Waters of the State

Any action requiring a CWA Section 404 permit, or a Rivers and Harbors Act Section 10 permit, must also obtain a CWA Section 401 Water Quality Certification. The State of California Water Quality Certification (WQC) Program was formally initiated by the State Water Resources Control Board (SWRCB) in 1990 under the requirements stipulated by Section 401 of the Federal Clean Water Act. Although the Clean Water Act is a Federal law, Section 401 of the CWA recognizes that states have the primary authority and responsibility for setting water quality standards. In California, under Section 401, the State and Regional Water Boards are the authorities that certify that issuance of a federal license or permit does not violate California's water quality standards (i.e., that they do not violate Porter-Cologne and the Water Code). The WQC Program currently issues the WQC for discharges requiring USACE permits for fill and dredge discharges within Waters of the United States, and now also implements the State's wetland protection and hydromodification regulation program under the Porter Cologne Water Quality Control Act.

On May 28, 2020, the SWRCB implemented the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures) for inclusion in the forthcoming Water Quality Control Plan for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California (SWRCB 2019). The Procedures consist of four major elements:

I. A wetland definition;
II. A framework for determining if a feature that meets the wetland definition is a water of the state;
III. Wetland delineation procedures; and
IV. Procedures for the submittal, review and approval of applications for Water Quality Certifications and Waste Discharge Requirements for dredge or fill activities.

Under the Procedures and the State Water Code (Water Code §13050(e)), "Waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state." "Waters of the State" includes all "Waters of the U.S."

More specifically, a wetland is defined as: "*An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation*." The wetland definition encompasses the full range of wetland types commonly recognized in California, including some features not protected under federal law, and reflects current scientific understanding of the formation and functioning of wetlands (SWRCB 2019).

Unless excluded by the Procedures, any activity that could result in discharge of dredged or fill material to Waters of the State, which includes Waters of the U.S. and non-federal Waters of the State, requires filing of an application under the Procedures.

2.0 ENVIRONMENTAL SETTING

2.1 LOCATION DESCRIPTION

The ±36-acre Study Area is located in El Dorado County north of U.S. Highway 50. It is bifurcated by Silva Valley Parkway and bordered on the west by Clarksville Crossing and on the southeast by Tong Road. The Study Area is located within Township 9 North, Range 8 East, Section 1 of the *Clarksvill*e USGS 7.5-minute series quadrangle. The approximate center of the Study Area is latitude 38.662023° and longitude -121.055946° (Appendix A, Figure 1). The elevation on the site is approximately 705 to 795 feet above msl. Appendix A, Figure 3 is an aerial photograph of the project site and vicinity. Surface runoff flows through and exits the Study Area via ephemeral and intermittent drainages, which flow in a northeast to southwest direction. Slopes range from less than one percent to 30 percent.

2.2 EXISTING CONDITIONS

The Study Area is split into a northern portion and a southern portion, which are bisected by Silva Valley Parkway that runs in a general northwest to southeast direction. Land uses surrounding the Study Area include residential development and an elementary school to the north and paved roads and undeveloped land to the east, west, and south.

2.3 FIELD CONDITIONS

Fieldwork for the aquatic resource delineation was conducted on October 13, 2020 and the weather during the site visit was sunny and warm. The climate of El Dorado Hills is Mediterranean, characterized by wet, cool winters and dry, hot summers. The nearest weather station is the Sacramento Executive Airport weather station in Sacramento, California, located approximately 26 miles west of the project site. Average daily maximum and minimum temperatures are 92° and 59° Fahrenheit (F) in July and 56° and 39° F in January (NRCS 2020a). The mean annual precipitation is 17.8 inches, with 100 percent occurring as rain from September through May. The weather station received approximately 6.14 inches of rainfall this rain season starting in October (NRCS 2020a). In the previous year, the weather station received 24.6 inches, which is 138% of normal (NRCS 2020a).

2.4 INTERSTATE OR FOREIGN COMMERCE CONNECTION

The Study Area is located in the Upper Cosumnes watershed (USGS Hydrologic Unit Code (HUC8) 18040013). The Study Area is upslope of an unnamed tributary to Carson Creek, which is tributary to Deer Creek and the Cosumnes River. The Cosumnes River is tributary to the Mokelumne River, a traditional navigable water used in interstate and foreign commerce.

3.0 METHODS

3.1 DATA GATHERING

The following sources were used in preparation of this jurisdictional delineation:

- Aerial photography taken November 7, 2019 downloaded from Esri®,
- U.S. Fish and Wildlife Service's (USFWS) National Wetland Inventory online wetland mapper (USFWS 2020),
- Natural Resources Conservation Service (NRCS) web soil survey (NRCS 2020b),
- Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987),
- Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008),
- Field Indicators of Hydric Soils in the United States (Version 8.2) (NRCS 2018),
- A Field Guide to the Identification of the OHWM in the Arid West Region of the Western United States (Lichvar and McColley 2008), and
- USACE 2018 National Wetland Plant List for the Arid West (USACE 2018).

3.2 BOUNDARIES OF THE DELINEATION

The delineation area includes the entire 36-acre Study Area. Refer to the delineation map in Appendix B for the limits of the delineation.

3.3 DETERMINATION PROCEDURES

3.3.1 Delineation Methods

Fieldwork for the jurisdictional delineation was conducted by HELIX biologist Patrick Martin and Halie Goeman in accordance with the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987), the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008), and the Corps of Engineers *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Field Guide) (Lichvar and McColley 2008). Vegetation, soils, and hydrologic characteristics were visually

assessed by walking meandering transects through the entire project site to obtain 100 percent visual coverage. The plant species identifiable at the time of the survey were recorded (refer to Appendix C for the list of plants observed with the wetland indicator status for each species). Representative photographs are included as Appendix D.

The three-parameter method was used to determine the presence/absence of wetlands, which involves identifying indicators of hydrophytic vegetation, hydric soils, and wetland hydrology according to the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008) and the Arid West 2018Regional Wetland Plant List (USACE 2018). In the field, a Munsell Color (Gregtag Macbeth 2000) chart was used to determine moist soil colors. A total of three additional data points were taken throughout the Study Area in 2020 to classify the site's soils, vegetation, and hydrologic characteristics and the accompanying data forms are included in Appendix E. The extent of wetlands and other waters within the Study Area were mapped in the field with a tablet wirelessly connected to an Arrow GPS unit with sub-meter accuracy. These data were exported into ArcMap 10.7.1® and used to produce the map of aquatic features in the delineation area and calculate the acreage of each aquatic feature.

3.3.2 Determination of Potential Jurisdiction

Waters of the U.S.

Under the NWPR, the USACE and EPA regulate traditional navigable waters and perennial or intermittent tributary systems. The four categories of regulated waters include:

I. The territorial seas and traditional navigable waters;
II. Perennial and intermittent tributaries to those waters;
III. Certain lakes, ponds, and impoundments; and
IV. Wetlands adjacent to jurisdictional waters.

The NWPR excludes from the definition of ''waters of the United States'' all waters or features not mentioned above. In addition to this general exclusion, the NWPR clarifies that waters of the U.S. do not include the following:

- Groundwater, including groundwater drained through subsurface drainage systems;
- Ephemeral features that flow only in direct response to precipitation, including ephemeral streams, swales, gullies, rills, and pools;
- Diffuse stormwater runoff and directional sheet flow over upland;
- Ditches that are not traditional navigable waters, tributaries, or that are not constructed in adjacent wetlands, subject to certain limitations;
- Prior converted cropland;
- Artificially irrigated areas that would revert to upland if artificial irrigation ceases;
- Artificial lakes and ponds that are not jurisdictional impoundments and that are constructed or excavated in upland or non-jurisdictional waters;

- Water-filled depressions constructed or excavated in upland or in non-jurisdictional waters incidental to mining or construction activity, and pits excavated in upland or in non-jurisdictional waters for the purpose of obtaining fill, sand, or gravel;

- Stormwater control features constructed or excavated in upland or in non-jurisdictional waters to convey, treat, infiltrate, or store stormwater runoff;

- Groundwater recharge, water reuse, and wastewater recycling structures constructed or excavated in upland or in non-jurisdictional waters; and

- Waste treatment systems.

Waters of the State

The RWQCB will assert jurisdiction over any waters of the State, including wetlands, regardless of whether or not the feature qualifies as waters of the U.S. Under the Procedures and the State Water Code (Water Code §13050(e)), "Waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state." "Waters of the State" includes all "Waters of the U.S." The following wetlands are waters of the State:

1. Natural wetlands,

2. Wetlands created by modification of a surface water of the state,

3. Artificial wetlands that meet any of the following criteria:

    a. Approved by an agency as compensatory mitigation for impacts to other Waters of the State, except where the approving agency explicitly identifies the mitigation as being of limited duration;

    b. Specifically identified in a water quality control plan as a wetland or other water of the state;

    c. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape; or

    d. Greater than or equal to one acre in size, unless the artificial wetland was constructed, and is currently used and maintained, primarily for one or more of the following purposes (i.e., the following artificial wetlands are not Waters of the State unless they also satisfy the criteria set forth in 2, 3a, or 3b):
        i. Industrial or municipal wastewater treatment or disposal,
        ii. Settling of sediment,
        iii. Detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial 58 stormwater permitting program,
        iv. Treatment of surface waters,
        v. Agricultural crop irrigation or stock watering,
        vi. Fire suppression,
        vii. Industrial processing or cooling,
        viii. Active surface mining – even if the site is managed for interim wetlands functions and values,

ix. Log storage,
x. Treatment, storage, or distribution of recycled water,
xi. Maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits), or
xii. Fields flooded for rice growing.

All artificial wetlands that are less than an acre in size and do not satisfy the criteria set forth in 2, 3.a, 3.b, or 3.c are not Waters of the State.

3.3.3 Plant/Habitat Nomenclature

Habitat nomenclature is generally derived from *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988). Plant nomenclature is taken from The Jepson Manual: Vascular Plants of California, second edition (Baldwin et al. 2012).

4.0 RESULTS

4.1 VEGETATION COMMUNITIES/HABITAT TYPES

Terrestrial biological habitats and land covers present within the Study Area include non-native annual grassland, riparian woodland, valley oak woodland, and disturbed/developed, which are described in detail below. Aquatic resources are described in Section 5.0.

4.1.1 Non-Native Annual Grassland

Non-native annual grassland dominates the northern and southern portions of the Study Area. This vegetation community is characterized primarily by an assemblage of non-native annual grasses and forbs. Dominant vegetation includes ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), and wild oat (*Avena fatua*) intermixed with red-stemmed filaree (*Erodium cicutarium*), popcornflower (*Plagiobothrys* sp.), black mustard (*Brassica nigra*), winter vetch (*Vicia villosa*), scarlet pimpernel (*Anagallis arvensis*), St. John's wort (*Hypericum perforatum*), brodiaea (*Brodiaea elegans*), fiddleneck (*Amsinckia* sp.), rose clover (*Trifolium hirtum*), and milk-thistle (*Silybum marianum*). Isolated valley oak (*Quercus lobata*) trees also occur in the non-native annual grassland.

4.1.2 Riparian Woodland

Riparian habitat occurs along the riverine perennial marsh and perennial drainage in the northern drainage system. Dominant vegetation includes broadleaf cattail (*Typha latifolia*), willow (*Salix* sp.), spike rush (*Eleocharis macrostachya*), pennyroyal (*Mentha pulegium*), Himalayan blackberry (*Rubus armeniacus*), Fremont cottonwood (*Populus fremontii*), and isolated valley oak trees.

4.1.3 Valley Oak Woodland

Valley oak woodland is found in a small area on the southwest boundary of the Study Area where a small stand of mature valley oak trees overhangs a small perennial drainage. The understory is primarily annual grassland with small areas of milkweed (*Asclepias fascicularis*) and pennyroyal immediately adjacent to the drainage.

4.1.4 Disturbed/Developed

Disturbed/developed areas occur throughout the Study Area. Disturbed/developed areas include graded roads and a stockpile area. The ruderal/disturbed areas are sparsely vegetated with red-stemmed filaree, soft chess, wild oat, and winter vetch.

4.2 CLIMATE

The climate of El Dorado County is Mediterranean, characterized by wet, cool winters and dry, hot summers. The nearest weather station with complete climate data is the Sacramento Executive Airport weather station in Sacramento, California, located approximately 26 miles west of the project site. Average daily maximum and minimum temperatures are 92° and 59° Fahrenheit (F) in July and 56° and 39° F in January (NRCS 2020a). The mean annual precipitation is 17.8 inches, with 100 percent occurring as rain from September through May. The weather station received approximately 6.14 inches of rainfall this rain season starting in October (NRCS 2020a). In the previous year, the weather station received 24.6 inches, which is 138% of normal (NRCS 2020a).

4.3 SOILS

The Natural Resources Conservation Service (NRCS) has mapped one soil unit within the Study Area (Appendix A, Figure 4). Auburn Silt Loam, 2 to 30 Percent Slopes. General characteristics associated with this soil type are described below (USDA, NRCS 2020b).

Auburn Silt Loam, 2 to 30 Percent Slopes (AwD): The soils in this series are well drained. Permeability is moderate. Vegetation associated with this soil series includes annual grasses, forbs, and oaks. The hydric soils list for El Dorado County does not identify this soil as hydric (USDA, NRCS 2020c).

4.4 HYDROLOGY

The Study Area is located in the Upper Cosumnes River watershed (HUC8 18040013). The hydrologic regime on the Study Area is predominantly year-round irrigation runoff from the adjacent development to the north, seasonal stormwater runoff, and direct precipitation, which primarily falls between November and March. Annual average precipitation is approximately 15 to 20 inches. Surface water runoff runs in a general northeast to southwest direction.

4.5 USFWS NATIONAL WETLANDS INVENTORY

The USFWS National Wetlands Inventory online database was reviewed to determine if there are any wetlands or other waters of the U.S. mapped by the USFWS in the Study Area or vicinity. The National Wetlands Inventory does not identify any wetlands or other waters of the U.S. in the Study Area. Off-site and to the west and east, the NWI identifies an unnamed tributary to Carson Creek (Appendix A, Figure 5).

5.0 AQUATIC RESOURCES

A total of 0.740 acre of aquatic resources and other waters of the U.S. were mapped within the Study Area. This acreage consists of 0.133 acre of seasonal wetlands, 0.007 acre of seep, 0.006 acre of wetland

swale, 0.234 acre of ephemeral drainage, and 0.360 acre of intermittent drainage (Appendix B). This acreage includes 0.19 acre of waters of the U.S. that was previously verified by the USACE within a 17.9-acre portion of the northern portion of the Study Area (SPK-2013-00090). This previously verified acreage was carried forward in this delineation. A description of all of the features delineated within the Study Area are provided in the following sections.

5.1.1 Seasonal Wetland

A total of 0.133 acre of seasonal wetlands has been delineated within the Study Area (Appendix B). Seasonal wetlands are often depressions or topographic folds within the landscape that inundate for short periods of time following intense rains, but do not maintain seasonal aquatic or saturated soil conditions for durations long enough for colonization by perennial, obligate plant species. As such, plant species in seasonal wetlands are generally of two types: species that can tolerate short periods of inundation but have not adapted to withstand sustained aquatic or saturated soil conditions, and short-lived (primarily annual) species that take advantage of ephemeral aquatic and/or saturated soil conditions. Many of the seasonal wetlands within the Study Area are adjacent to the ephemeral drainage on the northern portion of the Study Area. There are also two depressional seasonal wetlands on the Study Area appear to have formed as a result of historic excavation as they are located next to large, steep mounds. Dominant vegetation includes rabbitsfoot grass (*Polypogon monspeliensis*), spike rush, and nutsedge (*Cyperus eragrostis*).

5.1.2 Seep

A total of 0.007 acre of seep has been delineated within the Study Area (Appendix B). Seeps are characterized as areas where subsurface flows intersects the soil surface. Typically, water flows from seeps persist for some period after the rainy season or, more rarely, nearly year-round. Seeps accessing sufficient amounts of subsurface water can support isolated wetland vegetation (such as on a hillside) or they may form the headwaters of other jurisdictional drainage or wetland features, such as wetland swales. Vegetation in seeps often consists of plant species associated with seasonal and semi-permanent marsh habitats. When seeps are active for only short periods beyond the rainy season and into the warm season, herbaceous perennial wetland species typically dominate, as is typical of the seeps within the Study Area. Vegetation in the seep include consisted almost entirely of iris leaved rush (*Juncus xiphioides*) (OBL). Hydric soil indicators in the seep included a redox dark surface with distinct or prominent redoximorphic features located along root channels of living roots and as concentrations in the matrix. Wetland hydrology requirements were met by oxidized rhizospheres, saturation visible on aerial imagery and the FAC-neutral test.

5.1.3 Wetland Swale

A total of 0.006 acre of wetland swale was delineated on the Study Area (Appendix B). The wetland swale within the Study Area is associated with SW-3 on the northern portion of the Study Area and conveys water from that feature to ED-16 during high flow events. Dominant vegetation occurring within the wetland swale includes curly dock (*Rumex crispus*), pennyroyal, coyote-thistle (*Eryngium vaseyi*), brome fescue (*Festuca bromoides*), rye grass, annual hair grass (*Deschampsia danthonioides*), and rabbitsfoot grass.

5.1.4 Ephemeral Drainage

A total of 0.234 acre of ephemeral drainages have been delineated within the Study Area (Appendix B). Ephemeral drainages are not wetlands as they do not meet the three-parameter criteria for vegetation, hydrology, and soils but do convey water and exhibit an ordinary high water mark. Water flows within ephemeral drainages are fed primarily by precipitation and surface water runoff. These features convey water during and immediately after storm events, but do not flow continuously throughout the winter and spring. Typically, these features exhibit a defined bed and bank and show signs of scouring as a result of rapid flow events. Although the channels of the ephemeral drainages within the Study Area are largely unvegetated, what vegetation is present includes winter vetch, ripgut brome, ryegrass, phacelia (*Phacelia cicutaria*), and medusahead (*Elymus caput-medusae*).

5.1.5 Intermittent Drainage

A total of 0.360 acre of intermittent drainage (ID-18) has been delineated within the Study Area (Appendix B). Intermittent drainages receive substantial seasonal flows of significant velocity and may appear as perennial features during the normal wet season. These seasonal flows often scour the channel of vegetation. Intermittent drainages may support fringe wetland vegetation types, such as seasonal or semi-permanent marsh or riparian wetlands. Conversely, intermittent drainages may be associated with hydrophytic vegetation communities that lack further wetland indicators. A typical hydroperiod of intermittent drainages is one that begins with the onset of substantial rains in the normal wet season and persists for an extended, variable amount of time into summer.

A brick check dam has been constructed across a portion of the feature near datapoint 4a (Appendix B). This check dam has resulted in periods of water backing up during flow events that have supported the establishment of hydrophytic emergent vegetation upstream of datapoint 4a. The area containing emergent vegetation is dominated by common knotweed (*Persicaria lapathifolia*) and curly dock with areas of dense cattails and Himalayan blackberry and a small clump of willows. This area is entirely within the ordinary high water mark of the intermittent drainage.

Table 1 below provides a summary of aquatic resources mapped within the Study Area.

Table 1
AQUATIC RESOURCES IN THE STUDY AREA

Feature	Lat./Long.	Cowardin Classification[1]	Area (ac.)	Area (sq. ft.)	Length (ft.)	Avg. Width (ft.)
Wetlands						
SW-1	38.66254651 / -121.0564125	PEM2	0.008	348.48	--	--
SW-2	38.66215585 / -121.0582332	PEM2	0.007	304.92	--	--
SW-3	38.662031 / -121.056976	PEM2	0.075	3267.00	--	--
SW-4	38.66253163/ -121.0568429	PEM2	0.003	130.68	--	--
SW-5	38.66247183/ -121.0568167	PEM2	0.005	217.80	--	--
SW-6	38.66235351/ -121.0567944	PEM2	0.010	435.60	--	--
SW-7	38.6621443/ -121.0568692	PEM2	0.006	261.36	--	--
SW-8	38.66207073/ -121.0567484	PEM2	0.004	174.24	--	--
SW-9	38.66196011/ -121.0567973	PEM2	0.003	130.68	--	--
SW-10	38.66196011/ -121.0567973	PEM2	0.004	174.24	--	--
SW-11	38.66189125/ -121.0569108	PEM2	0.002	87.12	--	--
SW-12	38.66012735/ -121.0573589	PEM2	0.007	304.92	--	--
SP-13	38.660456/ -121.057044	PEM1	0.007	304.92	--	--
WS-13	38.661785/ -121.057015	PEM2	0.006	261.36	88	--
		Wetlands Total	**0.147**	**6,403.32**	**88**	**--**
Other Waters						
ED-15	38.661593/ -121.058623	R4SB	0.028	1219.68	73	--
ED-16	38.66240343/ -121.0567807	R4SB	0.036	1568.16	724	--
ED-17	38.66209325/ -121.0564943	R4SB	0.018	784.08	398	--
ED-18	38.662473/ -121.058284	R4SB	0.151	6577.56	333	--
ID-19	38.660444/ -121.05731	R4SB	0.360	15681.6	982	--
		Other Waters Total	**0.593**	**25,831.08**	**2510**	**--**
		Total Aquatic Resources	**0.740**	**31,874.40**	**2,598**	**--**

[1] Cowardin Codes for Wetlands: System (P = Palustrine; R = Riverine) Subsystem (4 = Intermittent) – Class (EM = Emergent; SB = Streambed) – Subclass (1 = Persistent; 2 = Non-persistent; 7 = Vegetated) – Modifiers (E = Seasonally Flooded/Saturated; K = Artificial; f = Farmed; x = Excavated).

5.2 POTENTIAL WATERS OF THE U.S.

Ephemeral drainages are currently not considered to be jurisdictional features under the 2020 Navigable Waters Protection Rule (see Section 1.4.1). Therefore, the 0.234 acre of ephemeral drainages within the Study Area would not be expected to be considered waters of the U.S. Seasonal wetland 1 and seasonal wetland 2 (total of 0.015 acre) may also not be considered waters of the U.S. as they appear to have formed from historic excavations and are therefore a product of upland excavations and likely isolated from the remaining of the aquatic features on the site. The seep (0.007 acre) may also not be considered a water to the U.S. since it is not adjacent to the intermittent drainage feature and otherwise appears to be hydrologically isolated. The remaining 0.484 acres of aquatic resources within the Study Area would be expected to be considered waters of the U.S. subject to verification by the USACE.

5.3 POTENTIAL WATERS OF THE STATE

All aquatic resources in the Study Area (0.740 acre) are expected to be considered waters of the State subject to verification by the CVRWQCB under current regulatory guidance (see Section 1.4.2).

6.0 SUMMARY

HELIX conducted an aquatic resources delineation of the 36-acre Study Area in El Dorado Hills in El Dorado County. A total of 0.740 acre of aquatic resources was mapped within the Study Area. This acreage is comprised of 0.133 acre of seasonal wetland, 0.007 acre of seep, 0.006 acre of wetland swale, 0.234 acre of ephemeral drainage, and 0.360 acre of intermittent drainage. This aquatic resource delineation is preliminary and subject to verification by the resource agencies.

7.0 REFERENCES

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, D.H. Wilken, editors. 2012. The Jepson Manual: Vascular Plants of California, second edition. University of California Press, Berkeley.

Environmental Laboratory. 1987. Wetlands Research Program Technical Report Y-87-1 Corps of Engineers Wetland Delineation Manual. January 1987

Gregtag Macbeth. 2000. Munsell Soil Color Charts. New Windsor, NY.

Lichvar, Robert W. and Shawn McColley. 2008. *A Field Guide to the Identification of the Ordinary High-Water Mark (OHWM) in the Arid West Region of the Western United States*. Vicksburg, MS: U.S. Army Corps of Engineers Research and Development Center.

Mayer, K.E. and W.F. Laudenslayer. 1988. A Guide to Wildlife Habitats of California. State of California, Resources Agency, Department of Fish and Game, Sacramento, CA 166pp.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture (NRCS). 2018. Field Indicators of Hydric Soils in the United States, Version 8.2. L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.

2020a. Climate Data and Summary Reports from AgACIS. Accessed online September 2, 2020 at: http://agacis.rcc-acis.org/?fips= 06067.

2020b. Web Soil Survey. Available online at: http://websoilsurvey.nrcs.usda.gov/. Accessed October 13, 2020.

2020c. National List of Hydric Soils. Available online at: https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcseprd1316620.html https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/. Accessed October 13, 2020.

State Water Resources Control Board (SWRCB). 2019. *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*. Available online at: https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/procedures_conformed.pdf.

U.S. Army Corps of Engineers (USACE). 2018. Arid West 2018 Regional Wetland Plant List.

2016. Minimum Standards for Acceptance of Aquatic Resource Delineation Reports (Sacramento District).

2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). J.S. Wakeley, R.W. Lichvar, and C.V. Noble, eds., Technical Report prepared for the U.S. Army Engineer Research and Development Center, Vicksburg, MS.

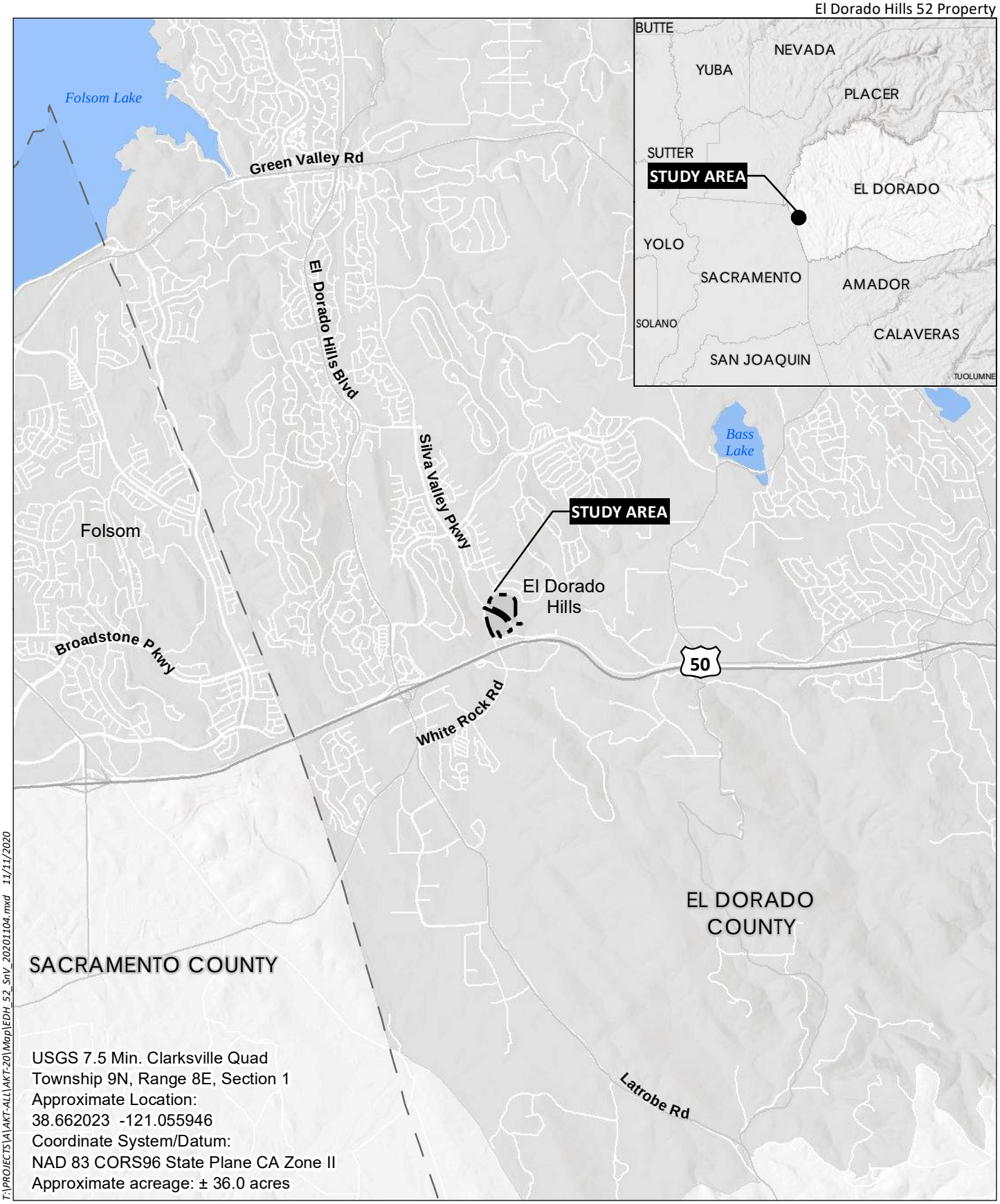
U.S. Fish and Wildlife Service (USFWS). 2020. National Wetlands Inventory. Accessed online October 13, 2020 at: < http://www.fws.gov/wetlands/Data/mapper.html>.

This page intentionally left blank

Appendix A

Figures

This page intentionally left blank



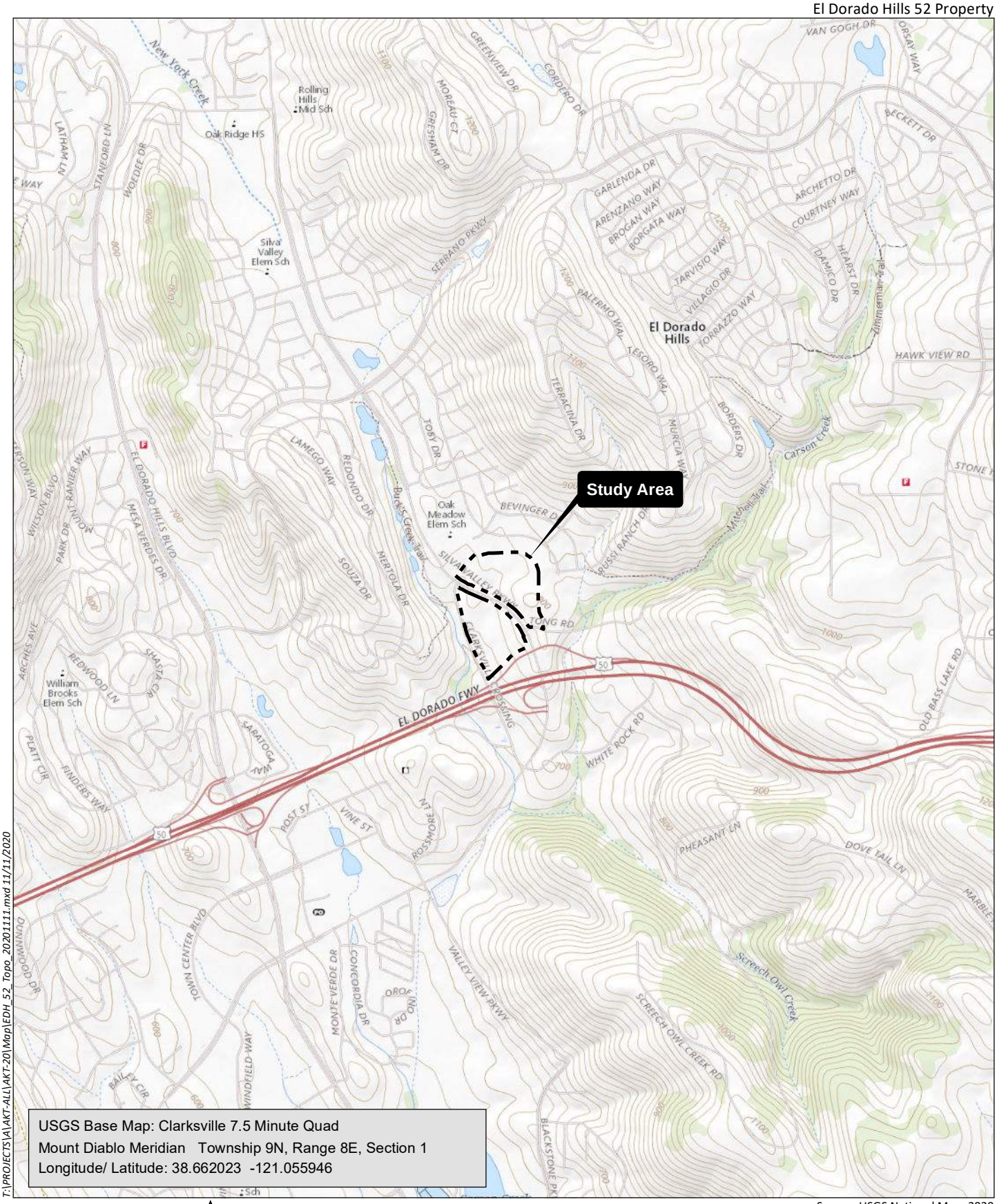
T:\PROJECTS\AI\AKT-ALL\AKT-20\Map\EDH_52_SnV_20201104.mxd 11/11/2020

Source: Base Map Layers (Esri, USGS, NGA, NASA)

HELIX Environmental Planning

Site and Vicinity Map

Figure 1



USGS Base Map: Clarksville 7.5 Minute Quad
Mount Diablo Meridian Township 9N, Range 8E, Section 1
Longitude/ Latitude: 38.662023 -121.055946

T:\PROJECTS\A\AKT-ALL\AKT-20\Map\EDH_52_Topo_20201111.mxd 11/11/2020

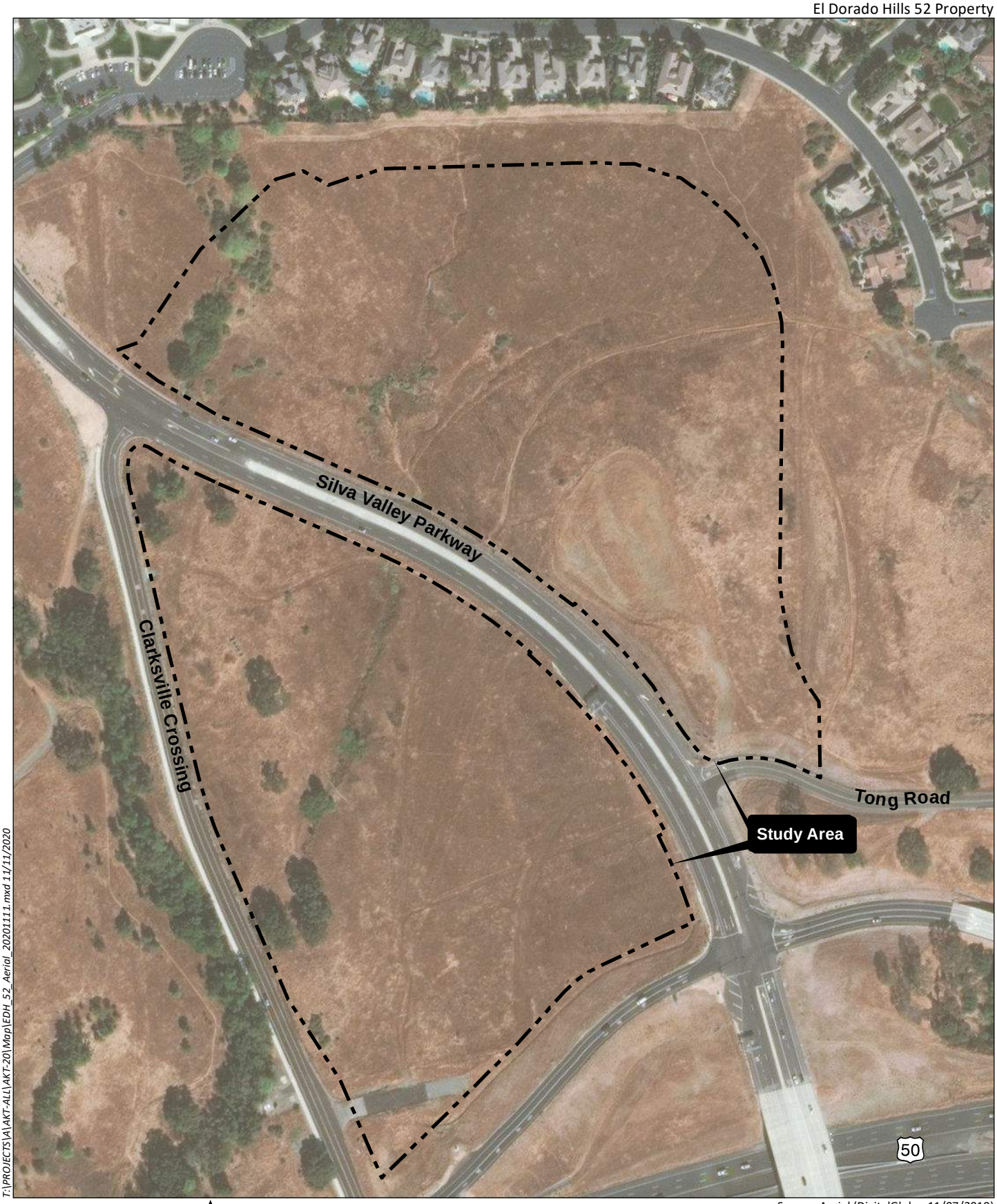
0 2,000 Feet

Source: USGS National Map, 2020

HELIX Environmental Planning

Topographic Map

Figure 2



T:\PROJECTS\A\AKT-ALL\AKT-20\Map\EDH_52_Aerial_20201111.mxd 11/11/2020

0 250 Feet

Source: Aerial (DigitalGlobe, 11/07/2019)

HELIX Environmental Planning

Aerial Map

Figure 3



HELIX Environmental Planning

Soils Map

Figure 4



T:\PROJECTS\A\AKT-ALL\AKT-20\Map\EDH_52_ANWI_20201111.mxd 11/20/2020

Source: NWI, 2020; Aerial (DigitalGlobe, 11/7/2019)

HELIX Environmental Planning

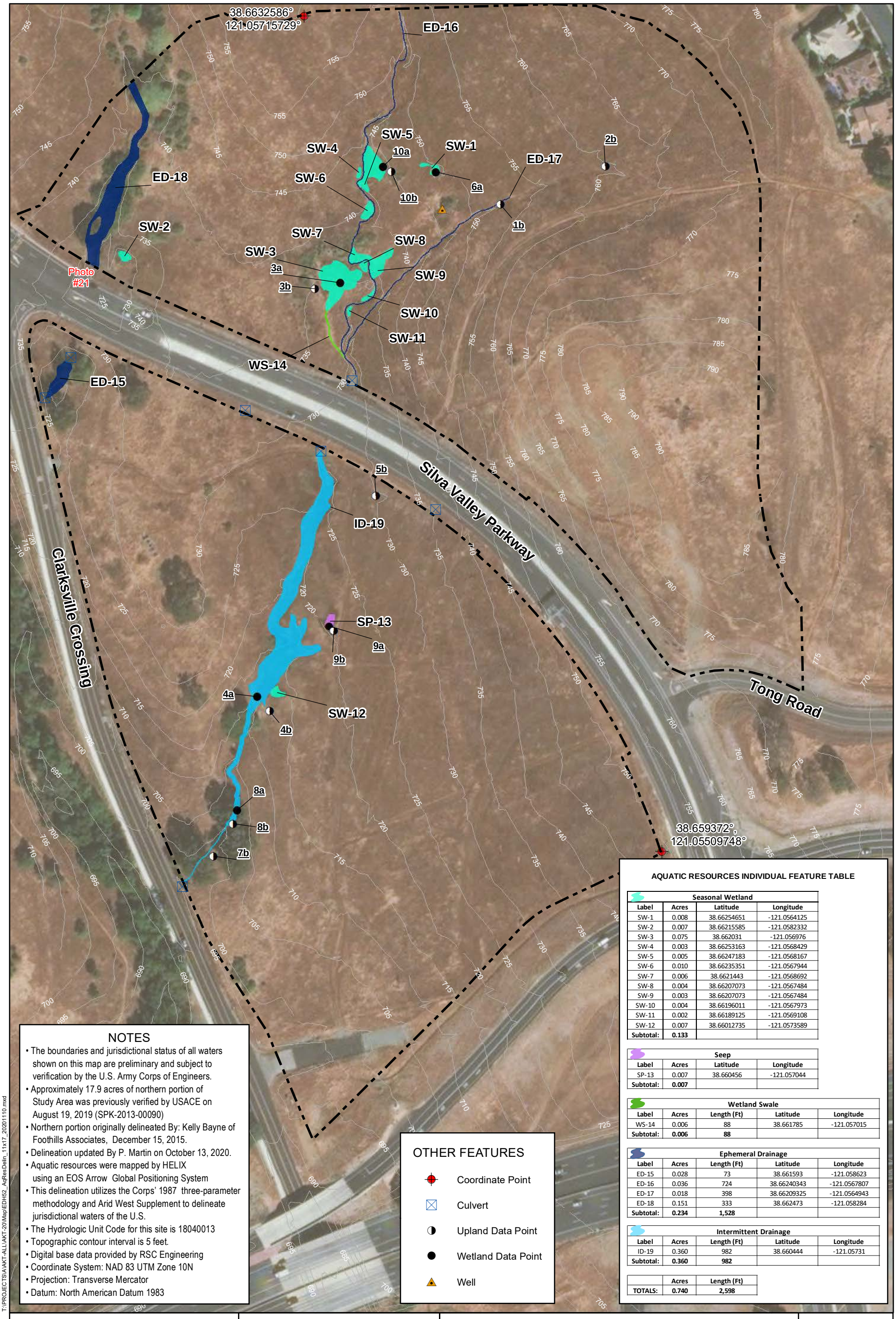
National Wetland Inventory Map

Figure 5

Appendix B

Aquatic Resources Delineation Map

This page intentionally left blank



NOTES

- The boundaries and jurisdictional status of all waters shown on this map are preliminary and subject to verification by the U.S. Army Corps of Engineers.
- Approximately 17.9 acres of northern portion of Study Area was previously verified by USACE on August 19, 2019 (SPK-2013-00090)
- Northern portion originally delineated By: Kelly Bayne of Foothills Associates, December 15, 2015.
- Delineation updated By P. Martin on October 13, 2020.
- Aquatic resources were mapped by HELIX using an EOS Arrow Global Positioning System
- This delineation utilizes the Corps' 1987 three-parameter methodology and Arid West Supplement to delineate jurisdictional waters of the U.S.
- The Hydrologic Unit Code for this site is 18040013
- Topographic contour interval is 5 feet.
- Digital base data provided by RSC Engineering
- Coordinate System: NAD 83 UTM Zone 10N
- Projection: Transverse Mercator
- Datum: North American Datum 1983

OTHER FEATURES

- Coordinate Point
- Culvert
- Upland Data Point
- Wetland Data Point
- Well

AQUATIC RESOURCES INDIVIDUAL FEATURE TABLE

Seasonal Wetland

Label	Acres	Latitude	Longitude
SW-1	0.008	38.66254651	-121.0564125
SW-2	0.007	38.66215585	-121.0582332
SW-3	0.075	38.662031	-121.056976
SW-4	0.003	38.66253163	-121.0568429
SW-5	0.005	38.66247183	-121.0568167
SW-6	0.010	38.66235351	-121.0567944
SW-7	0.006	38.6621443	-121.0568692
SW-8	0.004	38.66207073	-121.0567484
SW-9	0.003	38.66207073	-121.0567484
SW-10	0.004	38.66196011	-121.0567973
SW-11	0.002	38.66189125	-121.0569108
SW-12	0.007	38.66012735	-121.0573589
Subtotal:	**0.133**		

Seep

Label	Acres	Latitude	Longitude
SP-13	0.007	38.660456	-121.057044
Subtotal:	**0.007**		

Wetland Swale

Label	Acres	Length (Ft)	Latitude	Longitude
WS-14	0.006	88	38.661785	-121.057015
Subtotal:	**0.006**	**88**		

Ephemeral Drainage

Label	Acres	Length (Ft)	Latitude	Longitude
ED-15	0.028	73	38.661593	-121.058623
ED-16	0.036	724	38.66240343	-121.0567807
ED-17	0.018	398	38.66209325	-121.0564943
ED-18	0.151	333	38.662473	-121.058284
Subtotal:	**0.234**	**1,528**		

Intermittent Drainage

Label	Acres	Length (Ft)	Latitude	Longitude
ID-19	0.360	982	38.660444	-121.05731
Subtotal:	**0.360**	**982**		

	Acres	Length (Ft)
TOTALS:	**0.740**	**2,598**

T:\PROJECTS\AKT-ALL\AKT-20\Map\EDH52_ AqResDelin_11x17_20201110.mxd

HELIX Environmental Planning

USACE REGULATORY FILE #:
VERIFIED BY: TBD
DATE OF VERIFICATION: TBD

REVISIONS

DATE	DESCRIPTION	BY

0 150 300
Feet
1 inch = 150 feet
N

Drawn By: JCD

AQUATIC RESOURCES DELINEATION MAP

El Dorado Hills 52

El Dorado Hills, El Dorado County, California

November 10, 2020

Appendix B

Appendix C

List of Plants Observed in the Study Area

This page intentionally left blank

Appendix C
List of Plants Observed within the Study Area

Family	Scientific Name	Common Name	Indicator Status*
Fabaceae	*Acmispom americanus* var. *americanus*	American bird's foot trefoil	UPL
Poaceae	*Aegilops cylindrica*	Jointed goat grass	--
Poaceae	*Avena fatua*	Wildoats	--
Asteraceae	*Baccharis pilularis* ssp. *Consanguinea*	Coyote brush	--
Poaceae	*Briza minor*	Little rattlesnake grass	FAC
Themidaceae	*Brodiaea elegans*	Harvest brodiaea	FACU
Poaceae	*Bromus diandrus*	Ripgut brome	--
Poaceae	*Bromus hordeaceus*	Soft brome	FACU
Asteraceae	*Carduus pycnocephalus*	Italian thistle	--
Asteraceae	*Centromadia fitchii*	Spikeweed	FACU
Agavaceae	*Chlorogalum pomeridianum* var. *pomeridianum*	Common soaproot	--
Asteraceae	*Cirsium vulgare*	Bull thistle	FACU
Euphorbiaceae	*Croton setiger*	Turkey mullein	--
Convolvulaceae	*Cuscuta californica*	California dodder	--
Poaceae	*Cynodon dactylon*	Bermuda grass	FACU
Cyperaceae	*Cyperus eragrostis*	Tall cyperus	FACW
Apiaceae	*Daucus pusillus*	Wild carrot	UPL
Poaceae	*Deschampsia danthonioides*	Annual hair grass	FACW
Poaceae	*Deschampsia elongata*	Slender hair grass	FACW
Themidaceae	*Dichelostemma capitatum* ssp. *Capitatum*	Wild hyacinth	FACU
Asteraceae	*Dittrichia graveolens*	Stinkwort	--
Campanulaceae	*Downingia* spp.	Downingia	OBL
Cyperaceae	*Eleocharis acicularis*	Needle spikerush	OBL
Cyperaceae	*Eleocharis macrostachya*	Pale spikerush	OBL
Poaceae	*Elymus caput-medusae*	Medusahead	--
Onagraceae	*Epilobium brachycarpum*	annual willowherb	FAC
Onagraceae	*Epilobium* cf. *ciliatum*	Fringed willowherb	FACW
Onagraceae	*Epilobium densifolrum*	Denseflower willowherb	FACW
Geraniaceae	*Erodium botrys*	Big heron bill	FACU
Geraniaceae	*Erodium cicutarium*	Coastal heron's bill	--
Apiaceae	*Eryngium castrense*	Great Valley button-celery	OBL
Phrymaceae	*Erythranthe guttata* (*Mimulus guttatus*)	Yellow monkey flower	OBL
Poaceae	*Festuca microstachys*	Small fescue	--
Poaceae	*Festuca myuros*	Rattail sixweeks grass	FACU
Poaceae	*Festuca perennis*	Italian rye grass	FAC
Rhamnaceae	*Frangula californica* ssp. *Tomentella*	Hoary coffeeberry	--
Poaceae	*Gastridium phleoides*	Nit grass	FACU
Geraniaceae	*Geranium dissectum*	Cutleaf geranium	--
Geraniaceae	*Geranium molle*	Crane's bill geranium	--
Poaceae	*Glyceria declinata*	Low manna grass	FACW
Asteraceae	*Holocarpha virgata* ssp. *virgata*	Narrow tarplant	--
Poaceae	*Hordeum marinum*	Barley	FAC
Hypericaceae	*Hypericum perforatum* ssp. *Perforatum*	Klamathweed	FACU
Asteraceae	*Hypochaeris glabra*	Smooth cat's-ear	--
Juncaceae	*Juncus bufonius*	Toad rush	FACW
Juncaceae	*Juncus capitatus*	Leafy bracted dwarf rush	FACU

Appendix C (cont.)
List of Plants Observed within the Study Area

Family	Scientific Name	Common Name	Indicator Status*
Juncaceae	*Juncus* cf. *mexicanus*	Mexican rush	FACW
Juncaceae	*Juncus* cf. *tenuis*	Slender rush	FACW
Juncaceae	*Juncus xiphioides*	Iris leaved rush	OBL
Asteraceae	*Lactuca serriola*	Prickly lettuce	FACU
Asteraceae	*Lasthenia fremontii*	Vernal pool goldfields	OBL
Asteraceae	*Leontodon saxatilis*	Hairy hawkbit	FACU
Linaceae	*Linum usitatissimum*	Common flax	--
Lythraceae	*Lythrum hyssopifolia*	Hyssop loosestrife	OBL
Lamiaceae	*Mentha pulegium*	Pennyroyal	OBL
Poaceae	*Muhlenbergia rigens*	Deer grass	FAC
Polemoniaceae	*Navarretia intertexta*	Interwoven navarretia	FACW
Poaceae	*Paspalum dilatatum*	Dallis grass	FAC
Polygonaceae	*Persicaria* sp.	Smartweed	OBL
Boraginaceae	*Plagiobothrys stipitatus*	Stalked popcorn-flower	FACW
Poaceae	*Pleuropogon californicus*	Semaphore grass	OBL
Poaceae	*Poa annua*	Annual blue grass	FAC
Lamiaceae	*Pogogyne zizyphoroides*	Sacramento Mesa-mint	OBL
Poaceae	*Polypogon monspeliensis*	Rabbitsfoot grass	FACW
Salicaceae	*Populus fremontii [deltoides]* ssp. *fremontii*	Fremont's cottonwood	FAC
Rosaceae	*Prunus* sp.	Cherry tree	FACU
Fagaceae	*Quercus douglasii*	Blue oak	--
Fagaceae	*Quercus wislizeni*	Interior live oak	--
Ranunculaceae	*Ranunculus bonariensis* var. *trisepalus*	Vernal pool buttercup	OBL
Ranunculaceae	*Ranunculus muricatus*	Spiny buttercup	FACW
Brassicaceae	*Rorippa curvissiliqua*	Curvepod yellow cress	OBL
Rosaceae	*Rubus armeniacus*	Himalayan blackberry	FAC
Polygonaceae	*Rumex crispus*	Curly dock	FAC
Polygonaceae	*Rumex pulcher*	fiddledock	FAC
Salicaceae	*Salix exigua*	Narrow leaved willow	FACW
Salicaceae	*Salix* cf. *lasiolepis*	Arroyo willow	FACW
Asteraceae	*Senecio vulgaris*	Common groundsel	FACU
Asteraceae	*Sonchus asper*	Prickly sow thistle	FAC
Poaceae	*Stipa pulchra*	Purple needle grass	--
Lamiaceae	*Trichostema lanceolata*	Vinegar weed	FACU
Fabaceae	*Trifolium variegatum*	Variegated clover	FAC
Typhaceae	*Typha* sp.	Cattail	OBL
Scrophulariaceae	*Verbascum blattaria*	Moth mullein	UPL
Plantaginaceae	*Veronica* cf. *americana*	American brooklime	OBL
Fabaceae	*Vicia sativa*	Spring vetch	FACU
Gentianaceae	*Zeltnera muehlenbergii*	Muehlenberg's centaury	FAC

Scientific and common names from:

Baldwin, B.G.. D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, D.H. Wilken, editors. 2012. The Jepson Manual: Vascular Plants of California, second edition. University of California Press, Berkley

or

U.S. Army Corps of Engineers Cold Regions Research and Engineering Laboratory, *Arid West 2018 Regional Wetland Plant List*

* Acronyms: FAC – facultative, FACU – facultative upland, FACW – facultative wetland, OBL – obligate, UPL – upland; -- Not Listed (considered upland) (USACE 2018)

Appendix D

Representative Site Photos

This page intentionally left blank



Photo 1: View of wetland data point 7B. Taken 10/13/20.



Photo 2: View of wetland data point 8A. Taken 10/13/20.



Photo 3: View of upland data point 8B. Taken 10/13/20.



Photo 4: View of wetland data point 9A. Taken 10/13/20.



Photo 5. View of upland data point 9B. Taken 10/13/20.



Photo 6. View of wetland data point 10A. Taken 10/13/20.



Photo 7. View of upland data point 10B. Taken 10/13/20.

Appendix E

Data Sheets

This page intentionally left blank

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Dec. 15, 2015

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 1B

Investigator(s): Kelly Bayne and Charlotte Marks Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 38 39 44.15"N Long: 121 03 22.66"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Ephemeral drainage; although the soils do not meet the definition of a wetland, the feature has an OHWM. Therefore, it is considered an ephemeral drainage.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Festuca perennis	5	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	5 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 95 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 1B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	7.5YR 3/2	100	None				Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ **No** ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✓ Water Marks (B1) (**Riverine**)
- ✓ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Dec. 15, 2015

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 2B

Investigator(s): Kelly Bayne and Charlotte Marks Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR): C Lat: 38 39 45.19"N Long: 121 03 19.74"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Erodium botrys	40	Yes	FACU
2. Holocarpha virgata	20	Yes	UPL
3. Hordeum murinum	40	Yes	FACU
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species _____	x 1 =	_____
FACW species _____	x 2 =	_____
FAC species _____	x 3 =	_____
FACU species 80	x 4 =	320
UPL species 20	x 5 =	100
Column Totals: 100 (A)		420 (B)

Prevalence Index = B/A = 4.2

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 2B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 3/4	100	None				Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Dec. 15, 2015

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 3A

Investigator(s): Kelly Bayne and Charlotte Marks Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 3

Subregion (LRR): C Lat: 38 39 42.86"N Long: 121 03 24.91"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Eleocharis macrostachya	100	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 3A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 3/2	80	7.5YR 4/6	20	C	PL	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Dec. 15, 2015

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 3B

Investigator(s): Kelly Bayne and Charlotte Marks Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): none Slope (%): 3

Subregion (LRR): C Lat: 38 39 43.18"N Long: 121 03 25.71"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Erodium botrys	40	Yes	FACU
2. Holocarpha virgata	20	Yes	UPL
3. Hordeum murinum	40	Yes	FACU
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species _____	x 1 =	_____
FACW species _____	x 2 =	_____
FAC species _____	x 3 =	_____
FACU species 80	x 4 =	320
UPL species 20	x 5 =	100
Column Totals: 100 (A)		420 (B)

Prevalence Index = B/A = 4.2

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 3B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 3/4	100	None				Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Dec. 15, 2015

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 4A

Investigator(s): Kelly Bayne and Charlotte Marks Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Perennial marsh Local relief (concave, convex, none): concave Slope (%): 3

Subregion (LRR): C Lat: 38 39 36.82"N Long: 121 03 26.80"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Eleocharis macrostachya	95	Yes	FACW
2. Typha sp.	5	No	OBL
3.			
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 4A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/2	80	10YR4/6	20	C	PL	Clay/Loa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 3

Water Table Present? Yes ✓ No ___ Depth (inches): 1

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 6

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Dec. 15, 2015

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 4B

Investigator(s): Kelly Bayne and Charlotte Marks Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 2

Subregion (LRR): C Lat: 38 39 36.25"N Long: 121 03 26.29"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____ No ✓	
Wetland Hydrology Present?	Yes _____ No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Eleocharis macrostachya	91	Yes	FACW
2. Erodium cicutarium	5	N	UPL
3. Geranium molle	2	N	UPL
4. Hypericum perforatum	2	N	FACU
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 4B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/3	100	None				Loam	Roots

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Dec. 15, 2015

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 5B

Investigator(s): Kelly Bayne and Charlotte Marks Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 2

Subregion (LRR): C Lat: 38 39 36.25"N Long: 121 03 26.29"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Avena fatua	70	Yes	UPL
2. Erodium cicutarium	5	No	UPL
3. Geranium molle	2	No	UPL
4. Holocarpha virgata	5	No	UPL
5. Bromus hordeaceus	18	No	FACU
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species 18	x 4 =	72
UPL species 82	x 5 =	410
Column Totals: 100 (A)		482 (B)

Prevalence Index = B/A = 4.82

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 5B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/3	100	None				Loam	Roots

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Dec. 15, 2015

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 6A

Investigator(s): Kelly Bayne and Charlotte Marks Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 38 39 37.64"N Long: 121 03 25.63"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation ✓, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Appears man-made; depressional with perimeter mound. No vegetation at time of sampling.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

no vegetation present at time of survey; assumed to be wet.

SOIL

Sampling Point: 6A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	7.5YR 3/2	95	7.5YR 5/8	5	C	PL	Loam	Distinct mottles

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Oct. 13, 2020

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 7B

Investigator(s): Patrick Martin, Halie Goeman Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 38 39 37.64"N Long: 121 03 25.63"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation ✓, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Low area along ephemeral stream with hydrophytes, but supports a dominance of upland vegetation and lacks other wetland criteria. This is likely a floodplain in uplands that rarely floods.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1. Quercus lobata	5	Y	FACU
2.			
3.			
4.			
5.			
	5	= Total Cover	
Herb Stratum (Plot size: _____)			
1. Carex praegracilis	40	Y	FACW
2. Avena fatua	10	N	--
3. Stipa pulchra	12	Y	--
4. Deschampsia danthonioides	10	N	FACW
5. Bromus madritensis	8	N	UPL
6. Torilis arvensis	5	N	--
7. Bromus diandrus	10	N	--
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

Dominated by upland species and supports some hydrophytes.

SOIL

Sampling Point: 7B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/4	100					silt Loam	rocky

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

No hydric soil indicators detected.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Oct. 13, 2020

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 8A

Investigator(s): Patrick Martin, Halie Goeman Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 38 39 37.64"N Long: 121 03 25.63"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation ✓, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Herbaceous riparian wetland along ephemeral stream.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Deschampsia danthonioides	15	Y	FACW
2. Eleocharis macrostachya	20	Y	OBL
3. Torilis arvensis	5	N	--
4. Bromus diandrus	10	N	--
5. Stipa pulchra	5	N	--
6.			
7.			
8.			
	55 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 45 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Dominated by hydrophytes.

SOIL

Sampling Point: 8A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 4/2	90	7.5YR 4/6	10	C	M	silt Loam	rocky

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** _____

Remarks:

Prominent redoximorphic features in the matrix and pore linings in depleted soil support the hydric soil indicator Depleted Matrix (F3).

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ✓ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Low area likely floods during precipitation events and likely has a high water table during the growing season.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Oct. 13, 2020

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 8B

Investigator(s): Patrick Martin, Halie Goeman Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 38 39 37.64"N Long: 121 03 25.63"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation ✓, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Low floodplain dominated by upland vegetation.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Quercus lobata	8	Y	FACU
2.			
3.			
4.			
5.			
	8 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Bromus diandrus	40	Y	--
2. Carduus pycnocephalus ssp. pycnocephalus	10	Y	--
3.			
4.			
5.			
6.			
7.			
8.			
	50 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 50 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species 8	x 4 = 32
UPL species 50	x 5 = 250
Column Totals: 58 (A)	282 (B)

Prevalence Index = B/A = 4.9

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

Dominated by upland vegetation.

SOIL

Sampling Point: 8B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 4/2	90	7.5YR 4/6	10	C	M/PL	silt Loam	rocky

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** _____

Remarks:

Prominent redoximorphic features in the matrix and pore linings in depleted soil support the hydric soil indicator Depleted Matrix (F3).

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Low area likely floods during precipitation events and likely stays saturated enough to form oxidized rhizospheres along the living root channels.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Oct. 13, 2020

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 9A

Investigator(s): Patrick Martin, Halie Goeman Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 38 39 37.64"N Long: 121 03 25.63"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation ✓, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Seep spring dominated by obligate wetland plant Juncus xiphioides.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Baccharis pilularis	10	Y	--
2.			
3.			
4.			
5.			
	10 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Juncus xiphioides	90	Y	OBL
2. Stipa pulchra	10	N	--
3.			
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 90	x 1 = 90
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species 20	x 5 = 100
Column Totals: 110 (A)	190 (B)

Prevalence Index = B/A = 1.7

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Isolated patch of Juncus xiphioides represents a seep spring. Occurs in annual grassland where perennial bunchgrass Stipa pulchra is encroaching on this seep spring.

SOIL

Sampling Point: 9A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	7.5YR 3/2	90	7.5YR 4/6	10	C	M/PL	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** _____

Remarks:

Prominent redoximorphic features in the matrix and pore linings on a dark surface support the hydric soil indicator Redox Dark Surface (F6).

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Seep spring dominated by obligate wetland plants likely has a high water table during the growing season.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Oct. 13, 2020

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 9B

Investigator(s): Patrick Martin, Halie Goeman Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 38 39 37.64"N Long: 121 03 25.63"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation ✓, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Seep spring dominated by obligate wetland plant Juncus xiphioides.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Stipa pulchra	90	Y	--
2. Epilobium brachycarpum	10	N	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

Stipa pulchra perennial grassland on edge of seep spring.

SOIL

Sampling Point: 9B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	7.5YR 3/3	100					Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✓

Remarks:

No hydric soil indicators detected.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No wetland hydrology indicators detected.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Oct. 13, 2020

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 10A

Investigator(s): Patrick Martin, Halie Goeman Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 38 39 37.64"N Long: 121 03 25.63"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation ✓, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Herbaceous seasonal wetland along stream.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Epilobium brachycarpum	25	Y	FAC
2. Lythrum hyssopifolium	20	Y	OBL
3. Briza minor	10	N	FAC
4. Polygon monspeliensis	20	Y	FACW
5. Mentha pulegium	25	Y	OBL
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Dominated entirely by hydrophytes.

SOIL

Sampling Point: 10A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 3/2	90	7.5YR 4/6	10	C	M/PL	clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

Prominent redoximorphic features on a dark surface fulfill hydric soil criteria for Redox Dark Surface (F6).

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Seasonal wetland along drainage is very wet. Soil is damp in the soil pit but it is not saturated. During the growing season, this data point likely has a high water table.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Dorado Hills 52 City/County: El Dorado County Sampling Date: Oct. 13, 2020

Applicant/Owner: EDH 52, GP State: CA Sampling Point: 10B

Investigator(s): Patrick Martin, Halie Goeman Section, Township, Range: Township 9 North, Range 8 East, Section 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 38 39 37.64"N Long: 121 03 25.63"W Datum: NAD 83

Soil Map Unit Name: Auburn Silt Loam, 2 to 30 Percent Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation ✓, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Upland area along seasonal wetland near stream.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Acmispon americanus	25	Y	UPL
2. Lactuca seriola	20	Y	FACU
3. Epilobium brachycarpum	20	Y	FAC
4. Bromus hordeaceus	20	Y	FACU
5.			
6.			
7.			
8.			
	85 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 15 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species 20	x 3 =	60
FACU species 40	x 4 =	160
UPL species 25	x 5 =	250
Column Totals: 85 (A)		345 (B)

Prevalence Index = B/A = 4.1

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

Dominated by upland vegetation.

SOIL

Sampling Point: 10B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5YR 3/4	100					clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Hardpan

Depth (inches): 4

Hydric Soil Present? Yes _____ No ✓

Remarks:

No hydric soil indicators detected. Hard layer at 4 inches.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No wetland hydrology detected.

El Dorado Hills 52 Project

Biological Resources Assessment

November 2020 | AKT-20

Prepared for:

EDH 52, General Partnership
7919 Folsom Boulevard, Suite 300
Sacramento, CA 95826

Prepared by:

HELIX Environmental Planning, Inc.
1677 Eureka Road, Suite 100
Roseville, CA 95661

El Dorado Hills 52 Project

Biological Resources Assessment

Prepared for:

EDH 52, General Partnership
7919 Folsom Boulevard, Suite 300
Sacramento, CA 95826

Prepared by:

HELIX Environmental Planning, Inc.
1677 Eureka Road, Suite 100
Roseville, CA 95661

November 2020 | AKT-20

This page intentionally left blank

TABLE OF CONTENTS

Section **Page**

EXECUTIVE SUMMARY ES-1

1.0 INTRODUCTION 1

1.1 Project Description 1

2.0 REGULATORY FRAMEWORK 1

2.1 Federal Regulations 1
2.1.1 Federal Endangered Species Act 1
2.1.2 Migratory Bird Treaty Act 2
2.1.3 The Bald and Golden Eagle Protection Act 2
2.2 State Jurisdiction 2
2.2.1 California Endangered Species Act 2
2.2.2 California Department of Fish and Game Codes 2
2.2.3 Native Plant Protection Act 3
2.3 Jurisdictional Waters 3
2.3.1 Federal Jurisdiction 3
2.4 CEQA Significance 5
2.4.1 California Native Plant Society 6
2.4.2 California Department of Fish and Wildlife Species of Concern 7
2.5 Local Policies and Regulations 7
2.5.1 El Dorado County General Plan 7
2.5.2 El Dorado County Oak Resources Management Plan 7

3.0 METHODOLOGY 8

4.0 RESULTS 9

4.1 Site Location and Description 9
4.2 Physical Features 9
4.2.1 Topography and Drainage 9
4.2.2 Soils 10
4.3 Biological Communities 10
4.3.1 Non-Native Annual Grassland 10
4.3.2 Riparian Woodland 11
4.3.3 Valley Oak Woodland 11
4.3.4 Seep 11
4.3.5 Seasonal Wetland 11
4.3.6 Seasonal Marsh 11
4.3.7 Disturbed/Developed 12
4.4 Special-Status Species 12
4.4.1 Listed and Special-Status Plants 13
4.4.2 Listed and Special-Status Wildlife 13

TABLE OF CONTENTS (cont.)

Section **Page**

4.5 Sensitive Habitats 17
4.5.1 Potential Jurisdictional Waters of the U.S. and State 17
4.5.2 Riparian Habitat 17
4.5.3 Oak Trees and Oak Woodland 17
4.5.4 Purple Needlegrass 17
4.5.5 Wildlife Migration Corridors 18

5.0 CONCLUSIONS AND RECOMMENDATIONS 18

5.1 Recommendations 19
5.1.1 Special-Status Plant Species 19
5.1.2 Valley Elderberry longhorn Beetle 19
5.1.3 Western Pond Turtle 19
5.1.4 Coast Horned Lizard 20
5.1.5 Foothill Yellow-Legged Frog 20
5.1.6 Western Spadefoot 20
5.1.7 Golden Eagle 21
5.1.8 Tricolored Blackbird 21
5.1.9 Burrowing Owl 21
5.1.10 Nesting Migratory Birds and Raptors 21
5.1.11 American Badger 22
5.1.12 Special-Status Bat Species 22
5.1.13 Jurisdictional Waters 23
5.1.14 Oak Trees and Oak Woodland 23
5.1.15 Riparian Habitats 24
5.2 Summary of Avoidance and Minimization Measures 24

6.0 REFERENCES 25

LIST OF APPENDICES

A Applicable Sections of the El Dorado County General Plan
B Regionally Occurring Listed and Special-Status Species
C List of Plants Observed Within the Study Area
D Representative Site Photos

TABLE OF CONTENTS (cont.)

LIST OF FIGURES

No.	Title	Follows Page
1	Site and Vicinity Map	2
2	Soils Map	10
3	Biological Communities	10
4	Annual Grassland for Golden Eagle Foraging Habitat Within the Vicinity of the Study Area	22

ACRONYMS AND ABBREVIATIONS

BRA	Biological Resources Assessment
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CSA	California Special Animals
CWA	Clean Water Act
DBH	diameter at breast height
EPA	U.S. Environmental Protection Agency
FESA	Federal Endangered Species Act
FYLF	Foothill yellow-legged frog
HCP	Habitat Conservation Plan
HELIX	HELIX Environmental Planning, Inc.
IPaC	Information for Planning and Consultation
MBTA	Migratory Bird Treaty Act
MSL	mean sea level
NCCP	Natural Community Conservation Plan
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NPPA	Native Plant Protection Act
NRCS	Natural Resource Conservation Service
NWPR	Navigable Waters Protection Rule
OHWM	ordinary high water mark
PAD	Passage Assessment Database
PCCP	Placer County Conservation Plan
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SSC	Species of Special Concern
SWRCB	State Water Resources Control Board

ACRONYMS AND ABBREVIATIONS (cont.)

USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WDR	Waste Discharge Requirements
WOTUS	Waters of the U.S.

This page intentionally left blank

EXECUTIVE SUMMARY

HELIX Environmental Planning, Inc. (HELIX) prepared this biological resources assessment (BRA) for the El Dorado Hills 52 Study Area located within El Dorado County, California. The purpose of this BRA is to summarize the general biological resources in the Study Area, to assess the suitability of the Study Area to support special-status species and sensitive habitat types, to summarize the results of various focused surveys, and to provide recommendations for regulatory permitting or further analysis that may be required prior to development activities occurring in the Study Area.

The El Dorado Hills 52 Study Area (Study Area) consists of ±36 acres of land that is primarily composed of annual grassland with a small area of oak woodland. The Study Area is bifurcated by Silva Valley Parkway. A former home site is located on the southern portion of the property and a large part of the northern portion was used to stockpile soil during the construction of the adjacent Silva Valley Parkway – U.S. Highway 50 Interchange Project. Land uses surrounding the Study Area include an elementary school, residential housing, and U.S. Highway 50.

Known or potential biological constraints within the Study Area include:

- Potential habitat for special-status plant species;
- Potential habitat for valley elderberry longhorn beetle;
- Potential habitat for western pond turtle;
- Potential habitat for coast horned lizard;
- Potential habitat for foothill yellow-legged frog;
- Potential habitat for western spadefoot;
- Potential foraging habitat for golden eagle;
- Potential foraging habitat for tricolored blackbird;
- Potential habitat for burrowing owl;
- Potential nesting sites and foraging habitat for raptors and other birds;
- Potential habitat for American badger;
- Potential habitat for special-status bat species including pallid bat and silver-haired bat; and
- Sensitive habitats, including potentially jurisdictional waters of the U.S. and waters of the State (seasonal wetlands, seep, wetland swale, and intermittent and ephemeral drainages), riparian habitat, and valley oak woodland.

This page intentionally left blank

1.0 INTRODUCTION

This report summarizes the findings of a BRA and an aquatic resources delineation conducted for the ±36-acre El Dorado Hills 52 Study Area, located within El Dorado County, California (Figure 1). This document addresses the onsite physical features, as well as plant communities present and the common plant and wildlife species occurring, or potentially occurring, in the Study Area. Furthermore, the suitability of onsite habitats to support special-status species and sensitive habitats is analyzed and recommendations are identified for anticipated requirements related to regulatory compliance or further analysis required prior to implementation of land use development within the Study Area.

1.1 PROJECT DESCRIPTION

Development proposed within the Study Area will ultimately result in the development of approximately 36 acres of commercial land uses. Development is designed to allow either the North Site or the South Site to develop independent from the other. Proposed improvements will include construction of commercial buildings and associated parking, utilities, and storm water management facilities as well as multiple points of access, and a new traffic signal on Silva Valley Parkway. Ancillary amenities include pedestrian walkways, bicycle parking, signage and lighting and landscaping.

2.0 REGULATORY FRAMEWORK

Federal, State, and local environmental laws, regulations, and policies relevant to the review of a "project" under the California Environmental Quality Act (CEQA) are summarized below. Applicable CEQA significance criteria are also addressed in this section.

2.1 FEDERAL REGULATIONS

2.1.1 Federal Endangered Species Act

The U.S. Congress passed the Federal Endangered Species Act (FESA) in 1973 to protect species that are endangered or threatened with extinction. FESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

FESA prohibits the "take" of endangered or threatened wildlife species. "Take" under FESA is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (FESA Section 3 [(3) (19)]). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 CFR §17.3). Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR §17.3). Actions that result in take can result in civil or criminal penalties.

In the context of the proposed Project, consultation with the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS) would be initiated if proposed development activities had the potential to result in take of a federally threatened or endangered species or if

issuance of a Section 404 permit or other federal agency action could result in take of a federally endangered species or adversely modify designated critical habitat of such a species.

2.1.2 Migratory Bird Treaty Act

Raptors, migratory birds, and other avian species are protected by a number of State and federal laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior.

2.1.3 The Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (Eagle Act) prohibits the taking or possession of and commerce in bald and golden eagles with limited exceptions. Under the Eagle Act, it is a violation to "*take, possess, sell, purchase, barter, offer to sell, transport, export or import, at any time or in any manner, any bald eagle commonly known as the American eagle, or golden eagle, alive or dead, or any part, nest, or egg, thereof.*" Take is defined to include pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, and disturb. Disturb is further defined in 50 CFR Part 22.3 as "*to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.*"

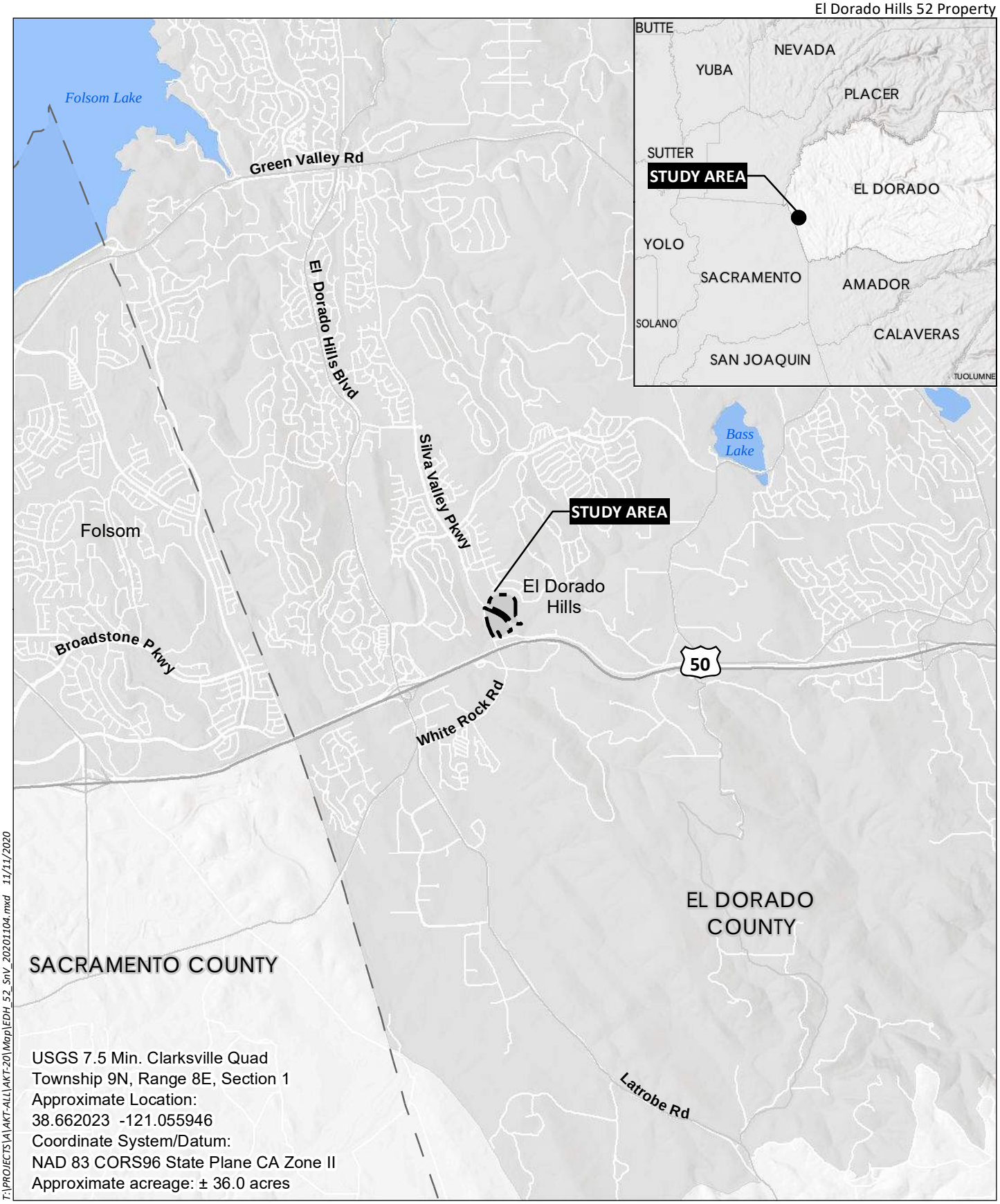
2.2 STATE JURISDICTION

2.2.1 California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA is similar to the FESA but pertains to State-listed endangered and threatened species. CESA directs agencies to consult with CDFW on projects or actions that could result in "take" of state-listed species. Section 2081 of the Fish and Game Code allows CDFW to authorize "take" of a state-listed species if the take is incidental to an otherwise lawful activity. The impacts of the take must be minimized and fully mitigated as determined by CDFW and the applicant must ensure adequate funding to implement measures to minimize and fully mitigate the impacts. No take permit may be issued if issuance of the permit would jeopardize the continued existence of a state-listed species.

2.2.2 California Department of Fish and Game Codes

A number of species have been designated as "fully protected" species under Sections 5515, 5050, 3511, and 4700 of the Fish and Game Code, but are not listed as endangered (Section 2062) or threatened (Section 2067) species under CESA. Except for take related to scientific research, all take of fully protected species is prohibited. The California Fish and Game Code defines take as "*hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.*" Additionally, Sections 3503, 3503.5, and 3513 of the California Fish and Game Code prohibits the killing of birds or the destruction of bird nests.



T:\PROJECTS\AI\AKT-ALL\AKT-20\Map\EDH_52_SnV_20201104.mxd 11/11/2020

Source: Base Map Layers (Esri, USGS, NGA, NASA)

HELIX Environmental Planning

Site and Vicinity Map

Figure 1

2.2.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA), enacted in 1977, allows the Fish and Game Commission to designate plants as rare or endangered. The NPPA prohibits take of endangered or rare native plants, with some exceptions for agricultural and nursery operations and emergencies. Vegetation removal from canals, roads, and other sites, changes in land use, and certain other situations require proper advance notification to CDFW.

2.3 JURISDICTIONAL WATERS

2.3.1 Federal Jurisdiction

Any person, firm, or agency planning to alter or work in "waters of the U.S.," including the discharge of dredged or fill material, must first obtain authorization from the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA; 33 USC 1344). Permits, licenses, variances, or similar authorization may also be required by other federal, state, and local statutes. Section 10 of the Rivers and Harbors Act prohibits the obstruction or alteration of navigable waters of the U.S. without a permit from USACE (33 USC 403).

On April 21, 2020, the Environmental Protection Agency (EPA) and USACE published the Navigable Waters Protection Rule to define "Waters of the United States" in the Federal Register. On June 22, 2020 the Navigable Waters Protection Rule: Definition of "Waters of the United States" (NWPR) became effective in 49 states, including California, and in all US territories.

The NWPR regulates traditional navigable waters and perennial or intermittent tributary systems, and defines four categories of regulated waters including:

- The territorial seas and traditional navigable waters;
- Perennial and intermittent tributaries to those waters;
- Certain lakes, ponds, and impoundments; and
- Wetlands adjacent to jurisdictional waters.

The NWPR also defines 12 categories of exempted aquatic resources:

- Waters not listed as WOTUS
- Groundwater
- Ephemeral features
- Diffuse stormwater run-off
- Ditches not identified as WOTUS
- Prior converted cropland (PCC)
- Artificially irrigated areas
- Artificial lakes and ponds
- Water-filled depressions incidental to mining or construction activity
- Stormwater control features
- Groundwater recharge, water reuse, and wastewater recycling structures
- Waste treatment systems

With non-tidal waters, in the absence of adjacent wetlands, the extent of USACE jurisdiction extends to the ordinary high water mark (OHWM) – the line on the shore established by fluctuations of water and indicated by a clear, natural line impressed on the bank, shelving, changes in soil character, destruction of terrestrial vegetation, or the presence of litter and debris. Wetlands are defined in 33 CFR Part 328 as:

> "those areas that are inundated or saturated by surface or ground water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions."

Federal and state regulations pertaining to waters of the U.S., including wetlands, are discussed below.

Clean Water Act (33 USC 1251-1376). The CWA provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters.

Section 401 requires that an applicant for a federal license or permit that allows activities resulting in a discharge to waters of the U.S. must obtain a state certification that the discharge complies with other provisions of CWA. The Regional Water Quality Control Board (RWQCB) administers the certification program in California and may require State Water Quality Certification before other permits are issued.

Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the U.S.

Section 404 establishes a permit program administered by USACE that regulates the discharge of dredged or fill material into waters of the U.S. (including wetlands). Implementing regulations by USACE are found at 33 CFR Parts 320-332. The Section 404 (b)(1) Guidelines were developed by the USEPA in conjunction with USACE (40 CFR Part 230), allowing the discharge of dredged or fill material for non-water dependent uses into special aquatic sites only if there is no practicable alternative that would have less adverse impacts. State Jurisdiction

Regional Water Quality Control Board

Any action requiring a CWA Section 404 permit, or a Rivers and Harbors Act Section 10 permit, must also obtain a CWA Section 401 Water Quality Certification. The State of California Water Quality Certification (WQC) Program was formally initiated by the State Water Resources Control Board (SWRCB) in 1990 under the requirements stipulated by Section 401 of the Federal CWA. Although the Clean Water Act is a Federal law, Section 401 of the CWA recognizes that states have the primary authority and responsibility for setting water quality standards. In California, under Section 401, the State and Regional Water Boards are the authorities that certify that issuance of a federal license or permit does not violate California's water quality standards (i.e., that they do not violate Porter-Cologne and the Water Code). The WQC Program currently issues the WQC for discharges requiring USACE's permits for fill and dredge discharges within Waters of the United States, and now also implements the State's wetland protection and hydromodification regulation program under the Porter Cologne Water Quality Control Act.

On April 2, 2019, the SWRCB adopted a State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures), for inclusion in the forthcoming Water Quality Control Plan for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California. The Procedures consist of four major elements: 1) a wetland definition; 2) a framework for determining if a feature that meets the wetland definition is a water of the state; 3) wetland delineation procedures; and 4) procedures for the submittal, review and approval of applications for Water Quality

Certifications and Waste Discharge Requirements for dredge or fill activities. The Office of Administrative Law approved the Procedures on August 28, 2019, and the Procedures became effective May 28, 2020.

Under the Procedures and the State Water Code (Water Code §13050(e)), "Waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state." Unless excluded by the Procedures, any activity that could result in discharge of dredged or fill material to Waters of the State, which includes Waters of the U.S. and non-federal Waters of the State, requires filing of an application under the Procedures.

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act, Water Code Section 13000 et seq.) is California's statutory authority for the protection of water quality in conjunction with the federal CWA. The Porter-Cologne Act requires the SWRCB and RWQCBs to adopt and periodically update water quality control plans, or basin plans. Basin plans are plans in which beneficial uses, water quality objectives, and implementation programs are established for each of the nine regions in California. The Porter-Cologne Act also requires dischargers of pollutants or dredged or fill material to notify the RWQCBs of such activities by filing Reports of Waste Discharge and authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements, National Pollution Discharge Elimination System (NPDES) permits, Section 401 water quality certifications, or other approvals.

California Department of Fish and Wildlife

The CDFW has jurisdiction over fish and wildlife resources under Section 1600 et seq. of the California Fish and Game Code. Under Sections 1602 and 1603, a private party must notify CDFW if a proposed project will "substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of streambeds…except when the department has been notified pursuant to Section 1601." Additionally, CDFW asserts jurisdiction over native riparian habitat adjacent to aquatic features, including native trees over four inches in diameter at breast height (DBH). If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFW may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the parties involved, they may enter into an agreement with CDFW identifying the approved activities and associated mitigation measures. Generally, CDFW recommends submitting an application for a Streambed Alteration Agreement (SAA) for any work done within the lateral limit of water flow or the edge of riparian vegetation, whichever is greater.

2.4 CEQA SIGNIFICANCE

Section 15064.7 of the State CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study Checklist included in Appendix G of the State CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS;

- Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and

- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional or state habitat conservation plan.

An evaluation of whether or not an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish or result in the loss of an important biological resource, or those that would obviously conflict with local, State, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of, an important resource on a population-wide or region-wide basis.

2.4.1 California Native Plant Society

The California Native Plant Society (CNPS) maintains a rank of plant species native to California that have low population numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the *Inventory of Rare and Endangered Vascular Plants of California*. Potential impacts to populations of CNPS-ranked plants receive consideration under CEQA review. The following identifies the definitions of the CNPS Rare Plant Ranking System:

Rank 1A: Plants presumed Extinct in California and either rare or extinct elsewhere

Rank 1B: Plants Rare, Threatened, or Endangered in California and elsewhere

Rank 2A: Plants presumed extirpated in California but common elsewhere

Rank 2B: Plants Rare, Threatened, or Endangered in California, but more common elsewhere

Rank 3: Plants about which we need more information – A Review List

Rank 4: Plants of limited distribution – A Watch List

All plants appearing on CNPS Rank 1 or 2 are considered to meet CEQA Guidelines Section 15380 criteria. While only some of the plants ranked 3 and 4 meet the definitions of threatened or endangered species, the CNPS recommends that all Rank 3 and Rank 4 plants be evaluated for consideration under

CEQA. Furthermore, the CNPS Rare Plant Rankings include levels of threat for each species. These threat ranks include the following:

0.1 - Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat);

0.2 - Moderately threatened in California (20-80% occurrences threatened/moderate degree and immediacy of threat); and

0.3 - Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known).

Threat ranks do not designate a change of environmental protections, so that each species (i.e., CRPR 1B.1, CRPR 1B.2, CRPR 1B.3, etc.), be fully considered during preparation of environmental documents under CEQA.

2.4.2 California Department of Fish and Wildlife Species of Concern

Additional fish, amphibian, reptile, bird, and mammal species may receive consideration by CDFW and lead agencies during the CEQA process, in addition to species that are formally listed under FESA and CESA or listed as fully protected. These species are included on the *Special Animals List*, which is maintained by CDFW. This list tracks species in California whose numbers, reproductive success, or habitat may be in decline. In addition to "Species of Special Concern" (SSC), the *Special Animals List* includes species that are tracked in the California Natural Diversity Database (CNDDB) but warrant no legal protection. These species are identified as "California Special Animals" (CSA).

2.5 LOCAL POLICIES AND REGULATIONS

2.5.1 El Dorado County General Plan

In addition to federal and State regulations described above, the *El Dorado County Adopted General Plan* (General Plan) includes goals, objectives, and policies regarding biological resources within the County limits (El Dorado County 2014). Applicable sections of the General Plan are included in Appendix A.

2.5.2 El Dorado County Oak Resources Management Plan

The County of El Dorado (County) adopted the El Dorado County Oak Resources Management Plan (ORMP) on October 24, 2017 and it went into effect on November 23, 2017 (El Dorado County 2017b, 2020). The ORMP designates three classes of protected oak resources: oak woodlands that have at least 10 percent oak canopy; Heritage trees, defined as native oaks with a total trunk DBH of 36 inches or greater; and individual oak trees, defined as native oak trees with a trunk DBH of 6 inches or greater that are not located in oak woodlands. An oak woodland removal permit is required prior to removal of oak trees that are part of an oak woodland and an oak tree removal permit is required prior to removal of Heritage trees and individual oak trees. Mitigation for impacts to oak woodlands is based on the total area impacted ranging from 1:1 mitigation for zero to 50 percent removal to 2:1 mitigation for more than 75 percent removal. Mitigation may be completed with a combination of the following options: acquisition of an off-site conservation easement, payment of in-lieu fees, or either on- or off-site replacement planting of up to 50 percent of the required mitigation area. Mitigation for removal of Heritage or individual oak trees requires on- or off-site replacement planting or payment of in-lieu fees

at a 3:1 or 1:1 ratio, respectively, to the number of trunk inches removed. Any oak woodland preserved onsite and all mitigation planting areas must be protected in perpetuity through deed restrictions or a conservation easement.

3.0 METHODOLOGY

Available information pertaining to the natural resources of the region was reviewed prior to conducting the field survey. The following site-specific published information was reviewed for this BRA:

- California Department of Fish and Wildlife (CDFW). 2020. *California Natural Diversity Database* (CNDDB); For: *Clarksville, Pilot Hill, Coloma, Shingle Springs, Latrobe, Folsom SE, Buffalo Creek, Rocklin, and Folsom* USGS 7.5-minute series quadrangles, Sacramento, CA. Accessed [October 12, 2020];

- California Native Plant Society (CNPS). 2020. *Inventory of Rare and Endangered Plants* (online edition, v8-03 0.39) For: *Clarksville, Pilot Hill, Coloma, Shingle Springs, Latrobe, Folsom SE, Buffalo Creek, Rocklin, and Folsom* USGS 7.5-minute series quadrangles, Sacramento, CA. Accessed [October 12, 2020];

- USDA, NRCS. 2020. *Web Soil Survey*. Available online at: http://websoilsurvey.sc.egov.usda.gov. Accessed [October 12, 2020];

- U.S. Fish and Wildlife Service (USFWS). 2020. *Information for Planning and Consultation* (IPaC) *the El Dorado Hills 52 Project.* Accessed [October 12, 2020];

- U.S. Geological Survey (USGS). 2018. *Clarksville, California*. 7.5-minute series topographic quadrangle. United States Department of Interior; and

- Biological reports and associated documents previously prepared for the Study Area.

Prior to the site survey, existing information, including the previous wetland delineation and soil maps, were reviewed and the results of the records search and five-mile radius CNNDB query were summarized in a table (Appendix B). General field surveys of the Study Area were conducted on April 5, 2013, August 8, 2017 and October 13, 2020. The Study Area was systematically surveyed on foot with binoculars to ensure total search coverage, with special attention given to identifying those portions of the Study Area with the potential for supporting special-status species and sensitive habitats. During the field surveys, biologists recorded plant and animal species observed (Appendix C), as well as characterized biological communities occurring onsite. Following the site survey, the potential for each species identified in the records search to occur in the Study Area was determined based on the site surveys, soils, and species-specific information, as shown in Appendix B. Representative photos of the Study Area are provided in Appendix D.

A wetland delineation was performed on December 15, 2015. A follow up wetland delineation was conducted on October 13, 2020 by HELIX biologists Patrick Martin and Halie Goeman to verify the previous wetland delineation, adjust potential wetland boundaries as applicable, and update regulatory requirements according to current standards, policies and regulations. The results of the aquatic resource delineation are summarized herein and are discussed in detail under a separate cover (HELIX

Environmental Planning, Inc. [HELIX] 2020a). The results are considered preliminary until the Corps verifies the findings.

Botanical inventories were conducted on April 24, 2015, May 26, 2015, and June 16, 2015. The botanical inventories were conducted in accordance with CDFW's protocol plant surveys. The results of the botanical surveys are summarized herein and are discussed in detail under a separate cover (Foothill Associates 2016c). A complete list of plants observed within the Study Area is provided in Appendix C.

Protocol-level burrowing owl surveys were conducted within the majority of the Study Area on March 12, 2015, April 24, 2015, May 26, 2015, and June 16, 2015. The surveys were conducted in accordance with the *Staff Report on Burrowing Owl Mitigation* (CDFW 2012). The results of the burrowing owl surveys are summarized herein and are discussed in detail under a separate cover (Foothill Associates 2016c).

Protocol-level breeding season California red-legged frog (CRLF) surveys were conducted within the Study Area on January 12 and 26, 2016 and February 2 and 9, 2016. The protocol-level breeding season surveys were conducted in accordance with the *Revised Guidance on Site Assessment and Field Surveys for the California Red-legged Frog* (USFWS 2005; CRLF Guidance). The results of the protocol-level breeding season surveys are summarized herein and are discussed in detail under a separate cover (Foothill Associates 2016a).

An oak woodland analysis was performed to document the extent of the existing oak trees in the Study Area and anticipated impacts from the proposed project. The oak woodland report is contained under separate cover (HELIX 2020b).

4.0 RESULTS

4.1 SITE LOCATION AND DESCRIPTION

The Study Area is located in El Dorado County adjacent to U.S. Highway 50 immediately east of Silva Valley Parkway and north of Tong Road. Land uses surrounding the Study Area include residential development to the north and paved roads, oak woodland, and annual grassland to the east, west, and south. The Study Area is located within Township 9 North, Range 8 East, Section 1 of the *Clarksvill*e USGS 7.5-minute series quadrangle. The approximate location of the center of the Study Area is at latitude 38.662023 and longitude -121.055946, NAD 83, and is located at an elevation between 705 feet and 795 feet above mean sea level (MSL).

The Study Area consists of approximately 36 acres of land that is primarily annual grassland. The Study Area is bifurcated by Silva Valley Parkway. Two drainage corridors cross the Study Area from the northeast to the southwest.

4.2 PHYSICAL FEATURES

4.2.1 Topography and Drainage

Topography within the Study Area ranges from relatively level to moderately sloped with elevations ranging from approximately 705 to 795 feet above MSL (215 to 242 meters). Surface runoff flows

through and exits the Study Area via ephemeral and intermittent drainages, which run in a northeast to southwest direction.

4.2.2 Soils

The Natural Resources Conservation Service has mapped one soil unit within the Study Area: Auburn silt loam, 2 to 30 percent slopes (Figure 2). The general characteristics and properties associated with this soil type are described below (USDA, NRCS 2020).

Auburn silt loam, 2 to 30 percent slopes: The soils in this series are well drained. Permeability is moderate. Vegetation associated with this soil series includes annual grasses, forbs, and oaks. The hydric soils list for El Dorado County does not identify this soil type as hydric (USDA, NRCS 2020)

4.3 BIOLOGICAL COMMUNITIES

Four upland biological communities occur in the Study Area including non-native annual grassland, riparian woodland, valley oak woodland, and disturbed/developed. Embedded within these upland communities are aquatic features including ephemeral stream, intermittent stream, seasonal wetlands, a wetland swale, and a seep. There is also an area of emergent wetland vegetation on the southern parcel within the ordinary high water mark of an intermittent drainage that forms a seasonal marsh (Figure 3). These communities provide habitat to a number of common species of wildlife and may provide suitable habitat for special-status species. It should be noted that wetlands may occur within a biological community. For instance, a creek surrounded by riparian woodland would be included within the riparian woodland for the purposes of determining biological community acreage. Vernal pools and seasonal wetlands may be included in the annual grassland community and are often used by wildlife from the annual grassland. However, a very different aquatic habitat, such as a seasonal marsh, is considered its own biological community. Dominant vegetation observed within each biological community is discussed in detail below. A comprehensive list of plants observed within the Study Area is provided in Appendix C.

4.3.1 Non-Native Annual Grassland

Non-native annual grassland dominates both the northern and southern portions of the Study Area. This vegetation community is characterized primarily by an assemblage of non-native annual grasses and forbs. Dominant vegetation includes ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), and wild oat (*Avena fatua*) intermixed with red-stemmed filaree (*Erodium cicutarium*), popcornflower (*Plagiobothrys* sp.), black mustard (*Brassica nigra*), winter vetch (*Vicia villosa*), scarlet pimpernel (*Anagallis arvensis*), St. John's wort (*Hypericum perforatum*), brodiaea (*Brodiaea elegans*), fiddleneck (*Amsinckia* sp.), rose clover (*Trifolium hirtum*), and milk-thistle (*Silybum marianum*).

Two small areas within the annual grassland contain purple needlegrass (*Nassella pulchra*) within the southern portion of the Study Area (Figure 3). The purple needlegrass is interspersed with annual willow herb (*Epilobium brachycarpum*), ripgut brome, soft chess, and wild oat.

The annual grassland community includes small ephemeral and intermittent drainages. The ephemeral drainages are mostly unvegetated and the intermittent drainage has a small clump of willows (*Salix* sp.) and broadleaf cattail (*Typha latifolia*) and is otherwise minimally vegetated.

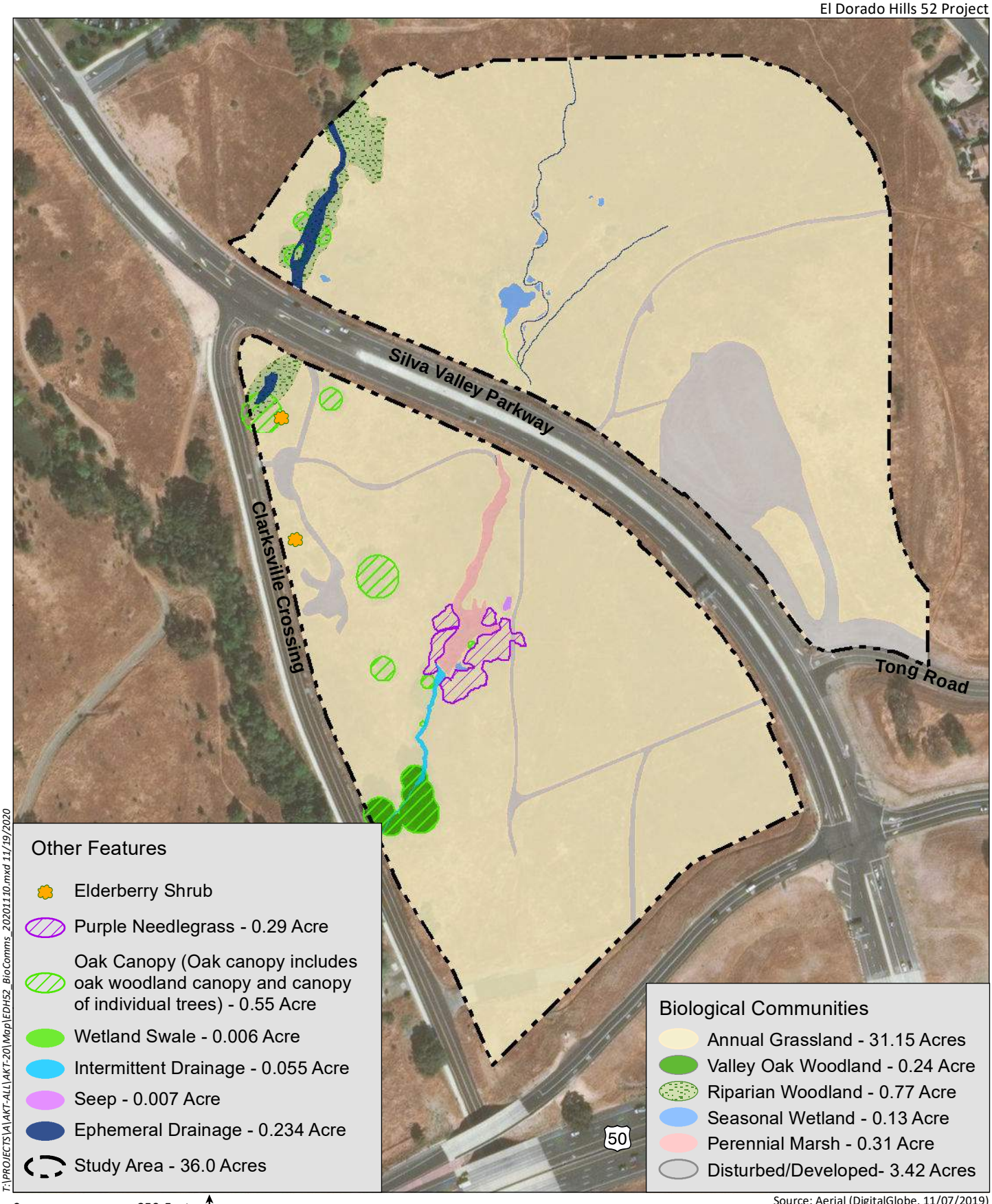


Source:NRCS, 2020; Aerial (DigitalGlobe, 11/07/2019)

HELIX Environmental Planning

Soils Map

Figure 2



HELIX Environmental Planning

Biological Communities

Figure 3

4.3.2 Riparian Woodland

Riparian woodland habitat occurs within the along the ephemeral drainage on the western boundary of the Study Area. Dominant vegetation includes broadleaf cattail, willow, spike rush (*Eleocharis macrostachya*), pennyroyal (*Mentha pulegium*), Himalayan blackberry (*Rubus armeniacus*), and valley oak (*Quercus lobata*).

4.3.3 Valley Oak Woodland

Valley oak woodland is found in a small area on the southwest boundary of the Study Area where a small stand of mature valley oak trees overhangs a small intermittent drainage. The understory is primarily annual grassland with small areas of milkweed (*Asclepias fascicularis*) and pennyroyal immediately adjacent to the drainage.

4.3.4 Seep

A seep is situated adjacent to the seasonal marsh and non-native annual grassland habitat. Seeps are characterized as areas where groundwater intersects the soil surface. Typically, water flows from seeps persist for some period after the rainy season or, more rarely, nearly year-round. Seeps accessing sufficient amounts of subsurface water can support isolated wetland vegetation (such as on a hillside) or they may form the headwaters of other jurisdictional drainage or wetland features, such as wetland swales. Vegetation in seeps often consists of plant species associated with seasonal and semi-permanent marsh habitats. When seeps are active for only short periods beyond the rainy season and into the warm season, herbaceous perennial wetland species typically dominate, as is typical of the seeps within the Study Area. Vegetation in the seep consisted almost entirely of iris leaved rush (*Juncus xiphioides*), an obligate wetland plant.

4.3.5 Seasonal Wetland

A number of seasonal wetland features are found in the Study Area. Most are associated with the ephemeral drainage on the northern portion of the Study Area. Dominant vegetation in the seasonal wetlands includes rabbitsfoot grass (*Polypogon monspeliensis*), spike rush (*Eleocharis macrostachya*), nutsedge (*Cyperus eragrostis*), curly dock (*Rumex crispus*), pennyroyal, coyote-thistle (*Eryngium vaseyi*), brome fescue (*Festuca bromoides*), ryegrass, annual hair grass (*Deschampsia danthonioides*), and rye grass (*Festuca perennis*).

4.3.6 Seasonal Marsh

Seasonal marsh habitat is found in the southern portion of the Study Area within the ordinary high water mark of an intermittent drainage. This community appears to have formed as a result of a brick check dam that was constructed across the intermittent drainage allowing water to periodically back up in this area. This community is dominated by common knotweed (*Persicaria lapathifolia*) and curly dock with areas of dense cattails, Himalayan blackberry, and a small clump of willows.

4.3.7 Disturbed/Developed

Disturbed/developed areas in the Study Area include graded roads and a stockpile area. The disturbed/developed areas are sparsely vegetated with red-stemmed filaree, soft chess, wild oat, and winter vetch.

4.4 SPECIAL-STATUS SPECIES

Special-status species are plant and wildlife species that have been afforded special recognition by federal, State, or local resource agencies or organizations. They are generally of relatively limited distribution and may require specialized habitat conditions. Special-status species are defined as meeting one or more of the following criteria:

- Listed or proposed for listing under CESA or FESA;
- Protected under other regulations (e.g., Migratory Bird Treaty Act);
- Included on the CDFW Special Animals List;
- Identified as Rare Plant Rank 1 to 4 by CNPS; or
- Receive consideration during environmental review under CEQA.

Special-status species considered for this analysis are based on queries of the CNDDB, the USFWS, and CNPS ranked species (online versions) for the *Rocklin* USGS quadrangle and eight surrounding quadrangles. Appendix B includes the common name and scientific name for each species, regulatory status (federal, State, local, CNPS), habitat descriptions, and potential for occurrence within the Study Area. The following set of criteria has been used to determine each species' potential for occurrence within the Study Area:

- **Present**: Species known to occur within the Study Area based on CNDDB records and/or observed within the Study Area during the biological survey.

- **High**: Species known to occur onsite or in the vicinity of the Study Area (based on CNDDB records within five miles and/or based on professional expertise specific to the Study Area or species) and there is suitable habitat within the Study Area.

- **Low**: Species known to occur in the vicinity of the Study Area and there is marginal habitat within the Study Area **-OR-** Species is not known to occur in the vicinity of the Study Area, however, there is suitable habitat on the Study Area.

- **None**: Species is not known to occur on or in the vicinity of the Study Area and there is no suitable habitat within the Study Area -**OR-** Species was surveyed for during the appropriate season with negative results **-OR-** The Study Area occurs outside of the known elevation or geographic ranges.

Only those species that are known to be *present* or have a *high* or *low* potential for occurrence are discussed further in the following sections.

4.4.1 Listed and Special-Status Plants

According to the records search, 31 special-status plant species have the potential to occur on or in the vicinity of the Study Area. Based on field observations and literature review, four species were determined to have the potential to occur on the Study Area: big-scale balsamroot (*Balsamorhiza macrolep*is var. *macrolepis*), Boggs Lake hedge-hyssop (*Gratiola heterosepala*), dwarf downingia (*Downingia pusilla*), and Sanford's arrowhead (*Sagittaria sanfordii*). Focused botanical surveys were conducted within the Study Area in 2015 during the bloom period of these plants (Foothill Associates 2016c). No special-status plant species were found and therefore, it is unlikely that these species occur within the Study Area.

4.4.2 Listed and Special-Status Wildlife

According to the records search, 35 special-status animal species have the potential to occur onsite or in the vicinity. Based on field observations and literature review, 15 species were determined to have the potential for occurrence to occur in the Study Area. Protocol surveys for burrowing owl (*Athene cunicularia*) and California red-legged frog (*Rana draytonii*) were conducted in 2015 and 2016 (Foothill Associates 2016a, 2016b). No observations or evidence of either species was found within the Study Area.

Species that are known to be *present* or that are considered to have a *high* potential to occur onsite include: raptors and other migratory birds. Species that are considered to have a *low* potential to occur onsite include: valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), western pond turtle (*Actinemys marmorata*), coast horned lizard (*Phrynosoma blainvillii*), foothill yellow-legged frog (*Rana boylii*), western spadefoot (*Spea hammondii*), golden eagle (*Aquila chrysaetos*), tricolored blackbird (*Agelaius tricolor*), American badger (*Taxidea taxus*), and special-status bat species.

Special-Status Wildlife with a High Potential for Occurrence

Nesting Migratory Birds and Raptors

Migratory birds are protected under the MBTA of 1918 (16 U.S.C. 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed under 50 CFR 10; this also includes feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Additionally, Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (i.e., hawks, owls, eagles, and falcons), including their nests or eggs; and Section 3513 specifically states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA. Migratory birds and other birds of prey including have the potential to nest in trees, shrubs, structures (e.g., sheds), and bare ground within the Study Area.

Special-Status Wildlife with a Low Potential for Occurrence

Valley Elderberry Longhorn Beetle

Endemic to elderberry shrubs (*Sambucus* spp.) occurring in riparian habitat in the Sacramento and San Joaquin Valleys, riparian habitats in the Sacramento and San Joaquin Valleys, and less common

throughout riparian forests of the Central Valley from Redding to Fresno County (USFWS 2014) typically below 500 feet above MSL (USFWS 2017a). Typically, the beetles are found on elderberry shrubs within riparian plant communities. Some studies have found that multiple elderberry shrubs clumped together provide superior habitat for the beetle while isolated elderberry shrubs are less likely to support beetle populations. Typical plant species that co-occur with the elderberry shrubs include California sycamore (*Platanus racemosa*), willow, blackberry, and western poison oak (*Toxicodendron diversilobum*) (USFWS 1999, 2017a). Beetles require elderberry stems with at least one-inch diameter at ground level (dgl) in order for the larvae to utilize the stems (USFWS 1999). The valley elderberry longhorn beetle depends on elderberry shrubs for its entire lifecycle. Adults are typically active from March through May during the flowering period of the elderberry shrub. The female lays its eggs on the leaves and stems of the elderberry shrub. The larvae emerge within a few days and burrow into the elderberry stem. The larvae feed on the stem pith until they pupate. When the host shrub begins flowering, the pupa emerges from the stem as an adult (Barr 1991). There is one CNDDB record of valley elderberry longhorn beetle listed within five miles of the Study Area (CDFW 2020a), however the USFWS currently considers this species to occur at or below 500 feet above MSL (USFWS 2017a). Two blue elderberry (*Sambucus nigra* ssp. *caerulea*) occur within the riparian habitat within the western portion of the Study Area (Figure 3). No exit holes were observed. This species has a *low* potential to occur within the Study Area since habitat is limited to two small elderberry shrubs and the Study Area is currently outside of the accepted elevational range of the valley elderberry longhorn beetle as recognized by USFWS (USFWS 2017a).

Western Pond Turtle

Western pond turtles are found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches with suitable basking sites (Jennings and Hayes 1994). Suitable aquatic habitat typically has a muddy or rocky bottom and has emergent aquatic vegetation for cover (Stebbins 2003). Western pond turtles nest and overwinter in areas of sparse vegetation comprised of grassland and forbs with less than ten percent slopes, less than 492 feet (150 meters) from aquatic habitat (Rosenberg et al. 2009). There are three CNDDB records for this species within five miles of the Study Area (CDFW 2020a). The seasonal marsh area and intermittent drainage, and surrounding riparian habitat provide marginal aquatic habitat and the surrounding annual grassland provides upland habitat. During the survey on October 13, 2020 most of the features were dry and the Study Area is unlikely to provide year-round habitat for western pond turtle. This species was not observed within the Study Area during the biological surveys. This species has a *low* potential to occur within the Study Area and it is more likely to occur in larger creeks adjacent to but outside of the Study Area.

Coast Horned Lizard

Coast horned lizard inhabits open areas of sandy soil and low vegetation in valleys, foothills, and semiarid mountains from sea level to 8,000 feet above MSL. It is typically found in grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose soil. This species is often found in lowlands along sandy washes with scattered shrubs and along dirt roads, and frequently found near ant hills (Zeiner et al. 1988). There are two CNDDB records of this species within five miles of the Study Area (CDFW 2020a). The species was not observed within the Study Area during several biological surveys. The annual grassland within the Study Area provides marginal habitat for the coast horned lizard due to lack of sandy soils for this species to bury itself. The Study Area is also densely vegetated with annual grasses which makes movement for this species difficult. Therefore, this species has a *low* potential to occur within the Study Area.

Foothill Yellow-Legged Frog

The Foothill yellow-legged frog (FYLF) is a moderate-sized frog (1.5 to 3.5" long) found on the western slope of the Sierras and along the coast. It has vague dorsolateral folds, horizontal pupils, yellow coloring on the underside of its hind legs, and a granular skin texture that covers the eardrums of colors that harmonize with the surroundings. The FYLF is a stream or river frog of chaparral, forest, and woodland ecozones. This species breeds after the high-water flows subside, mid-March to early June. The FYLF resides in rocky streams and the associated riparian habitat. Metamorphosis generally occurs in three to four months and FYLF reach sexual maturity typically the first summer after they have metamorphosed. Breeding sites occur in shallow, slow flowing water with mostly pebble and/or cobble substrate. The introductions of bullfrogs and mosquitofish have led to declines in populations in California and Oregon. The intermittent drainage provides marginal habitat for this species and there is a nearby CNDDB recorded occurrence from 1972 located 3 miles north of the Study Area and documents a collected specimen (CDFW 2020a). CDFW considers this species extirpated in the Study Area and the surrounding area (CDFW 2020b). This species was not observed within the Study Area during the biological surveys. Therefore, this species has a *low* potential to occur within the Study Area.

Western Spadefoot

Western spadefoot occurs throughout the Central Valley and on the coast from Point Conception, south to the Mexican border. This species occurs from sea level up to 4,500 feet above MSL, in the southern Sierra foothills. Western spadefoot individuals are most commonly found in grassland habitats with temporary pools of water, but they have also been found in open chaparral and valley-foothill pine-oak woodlands (Stebbins 2003). This species spends most of the year underground, where members seek refuge from desiccating by constructing and residing in small burrows. This species often breeds in temporary pools and quiet streams between the months of January and May. There are no CNDDB records for this species within five miles of the Study Area (CDFW 2020a). The species was not observed within the Study Area during the biological surveys. The depressional seasonal wetlands provide low quality breeding habitat given that they do not likely hold water for long enough for the western spadefoot to breed. This species has a *low* potential for utilizing the annual grassland as upland aestivation given the limited aquatic habitat available within the Study Area for breeding.

Golden Eagle

Golden eagles live in semi-open habitats where they have easy access to their primary prey of small to medium-sized mammals. Grasslands, deserts, savannahs, and early successional stages of forest and shrub habitats provide necessary foraging habitat. Nests are placed on cliffs or large trees and are maintained year after year. Breeding occurs from January through August (Kochert et al. 2002). Golden eagle home range territories vary widely from 8 to 77 square miles (McGrady 1997) and are estimated to average 48 square miles in northern California (Zeiner et al. 1990). Breeding territories range from 8 to 21 square miles, or 3 to 5 miles surrounding the nest, but activity is often concentrated in a smaller core area. Although only one nest is used each year, a territory may contain multiple alternate nests. Typically, there are between 6 and 14 nests are found in a territory (Kochert et al. 2002). Golden eagles may use the same nest for multiple years or use new nest sites every year (Watson 2010).

There is one known occurrence for this species approximately two miles northwest of the Study Area (CDFW 2020a). This active nest was located in a foothill pine on a hillslope surrounded by oak woodland. Existing residences are located uphill within 300 feet of the nest on the north and east. Two juvenile and two adult golden eagles were observed at the nest in August 2013. A pair of adult eagles returned to the

nest in 2014 and successfully raised one eaglet, which fledged by June 18, 2014. However, the nest tree fell over during a storm in November 2014. A golden eagle nest was subsequently identified in a foothill pine approximately 2.5 miles northwest of the Study Area on March 6, 2015. The new nest occurred within a foothill pine on a hillslope surrounded by oak woodland, approximately 25 feet from a residential dwelling. This foothill pine died in late 2015. The eagles relocated to another foothill pine downhill from their first nest location in 2016, and this nest was not active in 2017. Per unprocessed CNDDB records, the nest was active in 2019 and 2020 with nestlings and shows that the territory remains active (CDFW 2020a).

No golden eagles were observed during the biological surveys of the Study Area. Although the Study Area is unlikely to provide suitable nest trees, the annual grassland provides suitable foraging habitat for this species. Therefore, this species has a *low* potential to occur within the Study Area.

Tricolored Blackbird

The tricolored blackbird is a colonial species that occurs in pastures, dry seasonal pools, and agricultural fields in the Central Valley and the surrounding foothills. This species usually nests within dense cattails (*Typha* sp.) or tules (*Scirpus* sp.) in emergent wetlands. Tricolored blackbird also nests in thickets of blackberry (*Rubus* sp.), wild rose (*Rosa* sp.), willows, and tall herbs (Zeiner et al. 1990). Nesting locations typically must be large enough to support a minimum colony of approximately fifty pairs (Zeiner et al. 1990). There are three CNDDB records for this species within five miles of the Study Area (CDFW 2020a). The seasonal marsh and surrounding riparian habitat is unlikely to provide suitable nesting habitat for this since the marsh is not large enough to support nesting colonies. The annual grassland provides suitable foraging habitat for this species. This species was not observed during the biological surveys of the Study Area. This species has a *low* potential to occur within the Study Area.

American Badger

American badgers are found in dry, open habitats including grassland and open woodland. Suitable burrowing habitat requires dry, sandy soil. Breeding occurs in summer and early fall, with young being born from March to April. There is a nearby CNDDB recorded occurrence from 2015 located 4.9 miles northwest of the Study Area and documents an individual badger killed on the road (CDFW 2020a). CDFW considers this species to be extant (CDFW 2020a), however there are no other nearby records of this species near the Study Area. The annual grassland provides habitat for this species, however, burrows from this species or excavations were not observed during the biological surveys and no American badgers were observed during the biological surveys. This species has a *low* potential to occur within the Study Area.

Special-Status Bats

California is home to several special-status bat species, including pallid bat (*Antrozous pallidus*) and silver-haired bat (*Lasionycteris noctivagans*). Bat numbers are in decline throughout the U.S. due to loss of roosting habitat, habitat conversion, and habitat alteration. There are no CNDDB records for bats within five miles of the Study Area (CDFW 2020a). No bats were observed roosting or foraging during the biological surveys. However, the riparian habitat and isolated trees within the annual grassland provide roosting habitat for these species. Special-status bats have a *low* potential to roost within the Study Area.

4.5 SENSITIVE HABITATS

Sensitive habitats include those that are of special concern to resource agencies or those that are protected under CEQA, Section 1600 of the California Fish and Game Code, and/or Sections 401 and 404 of the Clean Water Act. Additionally, sensitive habitats are protected under the specific policies outlined in the *El Dorado County General Plan*. Sensitive habitats known to occur onsite are seep-spring, seasonal wetlands, seasonal marsh within the ordinary high water mark of an intermittent drainage, ephemeral and intermittent drainages, riparian woodland, oak woodlands, and purple needlegrass grassland Figure 3.

4.5.1 Potential Jurisdictional Waters of the U.S. and State

Potential jurisdictional waters of the U.S. and State located in the Study Area were delineated in 2020 by HELIX (HELIX 2020a). A total of approximately 0.740 acre of aquatic resources were delineated within the Study Area. This acreage includes 0.133 acre of seasonal wetlands, 0.007 acre of seep, 0.006 acre of wetland swale, 0.234 acre of ephemeral drainage, and 0.360 acre of intermittent drainage. To date the USACE has verified the acreage in the northern portion of the Study Area, but not within the southern portion of the Study Area.

4.5.2 Riparian Habitat

A total of 0.77 acre of riparian habitat is located in the Study Area along the northwestern ephemeral drainage. Riparian areas, defined as the outermost bank or the edge of riparian vegetation, whichever is greater, may be subject CDFW jurisdiction under Section 1602 of the Fish and Game Code. Additionally, CDFW may exert jurisdiction over the drainages and other riverine aquatic features. CDFW should be consulted prior to disturbance or development to determine whether issuance of a Section 1602 Lake or Streambed Alteration Agreement is required.

4.5.3 Oak Trees and Oak Woodland

A total of 13 protected oak trees protected under Policy 7.4.5.2, consisting of eleven valley oaks (*Quercus lobata*), one interior live oak (*Quercus wislizeni*), and one blue oak (*Quercus douglasii*) are present in the Study Area (HELIX 2020b). Oak woodland habitat and individual oak trees are currently regulated under Section 7.4.4.4 of the *El Dorado County General Plan* based on canopy coverage. The Study Area is within the area covered by the *El Dorado Hills Specific Plan*, which generally describes preservation criteria for oak trees within designated open space areas.

4.5.4 Purple Needlegrass

Approximately 0.29 acre of purple needlegrass is interspersed within the annual grassland community within the Study Area. Purple needlegrass grassland is listed as a sensitive plant community on the CDFW Natural Communities List and is required to be considered in CEQA documents. In order for purple needlegrass grassland to be considered a natural community, at least five percent of the species is required as a characteristic to dominant species in the herbaceous layer and the species is usually greater than 10 percent relative cover of the herbaceous layer. These small mapped areas contain greater than 10 percent relative cover within the herbaceous layer (Figure 3). However, the small acreage dominated by purple needlegrass is contained within the larger annual grassland community and therefore is not considered a sensitive habitat due to its extremely limited distribution.

4.5.5 Wildlife Migration Corridors

Wildlife corridors link areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. This fragmentation of habitat can also occur when a portion of one or more habitats is converted into another habitat; for instance, when woodland or scrub habitat is altered or converted into grasslands after a disturbance such as fire, mudslide, or construction activities. Wildlife corridors mitigate the effects of this fragmentation by: (1) allowing animals to move between remaining habitats thereby permitting depleted populations to be replenished and promoting genetic exchange; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk of catastrophic events (such as fire or disease) on population or local species extinction; and (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs. There are no wildlife migration corridors within the Study Area.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Known or potential biological constraints in the Study Area include the following:

- Potential habitat for special-status plant species;
- Potential habitat for valley elderberry longhorn beetle;
- Potential habitat for western pond turtle;
- Potential habitat for coast horned lizard;
- Potential habitat for foothill yellow-legged frog;
- Potential habitat for western spadefoot;
- Potential foraging habitat for golden eagle;
- Potential foraging habitat for tricolored blackbird;
- Potential habitat for burrowing owl;
- Potential nesting sites and foraging habitat for raptors and other birds;
- Potential habitat for American badger;
- Potential habitat for special-status bat species including pallid bat and silver-haired bat; and
- Sensitive habitats, including potentially jurisdictional waters of the U.S. (seasonal wetlands, seep, wetland swale, and ephemeral and intermittent drainages), riparian habitat, and valley oak woodland.

5.1 RECOMMENDATIONS

5.1.1 Special-Status Plant Species

Botanical inventories were conducted on April 24, 2015, May 26, 2015, and June 16, 2015. No special-status plants were documented to occur within the Study Area. However, construction has not commenced within two years of the 2015 botanical inventories, therefore additional botanical inventories are recommended to ensure that populations have not established in the intervening years, in accordance with CDFW's plant protocols. In the event that focused surveys for special-status plants continue to be negative, no further measures are recommended. In the event that special-status plant species are found within the Study Area and they cannot be avoided by construction, a qualified botanist should prepare an avoidance and mitigation plan detailing protection and avoidance measures, transplanting procedures, success criteria, and long-term monitoring protocols for impacted plants. In addition, a pre-construction worker awareness training should be conducted alerting workers to the presence of and protections for special-status plants.

5.1.2 Valley Elderberry longhorn Beetle

Although no VELB were observed, there is a low potential for VELB to be present in the Study Area due to two blue elderberry shrubs present within southern portion of the Study Area. However, under current guidance from the USFWS (USFWS 2017a), this species is not expected to be found above 500 feet in elevation. The elevation of the Study Area ranges from approximately 705 to 795 feet above MSL. Therefore, it is unlikely that this species would utilize the Study Area. In addition, the shrubs onsite showed no sign of exit holes. The 2017 guidance recommends consulting with the USFWS under these conditions. Based on the findings, it would be expected that the USFWS would determine that the Project would unlikely to affect VELB. However, if the USFWS were to find that the Project may affect VELB, the Project may be required to implement appropriate mitigation for impacts to elderberry shrubs within the Study Area which may include purchase of mitigation credits and transplantation of affected elderberry shrubs to an approved mitigation site.

5.1.3 Western Pond Turtle

The seasonal marsh habitat embedded within the intermittent drainage and surrounding uplands within the Study Area may be suitable habitat for western pond turtle and they are known to occur in the vicinity. Filling of these features could impact this species, if present. In addition, vegetation clearing and grading within the surrounding uplands could impact this species, if present.

A pre-construction survey for western pond turtle should be conducted within 14 days of the initiation of construction by a qualified biologist prior to any construction activity that would directly impact pond or stream habitat or disturb the ground within 300 feet of aquatic habitat. If no western pond turtles are observed, a letter report should be prepared to document the survey, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey or halts for more than 14 days a new survey should be conducted prior to reinitiating construction.

If western pond turtles are found during the pre-construction survey, then a qualified biological monitor should be onsite during initial clearing and grading within 300 feet of suitable aquatic habitat. The biological monitor will relocate any western pond turtles found within the construction footprint to suitable habitat away from the construction zone, but within the vicinity of the Study Area, if required.

In addition, a pre-construction worker awareness training should be conducted alerting workers to the presence of and protections for the western pond turtle.

5.1.4 Coast Horned Lizard

The non-native annual grassland within the Study Area provides a low potential for coast horned lizard to occur given the lack of sandy soil. However, given that there is some potential for this species to occur within the Study Area, a pre-construction survey for coast horned lizard is recommended within 14 days prior to the start of ground disturbance. If no coast horned lizards are observed, then no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey or halts for more than 14 days, a new survey is recommended.

If coast horned lizards are found, additional avoidance measures are recommended including having a qualified biologist conduct a pre-construction survey within 24 hours prior to commencement of construction activities, performing a worker awareness training to all construction workers, and being present on the Study Area during grading activities for the purpose of relocating any coast horned lizards found within the construction footprint to suitable habitat away from the construction zone, but within the Study Area.

5.1.5 Foothill Yellow-Legged Frog

The intermittent drainage and surrounding uplands within the Study Area provide marginal potential habitat for foothill yellow-legged frog. A qualified biologist should conduct a pre-construction survey of the drainages and uplands within 150 feet for foothill yellow-legged frog within 14 days prior to commencement of construction activities. If no foothill yellow-legged frog are observed, then a letter report documenting the results of the survey should be provided to the applicant for their records, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, a new survey is recommended.

If any foothill yellow-legged frog are found, agency consultation would be required to determine additional avoidance measures that might be required including having a qualified biologist conduct a pre-construction survey within 24 hours prior to commencement of construction activities, performing a worker awareness training to all construction workers, and being present on the Study Area during grading activities for the purpose of relocating any foothill yellow-legged frog found within the construction footprint to suitable habitat away from the construction zone, but within the Study Area.

5.1.6 Western Spadefoot

The annual grassland within the Study Area provides a low potential for upland aestivation habitat and the seasonal wetlands provide low quality breeding habitat for western spadefoot. A qualified biologist should conduct a pre-construction survey for western spadefoot within 14 days prior to commencement of construction activities. If no western spadefoot are observed, then a letter report documenting the results of the survey should be provided to the applicant for their records, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, a new survey is recommended.

If any western spadefoot are found, additional avoidance measures are recommended including having a qualified biologist conduct a pre-construction survey within 24 hours prior to commencement of

construction activities, performing a worker awareness training to all construction workers, and being present on the Study Area during grading activities for the purpose of relocating any western spadefoot found within the construction footprint to suitable habitat away from the construction zone, but within the Study Area.

5.1.7 Golden Eagle

Although the Study Area is unlikely to provide suitable nesting habitat for this species, the annual grassland provides suitable foraging habitat for golden eagle. A map identifying suitable foraging habitat for golden eagle within a three-mile radius of the last known location of the nest, which includes the Study Area, is provided in Figure 4. There are over 3,900 acres of potential foraging habitat surrounding the nest, based on an assessment of current aerial photographs. The project will result in the removal of 27.71 acres of annual grassland. The removal of approximately 0.71 percent of foraging habitat would have no impact on this species. Therefore, no additional measures are recommended.

5.1.8 Tricolored Blackbird

Although the Study Area does not provide suitable nesting areas for a tricolored blackbird colony, the annual grassland provides suitable foraging habitat. There are currently no requirements for conservation or mitigation for tricolored blackbird foraging habitat. Therefore, no additional measures are recommended.

5.1.9 Burrowing Owl

Although burrowing owl has a low potential to occur within the annual grassland, given the lack of suitable burrows and that they were not observed during the protocol-level breeding and non-breeding season surveys (Foothill Associates 2016b) or any other biological surveys conducted within the Study Area, they are not currently considered to be present. However, the species could occupy the Study Area in the future. Therefore, the project proponent should conduct a take avoidance survey within 30 days prior to commencement of construction, in accordance with the 2012 *California Department of Fish and Wildlife Staff Report on Burrowing Owl Mitigation* (2012 Staff Report) (CDFW 2012). The survey area includes an approximately 500-foot (150-meter) buffer around the Study Area, where access is permitted. If the surveys are negative, then no additional measures are recommended.

If burrows are observed within 500 feet of the Study Area, an impact assessment should be prepared and submitted to CDFW, in accordance with the 2012 Staff Report. If it is determined that project activities may result in impacts to nesting, occupied, and satellite burrows and/or burrowing owl habitat, the project proponent should consult with CDFW and develop a detailed mitigation plan such that the habitat acreage, number of burrows, and burrowing owls impacted are replaced. The mitigation plan should be based on the requirements set forth in Appendix A of the 2012 Staff Report.

5.1.10 Nesting Migratory Birds and Raptors

Several species of raptors and other migratory birds may forage and nest in the Study Area, including the special-status species white-tailed kite, Cooper's hawk, golden eagle, ferruginous hawk, merlin, grasshopper sparrow, and purple martin. Active nests are protected by the California Fish and Game Code Section 3503.5 and the MBTA. Construction activities could result in disturbance of nest sites through temporary increases in ambient noise levels and increased human activity. In addition,

vegetation clearing operations, including pruning or removal of trees and shrubs, could impact nesting birds if these activities occur during the nesting season (February 15 to August 31). All vegetation clearing including removal of trees and shrubs should be completed between September 1 to February 14, if feasible.

If vegetation removal and grading activities begin during the nesting season (February 1 to August 31), a qualified biologist should conduct a pre-construction survey of the project footprint for active nests. Additionally, the surrounding 500 feet should be surveyed for active raptor nests where accessible. The pre-construction survey should be conducted within 14 days prior to commencement of ground-disturbing activities. If the pre-construction survey shows that there is no evidence of active nests, a letter report should be prepared to document the survey, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, an additional survey is required prior to starting work.

If nests are found and considered to be active, the project biologist should establish buffer zones to prohibit construction activities and minimize nest disturbance until the young have successfully fledged. Buffer width will depend on the species in question, surrounding existing disturbances, and specific site characteristics, but may range from 20 feet for some songbirds to 250 feet for most raptors. If active nests are found within any trees slated for removal, then an appropriate buffer should be established around the trees and the trees should not be removed until a biologist determines that the nestlings have successfully fledged. In addition, a pre-construction worker awareness training should be conducted alerting workers to the presence of and protections for the active avian nests. If construction activities are proposed to begin during the non-breeding season (September 1 through January 31), a survey is not required and no further studies are necessary.

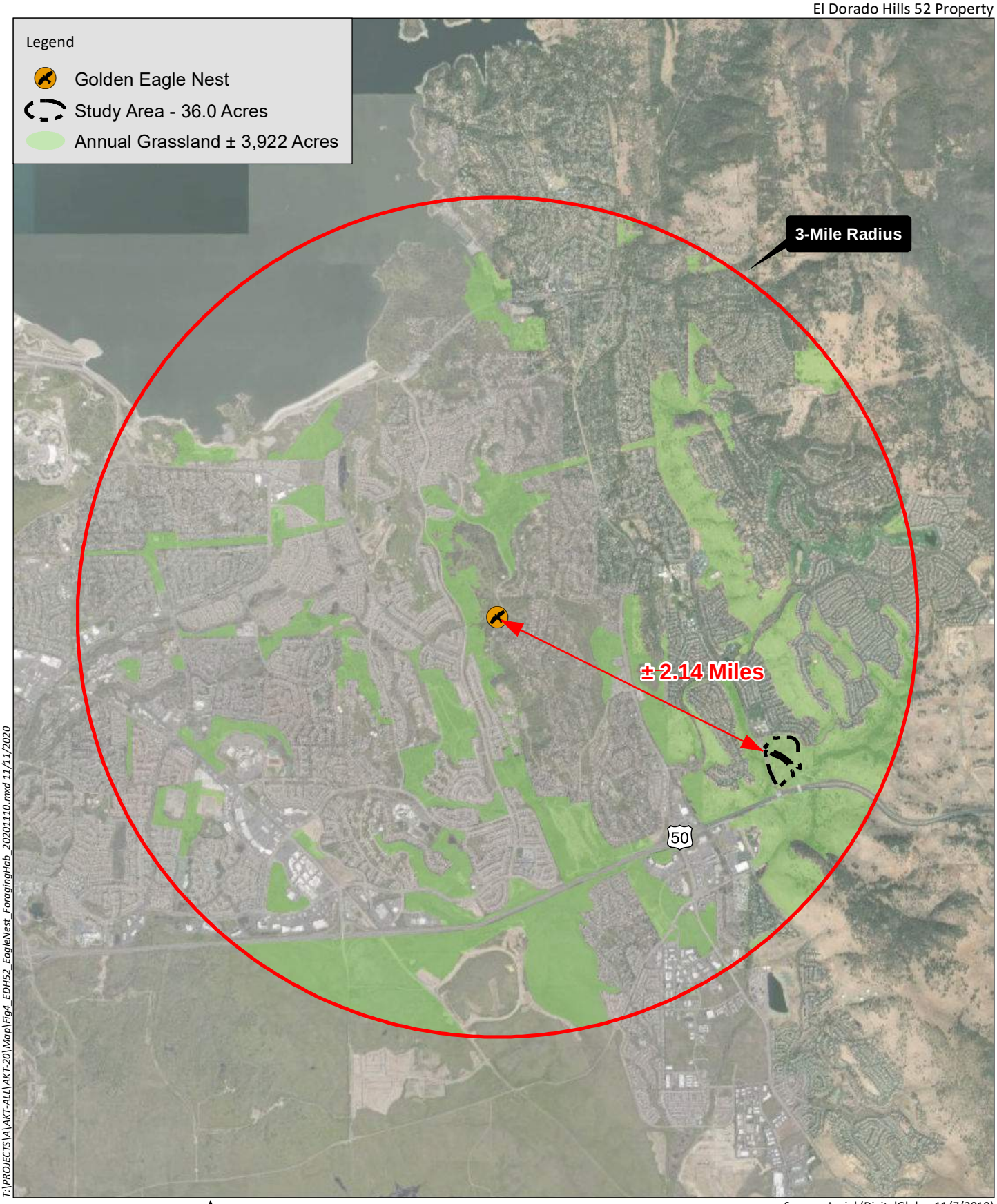
5.1.11 American Badger

The annual grassland provides habitat for American badger. A qualified biologist should conduct a pre-construction survey for American badger within 14 days prior to the start of ground disturbance. If no American badgers are observed, then a letter report documenting the results of the survey should be provided to the project proponent for their records, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, a new survey is recommended.

If American badgers or their dens are found, additional avoidance measures are recommended including having a qualified biologist conduct a pre-construction survey within 24 hours prior to commencement of construction activities, performing a worker awareness training to all construction workers, and being present on the Study Area during grading activities for the purpose of temporarily halting construction activities until the biologist determines that the badger has left the construction footprint on its own accord.

5.1.12 Special-Status Bat Species

The existing riparian and oak woodlands provide potential roosting habitat for various bat species that occur in the vicinity of the Study Area. Removal of trees could impact bats should they be roosting in areas proposed for removal.



HELIX Environmental Planning

Annual Grassland for Golden Eagle Foraging Habitat Within the Vicinity of the Study Area

Figure 4

A qualified biologist should conduct a preconstruction survey within 14 days prior to clearing or grading operations and removal of trees. If no bats are observed, a letter report should be prepared to document the survey, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, an additional survey is required prior to starting work.

If special-status bat species are present and roosting on or within 100 feet of the Study Area, then the biologist should establish an appropriate buffer around the roost site. At minimum, no trees should be removed until the biologist has determined that the bat is no longer roosting in the tree. Additional mitigation measures for bat species, such as installation of bat boxes or alternate roost structures, would be recommended only if special-status bat species are found to be roosting within the project area. In addition, a pre-construction worker awareness training should be conducted alerting workers to the presence of and protections for various bat species.

5.1.13 Jurisdictional Waters

Since proposed construction activities will impact aquatic resources within the Study Area, a Section 404 permit should be obtained from the USACE and a Section 401 water quality certification and/or WDRs should be obtained from the RWQCB prior to the start of construction for any impacts to waters of the U.S. or State. Any waters of the U.S. or State or jurisdictional wetlands that would be lost or disturbed should be replaced or rehabilitated on a "no-net-loss" basis in accordance with the agency mitigation guidelines. Habitat restoration, rehabilitation, and/or replacement should be at a location and by methods agreeable to the agencies.

Water quality concerns during construction would be addressed through the preparation of a Storm Water Pollution Prevention Plan (SWPPP). SWPPPs are required in issuance of a NPDES construction discharge permit by the U.S. Environmental Protection Agency. Implementation of Best Management Practices (BMPs) during construction is standard in most SWPPPs. Examples of BMPs include stockpiling of debris away from regulated wetlands and waterways; immediate removal of debris piles from the site during the rainy season; use of silt fencing and construction fencing around regulated waterways; and use of drip pans under work vehicles and containment of fuel waste throughout the site during construction. If authorization for project-related activities within federally jurisdictional aquatic resources is required, Section 401 water quality certification from the Regional Water Quality Control Board would be required to certify compliance with State standards for maintaining water quality objectives. Alternately, WDRs are issued by the State Water Resources Control Board for activities impacting waters of the State.

The onsite drainages and associated riparian areas are likely subject to CDFW jurisdiction. Therefore, the project proponent should prepare a streambed alteration notification for submittal to CDFW documenting impacts to CDFW jurisdictional features (see Section 5.1.15).

5.1.14 Oak Trees and Oak Woodland

The Project would result in the removal of 11 protected oak trees. To mitigate for the biological resources impact associated with the loss of oak woodlands associated with the project, a combination of avoidance, protection, onsite replacement, where feasible, and offsite preservation or creation of oak woodland habitat is recommended. An Oak Resources Technical Report was prepared by HELIX in November of 2020 (HELIX 2020b). In that report, it was assumed that in lieu fees will be paid to

El Dorado County to offset project-related impacts to oak woodland and individual oak trees. Tree protection measures should be implemented around trees to remain in the Study Area as detailed in the project's Oak Resources Technical Report (HELIX 2020b).

5.1.15 Riparian Habitats

Riparian habitat and drainages within the Study Area are likely subject to CDFW jurisdiction. It is recommended that a Streambed Alteration Agreement application be submitted to CDFW, pursuant to Section 1600 of the Fish and Game Code, for any activities affecting the bed, bank or associated riparian vegetation of the onsite drainages. If required, the project applicant should coordinate with CDFW in developing appropriate mitigation, and should abide by the conditions of any executed permits.

5.2 SUMMARY OF AVOIDANCE AND MINIMIZATION MEASURES

Implementation of the following measures prior to development is recommended to minimize impacts to biological resources within the Study Area:

- Obtain a Section 404 Clean Water Act Permit, 401 Water Quality Certification or WDRs, and SAA for impacts to jurisdictional aquatic features and associated riparian habitat prior to the start of construction;
- Conduct updated focused botanical surveys for potentially occurring special-status plants;
- Conduct clearing and tree and shrub removal operations between September 1 and January 31 if feasible to minimize potential impacts to nesting birds;
- If construction begins during the nesting season (February 1 to August 31) conduct a pre-construction survey for active bird nests within the Study Area;
- Conduct a take avoidance survey for burrowing owl within 30 days prior to commencement of construction activities, in accordance with the 2012 Staff Report;
- Within 14 days prior to the initiation of construction activities, conduct a pre-construction survey for coast horned lizard, foothill yellow-legged frog, western pond turtle, American badger, and special-status bat species; and
- Implement the tree avoidance, maintenance, and mitigation measures as described in the Oak Resources Technical Report (HELIX 2020b).

6.0 REFERENCES

Barr, C.B. 1991. The distribution, habitat, and status of the valley elderberry longhorn beetle *Desmocerus californicus dimorphus*. U.S. Fish and Wildlife Service: Sacramento, CA.

California Department of Fish and Wildlife (CDFW). 2012. Staff Report on Burrowing Owl Mitigation. State of California Natural Resources Agency Department of Fish and Game. March 7, 2012.

2020a. California Natural Diversity Data Base (For: *Clarksville* and nine surrounding USGS 7.5-minute series quadrangles), Sacramento, CA. Accessed on October 12, 2020.

2020b. Conservation and Management of Wildlife and Habitat: Species Management. Available online at: https://wildlife.ca.gov/Conservation.

California Native Plant Society (CNPS). 2020. Inventory of Rare and Endangered Plants (online edition, v8-03 0.39) For: *Clarksville* and nine surrounding USGS 7.5-minute series quadrangles. Accessed on October 9, 2020.

El Dorado County. 2004. *El Dorado County General Plan, A Plan for Managed Growth and Open Roads, A Plan for Quality Neighborhoods and Traffic Relief*. Adopted July 9, 22004. Amended December 10, 2019.

2017. *El Dorado County General Plan Conservation and Open Space Element*. Prepared by El Dorado County. Update Approved October 2017. Available online at: https://www.edcgov.us/government/planning/adoptedgeneralplan/documents/7_conservation.pdf.

2017b. *El Dorado County Oak Resources Management Plan*. Available online at: https://www.edcgov.us/Government/longrangeplanning/environmental/Documents/Reso-129-2017-Exhibit-A-ORMP-10-24-2017.pdf.

2020. *El Dorado County Oak Resources Conservation Ordinance*. Available online at: https://www.edcgov.us/Government/longrangeplanning/environmental/Documents/Oak-Resources-Conservation-Ordinance%205061-10-24-2017-Bookmarked.pdf.

Foothill Associates. 2016a. *California Red-Legged Frog (Rana draytonii) Breeding Season Survey Report for the 32-Acre El Dorado Hills 52 Project, El Dorado County, California*. August 30, 2016.

2016b. *Results of the Protocol Level Burrowing Owl Surveys Letter Report for the El Dorado Hills 52 Project, El Dorado County, California*. February 22, 2016.

2016c. *Results of the Protocol Level Special-Status Plant Surveys Letter Report for the El Dorado Hills 52 Project, El Dorado County, California*. February 25, 2016.

HELIX Environmental Planning Inc. (HELIX). 2020a. *Aquatic Resources Delineation Report for Marie Mitchell Project*. Prepared for the El Dorado Hills 52 Project. Dated November 2020.

2020b. *El Dorado Hills 52 Oak Resources Technical Report*. Dated November 2020.

Jennings, M.R., and M.P. Hayes. 1994. Amphibian and Reptile Species of Special Concern in California. California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, California.

Kochert, M. N., K. Steenhof, C. L. Mcintyre and E. H. Craig. 2002. Golden Eagle (Aquila chrysaetos). *The Birds of North America Online* (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Available online at: http://bna.birds.cornell.edu/bna/species/684.

McGrady, M.J. 1997. "*Golden Eagle*". Birds of the Western Palearctic Update, 1: 99-114.

Rosenberg, D., J. Gervais, and D. Vesely. 2009. *Conservation Assessment of the Western Pond Turtle in Oregon* (*Actinemys marmorata*). Version 1.0. November 2009. U.S.D.I. Bureau of Land Management and Fish and Wildlife Service. U.S.D.A. Forest Service Region 6. Oregon Department of Fish and Wildlife, City of Portland. Metro.

Stebbins, R. C. 2003. *Western Amphibians and Reptiles*, *3rd Edition*. Boston: Houghton Mifflin Co.

U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS). 2020. Web Soil Survey: Area of Interest (AOI). Available online at: http://websoilsurvey.sc.egov.usda.gov.

U.S. Fish and Wildlife Service (USFWS). 1999. Conservation Guidelines for the Valley Elderberry Longhorn Beetle: Sacramento, California.

2005. Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon. Region 1, U.S. Fish and Wildlife Service, Portland, OR. December 15.

2014. 50 CFR Part 17 RIN–1018–AV29 Endangered and Threatened Wildlife and Plants; Withdrawal of the Proposed Rule to Remove the Valley Elderberry Longhorn Beetle from the Federal List of Endangered and Threatened Wildlife. Federal Register Vol. 79, No. 180. September 17.

2017a. Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*). U.S. Fish and Wildlife Service; Sacramento, California. 28 pp.

2020. Information for Planning and Conservation (IPaC) Trust Resource Report: El Dorado, California. Accessed on October 12, 2020.

U.S. Geological Survey (USGS). 2018. *Clarksville* California. 7.5 -minute series topographic quadrangle. U.S. Department of the Interior.

Watson, Jeff. 2010. *The Golden Eagle*. 2nd Edition. London: A&C Black Publishers.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1988-1990. *California's Wildlife: California Wildlife Habitat Relationships*. Volumes I-III. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Game. Available online at: http://www.dfg.ca.gov/whdab/html/cawildlife.html.

Appendix A

Applicable Sections of the El Dorado County General Plan

This page intentionally left blank

El Dorado County General Plan

Conservation and Protection of Water Resources

GOAL 7.3: WATER QUALITY AND QUANTITY
Conserve, enhance, and manage water resources and protect their quality from degradation.

OBJECTIVE 7.3.1: WATER RESOURCE PROTECTION
Preserve and protect the supply and quality of the County's water resources including the protection of critical watersheds, riparian zones, and aquifers.

Policy 7.3.1.1 Encourage the use of Best Management Practices, as identified by the Soil Conservation Service, in watershed lands as a means to prevent erosion, siltation, and flooding.

Policy 7.3.1.2 Establish water conservation programs that include both drought tolerant landscaping and efficient building design requirements as well as incentives for the conservation and wise use of water.

Policy 7.3.1.3 The County shall develop the criteria and draft an ordinance to allow and encourage the use of domestic gray water for landscape irrigation purposes. (See Title 22 of the State Water Code and the Graywater Regulations of the Uniform Plumbing Code).

OBJECTIVE 7.3.2: WATER QUALITY
Maintenance of and, where possible, improvement of the quality of underground and surface water.

Policy 7.3.2.1 Stream and lake embankments shall be protected from erosion, and streams and lakes shall be protected from excessive turbidity.

Policy 7.3.2.2 Projects requiring a grading permit shall have an erosion control program approved, where necessary.

Policy 7.3.2.3 Where practical and when warranted by the size of the project, parking lot storm drainage shall include facilities to separate oils and salts from storm water in accordance with the recommendations of the Storm Water Quality Task Force's California Storm Water Best Management Practices Handbooks (1993).

Policy 7.3.2.4 The County should evaluate feasible alternatives to the use of salt for ice control on County roads.

Policy 7.3.2.5 As a means to improve the water quality affecting the County's recreational waters, enhanced and increased detailed analytical water quality studies and

monitoring should be implemented to identify and reduce point and non-point pollutants and contaminants. Where such studies or monitoring reports have identified sources of pollution, the County shall propose means to prevent, control, or treat identified pollutants and contaminants.

OBJECTIVE 7.3.3: WETLANDS

Protection of natural and man-made wetlands, vernal pools, wet meadows, and riparian areas from impacts related to development for their importance to wildlife habitat, water purification, scenic values, and unique and sensitive plant life.

Policy 7.3.3.1 *For projects that would result in the discharge of material to or that may affect the function and value of river, stream, lake, pond, or wetland features, the application shall include a delineation of all such features. For wetlands, the delineation shall be conducted using the U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual*

Policy 7.3.3.2 *Intentionally blank*

Policy 7.3.3.3 *The County shall develop a database of important surface water features, including lake, river, stream, pond, and wetland resources.*

Policy 7.3.3.4 *The Zoning Ordinance shall be amended to provide buffers and special setbacks for the protection of riparian areas and wetlands. The County shall encourage the incorporation of protected areas into conservation easements or natural resource protection areas.*

Exceptions to riparian and wetland buffer and setback requirements shall be provided to permit necessary road and bridge repair and construction, trail construction, and other recreational access structures such as docks and piers, or where such buffers deny reasonable use of the property, but only when appropriate mitigation measures and Best Management Practices are incorporated into the project. Exceptions shall also be provided for horticultural and grazing activities on agriculturally zoned lands that utilize "best management practices (BMPs)" as recommended by the County Agricultural Commission and adopted by the Board of Supervisors.

Until standards for buffers and special setbacks are established in the Zoning Ordinance, the County shall apply a minimum setback of 100 feet from all perennial streams, rivers, lakes, and 50 feet from intermittent streams and wetlands. These interim standards may be modified in a particular instance if more detailed information relating to slope, soil stability, vegetation, habitat, or other site- or project-specific conditions supplied as part of the review for a specific project demonstrates that a different setback is necessary or would be sufficient to protect the particular riparian area at issue.

For projects where the County allows an exception to wetland and riparian buffers, development in or immediately adjacent to such features shall be planned so that impacts on the resources are minimized. If avoidance and minimization are not feasible, the County shall make findings, based on documentation provided by the project proponent, that avoidance and minimization are infeasible.

Policy 7.3.3.5 *Rivers, streams, lakes and ponds, and wetlands shall be integrated into new development in such a way that they enhance the aesthetic and natural character of the site while disturbance to the resource is avoided or minimized and fragmentation is limited.*

OBJECTIVE 7.3.4: DRAINAGE
Protection and utilization of natural drainage patterns.

Policy 7.3.4.1 *Natural watercourses shall be integrated into new development in such a way that they enhance the aesthetic and natural character of the site without disturbance.*

Policy 7.3.4.2 *Modification of natural stream beds and flow shall be regulated to ensure that adequate mitigation measures are utilized.*

OBJECTIVE 7.3.5: WATER CONSERVATION
Conservation of water resources, encouragement of water conservation, and construction of wastewater disposal systems designed to reclaim and re-use treated wastewater on agricultural crops and for other irrigation and wildlife enhancement projects.

Policy 7.3.5.1 *Drought-tolerant plant species, where feasible, shall be used for landscaping of commercial development. Where the use of drought-tolerant native plant species is feasible, they should be used instead of non-native plant species.*

Policy 7.3.5.2 *A list of appropriate local indigenous drought tolerant plant materials shall be maintained by the County Planning Department and made available to the public.*

Policy 7.3.5.3 *The County Parks and Recreation Division shall use drought tolerant landscaping for all new parks and park improvement projects.*

Policy 7.3.5.4 *Require efficient water conveyance systems in new construction. Establish a program of ongoing conversion of open ditch systems shall be considered for conversion to closed conduits, reclaimed water supplies, or both, as circumstances permit.*

Policy 7.3.5.5 *Encourage water reuse programs to conserve raw or potable water supplies consistent with State Law.*

Conservation of Biological Resources

GOAL 7.4: WILDLIFE AND VEGETATION RESOURCES
Identify, conserve, and manage wildlife, wildlife habitat, fisheries, and vegetation resources of significant biological, ecological, and recreational value.

OBJECTIVE 7.4.1: RARE, THREATENED, AND ENDANGERED SPECIES
The County shall protect State and federally recognized rare, threatened, or endangered species and their habitats consistent with Federal and State laws.

Policy 7.4.1.1 *The County shall continue to provide for the permanent protection of the eight sensitive plant species known as the Pine Hill endemics and their habitat through the establishment and management of ecological preserves consistent with County Code Chapter 17.71 and the USFWS's Gabbro Soil Plants for the Central Sierra Nevada Foothills Recovery Plan (USFWS 2002).*

Policy 7.4.1.2 *Private land for preserve sites will be purchased only from willing sellers.*

Policy 7.4.1.3 *Limit land uses within established preserve areas to activities deemed compatible. Such uses may include passive recreation, research and scientific study, and education. In conjunction with use as passive recreational areas, develop a rare plant educational and interpretive program.*

Policy 7.4.1.4 *Proposed rare, threatened, or endangered species preserves, as approved by the County Board of Supervisors, shall be designated Ecological Preserve (-EP) overlay on the General Plan land use map.*

Policy 7.4.1.5 *Species, habitat, and natural community preservation/conservation strategies shall be prepared to protect special-status plant and animal species and natural communities and habitats when discretionary development is proposed on lands with such resources unless it is determined that those resources exist, and either are or can be protected, on public lands or private Natural Resource lands.*

Policy 7.4.1.6 *All development projects involving discretionary review shall be designed to avoid disturbance or fragmentation of important habitats to the extent reasonably feasible. Where avoidance is not possible, the development shall be required to fully mitigate the effects of important habitat loss and fragmentation. Mitigation shall be defined in the Integrated Natural Resources Management Plan (INRMP) (see Policy 7.4.2.8 and Implementation Measure CO-M).*

The County Agricultural Commission, Plant and Wildlife Technical Advisory Committee, representatives of the agricultural community, academia, and other

stakeholders shall be involved and consulted in defining the important habitats of the County and in the creation and implementation of the INRMP.

Policy 7.4.1.7 The County shall continue to support the Noxious Weed Management Group in its efforts to reduce and eliminate noxious weed infestations to protect native habitats and to reduce fire hazards.

OBJECTIVE 7.4.2: IDENTIFY AND PROTECT RESOURCES
Identification and protection, where feasible, of critical fish and wildlife habitat including deer winter, summer, and fawning ranges; deer migration routes; stream and river riparian habitat; lake shore habitat; fish spawning areas; wetlands; wildlife corridors; and diverse wildlife habitat.

Policy 7.4.2.1 To the extent feasible in light of other General Plan policies and to the extent permitted by State law, the County of El Dorado will protect identified critical fish and wildlife habitat, as identified on the Important Biological Resources Map maintained at the Planning Department, through any of the following techniques: utilization of open space, Natural Resource land use designation, clustering, large lot design, setbacks, etc.

Policy 7.4.2.2 Where critical wildlife areas and migration corridors are identified during review of projects; the County shall protect the resources from degradation by requiring all portions of the Site that contain or influence said areas to be retained as non-disturbed natural areas through mandatory clustered development on suitable portions of the Site or other means such as density transfers if clustering cannot be achieved. The setback distance for designated or protected migration corridors shall be determined as part of the project's environmental analysis. The intent and emphasis of the Open Space land use designation and of the non-disturbance policy is to ensure continued viability of contiguous or interdependent habitat areas and the preservation of all movement corridors between related habitats. The intent of mandatory clustering is to provide a mechanism for natural resource protection while allowing appropriate development of private property. Horticultural and grazing projects on agriculturally designated lands are exempt from the restrictions placed on disturbance of natural areas when utilizing "Best Management Practices" (BMPs) recommended by the County Agricultural Commission and adopted by the Board of Supervisors when not subject to Policy 7.1.2.7.

Policy 7.4.2.3 Consistent with Policy 9.1.3.1 of the Parks and Recreation Element, low impact uses such as trails and linear parks may be provided within river and stream buffers if all applicable mitigation measures are incorporated into the design.

Policy 7.4.2.4 Establish and manage wildlife habitat corridors within public parks and natural resource protection areas to allow for wildlife use. Recreational uses within these areas shall be limited to those activities that do not require grading or vegetation removal.

Policy 7.4.2.5 Setbacks from all rivers, streams, and lakes shall be included in the Zoning Ordinance for all ministerial and discretionary development projects.

Policy 7.4.2.6 El Dorado County Biological Community Conservation Plans shall be required to protect, to the extent feasible, rare, threatened, and endangered plant species only when existing federal or State plans for non-jurisdictional areas do not provide adequate protection.

Policy 7.4.2.7 The County shall form a Plant and Wildlife Technical Advisory Committee to advise the Planning Commission and Board of Supervisors on plant and wildlife issues, and the committee should be formed of local experts, including agricultural, fire protection, and forestry representatives, who will consult with other experts with special expertise on various plant and wildlife issues, including representatives of regulatory agencies. The Committee shall formulate objectives which will be reviewed by the Planning Commission and Board of Supervisors.

Policy 7.4.2.8 Develop within five years and implement an Integrated Natural Resources Management Plan (INRMP) that identifies important habitat in the County and establishes a program for effective habitat preservation and management. The INRMP shall include the following components:

A. Habitat Inventory. This part of the INRMP shall inventory and map the following important habitats in El Dorado County:

1. *Habitats that support special-status species;*
2. *Aquatic environments including streams, rivers, and lakes;*
3. *Wetland and riparian habitat;*
4. *Important habitat for migratory deer herds; and*
5. *Large expanses of native vegetation.*

The County should update the inventory every three years to identify the amount of important habitat protected, by habitat type, through County programs and the amount of important habitat removed because of new development during that period. The inventory and mapping effort shall be developed with the assistance of the Plant and Wildlife Technical Advisory Committee, CDFW, and USFWS. The

inventory shall be maintained and updated by the County Planning Department and shall be publicly accessible.

B. *Habitat Protection Strategy. This component shall describe a strategy for protecting important habitats based on coordinated land acquisitions (see item D below) and management of acquired land. The goal of the strategy shall be to conserve and restore contiguous blocks of important habitat to offset the effects of increased habitat loss and fragmentation elsewhere in the county. The Habitat Protection Strategy should be updated at least once every five years based on the results of the habitat monitoring program (item F below). Consideration of wildlife movement will be given by the County on all future 4- and 6-lane roadway construction projects. When feasible, natural undercrossings along proposed roadway alignments that could be utilized by terrestrial wildlife for movement will be preserved and enhanced.*

C. *Mitigation Assistance. This part of the INRMP shall establish a program to facilitate mitigation of impacts to biological resources resulting from projects approved by the County that are unable to avoid impacts on important habitats. The program may include development of mitigation banks, maintenance of lists of potential mitigation options, and incentives for developers and landowner participation in the habitat acquisition and management components of the INRMP.*

D. *Habitat Acquisition. Based on the Habitat Protection Strategy and in coordination with the Mitigation Assistance program, the INRMP shall include a program for identifying habitat acquisition opportunities involving willing sellers. Acquisition may be by state or federal land management agencies, private land trusts or mitigation banks, the County, or other public or private organizations. Lands may be acquired in fee or protected through acquisition of a conservation easement designed to protect the core habitat values of the land while allowing other uses by the fee owner. The program should identify opportunities for partnerships between the County and other organizations for habitat acquisition and management. In evaluating proposed acquisitions, consideration will be given to site specific features (e.g., condition and threats to habitat, presence of special-status species), transaction related features (e.g., level of protection gained, time frame for purchase completion, relative costs), and regional considerations (e.g., connectivity with adjacent protected lands and important habitat, achieves multiple agency and community benefits). Parcels that include important habitat and are located generally to the west of the El Dorado National Forest should be given priority for acquisition. Priority will also be given to parcels that would preserve natural wildlife movement corridors such as*

crossing under major roadways (e.g., U.S. Highway 50 and across canyons). All land acquired shall be added to the Ecological Preserve overlay area.

E. *Habitat Management. Each property or easement acquired through the INRMP should be evaluated to determine whether the biological resources would benefit from restoration or management actions. Examples of the many types of restoration or management actions that could be undertaken to improve current habitat conditions include: removal of non-native plant species, planting native species, repair and rehabilitation of severely grazed riparian and upland habitats, removal of culverts and other structures that impede movement by native fishes, construction of roadway under and overcrossing that would facilitate movement by terrestrial wildlife, and installation of erosion control measures on land adjacent to sensitive wetland and riparian habitat.*

F. *Monitoring. The INRMP shall include a habitat monitoring program that covers all areas under the Ecological Preserve overlay together with all lands acquired as part of the INRMP. Monitoring results shall be incorporated into future County planning efforts so as to more effectively conserve and restore important habitats. The results of all special-status species monitoring shall be reported to the CNDDB. Monitoring results shall be compiled into an annual report to be presented to the Board of Supervisors.*

G. *Public Participation. The INRMP shall be developed with and include provisions for public participation and informal consultation with local, state, and federal agencies having jurisdiction over natural resources within the County.*

H. *Funding. The County shall develop a conservation fund to ensure adequate funding of the INRMP, including habitat maintenance and restoration. Funding may be provided from grants, mitigation fees, and the County general fund. The INRMP annual report described under item F above shall include information on current funding levels and shall project anticipated funding needs and anticipated and potential funding sources for the following five years.*

Policy 7.4.2.9 *The Important Biological Corridor (-IBC) overlay shall apply to lands identified as having high wildlife habitat values because of extent, habitat function, connectivity, and other factors. Lands located within the overlay district shall be subject to the following provisions except that where the overlay is applied to lands that are also subject to the Agricultural District (-A) overlay or that are within the Agricultural Lands (AL) designation, the land use restrictions associated with the -IBC policies will not apply to the extent that the agricultural practices do not interfere with the purposes of the -IBC overlay.*

- *Increased minimum parcel size;*
- *Higher canopy-retention standards and/or different mitigation standards/thresholds for oak woodlands;*
- *Lower thresholds for grading permits;*
- *Higher wetlands/riparian retention standards and/or more stringent mitigation requirements for wetland/riparian habitat loss;*
- *Increased riparian corridor and wetland setbacks;*
- *Greater protection for rare plants (e.g., no disturbance at all or disturbance only as recommended by U.S. Fish and Wildlife Service/California Department of Fish and Wildlife);*
- *Standards for retention of contiguous areas/large expanses of other (non-oak or non-sensitive) plant communities;*
- *Building permits discretionary or some other type of "site review" to ensure that canopy is retained;*
- *More stringent standards for lot coverage, floor area ratio (FAR), and building height; and*
- *No hindrances to wildlife movement (e.g., no fences that would restrict wildlife movement).*

The standards listed above shall be included in the Zoning Ordinance.

Wildland Fire Safe measures are exempt from this policy, except that Fire Safe measures will be designed insofar as possible to be consistent with the objectives of the Important Biological Corridor.

OBJECTIVE 7.4.3: COORDINATION WITH APPROPRIATE AGENCIES
Coordination of wildlife and vegetation protection programs with appropriate federal and State agencies.

OBJECTIVE 7.4.5: NATIVE VEGETATION AND LANDMARK TREES
Protect and maintain native trees including oaks and landmark and heritage trees.

Policy 7.4.5.1 A tree survey, preservation, and replacement plan shall be required to be filed with the County prior to issuance of a grading permit for discretionary permits on all high-density residential, multifamily residential, commercial, and industrial projects. To ensure that proposed replacement trees survive, a mitigation monitoring plan should be incorporated into discretionary projects when applicable and shall include provisions for necessary replacement of trees.

Policy 7.4.5.2 It shall be the policy of the County to preserve native oaks wherever feasible, through the review of all proposed development activities where such trees are present on either public or private property, while at the same time recognizing individual rights to develop private property in a reasonable manner. To ensure that oak tree loss is reduced to reasonable acceptable levels, the County shall develop and implement an Oak Tree Preservation Ordinance that includes the following components:

A. Oak Tree Removal Permit Process. Except under special exemptions, a tree removal permit shall be required by the County for removal of any native oak tree with a single main trunk of at least 6 inches diameter at breast height (dbh), or a multiple trunk with an aggregate of at least 10 inches dbh. Special exemptions when a tree removal permit is not needed shall include removal of trees less than 36 inches dbh on 1) lands in Williamson Act Contracts, Farmland Security Zone Programs, Timber Production Zones, Agricultural Districts, designated Agricultural Land (AL), and actions pursuant to a Fire Safe plan; 2) all single family residential lots of one acre or less that cannot be further subdivided; 3) when a native oak tree is cut down on the owner's property for the owner's personal use; and 4) when written approval has been received from the County Planning Department. In passing judgment upon tree removal permit applications, the County may impose such reasonable conditions of approval as are necessary to protect the health of existing oak trees, the public and the surrounding property, or sensitive habitats. The County Planning Department may condition any removal of native oaks upon the replacement of trees in kind. The replacement requirement shall be calculated based upon an inch for inch replacement of removed oaks. The total of replacement trees shall have a combined diameter of the tree(s) removed. Replacement trees may be planted onsite or in other areas to the satisfaction of the County Planning Department. The County may also condition any tree removal permit that would affect sensitive habitat (e.g., valley oak woodland), on preparation of a Biological Resources Study and an Important Habitat Mitigation Program as described in Policy 7.4.1.6. If an application is denied, the County shall provide written notification, including the reasons for denial, to the applicant.

B. Tree Removal Associated with Discretionary Project. Any person desiring to remove a native oak shall provide the County with the following as part of the project application:

- *A written statement by the applicant or an arborist stating the justification for the development activity, identifying how trees in the vicinity of the project or construction site will be protected and stating*

that all construction activity will follow approved preservation methods;

- *A site map plan that identifies all native oaks on the project site; and*
- *A report by a certified arborist that provides specific information for all native oak trees on the project site.*

C. *Commercial Firewood Cutting. Fuel wood production is considered commercial when a party cuts firewood for sale or profit. An oak tree removal permit shall be required for commercial firewood cutting of any native oak tree. In reviewing a permit application, the Planning Department shall consider the following:*

- *Whether the trees to be removed would have a significant negative environmental impact;*
- *Whether the proposed removal would not result in clear-cutting, but will result in thinning or stand improvement;*
- *Whether replanting would be necessary to ensure adequate regeneration;*
- *Whether the removal would create the potential for soil erosion;*
- *Whether any other limitations or conditions should be imposed in accordance with sound tree management practices; and*
- *What the extent of the resulting canopy cover would be.*

D. *Penalties. Fines will be issued to any person, firm, or corporation that is not exempt from the ordinance who damages or destroys an oak tree without first obtaining an oak tree removal permit. Fines may be as high as three times the current market value of replacement trees as well as the cost of replacement, and/or replacement of up to three times the number of trees required by the ordinance. If oak trees are removed without a tree removal permit, the County Planning Department may choose to deny or defer approval of any application for development of that property for a period of up to 5 years. All monies received for replacement of illegally removed or damaged trees shall be deposited in the County's Integrated Natural Resources Management Plan (INRMP) conservation fund.*

Preservation of Open Space

GOAL 7.6: OPEN SPACE CONSERVATION

Conserve open space land for the continuation of the County's rural character, commercial agriculture, forestry and other productive uses, the enjoyment of scenic beauty and recreation, the protection of natural resources, for protection from natural hazards, and for wildlife habitat.

OBJECTIVE 7.6.1: IMPORTANCE OF OPEN SPACE

Consideration of open space as an important factor in the County's quality of life.

Policy 7.6.1.1 *The General Plan land use map shall include an Open Space land use designation. The purpose of this designation is to implement the goals and objectives of the Land Use and the Conservation and Open Space Elements by serving one or more of the purposes stated below. In addition, the designations on the land use map for Rural Residential and Natural Resource areas are also intended to implement said goals and objectives. Primary purposes of open space include:*

A. Conserving natural resource areas required for the conservation of plant and animal life including habitat for fish and wildlife species; areas required for ecologic and other scientific study purposes; rivers, streams, banks of rivers and streams and watershed lands;

B. Conserving natural resource lands for the managed production of resources including forest products, rangeland, agricultural lands important to the production of food and fiber; and areas containing important mineral deposits;

C. Maintaining areas of importance for outdoor recreation including areas of outstanding scenic, historic and cultural value; areas particularly suited for park and recreation purposes including those providing access to lake shores, beaches and rivers and streams; and areas which serve as links between major recreation and open space reservations including utility easements, banks of rivers and streams, trails and scenic highway corridors;

D. Delineating open space for public health and safety including, but not limited to, areas which require special management or regulation because of hazardous or special conditions such as earthquake fault zones, unstable soil areas, flood plains, watersheds, areas presenting high fire risks, areas required for the protection of water quality and water reservoirs, and areas required for the protection and enhancement of air quality; and

E. Providing for open spaces to create buffers which may be landscaped to minimize the adverse impact of one land use on another.

Policy 7.6.1.2 *The County will provide for Open Space lands through:*

A. The designation of land as Open Space;

B. The designation of land for low-intensity land uses as provided in the Rural Residential and Natural Resource land use designations;

C. *Local implementation of the Federal Emergency Management Agency's National Flood Insurance Program;*

D. *Local implementation of the State Land Conservation Act Program; and*

E. *Open space land set aside through Planned Developments (PDs).*

Policy 7.6.1.3 The County shall implement Policy 7.6.1.1 through zoning regulations and the administration thereof. It is intended that certain districts and certain requirements in zoning regulations carry out the purposes set forth in Policy 7.6.1.1 as follows:

A. *The Open Space (OS) Zoning District is consistent with and shall implement the Open Space designation of the General Plan land use map and all other land use designations.*

B. *The Agricultural (A), Exclusive Agricultural (AE), Planned Agricultural (PA), Select Agricultural (SA-10), and Timberland Production Zone (TPZ) zoning districts are consistent with Policy 7.6.1.1 and serve one or more of the purposes set forth therein.*

C. *Zoning regulations shall provide for setbacks from all flood plains, streams, lakes, rivers and canals to maintain Purposes A, B, C, and D set forth in Policy 7.6.1.1.*

D. *Zoning regulations shall provide for maintenance of permanent open space in residential, commercial, industrial, agricultural, and residential agricultural zone districts based on standards established in those provisions of the County Code. The regulations shall minimize impacts on wetlands, flood plains, streams, lakes, rivers, canals, and slopes in excess of 30 percent and shall maintain Purposes A, B, C, and D in Policy 7.6.1.1.*

E. *Landscaping requirements in zoning regulations shall provide for vegetative buffers between incompatible land uses in order to maintain Purpose E in Policy 7.6.1.1.*

F. *Zoning regulations shall provide for Mineral Resource Combining Zone Districts and/or other appropriate mineral zoning categories which shall be applied to lands found to contain important mineral deposits if development of the resource can occur in compliance with all other policies of the General Plan. Those regulations shall maintain Purposes A, B, C, D, and E of Policy 7.6.1.1.*

Policy 7.6.1.4 The creation of new open space areas, including Ecological Preserves, common areas of new subdivisions, and recreational areas, shall include wildfire safety planning.

El Dorado Hills Specific Plan

1.4.1.1 Site Development and Grading

The policies set forth in the Specific Plan are intended to maintain, to the maximum extent possible, the natural land forms and to exercise control over vegetation removal, landscaping, and grading. Grading controls are intended to reduce soil erosion to a minimum to ensure capability with adjacent terrain.

a) *Grading for roadways, driveways, building pads, and onsite improvements shall be minimized.*

b) *Grading volumes of cut-and-fill material shall be minimized and balanced onsite wherever possible. Larger grading volumes may be acceptable where improved visual and environmental effects would result.*

c) *Residential structures or accessory structures on slopes in access of 20 percent shall be carefully designed through use of erosion controls, engineered grading, and use of post and beam or step-footing construction to ensure long-term slope stability. Benched hillsides for building sites shall be avoided and split-level structures encouraged.*

d) *A plan to minimize impact to oak trees shall be submitted to the El Dorado County Community Development Department prior to approval of any tentative map. The plan will include, at a minimum, the locations and sizes of individual trees that should not be impacted.*

e) *A minimum of 20 percent of all roadside trees and parking lot trees shall be native oaks.*

f) *Removal of oak trees and other large native trees with trunk circumferences of 25 inches at 4.5 feet above grade shall be avoided where feasible. A tree replacement policy is provided in the Design Guidelines on file with the County of El Dorado.*

g) *To avoid damage to root systems of retained trees, residential construction shall not occur within the canopy area of oak trees over 30 inches in circumference at breast height, and shall be subject to review as provided in the Design Guidelines.*

h) *Landscaping in improved common areas shall be of drought-resistant varieties.*

i) *To preserve the vegetative character of the Plan Area, the planting of native trees, shrubs, and ground cover shall be encouraged in all new landscaping.*

j) *Landscaping in areas adjacent to natural open spaces shall be fire resistant.*

k) *Site design, building orientation, and street and lot patterns shall follow solar orientation principles to the maximum extent practicable to maximize energy conservation.*

l) Archaeological test excavations for selected locations within the Plan Area shall be required as a condition of approval of tentative subdivision maps.

m) As part of the tentative map approval, areas having expansive clays and seasonably wet areas shall be identified by a geotechnical engineer. Such areas, if deemed to be potential construction hazards, shall be subject to further evaluation and identification to determine appropriate mitigation measures.

n) To the maximum extent feasible, development shall be sited and designed to avoid impacts to culturally significant sties identified by the Final EIR for the Plan Area as EDH-26 and EDH-29.

o) Where feasible, and given the physical constraints of the Plan Area, subdivisions and other new development shall be designed to facilitate solar use as a means of reducing total energy consumption. The design elements that shall be considered include:

- *Solar orientation*
- *Shade Control*
- *Wind Management*
- *Solar access*

p) The Design Guidelines shall be one of the implementation measures of the Specific Plan.

1.4.1.2 Development Near Native Oak Trees

These guidelines are for the protection of healthy oak trees that will remain after construction in developed areas. The term circumference is breast height (CBH) refers to the trunk measurement of either one trunk or the addition of all trunks in a multi-trunked tree. The respective measure in circumference would also apply. Also refer to **Section 3.10** for Oak Tree Preservation Guidelines.

a) Protect all oak trees larger than 25 inches CBH o the maximum extent feasible. Priority will be given to oaks larger than 56 inches CBH.

b) Trees to be saved will be surrounded by a barrier or fence installed at the dripline and flagged.

c) Pruning of limbs will be confined to low-hanging branches over roads and sidewalks, and large branches that are weak or may reasonably appear to pose a safety hazard. Pruning paint will not be used under any circumstances. Pruning cuts will be made cleanly to avoid damaged to the "bark ridge" tissue of adjacent limbs.

d) The El Dorado County Planning Department will be responsible for enforcement of oak tree protection during construction.

e) In development areas, no oak trees larger than 25 inches CBH will be removed until a site survey and inspection report is performed.

1.4.1.5 Vegetation and Fire Hazards

In areas of planned development:

a) All potentially dry herbaceous vegetation will be mowed or disked within a 50-foot radius of all construction site activity.

b) Disking or mowing will be done to keep herbaceous vegetation under 3 inches in height at all construction sites.

c) No construction equipment or vehicles will be allowed within 50 feet of the unmowed perimeter.

d) Firebreaks will be installed by disking or mowing a trail that is satisfactory to the El Dorado Hills Fire Development. Mowing is preferred to disking or scraping because the latter two practices promote invasion of noxious weed species on fire trails.

e) Temporary or permanent firebreaks will be installed on all ridgelines, crossing all areas in the vicinity of construction and grading activity, prior to beginning work.

f) Firebreak installation will avoid the removal of native oaks and other native trees.

1.4.8 Natural Open Space Policies

The Natural Open Space Policies are to guide the preservation, management, and maintenance of these areas in relation to adjacent land uses.

1.4.8.1 General Policies

a) The boundaries of natural open space shall blend with the boundaries of the development as to enhance the integration of open space and developed areas.

b) Perimeter fencing may be permitted for rural parcels as provided in the El Dorado County Design Guidelines and CC&Rs.

c) Increased runoff from adjacent development will require erosion control measures to be coordinated with landscape design of adjacent development areas. Emphasis shall be placed on methods that rely on natural drainage systems and minimize change to the existing condition of creek channels within open space areas.

d) An Open Space Management Plan shall be completed and submitted to the El Dorado County Community Development Department prior to approval of any tentative map creating open space. It shall be an implementation mechanism of the Specific Plan in order to set forth procedures and responsibilities as to the ownership, preservation, and management of public and private natural open space areas. The Open Space Management Plan shall consider dedication to the County of El Dorado of easements

over the public open space areas, should dedication of fee ownership of these areas be made to any other entity. The open space plan shall be reviewed by the El Dorado Hills Fire Department. The plan shall also include, at a minimum:

1. *The locations of fire access roads, fuel breaks, and passive recreation trails.*
2. *Control burning techniques.*
3. *Guidelines established in the Open Space Guidelines for El Dorado County*
4. *Investigation of opportunities for wildlife use of water in open space areas as a part of ongoing wildlife maintenance.*

1.4.8.2 Riparian and Other Drainageway Policies

A 200-foot-wide undeveloped buffer zone shall be established along Carson Creek in accordance with California Department of Fish and Wildlife requirements. In this buffer, vegetation removal shall be for the purpose of drainage improvements. In consideration of setback reductions for purposes of a gold course, the County shall consider such mitigation measures as additional plantings, erosion controls, and other habitat improvement and protection steps.

a) *Drainageway easements shall specifically preclude erection of structures and vegetation removal, except for drainage improvements, and shall forestall other site development not consistent with the purpose of these areas.*

b) *Drainageways located on privately owned property shall be placed within recorded easements that provide for routine maintenance and pedestrian access.*

c) *A 100-foot-wide buffer (50 feet horizontal on each side as measured from centerline of the creek) of natural vegetation shall be maintained along all intermittent creeks.*

d) *Grazing shall not be allowed in riparian buffer zones.*

e) *Plantings of riparian trees and shrubs shall be situated according to the flood and soil moisture tolerances of individual species as in Appendix C of the Specific Plan.*

f) *Areas disturbed during construction shall be replanted with native riparian species listed in Appendix C of the Specific Plan. Replanting will include a mandatory 3-year maintenance and irrigation period.*

g) *Riparian vegetation on the golf course areas shall be kept naturally dense and unpruned except where needed for crossings, ball pay passages, and personal and fire safety.*

h) *Pedestrian, vehicular, and utility bridges over creeks, if feasible, will be oriented at right angles to the waterway to minimize loss of vegetation.*

i) The capacity of flow under bridges and culverts will be designed to reduce the need for extensive vegetation clearing near the structures.

j) Periodic vegetation removal to ensure adequate floodway capacity in drainages will be performed to promote an overstory of mature individual riparian trees spaced to accommodate designed flows.

El Dorado Hills Community Services District Policies

5.27 Oak Tree Preservation

5.27.3 General Requirements for Development Activity in the Protected Zone of Protected Trees

The importance of oak tree preservation is recognized with tree protection provisions in the Covenants, Conditions, and Restrictions (CC&Rs) of the most units in El Dorado Hills and in County Code 17.73 titled Oak Woodland Conservation prior to initiating any activity that may affect an oak tree on their land or on that of an adjoining property, owners of property in El Dorado Hills should check their CC&Rs carefully to determine whether Design Review Committee (DRC) approval is required.

5.27.4 Removal of Protected Trees

It shall be the policy of the DRC to preserve protected trees wherever feasible while recognizing individual rights to develop private property in a reasonable manner. It shall be the responsibility of the applicant to demonstrate the need for any oak tree removal. In determining whether to approval the removal or major trimming of a protected tree, the DRC will consider the following listed factors and, depending upon particular circumstances, may consider others which are not listed:

a) The degree to which the tree will be an obstacle to approval development activity.

b) The condition of the tree with respect to disease, general health, damage, danger of falling.

c) The effect removal would have upon safety, public health, remaining trees, and the beauty and general welfare of the area.

d) The effect removal would have upon soil stability, erosion, particularly near water courses and on slopes.

e) Present and future shade effect with respect to cooling and solar power/heating.

f) Whether or not there are feasible alternative measures to removal.

g) Applicants may be required to provide an arborist report from an arborist who would not be performing any eventual tree removal or major limbing. Alternatively, and it is discretion the DRC may employ an arborist of its choice.

5.27.5 Protecting Oak Trees During Development Activity

Property owners are responsible for taking the following measures to protect oak trees, except any approval from removal during development activity.

a) *Erect protective orange "ski fencing" around the protected zone of each protected tree or group of trees within 50 feet of development activity prior to initiating work and excluded from the enclosed protected zone any work related activity such as storage and vehicle parking.*

b) *Exert every reasonable effort to preserve undisturbed the natural ground within protected zones.*

c) *If it is absolutely necessary to trench within a protected zone, if boring or drilling would not be feasible, excavate by hand under the supervision of a certified arborist. Do not cut any root larger than two inches in diameter; keep the exposed root moist and cover with soil as quickly as feasible. Sever small roots neatly, trim and cover quickly.*

d) *Make no grade changed within the protected zone unless specifically indicated in the approved plans.*

5.27.6 Mitigation EDHCSD Tree Preservation Fund, Public Education

In the event the owner of property with protected trees removed or significantly damages one or more of them without approval, the DRC, at its discretion, may require mitigation by planting a proportionate number of diameter inches of replacement oak trees on the owner's property or by assessing a fee at the rate of $200 per diameter inch (amount tripled for unapproved removal of a landmark tree) to compensate for the expense of planting a proportionate number of diameter inches of oak trees on public property or by a combination of these alternatives.

In the event the owner of the property with protection trees applies for approval of a protect that will damage protected trees, and the DRC determines they could be reasonably be preserved, the DRC, at its sole discretion, may offer the applicant the option of an approval in exchange for on-site mitigation or payment of a mitigation fee based upon the number of diameter inches that applicant would remove.

Mitigation fees paid by property owners are held by the EDHCSD in a Tree Preservation Fund until used to cover the expense of mitigation planting or for related purposes. It is widely recognized that the loss of oak tree is partly the result of the lack of public awareness on oak preservation. A portion of the funds collected for mitigation may be used to establish and promote educational programs to improve this situation.

This page intentionally left blank

Appendix B

Regionally Occurring Listed and Special-Status Species

This page intentionally left blank

Appendix B
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Plants			
Allium jepsonii Jepson's onion	--/--/1B.2	A perennial bulbiferous herb found in serpentinite or volcanic soils and occurs in chaparral, cismontane woodland, and lower montane coniferous forest. Blooms April – August (CNPS 2020).	**None. S**uitable serpentinite and volcanic soils are absent from the Study Area.
Allium sanbornii var. *sanbornii* Jepson's onion	--/--/4.2	A perennial bulbiferous herb found in serpentinite and gravelly soils and occurs in chaparral, cismontane woodland, and lower montane coniferous forest. Blooms May – September (CNPS 2020).	**None.** Suitable serpentinite soils are absent from the Study Area.
Balsamorhiza macrolepis big-scale balsamroot	--/--/1B.2	A perennial herb found on slopes in chaparral, cismontane woodland, and valley and foothill grassland, sometimes in serpentine soil. Elevation range 45 – 1,555 meters. Blooms March – June (CNPS 2020).	**None.** Annual grassland habitat is present for this species; however this species was not observed during botanical surveys which were conducted during the blooming period for this species in April, May and June of 2015.
Brodiaea rosea ssp. *vallicola* valley broadiaea	--/--/4.2	A perennial bulbiferous herb found in old alluvial terraces, silty, sandy, and gravelly loam soils and occurs in swales of valley and foothill grassland and vernal pools. Blooms April – May (June) (CNPS 2020).	**None.** Suitable soils and vernal pools are absent from the Study Area.
Calandrinia breweri Brewer's calandrinia	--/--/4.2	An annual herb found in sandy or loamy, disturbed sites of burns and occurs in chaparral and coastal scrub. Blooms (January) March – June (CNPS 2020).	**None.** Suitable habitat is absent from the Study Area.
Calystegia stebbinsii Stebbin's morning-glory	FE/SE/1B.1	A perennial rhizomatous herb found in gabbroic or serpentinite soils and occurs in chaparral openings and cismontane woodland. Blooms April – July (CNPS 2020).	**None. S**uitable serpentinite and gabbroic soils are absent from the Study Area.

Appendix B (cont.)
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Carex xerophila chaparral sedge	--/--/1B.2	A perennial herb found in gabbroic and serpentinite soils and occurs in chaparral, cismontane woodland, and lower montane coniferous forest. Blooms March – June (CNPS 2020).	**None. S**uitable serpentinite and gabbroic soils are absent from the Study Area.
Ceanothus fresnensis Fresno ceanothus	--/--/4.3	A perennial evergreen shrub that occurs in openings of cismontane woodland and lower montane coniferous forest. Blooms May – July (CNPS 2020).	**None.** The Study Area occurs outside of the known elevation range for this species.
Ceanothus roderickii Pine Hill ceanothus	FE/--/1B.1	A perennial evergreen shrub found in serpentinite or nutrient-deficient forms of gabbro-derived soils characterized by low concentrations of available K, P, S, Fe, and Zn. Occurs in chaparral and cismontane woodland. Blooms April – June (CNPS 2020).	**None. S**uitable serpentinite and gabbroic soils are absent from the Study Area. Additionally, this species would have been identifiable during the survey if it were present since it is an evergreen shrub.
Chlorogalum grandiflorum Red Hills soaproot	--/--/1B.2	A perennial bulbiferous herb found in serpentinite, gabbroic, and other soils and occurs in chaparral, cismontane woodland, and lower montane coniferous forest. Blooms May – June (CNPS 2020).	**None. S**uitable serpentinite and gabbroic soils are absent from the Study Area.
Clarkia biloba ssp. *brandegeeae* Brandegee's clarkia	--/--/4	Annual herb found often in roadcuts within chaparral, cismontane woodland, and lower montane coniferous forest from 75 to 915 meters.	**Low.** The woodlands within the Study Area provide marginal habitat for this species. but it was not found during focused protocol surveys during the bloom period (Foothill Associates 2016c).
Claytonia parviflora ssp. *grandiflora* streambank spring beauty	--/--/4.2	An annual herb found in rocky soils and occurs in cismontane woodland. Blooms February – May (CNPS 2020).	**None.** The Study Area does not provide habitat for this species and is outside of the known elevational range.
Crocanthemum suffrutescens Bisbee Peak rush-rose	--/--/3.2	Perennial evergreen shrub often found on gabbroic or lone soil and often in burned or disturbed areas within chaparral from 75 to 670 meters.	**None.** Suitable Ione or gabbroic soils are absent from the Study Area.

Appendix B (cont.)
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Downingia pusilla dwarf downingia	--/--/-2B.2	An annual herb that occurs in mesic valley and foothill grassland and vernal pools. Blooms March – May (CNPS 2020).	**Low.** Seasonal wetland habitat is present for this species; however, this species was not observed during botanical surveys which were conducted during the blooming period for this species in April, May and June of 2015.
Erigeron miser starved daisy	--/--/1B.3	A perennial herb found on rocky soils in upper montane coniferous forest from 1,840 – 2,620 meters elevation. Blooms June – October (CNPS 2020)	**None**. There is no suitable habitat in upper montane coniferous forest and the Study Area is below the elevational range of this species.
Eriophyllum jepsonii Jepson's woolly sunflower	--/--/4.3	A perennial herb found sometimes in serpentinite soils and occurs in chaparral, cismontane woodland and coastal scrub. Blooms April – June (CNPS 2020).	**None.** Suitable habitat is absent from the Study Area.
Eryngium pinnatisectum Tuolumne button-celery	--/--/1B.2	An annual/perennial herb found in vernal pools in cismontane woodland and lower montane coniferous forest from 70 – 915 meters elevation. Blooms May – August (CNPS 2020).	**Low.** Seasonal wetland habitat is present for this species; however this species was not observed during botanical surveys which were conducted during the blooming period for this species in May and June of 2015.
Fremontodendron decumbens Pine Hill flannelbush	FE/--/1B.2	A perennial evergreen shrub found in rocky gabbroic or serpentinite soils and occurs in chaparral and cismontane woodland. Blooms April – July (CNPS 2020).	**None. S**uitable serpentinite and gabbroic soils are absent from the Study Area. Additionally, this species would have been identifiable during the survey if it were present since it is an evergreen shrub.
Galium californicum ssp. *sierrae* El Dorado bedstraw	FE/--/1B.2	A perennial herb found in gabbroic and occurs in chaparral, cismontane woodland, and lower montane coniferous forest. Blooms May – June (CNPS 2020).	**None. S**uitable gabbroic soils are absent from the Study Area. Additionally, this species would have been identifiable during the survey if it were present since it is an evergreen shrub.

Appendix B (cont.)
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Gratiola heterosepala Bogg's Lake hedge-hyssop	--/--/1B.2	Annual herb found on clay soils in vernal pools and along the lake margins of marshes and swamps from 10 to 2,375 meters. Blooms April – August (CNPS 2020).	**None.** There are no vernal pools within the Study Area.
Horkelia parryi Parry's horkelia	--/--/1B.2	A perennial herb found in chaparral and cismontane woodland on Ione formation soils and other soils from 80 – 1,070 meters elevation. Blooms April – September (CNPS 2020).	**None. S**uitable Ione formation soil is absent from the Study Area.
Juncus leiospermus var*. ahartii* Ahart's dwarf rush	--/--/1B.2	An annual herb found in vernal pools in the eastern Sacramento Valley from 30 – 229 meters elevation. Blooms March – May (CNPS 2020).	**Low.** Seasonal wetland habitat is present for this species; however this species was not observed during botanical surveys which were conducted during the blooming period for this species in April and May of 2015.
Legenere limosa legenere	--/--/1B.1	An annual herb found in vernal pools from 1 – 880 meters elevation. Blooms April – June (CNPS 2020).	**Low.** Seasonal wetland habitat is present for this species; however this species was not observed during botanical surveys which were conducted during the blooming period for this species in April and May of 2015.
Lilium humboldtii ssp*. humboldtii* Humboldt lily	--/--/4.2	A perennial bulbiferous herb that occurs in the openings of chaparral, cismontane woodland, and lower montane coniferous forest. Blooms May – July (August) (CNPS 2020).	**Low.** The woodlands within the Study Area provide marginal habitat for this species. but it was not found during focused protocol surveys during the bloom period (Foothill Associates 2016c).

Appendix B (cont.)
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Navarretia myserii ssp. *myserii* pincushion navarretia	--/--/1B.1	An annual herb found often in acidic soils and occurs in vernal pools. Blooms April – May (CNPS 2020).	**Low.** Seasonal wetland habitat is present for this species; however this species was not observed during botanical surveys which were conducted during the blooming period for this species in April and May of 2015.
Orcuttia tenuis slender Orcutt grass	FT/SE/1B.1	An annual herb found in vernal pools from 35 – 1,760 meters elevation. Blooms May to October (CNPS 2020).	**Low.** Seasonal wetland habitat is present for this species; however, this species was not observed during botanical surveys which were conducted during the blooming period for this species in May and June of 2015.
Orcuttia viscida Sacramento Orcutt grass	FE/SE/1B.1	An annual herb that occurs in vernal pools. Blooms April – July (September) (CNPS 2020).	**Low.** Seasonal wetland habitat is present for this species; however, this species was not observed during botanical surveys which were conducted during the blooming period for this species in April, May and June of 2015.
Packera layneae Layne's ragwort	FT-/--/1B.2	A perennial herb found in rocky gabbroic or serpentinite soils and occurs in chaparral and cismontane woodland. Blooms April – August (CNPS 2020).	**None. S**uitable serpentinite and gabbroic soils are absent from the Study Area.
Sagittaria sanfordii Sanford's arrowhead	--/--/1B.2	An emergent perennial rhizomatous herb that occurs in assorted freshwater marshes and swamps. Blooms May – October (November) (CNPS 2020).	**Low.** Seasonal wetland habitat is present for this species; however, this species was not observed during botanical surveys which were conducted during the blooming period for this species in May and June of 2015.

Appendix B (cont.)
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Trichostema rubisepalum Hernandez bluecurls	--/--/4.3	An annual herb found in volcanic or serpentinite, and gravelly soils and occurs in broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and vernal pools. Blooms June – August (CNPS 2020).	**None.** Suitable volcanic and serpentinite soils are absent from the Study Area.
Wyethia reticulata El Dorado County mule ears	--/--/1B.2	A perennial herb found in clay or gabbroic soils and occurs in chaparral, cismontane woodland, and lower montane coniferous forest. Blooms April – August (CNPS 2020).	**None. S**uitable serpentinite and gabbroic soils are absent from the Study Area.
Animals			
Invertebrates			
Bombus occidentalis western bumble bee	--/CE/--	Bumble bees are primitively eusocial insects that live in underground colonies made up of one queen, female workers, and reproductive members of the colony. New colonies are initiated by solitary queens, generally in the early spring, which typically occupy abandoned rodent burrows (Thorp et al. 1983). This species is a generalist forager and have been reported visiting a wide variety of flowering plants. A short-tongued bumble bee; select food plants include *Melilotus* spp., Cirsium spp., *Trifolium* spp., *Centaurea* spp., *Eriogonum* spp., and *Chrysothamnus* spp. (Koch et al. 2012). This species has a short tongue and typically prefers open flowers with short corollas but is known to chew through the base of flowers with long corollas. The flight period for queens in California is from early February to late November, peaking in late June and late September. New queens hibernate over the winter and initiate a new colony the following spring (Thorp et al. 1983). Rare throughout its range and in decline west of the Sierra Nevada crest.	**None.** Habitat is present for western bumble bee and some select food plants are present on site, such as clover. However, this species is currently rare across its range and in California it is currently limited to high elevation meadows in the Sierra Nevada and small coastal populations (CDFW 2020).

Appendix B (cont.)
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Branchinecta lynchi vernal pool fairy shrimp	FT/--/--	The range of the vernal pool fairy shrimp (VPFS) within California includes the Central Valley and southern California. (USFWS 2005). Populations are known from Stillwater Plain in Shasta County through most of the length of the Central Valley to Pixley in Tulare County (additional disjunct populations exist at various locations throughout state). VPFS occurs mostly in vernal pools, however it is also found in a variety of both natural and artificial wetland habitats, such as alkali pools, ephemeral drainages, stock ponds, roadside ditches, vernal swales, and rock outcrop pools (USFWS 2005). Occupied wetlands are typically small (ranging from 0.1 to 0.05 acres in size), and pond for a relatively short duration (3-4 weeks) (Eriksen and Belk 1999). Soil types associated with VPFS vary greatly with geography and influence the ecology of the species. This fairy shrimp occurs in pools with 48 to 481 ppm salinity, and pH from 6.3 to 8.5 (Eriksen and Belk 1999).	**None.** There are no vernal pools within the Study Area.
Desmocerus californicus californicus valley elderberry longhorn beetle	FT/--/--	Endemic to elderberry shrubs (*Sambucus* spp.) occurring in riparian habitat in the Sacramento and San Joaquin Valleys, riparian habitats in the Sacramento and San Joaquin Valleys, and less common throughout riparian forests of the Central Valley from Redding to Fresno County (USFWS 2014) typically below 152 m amsl (USFWS 2017a).	**Low.** There are elderberry shrubs within the Study Area, however all elderberry shrubs were less than one inch as measured at the base of the shrub. At least one larger elderberry shrub observed on site during the October 13, 2020 site visit was observed to be dead. Additionally, elderberry shrubs are isolated and not a part of riparian habitat and the Study Area is outside of the current recognized elevational range of the species.

Appendix B (cont.)
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Lepidurus packardi vernal pool tadpole shrimp	FE/--/--	The vernal pool tadpole shrimp (VPTS) occurs within the Central Valley of California and in the San Francisco Bay area (USFWS 2005), with the majority of the populations occurring in the Sacramento Valley. Vernal pools may range in size from small, clear, and well-vegetated to highly turbid, alkali scald pools to large winter lakes ranging in size from 54 square feet to 89 acres (USFWS 2005), containing clear- to highly-turbid water. They may be seasonal or ephemeral and may exhibit a wide range of salinity levels. VPTS cysts (resting eggs) also must have the opportunity to dry out before they can hatch.	**None.** There are no vernal pools within the Study Area.
Fishes			
Hypomesus transpacificus Delta smelt	FT/SE/--	Delta smelt are tolerant of a wide salinity range. For a large part of their one-year life span, delta smelt live along the freshwater edge of the mixing zone (saltwater-freshwater interface). Shortly before spawning, adults migrate upstream from the brackish-water habitat associated with the mixing zone and disperse into river channels and tidally-influenced backwater sloughs. They spawn in shallow, fresh or slightly brackish water upstream of the mixing zone. Most spawning happens in tidally-influenced backwater sloughs and channel edgewaters. Although spawning has not been observed in the wild, the eggs are thought to attach to substrates such as cattails, tules, tree roots and submerged branches. Delta smelt are found only from Suisun Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, Solano and Yolo counties (USFWS 1995).	**None.** There is no aquatic habitat within the Study Area.

Appendix B (cont.)
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Oncorhynchus mykiss irideus pop. 11 Central Valley Steelhead DPS	FT/--/--	This distinct population segment includes all naturally spawned anadromous steelhead populations below natural and manmade impassable barriers in the Sacramento and San Joaquin Rivers and their tributaries, excluding steelhead from San Francisco and San Pablo Bays and their tributaries, as well as two artificial propagation programs: the Coleman NFH, and Feather River Hatchery steelhead hatchery programs (NMFS 2016). Steelhead spawn in rivers and streams with cool, clear, water and suitable silt free substrate (NMFS 2016).	**None.** There is no aquatic habitat within the Study Area.
Amphibians			
Ambystoma californiense California tiger salamander	FT/ST/--	Generally restricted to vernal pools and seasonal ponds, including many constructed stock ponds, in grassland and oak savannah plant communities from sea level to about 1,500 feet in central California. Adults spend the majority of their lives in upland areas surrounding suitable breeding ponds, in rodent burrows. Suitable breeding habitat must be present in combination with suitable upland habitat. In the Coastal region, populations are scattered from Sonoma County in the northern San Francisco Bay Area to Santa Barbara County, and in the Central Valley and Sierra Nevada foothills from Yolo to Kern counties (USFWS 2017b).	**None**. There are no vernal pools, seasonal ponds, or constructed stock ponds within the Study Area. The Study Area is outside of this species known range.
Rana boylii foothill yellow-legged frog	--/SE/SSC	The foothill yellow-legged frog occurs along the coast ranges from Oregon to Los Angeles and along the western side of the Sierra Nevada. This species uses perennial rocky streams in a wide variety of habitats up to 6,400 feet above msl. This species rarely ventures far from water, is usually found basking in the water, or under	**Low**. There is no breeding habitat within the Study Area, however perennial aquatic habitat could provide aquatic non-breeding habitat for this species. There is a nearby CNDDB recorded occurrence from 1972 located 3 miles north of the

Appendix B (cont.)
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
		surface debris or underground within 165 feet of water. Eggs are laid in clusters attached to gravel or rocks along stream margins in flowing water. Tadpoles typically require up to four months to complete aquatic development. Breeding typically follows winter rainfall and snowmelt, which varies based upon location (Jennings and Hayes 1994).	Study Area and documents a collected specimen (CDFW 2020). CDFW considers this species extirpated in the Study Area and the surrounding area (CDFW 2020).
Rana draytonii California red-legged frog	FT/--/SSC	The California red-legged frog occupies a fairly distinct habitat, combining both specific aquatic and riparian components. The adults require dense, shrubby or emergent riparian vegetation closely associated with deep (greater than 2 1/3-foot deep) still or slow-moving water. The largest densities of California red-legged frogs are associated with deep-water pools with dense stands of overhanging willows (*Salix* spp.) and an intermixed fringe of cattails (*Typha latifolia*). Well-vegetated terrestrial areas within the riparian corridor may provide important sheltering habitat during winter. California red-legged frogs aestivate (enter a dormant state during summer or dry weather) in small mammal burrows and moist leaf litter. They have been found up to 100 feet from water in adjacent dense riparian vegetation. Studies have indicated that this species cannot inhabit water bodies that exceed 70° F, especially if there are no cool, deep portions (USFWS 2002).	**None.** There is no aquatic breeding habitat within the Study Area for this species. There is a nearby CNDDB recorded occurrence from 2005 located 3 miles north of the Study Area and documents an observation by a state biologist (CDFW 2020). CDFW considers this record to be of fair quality and the species to be extant (CDFW 2020), however there are no other nearby records of this species near the Study Area. No evidence of this species was observed during protocol breeding and non-breeding surveys (Foothill Associates 2016a).

Appendix B (cont.)
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Spea hammondii western spadefoot	--/--/SSC	Amphibian that breeds in vernal pools and seasonal ponds or slow portions of streams in grasslands and woodlands. Adults spend most of their time in underground burrows in grasslands surrounding breeding pools (Jennings and Hayes 1994). Breeding is typically finished by the end of March. Tadpoles mature through late-spring and disperse as pools dry (Zeiner et al. 1990).	**Low.** There are no vernal pools, seasonal ponds, or streams within the Study Area that could provide breeding habitat for this species and the seasonal wetland habitats would be considered very marginal breeding habitat for this species.
Reptiles			
Actinemys marmorata western pond turtle	--/--/SSC	Inhabits slow-moving water with dense submerged vegetation, abundant basking sites, gently sloping banks, and dry clay or silt soils in nearby uplands. Turtles will lay eggs up to 0.25-mile from water, but typically go no more than 600 feet (Jennings and Hayes 1994).	**Low.** Aquatic habitat in the Study Area does not provide sufficient water for this species to occupy the Study Area year-round. All features were observed to be dry on October 13, 2020. This species could occur in streams adjacent to the Study Area.
Phrynosoma blainvillii Blainville horned lizard	--/--/SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes in chaparral, cismontane woodland, coastal bluff scrub, coastal scrub, desert wash, pinyon and juniper woodlands, and riparian scrub and woodland (CDFW 2020).	**Low.** Suitable loose soil for burying is not present in the Study Area.
Thamnophis gigas giant garter snake	FT/ST/--	Endemic to the San Joaquin and Sacramento Valley floors. Inhabits agricultural wetlands and other waterways such as irrigation and drainage canals, sloughs, ponds, small lakes, low gradient streams, and adjacent uplands. Requires adequate water during its active season (early spring through mid-fall) to provide food and cover, emergent, herbaceous wetland vegetation for foraging and cover, grassy banks and openings in waterside vegetation for basking, and higher elevation uplands for cover and refuge from flood waters during its dormant	**None.** There is no suitable aquatic habitat within the Study Area and the Study Area is outside of the known range of this species.

Appendix B (cont.)
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
		season (winter). Inhabits small mammal burrows and other soil crevices with sunny exposure along south and west facing slopes, above prevailing flood elevations when dormant. Primarily found in marshes and sloughs as well as slow-moving creeks but absent from large rivers (USFWS 2017c).	
Birds			
Accipiter cooperii Cooper's hawk	--/--/WL	Found in cismontane woodland, riparian forest, riparian woodland, and upper montane coniferous forest.	**Low.** The woodlands on site provide potential nesting and foraging habitat.
Ammodramus savannarum grasshopper sparrow	--/--/SSC	Frequents dense, dry, or well drained grassland, especially native grassland. Nests at base of overhanging clump of grass.	**Low. T**he annual grassland habitat within the Study Area provides habitat for this species.
Agelaius tricolor tricolored blackbird	--/ST/SSC	Common locally throughout central California. Nests and seeks cover in emergent wetland vegetation and thorny vegetation such as Himalayan blackberry (*Rubus armeniacus*) as well as cattails and tules. Nesting area must be large enough to support a minimum colony of 50 pairs as they are a highly colonial species. Forages on ground in croplands, grassy fields, flooded land, and edges of ponds for insects (Shuford and Gardali 2008).	**Low. T**he riverine perennial marsh is not large enough to support breeding colonies, but colonies are recorded within 4 miles of the Study Area so the area may be used for foraging.
Ammodramus savannarum Grasshopper sparrow	--/--/SSC	Frequents dense, dry, or well drained grassland, especially native grassland. Nests at base of overhanging clump of grass.	**Low.** The annual grassland habitat within the Study Area provides habitat for this species.
Ardea alba Great egret	CSA (Nesting Colony)	Nests in colonies in large trees usually near water. Nesting colonies must be relatively isolated from human activities. Forages in shallow water in a variety of habitats.	**None.** There is no suitable nesting habitat in the Study Area.

Appendix B (cont.)
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Ardea herodias Great blue heron	CSA (Nesting Colony)	Inhabits both freshwater and saltwater habitats and forages in grassland and agricultural field. Breeding colonies are located within 2 to 4 miles of feeding areas, often in isolated swamps or on islands, and near lakes and ponds bordered by forests.	**None. T**here is no suitable nesting habitat in the Study Area.
Aquila chrysaetos golden eagle	--/--/FP	Typically occurs in rolling foothills, mountain areas, deserts and other open habitats up to 3,822 m amsl. Typically nests on cliff ledges or large trees in open areas in canyons. Will occasionally use other tall structures for nesting, such as electrical transmission towers. Prey consists mostly of rodents, carrion, birds, reptiles and occasionally small livestock (Zeiner et al. 1990).	**Low.** There is no suitable nesting habitat within the Study Area. This species is known to nest and forage in nearby open spaces in the vicinity of the Study Area. Golden eagles typically require nesting locations with a commanding view of the surrounding terrain, which is not present in the Study Area. Nests documented in CNDDB in El Dorado Hills are placed in trees amongst residential areas in a similar situation to oak trees found in the Study Area. This species is unlikely to use the Study Area for nesting.
Athene cunicularia burrowing owl	--/--/SSC	Forages in grasslands, agricultural fields, and disturbed places where burrowing mammals are abundant with low and sparse vegetation. Nests in burrows, especially those of California ground squirrel, but will use other refuge sites (*Otospermophilus beecheyi*; Shuford and Gardali 2008). In the Central Valley of California, most foraging occurs within a 600-m radius of the nest (Gervais et al. 2003).	**Low. T**he annual grassland within the Study Area provides potential habitat for this species, however, few burrows that could be occupied by this species were observed and this species was not observed during the protocol level surveys conducted within the Study Area.
Buteo regalis ferruginous hawk	--/--/WL	Overwintering occurs in grasslands or deserts with abundant prey species (rabbits, pocket gophers, or prairie dogs). This species does not nest in California.	**Low. T**he annual grassland habitat within the Study Area provides foraging habitat for this species.

Appendix B (cont.)
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Buteo swainsoni Swainson's hawk	--/ST/--	Forages in grasslands, suitable grain or alfalfa fields, or livestock pastures adjacent to nesting habitat. Nests on large trees in open riparian habitat, scattered trees or small groves of trees in open areas (CDFW 1994).	**None.** The Study Area provides suitable nesting and foraging habitat within the Study Area. The Study Area is just outside the range of this species, which typically occurs further to the west of the Study Area.
Elanus leucurus white-tailed kite	--/--/FP	Raptor that inhabits rolling foothills and valley margins with scattered oaks, as well as river bottomlands or marshes next to deciduous woodland. Nests in isolated, dense-topped trees in open areas. Forages in a variety of habitats including grassland, marshes, and agricultural fields (Zeiner et al. 1990).	**High.** There is suitable nesting habitat riparian and oak woodland habitat in the Study Area. This species is known to forage in nearby open spaces in the vicinity of the Study Area and could occur nesting in or near the Study Area.
Falco columbarius merlin	--/--/WL	Winter in open and semi-open habitats that include estuaries, Great Basin grassland, and valley and foothill grasslands. This species does not nest in the region of the Study Area.	**Low. T**he annual grassland habitat within the Study Area provides foraging habitat for this species.
Haliaeetus leucocepahlus bald eagle	FD/SE/FP	Requires large bodies of water with an abundant fish population. Feeds on fish, carrion, small mammals, and water-fowl. Nests are usually located within a 1-mile radius of water. Nests are most often situated in large trees with a commanding view of the area (Zeiner et al. 1990).	**None.** There are no suitable nest trees in the Study Area that would support this species nesting. This species is well documented nesting in nearby Folsom Lake and Lake Natoma (CDFW).
Laterallus jamaicensis coturniculus California black rail	--/ST/FP	Inhabits brackish marsh, primarily in the upper marsh zone dominated by alkali heath (*Frankenia salina*), cattail, and rush (J*uncus* spp.); prefers lower salinity environments. In the Sierra Nevada foothills, black rail is a year-round resident along wetland edges where water is 1.2 inches or less (Richmond et al. 2010). Black rail is typically associated with perennial wetlands associated with flowing water such as irrigation canals, perennial streams and springs with dense	**None.** There is no suitable wetland habitat for breeding or foraging within the Study Area.

Appendix B (cont.)
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
		vegetation in the Sierra Nevada foothills (Richmond et al. 2010). Forages on the ground, under cover of dense vegetation (Richmond et al. 2010).	
Pandion haliaetus osprey	--/--/WL	Found in a variety of habitats nearby water sources with abundant fish prey.	**None.** There are no suitable nest trees or structures in the Study Area that would support this species nesting.
Phalacrocorax auritus double-crested cormorant	--/--/WL	Breeds on ponds, lakes, artificial impoundments, slow-moving rivers, lagoons, estuaries, and open coastlines.	**None.** There is no suitable habitat for nesting within the Study Area.
Progne subis purple martin	--/--/SSC	Nests in cavities in open areas with low canopy cover at the height of the nest, near large bodies of water that support high densities of large insects. Martins use a variety of cavities including in bridges, large tree snags, and collapsed lava tubes. The species is very sensitive to competition from European starlings and is extirpated from most low-elevation areas by starlings (Shuford and Gardali 2008).	**None.** There is no suitable habitat for nesting within the Study Area.
Riparia riparia bank swallow	--/ST/--	Found primarily in riparian and lowland habitat in California. Nests in colonies along cliffs or steep river banks in holes. In California, a majority of the population is situated along the Sacramento River and the Feather River. Other smaller populations persist near Monterey and north of Shasta counties (Zeiner et al. 1990).	**None.** There are no steep banks or river habitat for nesting within the Study Area.

Appendix B (cont.)
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Mammals			
Antrozous pallidus pallid bat	--/--/SSC	Occurs throughout California except for the high Sierra Nevada and the northern Coast Ranges. Habitats include grasslands, shrublands, woodlands, and forests from sea level to 6,000 feet. Most common in open, dry habitats with rocky areas for roosting; roosts also include cliffs, abandoned buildings, bird boxes, and under bridges (Bolster, ed. 1998).	**Low.** The trees within the riparian habitat and isolated trees within the annual grassland provide roosting habitat for this species.
Lasionycteris noctivagans Silver-haired bat	--/--/CSA	Forests near water. Roosts in hollow trees, snags, buildings, rock crevices, caves, and under bark. Forages in within 300 feet of home range over water and open brushy areas.	**Low.** There is marginal habitat in the woodlands for this species on the Study Area.
Pekania pennanti fisher – West Coast DPS	FE/ST/SSC	Occupy late-successional conifer and mixed conifer-hardwood forests with an abundance of downed wood, snags, large trees, and a dense canopy (Zielinski 2014). Typically found at elevations from 1,070 – 2,135 m amsl, where persistent snow does not accumulate and impede movement (Zielinski 2014). Riparian forests and habitat close to open water such as streams are important. Cavities and branches in trees, snags, stumps, rock piles, and downed timber are used as resting sites, and large diameter live, or dead trees are selected for natal and maternal dens (Zielinski 2014). There is a significant gap in the range of fisher between the southern Sierra Nevada population and the northern Sierra Nevada/southern Cascade population that stretches approximately 400 km wide (Zielinski 2014).	**None.** There are no suitable downed wood or snags for denning. The Study Area does not provide suitable habitat for this species.

Appendix B (cont.)
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Taxidea taxus American badger	--/--/SSC	Inhabits drier open stages of most shrub, forest, and herbaceous habitats with loose, friable soils. Preys on a wide variety of mammals, reptiles, birds, and carrion, and hunts mostly by digging out fossorial prey. Occasionally takes prey on the surface. Not tolerant of cultivation. No longer occur in the Central Valley except in the extreme western edge (Williams 1986).	**Low.** Annual grassland within the Study Area provides habitat, however, very few burrows that could be utilized by this species are present within the Study Area. There is a nearby CNDDB recorded occurrence from 2015 located 4.9-miles northwest of the Study Area and documents an individual badger killed on the road (CDFW 2020). CDFW considers this species to be extant (CDFW 2020), however there are no other nearby records of this species near the Study Area.

[1] Sensitive species reported in CNDDB or CNPS on the "Rio Linda" USGS quads, or in USFWS lists for the project site.

[2] Status is as follows: Federal (ESA) listing/State (CESA) listing/other CDFW status or CRPR. F = Federal; S = State of California; E = Endangered; T = Threatened; C = Candidate; FP=Fully Protected; SSC=Species of Special Concern.

[3] Status in the Project site is assessed as follows. **None**: Species is not known to occur on or in the vicinity of the Study Area and there is no suitable habitat within the Study Area -OR- Species was surveyed for during the appropriate season with negative results -OR- The Study Area occurs outside of the known elevation or geographic ranges; **Low**: Species known to occur in the vicinity of the Study Area and there is marginal habitat within the Study Area -OR- Species is not known to occur in the vicinity of the Study Area, however, there is suitable habitat on the Study Area; **High:** Species known to occur onsite or in the vicinity of the Study Area (based on CNDDB records within five miles and/or based on professional expertise specific to the Study Area or species) and there is suitable habitat within the Study Area; **Present**: Species known to occur within the Study Area based on CNDDB records and/or observed within the Study Area during the biological survey.

CRPR = California Rare Plant Rank: 1B – rare, threatened, or endangered in California and elsewhere; 2B – rare, threatened, or endangered in California but more common elsewhere. Extension codes: .1 – seriously endangered; .2 – moderately endangered.

This page intentionally left blank

Appendix C

List of Plants Observed Within the Study Area

This page intentionally left blank

Appendix C
List of Plants Observed within the Study Area

Family	Scientific Name	Common Name	Indicator Status*
Fabaceae	*Acmispom americanus* var. *americanus*	American bird's foot trefoil	UPL
Poaceae	*Aegilops cylindrica*	Jointed goat grass	--
Poaceae	*Avena fatua*	Wildoats	--
Asteraceae	*Baccharis pilularis* ssp. *Consanguinea*	Coyote brush	--
Poaceae	*Briza minor*	Little rattlesnake grass	FAC
Themidaceae	*Brodiaea elegans*	Harvest brodiaea	FACU
Poaceae	*Bromus diandrus*	Ripgut brome	--
Poaceae	*Bromus hordeaceus*	Soft brome	FACU
Asteraceae	*Carduus pycnocephalus*	Italian thistle	--
Asteraceae	*Centromadia fitchii*	Spikeweed	FACU
Agavaceae	*Chlorogalum pomeridianum* var. *pomeridianum*	Common soaproot	--
Asteraceae	*Cirsium vulgare*	Bull thistle	FACU
Euphorbiaceae	*Croton setiger*	Turkey mullein	--
Convolvulaceae	*Cuscuta californica*	California dodder	--
Poaceae	*Cynodon dactylon*	Bermuda grass	FACU
Cyperaceae	*Cyperus eragrostis*	Tall cyperus	FACW
Apiaceae	*Daucus pusillus*	Wild carrot	UPL
Poaceae	*Deschampsia danthonioides*	Annual hair grass	FACW
Poaceae	*Deschampsia elongata*	Slender hair grass	FACW
Themidaceae	*Dichelostemma capitatum* ssp. *Capitatum*	Wild hyacinth	FACU
Asteraceae	*Dittrichia graveolens*	Stinkwort	--
Campanulaceae	*Downingia* spp.	Downingia	OBL
Cyperaceae	*Eleocharis acicularis*	Needle spikerush	OBL
Cyperaceae	*Eleocharis macrostachya*	Pale spikerush	OBL
Poaceae	*Elymus caput-medusae*	Medusahead	--
Onagraceae	*Epilobium brachycarpum*	Autumn willow weed	--
Onagraceae	*Epilobium* cf. *ciliatum*	Fringed willowherb	FACW
Onagraceae	*Epilobium densifolrum*	Denseflower willowherb	FACW
Geraniaceae	*Erodium botrys*	Big heron bill	FACU
Geraniaceae	*Erodium cicutarium*	Coastal heron's bill	--
Apiaceae	*Eryngium castrense*	Great Valley button-celery	OBL
Phrymaceae	*Erythranthe guttata* (*Mimulus guttatus*)	Yellow monkey flower	OBL
Poaceae	*Festuca microstachys*	Small fescue	--
Poaceae	*Festuca myuros*	Rattail sixweeks grass	FACU
Poaceae	*Festuca perennis*	Italian rye grass	FAC
Rhamnaceae	*Frangula californica* ssp. *Tomentella*	Hoary coffeeberry	--
Poaceae	*Gastridium phleoides*	Nit grass	FACU
Geraniaceae	*Geranium dissectum*	Cutleaf geranium	--
Geraniaceae	*Geranium molle*	Crane's bill geranium	--
Poaceae	*Glyceria declinata*	Low manna grass	FACW
Asteraceae	*Holocarpha 1irgate* ssp. *Virgata*	Narrow tarplant	--
Poaceae	*Hordeum marinum*	Barley	FAC
Hypericaceae	*Hypericum perforatum* ssp. *Perforatum*	Klamathweed	FACU
Asteraceae	*Hypochaeris glabra*	Smooth cat's-ear	--
Juncaceae	*Juncus bufonius*	Toad rush	FACW

Appendix C (cont.)
List of Plants Observed Within the Study Area

Family	Scientific Name	Common Name	Indicator Status*
Juncaceae	*Juncus capitatus*	Leafy bracted dwarf rush	FACU
Juncaceae	*Juncus* cf. *mexicanus*	Mexican rush	FACW
Juncaceae	*Juncus* cf. *tenuis*	Slender rush	FACW
Juncaceae	*Juncus xiphioides*	Iris leaved rush	OBL
Asteraceae	*Lactuca serriola*	Prickly lettuce	FACU
Asteraceae	*Lasthenia fremontii*	Vernal pool goldfields	OBL
Asteraceae	*Leontodon saxatilis*	Hairy hawkbit	FACU
Linaceae	*Linum usitatissimum*	Common flax	--
Lythraceae	*Lythrum hyssopifolia*	Hyssop loosestrife	OBL
Lamiaceae	*Mentha pulegium*	Pennyroyal	OBL
Poaceae	*Muhlenbergia rigens*	Deer grass	FAC
Polemoniaceae	*Navarretia intertexta*	Interwoven navarretia	FACW
Poaceae	*Paspalum dilatatum*	Dallis grass	FAC
Polygonaceae	*Persicaria* sp.	Smartweed	OBL
Boraginaceae	*Plagiobothrys stipitatus*	Stalked popcorn-flower	FACW
Poaceae	*Pleuropogon californicus*	Semaphore grass	OBL
Poaceae	*Poa annua*	Annual blue grass	FAC
Lamiaceae	*Pogogyne zizyphoroides*	Sacramento Mesa-mint	OBL
Poaceae	*Polypogon monspeliensis*	Rabbitsfoot grass	FACW
Salicaceae	*Populus fremontii [deltoides]* ssp. *fremontii*	Fremont's cottonwood	FAC
Rosaceae	*Prunus* sp.	Cherry tree	FACU
Fagaceae	*Quercus douglasii*	Blue oak	--
Fagaceae	*Quercus wislizeni*	Interior live oak	--
Ranunculaceae	*Ranunculus bonariensis* var. *trisepalus*	Vernal pool buttercup	OBL
Ranunculaceae	*Ranunculus muricatus*	Spiny buttercup	FACW
Brassicaceae	*Rorippa curvissiliqua*	Curvepod yellow cress	OBL
Rosaceae	*Rubus armeniacus*	Himalayan blackberry	FAC
Polygonaceae	*Rumex crispus*	Curly dock	FAC
Polygonaceae	*Rumex pulcher*	fiddledock	FAC
Salicaceae	*Salix exigua*	Narrow leaved willow	FACW
Salicaceae	*Salix* cf. *lasiolepis*	Arroyo willow	FACW
Asteraceae	*Senecio vulgaris*	Common groundsel	FACU
Asteraceae	*Sonchus asper*	Prickly sow thistle	FAC
Poaceae	*Stipa pulchra*	Purple needle grass	--
Lamiaceae	*Trichostema lanceolata*	Vinegar weed	FACU
Fabaceae	*Trifolium variegatum*	Variegated clover	FAC
Typhaceae	*Typha* sp.	Cattail	OBL
Scrophulariaceae	*Verbascum blattaria*	Moth mullein	UPL
Plantaginaceae	*Veronica* cf. *americana*	American brooklime	OBL
Fabaceae	*Vicia sativa*	Spring vetch	FACU
Gentianaceae	*Zeltnera muehlenbergii*	Muehlenberg's centaury	FAC

Scientific and common names from:

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, D.H. Wilken, editors. 2012. The Jepson Manual: Vascular Plants of California, second edition. University of California Press, Berkley *or*

U.S. Army Corps of Engineers Cold Regions Research and Engineering Laboratory, *Arid West 2016 Regional Wetland Plant List*

* Acronyms: FAC – facultative, FACU – facultative upland, FACW – facultative wetland, OBL – obligate, UPL – upland; -- Not Listed (considered upland) (USACE 2013)

Appendix D

Representative Site Photos

This page intentionally left blank



Photo 1: View of riparian woodland with ephemeral drainage south of Silva Valley Parkway looking southeast. Taken 8/8/2017.



Photo 2: View of seasonal wetland looking west north of Silva Valley Parkway. Taken 8/8/2017.



Photo 3: View of intermittent drainage looking south from Silva Valley Parkway. Taken 8/8/2017.



Photo 4: View of intermittent drainage looking north bounded by purple needlegrass bunchgrass grassland. Taken 8/8/2017.



Photo 5. View of purple needlegrass bunchgrass grassland looking north. Taken 10/13/2020.



Photo 6. View of annual grassland looking west from the southernmost boundary of the site. Taken 10/13/2020.



Photo 7. View of intermittent drainage looking north bounded by purple needlegrass bunchgrass grassland. Taken 10/13/2020.



Photo 8. View of annual grassland from the eastern portion of the site looking west towards Silva Valley Parkway. Taken 10/13/2020.

El Dorado Hills 52 Project

Biological Resources Assessment

November 2020 | AKT-20

Prepared for:

EDH 52, General Partnership
7919 Folsom Boulevard, Suite 300
Sacramento, CA 95826

Prepared by:

HELIX Environmental Planning, Inc.
1677 Eureka Road, Suite 100
Roseville, CA 95661

El Dorado Hills 52 Project

Biological Resources Assessment

Prepared for:

EDH 52, General Partnership
7919 Folsom Boulevard, Suite 300
Sacramento, CA 95826

Prepared by:

HELIX Environmental Planning, Inc.
1677 Eureka Road, Suite 100
Roseville, CA 95661

November 2020 | AKT-20

This page intentionally left blank

TABLE OF CONTENTS

Section **Page**

EXECUTIVE SUMMARY ES-1

1.0 INTRODUCTION 1

1.1 Project Description 1

2.0 REGULATORY FRAMEWORK 1

2.1 Federal Regulations 1
2.1.1 Federal Endangered Species Act 1
2.1.2 Migratory Bird Treaty Act 2
2.1.3 The Bald and Golden Eagle Protection Act 2
2.2 State Jurisdiction 2
2.2.1 California Endangered Species Act 2
2.2.2 California Department of Fish and Game Codes 2
2.2.3 Native Plant Protection Act 3
2.3 Jurisdictional Waters 3
2.3.1 Federal Jurisdiction 3
2.4 CEQA Significance 5
2.4.1 California Native Plant Society 6
2.4.2 California Department of Fish and Wildlife Species of Concern 7
2.5 Local Policies and Regulations 7
2.5.1 El Dorado County General Plan 7
2.5.2 El Dorado County Oak Resources Management Plan 7

3.0 METHODOLOGY 8

4.0 RESULTS 9

4.1 Site Location and Description 9
4.2 Physical Features 9
4.2.1 Topography and Drainage 9
4.2.2 Soils 10
4.3 Biological Communities 10
4.3.1 Non-Native Annual Grassland 10
4.3.2 Riparian Woodland 11
4.3.3 Valley Oak Woodland 11
4.3.4 Seep 11
4.3.5 Seasonal Wetland 11
4.3.6 Seasonal Marsh 11
4.3.7 Disturbed/Developed 12
4.4 Special-Status Species 12
4.4.1 Listed and Special-Status Plants 13
4.4.2 Listed and Special-Status Wildlife 13

TABLE OF CONTENTS (cont.)

Section **Page**

4.5 Sensitive Habitats 17
4.5.1 Potential Jurisdictional Waters of the U.S. and State 17
4.5.2 Riparian Habitat 17
4.5.3 Oak Trees and Oak Woodland 17
4.5.4 Purple Needlegrass 17
4.5.5 Wildlife Migration Corridors 18

5.0 CONCLUSIONS AND RECOMMENDATIONS 18

5.1 Recommendations 19
5.1.1 Special-Status Plant Species 19
5.1.2 Valley Elderberry longhorn Beetle 19
5.1.3 Western Pond Turtle 19
5.1.4 Coast Horned Lizard 20
5.1.5 Foothill Yellow-Legged Frog 20
5.1.6 Western Spadefoot 20
5.1.7 Golden Eagle 21
5.1.8 Tricolored Blackbird 21
5.1.9 Burrowing Owl 21
5.1.10 Nesting Migratory Birds and Raptors 21
5.1.11 American Badger 22
5.1.12 Special-Status Bat Species 22
5.1.13 Jurisdictional Waters 23
5.1.14 Oak Trees and Oak Woodland 23
5.1.15 Riparian Habitats 24
5.2 Summary of Avoidance and Minimization Measures 24

6.0 REFERENCES 25

LIST OF APPENDICES

A Applicable Sections of the El Dorado County General Plan
B Regionally Occurring Listed and Special-Status Species
C List of Plants Observed Within the Study Area
D Representative Site Photos

TABLE OF CONTENTS (cont.)

LIST OF FIGURES

No.	Title	Follows Page
1	Site and Vicinity Map	2
2	Soils Map	10
3	Biological Communities	10
4	Annual Grassland for Golden Eagle Foraging Habitat Within the Vicinity of the Study Area	22

ACRONYMS AND ABBREVIATIONS

BRA	Biological Resources Assessment
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CSA	California Special Animals
CWA	Clean Water Act
DBH	diameter at breast height
EPA	U.S. Environmental Protection Agency
FESA	Federal Endangered Species Act
FYLF	Foothill yellow-legged frog
HCP	Habitat Conservation Plan
HELIX	HELIX Environmental Planning, Inc.
IPaC	Information for Planning and Consultation
MBTA	Migratory Bird Treaty Act
MSL	mean sea level
NCCP	Natural Community Conservation Plan
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NPPA	Native Plant Protection Act
NRCS	Natural Resource Conservation Service
NWPR	Navigable Waters Protection Rule
OHWM	ordinary high water mark
PAD	Passage Assessment Database
PCCP	Placer County Conservation Plan
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SSC	Species of Special Concern
SWRCB	State Water Resources Control Board

ACRONYMS AND ABBREVIATIONS (cont.)

USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WDR	Waste Discharge Requirements
WOTUS	Waters of the U.S.

This page intentionally left blank

EXECUTIVE SUMMARY

HELIX Environmental Planning, Inc. (HELIX) prepared this biological resources assessment (BRA) for the El Dorado Hills 52 Study Area located within El Dorado County, California. The purpose of this BRA is to summarize the general biological resources in the Study Area, to assess the suitability of the Study Area to support special-status species and sensitive habitat types, to summarize the results of various focused surveys, and to provide recommendations for regulatory permitting or further analysis that may be required prior to development activities occurring in the Study Area.

The El Dorado Hills 52 Study Area (Study Area) consists of ±36 acres of land that is primarily composed of annual grassland with a small area of oak woodland. The Study Area is bifurcated by Silva Valley Parkway. A former home site is located on the southern portion of the property and a large part of the northern portion was used to stockpile soil during the construction of the adjacent Silva Valley Parkway – U.S. Highway 50 Interchange Project. Land uses surrounding the Study Area include an elementary school, residential housing, and U.S. Highway 50.

Known or potential biological constraints within the Study Area include:

- Potential habitat for special-status plant species;
- Potential habitat for valley elderberry longhorn beetle;
- Potential habitat for western pond turtle;
- Potential habitat for coast horned lizard;
- Potential habitat for foothill yellow-legged frog;
- Potential habitat for western spadefoot;
- Potential foraging habitat for golden eagle;
- Potential foraging habitat for tricolored blackbird;
- Potential habitat for burrowing owl;
- Potential nesting sites and foraging habitat for raptors and other birds;
- Potential habitat for American badger;
- Potential habitat for special-status bat species including pallid bat and silver-haired bat; and
- Sensitive habitats, including potentially jurisdictional waters of the U.S. and waters of the State (seasonal wetlands, seep, wetland swale, and intermittent and ephemeral drainages), riparian habitat, and valley oak woodland.

This page intentionally left blank

1.0 INTRODUCTION

This report summarizes the findings of a BRA and an aquatic resources delineation conducted for the ±36-acre El Dorado Hills 52 Study Area, located within El Dorado County, California (Figure 1). This document addresses the onsite physical features, as well as plant communities present and the common plant and wildlife species occurring, or potentially occurring, in the Study Area. Furthermore, the suitability of onsite habitats to support special-status species and sensitive habitats is analyzed and recommendations are identified for anticipated requirements related to regulatory compliance or further analysis required prior to implementation of land use development within the Study Area.

1.1 PROJECT DESCRIPTION

Development proposed within the Study Area will ultimately result in the development of approximately 36 acres of commercial land uses. Development is designed to allow either the North Site or the South Site to develop independent from the other. Proposed improvements will include construction of commercial buildings and associated parking, utilities, and storm water management facilities as well as multiple points of access, and a new traffic signal on Silva Valley Parkway. Ancillary amenities include pedestrian walkways, bicycle parking, signage and lighting and landscaping.

2.0 REGULATORY FRAMEWORK

Federal, State, and local environmental laws, regulations, and policies relevant to the review of a "project" under the California Environmental Quality Act (CEQA) are summarized below. Applicable CEQA significance criteria are also addressed in this section.

2.1 FEDERAL REGULATIONS

2.1.1 Federal Endangered Species Act

The U.S. Congress passed the Federal Endangered Species Act (FESA) in 1973 to protect species that are endangered or threatened with extinction. FESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

FESA prohibits the "take" of endangered or threatened wildlife species. "Take" under FESA is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (FESA Section 3 [(3) (19)]). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 CFR §17.3). Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR §17.3). Actions that result in take can result in civil or criminal penalties.

In the context of the proposed Project, consultation with the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS) would be initiated if proposed development activities had the potential to result in take of a federally threatened or endangered species or if

issuance of a Section 404 permit or other federal agency action could result in take of a federally endangered species or adversely modify designated critical habitat of such a species.

2.1.2 Migratory Bird Treaty Act

Raptors, migratory birds, and other avian species are protected by a number of State and federal laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior.

2.1.3 The Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (Eagle Act) prohibits the taking or possession of and commerce in bald and golden eagles with limited exceptions. Under the Eagle Act, it is a violation to "*take, possess, sell, purchase, barter, offer to sell, transport, export or import, at any time or in any manner, any bald eagle commonly known as the American eagle, or golden eagle, alive or dead, or any part, nest, or egg, thereof.*" Take is defined to include pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, and disturb. Disturb is further defined in 50 CFR Part 22.3 as "*to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.*"

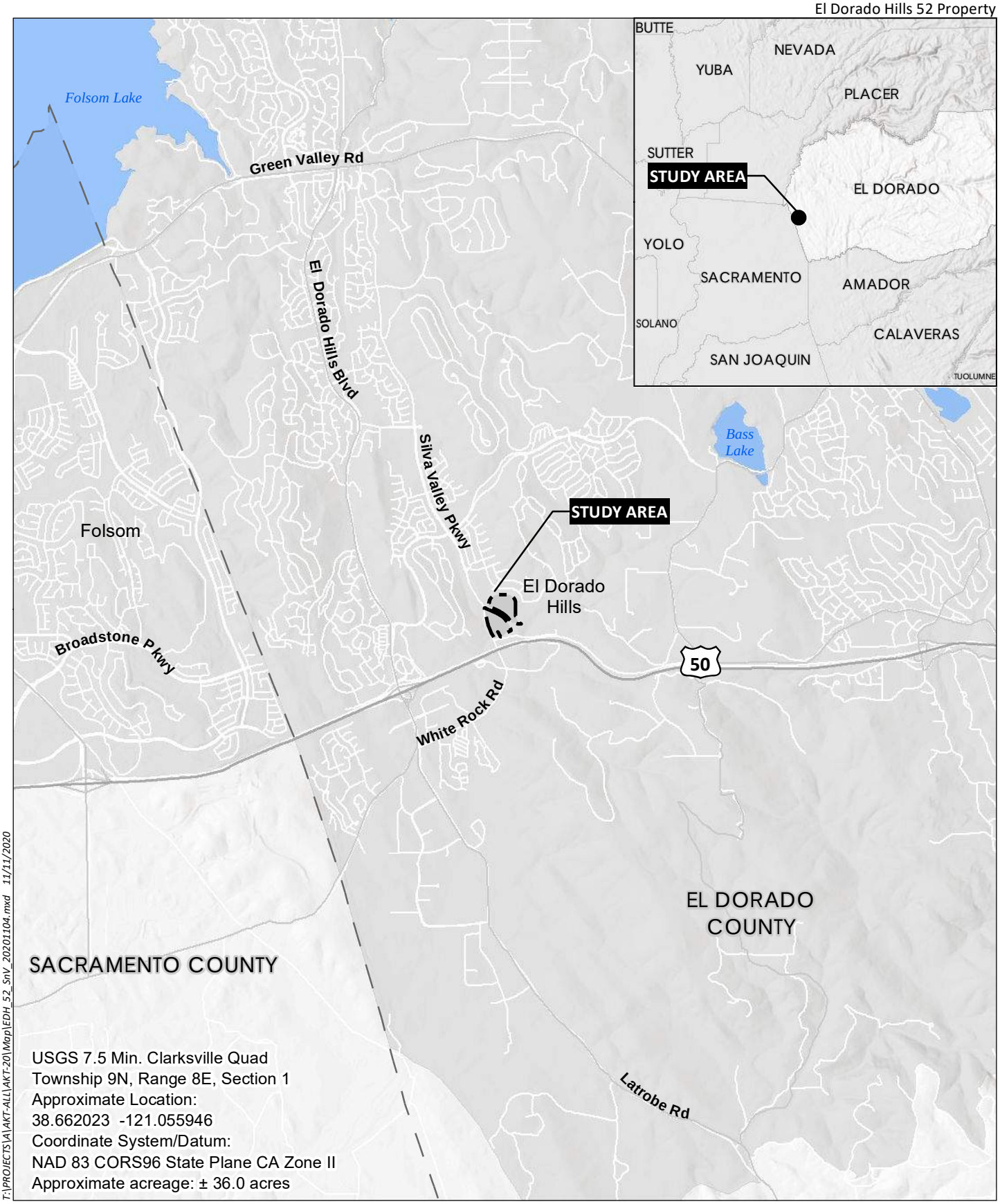
2.2 STATE JURISDICTION

2.2.1 California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA is similar to the FESA but pertains to State-listed endangered and threatened species. CESA directs agencies to consult with CDFW on projects or actions that could result in "take" of state-listed species. Section 2081 of the Fish and Game Code allows CDFW to authorize "take" of a state-listed species if the take is incidental to an otherwise lawful activity. The impacts of the take must be minimized and fully mitigated as determined by CDFW and the applicant must ensure adequate funding to implement measures to minimize and fully mitigate the impacts. No take permit may be issued if issuance of the permit would jeopardize the continued existence of a state-listed species.

2.2.2 California Department of Fish and Game Codes

A number of species have been designated as "fully protected" species under Sections 5515, 5050, 3511, and 4700 of the Fish and Game Code, but are not listed as endangered (Section 2062) or threatened (Section 2067) species under CESA. Except for take related to scientific research, all take of fully protected species is prohibited. The California Fish and Game Code defines take as "*hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.*" Additionally, Sections 3503, 3503.5, and 3513 of the California Fish and Game Code prohibits the killing of birds or the destruction of bird nests.



T:\PROJECTS\AI\AKT-ALL\AKT-20\Map\EDH_52_SnV_20201104.mxd 11/11/2020

Source: Base Map Layers (Esri, USGS, NGA, NASA)

HELIX Environmental Planning

Site and Vicinity Map

Figure 1

2.2.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA), enacted in 1977, allows the Fish and Game Commission to designate plants as rare or endangered. The NPPA prohibits take of endangered or rare native plants, with some exceptions for agricultural and nursery operations and emergencies. Vegetation removal from canals, roads, and other sites, changes in land use, and certain other situations require proper advance notification to CDFW.

2.3 JURISDICTIONAL WATERS

2.3.1 Federal Jurisdiction

Any person, firm, or agency planning to alter or work in "waters of the U.S.," including the discharge of dredged or fill material, must first obtain authorization from the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA; 33 USC 1344). Permits, licenses, variances, or similar authorization may also be required by other federal, state, and local statutes. Section 10 of the Rivers and Harbors Act prohibits the obstruction or alteration of navigable waters of the U.S. without a permit from USACE (33 USC 403).

On April 21, 2020, the Environmental Protection Agency (EPA) and USACE published the Navigable Waters Protection Rule to define "Waters of the United States" in the Federal Register. On June 22, 2020 the Navigable Waters Protection Rule: Definition of "Waters of the United States" (NWPR) became effective in 49 states, including California, and in all US territories.

The NWPR regulates traditional navigable waters and perennial or intermittent tributary systems, and defines four categories of regulated waters including:

- The territorial seas and traditional navigable waters;
- Perennial and intermittent tributaries to those waters;
- Certain lakes, ponds, and impoundments; and
- Wetlands adjacent to jurisdictional waters.

The NWPR also defines 12 categories of exempted aquatic resources:

- Waters not listed as WOTUS
- Groundwater
- Ephemeral features
- Diffuse stormwater run-off
- Ditches not identified as WOTUS
- Prior converted cropland (PCC)
- Artificially irrigated areas
- Artificial lakes and ponds
- Water-filled depressions incidental to mining or construction activity
- Stormwater control features
- Groundwater recharge, water reuse, and wastewater recycling structures
- Waste treatment systems

With non-tidal waters, in the absence of adjacent wetlands, the extent of USACE jurisdiction extends to the ordinary high water mark (OHWM) – the line on the shore established by fluctuations of water and indicated by a clear, natural line impressed on the bank, shelving, changes in soil character, destruction of terrestrial vegetation, or the presence of litter and debris. Wetlands are defined in 33 CFR Part 328 as:

> "those areas that are inundated or saturated by surface or ground water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions."

Federal and state regulations pertaining to waters of the U.S., including wetlands, are discussed below.

Clean Water Act (33 USC 1251-1376). The CWA provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters.

Section 401 requires that an applicant for a federal license or permit that allows activities resulting in a discharge to waters of the U.S. must obtain a state certification that the discharge complies with other provisions of CWA. The Regional Water Quality Control Board (RWQCB) administers the certification program in California and may require State Water Quality Certification before other permits are issued.

Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the U.S.

Section 404 establishes a permit program administered by USACE that regulates the discharge of dredged or fill material into waters of the U.S. (including wetlands). Implementing regulations by USACE are found at 33 CFR Parts 320-332. The Section 404 (b)(1) Guidelines were developed by the USEPA in conjunction with USACE (40 CFR Part 230), allowing the discharge of dredged or fill material for non-water dependent uses into special aquatic sites only if there is no practicable alternative that would have less adverse impacts. State Jurisdiction

Regional Water Quality Control Board

Any action requiring a CWA Section 404 permit, or a Rivers and Harbors Act Section 10 permit, must also obtain a CWA Section 401 Water Quality Certification. The State of California Water Quality Certification (WQC) Program was formally initiated by the State Water Resources Control Board (SWRCB) in 1990 under the requirements stipulated by Section 401 of the Federal CWA. Although the Clean Water Act is a Federal law, Section 401 of the CWA recognizes that states have the primary authority and responsibility for setting water quality standards. In California, under Section 401, the State and Regional Water Boards are the authorities that certify that issuance of a federal license or permit does not violate California's water quality standards (i.e., that they do not violate Porter-Cologne and the Water Code). The WQC Program currently issues the WQC for discharges requiring USACE's permits for fill and dredge discharges within Waters of the United States, and now also implements the State's wetland protection and hydromodification regulation program under the Porter Cologne Water Quality Control Act.

On April 2, 2019, the SWRCB adopted a State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures), for inclusion in the forthcoming Water Quality Control Plan for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California. The Procedures consist of four major elements: 1) a wetland definition; 2) a framework for determining if a feature that meets the wetland definition is a water of the state; 3) wetland delineation procedures; and 4) procedures for the submittal, review and approval of applications for Water Quality

Certifications and Waste Discharge Requirements for dredge or fill activities. The Office of Administrative Law approved the Procedures on August 28, 2019, and the Procedures became effective May 28, 2020.

Under the Procedures and the State Water Code (Water Code §13050(e)), "Waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state." Unless excluded by the Procedures, any activity that could result in discharge of dredged or fill material to Waters of the State, which includes Waters of the U.S. and non-federal Waters of the State, requires filing of an application under the Procedures.

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act, Water Code Section 13000 et seq.) is California's statutory authority for the protection of water quality in conjunction with the federal CWA. The Porter-Cologne Act requires the SWRCB and RWQCBs to adopt and periodically update water quality control plans, or basin plans. Basin plans are plans in which beneficial uses, water quality objectives, and implementation programs are established for each of the nine regions in California. The Porter-Cologne Act also requires dischargers of pollutants or dredged or fill material to notify the RWQCBs of such activities by filing Reports of Waste Discharge and authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements, National Pollution Discharge Elimination System (NPDES) permits, Section 401 water quality certifications, or other approvals.

California Department of Fish and Wildlife

The CDFW has jurisdiction over fish and wildlife resources under Section 1600 et seq. of the California Fish and Game Code. Under Sections 1602 and 1603, a private party must notify CDFW if a proposed project will "substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of streambeds…except when the department has been notified pursuant to Section 1601." Additionally, CDFW asserts jurisdiction over native riparian habitat adjacent to aquatic features, including native trees over four inches in diameter at breast height (DBH). If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFW may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the parties involved, they may enter into an agreement with CDFW identifying the approved activities and associated mitigation measures. Generally, CDFW recommends submitting an application for a Streambed Alteration Agreement (SAA) for any work done within the lateral limit of water flow or the edge of riparian vegetation, whichever is greater.

2.4 CEQA SIGNIFICANCE

Section 15064.7 of the State CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study Checklist included in Appendix G of the State CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS;

- Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and

- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional or state habitat conservation plan.

An evaluation of whether or not an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish or result in the loss of an important biological resource, or those that would obviously conflict with local, State, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of, an important resource on a population-wide or region-wide basis.

2.4.1 California Native Plant Society

The California Native Plant Society (CNPS) maintains a rank of plant species native to California that have low population numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the *Inventory of Rare and Endangered Vascular Plants of California*. Potential impacts to populations of CNPS-ranked plants receive consideration under CEQA review. The following identifies the definitions of the CNPS Rare Plant Ranking System:

Rank 1A: Plants presumed Extinct in California and either rare or extinct elsewhere

Rank 1B: Plants Rare, Threatened, or Endangered in California and elsewhere

Rank 2A: Plants presumed extirpated in California but common elsewhere

Rank 2B: Plants Rare, Threatened, or Endangered in California, but more common elsewhere

Rank 3: Plants about which we need more information – A Review List

Rank 4: Plants of limited distribution – A Watch List

All plants appearing on CNPS Rank 1 or 2 are considered to meet CEQA Guidelines Section 15380 criteria. While only some of the plants ranked 3 and 4 meet the definitions of threatened or endangered species, the CNPS recommends that all Rank 3 and Rank 4 plants be evaluated for consideration under

CEQA. Furthermore, the CNPS Rare Plant Rankings include levels of threat for each species. These threat ranks include the following:

0.1 - Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat);

0.2 - Moderately threatened in California (20-80% occurrences threatened/moderate degree and immediacy of threat); and

0.3 - Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known).

Threat ranks do not designate a change of environmental protections, so that each species (i.e., CRPR 1B.1, CRPR 1B.2, CRPR 1B.3, etc.), be fully considered during preparation of environmental documents under CEQA.

2.4.2 California Department of Fish and Wildlife Species of Concern

Additional fish, amphibian, reptile, bird, and mammal species may receive consideration by CDFW and lead agencies during the CEQA process, in addition to species that are formally listed under FESA and CESA or listed as fully protected. These species are included on the *Special Animals List*, which is maintained by CDFW. This list tracks species in California whose numbers, reproductive success, or habitat may be in decline. In addition to "Species of Special Concern" (SSC), the *Special Animals List* includes species that are tracked in the California Natural Diversity Database (CNDDB) but warrant no legal protection. These species are identified as "California Special Animals" (CSA).

2.5 LOCAL POLICIES AND REGULATIONS

2.5.1 El Dorado County General Plan

In addition to federal and State regulations described above, the *El Dorado County Adopted General Plan* (General Plan) includes goals, objectives, and policies regarding biological resources within the County limits (El Dorado County 2014). Applicable sections of the General Plan are included in Appendix A.

2.5.2 El Dorado County Oak Resources Management Plan

The County of El Dorado (County) adopted the El Dorado County Oak Resources Management Plan (ORMP) on October 24, 2017 and it went into effect on November 23, 2017 (El Dorado County 2017b, 2020). The ORMP designates three classes of protected oak resources: oak woodlands that have at least 10 percent oak canopy; Heritage trees, defined as native oaks with a total trunk DBH of 36 inches or greater; and individual oak trees, defined as native oak trees with a trunk DBH of 6 inches or greater that are not located in oak woodlands. An oak woodland removal permit is required prior to removal of oak trees that are part of an oak woodland and an oak tree removal permit is required prior to removal of Heritage trees and individual oak trees. Mitigation for impacts to oak woodlands is based on the total area impacted ranging from 1:1 mitigation for zero to 50 percent removal to 2:1 mitigation for more than 75 percent removal. Mitigation may be completed with a combination of the following options: acquisition of an off-site conservation easement, payment of in-lieu fees, or either on- or off-site replacement planting of up to 50 percent of the required mitigation area. Mitigation for removal of Heritage or individual oak trees requires on- or off-site replacement planting or payment of in-lieu fees

at a 3:1 or 1:1 ratio, respectively, to the number of trunk inches removed. Any oak woodland preserved onsite and all mitigation planting areas must be protected in perpetuity through deed restrictions or a conservation easement.

3.0 METHODOLOGY

Available information pertaining to the natural resources of the region was reviewed prior to conducting the field survey. The following site-specific published information was reviewed for this BRA:

- California Department of Fish and Wildlife (CDFW). 2020. *California Natural Diversity Database* (CNDDB); For: *Clarksville, Pilot Hill, Coloma, Shingle Springs, Latrobe, Folsom SE, Buffalo Creek, Rocklin, and Folsom* USGS 7.5-minute series quadrangles, Sacramento, CA. Accessed [October 12, 2020];

- California Native Plant Society (CNPS). 2020. *Inventory of Rare and Endangered Plants* (online edition, v8-03 0.39) For: *Clarksville, Pilot Hill, Coloma, Shingle Springs, Latrobe, Folsom SE, Buffalo Creek, Rocklin, and Folsom* USGS 7.5-minute series quadrangles, Sacramento, CA. Accessed [October 12, 2020];

- USDA, NRCS. 2020. *Web Soil Survey*. Available online at: http://websoilsurvey.sc.egov.usda.gov. Accessed [October 12, 2020];

- U.S. Fish and Wildlife Service (USFWS). 2020. *Information for Planning and Consultation* (IPaC) *the El Dorado Hills 52 Project.* Accessed [October 12, 2020];

- U.S. Geological Survey (USGS). 2018. *Clarksville, California*. 7.5-minute series topographic quadrangle. United States Department of Interior; and

- Biological reports and associated documents previously prepared for the Study Area.

Prior to the site survey, existing information, including the previous wetland delineation and soil maps, were reviewed and the results of the records search and five-mile radius CNNDB query were summarized in a table (Appendix B). General field surveys of the Study Area were conducted on April 5, 2013, August 8, 2017 and October 13, 2020. The Study Area was systematically surveyed on foot with binoculars to ensure total search coverage, with special attention given to identifying those portions of the Study Area with the potential for supporting special-status species and sensitive habitats. During the field surveys, biologists recorded plant and animal species observed (Appendix C), as well as characterized biological communities occurring onsite. Following the site survey, the potential for each species identified in the records search to occur in the Study Area was determined based on the site surveys, soils, and species-specific information, as shown in Appendix B. Representative photos of the Study Area are provided in Appendix D.

A wetland delineation was performed on December 15, 2015. A follow up wetland delineation was conducted on October 13, 2020 by HELIX biologists Patrick Martin and Halie Goeman to verify the previous wetland delineation, adjust potential wetland boundaries as applicable, and update regulatory requirements according to current standards, policies and regulations. The results of the aquatic resource delineation are summarized herein and are discussed in detail under a separate cover (HELIX

Environmental Planning, Inc. [HELIX] 2020a). The results are considered preliminary until the Corps verifies the findings.

Botanical inventories were conducted on April 24, 2015, May 26, 2015, and June 16, 2015. The botanical inventories were conducted in accordance with CDFW's protocol plant surveys. The results of the botanical surveys are summarized herein and are discussed in detail under a separate cover (Foothill Associates 2016c). A complete list of plants observed within the Study Area is provided in Appendix C.

Protocol-level burrowing owl surveys were conducted within the majority of the Study Area on March 12, 2015, April 24, 2015, May 26, 2015, and June 16, 2015. The surveys were conducted in accordance with the *Staff Report on Burrowing Owl Mitigation* (CDFW 2012). The results of the burrowing owl surveys are summarized herein and are discussed in detail under a separate cover (Foothill Associates 2016c).

Protocol-level breeding season California red-legged frog (CRLF) surveys were conducted within the Study Area on January 12 and 26, 2016 and February 2 and 9, 2016. The protocol-level breeding season surveys were conducted in accordance with the *Revised Guidance on Site Assessment and Field Surveys for the California Red-legged Frog* (USFWS 2005; CRLF Guidance). The results of the protocol-level breeding season surveys are summarized herein and are discussed in detail under a separate cover (Foothill Associates 2016a).

An oak woodland analysis was performed to document the extent of the existing oak trees in the Study Area and anticipated impacts from the proposed project. The oak woodland report is contained under separate cover (HELIX 2020b).

4.0 RESULTS

4.1 SITE LOCATION AND DESCRIPTION

The Study Area is located in El Dorado County adjacent to U.S. Highway 50 immediately east of Silva Valley Parkway and north of Tong Road. Land uses surrounding the Study Area include residential development to the north and paved roads, oak woodland, and annual grassland to the east, west, and south. The Study Area is located within Township 9 North, Range 8 East, Section 1 of the *Clarksvill*e USGS 7.5-minute series quadrangle. The approximate location of the center of the Study Area is at latitude 38.662023 and longitude -121.055946, NAD 83, and is located at an elevation between 705 feet and 795 feet above mean sea level (MSL).

The Study Area consists of approximately 36 acres of land that is primarily annual grassland. The Study Area is bifurcated by Silva Valley Parkway. Two drainage corridors cross the Study Area from the northeast to the southwest.

4.2 PHYSICAL FEATURES

4.2.1 Topography and Drainage

Topography within the Study Area ranges from relatively level to moderately sloped with elevations ranging from approximately 705 to 795 feet above MSL (215 to 242 meters). Surface runoff flows

through and exits the Study Area via ephemeral and intermittent drainages, which run in a northeast to southwest direction.

4.2.2 Soils

The Natural Resources Conservation Service has mapped one soil unit within the Study Area: Auburn silt loam, 2 to 30 percent slopes (Figure 2). The general characteristics and properties associated with this soil type are described below (USDA, NRCS 2020).

Auburn silt loam, 2 to 30 percent slopes: The soils in this series are well drained. Permeability is moderate. Vegetation associated with this soil series includes annual grasses, forbs, and oaks. The hydric soils list for El Dorado County does not identify this soil type as hydric (USDA, NRCS 2020)

4.3 BIOLOGICAL COMMUNITIES

Four upland biological communities occur in the Study Area including non-native annual grassland, riparian woodland, valley oak woodland, and disturbed/developed. Embedded within these upland communities are aquatic features including ephemeral stream, intermittent stream, seasonal wetlands, a wetland swale, and a seep. There is also an area of emergent wetland vegetation on the southern parcel within the ordinary high water mark of an intermittent drainage that forms a seasonal marsh (Figure 3). These communities provide habitat to a number of common species of wildlife and may provide suitable habitat for special-status species. It should be noted that wetlands may occur within a biological community. For instance, a creek surrounded by riparian woodland would be included within the riparian woodland for the purposes of determining biological community acreage. Vernal pools and seasonal wetlands may be included in the annual grassland community and are often used by wildlife from the annual grassland. However, a very different aquatic habitat, such as a seasonal marsh, is considered its own biological community. Dominant vegetation observed within each biological community is discussed in detail below. A comprehensive list of plants observed within the Study Area is provided in Appendix C.

4.3.1 Non-Native Annual Grassland

Non-native annual grassland dominates both the northern and southern portions of the Study Area. This vegetation community is characterized primarily by an assemblage of non-native annual grasses and forbs. Dominant vegetation includes ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), and wild oat (*Avena fatua*) intermixed with red-stemmed filaree (*Erodium cicutarium*), popcornflower (*Plagiobothrys* sp.), black mustard (*Brassica nigra*), winter vetch (*Vicia villosa*), scarlet pimpernel (*Anagallis arvensis*), St. John's wort (*Hypericum perforatum*), brodiaea (*Brodiaea elegans*), fiddleneck (*Amsinckia* sp.), rose clover (*Trifolium hirtum*), and milk-thistle (*Silybum marianum*).

Two small areas within the annual grassland contain purple needlegrass (*Nassella pulchra*) within the southern portion of the Study Area (Figure 3). The purple needlegrass is interspersed with annual willow herb (*Epilobium brachycarpum*), ripgut brome, soft chess, and wild oat.

The annual grassland community includes small ephemeral and intermittent drainages. The ephemeral drainages are mostly unvegetated and the intermittent drainage has a small clump of willows (*Salix* sp.) and broadleaf cattail (*Typha latifolia*) and is otherwise minimally vegetated.

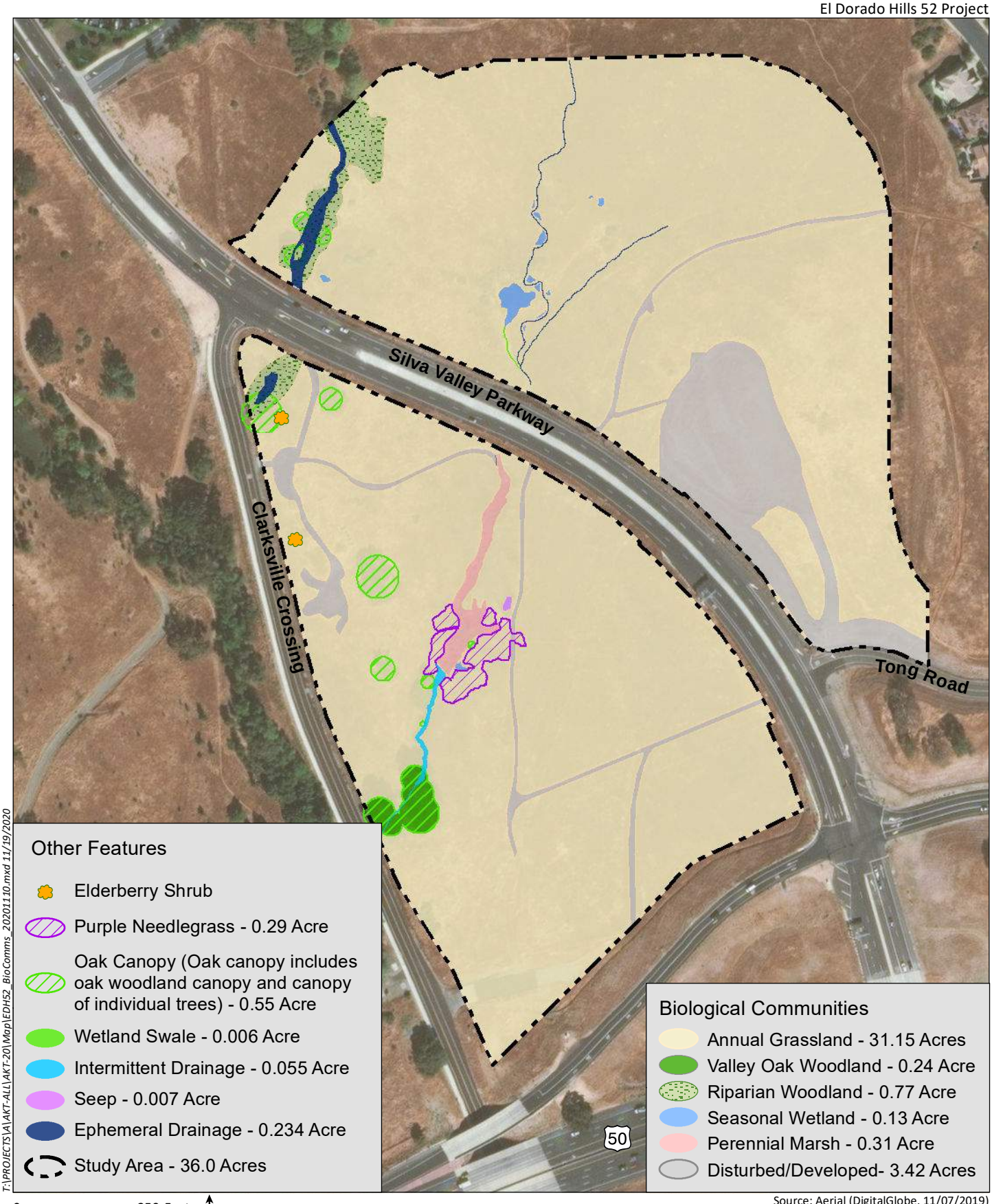


Source:NRCS, 2020; Aerial (DigitalGlobe, 11/07/2019)

HELIX Environmental Planning

Soils Map

Figure 2



HELIX Environmental Planning

Biological Communities

Figure 3

4.3.2 Riparian Woodland

Riparian woodland habitat occurs within the along the ephemeral drainage on the western boundary of the Study Area. Dominant vegetation includes broadleaf cattail, willow, spike rush (*Eleocharis macrostachya*), pennyroyal (*Mentha pulegium*), Himalayan blackberry (*Rubus armeniacus*), and valley oak (*Quercus lobata*).

4.3.3 Valley Oak Woodland

Valley oak woodland is found in a small area on the southwest boundary of the Study Area where a small stand of mature valley oak trees overhangs a small intermittent drainage. The understory is primarily annual grassland with small areas of milkweed (*Asclepias fascicularis*) and pennyroyal immediately adjacent to the drainage.

4.3.4 Seep

A seep is situated adjacent to the seasonal marsh and non-native annual grassland habitat. Seeps are characterized as areas where groundwater intersects the soil surface. Typically, water flows from seeps persist for some period after the rainy season or, more rarely, nearly year-round. Seeps accessing sufficient amounts of subsurface water can support isolated wetland vegetation (such as on a hillside) or they may form the headwaters of other jurisdictional drainage or wetland features, such as wetland swales. Vegetation in seeps often consists of plant species associated with seasonal and semi-permanent marsh habitats. When seeps are active for only short periods beyond the rainy season and into the warm season, herbaceous perennial wetland species typically dominate, as is typical of the seeps within the Study Area. Vegetation in the seep consisted almost entirely of iris leaved rush (*Juncus xiphioides*), an obligate wetland plant.

4.3.5 Seasonal Wetland

A number of seasonal wetland features are found in the Study Area. Most are associated with the ephemeral drainage on the northern portion of the Study Area. Dominant vegetation in the seasonal wetlands includes rabbitsfoot grass (*Polypogon monspeliensis*), spike rush (*Eleocharis macrostachya*), nutsedge (*Cyperus eragrostis*), curly dock (*Rumex crispus*), pennyroyal, coyote-thistle (*Eryngium vaseyi*), brome fescue (*Festuca bromoides*), ryegrass, annual hair grass (*Deschampsia danthonioides*), and rye grass (*Festuca perennis*).

4.3.6 Seasonal Marsh

Seasonal marsh habitat is found in the southern portion of the Study Area within the ordinary high water mark of an intermittent drainage. This community appears to have formed as a result of a brick check dam that was constructed across the intermittent drainage allowing water to periodically back up in this area. This community is dominated by common knotweed (*Persicaria lapathifolia*) and curly dock with areas of dense cattails, Himalayan blackberry, and a small clump of willows.

4.3.7 Disturbed/Developed

Disturbed/developed areas in the Study Area include graded roads and a stockpile area. The disturbed/developed areas are sparsely vegetated with red-stemmed filaree, soft chess, wild oat, and winter vetch.

4.4 SPECIAL-STATUS SPECIES

Special-status species are plant and wildlife species that have been afforded special recognition by federal, State, or local resource agencies or organizations. They are generally of relatively limited distribution and may require specialized habitat conditions. Special-status species are defined as meeting one or more of the following criteria:

- Listed or proposed for listing under CESA or FESA;
- Protected under other regulations (e.g., Migratory Bird Treaty Act);
- Included on the CDFW Special Animals List;
- Identified as Rare Plant Rank 1 to 4 by CNPS; or
- Receive consideration during environmental review under CEQA.

Special-status species considered for this analysis are based on queries of the CNDDB, the USFWS, and CNPS ranked species (online versions) for the *Rocklin* USGS quadrangle and eight surrounding quadrangles. Appendix B includes the common name and scientific name for each species, regulatory status (federal, State, local, CNPS), habitat descriptions, and potential for occurrence within the Study Area. The following set of criteria has been used to determine each species' potential for occurrence within the Study Area:

- **Present**: Species known to occur within the Study Area based on CNDDB records and/or observed within the Study Area during the biological survey.

- **High**: Species known to occur onsite or in the vicinity of the Study Area (based on CNDDB records within five miles and/or based on professional expertise specific to the Study Area or species) and there is suitable habitat within the Study Area.

- **Low**: Species known to occur in the vicinity of the Study Area and there is marginal habitat within the Study Area **-OR-** Species is not known to occur in the vicinity of the Study Area, however, there is suitable habitat on the Study Area.

- **None**: Species is not known to occur on or in the vicinity of the Study Area and there is no suitable habitat within the Study Area -**OR-** Species was surveyed for during the appropriate season with negative results **-OR-** The Study Area occurs outside of the known elevation or geographic ranges.

Only those species that are known to be *present* or have a *high* or *low* potential for occurrence are discussed further in the following sections.

4.4.1 Listed and Special-Status Plants

According to the records search, 31 special-status plant species have the potential to occur on or in the vicinity of the Study Area. Based on field observations and literature review, four species were determined to have the potential to occur on the Study Area: big-scale balsamroot (*Balsamorhiza macrolep*is var. *macrolepis*), Boggs Lake hedge-hyssop (*Gratiola heterosepala*), dwarf downingia (*Downingia pusilla*), and Sanford's arrowhead (*Sagittaria sanfordii*). Focused botanical surveys were conducted within the Study Area in 2015 during the bloom period of these plants (Foothill Associates 2016c). No special-status plant species were found and therefore, it is unlikely that these species occur within the Study Area.

4.4.2 Listed and Special-Status Wildlife

According to the records search, 35 special-status animal species have the potential to occur onsite or in the vicinity. Based on field observations and literature review, 15 species were determined to have the potential for occurrence to occur in the Study Area. Protocol surveys for burrowing owl (*Athene cunicularia*) and California red-legged frog (*Rana draytonii*) were conducted in 2015 and 2016 (Foothill Associates 2016a, 2016b). No observations or evidence of either species was found within the Study Area.

Species that are known to be *present* or that are considered to have a *high* potential to occur onsite include: raptors and other migratory birds. Species that are considered to have a *low* potential to occur onsite include: valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), western pond turtle (*Actinemys marmorata*), coast horned lizard (*Phrynosoma blainvillii*), foothill yellow-legged frog (*Rana boylii*), western spadefoot (*Spea hammondii*), golden eagle (*Aquila chrysaetos*), tricolored blackbird (*Agelaius tricolor*), American badger (*Taxidea taxus*), and special-status bat species.

Special-Status Wildlife with a High Potential for Occurrence

Nesting Migratory Birds and Raptors

Migratory birds are protected under the MBTA of 1918 (16 U.S.C. 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed under 50 CFR 10; this also includes feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Additionally, Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (i.e., hawks, owls, eagles, and falcons), including their nests or eggs; and Section 3513 specifically states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA. Migratory birds and other birds of prey including have the potential to nest in trees, shrubs, structures (e.g., sheds), and bare ground within the Study Area.

Special-Status Wildlife with a Low Potential for Occurrence

Valley Elderberry Longhorn Beetle

Endemic to elderberry shrubs (*Sambucus* spp.) occurring in riparian habitat in the Sacramento and San Joaquin Valleys, riparian habitats in the Sacramento and San Joaquin Valleys, and less common

throughout riparian forests of the Central Valley from Redding to Fresno County (USFWS 2014) typically below 500 feet above MSL (USFWS 2017a). Typically, the beetles are found on elderberry shrubs within riparian plant communities. Some studies have found that multiple elderberry shrubs clumped together provide superior habitat for the beetle while isolated elderberry shrubs are less likely to support beetle populations. Typical plant species that co-occur with the elderberry shrubs include California sycamore (*Platanus racemosa*), willow, blackberry, and western poison oak (*Toxicodendron diversilobum*) (USFWS 1999, 2017a). Beetles require elderberry stems with at least one-inch diameter at ground level (dgl) in order for the larvae to utilize the stems (USFWS 1999). The valley elderberry longhorn beetle depends on elderberry shrubs for its entire lifecycle. Adults are typically active from March through May during the flowering period of the elderberry shrub. The female lays its eggs on the leaves and stems of the elderberry shrub. The larvae emerge within a few days and burrow into the elderberry stem. The larvae feed on the stem pith until they pupate. When the host shrub begins flowering, the pupa emerges from the stem as an adult (Barr 1991). There is one CNDDB record of valley elderberry longhorn beetle listed within five miles of the Study Area (CDFW 2020a), however the USFWS currently considers this species to occur at or below 500 feet above MSL (USFWS 2017a). Two blue elderberry (*Sambucus nigra* ssp. *caerulea*) occur within the riparian habitat within the western portion of the Study Area (Figure 3). No exit holes were observed. This species has a *low* potential to occur within the Study Area since habitat is limited to two small elderberry shrubs and the Study Area is currently outside of the accepted elevational range of the valley elderberry longhorn beetle as recognized by USFWS (USFWS 2017a).

Western Pond Turtle

Western pond turtles are found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches with suitable basking sites (Jennings and Hayes 1994). Suitable aquatic habitat typically has a muddy or rocky bottom and has emergent aquatic vegetation for cover (Stebbins 2003). Western pond turtles nest and overwinter in areas of sparse vegetation comprised of grassland and forbs with less than ten percent slopes, less than 492 feet (150 meters) from aquatic habitat (Rosenberg et al. 2009). There are three CNDDB records for this species within five miles of the Study Area (CDFW 2020a). The seasonal marsh area and intermittent drainage, and surrounding riparian habitat provide marginal aquatic habitat and the surrounding annual grassland provides upland habitat. During the survey on October 13, 2020 most of the features were dry and the Study Area is unlikely to provide year-round habitat for western pond turtle. This species was not observed within the Study Area during the biological surveys. This species has a *low* potential to occur within the Study Area and it is more likely to occur in larger creeks adjacent to but outside of the Study Area.

Coast Horned Lizard

Coast horned lizard inhabits open areas of sandy soil and low vegetation in valleys, foothills, and semiarid mountains from sea level to 8,000 feet above MSL. It is typically found in grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose soil. This species is often found in lowlands along sandy washes with scattered shrubs and along dirt roads, and frequently found near ant hills (Zeiner et al. 1988). There are two CNDDB records of this species within five miles of the Study Area (CDFW 2020a). The species was not observed within the Study Area during several biological surveys. The annual grassland within the Study Area provides marginal habitat for the coast horned lizard due to lack of sandy soils for this species to bury itself. The Study Area is also densely vegetated with annual grasses which makes movement for this species difficult. Therefore, this species has a *low* potential to occur within the Study Area.

Foothill Yellow-Legged Frog

The Foothill yellow-legged frog (FYLF) is a moderate-sized frog (1.5 to 3.5" long) found on the western slope of the Sierras and along the coast. It has vague dorsolateral folds, horizontal pupils, yellow coloring on the underside of its hind legs, and a granular skin texture that covers the eardrums of colors that harmonize with the surroundings. The FYLF is a stream or river frog of chaparral, forest, and woodland ecozones. This species breeds after the high-water flows subside, mid-March to early June. The FYLF resides in rocky streams and the associated riparian habitat. Metamorphosis generally occurs in three to four months and FYLF reach sexual maturity typically the first summer after they have metamorphosed. Breeding sites occur in shallow, slow flowing water with mostly pebble and/or cobble substrate. The introductions of bullfrogs and mosquitofish have led to declines in populations in California and Oregon. The intermittent drainage provides marginal habitat for this species and there is a nearby CNDDB recorded occurrence from 1972 located 3 miles north of the Study Area and documents a collected specimen (CDFW 2020a). CDFW considers this species extirpated in the Study Area and the surrounding area (CDFW 2020b). This species was not observed within the Study Area during the biological surveys. Therefore, this species has a *low* potential to occur within the Study Area.

Western Spadefoot

Western spadefoot occurs throughout the Central Valley and on the coast from Point Conception, south to the Mexican border. This species occurs from sea level up to 4,500 feet above MSL, in the southern Sierra foothills. Western spadefoot individuals are most commonly found in grassland habitats with temporary pools of water, but they have also been found in open chaparral and valley-foothill pine-oak woodlands (Stebbins 2003). This species spends most of the year underground, where members seek refuge from desiccating by constructing and residing in small burrows. This species often breeds in temporary pools and quiet streams between the months of January and May. There are no CNDDB records for this species within five miles of the Study Area (CDFW 2020a). The species was not observed within the Study Area during the biological surveys. The depressional seasonal wetlands provide low quality breeding habitat given that they do not likely hold water for long enough for the western spadefoot to breed. This species has a *low* potential for utilizing the annual grassland as upland aestivation given the limited aquatic habitat available within the Study Area for breeding.

Golden Eagle

Golden eagles live in semi-open habitats where they have easy access to their primary prey of small to medium-sized mammals. Grasslands, deserts, savannahs, and early successional stages of forest and shrub habitats provide necessary foraging habitat. Nests are placed on cliffs or large trees and are maintained year after year. Breeding occurs from January through August (Kochert et al. 2002). Golden eagle home range territories vary widely from 8 to 77 square miles (McGrady 1997) and are estimated to average 48 square miles in northern California (Zeiner et al. 1990). Breeding territories range from 8 to 21 square miles, or 3 to 5 miles surrounding the nest, but activity is often concentrated in a smaller core area. Although only one nest is used each year, a territory may contain multiple alternate nests. Typically, there are between 6 and 14 nests are found in a territory (Kochert et al. 2002). Golden eagles may use the same nest for multiple years or use new nest sites every year (Watson 2010).

There is one known occurrence for this species approximately two miles northwest of the Study Area (CDFW 2020a). This active nest was located in a foothill pine on a hillslope surrounded by oak woodland. Existing residences are located uphill within 300 feet of the nest on the north and east. Two juvenile and two adult golden eagles were observed at the nest in August 2013. A pair of adult eagles returned to the

nest in 2014 and successfully raised one eaglet, which fledged by June 18, 2014. However, the nest tree fell over during a storm in November 2014. A golden eagle nest was subsequently identified in a foothill pine approximately 2.5 miles northwest of the Study Area on March 6, 2015. The new nest occurred within a foothill pine on a hillslope surrounded by oak woodland, approximately 25 feet from a residential dwelling. This foothill pine died in late 2015. The eagles relocated to another foothill pine downhill from their first nest location in 2016, and this nest was not active in 2017. Per unprocessed CNDDB records, the nest was active in 2019 and 2020 with nestlings and shows that the territory remains active (CDFW 2020a).

No golden eagles were observed during the biological surveys of the Study Area. Although the Study Area is unlikely to provide suitable nest trees, the annual grassland provides suitable foraging habitat for this species. Therefore, this species has a *low* potential to occur within the Study Area.

Tricolored Blackbird

The tricolored blackbird is a colonial species that occurs in pastures, dry seasonal pools, and agricultural fields in the Central Valley and the surrounding foothills. This species usually nests within dense cattails (*Typha* sp.) or tules (*Scirpus* sp.) in emergent wetlands. Tricolored blackbird also nests in thickets of blackberry (*Rubus* sp.), wild rose (*Rosa* sp.), willows, and tall herbs (Zeiner et al. 1990). Nesting locations typically must be large enough to support a minimum colony of approximately fifty pairs (Zeiner et al. 1990). There are three CNDDB records for this species within five miles of the Study Area (CDFW 2020a). The seasonal marsh and surrounding riparian habitat is unlikely to provide suitable nesting habitat for this since the marsh is not large enough to support nesting colonies. The annual grassland provides suitable foraging habitat for this species. This species was not observed during the biological surveys of the Study Area. This species has a *low* potential to occur within the Study Area.

American Badger

American badgers are found in dry, open habitats including grassland and open woodland. Suitable burrowing habitat requires dry, sandy soil. Breeding occurs in summer and early fall, with young being born from March to April. There is a nearby CNDDB recorded occurrence from 2015 located 4.9 miles northwest of the Study Area and documents an individual badger killed on the road (CDFW 2020a). CDFW considers this species to be extant (CDFW 2020a), however there are no other nearby records of this species near the Study Area. The annual grassland provides habitat for this species, however, burrows from this species or excavations were not observed during the biological surveys and no American badgers were observed during the biological surveys. This species has a *low* potential to occur within the Study Area.

Special-Status Bats

California is home to several special-status bat species, including pallid bat (*Antrozous pallidus*) and silver-haired bat (*Lasionycteris noctivagans*). Bat numbers are in decline throughout the U.S. due to loss of roosting habitat, habitat conversion, and habitat alteration. There are no CNDDB records for bats within five miles of the Study Area (CDFW 2020a). No bats were observed roosting or foraging during the biological surveys. However, the riparian habitat and isolated trees within the annual grassland provide roosting habitat for these species. Special-status bats have a *low* potential to roost within the Study Area.

4.5 SENSITIVE HABITATS

Sensitive habitats include those that are of special concern to resource agencies or those that are protected under CEQA, Section 1600 of the California Fish and Game Code, and/or Sections 401 and 404 of the Clean Water Act. Additionally, sensitive habitats are protected under the specific policies outlined in the *El Dorado County General Plan*. Sensitive habitats known to occur onsite are seep-spring, seasonal wetlands, seasonal marsh within the ordinary high water mark of an intermittent drainage, ephemeral and intermittent drainages, riparian woodland, oak woodlands, and purple needlegrass grassland Figure 3.

4.5.1 Potential Jurisdictional Waters of the U.S. and State

Potential jurisdictional waters of the U.S. and State located in the Study Area were delineated in 2020 by HELIX (HELIX 2020a). A total of approximately 0.740 acre of aquatic resources were delineated within the Study Area. This acreage includes 0.133 acre of seasonal wetlands, 0.007 acre of seep, 0.006 acre of wetland swale, 0.234 acre of ephemeral drainage, and 0.360 acre of intermittent drainage. To date the USACE has verified the acreage in the northern portion of the Study Area, but not within the southern portion of the Study Area.

4.5.2 Riparian Habitat

A total of 0.77 acre of riparian habitat is located in the Study Area along the northwestern ephemeral drainage. Riparian areas, defined as the outermost bank or the edge of riparian vegetation, whichever is greater, may be subject CDFW jurisdiction under Section 1602 of the Fish and Game Code. Additionally, CDFW may exert jurisdiction over the drainages and other riverine aquatic features. CDFW should be consulted prior to disturbance or development to determine whether issuance of a Section 1602 Lake or Streambed Alteration Agreement is required.

4.5.3 Oak Trees and Oak Woodland

A total of 13 protected oak trees protected under Policy 7.4.5.2, consisting of eleven valley oaks (*Quercus lobata*), one interior live oak (*Quercus wislizeni*), and one blue oak (*Quercus douglasii*) are present in the Study Area (HELIX 2020b). Oak woodland habitat and individual oak trees are currently regulated under Section 7.4.4.4 of the *El Dorado County General Plan* based on canopy coverage. The Study Area is within the area covered by the *El Dorado Hills Specific Plan*, which generally describes preservation criteria for oak trees within designated open space areas.

4.5.4 Purple Needlegrass

Approximately 0.29 acre of purple needlegrass is interspersed within the annual grassland community within the Study Area. Purple needlegrass grassland is listed as a sensitive plant community on the CDFW Natural Communities List and is required to be considered in CEQA documents. In order for purple needlegrass grassland to be considered a natural community, at least five percent of the species is required as a characteristic to dominant species in the herbaceous layer and the species is usually greater than 10 percent relative cover of the herbaceous layer. These small mapped areas contain greater than 10 percent relative cover within the herbaceous layer (Figure 3). However, the small acreage dominated by purple needlegrass is contained within the larger annual grassland community and therefore is not considered a sensitive habitat due to its extremely limited distribution.

4.5.5 Wildlife Migration Corridors

Wildlife corridors link areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. This fragmentation of habitat can also occur when a portion of one or more habitats is converted into another habitat; for instance, when woodland or scrub habitat is altered or converted into grasslands after a disturbance such as fire, mudslide, or construction activities. Wildlife corridors mitigate the effects of this fragmentation by: (1) allowing animals to move between remaining habitats thereby permitting depleted populations to be replenished and promoting genetic exchange; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk of catastrophic events (such as fire or disease) on population or local species extinction; and (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs. There are no wildlife migration corridors within the Study Area.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Known or potential biological constraints in the Study Area include the following:

- Potential habitat for special-status plant species;
- Potential habitat for valley elderberry longhorn beetle;
- Potential habitat for western pond turtle;
- Potential habitat for coast horned lizard;
- Potential habitat for foothill yellow-legged frog;
- Potential habitat for western spadefoot;
- Potential foraging habitat for golden eagle;
- Potential foraging habitat for tricolored blackbird;
- Potential habitat for burrowing owl;
- Potential nesting sites and foraging habitat for raptors and other birds;
- Potential habitat for American badger;
- Potential habitat for special-status bat species including pallid bat and silver-haired bat; and
- Sensitive habitats, including potentially jurisdictional waters of the U.S. (seasonal wetlands, seep, wetland swale, and ephemeral and intermittent drainages), riparian habitat, and valley oak woodland.

5.1 RECOMMENDATIONS

5.1.1 Special-Status Plant Species

Botanical inventories were conducted on April 24, 2015, May 26, 2015, and June 16, 2015. No special-status plants were documented to occur within the Study Area. However, construction has not commenced within two years of the 2015 botanical inventories, therefore additional botanical inventories are recommended to ensure that populations have not established in the intervening years, in accordance with CDFW's plant protocols. In the event that focused surveys for special-status plants continue to be negative, no further measures are recommended. In the event that special-status plant species are found within the Study Area and they cannot be avoided by construction, a qualified botanist should prepare an avoidance and mitigation plan detailing protection and avoidance measures, transplanting procedures, success criteria, and long-term monitoring protocols for impacted plants. In addition, a pre-construction worker awareness training should be conducted alerting workers to the presence of and protections for special-status plants.

5.1.2 Valley Elderberry longhorn Beetle

Although no VELB were observed, there is a low potential for VELB to be present in the Study Area due to two blue elderberry shrubs present within southern portion of the Study Area. However, under current guidance from the USFWS (USFWS 2017a), this species is not expected to be found above 500 feet in elevation. The elevation of the Study Area ranges from approximately 705 to 795 feet above MSL. Therefore, it is unlikely that this species would utilize the Study Area. In addition, the shrubs onsite showed no sign of exit holes. The 2017 guidance recommends consulting with the USFWS under these conditions. Based on the findings, it would be expected that the USFWS would determine that the Project would unlikely to affect VELB. However, if the USFWS were to find that the Project may affect VELB, the Project may be required to implement appropriate mitigation for impacts to elderberry shrubs within the Study Area which may include purchase of mitigation credits and transplantation of affected elderberry shrubs to an approved mitigation site.

5.1.3 Western Pond Turtle

The seasonal marsh habitat embedded within the intermittent drainage and surrounding uplands within the Study Area may be suitable habitat for western pond turtle and they are known to occur in the vicinity. Filling of these features could impact this species, if present. In addition, vegetation clearing and grading within the surrounding uplands could impact this species, if present.

A pre-construction survey for western pond turtle should be conducted within 14 days of the initiation of construction by a qualified biologist prior to any construction activity that would directly impact pond or stream habitat or disturb the ground within 300 feet of aquatic habitat. If no western pond turtles are observed, a letter report should be prepared to document the survey, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey or halts for more than 14 days a new survey should be conducted prior to reinitiating construction.

If western pond turtles are found during the pre-construction survey, then a qualified biological monitor should be onsite during initial clearing and grading within 300 feet of suitable aquatic habitat. The biological monitor will relocate any western pond turtles found within the construction footprint to suitable habitat away from the construction zone, but within the vicinity of the Study Area, if required.

In addition, a pre-construction worker awareness training should be conducted alerting workers to the presence of and protections for the western pond turtle.

5.1.4 Coast Horned Lizard

The non-native annual grassland within the Study Area provides a low potential for coast horned lizard to occur given the lack of sandy soil. However, given that there is some potential for this species to occur within the Study Area, a pre-construction survey for coast horned lizard is recommended within 14 days prior to the start of ground disturbance. If no coast horned lizards are observed, then no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey or halts for more than 14 days, a new survey is recommended.

If coast horned lizards are found, additional avoidance measures are recommended including having a qualified biologist conduct a pre-construction survey within 24 hours prior to commencement of construction activities, performing a worker awareness training to all construction workers, and being present on the Study Area during grading activities for the purpose of relocating any coast horned lizards found within the construction footprint to suitable habitat away from the construction zone, but within the Study Area.

5.1.5 Foothill Yellow-Legged Frog

The intermittent drainage and surrounding uplands within the Study Area provide marginal potential habitat for foothill yellow-legged frog. A qualified biologist should conduct a pre-construction survey of the drainages and uplands within 150 feet for foothill yellow-legged frog within 14 days prior to commencement of construction activities. If no foothill yellow-legged frog are observed, then a letter report documenting the results of the survey should be provided to the applicant for their records, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, a new survey is recommended.

If any foothill yellow-legged frog are found, agency consultation would be required to determine additional avoidance measures that might be required including having a qualified biologist conduct a pre-construction survey within 24 hours prior to commencement of construction activities, performing a worker awareness training to all construction workers, and being present on the Study Area during grading activities for the purpose of relocating any foothill yellow-legged frog found within the construction footprint to suitable habitat away from the construction zone, but within the Study Area.

5.1.6 Western Spadefoot

The annual grassland within the Study Area provides a low potential for upland aestivation habitat and the seasonal wetlands provide low quality breeding habitat for western spadefoot. A qualified biologist should conduct a pre-construction survey for western spadefoot within 14 days prior to commencement of construction activities. If no western spadefoot are observed, then a letter report documenting the results of the survey should be provided to the applicant for their records, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, a new survey is recommended.

If any western spadefoot are found, additional avoidance measures are recommended including having a qualified biologist conduct a pre-construction survey within 24 hours prior to commencement of

construction activities, performing a worker awareness training to all construction workers, and being present on the Study Area during grading activities for the purpose of relocating any western spadefoot found within the construction footprint to suitable habitat away from the construction zone, but within the Study Area.

5.1.7 Golden Eagle

Although the Study Area is unlikely to provide suitable nesting habitat for this species, the annual grassland provides suitable foraging habitat for golden eagle. A map identifying suitable foraging habitat for golden eagle within a three-mile radius of the last known location of the nest, which includes the Study Area, is provided in Figure 4. There are over 3,900 acres of potential foraging habitat surrounding the nest, based on an assessment of current aerial photographs. The project will result in the removal of 27.71 acres of annual grassland. The removal of approximately 0.71 percent of foraging habitat would have no impact on this species. Therefore, no additional measures are recommended.

5.1.8 Tricolored Blackbird

Although the Study Area does not provide suitable nesting areas for a tricolored blackbird colony, the annual grassland provides suitable foraging habitat. There are currently no requirements for conservation or mitigation for tricolored blackbird foraging habitat. Therefore, no additional measures are recommended.

5.1.9 Burrowing Owl

Although burrowing owl has a low potential to occur within the annual grassland, given the lack of suitable burrows and that they were not observed during the protocol-level breeding and non-breeding season surveys (Foothill Associates 2016b) or any other biological surveys conducted within the Study Area, they are not currently considered to be present. However, the species could occupy the Study Area in the future. Therefore, the project proponent should conduct a take avoidance survey within 30 days prior to commencement of construction, in accordance with the 2012 *California Department of Fish and Wildlife Staff Report on Burrowing Owl Mitigation* (2012 Staff Report) (CDFW 2012). The survey area includes an approximately 500-foot (150-meter) buffer around the Study Area, where access is permitted. If the surveys are negative, then no additional measures are recommended.

If burrows are observed within 500 feet of the Study Area, an impact assessment should be prepared and submitted to CDFW, in accordance with the 2012 Staff Report. If it is determined that project activities may result in impacts to nesting, occupied, and satellite burrows and/or burrowing owl habitat, the project proponent should consult with CDFW and develop a detailed mitigation plan such that the habitat acreage, number of burrows, and burrowing owls impacted are replaced. The mitigation plan should be based on the requirements set forth in Appendix A of the 2012 Staff Report.

5.1.10 Nesting Migratory Birds and Raptors

Several species of raptors and other migratory birds may forage and nest in the Study Area, including the special-status species white-tailed kite, Cooper's hawk, golden eagle, ferruginous hawk, merlin, grasshopper sparrow, and purple martin. Active nests are protected by the California Fish and Game Code Section 3503.5 and the MBTA. Construction activities could result in disturbance of nest sites through temporary increases in ambient noise levels and increased human activity. In addition,

vegetation clearing operations, including pruning or removal of trees and shrubs, could impact nesting birds if these activities occur during the nesting season (February 15 to August 31). All vegetation clearing including removal of trees and shrubs should be completed between September 1 to February 14, if feasible.

If vegetation removal and grading activities begin during the nesting season (February 1 to August 31), a qualified biologist should conduct a pre-construction survey of the project footprint for active nests. Additionally, the surrounding 500 feet should be surveyed for active raptor nests where accessible. The pre-construction survey should be conducted within 14 days prior to commencement of ground-disturbing activities. If the pre-construction survey shows that there is no evidence of active nests, a letter report should be prepared to document the survey, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, an additional survey is required prior to starting work.

If nests are found and considered to be active, the project biologist should establish buffer zones to prohibit construction activities and minimize nest disturbance until the young have successfully fledged. Buffer width will depend on the species in question, surrounding existing disturbances, and specific site characteristics, but may range from 20 feet for some songbirds to 250 feet for most raptors. If active nests are found within any trees slated for removal, then an appropriate buffer should be established around the trees and the trees should not be removed until a biologist determines that the nestlings have successfully fledged. In addition, a pre-construction worker awareness training should be conducted alerting workers to the presence of and protections for the active avian nests. If construction activities are proposed to begin during the non-breeding season (September 1 through January 31), a survey is not required and no further studies are necessary.

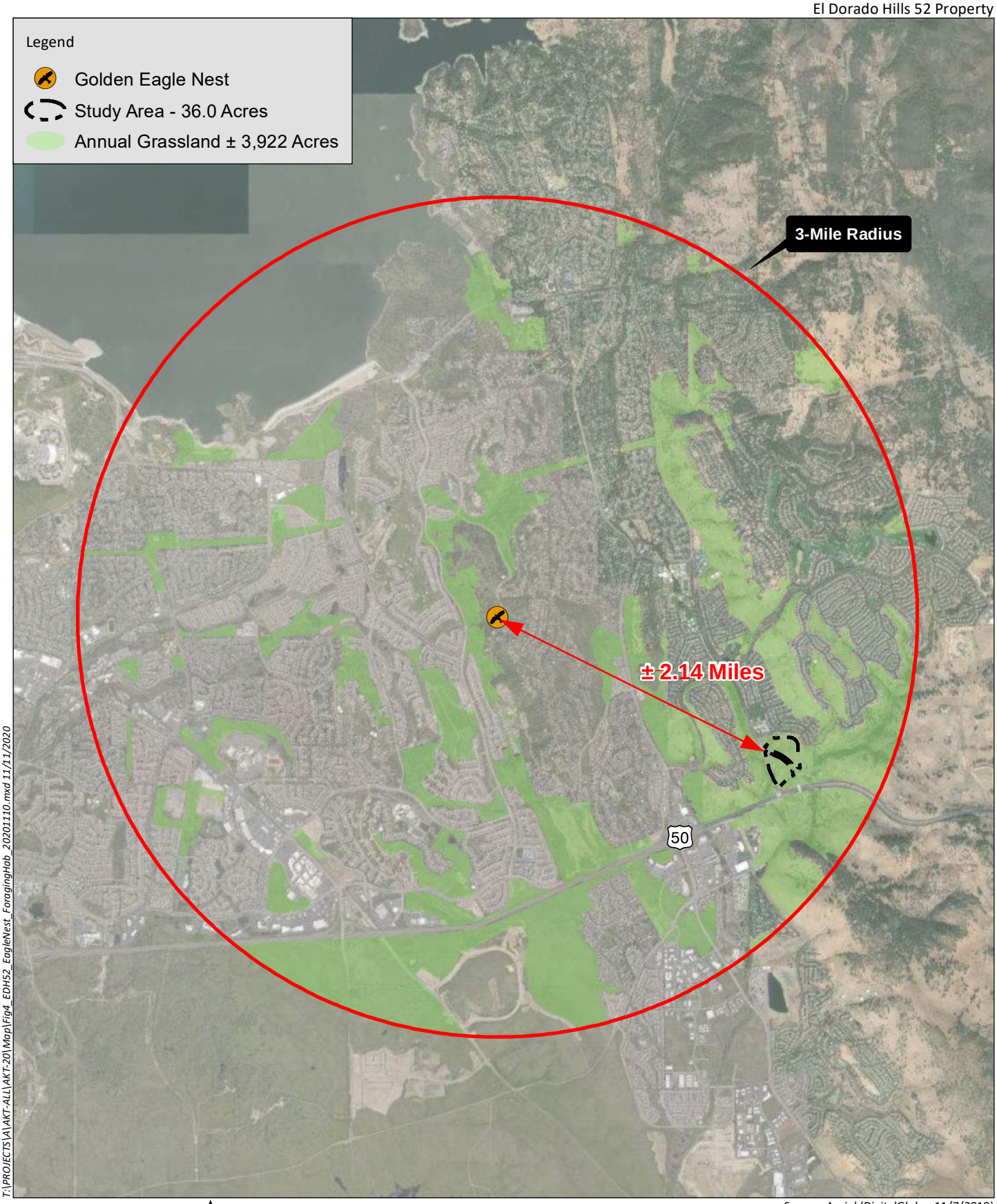
5.1.11 American Badger

The annual grassland provides habitat for American badger. A qualified biologist should conduct a pre-construction survey for American badger within 14 days prior to the start of ground disturbance. If no American badgers are observed, then a letter report documenting the results of the survey should be provided to the project proponent for their records, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, a new survey is recommended.

If American badgers or their dens are found, additional avoidance measures are recommended including having a qualified biologist conduct a pre-construction survey within 24 hours prior to commencement of construction activities, performing a worker awareness training to all construction workers, and being present on the Study Area during grading activities for the purpose of temporarily halting construction activities until the biologist determines that the badger has left the construction footprint on its own accord.

5.1.12 Special-Status Bat Species

The existing riparian and oak woodlands provide potential roosting habitat for various bat species that occur in the vicinity of the Study Area. Removal of trees could impact bats should they be roosting in areas proposed for removal.



HELIX Environmental Planning

Annual Grassland for Golden Eagle Foraging Habitat Within the Vicinity of the Study Area

Figure 4

A qualified biologist should conduct a preconstruction survey within 14 days prior to clearing or grading operations and removal of trees. If no bats are observed, a letter report should be prepared to document the survey, and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, an additional survey is required prior to starting work.

If special-status bat species are present and roosting on or within 100 feet of the Study Area, then the biologist should establish an appropriate buffer around the roost site. At minimum, no trees should be removed until the biologist has determined that the bat is no longer roosting in the tree. Additional mitigation measures for bat species, such as installation of bat boxes or alternate roost structures, would be recommended only if special-status bat species are found to be roosting within the project area. In addition, a pre-construction worker awareness training should be conducted alerting workers to the presence of and protections for various bat species.

5.1.13 Jurisdictional Waters

Since proposed construction activities will impact aquatic resources within the Study Area, a Section 404 permit should be obtained from the USACE and a Section 401 water quality certification and/or WDRs should be obtained from the RWQCB prior to the start of construction for any impacts to waters of the U.S. or State. Any waters of the U.S. or State or jurisdictional wetlands that would be lost or disturbed should be replaced or rehabilitated on a "no-net-loss" basis in accordance with the agency mitigation guidelines. Habitat restoration, rehabilitation, and/or replacement should be at a location and by methods agreeable to the agencies.

Water quality concerns during construction would be addressed through the preparation of a Storm Water Pollution Prevention Plan (SWPPP). SWPPPs are required in issuance of a NPDES construction discharge permit by the U.S. Environmental Protection Agency. Implementation of Best Management Practices (BMPs) during construction is standard in most SWPPPs. Examples of BMPs include stockpiling of debris away from regulated wetlands and waterways; immediate removal of debris piles from the site during the rainy season; use of silt fencing and construction fencing around regulated waterways; and use of drip pans under work vehicles and containment of fuel waste throughout the site during construction. If authorization for project-related activities within federally jurisdictional aquatic resources is required, Section 401 water quality certification from the Regional Water Quality Control Board would be required to certify compliance with State standards for maintaining water quality objectives. Alternately, WDRs are issued by the State Water Resources Control Board for activities impacting waters of the State.

The onsite drainages and associated riparian areas are likely subject to CDFW jurisdiction. Therefore, the project proponent should prepare a streambed alteration notification for submittal to CDFW documenting impacts to CDFW jurisdictional features (see Section 5.1.15).

5.1.14 Oak Trees and Oak Woodland

The Project would result in the removal of 11 protected oak trees. To mitigate for the biological resources impact associated with the loss of oak woodlands associated with the project, a combination of avoidance, protection, onsite replacement, where feasible, and offsite preservation or creation of oak woodland habitat is recommended. An Oak Resources Technical Report was prepared by HELIX in November of 2020 (HELIX 2020b). In that report, it was assumed that in lieu fees will be paid to

El Dorado County to offset project-related impacts to oak woodland and individual oak trees. Tree protection measures should be implemented around trees to remain in the Study Area as detailed in the project's Oak Resources Technical Report (HELIX 2020b).

5.1.15 Riparian Habitats

Riparian habitat and drainages within the Study Area are likely subject to CDFW jurisdiction. It is recommended that a Streambed Alteration Agreement application be submitted to CDFW, pursuant to Section 1600 of the Fish and Game Code, for any activities affecting the bed, bank or associated riparian vegetation of the onsite drainages. If required, the project applicant should coordinate with CDFW in developing appropriate mitigation, and should abide by the conditions of any executed permits.

5.2 SUMMARY OF AVOIDANCE AND MINIMIZATION MEASURES

Implementation of the following measures prior to development is recommended to minimize impacts to biological resources within the Study Area:

- Obtain a Section 404 Clean Water Act Permit, 401 Water Quality Certification or WDRs, and SAA for impacts to jurisdictional aquatic features and associated riparian habitat prior to the start of construction;
- Conduct updated focused botanical surveys for potentially occurring special-status plants;
- Conduct clearing and tree and shrub removal operations between September 1 and January 31 if feasible to minimize potential impacts to nesting birds;
- If construction begins during the nesting season (February 1 to August 31) conduct a pre-construction survey for active bird nests within the Study Area;
- Conduct a take avoidance survey for burrowing owl within 30 days prior to commencement of construction activities, in accordance with the 2012 Staff Report;
- Within 14 days prior to the initiation of construction activities, conduct a pre-construction survey for coast horned lizard, foothill yellow-legged frog, western pond turtle, American badger, and special-status bat species; and
- Implement the tree avoidance, maintenance, and mitigation measures as described in the Oak Resources Technical Report (HELIX 2020b).

6.0 REFERENCES

Barr, C.B. 1991. The distribution, habitat, and status of the valley elderberry longhorn beetle *Desmocerus californicus dimorphus*. U.S. Fish and Wildlife Service: Sacramento, CA.

California Department of Fish and Wildlife (CDFW). 2012. Staff Report on Burrowing Owl Mitigation. State of California Natural Resources Agency Department of Fish and Game. March 7, 2012.

2020a. California Natural Diversity Data Base (For: *Clarksville* and nine surrounding USGS 7.5-minute series quadrangles), Sacramento, CA. Accessed on October 12, 2020.

2020b. Conservation and Management of Wildlife and Habitat: Species Management. Available online at: https://wildlife.ca.gov/Conservation.

California Native Plant Society (CNPS). 2020. Inventory of Rare and Endangered Plants (online edition, v8-03 0.39) For: *Clarksville* and nine surrounding USGS 7.5-minute series quadrangles. Accessed on October 9, 2020.

El Dorado County. 2004. *El Dorado County General Plan, A Plan for Managed Growth and Open Roads, A Plan for Quality Neighborhoods and Traffic Relief*. Adopted July 9, 22004. Amended December 10, 2019.

2017. *El Dorado County General Plan Conservation and Open Space Element*. Prepared by El Dorado County. Update Approved October 2017. Available online at: https://www.edcgov.us/government/planning/adoptedgeneralplan/documents/7_conservation.pdf.

2017b. *El Dorado County Oak Resources Management Plan*. Available online at: https://www.edcgov.us/Government/longrangeplanning/environmental/Documents/Reso-129-2017-Exhibit-A-ORMP-10-24-2017.pdf.

2020. *El Dorado County Oak Resources Conservation Ordinance*. Available online at: https://www.edcgov.us/Government/longrangeplanning/environmental/Documents/Oak-Resources-Conservation-Ordinance%205061-10-24-2017-Bookmarked.pdf.

Foothill Associates. 2016a. *California Red-Legged Frog (Rana draytonii) Breeding Season Survey Report for the 32-Acre El Dorado Hills 52 Project, El Dorado County, California*. August 30, 2016.

2016b. *Results of the Protocol Level Burrowing Owl Surveys Letter Report for the El Dorado Hills 52 Project, El Dorado County, California*. February 22, 2016.

2016c. *Results of the Protocol Level Special-Status Plant Surveys Letter Report for the El Dorado Hills 52 Project, El Dorado County, California*. February 25, 2016.

HELIX Environmental Planning Inc. (HELIX). 2020a. *Aquatic Resources Delineation Report for Marie Mitchell Project*. Prepared for the El Dorado Hills 52 Project. Dated November 2020.

2020b. *El Dorado Hills 52 Oak Resources Technical Report*. Dated November 2020.

Jennings, M.R., and M.P. Hayes. 1994. Amphibian and Reptile Species of Special Concern in California. California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, California.

Kochert, M. N., K. Steenhof, C. L. Mcintyre and E. H. Craig. 2002. Golden Eagle (Aquila chrysaetos). *The Birds of North America Online* (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Available online at: http://bna.birds.cornell.edu/bna/species/684.

McGrady, M.J. 1997. "*Golden Eagle*". Birds of the Western Palearctic Update, 1: 99-114.

Rosenberg, D., J. Gervais, and D. Vesely. 2009. *Conservation Assessment of the Western Pond Turtle in Oregon* (*Actinemys marmorata*). Version 1.0. November 2009. U.S.D.I. Bureau of Land Management and Fish and Wildlife Service. U.S.D.A. Forest Service Region 6. Oregon Department of Fish and Wildlife, City of Portland. Metro.

Stebbins, R. C. 2003. *Western Amphibians and Reptiles*, *3rd Edition*. Boston: Houghton Mifflin Co.

U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS). 2020. Web Soil Survey: Area of Interest (AOI). Available online at: http://websoilsurvey.sc.egov.usda.gov.

U.S. Fish and Wildlife Service (USFWS). 1999. Conservation Guidelines for the Valley Elderberry Longhorn Beetle: Sacramento, California.

2005. Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon. Region 1, U.S. Fish and Wildlife Service, Portland, OR. December 15.

2014. 50 CFR Part 17 RIN–1018–AV29 Endangered and Threatened Wildlife and Plants; Withdrawal of the Proposed Rule to Remove the Valley Elderberry Longhorn Beetle from the Federal List of Endangered and Threatened Wildlife. Federal Register Vol. 79, No. 180. September 17.

2017a. Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*). U.S. Fish and Wildlife Service; Sacramento, California. 28 pp.

2020. Information for Planning and Conservation (IPaC) Trust Resource Report: El Dorado, California. Accessed on October 12, 2020.

U.S. Geological Survey (USGS). 2018. *Clarksville* California. 7.5 -minute series topographic quadrangle. U.S. Department of the Interior.

Watson, Jeff. 2010. *The Golden Eagle*. 2nd Edition. London: A&C Black Publishers.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1988-1990. *California's Wildlife: California Wildlife Habitat Relationships*. Volumes I-III. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Game. Available online at: http://www.dfg.ca.gov/whdab/html/cawildlife.html.

Appendix A

Applicable Sections of the El Dorado County General Plan

This page intentionally left blank

El Dorado County General Plan

Conservation and Protection of Water Resources

GOAL 7.3: WATER QUALITY AND QUANTITY
Conserve, enhance, and manage water resources and protect their quality from degradation.

OBJECTIVE 7.3.1: WATER RESOURCE PROTECTION
Preserve and protect the supply and quality of the County's water resources including the protection of critical watersheds, riparian zones, and aquifers.

Policy 7.3.1.1 Encourage the use of Best Management Practices, as identified by the Soil Conservation Service, in watershed lands as a means to prevent erosion, siltation, and flooding.

Policy 7.3.1.2 Establish water conservation programs that include both drought tolerant landscaping and efficient building design requirements as well as incentives for the conservation and wise use of water.

Policy 7.3.1.3 The County shall develop the criteria and draft an ordinance to allow and encourage the use of domestic gray water for landscape irrigation purposes. (See Title 22 of the State Water Code and the Graywater Regulations of the Uniform Plumbing Code).

OBJECTIVE 7.3.2: WATER QUALITY
Maintenance of and, where possible, improvement of the quality of underground and surface water.

Policy 7.3.2.1 Stream and lake embankments shall be protected from erosion, and streams and lakes shall be protected from excessive turbidity.

Policy 7.3.2.2 Projects requiring a grading permit shall have an erosion control program approved, where necessary.

Policy 7.3.2.3 Where practical and when warranted by the size of the project, parking lot storm drainage shall include facilities to separate oils and salts from storm water in accordance with the recommendations of the Storm Water Quality Task Force's California Storm Water Best Management Practices Handbooks (1993).

Policy 7.3.2.4 The County should evaluate feasible alternatives to the use of salt for ice control on County roads.

Policy 7.3.2.5 As a means to improve the water quality affecting the County's recreational waters, enhanced and increased detailed analytical water quality studies and

monitoring should be implemented to identify and reduce point and non-point pollutants and contaminants. Where such studies or monitoring reports have identified sources of pollution, the County shall propose means to prevent, control, or treat identified pollutants and contaminants.

OBJECTIVE 7.3.3: WETLANDS

Protection of natural and man-made wetlands, vernal pools, wet meadows, and riparian areas from impacts related to development for their importance to wildlife habitat, water purification, scenic values, and unique and sensitive plant life.

Policy 7.3.3.1 *For projects that would result in the discharge of material to or that may affect the function and value of river, stream, lake, pond, or wetland features, the application shall include a delineation of all such features. For wetlands, the delineation shall be conducted using the U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual*

Policy 7.3.3.2 *Intentionally blank*

Policy 7.3.3.3 *The County shall develop a database of important surface water features, including lake, river, stream, pond, and wetland resources.*

Policy 7.3.3.4 *The Zoning Ordinance shall be amended to provide buffers and special setbacks for the protection of riparian areas and wetlands. The County shall encourage the incorporation of protected areas into conservation easements or natural resource protection areas.*

Exceptions to riparian and wetland buffer and setback requirements shall be provided to permit necessary road and bridge repair and construction, trail construction, and other recreational access structures such as docks and piers, or where such buffers deny reasonable use of the property, but only when appropriate mitigation measures and Best Management Practices are incorporated into the project. Exceptions shall also be provided for horticultural and grazing activities on agriculturally zoned lands that utilize "best management practices (BMPs)" as recommended by the County Agricultural Commission and adopted by the Board of Supervisors.

Until standards for buffers and special setbacks are established in the Zoning Ordinance, the County shall apply a minimum setback of 100 feet from all perennial streams, rivers, lakes, and 50 feet from intermittent streams and wetlands. These interim standards may be modified in a particular instance if more detailed information relating to slope, soil stability, vegetation, habitat, or other site- or project-specific conditions supplied as part of the review for a specific project demonstrates that a different setback is necessary or would be sufficient to protect the particular riparian area at issue.

For projects where the County allows an exception to wetland and riparian buffers, development in or immediately adjacent to such features shall be planned so that impacts on the resources are minimized. If avoidance and minimization are not feasible, the County shall make findings, based on documentation provided by the project proponent, that avoidance and minimization are infeasible.

Policy 7.3.3.5 *Rivers, streams, lakes and ponds, and wetlands shall be integrated into new development in such a way that they enhance the aesthetic and natural character of the site while disturbance to the resource is avoided or minimized and fragmentation is limited.*

OBJECTIVE 7.3.4: DRAINAGE
Protection and utilization of natural drainage patterns.

Policy 7.3.4.1 *Natural watercourses shall be integrated into new development in such a way that they enhance the aesthetic and natural character of the site without disturbance.*

Policy 7.3.4.2 *Modification of natural stream beds and flow shall be regulated to ensure that adequate mitigation measures are utilized.*

OBJECTIVE 7.3.5: WATER CONSERVATION
Conservation of water resources, encouragement of water conservation, and construction of wastewater disposal systems designed to reclaim and re-use treated wastewater on agricultural crops and for other irrigation and wildlife enhancement projects.

Policy 7.3.5.1 *Drought-tolerant plant species, where feasible, shall be used for landscaping of commercial development. Where the use of drought-tolerant native plant species is feasible, they should be used instead of non-native plant species.*

Policy 7.3.5.2 *A list of appropriate local indigenous drought tolerant plant materials shall be maintained by the County Planning Department and made available to the public.*

Policy 7.3.5.3 *The County Parks and Recreation Division shall use drought tolerant landscaping for all new parks and park improvement projects.*

Policy 7.3.5.4 *Require efficient water conveyance systems in new construction. Establish a program of ongoing conversion of open ditch systems shall be considered for conversion to closed conduits, reclaimed water supplies, or both, as circumstances permit.*

Policy 7.3.5.5 *Encourage water reuse programs to conserve raw or potable water supplies consistent with State Law.*

Conservation of Biological Resources

GOAL 7.4: WILDLIFE AND VEGETATION RESOURCES
Identify, conserve, and manage wildlife, wildlife habitat, fisheries, and vegetation resources of significant biological, ecological, and recreational value.

OBJECTIVE 7.4.1: RARE, THREATENED, AND ENDANGERED SPECIES
The County shall protect State and federally recognized rare, threatened, or endangered species and their habitats consistent with Federal and State laws.

Policy 7.4.1.1 *The County shall continue to provide for the permanent protection of the eight sensitive plant species known as the Pine Hill endemics and their habitat through the establishment and management of ecological preserves consistent with County Code Chapter 17.71 and the USFWS's Gabbro Soil Plants for the Central Sierra Nevada Foothills Recovery Plan (USFWS 2002).*

Policy 7.4.1.2 *Private land for preserve sites will be purchased only from willing sellers.*

Policy 7.4.1.3 *Limit land uses within established preserve areas to activities deemed compatible. Such uses may include passive recreation, research and scientific study, and education. In conjunction with use as passive recreational areas, develop a rare plant educational and interpretive program.*

Policy 7.4.1.4 *Proposed rare, threatened, or endangered species preserves, as approved by the County Board of Supervisors, shall be designated Ecological Preserve (-EP) overlay on the General Plan land use map.*

Policy 7.4.1.5 *Species, habitat, and natural community preservation/conservation strategies shall be prepared to protect special-status plant and animal species and natural communities and habitats when discretionary development is proposed on lands with such resources unless it is determined that those resources exist, and either are or can be protected, on public lands or private Natural Resource lands.*

Policy 7.4.1.6 *All development projects involving discretionary review shall be designed to avoid disturbance or fragmentation of important habitats to the extent reasonably feasible. Where avoidance is not possible, the development shall be required to fully mitigate the effects of important habitat loss and fragmentation. Mitigation shall be defined in the Integrated Natural Resources Management Plan (INRMP) (see Policy 7.4.2.8 and Implementation Measure CO-M).*

The County Agricultural Commission, Plant and Wildlife Technical Advisory Committee, representatives of the agricultural community, academia, and other

stakeholders shall be involved and consulted in defining the important habitats of the County and in the creation and implementation of the INRMP.

Policy 7.4.1.7 The County shall continue to support the Noxious Weed Management Group in its efforts to reduce and eliminate noxious weed infestations to protect native habitats and to reduce fire hazards.

OBJECTIVE 7.4.2: IDENTIFY AND PROTECT RESOURCES
Identification and protection, where feasible, of critical fish and wildlife habitat including deer winter, summer, and fawning ranges; deer migration routes; stream and river riparian habitat; lake shore habitat; fish spawning areas; wetlands; wildlife corridors; and diverse wildlife habitat.

Policy 7.4.2.1 To the extent feasible in light of other General Plan policies and to the extent permitted by State law, the County of El Dorado will protect identified critical fish and wildlife habitat, as identified on the Important Biological Resources Map maintained at the Planning Department, through any of the following techniques: utilization of open space, Natural Resource land use designation, clustering, large lot design, setbacks, etc.

Policy 7.4.2.2 Where critical wildlife areas and migration corridors are identified during review of projects; the County shall protect the resources from degradation by requiring all portions of the Site that contain or influence said areas to be retained as non-disturbed natural areas through mandatory clustered development on suitable portions of the Site or other means such as density transfers if clustering cannot be achieved. The setback distance for designated or protected migration corridors shall be determined as part of the project's environmental analysis. The intent and emphasis of the Open Space land use designation and of the non-disturbance policy is to ensure continued viability of contiguous or interdependent habitat areas and the preservation of all movement corridors between related habitats. The intent of mandatory clustering is to provide a mechanism for natural resource protection while allowing appropriate development of private property. Horticultural and grazing projects on agriculturally designated lands are exempt from the restrictions placed on disturbance of natural areas when utilizing "Best Management Practices" (BMPs) recommended by the County Agricultural Commission and adopted by the Board of Supervisors when not subject to Policy 7.1.2.7.

Policy 7.4.2.3 Consistent with Policy 9.1.3.1 of the Parks and Recreation Element, low impact uses such as trails and linear parks may be provided within river and stream buffers if all applicable mitigation measures are incorporated into the design.

Policy 7.4.2.4 Establish and manage wildlife habitat corridors within public parks and natural resource protection areas to allow for wildlife use. Recreational uses within these areas shall be limited to those activities that do not require grading or vegetation removal.

Policy 7.4.2.5 Setbacks from all rivers, streams, and lakes shall be included in the Zoning Ordinance for all ministerial and discretionary development projects.

Policy 7.4.2.6 El Dorado County Biological Community Conservation Plans shall be required to protect, to the extent feasible, rare, threatened, and endangered plant species only when existing federal or State plans for non-jurisdictional areas do not provide adequate protection.

Policy 7.4.2.7 The County shall form a Plant and Wildlife Technical Advisory Committee to advise the Planning Commission and Board of Supervisors on plant and wildlife issues, and the committee should be formed of local experts, including agricultural, fire protection, and forestry representatives, who will consult with other experts with special expertise on various plant and wildlife issues, including representatives of regulatory agencies. The Committee shall formulate objectives which will be reviewed by the Planning Commission and Board of Supervisors.

Policy 7.4.2.8 Develop within five years and implement an Integrated Natural Resources Management Plan (INRMP) that identifies important habitat in the County and establishes a program for effective habitat preservation and management. The INRMP shall include the following components:

A. Habitat Inventory. This part of the INRMP shall inventory and map the following important habitats in El Dorado County:

1. *Habitats that support special-status species;*
2. *Aquatic environments including streams, rivers, and lakes;*
3. *Wetland and riparian habitat;*
4. *Important habitat for migratory deer herds; and*
5. *Large expanses of native vegetation.*

The County should update the inventory every three years to identify the amount of important habitat protected, by habitat type, through County programs and the amount of important habitat removed because of new development during that period. The inventory and mapping effort shall be developed with the assistance of the Plant and Wildlife Technical Advisory Committee, CDFW, and USFWS. The

inventory shall be maintained and updated by the County Planning Department and shall be publicly accessible.

B. *Habitat Protection Strategy. This component shall describe a strategy for protecting important habitats based on coordinated land acquisitions (see item D below) and management of acquired land. The goal of the strategy shall be to conserve and restore contiguous blocks of important habitat to offset the effects of increased habitat loss and fragmentation elsewhere in the county. The Habitat Protection Strategy should be updated at least once every five years based on the results of the habitat monitoring program (item F below). Consideration of wildlife movement will be given by the County on all future 4- and 6-lane roadway construction projects. When feasible, natural undercrossings along proposed roadway alignments that could be utilized by terrestrial wildlife for movement will be preserved and enhanced.*

C. *Mitigation Assistance. This part of the INRMP shall establish a program to facilitate mitigation of impacts to biological resources resulting from projects approved by the County that are unable to avoid impacts on important habitats. The program may include development of mitigation banks, maintenance of lists of potential mitigation options, and incentives for developers and landowner participation in the habitat acquisition and management components of the INRMP.*

D. *Habitat Acquisition. Based on the Habitat Protection Strategy and in coordination with the Mitigation Assistance program, the INRMP shall include a program for identifying habitat acquisition opportunities involving willing sellers. Acquisition may be by state or federal land management agencies, private land trusts or mitigation banks, the County, or other public or private organizations. Lands may be acquired in fee or protected through acquisition of a conservation easement designed to protect the core habitat values of the land while allowing other uses by the fee owner. The program should identify opportunities for partnerships between the County and other organizations for habitat acquisition and management. In evaluating proposed acquisitions, consideration will be given to site specific features (e.g., condition and threats to habitat, presence of special-status species), transaction related features (e.g., level of protection gained, time frame for purchase completion, relative costs), and regional considerations (e.g., connectivity with adjacent protected lands and important habitat, achieves multiple agency and community benefits). Parcels that include important habitat and are located generally to the west of the El Dorado National Forest should be given priority for acquisition. Priority will also be given to parcels that would preserve natural wildlife movement corridors such as*

crossing under major roadways (e.g., U.S. Highway 50 and across canyons). All land acquired shall be added to the Ecological Preserve overlay area.

E. *Habitat Management. Each property or easement acquired through the INRMP should be evaluated to determine whether the biological resources would benefit from restoration or management actions. Examples of the many types of restoration or management actions that could be undertaken to improve current habitat conditions include: removal of non-native plant species, planting native species, repair and rehabilitation of severely grazed riparian and upland habitats, removal of culverts and other structures that impede movement by native fishes, construction of roadway under and overcrossing that would facilitate movement by terrestrial wildlife, and installation of erosion control measures on land adjacent to sensitive wetland and riparian habitat.*

F. *Monitoring. The INRMP shall include a habitat monitoring program that covers all areas under the Ecological Preserve overlay together with all lands acquired as part of the INRMP. Monitoring results shall be incorporated into future County planning efforts so as to more effectively conserve and restore important habitats. The results of all special-status species monitoring shall be reported to the CNDDB. Monitoring results shall be compiled into an annual report to be presented to the Board of Supervisors.*

G. *Public Participation. The INRMP shall be developed with and include provisions for public participation and informal consultation with local, state, and federal agencies having jurisdiction over natural resources within the County.*

H. *Funding. The County shall develop a conservation fund to ensure adequate funding of the INRMP, including habitat maintenance and restoration. Funding may be provided from grants, mitigation fees, and the County general fund. The INRMP annual report described under item F above shall include information on current funding levels and shall project anticipated funding needs and anticipated and potential funding sources for the following five years.*

Policy 7.4.2.9 *The Important Biological Corridor (-IBC) overlay shall apply to lands identified as having high wildlife habitat values because of extent, habitat function, connectivity, and other factors. Lands located within the overlay district shall be subject to the following provisions except that where the overlay is applied to lands that are also subject to the Agricultural District (-A) overlay or that are within the Agricultural Lands (AL) designation, the land use restrictions associated with the -IBC policies will not apply to the extent that the agricultural practices do not interfere with the purposes of the -IBC overlay.*

- *Increased minimum parcel size;*
- *Higher canopy-retention standards and/or different mitigation standards/thresholds for oak woodlands;*
- *Lower thresholds for grading permits;*
- *Higher wetlands/riparian retention standards and/or more stringent mitigation requirements for wetland/riparian habitat loss;*
- *Increased riparian corridor and wetland setbacks;*
- *Greater protection for rare plants (e.g., no disturbance at all or disturbance only as recommended by U.S. Fish and Wildlife Service/California Department of Fish and Wildlife);*
- *Standards for retention of contiguous areas/large expanses of other (non-oak or non-sensitive) plant communities;*
- *Building permits discretionary or some other type of "site review" to ensure that canopy is retained;*
- *More stringent standards for lot coverage, floor area ratio (FAR), and building height; and*
- *No hindrances to wildlife movement (e.g., no fences that would restrict wildlife movement).*

The standards listed above shall be included in the Zoning Ordinance.

Wildland Fire Safe measures are exempt from this policy, except that Fire Safe measures will be designed insofar as possible to be consistent with the objectives of the Important Biological Corridor.

OBJECTIVE 7.4.3: COORDINATION WITH APPROPRIATE AGENCIES
Coordination of wildlife and vegetation protection programs with appropriate federal and State agencies.

OBJECTIVE 7.4.5: NATIVE VEGETATION AND LANDMARK TREES
Protect and maintain native trees including oaks and landmark and heritage trees.

Policy 7.4.5.1 A tree survey, preservation, and replacement plan shall be required to be filed with the County prior to issuance of a grading permit for discretionary permits on all high-density residential, multifamily residential, commercial, and industrial projects. To ensure that proposed replacement trees survive, a mitigation monitoring plan should be incorporated into discretionary projects when applicable and shall include provisions for necessary replacement of trees.

Policy 7.4.5.2 It shall be the policy of the County to preserve native oaks wherever feasible, through the review of all proposed development activities where such trees are present on either public or private property, while at the same time recognizing individual rights to develop private property in a reasonable manner. To ensure that oak tree loss is reduced to reasonable acceptable levels, the County shall develop and implement an Oak Tree Preservation Ordinance that includes the following components:

A. Oak Tree Removal Permit Process. Except under special exemptions, a tree removal permit shall be required by the County for removal of any native oak tree with a single main trunk of at least 6 inches diameter at breast height (dbh), or a multiple trunk with an aggregate of at least 10 inches dbh. Special exemptions when a tree removal permit is not needed shall include removal of trees less than 36 inches dbh on 1) lands in Williamson Act Contracts, Farmland Security Zone Programs, Timber Production Zones, Agricultural Districts, designated Agricultural Land (AL), and actions pursuant to a Fire Safe plan; 2) all single family residential lots of one acre or less that cannot be further subdivided; 3) when a native oak tree is cut down on the owner's property for the owner's personal use; and 4) when written approval has been received from the County Planning Department. In passing judgment upon tree removal permit applications, the County may impose such reasonable conditions of approval as are necessary to protect the health of existing oak trees, the public and the surrounding property, or sensitive habitats. The County Planning Department may condition any removal of native oaks upon the replacement of trees in kind. The replacement requirement shall be calculated based upon an inch for inch replacement of removed oaks. The total of replacement trees shall have a combined diameter of the tree(s) removed. Replacement trees may be planted onsite or in other areas to the satisfaction of the County Planning Department. The County may also condition any tree removal permit that would affect sensitive habitat (e.g., valley oak woodland), on preparation of a Biological Resources Study and an Important Habitat Mitigation Program as described in Policy 7.4.1.6. If an application is denied, the County shall provide written notification, including the reasons for denial, to the applicant.

B. Tree Removal Associated with Discretionary Project. Any person desiring to remove a native oak shall provide the County with the following as part of the project application:

- *A written statement by the applicant or an arborist stating the justification for the development activity, identifying how trees in the vicinity of the project or construction site will be protected and stating*

that all construction activity will follow approved preservation methods;

- *A site map plan that identifies all native oaks on the project site; and*
- *A report by a certified arborist that provides specific information for all native oak trees on the project site.*

C. *Commercial Firewood Cutting. Fuel wood production is considered commercial when a party cuts firewood for sale or profit. An oak tree removal permit shall be required for commercial firewood cutting of any native oak tree. In reviewing a permit application, the Planning Department shall consider the following:*

- *Whether the trees to be removed would have a significant negative environmental impact;*
- *Whether the proposed removal would not result in clear-cutting, but will result in thinning or stand improvement;*
- *Whether replanting would be necessary to ensure adequate regeneration;*
- *Whether the removal would create the potential for soil erosion;*
- *Whether any other limitations or conditions should be imposed in accordance with sound tree management practices; and*
- *What the extent of the resulting canopy cover would be.*

D. *Penalties. Fines will be issued to any person, firm, or corporation that is not exempt from the ordinance who damages or destroys an oak tree without first obtaining an oak tree removal permit. Fines may be as high as three times the current market value of replacement trees as well as the cost of replacement, and/or replacement of up to three times the number of trees required by the ordinance. If oak trees are removed without a tree removal permit, the County Planning Department may choose to deny or defer approval of any application for development of that property for a period of up to 5 years. All monies received for replacement of illegally removed or damaged trees shall be deposited in the County's Integrated Natural Resources Management Plan (INRMP) conservation fund.*

Preservation of Open Space

GOAL 7.6: OPEN SPACE CONSERVATION

Conserve open space land for the continuation of the County's rural character, commercial agriculture, forestry and other productive uses, the enjoyment of scenic beauty and recreation, the protection of natural resources, for protection from natural hazards, and for wildlife habitat.

OBJECTIVE 7.6.1: IMPORTANCE OF OPEN SPACE

Consideration of open space as an important factor in the County's quality of life.

Policy 7.6.1.1 *The General Plan land use map shall include an Open Space land use designation. The purpose of this designation is to implement the goals and objectives of the Land Use and the Conservation and Open Space Elements by serving one or more of the purposes stated below. In addition, the designations on the land use map for Rural Residential and Natural Resource areas are also intended to implement said goals and objectives. Primary purposes of open space include:*

A. Conserving natural resource areas required for the conservation of plant and animal life including habitat for fish and wildlife species; areas required for ecologic and other scientific study purposes; rivers, streams, banks of rivers and streams and watershed lands;

B. Conserving natural resource lands for the managed production of resources including forest products, rangeland, agricultural lands important to the production of food and fiber; and areas containing important mineral deposits;

C. Maintaining areas of importance for outdoor recreation including areas of outstanding scenic, historic and cultural value; areas particularly suited for park and recreation purposes including those providing access to lake shores, beaches and rivers and streams; and areas which serve as links between major recreation and open space reservations including utility easements, banks of rivers and streams, trails and scenic highway corridors;

D. Delineating open space for public health and safety including, but not limited to, areas which require special management or regulation because of hazardous or special conditions such as earthquake fault zones, unstable soil areas, flood plains, watersheds, areas presenting high fire risks, areas required for the protection of water quality and water reservoirs, and areas required for the protection and enhancement of air quality; and

E. Providing for open spaces to create buffers which may be landscaped to minimize the adverse impact of one land use on another.

Policy 7.6.1.2 *The County will provide for Open Space lands through:*

A. The designation of land as Open Space;

B. The designation of land for low-intensity land uses as provided in the Rural Residential and Natural Resource land use designations;

C. *Local implementation of the Federal Emergency Management Agency's National Flood Insurance Program;*

D. *Local implementation of the State Land Conservation Act Program; and*

E. *Open space land set aside through Planned Developments (PDs).*

Policy 7.6.1.3 The County shall implement Policy 7.6.1.1 through zoning regulations and the administration thereof. It is intended that certain districts and certain requirements in zoning regulations carry out the purposes set forth in Policy 7.6.1.1 as follows:

A. *The Open Space (OS) Zoning District is consistent with and shall implement the Open Space designation of the General Plan land use map and all other land use designations.*

B. *The Agricultural (A), Exclusive Agricultural (AE), Planned Agricultural (PA), Select Agricultural (SA-10), and Timberland Production Zone (TPZ) zoning districts are consistent with Policy 7.6.1.1 and serve one or more of the purposes set forth therein.*

C. *Zoning regulations shall provide for setbacks from all flood plains, streams, lakes, rivers and canals to maintain Purposes A, B, C, and D set forth in Policy 7.6.1.1.*

D. *Zoning regulations shall provide for maintenance of permanent open space in residential, commercial, industrial, agricultural, and residential agricultural zone districts based on standards established in those provisions of the County Code. The regulations shall minimize impacts on wetlands, flood plains, streams, lakes, rivers, canals, and slopes in excess of 30 percent and shall maintain Purposes A, B, C, and D in Policy 7.6.1.1.*

E. *Landscaping requirements in zoning regulations shall provide for vegetative buffers between incompatible land uses in order to maintain Purpose E in Policy 7.6.1.1.*

F. *Zoning regulations shall provide for Mineral Resource Combining Zone Districts and/or other appropriate mineral zoning categories which shall be applied to lands found to contain important mineral deposits if development of the resource can occur in compliance with all other policies of the General Plan. Those regulations shall maintain Purposes A, B, C, D, and E of Policy 7.6.1.1.*

Policy 7.6.1.4 The creation of new open space areas, including Ecological Preserves, common areas of new subdivisions, and recreational areas, shall include wildfire safety planning.

El Dorado Hills Specific Plan

1.4.1.1 Site Development and Grading

The policies set forth in the Specific Plan are intended to maintain, to the maximum extent possible, the natural land forms and to exercise control over vegetation removal, landscaping, and grading. Grading controls are intended to reduce soil erosion to a minimum to ensure capability with adjacent terrain.

a) *Grading for roadways, driveways, building pads, and onsite improvements shall be minimized.*

b) *Grading volumes of cut-and-fill material shall be minimized and balanced onsite wherever possible. Larger grading volumes may be acceptable where improved visual and environmental effects would result.*

c) *Residential structures or accessory structures on slopes in access of 20 percent shall be carefully designed through use of erosion controls, engineered grading, and use of post and beam or step-footing construction to ensure long-term slope stability. Benched hillsides for building sites shall be avoided and split-level structures encouraged.*

d) *A plan to minimize impact to oak trees shall be submitted to the El Dorado County Community Development Department prior to approval of any tentative map. The plan will include, at a minimum, the locations and sizes of individual trees that should not be impacted.*

e) *A minimum of 20 percent of all roadside trees and parking lot trees shall be native oaks.*

f) *Removal of oak trees and other large native trees with trunk circumferences of 25 inches at 4.5 feet above grade shall be avoided where feasible. A tree replacement policy is provided in the Design Guidelines on file with the County of El Dorado.*

g) *To avoid damage to root systems of retained trees, residential construction shall not occur within the canopy area of oak trees over 30 inches in circumference at breast height, and shall be subject to review as provided in the Design Guidelines.*

h) *Landscaping in improved common areas shall be of drought-resistant varieties.*

i) *To preserve the vegetative character of the Plan Area, the planting of native trees, shrubs, and ground cover shall be encouraged in all new landscaping.*

j) *Landscaping in areas adjacent to natural open spaces shall be fire resistant.*

k) *Site design, building orientation, and street and lot patterns shall follow solar orientation principles to the maximum extent practicable to maximize energy conservation.*

l) Archaeological test excavations for selected locations within the Plan Area shall be required as a condition of approval of tentative subdivision maps.

m) As part of the tentative map approval, areas having expansive clays and seasonably wet areas shall be identified by a geotechnical engineer. Such areas, if deemed to be potential construction hazards, shall be subject to further evaluation and identification to determine appropriate mitigation measures.

n) To the maximum extent feasible, development shall be sited and designed to avoid impacts to culturally significant sties identified by the Final EIR for the Plan Area as EDH-26 and EDH-29.

o) Where feasible, and given the physical constraints of the Plan Area, subdivisions and other new development shall be designed to facilitate solar use as a means of reducing total energy consumption. The design elements that shall be considered include:

- *Solar orientation*
- *Shade Control*
- *Wind Management*
- *Solar access*

p) The Design Guidelines shall be one of the implementation measures of the Specific Plan.

1.4.1.2 Development Near Native Oak Trees

These guidelines are for the protection of healthy oak trees that will remain after construction in developed areas. The term circumference is breast height (CBH) refers to the trunk measurement of either one trunk or the addition of all trunks in a multi-trunked tree. The respective measure in circumference would also apply. Also refer to **Section 3.10** for Oak Tree Preservation Guidelines.

a) Protect all oak trees larger than 25 inches CBH o the maximum extent feasible. Priority will be given to oaks larger than 56 inches CBH.

b) Trees to be saved will be surrounded by a barrier or fence installed at the dripline and flagged.

c) Pruning of limbs will be confined to low-hanging branches over roads and sidewalks, and large branches that are weak or may reasonably appear to pose a safety hazard. Pruning paint will not be used under any circumstances. Pruning cuts will be made cleanly to avoid damaged to the "bark ridge" tissue of adjacent limbs.

d) The El Dorado County Planning Department will be responsible for enforcement of oak tree protection during construction.

e) In development areas, no oak trees larger than 25 inches CBH will be removed until a site survey and inspection report is performed.

1.4.1.5 Vegetation and Fire Hazards

In areas of planned development:

a) All potentially dry herbaceous vegetation will be mowed or disked within a 50-foot radius of all construction site activity.

b) Disking or mowing will be done to keep herbaceous vegetation under 3 inches in height at all construction sites.

c) No construction equipment or vehicles will be allowed within 50 feet of the unmowed perimeter.

d) Firebreaks will be installed by disking or mowing a trail that is satisfactory to the El Dorado Hills Fire Development. Mowing is preferred to disking or scraping because the latter two practices promote invasion of noxious weed species on fire trails.

e) Temporary or permanent firebreaks will be installed on all ridgelines, crossing all areas in the vicinity of construction and grading activity, prior to beginning work.

f) Firebreak installation will avoid the removal of native oaks and other native trees.

1.4.8 Natural Open Space Policies

The Natural Open Space Policies are to guide the preservation, management, and maintenance of these areas in relation to adjacent land uses.

1.4.8.1 General Policies

a) The boundaries of natural open space shall blend with the boundaries of the development as to enhance the integration of open space and developed areas.

b) Perimeter fencing may be permitted for rural parcels as provided in the El Dorado County Design Guidelines and CC&Rs.

c) Increased runoff from adjacent development will require erosion control measures to be coordinated with landscape design of adjacent development areas. Emphasis shall be placed on methods that rely on natural drainage systems and minimize change to the existing condition of creek channels within open space areas.

d) An Open Space Management Plan shall be completed and submitted to the El Dorado County Community Development Department prior to approval of any tentative map creating open space. It shall be an implementation mechanism of the Specific Plan in order to set forth procedures and responsibilities as to the ownership, preservation, and management of public and private natural open space areas. The Open Space Management Plan shall consider dedication to the County of El Dorado of easements

over the public open space areas, should dedication of fee ownership of these areas be made to any other entity. The open space plan shall be reviewed by the El Dorado Hills Fire Department. The plan shall also include, at a minimum:

1. *The locations of fire access roads, fuel breaks, and passive recreation trails.*
2. *Control burning techniques.*
3. *Guidelines established in the Open Space Guidelines for El Dorado County*
4. *Investigation of opportunities for wildlife use of water in open space areas as a part of ongoing wildlife maintenance.*

1.4.8.2 Riparian and Other Drainageway Policies

A 200-foot-wide undeveloped buffer zone shall be established along Carson Creek in accordance with California Department of Fish and Wildlife requirements. In this buffer, vegetation removal shall be for the purpose of drainage improvements. In consideration of setback reductions for purposes of a gold course, the County shall consider such mitigation measures as additional plantings, erosion controls, and other habitat improvement and protection steps.

a) *Drainageway easements shall specifically preclude erection of structures and vegetation removal, except for drainage improvements, and shall forestall other site development not consistent with the purpose of these areas.*

b) *Drainageways located on privately owned property shall be placed within recorded easements that provide for routine maintenance and pedestrian access.*

c) *A 100-foot-wide buffer (50 feet horizontal on each side as measured from centerline of the creek) of natural vegetation shall be maintained along all intermittent creeks.*

d) *Grazing shall not be allowed in riparian buffer zones.*

e) *Plantings of riparian trees and shrubs shall be situated according to the flood and soil moisture tolerances of individual species as in Appendix C of the Specific Plan.*

f) *Areas disturbed during construction shall be replanted with native riparian species listed in Appendix C of the Specific Plan. Replanting will include a mandatory 3-year maintenance and irrigation period.*

g) *Riparian vegetation on the golf course areas shall be kept naturally dense and unpruned except where needed for crossings, ball pay passages, and personal and fire safety.*

h) *Pedestrian, vehicular, and utility bridges over creeks, if feasible, will be oriented at right angles to the waterway to minimize loss of vegetation.*

i) The capacity of flow under bridges and culverts will be designed to reduce the need for extensive vegetation clearing near the structures.

j) Periodic vegetation removal to ensure adequate floodway capacity in drainages will be performed to promote an overstory of mature individual riparian trees spaced to accommodate designed flows.

El Dorado Hills Community Services District Policies

5.27 Oak Tree Preservation

5.27.3 General Requirements for Development Activity in the Protected Zone of Protected Trees

The importance of oak tree preservation is recognized with tree protection provisions in the Covenants, Conditions, and Restrictions (CC&Rs) of the most units in El Dorado Hills and in County Code 17.73 titled Oak Woodland Conservation prior to initiating any activity that may affect an oak tree on their land or on that of an adjoining property, owners of property in El Dorado Hills should check their CC&Rs carefully to determine whether Design Review Committee (DRC) approval is required.

5.27.4 Removal of Protected Trees

It shall be the policy of the DRC to preserve protected trees wherever feasible while recognizing individual rights to develop private property in a reasonable manner. It shall be the responsibility of the applicant to demonstrate the need for any oak tree removal. In determining whether to approval the removal or major trimming of a protected tree, the DRC will consider the following listed factors and, depending upon particular circumstances, may consider others which are not listed:

a) The degree to which the tree will be an obstacle to approval development activity.

b) The condition of the tree with respect to disease, general health, damage, danger of falling.

c) The effect removal would have upon safety, public health, remaining trees, and the beauty and general welfare of the area.

d) The effect removal would have upon soil stability, erosion, particularly near water courses and on slopes.

e) Present and future shade effect with respect to cooling and solar power/heating.

f) Whether or not there are feasible alternative measures to removal.

g) Applicants may be required to provide an arborist report from an arborist who would not be performing any eventual tree removal or major limbing. Alternatively, and it is discretion the DRC may employ an arborist of its choice.

5.27.5 Protecting Oak Trees During Development Activity

Property owners are responsible for taking the following measures to protect oak trees, except any approval from removal during development activity.

a) *Erect protective orange "ski fencing" around the protected zone of each protected tree or group of trees within 50 feet of development activity prior to initiating work and excluded from the enclosed protected zone any work related activity such as storage and vehicle parking.*

b) *Exert every reasonable effort to preserve undisturbed the natural ground within protected zones.*

c) *If it is absolutely necessary to trench within a protected zone, if boring or drilling would not be feasible, excavate by hand under the supervision of a certified arborist. Do not cut any root larger than two inches in diameter; keep the exposed root moist and cover with soil as quickly as feasible. Sever small roots neatly, trim and cover quickly.*

d) *Make no grade changed within the protected zone unless specifically indicated in the approved plans.*

5.27.6 Mitigation EDHCSD Tree Preservation Fund, Public Education

In the event the owner of property with protected trees removed or significantly damages one or more of them without approval, the DRC, at its discretion, may require mitigation by planting a proportionate number of diameter inches of replacement oak trees on the owner's property or by assessing a fee at the rate of $200 per diameter inch (amount tripled for unapproved removal of a landmark tree) to compensate for the expense of planting a proportionate number of diameter inches of oak trees on public property or by a combination of these alternatives.

In the event the owner of the property with protection trees applies for approval of a protect that will damage protected trees, and the DRC determines they could be reasonably be preserved, the DRC, at its sole discretion, may offer the applicant the option of an approval in exchange for on-site mitigation or payment of a mitigation fee based upon the number of diameter inches that applicant would remove.

Mitigation fees paid by property owners are held by the EDHCSD in a Tree Preservation Fund until used to cover the expense of mitigation planting or for related purposes. It is widely recognized that the loss of oak tree is partly the result of the lack of public awareness on oak preservation. A portion of the funds collected for mitigation may be used to establish and promote educational programs to improve this situation.

This page intentionally left blank

Appendix B

Regionally Occurring Listed and Special-Status Species

This page intentionally left blank

Appendix B
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Plants			
Allium jepsonii Jepson's onion	--/--/1B.2	A perennial bulbiferous herb found in serpentinite or volcanic soils and occurs in chaparral, cismontane woodland, and lower montane coniferous forest. Blooms April – August (CNPS 2020).	**None. S**uitable serpentinite and volcanic soils are absent from the Study Area.
Allium sanbornii var. *sanbornii* Jepson's onion	--/--/4.2	A perennial bulbiferous herb found in serpentinite and gravelly soils and occurs in chaparral, cismontane woodland, and lower montane coniferous forest. Blooms May – September (CNPS 2020).	**None.** Suitable serpentinite soils are absent from the Study Area.
Balsamorhiza macrolepis big-scale balsamroot	--/--/1B.2	A perennial herb found on slopes in chaparral, cismontane woodland, and valley and foothill grassland, sometimes in serpentine soil. Elevation range 45 – 1,555 meters. Blooms March – June (CNPS 2020).	**None.** Annual grassland habitat is present for this species; however this species was not observed during botanical surveys which were conducted during the blooming period for this species in April, May and June of 2015.
Brodiaea rosea ssp. *vallicola* valley broadiaea	--/--/4.2	A perennial bulbiferous herb found in old alluvial terraces, silty, sandy, and gravelly loam soils and occurs in swales of valley and foothill grassland and vernal pools. Blooms April – May (June) (CNPS 2020).	**None.** Suitable soils and vernal pools are absent from the Study Area.
Calandrinia breweri Brewer's calandrinia	--/--/4.2	An annual herb found in sandy or loamy, disturbed sites of burns and occurs in chaparral and coastal scrub. Blooms (January) March – June (CNPS 2020).	**None.** Suitable habitat is absent from the Study Area.
Calystegia stebbinsii Stebbin's morning-glory	FE/SE/1B.1	A perennial rhizomatous herb found in gabbroic or serpentinite soils and occurs in chaparral openings and cismontane woodland. Blooms April – July (CNPS 2020).	**None. S**uitable serpentinite and gabbroic soils are absent from the Study Area.

Appendix B (cont.)
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Carex xerophila chaparral sedge	--/--/1B.2	A perennial herb found in gabbroic and serpentinite soils and occurs in chaparral, cismontane woodland, and lower montane coniferous forest. Blooms March – June (CNPS 2020).	**None. S**uitable serpentinite and gabbroic soils are absent from the Study Area.
Ceanothus fresnensis Fresno ceanothus	--/--/4.3	A perennial evergreen shrub that occurs in openings of cismontane woodland and lower montane coniferous forest. Blooms May – July (CNPS 2020).	**None.** The Study Area occurs outside of the known elevation range for this species.
Ceanothus roderickii Pine Hill ceanothus	FE/--/1B.1	A perennial evergreen shrub found in serpentinite or nutrient-deficient forms of gabbro-derived soils characterized by low concentrations of available K, P, S, Fe, and Zn. Occurs in chaparral and cismontane woodland. Blooms April – June (CNPS 2020).	**None. S**uitable serpentinite and gabbroic soils are absent from the Study Area. Additionally, this species would have been identifiable during the survey if it were present since it is an evergreen shrub.
Chlorogalum grandiflorum Red Hills soaproot	--/--/1B.2	A perennial bulbiferous herb found in serpentinite, gabbroic, and other soils and occurs in chaparral, cismontane woodland, and lower montane coniferous forest. Blooms May – June (CNPS 2020).	**None. S**uitable serpentinite and gabbroic soils are absent from the Study Area.
Clarkia biloba ssp. *brandegeeae* Brandegee's clarkia	--/--/4	Annual herb found often in roadcuts within chaparral, cismontane woodland, and lower montane coniferous forest from 75 to 915 meters.	**Low.** The woodlands within the Study Area provide marginal habitat for this species. but it was not found during focused protocol surveys during the bloom period (Foothill Associates 2016c).
Claytonia parviflora ssp. *grandiflora* streambank spring beauty	--/--/4.2	An annual herb found in rocky soils and occurs in cismontane woodland. Blooms February – May (CNPS 2020).	**None.** The Study Area does not provide habitat for this species and is outside of the known elevational range.
Crocanthemum suffrutescens Bisbee Peak rush-rose	--/--/3.2	Perennial evergreen shrub often found on gabbroic or lone soil and often in burned or disturbed areas within chaparral from 75 to 670 meters.	**None.** Suitable Ione or gabbroic soils are absent from the Study Area.

Appendix B (cont.)
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Downingia pusilla dwarf downingia	--/--/-2B.2	An annual herb that occurs in mesic valley and foothill grassland and vernal pools. Blooms March – May (CNPS 2020).	**Low.** Seasonal wetland habitat is present for this species; however, this species was not observed during botanical surveys which were conducted during the blooming period for this species in April, May and June of 2015.
Erigeron miser starved daisy	--/--/1B.3	A perennial herb found on rocky soils in upper montane coniferous forest from 1,840 – 2,620 meters elevation. Blooms June – October (CNPS 2020)	**None**. There is no suitable habitat in upper montane coniferous forest and the Study Area is below the elevational range of this species.
Eriophyllum jepsonii Jepson's woolly sunflower	--/--/4.3	A perennial herb found sometimes in serpentinite soils and occurs in chaparral, cismontane woodland and coastal scrub. Blooms April – June (CNPS 2020).	**None.** Suitable habitat is absent from the Study Area.
Eryngium pinnatisectum Tuolumne button-celery	--/--/1B.2	An annual/perennial herb found in vernal pools in cismontane woodland and lower montane coniferous forest from 70 – 915 meters elevation. Blooms May – August (CNPS 2020).	**Low.** Seasonal wetland habitat is present for this species; however this species was not observed during botanical surveys which were conducted during the blooming period for this species in May and June of 2015.
Fremontodendron decumbens Pine Hill flannelbush	FE/--/1B.2	A perennial evergreen shrub found in rocky gabbroic or serpentinite soils and occurs in chaparral and cismontane woodland. Blooms April – July (CNPS 2020).	**None. S**uitable serpentinite and gabbroic soils are absent from the Study Area. Additionally, this species would have been identifiable during the survey if it were present since it is an evergreen shrub.
Galium californicum ssp. *sierrae* El Dorado bedstraw	FE/--/1B.2	A perennial herb found in gabbroic and occurs in chaparral, cismontane woodland, and lower montane coniferous forest. Blooms May – June (CNPS 2020).	**None. S**uitable gabbroic soils are absent from the Study Area. Additionally, this species would have been identifiable during the survey if it were present since it is an evergreen shrub.

Appendix B (cont.)
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Gratiola heterosepala Bogg's Lake hedge-hyssop	--/--/1B.2	Annual herb found on clay soils in vernal pools and along the lake margins of marshes and swamps from 10 to 2,375 meters. Blooms April – August (CNPS 2020).	**None.** There are no vernal pools within the Study Area.
Horkelia parryi Parry's horkelia	--/--/1B.2	A perennial herb found in chaparral and cismontane woodland on Ione formation soils and other soils from 80 – 1,070 meters elevation. Blooms April – September (CNPS 2020).	**None. S**uitable Ione formation soil is absent from the Study Area.
Juncus leiospermus var*. ahartii* Ahart's dwarf rush	--/--/1B.2	An annual herb found in vernal pools in the eastern Sacramento Valley from 30 – 229 meters elevation. Blooms March – May (CNPS 2020).	**Low.** Seasonal wetland habitat is present for this species; however this species was not observed during botanical surveys which were conducted during the blooming period for this species in April and May of 2015.
Legenere limosa legenere	--/--/1B.1	An annual herb found in vernal pools from 1 – 880 meters elevation. Blooms April – June (CNPS 2020).	**Low.** Seasonal wetland habitat is present for this species; however this species was not observed during botanical surveys which were conducted during the blooming period for this species in April and May of 2015.
Lilium humboldtii ssp*. humboldtii* Humboldt lily	--/--/4.2	A perennial bulbiferous herb that occurs in the openings of chaparral, cismontane woodland, and lower montane coniferous forest. Blooms May – July (August) (CNPS 2020).	**Low.** The woodlands within the Study Area provide marginal habitat for this species. but it was not found during focused protocol surveys during the bloom period (Foothill Associates 2016c).

Appendix B (cont.)
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Navarretia myserii ssp. *myserii* pincushion navarretia	--/--/1B.1	An annual herb found often in acidic soils and occurs in vernal pools. Blooms April – May (CNPS 2020).	**Low.** Seasonal wetland habitat is present for this species; however this species was not observed during botanical surveys which were conducted during the blooming period for this species in April and May of 2015.
Orcuttia tenuis slender Orcutt grass	FT/SE/1B.1	An annual herb found in vernal pools from 35 – 1,760 meters elevation. Blooms May to October (CNPS 2020).	**Low.** Seasonal wetland habitat is present for this species; however, this species was not observed during botanical surveys which were conducted during the blooming period for this species in May and June of 2015.
Orcuttia viscida Sacramento Orcutt grass	FE/SE/1B.1	An annual herb that occurs in vernal pools. Blooms April – July (September) (CNPS 2020).	**Low.** Seasonal wetland habitat is present for this species; however, this species was not observed during botanical surveys which were conducted during the blooming period for this species in April, May and June of 2015.
Packera layneae Layne's ragwort	FT-/--/1B.2	A perennial herb found in rocky gabbroic or serpentinite soils and occurs in chaparral and cismontane woodland. Blooms April – August (CNPS 2020).	**None. S**uitable serpentinite and gabbroic soils are absent from the Study Area.
Sagittaria sanfordii Sanford's arrowhead	--/--/1B.2	An emergent perennial rhizomatous herb that occurs in assorted freshwater marshes and swamps. Blooms May – October (November) (CNPS 2020).	**Low.** Seasonal wetland habitat is present for this species; however, this species was not observed during botanical surveys which were conducted during the blooming period for this species in May and June of 2015.

Appendix B (cont.)
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Trichostema rubisepalum Hernandez bluecurls	--/--/4.3	An annual herb found in volcanic or serpentinite, and gravelly soils and occurs in broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and vernal pools. Blooms June – August (CNPS 2020).	**None.** Suitable volcanic and serpentinite soils are absent from the Study Area.
Wyethia reticulata El Dorado County mule ears	--/--/1B.2	A perennial herb found in clay or gabbroic soils and occurs in chaparral, cismontane woodland, and lower montane coniferous forest. Blooms April – August (CNPS 2020).	**None. S**uitable serpentinite and gabbroic soils are absent from the Study Area.
Animals			
Invertebrates			
Bombus occidentalis western bumble bee	--/CE/--	Bumble bees are primitively eusocial insects that live in underground colonies made up of one queen, female workers, and reproductive members of the colony. New colonies are initiated by solitary queens, generally in the early spring, which typically occupy abandoned rodent burrows (Thorp et al. 1983). This species is a generalist forager and have been reported visiting a wide variety of flowering plants. A short-tongued bumble bee; select food plants include *Melilotus* spp., Cirsium spp., *Trifolium* spp., *Centaurea* spp., *Eriogonum* spp., and *Chrysothamnus* spp. (Koch et al. 2012). This species has a short tongue and typically prefers open flowers with short corollas but is known to chew through the base of flowers with long corollas. The flight period for queens in California is from early February to late November, peaking in late June and late September. New queens hibernate over the winter and initiate a new colony the following spring (Thorp et al. 1983). Rare throughout its range and in decline west of the Sierra Nevada crest.	**None.** Habitat is present for western bumble bee and some select food plants are present on site, such as clover. However, this species is currently rare across its range and in California it is currently limited to high elevation meadows in the Sierra Nevada and small coastal populations (CDFW 2020).

Appendix B (cont.)
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Branchinecta lynchi vernal pool fairy shrimp	FT/--/--	The range of the vernal pool fairy shrimp (VPFS) within California includes the Central Valley and southern California. (USFWS 2005). Populations are known from Stillwater Plain in Shasta County through most of the length of the Central Valley to Pixley in Tulare County (additional disjunct populations exist at various locations throughout state). VPFS occurs mostly in vernal pools, however it is also found in a variety of both natural and artificial wetland habitats, such as alkali pools, ephemeral drainages, stock ponds, roadside ditches, vernal swales, and rock outcrop pools (USFWS 2005). Occupied wetlands are typically small (ranging from 0.1 to 0.05 acres in size), and pond for a relatively short duration (3-4 weeks) (Eriksen and Belk 1999). Soil types associated with VPFS vary greatly with geography and influence the ecology of the species. This fairy shrimp occurs in pools with 48 to 481 ppm salinity, and pH from 6.3 to 8.5 (Eriksen and Belk 1999).	**None.** There are no vernal pools within the Study Area.
Desmocerus californicus californicus valley elderberry longhorn beetle	FT/--/--	Endemic to elderberry shrubs (*Sambucus* spp.) occurring in riparian habitat in the Sacramento and San Joaquin Valleys, riparian habitats in the Sacramento and San Joaquin Valleys, and less common throughout riparian forests of the Central Valley from Redding to Fresno County (USFWS 2014) typically below 152 m amsl (USFWS 2017a).	**Low.** There are elderberry shrubs within the Study Area, however all elderberry shrubs were less than one inch as measured at the base of the shrub. At least one larger elderberry shrub observed on site during the October 13, 2020 site visit was observed to be dead. Additionally, elderberry shrubs are isolated and not a part of riparian habitat and the Study Area is outside of the current recognized elevational range of the species.

Appendix B (cont.)
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Lepidurus packardi vernal pool tadpole shrimp	FE/--/--	The vernal pool tadpole shrimp (VPTS) occurs within the Central Valley of California and in the San Francisco Bay area (USFWS 2005), with the majority of the populations occurring in the Sacramento Valley. Vernal pools may range in size from small, clear, and well-vegetated to highly turbid, alkali scald pools to large winter lakes ranging in size from 54 square feet to 89 acres (USFWS 2005), containing clear- to highly-turbid water. They may be seasonal or ephemeral and may exhibit a wide range of salinity levels. VPTS cysts (resting eggs) also must have the opportunity to dry out before they can hatch.	**None.** There are no vernal pools within the Study Area.
Fishes			
Hypomesus transpacificus Delta smelt	FT/SE/--	Delta smelt are tolerant of a wide salinity range. For a large part of their one-year life span, delta smelt live along the freshwater edge of the mixing zone (saltwater-freshwater interface). Shortly before spawning, adults migrate upstream from the brackish-water habitat associated with the mixing zone and disperse into river channels and tidally-influenced backwater sloughs. They spawn in shallow, fresh or slightly brackish water upstream of the mixing zone. Most spawning happens in tidally-influenced backwater sloughs and channel edgewaters. Although spawning has not been observed in the wild, the eggs are thought to attach to substrates such as cattails, tules, tree roots and submerged branches. Delta smelt are found only from Suisun Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, Solano and Yolo counties (USFWS 1995).	**None.** There is no aquatic habitat within the Study Area.

Appendix B (cont.)
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Oncorhynchus mykiss irideus pop. 11 Central Valley Steelhead DPS	FT/--/--	This distinct population segment includes all naturally spawned anadromous steelhead populations below natural and manmade impassable barriers in the Sacramento and San Joaquin Rivers and their tributaries, excluding steelhead from San Francisco and San Pablo Bays and their tributaries, as well as two artificial propagation programs: the Coleman NFH, and Feather River Hatchery steelhead hatchery programs (NMFS 2016). Steelhead spawn in rivers and streams with cool, clear, water and suitable silt free substrate (NMFS 2016).	**None.** There is no aquatic habitat within the Study Area.
Amphibians			
Ambystoma californiense California tiger salamander	FT/ST/--	Generally restricted to vernal pools and seasonal ponds, including many constructed stock ponds, in grassland and oak savannah plant communities from sea level to about 1,500 feet in central California. Adults spend the majority of their lives in upland areas surrounding suitable breeding ponds, in rodent burrows. Suitable breeding habitat must be present in combination with suitable upland habitat. In the Coastal region, populations are scattered from Sonoma County in the northern San Francisco Bay Area to Santa Barbara County, and in the Central Valley and Sierra Nevada foothills from Yolo to Kern counties (USFWS 2017b).	**None**. There are no vernal pools, seasonal ponds, or constructed stock ponds within the Study Area. The Study Area is outside of this species known range.
Rana boylii foothill yellow-legged frog	--/SE/SSC	The foothill yellow-legged frog occurs along the coast ranges from Oregon to Los Angeles and along the western side of the Sierra Nevada. This species uses perennial rocky streams in a wide variety of habitats up to 6,400 feet above msl. This species rarely ventures far from water, is usually found basking in the water, or under	**Low**. There is no breeding habitat within the Study Area, however perennial aquatic habitat could provide aquatic non-breeding habitat for this species. There is a nearby CNDDB recorded occurrence from 1972 located 3 miles north of the

Appendix B (cont.)
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
		surface debris or underground within 165 feet of water. Eggs are laid in clusters attached to gravel or rocks along stream margins in flowing water. Tadpoles typically require up to four months to complete aquatic development. Breeding typically follows winter rainfall and snowmelt, which varies based upon location (Jennings and Hayes 1994).	Study Area and documents a collected specimen (CDFW 2020). CDFW considers this species extirpated in the Study Area and the surrounding area (CDFW 2020).
Rana draytonii California red-legged frog	FT/--/SSC	The California red-legged frog occupies a fairly distinct habitat, combining both specific aquatic and riparian components. The adults require dense, shrubby or emergent riparian vegetation closely associated with deep (greater than 2 1/3-foot deep) still or slow-moving water. The largest densities of California red-legged frogs are associated with deep-water pools with dense stands of overhanging willows (*Salix* spp.) and an intermixed fringe of cattails (*Typha latifolia*). Well-vegetated terrestrial areas within the riparian corridor may provide important sheltering habitat during winter. California red-legged frogs aestivate (enter a dormant state during summer or dry weather) in small mammal burrows and moist leaf litter. They have been found up to 100 feet from water in adjacent dense riparian vegetation. Studies have indicated that this species cannot inhabit water bodies that exceed 70° F, especially if there are no cool, deep portions (USFWS 2002).	**None.** There is no aquatic breeding habitat within the Study Area for this species. There is a nearby CNDDB recorded occurrence from 2005 located 3 miles north of the Study Area and documents an observation by a state biologist (CDFW 2020). CDFW considers this record to be of fair quality and the species to be extant (CDFW 2020), however there are no other nearby records of this species near the Study Area. No evidence of this species was observed during protocol breeding and non-breeding surveys (Foothill Associates 2016a).

Appendix B (cont.)
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Spea hammondii western spadefoot	--/--/SSC	Amphibian that breeds in vernal pools and seasonal ponds or slow portions of streams in grasslands and woodlands. Adults spend most of their time in underground burrows in grasslands surrounding breeding pools (Jennings and Hayes 1994). Breeding is typically finished by the end of March. Tadpoles mature through late-spring and disperse as pools dry (Zeiner et al. 1990).	**Low.** There are no vernal pools, seasonal ponds, or streams within the Study Area that could provide breeding habitat for this species and the seasonal wetland habitats would be considered very marginal breeding habitat for this species.
Reptiles			
Actinemys marmorata western pond turtle	--/--/SSC	Inhabits slow-moving water with dense submerged vegetation, abundant basking sites, gently sloping banks, and dry clay or silt soils in nearby uplands. Turtles will lay eggs up to 0.25-mile from water, but typically go no more than 600 feet (Jennings and Hayes 1994).	**Low.** Aquatic habitat in the Study Area does not provide sufficient water for this species to occupy the Study Area year-round. All features were observed to be dry on October 13, 2020. This species could occur in streams adjacent to the Study Area.
Phrynosoma blainvillii Blainville horned lizard	--/--/SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes in chaparral, cismontane woodland, coastal bluff scrub, coastal scrub, desert wash, pinyon and juniper woodlands, and riparian scrub and woodland (CDFW 2020).	**Low.** Suitable loose soil for burying is not present in the Study Area.
Thamnophis gigas giant garter snake	FT/ST/--	Endemic to the San Joaquin and Sacramento Valley floors. Inhabits agricultural wetlands and other waterways such as irrigation and drainage canals, sloughs, ponds, small lakes, low gradient streams, and adjacent uplands. Requires adequate water during its active season (early spring through mid-fall) to provide food and cover, emergent, herbaceous wetland vegetation for foraging and cover, grassy banks and openings in waterside vegetation for basking, and higher elevation uplands for cover and refuge from flood waters during its dormant	**None.** There is no suitable aquatic habitat within the Study Area and the Study Area is outside of the known range of this species.

Appendix B (cont.)
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
		season (winter). Inhabits small mammal burrows and other soil crevices with sunny exposure along south and west facing slopes, above prevailing flood elevations when dormant. Primarily found in marshes and sloughs as well as slow-moving creeks but absent from large rivers (USFWS 2017c).	
Birds			
Accipiter cooperii Cooper's hawk	--/--/WL	Found in cismontane woodland, riparian forest, riparian woodland, and upper montane coniferous forest.	**Low.** The woodlands on site provide potential nesting and foraging habitat.
Ammodramus savannarum grasshopper sparrow	--/--/SSC	Frequents dense, dry, or well drained grassland, especially native grassland. Nests at base of overhanging clump of grass.	**Low. T**he annual grassland habitat within the Study Area provides habitat for this species.
Agelaius tricolor tricolored blackbird	--/ST/SSC	Common locally throughout central California. Nests and seeks cover in emergent wetland vegetation and thorny vegetation such as Himalayan blackberry (*Rubus armeniacus*) as well as cattails and tules. Nesting area must be large enough to support a minimum colony of 50 pairs as they are a highly colonial species. Forages on ground in croplands, grassy fields, flooded land, and edges of ponds for insects (Shuford and Gardali 2008).	**Low. T**he riverine perennial marsh is not large enough to support breeding colonies, but colonies are recorded within 4 miles of the Study Area so the area may be used for foraging.
Ammodramus savannarum Grasshopper sparrow	--/--/SSC	Frequents dense, dry, or well drained grassland, especially native grassland. Nests at base of overhanging clump of grass.	**Low.** The annual grassland habitat within the Study Area provides habitat for this species.
Ardea alba Great egret	CSA (Nesting Colony)	Nests in colonies in large trees usually near water. Nesting colonies must be relatively isolated from human activities. Forages in shallow water in a variety of habitats.	**None.** There is no suitable nesting habitat in the Study Area.

Appendix B (cont.)
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Ardea herodias Great blue heron	CSA (Nesting Colony)	Inhabits both freshwater and saltwater habitats and forages in grassland and agricultural field. Breeding colonies are located within 2 to 4 miles of feeding areas, often in isolated swamps or on islands, and near lakes and ponds bordered by forests.	**None. T**here is no suitable nesting habitat in the Study Area.
Aquila chrysaetos golden eagle	--/--/FP	Typically occurs in rolling foothills, mountain areas, deserts and other open habitats up to 3,822 m amsl. Typically nests on cliff ledges or large trees in open areas in canyons. Will occasionally use other tall structures for nesting, such as electrical transmission towers. Prey consists mostly of rodents, carrion, birds, reptiles and occasionally small livestock (Zeiner et al. 1990).	**Low.** There is no suitable nesting habitat within the Study Area. This species is known to nest and forage in nearby open spaces in the vicinity of the Study Area. Golden eagles typically require nesting locations with a commanding view of the surrounding terrain, which is not present in the Study Area. Nests documented in CNDDB in El Dorado Hills are placed in trees amongst residential areas in a similar situation to oak trees found in the Study Area. This species is unlikely to use the Study Area for nesting.
Athene cunicularia burrowing owl	--/--/SSC	Forages in grasslands, agricultural fields, and disturbed places where burrowing mammals are abundant with low and sparse vegetation. Nests in burrows, especially those of California ground squirrel, but will use other refuge sites (*Otospermophilus beecheyi*; Shuford and Gardali 2008). In the Central Valley of California, most foraging occurs within a 600-m radius of the nest (Gervais et al. 2003).	**Low. T**he annual grassland within the Study Area provides potential habitat for this species, however, few burrows that could be occupied by this species were observed and this species was not observed during the protocol level surveys conducted within the Study Area.
Buteo regalis ferruginous hawk	--/--/WL	Overwintering occurs in grasslands or deserts with abundant prey species (rabbits, pocket gophers, or prairie dogs). This species does not nest in California.	**Low. T**he annual grassland habitat within the Study Area provides foraging habitat for this species.

Appendix B (cont.)
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Buteo swainsoni Swainson's hawk	--/ST/--	Forages in grasslands, suitable grain or alfalfa fields, or livestock pastures adjacent to nesting habitat. Nests on large trees in open riparian habitat, scattered trees or small groves of trees in open areas (CDFW 1994).	**None.** The Study Area provides suitable nesting and foraging habitat within the Study Area. The Study Area is just outside the range of this species, which typically occurs further to the west of the Study Area.
Elanus leucurus white-tailed kite	--/--/FP	Raptor that inhabits rolling foothills and valley margins with scattered oaks, as well as river bottomlands or marshes next to deciduous woodland. Nests in isolated, dense-topped trees in open areas. Forages in a variety of habitats including grassland, marshes, and agricultural fields (Zeiner et al. 1990).	**High.** There is suitable nesting habitat riparian and oak woodland habitat in the Study Area. This species is known to forage in nearby open spaces in the vicinity of the Study Area and could occur nesting in or near the Study Area.
Falco columbarius merlin	--/--/WL	Winter in open and semi-open habitats that include estuaries, Great Basin grassland, and valley and foothill grasslands. This species does not nest in the region of the Study Area.	**Low. T**he annual grassland habitat within the Study Area provides foraging habitat for this species.
Haliaeetus leucocepahlus bald eagle	FD/SE/FP	Requires large bodies of water with an abundant fish population. Feeds on fish, carrion, small mammals, and water-fowl. Nests are usually located within a 1-mile radius of water. Nests are most often situated in large trees with a commanding view of the area (Zeiner et al. 1990).	**None.** There are no suitable nest trees in the Study Area that would support this species nesting. This species is well documented nesting in nearby Folsom Lake and Lake Natoma (CDFW).
Laterallus jamaicensis coturniculus California black rail	--/ST/FP	Inhabits brackish marsh, primarily in the upper marsh zone dominated by alkali heath (*Frankenia salina*), cattail, and rush (J*uncus* spp.); prefers lower salinity environments. In the Sierra Nevada foothills, black rail is a year-round resident along wetland edges where water is 1.2 inches or less (Richmond et al. 2010). Black rail is typically associated with perennial wetlands associated with flowing water such as irrigation canals, perennial streams and springs with dense	**None.** There is no suitable wetland habitat for breeding or foraging within the Study Area.

Appendix B (cont.)
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
		vegetation in the Sierra Nevada foothills (Richmond et al. 2010). Forages on the ground, under cover of dense vegetation (Richmond et al. 2010).	
Pandion haliaetus osprey	--/--/WL	Found in a variety of habitats nearby water sources with abundant fish prey.	**None.** There are no suitable nest trees or structures in the Study Area that would support this species nesting.
Phalacrocorax auritus double-crested cormorant	--/--/WL	Breeds on ponds, lakes, artificial impoundments, slow-moving rivers, lagoons, estuaries, and open coastlines.	**None.** There is no suitable habitat for nesting within the Study Area.
Progne subis purple martin	--/--/SSC	Nests in cavities in open areas with low canopy cover at the height of the nest, near large bodies of water that support high densities of large insects. Martins use a variety of cavities including in bridges, large tree snags, and collapsed lava tubes. The species is very sensitive to competition from European starlings and is extirpated from most low-elevation areas by starlings (Shuford and Gardali 2008).	**None.** There is no suitable habitat for nesting within the Study Area.
Riparia riparia bank swallow	--/ST/--	Found primarily in riparian and lowland habitat in California. Nests in colonies along cliffs or steep river banks in holes. In California, a majority of the population is situated along the Sacramento River and the Feather River. Other smaller populations persist near Monterey and north of Shasta counties (Zeiner et al. 1990).	**None.** There are no steep banks or river habitat for nesting within the Study Area.

Appendix B (cont.)
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Mammals			
Antrozous pallidus pallid bat	--/--/SSC	Occurs throughout California except for the high Sierra Nevada and the northern Coast Ranges. Habitats include grasslands, shrublands, woodlands, and forests from sea level to 6,000 feet. Most common in open, dry habitats with rocky areas for roosting; roosts also include cliffs, abandoned buildings, bird boxes, and under bridges (Bolster, ed. 1998).	**Low.** The trees within the riparian habitat and isolated trees within the annual grassland provide roosting habitat for this species.
Lasionycteris noctivagans Silver-haired bat	--/--/CSA	Forests near water. Roosts in hollow trees, snags, buildings, rock crevices, caves, and under bark. Forages in within 300 feet of home range over water and open brushy areas.	**Low.** There is marginal habitat in the woodlands for this species on the Study Area.
Pekania pennanti fisher – West Coast DPS	FE/ST/SSC	Occupy late-successional conifer and mixed conifer-hardwood forests with an abundance of downed wood, snags, large trees, and a dense canopy (Zielinski 2014). Typically found at elevations from 1,070 – 2,135 m amsl, where persistent snow does not accumulate and impede movement (Zielinski 2014). Riparian forests and habitat close to open water such as streams are important. Cavities and branches in trees, snags, stumps, rock piles, and downed timber are used as resting sites, and large diameter live, or dead trees are selected for natal and maternal dens (Zielinski 2014). There is a significant gap in the range of fisher between the southern Sierra Nevada population and the northern Sierra Nevada/southern Cascade population that stretches approximately 400 km wide (Zielinski 2014).	**None.** There are no suitable downed wood or snags for denning. The Study Area does not provide suitable habitat for this species.

Appendix B (cont.)
Regionally Occurring Listed and Special-Status Species

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Taxidea taxus American badger	--/--/SSC	Inhabits drier open stages of most shrub, forest, and herbaceous habitats with loose, friable soils. Preys on a wide variety of mammals, reptiles, birds, and carrion, and hunts mostly by digging out fossorial prey. Occasionally takes prey on the surface. Not tolerant of cultivation. No longer occur in the Central Valley except in the extreme western edge (Williams 1986).	**Low.** Annual grassland within the Study Area provides habitat, however, very few burrows that could be utilized by this species are present within the Study Area. There is a nearby CNDDB recorded occurrence from 2015 located 4.9-miles northwest of the Study Area and documents an individual badger killed on the road (CDFW 2020). CDFW considers this species to be extant (CDFW 2020), however there are no other nearby records of this species near the Study Area.

[1] Sensitive species reported in CNDDB or CNPS on the "Rio Linda" USGS quads, or in USFWS lists for the project site.

[2] Status is as follows: Federal (ESA) listing/State (CESA) listing/other CDFW status or CRPR. F = Federal; S = State of California; E = Endangered; T = Threatened; C = Candidate; FP=Fully Protected; SSC=Species of Special Concern.

[3] Status in the Project site is assessed as follows. **None**: Species is not known to occur on or in the vicinity of the Study Area and there is no suitable habitat within the Study Area -OR- Species was surveyed for during the appropriate season with negative results -OR- The Study Area occurs outside of the known elevation or geographic ranges; **Low**: Species known to occur in the vicinity of the Study Area and there is marginal habitat within the Study Area -OR- Species is not known to occur in the vicinity of the Study Area, however, there is suitable habitat on the Study Area; **High:** Species known to occur onsite or in the vicinity of the Study Area (based on CNDDB records within five miles and/or based on professional expertise specific to the Study Area or species) and there is suitable habitat within the Study Area; **Present**: Species known to occur within the Study Area based on CNDDB records and/or observed within the Study Area during the biological survey.

CRPR = California Rare Plant Rank: 1B – rare, threatened, or endangered in California and elsewhere; 2B – rare, threatened, or endangered in California but more common elsewhere. Extension codes: .1 – seriously endangered; .2 – moderately endangered.

This page intentionally left blank

Appendix C

List of Plants Observed Within the Study Area

This page intentionally left blank

Appendix C
List of Plants Observed within the Study Area

Family	Scientific Name	Common Name	Indicator Status*
Fabaceae	*Acmispom americanus* var. *americanus*	American bird's foot trefoil	UPL
Poaceae	*Aegilops cylindrica*	Jointed goat grass	--
Poaceae	*Avena fatua*	Wildoats	--
Asteraceae	*Baccharis pilularis* ssp. *Consanguinea*	Coyote brush	--
Poaceae	*Briza minor*	Little rattlesnake grass	FAC
Themidaceae	*Brodiaea elegans*	Harvest brodiaea	FACU
Poaceae	*Bromus diandrus*	Ripgut brome	--
Poaceae	*Bromus hordeaceus*	Soft brome	FACU
Asteraceae	*Carduus pycnocephalus*	Italian thistle	--
Asteraceae	*Centromadia fitchii*	Spikeweed	FACU
Agavaceae	*Chlorogalum pomeridianum* var. *pomeridianum*	Common soaproot	--
Asteraceae	*Cirsium vulgare*	Bull thistle	FACU
Euphorbiaceae	*Croton setiger*	Turkey mullein	--
Convolvulaceae	*Cuscuta californica*	California dodder	--
Poaceae	*Cynodon dactylon*	Bermuda grass	FACU
Cyperaceae	*Cyperus eragrostis*	Tall cyperus	FACW
Apiaceae	*Daucus pusillus*	Wild carrot	UPL
Poaceae	*Deschampsia danthonioides*	Annual hair grass	FACW
Poaceae	*Deschampsia elongata*	Slender hair grass	FACW
Themidaceae	*Dichelostemma capitatum* ssp. *Capitatum*	Wild hyacinth	FACU
Asteraceae	*Dittrichia graveolens*	Stinkwort	--
Campanulaceae	*Downingia* spp.	Downingia	OBL
Cyperaceae	*Eleocharis acicularis*	Needle spikerush	OBL
Cyperaceae	*Eleocharis macrostachya*	Pale spikerush	OBL
Poaceae	*Elymus caput-medusae*	Medusahead	--
Onagraceae	*Epilobium brachycarpum*	Autumn willow weed	--
Onagraceae	*Epilobium* cf. *ciliatum*	Fringed willowherb	FACW
Onagraceae	*Epilobium densifolrum*	Denseflower willowherb	FACW
Geraniaceae	*Erodium botrys*	Big heron bill	FACU
Geraniaceae	*Erodium cicutarium*	Coastal heron's bill	--
Apiaceae	*Eryngium castrense*	Great Valley button-celery	OBL
Phrymaceae	*Erythranthe guttata* (*Mimulus guttatus*)	Yellow monkey flower	OBL
Poaceae	*Festuca microstachys*	Small fescue	--
Poaceae	*Festuca myuros*	Rattail sixweeks grass	FACU
Poaceae	*Festuca perennis*	Italian rye grass	FAC
Rhamnaceae	*Frangula californica* ssp. *Tomentella*	Hoary coffeeberry	--
Poaceae	*Gastridium phleoides*	Nit grass	FACU
Geraniaceae	*Geranium dissectum*	Cutleaf geranium	--
Geraniaceae	*Geranium molle*	Crane's bill geranium	--
Poaceae	*Glyceria declinata*	Low manna grass	FACW
Asteraceae	*Holocarpha 1irgate* ssp. *Virgata*	Narrow tarplant	--
Poaceae	*Hordeum marinum*	Barley	FAC
Hypericaceae	*Hypericum perforatum* ssp. *Perforatum*	Klamathweed	FACU
Asteraceae	*Hypochaeris glabra*	Smooth cat's-ear	--
Juncaceae	*Juncus bufonius*	Toad rush	FACW

Appendix C (cont.)
List of Plants Observed Within the Study Area

Family	Scientific Name	Common Name	Indicator Status*
Juncaceae	*Juncus capitatus*	Leafy bracted dwarf rush	FACU
Juncaceae	*Juncus* cf. *mexicanus*	Mexican rush	FACW
Juncaceae	*Juncus* cf. *tenuis*	Slender rush	FACW
Juncaceae	*Juncus xiphioides*	Iris leaved rush	OBL
Asteraceae	*Lactuca serriola*	Prickly lettuce	FACU
Asteraceae	*Lasthenia fremontii*	Vernal pool goldfields	OBL
Asteraceae	*Leontodon saxatilis*	Hairy hawkbit	FACU
Linaceae	*Linum usitatissimum*	Common flax	--
Lythraceae	*Lythrum hyssopifolia*	Hyssop loosestrife	OBL
Lamiaceae	*Mentha pulegium*	Pennyroyal	OBL
Poaceae	*Muhlenbergia rigens*	Deer grass	FAC
Polemoniaceae	*Navarretia intertexta*	Interwoven navarretia	FACW
Poaceae	*Paspalum dilatatum*	Dallis grass	FAC
Polygonaceae	*Persicaria* sp.	Smartweed	OBL
Boraginaceae	*Plagiobothrys stipitatus*	Stalked popcorn-flower	FACW
Poaceae	*Pleuropogon californicus*	Semaphore grass	OBL
Poaceae	*Poa annua*	Annual blue grass	FAC
Lamiaceae	*Pogogyne zizyphoroides*	Sacramento Mesa-mint	OBL
Poaceae	*Polypogon monspeliensis*	Rabbitsfoot grass	FACW
Salicaceae	*Populus fremontii [deltoides]* ssp. *fremontii*	Fremont's cottonwood	FAC
Rosaceae	*Prunus* sp.	Cherry tree	FACU
Fagaceae	*Quercus douglasii*	Blue oak	--
Fagaceae	*Quercus wislizeni*	Interior live oak	--
Ranunculaceae	*Ranunculus bonariensis* var. *trisepalus*	Vernal pool buttercup	OBL
Ranunculaceae	*Ranunculus muricatus*	Spiny buttercup	FACW
Brassicaceae	*Rorippa curvissiliqua*	Curvepod yellow cress	OBL
Rosaceae	*Rubus armeniacus*	Himalayan blackberry	FAC
Polygonaceae	*Rumex crispus*	Curly dock	FAC
Polygonaceae	*Rumex pulcher*	fiddledock	FAC
Salicaceae	*Salix exigua*	Narrow leaved willow	FACW
Salicaceae	*Salix* cf. *lasiolepis*	Arroyo willow	FACW
Asteraceae	*Senecio vulgaris*	Common groundsel	FACU
Asteraceae	*Sonchus asper*	Prickly sow thistle	FAC
Poaceae	*Stipa pulchra*	Purple needle grass	--
Lamiaceae	*Trichostema lanceolata*	Vinegar weed	FACU
Fabaceae	*Trifolium variegatum*	Variegated clover	FAC
Typhaceae	*Typha* sp.	Cattail	OBL
Scrophulariaceae	*Verbascum blattaria*	Moth mullein	UPL
Plantaginaceae	*Veronica* cf. *americana*	American brooklime	OBL
Fabaceae	*Vicia sativa*	Spring vetch	FACU
Gentianaceae	*Zeltnera muehlenbergii*	Muehlenberg's centaury	FAC

Scientific and common names from:

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, D.H. Wilken, editors. 2012. The Jepson Manual: Vascular Plants of California, second edition. University of California Press, Berkley *or*

U.S. Army Corps of Engineers Cold Regions Research and Engineering Laboratory, *Arid West 2016 Regional Wetland Plant List*

* Acronyms: FAC – facultative, FACU – facultative upland, FACW – facultative wetland, OBL – obligate, UPL – upland; -- Not Listed (considered upland) (USACE 2013)

Appendix D

Representative Site Photos

This page intentionally left blank



Photo 1: View of riparian woodland with ephemeral drainage south of Silva Valley Parkway looking southeast. Taken 8/8/2017.



Photo 2: View of seasonal wetland looking west north of Silva Valley Parkway. Taken 8/8/2017.



Photo 3: View of intermittent drainage looking south from Silva Valley Parkway. Taken 8/8/2017.



Photo 4: View of intermittent drainage looking north bounded by purple needlegrass bunchgrass grassland. Taken 8/8/2017.



Photo 5. View of purple needlegrass bunchgrass grassland looking north. Taken 10/13/2020.



Photo 6. View of annual grassland looking west from the southernmost boundary of the site. Taken 10/13/2020.



Photo 7. View of intermittent drainage looking north bounded by purple needlegrass bunchgrass grassland. Taken 10/13/2020.



Photo 8. View of annual grassland from the eastern portion of the site looking west towards Silva Valley Parkway. Taken 10/13/2020.



Legend

- EDH 52 North
- EDH 52 Costco South

RSC ENGINEERING, INC.
1420 ROCKY RIDGE DRIVE,
STE. 150
ROSEVILLE, CA 95661
T: 916.788.2884
WWW.RSC-ENGR.COM

DBA # P.290

DB+A

DAVID BABCOCK + ASSOCIATES
ARCHITECTURE LANDSCAPE PLANNING
3581 MT. DIABLO BLVD., SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

EDH-52 NORTH AND COSTCO SOUTH

OVERALL SITE PLAN

0 50' 100' 200'

SCALE 1"= 100'

APRIL 22, 2021

NORTH

SHEET 1 of 1



RSC ENGINEERING, INC.
1420 ROCKY RIDGE DRIVE,
STE. 150
ROSEVILLE, CA 95661
T: 916.788.2884
WWW.RSC-ENGR.COM

DBA # P.290

DB+A

DAVID BABCOCK + ASSOCIATES
ARCHITECTURE LANDSCAPE PLANNING
3581 MT. DIABLO BLVD., SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

EDH-52 COMMERCIAL DEVELOPMENT

OVERALL SITE PLAN

0 50' 100' 200'

SCALE 1"= 100'
APRIL 22, 2021

NORTH

SHEET
1
of 1



RSC ENGINEERING, INC.
1420 ROCKY RIDGE DRIVE,
STE. 150
ROSEVILLE, CA 95661
T: 916.788.2884
WWW.RSC-ENGR.COM

DBA # P.290

DB+A

DAVID BABCOCK + ASSOCIATES
ARCHITECTURE LANDSCAPE PLANNING
3581 MT. DIABLO BLVD., SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

EDH-52 COMMERCIAL DEVELOPMENT

OVERALL SITE PLAN

0 50' 100' 200'

SCALE 1"= 100'
APRIL 22, 2021

NORTH

SHEET
1
of 1



RSC ENGINEERING, INC.
1420 ROCKY RIDGE DRIVE,
STE. 150
ROSEVILLE, CA 95661
T: 916.788.2884
WWW.RSC-ENGR.COM

DBA # P.290

DB+A

DAVID BABCOCK + ASSOCIATES
ARCHITECTURE LANDSCAPE PLANNING
3581 MT. DIABLO BLVD., SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

EDH-52 COMMERCIAL DEVELOPMENT

OVERALL SITE PLAN

0 50' 100' 200'

SCALE 1"= 100'
APRIL 22, 2021

NORTH

SHEET
1
of 1



RSC ENGINEERING, INC.
1420 ROCKY RIDGE DRIVE,
STE. 150
ROSEVILLE, CA 95661
T: 916.788.2884
WWW.RSC-ENGR.COM

DBA # P.290

DB+A

DAVID BABCOCK + ASSOCIATES
ARCHITECTURE LANDSCAPE PLANNING
3581 MT. DIABLO BLVD., SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

EDH-52 COMMERCIAL DEVELOPMENT

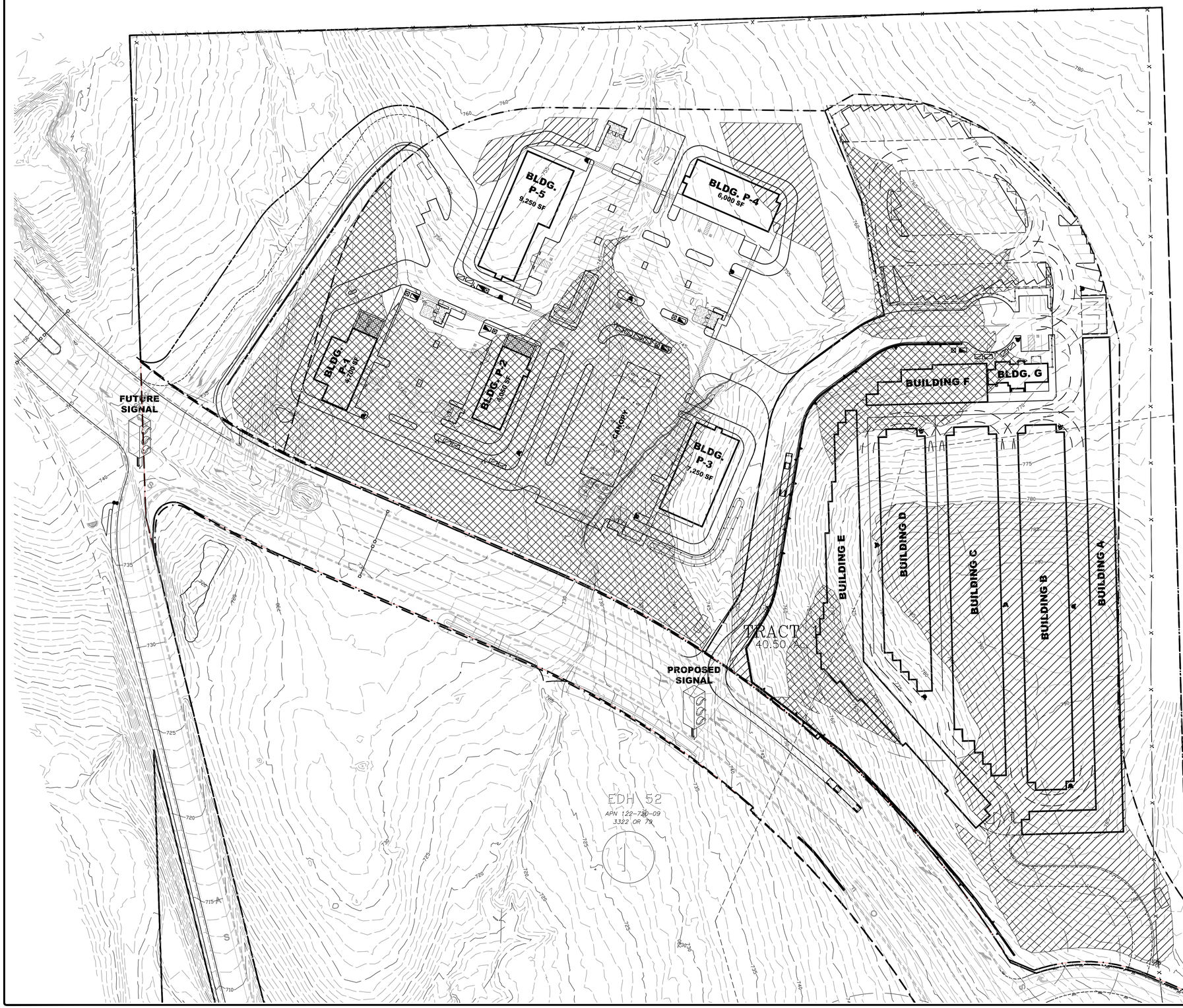
OVERALL SITE PLAN

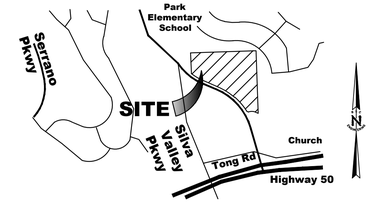
0 50' 100' 200'

SCALE 1"= 100'
APRIL 22, 2021

NORTH

SHEET
1
of 1





EARTHWORK SUMMARY

APPROXIMATE EARTHWORK VOLUMES:
GRADING FROM EXISTING GRADE TO FINISH GRADE

CUT VOLUME = 89,750 CY
FILL VOLUME = 117,900 CY

NET VOLUME = 28,150 CY FILL

APPROXIMATE ROCK EXCAVATION VOLUMES:
GRADING FROM EXISTING GRADE TO FINISH GRADE

ROCK QUANTITY = 19,130 CY

EARTHWORK LEGEND

- APPROXIMATE AREA OF CUT GREATER THAN 6' BELOW EXISTING GRADE
- APPROXIMATE AREA OF FILL GREATER THAN 6' ABOVE EXISTING GRADE

OWNER:

EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

REV NO	DESCRIPTION	DWG INIT	BY	CITY APPROVED DATE

REGISTERED PROFESSIONAL ENGINEER
JAIRAJ SINGH
No. 62091
Sept. 30, 2021
CIVIL
STATE OF CALIFORNIA

RSC ENGINEERING
1420 Rocky Ridge Drive, Suite 150
Roseville, CA 95661
Ph: 916.788.2684 Fax: 916.788.4408

PROJECT NO:	104-003A
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

PLANNED DEVELOPMENT APPLICATION FOR EDH 52

HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

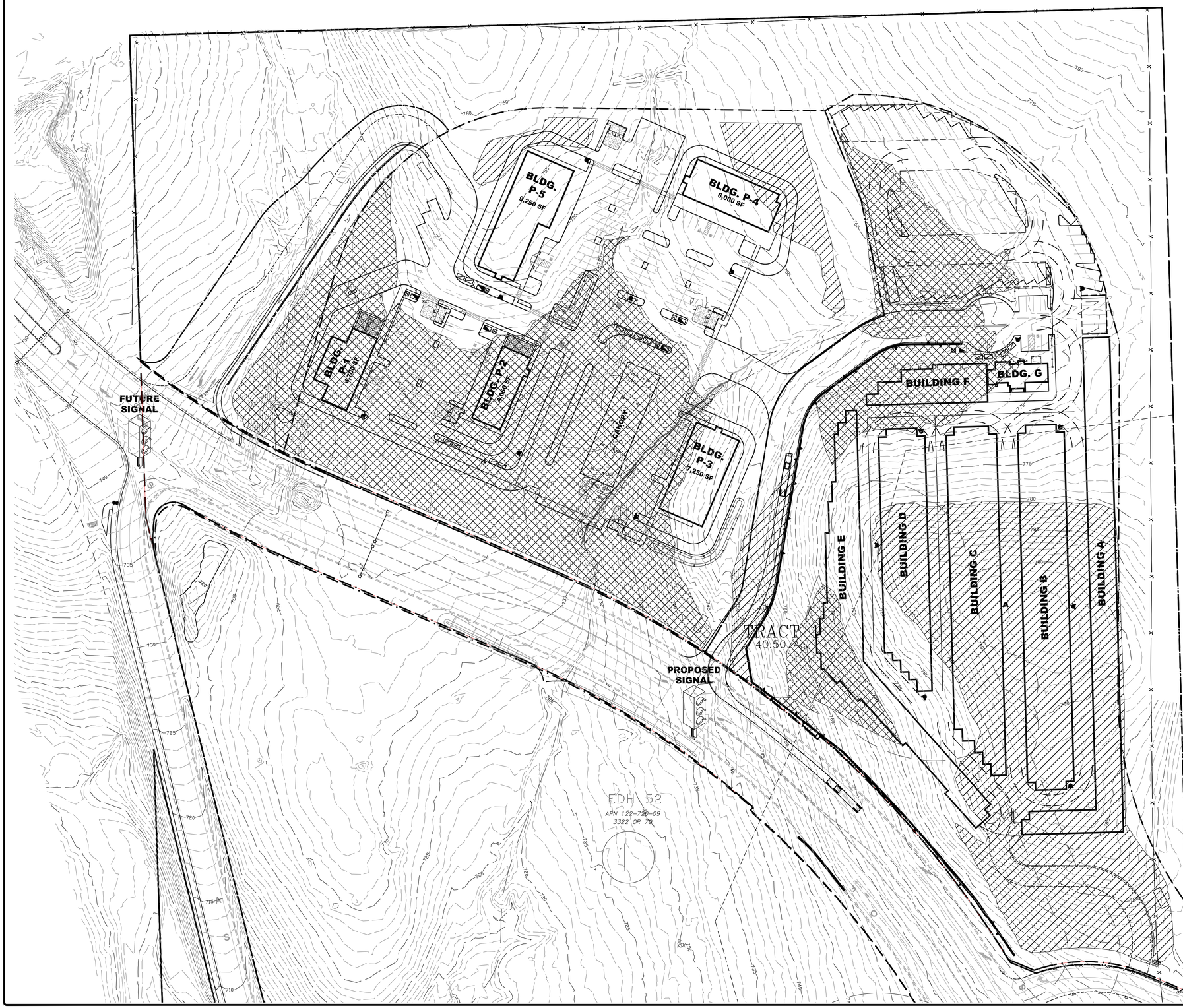
SHEET TITLE
EARTHWORK

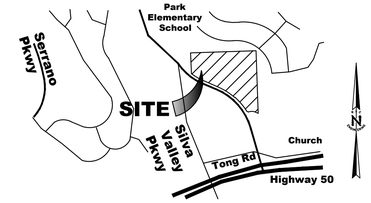
SHEET NO.
EW1
3 OF **12**

DATE: APRIL 23, 2021

XRefs: P:\104-003A\Planning\Conceptual\104003A_XATTL.dwg
P:\104-003A\Planning\Conceptual\104003A_XBASE.dwg
P:\104-003A\Planning\Conceptual\104003A_XBASE-SHP2.dwg
P:\104-003A\Planning\Conceptual\104003A_XPROP.dwg
P:\104-003A\Planning\Conceptual\104003A_XTOPO.dwg
P:\104-003A\Planning\Conceptual\104003A_XUTIL.dwg

DRAWING: P:\104-003A\Planning\Conceptual\104003A_EW-EW1.dwg
LAYOUT: EW1 (PLOT)
PLOT DATE: Apr 23, 2021 - 4:52:31 PM





EARTHWORK SUMMARY

APPROXIMATE EARTHWORK VOLUMES:
GRADING FROM EXISTING GRADE TO FINISH GRADE

CUT VOLUME = 89,750 CY
FILL VOLUME = 117,900 CY

NET VOLUME = 28,150 CY FILL

APPROXIMATE ROCK EXCAVATION VOLUMES:
GRADING FROM EXISTING GRADE TO FINISH GRADE

ROCK QUANTITY = 19,130 CY

EARTHWORK LEGEND

- APPROXIMATE AREA OF CUT GREATER THAN 6' BELOW EXISTING GRADE
- APPROXIMATE AREA OF FILL GREATER THAN 6' ABOVE EXISTING GRADE

OWNER:

EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

REV NO	DESCRIPTION	DWG INIT	BY	CITY APPROVED DATE

REGISTERED PROFESSIONAL ENGINEER
JAIRAJ SINGH
No. 62091
Sept. 30, 2021
CIVIL
STATE OF CALIFORNIA

RSC ENGINEERING
1420 Rocky Ridge Drive, Suite 150
Roseville, CA 95661
Ph: 916.788.2684 Fax: 916.788.4408

PROJECT NO:	104-003A
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

PLANNED DEVELOPMENT APPLICATION FOR EDH 52

HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

SHEET TITLE
EARTHWORK

SHEET NO.
EW1
3 OF **12**

DATE: APRIL 23, 2021

XRefs: P:\104-003A\Planning\Conceptual\104003A_XATTL.dwg
P:\104-003A\Planning\Conceptual\104003A_XBASE.dwg
P:\104-003A\Planning\Conceptual\104003A_XBASE-SHP2.dwg
P:\104-003A\Planning\Conceptual\104003A_XPROP.dwg
P:\104-003A\Planning\Conceptual\104003A_XTOPO.dwg
P:\104-003A\Planning\Conceptual\104003A_XUTIL.dwg

DRAWING: P:\104-003A\Planning\Conceptual\104003A_EW-EW1.dwg
LAYOUT: EW1 (PLOT)
PLOT DATE: Apr 23, 2021 - 4:52:31 PM

EDH 52-COSTCO

OVERALL COMMERCIAL CENTER

PROJECT DESCRIPTION

April 23, 2021

DESCRIPTION AND PURPOSE OF THE REQUEST

The owner is pleased to submit this revised application requesting approval to construct two (2) new commercial centers (collectively, the "Project") in El Dorado County encompassing APNs: 122-720-002, 018, 019, 020 & 021. In addition, a portion of 122-720-003 and the unused former Tong Road right-of-way between Silva Valley Parkway and Clarksville Crossing are proposed to be a part of the Project. The property is located north of Highway 50 and Tong Road, east of Clarksville Crossing, and is bisected by Silva Valley Parkway. The northern portion of the property is approximately 18.26 acres (North Site), and the southern portion is approximately 17.05 acres (South Site), net of the right-of-way for roads. There is a 6.57-acre area on the North Site for the right-of-way associated with the future extension of Country Club Drive. There is a 1.38-acre area west of Clarksville Crossing on the South Site that will not be developed as part of the Project.

The revised application seeks a series of zoning changes to facilitate development of the Project, including a rezone proposed on the North Site to CC-PD to allow more uses primarily seen in a shopping center setting and to allow a self-storage use with the approval of a conditional use permit. In addition, the application proposes to extend the existing CR-PD zoning to the entire South Site to enable development of a commercial center there.

The Project is within the Planned Development Overlay zone such that a Development Plan Permit is required. To reflect the separate needs of each commercial center, the revised application includes two separate Development Plan Permit packages: one for the North Site and one for the South Site. Each Development Plan Permit will address the design guidelines and signage for the corresponding portion of the Project. In addition, the owner is processing separate wetlands permits from the Army Corps of Engineers for each area. However, both the North Site and the South Site are one "project" for purposes of evaluating the Project's environmental impacts under the California Environmental Quality Act ("CEQA").

The maximum building area for the South Site will be approximately 156,000 square feet and includes, without limitation, a Costco warehouse retail center, tire sales and installation, optical exams and optical sales, photo center and processing, hearing aid testing and sales, food service preparation and sales, meat preparation and sales, bakery and sales of baked goods, alcohol sales, and propane refueling and sales adjacent to tire sales and installation facility. Temporary outdoor sales may occur within the parking field adjacent to the warehouse for seasonal sales, such as Christmas trees from late November through December. The building area for the North Site will be approximately 162,000 square feet and may include the following uses: drive through uses, gas station with car wash, food uses, outdoor patio, outdoor storage and outdoor sales and other retail and offices uses permitted in the CC zone as well as a self-storage use permitted with a use permit.

ENTITLEMENTS REQUESTED

Overall Project:

- As preservation of 90% of the existing oak tree canopy is not feasible, this Project will be requesting relief from General Plan Policy 7.4.4.4 due to topographic constraints and the need to grade the site in relation to Silva Valley Parkway.

North Site:

- Rezoning from CR-PD to CC-PD zoning designation;
- Development Plan Permit approval to cover:
    - the site plan, building design, and preliminary landscape plan, storm drainage, and grading;
    - design guidelines;
    - a signage program;
- Use Permit approval for a self-storage project within the CC-PD zone.
- Tentative Parcel Map to reconfigure existing and create eight (8) new parcels for purposes of sale, lease, or financing of the North Site.

South Site:

- Abandonment of the former Tong Road extension right of way and disposition of subsequent parcel;
- Disposition of County-owned land near Highway 50;
- Extension of existing CR-PD zoning designation for the entire South Site;
- Development Plan Permit approval to cover:
    - the site plan, building design, and preliminary landscape plan, storm drainage, and grading;
    - design guidelines;
    - a signage program that will allow for the size and square footage of the typical signage program for the warehouse, and pylon and monument signage;
- Lot Line adjustment and merger to configure up to four parcels for the South Site.

Each of the entitlements described above will be analyzed in an Environmental Impact Report to study the impacts and potential mitigation measures required for the Project.

PROJECT OBJECTIVES

Overall Project:

- Develop two high-quality planned commercial developments on currently vacant and underutilized land adjacent to Highway 50 adequately served by public services and utilities.
- Promote economic growth and diverse new employment and retail/service opportunities for County residents.
- Increase the number of employees and contribute to the local job/housing balance.

North Site:

- Develop architectural and landscaping designs that soften the scale and mass of the buildings, create a pleasant and attractive appearance, and complement the surrounding area.
- Develop site plans that minimize potential access and circulation conflicts between automobiles and pedestrians, provide adequate off-street parking for store customers and employees, and minimize impacts to the surrounding area.

South Site:

- Construct and operate a new Costco warehouse that serves the local community with goods and services from both nationally known businesses but also more regional and local businesses.
- Reduce energy consumption by incorporating sustainable design features and systems with enhanced energy efficiencies meeting State and federal code requirements.
- Provide a Costco warehouse in a location that is convenient for its members, the community, and employees to travel to shop and work.
- Provide a state-of-the-art Costco warehouse to better serve the membership in the greater El Dorado Hills area.
- Enhance the area with a warehouse that is architecturally designed to be responsive to the El Dorado Hills area design context and sensitive to the adjacent community, future development(s) and compatible with the need for a new warehouse in this market area.

- Continue and increase contribution to the County's tax base by Costco.
- Expand the space available for integrated retail sales of goods and services in El Dorado Hills market.
- Minimize circulation conflicts between automobiles and pedestrians.
- Provide a Costco warehouse in a location that is serviced by adequate existing infrastructure including roadways and utilities.
- Develop a Costco warehouse that is large enough to accommodate all the uses and services Costco provides to its members elsewhere.
- Locate a Costco warehouse on a site Costco can purchase (rather than lease) to protect its substantial investment of time, money and goodwill in the location.

SITE INFORMATION

Location

The proposed Project is in El Dorado County. The Project site is on the north side of Highway 50 and is bisected by Silva Valley Parkway. It is bordered by existing residences and an elementary school to the north, vacant land to the east, Clarksville Crossing to the west, and Highway 50 to the south.

Site Description

The Project site is currently vacant. A small portion of the unused Tong Road right-of-way is proposed to be included in the South Site. The site consists of annual grassland with small oak woodlands. Slivers of wetlands and riparian areas are located on site.

DESCRIPTION OF THE PROPOSED PROJECT

The maximum building area for the South Site will be approximately 156,000 square feet and includes, without limitation, a Costco warehouse retail center, tire sales and installation, optical exams and optical sales, photo center and processing, hearing aid testing and sales, food service preparation and sales, meat preparation and sales, bakery and sales of baked goods, alcohol sales, and propane refueling and sales adjacent to tire sales and installation facility. The warehouse retail center will also facilitate Costco's home delivery program by serving as a hub for Costco home delivery drivers to collect member orders for delivery to the surrounding area. Temporary outdoor sales may occur within the parking field adjacent to the warehouse for seasonal sales, such as Christmas trees from late November through December.

The building area for the North Site will be approximately 162,000 square feet and may include the following uses: drive-through uses, gas station with car wash, food uses, outdoor patio, outdoor storage and outdoor sales and other retail and offices uses permitted in the CC zone. A use permit is requested for the self-storage project on the north site. The self-storage project will consist of 6 buildings plus an office and 52 RV storage spaces.

North Site Architecture

The design theme for the North Site is based on the existing building design theme of the Serrano area, which is a California/Mediterranean style, examples of which are included in the design guidelines proposed for the North Site.

Where single tenant types (retail shops) occur, the guidelines contain specific architectural design for these buildings. Where multiple tenant types (drive-thru restaurants and fuel stations) occur, the guidelines contain a typical example of the design intent for that tenant type. Each of these specific tenants will use the typical example shown and vary their design to add individuality and yet maintain a common thread of colors, materials, and design elements as shown in the guidelines. No building design for any tenant type shall be repeated on the North Site.

Each building on the North Site shall vary in building height to achieve more visual interest and distinct building character, avoiding the monotony of continuous building height. Each building shall combine horizontal and vertical elements to provide variation, interest, and rhythm within and among the buildings. In no case shall any roof mounted equipment be higher than the lowest parapet height of the building.

The color and material palette for the North Site contains multiple options for color and materials. The intent is for these options to occur in various combinations throughout the North Site so that each building is unique in its design and materials while maintaining design continuity among the buildings. The proposed colors and materials of the palette must be maintained throughout the development of the North Site.

Within the development of the North Site, all sides of all buildings will be visible from adjacent roadways and properties. The architecture of all sides of all buildings must, therefore, be of equal quality and attention. Screening is required for loading and storage areas, utilities meters and boxes using landscaping, walls, fences in combination.

The use of colored concrete, concrete pavers, accent patterns, etc. shall be encouraged in the flatwork areas around the buildings. Provisions for gathering and resting areas shall be accomplished using intimate seating areas in near proximity of the building.

South Site Architecture

The warehouse design is proposed to be contemporary and will set the standard for large format retail facades with variety of massing and appropriate materials for the building. By combining concrete masonry block and architectural metal panels, Costco intends to create a scale and architectural interest to minimize the visual impact of a large retail warehouse. By use of design techniques such as the location of building materials, landscaping, and the incorporation of varying parapet cap heights, Costco can successfully break the long elevations both horizontally and vertically at the appropriate height to conceal roof top mounted mechanical equipment. The technique of breaking a long elevation into smaller elements with varied materials and colors is used to create a more pedestrian-friendly scale in the proposed design. The proposed colors are warm natural earth tones, which will relate to the proposed surrounding development by utilizing similar building materials and architectural detailing.

The South Site has been designed to utilize the existing slope of the site by locating the warehouse in the southeast corner of the site, where the elevation of existing streets adjacent to the site are the highest. By building the warehouse adjacent to higher elevation land and providing a subterranean parking structure, the height of the building and visual impacts relative to the surrounding environment are minimized. The subterranean portion of the parking structure will be adjacent to the west side of the warehouse and contain 214 parking spaces underneath the at-grade parking structure. Vehicle access to this lower-level parking would be provided by ramps on the north and south sides of the underground parking structure – the ramp on the north side would allow vehicles to enter the lower-level parking structure directly from Clarksville Crossing and the ramp on the south side would allow vehicle access from the at-grade parking lot above. A third ramp would provide pedestrian access from the lower level up to the at-grade parking and entry to the warehouse. The main entry feature to the warehouse is proposed to be oriented towards the northwest so that the loading dock and truck deliveries would be accessed from and oriented towards Interstate 50, providing greater separation with the existing residences.

The warehouse is proposed to include one customer entrance to the main Costco store that would be located at the northwest corner. The El Dorado Hills Costco is expected to include a bakery, pharmacy, optical center with optical exams and retail optical sales, hearing aid testing center, food court, and a photo center along with the sales of approximately 4,000 products. The warehouse would include a five bay Tire Center, a +/-5,300 square-foot facility with member access via the inside of the main Costco building, which would include tire sales and a tire installation facility. A promotional vehicle may be on display near the entry to the building. This vehicle would be used to promote online or offsite vehicle sales; no vehicles are proposed to be sold on site.

Costco Operations

It is anticipated that the El Dorado Hills Costco warehouse will employ approximately 165 to 170 employees.

Costco Wholesale is a membership-only retail/wholesale business, selling high quality national brands and private label merchandise for commercial and personal use. The warehouse hours are anticipated to be Monday through Friday from 9:00 am to 8:30 pm, and Saturday and Sunday from 9:00 am to 7:00 pm.

Costco anticipates an average of about 10 trucks delivering goods on a typical weekday. The trucks range in size from 26 feet long for single-axle trailers to 70 feet long for double-axle trailers. Receiving time is from 2:00 a.m. to 1:00 p.m., averaging 2 to 3 trucks per hour, with most of the deliveries completed before the 10:00 a.m. opening time. Deliveries to the warehouse are made primarily in Costco trucks from its freight consolidation facility in Tracy, California, coming to the site from Interstate 50, and accessing the site from Silva Valley Parkway.

The tire center typically will receive shipments of tires one to two times per week in single- or double-trailer trucks of up to 70 feet in length, and the same delivery truck will pick up old tires for recycling. Deliveries to and pickups from the tire center will be scheduled for pre-opening hours, typically about 6:00 a.m.

Costco Sustainability Features

The entire proposed Project will incorporate sustainability features per the California Title 24 energy requirements. In addition, to reduce energy consumption and promote sustainability, Costco will incorporate many energy saving measures when constructing a new facility. Below are some of the significant practices that Costco currently incorporates into new buildings that help conserve energy and other natural resources that are expected to be used in connection with the development of the South Site:

- Parking lot light standards will be designed in order to provide even light distribution, and utilize less energy compared to a greater number of fixtures at lower heights. The use of LED lamps can provide a higher level of perceived brightness with less energy than other lamps such as high-pressure sodium.

- New and renewable building materials are typically extracted and manufactured within the region. When masonry and concrete are used, the materials purchased are local to the project, minimizing the transportation distances and impact to local road networks.

- The use of pre-manufactured building components, including structural framing and metal panels, helps to minimize waste during construction.

- Pre-manufactured metal wall panels with insulation carry a higher R-Value and greater solar reflectivity to help conserve energy as compared to other materials. Building heat absorption is further reduced by a decrease in the thermal mass of the metal wall when compared to a typical masonry block wall.

- A substantial amount of the proposed plant material for the South Site is climate adapted to the region and will use less water than other common species.

- The irrigation system includes the use of deep root watering bubblers for parking lot trees to minimize usage and ensure that water goes directly to the intended planting areas.

- Storm water management plans are designed to maintain quality control and storm water discharge rates based on the County requirements.

- High-efficiency restroom fixtures can achieve a 40% decrease and water savings over U.S. standards.

- Commissioning of mechanical systems will occur to ensure that the HVAC systems are preforming as designed. HVAC comfort systems can be controlled by a computerized building management system to maximize efficiency.

- HVAC units planned for the South Site are high efficiency direct ducted units, which have phased out the use of HCFC's completely, long before the Montreal Protocol timeline.

- Parking lot and exterior lights can be controlled by a photo sensor and time clock.

- Lighting is controlled by the overall project energy management system.

- Energy efficient Transformers (i.e., Square D Type EE transformers) are planned to be used.

- Variable speed motors will be used on make-up air units and booster pumps.

- Gas water heaters are direct vent and 94% efficient or greater.

- Reclaim tanks are used to capture heat released by refrigeration equipment to heat domestic water in lieu of venting heat to the outside.

- The Main Building structure is a pre-engineered system that uses 100% recycled steel materials and is designed to minimize the amount of material used.

- Construction waste is recycled whenever possible.

- Floor sealant is No-VOC and represents over 80% of the floor area.

- CO2 is monitored throughout the warehouse.

- Extensive recycling/reuse program is implemented for warehouse and office space including tires, cardboard, grease, plastics, and electronic waste.

- Use of plastic shopping bags is avoided.

- Suppliers are required to reduce packaging and consider alternative packaging solutions.

- Distribution facilities are strategically located to minimize miles traveled for delivery.

- Deliveries are made in full trucks.

- All Costco trucks are equipped with an engine idle shut off timers.

SIGNAGE

Proposed highway-oriented and monument sign locations are depicted on the proposed site plan for both the North Site and the South Site.

North Site

A highway-oriented sign is proposed on the North Site greater than 100 feet from the freeway right of way. The owner is requesting certain deviations from Chapter 130.36 of the County Code for the proposed highway-oriented signs, including a reduction in the minimum separation between highway-oriented signs, a reduction in the minimum setback from the adjacent residential district (North Site only), an increase in the maximum allowed area, and an increase in the maximum allowed height. Each highway-oriented sign will be a 75-foot tenant pylon sign allowing advertising from either commercial center and will include one (1) major tenant panel, one (1) junior tenant panel, and eight (8) shop tenant panels. The proposed sign area for each highway-oriented sign is 652 square feet. The highway-oriented signs will have a stone veneer base, fabricated aluminum panels, and texcote finish to compliment the color scheme of the commercial centers. Tenant names and logos will be fabricated aluminum, pan channel construction. Tenant names and logos will be flush mounted to the panel background and internally illuminated with white LED lights. Colors will comply with tenant specifications.

The owner is also requesting certain deviations from Chapter 130.36 of the County Code for the proposed monument signs, including an increase in the maximum allowed area, and an increase in the maximum allowed height. The developer is proposing two (2) 28-foot tenant monument signs on the North Site. Each monument sign will have one (1) featured tenant panel and six (6) shop tenant panels. The proposed area for each monument sign is 242 square feet. The monument signs will have a stone veneer base, fabricated aluminum panels, and texcote finish to compliment the color scheme of the commercial centers. Tenant names and logos will be routed out with acrylic push-through graphics and vinyl film overlays. Tenant names will be internally illuminated with white LED lights. Colors will comply with tenant specifications.

Building signs for the North Site will be a part of a separate sign permit and are not proposed at this time.

South Site

On the South Site, proposed signage includes the Costco warehouse typical signage, a pylon signage at the southeast corner of the parcel at Silva Valley Parkway, and a monument sign located at the northern side of the main entry. The South Site is requesting deviations from Chapter 130.36 of the County Code, including an increase in maximum allowed sign area and an increase in maximum allowed sign height.

Building signage consists of the signature Costco red and blue corporate colors. The signage is scaled appropriately to the mass of the building elevations to not overwhelm but to reinforce the brand that Costco has established. The warehouse wall signage will consist of externally illuminated reverse pan channel letters, and the gas station signage will also be externally illuminated.

A pylon sign oriented towards Highway 50 will be located at the southeast corner of the site adjacent to Silva Valley Parkway. The sign will be approximately 75 feet tall and 28 feet wide with multiple internally illuminated panels for tenant identification for businesses located on the North Site. A monument sign located on the north side of the main entry will also be include as part of the Project signage. The sign will be approximately 16 feet tall and 17 feet wide with

multiple internally illuminated panels for tenant identification for businesses located on the North Site.

SITE ACCESS

It is anticipated that the Project site will have multiple points of access. A traffic signal is proposed at the main driveway and Silva Valley Parkway to provide access to both the South Site and the North Site

North Site

A portion of Country Club Drive extension will be constructed to a secondary full access to the North Site. An emergency access to Tong Road from the self-storage facility is proposed. Three full access driveways are proposed on Clarksville Crossing to provide additional points of access from the North Site to the South Site.

South Site

Regional access to the warehouse will be from Interstate 50 via the Silva Valley Parkway exit. One full-access driveway with a signalized intersection is proposed along the eastern portion of the site, and an additional three driveways are proposed along the Project's western side to provide access from Clarksville Crossing. An ADA-compliant pedestrian pathway will extend from the warehouse to the northern property boundary where it will connect to Silva Valley Parkway. The Project provides oversized parking stalls of 10 feet x 20 feet that are larger than the minimum El Dorado County requirements to provide members with easier accessibility to vehicles.

LOADING

The South Site truck loading dock is located at the southwest corner of the building adjacent to Interstate 50. The bay doors will be equipped with sealed gaskets to limit noise impacts. A smaller on grade door is also located on the south side of the building. This door is to receive bread delivery and Federal Express type trucks. A transformer and two trash compactors will also be located along the south edge of the building proposed for the South Site. Dense landscape material provides the necessary screening to this area (see South Site Landscape Plan).

PARKING LOT

The North Site proposes a main parking lot area in front of the buildings. The parking lot will provide approximately 166 parking spaces, proposed at 90 degrees to maximize the number of stalls on the site. This number includes 10 accessible parking stalls and 12 compact stalls (7%) and 8 RV stalls.

The self-storage project proposed 7 parking stalls including 1 accessible stall.

The South Site proposes 763 total parking stalls, which exceeds the required El Dorado County parking requirement of 642 stalls. Approximately 549 parking stalls are provided at

grade adjacent to the warehouse entry and tire center. The remaining 214 parking stalls are provided within the subterranean parking structure on the west side of the warehouse.

ADA parking will comply with the County Code and Title 24 requirements.

BICYCLE PARKING

The Project will provide bicycle parking spaces (lockers and racks) throughout the site that will meet County and Title 24 requirements.

PEDESTRIAN CIRCULATION

A pedestrian walkway for each portion of the Project will connect the buildings to Silva Valley Parkway.

LANDSCAPING

The Project will include a variety of drought-tolerant landscaping options. The North Site landscaping will provide screening along the boundary which will consist of evergreen trees and shrub rows. Shade trees with large canopy coverage will be planted in the North Site parking lot for shade. Planting at the North Site entries will be highlighted and defined by seasonal accented trees and shrubs with the use of colorful plant material. Shrubs will be low growing to maintain line-of-sight to the street. Along the streets, plantings will incorporate shade trees and mixed species and forms of shrubs to create interest, color, and buffering from the North Site shopping center.

The South Site landscape plan includes a mix of climate adapted shrubs and grasses, and a variety of shade trees. The South Site landscape design has incorporated a generous perimeter buffer which includes evergreen and deciduous trees and shrubs to enhance the streetscape. Landscape islands are typically provided at one island per five lineal parking spaces in the South Site parking field to provide shading of the parking lot with the parking lot trees and landscaping per County requirements. The South Site landscape plan has been designed to assist with the screening of the at-grade parking deck above the lower-level parking. The proposed trees and landscaping will meet El Dorado County requirements of 50% shading on the site within the majority of the provided parking area, with the grade-level deck above the subterranean parking meeting this requirement only where trees can be planted due to the constraints of the structure beneath.

The Project proposes to pay in-lieu fees as mitigation for the loss of the oak woodland.

LIGHTING

The North Site will provide various single, two- or four-light fixtures throughout the parking areas and driveways. The overall height of the lighting on the North Site, including the lighting fixtures and a 3-foot base, will be 33 feet in the parking lot, 25 feet along the perimeter and main drive aisles, and 16 feet around drive-through lanes. LED luminaires will be used for the parking lot lights.

The South Site parking lot will be illuminated with standard downward LED fixtures affixed to a 37-foot light pole. The lighting fixtures are of a "shoe-box" style. Parking lot light standards are designed to provide even light distribution for vehicle and pedestrian safety. The parking lot lights will be timer controlled to limit lighting after the warehouse has closed and most employees are gone from the warehouse. Parking lot lighting will only remain on to provide security and emergency lighting only along the main driveways. Lighting fixtures will also be located on the building approximately every 40 feet around the exterior of the building to provide safety and security. Parking and site lighting will incorporate the use of cutoff lenses to keep light from overflowing beyond the South Site boundaries.

GRADING

A preliminary grading plan has been prepared for review as part of the application submittals. Each site is designed to balance independently, and it is the intent of this application to allow for mass grading of both sites individually.

ON-SITE IMPROVEMENTS

The Project is designed to allow either the North Site or the South Site to develop independent from the other. Mass grading of each site to accommodate future development will occur in the first phase of development, including filling of the permitted wetlands and permitted tree removal. In the event the South Site develops first, utility crossings under Silva Valley Parkway will be constructed as part of the South Site infrastructure work to serve the North Site. In the event the North Site develops first, interim facilities will be constructed on the North Site.

The second phase for each site will include construction of the parking, landscaping, lighting, utility infrastructure, and driveways designed to support the buildings. Site improvements will be constructed in various phases depending on the extent of development occurring at any given time. Buildings can be started once site improvements are sufficiently completed to allow construction and emergency fire access.

OFF-SITE IMPROVEMENTS

A proposed traffic signal and appurtenant facilities will be located on Silva Valley Parkway at the main driveway of the Project to provide a connection to both the South Site and the North Site. An additional traffic signal is proposed at the intersection of Clarksville Crossing and Silva Valley Parkway.

A portion of Country Club Drive extension will be constructed up to the secondary access point to the North Site.

UTILITY INFRASTRUCTURE

The property will need to annex into El Dorado Irrigation District (EID) in order to acquire sanitary sewer and water service. EID stated in its December 6, 2018 Facilities Improvement Letter that there should be adequate water supply and sewer capacity available to serve a similar type of project. The Project will tie into the existing 18-inch potable water main and

the 21-inch gravity sewer line in Clarksville Crossing. An updated Facilities Improvement Letter will be requested through EID at the appropriate time.

The property will also annex into the El Dorado Hills County Water District (Fire Protection) prior to building permit issuance.

Sanitary service and potable water for the North Site will be provided by public (EID) sanitary sewer and water lines that cross the South Site. Reclaimed water is available for non-potable irrigation use and will be provided by extending an existing reclaimed line in Silva Valley Parkway north of the Project site.

Dry utilities (electric, gas, telephone, and cable TV) will be provided from existing infrastructure located to the north of the Project site in Silva Valley Parkway. Dry utilities will need to be extended along the frontage of both the North Site and the South Site.

STORM DRAINAGE DESCRIPTION

The on-site drainage system will connect to El Dorado County's storm drain infrastructure in Clarksville Crossing. The Project has typical pollutant sources from parking lot runoff, loading/unloading areas, outdoor storage areas, and a trash compactor. This Project proposes bioretention areas and underground water quality vaults as the form of treatment for the site.

TRUCK CIRCULATION

Truck access will be allowed at all driveway locations depending on the size of the delivery truck and direction of travel.

OTHER GOVERNMENTAL AGENCY APPROVALS

Additional subsequent approvals and permits that may be required from local, regional, state, and federal agencies are identified below.

- El Dorado Irrigation District -Water and Sewer-Annexation and Utility Approval
- El Dorado County Resource Conservation District-Onsite Plan Approval
- El Dorado Hills County Water District (Fire Protection)-Annexation and Fire Approval
- El Dorado County Air Quality Management District-Air Quality Permit
- El Dorado County Department of Transportation -Encroachment Permit/Grading Permit/Onsite Plan Approval
- El Dorado County Building Services-Building Permit/Sign Permit

- Central Valley Regional Water Quality Control Board-NPDES General Permit for Stormwater Discharge

- California Department of Fish and Wildlife-Wetland Approval

- Army Corps-Wetland Permitting for each side

- LAFCO-Annexation approval for EID and El Dorado Fire Protection District along with the Bureau of Land Reclamation

EDH 52-COSTCO

OVERALL COMMERCIAL CENTER

PROJECT DESCRIPTION

April 23, 2021

DESCRIPTION AND PURPOSE OF THE REQUEST

The owner is pleased to submit this revised application requesting approval to construct two (2) new commercial centers (collectively, the "Project") in El Dorado County encompassing APNs: 122-720-002, 018, 019, 020 & 021. In addition, a portion of 122-720-003 and the unused former Tong Road right-of-way between Silva Valley Parkway and Clarksville Crossing are proposed to be a part of the Project. The property is located north of Highway 50 and Tong Road, east of Clarksville Crossing, and is bisected by Silva Valley Parkway. The northern portion of the property is approximately 18.26 acres (North Site), and the southern portion is approximately 17.05 acres (South Site), net of the right-of-way for roads. There is a 6.57-acre area on the North Site for the right-of-way associated with the future extension of Country Club Drive. There is a 1.38-acre area west of Clarksville Crossing on the South Site that will not be developed as part of the Project.

The revised application seeks a series of zoning changes to facilitate development of the Project, including a rezone proposed on the North Site to CC-PD to allow more uses primarily seen in a shopping center setting and to allow a self-storage use with the approval of a conditional use permit. In addition, the application proposes to extend the existing CR-PD zoning to the entire South Site to enable development of a commercial center there.

The Project is within the Planned Development Overlay zone such that a Development Plan Permit is required. To reflect the separate needs of each commercial center, the revised application includes two separate Development Plan Permit packages: one for the North Site and one for the South Site. Each Development Plan Permit will address the design guidelines and signage for the corresponding portion of the Project. In addition, the owner is processing separate wetlands permits from the Army Corps of Engineers for each area. However, both the North Site and the South Site are one "project" for purposes of evaluating the Project's environmental impacts under the California Environmental Quality Act ("CEQA").

The maximum building area for the South Site will be approximately 156,000 square feet and includes, without limitation, a Costco warehouse retail center, tire sales and installation, optical exams and optical sales, photo center and processing, hearing aid testing and sales, food service preparation and sales, meat preparation and sales, bakery and sales of baked goods, alcohol sales, and propane refueling and sales adjacent to tire sales and installation facility. Temporary outdoor sales may occur within the parking field adjacent to the warehouse for seasonal sales, such as Christmas trees from late November through December. The building area for the North Site will be approximately 162,000 square feet and may include the following uses: drive through uses, gas station with car wash, food uses, outdoor patio, outdoor storage and outdoor sales and other retail and offices uses permitted in the CC zone as well as a self-storage use permitted with a use permit.

ENTITLEMENTS REQUESTED

Overall Project:

- As preservation of 90% of the existing oak tree canopy is not feasible, this Project will be requesting relief from General Plan Policy 7.4.4.4 due to topographic constraints and the need to grade the site in relation to Silva Valley Parkway.

North Site:

- Rezoning from CR-PD to CC-PD zoning designation;
- Development Plan Permit approval to cover:
    - the site plan, building design, and preliminary landscape plan, storm drainage, and grading;
    - design guidelines;
    - a signage program;
- Use Permit approval for a self-storage project within the CC-PD zone.
- Tentative Parcel Map to reconfigure existing and create eight (8) new parcels for purposes of sale, lease, or financing of the North Site.

South Site:

- Abandonment of the former Tong Road extension right of way and disposition of subsequent parcel;
- Disposition of County-owned land near Highway 50;
- Extension of existing CR-PD zoning designation for the entire South Site;
- Development Plan Permit approval to cover:
    - the site plan, building design, and preliminary landscape plan, storm drainage, and grading;
    - design guidelines;
    - a signage program that will allow for the size and square footage of the typical signage program for the warehouse, and pylon and monument signage;
- Lot Line adjustment and merger to configure up to four parcels for the South Site.

Each of the entitlements described above will be analyzed in an Environmental Impact Report to study the impacts and potential mitigation measures required for the Project.

PROJECT OBJECTIVES

Overall Project:

- Develop two high-quality planned commercial developments on currently vacant and underutilized land adjacent to Highway 50 adequately served by public services and utilities.
- Promote economic growth and diverse new employment and retail/service opportunities for County residents.
- Increase the number of employees and contribute to the local job/housing balance.

North Site:

- Develop architectural and landscaping designs that soften the scale and mass of the buildings, create a pleasant and attractive appearance, and complement the surrounding area.
- Develop site plans that minimize potential access and circulation conflicts between automobiles and pedestrians, provide adequate off-street parking for store customers and employees, and minimize impacts to the surrounding area.

South Site:

- Construct and operate a new Costco warehouse that serves the local community with goods and services from both nationally known businesses but also more regional and local businesses.
- Reduce energy consumption by incorporating sustainable design features and systems with enhanced energy efficiencies meeting State and federal code requirements.
- Provide a Costco warehouse in a location that is convenient for its members, the community, and employees to travel to shop and work.
- Provide a state-of-the-art Costco warehouse to better serve the membership in the greater El Dorado Hills area.
- Enhance the area with a warehouse that is architecturally designed to be responsive to the El Dorado Hills area design context and sensitive to the adjacent community, future development(s) and compatible with the need for a new warehouse in this market area.

- Continue and increase contribution to the County's tax base by Costco.
- Expand the space available for integrated retail sales of goods and services in El Dorado Hills market.
- Minimize circulation conflicts between automobiles and pedestrians.
- Provide a Costco warehouse in a location that is serviced by adequate existing infrastructure including roadways and utilities.
- Develop a Costco warehouse that is large enough to accommodate all the uses and services Costco provides to its members elsewhere.
- Locate a Costco warehouse on a site Costco can purchase (rather than lease) to protect its substantial investment of time, money and goodwill in the location.

SITE INFORMATION

Location

The proposed Project is in El Dorado County. The Project site is on the north side of Highway 50 and is bisected by Silva Valley Parkway. It is bordered by existing residences and an elementary school to the north, vacant land to the east, Clarksville Crossing to the west, and Highway 50 to the south.

Site Description

The Project site is currently vacant. A small portion of the unused Tong Road right-of-way is proposed to be included in the South Site. The site consists of annual grassland with small oak woodlands. Slivers of wetlands and riparian areas are located on site.

DESCRIPTION OF THE PROPOSED PROJECT

The maximum building area for the South Site will be approximately 156,000 square feet and includes, without limitation, a Costco warehouse retail center, tire sales and installation, optical exams and optical sales, photo center and processing, hearing aid testing and sales, food service preparation and sales, meat preparation and sales, bakery and sales of baked goods, alcohol sales, and propane refueling and sales adjacent to tire sales and installation facility. The warehouse retail center will also facilitate Costco's home delivery program by serving as a hub for Costco home delivery drivers to collect member orders for delivery to the surrounding area. Temporary outdoor sales may occur within the parking field adjacent to the warehouse for seasonal sales, such as Christmas trees from late November through December.

The building area for the North Site will be approximately 162,000 square feet and may include the following uses: drive-through uses, gas station with car wash, food uses, outdoor patio, outdoor storage and outdoor sales and other retail and offices uses permitted in the CC zone. A use permit is requested for the self-storage project on the north site. The self-storage project will consist of 6 buildings plus an office and 52 RV storage spaces.

North Site Architecture

The design theme for the North Site is based on the existing building design theme of the Serrano area, which is a California/Mediterranean style, examples of which are included in the design guidelines proposed for the North Site.

Where single tenant types (retail shops) occur, the guidelines contain specific architectural design for these buildings. Where multiple tenant types (drive-thru restaurants and fuel stations) occur, the guidelines contain a typical example of the design intent for that tenant type. Each of these specific tenants will use the typical example shown and vary their design to add individuality and yet maintain a common thread of colors, materials, and design elements as shown in the guidelines. No building design for any tenant type shall be repeated on the North Site.

Each building on the North Site shall vary in building height to achieve more visual interest and distinct building character, avoiding the monotony of continuous building height. Each building shall combine horizontal and vertical elements to provide variation, interest, and rhythm within and among the buildings. In no case shall any roof mounted equipment be higher than the lowest parapet height of the building.

The color and material palette for the North Site contains multiple options for color and materials. The intent is for these options to occur in various combinations throughout the North Site so that each building is unique in its design and materials while maintaining design continuity among the buildings. The proposed colors and materials of the palette must be maintained throughout the development of the North Site.

Within the development of the North Site, all sides of all buildings will be visible from adjacent roadways and properties. The architecture of all sides of all buildings must, therefore, be of equal quality and attention. Screening is required for loading and storage areas, utilities meters and boxes using landscaping, walls, fences in combination.

The use of colored concrete, concrete pavers, accent patterns, etc. shall be encouraged in the flatwork areas around the buildings. Provisions for gathering and resting areas shall be accomplished using intimate seating areas in near proximity of the building.

South Site Architecture

The warehouse design is proposed to be contemporary and will set the standard for large format retail facades with variety of massing and appropriate materials for the building. By combining concrete masonry block and architectural metal panels, Costco intends to create a scale and architectural interest to minimize the visual impact of a large retail warehouse. By use of design techniques such as the location of building materials, landscaping, and the incorporation of varying parapet cap heights, Costco can successfully break the long elevations both horizontally and vertically at the appropriate height to conceal roof top mounted mechanical equipment. The technique of breaking a long elevation into smaller elements with varied materials and colors is used to create a more pedestrian-friendly scale in the proposed design. The proposed colors are warm natural earth tones, which will relate to the proposed surrounding development by utilizing similar building materials and architectural detailing.

The South Site has been designed to utilize the existing slope of the site by locating the warehouse in the southeast corner of the site, where the elevation of existing streets adjacent to the site are the highest. By building the warehouse adjacent to higher elevation land and providing a subterranean parking structure, the height of the building and visual impacts relative to the surrounding environment are minimized. The subterranean portion of the parking structure will be adjacent to the west side of the warehouse and contain 214 parking spaces underneath the at-grade parking structure. Vehicle access to this lower-level parking would be provided by ramps on the north and south sides of the underground parking structure – the ramp on the north side would allow vehicles to enter the lower-level parking structure directly from Clarksville Crossing and the ramp on the south side would allow vehicle access from the at-grade parking lot above. A third ramp would provide pedestrian access from the lower level up to the at-grade parking and entry to the warehouse. The main entry feature to the warehouse is proposed to be oriented towards the northwest so that the loading dock and truck deliveries would be accessed from and oriented towards Interstate 50, providing greater separation with the existing residences.

The warehouse is proposed to include one customer entrance to the main Costco store that would be located at the northwest corner. The El Dorado Hills Costco is expected to include a bakery, pharmacy, optical center with optical exams and retail optical sales, hearing aid testing center, food court, and a photo center along with the sales of approximately 4,000 products. The warehouse would include a five bay Tire Center, a +/-5,300 square-foot facility with member access via the inside of the main Costco building, which would include tire sales and a tire installation facility. A promotional vehicle may be on display near the entry to the building. This vehicle would be used to promote online or offsite vehicle sales; no vehicles are proposed to be sold on site.

Costco Operations

It is anticipated that the El Dorado Hills Costco warehouse will employ approximately 165 to 170 employees.

Costco Wholesale is a membership-only retail/wholesale business, selling high quality national brands and private label merchandise for commercial and personal use. The warehouse hours are anticipated to be Monday through Friday from 9:00 am to 8:30 pm, and Saturday and Sunday from 9:00 am to 7:00 pm.

Costco anticipates an average of about 10 trucks delivering goods on a typical weekday. The trucks range in size from 26 feet long for single-axle trailers to 70 feet long for double-axle trailers. Receiving time is from 2:00 a.m. to 1:00 p.m., averaging 2 to 3 trucks per hour, with most of the deliveries completed before the 10:00 a.m. opening time. Deliveries to the warehouse are made primarily in Costco trucks from its freight consolidation facility in Tracy, California, coming to the site from Interstate 50, and accessing the site from Silva Valley Parkway.

The tire center typically will receive shipments of tires one to two times per week in single- or double-trailer trucks of up to 70 feet in length, and the same delivery truck will pick up old tires for recycling. Deliveries to and pickups from the tire center will be scheduled for pre-opening hours, typically about 6:00 a.m.

Costco Sustainability Features

The entire proposed Project will incorporate sustainability features per the California Title 24 energy requirements. In addition, to reduce energy consumption and promote sustainability, Costco will incorporate many energy saving measures when constructing a new facility. Below are some of the significant practices that Costco currently incorporates into new buildings that help conserve energy and other natural resources that are expected to be used in connection with the development of the South Site:

- Parking lot light standards will be designed in order to provide even light distribution, and utilize less energy compared to a greater number of fixtures at lower heights. The use of LED lamps can provide a higher level of perceived brightness with less energy than other lamps such as high-pressure sodium.

- New and renewable building materials are typically extracted and manufactured within the region. When masonry and concrete are used, the materials purchased are local to the project, minimizing the transportation distances and impact to local road networks.

- The use of pre-manufactured building components, including structural framing and metal panels, helps to minimize waste during construction.

- Pre-manufactured metal wall panels with insulation carry a higher R-Value and greater solar reflectivity to help conserve energy as compared to other materials. Building heat absorption is further reduced by a decrease in the thermal mass of the metal wall when compared to a typical masonry block wall.

- A substantial amount of the proposed plant material for the South Site is climate adapted to the region and will use less water than other common species.

- The irrigation system includes the use of deep root watering bubblers for parking lot trees to minimize usage and ensure that water goes directly to the intended planting areas.

- Storm water management plans are designed to maintain quality control and storm water discharge rates based on the County requirements.

- High-efficiency restroom fixtures can achieve a 40% decrease and water savings over U.S. standards.

- Commissioning of mechanical systems will occur to ensure that the HVAC systems are preforming as designed. HVAC comfort systems can be controlled by a computerized building management system to maximize efficiency.

- HVAC units planned for the South Site are high efficiency direct ducted units, which have phased out the use of HCFC's completely, long before the Montreal Protocol timeline.

- Parking lot and exterior lights can be controlled by a photo sensor and time clock.

- Lighting is controlled by the overall project energy management system.

- Energy efficient Transformers (i.e., Square D Type EE transformers) are planned to be used.

- Variable speed motors will be used on make-up air units and booster pumps.

- Gas water heaters are direct vent and 94% efficient or greater.

- Reclaim tanks are used to capture heat released by refrigeration equipment to heat domestic water in lieu of venting heat to the outside.

- The Main Building structure is a pre-engineered system that uses 100% recycled steel materials and is designed to minimize the amount of material used.

- Construction waste is recycled whenever possible.

- Floor sealant is No-VOC and represents over 80% of the floor area.

- CO2 is monitored throughout the warehouse.

- Extensive recycling/reuse program is implemented for warehouse and office space including tires, cardboard, grease, plastics, and electronic waste.

- Use of plastic shopping bags is avoided.

- Suppliers are required to reduce packaging and consider alternative packaging solutions.

- Distribution facilities are strategically located to minimize miles traveled for delivery.

- Deliveries are made in full trucks.

- All Costco trucks are equipped with an engine idle shut off timers.

SIGNAGE

Proposed highway-oriented and monument sign locations are depicted on the proposed site plan for both the North Site and the South Site.

North Site

A highway-oriented sign is proposed on the North Site greater than 100 feet from the freeway right of way. The owner is requesting certain deviations from Chapter 130.36 of the County Code for the proposed highway-oriented signs, including a reduction in the minimum separation between highway-oriented signs, a reduction in the minimum setback from the adjacent residential district (North Site only), an increase in the maximum allowed area, and an increase in the maximum allowed height. Each highway-oriented sign will be a 75-foot tenant pylon sign allowing advertising from either commercial center and will include one (1) major tenant panel, one (1) junior tenant panel, and eight (8) shop tenant panels. The proposed sign area for each highway-oriented sign is 652 square feet. The highway-oriented signs will have a stone veneer base, fabricated aluminum panels, and texcote finish to compliment the color scheme of the commercial centers. Tenant names and logos will be fabricated aluminum, pan channel construction. Tenant names and logos will be flush mounted to the panel background and internally illuminated with white LED lights. Colors will comply with tenant specifications.

The owner is also requesting certain deviations from Chapter 130.36 of the County Code for the proposed monument signs, including an increase in the maximum allowed area, and an increase in the maximum allowed height. The developer is proposing two (2) 28-foot tenant monument signs on the North Site. Each monument sign will have one (1) featured tenant panel and six (6) shop tenant panels. The proposed area for each monument sign is 242 square feet. The monument signs will have a stone veneer base, fabricated aluminum panels, and texcote finish to compliment the color scheme of the commercial centers. Tenant names and logos will be routed out with acrylic push-through graphics and vinyl film overlays. Tenant names will be internally illuminated with white LED lights. Colors will comply with tenant specifications.

Building signs for the North Site will be a part of a separate sign permit and are not proposed at this time.

South Site

On the South Site, proposed signage includes the Costco warehouse typical signage, a pylon signage at the southeast corner of the parcel at Silva Valley Parkway, and a monument sign located at the northern side of the main entry. The South Site is requesting deviations from Chapter 130.36 of the County Code, including an increase in maximum allowed sign area and an increase in maximum allowed sign height.

Building signage consists of the signature Costco red and blue corporate colors. The signage is scaled appropriately to the mass of the building elevations to not overwhelm but to reinforce the brand that Costco has established. The warehouse wall signage will consist of externally illuminated reverse pan channel letters, and the gas station signage will also be externally illuminated.

A pylon sign oriented towards Highway 50 will be located at the southeast corner of the site adjacent to Silva Valley Parkway. The sign will be approximately 75 feet tall and 28 feet wide with multiple internally illuminated panels for tenant identification for businesses located on the North Site. A monument sign located on the north side of the main entry will also be include as part of the Project signage. The sign will be approximately 16 feet tall and 17 feet wide with

multiple internally illuminated panels for tenant identification for businesses located on the North Site.

SITE ACCESS

It is anticipated that the Project site will have multiple points of access. A traffic signal is proposed at the main driveway and Silva Valley Parkway to provide access to both the South Site and the North Site

North Site

A portion of Country Club Drive extension will be constructed to a secondary full access to the North Site. An emergency access to Tong Road from the self-storage facility is proposed. Three full access driveways are proposed on Clarksville Crossing to provide additional points of access from the North Site to the South Site.

South Site

Regional access to the warehouse will be from Interstate 50 via the Silva Valley Parkway exit. One full-access driveway with a signalized intersection is proposed along the eastern portion of the site, and an additional three driveways are proposed along the Project's western side to provide access from Clarksville Crossing. An ADA-compliant pedestrian pathway will extend from the warehouse to the northern property boundary where it will connect to Silva Valley Parkway. The Project provides oversized parking stalls of 10 feet x 20 feet that are larger than the minimum El Dorado County requirements to provide members with easier accessibility to vehicles.

LOADING

The South Site truck loading dock is located at the southwest corner of the building adjacent to Interstate 50. The bay doors will be equipped with sealed gaskets to limit noise impacts. A smaller on grade door is also located on the south side of the building. This door is to receive bread delivery and Federal Express type trucks. A transformer and two trash compactors will also be located along the south edge of the building proposed for the South Site. Dense landscape material provides the necessary screening to this area (see South Site Landscape Plan).

PARKING LOT

The North Site proposes a main parking lot area in front of the buildings. The parking lot will provide approximately 166 parking spaces, proposed at 90 degrees to maximize the number of stalls on the site. This number includes 10 accessible parking stalls and 12 compact stalls (7%) and 8 RV stalls.

The self-storage project proposed 7 parking stalls including 1 accessible stall.

The South Site proposes 763 total parking stalls, which exceeds the required El Dorado County parking requirement of 642 stalls. Approximately 549 parking stalls are provided at

grade adjacent to the warehouse entry and tire center. The remaining 214 parking stalls are provided within the subterranean parking structure on the west side of the warehouse.

ADA parking will comply with the County Code and Title 24 requirements.

BICYCLE PARKING

The Project will provide bicycle parking spaces (lockers and racks) throughout the site that will meet County and Title 24 requirements.

PEDESTRIAN CIRCULATION

A pedestrian walkway for each portion of the Project will connect the buildings to Silva Valley Parkway.

LANDSCAPING

The Project will include a variety of drought-tolerant landscaping options. The North Site landscaping will provide screening along the boundary which will consist of evergreen trees and shrub rows. Shade trees with large canopy coverage will be planted in the North Site parking lot for shade. Planting at the North Site entries will be highlighted and defined by seasonal accented trees and shrubs with the use of colorful plant material. Shrubs will be low growing to maintain line-of-sight to the street. Along the streets, plantings will incorporate shade trees and mixed species and forms of shrubs to create interest, color, and buffering from the North Site shopping center.

The South Site landscape plan includes a mix of climate adapted shrubs and grasses, and a variety of shade trees. The South Site landscape design has incorporated a generous perimeter buffer which includes evergreen and deciduous trees and shrubs to enhance the streetscape. Landscape islands are typically provided at one island per five lineal parking spaces in the South Site parking field to provide shading of the parking lot with the parking lot trees and landscaping per County requirements. The South Site landscape plan has been designed to assist with the screening of the at-grade parking deck above the lower-level parking. The proposed trees and landscaping will meet El Dorado County requirements of 50% shading on the site within the majority of the provided parking area, with the grade-level deck above the subterranean parking meeting this requirement only where trees can be planted due to the constraints of the structure beneath.

The Project proposes to pay in-lieu fees as mitigation for the loss of the oak woodland.

LIGHTING

The North Site will provide various single, two- or four-light fixtures throughout the parking areas and driveways. The overall height of the lighting on the North Site, including the lighting fixtures and a 3-foot base, will be 33 feet in the parking lot, 25 feet along the perimeter and main drive aisles, and 16 feet around drive-through lanes. LED luminaires will be used for the parking lot lights.

The South Site parking lot will be illuminated with standard downward LED fixtures affixed to a 37-foot light pole. The lighting fixtures are of a "shoe-box" style. Parking lot light standards are designed to provide even light distribution for vehicle and pedestrian safety. The parking lot lights will be timer controlled to limit lighting after the warehouse has closed and most employees are gone from the warehouse. Parking lot lighting will only remain on to provide security and emergency lighting only along the main driveways. Lighting fixtures will also be located on the building approximately every 40 feet around the exterior of the building to provide safety and security. Parking and site lighting will incorporate the use of cutoff lenses to keep light from overflowing beyond the South Site boundaries.

GRADING

A preliminary grading plan has been prepared for review as part of the application submittals. Each site is designed to balance independently, and it is the intent of this application to allow for mass grading of both sites individually.

ON-SITE IMPROVEMENTS

The Project is designed to allow either the North Site or the South Site to develop independent from the other. Mass grading of each site to accommodate future development will occur in the first phase of development, including filling of the permitted wetlands and permitted tree removal. In the event the South Site develops first, utility crossings under Silva Valley Parkway will be constructed as part of the South Site infrastructure work to serve the North Site. In the event the North Site develops first, interim facilities will be constructed on the North Site.

The second phase for each site will include construction of the parking, landscaping, lighting, utility infrastructure, and driveways designed to support the buildings. Site improvements will be constructed in various phases depending on the extent of development occurring at any given time. Buildings can be started once site improvements are sufficiently completed to allow construction and emergency fire access.

OFF-SITE IMPROVEMENTS

A proposed traffic signal and appurtenant facilities will be located on Silva Valley Parkway at the main driveway of the Project to provide a connection to both the South Site and the North Site. An additional traffic signal is proposed at the intersection of Clarksville Crossing and Silva Valley Parkway.

A portion of Country Club Drive extension will be constructed up to the secondary access point to the North Site.

UTILITY INFRASTRUCTURE

The property will need to annex into El Dorado Irrigation District (EID) in order to acquire sanitary sewer and water service. EID stated in its December 6, 2018 Facilities Improvement Letter that there should be adequate water supply and sewer capacity available to serve a similar type of project. The Project will tie into the existing 18-inch potable water main and

the 21-inch gravity sewer line in Clarksville Crossing. An updated Facilities Improvement Letter will be requested through EID at the appropriate time.

The property will also annex into the El Dorado Hills County Water District (Fire Protection) prior to building permit issuance.

Sanitary service and potable water for the North Site will be provided by public (EID) sanitary sewer and water lines that cross the South Site. Reclaimed water is available for non-potable irrigation use and will be provided by extending an existing reclaimed line in Silva Valley Parkway north of the Project site.

Dry utilities (electric, gas, telephone, and cable TV) will be provided from existing infrastructure located to the north of the Project site in Silva Valley Parkway. Dry utilities will need to be extended along the frontage of both the North Site and the South Site.

STORM DRAINAGE DESCRIPTION

The on-site drainage system will connect to El Dorado County's storm drain infrastructure in Clarksville Crossing. The Project has typical pollutant sources from parking lot runoff, loading/unloading areas, outdoor storage areas, and a trash compactor. This Project proposes bioretention areas and underground water quality vaults as the form of treatment for the site.

TRUCK CIRCULATION

Truck access will be allowed at all driveway locations depending on the size of the delivery truck and direction of travel.

OTHER GOVERNMENTAL AGENCY APPROVALS

Additional subsequent approvals and permits that may be required from local, regional, state, and federal agencies are identified below.

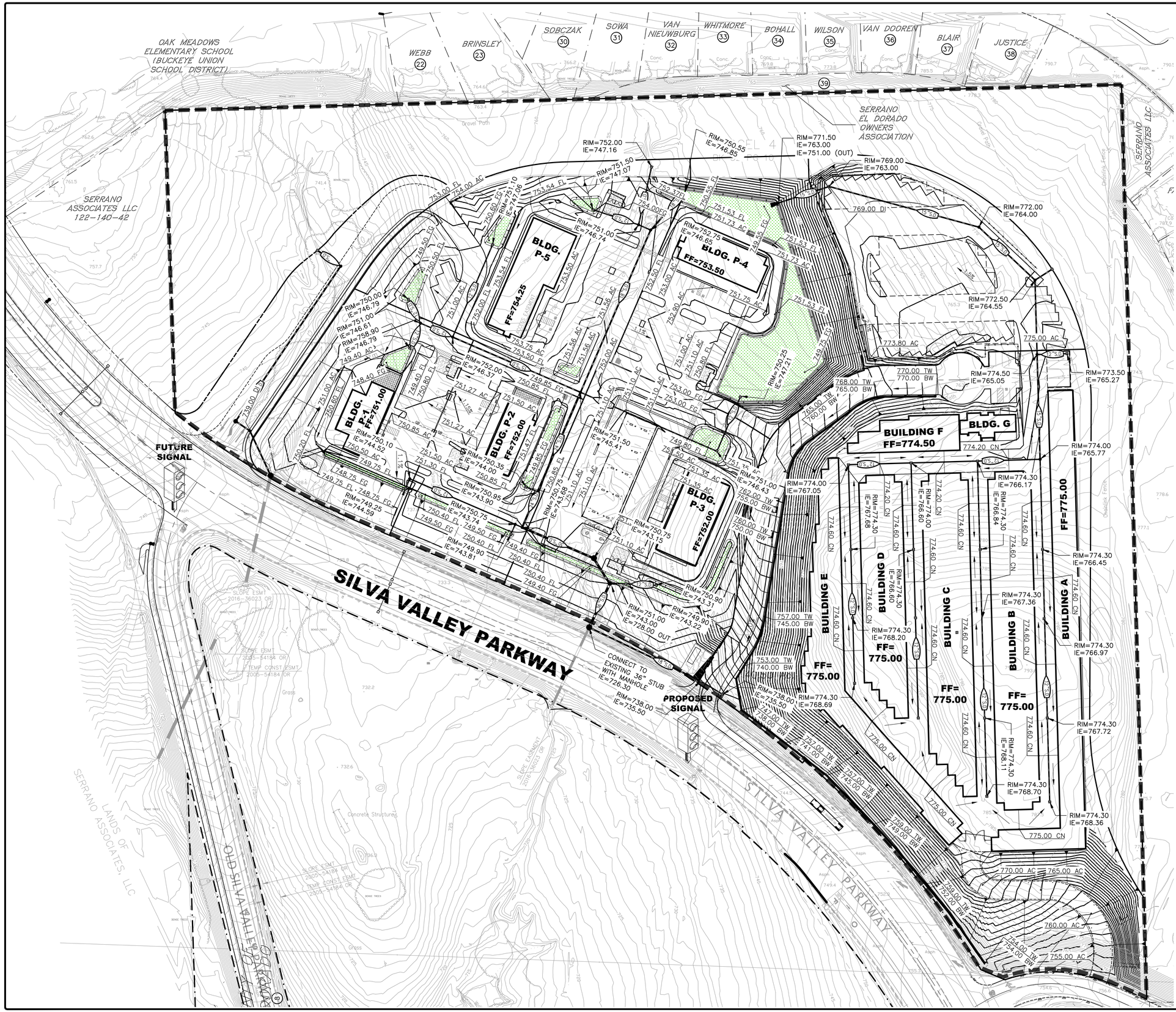
- El Dorado Irrigation District -Water and Sewer-Annexation and Utility Approval
- El Dorado County Resource Conservation District-Onsite Plan Approval
- El Dorado Hills County Water District (Fire Protection)-Annexation and Fire Approval
- El Dorado County Air Quality Management District-Air Quality Permit
- El Dorado County Department of Transportation -Encroachment Permit/Grading Permit/Onsite Plan Approval
- El Dorado County Building Services-Building Permit/Sign Permit

- Central Valley Regional Water Quality Control Board-NPDES General Permit for Stormwater Discharge

- California Department of Fish and Wildlife-Wetland Approval

- Army Corps-Wetland Permitting for each side

- LAFCO-Annexation approval for EID and El Dorado Fire Protection District along with the Bureau of Land Reclamation



OWNER:

EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

NO	DESCRIPTION	DWG INIT	BY	DATE
1	CITY APPROVED			

REGISTERED PROFESSIONAL ENGINEER
JATRAJ SINGH
No. 62091
Sept. 30, 2021
CIVIL
STATE OF CALIFORNIA

RSC ENGINEERING
1420 Rocky Ridge Drive, Suite 150
Roseville, CA 95661
Ph:916.788.2684 Fax:916.788.4408

PROJECT NO:	104-003A
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

PLANNED DEVELOPMENT APPLICATION FOR EDH 52

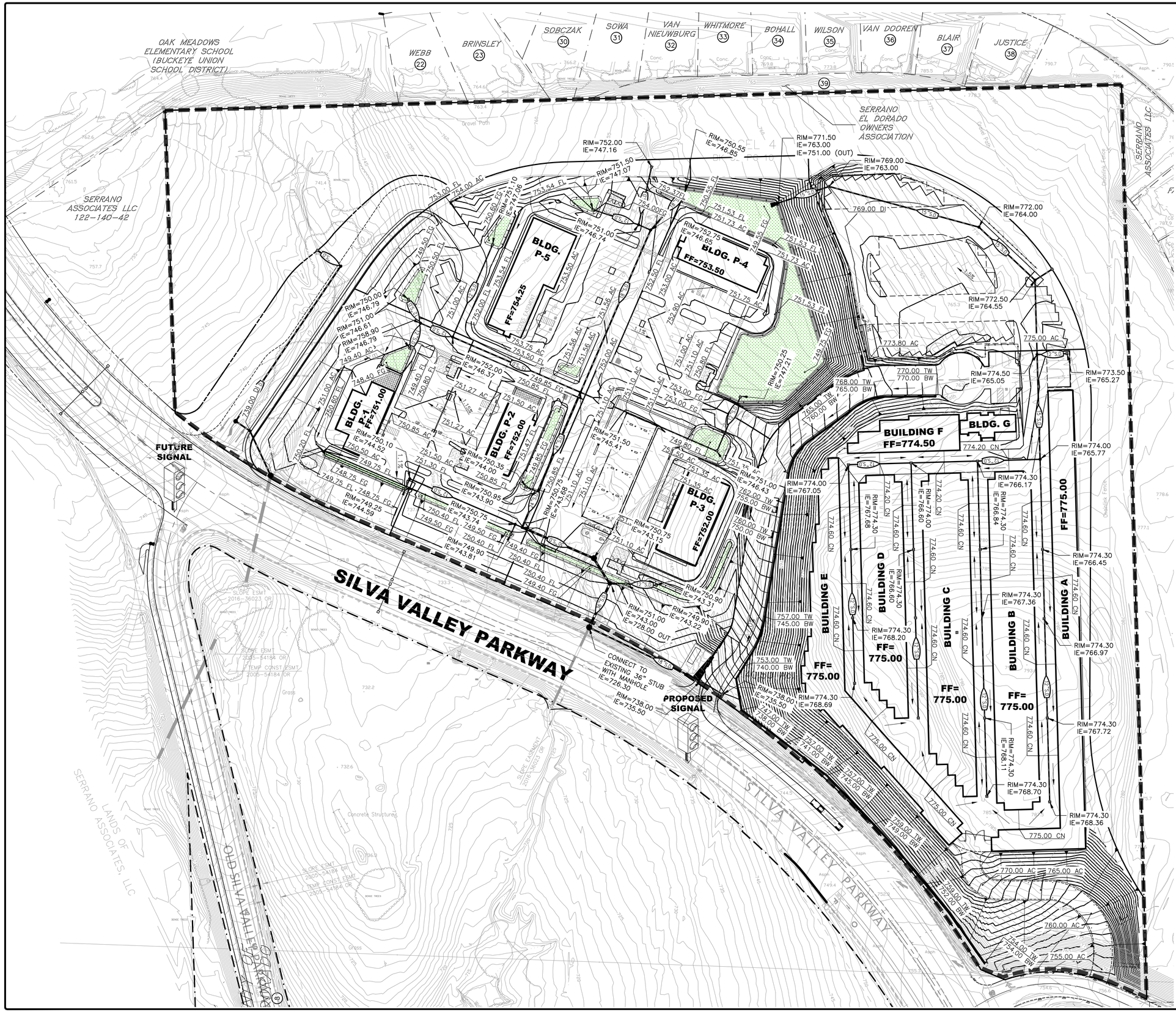
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

SHEET TITLE
PRELIMINARY GRADING PLAN

SHEET NO.
GR1
2 OF **12**

DATE: APRIL 23, 2021

XRefs: \\140003A_GREPDER.dwg
\\140003A_GRPLAN.dwg
\\140003A_SHPRO.dwg
\\140003A_SURFACE C222.dwg
P:\104-003A\Planning\Conceptual\140003A_XRGRAD_SHT2.dwg
\\140003A_GRPLAN.dwg
P:\104-003A\Planning\Conceptual\140003A_XRGRD_XTOP.dwg
\\140003A_GRPLAN.dwg
P:\104-003A\Survey\Costco\2020-10-29 SP and Utilities\2020-10-21-TS-A18855-SSNT.dwg
\\140003A_GRPLAN.dwg
P:\104-003A\Survey\Costco\2020-10-29 SP and Utilities\2020-10-21-TS-A18855-SSNT.dwg
DRAWING: P:\104-003A\Planning\Conceptual\140003A_GR_WITH-CONTOURS.dwg
LAST SAVED: Apr 23, 2021 - 4:53:57 PM
PLOT DATE: Apr 23, 2021 - 4:53:57 PM



OWNER:

EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

NO	DESCRIPTION	DWG INIT	BY	DATE
1	CITY APPROVED			

REGISTERED PROFESSIONAL ENGINEER
JATRAJ SINGH
No. 62091
Sept. 30, 2021
CIVIL
STATE OF CALIFORNIA

RSC ENGINEERING
1420 Rocky Ridge Drive, Suite 150
Roseville, CA 95661
Ph:916.788.2684 Fax:916.788.4408

PROJECT NO:	104-003A
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

PLANNED DEVELOPMENT APPLICATION FOR EDH 52

HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

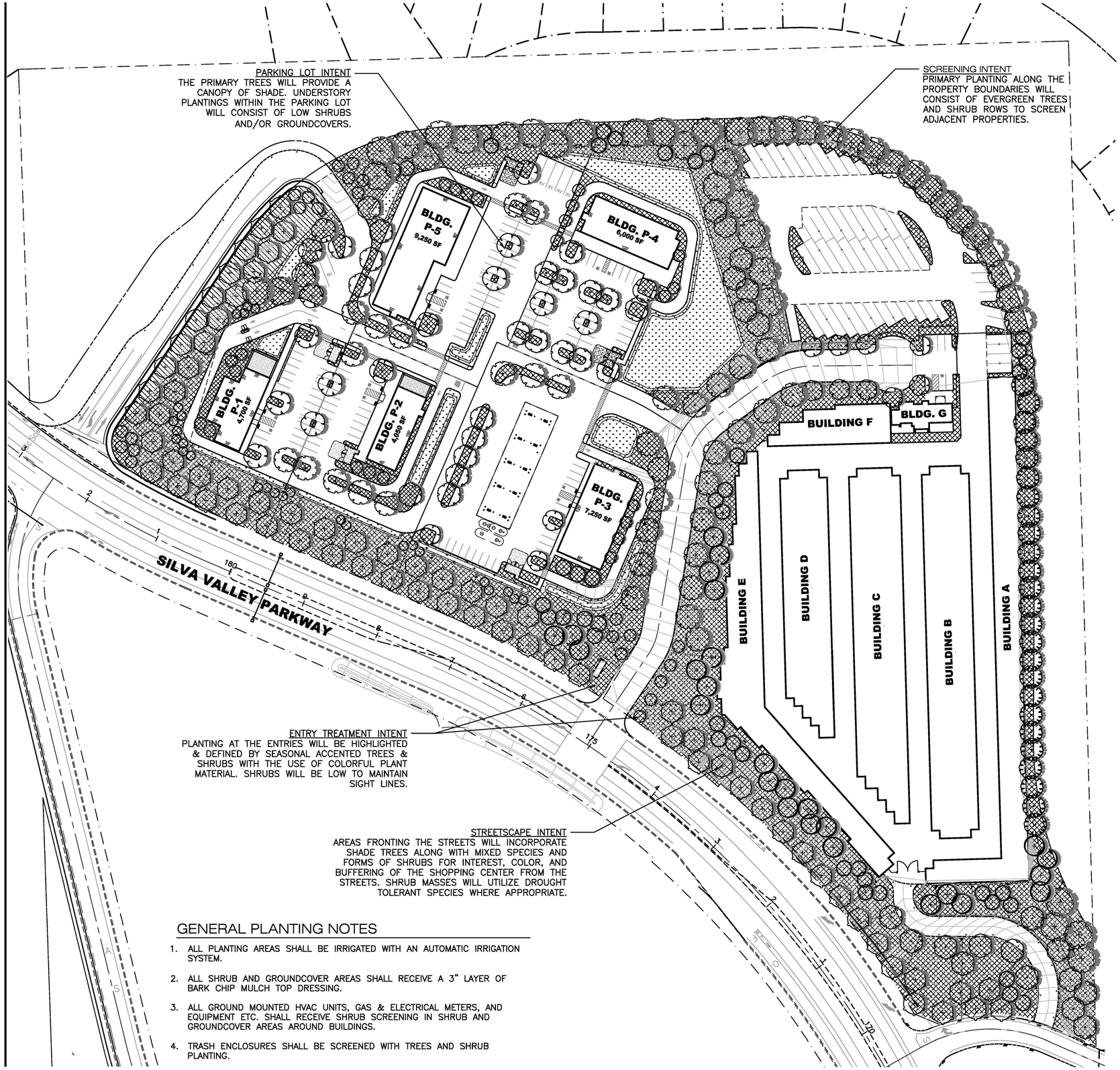
SHEET TITLE
PRELIMINARY GRADING PLAN

SHEET NO.
GR1
2 OF **12**

DATE: APRIL 23, 2021

XRefs: \\140003A_GREPDER.dwg \\140003A_GRPLAN.dwg \\140003A_GRPLAN_CO22.dwg P:\104-003A\Design\Concept\140003A_GRPLAN_SHT2.dwg \\140003A_GRPLAN_SHT3.dwg \\140003A_GRPLAN_SHT4.dwg P:\104-003A\Design\Costco\2020-10-29 SP and Utilities\2020-10-21-TS-A18855-SENT.dwg
DRAWING: P:\104-003A\Planning\Concept\140003A_GR_WITH-CONTOURS.dwg
LAST SAVED: Apr 23, 2021 - 4:53:57 PM
PLOT DATE: Apr 23, 2021 - 4:53:57 PM

FUHRMAN LEAMY LAND GROUP HEREBY EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS. THESE PLANS AND DRAWINGS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION OF FUHRMAN LEAMY LAND GROUP. NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING WRITTEN PERMISSION AND CONSENT.



GENERAL PLANTING NOTES

1. ALL PLANTING AREAS SHALL BE IRRIGATED WITH AN AUTOMATIC IRRIGATION SYSTEM.
2. ALL SHRUB AND GROUNDCOVER AREAS SHALL RECEIVE A 3" LAYER OF BARK CHIP MULCH TOP DRESSING.
3. ALL GROUND MOUNTED HVAC UNITS, GAS & ELECTRICAL METERS, AND EQUIPMENT ETC. SHALL RECEIVE SHRUB SCREENING IN SHRUB AND GROUNDCOVER AREAS AROUND BUILDINGS.
4. TRASH ENCLOSURES SHALL BE SCREENED WITH TREES AND SHRUB PLANTING.

PLANT SCHEDULE

TREES	BOTANICAL / COMMON NAME	SIZE	WATER USE	QTY
	ACER RUBRUM `ARMSTRONG` ARMSTRONG RED MAPLE	15 GAL.	M	46
	ARBUTUS X `MARINA` MARINA STRAWBERRY TREE MULTI-TRUNK	15 GAL.	L	12
	CARPINUS BETULUS `FASTIGIATA` PYRAMIDAL EUROPEAN HORNBEAN	15 GAL.	M	12
	CERCIS OCCIDENTALIS WESTERN REDBUD MULTI-TRUNK	15 GAL.	L	27
	ELAEOCARPUS DECIPIENS JAPANESE BLUEBERRY TREE	15 GAL.	M	25
	LAURUS X `SARATOGA` SARATOGA HYBRID LAUREL	15 GAL.	L	26
	LIRIODENDRON TULIPIFERA TULIP POPLAR	15 GAL.	M	41
	PINUS ELDARICA AFGHAN PINE	15 GAL.	L	31
	PISTACIA CHINENSIS `KEITH DAVEY` KEITH DAVEY CHINESE PISTACHE	15 GAL.	L	18
	QUERCUS WISLIZENII INTERIOR LIVE OAK	15 GAL.	L	43
	TILIA TOMENTOSA `STERLING` STERLING SILVER LINDEN	15 GAL.	L	70
	ULMUS PARVIFOLIA `ALLEE` ALLEE LACEBARK ELM	15 GAL.	M	35

SHRUBS, GROUNDCOVER & VINES

SYMBOL	BOTANICAL NAME COMMON NAME	SIZE	WATER USE	REMARKS
	BACKGROUND / SCREEN SHRUBS – EVERGREEN, LARGE SHRUBS TO 6'–0" USED FOR REDUCING BUILDING MASS OR SCREENING UNDESIRABLE VIEWS.			
	ABELIA X 'ED GOUCHER' GLOSSY ABELIA	5 G	MED	---
	ARBUTUS UNEDO STRAWBERRY TREE	15 G	LOW	---
	LOROPETULUM CHINENSIS 'RAZZLEBERRI' CHINESE FRINGE FLOWER	5 G	MED	---
	PHOTINIA FRASERI PHOTINIA	5 G	MED	---
	PODOCARPUS MACROPHYLLUS 'MAKI' SHRUBBY YEW PINE	5 G	MED	---
	RHAPHIOLEPIS INDICA 'JACK EVANS' INDIA HAWTHORN	5 G	LOW	---
	FACER/FILLER SHRUBS EVERGREEN OR DECIDUOUS SHRUBS TO 4'–0". USED FOR "TERRACING" OF PLANT MATERIAL. SEASONAL COLOR AND SOFTENING OF BUILDING EDGES AND FOUNDATION SHRUBS.			
	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER' FEATHER REED GRASS	5 G	MED	---
	CISTUS HYBRIDUS WHITE ROCKROSE	5 G	LOW	---
	DIANELLA CAERULEA BLUE FLAX LILY	5 G	LOW	---
	GARDENIA JASMINOIDES 'GROWN JEWEL' CROWN JEWEL GARDENIA	5 G	MED	---
	HELICTOTRICHON SEMPERVIRENS BLUE OAT GRASS	5 G	LOW	---
	MUHLENBERGIA RIGENS DEER GRASS	5 G	LOW	---
	NANDINA DOMESTICA 'COMPACTA' HEAVENLY BAMBOO	5 G	LOW	---
	RHAPHIOLEPIS INDICA 'SPP. INDIA HAWTHORN	5 G	LOW	---
	VIBURNUM DAVIDII DAVID'S VIBURNUM	5 G	MED	---
	GROUND COVER MATERIAL – SMALL SCALE DUE TO PROJECT TYPE, EVERGREEN OR PERENNIAL SHRUBS TO 24" HIGH. USED AS A FILLER BETWEEN SITE WORK EDGES AND FACER SHRUBS.			
	ARCTOSTAPHYLOS U. URSI MANZANITA	1 G	LOW	36" O.C.
	BERGENIA CRASSIFOLIA WINTER BLOOMING BERGENIA	1 G	MED	36" O.C.
	FESTUCA GLAUCA BLUE FESCUE	1 G	MED	24" O.C.
	HOSTA 'LIBERTY' VARIEGATED HOSTA	1 G	MED	24" O.C.
	ROSA FLOWER CARPET (WHITE AND RED) FLOWER CARPET ROSE	1 G	MED	36" O.C.
	SOLLYA HETEROPHYLLA AUSTRALIAN BLUEBELL CREEPER	1 G	MED	18" O.C.
	"NO MOW" OR "MOW FREE" FESCUE NATIVE FESCUE BLEND	SOD	MED	---
	WATER QUALITY BASIN – PLANTS ACCEPTABLE TO WET CONDITIONS			
	JUNCUS PATENS GREY RUSH	---	HIGH	---
	JUNCUS EFFUSES SOFT RUSH	---	HIGH	---
	NASSELLA PULCHRA PURPLE NEEDLE GRASS	---	HIGH	---
	BIOFILTRATION SOD	SOD	MED	---

0 60' 120'
Scale: 1" = 60'-0"

UNDERGROUND SERVICE ALERT
CALL TOLL FREE
1–800–227–2600
TWO WORKING DAYS BEFORE YOU DIG

FUHRMAN LEAMY
LAND GROUP
DESIGN • SERVICE • SOLUTIONS
2140 PROFESSIONAL DRIVE, SUITE 115
ROSEVILLE, CALIFORNIA 95661
916.783.5263 • FLLANDGROUP.COM

JOB NO. : RSC20054

CONSULTANT

PROJECT:

EDH 52

HWY 50 & SILVA VALLEY PKWY
EL DORADO HILLS, CA

CLIENT:

REVISIONS	DATE
1	
2	
3	
4	

ISSUE		DATE
1	1st SUBMITTAL	11.02.2020
2	2nd SUBMITTAL	04.23.2021
3		
4		
5		

REGISTERED LANDSCAPE ARCHITECT
KEVIN C. [illegible]
No. [illegible]
PRELIMINARY NOT FOR CONSTRUCTION
6/31/22 Renewal Date
XX/XX/XX Date
STATE OF CALIFORNIA

DRAWN : KCL
CHECKED : KCL
SCALE: : 1" = 60'-0"

SHEET TITLE:

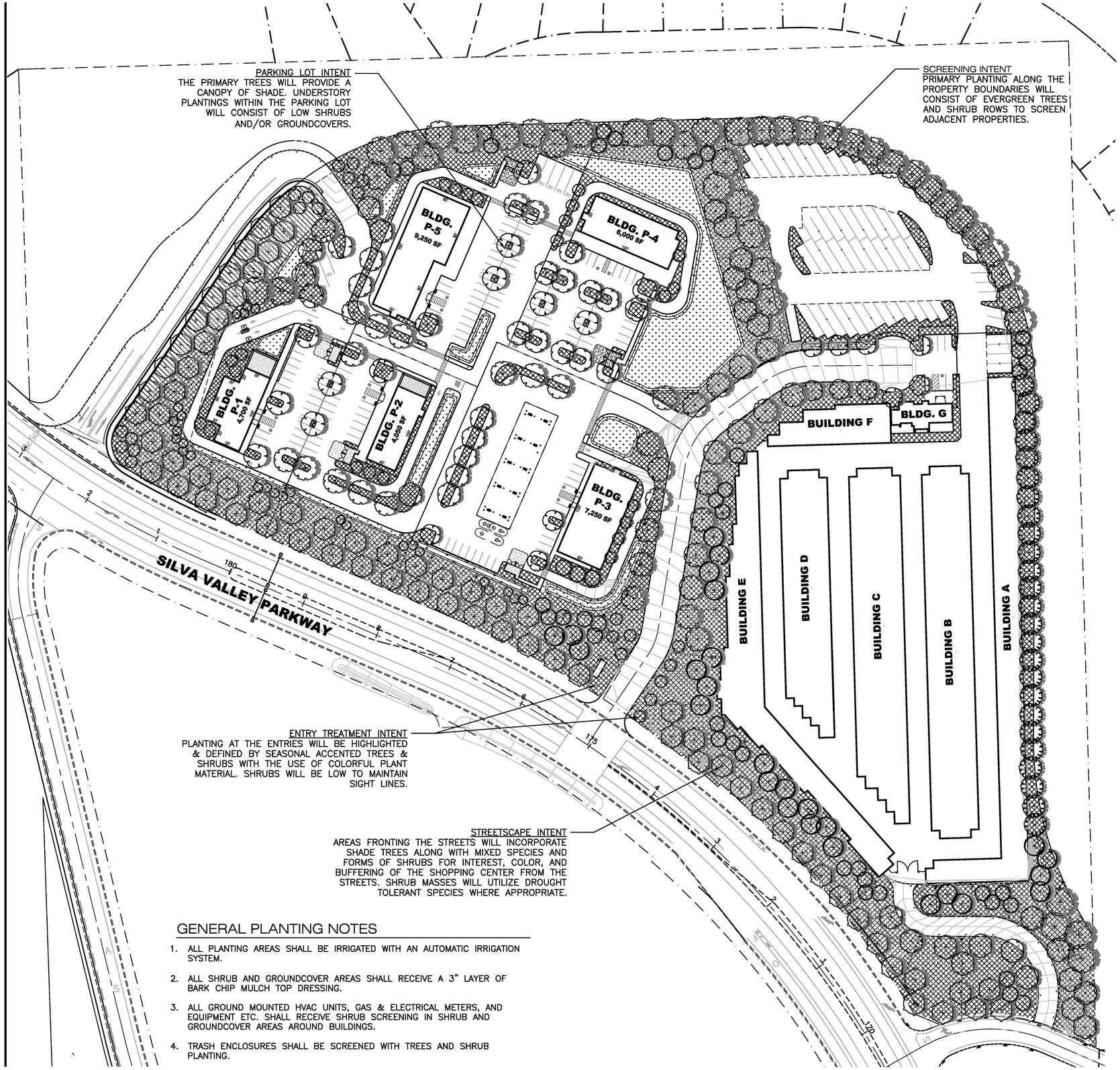
PRELIMINARY LANDSCAPE PLAN

SHEET

PL-1

1 OF 1 SHEETS

FUHRMAN LEAMY LAND GROUP HEREBY EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS. THESE PLANS AND DRAWINGS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION OF FUHRMAN LEAMY LAND GROUP. NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING WRITTEN PERMISSION AND CONSENT.



GENERAL PLANTING NOTES

1. ALL PLANTING AREAS SHALL BE IRRIGATED WITH AN AUTOMATIC IRRIGATION SYSTEM.
2. ALL SHRUB AND GROUNDCOVER AREAS SHALL RECEIVE A 3" LAYER OF BARK CHIP MULCH TOP DRESSING.
3. ALL GROUND MOUNTED HVAC UNITS, GAS & ELECTRICAL METERS, AND EQUIPMENT ETC. SHALL RECEIVE SHRUB SCREENING IN SHRUB AND GROUNDCOVER AREAS AROUND BUILDINGS.
4. TRASH ENCLOSURES SHALL BE SCREENED WITH TREES AND SHRUB PLANTING.

PLANT SCHEDULE

TREES	BOTANICAL / COMMON NAME	SIZE	WATER USE	QTY
	ACER RUBRUM `ARMSTRONG` ARMSTRONG RED MAPLE	15 GAL.	M	46
	ARBUTUS X `MARINA` MARINA STRAWBERRY TREE MULTI-TRUNK	15 GAL.	L	12
	CARPINUS BETULUS `FASTIGIATA` PYRAMIDAL EUROPEAN HORNBEAN	15 GAL.	M	12
	CERCIS OCCIDENTALIS WESTERN REDBUD MULTI-TRUNK	15 GAL.	L	27
	ELAEOCARPUS DECIPIENS JAPANESE BLUEBERRY TREE	15 GAL.	M	25
	LAURUS X `SARATOGA` SARATOGA HYBRID LAUREL	15 GAL.	L	26
	LIRIODENDRON TULIPIFERA TULIP POPLAR	15 GAL.	M	41
	PINUS ELDARICA AFGHAN PINE	15 GAL.	L	31
	PISTACIA CHINENSIS `KEITH DAVEY` KEITH DAVEY CHINESE PISTACHE	15 GAL.	L	18
	QUERCUS WISLIZENII INTERIOR LIVE OAK	15 GAL.	L	43
	TILIA TOMENTOSA `STERLING` STERLING SILVER LINDEN	15 GAL.	L	70
	ULMUS PARVIFOLIA `ALLEE` ALLEE LACEBARK ELM	15 GAL.	M	35

SHRUBS, GROUNDCOVER & VINES

SYMBOL	BOTANICAL NAME COMMON NAME	SIZE	WATER USE	REMARKS
	BACKGROUND / SCREEN SHRUBS – EVERGREEN, LARGE SHRUBS TO 6'–0" USED FOR REDUCING BUILDING MASS OR SCREENING UNDESIRABLE VIEWS.			
	ABELIA X 'ED GOUCHER' GLOSSY ABELIA	5 G	MED	---
	ARBUTUS UNEDO STRAWBERRY TREE	15 G	LOW	---
	LOROPETULUM CHINENSIS 'RAZZLEBERRI' CHINESE FRINGE FLOWER	5 G	MED	---
	PHOTINIA FRASERI PHOTINIA	5 G	MED	---
	PODOCARPUS MACROPHYLLUS 'MAKI' SHRUBBY YEW PINE	5 G	MED	---
	RHAPHIOLEPIS INDICA 'JACK EVANS' INDIA HAWTHORN	5 G	LOW	---
	FACER/FILLER SHRUBS EVERGREEN OR DECIDUOUS SHRUBS TO 4'–0". USED FOR "TERRACING" OF PLANT MATERIAL. SEASONAL COLOR AND SOFTENING OF BUILDING EDGES AND FOUNDATION SHRUBS.			
	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER' FEATHER REED GRASS	5 G	MED	---
	CISTUS HYBRIDUS WHITE ROCKROSE	5 G	LOW	---
	DIANELLA CAERULEA BLUE FLAX LILY	5 G	LOW	---
	GARDENIA JASMINOIDES 'GROWN JEWEL' CROWN JEWEL GARDENIA	5 G	MED	---
	HELICTOTRICHON SEMPERVIRENS BLUE OAT GRASS	5 G	LOW	---
	MUHLENBERGIA RIGENS DEER GRASS	5 G	LOW	---
	NANDINA DOMESTICA 'COMPACTA' HEAVENLY BAMBOO	5 G	LOW	---
	RHAPHIOLEPIS INDICA 'SPP. INDIA HAWTHORN	5 G	LOW	---
	VIBURNUM DAVIDII DAVID'S VIBURNUM	5 G	MED	---
	GROUND COVER MATERIAL – SMALL SCALE DUE TO PROJECT TYPE, EVERGREEN OR PERENNIAL SHRUBS TO 24" HIGH. USED AS A FILLER BETWEEN SITE WORK EDGES AND FACER SHRUBS.			
	ARCTOSTAPHYLOS U. URSI MANZANITA	1 G	LOW	36" O.C.
	BERGENIA CRASSIFOLIA WINTER BLOOMING BERGENIA	1 G	MED	36" O.C.
	FESTUCA GLAUCA BLUE FESCUE	1 G	MED	24" O.C.
	HOSTA 'LIBERTY' VARIEGATED HOSTA	1 G	MED	24" O.C.
	ROSA FLOWER CARPET (WHITE AND RED) FLOWER CARPET ROSE	1 G	MED	36" O.C.
	SOLLYA HETEROPHYLLA AUSTRALIAN BLUEBELL CREEPER	1 G	MED	18" O.C.
	"NO MOW" OR "MOW FREE" FESCUE NATIVE FESCUE BLEND	SOD	MED	---
	WATER QUALITY BASIN – PLANTS ACCEPTABLE TO WET CONDITIONS			
	JUNCUS PATENS GREY RUSH	---	HIGH	---
	JUNCUS EFFUSES SOFT RUSH	---	HIGH	---
	NASSELLA PULCHRA PURPLE NEEDLE GRASS	---	HIGH	---
	BIOFILTRATION SOD	SOD	MED	---

0 60' 120'
Scale: 1" = 60'-0"

UNDERGROUND SERVICE ALERT
CALL TOLL FREE
1–800–227–2600
TWO WORKING DAYS BEFORE YOU DIG

FUHRMAN LEAMY
LAND GROUP
DESIGN • SERVICE • SOLUTIONS
2140 PROFESSIONAL DRIVE, SUITE 115
ROSEVILLE, CALIFORNIA 95661
916.783.5263 • FLLANDGROUP.COM

JOB NO. : RSC20054

CONSULTANT

PROJECT:

EDH 52

HWY 50 & SILVA VALLEY PKWY
EL DORADO HILLS, CA

CLIENT:

REVISIONS	DATE
1	
2	
3	
4	

ISSUE		DATE
1	1st SUBMITTAL	11.02.2020
2	2nd SUBMITTAL	04.23.2021
3		
4		
5		

REGISTERED LANDSCAPE ARCHITECT
KEVIN C. [illegible]
No. [illegible]
PRELIMINARY NOT FOR CONSTRUCTION
6/31/22 Renewal Date
XX/XX/XX Date
STATE OF CALIFORNIA

DRAWN : KCL
CHECKED : KCL
SCALE: : 1" = 60'-0"

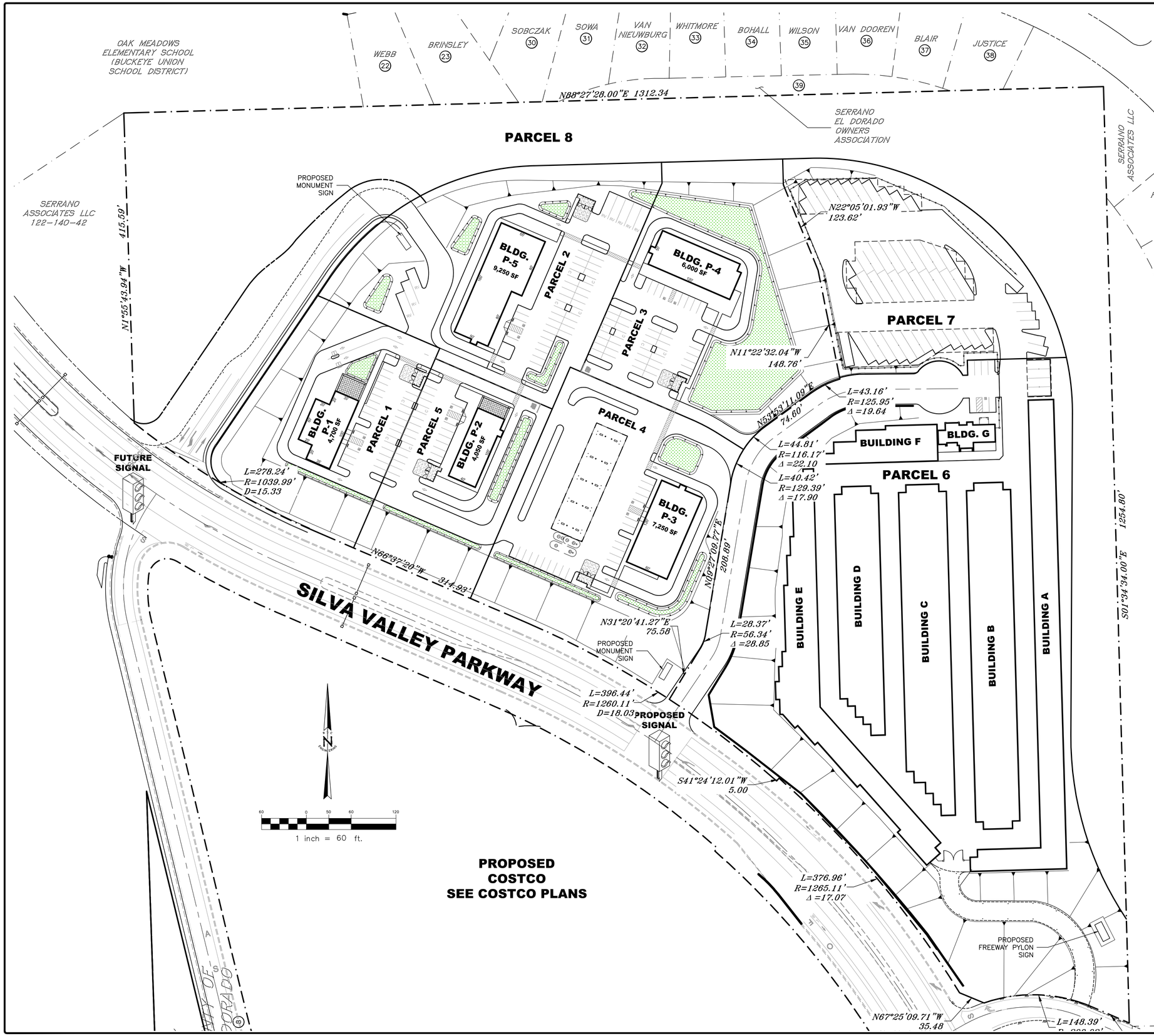
SHEET TITLE:

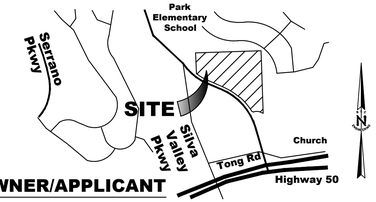
PRELIMINARY LANDSCAPE PLAN

SHEET

PL-1

1 OF 1 SHEETS





OWNER/APPLICANT

EDH 52 G.P.
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

ENGINEER

RSC ENGINEERING, INC.
1420 ROCKY RIDGE DRIVE, SUITE 150
ROSEVILLE, CA 95661
PHONE: (916) 788-2884

SITE DATA

NORTH AREA	
PARCELS 1-7	18.26± ACRES (795,584± SF)
PARCEL 8	6.57± ACRES (286,088± SF)
OVERALL NORTH AREA	24.83± ACRES (1,081,672± SF)
TOTAL BUILDING AREA: (PARCELS 1-7)	161,608± S.F
LOT COVERAGE:	20.3%
LAND USE CLASSIFICATION:	COMMERCIAL
PROPOSED ZONING CLASSIFICATION:	COMMUNITY COMMERCIAL PLANNED DEVELOPMENT
APN: 122-720-15-100	

UTILITY PROVIDERS

WATER	EL DORADO IRRIGATION DISTRICT
SANITARY SEWER	EL DORADO IRRIGATION DISTRICT
STORM DRAIN	EL DORADO COUNTY
FIRE	EL DORADO FIRE PROTECTION DISTRICT
ELECTRIC	PG&E
GAS	PG&E
TELEPHONE	AT&T
CABLE	AT&T

NOTES

1. PARKING SHOWN CONTAINS 90° PARKING SPACES.
2. TYPICAL PARKING STALL DIMENSIONS:
   STANDARD STALLS WIDTH: 9' DEPTH: 18' MIN.
   COMPACT STALLS WIDTH: 9' DEPTH: 15.0'
   TWO WAY AISLES: 24' MIN.
3. TREES AND WETLANDS NOT SHOWN ON SITE PLAN ARE PROPOSED TO BE REMOVED AND FILLED PER COUNTY MITIGATION AND ARMY CORP PERMIT.
4. EXISTING EASEMENT WIDTHS VARY. PROPOSED EASEMENTS ARE UNKNOWN AT THIS TIME.

SITE ANALYSIS - RETAIL

BUILDINGS:	
BUILDING P-1:	4,700 SF
BUILDING P-2:	9,250 SF
BUILDING P-3:	6,000 SF
BUILDING P-4:	7,250 SF
BUILDING P-5:	4,050 SF
TOTAL:	31,250 SF
PARKING STALLS:	
STANDARD PARKING:	136 SPACES
COMPACT PARKING:	12 SPACES
ACCESSIBLE PARKING:	10 SPACES
RV PARKING:	8 SPACES
TOTAL:	166 SPACES

SITE ANALYSIS - STORAGE

STORAGE FACILITY:	
BUILDING "A"	24,800 SF
BUILDING "B"	27,500 SF
BUILDING "C"	27,000 SF
BUILDING "D"	18,600 SF
BUILDING "E"	22,300 SF
BUILDING "F"	6,425 SF
BUILDING "G"	3,733 SF
TOTAL	130,358 SF
STANDARD PARKING:	6 SPACES
ACCESSIBLE PARKING:	1 SPACES
TOTAL:	7 SPACES

OWNER:
EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

NO	DESCRIPTION	DWG INIT	BY	DATE
				CITY APPROVED

RSC ENGINEERING
1420 Rocky Ridge Drive, Suite 150
Roseville, CA 95661
Ph: 916.788.2884 Fax: 916.788.4408

PROJECT NO: 104-003A
DRAWN BY: RSC Eng
CHECKED BY: RSC Eng
DESIGNED BY: RSC Eng

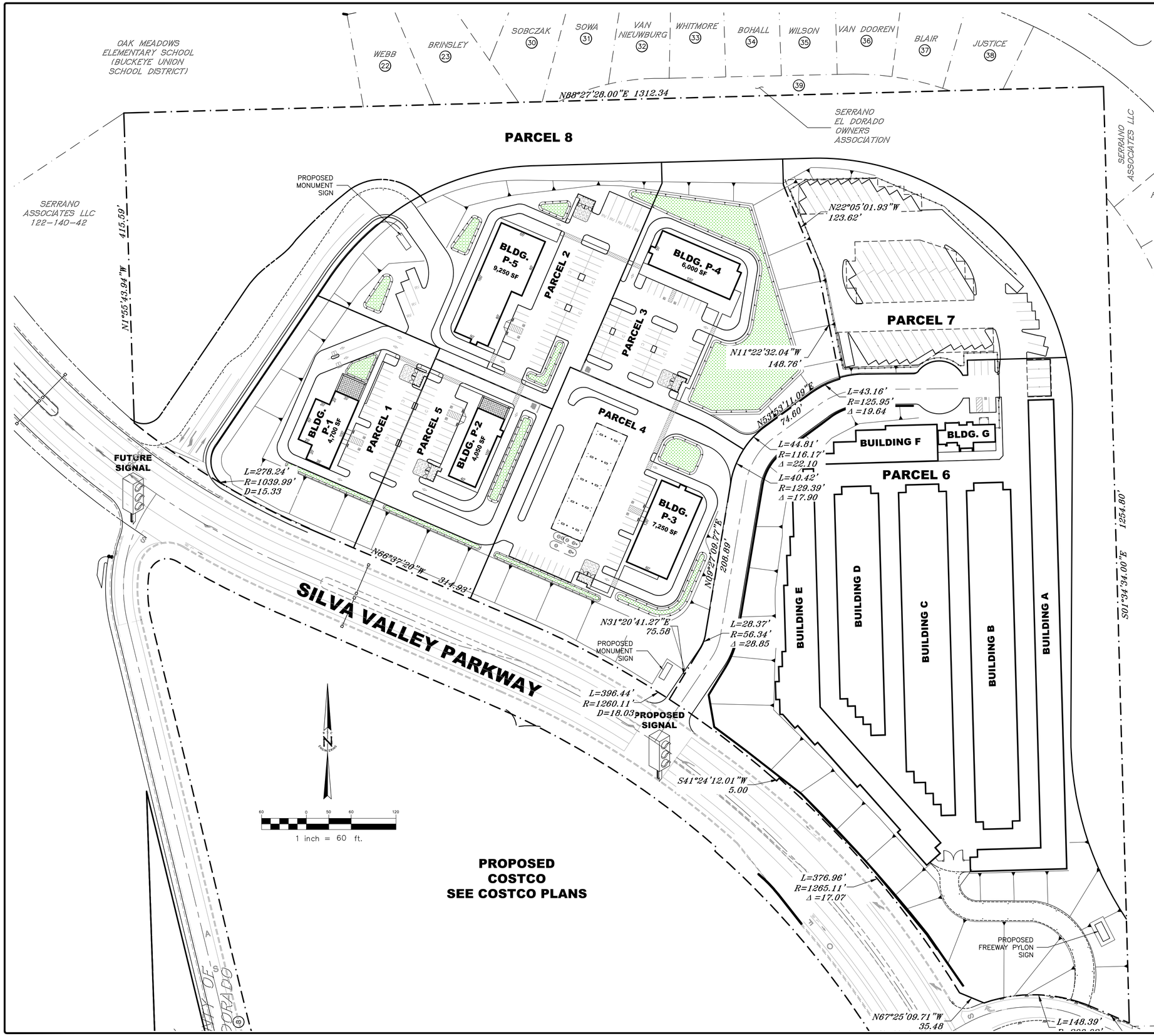
PLANNED DEVELOPMENT APPLICATION FOR EDH 52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

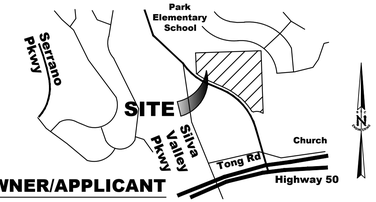
SHEET TITLE
PRELIMINARY OVERALL SITE PLAN

SHEET NO.
SP1
1 OF 12

DATE: APRIL 23, 2021

XREFs: \\104003A_SBP#2R.dwg
\\104003A_SBP#3.dwg
\\104003A_SBP#4.dwg
\\104003A_FUTURE COSD.dwg
\\104003A_Planning\Concepts\104003A_PRIMA_SHP2.dwg
\\104003A_SBP#1.dwg
\\104003A_Planning\Concepts\104003A_STOP2.dwg
\\104003A_SBP#5.dwg
DRAWING: R:\104-003A\Planning\Concepts\104003A_SP.dwg
LAST MODIFIED: Apr 23, 2021 - 4:34:28 PM
PLOT DATE: Apr 23, 2021 - 4:34:28 PM





OWNER/APPLICANT

EDH 52 G.P.
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

ENGINEER

RSC ENGINEERING, INC.
1420 ROCKY RIDGE DRIVE, SUITE 150
ROSEVILLE, CA 95661
PHONE: (916) 788-2884

SITE DATA

NORTH AREA	
PARCELS 1-7	18.26± ACRES (795,584± SF)
PARCEL 8	6.57± ACRES (286,088± SF)
OVERALL NORTH AREA	24.83± ACRES (1,081,672± SF)
TOTAL BUILDING AREA: (PARCELS 1-7)	161,608± S.F
LOT COVERAGE:	20.3%
LAND USE CLASSIFICATION:	COMMERCIAL
PROPOSED ZONING CLASSIFICATION:	COMMUNITY COMMERCIAL PLANNED DEVELOPMENT
APN: 122-720-15-100	

UTILITY PROVIDERS

WATER	EL DORADO IRRIGATION DISTRICT
SANITARY SEWER	EL DORADO IRRIGATION DISTRICT
STORM DRAIN	EL DORADO COUNTY
FIRE	EL DORADO FIRE PROTECTION DISTRICT
ELECTRIC	PG&E
GAS	PG&E
TELEPHONE	AT&T
CABLE	AT&T

NOTES

1. PARKING SHOWN CONTAINS 90° PARKING SPACES.
2. TYPICAL PARKING STALL DIMENSIONS:
   STANDARD STALLS WIDTH: 9' DEPTH: 18' MIN.
   COMPACT STALLS WIDTH: 9' DEPTH: 15.0'
   TWO WAY AISLES: 24' MIN.
3. TREES AND WETLANDS NOT SHOWN ON SITE PLAN ARE PROPOSED TO BE REMOVED AND FILLED PER COUNTY MITIGATION AND ARMY CORP PERMIT.
4. EXISTING EASEMENT WIDTHS VARY. PROPOSED EASEMENTS ARE UNKNOWN AT THIS TIME.

SITE ANALYSIS - RETAIL

BUILDINGS:	
BUILDING P-1:	4,700 SF
BUILDING P-2:	9,250 SF
BUILDING P-3:	6,000 SF
BUILDING P-4:	7,250 SF
BUILDING P-5:	4,050 SF
TOTAL:	31,250 SF
PARKING STALLS:	
STANDARD PARKING:	136 SPACES
COMPACT PARKING:	12 SPACES
ACCESSIBLE PARKING:	10 SPACES
RV PARKING:	8 SPACES
TOTAL:	166 SPACES

SITE ANALYSIS - STORAGE

STORAGE FACILITY:	
BUILDING "A"	24,800 SF
BUILDING "B"	27,500 SF
BUILDING "C"	27,000 SF
BUILDING "D"	18,600 SF
BUILDING "E"	22,300 SF
BUILDING "F"	6,425 SF
BUILDING "G"	3,733 SF
TOTAL	130,358 SF
STANDARD PARKING:	6 SPACES
ACCESSIBLE PARKING:	1 SPACES
TOTAL:	7 SPACES

OWNER:
EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

NO	DESCRIPTION	DWG INIT	BY	DATE
				CITY APPROVED

RSC ENGINEERING
1420 Rocky Ridge Drive, Suite 150
Roseville, CA 95661
Ph: 916.788.2884 Fax: 916.788.4408

PROJECT NO: 104-003A
DRAWN BY: RSC Eng
CHECKED BY: RSC Eng
DESIGNED BY: RSC Eng

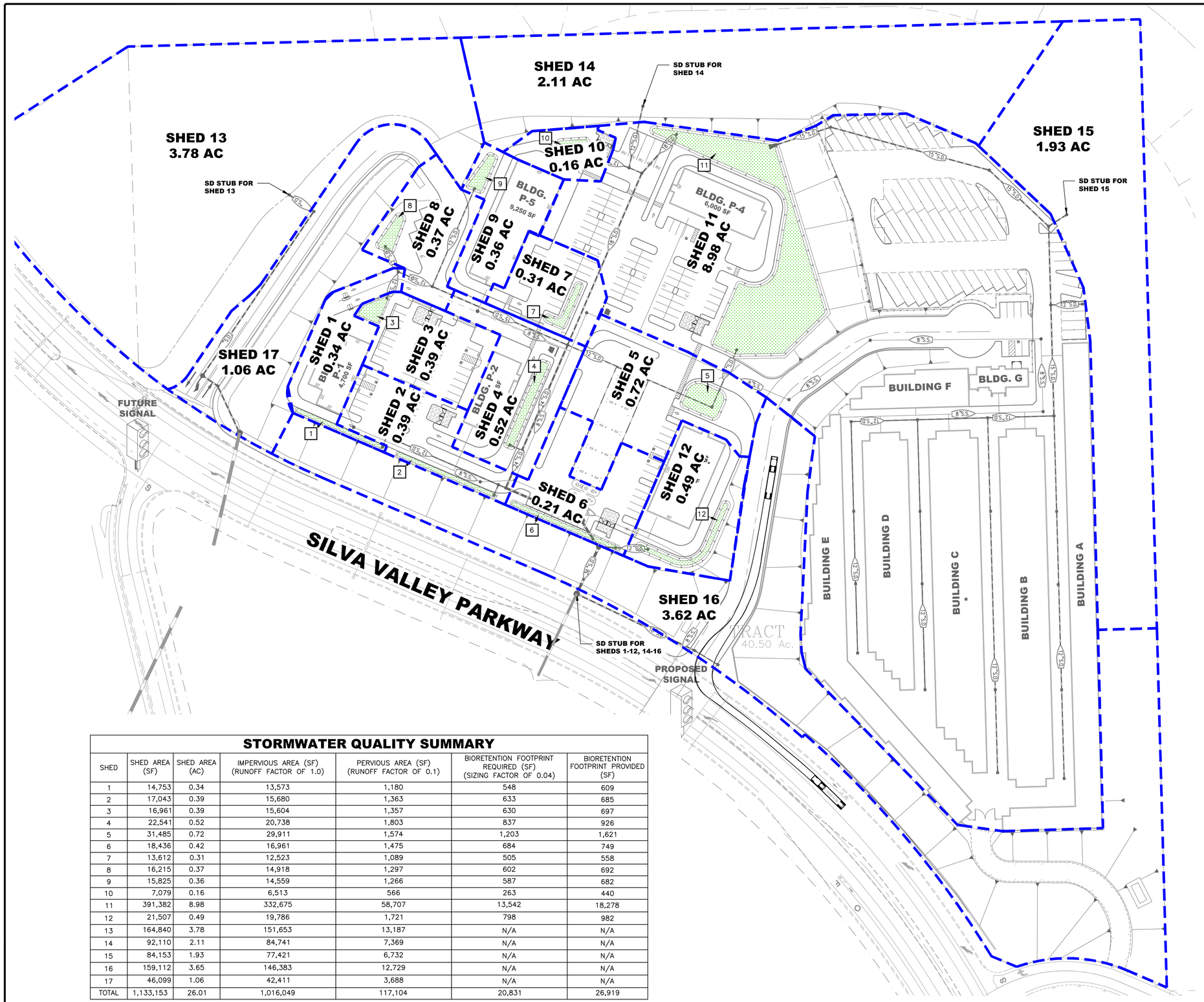
PLANNED DEVELOPMENT APPLICATION FOR EDH 52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

SHEET TITLE
PRELIMINARY OVERALL SITE PLAN

SHEET NO.
SP1
1 OF 12

DATE: APRIL 23, 2021

XREFs: \\104003A_SBP#2R.dwg
\\104003A_SBP#3.dwg
\\104003A_SBP#4.dwg
\\104003A_FUTURE COSD.dwg
\\104003A_Planning\Concepts\104003A_PRIMA_SHP2.dwg
\\104003A_SBP#1.dwg
\\104003A_Planning\Concepts\104003A_STOP2.dwg
\\104003A_SBP#5.dwg
DRAWING: R:\104-003A\Planning\Concepts\104003A_SP.dwg
LAST MODIFIED: Apr 23, 2021 - 4:34:28 PM
PLOT DATE: Apr 23, 2021 - 4:34:28 PM



STORMWATER QUALITY SUMMARY

SHED	SHED AREA (SF)	SHED AREA (AC)	IMPERVIOUS AREA (SF) (RUNOFF FACTOR OF 1.0)	PERVIOUS AREA (SF) (RUNOFF FACTOR OF 0.1)	BIORETENTION FOOTPRINT REQUIRED (SF) (SIZING FACTOR OF 0.04)	BIORETENTION FOOTPRINT PROVIDED (SF)
1	14,753	0.34	13,573	1,180	548	609
2	17,043	0.39	15,680	1,363	633	685
3	16,961	0.39	15,604	1,357	630	697
4	22,541	0.52	20,738	1,803	837	926
5	31,485	0.72	29,911	1,574	1,203	1,621
6	18,436	0.42	16,961	1,475	684	749
7	13,612	0.31	12,523	1,089	505	558
8	16,215	0.37	14,918	1,297	602	692
9	15,825	0.36	14,559	1,266	587	682
10	7,079	0.16	6,513	566	263	440
11	391,382	8.98	332,675	58,707	13,542	18,278
12	21,507	0.49	19,786	1,721	798	982
13	164,840	3.78	151,653	13,187	N/A	N/A
14	92,110	2.11	84,741	7,369	N/A	N/A
15	84,153	1.93	77,421	6,732	N/A	N/A
16	159,112	3.65	146,383	12,729	N/A	N/A
17	46,099	1.06	42,411	3,688	N/A	N/A
TOTAL	1,133,153	26.01	1,016,049	117,104	20,831	26,919

NOTE: SIZING SHOWN ABOVE USES THE TREATMENT CRITERIA OUTLINED IN THE CITY OF ROCKLIN POST-CONSTRUCTION MANUAL

OWNER:
EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

REV NO	DESCRIPTION	DWG INIT	BY	DATE
				CITY APPROVED

REGISTERED PROFESSIONAL ENGINEER
JATRAJ S TIWANA
No. 62091
Sept. 30, 2021
CIVIL
STATE OF CALIFORNIA

RSC ENGINEERING
1420 Rocky Ridge Drive, Suite 150
Roseville, CA 95661
Ph:916.788.2884 Fax:916.788.4408

PROJECT NO:	104-003A
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

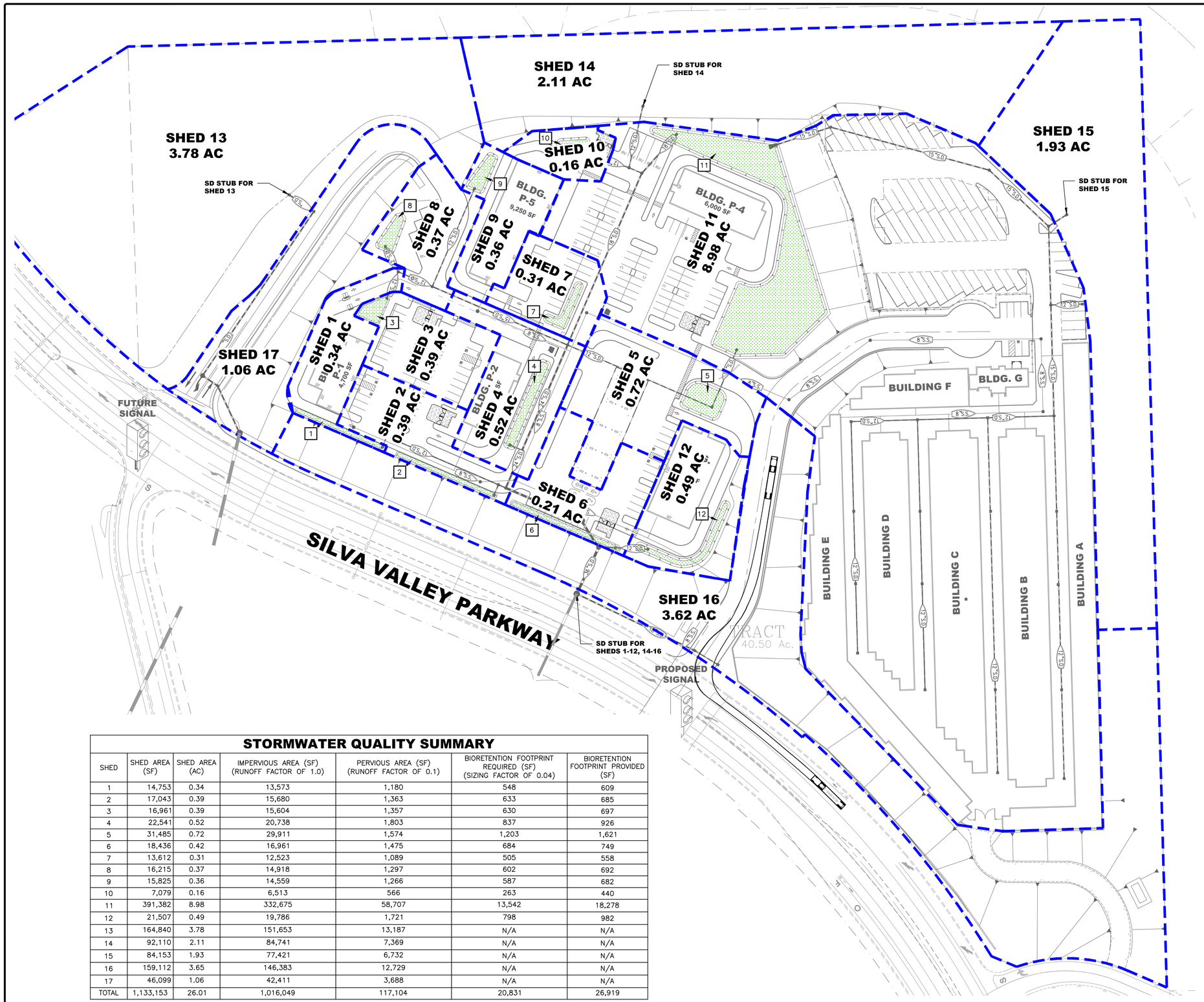
PLANNED DEVELOPMENT APPLICATION FOR EDH 52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

SHEET TITLE
PRELIMINARY SWQ SHED MAP

SHEET NO.
SWQ1
5 OF **12**

DATE: APRIL 23, 2021

XRefs: ...\104003A_BORDER.dwg
...\104003A_TITLE.dwg
...\104003A_XREFs.dwg
...\104003A_PRELIMINARY GRADE C022.dwg
P:\104-003A\Planning\Conceptual\104003A_XROAD-SWPS.dwg
...\104-003A\Planning\Conceptual\104003A_XTOPO.dwg
...\104-003A_PROPOSED.dwg
P:\104-003A\Tentative Map\Exhibits\2020-10-29 SP and Utilities\2020-10-21-TS-418855-SEMT.dwg
DRAWING: P:\104-003A\Planning\Conceptual\104003A_SWQ.dwg
USER: jatraj.tiwana
PLOT DATE: Apr 23, 2021 - 4:54:31 PM



STORMWATER QUALITY SUMMARY

SHED	SHED AREA (SF)	SHED AREA (AC)	IMPERVIOUS AREA (SF) (RUNOFF FACTOR OF 1.0)	PERVIOUS AREA (SF) (RUNOFF FACTOR OF 0.1)	BIORETENTION FOOTPRINT REQUIRED (SF) (SIZING FACTOR OF 0.04)	BIORETENTION FOOTPRINT PROVIDED (SF)
1	14,753	0.34	13,573	1,180	548	609
2	17,043	0.39	15,680	1,363	633	685
3	16,961	0.39	15,604	1,357	630	697
4	22,541	0.52	20,738	1,803	837	926
5	31,485	0.72	29,911	1,574	1,203	1,621
6	18,436	0.42	16,961	1,475	684	749
7	13,612	0.31	12,523	1,089	505	558
8	16,215	0.37	14,918	1,297	602	692
9	15,825	0.36	14,559	1,266	587	682
10	7,079	0.16	6,513	566	263	440
11	391,382	8.98	332,675	58,707	13,542	18,278
12	21,507	0.49	19,786	1,721	798	982
13	164,840	3.78	151,653	13,187	N/A	N/A
14	92,110	2.11	84,741	7,369	N/A	N/A
15	84,153	1.93	77,421	6,732	N/A	N/A
16	159,112	3.65	146,383	12,729	N/A	N/A
17	46,099	1.06	42,411	3,688	N/A	N/A
TOTAL	1,133,153	26.01	1,016,049	117,104	20,831	26,919

NOTE: SIZING SHOWN ABOVE USES THE TREATMENT CRITERIA OUTLINED IN THE CITY OF ROCKLIN POST-CONSTRUCTION MANUAL

OWNER:
EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

REV NO	DESCRIPTION	DWG INIT	BY	DATE
				CITY APPROVED

REGISTERED PROFESSIONAL ENGINEER
JATRAJ S TIWANA
No. 62091
Sept. 30, 2021
CIVIL
STATE OF CALIFORNIA

RSC ENGINEERING
1420 Rocky Ridge Drive, Suite 150
Roseville, CA 95661
Ph:916.788.2884 Fax:916.788.4408

PROJECT NO:	104-003A
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

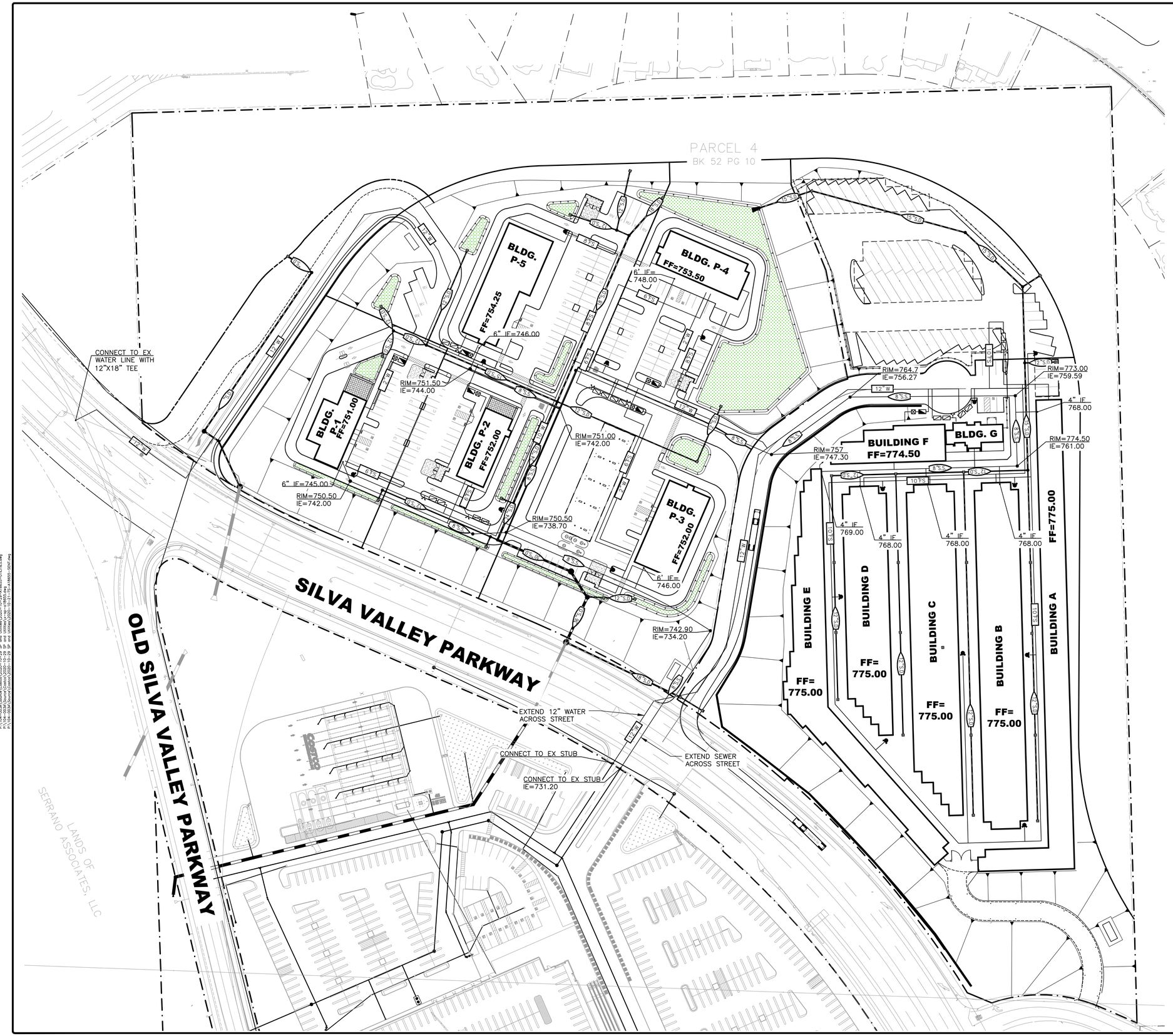
PLANNED DEVELOPMENT APPLICATION FOR EDH 52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

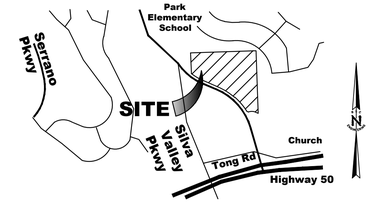
SHEET TITLE
PRELIMINARY SWQ SHED MAP

SHEET NO.
SWQ1
5 OF **12**

DATE: APRIL 23, 2021

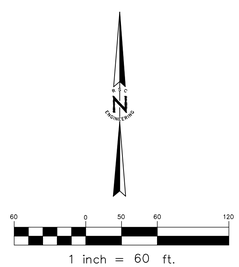
XRefs: ...\104003A_BORDER.dwg
...\104003A_TITLE.dwg
...\104003A_XREFs.dwg
...\104003A_PRELIMINARY GRADE C022.dwg
P:\104-003A\Planning\Conceptual\104003A_XROAD-SWPS.dwg
...\104-003A\Planning\Conceptual\104003A_XTOPO.dwg
...\104-003A_PROPOSED.dwg
P:\104-003A\Tentative Map\Exhibits\2020-10-29 SP and Utilities\2020-10-21-TS-418855-SEMT.dwg
DRAWING: P:\104-003A\Planning\Conceptual\104003A_SWQ.dwg
USER: jatraj.tiwana
PLOT DATE: Apr 23, 2021 - 4:54:31 PM





LEGEND

- FIRE HYDRANT
- DOUBLE DETECTOR CHECK VALVE AND FDC
- 12" W — WATERLINE
- DOMESTIC WATER METER AND BACKFLOW PREVENTOR
- 8"SS — SEWER LINE
- SEWER MANHOLE



OWNER:

EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

NO.	DESCRIPTION	DWG INIT.	BY	DATE	CITY APPROVED

REGISTERED PROFESSIONAL ENGINEER
JATRAJ S TRIVEDI
No. 62091
Sept. 30, 2021
CIVIL
STATE OF CALIFORNIA

RSC ENGINEERING
1420 Rocky Ridge Drive, Suite 150
Roseville, CA 95661
Ph: 916.788.2864 Fax: 916.788.4408

PROJECT NO:	104-003A
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

PLANNED DEVELOPMENT APPLICATION FOR EDH 52

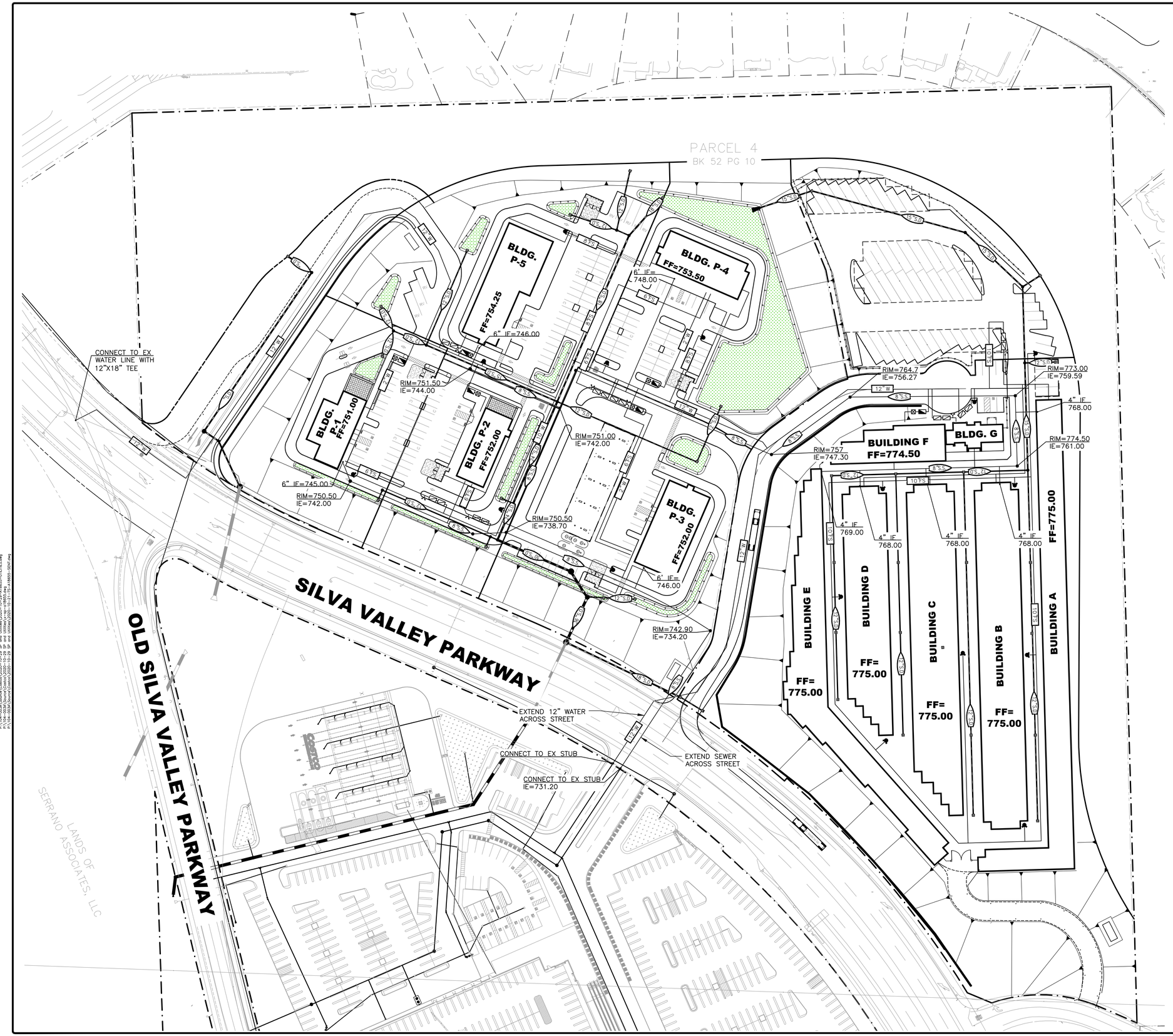
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

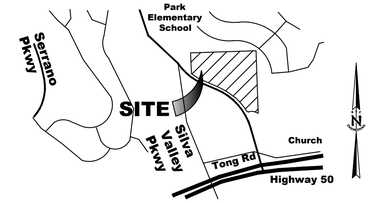
SHEET TITLE
PRELIMINARY UTILITY PLAN

SHEET NO.
UT1
4 OF **12**

DATE: APRIL 23, 2021

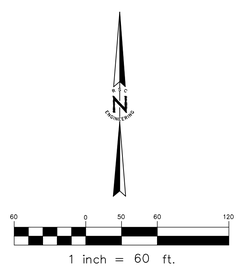
Xrefs: ...\104003A_GRADES.dwg
...\104003A_GRID.dwg
...\104003A_XPRFPL.dwg
...\104003A_XPROF.dwg
...\104003A_SURVEY.dwg
P:\104-003A\Civil\Utilities\104003A_UTILITIES.dwg
P:\104-003A\Civil\Utilities\104003A_UTILITIES.dwg
DRAWING: P:\104-003A\Planning\Conceptual\104003A_UT.dwg
LAST SAVED: Apr 23, 2021 - 4:55:25 PM
PLOT DATE: Apr 23, 2021 - 4:55:28 PM





LEGEND

- FIRE HYDRANT
- DOUBLE DETECTOR CHECK VALVE AND FDC
- 12" W — WATERLINE
- DOMESTIC WATER METER AND BACKFLOW PREVENTOR
- 8"SS — SEWER LINE
- SEWER MANHOLE



OWNER:

EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

NO.	DESCRIPTION	DWG INIT.	BY	DATE	CITY APPROVED

REGISTERED PROFESSIONAL ENGINEER
JATRAJ S TRIVEDI
No. 62091
Sept. 30, 2021
CIVIL
STATE OF CALIFORNIA

RSC ENGINEERING
1420 Rocky Ridge Drive, Suite 150
Roseville, CA 95661
Ph: 916.788.2864 Fax: 916.788.4408

PROJECT NO:	104-003A
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

PLANNED DEVELOPMENT APPLICATION FOR EDH 52

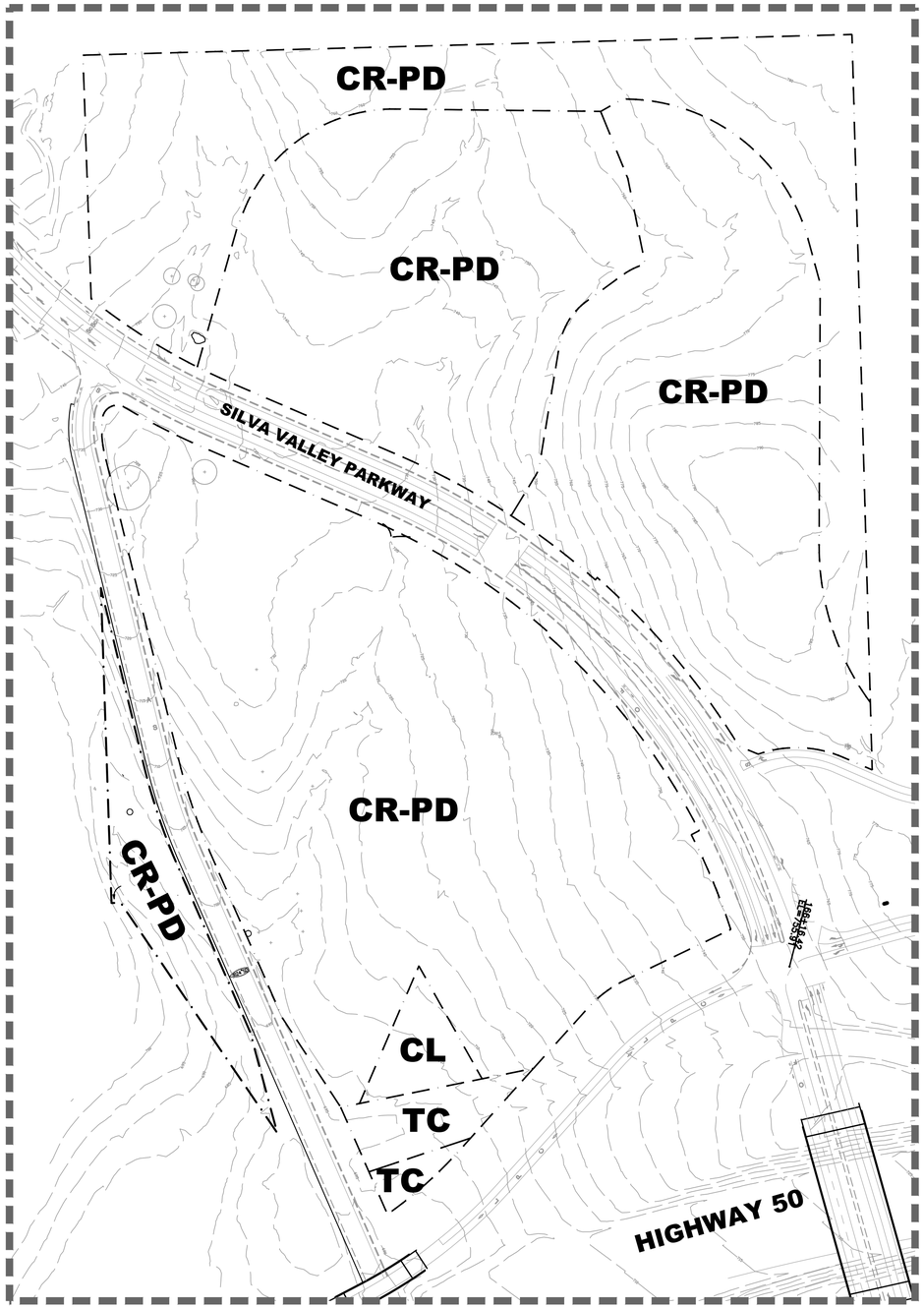
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

SHEET TITLE
PRELIMINARY UTILITY PLAN

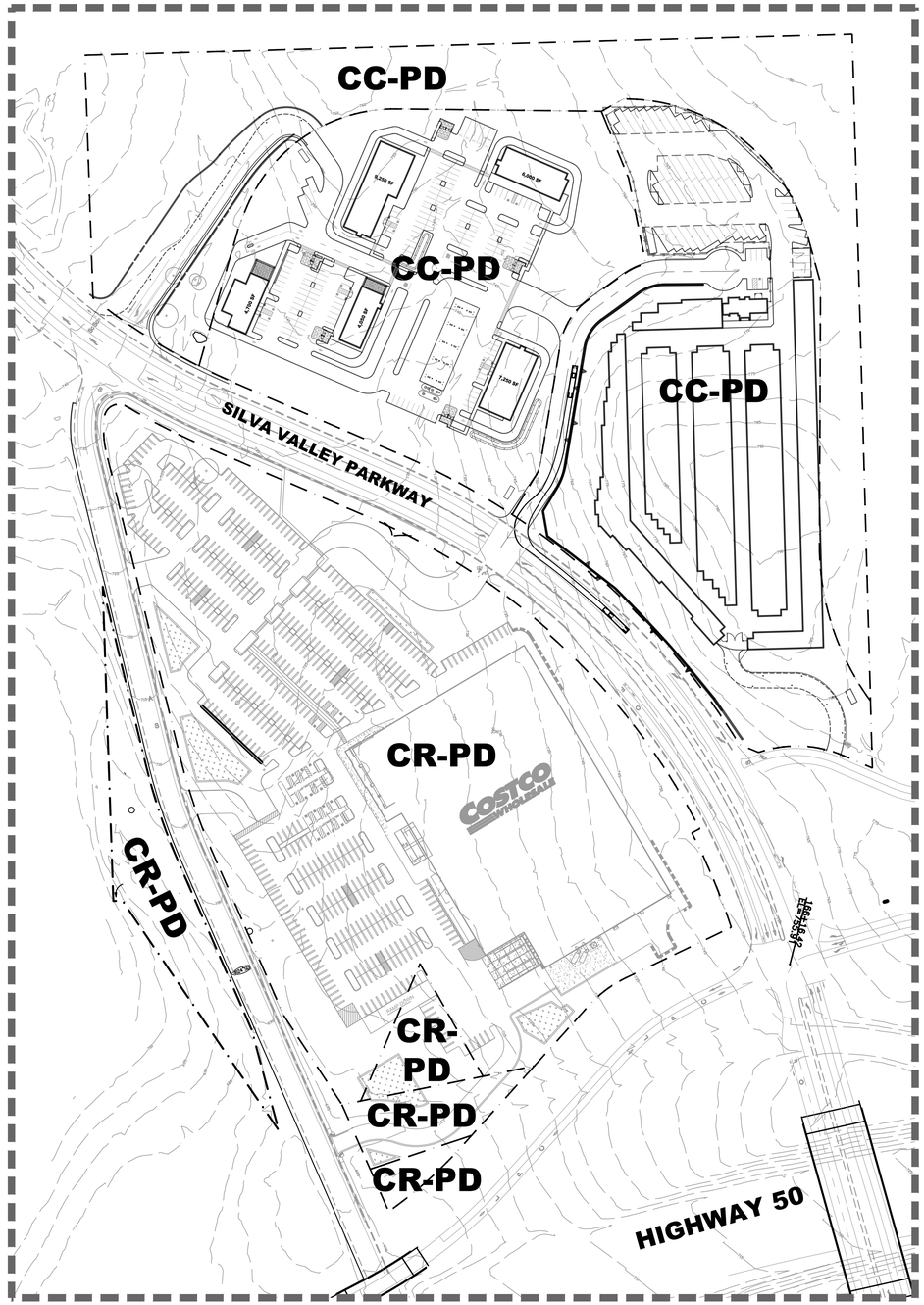
SHEET NO.
UT1
4 OF **12**

DATE: APRIL 23, 2021

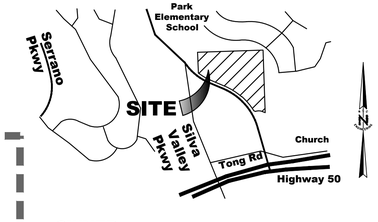
Xrefs: ...\104003A_GRADES.dwg
...\104003A_GRID.dwg
...\104003A_XPRFPL.dwg
...\104003A_XPROF.dwg
...\104003A_SURVEY.dwg
P:\104-003A\Civil\Utilities\104003A_UTILITIES.dwg
P:\104-003A\Civil\Utilities\104003A_UTILITIES.dwg
DRAWING: P:\104-003A\Planning\Conceptual\104003A_UT.dwg
LAST SAVED: Apr 23, 2021 - 4:55:25 PM
PLOT DATE: Apr 23, 2021 - 4:55:28 PM



EXISTING ZONING: CR-PD, CL & TC
COMMERCIAL REGIONAL - PLANNED DEVELOPMENT
COMMERCIAL LIMITED & TRANSPORTATION CORRIDOR
EXISTING ACREAGE: 41.88± AC



PROPOSED ZONING: CC-PD & CR-PD
COMMUNITY COMMERCIAL - PLANNED DEVELOPMENT
COMMUNITY REGIONAL - PLANNED DEVELOPMENT
PROPOSED ACREAGE: 41.88± AC



OWNER
EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826

MEE CAPITAL INVESTMENTS
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826

EL DORADO COUNTY
2850 FAIRLANE COURT
PLACERVILLE, CA 95667

ENGINEER
RSC ENGINEERING, INC.
1420 ROCKY RIDGE DRIVE, SUITE 150
ROSEVILLE, CA 95661

SCALE
1" = 120'

CONTOUR INTERVAL
5'

SOURCE OF TOPOGRAPHY
KIER & WRIGHT DATE MARCH 2019

SECTION, TOWNSHIP AND RANGE
1, 9N, 8E M.D.M.

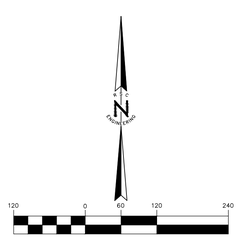
ASSESSORS PARCEL NUMBER
122-720-018, 019, 020, 021, 002 & 003

EXISTING ZONING
COMMERCIAL REGIONAL PLANNED DEVELOPMENT(CR-PD)
COMMERCIAL LIMITED (CL)
TRANSPORTATION CORRIDOR (TC)

PROPOSED ZONING
COMMUNITY COMMERCIAL PLANNED DEVELOPMENT (CC-PD)
COMMUNITY REGIONAL PLANNED DEVELOPMENT (CR-PD)

EXISTING ACREAGE SUMMARY

NORTH SIDE:	24.83± AC
SOUTH SIDE:	17.05± AC
TOTAL:	41.88± AC



1 inch = 120 ft.

OWNER:
EDH 52 GP
7919 FOLSOM BLD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

REV NO	DESCRIPTION	ENG INIT	BY	CITY APPROVED DATE

RSC ENGINEERING
1420 Rocky Ridge Dr., Suite 150
Roseville, CA 95661
Ph:916.788.2684 Fax:916.786.4408

PROJECT NO:	104-003A
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

REZONE EXHIBIT FOR
EDH52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95762
EL DORADO COUNTY

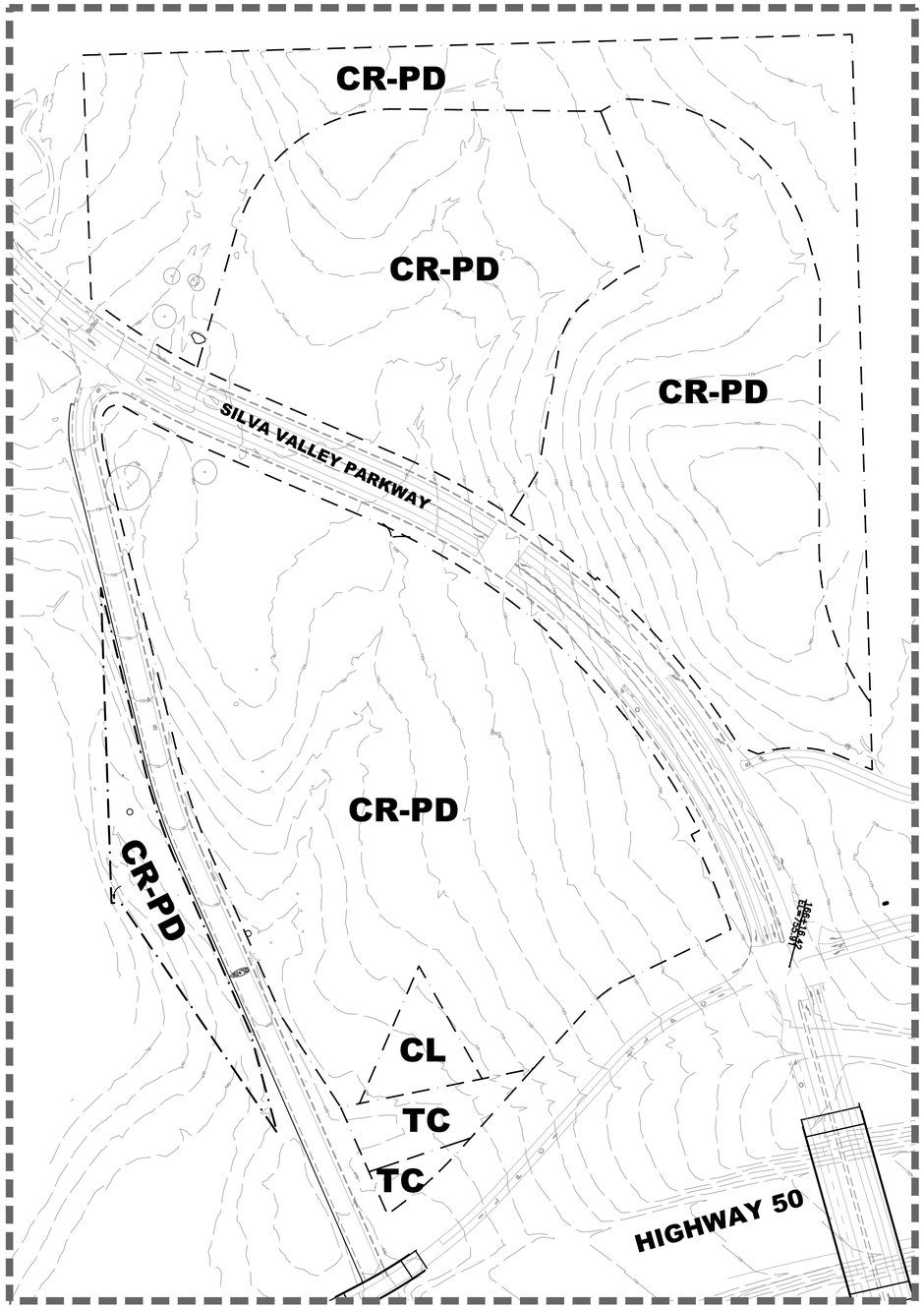
SHEET TITLE
REZONE EXHIBIT

SHEET NO.
RZ
12 OF **12**

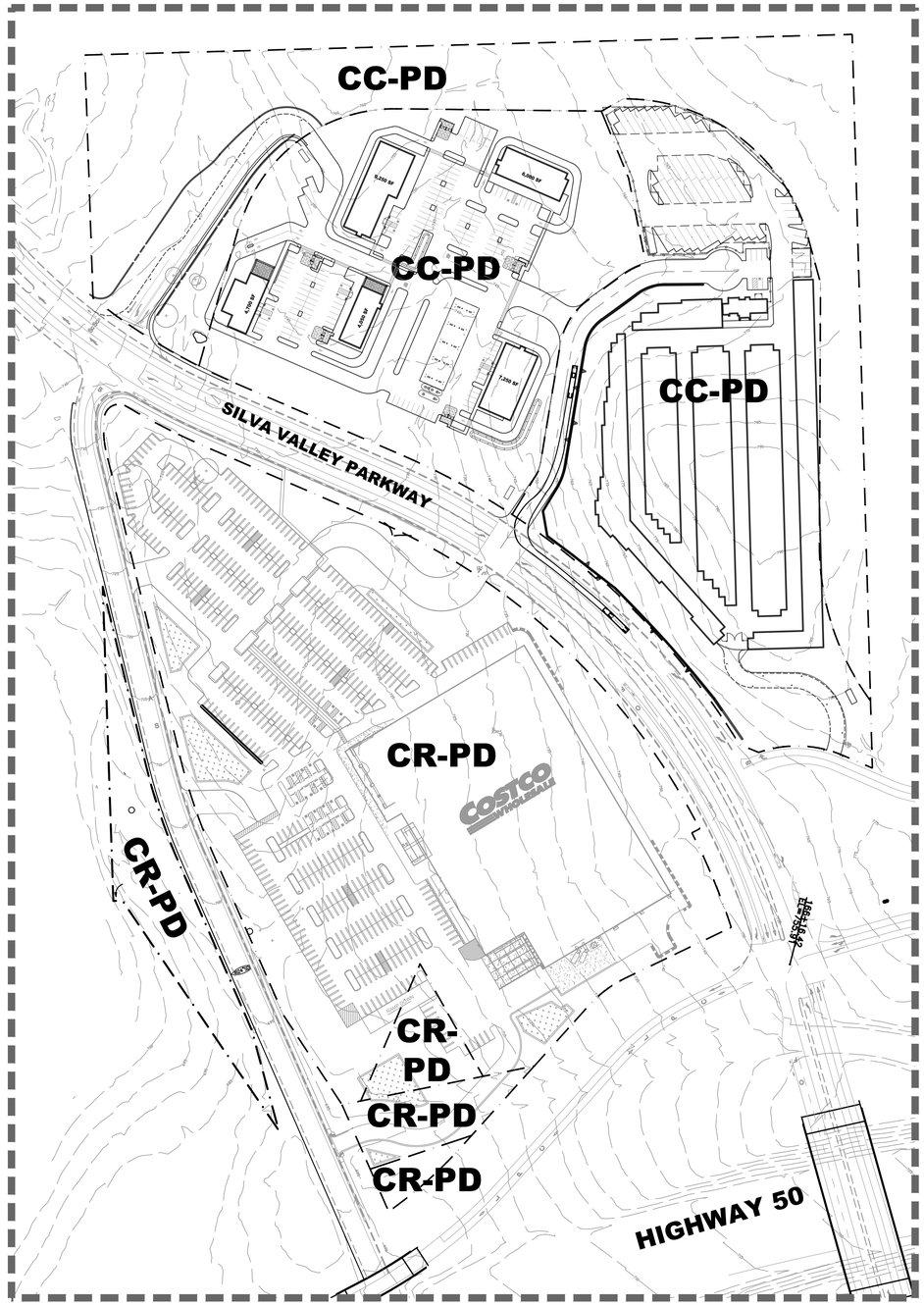
DATE: APRIL 23, 2021

XRefs: \\104003A_SPRPH.dwg
\\104003A_ZONING.dwg
\\104003A-ADD1-Zoning\Concept\ \\104003A_XTOPO.dwg
\\104003A-ADD1-Zoning\Concept\ \\104003A_XLOGO100.dwg
P:\104-003A\Planning\Concept\ \\104003A_XLOGO100.dwg

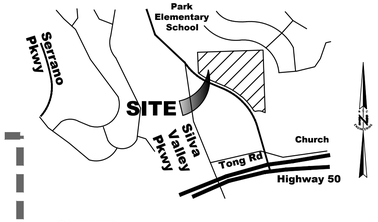
DRAWING: \\Docs1\projects\104-003A\Planning\Concept\\104003A_RZ.dwg
USER NAME: Alex Wong
PLOT DATE: Apr 26, 2021 - 9:59:41 AM



EXISTING ZONING: CR-PD, CL & TC
COMMERCIAL REGIONAL - PLANNED DEVELOPMENT
COMMERCIAL LIMITED & TRANSPORTATION CORRIDOR
EXISTING ACREAGE: 41.88± AC



PROPOSED ZONING: CC-PD & CR-PD
COMMUNITY COMMERCIAL - PLANNED DEVELOPMENT
COMMUNITY REGIONAL - PLANNED DEVELOPMENT
PROPOSED ACREAGE: 41.88± AC



OWNER
EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826

MEE CAPITAL INVESTMENTS
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826

EL DORADO COUNTY
2850 FAIRLANE COURT
PLACERVILLE, CA 95667

ENGINEER
RSC ENGINEERING, INC.
1420 ROCKY RIDGE DRIVE, SUITE 150
ROSEVILLE, CA 95661

SCALE
1" = 120'

CONTOUR INTERVAL
5'

SOURCE OF TOPOGRAPHY
KIER & WRIGHT DATE MARCH 2019

SECTION, TOWNSHIP AND RANGE
1, 9N, 8E M.D.M.

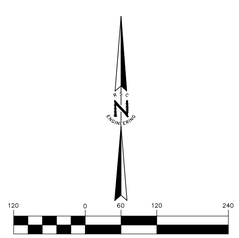
ASSESSORS PARCEL NUMBER
122-720-018, 019, 020, 021, 002 & 003

EXISTING ZONING
COMMERCIAL REGIONAL PLANNED DEVELOPMENT(CR-PD)
COMMERCIAL LIMITED (CL)
TRANSPORTATION CORRIDOR (TC)

PROPOSED ZONING
COMMUNITY COMMERCIAL PLANNED DEVELOPMENT (CC-PD)
COMMUNITY REGIONAL PLANNED DEVELOPMENT (CR-PD)

EXISTING ACREAGE SUMMARY

NORTH SIDE:	24.83± AC
SOUTH SIDE:	17.05± AC
TOTAL:	41.88± AC



1 inch = 120 ft.

OWNER:
EDH 52 GP
7919 FOLSOM BLD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

REV NO	DESCRIPTION	ENG INIT	BY	CITY APPROVED DATE

RSC ENGINEERING
1420 Rocky Ridge Dr., Suite 150
Roseville, CA 95661
Ph:916.788.2684 Fax:916.786.4408

PROJECT NO:	104-003A
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

REZONE EXHIBIT FOR
EDH52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95762
EL DORADO COUNTY

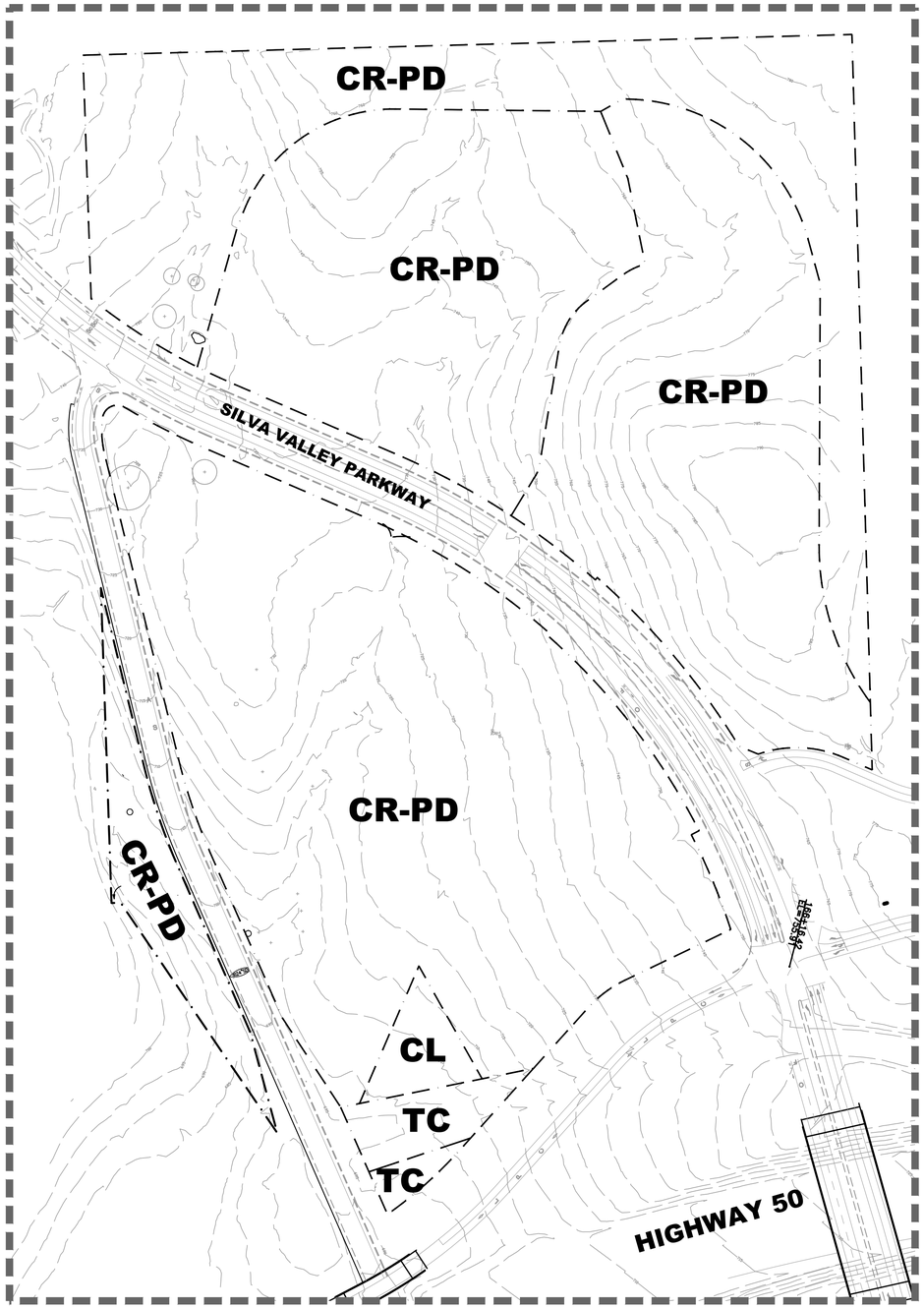
SHEET TITLE
REZONE EXHIBIT

SHEET NO.
RZ
12 OF **12**

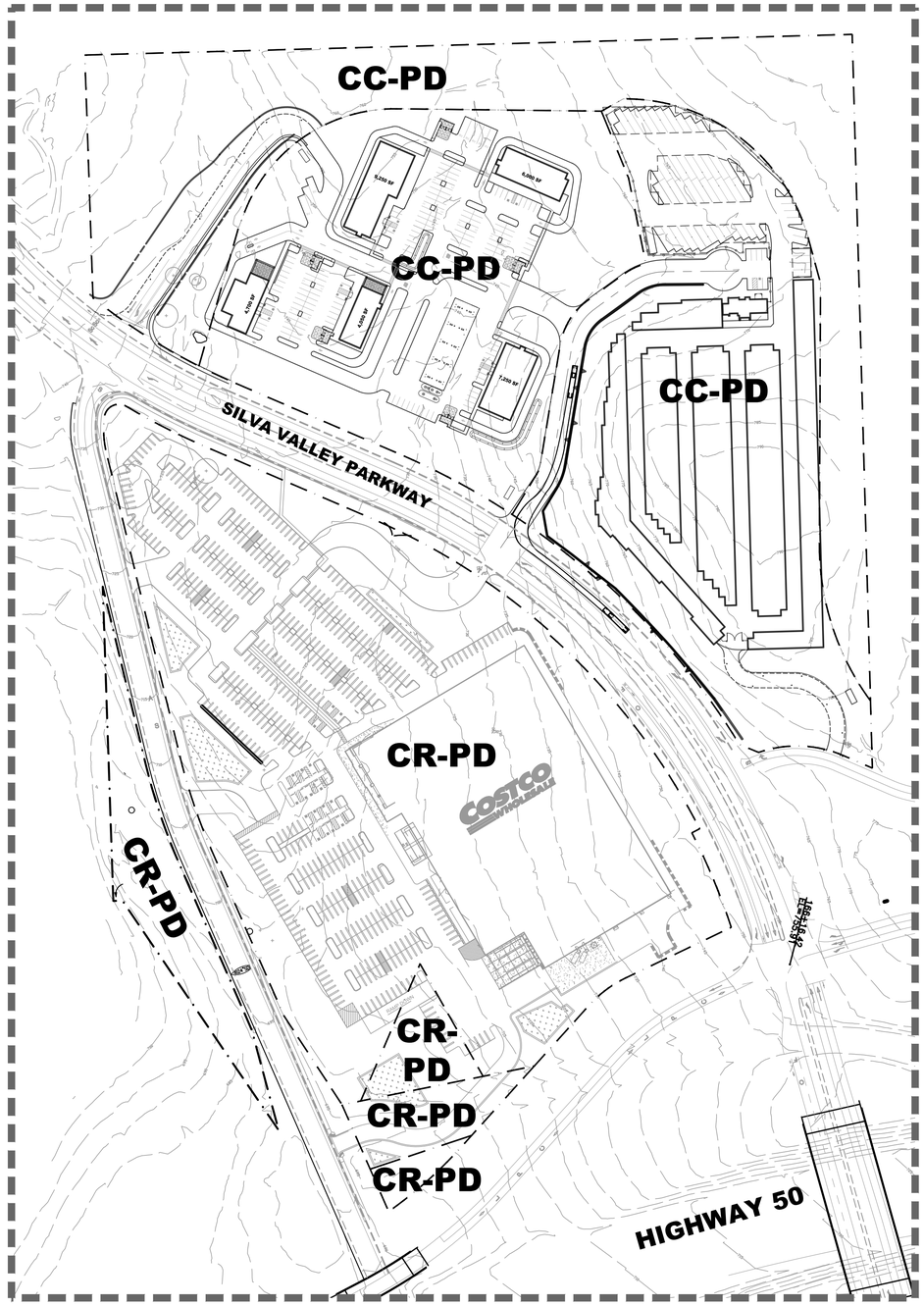
DATE: APRIL 23, 2021

XRefs: \\104003A_SPRPH.dwg
\\104003A_ZONING.dwg
\\104003A-ADD1-Zoning\Concept\ \\104003A_XTOPO.dwg
\\104003A-ADD1-Zoning\Concept\ \\104003A_XLOGO100.dwg
P:\104-003A\Planning\Concept\ \\104003A_XLOGO100.dwg

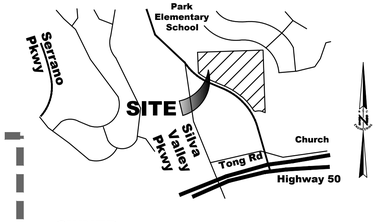
DRAWING: \\Docs1\projects\104-003A\Planning\Concept\\104003A_RZ.dwg
USER NAME: Alex Wong
PLOT DATE: Apr 26, 2021 - 9:59:41 AM



EXISTING ZONING: CR-PD, CL & TC
COMMERCIAL REGIONAL - PLANNED DEVELOPMENT
COMMERCIAL LIMITED & TRANSPORTATION CORRIDOR
EXISTING ACREAGE: 41.88± AC



PROPOSED ZONING: CC-PD & CR-PD
COMMUNITY COMMERCIAL - PLANNED DEVELOPMENT
COMMUNITY REGIONAL - PLANNED DEVELOPMENT
PROPOSED ACREAGE: 41.88± AC



OWNER
EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826

MEE CAPITAL INVESTMENTS
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826

EL DORADO COUNTY
2850 FAIRLANE COURT
PLACERVILLE, CA 95667

ENGINEER
RSC ENGINEERING, INC.
1420 ROCKY RIDGE DRIVE, SUITE 150
ROSEVILLE, CA 95661

SCALE
1" = 120'

CONTOUR INTERVAL
5'

SOURCE OF TOPOGRAPHY
KIER & WRIGHT DATE MARCH 2019

SECTION, TOWNSHIP AND RANGE
1, 9N, 8E M.D.M.

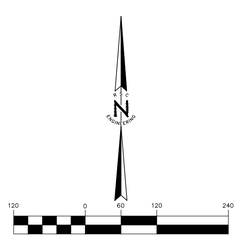
ASSESSORS PARCEL NUMBER
122-720-018, 019, 020, 021, 002 & 003

EXISTING ZONING
COMMERCIAL REGIONAL PLANNED DEVELOPMENT(CR-PD)
COMMERCIAL LIMITED (CL)
TRANSPORTATION CORRIDOR (TC)

PROPOSED ZONING
COMMUNITY COMMERCIAL PLANNED DEVELOPMENT (CC-PD)
COMMUNITY REGIONAL PLANNED DEVELOPMENT (CR-PD)

EXISTING ACREAGE SUMMARY

NORTH SIDE:	24.83± AC
SOUTH SIDE:	17.05± AC
TOTAL:	41.88± AC



1 inch = 120 ft.

OWNER:
EDH 52 GP
7919 FOLSOM BLD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

REV NO	DESCRIPTION	ENG INIT	BY	CITY APPROVED DATE

RSC ENGINEERING
1420 Rocky Ridge Dr., Suite 150
Roseville, CA 95661
Ph:916.788.2684 Fax:916.786.4408

PROJECT NO:	104-003A
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

REZONE EXHIBIT FOR
EDH52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95762
EL DORADO COUNTY

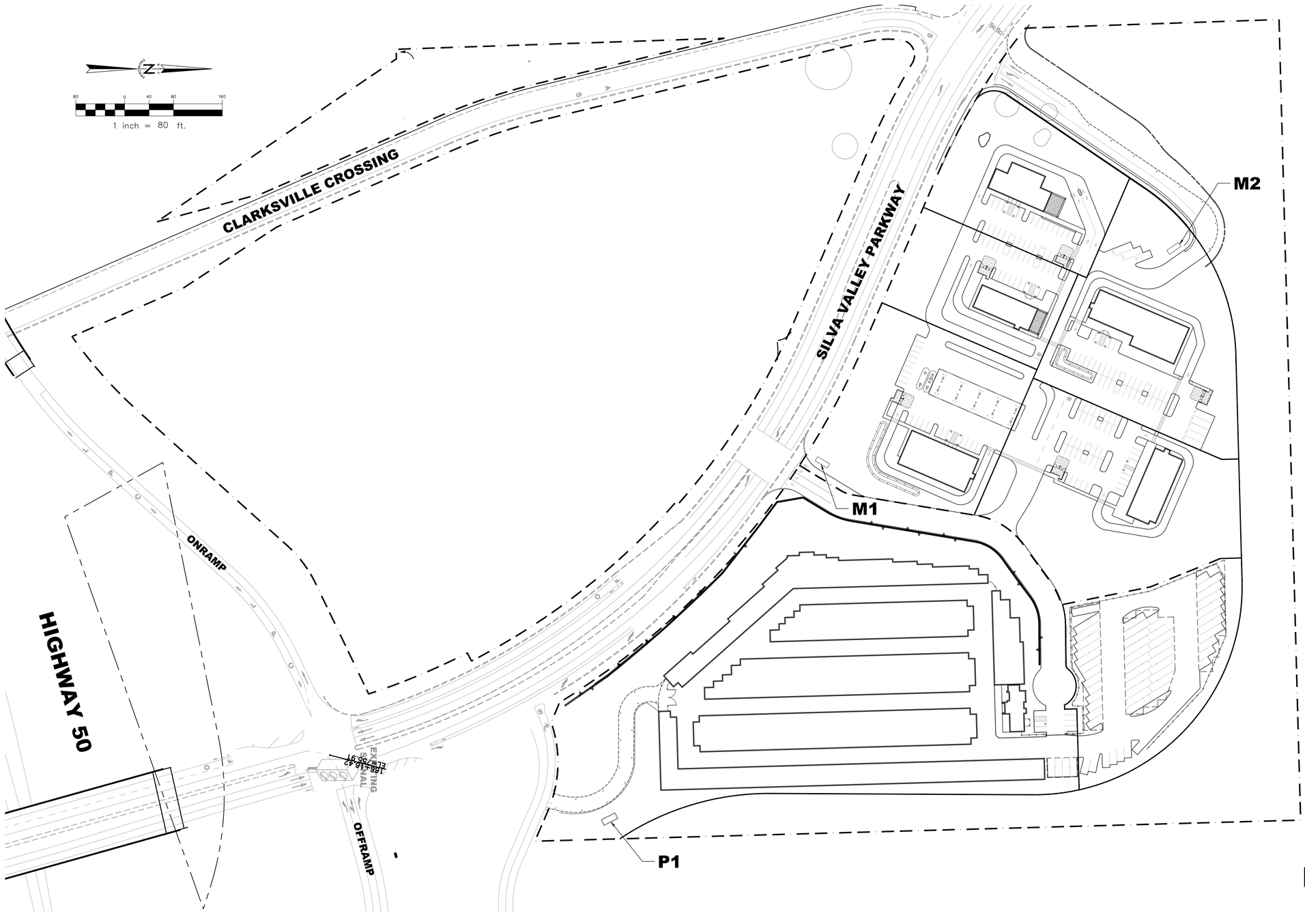
SHEET TITLE
REZONE EXHIBIT

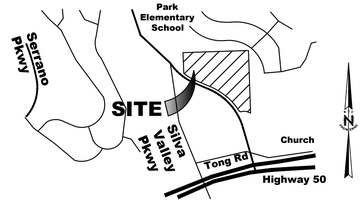
SHEET NO.
RZ
12 OF **12**

DATE: APRIL 23, 2021

XRefs: \\104003A_SPRPH.dwg
\\104003A_ZONING.dwg
\\104003A-ADD1-Zoning\Concept\ \\104003A_XTOPO.dwg
\\104003A-ADD1-Zoning\Concept\ \\104003A_XLOGO100.dwg
P:\104-003A\Planning\Concept\ \\104003A_XLOGO100.dwg

DRAWING: \\Docs1\projects\104-003A\Planning\Concept\\104003A_RZ.dwg
USER NAME: Alex Wong
PLOT DATE: Apr 26, 2021 - 9:59:41 AM





LEGEND:

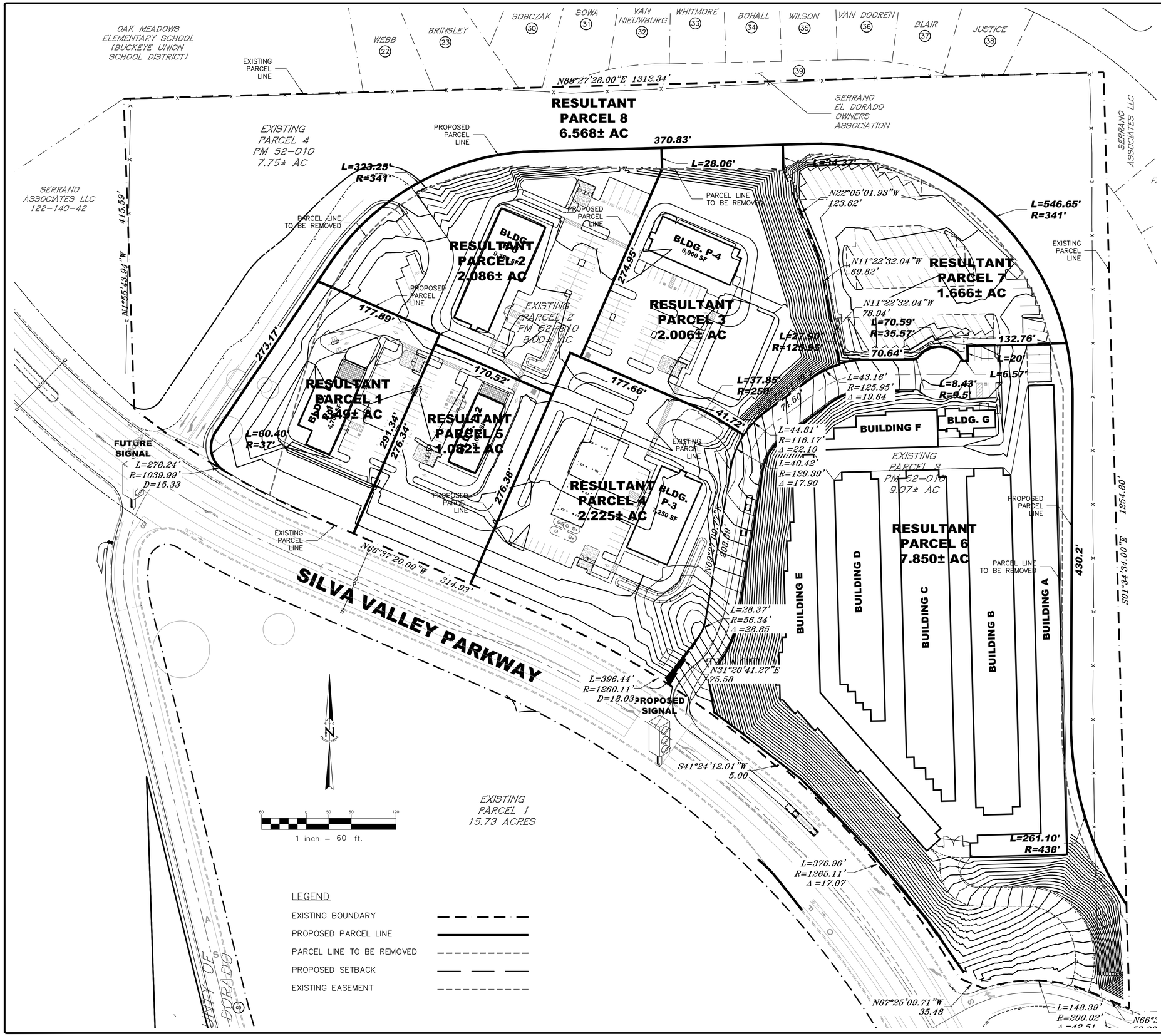
M - MONUMENT SIGN
P - PYLON SIGN

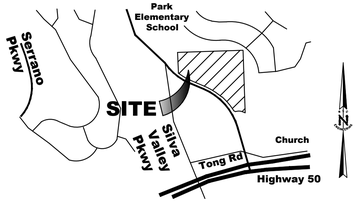
NOTE:

SEE PYLON AND MONUMENT SIGN CONCEPTS ON SEPARATE SHEET

EDH 52
PYLON & MONUMENT SIGN CONCEPT

DATE: APRIL 23, 2021





OWNER/APPLICANT
EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

ENGINEER
RSC ENGINEERING, INC.
1420 ROCKY RIDGE DRIVE, SUITE 150
ROSEVILLE, CA 95661
PHONE: (916)788-2884

SCALE
1" = 60'

CONTOUR INTERVAL
5'

SOURCE OF TOPOGRAPHY
CTA ENGINEERING & SURVEYING, JULY 2007

SECTION, TOWNSHIP AND RANGE
1, 9N, 8E M.D.M.

ASSESSORS PARCEL NUMBER
122-720-15-100

PRESENT ZONING
COMMERCIAL REGIONAL - PLANNED DEVELOPMENT (PD-CR)

UTILITY PROVIDERS

WATER	EL DORADO IRRIGATION DISTRICT
SANITARY SEWER	EL DORADO IRRIGATION DISTRICT
STORM DRAIN	EL DORADO COUNTY
FIRE	EL DORADO FIRE PROTECTION DISTRICT
ELECTRIC	PG&E
GAS	PG&E
TELEPHONE	AT&T
CABLE	AT&T
FIRE PROTECTION	EL DORADO HILLS FIRE DEPARTMENT

EXISTING ACREAGE SUMMARY

PARCEL 2:	8.01± AC
PARCEL 3:	9.07± AC
PARCEL 4:	7.75± AC
TOTAL:	24.83± AC

PROPOSED ACREAGE SUMMARY

PARCEL 1:	1.349± AC
PARCEL 2:	2.086± AC
PARCEL 3:	2.006± AC
PARCEL 4:	2.225± AC
PARCEL 5:	1.082± AC
PARCEL 6:	7.850± AC
PARCEL 7:	1.666± AC
PARCEL 8:	6.568± AC
TOTAL:	24.832± AC

NUMBER OF PARCELS: 8
MINIMUM PARCEL SIZE: 1.082± AC

NOTES

1. REFER TO FINAL PARCEL MAP FOR EXACT DIMENSIONS
2. FLOOD ZONE R1, FEMA NO. 060040 0700D, DATED 10/18/1995
3. WIDTH OF EXISTING EASEMENTS VARIES.

Zoning Administrator: _____
Approval/Denial Date: _____
Board of Supervisors: _____
Approval/Denial Date: _____

OWNER:
EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

REV NO	DESCRIPTION	DWG INIT	BY	DATE
				CITY APPROVED

REGISTERED PROFESSIONAL ENGINEER JATRAJ SINGH No.62091 Sept. 30, 2021 CIVIL STATE OF CALIFORNIA

RSC ENGINEERING
1420 Rocky Ridge Drive, Suite 150
Roseville, CA 95661
Ph:916.788.2884 Fax:916.788.4408

PROJECT NO: 104-003A
DRAWN BY: RSC Eng
CHECKED BY: RSC Eng
DESIGNED BY: RSC Eng

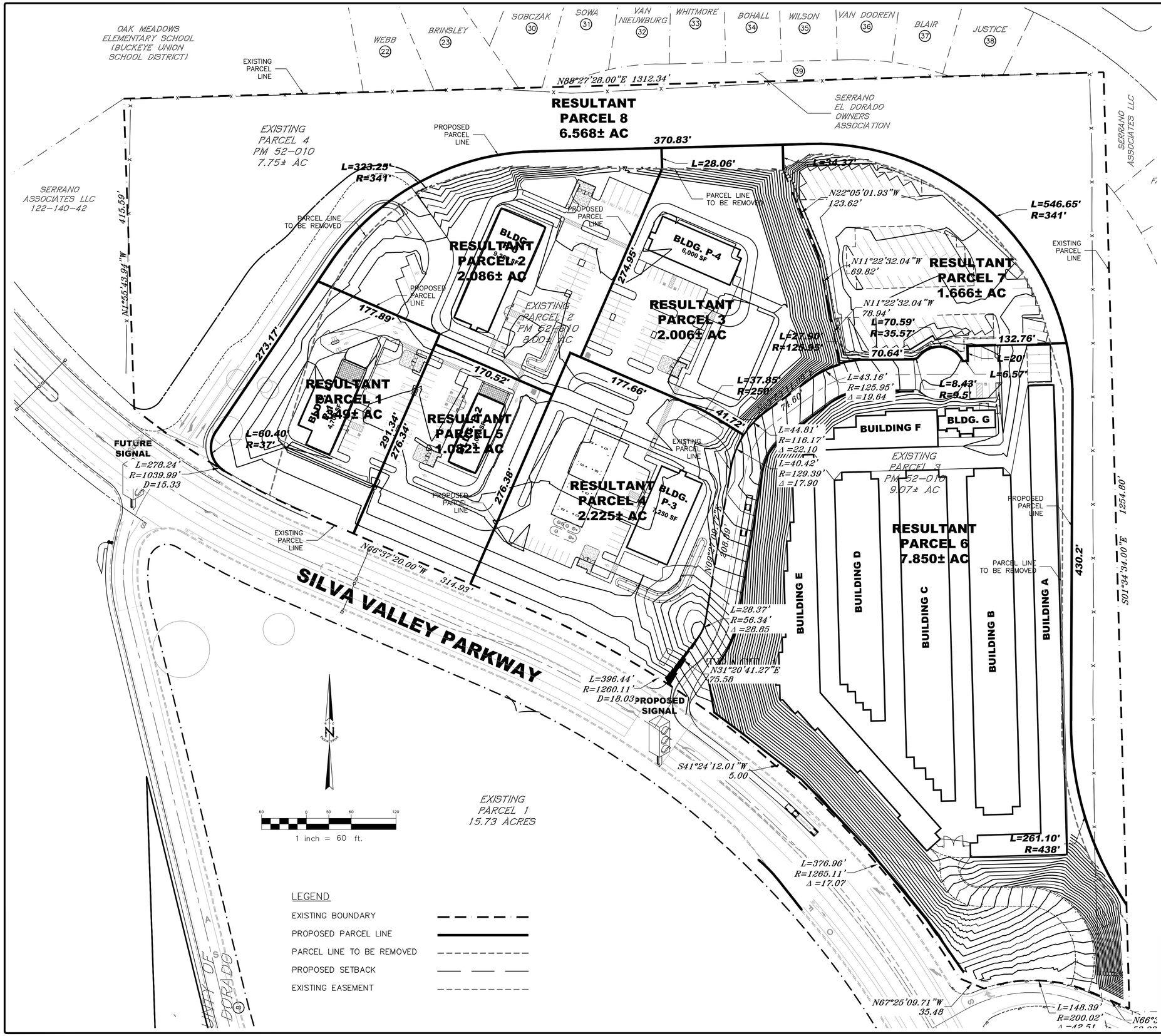
TENTATIVE PARCEL MAP OR
EDH 52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

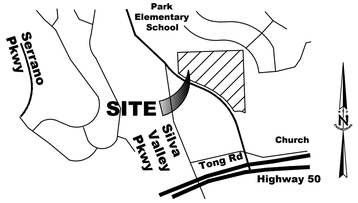
SHEET TITLE
TENTATIVE PARCEL MAP

SHEET NO.
TM
11 OF **12**

DATE: APRIL 23, 2021

XRefs: \\104003A_XADLOTS.dwg
\\104003A_XPROP.dwg
\\104003A_XPROP-TITLE_C03.dwg
P:\104003A\Design\Planning\Concept\104003A_XROAD_SHP2.dwg
\\104003A_XTOPO.dwg
P:\104003A\Design\Planning\Concept\104003_XTOPO.dwg
\\104003A_PTOPO.dwg
DRAWING: P:\104-003A\Planning\Concept\104003A_TM.dwg
USER: jatraj
PLOT DATE: Apr 22, 2021 - 4:52:12 PM





OWNER/APPLICANT
EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

ENGINEER
RSC ENGINEERING, INC.
1420 ROCKY RIDGE DRIVE, SUITE 150
ROSEVILLE, CA 95661
PHONE: (916)788-2884

SCALE
1" = 60'

CONTOUR INTERVAL
5'

SOURCE OF TOPOGRAPHY
CTA ENGINEERING & SURVEYING, JULY 2007

SECTION, TOWNSHIP AND RANGE
1, 9N, 8E M.D.M.

ASSESSORS PARCEL NUMBER
122-720-15-100

PRESENT ZONING
COMMERCIAL REGIONAL - PLANNED DEVELOPMENT (PD-CR)

UTILITY PROVIDERS

WATER	EL DORADO IRRIGATION DISTRICT
SANITARY SEWER	EL DORADO IRRIGATION DISTRICT
STORM DRAIN	EL DORADO COUNTY
FIRE	EL DORADO FIRE PROTECTION DISTRICT
ELECTRIC	PG&E
GAS	PG&E
TELEPHONE	AT&T
CABLE	AT&T
FIRE PROTECTION	EL DORADO HILLS FIRE DEPARTMENT

EXISTING ACREAGE SUMMARY

PARCEL 2:	8.01± AC
PARCEL 3:	9.07± AC
PARCEL 4:	7.75± AC
TOTAL:	24.83± AC

PROPOSED ACREAGE SUMMARY

PARCEL 1:	1.349± AC
PARCEL 2:	2.086± AC
PARCEL 3:	2.006± AC
PARCEL 4:	2.225± AC
PARCEL 5:	1.082± AC
PARCEL 6:	7.850± AC
PARCEL 7:	1.666± AC
PARCEL 8:	6.568± AC
TOTAL:	24.832± AC

NUMBER OF PARCELS: 8
MINIMUM PARCEL SIZE: 1.082± AC

NOTES

1. REFER TO FINAL PARCEL MAP FOR EXACT DIMENSIONS
2. FLOOD ZONE R1, FEMA NO. 060040 0700D, DATED 10/18/1995
3. WIDTH OF EXISTING EASEMENTS VARIES.

Zoning Administrator: _____
Approval/Denial Date: _____
Board of Supervisors: _____
Approval/Denial Date: _____

OWNER:
EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

REV NO	DESCRIPTION	DWG INIT	BY	DATE
				CITY APPROVED

REGISTERED PROFESSIONAL ENGINEER JATRAJ SINGH No.62091 Sept. 30, 2021 CIVIL STATE OF CALIFORNIA

RSC ENGINEERING
1420 Rocky Ridge Drive, Suite 150
Roseville, CA 95661
Ph:916.788.2884 Fax:916.788.4408

PROJECT NO: 104-003A
DRAWN BY: RSC Eng
CHECKED BY: RSC Eng
DESIGNED BY: RSC Eng

TENTATIVE PARCEL MAP OR
EDH 52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

SHEET TITLE
TENTATIVE PARCEL MAP

SHEET NO.
TM
11 OF **12**

DATE: APRIL 23, 2021

XRefs: \\104003A_XADLOTS.dwg
\\104003A_XPROP.dwg
\\104003A_XPROP-TITLE_C03.dwg
P:\104003A\Design\Planning\Concept\104003A_XROAD_SHP2.dwg
\\104003A_XTOPO.dwg
P:\104003A\Design\Planning\Concept\104003_XTOPO.dwg
\\104003A_PTOPO.dwg
DRAWING: P:\104-003A\Planning\Concept\104003A_TM.dwg
USER: jatraj
PLOT DATE: Apr 22, 2021 - 4:52:12 PM

EDH-52 COMMERCIAL DEVELOPMENT-SOUTH

APPLICATIONS: P17-007/S17-0017/Z17-004/PD15-001

SILVA VALLEY PARKWAY, EL DORADO HILLS, CA

APRIL 28, 2021

PROJECT DIRECTORY

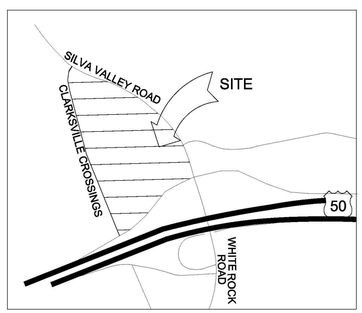
APPLICANT:
COSTCO WHOLESALE
999 LAKE DRIVE
ISSAQUAH, WA 98027
PHONE: (425) 427-7540
CONTACT: KIM KATZ

ARCHITECTS:
MG2
1101 SECOND AVENUE SUITE 100
SEATTLE, WA 98101
PHONE: (425) 463-1314
CONTACT: JOSEPH WELCH

AGENT TO APPLICANT:
URBAN PLANNING PARTNERS
388 17TH STREET SUITE 230
OAKLAND, CA 94612
PHONE: (510) 251-8210
CONTACT: EMILIO BALINGIT

CIVIL ENGINEER/SURVEY:
KIER & WRIGHT
2995 PROSPECT PARK DRIVE, SUITE 100
RANCHO CORDOVA, CA 95670
PHONE: (970) 970-5184 x 3214
CONTACT: JARED MEREDITH

LANDSCAPE ARCHITECT:
DAVID BABCOCK & ASSOCIATES
3581 MT. DIABLO BLVD., SUITE 235
LAFAYETTE, CA. 94549
PHONE: (925) 283-5070
CONTACT: JEFF BERBERICH



VICINITY MAP

N.T.S.



LOCATION MAP

N.T.S.

PROJECT DATA

PROJECT LOCATION:	Silva Valley Parkway El Dorado Hills, Ca
APN:	122-720-15
CURRENT ZONING:	CR-PD Commercial Regional Planned Development
PROPOSED ZONING:	CR-PD Commercial Regional Planned Development
SITE AREA:	+/-17.05 Acres
JURISDICTION:	El Dorado County
BOUNDARIES INFORMATION:	This plan has been prepared using the Topographic survey dated March 2019 prepared by Kier & Wright

SHEET INDEX

1. TITLE SHEET
2. SITE CONTEXT PHOTOS
3. EXISTING AND PROPOSED ZONING EXHIBIT
4. CONCEPT SITE PLAN
5. PRELIMINARY FLOOR PLAN
6. EXISTING CONTEXT
7. COSTCO DESIGN INSPIRATION
8. CONCEPT ELEVATIONS
9. PERSPECTIVES
10. CONCEPT WAREHOUSE MATERIALS
11. CONCEPT SIGNAGE
12. PRELIMINARY LANDSCAPE PLAN
13. C1 TOPOGRAPHIC SURVEY
14. C2 PRELIMINARY GRADING AND DRAINAGE PLAN
15. C3 PRELIMINARY UTILITY PLAN
16. C4 PRELIMINARY STORMWATER QUALITY CONTROL PLAN
17. SE-1 SITE LIGHTING PLAN

DBA # P.290

DB+A
DAVID BABCOCK + ASSOCIATES
ARCHITECTURE PLANNING LANDSCAPE
3581 MT. DIABLO BLVD., SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070



1 VIEW OF SITE ALONG SILVA VALLEY PARKWAY AT WEST HWY 50



2 VIEW OF SITE ALONG SILVA VALLEY PARKWAY



3 VIEW AT MAIN ENTRY ALONG SILVA VALLEY PARKWAY



4 VIEW AT CLARKSVILLE CROSSING AND SILVA VALLEY PARKWAY



5 VIEW LOOKING SITE ALONG CLARKSVILLE CROSSING AT NORTHWEST CORNER



6 VIEW ALONG CLARKSVILLE CROSSING AT SOUTHWEST CORNER



PHOTO KEY PLAN

NORTH

DBA # P.290

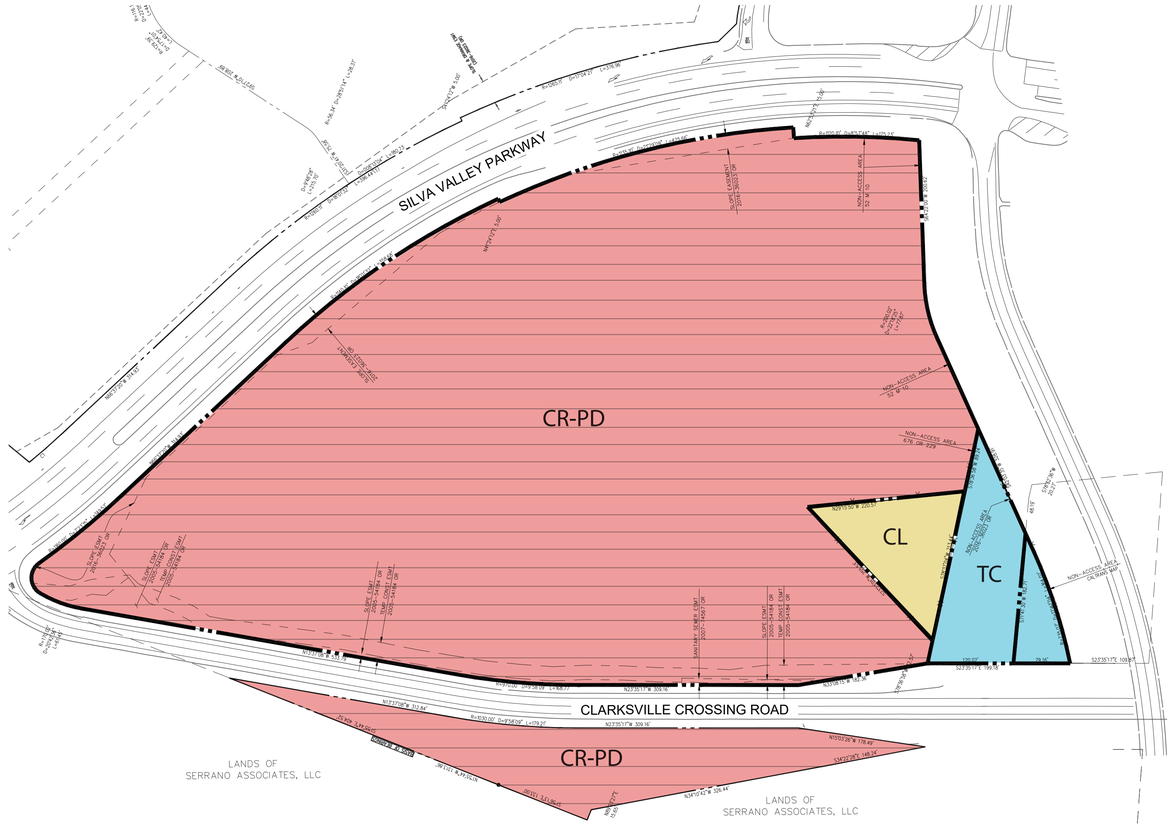
DB+A

DAVID BABCOCK + ASSOCIATES
ARCHITECTURE LANDSCAPE PLANNING
3581 MT. DIABLO BLVD. , SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

COSTCO EL DORADO HILLS

SITE CONTEXT PHOTOS

NOT TO SCALE
APRIL 28, 2021

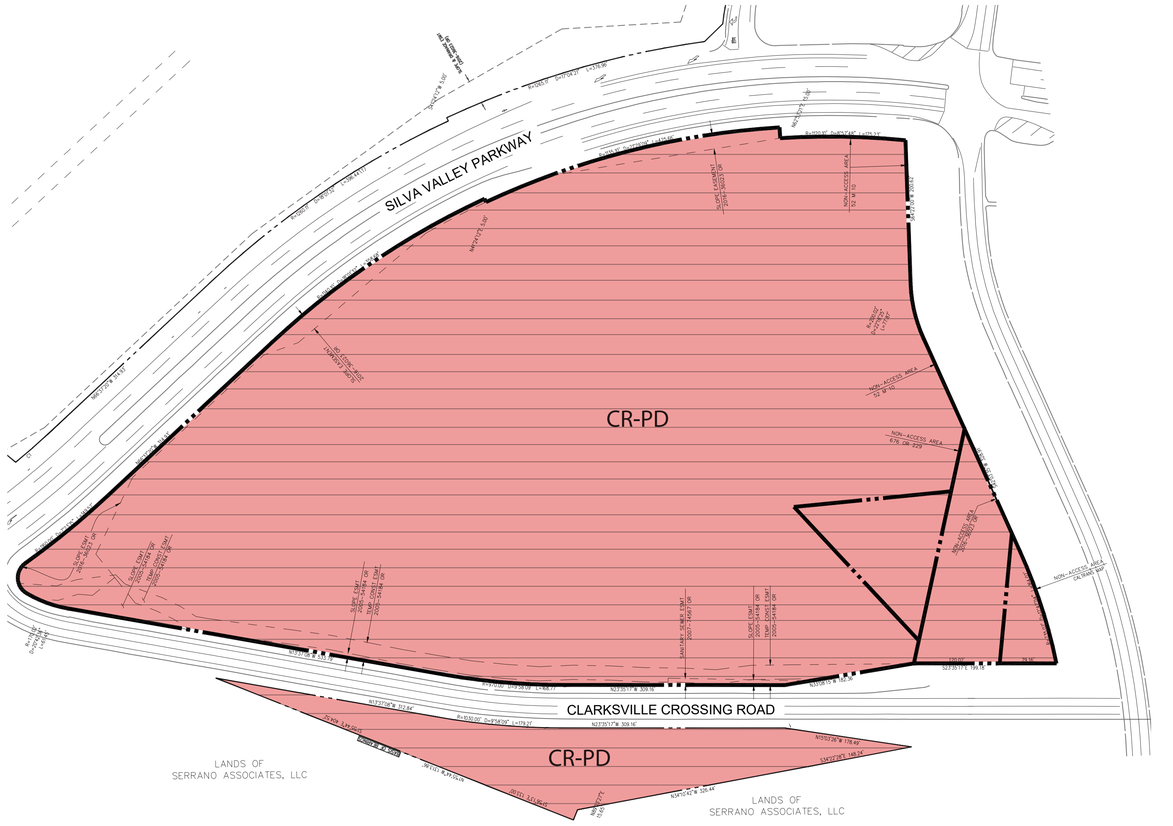


EXISTING ZONING: CR-PD, CL, TC
EXISTING ACREAGE: ± 17.05 AC

CR-PD
Commercial Regional Planned Development

CL
Commercial Limited

TC
Transportation Corridor



PROPOSED ZONING: CR-PD
PROPOSED ACREAGE: ± 17.05 AC

CR-PD
Commercial Regional Planned Development

DBA # P.290

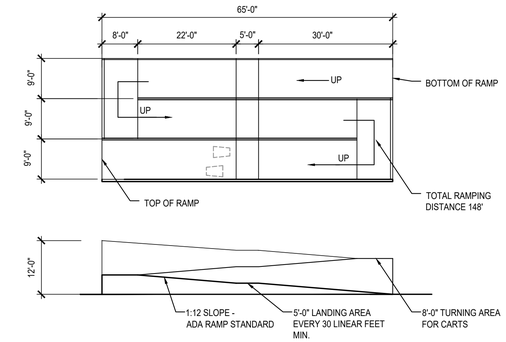
DB+A
DAVID BABCOCK + ASSOCIATES
ARCHITECTURE LANDSCAPE PLANNING
3581 MT. DIABLO BLVD. , SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

COSTCO EL DORADO HILLS

EXISTING AND PROPOSED ZONING EXHIBIT

0 50' 100' 200'
SCALE 1"= 100'
APRIL 28, 2021

NORTH
PLAN



PARKING GARAGE PEDESTRIAN RAMP ACCESS

LOWER LEVEL PARKING STRUCTURE - 214 STALLS

AT GRADE WAREHOUSE UPPER LEVEL PARKING STRUCTURE - 550 STALLS

PROJECT DATA

CLIENT: COSTCO WHOLESALE
999 LAKE DRIVE
ISSAQUAH, WA 98027

PROJECT ADDRESS: SILVA VALLEY PARKWAY
EL DORADO HILLS, CA

SITE DATA:

COSTCO SITE AREA: 17.04 ACRES (742,262)

JURISDICTION: EL DORADO COUNTY

ZONING: CR-PD

SETBACKS:

	REQUIRED		ACTUAL	
	FRONT:	**TBD**	FRONT:	**TBD**
	SIDE:	**TBD**	SIDE:	**TBD**
	REAR:	**TBD**	REAR:	**TBD**

BUILDING DATA:

TOTAL BUILDING FOOTPRINT AREA: 155,693 SF

INCLUDES:

NET SALES FLOOR	**151,074 SF**
NET MECHANICAL / FIRE	2,459 SF
BUILDING ENVELOPE	2,160 SF
NET OPEN CANOPY	4,737 SF

PARKING DATA:

TOTAL PARKING: 762

INCLUDES:

MAIN LEVEL PARKING PROVIDED:

⑨ 10' WIDE STALLS	532 STALLS
♿ ACCESSIBLE STALLS	18 STALLS

PARKING STRUCTURE PARKING PROVIDED:

⑨ 10' WIDE STALLS	214 STALLS

NUMBER OF STALLS PER 1000 SF OF BUILDING AREA: 4.89 STALLS

NOTES:
EXISTING CONDITIONS TO BE FIELD VERIFIED.

0 30' 60' 120'
1" = 60'-0"

COSTCO WHOLESALE
EL DORADO HILLS, CA

1101 Second Ave, Ste 100
Seattle, WA 98101
206 962 6500
MG2.com
MG2

19-5017-01
APRIL 28, 2021

SHEET
4
OF 17

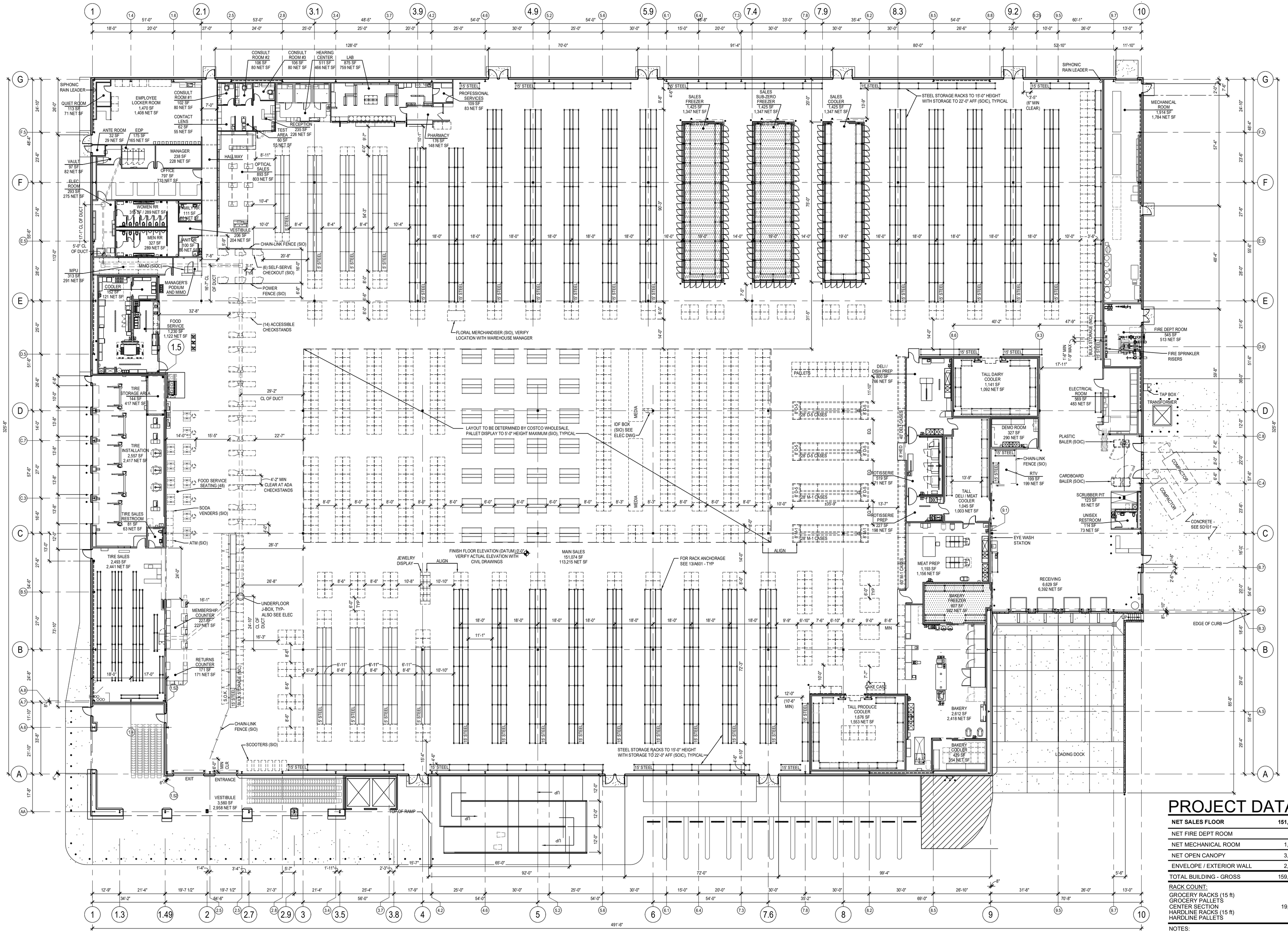
© MG2, Inc. All rights reserved. No part of this document may be reproduced in any form or by any means without permission in writing from MG2.

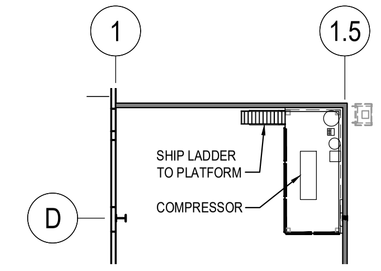
COSTCO WHOLESALE

EL DORADO HILLS, CA

CONCEPT SITE PLAN

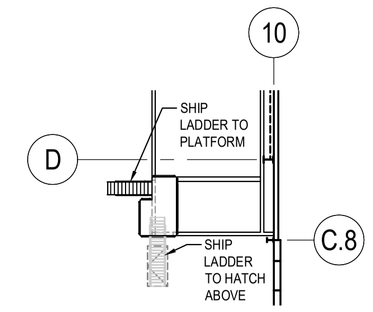
APRIL 28, 2021





COMPRESSOR PLATFORM

SCALE: 1/16" = 1'-0"



EQUIPMENT PLATFORM

SCALE: 1/16" = 1'-0"

0 10' 20' 40'

1" = 20'-0"

PROJECT DATA

NET SALES FLOOR	**151,074 SF**
NET FIRE DEPT ROOM	545 SF
NET MECHANICAL ROOM	1,914 SF
NET OPEN CANOPY	3,560 SF
ENVELOPE / EXTERIOR WALL	2,066 SF
TOTAL BUILDING - GROSS	159,159 SF

RACK COUNT:

GROCERY RACKS (15 ft)	276
GROCERY PALLETS	132
CENTER SECTION	19,586 SF
HARDLINE RACKS (15 ft)	170
HARDLINE PALLETS	36

NOTES:

COSTCO WHOLESALE

EL DORADO HILLS, CA

1101 Second Ave, Ste 100
Seattle, WA 98101
206 962 6500
MG2.com

MG2

19-5017-01
APRIL 28, 2021

SHEET
5
OF 17

COSTCO WHOLESALE

EL DORADO HILLS, CA

CONCEPT FLOOR PLAN

APRIL 28, 2021

© MG2, Inc. All rights reserved. No part of this document may be reproduced in any form or by any means without permission in writing from MG2.





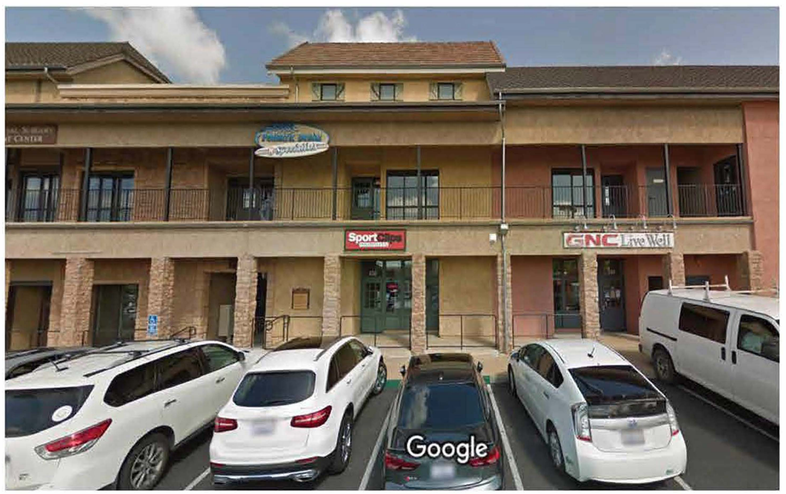


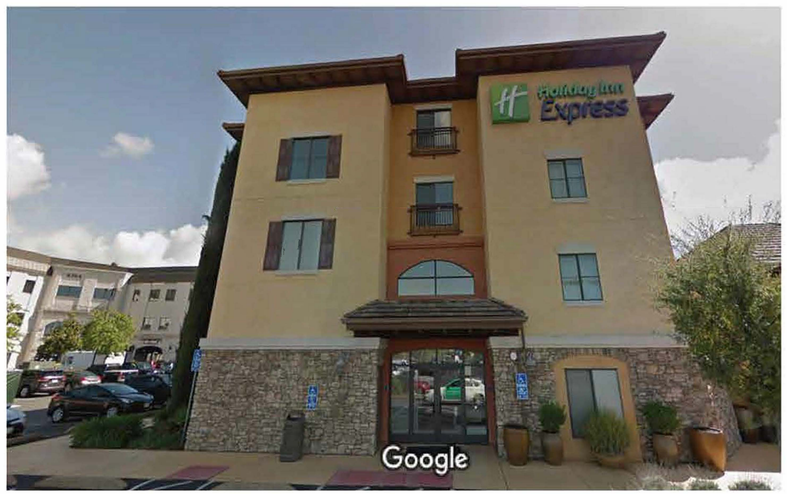










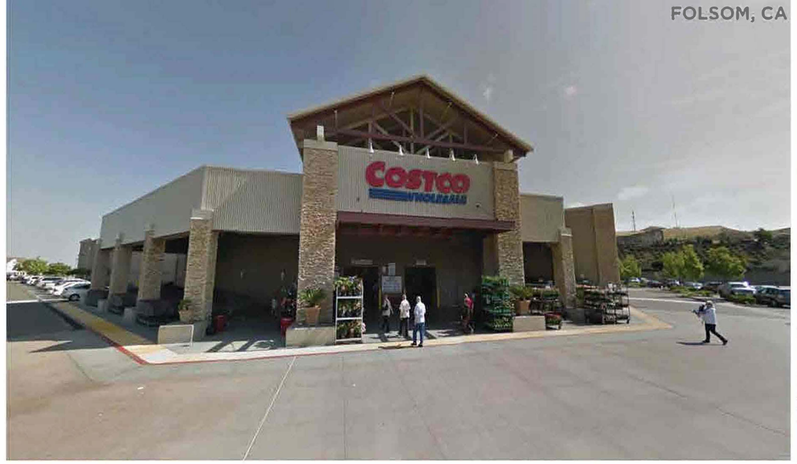


MG2

APRIL 28, 2021
PROJECT# 19-5017-01
EL DORADO HILLS, CA

EXISTING CONTEXT

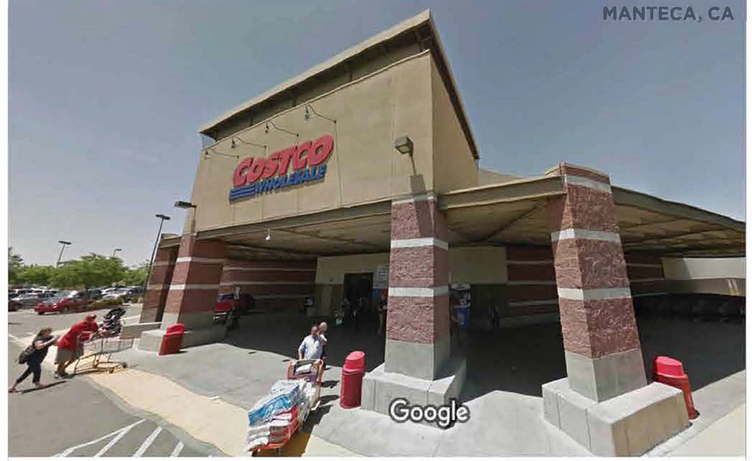
COSTCO WHOLESALE



FOLSOM, CA



CITRUS HEIGHTS, CA



MANTECA, CA



ELK GROVE, CA



PFLUGERVILLE, TX



UKIAH, CA



ELK GROVE, CA



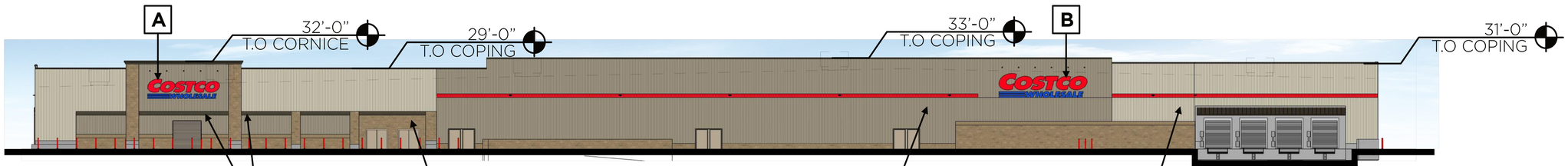
PFLUGERVILLE, TX

MG2

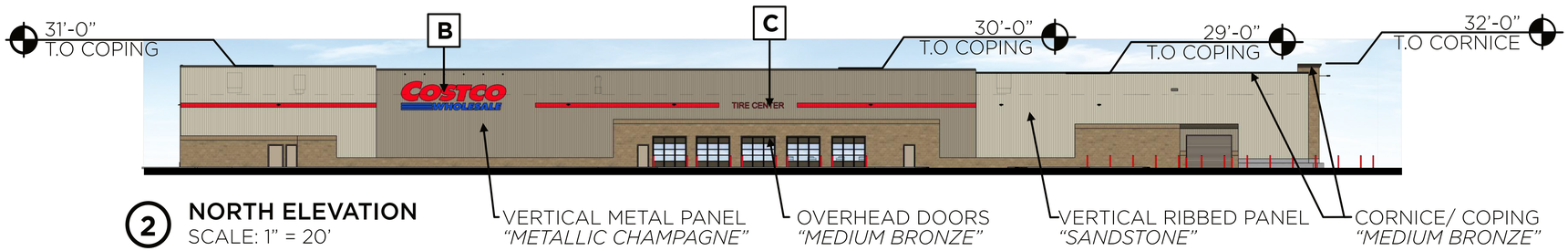
APRIL 28, 2021
PROJECT# 19-5017-01
EL DORADO HILLS, CA

COSTCO DESIGN INSPIRATION

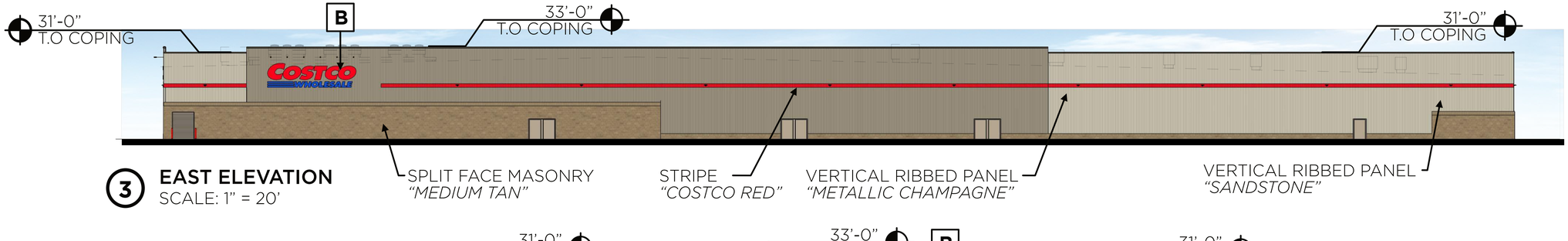
COSTCO WHOLESALE



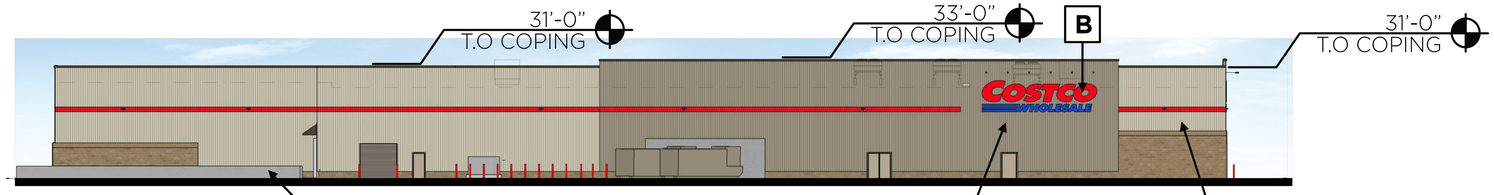
1 WEST ELEVATION
SCALE: 1" = 20'



2 NORTH ELEVATION
SCALE: 1" = 20'



3 EAST ELEVATION
SCALE: 1" = 20'



4 SOUTH ELEVATION
SCALE: 1" = 20'

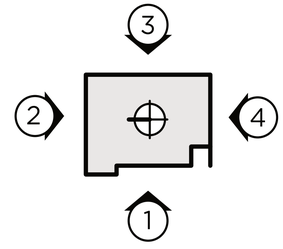


A

B

C

5 SIGN PACKAGE



SIGN TABLE

IDENTITY	*QUANTITY*	*SIGN*	*SIZE*	*AREA (EACH)*	*TOTAL SF*
A	1	COSTCO WHOLESALE	5'-0" C	175 SF	***175 SF***
B	4	COSTCO WHOLESALE	6'-0" C	280 SF	***1,120 SF***
C	1	TIRE CENTER	1'-9" C	31 SF	***31 SF***

TOTAL SIGN AREA: **1,326 SF**

MG2

APRIL 28, 2021
PROJECT# 19-5017-01
EL DORADO HILLS, CA

CONCEPT WAREHOUSE ELEVATIONS

COSTCO WHOLESALE





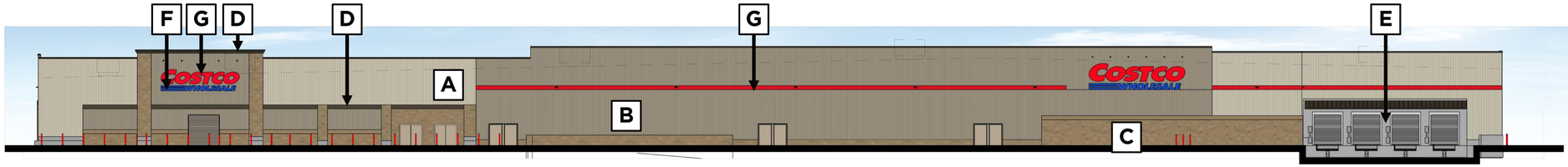


MG2

APRIL 28, 2021
PROJECT# 19-5017-01
EL DORADO HILLS, CA

CONCEPT PERSPECTIVES

COSTCO WHOLESALE



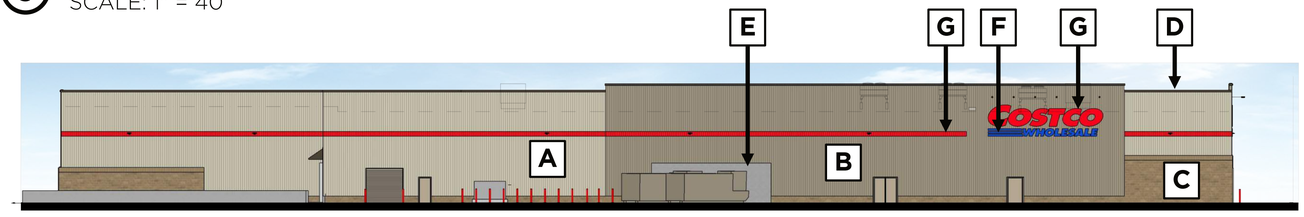
1 WEST ELEVATION
SCALE: 1" = 40'



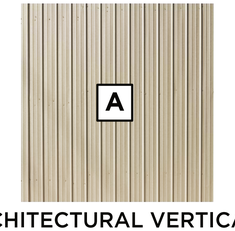
2 NORTH ELEVATION
SCALE: 1" = 40'



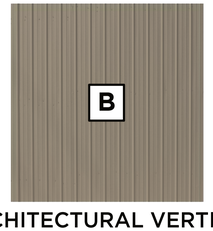
3 EAST ELEVATION
SCALE: 1" = 40'



4 SOUTH ELEVATION
SCALE: 1" = 40'



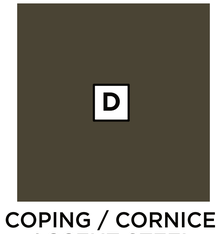
ARCHITECTURAL VERTICAL RIBBED METAL
"SANDSTONE"



ARCHITECTURAL VERTICAL RIBBED METAL
"METALLIC CHAMPAGNE"



SPLIT FACE CMU -
"MEDIUM TAN"



COPING / CORNICE / ACCENT STEEL -
"MEDIUM BRONZE"



CONCRETE -
"NATURAL"



'WHOLESALE' -
"COSTCO BLUE"



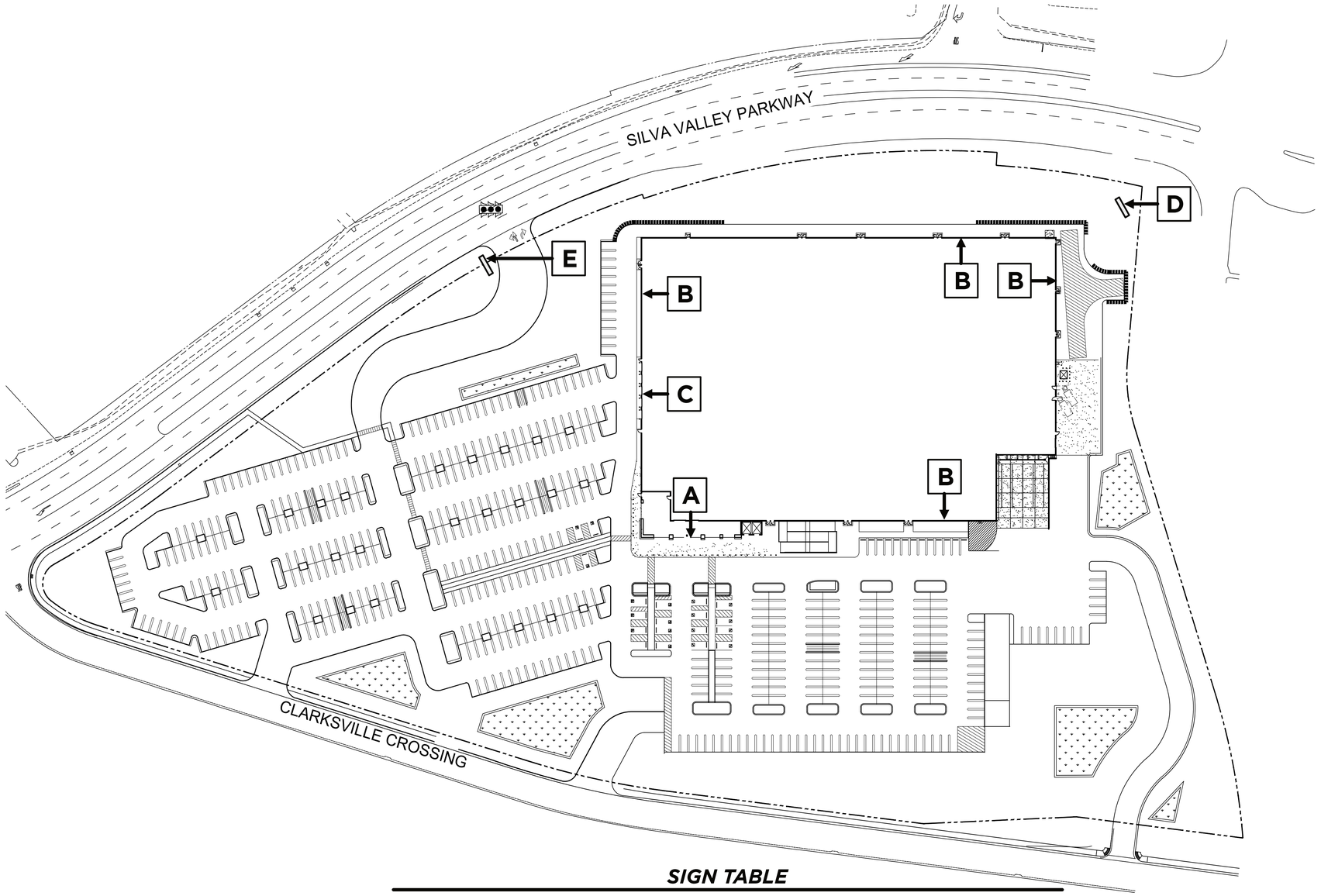
'COSTCO' AND ACCENT STRIPE -
"COSTCO RED"

MG2

APRIL 28, 2021
PROJECT# 19-5017-01
EL DORADO HILLS, CA

CONCEPT WAREHOUSE MATERIALS

COSTCO WHOLESALE





(A) WAREHOUSE SIGN
SCALE: NTS



(B) ENTRY CANOPY/ WAY FINDING SIGN
SCALE: NTS



(C) MISCELLANEOUS
SCALE: NTS

SIGN TABLE

IDENTITY	*QUANTITY*	*SIGN*	*SIZE*	*AREA (EACH)*	*TOTAL SF*
A	1	COSTCO WHOLESALE	5'-0" C	175 SF	***175 SF***
B	4	COSTCO WHOLESALE	6'-0" C	280 SF	***1,120 SF***
C	1	TIRE CENTER	1'-9" C	31 SF	***31 SF***
D	1	PYLON SIGN	16'-0" X 28'-2"	451 SF	***451 SF***
E	1	MONUMENT SIGN	16'-0" X 16'-4"	261 SF	***261 SF***
			TOTAL SIGN AREA:		**2,038 SF**

MG2

APRIL 28, 2021
PROJECT# 19-5017-01
EL DORADO HILLS, CA

WAREHOUSE SIGN PACKAGE

COSTCO WHOLESALE



Plant Legend

Symbols	Botanical / Common Name	Size	WUCOLS (Water Use Classification of Landscape Species)	Comments
	Trees			
	Acer platanoides ‘Crimson King’ / Crimson King Norway Maple	24” box	M	Matched Standards
	Lagerstroemia hyb. ‘Muskogee’ / Muskogee (Lavender) Crape Myrtle	24” box	L	Matched Standards
	Lagerstroemia hyb. ‘Tuscarora’ / Pink/Red Flowering Crape Myrtle	24” box	L	Matched Standards
	Zelkova serrata ‘Green Vase’ / Green Vase Zelkova	24” box	L	Matched Standards
	Quercus frainetto ‘Forest Green’ / Forest Green Italian Oak	24” box	L	Matched Standards
	Quercus ilex / Holly Oak	24” box	L	Matched Standards
	Quercus lobata / Valley Oak	24” box	L	Matched Standards
	Cedrus deodora /	24” box	L	Matched in Size
	Shrubs, Perennials, Ornamental Grasses, Ground Covers and Vine			
	Arbutus unedo ‘Compacta’ / Compact Strawberry Tree	15 gal.	L	
	Ceanothus ‘Concha’ / Concha Ceanothus	5 gal.	L	
	Cotoneaster dammeri ‘Lowfast’ / Lowfast Bearberry Cotoneaster	1 gal.	M	
	Dietes grandiflora 'Variegata' / Striped Fortnight Lily	1 gal.	L	
	Dianella revolute ‘Little Rev’ / Litlle Rev Dianella	1 gal.	L	
	Eleagnus x ebbingei ‘Gilt Edge’ / Gilt Edge Silver Berry	5 gal.	L	
	Festuca mairei / Atlas Fescue	1 gal.	L	
	Muhlenbergia capillaris ‘Regal Mist’ / Regal Mist Muhly Grass	1 gal.	L	
	Pennisetum orientale / Oriental Fountain Grass	1 gal.	L	
	Juniperus chinensis ‘Mint Julep’ / Mint Julep Juniper	5 gal.	L	
	Juniperus horizontalis ‘Blue Chip’ / Blue Chip Juniper	1 gal.	L	
	Phlomis fruticosa / Jerusalem Sage	1 gal.	L	
	Rosa ‘Meidrifora’ / Coral Drift Rose	1 gal.	M	
	Rosa banksiae ‘Lutea’ / Yellow Lady Banks Climbing Rose	5 gal.	M	
	Salvia leucantha ‘Santa Barbara’ / Santa Barbara Sage	1 gal.	L	
	Rosmarinus o. ‘Huntington Blue’ / Huntington Blue Rosemary	1 gal.	L	
	Stormwater Treatment Planter (SWTP)			
	Tree			
	Quercus wislizenii / Interior Live Oak	24” box	L	Matched Standards
	Perennials and Grasses			
	Chondropetalum tectorum / Cape Rush	5 gal.	L	
	Deschampsia cespitosa / Tufted Hairgrass	1 gal.	L	
	Juncus patens ‘Elk Blue’ / Elk Blue Gray Rush	1 gal.	M	
	Muhlenbergia rigens / Deer Grass	1 gal.	L	
	Nepeta racemosa ‘Walker’s Low’ / Walker’s Low Catmint	1 gal.	L	

IRRIGATION DESIGN STATEMENT:

The irrigation system will be a water efficient low flow, point source system designed to provide adequate watering to support plant growth and insure deeply rooted plant material while avoiding excess water application. The system will be programmable, allowing operation during late night and or early morning hours, with multiple start times and cycles. The system will interface with a weather based sensor that will adjust the amount of water applied to the plant material based on daily weather conditions. Irrigation materials specified for the site will be selected on the basis of durability and ease of maintenance. Landscape irrigation will comply with the California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELO).

LANDSCAPE DATA:

Costco Site Coverage
Total Parcel Area: +-17.04 AC (+- 742,262 SF)
Landscape Area Provided: 240,027 SF

Shading Requirements:
Required: 50% parking lot shading at 15 years
Provided: 56%

Upper Level Parking:
Provides 100% shading of lower level parking

WUCOLS LEGEND:

L Low Water Use

M Moderate Water Use

DBA # 290

DB+A

DAVID BABCOCK + ASSOCIATES
ARCHITECTURE LANDSCAPE PLANNING
3581 MT. DIABLO BLVD., SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

COSTCO EL DORADO HILLS

PRELIMINARY LANDSCAPE PLAN

0 20’ 40’ 80’ 160’

SCALE 1"= 80'

APRIL 28,2021

NORTH

PLAN

NOTES

1. THIS PLOT WAS PREPARED FROM INFORMATION FURNISHED IN PRELIMINARY TITLE REPORTS, PREPARED BY FIRST AMERICAN TITLE INSURANCE COMPANY, DATED JANUARY 9, 2019, NUMBER NCS-942714-WA1 & NUMBER NCS-942715-WA1. NO LIABILITY IS ASSUMED FOR MATTERS OF RECORD NOT STATED IN SAID PRELIMINARY TITLE REPORT THAT MAY AFFECT THE TITLE LINES, OR EXCEPTIONS, OR EASEMENTS OF THE PROPERTY.

2. ALL DISTANCES AND ELEVATIONS SHOWN HEREON ARE IN FEET AND DECIMALS THEREOF.

3. THE TYPES, LOCATIONS, SIZES AND/OR DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS TOPOGRAPHIC SURVEY WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS AND DEPTHS OF SUCH UNDERGROUND UTILITIES. (A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND UTILITIES). HOWEVER, THE ENGINEER CAN ASSUME NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF ITS DELINEATION OF SUCH UNDERGROUND UTILITIES WHICH MAY BE ENCOUNTERED, BUT WHICH ARE NOT SHOWN ON THESE DRAWINGS.

4. PHYSICAL ITEMS SHOWN ON THIS SURVEY ARE LIMITED TO THOSE ITEMS VISIBLE AS OF THE DATE OF THIS SURVEY. SUBSURFACE STRUCTURES, IF ANY, ARE NOT SHOWN. SAID SUBSURFACE OBJECTS MAY INCLUDE, BUT ARE NOT LIMITED TO, CONCRETE FOOTINGS, SLABS, SHORING, STRUCTURAL PILES, UTILITY VAULTS, PIPING, UNDERGROUND TANKS, AND ANY OTHER SUBSURFACE STRUCTURES NOT REVEALED BY A SURFACE INSPECTION.

5. THE SUBJECT PROPERTY IS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) FOR EL DORADO COUNTY, CALIFORNIA, MAP NUMBER 06017C0725E FOR COMMUNITY NUMBER 060040 (EL DORADO COUNTY), WITH AN EFFECTIVE DATE OF SEPTEMBER 26, 2008, AS BEING LOCATED IN FLOOD ZONE "X-UNSHADED". ACCORDING TO FEMA THE DEFINITION OF ZONE "X-UNSHADED" IS: AREA OF MINIMAL FLOOD HAZARD.

6. BENCHMARK:
CAL-TRANS TBM, NGS DISK ON TOP OF HEADWALL AT THE NORTHWEST CORNER OF THE BRIDGE ON CLARKSVILLE CROSSING AS TAKEN FROM THE CALTRANS IMPROVEMENT PLANS, SHEET 14 (PC-1) OF THE SILVA VALLEY CONSTRUCTION PLANS DATED JANUARY 4, 2013.
(PID: JS0692) ELEVATION= 673.08 FEET (NGVD 1929 DATUM)

7. BASIS OF BEARINGS:
THE BEARING OF NORTH 88° 27' 28" EAST, TAKEN ON THE NORTHERLY LINE OF PARCEL 4 AS SHOWN ON THAT CERTAIN PARCEL MAP FILED FOR RECORD ON DECEMBER 28, 2018, IN BOOK 52 OF MAPS AT PAGE 10, OFFICIAL RECORDS OF EL DORADO COUNTY WAS TAKEN AS THE BASIS FOR ALL BEARINGS SHOWN HEREON.

8. CORNER RECORD NOTE:
THE DEVELOPER AND/OR CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION AND FILING OF PRE-CONSTRUCTION AND POST-CONSTRUCTION CORNER RECORDS FOR ANY MONUMENTS OR PROPERTY CORNERS SHOWN HEREON THAT MAY BE DESTROYED DURING IMPROVEMENTS TO THE SUBJECT PROPERTY AS DEFINED IN SECTION 8771(B) OF THE PROFESSIONAL LAND SURVEYORS ACT.

10. THE AERIAL MAPPING WAS PREPARED USING COMPUTER ASSISTED, PHOTOGRAMMETRIC METHODS BY COOPER AERIAL SURVEYS CO., IN PHOENIX ARIZONA. JOB NUMBER 1901022. IN AREAS OF DENSE VEGETATION, ACCURACY OF CONTOURS MAY DEVIATE FROM ACCEPTED ACCURACY STANDARDS. DATE OF PHOTOGRAPHY 02-22-19, ORIGINAL COMPILED MAP SCALE 1"=40', CONTOUR INTERVAL 1 FOOT. THE GRID IS BASED ON PHOTOGRAMMETRIC METHODS COMPILED ON DIGITAL STEREO WORKSTATIONS USING AERIAL PHOTOGRAPHY. CONTROL SURVEY PERFORMED BY KIER & WRIGHT, LIVERMORE, CA.

7/XX/2019
PREPARED BY OR UNDER THE SUPERVISION OF DATE
RODNEY A. STEWART II, P.L.S. 9225

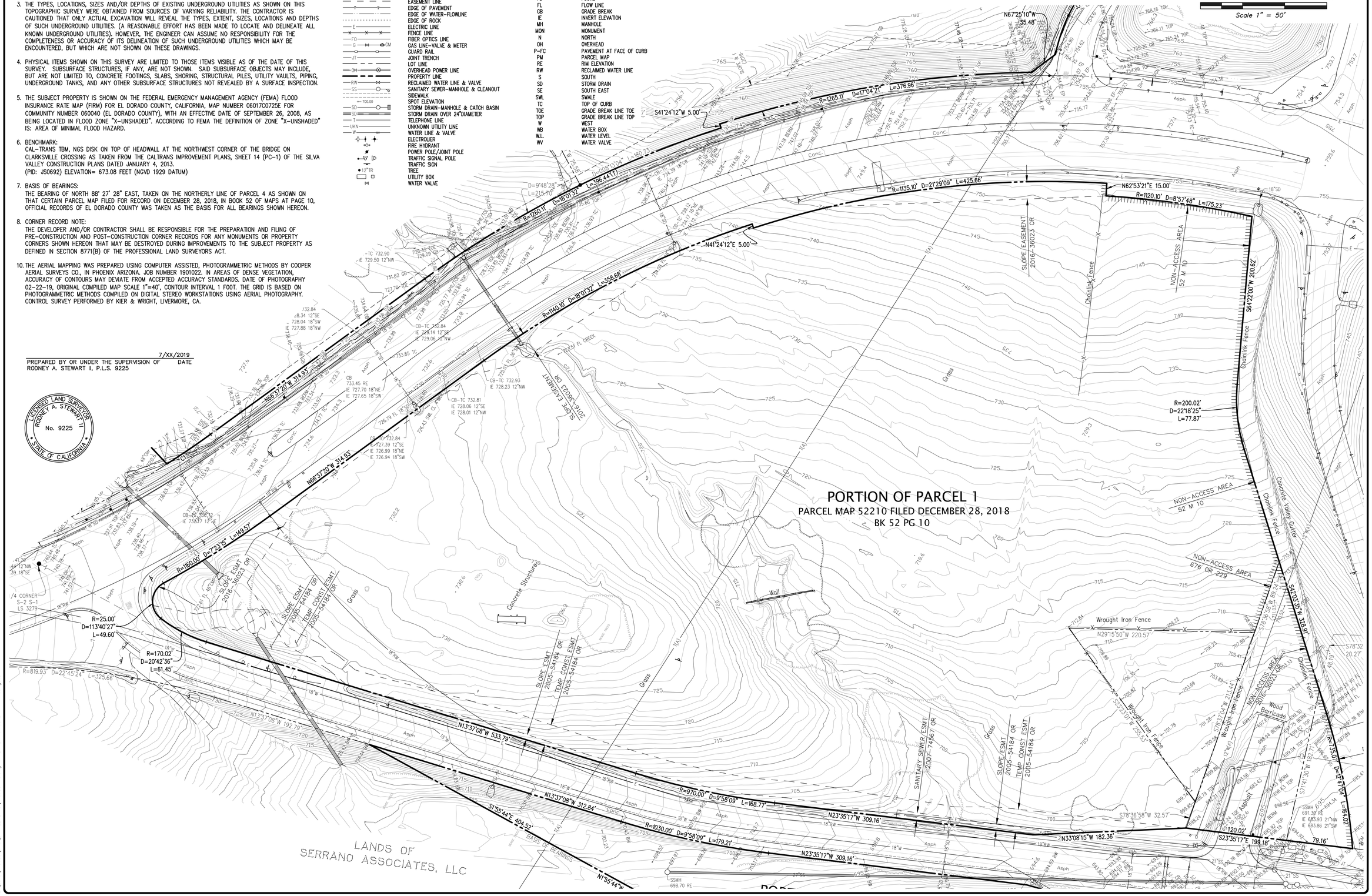
LICENSED LAND SURVEYOR
RODNEY A. STEWART II
No. 9225
STATE OF CALIFORNIA

LEGEND

	ASPHALT BERM
	BUILDING LINE
	CENTERLINE
	CONCRETE/BLOCK/RETAINING WALL
	CONCRETE CURB
	CONCRETE CURB & GUTTER
700	CONTOUR LINE
	DRIVEWAY
	EASEMENT LINE
	EDGE OF PAVEMENT
	EDGE OF WATER-FLOWLINE
	EDGE OF ROCK
E	ELECTRIC LINE
FO	FENCE LINE
C CM	FIBER OPTICS LINE
	GAS LINE-VALVE & METER
	GUARD RAIL
JT	JOINT TRENCH
	LOT LINE
OH	OVERHEAD POWER LINE
	PROPERTY LINE
RW	RECLAIMED WATER LINE & VALVE
SS	SANITARY SEWER-MANHOLE & CLEANOUT
700.00	SIDEWALK
SD	SPOT ELEVATION
SD	STORM DRAIN-MANHOLE & CATCH BASIN
T	STORM DRAIN OVER 24"DIAMETER
UKN	TELEPHONE LINE
W	UNKNOWN UTILITY LINE
	WATER LINE & VALVE
	ELECTROLIER
	FIRE HYDRANT
12"TR	POWER POLE/JOINT POLE
	TRAFFIC SIGNAL POLE
	TRAFFIC SIGN
	TREE
	UTILITY BOX
	WATER VALVE

ABBREVIATIONS

BEG	BEGIN
CB	CATCH BASIN
CL	CENTER LINE
DYLT	DAYLIGHT
E	EAST
EP	EDGE OF PAVEMENT
ESMT	EASEMENT
FD	FOUND
FL	FLOW LINE
GB	GRADE BREAK
IE	INVERT ELEVATION
MH	MANHOLE
MON	MONUMENT
N	NORTH
OH	OVERHEAD
P-FC	PAVEMENT AT FACE OF CURB
PM	PARCEL MAP
RE	RIM ELEVATION
RW	RECLAIMED WATER LINE
S	SOUTH
SD	STORM DRAIN
SE	SOUTH EAST
SWL	SWALE
TC	TOP OF CURB
TOE	GRADE BREAK LINE TOE
TOP	GRADE BREAK LINE TOP
W	WEST
WB	WATER BOX
W.L.	WATER LEVEL
WV	WATER VALVE



NO.	REVISION	BY

KIER+WRIGHT
2995 Prospect Park Drive, Ste. 100
Rancho Cordova, CA 95670
Phone: (916) 970-5784
www.kierwright.com

TOPOGRAPHIC SURVEY
OF
EL DORADO HILLS COSTCO
FOR
COSTCO WHOLESALE CORPORATION
CALIFORNIA
EL DORADO HILLS,

DATE	APRIL, 2021
SCALE	AS SHOWN
DESIGNER	KRR
DRAFTER	KGH
JOB NO.	A18655
SHEET	C1.0
OF	SHEETS

Z:\2018\A18655\DWG\ENTITLEMENTS\A18655-PG.dwg 4-27-21 01:03:21 PM krodriguez

LEGEND

△	AREA DRAIN
□	STORM DRAIN CATCH BASIN(SDCB)
■	STORM DRAIN JUNCTION BOX(SDJB)
●	STORM DRAIN MANHOLE(SDMH)
FL	FLOW LINE
FF	FINISH FLOOR
FES	FLARED END SECTION
TOW	TOP OF WALL
CONF	CONFORM TO EXISTING
PV	PAVEMENT
RE	RIM ELEVATION
23.8	SPOT ELEVATION
X"SD	STORM DRAIN LINE
TC	TOP OF CURB
	ROCK WALL

NORTH

0 25 50 100 150

Scale 1" = 50'

COSTCO WHOLESALE

FF=729.00

MEDIAN IMPROVEMENTS FOR NEW LEFT TURN LANE

PROPOSED SIDEWALK

PROPOSED SIDEWALK

PROPOSED SIDEWALK

PEDESTRIAN RAMP TO /FROM LOWER GARAGE LEVEL

ELEVATORS

LOWER LEVEL GARAGE 10' BELOW UPPER LEVEL (TYP)

LOWER LEVEL GARAGE 10' BELOW UPPER LEVEL (TYP)

LOWER LEVEL GARAGE 10' BELOW UPPER LEVEL (TYP)

GARAGE SD STUB

EXISTING UTILITY VAULTS AND BOXES TO REMAIN

LANDS OF SERRANO ASSOCIATES, LLC

FND IP 1/16 CORNER S-2 S-1 RCE 20462

S78°32'36"W 20.27'

NO.	REVISION	BY

NO.	REVISION	BY

KIER+WRIGHT
2995 Prospect Park Drive, Ste. 100
Rancho Cordova, CA 95670
Phone: (916) 970-5784
www.kierwright.com

PRELIMINARY GRADING AND DRAINAGE PLAN
OF
EL DORADO HILLS COSTCO
FOR
COSTCO WHOLESALE CORPORATION
CALIFORNIA
EL DORADO HILLS,

DATE	APRIL, 2021
SCALE	AS SHOWN
DESIGNER	KRR
DRAFTER	KGH
JOB NO.	A18655
SHEET	C2.0
OF	SHEETS

Z:\2018\A18655\DWG\ENTITLEMENTS\A18655-PG.dwg 4-27-21 01:03:39 PM krodriguez

LEGEND

ASR	AUTOMATIC SPRINKLER RISER
RE	RIM ELEVATION
TC	TOP OF CURB
WS	WATER SERVICE
	EXISTING UTILITY TO BE ABANDONDED BY REMOVAL
FS	FIRE SERVICE
SS	SANITARY SEWER
COTG	CLEANOUT TO GRADE
	STORM DRAIN LINE
	STORM DRAIN CATCH BASIN
	STORM DRAIN JUNCTION BOX
	STORM DRAIN MANHOLE
	BACK FLOW PREVENTION DEVICE
	FIRE DEPARTMENT CONNECTION
	FIRE HYDRANT & VALVE
	POST INDICATOR VALVE
SSMH	SANITARY SEWER MANHOLE
	SINGLE CHECK VALVE
SDMH	STORM DRAIN MANHOLE
	WATER METER
	GREASE INTERCEPTOR
	SAND OIL SEPARATOR

NORTH

0 25 50 100 150

Scale 1" = 50'

COSTCO WHOLESALE

FF=729.00

NEW SIGNALIZED INTERSECTION

STUB FOR FUTURE EXTENSION BY EID

STUB FOR FUTURE EXTENSION BY EID

FES RE 729.20

20' EID EASEMENT

SSMH

SDMH RE 732.92

18"SD

15' COUNTY DRAIN EASEMENT

8"SS(PUBLIC)

10"W(PUBLIC)

36"SD(PUBLIC)

SSMH RE 734.84

SDMH RE 732.27

8"SS(PUBLIC)

20' EID EASEMENT

SDMH RE 732.59

10"W(PUBLIC)

36"SD(PUBLIC)

8"SS(PUBLIC)

12"SD

SSMH RE 731.43

CB RE 726.40 FL 725.90

8"W

SDMH RE 729.55

SDMH RE 729.30

SSMH RE 729.61

8"SS(PUBLIC)

6"SS

SSMH RE 727.34

10"W(PUBLIC)

NEW SIGNALIZED INTERSECTION

SDMH RE 730.43

48"SD (PUBLIC)

SDMH RE 727.67

EID EASEMENT VARIABLE WIDTH

8"SS(PUBLIC)

15' COUNTY DRAIN EASEMENT

36"SD(PUBLIC)

CB-TC RE 724.35

CB-TC RE 724.83

BUBBLER RE 718.50 FL 718.00

BUBBLER RE 718.50 FL 718.00

SDMH RE 718.50 FL 718.00

SDMH RE 720.40

18"SD

SSMH RE 720.92

CB-TC RE 724.72

BUBBLER RE 712.50 FL 712.00

8"SS(PUBLIC)

CB RE 712.80 FL 712.00

BUBBLER RE 712.50 FL 712.00

10"W

SSMH RE 714.69

36"SD(PUBLIC)

8"SS(PUBLIC)

FES RE 705.42

EX.SSMH RE 0.27

LANDS OF SERRANO ASSOCIATES, LLC

FND IP 1/16 CORNER S-2, S-1 RCE 20462

CB RE 728.50

12"SD

CB RE 728.50

12"SD

CB RE 728.50

12"SD

CB RE 728.50

SDMH RE 728.60

FH

12"RD STUB

12"SD

6"SS

SS STUB

12"RD STUB

GI

SS STUB

12"RD STUB

6"SS

12"SD

12"RD STUB

SS STUB

6"SS

12"RD STUB

SSMH RE 728.80

12"RD STUB

8"RD STUB

8"RD STUB

8"RD STUB

8"RD STUB

18"SD

12"SD

6"SD

8"SD

SDJB RE 728.43

12"SD

10"FS

10"FS

FH

FH

6"W

FH

12"RD STUB

GAS METER

12"RD STUB

DOM WATER

ASR

12"RD STUB

12"SD

18"SD

10"W

12"SD

BFP

WM

3" DOM SERVICE

FDC

PIV

DDCV

20' EID EASEMENT

12"RD STUB

SSCO RE 728.01

SDS RE 728.19

SSCO RE 728.59

12"RD STUB

12"SD

6"W

FH

SSMH RE 728.33

SDMH RE 728.41

18"SD

6"SD

CB RE 724.83

BUBBLER RE 724.21 FL 722.00

SSCO RE 727.88

SSCO RE 727.96

GI RE 727.75

SSCO RE 727.73

SSCO RE 727.64

6"SS

10"FS

CB RE 722.50 FL 722.00

SSMH RE 725.44

SSMH RE 723.52

6"SS

10"W

SSMH RE 718.52

VARIABLE WIDTH EID EASEMENT

24"SD

6"SS

10"W

CB-TC RE 723.04

SSCO RE 711.46

SSCO RE 710.74

SSMH RE 707.84

SDMH RE 706.96

SSMH RE 706.61

GARAGE SS STUB

GARAGE SD STUB

SSCO RE 712.69

SDS RE 713.16

BUBBLER RE 706.50 FL 706.00

BUBBLER RE 706.50 FL 706.00

12"SD

24"SD

CB RE 707.46 FL 706.00

10"W

8"SS

15' COUNTY DRAINAGE EMENT RE 697.32

18"SD

CB P2424 RE 697.38

SSMH RE 695.74

CB RE 694.00 FL 693.50

30"SD(PUBLIC)

12"SD

24" FES RE 692.27

24"SD(PUBLIC)

1.5" IRR SERVICE

30"SD(PUBLIC)

10"W

6"SS

SDMH RE 695.30

SDMH RE 695.12

EXISTING VAULTS AND BOXES TO REMAIN

CB-TC RE 693.32

EX. CB RE 693.31

30"SD(PUBLIC)

FES RE 4.21

10"W

6"W

FH

SANITARY SEWER EASEMENT 2007-745670 OR

BLDG ESMT 2005-54184 OR

EXIST CONST ESMT 2005-54184 OR

SLOPE EASEMENT 2007-036023 OR

NON-ACCESS AREA

NO.	REVISION	BY

NO.	REVISION	BY

KIER+WRIGHT

2995 Prospect Park Drive, Ste. 100
Rancho Cordova, CA 95670

Phone: (916) 970-5784
www.kierwright.com

PRELIMINARY UTILITY PLAN
OF
EL DORADO HILLS COSTCO
FOR
COSTCO WHOLESALE CORPORATION CALIFORNIA
EL DORADO HILLS,

DATE	APRIL, 2021
SCALE	AS SHOWN
DESIGNER	KRR
DRAFTER	KGH
JOB NO.	A18655
SHEET	C3.0
OF	SHEETS

Z:\2018\A18655\DWG\ENTITLEMENTS\A18655-PG.dwg 4-27-21 01:03:55 PM krodriguez

LEGEND

- TRIBUTARY AREA LIMITS
- LANDSCAPE AREA
- IMPERVIOUS ROOFTOP DRAINING TO BIO-RETENTION TREATMENT PLANTER
- IMPERVIOUS PAVEMENT DRAINING TO BIO-RETENTION TREATMENT PLANTER
- BIORETENTION TREATMENT PLANTER

TREATMENT AREA SUMMARY

DMA #	DMA AREA (SF)	DMA AREA (AC)	LANDSCAPE AREA (SF)	IMPERVIOUS AREA (SF)	TREATMENT REQUIRED (SF)*	TREATMENT PROVIDED (SF)	TREATMENT METHOD	SIZING RATIO (%)
DMA 1	59,650	1.37	23,572	34,668	1,387	1,410	Bioretention	4.1%
DMA 2	140,233	3.22	52,911	83,896	3,356	3,426	Bioretention	4.1%
DMA 3	19,568	0.45	7,033	12,025	481	510	Bioretention	4.2%
DMA 4	160,854	3.69	29,012	126,316	5,053	5,526	Bioretention	4.4%
DMA 5	189,720	4.36	16,700	166,238	6,650	6,782	Bioretention	4.1%
DMA 6	122,083	2.80	41,096	77,681	3,107	3,306	Bioretention	4.3%
DMA 7	42,619	0.98	38,484	4,135	165	0	Vegetated Swale	N/A
Totals	**734,727**	**16.87**	**208,808**	**504,960**	**20,198**	**20,959**		

* Treatment Area Required is based on 4% of the DMA Impervious Area

NORTH

0 25 50 100 150

Scale 1" = 50'

DMA 1
DMA 2
DMA3
DMA 4
DMA 5
DMA 6
DMA 7

LANDS OF SERRANO ASSOCIATES, LLC

NO.	REVISION	BY

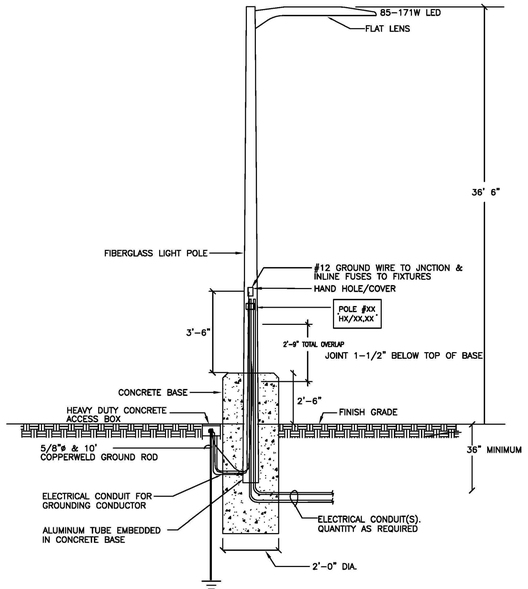
NO.	REVISION	BY

KIER+WRIGHT
2995 Prospect Park Drive, Ste. 100
Rancho Cordova, CA 95670
Phone: (916) 970-5784
www.kierwright.com

PRELIMINARY STORM WATER QUALITY CONTROL PLAN
OF
EL DORADO HILLS COSTCO
FOR
COSTCO WHOLESALE CORPORATION
CALIFORNIA
EL DORADO HILLS,

DATE	APRIL, 2021
SCALE	AS SHOWN
DESIGNER	KRR
DRAFTER	KGH
JOB NO.	A18655
SHEET	C4.0
OF	SHEETS

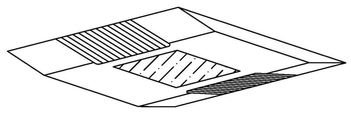
Z:\2018\A18655\DWG\ENTITLEMENTS\A18655-PG.dwg 4-27-21 01:04:12 PM krodriguez



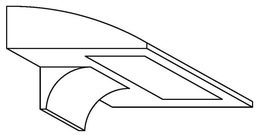
NOTE: PROVIDE CONCRETE J–BOX AS REQUIRED.
THIS DETAIL IS FOR ELECTRICAL CONDUITS ROUTING ONLY.
SEE STRUCTURAL DRAWINGS S0.2 FOR DETAILS.

POLE DETAIL
SCALE: NTS

FIXTURE DESCRIPTION	
P	COOPER GALLEON GLEON–SA4B–LED–U–5WQ–BZ, 171W TYPE 5 DISTRIBUTION. FIBERGLASS POLE 36'–6" ABOVE GRADE, WITH 2'–6" BASE.
P1	COOPER GALLEON GLEON–SA3B–LED–E1–SL3–HSS–BZ, 124W TYPE 3 DISTRIBUTION. FIBERGLASS POLE 36'–6" ABOVE GRADE, WITH 2'–6" BASE. (ROTATED OPTICS FOR 2 HEAD POLE)
P2	COOPER GALLEON GLEON–SA3B–LED–E1–SL4–HSS–BZ, 124W TYPE 4 DISTRIBUTION. FIBERGLASS POLE 36'–6" ABOVE GRADE, WITH 2'–6" BASE. (ROTATED OPTICS FOR 2 HEAD POLE)
P3	85W TYPE 4 DISTRIBUTION. FIBERGLASS POLE 36'–6" ABOVE GRADE, WITH 2'–6" BASE.
W	LITH DSXW2 LED 40K 30C 530 T2M, 54W LED, 17' MOUNTING HEIGHT
W1	LITH DSXW2 LED 40K 30C 530 T4M, 54W LED, 17' MOUNTING HEIGHT
W2	LITH DSXW2 LED 40K 30C 350 T2M, 36W LED, 17' MOUNTING HEIGHT
W3	LITH DSXW2 LED 40K 20C 350 TFTM, 25W LED, 17' MOUNTING HEIGHT
GA	96W LED, SURFACE SYMETRIC DOWN LIGHT, FLAT LENS, 18' MOUNTING HEIGHT
L	91W LED, SURFACE SYMETRIC DOWN LIGHT, FLAT LENS, 18' MOUNTING HEIGHT



FUEL FACILITY, CANOPY – LED (GA,L)
NO SCALE



TYPICAL WALL PACK DETAIL (W)
SCALE: NTS

SITE LIGHTING PLAN
SCALE: 1" = 60'–0"

PLANNING SUBMITTAL

ISSUE DATE: SEPTEMBER 2019 REVISION DATE: DRAWN: JGM CHECKED: ANT/JGM

© NO PART OF THIS DOCUMENT MAY BE USED OR COPIED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN CONSENT OF T.E.INC.

ARCHITECT REFERENCE NO:19–5017–01

PROJECT NO:19–427

SITE LIGHTING PLAN

T.E., Inc.
830 N. RIVERSIDE DRIVE
SUITE #200
RENTON, WA 98057
PHONE: 425–970–3753
FAX: 425–970–3756

DD PACKAGE

SILVA VALLEY PARKWAY
EL DORADO HILLS, CA

COSTCO WHOLESALE

SE–1



Plant Legend

Symbols	Botanical / Common Name	Size	WUCOLS (Water Use Classification of Landscape Species)	Comments
	Trees			
	Acer platanoides ‘Crimson King’ / Crimson King Norway Maple	24” box	M	Matched Standards
	Lagerstroemia hyb. ‘Muskogee’ / Muskogee (Lavender) Crape Myrtle	24” box	L	Matched Standards
	Lagerstroemia hyb. ‘Tuscarora’ / Pink/Red Flowering Crape Myrtle	24” box	L	Matched Standards
	Zelkova serrata ‘Green Vase’ / Green Vase Zelkova	24” box	L	Matched Standards
	Quercus frainetto ‘Forest Green’ / Forest Green Italian Oak	24” box	L	Matched Standards
	Quercus ilex / Holly Oak	24” box	L	Matched Standards
	Quercus lobata / Valley Oak	24” box	L	Matched Standards
	Cedrus deodora /	24” box	L	Matched in Size
	Shrubs, Perennials, Ornamental Grasses, Ground Covers and Vine			
	Arbutus unedo ‘Compacta’ / Compact Strawberry Tree	15 gal.	L	
	Ceanothus ‘Concha’ / Concha Ceanothus	5 gal.	L	
	Cotoneaster dammeri ‘Lowfast’ / Lowfast Bearberry Cotoneaster	1 gal.	M	
	Dietes grandiflora 'Variegata' / Striped Fortnight Lily	1 gal.	L	
	Dianella revolute ‘Little Rev’ / Litlle Rev Dianella	1 gal.	L	
	Eleagnus x ebbingei ‘Gilt Edge’ / Gilt Edge Silver Berry	5 gal.	L	
	Festuca mairei / Atlas Fescue	1 gal.	L	
	Muhlenbergia capillaris ‘Regal Mist’ / Regal Mist Muhly Grass	1 gal.	L	
	Pennisetum orientale / Oriental Fountain Grass	1 gal.	L	
	Juniperus chinensis ‘Mint Julep’ / Mint Julep Juniper	5 gal.	L	
	Juniperus horizontalis ‘Blue Chip’ / Blue Chip Juniper	1 gal.	L	
	Phlomis fruticosa / Jerusalem Sage	1 gal.	L	
	Rosa ‘Meidrifora’ / Coral Drift Rose	1 gal.	M	
	Rosa banksiae ‘Lutea’ / Yellow Lady Banks Climbing Rose	5 gal.	M	
	Salvia leucantha ‘Santa Barbara’ / Santa Barbara Sage	1 gal.	L	
	Rosmarinus o. ‘Huntington Blue’ / Huntington Blue Rosemary	1 gal.	L	
	Stormwater Treatment Planter (SWTP)			
	Tree			
	Quercus wislizenii / Interior Live Oak	24” box	L	Matched Standards
	Perennials and Grasses			
	Chondropetalum tectorum / Cape Rush	5 gal.	L	
	Deschampsia cespitosa / Tufted Hairgrass	1 gal.	L	
	Juncus patens ‘Elk Blue’ / Elk Blue Gray Rush	1 gal.	M	
	Muhlenbergia rigens / Deer Grass	1 gal.	L	
	Nepeta racemosa ‘Walker’s Low’ / Walker’s Low Catmint	1 gal.	L	

IRRIGATION DESIGN STATEMENT:

The irrigation system will be a water efficient low flow, point source system designed to provide adequate watering to support plant growth and insure deeply rooted plant material while avoiding excess water application. The system will be programmable, allowing operation during late night and or early morning hours, with multiple start times and cycles. The system will interface with a weather based sensor that will adjust the amount of water applied to the plant material based on daily weather conditions. Irrigation materials specified for the site will be selected on the basis of durability and ease of maintenance. Landscape irrigation will comply with the California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELO).

LANDSCAPE DATA:

Costco Site Coverage
Total Parcel Area: +-17.04 AC (+- 742,262 SF)
Landscape Area Provided: 240,027 SF

Shading Requirements:
Required: 50% parking lot shading at 15 years
Provided: 56%

Upper Level Parking:
Provides 100% shading of lower level parking

WUCOLS LEGEND:

L Low Water Use

M Moderate Water Use

DBA # 290

DB+A

DAVID BABCOCK + ASSOCIATES
ARCHITECTURE LANDSCAPE PLANNING
3581 MT. DIABLO BLVD., SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

COSTCO EL DORADO HILLS

PRELIMINARY LANDSCAPE PLAN

0 20’ 40’ 80’ 160’

SCALE 1"= 80'

APRIL 28,2021

NORTH

PLAN

NOTES

1. THIS PLOT WAS PREPARED FROM INFORMATION FURNISHED IN PRELIMINARY TITLE REPORTS, PREPARED BY FIRST AMERICAN TITLE INSURANCE COMPANY, DATED JANUARY 9, 2019, NUMBER NCS-942714-WA1 & NUMBER NCS-942715-WA1. NO LIABILITY IS ASSUMED FOR MATTERS OF RECORD NOT STATED IN SAID PRELIMINARY TITLE REPORT THAT MAY AFFECT THE TITLE LINES, OR EXCEPTIONS, OR EASEMENTS OF THE PROPERTY.

2. ALL DISTANCES AND ELEVATIONS SHOWN HEREON ARE IN FEET AND DECIMALS THEREOF.

3. THE TYPES, LOCATIONS, SIZES AND/OR DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS TOPOGRAPHIC SURVEY WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS AND DEPTHS OF SUCH UNDERGROUND UTILITIES. (A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND UTILITIES). HOWEVER, THE ENGINEER CAN ASSUME NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF ITS DELINEATION OF SUCH UNDERGROUND UTILITIES WHICH MAY BE ENCOUNTERED, BUT WHICH ARE NOT SHOWN ON THESE DRAWINGS.

4. PHYSICAL ITEMS SHOWN ON THIS SURVEY ARE LIMITED TO THOSE ITEMS VISIBLE AS OF THE DATE OF THIS SURVEY. SUBSURFACE STRUCTURES, IF ANY, ARE NOT SHOWN. SAID SUBSURFACE OBJECTS MAY INCLUDE, BUT ARE NOT LIMITED TO, CONCRETE FOOTINGS, SLABS, SHORING, STRUCTURAL PILES, UTILITY VAULTS, PIPING, UNDERGROUND TANKS, AND ANY OTHER SUBSURFACE STRUCTURES NOT REVEALED BY A SURFACE INSPECTION.

5. THE SUBJECT PROPERTY IS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) FOR EL DORADO COUNTY, CALIFORNIA, MAP NUMBER 06017C0725E FOR COMMUNITY NUMBER 060040 (EL DORADO COUNTY), WITH AN EFFECTIVE DATE OF SEPTEMBER 26, 2008, AS BEING LOCATED IN FLOOD ZONE "X-UNSHADED". ACCORDING TO FEMA THE DEFINITION OF ZONE "X-UNSHADED" IS: AREA OF MINIMAL FLOOD HAZARD.

6. BENCHMARK:
CAL-TRANS TBM, NGS DISK ON TOP OF HEADWALL AT THE NORTHWEST CORNER OF THE BRIDGE ON CLARKSVILLE CROSSING AS TAKEN FROM THE CALTRANS IMPROVEMENT PLANS, SHEET 14 (PC-1) OF THE SILVA VALLEY CONSTRUCTION PLANS DATED JANUARY 4, 2013.
(PID: JS0692) ELEVATION= 673.08 FEET (NGVD 1929 DATUM)

7. BASIS OF BEARINGS:
THE BEARING OF NORTH 88° 27' 28" EAST, TAKEN ON THE NORTHERLY LINE OF PARCEL 4 AS SHOWN ON THAT CERTAIN PARCEL MAP FILED FOR RECORD ON DECEMBER 28, 2018, IN BOOK 52 OF MAPS AT PAGE 10, OFFICIAL RECORDS OF EL DORADO COUNTY WAS TAKEN AS THE BASIS FOR ALL BEARINGS SHOWN HEREON.

8. CORNER RECORD NOTE:
THE DEVELOPER AND/OR CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION AND FILING OF PRE-CONSTRUCTION AND POST-CONSTRUCTION CORNER RECORDS FOR ANY MONUMENTS OR PROPERTY CORNERS SHOWN HEREON THAT MAY BE DESTROYED DURING IMPROVEMENTS TO THE SUBJECT PROPERTY AS DEFINED IN SECTION 8771(B) OF THE PROFESSIONAL LAND SURVEYORS ACT.

10. THE AERIAL MAPPING WAS PREPARED USING COMPUTER ASSISTED, PHOTOGRAMMETRIC METHODS BY COOPER AERIAL SURVEYS CO., IN PHOENIX ARIZONA. JOB NUMBER 1901022. IN AREAS OF DENSE VEGETATION, ACCURACY OF CONTOURS MAY DEVIATE FROM ACCEPTED ACCURACY STANDARDS. DATE OF PHOTOGRAPHY 02-22-19, ORIGINAL COMPILED MAP SCALE 1"=40', CONTOUR INTERVAL 1 FOOT. THE GRID IS BASED ON PHOTOGRAMMETRIC METHODS COMPILED ON DIGITAL STEREO WORKSTATIONS USING AERIAL PHOTOGRAPHY. CONTROL SURVEY PERFORMED BY KIER & WRIGHT, LIVERMORE, CA.

7/XX/2019
PREPARED BY OR UNDER THE SUPERVISION OF DATE
RODNEY A. STEWART II, P.L.S. 9225

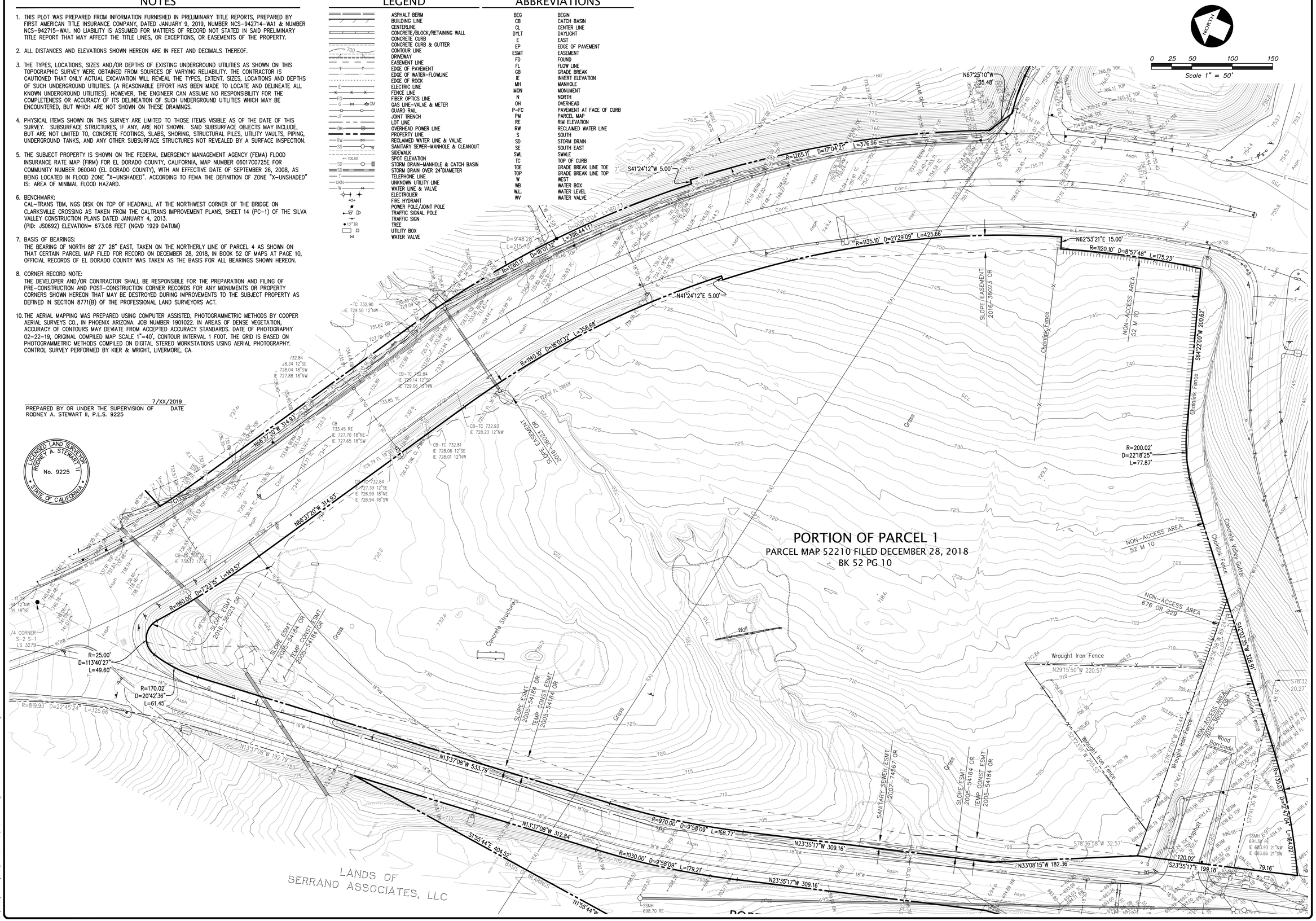
LICENSED LAND SURVEYOR
RODNEY A. STEWART II
No. 9225
STATE OF CALIFORNIA

LEGEND

- ASPHALT BERM
- BUILDING LINE
- CENTERLINE
- CONCRETE/BLOCK/RETAINING WALL
- CONCRETE CURB
- CONCRETE CURB & GUTTER
- CONTOUR LINE
- DRIVEWAY
- EASEMENT LINE
- EDGE OF PAVEMENT
- EDGE OF WATER-FLOWLINE
- EDGE OF ROCK
- ELECTRIC LINE
- FENCE LINE
- FIBER OPTICS LINE
- GAS LINE-VALVE & METER
- GUARD RAIL
- JOINT TRENCH
- LOT LINE
- OVERHEAD POWER LINE
- PROPERTY LINE
- RECLAIMED WATER LINE & VALVE
- SANITARY SEWER-MANHOLE & CLEANOUT
- SIDEWALK
- SPOT ELEVATION
- STORM DRAIN-MANHOLE & CATCH BASIN
- STORM DRAIN OVER 24"DIAMETER
- TELEPHONE LINE
- UNKNOWN UTILITY LINE
- WATER LINE & VALVE
- ELECTROLIER
- FIRE HYDRANT
- POWER POLE/JOINT POLE
- TRAFFIC SIGNAL POLE
- TRAFFIC SIGN
- TREE
- UTILITY BOX
- WATER VALVE

ABBREVIATIONS

BEG	BEGIN
CB	CATCH BASIN
CL	CENTER LINE
DYLT	DAYLIGHT
E	EAST
EP	EDGE OF PAVEMENT
ESMT	EASEMENT
FD	FOUND
FL	FLOW LINE
GB	GRADE BREAK
IE	INVERT ELEVATION
MH	MANHOLE
MON	MONUMENT
N	NORTH
OH	OVERHEAD
P-FC	PAVEMENT AT FACE OF CURB
PM	PARCEL MAP
RE	RIM ELEVATION
RW	RECLAIMED WATER LINE
S	SOUTH
SD	STORM DRAIN
SE	SOUTH EAST
SWL	SWALE
TC	TOP OF CURB
TOE	GRADE BREAK LINE TOE
TOP	GRADE BREAK LINE TOP
W	WEST
WB	WATER BOX
WL	WATER LEVEL
WV	WATER VALVE



NO.	REVISION	BY

KIER+WRIGHT
2995 Prospect Park Drive, Ste. 100
Rancho Cordova, CA 95670
Phone: (916) 970-5784
www.kierwright.com

TOPOGRAPHIC SURVEY
OF
EL DORADO HILLS COSTCO
FOR
COSTCO WHOLESALE CORPORATION
CALIFORNIA
EL DORADO HILLS,

DATE	APRIL, 2021
SCALE	AS SHOWN
DESIGNER	KRR
DRAFTER	KGH
JOB NO.	A18655
SHEET	C1.0
OF	SHEETS

Z:\2018\A18655\DWG\ENTITLEMENTS\A18655-PG.dwg 4-27-21 01:03:21 PM krodriguez

LEGEND

△	AREA DRAIN
□	STORM DRAIN CATCH BASIN(SDCB)
■	STORM DRAIN JUNCTION BOX(SDJB)
●	STORM DRAIN MANHOLE(SDMH)
FL	FLOW LINE
FF	FINISH FLOOR
FES	FLARED END SECTION
TOW	TOP OF WALL
CONF	CONFORM TO EXISTING
PV	PAVEMENT
RE	RIM ELEVATION
23.8	SPOT ELEVATION
X"SD	STORM DRAIN LINE
TC	TOP OF CURB
	ROCK WALL

NORTH

0 25 50 100 150

Scale 1" = 50'

COSTCO WHOLESALE

FF=729.00

MEDIAN IMPROVEMENTS FOR NEW LEFT TURN LANE

PROPOSED SIDEWALK

PEDESTRIAN RAMP TO /FROM LOWER GARAGE LEVEL

ELEVATORS

LOWER LEVEL GARAGE 10' BELOW UPPER LEVEL (TYP)

GARAGE SD STUB

LANDS OF SERRANO ASSOCIATES, LLC

FND IP 1/16 CORNER S-2 S-1 RCE 20462

S78°32'36"W 20.27'

48.19'

S2

NO.	REVISION	BY

NO.	REVISION	BY

KIER+WRIGHT
2995 Prospect Park Drive, Ste. 100
Rancho Cordova, CA 95670
Phone: (916) 970-5784
www.kierwright.com

PRELIMINARY GRADING AND DRAINAGE PLAN
OF
EL DORADO HILLS COSTCO
FOR
COSTCO WHOLESALE CORPORATION
CALIFORNIA
EL DORADO HILLS,

DATE	APRIL, 2021
SCALE	AS SHOWN
DESIGNER	KRR
DRAFTER	KGH
JOB NO.	A18655
SHEET	C2.0
OF	SHEETS

Z:\2018\A18655\DWG\ENTITLEMENTS\A18655-PG.dwg 4-27-21 01:03:39 PM krodriguez

LEGEND

ASR	AUTOMATIC SPRINKLER RISER
RE	RIM ELEVATION
TC	TOP OF CURB
WS	WATER SERVICE
	EXISTING UTILITY TO BE ABANDONDED BY REMOVAL
FS	FIRE SERVICE
SS	SANITARY SEWER
COTG	CLEANOUT TO GRADE
	STORM DRAIN LINE
	STORM DRAIN CATCH BASIN
	STORM DRAIN JUNCTION BOX
SSMH	STORM DRAIN MANHOLE
	BACK FLOW PREVENTION DEVICE
	FIRE DEPARTMENT CONNECTION
	FIRE HYDRANT & VALVE
	POST INDICATOR VALVE
SSMH	SANITARY SEWER MANHOLE
	SINGLE CHECK VALVE
SDMH	STORM DRAIN MANHOLE
	WATER METER
	GREASE INTERCEPTOR
	SAND OIL SEPARATOR

NORTH

0 25 50 100 150

Scale 1" = 50'

COSTCO WHOLESALE

FF=729.00

LANDS OF SERRANO ASSOCIATES, LLC

NO.	REVISION	BY

NO.	REVISION	BY

KIER+WRIGHT
2995 Prospect Park Drive, Ste. 100
Rancho Cordova, CA 95670
Phone: (916) 970-5784
www.kierwright.com

PRELIMINARY UTILITY PLAN
OF
EL DORADO HILLS COSTCO
FOR
COSTCO WHOLESALE CORPORATION CALIFORNIA
EL DORADO HILLS,

DATE	APRIL, 2021
SCALE	AS SHOWN
DESIGNER	KRR
DRAFTER	KGH
JOB NO.	A18655
SHEET	C3.0
OF	SHEETS

Z:\2018\A18655\DWG\ENTITLEMENTS\A18655-PG.dwg 4-27-21 01:03:55 PM krodriguez

LEGEND

- TRIBUTARY AREA LIMITS
- LANDSCAPE AREA
- IMPERVIOUS ROOFTOP DRAINING TO BIO-RETENTION TREATMENT PLANTER
- IMPERVIOUS PAVEMENT DRAINING TO BIO-RETENTION TREATMENT PLANTER
- BIORETENTION TREATMENT PLANTER

TREATMENT AREA SUMMARY

DMA #	DMA AREA (SF)	DMA AREA (AC)	LANDSCAPE AREA (SF)	IMPERVIOUS AREA (SF)	TREATMENT REQUIRED (SF)*	TREATMENT PROVIDED (SF)	TREATMENT METHOD	SIZING RATIO (%)
DMA 1	59,650	1.37	23,572	34,668	1,387	1,410	Bioretention	4.1%
DMA 2	140,233	3.22	52,911	83,896	3,356	3,426	Bioretention	4.1%
DMA 3	19,568	0.45	7,033	12,025	481	510	Bioretention	4.2%
DMA 4	160,854	3.69	29,012	126,316	5,053	5,526	Bioretention	4.4%
DMA 5	189,720	4.36	16,700	166,238	6,650	6,782	Bioretention	4.1%
DMA 6	122,083	2.80	41,096	77,681	3,107	3,306	Bioretention	4.3%
DMA 7	42,619	0.98	38,484	4,135	165	0	Vegetated Swale	N/A
Totals	**734,727**	**16.87**	**208,808**	**504,960**	**20,198**	**20,959**		

* Treatment Area Required is based on 4% of the DMA Impervious Area

NORTH

0 25 50 100 150

Scale 1" = 50'

DMA 1
DMA 2
DMA3
DMA 4
DMA 5
DMA 6
DMA 7

LANDS OF SERRANO ASSOCIATES, LLC

VEGETATED SWALE

GARAGE SD STUB

NO.	BY	REVISION

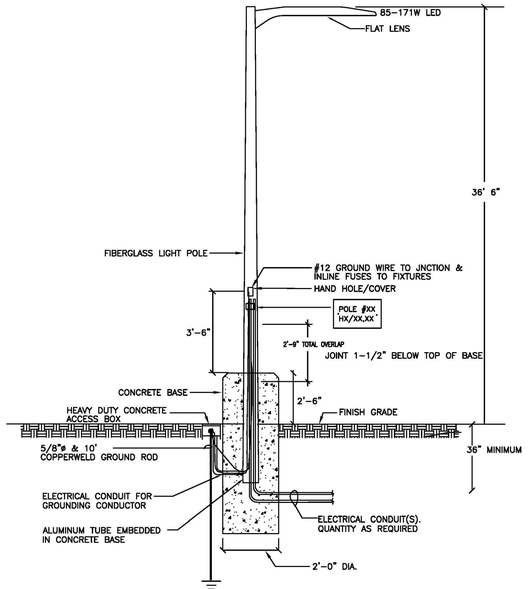
NO.	BY	REVISION

KIER+WRIGHT
2995 Prospect Park Drive, Ste. 100
Rancho Cordova, CA 95670
Phone: (916) 970-5784
www.kierwright.com

PRELIMINARY STORM WATER QUALITY CONTROL PLAN
OF
EL DORADO HILLS COSTCO
FOR
COSTCO WHOLESALE CORPORATION
CALIFORNIA
EL DORADO HILLS,

DATE	APRIL, 2021
SCALE	AS SHOWN
DESIGNER	KRR
DRAFTER	KGH
JOB NO.	A18655
SHEET	C4.0
OF	SHEETS

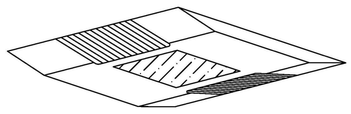
Z:\2018\A18655\DWG\ENTITLEMENTS\A18655-PG.dwg 4-27-21 01:04:12 PM krodriguez



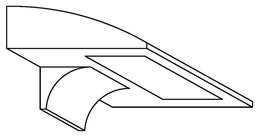
NOTE: PROVIDE CONCRETE J–BOX AS REQUIRED.
THIS DETAIL IS FOR ELECTRICAL CONDUITS ROUTING ONLY.
SEE STRUCTURAL DRAWINGS S0.2 FOR DETAILS.

POLE DETAIL
SCALE: NTS

FIXTURE DESCRIPTION	
P	COOPER GALLEON GLEON–SA4B–LED–U–5WQ–BZ, 171W TYPE 5 DISTRIBUTION. FIBERGLASS POLE 36'–6" ABOVE GRADE, WITH 2'–6" BASE.
P1	COOPER GALLEON GLEON–SA3B–LED–E1–SL3–HSS–BZ, 124W TYPE 3 DISTRIBUTION. FIBERGLASS POLE 36'–6" ABOVE GRADE, WITH 2'–6" BASE. (ROTATED OPTICS FOR 2 HEAD POLE)
P2	COOPER GALLEON GLEON–SA3B–LED–E1–SL4–HSS–BZ, 124W TYPE 4 DISTRIBUTION. FIBERGLASS POLE 36'–6" ABOVE GRADE, WITH 2'–6" BASE. (ROTATED OPTICS FOR 2 HEAD POLE)
P3	85W TYPE 4 DISTRIBUTION. FIBERGLASS POLE 36'–6" ABOVE GRADE, WITH 2'–6" BASE.
W	LITH DSXW2 LED 40K 30C 530 T2M, 54W LED, 17' MOUNTING HEIGHT
W1	LITH DSXW2 LED 40K 30C 530 T4M, 54W LED, 17' MOUNTING HEIGHT
W2	LITH DSXW2 LED 40K 30C 350 T2M, 36W LED, 17' MOUNTING HEIGHT
W3	LITH DSXW2 LED 40K 20C 350 TFTM, 25W LED, 17' MOUNTING HEIGHT
GA	96W LED, SURFACE SYMETRIC DOWN LIGHT, FLAT LENS, 18' MOUNTING HEIGHT
L	91W LED, SURFACE SYMETRIC DOWN LIGHT, FLAT LENS, 18' MOUNTING HEIGHT



FUEL FACILITY, CANOPY – LED (GA,L)
NO SCALE



TYPICAL WALL PACK DETAIL (W)
SCALE: NTS

SITE LIGHTING PLAN
SCALE: 1" = 60'–0"

PLANNING SUBMITTAL

ISSUE DATE: SEPTEMBER 2019 REVISION DATE: DRAWN: JGM CHECKED: ANT/JGM

© NO PART OF THIS DOCUMENT MAY BE USED OR COPIED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN CONSENT OF T.E.INC.

ARCHITECT REFERENCE NO:19–5017–01

PROJECT NO:19–427

SITE LIGHTING PLAN

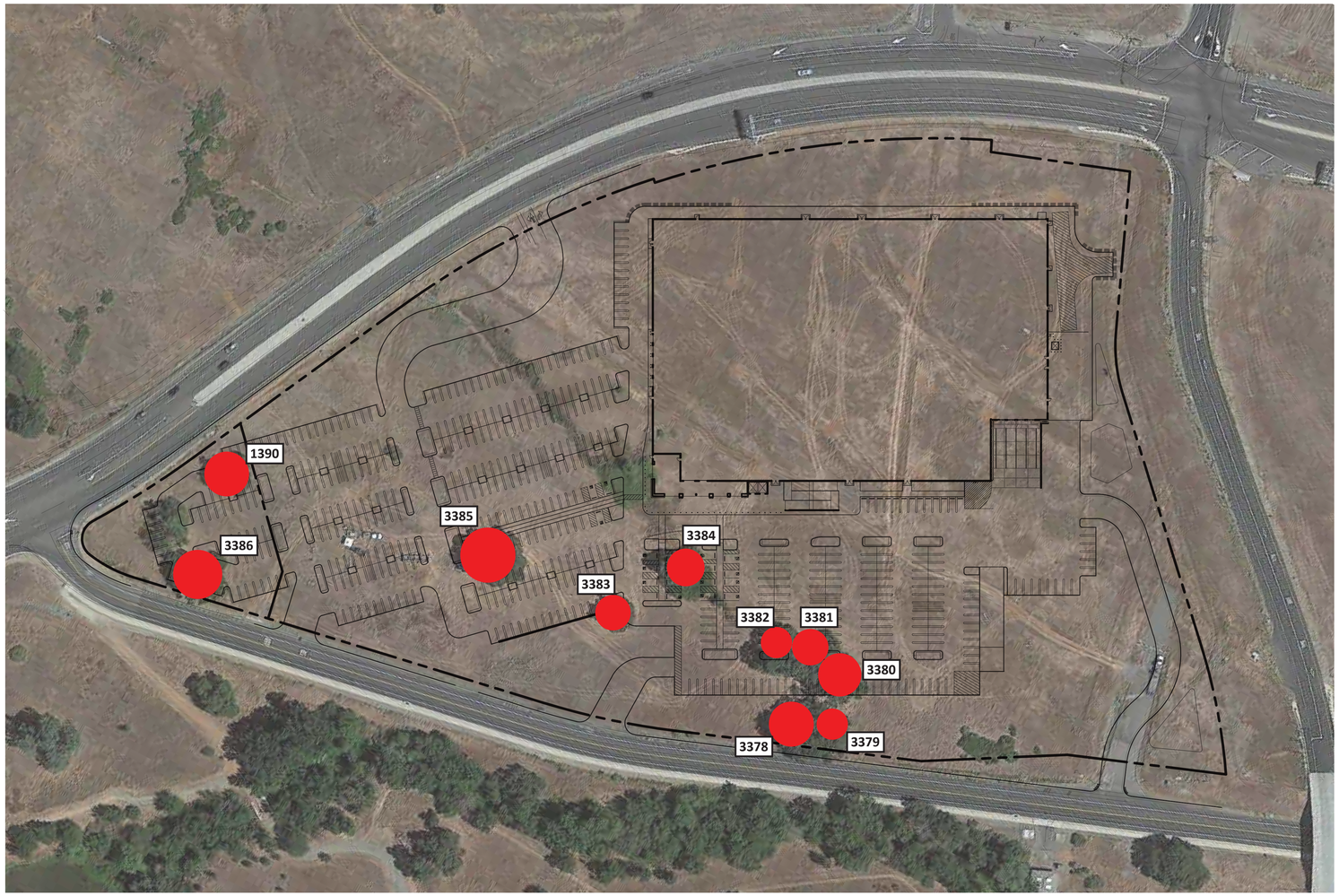
T.E., Inc.
830 N. RIVERSIDE DRIVE
SUITE #200
RENTON, WA 98057
PHONE: 425–970–3753
FAX: 425–970–3756

DD PACKAGE

SILVA VALLEY PARKWAY
EL DORADO HILLS, CA

COSTCO WHOLESALE

SE–1



Tree Data Table

	Tree #	Species	DBH (inches)	DLR (feet)	Height (feet)	Health	Structure	Comment
*	**1390**	Valley Oak	47	21	60	Poor-Fair	Poor	Deadwood, limb failure, acorn woodpecker granary tree
	3378	Valley Oak	35	30	40	Good	Fair-Good	Deadwood
	3379	Valley Oak	18	24	40	Good	Fair-Good	Asymmetrical canopy, suppressed growing environment
	3380	Valley Oak	33	38	40	Good	Good	
	3381	Valley Oak	27	30	40	Good	Good	
	3382	Valley Oak	27	25	40	Good	Fair	Codominant
	3383	Valley Oak	26	23	40	Fair-Good	Fair	Asymmetrical canopy
	3384	Valley Oak	10	13	15	Fair	Fair	Codominant, small leaves
*	**3385**	Blue Oak	48	40	60	Fair-Good	Fair	Asymmetrical canopy, pruning wound, 1 trunk removed
*	**3386**	Valley Oak	42	38	60	Fair-Good	Fair	Deadwood, dieback

* **Heritage tree**

● Trees to be Removed

Note: Tree data table information taken from the oak tree resources survey prepared for the El Dorado Hills 52 Oak Resources Technical Report dated 11/10/20 by Helix Environmental Planning (Project #AKT - 20)

DBA # P.290

DB+A
DAVID BABCOCK + ASSOCIATES
ARCHITECTURE LANDSCAPE PLANNING
3581 MT. DIABLO BLVD., SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

COSTCO EL DORADO HILLS

TREE REMOVAL EXHIBIT

0 40' 80' 160'

SCALE 1"= 80'

JUNE 23, 2021

NORTH

SHEET 1 of 1

NORTH

0 25 50 100 150

Scale 1" = 50'

N67°25'10"W 35.48'

R=1265.11' D=17°04'21" L=376.96'

S41°24'12"W 5.00'

D=28°51'14" L=28.37'

S48°35'47"W 25.00'

D=105°13'04" L=180.73

D=9°48'28" L=215.70'

R=1260.11' D=18°01'32" L=396.44'(T)

N66°37'20"W 314.93'

R=1140.10' D=18°01'32" L=358.58'

N41°24'12"E 5.00'

R=1135.10' D=21°29'09" L=425.66'

N62°53'21"E 15.00'

R=1120.10' D=8°57'48" L=175.23'

S64°22'00"W 200.62'

SLOPE EASEMENT 2016-36023 OR

NON-ACCESS AREA 52 M 10

R=200.02' D=22°18'25" L=77.87'

COSTCO WHOLESALE

NON-ACCESS AREA 52 M 10

NON-ACCESS AREA 676 OR 229

NON-ACCESS AREA 2016-36023 OR

S42°03'35"W 328.91'

S78°36'58"W 89.24'

N29°15'50"W 220.37'

S78°32 20.27'

48.19'

S29°21'10"W 213.44'

S29°21'10"W 188.34'

S29°41'30"W 182.71'

R=735.07' D=2°27'04" L=164.02'

EXISTING LOT LINE TO BE RELOCATED

EXISTING LOT LINES TO REMAIN

S78°36'58"W 32.57'

N33°08'15"W 182.36'

S23°35'17"E 199.18'

120.02'

79.16'

R=160.00' D=7°23'15" L=149.57'

R=25.00' D=113°40'27" L=49.60'

R=170.02' D=20°42'36" L=61.45'

R=819.93' D=22°45'24" L=325.66

N13°37'08"W 192.79'

N13°37'08"W 333.79'

N13°37'08"W 312.84'

R=970.00' D=9°58'09" L=168.77'

N23°35'17"W 309.16'

R=1030.00' D=9°58'09" L=179.21'

N23°35'17"W 309.16'

S1°55'44"E 404.52'

N1°55'44"W

BASIS OF BEARINGS

LANDS OF SERRANO ASSOCIATES, LLC

PROPOSED LOT LINE

SLOPE ESMT 2005-54184 OR

TEMP CONST ESMT 2005-54184 OR

SLOPE ESMT 2016-36023 OR

SANITARY SEWER ESMT 2007-74567 OR

SLOPE ESMT 2005-54184 OR

TEMP CONST ESMT 2005-54184 OR

1/4 CORNER S-2 S-1 LS 3279

CL

Asph

Conc.

Dir. t.

BY	NO.	REVISION

BY	NO.	REVISION

KIER+WRIGHT

2995 Prospect Park Drive, Ste. 100
Rancho Cordova, CA 95670

Phone: (916) 970-5784
www.kierwright.com

LOT LINE ADJUSTMENT EXHIBIT
OF
EL DORADO HILLS COSTCO
FOR
COSTCO WHOLESALE CORPORATION
CALIFORNIA
EL DORADO HILLS,

DATE	JUNE, 2021
SCALE	1"=50'
DESIGNER	PMB
DRAFTER	
JOB NO.	A18655
SHEET	LLA-EX
OF	SHEETS

Z:\2018\A18655\DWG\ENTITLEMENTS\EXHIBITS\A18655-PROPOSED LLA.dwg 6-07-21 07:21:08 AM pbernard



Plant Legend

Symbols	Botanical / Common Name	Size	WUCOLS (Water Use Classification of Landscape Species)	Comments
	Trees			
	Acer platanoides ‘Crimson King’ / Crimson King Norway Maple	24” box	M	Matched Standards
	Lagerstroemia hyb. ‘Muskogee’ / Muskogee (Lavender) Crape Myrtle	24” box	L	Matched Standards
	Lagerstroemia hyb. ‘Tuscarora’ / Pink/Red Flowering Crape Myrtle	24” box	L	Matched Standards
	Zelkova serrata ‘Green Vase’ / Green Vase Zelkova	24” box	L	Matched Standards
	Quercus frainetto ‘Forest Green’ / Forest Green Italian Oak	24” box	L	Matched Standards
	Quercus ilex / Holly Oak	24” box	L	Matched Standards
	Quercus lobata / Valley Oak	24” box	L	Matched Standards
	Cedrus deodora /	24” box	L	Matched in Size
	Shrubs, Perennials, Ornamental Grasses, Ground Covers and Vine			
	Arbutus unedo ‘Compacta’ / Compact Strawberry Tree	15 gal.	L	
	Ceanothus ‘Concha’ / Concha Ceanothus	5 gal.	L	
	Cotoneaster dammeri ‘Lowfast’ / Lowfast Bearberry Cotoneaster	1 gal.	M	
	Dietes grandiflora 'Variegata' / Striped Fortnight Lily	1 gal.	L	
	Dianella revolute ‘Little Rev’ / Litlle Rev Dianella	1 gal.	L	
	Eleagnus x ebbingei ‘Gilt Edge’ / Gilt Edge Silver Berry	5 gal.	L	
	Festuca mairei / Atlas Fescue	1 gal.	L	
	Muhlenbergia capillaris ‘Regal Mist’ / Regal Mist Muhly Grass	1 gal.	L	
	Pennisetum orientale / Oriental Fountain Grass	1 gal.	L	
	Juniperus chinensis ‘Mint Julep’ / Mint Julep Juniper	5 gal.	L	
	Juniperus horizontalis ‘Blue Chip’ / Blue Chip Juniper	1 gal.	L	
	Phlomis fruticosa / Jerusalem Sage	1 gal.	L	
	Rosa ‘Meidrifora’ / Coral Drift Rose	1 gal.	M	
	Rosa banksiae ‘Lutea’ / Yellow Lady Banks Climbing Rose	5 gal.	M	
	Salvia leucantha ‘Santa Barbara’ / Santa Barbara Sage	1 gal.	L	
	Rosmarinus o. ‘Huntington Blue’ / Huntington Blue Rosemary	1 gal.	L	
	Stormwater Treatment Planter (SWTP)			
	Tree			
	Quercus wislizenii / Interior Live Oak	24” box	L	Matched Standards
	Perennials and Grasses			
	Chondropetalum tectorum / Cape Rush	5 gal.	L	
	Deschampsia cespitosa / Tufted Hairgrass	1 gal.	L	
	Juncus patens ‘Elk Blue’ / Elk Blue Gray Rush	1 gal.	M	
	Muhlenbergia rigens / Deer Grass	1 gal.	L	
	Nepeta racemosa ‘Walker’s Low’ / Walker’s Low Catmint	1 gal.	L	

IRRIGATION DESIGN STATEMENT:

The irrigation system will be a water efficient low flow, point source system designed to provide adequate watering to support plant growth and insure deeply rooted plant material while avoiding excess water application. The system will be programmable, allowing operation during late night and or early morning hours, with multiple start times and cycles. The system will interface with a weather based sensor that will adjust the amount of water applied to the plant material based on daily weather conditions. Irrigation materials specified for the site will be selected on the basis of durability and ease of maintenance. Landscape irrigation will comply with the California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELO).

LANDSCAPE DATA:

Costco Site Coverage
Total Parcel Area: +-17.04 AC (+- 742,262 SF)
Landscape Area Provided: 240,027 SF

Shading Requirements:
Required: 50% parking lot shading at 15 years
Provided: 56%

Upper Level Parking:
Provides 100% shading of lower level parking

WUCOLS LEGEND:

L Low Water Use

M Moderate Water Use

DBA # 290

DB+A

DAVID BABCOCK + ASSOCIATES
ARCHITECTURE LANDSCAPE PLANNING
3581 MT. DIABLO BLVD., SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

COSTCO EL DORADO HILLS

PRELIMINARY LANDSCAPE PLAN

0 20’ 40’ 80’ 160’

SCALE 1"= 80'

APRIL 28,2021

NORTH

PLAN

NOTES

1. THIS PLOT WAS PREPARED FROM INFORMATION FURNISHED IN PRELIMINARY TITLE REPORTS, PREPARED BY FIRST AMERICAN TITLE INSURANCE COMPANY, DATED JANUARY 9, 2019, NUMBER NCS-942714-WA1 & NUMBER NCS-942715-WA1. NO LIABILITY IS ASSUMED FOR MATTERS OF RECORD NOT STATED IN SAID PRELIMINARY TITLE REPORT THAT MAY AFFECT THE TITLE LINES, OR EXCEPTIONS, OR EASEMENTS OF THE PROPERTY.

2. ALL DISTANCES AND ELEVATIONS SHOWN HEREON ARE IN FEET AND DECIMALS THEREOF.

3. THE TYPES, LOCATIONS, SIZES AND/OR DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS TOPOGRAPHIC SURVEY WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS AND DEPTHS OF SUCH UNDERGROUND UTILITIES. (A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND UTILITIES). HOWEVER, THE ENGINEER CAN ASSUME NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF ITS DELINEATION OF SUCH UNDERGROUND UTILITIES WHICH MAY BE ENCOUNTERED, BUT WHICH ARE NOT SHOWN ON THESE DRAWINGS.

4. PHYSICAL ITEMS SHOWN ON THIS SURVEY ARE LIMITED TO THOSE ITEMS VISIBLE AS OF THE DATE OF THIS SURVEY. SUBSURFACE STRUCTURES, IF ANY, ARE NOT SHOWN. SAID SUBSURFACE OBJECTS MAY INCLUDE, BUT ARE NOT LIMITED TO, CONCRETE FOOTINGS, SLABS, SHORING, STRUCTURAL PILES, UTILITY VAULTS, PIPING, UNDERGROUND TANKS, AND ANY OTHER SUBSURFACE STRUCTURES NOT REVEALED BY A SURFACE INSPECTION.

5. THE SUBJECT PROPERTY IS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) FOR EL DORADO COUNTY, CALIFORNIA, MAP NUMBER 06017C0725E FOR COMMUNITY NUMBER 060040 (EL DORADO COUNTY), WITH AN EFFECTIVE DATE OF SEPTEMBER 26, 2008, AS BEING LOCATED IN FLOOD ZONE "X-UNSHADED". ACCORDING TO FEMA THE DEFINITION OF ZONE "X-UNSHADED" IS: AREA OF MINIMAL FLOOD HAZARD.

6. BENCHMARK:
CAL-TRANS TBM, NGS DISK ON TOP OF HEADWALL AT THE NORTHWEST CORNER OF THE BRIDGE ON CLARKSVILLE CROSSING AS TAKEN FROM THE CALTRANS IMPROVEMENT PLANS, SHEET 14 (PC-1) OF THE SILVA VALLEY CONSTRUCTION PLANS DATED JANUARY 4, 2013.
(PID: JS0692) ELEVATION= 673.08 FEET (NGVD 1929 DATUM)

7. BASIS OF BEARINGS:
THE BEARING OF NORTH 88° 27' 28" EAST, TAKEN ON THE NORTHERLY LINE OF PARCEL 4 AS SHOWN ON THAT CERTAIN PARCEL MAP FILED FOR RECORD ON DECEMBER 28, 2018, IN BOOK 52 OF MAPS AT PAGE 10, OFFICIAL RECORDS OF EL DORADO COUNTY WAS TAKEN AS THE BASIS FOR ALL BEARINGS SHOWN HEREON.

8. CORNER RECORD NOTE:
THE DEVELOPER AND/OR CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION AND FILING OF PRE-CONSTRUCTION AND POST-CONSTRUCTION CORNER RECORDS FOR ANY MONUMENTS OR PROPERTY CORNERS SHOWN HEREON THAT MAY BE DESTROYED DURING IMPROVEMENTS TO THE SUBJECT PROPERTY AS DEFINED IN SECTION 8771(B) OF THE PROFESSIONAL LAND SURVEYORS ACT.

10. THE AERIAL MAPPING WAS PREPARED USING COMPUTER ASSISTED, PHOTOGRAMMETRIC METHODS BY COOPER AERIAL SURVEYS CO., IN PHOENIX ARIZONA. JOB NUMBER 1901022. IN AREAS OF DENSE VEGETATION, ACCURACY OF CONTOURS MAY DEVIATE FROM ACCEPTED ACCURACY STANDARDS. DATE OF PHOTOGRAPHY 02-22-19, ORIGINAL COMPILED MAP SCALE 1"=40', CONTOUR INTERVAL 1 FOOT. THE GRID IS BASED ON PHOTOGRAMMETRIC METHODS COMPILED ON DIGITAL STEREO WORKSTATIONS USING AERIAL PHOTOGRAPHY. CONTROL SURVEY PERFORMED BY KIER & WRIGHT, LIVERMORE, CA.

7/XX/2019
PREPARED BY OR UNDER THE SUPERVISION OF DATE
RODNEY A. STEWART II, P.L.S. 9225

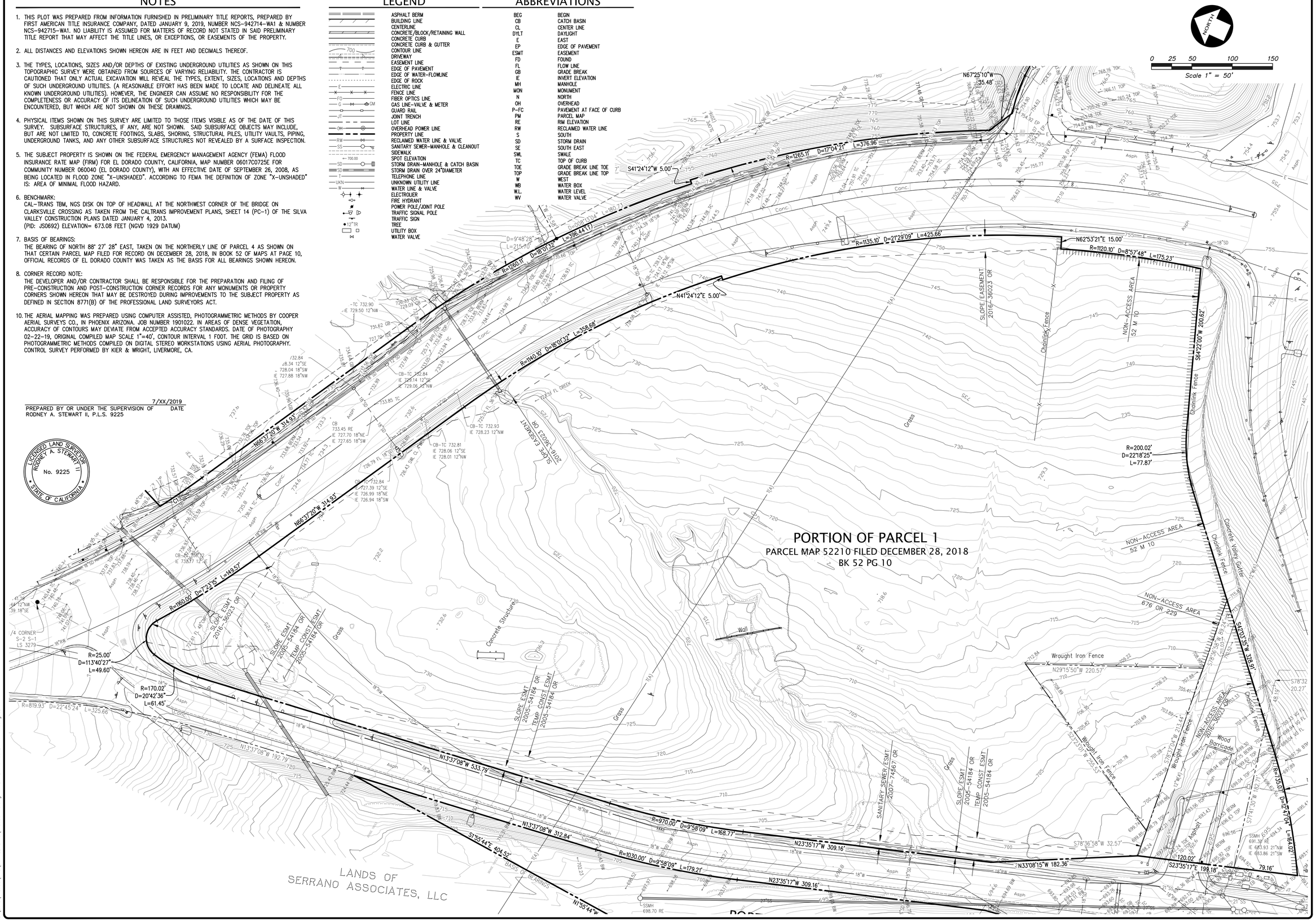
LICENSED LAND SURVEYOR
RODNEY A. STEWART II
No. 9225
STATE OF CALIFORNIA

LEGEND

- ASPHALT BERM
- BUILDING LINE
- CENTERLINE
- CONCRETE/BLOCK/RETAINING WALL
- CONCRETE CURB
- CONCRETE CURB & GUTTER
- CONTOUR LINE
- DRIVEWAY
- EASEMENT LINE
- EDGE OF PAVEMENT
- EDGE OF WATER-FLOWLINE
- EDGE OF ROCK
- ELECTRIC LINE
- FENCE LINE
- FIBER OPTICS LINE
- GAS LINE-VALVE & METER
- GUARD RAIL
- JOINT TRENCH
- LOT LINE
- OVERHEAD POWER LINE
- PROPERTY LINE
- RECLAIMED WATER LINE & VALVE
- SANITARY SEWER-MANHOLE & CLEANOUT
- SIDEWALK
- SPOT ELEVATION
- STORM DRAIN-MANHOLE & CATCH BASIN
- STORM DRAIN OVER 24"DIAMETER
- TELEPHONE LINE
- UNKNOWN UTILITY LINE
- WATER LINE & VALVE
- ELECTROLIER
- FIRE HYDRANT
- POWER POLE/JOINT POLE
- TRAFFIC SIGNAL POLE
- TRAFFIC SIGN
- TREE
- UTILITY BOX
- WATER VALVE

ABBREVIATIONS

BEG	BEGIN
CB	CATCH BASIN
CL	CENTER LINE
DYLT	DAYLIGHT
E	EAST
EP	EDGE OF PAVEMENT
ESMT	EASEMENT
FD	FOUND
FL	FLOW LINE
GB	GRADE BREAK
IE	INVERT ELEVATION
MH	MANHOLE
MON	MONUMENT
N	NORTH
OH	OVERHEAD
P-FC	PAVEMENT AT FACE OF CURB
PM	PARCEL MAP
RE	RIM ELEVATION
RW	RECLAIMED WATER LINE
S	SOUTH
SD	STORM DRAIN
SE	SOUTH EAST
SWL	SWALE
TC	TOP OF CURB
TOE	GRADE BREAK LINE TOE
TOP	GRADE BREAK LINE TOP
W	WEST
WB	WATER BOX
WL	WATER LEVEL
WV	WATER VALVE



NO.	REVISION	BY

KIER+WRIGHT
2995 Prospect Park Drive, Ste. 100
Rancho Cordova, CA 95670
Phone: (916) 970-5784
www.kierwright.com

TOPOGRAPHIC SURVEY
OF
EL DORADO HILLS COSTCO
FOR
COSTCO WHOLESALE CORPORATION
CALIFORNIA
EL DORADO HILLS,

DATE	APRIL, 2021
SCALE	AS SHOWN
DESIGNER	KRR
DRAFTER	KGH
JOB NO.	A18655
SHEET	C1.0
OF	SHEETS

Z:\2018\A18655\DWG\ENTITLEMENTS\A18655-PG.dwg 4-27-21 01:03:21 PM krodriguez

LEGEND

△	AREA DRAIN
□	STORM DRAIN CATCH BASIN(SDCB)
■	STORM DRAIN JUNCTION BOX(SDJB)
●	STORM DRAIN MANHOLE(SDMH)
FL	FLOW LINE
FF	FINISH FLOOR
FES	FLARED END SECTION
TOW	TOP OF WALL
CONF	CONFORM TO EXISTING
PV	PAVEMENT
RE	RIM ELEVATION
23.8	SPOT ELEVATION
X"SD	STORM DRAIN LINE
TC	TOP OF CURB
	ROCK WALL

NORTH

0 25 50 100 150

Scale 1" = 50'

COSTCO WHOLESALE

FF=729.00

MEDIAN IMPROVEMENTS FOR NEW LEFT TURN LANE

PROPOSED SIDEWALK

PEDESTRIAN RAMP TO /FROM LOWER GARAGE LEVEL

ELEVATORS

LOWER LEVEL GARAGE 10' BELOW UPPER LEVEL (TYP)

GARAGE SD STUB

LANDS OF SERRANO ASSOCIATES, LLC

FND IP 1/16 CORNER S-2 S-1 RCE 20462

S78°32'36"W 20.27'

48.19'

S2

NO.	REVISION	BY

NO.	REVISION	BY

KIER+WRIGHT
2995 Prospect Park Drive, Ste. 100
Rancho Cordova, CA 95670
Phone: (916) 970-5784
www.kierwright.com

PRELIMINARY GRADING AND DRAINAGE PLAN
OF
EL DORADO HILLS COSTCO
FOR
COSTCO WHOLESALE CORPORATION
CALIFORNIA
EL DORADO HILLS,

DATE	APRIL, 2021
SCALE	AS SHOWN
DESIGNER	KRR
DRAFTER	KGH
JOB NO.	A18655
SHEET	C2.0
OF	SHEETS

Z:\2018\A18655\DWG\ENTITLEMENTS\A18655-PG.dwg 4-27-21 01:03:39 PM krodriguez

LEGEND

ASR	AUTOMATIC SPRINKLER RISER
RE	RIM ELEVATION
TC	TOP OF CURB
WS	WATER SERVICE
	EXISTING UTILITY TO BE ABANDONDED BY REMOVAL
FS	FIRE SERVICE
SS	SANITARY SEWER
COTG	CLEANOUT TO GRADE
	STORM DRAIN LINE
	STORM DRAIN CATCH BASIN
	STORM DRAIN JUNCTION BOX
SSMH	STORM DRAIN MANHOLE
	BACK FLOW PREVENTION DEVICE
	FIRE DEPARTMENT CONNECTION
	FIRE HYDRANT & VALVE
	POST INDICATOR VALVE
SSMH	SANITARY SEWER MANHOLE
	SINGLE CHECK VALVE
SDMH	STORM DRAIN MANHOLE
	WATER METER
	GREASE INTERCEPTOR
	SAND OIL SEPARATOR

NORTH

0 25 50 100 150

Scale 1" = 50'

COSTCO WHOLESALE

FF=729.00

LANDS OF SERRANO ASSOCIATES, LLC

NO.	REVISION	BY

NO.	REVISION	BY

KIER+WRIGHT
2995 Prospect Park Drive, Ste. 100
Rancho Cordova, CA 95670
Phone: (916) 970-5784
www.kierwright.com

PRELIMINARY UTILITY PLAN
OF
EL DORADO HILLS COSTCO
FOR
COSTCO WHOLESALE CORPORATION CALIFORNIA
EL DORADO HILLS,

DATE	APRIL, 2021
SCALE	AS SHOWN
DESIGNER	KRR
DRAFTER	KGH
JOB NO.	A18655
SHEET	C3.0
OF	SHEETS

Z:\2018\A18655\DWG\ENTITLEMENTS\A18655-PG.dwg 4-27-21 01:03:55 PM krodriguez

LEGEND

- TRIBUTARY AREA LIMITS
- LANDSCAPE AREA
- IMPERVIOUS ROOFTOP DRAINING TO BIO-RETENTION TREATMENT PLANTER
- IMPERVIOUS PAVEMENT DRAINING TO BIO-RETENTION TREATMENT PLANTER
- BIORETENTION TREATMENT PLANTER

TREATMENT AREA SUMMARY

DMA #	DMA AREA (SF)	DMA AREA (AC)	LANDSCAPE AREA (SF)	IMPERVIOUS AREA (SF)	TREATMENT REQUIRED (SF)*	TREATMENT PROVIDED (SF)	TREATMENT METHOD	SIZING RATIO (%)
DMA 1	59,650	1.37	23,572	34,668	1,387	1,410	Bioretention	4.1%
DMA 2	140,233	3.22	52,911	83,896	3,356	3,426	Bioretention	4.1%
DMA 3	19,568	0.45	7,033	12,025	481	510	Bioretention	4.2%
DMA 4	160,854	3.69	29,012	126,316	5,053	5,526	Bioretention	4.4%
DMA 5	189,720	4.36	16,700	166,238	6,650	6,782	Bioretention	4.1%
DMA 6	122,083	2.80	41,096	77,681	3,107	3,306	Bioretention	4.3%
DMA 7	42,619	0.98	38,484	4,135	165	0	Vegetated Swale	N/A
Totals	**734,727**	**16.87**	**208,808**	**504,960**	**20,198**	**20,959**		

* Treatment Area Required is based on 4% of the DMA Impervious Area

NORTH

0 25 50 100 150

Scale 1" = 50'

DMA 1
DMA 2
DMA3
DMA 4
DMA 5
DMA 6
DMA 7

LANDS OF SERRANO ASSOCIATES, LLC

VEGETATED SWALE

GARAGE SD STUB

NO.	BY	REVISION

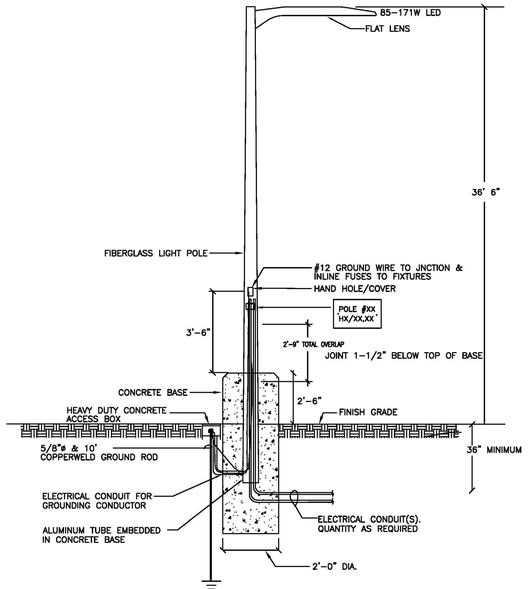
NO.	BY	REVISION

KIER+WRIGHT
2995 Prospect Park Drive, Ste. 100
Rancho Cordova, CA 95670
Phone: (916) 970-5784
www.kierwright.com

PRELIMINARY STORM WATER QUALITY CONTROL PLAN
OF
EL DORADO HILLS COSTCO
FOR
COSTCO WHOLESALE CORPORATION
CALIFORNIA
EL DORADO HILLS,

DATE	APRIL, 2021
SCALE	AS SHOWN
DESIGNER	KRR
DRAFTER	KGH
JOB NO.	A18655
SHEET	C4.0
OF	SHEETS

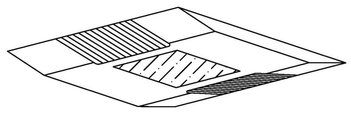
Z:\2018\A18655\DWG\ENTITLEMENTS\A18655-PG.dwg 4-27-21 01:04:12 PM krodriguez



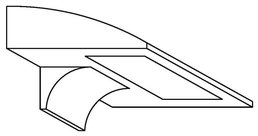
NOTE: PROVIDE CONCRETE J–BOX AS REQUIRED.
THIS DETAIL IS FOR ELECTRICAL CONDUITS ROUTING ONLY.
SEE STRUCTURAL DRAWINGS S0.2 FOR DETAILS.

POLE DETAIL
SCALE: NTS

FIXTURE DESCRIPTION	
P	COOPER GALLEON GLEON–SA4B–LED–U–5WQ–BZ, 171W TYPE 5 DISTRIBUTION. FIBERGLASS POLE 36'–6" ABOVE GRADE, WITH 2'–6" BASE.
P1	COOPER GALLEON GLEON–SA3B–LED–E1–SL3–HSS–BZ, 124W TYPE 3 DISTRIBUTION. FIBERGLASS POLE 36'–6" ABOVE GRADE, WITH 2'–6" BASE. (ROTATED OPTICS FOR 2 HEAD POLE)
P2	COOPER GALLEON GLEON–SA3B–LED–E1–SL4–HSS–BZ, 124W TYPE 4 DISTRIBUTION. FIBERGLASS POLE 36'–6" ABOVE GRADE, WITH 2'–6" BASE. (ROTATED OPTICS FOR 2 HEAD POLE)
P3	85W TYPE 4 DISTRIBUTION. FIBERGLASS POLE 36'–6" ABOVE GRADE, WITH 2'–6" BASE.
W	LITH DSXW2 LED 40K 30C 530 T2M, 54W LED, 17' MOUNTING HEIGHT
W1	LITH DSXW2 LED 40K 30C 530 T4M, 54W LED, 17' MOUNTING HEIGHT
W2	LITH DSXW2 LED 40K 30C 350 T2M, 36W LED, 17' MOUNTING HEIGHT
W3	LITH DSXW2 LED 40K 20C 350 TFTM, 25W LED, 17' MOUNTING HEIGHT
GA	96W LED, SURFACE SYMETRIC DOWN LIGHT, FLAT LENS, 18' MOUNTING HEIGHT
L	91W LED, SURFACE SYMETRIC DOWN LIGHT, FLAT LENS, 18' MOUNTING HEIGHT



FUEL FACILITY, CANOPY – LED (GA,L)
NO SCALE



TYPICAL WALL PACK DETAIL (W)
SCALE: NTS

SITE LIGHTING PLAN
SCALE: 1" = 60'–0"

PLANNING SUBMITTAL

ISSUE DATE: SEPTEMBER 2019 REVISION DATE: DRAWN: JGM CHECKED: ANT/JGM

© NO PART OF THIS DOCUMENT MAY BE USED OR COPIED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN CONSENT OF T.E.INC.

ARCHITECT REFERENCE NO:19–5017–01

PROJECT NO:19–427

SITE LIGHTING PLAN

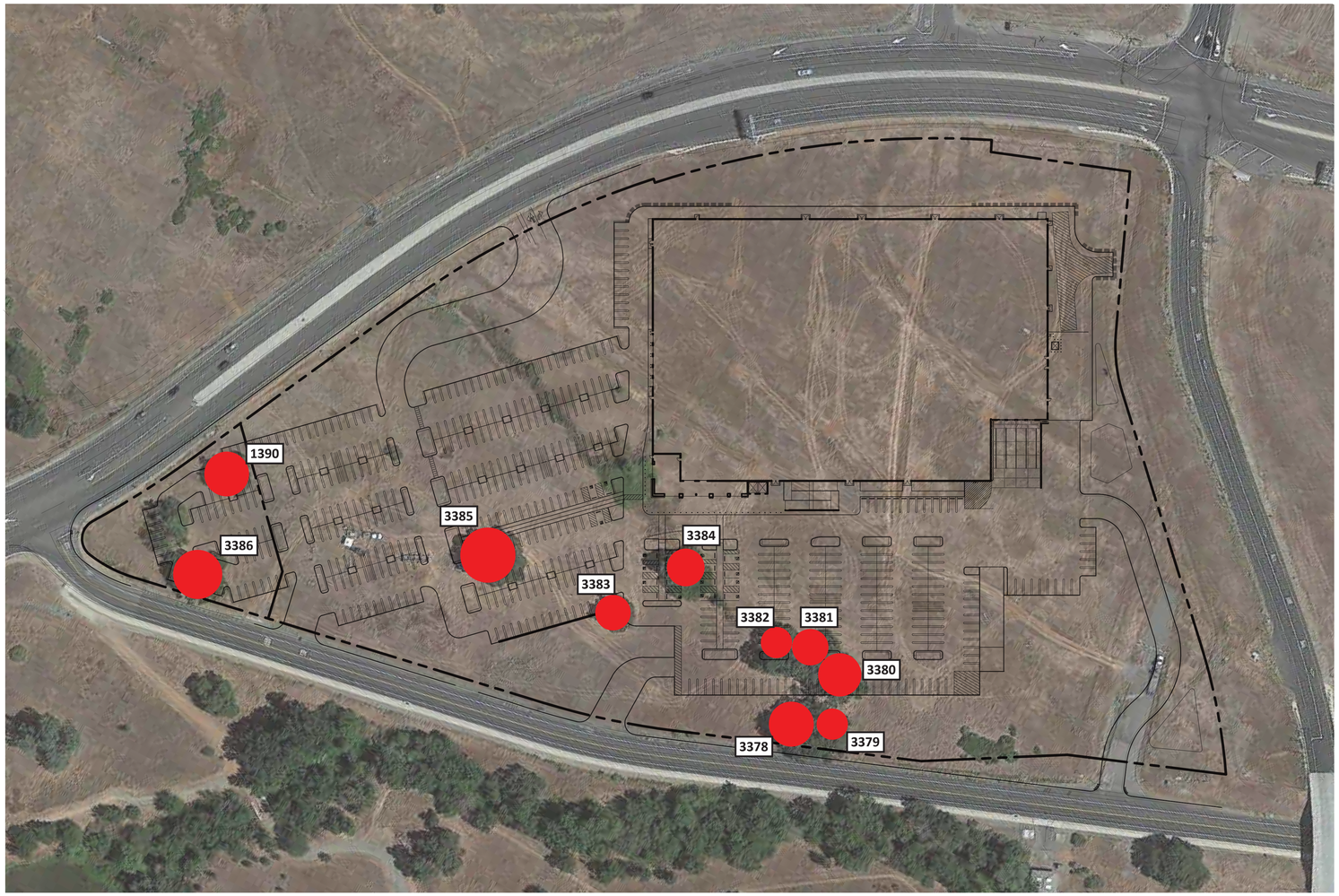
T.E., Inc.
830 N. RIVERSIDE DRIVE
SUITE #200
RENTON, WA 98057
PHONE: 425–970–3753
FAX: 425–970–3756

DD PACKAGE

SILVA VALLEY PARKWAY
EL DORADO HILLS, CA

COSTCO WHOLESALE

SE–1



Tree Data Table

	Tree #	Species	DBH (inches)	DLR (feet)	Height (feet)	Health	Structure	Comment
*	**1390**	Valley Oak	47	21	60	Poor-Fair	Poor	Deadwood, limb failure, acorn woodpecker granary tree
	3378	Valley Oak	35	30	40	Good	Fair-Good	Deadwood
	3379	Valley Oak	18	24	40	Good	Fair-Good	Asymmetrical canopy, suppressed growing environment
	3380	Valley Oak	33	38	40	Good	Good	
	3381	Valley Oak	27	30	40	Good	Good	
	3382	Valley Oak	27	25	40	Good	Fair	Codominant
	3383	Valley Oak	26	23	40	Fair-Good	Fair	Asymmetrical canopy
	3384	Valley Oak	10	13	15	Fair	Fair	Codominant, small leaves
*	**3385**	Blue Oak	48	40	60	Fair-Good	Fair	Asymmetrical canopy, pruning wound, 1 trunk removed
*	**3386**	Valley Oak	42	38	60	Fair-Good	Fair	Deadwood, dieback

* **Heritage tree**

● Trees to be Removed

Note: Tree data table information taken from the oak tree resources survey prepared for the El Dorado Hills 52 Oak Resources Technical Report dated 11/10/20 by Helix Environmental Planning (Project #AKT - 20)

DBA # P.290

DB+A
DAVID BABCOCK + ASSOCIATES
ARCHITECTURE LANDSCAPE PLANNING
3581 MT. DIABLO BLVD., SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

COSTCO EL DORADO HILLS

TREE REMOVAL EXHIBIT

0 40' 80' 160'

SCALE 1"= 80'

JUNE 23, 2021

NORTH

SHEET 1 of 1

NORTH

0 25 50 100 150

Scale 1" = 50'

N67°25'10"W 35.48'

R=1265.11' D=17°04'21" L=376.96'

S41°24'12"W 5.00'

D=28°51'14" L=28.37'

S48°35'47"W 25.00'

D=105°13'04" L=180.73

D=9°48'28" L=215.70'

R=1260.11' D=18°01'32" L=396.44'(T)

N66°37'20"W 314.93'

R=1140.10' D=18°01'32" L=358.58'

N41°24'12"E 5.00'

R=1135.10' D=21°29'09" L=425.66'

N62°53'21"E 15.00'

R=1120.10' D=8°57'48" L=175.23'

S64°22'00"W 200.62'

SLOPE EASEMENT 2016-36023 OR

NON-ACCESS AREA 52 M 10

R=200.02' D=22°18'25" L=77.87'

COSTCO WHOLESALE

NON-ACCESS AREA 52 M 10

NON-ACCESS AREA 676 OR 229

NON-ACCESS AREA 2016-36023 OR

S42°03'35"W 328.91'

S78°36'58"W 89.24'

N29°15'50"W 220.37'

S78°32 20.27'

48.19'

S29°21'10"W 213.44'

S29°21'10"W 188.34'

S29°41'30"W 182.71'

R=735.07' D=2°27'04" L=164.02'

EXISTING LOT LINE TO BE RELOCATED

EXISTING LOT LINES TO REMAIN

S78°36'58"W 32.57'

N33°08'15"W 182.36'

S23°35'17"E 199.18'

120.02'

79.16'

R=160.00' D=7°23'15" L=149.57'

R=25.00' D=113°40'27" L=49.60'

R=170.02' D=20°42'36" L=61.45'

R=819.93' D=22°45'24" L=325.66

N13°37'08"W 192.79'

N13°37'08"W 333.79'

N13°37'08"W 312.84'

R=970.00' D=9°58'09" L=168.77'

N23°35'17"W 309.16'

R=1030.00' D=9°58'09" L=179.21'

N23°35'17"W 309.16'

S1°55'44"E 404.52'

N1°55'44"W

BASIS OF BEARINGS

LANDS OF SERRANO ASSOCIATES, LLC

PROPOSED LOT LINE

SLOPE ESMT 2005-54184 OR

TEMP CONST ESMT 2005-54184 OR

SLOPE ESMT 2016-36023 OR

SANITARY SEWER ESMT 2007-74567 OR

SLOPE ESMT 2005-54184 OR

TEMP CONST ESMT 2005-54184 OR

1/4 CORNER S-2 S-1 LS 3279

CL

Asph

Conc.

Dir. t.

BY	NO.	REVISION

BY	NO.	REVISION

KIER+WRIGHT

2995 Prospect Park Drive, Ste. 100
Rancho Cordova, CA 95670

Phone: (916) 970-5784
www.kierwright.com

LOT LINE ADJUSTMENT EXHIBIT
OF
EL DORADO HILLS COSTCO
FOR
COSTCO WHOLESALE CORPORATION
CALIFORNIA
EL DORADO HILLS,

DATE	JUNE, 2021
SCALE	1"=50'
DESIGNER	PMB
DRAFTER	
JOB NO.	A18655
SHEET	LLA-EX
OF	SHEETS

Z:\2018\A18655\DWG\ENTITLEMENTS\EXHIBITS\A18655-PROPOSED LLA.dwg 6-07-21 07:21:08 AM pbernard

July 24, 2023

Anna Leanza, County Planner
anna.leanza@edcgov.us
El Dorado County Planning and Building Department
Planning Division
2850 Fairlane Court, Building C
Placerville, CA 95667

RE: **PD15-0001, Z17-0004, P17-0007, LLA21-0009, V22-0001 – EDH 52** *(AKT Investments/EDH 52 GP/RSC Engineering, Inc. – Tiffany Wilson)*

The El Dorado Hills Community Services District ("District") appreciates this opportunity to respond to the request to review and comment on the above referenced project. Below are comments and conditions to be addressed.

PLANNED DEVELOPMENT PERMIT, REZONE, TENTATIVE PARCEL MAP, LOT LINE ADJUSTMENT, AND VARIANCE PER REVISED PROJECT APPLICATION

The Revised Application proposes two sites – a southerly site of 17 acres with 156,000 square feet of commercial use (Costco) and a northerly site of 18 acres of mixed-use development with 14,000 square feet of commercial uses and 304 multifamily units within five four-story buildings, amenities including a pool area, gym, and outdoor gathering space on the properties identified as APNs 122-720-002, 122-720-003,122-720-018,122-720-019,122-720-020,122-720-021, consisting of 40.56 acres.

PARKLAND DEDICATION & IMPACT FEE REQUIREMENTS

District Policy 6110.10
All subdividers of land within the District's jurisdiction shall dedicate park land suitable for active recreation use, or pay fees in lieu thereof (Quimby), or by District Board authorization, follow a combination of these alternatives.

Application of all Parkland Dedication requirements shall follow the El Dorado County Subdivision Ordinance and be consistent with the project.

The below provides the requirements for project development related to acceptable parklands:

PARKLAND DEDICATION AND DEVELOPMENT STANDARDS

District Policy 6110.10
Park dedication amounts shall be determined as a result of calculation based on the legislated rate of 5 acres per 1000 population project yield. Population is calculated at the rate of 3.3 persons for single family subdivisions and 2.8 for multi-family subdivisions on a per parcel basis.

District Policy 6110.20
As an alternative to parkland dedication, where Quimby fees are paid in lieu of land dedication; the sum owed shall be determined by District staff by consulting with the County Assessor's Office, County Planning Department and/or an approved private appraiser, as authorized by ordinance.

The proposed tentative subdivision creates 304 multi-family housing units, which yields a population of 851 persons. Using the 5 acres per 1,000 persons formula, the required land dedication is 4.26 acres. The applicant can satisfy this requirement by way of Quimby fees paid in lieu of land dedication.

District Policy 6110.30 and 6110.40
The amount of park land to be dedicated shall be calculated on the basis of the subdivision's dwelling unit yield as determined from the approved tentative map or the final map should the yield increase. Also, per District Policy 6110.40, staff shall inspect and evaluate all proposed park land dedications to determine the suitability of the subdivider's offering. The District will confer jointly with the County to determine the amount of park land to be dedicated within the subdivision and its most suitable location.

LAND SUITABLE FOR PARKLAND DEDICATION

District Policy 6110.60
Land suitable for dedication as an active recreation site (park land) shall include the following important elements to take into consideration:

- Minimum desirable park site size is normally three (3) acres for purposes of economical maintenance and procuring adequate land for the development of multi-purpose fields.

- Active recreational pursuits, such as team field sports, game courts, and activity buildings require predominantly level land, 2% slope. Land with a greater slope, up to 20% of the site, may be acceptable where it has utility for picnicking or other passive recreation activities and when it complements usable park area (2% slope) or when it appears consistent with uses proposed for a special purpose park site. All parks improved for active recreation purposes (i.e., ball fields, hard courts, etc.) shall be graded to a maximum 2% slope within areas proposed for such uses.

- Site shall be free and clear of surface and overhead utility line easements which contain design, maintenance or operation constraints or place the public at unreasonable risk. Where easements unavoidably occur, only those compatible to the intended active recreation development, will be allowed for consideration as an acceptable dedication.

- A neighborhood park, to the extent practicable, shall be centrally located within its residential service area and easily accessed by pedestrian or light vehicular traffic. Typical amenities include children's play apparatus, hard court, a multi-purpose turfed area and suitable landscaping.

- Village/area parks shall generally provide recreation facilities needful by a larger community segment. These may be located on more significant transportation routes and shall furnish adequate parking. Ample hard courts, including tennis, larger field areas, group picnic facilities and a larger, more complex play apparatus for children, is customary.

- Drainage courses, or dedications near or adjacent to hazardous or noxious material's sites are not acceptable. Flood plains are generally not accepted unless the site's potential risks are fully mitigated at the subdivider's risk and expense.

Private parks (neighborhood parks behind development gates) are eligible for a portion of parkland credit per County Subdivision Ordinance and District policy, and are not eligible for park impact fee reduction, as the park impact fee imposed is for public parks, not private parks.

COMMUNITY FACILITIES DISTRICT (CFD)

As a Condition of Approval, prior to the approval of the project's Final Map, annexation into the following Community Facilities Districts (CFDs) is required:

El Dorado Hills Community Services District Master CFD 2019-01

Annexation into the District's Master CFD 2019-01 will satisfy the requirement for participating in the funding of the ongoing maintenance of future parks, trails and pathways, open space, landscaping, lighting and other common or public areas owned/maintained by the District within the District's service boundary.

For complete District Policy guidelines, please see Policy Guide Services 6000 – Facility Development on our website at www.eldoradohillscsd.org/about/administration-finance.html

Should you have any questions or comments regarding the concerns expressed in this letter, please contact me at (916) 614-3214.

Best regards,

Jeff Kernen

Jeff Kernen
Principal Planner
El Dorado Hills Community Services District

cc:
AKT Investments, Angelo Christie, angeloc@aktdev.com
RSC Engineering, Inc., Tiffany Wilson, t.wilson@rsc-engr.com

COMMUNITY DEVELOPMENT AGENCY
DEVELOPMENT SERVICES DIVISION
http://www.edcgov.us/DevServices/

PLACERVILLE OFFICE:
2850 Fairlane Court, Placerville, CA 95667
BUILDING
(530) 621-5315 / (530) 622-1708 Fax
bldgdept@edcgov.us
PLANNING
(530) 621-5355 / (530) 642-0508 Fax
planning@edcgov.us

LAKE TAHOE OFFICE:
924 B Emerald Bay Rd
South Lake Tahoe, CA 96150
(530) 573-3330
(530) 542-9082 Fax
tahoebuild@edcgov.us

May 23, 2021

Emilio Balingit
Urban Planning Partners
388 17th Street, Suite 230
Oakland, CA

Re: Determination of Application Incompleteness
Project File Name: EDH 52-Costco
Project Application Nos.: Planned Development Permit PD15-0001, Rezone Z17-0004, Tentative Parcel Map P17-0007, Conditional Use Permit CUP-R21-0024 (reactivation of S17-0017), Lot Line Adjustment LLA21-0009
APNs: 122-720-002, -018, -019, -020, and -021

Dear Mr. Balingit,

Planning Services has reviewed the above-referenced project application set resubmittal and found it to be *incomplete* for preliminary review purposes. The resubmittal was received on April 28, 2021. Below is a list of information needed to *complete* the above-referenced applications.

Some outstanding information is duplicative for a project with multiple applications. The list of materials/ information below has been consolidated based on the assumptions that a) the same sets of project plans will be adequate for multiple applications, and b) that technical reports will encompass the entire project site, and, where applicable, construction and operational activities on the North and South Sites. As such, please ensure that all materials submitted for use in multiple applications and/or APNs include the relevant information for each application number and APN(s).

Note that some previously-submitted application materials reference the old APN that was applicable before the parcel map that was approved in 2018 (P17-0004).

Planned Development Permit PD15-0001

1. An updated signed Planned Development Permit (PD) application, including the Environmental Questionnaire (encompassing the North and South Sites). (PD application with Environmental Questionnaire attached). *PD checklist item no. 1*
2. Letter of authorization from all landowners, including Mee Capital Investments (owners of APN: 122-720-002) authorizing the agent(s) identified on the applications to act on their behalf. *PD checklist item no. 2*
3. A copy of the official Assessor's map, showing the project parcels outlined in red. *PD checklist item no. 4*
4. A stand-alone 8½ x 11 vicinity map showing the location of the project site in relation to the distance to major roads, intersections, and town sites. *PD checklist item no. 5*
5. Completed Environmental Questionnaire form *(included in PD application, attached). PD checklist item no. 6*
6. Our understanding is that Kittelson & Associates is preparing the traffic study. Please provide a final traffic study, when available. *PD checklist item no. 9*
7. An updated Facilities Improvement Letter (FIL) from El Dorado Irrigation District. (The previously submitted FIL expires on December 6, 2021 and references the old APN for the original parcel.) *PD checklist item no. 10*
8. Preliminary grading and drainage plan. *PD checklist item no. 14*
9. Confirmation letter from Foothill Associates, or other biological resources expert, that site conditions relative to biological resources have not changed since the previous Biological Resources Assessment was prepared in October 2017. *Relevant to PD checklist items no. 17 and 19*
10. Our understanding is that the EIR Consultant will be conducting the acoustical analysis in the course of preparing the environmental impact analysis for the project. Please let us know if you expect to submit this analysis directly. *Checklist item no. 18*
11. Our understanding is that Ramboll is preparing analyses for air quality, greenhouse gas, energy, and health effects. Please provide these reports, when available. *PD checklist item no. 20*
12. A completed and signed Oak Resources Code Compliance Certificate and Oak Resources Technical Report Checklist (attached). A security deposit for on-site oak tree/oak woodland retention and/or replacement planting may be required upon analysis of oak resource impacts. *Oak Tree/Oak Woodland Removal checklist items no. 1 and 3 (PD application, page 12)*
13. For the South Site, include the location of trash and litter storage or collection areas on the site plans. Site Plan Requirements checklist item no. 9 *(PD application, page 13)*
14. For the North Site, provide building elevations for all cardinal directions. *Plan of Building Elevations, checklist item no. 1 (PD application, page 15)*

15. On the landscape plan, indicate:

    - The quantity and number of trees to be removed.
    - The location, general type (pine, oak, etc.) and size of all existing trees, in those areas that are subject to grading or otherwise may be removed/affected by the proposed improvements. *Preliminary Landscape Plan Requirements checklist items no 2 and 3 (PD application, page 14)*

Rezone Z17-0004

16. A completed signed Rezone application and agreement for payment of processing fees (Rezone application and payment form attached). *Checklist item no. 1*

Tentative Parcel Map P17-0007

17. A completed signed Tentative Parcel Map (TPM) application and agreement for payment of processing fees (TPM application and payment form attached). *Checklist item no. 1*

18. Four copies of a slope map noting the following slope range categories: 0 to 10%, 11 to 20%, 21 to 29%, 30 to 39%, 40% and over. *Checklist item no. 20.b*

19. TPM plan sheet including all information listed as Required Information on Tentative Map section. *TPM application, starting on page 10*

CUP-R21-0024 (Reactivation of S17-0017)

20. A completed signed Conditional Use Permit (CUP) application and agreement for payment of processing fees (CUP application and payment form attached). *Checklist Item no 1*

Lot Line Adjustment LLA21-0009

21. Lot Line Adjustment (LLA) application and agreement for payment of processing fees, both completed and signed (both forms are provided alongside this letter). *Checklist item no. 1*

22. One full-size site plan drawn to scale and of sufficient size to allow for a clear delineation of the required information in items a-m as listed in the LLA application, as applicable, and one 11 x 17 version of the full-size site plan. *Checklist item no. 4*

Note that this list of required information may not be exhaustive.

In addition, the project description dated April 23, 2021 indicates the intent to submit a separate PD application for the South Site/ Costco site. Please submit a completed signed PD application for the South Site if that is still the plan.

Planning staff recommends reviewing El Dorado County General Plan Policy 10.2.1.5 under Objective 10.2.1, Public and Civic Facilities Investment, in regard to the potential requirement for a Public Facilities Financing Plan for commercial projects that are located in a Community Region and that exceed 20 acres or 100,000 square feet. This policy can be found in the County's Economic Development Element here:

https://www.edcgov.us/Government/Planning/pages/Adopted_General_Plan.aspx

As indicated on in the above-referenced PD, Rezone, CUP, and TPM applications:

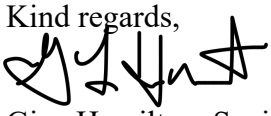
> Planning reserves the right to require additional project information as provided by Section 15060 of the California Environment Quality Act, or as required by the General Plan development policies, or when such is necessary to complete the environmental assessment.

Delayed submittal of the items listed above may affect timely preparation of the environmental assessment document(s). Please don't hesitate to let me know if you have any questions about these items.

Once it has been determined that we have enough information to go forward for Technical Advisory Committee (TAC) review, the applications will be distributed to affected departments and agencies for a 30-day review and comment period. In addition, a TAC meeting will be scheduled to discuss the comments received and any project issues. TAC meetings are for agency discussion and it is recommended that you or your agent be present at the TAC meeting to discuss the progress of your application.

New materials should be submitted to: Gina Hamilton, Planning Services, 2850 Fairlane Court, Building C, Placerville, CA 95667. Be sure to refer to the specific project number(s). Please call me at (530) 621-5980 or email me at gina.hamilton@edcgov.us if you have any questions or concerns regarding the requested items.

Kind regards,



Gina Hamilton, Senior Planner

cc: Tiffany Wilson, RSC Engineering

Files: PD15-0001, Z17-004, P17-0007, CUP-R21-0024, LLA21-0009

Attachments:

Planned Development Permit application

Agreement for Payment of Processing Fees form

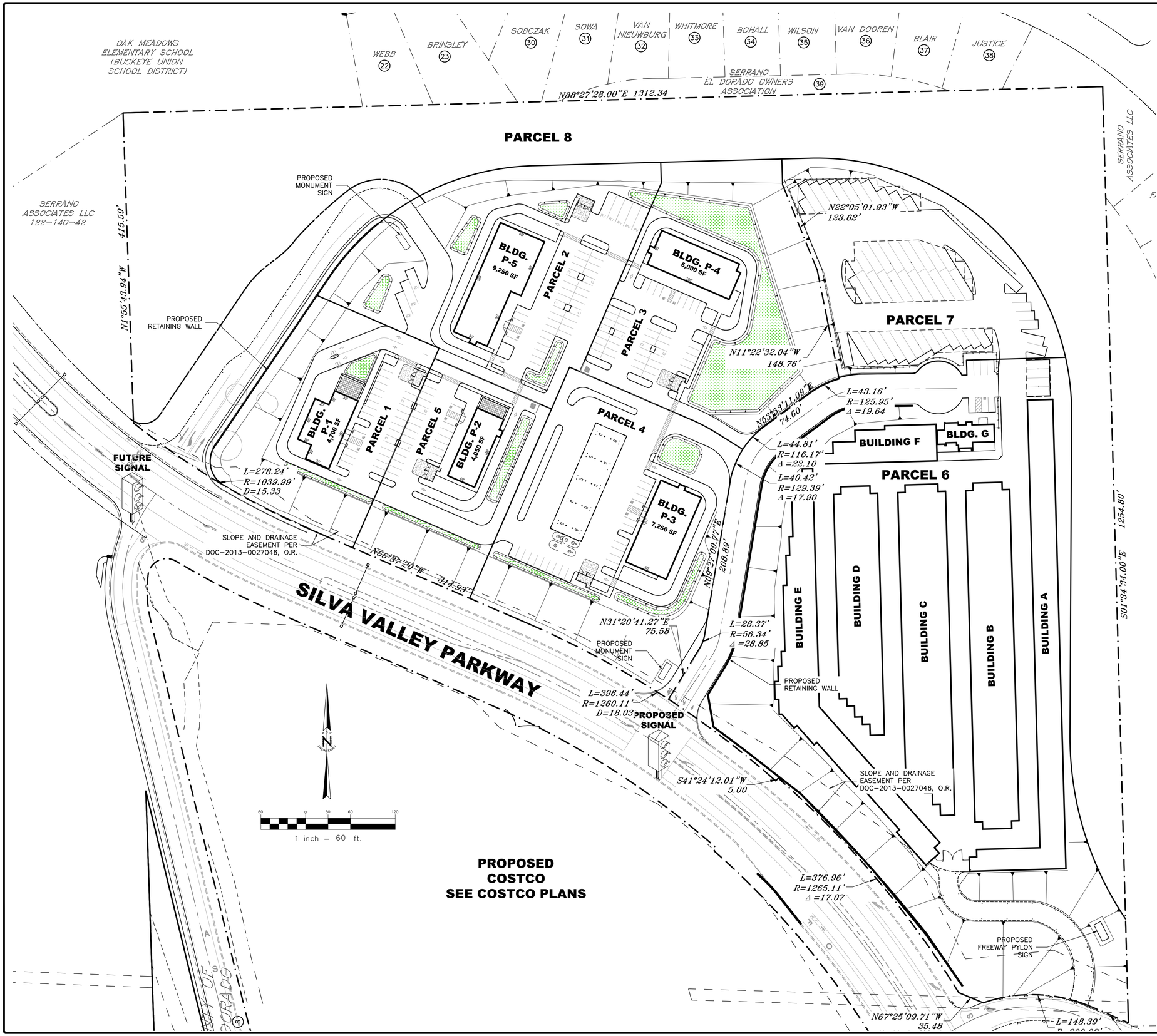
Oak Resources Code Compliance Certificate form

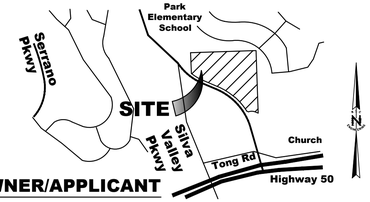
Oak Resources Technical Report Checklist

Tentative Parcel Map application

Conditional Use Permit application

Lot Line Adjustment application





OWNER/APPLICANT

EDH 52 G.P.
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

ENGINEER

RSC ENGINEERING, INC.
1420 ROCKY RIDGE DRIVE, SUITE 150
ROSEVILLE, CA 95661
PHONE: (916) 788-2884

SITE DATA

NORTH AREA	
PARCELS 1-7	18.26± ACRES (795,584± SF)
PARCEL 8	6.57± ACRES (286,088± SF)
OVERALL NORTH AREA	24.83± ACRES (1,081,672± SF)
TOTAL BUILDING AREA: (PARCELS 1-7)	161,608± S.F
LOT COVERAGE:	20.3%
LAND USE CLASSIFICATION:	COMMERCIAL
PROPOSED ZONING CLASSIFICATION:	COMMUNITY COMMERCIAL PLANNED DEVELOPMENT

APN: 122-720-019, 020 AND 021

UTILITY PROVIDERS

WATER	EL DORADO IRRIGATION DISTRICT
SANITARY SEWER	EL DORADO IRRIGATION DISTRICT
STORM DRAIN	EL DORADO COUNTY
FIRE	EL DORADO FIRE PROTECTION DISTRICT
ELECTRIC	PG&E
GAS	PG&E
TELEPHONE	AT&T
CABLE	AT&T

NOTES

1. PARKING SHOWN CONTAINS 90° PARKING SPACES.
2. TYPICAL PARKING STALL DIMENSIONS:
   STANDARD STALLS WIDTH: 9' DEPTH: 18' MIN.
   COMPACT STALLS WIDTH: 9' DEPTH: 15.0'
   TWO WAY AISLES: 24' MIN.
3. TREES AND WETLANDS NOT SHOWN ON SITE PLAN ARE PROPOSED TO BE REMOVED AND FILLED PER COUNTY MITIGATION AND ARMY CORP PERMIT.
4. EXISTING EASEMENT WIDTHS VARY. PROPOSED EASEMENTS ARE UNKNOWN AT THIS TIME.

SITE ANALYSIS - RETAIL

BUILDINGS:	
BUILDING P-1:	4,700 SF
BUILDING P-2:	9,250 SF
BUILDING P-3:	6,000 SF
BUILDING P-4:	7,250 SF
BUILDING P-5:	4,050 SF
TOTAL:	31,250 SF
PARKING STALLS:	
STANDARD PARKING:	136 SPACES
COMPACT PARKING:	12 SPACES
ACCESSIBLE PARKING:	10 SPACES
RV PARKING:	8 SPACES
TOTAL:	166 SPACES

SITE ANALYSIS - STORAGE

STORAGE FACILITY:	
BUILDING "A"	24,800 SF
BUILDING "B"	27,500 SF
BUILDING "C"	27,000 SF
BUILDING "D"	18,600 SF
BUILDING "E"	22,300 SF
BUILDING "F"	6,425 SF
BUILDING "G"	3,733 SF
TOTAL	130,358 SF
STANDARD PARKING:	6 SPACES
ACCESSIBLE PARKING:	1 SPACES
TOTAL:	7 SPACES

OWNER:
EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

NO	DESCRIPTION	ENG INIT	BY	CITY APPROVED	DATE

RSC ENGINEERING
1420 Rocky Ridge Drive, Suite 150
Roseville, CA 95661
Ph:916.788.2884 Fax:916.788.4408

PROJECT NO:	104-003A
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

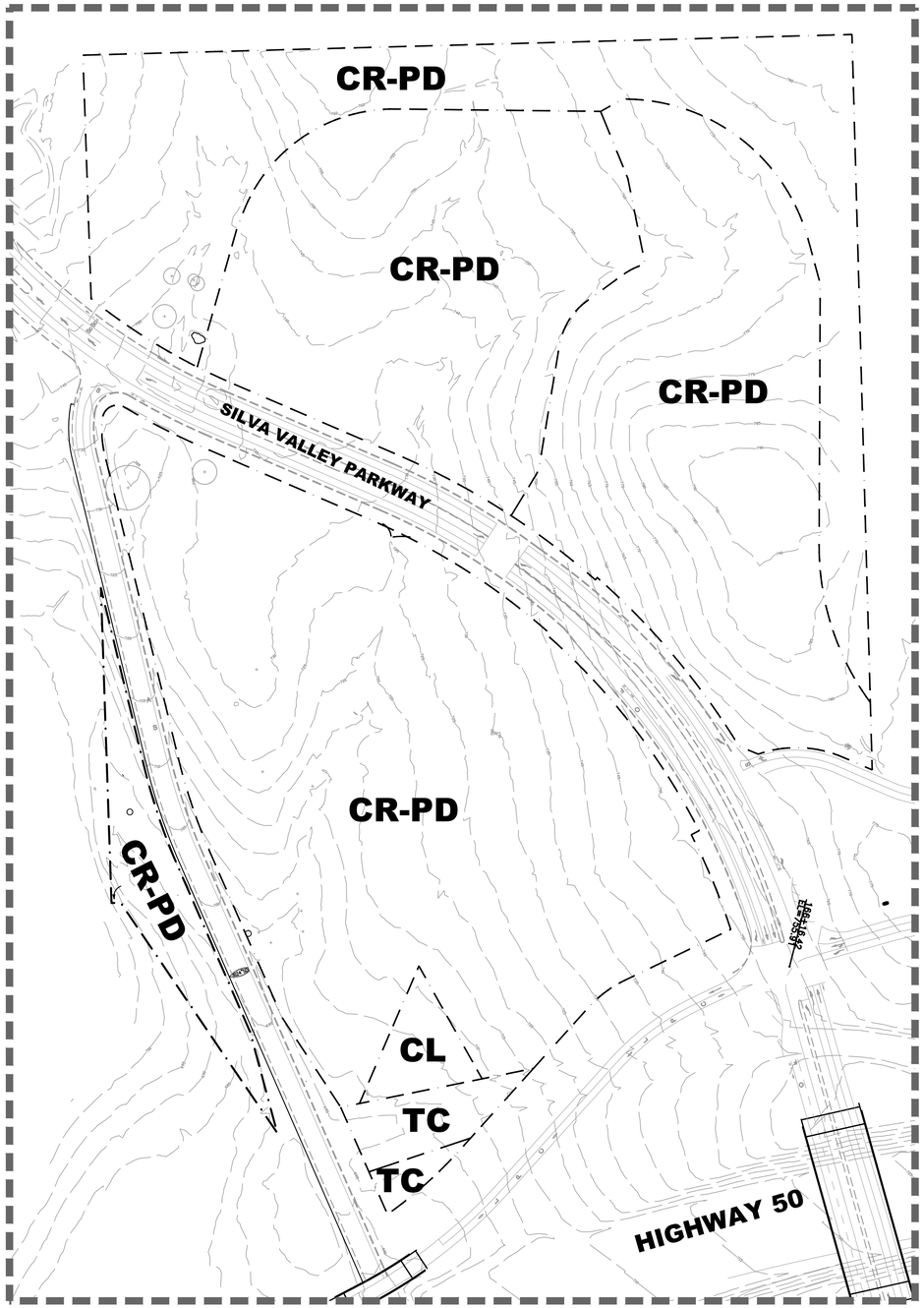
PLANNED DEVELOPMENT APPLICATION FOR EDH 52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

SHEET TITLE
PRELIMINARY OVERALL SITE PLAN

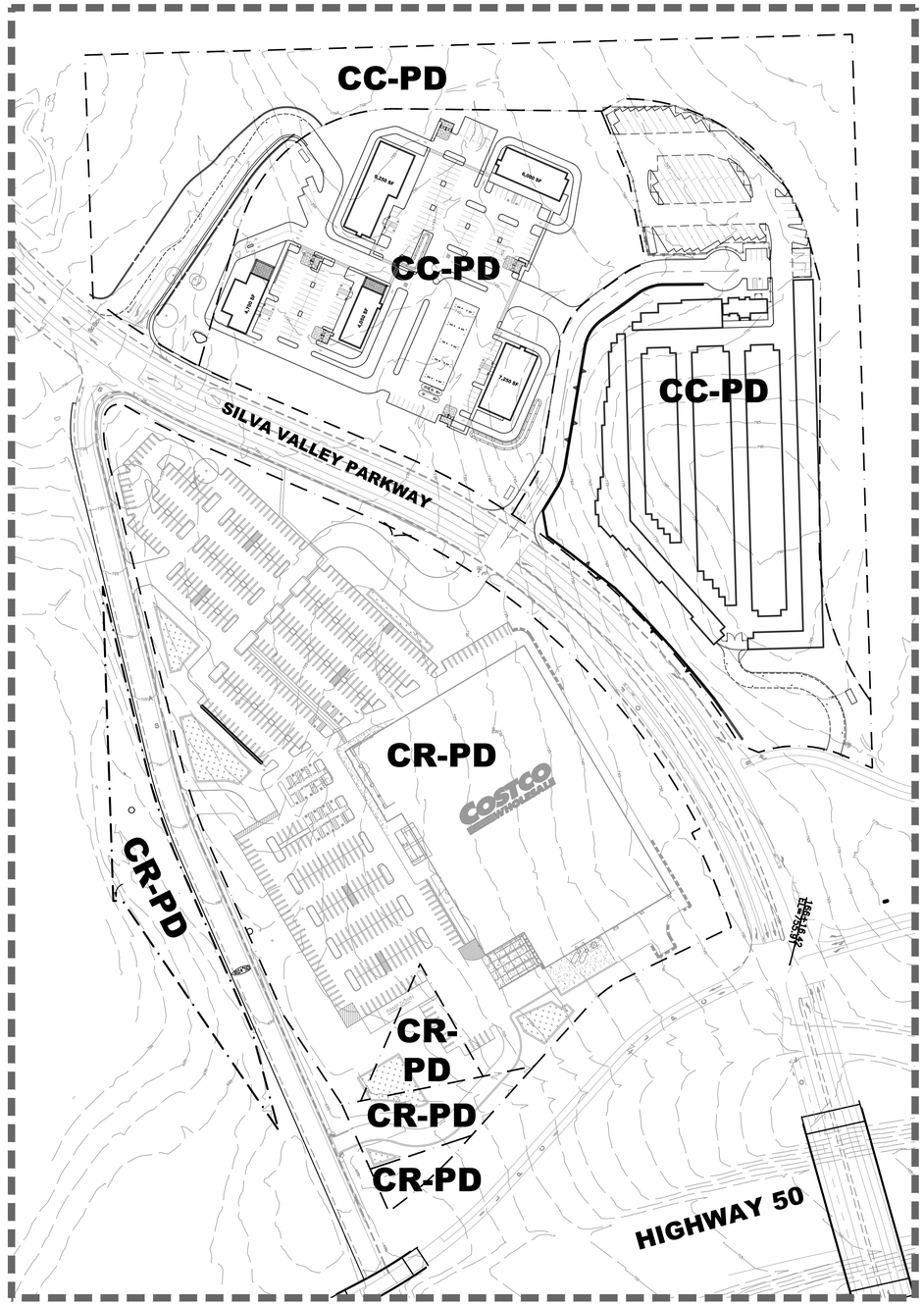
SHEET NO.
SP1
1 OF **12**

DATE: JUNE 7, 2021

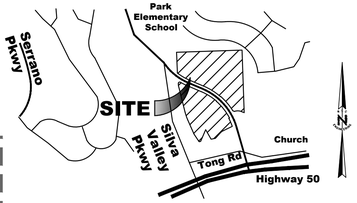
XREFs: \\140-003A_GRADING.dwg \\140-003A_UTILITY.dwg \\140-003A_XPARK.dwg \\140-003A_SITE_PLAN_FIGURE CCO2.dwg P:\104-003A\Planning\Conceptual\104003A_XPARK_SP02.dwg P:\104-003A\Planning\Conceptual\104003A_XTOPO.dwg \\140-003A_XTOPO.dwg P:\104-003A\Planning\Conceptual\104003A_XUTILITY.dwg P:\104-003A\Planning\Conceptual\104003A_XCOSTCO.dwg
DRAWING: P:\104-003A\Planning\Conceptual\104003A_SP.dwg
LAST MODIFIED: Jun 08, 2021 - 1:15:21 PM
PLOT DATE: Jun 08, 2021 - 1:15:21 PM



EXISTING ZONING: CR-PD, CL & TC
COMMERCIAL REGIONAL - PLANNED DEVELOPMENT
COMMERCIAL LIMITED & TRANSPORTATION CORRIDOR
EXISTING ACREAGE: 41.88± AC



PROPOSED ZONING: CC-PD & CR-PD
COMMUNITY COMMERCIAL - PLANNED DEVELOPMENT
COMMUNITY REGIONAL - PLANNED DEVELOPMENT
PROPOSED ACREAGE: 41.88± AC



OWNER
EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826

MEE CAPITAL INVESTMENTS
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826

EL DORADO COUNTY
2850 FAIRLANE COURT
PLACERVILLE, CA 95667

ENGINEER
RSC ENGINEERING, INC.
1420 ROCKY RIDGE DRIVE, SUITE 150
ROSEVILLE, CA 95661

SCALE
1" = 120'

CONTOUR INTERVAL
5'

SOURCE OF TOPOGRAPHY
KIER & WRIGHT DATE MARCH 2019

SECTION, TOWNSHIP AND RANGE
1, 9N, 8E M.D.M.

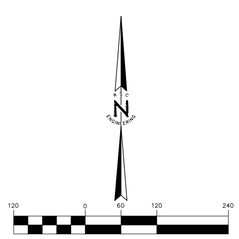
ASSESSORS PARCEL NUMBER
122-720-018, 019, 020, 021, 002 & 003

EXISTING ZONING
COMMERCIAL REGIONAL PLANNED DEVELOPMENT(CR-PD)
COMMERCIAL LIMITED (CL)
TRANSPORTATION CORRIDOR (TC)

PROPOSED ZONING
COMMUNITY COMMERCIAL PLANNED DEVELOPMENT (CC-PD)
COMMUNITY REGIONAL PLANNED DEVELOPMENT (CR-PD)

EXISTING ACREAGE SUMMARY

NORTH SIDE:	24.83± AC
SOUTH SIDE:	17.05± AC
TOTAL:	41.88± AC



1 inch = 120 ft.

OWNER:
EDH 52 GP
7919 FOLSOM BLD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

NEV NO	DESCRIPTION	ENG INIT	BY	DATE
				CITY APPROVED

RSC ENGINEERING
1420 Rocky Ridge Dr., Suite 150
Roseville, CA 95661
Ph:916.788.2684 Fax:916.786.4408

PROJECT NO:	104-003A
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

REZONE EXHIBIT FOR
EDH52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95762
EL DORADO COUNTY

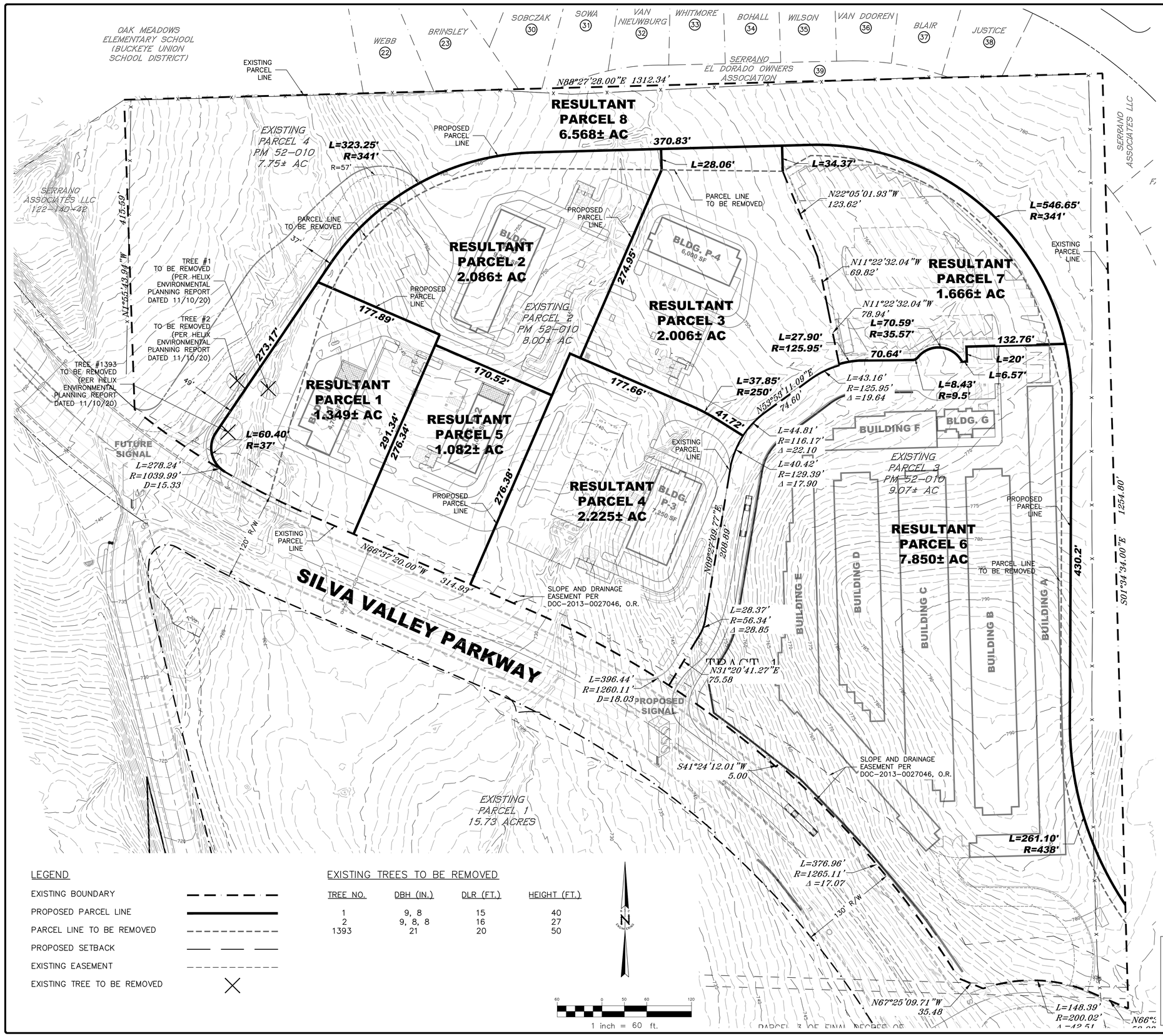
SHEET TITLE
REZONE EXHIBIT

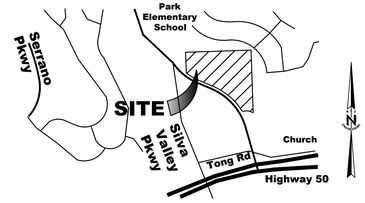
SHEET NO.
RZ
12 OF **12**

DATE: JUNE 7, 2021

XRefs: \\104003A_SPRPN.dwg
\\104003A_ZONING.dwg
\\104003A-00(01)Planning\Conceptual\104003_XTOPO.dwg
\\104003A-00(01)Planning\Conceptual\104003A_XDISTRICT.dwg
P:\104-003A\Planning\Conceptual\104003A_XDISTRICT.dwg

DRAWING: P:\104-003A\Planning\Conceptual\104003A_RZ.dwg
USER: Mike Kier
PLOT DATE: Mon, Jun 07 - 2:19:53 PM





LEGEND

- EXISTING BOUNDARY
- PROPOSED PARCEL LINE
- PARCEL LINE TO BE REMOVED
- PROPOSED SETBACK
- EXISTING EASEMENT
- EXISTING TREE TO BE REMOVED

EXISTING TREES TO BE REMOVED

TREE NO.	DBH (IN.)	DLR (FT.)	HEIGHT (FT.)
1	9, 8	15	40
2	9, 8, 8	16	27
1393	21	20	50

1 inch = 60 ft.

OWNER/APPLICANT
EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

ENGINEER
RSC ENGINEERING, INC.
1420 ROCKY RIDGE DRIVE, SUITE 150
ROSEVILLE, CA 95661
PHONE: (916)788-2884

SCALE
1" = 60'

CONTOUR INTERVAL
5'

SOURCE OF TOPOGRAPHY
KIER & WRIGHT, MARCH 2019

SECTION, TOWNSHIP AND RANGE
1, 9N, 8E M.D.M.

ASSESSORS PARCEL NUMBER
122-720-19, 020 AND 021

PRESENT ZONING
COMMERCIAL REGIONAL - PLANNED DEVELOPMENT (PD-CR)

UTILITY PROVIDERS

WATER	EL DORADO IRRIGATION DISTRICT
SANITARY SEWER	EL DORADO IRRIGATION DISTRICT
STORM DRAIN	EL DORADO COUNTY
FIRE	EL DORADO FIRE PROTECTION DISTRICT
ELECTRIC	PG&E
GAS	PG&E
TELEPHONE	AT&T
CABLE	AT&T
FIRE PROTECTION	EL DORADO HILLS FIRE DEPARTMENT

EXISTING ACREAGE SUMMARY

PARCEL 2:	8.01± AC
PARCEL 3:	9.07± AC
PARCEL 4:	7.75± AC
TOTAL:	24.83± AC

PROPOSED ACREAGE SUMMARY

PARCEL 1:	1.349± AC
PARCEL 2:	2.086± AC
PARCEL 3:	2.006± AC
PARCEL 4:	2.225± AC
PARCEL 5:	1.082± AC
PARCEL 6:	7.850± AC
PARCEL 7:	1.666± AC
PARCEL 8:	6.568± AC
TOTAL:	24.832± AC

NUMBER OF PARCELS: 8
MINIMUM PARCEL SIZE: 1.082± AC

NOTES

1. REFER TO FINAL PARCEL MAP FOR EXACT DIMENSIONS
2. FLOOD ZONE R1, FEMA NO. 060040 0700D, DATED 10/18/1995
3. WIDTH OF EXISTING EASEMENTS VARIES.

Zoning Administrator: _____
Approval/Denial Date: _____
Board of Supervisors: _____
Approval/Denial Date: _____

OWNER:
EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

NO.	DESCRIPTION	DWG INIT.	BY	DATE	CITY APPROVED

REGISTERED PROFESSIONAL ENGINEER JAYRAJ SINGH No.62091 Sept. 30, 2021 CIVIL STATE OF CALIFORNIA

RSC ENGINEERING
1420 Rocky Ridge Drive, Suite 150
Roseville, CA 95661
Ph:916.788.2884 Fax:916.788.4408

PROJECT NO: 104-003A
DRAWN BY: RSC Eng
CHECKED BY: RSC Eng
DESIGNED BY: RSC Eng

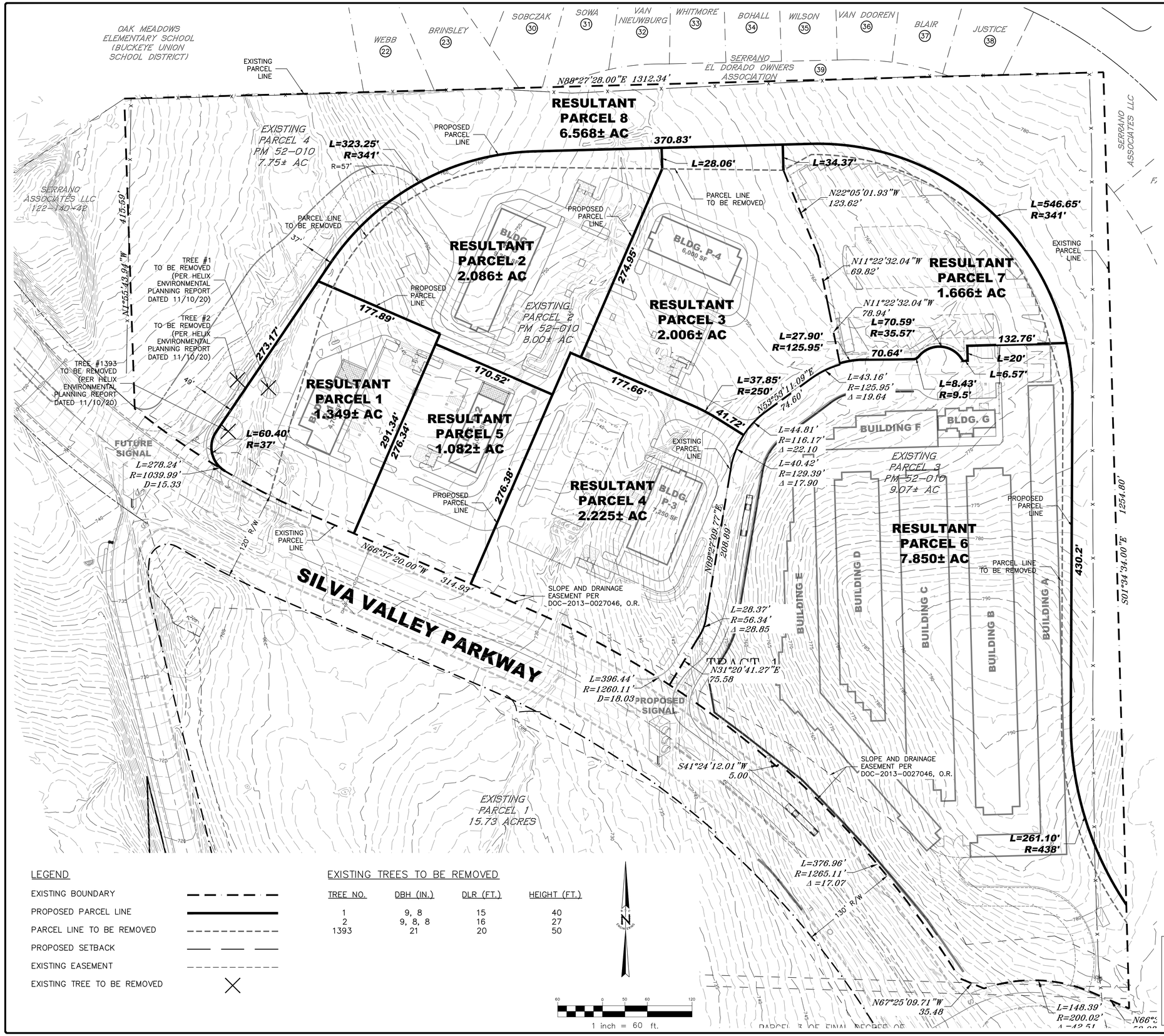
TENTATIVE PARCEL MAP OR EDH 52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

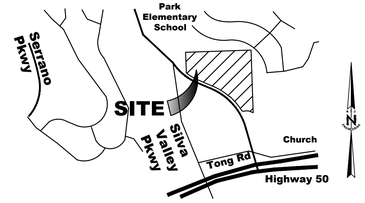
SHEET TITLE
TENTATIVE PARCEL MAP

SHEET NO.
TM
11 OF **12**

DATE: JUNE 7, 2021

XRefs: \104003A_XADLOTS.dwg
\104003A_XBASE.dwg
\104003A_XGRAD-FUTURE_ESS2.dwg
\104003A_XGRAD-SHP3.dwg
\104003A_XROAD-SHP3.dwg
\104003A_XSHP3.dwg
\104003A_XSHP3-Phasing (Concept).dwg
\104003A_XTOPO.dwg
\104003A_XUTILITIES.dwg
DRAWING: P:\104-003A\Planning\Concept\104003A_TM.dwg
USER: JSINGH
PLOT DATE: Jun 08, 2021 - 11:03:53 AM





LEGEND

EXISTING BOUNDARY	
PROPOSED PARCEL LINE	
PARCEL LINE TO BE REMOVED	
PROPOSED SETBACK	
EXISTING EASEMENT	
EXISTING TREE TO BE REMOVED	X

EXISTING TREES TO BE REMOVED

TREE NO.	DBH (IN.)	DLR (FT.)	HEIGHT (FT.)
1	9, 8	15	40
2	9, 8, 8	16	27
1393	21	20	50

OWNER/APPLICANT
EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

ENGINEER
RSC ENGINEERING, INC.
1420 ROCKY RIDGE DRIVE, SUITE 150
ROSEVILLE, CA 95661
PHONE: (916)788-2884

SCALE
1" = 60'

CONTOUR INTERVAL
5'

SOURCE OF TOPOGRAPHY
KIER & WRIGHT, MARCH 2019

SECTION, TOWNSHIP AND RANGE
1, 9N, 8E M.D.M.

ASSESSORS PARCEL NUMBER
122-720-19, 020 AND 021

PRESENT ZONING
COMMERCIAL REGIONAL - PLANNED DEVELOPMENT (PD-CR)

UTILITY PROVIDERS

WATER	EL DORADO IRRIGATION DISTRICT
SANITARY SEWER	EL DORADO IRRIGATION DISTRICT
STORM DRAIN	EL DORADO COUNTY
FIRE	EL DORADO FIRE PROTECTION DISTRICT
ELECTRIC	PG&E
GAS	PG&E
TELEPHONE	AT&T
CABLE	AT&T
FIRE PROTECTION	EL DORADO HILLS FIRE DEPARTMENT

EXISTING ACREAGE SUMMARY

PARCEL 2:	8.01± AC
PARCEL 3:	9.07± AC
PARCEL 4:	7.75± AC
TOTAL:	24.83± AC

PROPOSED ACREAGE SUMMARY

PARCEL 1:	1.349± AC
PARCEL 2:	2.086± AC
PARCEL 3:	2.006± AC
PARCEL 4:	2.225± AC
PARCEL 5:	1.082± AC
PARCEL 6:	7.850± AC
PARCEL 7:	1.666± AC
PARCEL 8:	6.568± AC
TOTAL:	24.832± AC

NUMBER OF PARCELS: 8
MINIMUM PARCEL SIZE: 1.082± AC

NOTES

1. REFER TO FINAL PARCEL MAP FOR EXACT DIMENSIONS
2. FLOOD ZONE R1, FEMA NO. 060040 0700D, DATED 10/18/1995
3. WIDTH OF EXISTING EASEMENTS VARIES.

Zoning Administrator: _____
Approval/Denial Date: _____
Board of Supervisors: _____
Approval/Denial Date: _____

OWNER:
EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

NO.	DESCRIPTION	DWG INIT.	BY	DATE
				CITY APPROVED

REGISTERED PROFESSIONAL ENGINEER JAYRAJ SINGH No.62091 Sept. 30, 2021 CIVIL STATE OF CALIFORNIA

RSC ENGINEERING
1420 Rocky Ridge Drive, Suite 150
Roseville, CA 95661
Ph:916.788.2884 Fax:916.788.4408

PROJECT NO: 104-003A
DRAWN BY: RSC Eng
CHECKED BY: RSC Eng
DESIGNED BY: RSC Eng

TENTATIVE PARCEL MAP OR
EDH 52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

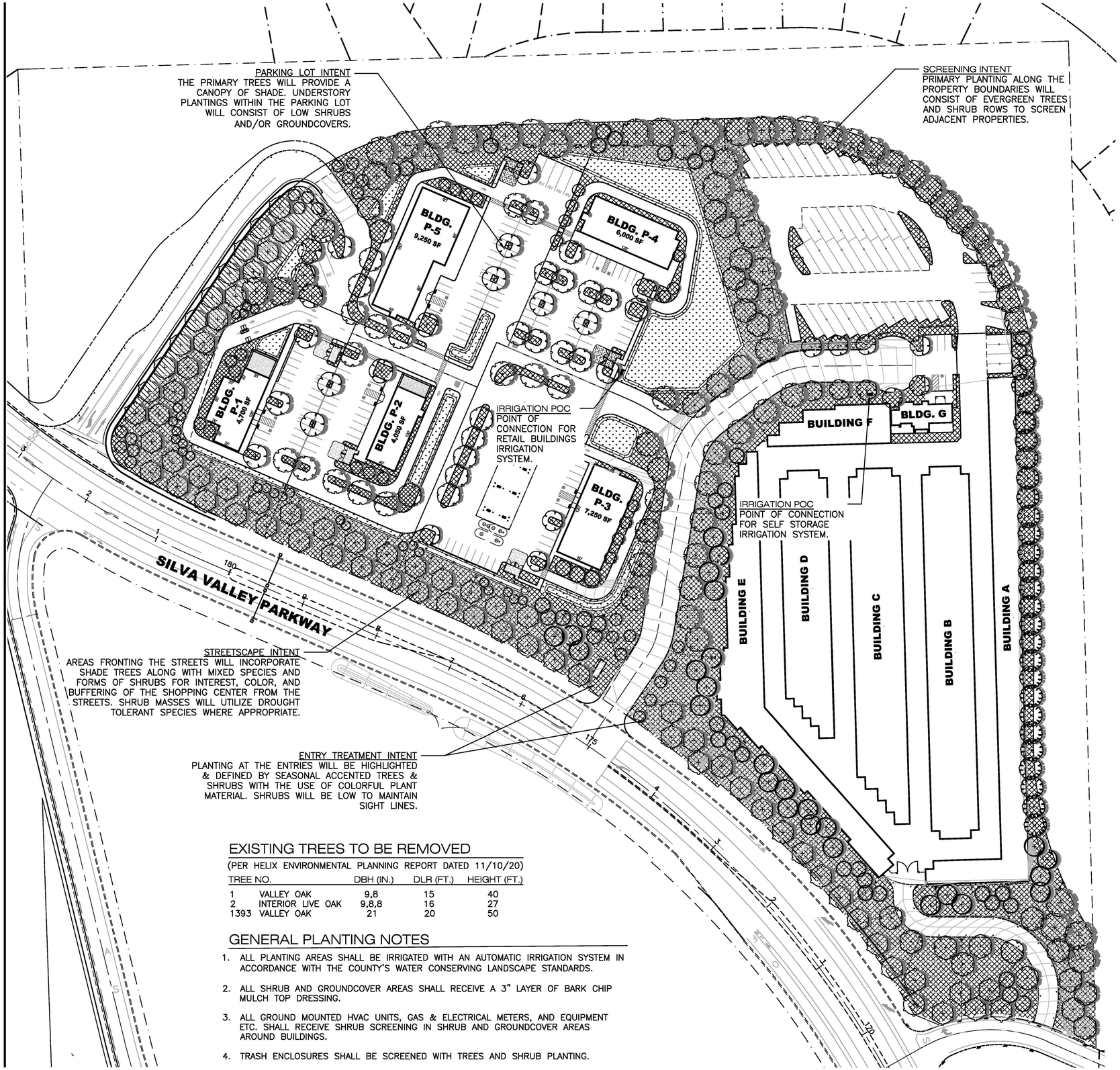
SHEET TITLE
TENTATIVE PARCEL MAP

SHEET NO.
TM
11 OF **12**

DATE: JUNE 7, 2021

XRefs: \104003A_XADLOTS.dwg
\104003A_XBASE.dwg
\104003A_XBRAD-FUTURE_ESS2.dwg
\104003A_XBRAD-SWP3.dwg
\104003A_XBRAD-SWP3-FUTURE_ESS2.dwg
\104003A_XBRAD_SWP3.dwg
\104003A_XDRAINAGE.dwg
\104003A_XGRADING.dwg
\104003A_XLOTS.dwg
\104003A_XPROPOSED.dwg
\104003A_XTOPO.dwg
\104003A_XUTILITIES.dwg
DRAWING: P:\104-003A\Planning\Concepts\v5\104003A_TM.dwg
USER: RSC Eng
PLOT DATE: Jun 08, 2021 - 11:03:53 AM

FUHRMAN LEAMY LAND GROUP HEREBY EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS. THESE PLANS AND DRAWINGS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION OF FUHRMAN LEAMY LAND GROUP. NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING WRITTEN PERMISSION AND CONSENT.



EXISTING TREES TO BE REMOVED

(PER HELIX ENVIRONMENTAL PLANNING REPORT DATED 11/10/20)

TREE NO.		DBH (IN.)	DLR (FT.)	HEIGHT (FT.)
1	VALLEY OAK	9,8	15	40
2	INTERIOR LIVE OAK	9,8,8	16	27
1393	VALLEY OAK	21	20	50

GENERAL PLANTING NOTES

1. ALL PLANTING AREAS SHALL BE IRRIGATED WITH AN AUTOMATIC IRRIGATION SYSTEM IN ACCORDANCE WITH THE COUNTY'S WATER CONSERVING LANDSCAPE STANDARDS.
2. ALL SHRUB AND GROUNDCOVER AREAS SHALL RECEIVE A 3" LAYER OF BARK CHIP MULCH TOP DRESSING.
3. ALL GROUND MOUNTED HVAC UNITS, GAS & ELECTRICAL METERS, AND EQUIPMENT ETC. SHALL RECEIVE SHRUB SCREENING IN SHRUB AND GROUNDCOVER AREAS AROUND BUILDINGS.
4. TRASH ENCLOSURES SHALL BE SCREENED WITH TREES AND SHRUB PLANTING.

PLANT SCHEDULE

TREES	BOTANICAL / COMMON NAME	SIZE	WATER USE	QTY
	ACER RUBRUM `ARMSTRONG` ARMSTRONG RED MAPLE	15 GAL.	M	46
	ARBUTUS X `MARINA` MARINA STRAWBERRY TREE MULTI-TRUNK	15 GAL.	L	12
	CARPINUS BETULUS `FASTIGIATA` PYRAMIDAL EUROPEAN HORNBEAN	15 GAL.	M	12
	CERCIS OCCIDENTALIS WESTERN REDBUD MULTI-TRUNK	15 GAL.	L	27
	ELAEOCARPUS DECIPIENS JAPANESE BLUEBERRY TREE	15 GAL.	M	25
	LAURUS X `SARATOGA` SARATOGA HYBRID LAUREL	15 GAL.	L	26
	LIRIODENDRON TULIPIFERA TULIP POPLAR	15 GAL.	M	41
	PINUS ELDARICA AFGHAN PINE	15 GAL.	L	31
	PISTACIA CHINENSIS `KEITH DAVEY` KEITH DAVEY CHINESE PISTACHE	15 GAL.	L	18
	QUERCUS WISLIZENII INTERIOR LIVE OAK	15 GAL.	L	43
	TILIA TOMENTOSA `STERLING` STERLING SILVER LINDEN	15 GAL.	L	70
	ULMUS PARVIFOLIA `ALLEE` ALLEE LACEBARK ELM	15 GAL.	M	35

SHRUBS, GROUNDCOVER & VINES

SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE	WATER USE	REMARKS
	BACKGROUND / SCREEN SHRUBS – EVERGREEN, LARGE SHRUBS TO 6'–0" USED FOR REDUCING BUILDING MASS OR SCREENING UNDESIRABLE VIEWS.			
	ABELIA X 'ED GOUCHER' GLOSSY ABELIA	5 G	MED	---
	ARBUTUS UNEDO STRAWBERRY TREE	15 G	LOW	---
	LOROPETULUM CHINENSIS 'RAZZLEBERRI' CHINESE FRINGE FLOWER	5 G	MED	---
	PHOTINIA FRASERI PHOTINIA	5 G	MED	---
	PODOCARPUS MACROPHYLLUS 'MAKI' SHRUBBY YEW PINE	5 G	MED	---
	RHAPHIOLEPIS INDICA 'JACK EVANS' INDIA HAWTHORN	5 G	LOW	---
	FACER/FILLER SHRUBS EVERGREEN OR DECIDUOUS SHRUBS TO 4'–0". USED FOR "TERRACING" OF PLANT MATERIAL. SEASONAL COLOR AND SOFTENING OF BUILDING EDGES AND FOUNDATION SHRUBS.			
	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER' FEATHER REED GRASS	5 G	MED	---
	CISTUS HYBRIDUS WHITE ROCKROSE	5 G	LOW	---
	DIANELLA CAERULEA BLUE FLAX LILY	5 G	LOW	---
	GARDENIA JASMINOIDES 'GROWN JEWEL' CROWN JEWEL GARDENIA	5 G	MED	---
	HELICTOTRICHON SEMPERVIRENS BLUE OAT GRASS	5 G	LOW	---
	MUHLENBERGIA RIGENS DEER GRASS	5 G	LOW	---
	NANDINA DOMESTICA 'COMPACTA' HEAVENLY BAMBOO	5 G	LOW	---
	RHAPHIOLEPIS INDICA 'SPP. INDIA HAWTHORN	5 G	LOW	---
	VIBURNUM DAVIDII DAVID'S VIBURNUM	5 G	MED	---
	GROUND COVER MATERIAL – SMALL SCALE DUE TO PROJECT TYPE, EVERGREEN OR PERENNIAL SHRUBS TO 24" HIGH. USED AS A FILLER BETWEEN SITE WORK EDGES AND FACER SHRUBS.			
	ARCTOSTAPHYLOS U. URSI MANZANITA	1 G	LOW	36" O.C.
	BERGENIA CRASSIFOLIA WINTER BLOOMING BERGENIA	1 G	MED	36" O.C.
	FESTUCA GLAUCA BLUE FESCUE	1 G	MED	24" O.C.
	HOSTA 'LIBERTY' VARIEGATED HOSTA	1 G	MED	24" O.C.
	ROSA FLOWER CARPET (WHITE AND RED) FLOWER CARPET ROSE	1 G	MED	36" O.C.
	SOLLYA HETEROPHYLLA AUSTRALIAN BLUEBELL CREEPER	1 G	MED	18" O.C.
	"NO MOW" OR "MOW FREE" FESCUE NATIVE FESCUE BLEND	SOD	MED	---
	WATER QUALITY BASIN – PLANTS ACCEPTABLE TO WET CONDITIONS			
	JUNCUS PATENS GREY RUSH	---	HIGH	---
	JUNCUS EFFUSES SOFT RUSH	---	HIGH	---
	NASELLA PULCHRA PURPLE NEEDLE GRASS	---	HIGH	---
	BIOFILTRATION SOD	SOD	MED	---

Scale: 1" = 60'-0"

UNDERGROUND SERVICE ALERT
CALL TOLL FREE
1–800–227–2600
TWO WORKING DAYS BEFORE YOU DIG

FUHRMAN LEAMY
LAND GROUP
DESIGN • SERVICE • SOLUTIONS
2140 PROFESSIONAL DRIVE, SUITE 115
ROSEVILLE, CALIFORNIA 95661
916.783.5263 • FLLANDGROUP.COM

JOB NO. : RSC20054

CONSULTANT

PROJECT:

EDH 52

HWY 50 & SILVA VALLEY PKWY
EL DORADO HILLS, CA

CLIENT:

REVISIONS	DATE
1	
2	
3	
4	
5	

ISSUE		DATE
1	1st SUBMITTAL	11.02.2020
2	2nd SUBMITTAL	04.23.2021
3	3rd SUBMITTAL	06.08.2021
4		
5		

REGISTERED LANDSCAPE ARCHITECT
KEVIN C. LEAMY
No. 5668
PRELIMINARY NOT FOR CONSTRUCTION
6/31/22 Professional Date
XX/XX/XX Date
STATE OF CALIFORNIA

DRAWN : KCL
CHECKED : KCL
SCALE: : 1" = 60'-0"

SHEET TITLE:

PRELIMINARY LANDSCAPE PLAN

SHEET

PL-1

1 OF 1 SHEETS

Watermark Engineering, Inc.

DATE: June 15, 2021

TO: Jai Singh

FROM: Patrick Stiehr, PE

RE: Drainage Study for EDH 52, Proposed Self Storage and Costco at Highway 50 and Silva Valley Parkway

OVERVIEW

The project consists of two separate but hydraulically connected developments covering about 50 acres. The projects are a self-storage complex on the northeast side of Silva Valley Parkway and a Costco on the southwest side, just north of the Highway 50 interchange. Figure 1 provides a vicinity map.



Figure 1. Vicinity Map

3153 Jenna Court
Roseville, CA 95747

Phone: 916- 774- 1111, Fax: 916- 774- 1181
Mobile: 916- 715- 1167, email: pstiehr@wtrmark.com

A drainage study completed by AE COM evaluated the downstream impacts of the proposed development. Their findings indicated that the development would increase flows at Highway 50 by about 2% for the 10- and 100-year storms. However, there is little development downstream, so the risk of increased damages is insignificant.

This study provides evaluation of the onsite facilities to demonstrate 10-year capacity of the proposed drainage facilities.

HYDROLOGY

The hydrology was based on the SCS methodology embedded within the XP-SWMM software.

Soils

The soils within the project area are identified by the NRCS as Auburn Silt Loam and are within Hydrologic Group D, low infiltration. The published hydraulic conductivity for the Auburn Silt Loan is 7.09 micrometers per second, or one inch per hour in US units.

Shed Definition

The self-storage site was subdivided into 17 shed areas and is shown on the SW Q1 sheet prepared by RSC Engineering. Shed 13 will be redirected south along the west side of the development. Runoff from Sheds 14 and 15 will be conveyed through the project. Sheds 16 and 17 will be graded and be the transition area, sloped from the project area down to collection swales and convey south under Silva Valley Parkway and then through the Costco site.

The Costco site was subdivided into seven DMAs as shown on Shed Map Exhibit prepared by Kier+Wright. There is an additional offsite shed at the southeast corner. Runoff from this area will be collected and conveyed southwest.

SCS Parameters

Rainfall- the idealized rainfall distribution for the 10-year, 24-hour storm was developed from the El Dorado County Table A2.2.3, depth-duration-frequency, developed by Jim Goodridge, 2008. A screen shot of the hyetograph is shown in Figure 2. The mean annual rainfall was estimated at 27 inches per year.

An assumed time-of-concentration of five minutes and a Curve Number of 95 were used for all nodes within the project areas. Table 1 provides a summary of the shed areas and peak flows from the 10-year, 24-hour storm.

3153 Jenna Court
Roseville, CA 95747
Phone: 916- 774- 1111, Fax: 916- 774- 1181
Mobile: 916- 715- 1167, email: pstiehr@wtrmark.com

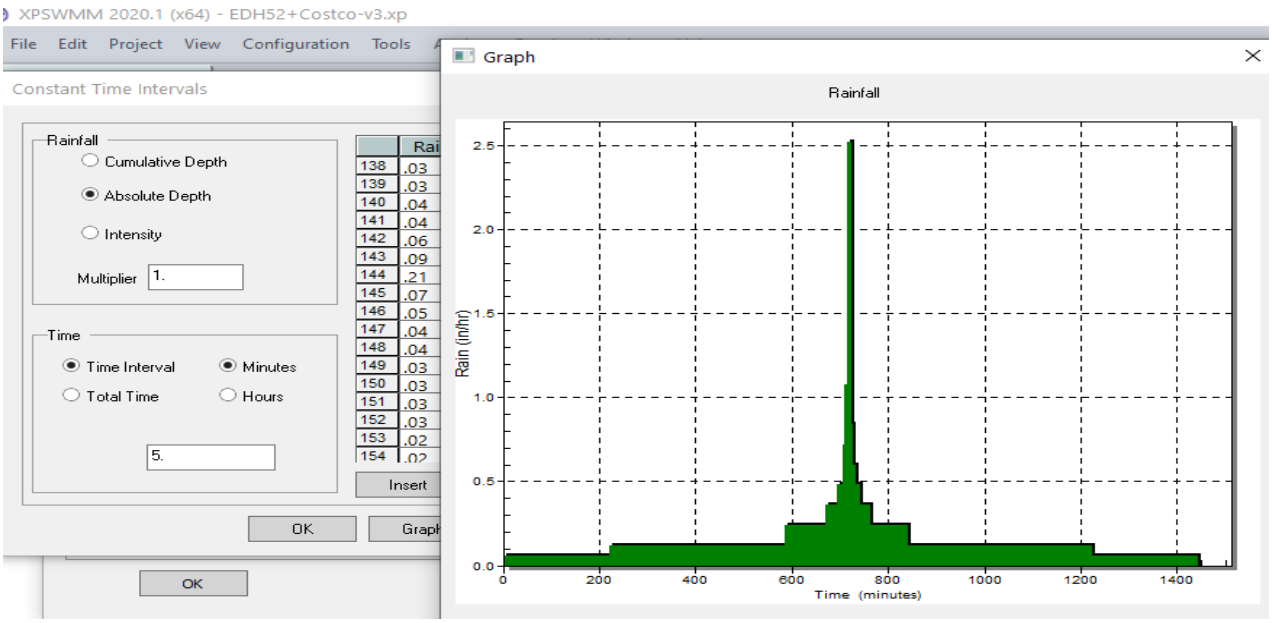


Figure 2. Plot of Rainfall Hyetograph for 10-year, 24-hour Storm

HYDRAULICS

The XP-SWMM software was used for the backwater analysis. Drainage facilities information for the modeling was based on the Preliminary Grading Plan by RSC Engineering for the self-storage site and the Drainage Exhibit prepared by Kier+Wright for the Costco site.

Figure 3 provides a schematic modeling map for the two projects. Table 1 provides a summary of the hydraulic parameters and characteristics of drainage facilities.

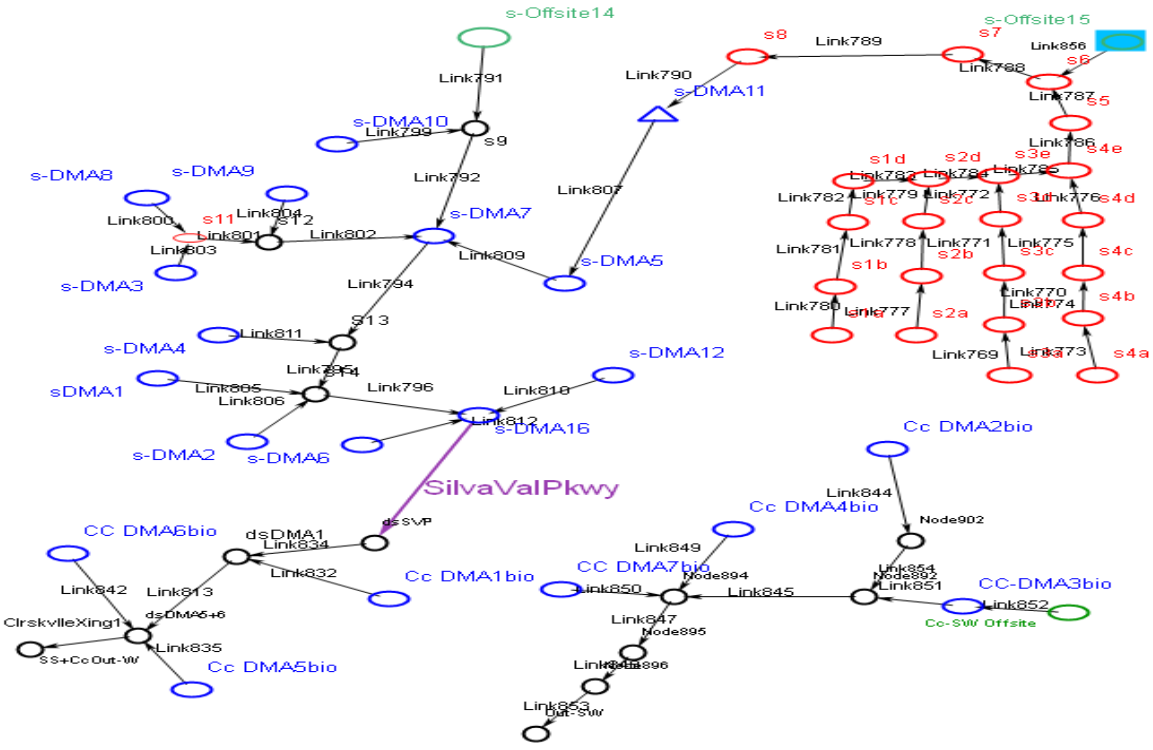


Figure 3 Modeling Map

3153 Jenna Court
Roseville, CA 95747
Phone: 916- 774- 1111, Fax: 916- 774- 1181
Mobile: 916- 715- 1167, email: pstiehr@wtrmark.com

Link Name	Upstream Node Name	Shed Area (ac)	10-yr Max Flow (cfs)	Ground Elevation (ft)	Upstrm Invert Elev (ft)	Max Water Elev (US) ft	Max Flow cfs	Max Velocity ft/s	Downstream Node Name	Dwnstrm Invert Elev (ft)	Max Water Elev (DS) ft
Link832	Cc DMA1bio	1.37	3.06	726.40	719.77	721.28	3.05	3.80	dsDMA1	719.16	720.28
Link844	Cc DMA2bio	3.22	7.20	722.50	715.00	715.55	7.20	12.29	Node902	699.59	700.14
Link849	Cc DMA4bio	3.69	8.32	706.50	700.00	700.50	8.32	11.73	Node894	688.81	690.87
Link835	Cc DMA5bio	4.36	9.86	712.50	709.00	709.68	9.86	8.26	dsDMA5+6	707.09	708.48
Link842	CC DMA6bio	2.80	6.27	718.50	707.33	708.64	6.27	3.76	dsDMA5+6	707.09	708.48
Link850	CC DMA7bio	0.98	2.14	696.00	688.98	690.88	2.09	1.17	Node894	688.81	690.87
Link851	CC-DMA3bio	0.12	0.27	694.00	689.60	691.70	9.19	3.42	Node892	689.33	691.63
Link852	Cc-SW Offsite	5.00	8.52	696.00	689.66	691.75	8.67	3.53	CC-DMA3bio	689.60	691.70
Link813	dsDMA1	0.00	0.00	729.30	719.16	720.28	34.52	12.57	dsDMA5+6	707.09	708.48
ClrskvlleXing1	dsDMA5+6	0.00	0.00	720.40	707.09	708.48	50.36	15.80	SS+CcOut-W	703.00	704.38
Link834	dsSVP	0.00	0.00	732.27	723.38	724.42	31.57	13.79	dsDMA1	719.16	720.28
Link845	Node892	0.00	0.00	695.30	689.33	691.63	15.09	4.77	Node894	688.81	690.87
Link847	Node894	0.00	0.00	694.43	688.81	690.87	24.71	8.37	Node895	688.68	690.27
Link848	Node895	0.00	0.00	693.23	688.68	690.27	24.73	8.10	Node896	688.55	689.93
Link853	Node896	0.00	0.00	693.31	688.55	689.93	24.75	8.92	Out-SW	688.00	689.38
Link854	Node902	0.00	0.00	706.96	699.59	700.14	7.19	6.42	Node892	689.33	691.63
Link799	s-DMA10	0.16	0.36	751.50	747.10	747.75	0.36	0.66	s9	747.04	747.74
Link807	s-DMA11	2.18	4.94	750.75	747.21	750.45	12.08	6.79	s-DMA5	746.43	749.58
Link810	s-DMA12	0.49	1.11	750.50	743.60	744.13	1.08	2.84	s-DMA16	743.00	743.44
SilvaValPkwy	s-DMA16	3.62	7.95	751.00	728.00	729.30	31.58	12.22	dsSVP	723.38	724.42
Link806	s-DMA2	0.39	0.88	750.00	743.80	745.99	0.87	1.10	s14	743.68	745.97
Link803	s-DMA3	0.39	0.88	750.00	746.80	747.56	0.80	2.10	s11	746.61	747.55
Link811	s-DMA4	0.52	1.18	750.50	744.00	746.40	1.16	1.47	S13	743.90	746.37
Link809	s-DMA5	0.72	1.63	751.50	746.77	749.58	12.63	7.55	s-DMA7	745.41	747.28
Link812	s-DMA6	0.42	0.95	749.50	743.20	743.60	0.95	3.20	s-DMA16	743.00	743.40
Link794	s-DMA7	0.31	0.70	751.50	745.41	747.28	19.26	6.49	S13	743.90	746.37
Link800	s-DMA8	0.37	0.84	750.00	746.80	747.56	0.76	2.03	s11	746.61	747.55
Link804	s-DMA9	0.36	0.82	751.50	747.10	747.54	0.81	1.90	s12	746.37	747.48
Link791	s-Offsite14	2.11	4.77	753.00	747.30	748.31	4.74	4.13	s9	747.04	747.88
Link856	s-Offsite15	1.93	4.03	775.00	765.00	769.67	3.93	4.91	s6	764.55	769.20
Link801	s11	0.00	0.00	750.00	746.61	747.55	1.50	3.04	s12	746.37	747.48
Link802	s12	0.00	0.00	752.00	746.37	747.48	2.38	2.17	s-DMA7	745.41	747.28
Link795	S13	0.00	0.00	750.95	743.90	746.37	20.31	6.27	s14	743.69	745.97
Link796	s14	0.00	0.00	750.75	743.68	745.97	21.86	7.12	s-DMA16	743.00	744.67
Link780	s1a	0.20	0.45	774.45	768.69	772.35	-1.55	-1.98	s1b	768.20	772.34
Link781	s1b	0.19	0.43	774.45	768.20	772.34	-1.10	2.51	s1c	767.68	772.32
Link782	s1c	0.20	0.45	774.45	767.68	772.32	-1.08	2.50	s1d	767.05	772.26
Link783	s1d	0.30	0.68	774.00	767.05	772.26	1.32	2.26	s2d	766.60	772.17
Link777	s2a	0.35	0.79	774.45	767.50	772.34	-0.91	1.65	s2b	767.14	772.32
Link778	s2b	0.25	0.57	774.45	767.14	772.32	1.38	1.76	s2c	766.90	772.27
Link779	s2c	0.25	0.57	774.45	766.90	772.27	1.78	2.23	s2d	766.60	772.17
Link784	s2d	0.27	0.61	774.00	766.60	772.17	2.71	3.36	s3e	766.17	771.71
Link769	s3a	0.30	0.68	774.45	768.70	771.99	-0.81	2.25	s3b	768.11	771.98
Link770	s3b	0.25	0.57	774.45	768.11	771.98	1.11	2.81	s3c	767.36	771.92
Link771	s3c	0.20	0.45	774.45	767.36	771.92	1.25	2.90	s3d	766.84	771.85
Link772	s3d	0.20	0.45	774.45	766.84	771.85	1.31	2.12	s3e	766.17	771.71
Link785	s3e	0.28	0.64	774.50	766.17	771.71	4.38	3.50	s4e	765.77	771.36
Link773	s4a	0.35	0.79	774.30	768.36	771.58	0.77	2.49	s4b	767.72	771.55
Link774	s4b	0.20	0.45	774.30	767.72	771.55	1.05	2.77	s4c	766.97	771.49
Link775	s4c	0.20	0.45	774.30	766.97	771.49	1.27	2.99	s4d	766.45	771.41
Link776	s4d	0.20	0.45	774.30	766.45	771.41	1.66	1.56	s4e	765.77	771.36
Link786	s4e	0.36	0.82	774.00	765.77	771.36	6.15	4.92	s5	765.05	770.22
Link787	s5	0.55	1.25	775.00	765.05	770.22	6.81	5.46	s6	764.55	769.20
Link788	s6	0.40	0.91	772.50	764.55	769.20	10.43	5.83	s7	764.00	768.19
Link789	s7	0.00	0.00	772.00	764.00	768.19	10.41	8.29	s8	763.00	763.57
Link790	s8	1.30	2.95	769.00	763.00	763.57	12.66	16.60	s-DMA11	747.21	750.45
Link792	s9	0.00	0.00	751.00	747.04	747.74	5.08	4.08	s-DMA7	745.41	747.28
Link805	sDMA1	0.34	0.77	750.50	744.60	746.04	0.77	0.97	s14	743.68	745.97

3153 Jenna Court
Roseville, CA 95747

Phone: 916- 774- 1111, Fax: 916- 774- 1181
Mobile: 916- 715- 1167, email: pstiehr@wtrmark.com

Note that the only DMA that was modelled as a storage area was at Node s-DMA11. This bio retention area is relatively large and does provide noticeable attenuation that reduces downstream outflow.

The other DMA bio retention areas could be added to the model if necessary. The modeling results indicate that the proposed storm drain pipes have adequate capacity to convey the 10-year, 24-hour storm. If the other bio retention areas were added, there would be increased peak flow attenuation throughout both projects. They were not added because it seemed unnecessary.

Attachment A provides there screen shots of a highlighted reach of storm drain pipe within the project, followed by a profile plot of the pipe with the 10-year, 24-hr storm water surface profile. This information is available in Table 1 but is also provided graphically.

SUMMARY AND COMMENTS

The modeling clearly shows the proposed piping network for the two projects has adequate capacity to convey the 10-year storm.

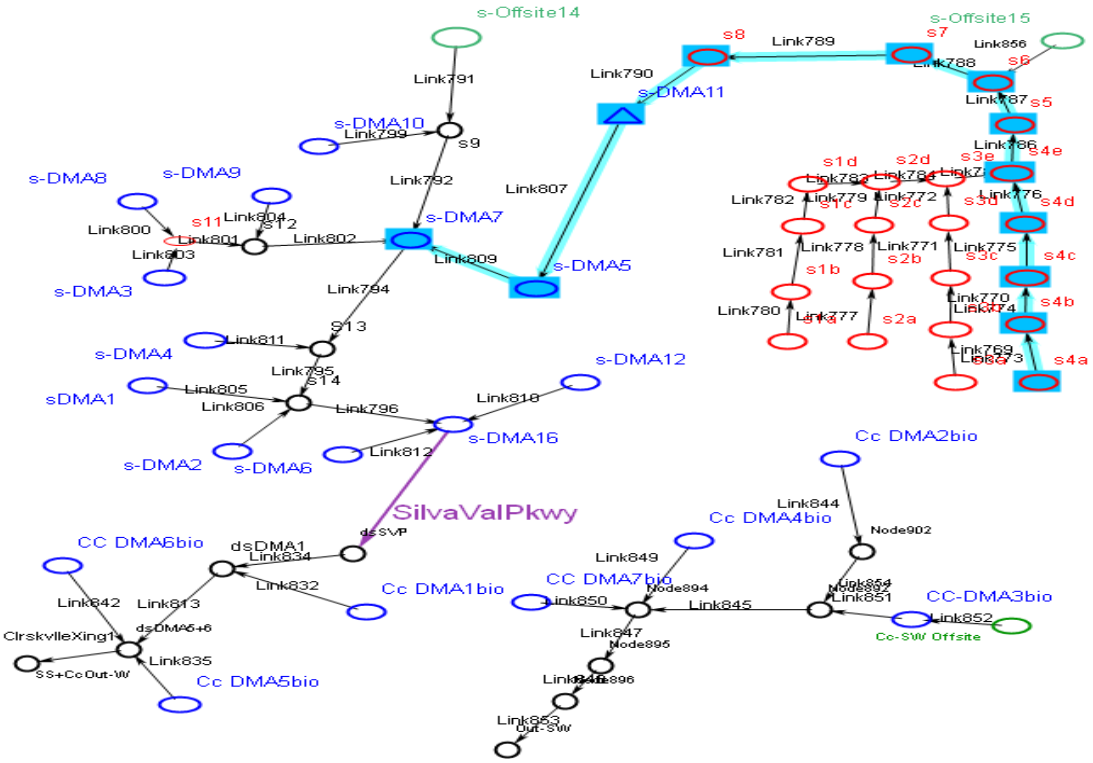
Additional detailed are available upon request including the XP-SWMM model, and the rainfall 5-minute distribution depicted in Figure 2.

Water quality for the two projects is accomplished via the bio retention area planters scattered within the projects. No additional information has been provided within this document.

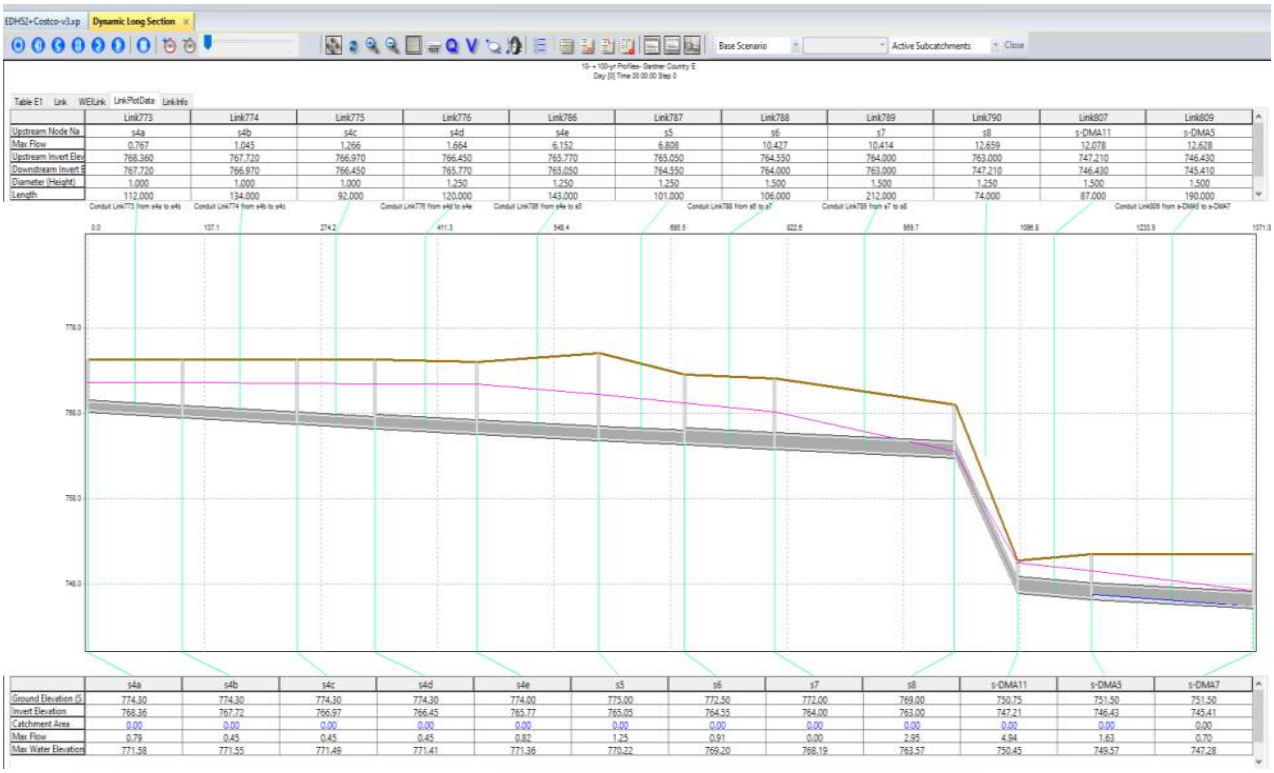
The offsite drainage is considered as a pass-through and has not been included in this study.

See the Shed and grading exhibits for both the Self-Storage and the Costco site for additional information.

3153 Jenna Court
Roseville, CA 95747
Phone: 916- 774- 1111, Fax: 916- 774- 1181
Mobile: 916- 715- 1167, email: pstiehr@wtrmark.com



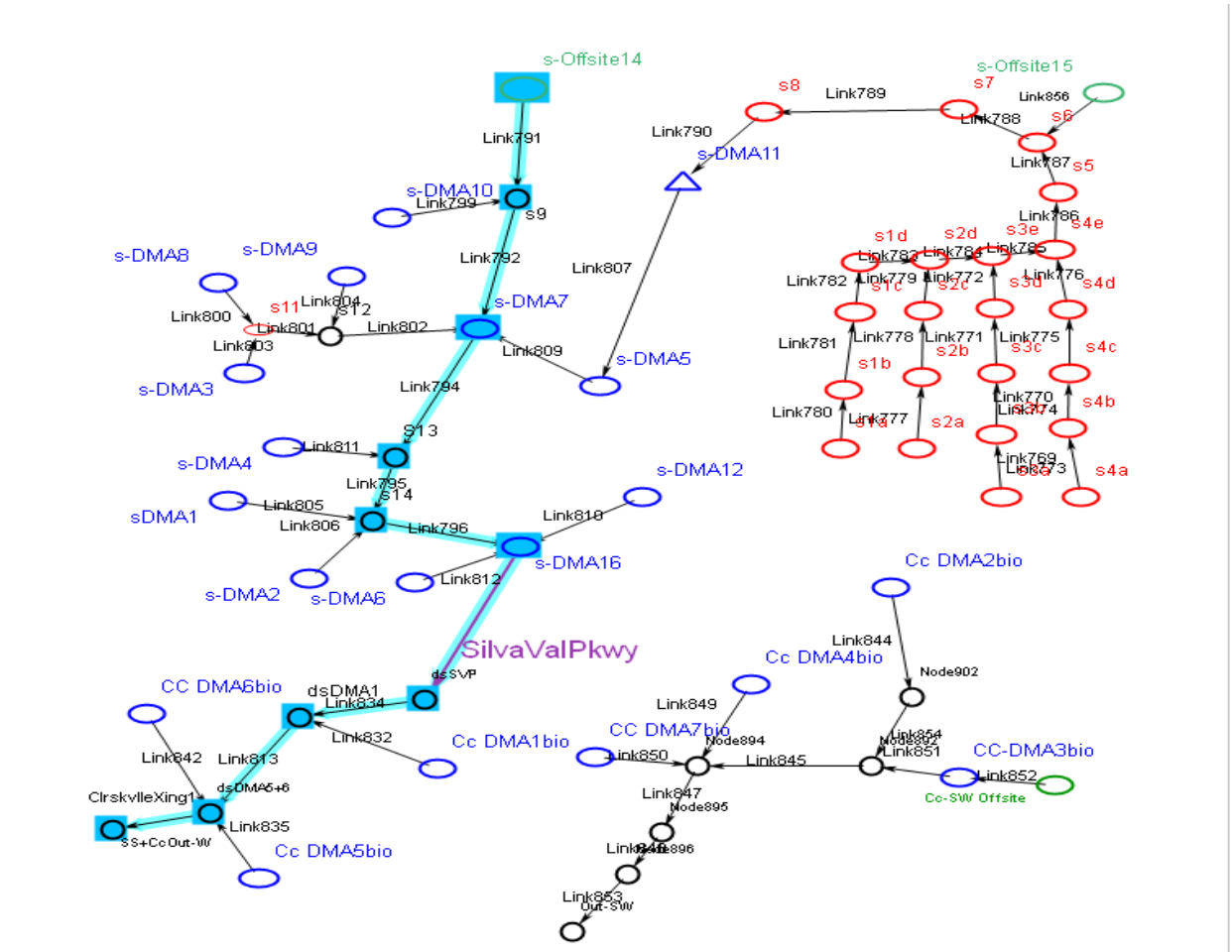
Attachment 1a. Modeling Map with Highlighted Reach 1



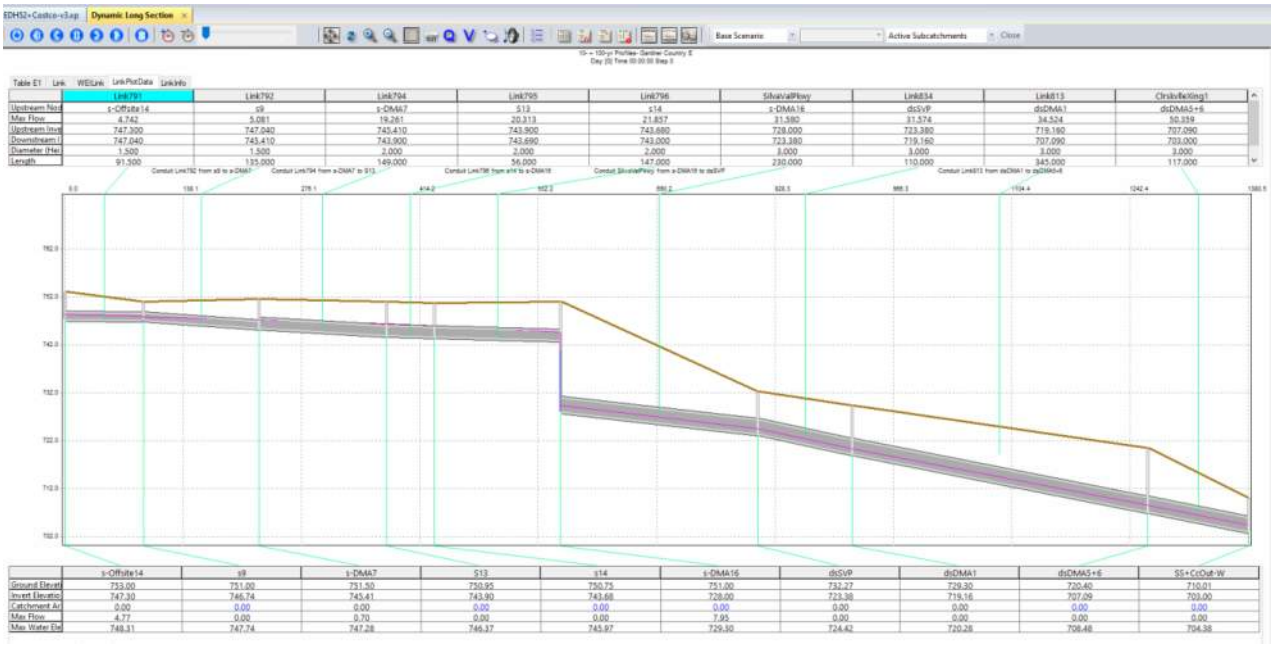
Attachment 1b. 10-yr Water Surface Profile along Reach 1

3153 Jenna Court
Roseville, CA 95747

Phone: 916- 774- 1111, Fax: 916- 774- 1181
Mobile: 916- 715- 1167, email: pstiehr@wtrmark.com



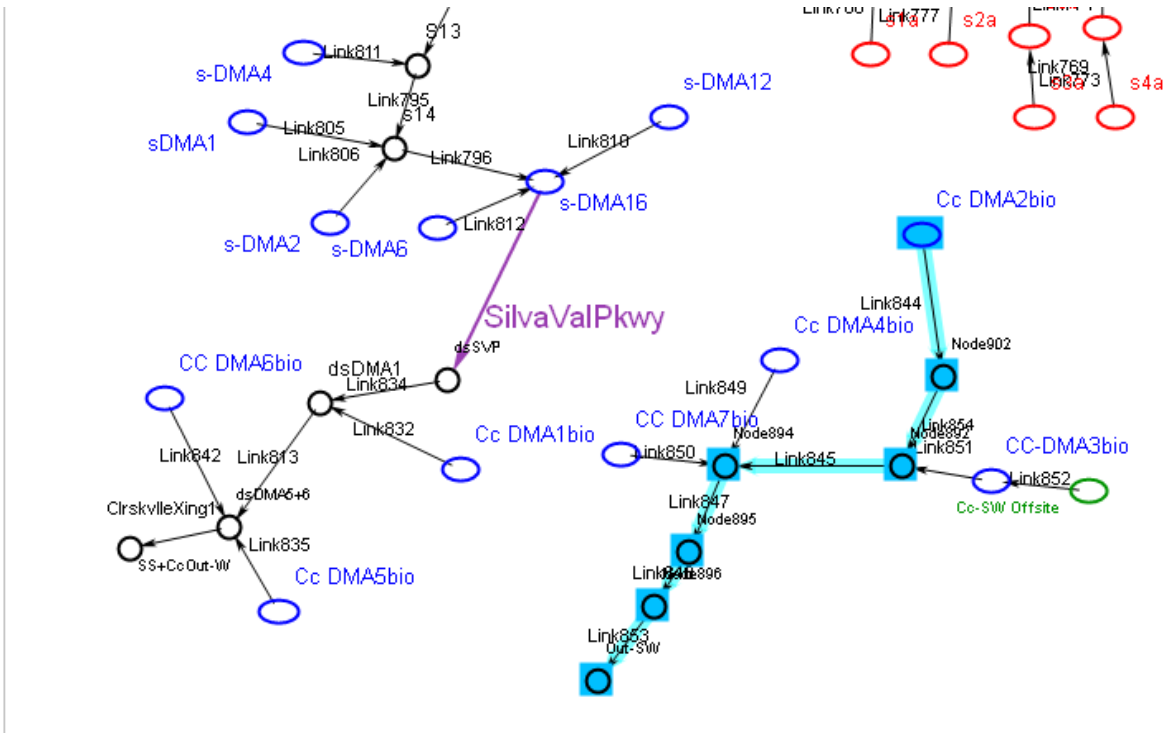
Attachment 2a. Modeling Map with Highlighted Reach .2



Attachment 2b. 10-yr Water Surface Profile along Reach 2

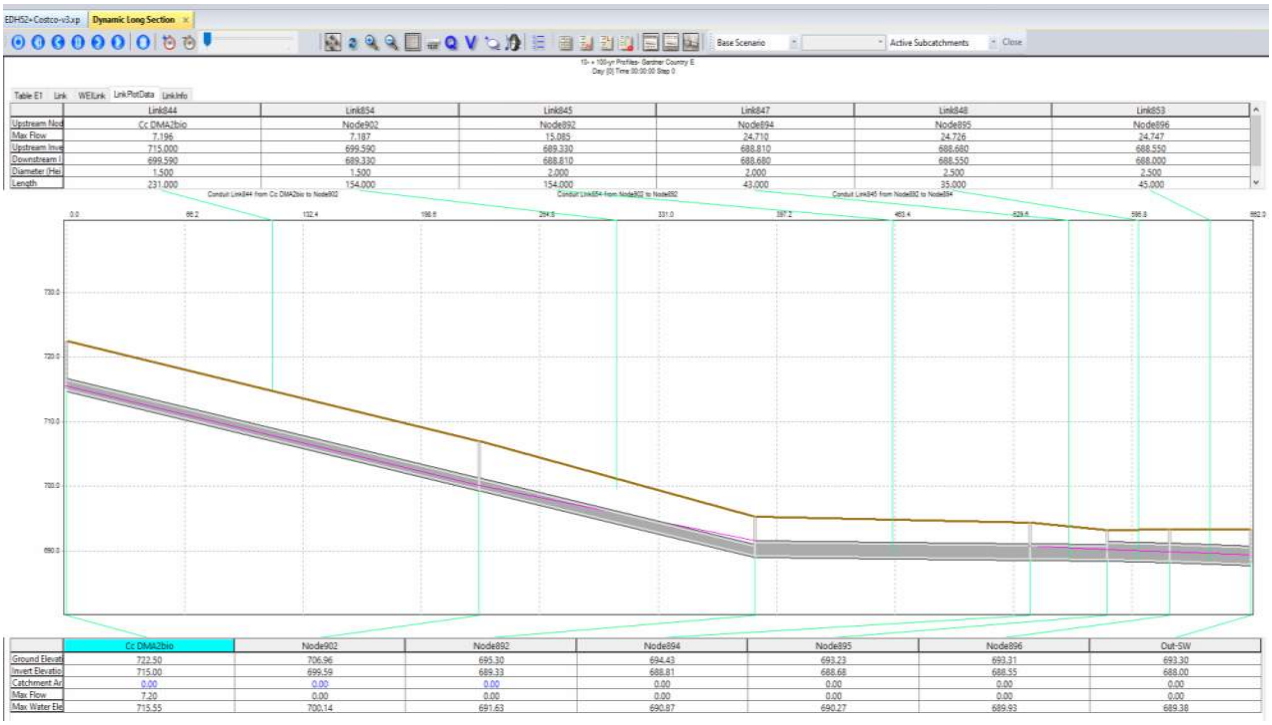
3153 Jenna Court
Roseville, CA 95747

Phone: 916- 774- 1111, Fax: 916- 774- 1181
Mobile: 916- 715- 1167, email: pstiehr@wtrmark.com



Attachment 3a. Modeling Map with Highlighted Reach 3

.



Attachment 3b. 10-yr Water Surface Profile along Reach 3

3153 Jenna Court
Roseville, CA 95747

Phone: 916- 774- 1111, Fax: 916- 774- 1181
Mobile: 916- 715- 1167, email: pstiehr@wtrmark.com

COMMUNITY DEVELOPMENT SERVICES
PLANNING AND BUILDING DEPARTMENT

2850 Fairlane Court, Placerville, CA 95667
Phone: (530) 621-5355 www.edcgov.us/Planning/

APPLICATION FOR: **CONDITIONAL/MINOR USE PERMIT** **FILE #** CUP-R21-0024

ASSESSOR'S PARCEL NO.(s) 122-720-019, 020 & 021 (north side)

PROJECT NAME/REQUEST: (Describe proposed use) EDH 52

Request CUP for development of a self storage and RV/Boat parking on the north side at proposed parcels 6 and 7.

APPLICANT/AGENT AKT Investments

Mailing Address 7919 Folsom Blvd., Ste. 300 Sacramento, CA 95826
P.O. Box or Street City State & Zip

Phone (916) 383-2500 EMAIL: angeloc@aktdev.com

PROPERTY OWNER EDH 52 GP

Mailing Address 7919 Folsom Blvd., Ste. 300 Sacramento, CA 95826
P.O. Box or Street City State & Zip

Phone (916) 383-2500 EMAIL: angeloc@aktdev.com

LIST ADDITIONAL PROPERTY OWNERS ON SEPARATE SHEET IF APPLICABLE

ENGINEER/ARCHITECT RSC Engineering, Inc. c/o Tiffany Wilson

Mailing Address 1420 Rocky Ridge Dr., Ste. 150 Roseville, CA 95661
P.O. Box or Street City State & Zip

Phone (916) 788-2884 EMAIL: t.wilson@rsc-engr.com

LOCATION: The property is located on the both side of Silva Valley Parkway
N / E / W / S street or road

100' feet/miles N of the intersection with Highway 50
N / E / W / S major street or road

in the El Dorado Hills area. PROPERTY SIZE 24.83 ac. north 15.734 ac. south
acreage / square footage

X _____ Date 6/24/21
signature of property owner or authorized agent

FOR OFFICE USE ONLY

Date _____ Fee $ _____ Receipt # _____ Rec'd by _____ Census _____

Zoning _____ GPD _____ Supervisor Dist _____ Sec _____ Twn _____ Rng _____

ACTION BY _____ PLANNING COMMISSION
_____ ZONING ADMINISTRATOR

Hearing Date _____

Approved _____ Denied _____
findings and/or conditions attached

_____
Executive Secretary

ACTION BY BOARD OF SUPERVISORS

Hearing Date _____

Approved _____ Denied _____
findings and/or conditions attached

APPEAL:
Approved _____ Denied _____

Revised 11/2017

LETTER OF AUTHORIZATION

This form shall serve to notify that EDH 52 GP is the legal owner of the property and do hereby authorize RSC Engineering, Inc. to represent our interest as applicant for this project.

Authorized Person:

RSC Engineering, Inc.
1420 Rocky Ridge Dr., Suite 150
Roseville, CA 95661
(916) 788-2884
Tiffany Wilson

Site Address:

Silva Valley Parkway and Tong Road

Legal Owner of:

APN: 122-720-018, 019, 020 & 021

EDH 52 GP

By _____ Date: 6/24/21

COMMUNITY DEVELOPMENT SERVICES
PLANNING AND BUILDING DEPARTMENT

2850 Fairlane Court, Placerville, CA 95667
Phone: (530) 621-5355 www.edcgov.us/Planning/

APPLICATION FOR: **CONDITIONAL/MINOR USE PERMIT** **FILE #** CUP-R21-0024

ASSESSOR'S PARCEL NO.(s) 122-720-019, 020 & 021 (north side)

PROJECT NAME/REQUEST: (Describe proposed use) EDH 52

Request CUP for development of a self storage and RV/Boat parking on the north side at proposed parcels 6 and 7.

APPLICANT/AGENT AKT Investments

Mailing Address 7919 Folsom Blvd., Ste. 300 Sacramento, CA 95826
P.O. Box or Street City State & Zip

Phone (916) 383-2500 EMAIL: angeloc@aktdev.com

PROPERTY OWNER EDH 52 GP

Mailing Address 7919 Folsom Blvd., Ste. 300 Sacramento, CA 95826
P.O. Box or Street City State & Zip

Phone (916) 383-2500 EMAIL: angeloc@aktdev.com

LIST ADDITIONAL PROPERTY OWNERS ON SEPARATE SHEET IF APPLICABLE

ENGINEER/ARCHITECT RSC Engineering, Inc. c/o Tiffany Wilson

Mailing Address 1420 Rocky Ridge Dr., Ste. 150 Roseville, CA 95661
P.O. Box or Street City State & Zip

Phone (916) 788-2884 EMAIL: t.wilson@rsc-engr.com

LOCATION: The property is located on the both (N / E / W / S) side of Silva Valley Parkway (street or road)

100' (feet/miles) N (N / E / W / S) of the intersection with Highway 50 (major street or road)

in the El Dorado Hills area. PROPERTY SIZE 24.83 ac. north 15.734 ac. south (acreage / square footage)

X _____ Date 6/24/21
signature of property owner or authorized agent

FOR OFFICE USE ONLY

Date _____ Fee $ _____ Receipt # _____ Rec'd by _____ Census _____

Zoning _____ GPD _____ Supervisor Dist _____ Sec _____ Twn _____ Rng _____

ACTION BY _____ **PLANNING COMMISSION**
_____ **ZONING ADMINISTRATOR**

Hearing Date _____

Approved _____ Denied _____
findings and/or conditions attached

_____
Executive Secretary

ACTION BY BOARD OF SUPERVISORS

Hearing Date _____

Approved _____ Denied _____
findings and/or conditions attached

APPEAL:
Approved _____ Denied _____

Revised 11/2017

FILE # Z17-004

EL DORADO COUNTY PLANNING SERVICES

ZONE CHANGE & GENERAL PLAN AMENDMENT APPLICATION

ASSESSOR'S PARCEL NO.(S) 122-720-002, 003, 018 (south side) & 122-720-019, 020, & 021 (north side)

PROJECT NAME/REQUEST: (Describe proposed use) Rezone the north side to CR-PD from CC-PD

Rezone the south side from CR-PD, CL & TC to CR-PD.

IF SUBDIVISION/PARCEL MAP: Create 8 north side lots, ranging in size from 1.08 to 6.568 acre(s) / SF

IF ZONE CHANGE: From CR-PD, CL & TC to CR-PD & CC-PD IF GENERAL PLAN AMENDMENT: From N/A to _____

IF TIME EXTENSION, REVISION, CORRECTION: Original approval date N/A Expiration date _____

APPLICANT/AGENT AKT Investments c/o Angelo Christie

Mailing Address 7919 Folsom Blvd., Ste. 300 Sacramento, CA 95826

Phone (916) 383-2500 FAX _____

PROPERTY OWNER EDH 52, GP & Mee Capital Investments

Mailing Address 7919 Folsom Blvd., Ste. 300 Sacramento, CA 95826

Phone (916) 383-2500 FAX _____

LIST ADDITIONAL PROPERTY OWNERS ON SEPARATE SHEET IF APPLICABLE

ENGINEER/ARCHITECT RSC Engineering, Inc. c/o Tiffany Wilson

Mailing Address 1420 Rocky Ridge Dr., Ste. 150 Roseville, CA 95661

Phone 916-788-2884 FAX _____

LOCATION: The property is located on the East (N/E/W/S) side of Clarksville Crossing (street or road)

100' feet/miles North (N/E/W/S) of the intersection with Highway 50 (major street or road)

in the El Dorado Hills area. PROPERTY SIZE 24.83 ac north; 15.73 ac south (acreage / square footage)

X Angelo K. S. Date 6/24/21

Signature of property owner or authorized agent

FOR OFFICE USE ONLY

Date_____ Fee $_____ Receipt #_____ Rec'd by_____ Census_____

Zoning_____ GPD_____ Supervisor Dist _____ Sec/Twn/Rng _____

ACTION BY: ☐ **PLANNING COMMISSION**

Hearing Date_____

☐ Approved ☐ Denied (Findings and/or conditions attached)

_____

Executive Secretary

ACTION BY BOARD OF SUPERVISORS

Hearing Date_____

☐ Approved ☐ Denied (Findings and/or conditions attached)

_____

Executive Secretary

(Revised 07/07)

COMMUNITY DEVELOPMENT SERVICES
PLANNING AND BUILDING DEPARTMENT

2850 Fairlane Court, Placerville, CA 95667
Phone: (530) 621-5355 www.edcgov.us/Planning/

PLANNED DEVELOPMENT

FILE # PD15-0001

ASSESSOR'S PARCEL NO.(s) 122-720-018, 00,2 & 003 (south side) 122-720-019, 020, & 021 (north side)

PROJECT NAME/REQUEST: (Describe proposed use) EDH 52-Costco Retail

IF SUBDIVISION/PARCEL MAP: Create North side 8 lots, ranging in size from 1.082 ac to 6.568 ac acre(s) / SF

IF ZONE CHANGE: From CR-PD/CL/TC to CR-PD & CC-PD IF GENERAL PLAN AMENDMENT: From N/A to _____

IF TIME EXTENSION, REVISION, CORRECTION: Original approval date N/A Expiration date _____

APPLICANT/AGENT AKT Investments

Mailing Address 7919 Folsom Blvd., Ste. 300 Sacramento, CA 95826
P.O. Box or Street City State & Zip

Phone (916) 383-2500 EMAIL: angeloc@aktdev.com

PROPERTY OWNER EDH 52 GP & Mee Capital Investments

Mailing Address 7919 Folsom Blvd., Ste. 300 Sacramento, CA 95826
P.O. Box or Street City State & Zip

Phone (916) 383-2500 EMAIL: angeloc@aktdev.com

LIST ADDITIONAL PROPERTY OWNERS ON SEPARATE SHEET IF APPLICABLE

ENGINEER/ARCHITECT RSC Engineering, Inc. c/o Tiffany Wilson

Mailing Address 1420 Rocky Ridge Dr., Ste. 150 Roseville, CA 95661
P.O. Box or Street City State & Zip

Phone (916) 788-2884 EMAIL: t.wilson@rsc-engr.com

LOCATION: The property is located on the SELECT ONE (N / E / W / S) both side of Silva Valley Parkway street or road

100' feet/miles SELECT ONE (N / E / W / S) N of the intersection with Highway 50 major street or road

in the El Dorado Hills area. PROPERTY SIZE 24.83 ac north & 18.43 ac south acreage / square footage

X _____ Date 6/24/21
signature of property owner or authorized agent

FOR OFFICE USE ONLY

Date _____ Fee $ _____ Receipt # _____ Rec'd by _____ Census _____

Zoning _____ GPD _____ Supervisor Dist _____ Sec _____ Twn _____ Rng _____

ACTION BY _____ PLANNING COMMISSION
_____ ZONING ADMINISTRATOR

Hearing Date _____

Approved _____ Denied _____
findings and/or conditions attached

_____
Executive Secretary

ACTION BY BOARD OF SUPERVISORS

Hearing Date _____

Approved _____ Denied _____
findings and/or conditions attached

APPEAL:
Approved _____ Denied _____

Revised 11/2017

COMMUNITY DEVELOPMENT SERVICES
PLANNING AND BUILDING DEPARTMENT

2850 Fairlane Court, Placerville, CA 95667
Phone: (530) 621-5355 www.edcgov.us/Planning/

TENTATIVE PARCEL MAP

REQUIRED SUBMITTAL INFORMATION

The following information must be provided with all applications. **If all the information is not provided, the application will be deemed incomplete and will not be accepted**. For your convenience, please use the check (☐ column on the left to be sure you have all the required information. **All plans and maps MUST be folded to 8½" x 11".**

FORMS AND MAPS REQUIRED

Check (√) Applicant	County		
☒	☐	1.	Application Form and Agreement for Payment of Processing Fees, completed and signed.
☒	☐	2.	Letter of authorization from all property owners authorizing agent to act as applicant, when applicable.
☒	☐	3.	Proof of ownership (Grant Deed), if the property has changed title since the last tax roll.
☒	☐	4.	A copy of official Assessor's map, showing the property outlined in red.
☒	☐	5.	An 8 ½" x 11" vicinity map showing the location of the project in relation to the distance to major roads, intersections, and town sites.
☒	☐	6.	Environmental Questionnaire form, completed and signed.
☒	☐	7.	Provide name, mailing address and phone number of all property owners and their agents.
☒	☐	8.	If public sewer or water service is proposed, obtain and provide a Facilities Improvement Letter if the project is located within the EID service area, or a similar letter if located in another sewer/water district. being updated
N/A ☐	☐	9.	If off-site sewer or water facilities are proposed to serve the project, provide four (4) copies of a map showing location and size of proposed facilities. If groundwater is to be used for domestic water, submit a report noting well production data for adjacent parcels, or submit a hydrological report prepared by a geologist noting the potential for water based on the nature of project site geology.

FORMS AND MAPS REQUIRED

Applicant	County		
	Check (√)		
[X]	☐	10.	Preceding parcel map, final map, or record of survey, if any exists.
N/A ☐	☐	11.	If located within one of the five Ecological Preserve - EP overlay zones (Mitigation Area 0), rare plants may exist on-site. The State Department of Fish & Game will require an on-site biological plant survey to determine the extent and location of rare plants on the project site. Such a survey can only occur from March 15 through August 15 when plants are readily visible. Therefore, if the State Department of Fish & Game requires the plant survey, a substantial delay in the processing of your application could result. To avoid potential delays, you may choose to provide this survey with application submittal. (A list of possible Botanical Consultants is available at Planning Services.)
N/A ☐	☐	12.	Name and address of Homeowners' Association, CSA 9 Zone of Benefit, or other road maintenance entity if it exists in the project area.
[X]	☐	13.	Preliminary grading, drainage plan, and report. The plan should be of sufficient detail to identify the scope of grading, including quantities, depths of cut and fills (for roads and driveways where cuts/fills exceed 6 feet, and mass pad graded lots), location of existing drainage, proposed modifications, and impacts to downstream facilities. (See Section 15.14.240 of County Grading Ordinance for submittal detail.)
		14.	In an accompanying report, provide the following data for area on each proposed parcel which is to be used for sewage disposal:
N/A ☐	☐		a) The percolation rate and location of test on 4.5 acres or smaller
☐	☐		b) The depth of soil and location of test
☐	☐		c) The depth of groundwater and location of test
☐	☐		d) The direction and percent of slope of the ground
☐	☐		e) The location, if present, of rivers, streams, springs, areas subject to inundation, rock outcropping, lava caps, cuts, fills, and easements
☐	☐		f) Identify the area to be used for sewage disposal
☐	☐		g) Such additional data and information as may be required by the Director of Environmental Health to assess the source of potable water, the disposal of sewage and other liquid wastes, the disposal of solid wastes, drainage, and erosion control
☐	☐		h) In circumstances where there are steep slopes, streams or other constraints as determined by staff, these must be noted on the tentative parcel map

FORMS AND MAPS REQUIRED

Check (√)
Applicant County

[X] [ ] 15. A record search for archaeological resources shall be conducted through the North Central Information Center located at CSU-Sacramento, 6000 J Street, Adams Building, Suite #103, Sacramento, CA 95819-6100, phone number (916) 278-6217. If the record search identifies a need for a field survey, a survey shall be required. (A list of Archaeological Consultants and survey requirements is available at Planning Services.) Archaeological surveys shall meet the "Guidelines for Cultural Resource Studies" approved by the Board of Supervisors, available at Planning Services.

[X] [ ] 16. A site-specific wetland investigation shall be required on projects with identified wetlands on the Important Biological Resources Map (located in Planning Services), when proposed improvements will directly impact the wetland (reduce the size of the wetland area) or lie near the wetlands. (Available from Planning Services are the U.S. Corps of Engineers requirements for a wetlands delineation study. A list of qualified consultants is also available.)

Part of EIR

[ ] [ ] 17. An acoustical analysis shall be provided whenever a noise-sensitive land use (residences, hospitals, churches, libraries) are proposed adjacent to a major transportation source, or adjacent or near existing stationary noise sources. Such study shall define the existing and projected (2015) noise levels and define how the project will comply with standards set forth in the General Plan.

[ ] [ ] 18. Where special status plants and animals are identified on the Important Biological Resources Map located in Planning Services, an on-site biological study shall be required to determine if the site contains special status plant or animal species or natural communities and habitats.

Part of EIR

Part of EIR

[ ] [ ] 19. An air quality impact analysis shall be provided utilizing the El Dorado County Air Pollution Control District's "Guide to Air Quality Assessment."

[ ] [ ] 20. A traffic study shall be provided utilizing El Dorado County Department of Transportation's "Generic Traffic Study Scope of Work."

Part of EIR

Required maps shall be on 24" x 36" sheets or smaller, drawn to scale, and sufficient size to clearly show all details and required data. All maps MUST be folded to 8 ½" inches x 11" prior to submittal. NO ROLLED DRAWINGS WILL BE ACCEPTED.

[X] [ ] a) Twenty-five (25) copies of the tentative map, folded with signature block showing (including one 8½" x 11" reduction).

[X] [ ] b) Four (4) copies of a slope map noting the following slope range categories: 0 to 10%, 11 to 20%, 21 to 29%, 30% to 39%, 40% and over.

[X] [ ] c) Four (4) copies of preliminary grading and drainage plan.

FORMS AND MAPS REQUIRED

Applicant	County	Check (√)	

OAK TREE/OAK WOODLAND REMOVAL

The following supplemental information shall be required if any Oak Woodlands, Individual Native Oak Trees, or Heritage Trees, as defined in Section 130.39.030 (Definitions) will be impacted by the project (i.e. cut down) consistent with Section 130.39.070 (Oak Tree and Oak Woodland Removal Permits – Discretionary Development Projects).

Applicant	County		
☒	☐	21.	Oak Resources Code Compliance Certificate.
☒	☐	22.	Oak Resources Technical Report prepared by a Qualified Professional consistent with Section 2.5 (Oak Resources Technical Reports) of the Oak Resources Management Plan.
☒	☐	23.	Completed Oak Resources Technical Report Checklist, including supplemental data for impacted Individual Native Oak Trees within Oak Woodlands, as applicable.
TBD ☐	☐	24.	Security deposit for on-site oak tree/oak woodland retention and/or replacement planting (if proposed as part of project mitigation) consistent with Section 130.39.070.F (Security Deposit for On-Site Oak Tree/Oak Woodland Retention and Section 130.30.070.G (Security Deposit for On-Site Oak Tree/ Oak Woodland Replacement Planting).
☒	☐	25.	Reason and objective for Impact to oak trees and/or oak woodlands.

REQUIRED INFORMATION ON TENTATIVE MAP

Applicant	County	Check (√)	
☒	☐	1.	North point and scale
☒	☐	2.	Project boundaries with dimensions
☒	☐	3.	Approximate dimensions and area of all lots
☒	☐	4.	Adjacent ownership with book and page number of recorded deeds or parcel map references
☒	☐	5.	Location, names and right-of-way width of adjacent streets, highways, and alleys. Show access easements to a connection with a public road, together with deed or map reference documenting such access. Also, note all existing encroachments to the public road on adjacent parcels. If a new access is proposed through adjacent parcels, provide letter of authorization and a description of the access easement.

REQUIRED INFORMATION ON TENTATIVE MAP

Check (√) Applicant	Check (√) County		
[X]	[ ]	6.	Purpose, width, and approximate location of all proposed and existing easements (other than roads)
[X]	[ ]	7.	Approximate radii of centerline on all street curves
[X]	[ ]	8.	Grades and width of proposed and existing roads or road easements, with typical improvement cross-section see grading plan
[X]	[ ]	9.	Names of adjacent subdivisions
N/A [ ]	[ ]	10.	All structures, buildings, utility, transmission lines and dirt roads, and distances to existing and proposed property lines
N/A [ ]	[ ]	11.	The location of all structures for residential, commercial, industrial or recreational use for which permits have either been applied for or granted, but not yet constructed
[X]	[ ]	12.	Fire hydrant location, existing and/or proposed Utility plan
[X]	[ ]	13.	Existing water and sewer line locations Utility plan
[X]	[ ]	14.	Contour lines shown at 5-foot intervals if any slopes on the property exceed 10% (contours not required if all slopes are 10% or less). Contours may be shown at 10-foot or 20-foot intervals on parcels of 10 acres or larger (using USGS interpolation or field survey), if said contours reasonably identify significant site features; i.e., benches or abrupt topographical changes, etc.
N/A [ ]	[ ]	15.	The location, if present, of rock outcropping, lava caps, drainage courses, lakes, canals, reservoirs, rivers, streams, spring areas subject to inundation, and wetlands, and show respective 100-foot and 50-foot septic system setbacks when a septic system is proposed. wetlands being filled per Corps permit being processed
N/A [ ]	[ ]	16.	Note any proposed trails within the project, and where applicable, connection to existing or proposed trail systems.
[X]	[ ]	17.	Location, general type (pine, oak, etc.) and size of all existing trees, 8" DBH (Diameter at Breast Height) or greater in those areas that are subject to grading or otherwise may be removed/affected by proposed improvements. Note quantity of trees to be removed.
N/A [ ]	[ ]	18.	Identify areas subject to a 100-year flood, perennial streams or creeks, and show high water level (100-year) on map. Where this data is not readily available, January 1997 flood level can be shown if known.
		19.	The following information is to be listed on the tentative parcel map in the following consecutive order:
[X]	[ ]		a) Owner of record (name and address)
[X]	[ ]		b) Name of applicant (name and address)
[X]	[ ]		c) Map prepared by (name and address)
[X]	[ ]		d) Scale
[X]	[ ]		e) Contour interval (if any)

REQUIRED INFORMATION ON TENTATIVE MAP

Check (√) Applicant	County		
[X]	[ ]	f)	Source of topography
[X]	[ ]	g)	Section, Township and Range
[X]	[ ]	h)	Assessor's Parcel Number(s)
[X]	[ ]	i)	Present zoning
[X]	[ ]	j)	Total area
[X]	[ ]	k)	Total number of parcels
[X]	[ ]	l)	Minimum parcel area
[X]	[ ]	m)	Water supply
[X]	[ ]	n)	Sewage disposal
[X]	[ ]	o)	Proposed structural fire protection
[X]	[ ]	p)	Date of preparation
[X]	[ ]	q)	In the lower right-hand corner of each map a signature block should be shown, giving space for:

Zoning Administrator: _____

Approval/Denial Date: _____

Board of Supervisors: _____

Approval/Denial Date: _____

Planning Services reserves the right to require additional project information as provided by Section 15060 of the California Environment Quality Act, or as required by the General Plan development policies, when such is necessary to complete the environmental assessment.

NOTE: APPLICATION WILL BE ACCEPTED BY APPOINTMENT ONLY. MAKE YOUR APPOINTMENT IN ADVANCE BY CALLING (530) 621-5355.

COMMUNITY DEVELOPMENT SERVICES
PLANNING AND BUILDING DEPARTMENT

2850 Fairlane Court, Placerville, CA 95667
Phone: (530) 621-5355 www.edcgov.us/Planning/

FILE # P17-0007

ASSESSOR'S PARCEL NUMBER(s) 122-720-019, 020 & 021 (north side)

PROJECT NAME/REQUEST: (Describe proposed use) EDH 52

Subdivide 3 existing parcels into 8 parcels on the North side

IF SUBDIVISION/PARCEL MAP: Create 8 lots, ranging in size from 1.08 to 7.85 acre(s) / square feet

IF ZONE CHANGE: From CR-PD to CC-PD IF GENERAL PLAN AMENDMENT: From N/A to _____

IF TIME EXTENSION, REVISION, or CORRECTION: Original approval date _____ Expiration date _____

APPLICANT/AGENT AKT Investments c/o Angelo Christie

Mailing Address 7919 Folsom Blvd., Ste. 300 Sacramento, CA <pick from list> 95826
P.O. Box or Street City State ZIP

Phone (916)383-2500 FAX ( )

PROPERTY OWNER EDH 52 GP

Mailing Address 7919 Folsom Blvd., Ste. 300 Sacramento, CA <pick from list> 95826
P.O. Box or Street City State ZIP

Phone (916)383-2500 FAX ( )

LIST ADDITIONAL PROPERTY OWNERS ON SEPARATE SHEET IF APPLICABLE

ENGINEER/ARCHITECT RSC Engineering, Inc. c/o Tiffany Wilson

Mailing Address 1420 Rocky Ridge Dr., Ste. 150 Roseville, CA 95661 <pick from list>
P.O. Box or Street City State ZIP

Phone (916) 788-2884 FAX ( )

LOCATION: The property is located on the <pick from list> east side of Silva Valley Parkway
N / E / W / S Street or Road

100' feet/miles <pick from list> N of the intersection with Highway 50
N / E / W / S Major Street or Road

in the El Dorado Hills <or pick from list> area. PROPERTY SIZE 24.83 ac. north
Acreage / Square Feet

Angelo K. 6/24/21
Signature of property owner or authorized agent Date

FOR OFFICE USE ONLY

Date_____ Fee $_____ Receipt #_____ Rec'd by_____ Census _____

Zoning_____ GPD_____ Supervisor District_____ Sec_____ Twn_____ Rng _____

ACTION BY: ☐ **PLANNING COMMISSION** ☐ **ZONING ADMINISTRATOR**

Hearing Date _____

Approved _____ Denied _____
(Findings and/or conditions attached)

_____
Executive Secretary

ACTION BY BOARD OF SUPERVISORS

Hearing Date _____

Approved _____ Denied _____
(Findings and/or conditions attached)

APPEAL:
Approved _____ Denied _____

Revised 11/2017

RSC ENGINEERING

RSC Engineering, Inc.
Consulting Engineers

July 6, 2021

El Dorado County

Community Development Agency

Development Services Division

2850 Fairlane Court

Placerville, CA 95667

Attn: Gina Hamilton, Senior Planner

Dear Gina,

The EDH 52 and Costco teams are pleased to update the submittal package to include items necessary to continue processing the package. Below are responses to comments from the May 23, 2021 letter.

Planned Development Permit PD15-0001

1. An updated signed Planned Development Permit (PD) application, including the Environmental Questionnaire (encompassing the North and South Sites).

   An updated Planned Development Permit Application is included. The agreement for payment is included. Only one form is being signed for the entire project.

2. Letter of authorization from all landowners, including Mee Capital Investments (owners of APN: 122-720-002) authorizing the agent(s) identified on the applications to act on their behalf.

   An updated letter of authorization from EDH 52 is included. Mee Capital Investments will arrive under separate cover next week.

3. A copy of the official Assessor's map, showing the project parcels outlined in red.

   A copy of the current assessor's numbers and configuration from the GOTNET County website is provided. An official assessor map has not been created by the County based on the 2018 recorded map.

1420 Rocky Ridge Dr.
Suite 150
Roseville, CA 95661
916.788.2884
Fax 916.788.4408
rsc-engr.com

4. A stand-alone 8½ x 11 vicinity map showing the location of the project site in relation to the distance to major roads, intersections, and town sites.

   A stand-alone 8 ½ x 11 vicinity map is included.

5. Completed Environmental Questionnaire form.

   An updated Environmental Questionnaire form is included.

6. Our understanding is that Kittelson & Associates is preparing the traffic study. Please provide a final traffic study, when available.

   Kittelson & Associates will be preparing the traffic study as part of the EIR.

7. An updated Facilities Improvement Letter (FIL) from El Dorado Irrigation District. (The previously submitted FIL expires on December 6, 2021 and references the old APN for the original parcel.)

   The current FIL which expires on 12-6-2021 is provided. An updated FIL with current APN's is being requested. The fire flow letter is in process with the Fire Department. This is required before submitting to EID for the FIL.

8. Preliminary grading and drainage plan.

   The preliminary grading and drainage plan is included. A drainage study for the overall project is being prepared and will be submitted separately within the next week or two.

9. Confirmation letter from Foothill Associates, or other biological resources expert, that site conditions relative to biological resources have not changed since the previous Biological Resources Assessment was prepared in October 2017.

   An updated biological resources assessment is included dated November 2020.

10. Our understanding is that the EIR Consultant will be conducting the acoustical analysis in the course of preparing the environmental impact analysis for the project. Please let us know if you expect to submit this analysis directly.

    The EIR Consultant will be conducting the acoustical analysis.

11. Our understanding is that Ramboll is preparing analyses for air quality, greenhouse gas, energy, and health effects. Please provide these reports, when available.

    Ramboll will be preparing the air quality, greenhouse gas, energy and health effects studies that will be a part of the EIR.

12. A completed and signed Oak Resources Code Compliance Certificate and Oak Resources Technical Report Checklist (attached). A security deposit for on-site oak tree/oak woodland retention and/or replacement planting may be required upon analysis of oak resource impacts.

    An updated Oak Resources Technical Report which includes the Oak Resources Code Compliance Certificate and Oak Resources Technical Report Checklist are included. The security deposit will be made after project approval.

13. For the South Site, include the location of trash and litter storage or collection areas on the site plans. Site Plan Requirements checklist item no. 9

    The Costco South site plan has been revised to show the location of the proposed trash compactors at the south façade of the building. Costco plans to use compactors for all exterior trash and recycling storage.

14. For the North Site, provide building elevations for all cardinal directions.

    The EDH 52-North side has design guidelines, general front elevations for the various types of retail buildings and a color and material board as part of the project. Since the project does not have specific tenants building elevations for all four sides are not proposed as we want to allow for flexibility for future tenants as they come forward after project approval.

15. On the landscape plan, indicate:

- The quantity and number of trees to be removed.
- The location, general type (pine, oak, etc.) and size of all existing trees, in those areas that are subject to grading or otherwise may be removed/affected by the proposed improvements.

    The landscape plan included quantity and number of trees to be removed. The location of the trees to be removed are shown on the tentative parcel map and the north side grading plan.

Rezone Z17-0004

16. A completed signed Rezone application and agreement for payment of processing fees (Rezone application and payment form attached).

    An updated Rezone Application is included. The agreement for payment is included. Only one form is being signed for the entire project.

Tentative Parcel Map P17-0007

17. A completed signed Tentative Parcel Map (TPM) application and agreement for payment of processing fees (TPM application and payment form attached).

    An updated Tentative Parcel Map Application is included. The agreement for payment is included. Only one form is being signed for the entire project.

18. Four copies of a slope map noting the following slope range categories: 0 to 10%, 11 to 20%, 21 to 29%, 30 to 39%, 40% and over.

    An updated Slope Exhibit is included.

19. TPM plan sheet including all information listed as Required Information on Tentative Map section.

    The tentative parcel map has been updated to include all information as required on the checklist.

CUP-R21-0024 (Reactivation of S17-0017)

20. A completed signed Conditional Use Permit (CUP) application and agreement for payment of processing fees (CUP application and payment form attached).

    An updated conditional use permit application is provided. The agreement for payment is included. Only one form is being signed for the entire project.

Lot Line Adjustment LLA21-0009

21. Lot Line Adjustment (LLA) application and agreement for payment of processing fees, both completed and signed (both forms are provided alongside this letter).

    An unsigned application is provided. The signed version will follow under separate cover.

22. One full-size site plan drawn to scale and of sufficient size to allow for a clear delineation of the required information in items a-m as listed in the LLA application, as applicable, and one 11 x 17 version of the full-size site plan.

    A LLA site plan is provided with this submittal.

Other

In addition, the project description dated April 23, 2021 indicates the intent to submit a separate PD application for the South Site/ Costco site. Please submit a completed signed PD application for the South Site if that is still the plan.

It is not the intent to have separate PD applications for the project. We would like the mitigation measures and conditions of approval to allow for each side to develop independently of each other.

Planning staff recommends reviewing El Dorado County General Plan Policy 10.2.1.5 under Objective 10.2.1, Public and Civic Facilities Investment, in regard to the potential requirement for a Public Facilities Financing Plan for commercial projects that are located in a Community Region and that exceed 20 acres or 100,000 square feet.

We do not believe a Public Facilities Financing Plan is required for this project as all infrastructure is existing and any offsite improvements required for the project will be constructed and paid for by the developer/owner. However we are looking to have an economic consultant prepare a memo per the County's comments.

The materials provided should provide enough information to distribute the package to the other departments and move forward with TAC. We also would like to confirm the agreement for the EIR is underway so that the consultant can be released to start the NOP. We look forward to your review. If there are any questions, please let us know.

Sincerely,

Tiffany Wilson

Tiffany Wilson, AICP

RSC Engineering, Inc.

Cc: Angelo Christie, AKT Investments

Kim Katz, Costco

Enclosures

EL DORADO COUNTY PLANNING SERVICES

REQUIRED SUBMITTAL INFORMATION

for

LOT LINE ADJUSTMENT, BOUNDARY LINE AGREEMENT & MERGE

The following information must be provided with all applications. **If all the information is not provided, the application will be deemed incomplete and will not be accepted**. For your convenience, please use the check (√) column on the left to be sure you have all the required submittal information. **All plans and maps MUST be folded to 8 ½" x11"**.

Check (√) Applicant	Check (√) County		
☐	☐	1)	Application form completed and signed.
☐	☐	2)	Letter of authorization from **all** property owners authorizing applicant/agent to act on their behalf.
☐	☐	3)	Proof of ownership (Grant Deed), if the property has changed title since the last tax roll.
☐	☐	4)	A copy of official Assessor's map, showing the property outline in red.
☐	☐	5)	One full-sized site plan drawn to scale and of sufficient size to allow for a clear delineation of the following required information (where applicable) and one 11x17" version of the full-sized site plan that includes a graphic scale:
☐	☐	a.	Show entirety of parcels with dimensions.
☐	☐	b.	North arrow.
☐	☐	c.	Scale.
☐	☐	d.	Existing property lines (dashed - - - -).
☐	☐	e.	Proposed property line boundaries (solid ——).
☐	☐	f.	Acreage of existing lots.
☐	☐	g.	Acreage of resulting lots.
☐	☐	h.	All existing and proposed structures.
☐	☐	i.	Identify public water and waste water purveyors and location.
☐	☐	j.	Exact location of existing and proposed septic system and wells.
☐	☐	k.	Exact location of all roads and utility easements, including the purpose and width.
☐	☐	l.	Percent of grade on proposed road easements.
☐	☐	m.	Accurate dimensions on those areas affected by the proposed adjustments.
☐	☐	n.	Signature block for Planning Services Division approval, as follows:

Approved by Planning Services Division: _____

Date: _____

Check (√) Applicant	County		
☐	☐	6)	An 8 ½ x 11" vicinity map showing the location of the project in relation to the distance to major roads, intersections, and town sites.
☐	☐	7)	The existing lots were created originally by (check): ☐ Subdivision, ☒ Parcel Map, ☐ Clear Certificate of Compliance, or ☐ Proof of Development eligibility. If created by other than a Subdivision, Parcel Map, or a clear Certificate of Compliance, you will be a required to show proof of development eligibility prior to submitting this application.

NOTE: APPLICATIONS WILL BE ACCEPTED BY APPOINTMENT. MAKE YOUR APPOINTMENT IN ADVANCE BY CALLING THE PLANNING SERVICES DIVISION AT (530) 621-5355.

APPLICATIONS CAN ALSO BE SUBMITTED BY MAIL TO INCLUDE THE FEE BY CHECK MADE OUT TO EL DORADO COUNTY. IF INFORMATION IS MISSING FROM THE APPLICATION, THE APPLICANT WILL NEED TO PICK UP THE APPLICATION AND RESUBMIT WITH THE NECESSARY DOCUMENTS BY APPOINTMENT, ONLY.

STAFF ONLY
Legal Parcel Review

☐ Okay. No further review required.

☐ Needs further review.

FILE # LLA21-0009

EL DORADO COUNTY DEVELOPMENT SERVICES DEPARTMENT

Lot Line Adjustment, Boundary Line Agreement & Merge Application

PROPERTY OWNER EDH 52 GP Phone 916 383-2500 E-mail angeloc@aktdev.com

Mailing Address 7919 Folsom Blvd., Ste. 300 Sacramento, CA 95826
P.O. Box or Street / City / State / ZIP

APN 122-720-018 Property Size acres/sq.ft. 15.74 ac Zone CR-PD GPD commercial TRA 054-069

PROPERTY OWNER Mee Capital Investments Phone 916 383-2500 E-mail angeloc@aktdev.com

Mailing Address 7919 Folsom Blvd., Ste. 300 Sacramento, CA 95826
P.O. Box or Street / City / State / ZIP

APN 122-720-002 Property Size acres/sq.ft. 1.38 Zoned CL GPD commercial TRA 054-007

List Additional Property Owners on Separate Sheet

APPLICANT/AGENT AKT Investments Phone 916 383-2500 E-mail angeloc@aktdev.com

Mailing Address 7919 Folsom Blvd., Ste. 300 Sacramento, CA 95826
P.O. Box or Street / City / State / ZIP

ENGINEER/SURVEYOR RSC Engineering, Inc. c/o Tiffany Wilson Phone 916-788-2884 E-mail t.wilson@rsc-engr.com

Mailing Address 1420 Rocky Ridge Dr., Ste. 150 Roseville, CA 95661
P.O. Box or Street / City / State / ZIP

LOCATION: The property is located on the W (N/E/W/S) side of Silva Valley Parkway (Street or Road)

N (N/E/W/S) of the intersection with Highway 50 (Major Street or Road) in the El Dorado Hills (Community) area.

PURPOSE FOR Lot Line Adjustment/Boundary Line Agreement Merge:

to develop the site for a future Costco

X _____ Date 7/14/21
Signature of property owner or authorized agent

I, C.L. Raffety, hereby certify that according to the records of this office, there are no delinquent taxes owed on the above referenced Assessor's Parcels (APN). This statement is valid through _____

Dated _____ By _____
C.L. Raffety, Treasurer-Tax Collector, Deputy

FOR OFFICE USE ONLY

Date _____ Fee $ _____ Receipt # _____ Rec'd by _____

Census _____ Supervisor District _____ Section _____ Township _____ Range _____

ACTION BY PLANNING SERVICES DIVISION

Date _____
(Expires one year from date of approval)

Approved _____ Denied _____

Staff Signature and Title

ACTION BY COUNTY SURVEYOR

Date _____

Approved _____ Denied _____

County Surveyor

NOTE: Approval of this application must be referred to your title company for any necessary modifications of prior deeds of trust or any other encumbrance that may need to be modified. (06/16)

Additional Property Owner for LLA21-0009

Property Owner: County of El Dorado

Mailing Address: 2850 Fairlane Court Placerville, CA 95667

Phone Number: 530-621-5932

Email: Andrew.gaber@edcgov.us

APN: 122-720-003

Property Size: 0.51 ac.

Zone: TC

GPD: Commercial

TRA: N/A

Gina Hamilton <gina.hamilton@edcgov.us>

Completeness Letter (EDH 52 Commercial Center)

Gina Hamilton <gina.hamilton@edcgov.us> Wed, Aug 4, 2021 at 5:23 PM
To: Tiffany Wilson <T.Wilson@rsc-engr.com>
Cc: Lynette Dias <ldias@up-partners.com>, Brandon Northart <BNorthart@up-partners.com>, Pat Angell <pat.angell@ascentenvironmental.com>, Cori Resha <cori.resha@ascentenvironmental.com>

Tiffany,

Attached please find a Completeness Letter for the EDH 52 Commercial Center applications.

As mentioned in the letter, the applications are considered complete for preliminary review purposes. There are still outstanding items that we understand are in the works and/ or part of the EIR preparation process.

Please let me know if you have any questions.

Best regards,

Gina Hamilton
Senior Planner

County of El Dorado
Planning and Building Department
2850 Fairlane Court, Bldg C
Placerville, CA 95667
Main Line (530) 621-5355
Direct Line (530) 621-5980
Fax (530) 642-0508
gina.hamilton@edcgov.us

CONFIDENTIALITY NOTICE: This electronic communication with its contents may contain confidential and/or privileged information. It is solely for the use of the intended recipient(s). Unauthorized interception, review, use, or disclosure is prohibited and may violate applicable laws including the Electronic Communications Privacy Act. If you are not the intended recipient, or authorized to receive for the intended recipient, please contact the sender and destroy all copies of the communication. Thank you for your consideration.

Completeness Letter_EDH 52 Commercial Center 08-04-2021.pdf
251K

COMMUNITY DEVELOPMENT AGENCY
DEVELOPMENT SERVICES DIVISION
http://www.edcgov.us/DevServices/

PLACERVILLE OFFICE:
2850 Fairlane Court, Placerville, CA 95667
BUILDING
(530) 621-5315 / (530) 622-1708 Fax
bldgdept@edcgov.us
PLANNING
(530) 621-5355 / (530) 642-0508 Fax
planning@edcgov.us

LAKE TAHOE OFFICE:
924 B Emerald Bay Rd
South Lake Tahoe, CA 96150
(530) 573-3330
(530) 542-9082 Fax
tahoebuild@edcgov.us

August 4, 2021

Tiffany Wilson
RSC Engineering
1420 Rocky Ridge Drive, Ste. 150
Roseville, CA 95661

Re: Determination of Application Completeness
Project File Name: EDH 52 Commercial Center
Project Application Nos.: Planned Development Permit PD15-0001, Rezone Z17-0004, Tentative Parcel Map P17-0007, Conditional Use Permit CUP-R21-0024 (reactivation of S17-0017), Lot Line Adjustment LLA21-0009
APNs: 122-720-002, -003, -018, -019, -020, and -021

Dear Ms. Wilson,

Planning Services has reviewed the above-referenced project applications and found it to be complete for preliminary review purposes.

Our understanding is that

1. The process for obtaining an updated Facilities Improvement Letter (FIL) for the proposed project is in progress. It is our understanding that as part of that process, you are in contact with the El Dorado Irrigation District (EID) while also working with the El Dorado Hills Fire Department to obtain a Fire Flow Requirements Letter, which is required by EID in order to provide a FIL. Note that any analyses needed for the environmental assessment related to the fire flow information or the FIL cannot proceed until that information is received by the Planning Department;
2. A drainage study for the overall project is being prepared;
3. The EIR Consultant, Ascent Environmental, Inc. (Ascent), will be conducting the acoustical analysis in the course of preparing the environmental impact analysis for the project.
    a. Working as a subconsultant to Ascent, Kittelson & Associates, is preparing a Traffic Impact Study (TIS) for the proposed project, which will be submitted to the County once completed. Once submitted, the TIS will be reviewed by the County Department of Transportation (DOT). Note that any analyses needed for the environmental

assessment related to the TIS and the data contained in the TIS cannot proceed until the TIS has been approved by DOT, and

b. Working as a subconsultant to Ascent, Ramboll US Consulting is preparing analyses for air quality, greenhouse gas, energy, and health effects which will be part of the environmental impact analysis for the project

As mentioned in the above-referenced applications, please note that a security deposit for on-site oak tree/oak woodland retention and/or replacement planting, may be required upon determination of oak resource impacts.

This list of required information may not be exhaustive. As indicated on Page 15 of the Planned Development Permit application:

> Planning Services reserves the right to require additional project information as provided by Section 15060 of the California Environment Quality Act, or as required by the General Plan development policies, when such is necessary to complete the environmental assessment.

Delayed submittal of the items listed above may affect timely preparation of the environmental assessment document(s). Please let me know if you have any questions about these items.

Once it has been determined that we have enough information to go forward for Technical Advisory Committee (TAC) review, the application will be distributed to affected departments and agencies for a 30-day review and comment period. In addition, a TAC meeting will be scheduled to discuss the comments received and any project issues. TAC meetings are for agency discussion and it is recommended that you or your agent be present at the TAC meeting to discuss the progress of your application.

New materials should be submitted to: Gina Hamilton, Planning Services, 2850 Fairlane Court, Placerville, CA 95667. Be sure to refer to the specific project number(s). Please call me at (530) 621-5980 or email me at gina.hamilton@edcgov.us if you have any questions or concerns regarding the requested items.

Regards,

Gina Hamilton, Senior Planner

cc:

Files PD15-0001, Z17-0004, P17-0007, CUP-R21-0024, LLA21-0009

Lynette Dias, Urban Planning Partners

Brandon Northart, Urban Planning Partners

EDH-52 COMMERCIAL DEVELOPMENT-SOUTH

APPLICATIONS: PD15-0001, Z17-0004, P17-0007, CUP-R21-0024, LLA21-0009

SILVA VALLEY PARKWAY, EL DORADO HILLS, CA

AUGUST 4, 2021

PROJECT DIRECTORY

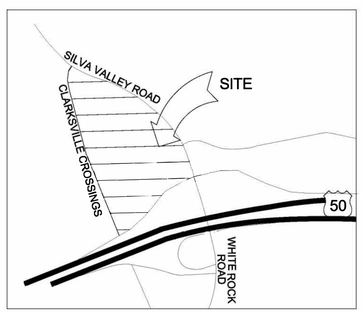
APPLICANT:
COSTCO WHOLESALE
999 LAKE DRIVE
ISSAQUAH, WA 98027
PHONE: (425) 427-7540
CONTACT: KIM KATZ

ARCHITECTS:
MG2
1101 SECOND AVENUE SUITE 100
SEATTLE, WA 98101
PHONE: (425) 463-1314
CONTACT: JOSEPH WELCH

AGENT TO APPLICANT:
URBAN PLANNING PARTNERS
388 17TH STREET SUITE 230
OAKLAND, CA 94612
PHONE: (510) 251-8210
CONTACT: LYNETTE DIAS

CIVIL ENGINEER/SURVEY:
KIER & WRIGHT
2995 PROSPECT PARK DRIVE, SUITE 100
RANCHO CORDOVA, CA 95670
PHONE: (970) 970-5184 x 3214
CONTACT: JARED MEREDITH

LANDSCAPE ARCHITECT:
DAVID BABCOCK & ASSOCIATES
3581 MT. DIABLO BLVD., SUITE 235
LAFAYETTE, CA. 94549
PHONE: (925) 283-5070
CONTACT: JEFF BERBERICH



VICINITY MAP

N.T.S.



LOCATION MAP

N.T.S.

PROJECT DATA

PROJECT LOCATION:	Silva Valley Parkway El Dorado Hills, Ca
APN:	122720018, 122720002, 122720003
CURRENT ZONING:	CR-PD Commercial Regional Planned Development
PROPOSED ZONING:	CR-PD Commercial Regional Planned Development
SITE AREA:	+/-17.05 Acres
JURISDICTION:	El Dorado County
BOUNDARIES INFORMATION:	This plan has been prepared using the Topographic survey dated March 2019 prepared by Kier & Wright

SHEET INDEX

1. TITLE SHEET
2. SITE CONTEXT PHOTOS
3. EXISTING AND PROPOSED ZONING EXHIBIT
4. CONCEPT SITE PLAN
5. PRELIMINARY FLOOR PLAN
6. EXISTING CONTEXT
7. COSTCO DESIGN INSPIRATION
8. CONCEPT ELEVATIONS
9. PERSPECTIVES
10. CONCEPT WAREHOUSE MATERIALS
11. CONCEPT SIGNAGE
12. PRELIMINARY LANDSCAPE PLAN
13. C1 TOPOGRAPHIC SURVEY
14. C2 PRELIMINARY GRADING AND DRAINAGE PLAN
15. C3 PRELIMINARY UTILITY PLAN
16. C4 PRELIMINARY STORMWATER QUALITY CONTROL PLAN
17. SE-1 SITE LIGHTING PLAN
18. TREE REMOVAL EXHIBIT
19. LLA-EX LOT LINE ADJUSTMENT EXHIBIT

DBA # P.290

DB+A
DAVID BABCOCK + ASSOCIATES
ARCHITECTURE PLANNING LANDSCAPE
3581 MT. DIABLO BLVD., SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

COSTCO EL DORADO HILLS

TITLE SHEET

AUGUST 4, 2021

NORTH



1 VIEW OF SITE ALONG SILVA VALLEY PARKWAY AT WEST HWY 50



2 VIEW OF SITE ALONG SILVA VALLEY PARKWAY



3 VIEW AT MAIN ENTRY ALONG SILVA VALLEY PARKWAY



4 VIEW AT CLARKSVILLE CROSSING AND SILVA VALLEY PARKWAY



5 VIEW LOOKING SITE ALONG CLARKSVILLE CROSSING AT NORTHWEST CORNER



6 VIEW ALONG CLARKSVILLE CROSSING AT SOUTHWEST CORNER



PHOTO KEY PLAN

NORTH

DBA # P.290

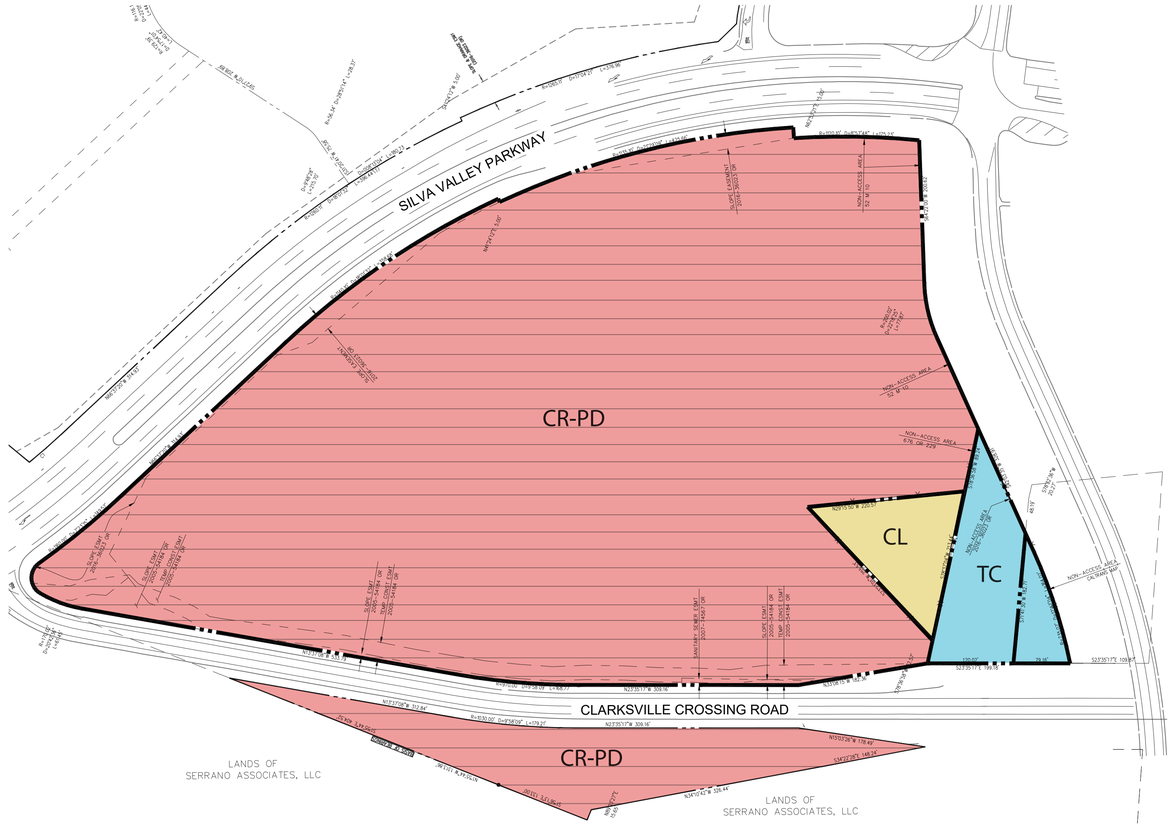
DB+A

DAVID BABCOCK + ASSOCIATES
ARCHITECTURE LANDSCAPE PLANNING
3581 MT. DIABLO BLVD. , SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

COSTCO EL DORADO HILLS

SITE CONTEXT PHOTOS

NOT TO SCALE
APRIL 28, 2021

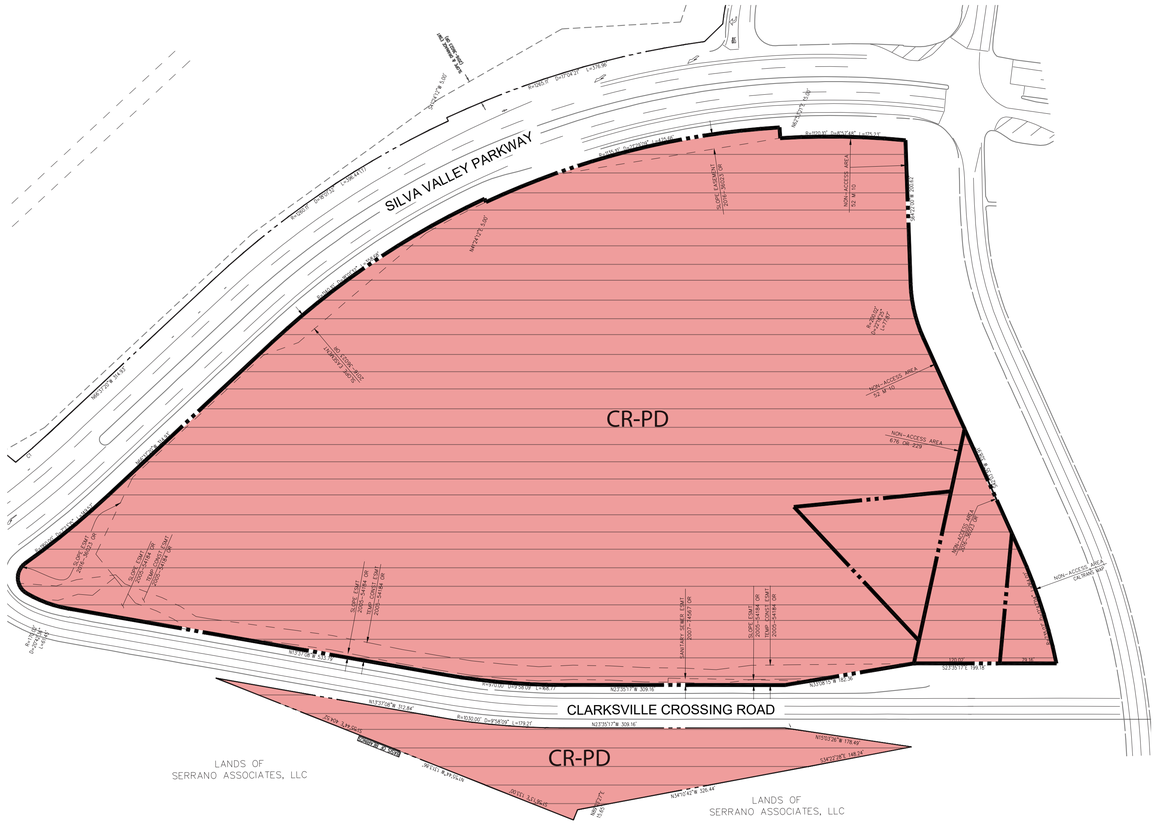


EXISTING ZONING: CR-PD, CL, TC
EXISTING ACREAGE: ± 17.05 AC

CR-PD
Commercial Regional Planned Development

CL
Commercial Limited

TC
Transportation Corridor



PROPOSED ZONING: CR-PD
PROPOSED ACREAGE: ± 17.05 AC

CR-PD
Commercial Regional Planned Development

DBA # P.290

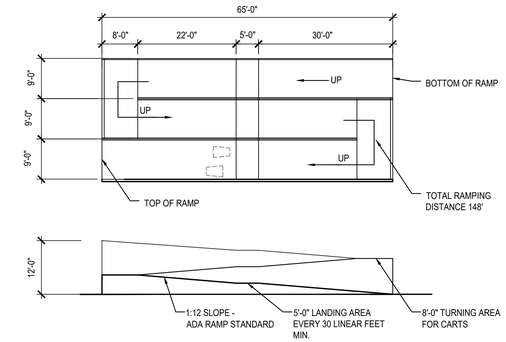
DB+A
DAVID BABCOCK + ASSOCIATES
ARCHITECTURE LANDSCAPE PLANNING
3581 MT. DIABLO BLVD. , SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

COSTCO EL DORADO HILLS

EXISTING AND PROPOSED ZONING EXHIBIT

0 50' 100' 200'
SCALE 1"= 100'
APRIL 28, 2021

NORTH
PLAN



PARKING GARAGE PEDESTRIAN RAMP ACCESS

LOWER LEVEL PARKING STRUCTURE - 214 STALLS

AT GRADE WAREHOUSE UPPER LEVEL PARKING STRUCTURE - 550 STALLS

PROJECT DATA

CLIENT: COSTCO WHOLESALE
999 LAKE DRIVE
ISSAQUAH, WA 98027

PROJECT ADDRESS: SILVA VALLEY PARKWAY
EL DORADO HILLS, CA

SITE DATA:

COSTCO SITE AREA: 17.04 ACRES (742,262)

JURISDICTION: EL DORADO COUNTY

ZONING: CR-PD

SETBACKS:

REQUIRED		ACTUAL	
FRONT:	TBD	FRONT:	TBD
SIDE:	TBD	SIDE:	TBD
REAR:	TBD	REAR:	TBD

BUILDING DATA:

TOTAL BUILDING FOOTPRINT AREA: 155,693 SF

INCLUDES:

NET SALES FLOOR	**151,074 SF**
NET MECHANICAL / FIRE	2,459 SF
BUILDING ENVELOPE	2,160 SF
NET OPEN CANOPY	4,737 SF

PARKING DATA:

TOTAL PARKING: 762

INCLUDES:

MAIN LEVEL PARKING PROVIDED:

10' WIDE STALLS	532 STALLS
ACCESSIBLE STALLS	18 STALLS

PARKING STRUCTURE PARKING PROVIDED:

10' WIDE STALLS	214 STALLS

NUMBER OF STALLS PER 1000 SF OF BUILDING AREA: 4.89 STALLS

NOTES:
EXISTING CONDITIONS TO BE FIELD VERIFIED.

0 30' 60' 120'
1" = 60'-0"

COSTCO WHOLESALE
EL DORADO HILLS, CA

1101 Second Ave, Ste 100
Seattle, WA 98101
206 962 6500
MG2.com

19-5017-01
JUNE 22, 2021

CONCEPT SITE PLAN

DD11-10

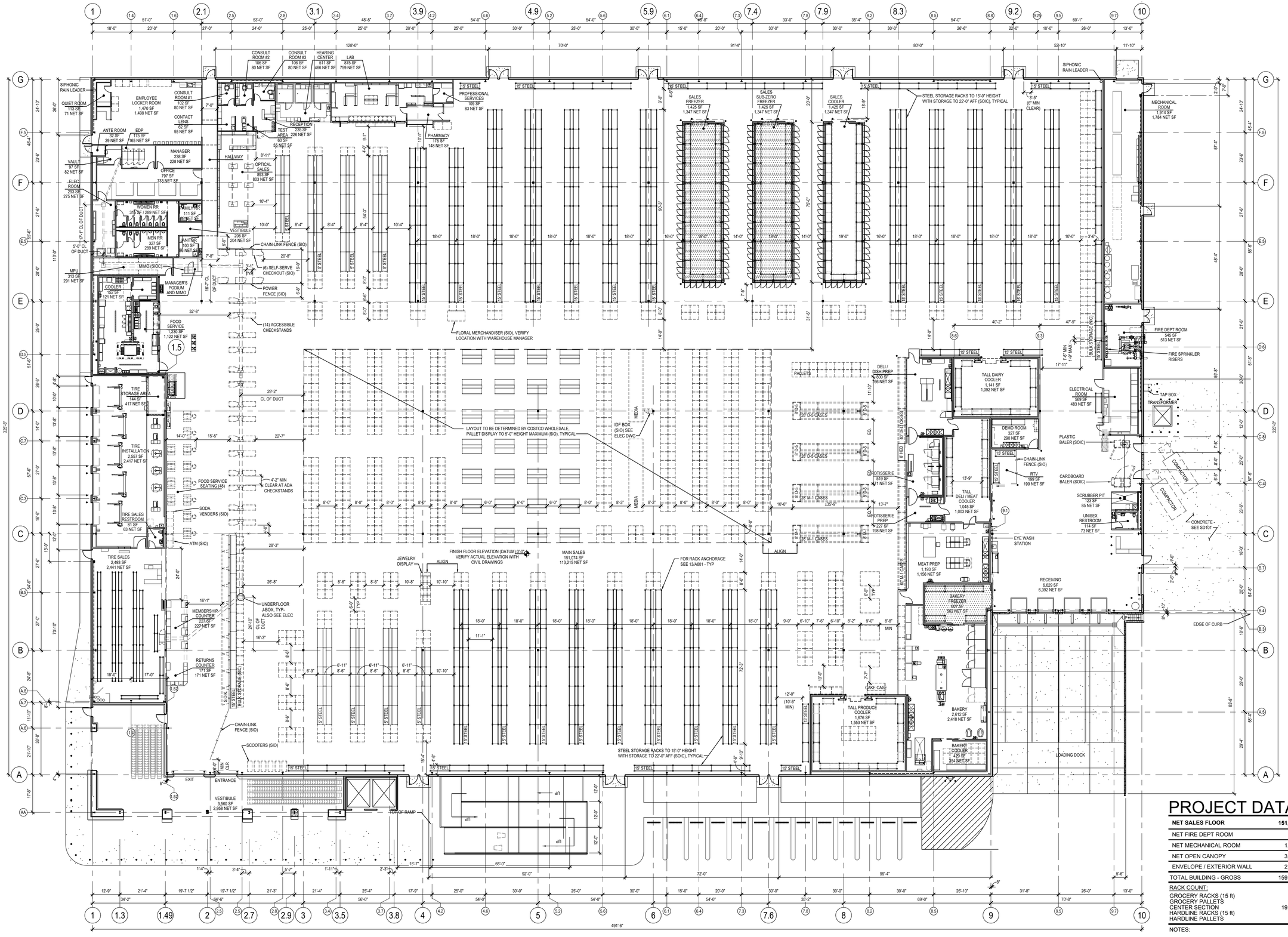
© MG2, Inc. All rights reserved. No part of this document may be reproduced in any form or by any means without permission in writing from MG2.

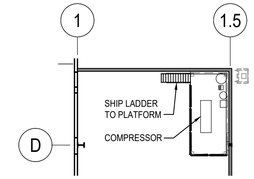
COSTCO WHOLESALE

EL DORADO HILLS, CA

CONCEPT SITE PLAN

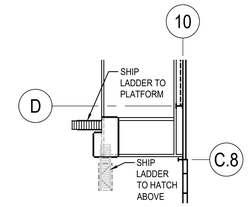
JUNE 22, 2021





COMPRESSOR PLATFORM

SCALE: 1/16" = 1'-0"



EQUIPMENT PLATFORM

SCALE: 1/16" = 1'-0"

0 10' 20' 40'

1" = 20'-0"

COSTCO WHOLESALE

EL DORADO HILLS, CA

1101 Second Ave, Ste 100
Seattle, WA 98101
206 962 6500
MG2.com

MG2

19-5017-01
APRIL 28, 2021

SHEET
5
OF 17

PROJECT DATA

NET SALES FLOOR	**151,074 SF**
NET FIRE DEPT ROOM	545 SF
NET MECHANICAL ROOM	1,914 SF
NET OPEN CANOPY	3,560 SF
ENVELOPE / EXTERIOR WALL	2,066 SF
TOTAL BUILDING - GROSS	159,159 SF
RACK COUNT:	
GROCERY RACKS (15 ft)	276
GROCERY PALLETS	132
CENTER SECTION	19,586 SF
HARDLINE RACKS (15 ft)	170
HARDLINE PALLETS	36

NOTES:

COSTCO WHOLESALE

EL DORADO HILLS, CA

CONCEPT FLOOR PLAN

APRIL 28, 2021

© MG2, Inc. All rights reserved. No part of this document may be reproduced in any form or by any means without permission in writing from MG2.





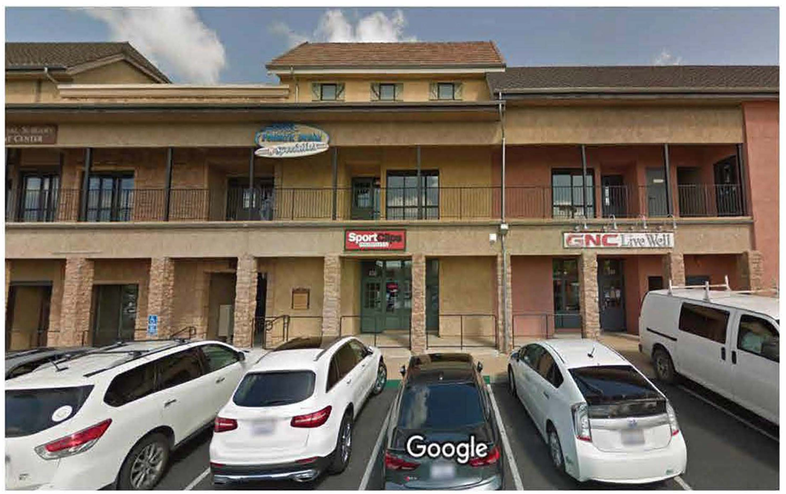


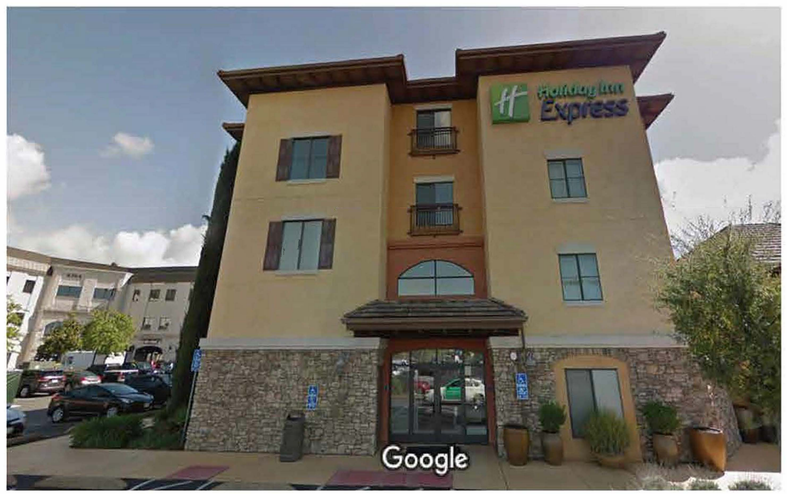










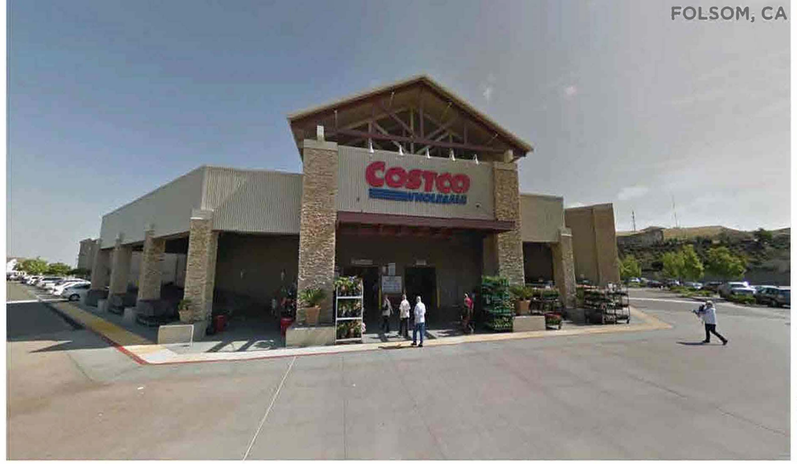


MG2

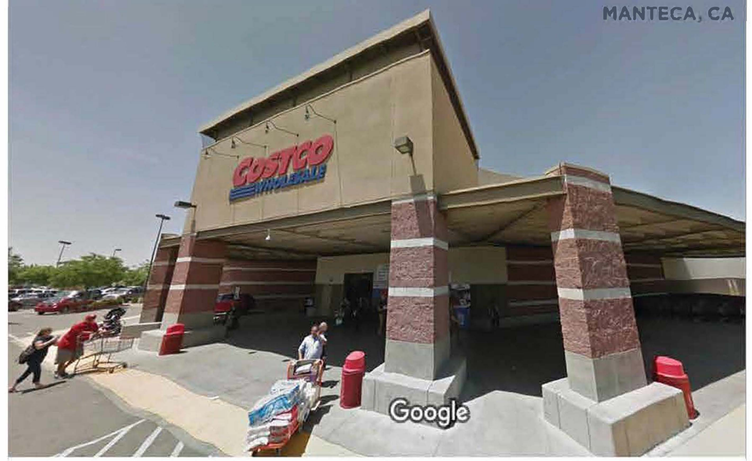
APRIL 28, 2021
PROJECT# 19-5017-01
EL DORADO HILLS, CA

EXISTING CONTEXT

COSTCO WHOLESALE















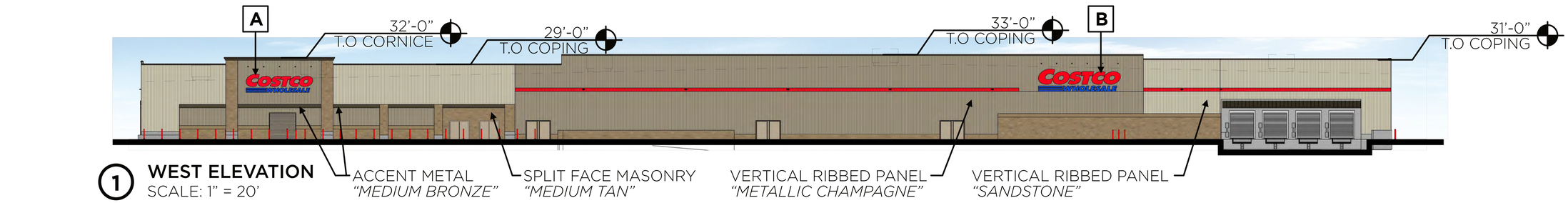


MG2

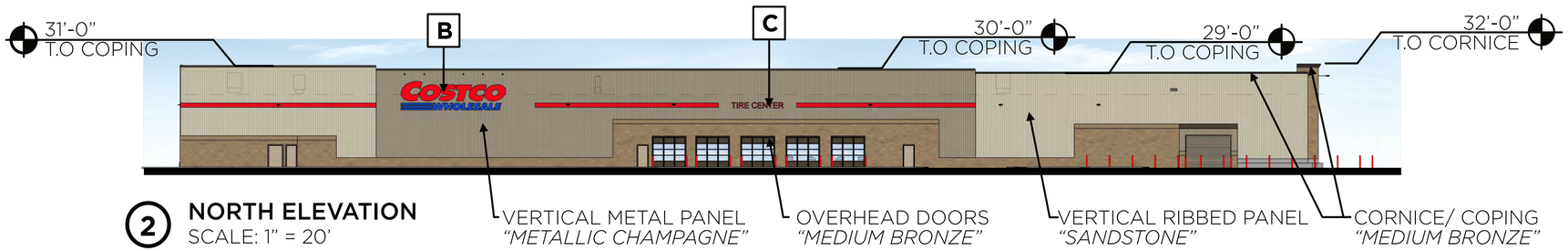
APRIL 28, 2021
PROJECT# 19-5017-01
EL DORADO HILLS, CA

COSTCO DESIGN INSPIRATION

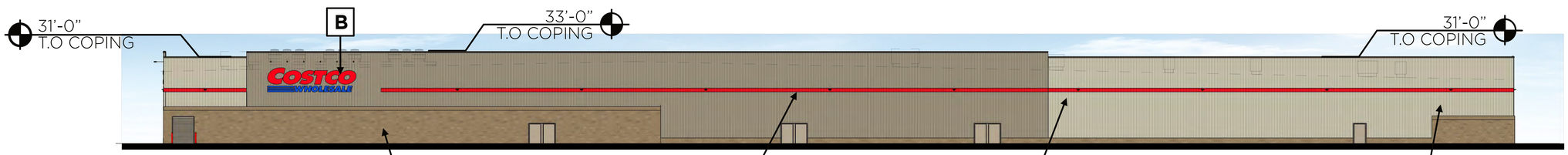
COSTCO WHOLESALE



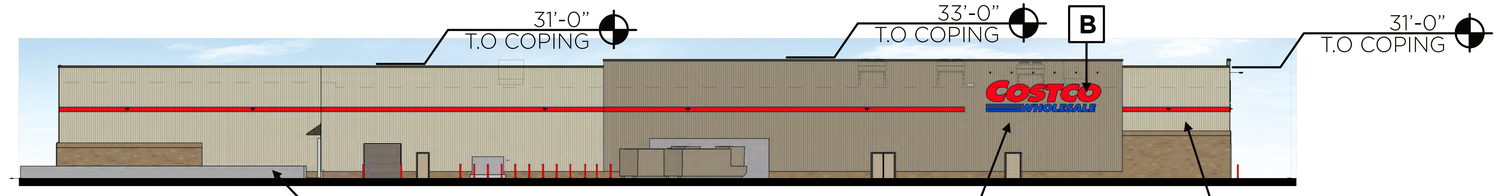
1 WEST ELEVATION
SCALE: 1" = 20'



2 NORTH ELEVATION
SCALE: 1" = 20'



3 EAST ELEVATION
SCALE: 1" = 20'

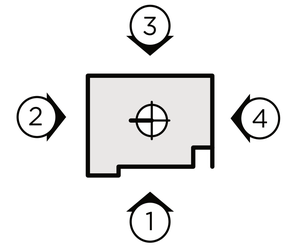


4 SOUTH ELEVATION
SCALE: 1" = 20'



A **B** **C**

5 SIGN PACKAGE



SIGN TABLE

IDENTITY	*QUANTITY*	*SIGN*	*SIZE*	*AREA (EACH)*	*TOTAL SF*
A	1	COSTCO WHOLESALE	5'-0" C	175 SF	***175 SF***
B	4	COSTCO WHOLESALE	6'-0" C	280 SF	***1,120 SF***
C	1	TIRE CENTER	1'-9" C	31 SF	***31 SF***
				TOTAL SIGN AREA:	**1,326 SF**

MG2

APRIL 28, 2021
PROJECT# 19-5017-01
EL DORADO HILLS, CA

CONCEPT WAREHOUSE ELEVATIONS

COSTCO WHOLESALE





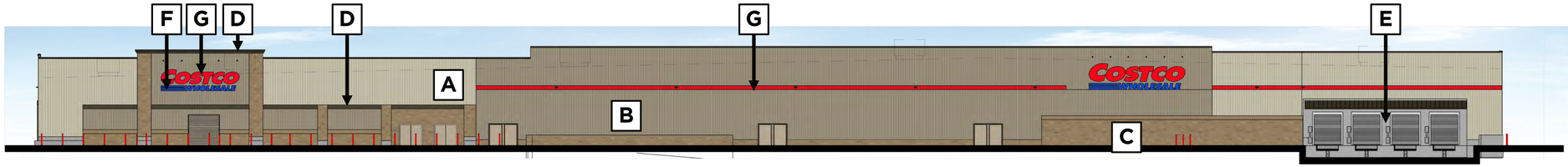


MG2

APRIL 28, 2021
PROJECT# 19-5017-01
EL DORADO HILLS, CA

CONCEPT PERSPECTIVES

COSTCO WHOLESALE



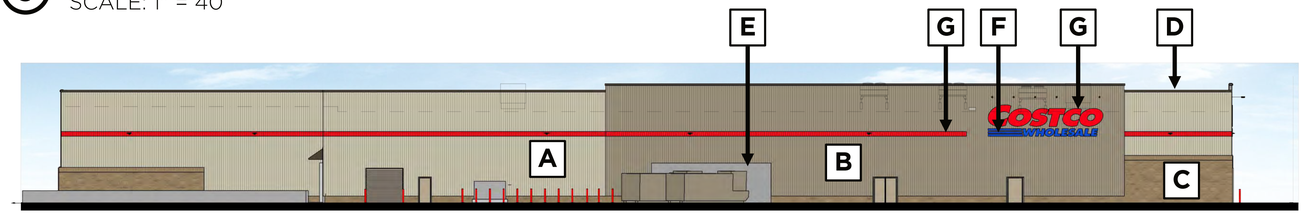
1 WEST ELEVATION
SCALE: 1" = 40'



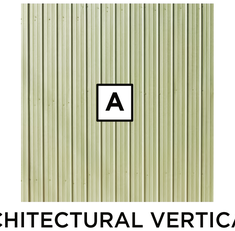
2 NORTH ELEVATION
SCALE: 1" = 40'



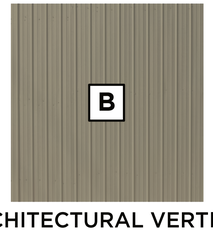
3 EAST ELEVATION
SCALE: 1" = 40'



4 SOUTH ELEVATION
SCALE: 1" = 40'



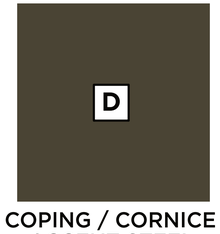
ARCHITECTURAL VERTICAL RIBBED METAL
"SANDSTONE"



ARCHITECTURAL VERTICAL RIBBED METAL
"METALLIC CHAMPAGNE"



SPLIT FACE CMU -
"MEDIUM TAN"



COPING / CORNICE / ACCENT STEEL -
"MEDIUM BRONZE"



CONCRETE -
"NATURAL"



'WHOLESALE' -
"COSTCO BLUE"



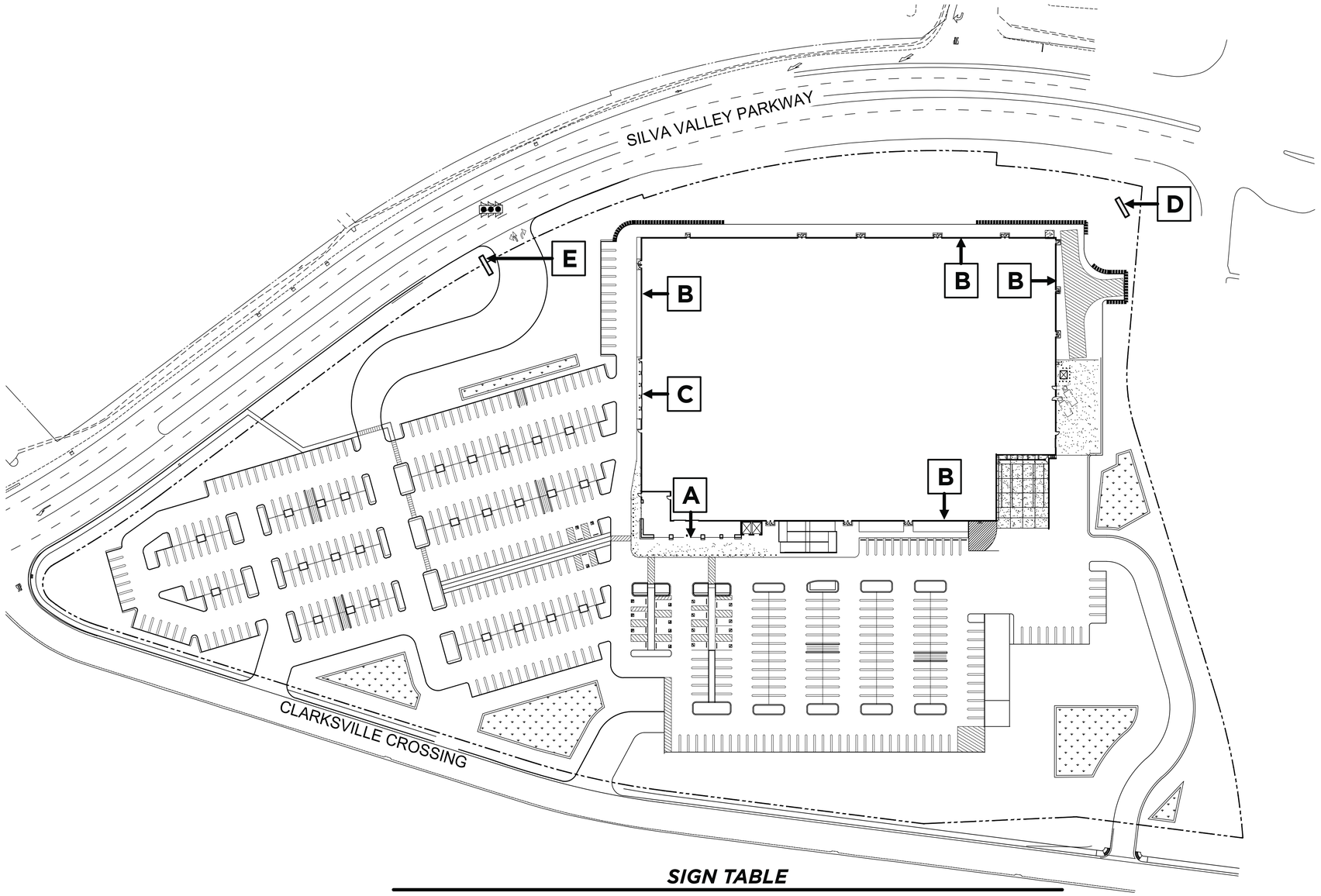
'COSTCO' AND ACCENT STRIPE -
"COSTCO RED"

MG2

APRIL 28, 2021
PROJECT# 19-5017-01
EL DORADO HILLS, CA

CONCEPT WAREHOUSE MATERIALS

COSTCO WHOLESALE





(A) WAREHOUSE SIGN
SCALE: NTS



(B) ENTRY CANOPY/ WAY FINDING SIGN
SCALE: NTS



(C) MISCELLANEOUS
SCALE: NTS

SIGN TABLE

IDENTITY	*QUANTITY*	*SIGN*	*SIZE*	*AREA (EACH)*	*TOTAL SF*
A	1	COSTCO WHOLESALE	5'-0" C	175 SF	***175 SF***
B	4	COSTCO WHOLESALE	6'-0" C	280 SF	***1,120 SF***
C	1	TIRE CENTER	1'-9" C	31 SF	***31 SF***
D	1	PYLON SIGN	20'-0" X 35'-0"	700 SF	***700 SF***
E	1	MONUMENT SIGN	16'-0" X 16'-4"	261 SF	***261 SF***
				TOTAL SIGN AREA:	**2,287 SF**

MG2

JUNE 22, 2021
PROJECT# 19-5017-01
EL DORADO HILLS, CA

WAREHOUSE SIGN PACKAGE

COSTCO WHOLESALE



Plant Legend

Symbols	Botanical / Common Name	Size	WUCOLS (Water Use Classification of Landscape Species)	Comments
	Trees			
	Acer platanoides ‘Crimson King’ / Crimson King Norway Maple	24” box	M	Matched Standards
	Lagerstroemia hyb. ‘Muskogee’ / Muskogee (Lavender) Crape Myrtle	24” box	L	Matched Standards
	Lagerstroemia hyb. ‘Tuscarora’ / Pink/Red Flowering Crape Myrtle	24” box	L	Matched Standards
	Zelkova serrata ‘Green Vase’ / Green Vase Zelkova	24” box	L	Matched Standards
	Quercus frainetto ‘Forest Green’ / Forest Green Italian Oak	24” box	L	Matched Standards
	Quercus ilex / Holly Oak	24” box	L	Matched Standards
	Quercus lobata / Valley Oak	24” box	L	Matched Standards
	Cedrus deodora /	24” box	L	Matched in Size
	Shrubs, Perennials, Ornamental Grasses, Ground Covers and Vine			
	Arbutus unedo ‘Compacta’ / Compact Strawberry Tree	15 gal.	L	
	Ceanothus ‘Concha’ / Concha Ceanothus	5 gal.	L	
	Cotoneaster dammeri ‘Lowfast’ / Lowfast Bearberry Cotoneaster	1 gal.	M	
	Dietes grandiflora 'Variegata' / Striped Fortnight Lily	1 gal.	L	
	Dianella revolute ‘Little Rev’ / Litlle Rev Dianella	1 gal.	L	
	Eleagnus x ebbingei ‘Gilt Edge’ / Gilt Edge Silver Berry	5 gal.	L	
	Festuca mairei / Atlas Fescue	1 gal.	L	
	Muhlenbergia capillaris ‘Regal Mist’ / Regal Mist Muhly Grass	1 gal.	L	
	Pennisetum orientale / Oriental Fountain Grass	1 gal.	L	
	Juniperus chinensis ‘Mint Julep’ / Mint Julep Juniper	5 gal.	L	
	Juniperus horizontalis ‘Blue Chip’ / Blue Chip Juniper	1 gal.	L	
	Phlomis fruticosa / Jerusalem Sage	1 gal.	L	
	Rosa ‘Meidrifora’ / Coral Drift Rose	1 gal.	M	
	Rosa banksiae ‘Lutea’ / Yellow Lady Banks Climbing Rose	5 gal.	M	
	Salvia leucantha ‘Santa Barbara’ / Santa Barbara Sage	1 gal.	L	
	Rosmarinus o. ‘Huntington Blue’ / Huntington Blue Rosemary	1 gal.	L	
	Stormwater Treatment Planter (SWTP)			
	Tree			
	Quercus wislizenii / Interior Live Oak	24” box	L	Matched Standards
	Perennials and Grasses			
	Chondropetalum tectorum / Cape Rush	5 gal.	L	
	Deschampsia cespitosa / Tufted Hairgrass	1 gal.	L	
	Juncus patens ‘Elk Blue’ / Elk Blue Gray Rush	1 gal.	M	
	Muhlenbergia rigens / Deer Grass	1 gal.	L	
	Nepeta racemosa ‘Walker’s Low’ / Walker’s Low Catmint	1 gal.	L	

IRRIGATION DESIGN STATEMENT:

The irrigation system will be a water efficient low flow, point source system designed to provide adequate watering to support plant growth and insure deeply rooted plant material while avoiding excess water application. The system will be programmable, allowing operation during late night and or early morning hours, with multiple start times and cycles. The system will interface with a weather based sensor that will adjust the amount of water applied to the plant material based on daily weather conditions. Irrigation materials specified for the site will be selected on the basis of durability and ease of maintenance. Landscape irrigation will comply with the California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELO).

LANDSCAPE DATA:

Costco Site Coverage
Total Parcel Area: +-17.04 AC (+- 742,262 SF)
Landscape Area Provided: 240,027 SF

Shading Requirements:
Required: 50% parking lot shading at 15 years
Provided: 56%

Upper Level Parking:
Provides 100% shading of lower level parking

WUCOLS LEGEND:

L Low Water Use

M Moderate Water Use

DBA # 290

DB+A

DAVID BABCOCK + ASSOCIATES
ARCHITECTURE LANDSCAPE PLANNING
3581 MT. DIABLO BLVD., SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

COSTCO EL DORADO HILLS

PRELIMINARY LANDSCAPE PLAN

0 20’ 40’ 80’ 160’

SCALE 1"= 80'

APRIL 28,2021

NORTH

PLAN

NOTES

1. THIS PLOT WAS PREPARED FROM INFORMATION FURNISHED IN PRELIMINARY TITLE REPORTS, PREPARED BY FIRST AMERICAN TITLE INSURANCE COMPANY, DATED JANUARY 9, 2019, NUMBER NCS-942714-WA1 & NUMBER NCS-942715-WA1. NO LIABILITY IS ASSUMED FOR MATTERS OF RECORD NOT STATED IN SAID PRELIMINARY TITLE REPORT THAT MAY AFFECT THE TITLE LINES, OR EXCEPTIONS, OR EASEMENTS OF THE PROPERTY.

2. ALL DISTANCES AND ELEVATIONS SHOWN HEREON ARE IN FEET AND DECIMALS THEREOF.

3. THE TYPES, LOCATIONS, SIZES AND/OR DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS TOPOGRAPHIC SURVEY WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS AND DEPTHS OF SUCH UNDERGROUND UTILITIES. (A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND UTILITIES). HOWEVER, THE ENGINEER CAN ASSUME NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF ITS DELINEATION OF SUCH UNDERGROUND UTILITIES WHICH MAY BE ENCOUNTERED, BUT WHICH ARE NOT SHOWN ON THESE DRAWINGS.

4. PHYSICAL ITEMS SHOWN ON THIS SURVEY ARE LIMITED TO THOSE ITEMS VISIBLE AS OF THE DATE OF THIS SURVEY. SUBSURFACE STRUCTURES, IF ANY, ARE NOT SHOWN. SAID SUBSURFACE OBJECTS MAY INCLUDE, BUT ARE NOT LIMITED TO, CONCRETE FOOTINGS, SLABS, SHORING, STRUCTURAL PILES, UTILITY VAULTS, PIPING, UNDERGROUND TANKS, AND ANY OTHER SUBSURFACE STRUCTURES NOT REVEALED BY A SURFACE INSPECTION.

5. THE SUBJECT PROPERTY IS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) FOR EL DORADO COUNTY, CALIFORNIA, MAP NUMBER 06017C0725E FOR COMMUNITY NUMBER 060040 (EL DORADO COUNTY), WITH AN EFFECTIVE DATE OF SEPTEMBER 26, 2008, AS BEING LOCATED IN FLOOD ZONE "X-UNSHADED". ACCORDING TO FEMA THE DEFINITION OF ZONE "X-UNSHADED" IS: AREA OF MINIMAL FLOOD HAZARD.

6. BENCHMARK:
CAL-TRANS TBM, NGS DISK ON TOP OF HEADWALL AT THE NORTHWEST CORNER OF THE BRIDGE ON CLARKSVILLE CROSSING AS TAKEN FROM THE CALTRANS IMPROVEMENT PLANS, SHEET 14 (PC-1) OF THE SILVA VALLEY CONSTRUCTION PLANS DATED JANUARY 4, 2013.
(PID: JS0692) ELEVATION= 673.08 FEET (NGVD 1929 DATUM)

7. BASIS OF BEARINGS:
THE BEARING OF NORTH 88° 27' 28" EAST, TAKEN ON THE NORTHERLY LINE OF PARCEL 4 AS SHOWN ON THAT CERTAIN PARCEL MAP FILED FOR RECORD ON DECEMBER 28, 2018, IN BOOK 52 OF MAPS AT PAGE 10, OFFICIAL RECORDS OF EL DORADO COUNTY WAS TAKEN AS THE BASIS FOR ALL BEARINGS SHOWN HEREON.

8. CORNER RECORD NOTE:
THE DEVELOPER AND/OR CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION AND FILING OF PRE-CONSTRUCTION AND POST-CONSTRUCTION CORNER RECORDS FOR ANY MONUMENTS OR PROPERTY CORNERS SHOWN HEREON THAT MAY BE DESTROYED DURING IMPROVEMENTS TO THE SUBJECT PROPERTY AS DEFINED IN SECTION 8771(B) OF THE PROFESSIONAL LAND SURVEYORS ACT.

10. THE AERIAL MAPPING WAS PREPARED USING COMPUTER ASSISTED, PHOTOGRAMMETRIC METHODS BY COOPER AERIAL SURVEYS CO., IN PHOENIX ARIZONA. JOB NUMBER 1901022. IN AREAS OF DENSE VEGETATION, ACCURACY OF CONTOURS MAY DEVIATE FROM ACCEPTED ACCURACY STANDARDS. DATE OF PHOTOGRAPHY 02-22-19, ORIGINAL COMPILED MAP SCALE 1"=40', CONTOUR INTERVAL 1 FOOT. THE GRID IS BASED ON PHOTOGRAMMETRIC METHODS COMPILED ON DIGITAL STEREO WORKSTATIONS USING AERIAL PHOTOGRAPHY. CONTROL SURVEY PERFORMED BY KIER & WRIGHT, LIVERMORE, CA.

7/XX/2019
PREPARED BY OR UNDER THE SUPERVISION OF DATE
RODNEY A. STEWART II, P.L.S. 9225

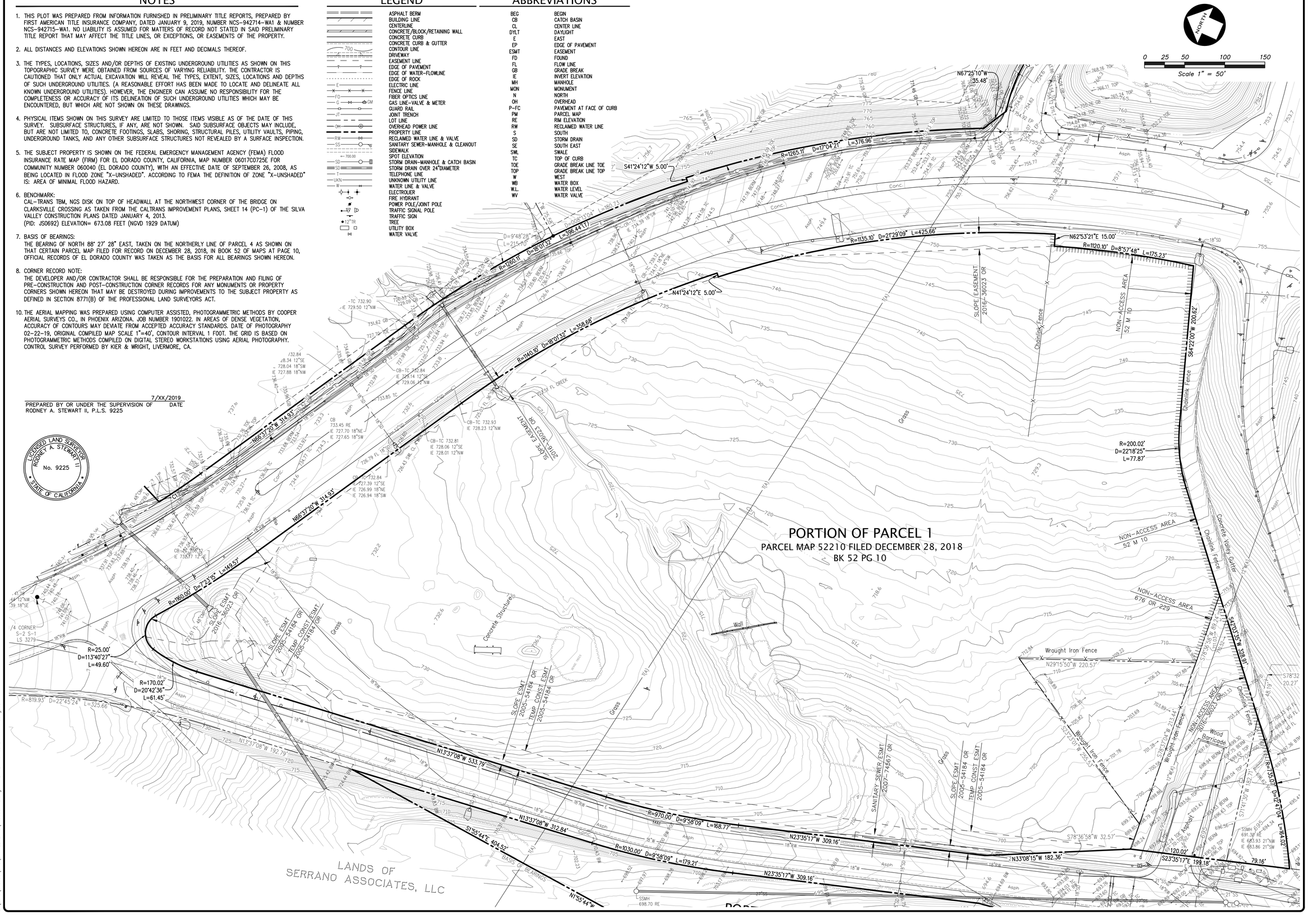
LICENSED LAND SURVEYOR
RODNEY A. STEWART II
No. 9225
STATE OF CALIFORNIA

LEGEND

	ASPHALT BERM
	BUILDING LINE
	CENTERLINE
	CONCRETE/BLOCK/RETAINING WALL
	CONCRETE CURB
	CONCRETE CURB & GUTTER
700	CONTOUR LINE
	DRIVEWAY
	EASEMENT LINE
	EDGE OF PAVEMENT
	EDGE OF WATER-FLOWLINE
	EDGE OF ROCK
E	ELECTRIC LINE
X X X	FENCE LINE
FO	FIBER OPTICS LINE
G GM	GAS LINE-VALVE & METER
	GUARD RAIL
JT	JOINT TRENCH
	LOT LINE
OH	OVERHEAD POWER LINE
	PROPERTY LINE
RW	RECLAIMED WATER LINE & VALVE
SS	SANITARY SEWER-MANHOLE & CLEANOUT
	SIDEWALK
700.00	SPOT ELEVATION
SD	STORM DRAIN-MANHOLE & CATCH BASIN
SD	STORM DRAIN OVER 24"DIAMETER
T	TELEPHONE LINE
UKN	UNKNOWN UTILITY LINE
W	WATER LINE & VALVE
	ELECTROLIER
	FIRE HYDRANT
	POWER POLE/JOINT POLE
	TRAFFIC SIGNAL POLE
	TRAFFIC SIGN
12"TR	TREE
	UTILITY BOX
	WATER VALVE

ABBREVIATIONS

BEG	BEGIN
CB	CATCH BASIN
CL	CENTER LINE
DYLT	DAYLIGHT
E	EAST
EP	EDGE OF PAVEMENT
ESMT	EASEMENT
FD	FOUND
FL	FLOW LINE
GB	GRADE BREAK
IE	INVERT ELEVATION
MH	MANHOLE
MON	MONUMENT
N	NORTH
OH	OVERHEAD
P-FC	PAVEMENT AT FACE OF CURB
PM	PARCEL MAP
RE	RIM ELEVATION
RW	RECLAIMED WATER LINE
S	SOUTH
SD	STORM DRAIN
SE	SOUTH EAST
SWL	SWALE
TC	TOP OF CURB
TOE	GRADE BREAK LINE TOE
TOP	GRADE BREAK LINE TOP
W	WEST
WB	WATER BOX
W.L.	WATER LEVEL
WV	WATER VALVE



NO.	REVISION	BY

KIER+WRIGHT
2995 Prospect Park Drive, Ste. 100
Rancho Cordova, CA 95670
Phone: (916) 970-5784
www.kierwright.com

TOPOGRAPHIC SURVEY
OF
EL DORADO HILLS COSTCO
FOR
COSTCO WHOLESALE CORPORATION
CALIFORNIA
EL DORADO HILLS,

DATE	APRIL, 2021
SCALE	AS SHOWN
DESIGNER	KRR
DRAFTER	KGH
JOB NO.	A18655
SHEET	C1.0
OF	SHEETS

Z:\2018\A18655\DWG\ENTITLEMENTS\A18655-PG.dwg 4-27-21 01:03:21 PM krodriguez

LEGEND

△	AREA DRAIN
□	STORM DRAIN CATCH BASIN(SDCB)
■	STORM DRAIN JUNCTION BOX(SDJB)
●	STORM DRAIN MANHOLE(SDMH)
FL	FLOW LINE
FF	FINISH FLOOR
FES	FLARED END SECTION
TOW	TOP OF WALL
CONF	CONFORM TO EXISTING
PV	PAVEMENT
RE	RIM ELEVATION
23.8	SPOT ELEVATION
X"SD	STORM DRAIN LINE
TC	TOP OF CURB
	ROCK WALL

NORTH

0 25 50 100 150

Scale 1" = 50'

MEDIAN IMPROVEMENTS FOR NEW LEFT TURN LANE

COSTCO WHOLESALE

FF=729.00

PROPOSED SIDEWALK

PROPOSED SIDEWALK

PROPOSED SIDEWALK

ELEVATORS

PEDESTRIAN RAMP TO /FROM LOWER GARAGE LEVEL

LOWER LEVEL GARAGE 10' BELOW UPPER LEVEL (TYP)

LOWER LEVEL GARAGE 10' BELOW UPPER LEVEL (TYP)

LOWER LEVEL GARAGE 10' BELOW UPPER LEVEL (TYP)

GARAGE SD STUB

EX. CB RE 693.31

EXISTING UTILITY VAULTS AND BOXES TO REMAIN

LANDS OF SERRANO ASSOCIATES, LLC

FND IP 1/16 CORNER S 2 S 1 RCE 20462

S78°32'36"W 20.27'

48.19'

NON-A...

S2

NO.	REVISION	BY

NO.	REVISION	BY

KIER+WRIGHT

2995 Prospect Park Drive, Ste. 100
Rancho Cordova, CA 95670

Phone: (916) 970-5784
www.kierwright.com

PRELIMINARY GRADING AND DRAINAGE PLAN
OF
EL DORADO HILLS COSTCO
FOR
COSTCO WHOLESALE CORPORATION
CALIFORNIA
EL DORADO HILLS,

DATE	APRIL, 2021
SCALE	AS SHOWN
DESIGNER	KRR
DRAFTER	KGH
JOB NO.	A18655
SHEET	C2.0
OF	SHEETS

Z:\2018\A18655\DWG\ENTITLEMENTS\A18655-PG.dwg 4-27-21 01:03:39 PM krodriguez

LEGEND

ASR	AUTOMATIC SPRINKLER RISER
RE	RIM ELEVATION
TC	TOP OF CURB
WS	WATER SERVICE
XXX	EXISTING UTILITY TO BE ABANDONDED BY REMOVAL
FS	FIRE SERVICE
SS	SANITARY SEWER
COTG	CLEANOUT TO GRADE
	STORM DRAIN LINE
	STORM DRAIN CATCH BASIN
	STORM DRAIN JUNCTION BOX
SSMH	STORM DRAIN MANHOLE
	BACK FLOW PREVENTION DEVICE
	FIRE DEPARTMENT CONNECTION
	FIRE HYDRANT & VALVE
	POST INDICATOR VALVE
	SANITARY SEWER MANHOLE
	SINGLE CHECK VALVE
SDMH	STORM DRAIN MANHOLE
	WATER METER
	GREASE INTERCEPTOR
	SAND OIL SEPARATOR

NORTH

0 25 50 100 150

Scale 1" = 50'

COSTCO WHOLESALE

FF=729.00

NEW SIGNALIZED INTERSECTION

STUB FOR FUTURE EXTENSION BY EID

STUB FOR FUTURE EXTENSION BY EID

FES RE 729.20

20' EID EASEMENT

SSMH

SDMH RE 732.92

18"SD

15' COUNTY DRAIN EASEMENT

8"SS(PUBLIC)

10"W(PUBLIC)

36"SD(PUBLIC)

SSMH RE 734.84

SDMH RE 732.27

8"SS(PUBLIC)

SDMH RE 732.59

SDMH RE 729.55

SDMH RE 729.30

SSMH RE 731.43

CB RE 726.40 FL 725.90

SSMH RE 729.61

12"SD

8"W

6"SS

SSMH RE 727.34

SSMH RE 728.80

12"RD STUB

8"RD STUB

CB RE 728.50

SDJB RE 728.43

SDMH RE 732.60

GAS METER

DOM WATER

BFP

WM

3" DOM SERVICE

FDC

PIV

DDCV

ASR

SSCO RE 728.01

SOS RE 728.19

SSCO RE 728.59

SSMH RE 728.33

SDMH RE 728.41

CB RE 724.83

BUBBLER RE 724.21 FL 722.00

CB RE 722.50 FL 722.00

SSCO RE 727.88

SSCO RE 727.96

GI RE 727.75

SSCO RE 727.73

SSCO RE 727.64

SSMH RE 725.44

SSMH RE 723.52

SSMH RE 718.52

VARIABLE WIDTH EID EASEMENT

10"FS

FH

NEW SIGNALIZED INTERSECTION

SDMH RE 730.43

49"SD (PUBLIC)

SDMH RE 727.67

EID EASEMENT VARIABLE WIDTH

15' COUNTY DRAIN EASEMENT

36"SD(PUBLIC)

CB-TC RE 724.35

CB-TC RE 724.83

BUBBLER RE 718.50 FL 718.00

SDMH RE 718.50 FL 718.00

SDMH RE 720.40

SSMH RE 720.92

CB-TC RE 724.72

BUBBLER RE 712.50 FL 712.00

CB RE 712.80 FL 712.00

SSMH RE 714.69

FES RE 705.42

EX.SSMH RE 0.27

CB-TC RE 723.04

SSCO RE 711.46

SSCO RE 710.74

SSMH RE 707.84

SSMH RE 706.61

SDMH RE 706.96

GARAGE SS STUB

GARAGE SD STUB

SSCO RE 712.69

SOS RE 713.16

BUBBLER RE 706.50 FL 706.00

CB RE 707.46 FL 706.00

15" COUNTY DRAINAGE EMENT RE 697.32

CB P2424 RE 697.38

SSMH RE 695.74

CB RE 694.00 FL 693.50

30"SD(PUBLIC)

24"SD

12"SD 24" FES RE 692.27

1.5" IRR SERVICE

SDMH RE 695.30

SDMH RE 695.12

24"SD(PUBLIC)

EXISTING VAULTS AND BOXES TO REMAIN

CB-TC RE 693.32

EX. CB RE 693.31

FES RE 4.21

LANDS OF SERRANO ASSOCIATES, LLC

FND IP 1/16 CORNER S-2, S-1 RCE 20462

JT

NON-ACCESS AREA

SLOPE EASEMENT DOTOD 36023 OR

SANITARY SEWER EASEMENT 2007-74567 OR

BLDG ESMT 2005-54184 OR

EXIST CONST ESMT 2005-54184 OR

NO.	REVISION	BY

NO.	REVISION	BY

KIER+WRIGHT
2995 Prospect Park Drive, Ste. 100
Rancho Cordova, CA 95670
Phone: (916) 970-5784
www.kierwright.com

PRELIMINARY UTILITY PLAN
OF
EL DORADO HILLS COSTCO
FOR
COSTCO WHOLESALE CORPORATION CALIFORNIA
EL DORADO HILLS,

DATE	APRIL, 2021
SCALE	AS SHOWN
DESIGNER	KRR
DRAFTER	KGH
JOB NO.	A18655
SHEET	C3.0
OF	SHEETS

Z:\2018\A18655\DWG\ENTITLEMENTS\A18655-PG.dwg 4-27-21 01:03:55 PM krodriguez

LEGEND

- TRIBUTARY AREA LIMITS
- LANDSCAPE AREA
- IMPERVIOUS ROOFTOP DRAINING TO BIO-RETENTION TREATMENT PLANTER
- IMPERVIOUS PAVEMENT DRAINING TO BIO-RETENTION TREATMENT PLANTER
- BIORETENTION TREATMENT PLANTER

TREATMENT AREA SUMMARY

DMA #	DMA AREA (SF)	DMA AREA (AC)	LANDSCAPE AREA (SF)	IMPERVIOUS AREA (SF)	TREATMENT REQUIRED (SF)*	TREATMENT PROVIDED (SF)	TREATMENT METHOD	SIZING RATIO (%)
DMA 1	59,650	1.37	23,572	34,668	1,387	1,410	Bioretention	4.1%
DMA 2	140,233	3.22	52,911	83,896	3,356	3,426	Bioretention	4.1%
DMA 3	19,568	0.45	7,033	12,025	481	510	Bioretention	4.2%
DMA 4	160,854	3.69	29,012	126,316	5,053	5,526	Bioretention	4.4%
DMA 5	189,720	4.36	16,700	166,238	6,650	6,782	Bioretention	4.1%
DMA 6	122,083	2.80	41,096	77,681	3,107	3,306	Bioretention	4.3%
DMA 7	42,619	0.98	38,484	4,135	165	0	Vegetated Swale	N/A
Totals	**734,727**	**16.87**	**208,808**	**504,960**	**20,198**	**20,959**		

* Treatment Area Required is based on 4% of the DMA Impervious Area

NORTH

0 25 50 100 150

Scale 1" = 50'

DMA 1
DMA 2
DMA3
DMA 4
DMA 5
DMA 6
DMA 7

LANDS OF SERRANO ASSOCIATES, LLC

NO.	REVISION	BY

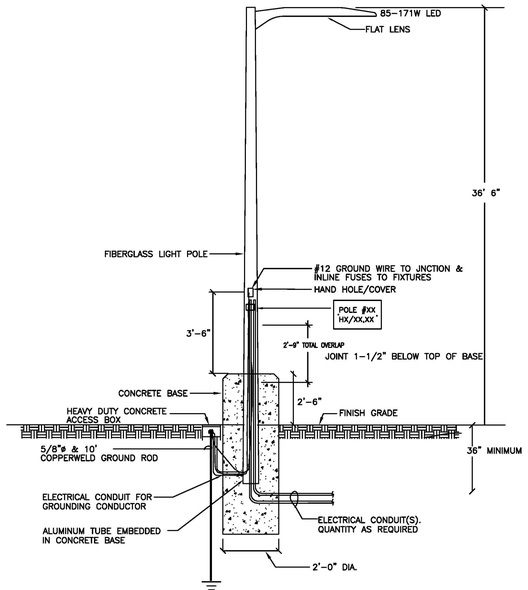
NO.	REVISION	BY

KIER+WRIGHT
2995 Prospect Park Drive, Ste. 100
Rancho Cordova, CA 95670
Phone: (916) 970-5784
www.kierwright.com

PRELIMINARY STORM WATER QUALITY CONTROL PLAN
OF
EL DORADO HILLS COSTCO
FOR
COSTCO WHOLESALE CORPORATION
CALIFORNIA
EL DORADO HILLS,

DATE	APRIL, 2021
SCALE	AS SHOWN
DESIGNER	KRR
DRAFTER	KGH
JOB NO.	A18655
SHEET	C4.0
OF	SHEETS

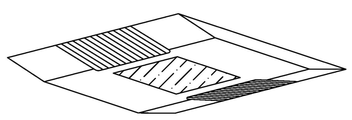
Z:\2018\A18655\DWG\ENTITLEMENTS\A18655-PG.dwg 4-27-21 01:04:12 PM krodriguez



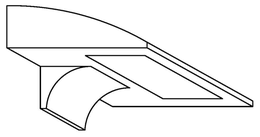
NOTE: PROVIDE CONCRETE J–BOX AS REQUIRED.
THIS DETAIL IS FOR ELECTRICAL CONDUITS ROUTING ONLY.
SEE STRUCTURAL DRAWINGS S0.2 FOR DETAILS.

POLE DETAIL
SCALE: NTS

FIXTURE DESCRIPTION	
P	COOPER GALLEON GLEON–SA4B–LED–U–5WQ–BZ, 171W TYPE 5 DISTRIBUTION. FIBERGLASS POLE 36'–6" ABOVE GRADE, WITH 2'–6" BASE.
P1	COOPER GALLEON GLEON–SA3B–LED–E1–SL3–HSS–BZ, 124W TYPE 3 DISTRIBUTION. FIBERGLASS POLE 36'–6" ABOVE GRADE, WITH 2'–6" BASE. (ROTATED OPTICS FOR 2 HEAD POLE)
P2	COOPER GALLEON GLEON–SA3B–LED–E1–SL4–HSS–BZ, 124W TYPE 4 DISTRIBUTION. FIBERGLASS POLE 36'–6" ABOVE GRADE, WITH 2'–6" BASE. (ROTATED OPTICS FOR 2 HEAD POLE)
P3	85W TYPE 4 DISTRIBUTION. FIBERGLASS POLE 36'–6" ABOVE GRADE, WITH 2'–6" BASE.
W	LITH DSXW2 LED 40K 30C 530 T2M, 54W LED, 17' MOUNTING HEIGHT
W1	LITH DSXW2 LED 40K 30C 530 T4M, 54W LED, 17' MOUNTING HEIGHT
W2	LITH DSXW2 LED 40K 30C 350 T2M, 36W LED, 17' MOUNTING HEIGHT
W3	LITH DSXW2 LED 40K 20C 350 TFTM, 25W LED, 17' MOUNTING HEIGHT
GA	96W LED, SURFACE SYMETRIC DOWN LIGHT, FLAT LENS, 18' MOUNTING HEIGHT
L	91W LED, SURFACE SYMETRIC DOWN LIGHT, FLAT LENS, 18' MOUNTING HEIGHT



FUEL FACILITY, CANOPY – LED (GA,L)
NO SCALE



TYPICAL WALL PACK DETAIL (W)
SCALE: NTS

SITE LIGHTING PLAN
SCALE: 1" = 60'–0"

PLANNING SUBMITTAL

ISSUE DATE: SEPTEMBER 2019
REVISION DATE:
DRAWN: JGM
CHECKED: ANT/JGM

ARCHITECT REFERENCE NO: 19–5017–01

© NO PART OF THIS DOCUMENT MAY BE USED OR COPIED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN CONSENT OF T.E.INC.

PROJECT NO: 19–427

SITE LIGHTING PLAN

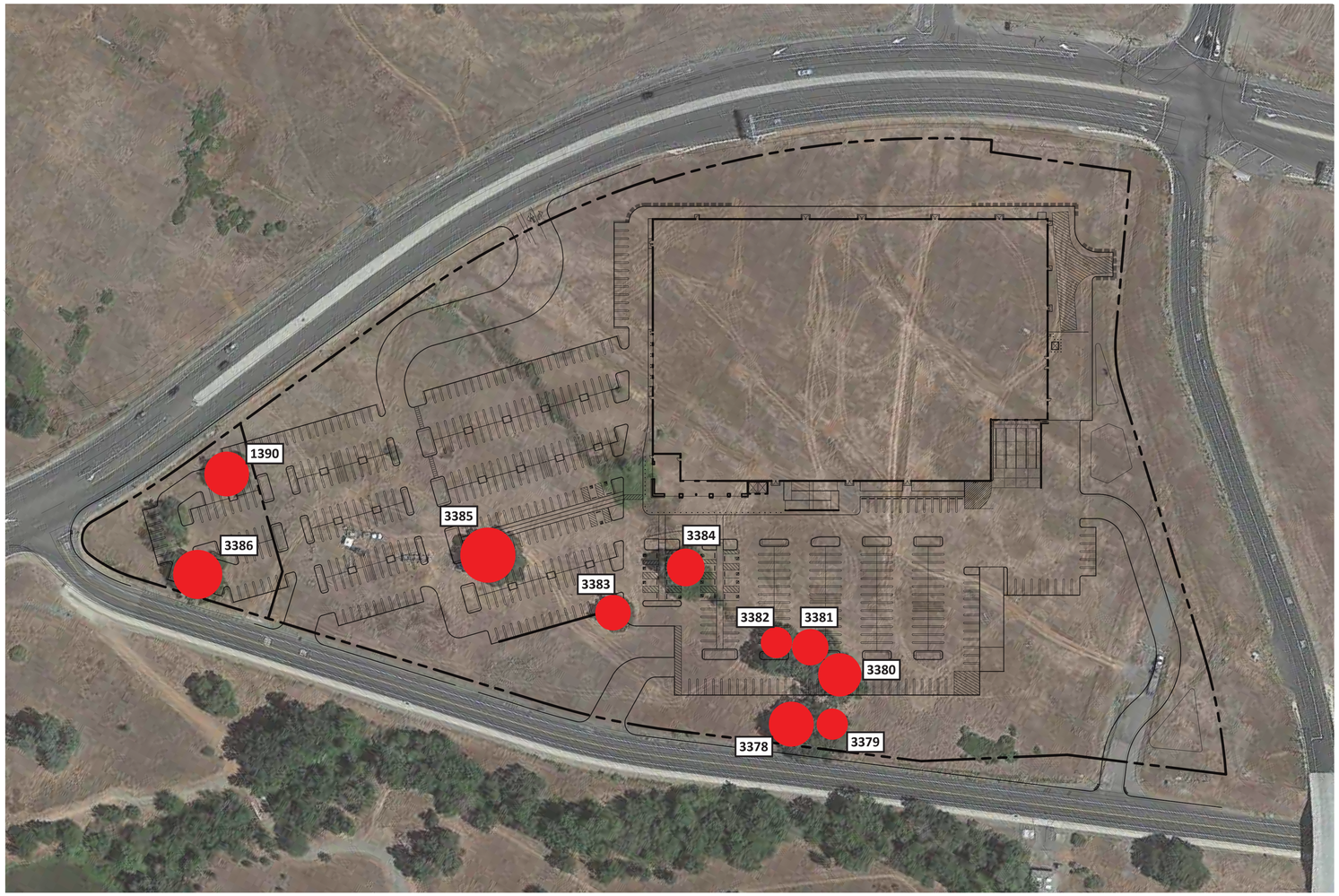
T.E., Inc.
830 N. RIVERSIDE DRIVE
SUITE #200
RENTON, WA 98057
PHONE: 425–970–3753
FAX: 425–970–3756

DD PACKAGE

SILVA VALLEY PARKWAY
EL DORADO HILLS, CA

COSTCO WHOLESALE

SE–1



Tree Data Table

	Tree #	Species	DBH (inches)	DLR (feet)	Height (feet)	Health	Structure	Comment
*	**1390**	Valley Oak	47	21	60	Poor-Fair	Poor	Deadwood, limb failure, acorn woodpecker granary tree
	3378	Valley Oak	35	30	40	Good	Fair-Good	Deadwood
	3379	Valley Oak	18	24	40	Good	Fair-Good	Asymmetrical canopy, suppressed growing environment
	3380	Valley Oak	33	38	40	Good	Good	
	3381	Valley Oak	27	30	40	Good	Good	
	3382	Valley Oak	27	25	40	Good	Fair	Codominant
	3383	Valley Oak	26	23	40	Fair-Good	Fair	Asymmetrical canopy
	3384	Valley Oak	10	13	15	Fair	Fair	Codominant, small leaves
*	**3385**	Blue Oak	48	40	60	Fair-Good	Fair	Asymmetrical canopy, pruning wound, 1 trunk removed
*	**3386**	Valley Oak	42	38	60	Fair-Good	Fair	Deadwood, dieback

* **Heritage tree**

● Trees to be Removed

Note: Tree data table information taken from the oak tree resources survey prepared for the El Dorado Hills 52 Oak Resources Technical Report dated 11/10/20 by Helix Environmental Planning (Project #AKT - 20)

DBA # P.290

DB+A
DAVID BABCOCK + ASSOCIATES
ARCHITECTURE LANDSCAPE PLANNING
3581 MT. DIABLO BLVD., SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

COSTCO EL DORADO HILLS

TREE REMOVAL EXHIBIT

0 40' 80' 160'

SCALE 1"= 80'

JUNE 23, 2021

NORTH

SHEET 1 of 1

NORTH

0 25 50 100 150

Scale 1" = 50'

N67°25'10"W 35.48'

R=1265.11' D=17°04'21" L=376.96'

S41°24'12"W 5.00'

D=28°51'14" L=28.37'

S48°35'47"W 25.00'

D=105°13'04" L=180.73

D=9°48'28" L=215.70'

R=1260.11' D=18°01'32" L=396.44'(T)

N66°37'20"W 314.93'

R=1140.10' D=18°01'32" L=358.58'

N41°24'12"E 5.00'

R=1135.10' D=21°29'09" L=425.66'

N62°53'21"E 15.00'

R=1120.10' D=8°57'48" L=175.23'

S64°22'00"W 200.62'

SLOPE EASEMENT 2016-36023 OR

NON-ACCESS AREA 52 M 10

R=200.02' D=22°18'25" L=77.87'

COSTCO WHOLESALE

NON-ACCESS AREA 52 M 10

NON-ACCESS AREA 676 OR 229

NON-ACCESS AREA 2016-36023 OR

S42°03'35"W 328.91'

S78°36'58"W 89.24'

N29°15'50"W 220.37'

S78°32 20.27'

48.19'

S29°21'10"W 213.44'

S29°21'10"W 188.34'

S29°41'30"W 182.71'

R=735.07' D=2°27'04" L=164.02'

EXISTING LOT LINE TO BE RELOCATED

EXISTING LOT LINES TO REMAIN

S78°36'58"W 32.57'

N33°08'15"W 182.36'

S23°35'17"E 199.18'

120.02'

79.16'

R=160.00' D=7°23'15" L=149.57'

R=25.00' D=113°40'27" L=49.60'

R=170.02' D=20°42'36" L=61.45'

R=819.93' D=22°45'24" L=325.66

N13°37'08"W 192.79'

N13°37'08"W 333.79'

N13°37'08"W 312.84'

R=970.00' D=9°58'09" L=168.77'

N23°35'17"W 309.16'

R=1030.00' D=9°58'09" L=179.21'

N23°35'17"W 309.16'

S1°55'44"E 404.52'

N1°55'44"W

BASIS OF BEARINGS

LANDS OF SERRANO ASSOCIATES, LLC

PROPOSED LOT LINE

SLOPE ESMT 2005-54184 OR

TEMP CONST ESMT 2005-54184 OR

SLOPE ESMT 2016-36023 OR

SANITARY SEWER ESMT 2007-74567 OR

SLOPE ESMT 2005-54184 OR

TEMP CONST ESMT 2005-54184 OR

1/4 CORNER S-2 S-1 LS 3279

CL

Asph

Conc.

Dir. t.

BY	NO.	REVISION

BY	NO.	REVISION

KIER+WRIGHT

2995 Prospect Park Drive, Ste. 100
Rancho Cordova, CA 95670

Phone: (916) 970-5784
www.kierwright.com

LOT LINE ADJUSTMENT EXHIBIT
OF
EL DORADO HILLS COSTCO
FOR
COSTCO WHOLESALE CORPORATION
CALIFORNIA
EL DORADO HILLS,

DATE	JUNE, 2021
SCALE	1"=50'
DESIGNER	PMB
DRAFTER	
JOB NO.	A18655
SHEET	LLA-EX
OF	SHEETS

Z:\2018\A18655\DWG\ENTITLEMENTS\EXHIBITS\A18655-PROPOSED LLA.dwg 6-07-21 07:21:08 AM pbernard

EDH-52 COMMERCIAL CENTER - SOUTH

APPLICATIONS: PD15-0001, Z17-0004, LLA21-0009

SILVA VALLEY PARKWAY, EL DORADO HILLS, CA

AUGUST 4, 2021

PROJECT DIRECTORY

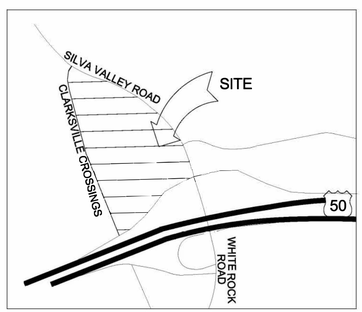
APPLICANT:
COSTCO WHOLESALE
999 LAKE DRIVE
ISSAQUAH, WA 98027
PHONE: (425) 427-7540
CONTACT: KIM KATZ

ARCHITECTS:
MG2
1101 SECOND AVENUE SUITE 100
SEATTLE, WA 98101
PHONE: (425) 463-1314
CONTACT: JOSEPH WELCH

AGENT TO APPLICANT:
URBAN PLANNING PARTNERS
388 17TH STREET SUITE 230
OAKLAND, CA 94612
PHONE: (510) 251-8210
CONTACT: LYNETTE DIAS

CIVIL ENGINEER/SURVEY:
KIER & WRIGHT
2995 PROSPECT PARK DRIVE, SUITE 100
RANCHO CORDOVA, CA 95670
PHONE: (970) 970-5184 x 3214
CONTACT: JARED MEREDITH

LANDSCAPE ARCHITECT:
DAVID BABCOCK & ASSOCIATES
3581 MT. DIABLO BLVD., SUITE 235
LAFAYETTE, CA. 94549
PHONE: (925) 283-5070
CONTACT: JEFF BERBERICH



VICINITY MAP

N.T.S.



LOCATION MAP

N.T.S.

PROJECT DATA

PROJECT LOCATION:	Silva Valley Parkway El Dorado Hills, Ca
APN:	122720018, 122720002, 122720003
CURRENT ZONING:	CR-PD Commercial Regional Planned Development
PROPOSED ZONING:	CR-PD Commercial Regional Planned Development
SITE AREA:	+/-17.05 Acres
JURISDICTION:	El Dorado County
BOUNDARIES INFORMATION:	This plan has been prepared using the Topographic survey dated March 2019 prepared by Kier & Wright

SHEET INDEX

1. TITLE SHEET
2. SITE CONTEXT PHOTOS
3. EXISTING AND PROPOSED ZONING EXHIBIT
4. CONCEPT SITE PLAN
5. PRELIMINARY FLOOR PLAN
6. EXISTING CONTEXT
7. COSTCO DESIGN INSPIRATION
8. CONCEPT ELEVATIONS
9. PERSPECTIVES
10. CONCEPT WAREHOUSE MATERIALS
11. CONCEPT SIGNAGE
12. PRELIMINARY LANDSCAPE PLAN
13. C1 TOPOGRAPHIC SURVEY
14. C2 PRELIMINARY GRADING AND DRAINAGE PLAN
15. C3 PRELIMINARY UTILITY PLAN
16. C4 PRELIMINARY STORMWATER QUALITY CONTROL PLAN
17. SE-1 SITE LIGHTING PLAN
18. TREE REMOVAL EXHIBIT
19. LLA-EX LOT LINE ADJUSTMENT EXHIBIT

DBA # P.290

DB+A

DAVID BABCOCK + ASSOCIATES
ARCHITECTURE PLANNING LANDSCAPE
3581 MT. DIABLO BLVD., SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070



1 VIEW OF SITE ALONG SILVA VALLEY PARKWAY AT WEST HWY 50



2 VIEW OF SITE ALONG SILVA VALLEY PARKWAY



3 VIEW AT MAIN ENTRY ALONG SILVA VALLEY PARKWAY



4 VIEW AT CLARKSVILLE CROSSING AND SILVA VALLEY PARKWAY



5 VIEW LOOKING SITE ALONG CLARKSVILLE CROSSING AT NORTHWEST CORNER



6 VIEW ALONG CLARKSVILLE CROSSING AT SOUTHWEST CORNER



PHOTO KEY PLAN

NORTH

DBA # P.290

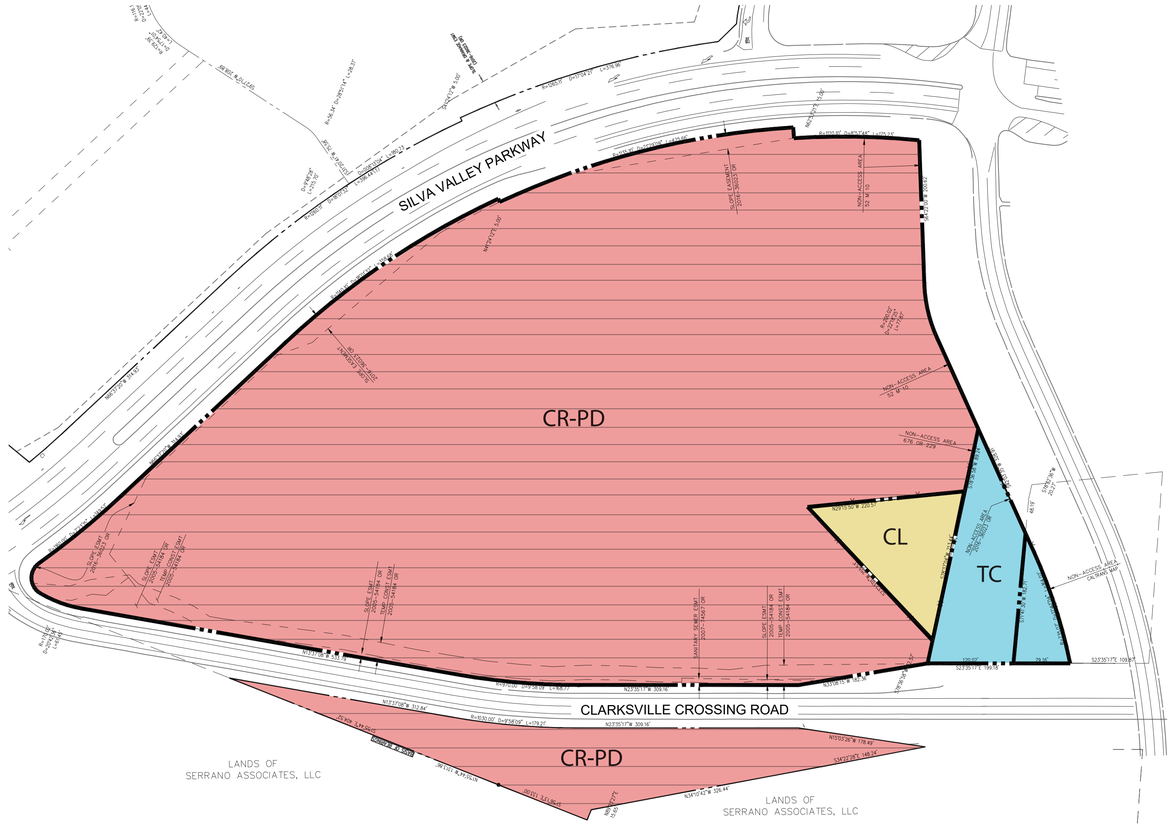
DB+A

DAVID BABCOCK + ASSOCIATES
ARCHITECTURE LANDSCAPE PLANNING
3581 MT. DIABLO BLVD. , SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

COSTCO EL DORADO HILLS

SITE CONTEXT PHOTOS

NOT TO SCALE
APRIL 28, 2021

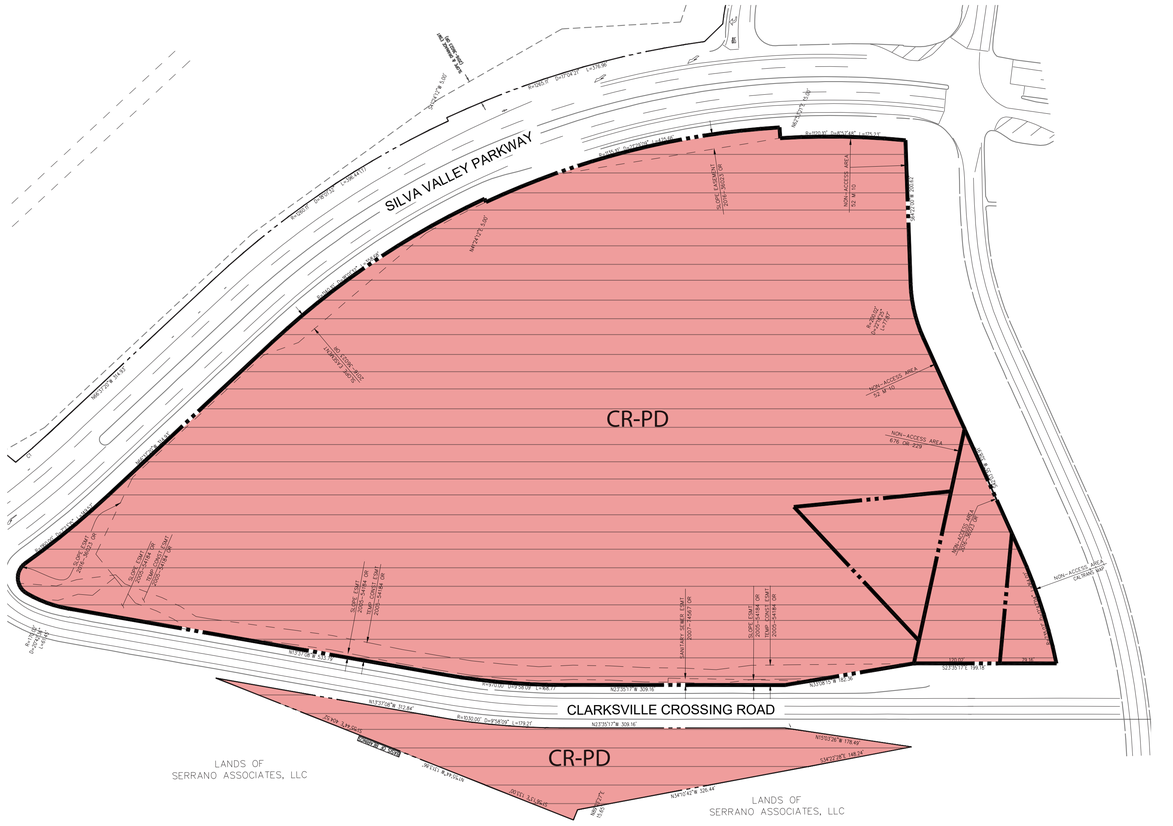


EXISTING ZONING: CR-PD, CL, TC
EXISTING ACREAGE: ± 17.05 AC

CR-PD
Commercial Regional Planned Development

CL
Commercial Limited

TC
Transportation Corridor



PROPOSED ZONING: CR-PD
PROPOSED ACREAGE: ± 17.05 AC

CR-PD
Commercial Regional Planned Development

DBA # P.290

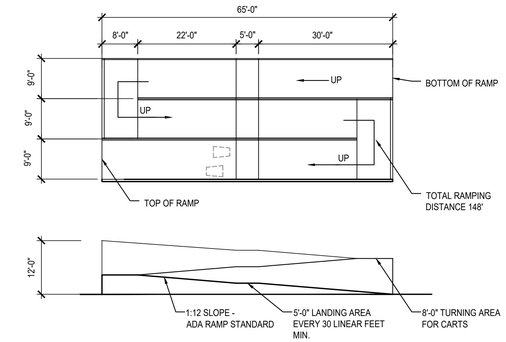
DB+A
DAVID BABCOCK + ASSOCIATES
ARCHITECTURE LANDSCAPE PLANNING
3581 MT. DIABLO BLVD. , SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

COSTCO EL DORADO HILLS

EXISTING AND PROPOSED ZONING EXHIBIT

0 50' 100' 200'
SCALE 1"= 100'
APRIL 28, 2021

NORTH
PLAN



PARKING GARAGE PEDESTRIAN RAMP ACCESS

LOWER LEVEL PARKING STRUCTURE - 214 STALLS

AT GRADE WAREHOUSE UPPER LEVEL PARKING STRUCTURE - 550 STALLS

PROJECT DATA

CLIENT: COSTCO WHOLESALE
999 LAKE DRIVE
ISSAQUAH, WA 98027

PROJECT ADDRESS: SILVA VALLEY PARKWAY
EL DORADO HILLS, CA

SITE DATA:

COSTCO SITE AREA: 17.04 ACRES (742,262)

JURISDICTION: EL DORADO COUNTY

ZONING: CR-PD

SETBACKS:

REQUIRED		ACTUAL	
FRONT:	TBD	FRONT:	TBD
SIDE:	TBD	SIDE:	TBD
REAR:	TBD	REAR:	TBD

BUILDING DATA:

TOTAL BUILDING FOOTPRINT AREA: 155,693 SF

INCLUDES:

NET SALES FLOOR	**151,074 SF**
NET MECHANICAL / FIRE	2,459 SF
BUILDING ENVELOPE	2,160 SF
NET OPEN CANOPY	4,737 SF

PARKING DATA:

TOTAL PARKING: 762

INCLUDES:

MAIN LEVEL PARKING PROVIDED:

10' WIDE STALLS	532 STALLS
ACCESSIBLE STALLS	18 STALLS

PARKING STRUCTURE PARKING PROVIDED:

10' WIDE STALLS	214 STALLS

NUMBER OF STALLS PER 1000 SF OF BUILDING AREA: 4.89 STALLS

NOTES:
EXISTING CONDITIONS TO BE FIELD VERIFIED.

0 30' 60' 120'
1" = 60'-0"

COSTCO WHOLESALE
EL DORADO HILLS, CA

1101 Second Ave, Ste 100
Seattle, WA 98101
206 962 6500
MG2.com

19-5017-01
JUNE 22, 2021

CONCEPT SITE PLAN

DD11-10

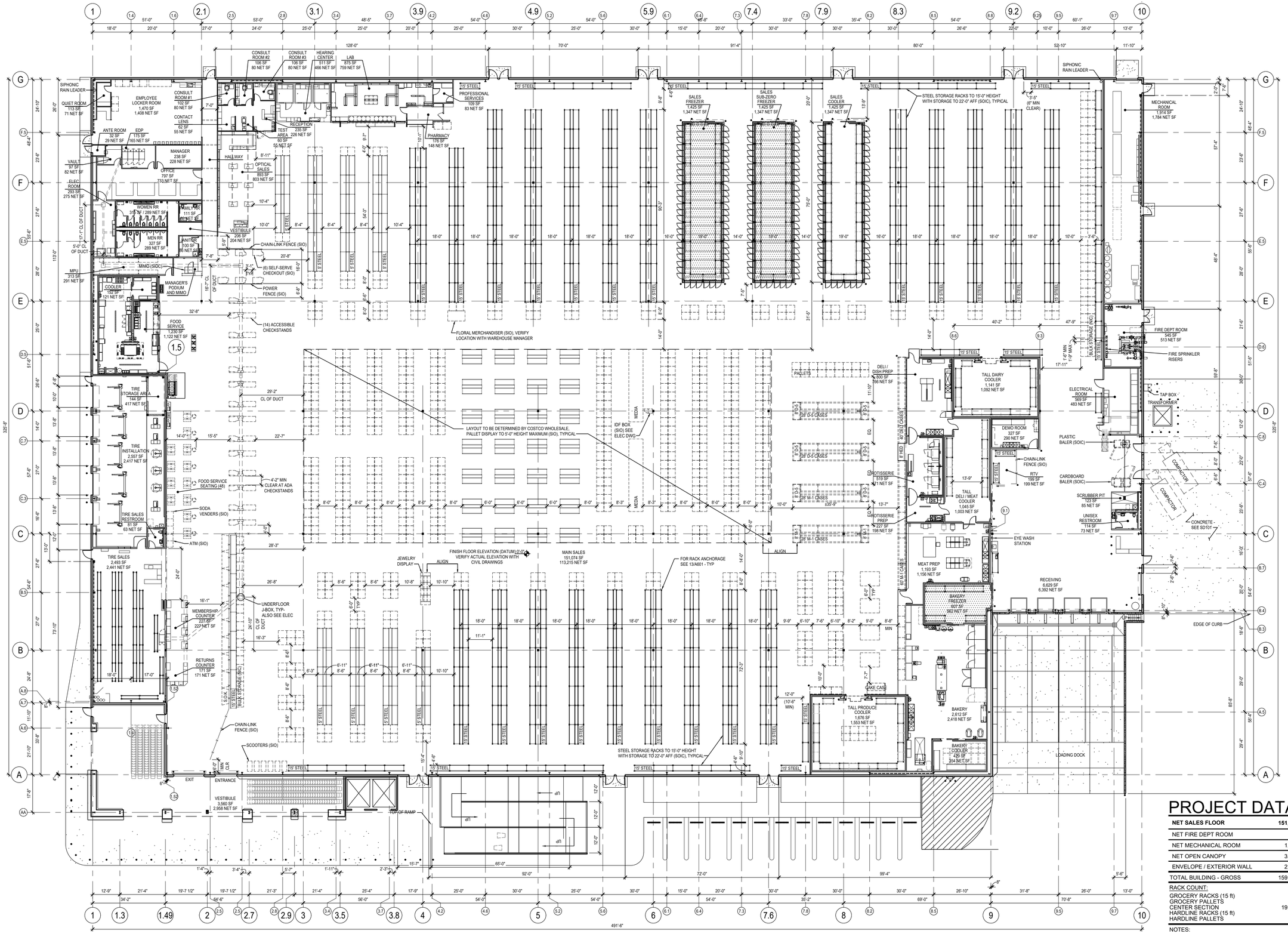
© MG2, Inc. All rights reserved. No part of this document may be reproduced in any form or by any means without permission in writing from MG2.

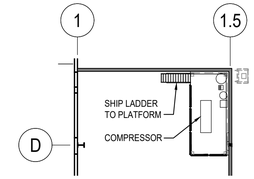
COSTCO WHOLESALE

EL DORADO HILLS, CA

CONCEPT SITE PLAN

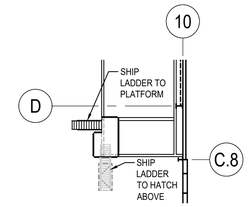
JUNE 22, 2021





COMPRESSOR PLATFORM

SCALE: 1/16" = 1'-0"



EQUIPMENT PLATFORM

SCALE: 1/16" = 1'-0"

0 10' 20' 40'

1" = 20'-0"

COSTCO WHOLESALE

EL DORADO HILLS, CA

1101 Second Ave, Ste 100
Seattle, WA 98101
206 962 6500
MG2.com

MG2

19-5017-01
APRIL 28, 2021

SHEET
5
OF 17

PROJECT DATA

NET SALES FLOOR	**151,074 SF**
NET FIRE DEPT ROOM	545 SF
NET MECHANICAL ROOM	1,914 SF
NET OPEN CANOPY	3,560 SF
ENVELOPE / EXTERIOR WALL	2,066 SF
TOTAL BUILDING - GROSS	159,159 SF
RACK COUNT:	
GROCERY RACKS (15 ft)	276
GROCERY PALLETS	132
CENTER SECTION	19,586 SF
HARDLINE RACKS (15 ft)	170
HARDLINE PALLETS	36

NOTES:

COSTCO WHOLESALE

EL DORADO HILLS, CA

CONCEPT FLOOR PLAN

APRIL 28, 2021

© MG2, Inc. All rights reserved. No part of this document may be reproduced in any form or by any means without permission in writing from MG2.





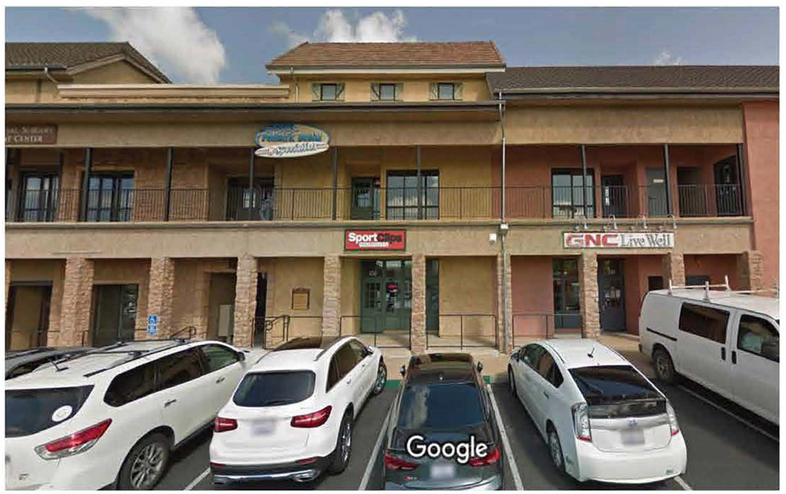


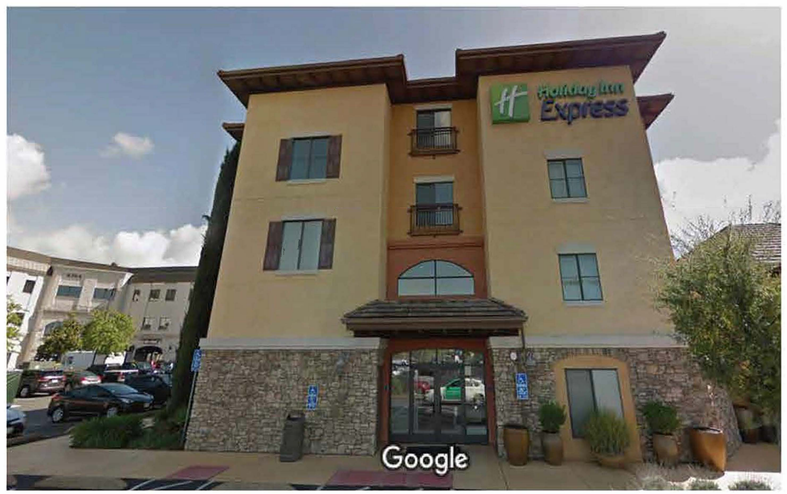










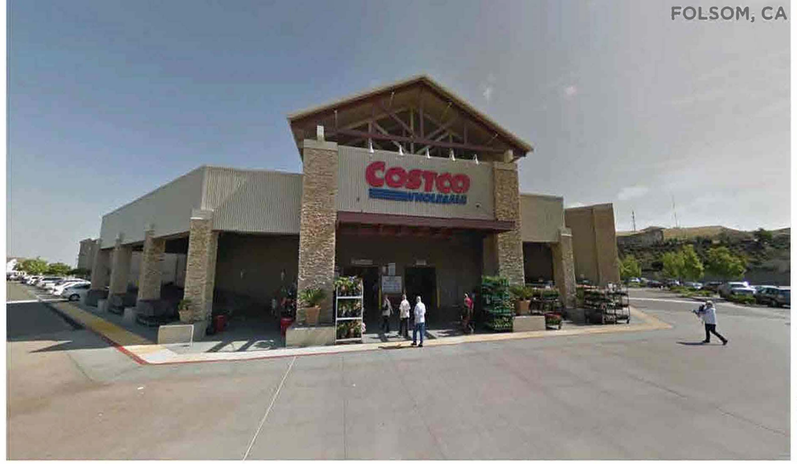


MG2

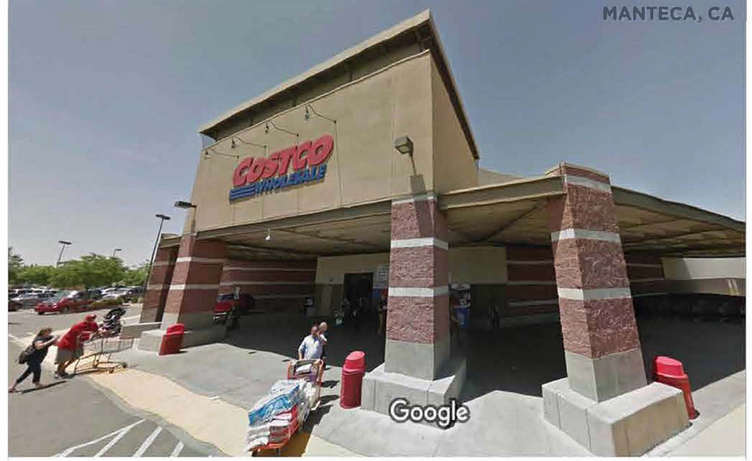
APRIL 28, 2021
PROJECT# 19-5017-01
EL DORADO HILLS, CA

EXISTING CONTEXT

COSTCO WHOLESALE















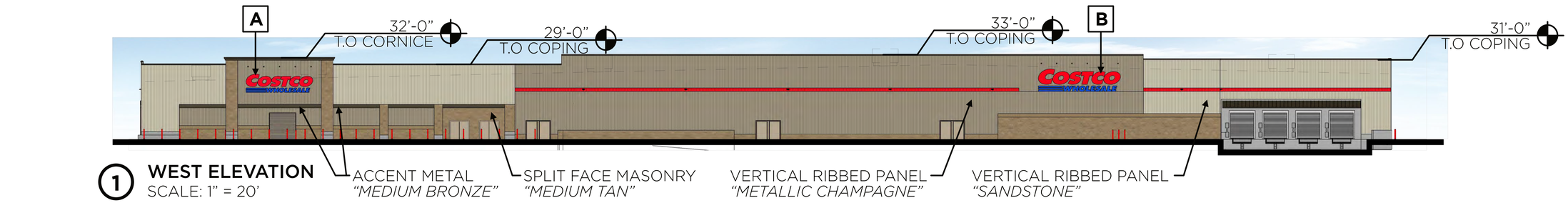


MG2

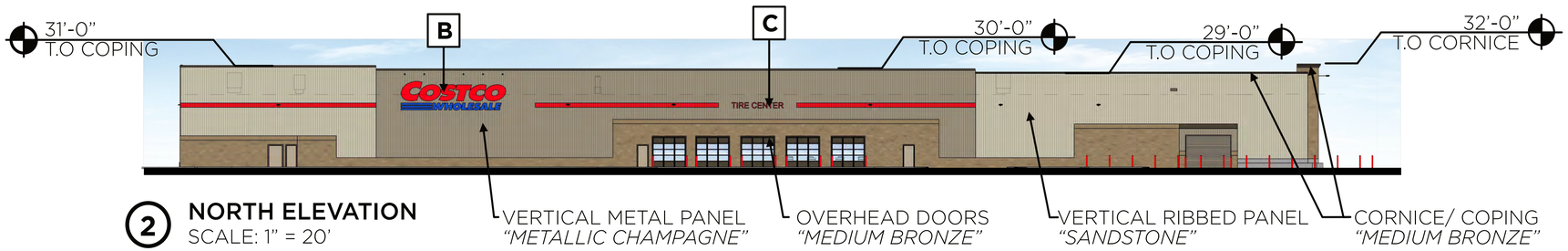
APRIL 28, 2021
PROJECT# 19-5017-01
EL DORADO HILLS, CA

COSTCO DESIGN INSPIRATION

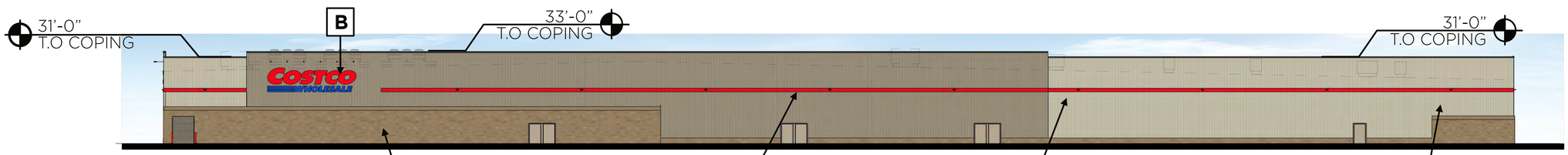
COSTCO WHOLESALE



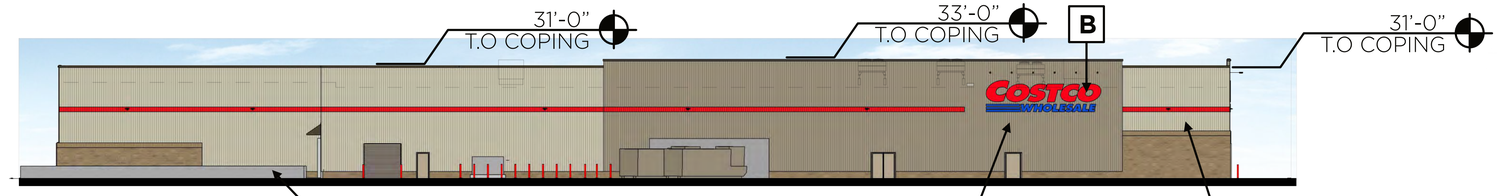
1 WEST ELEVATION
SCALE: 1" = 20'



2 NORTH ELEVATION
SCALE: 1" = 20'



3 EAST ELEVATION
SCALE: 1" = 20'

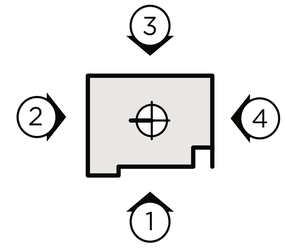


4 SOUTH ELEVATION
SCALE: 1" = 20'



A **B** **C**

5 SIGN PACKAGE



SIGN TABLE

IDENTITY	*QUANTITY*	*SIGN*	*SIZE*	*AREA (EACH)*	*TOTAL SF*
A	1	COSTCO WHOLESALE	5'-0" C	175 SF	***175 SF***
B	4	COSTCO WHOLESALE	6'-0" C	280 SF	***1,120 SF***
C	1	TIRE CENTER	1'-9" C	31 SF	***31 SF***
				TOTAL SIGN AREA:	**1,326 SF**

MG2

APRIL 28, 2021
PROJECT# 19-5017-01
EL DORADO HILLS, CA

CONCEPT WAREHOUSE ELEVATIONS

COSTCO WHOLESALE





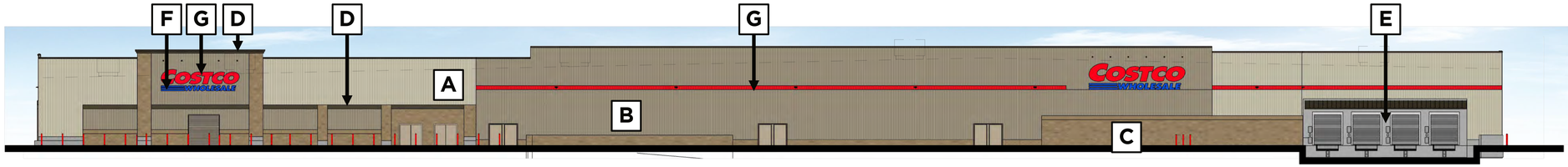


MG2

APRIL 28, 2021
PROJECT# 19-5017-01
EL DORADO HILLS, CA

CONCEPT PERSPECTIVES

COSTCO WHOLESALE



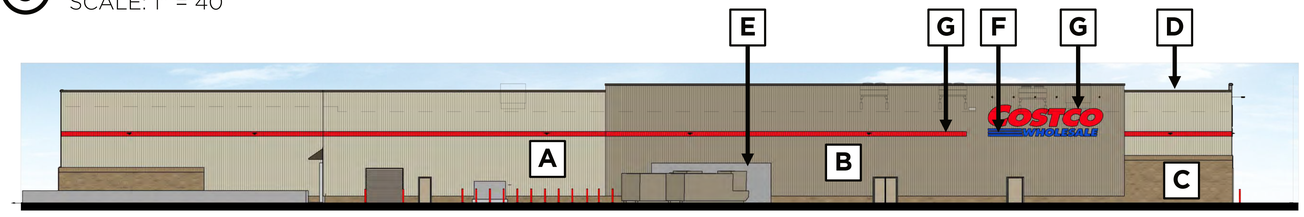
1 WEST ELEVATION
SCALE: 1" = 40'



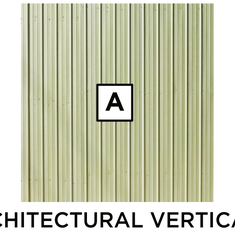
2 NORTH ELEVATION
SCALE: 1" = 40'



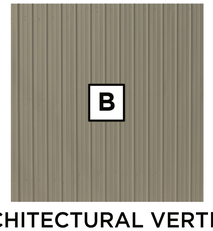
3 EAST ELEVATION
SCALE: 1" = 40'



4 SOUTH ELEVATION
SCALE: 1" = 40'



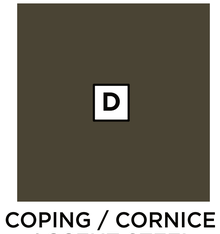
ARCHITECTURAL VERTICAL RIBBED METAL
"SANDSTONE"



ARCHITECTURAL VERTICAL RIBBED METAL
"METALLIC CHAMPAGNE"



SPLIT FACE CMU -
"MEDIUM TAN"



COPING / CORNICE / ACCENT STEEL -
"MEDIUM BRONZE"



CONCRETE -
"NATURAL"



'WHOLESALE' -
"COSTCO BLUE"



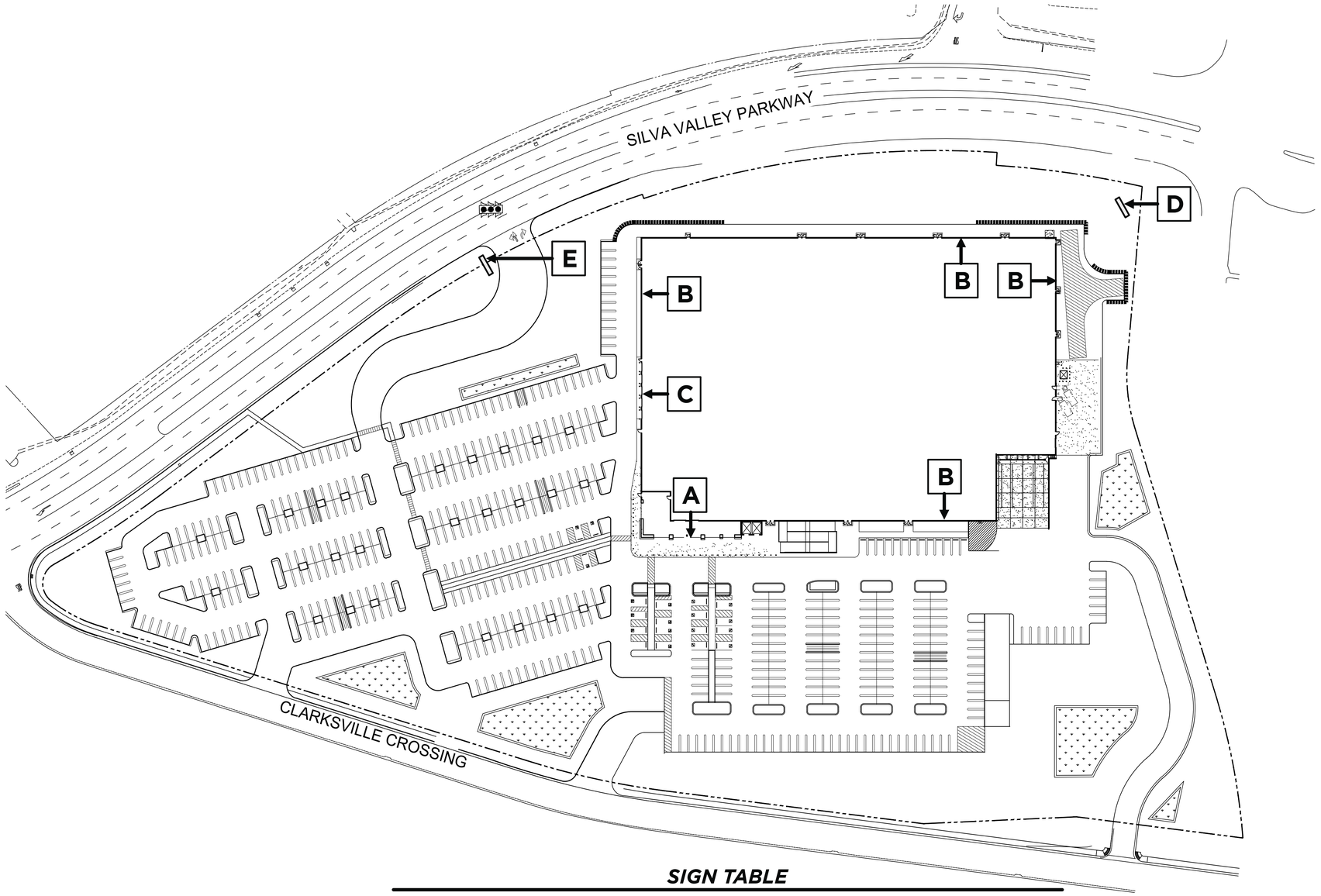
'COSTCO' AND ACCENT STRIPE -
"COSTCO RED"

MG2

APRIL 28, 2021
PROJECT# 19-5017-01
EL DORADO HILLS, CA

CONCEPT WAREHOUSE MATERIALS

COSTCO WHOLESALE





(A) WAREHOUSE SIGN
SCALE: NTS



(B) ENTRY CANOPY/ WAY FINDING SIGN
SCALE: NTS



(C) MISCELLANEOUS
SCALE: NTS

SIGN TABLE

IDENTITY	*QUANTITY*	*SIGN*	*SIZE*	*AREA (EACH)*	*TOTAL SF*
A	1	COSTCO WHOLESALE	5'-0" C	175 SF	***175 SF***
B	4	COSTCO WHOLESALE	6'-0" C	280 SF	***1,120 SF***
C	1	TIRE CENTER	1'-9" C	31 SF	***31 SF***
D	1	PYLON SIGN	20'-0" X 35'-0"	700 SF	***700 SF***
E	1	MONUMENT SIGN	16'-0" X 16'-4"	261 SF	***261 SF***
				TOTAL SIGN AREA:	**2,287 SF**

MG2

JUNE 22, 2021
PROJECT# 19-5017-01
EL DORADO HILLS, CA

WAREHOUSE SIGN PACKAGE

COSTCO WHOLESALE

EDH-52 COMMERCIAL CENTER - SOUTH

APPLICATIONS: PD15-0001, Z17-0004, LLA21-0009

SILVA VALLEY PARKWAY, EL DORADO HILLS, CA

AUGUST 4, 2021

PROJECT DIRECTORY

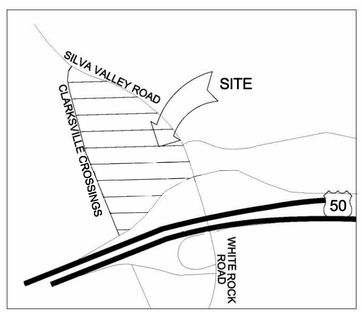
APPLICANT:
COSTCO WHOLESALE
999 LAKE DRIVE
ISSAQUAH, WA 98027
PHONE: (425) 427-7540
CONTACT: KIM KATZ

ARCHITECTS:
MG2
1101 SECOND AVENUE SUITE 100
SEATTLE, WA 98101
PHONE: (425) 463-1314
CONTACT: JOSEPH WELCH

AGENT TO APPLICANT:
URBAN PLANNING PARTNERS
388 17TH STREET SUITE 230
OAKLAND, CA 94612
PHONE: (510) 251-8210
CONTACT: LYNETTE DIAS

CIVIL ENGINEER/SURVEY:
KIER & WRIGHT
2995 PROSPECT PARK DRIVE, SUITE 100
RANCHO CORDOVA, CA 95670
PHONE: (970) 970-5184 x 3214
CONTACT: JARED MEREDITH

LANDSCAPE ARCHITECT:
DAVID BABCOCK & ASSOCIATES
3581 MT. DIABLO BLVD., SUITE 235
LAFAYETTE, CA. 94549
PHONE: (925) 283-5070
CONTACT: JEFF BERBERICH



VICINITY MAP

N.T.S.



LOCATION MAP

N.T.S.

PROJECT DATA

PROJECT LOCATION:	Silva Valley Parkway El Dorado Hills, Ca
APN:	122720018, 122720002, 122720003
CURRENT ZONING:	CR-PD Commercial Regional Planned Development
PROPOSED ZONING:	CR-PD Commercial Regional Planned Development
SITE AREA:	+/-17.05 Acres
JURISDICTION:	El Dorado County
BOUNDARIES INFORMATION:	This plan has been prepared using the Topographic survey dated March 2019 prepared by Kier & Wright

SHEET INDEX

1. TITLE SHEET
2. SITE CONTEXT PHOTOS
3. EXISTING AND PROPOSED ZONING EXHIBIT
4. CONCEPT SITE PLAN
5. PRELIMINARY FLOOR PLAN
6. EXISTING CONTEXT
7. COSTCO DESIGN INSPIRATION
8. CONCEPT ELEVATIONS
9. PERSPECTIVES
10. CONCEPT WAREHOUSE MATERIALS
11. CONCEPT SIGNAGE
12. PRELIMINARY LANDSCAPE PLAN
13. C1 TOPOGRAPHIC SURVEY
14. C2 PRELIMINARY GRADING AND DRAINAGE PLAN
15. C3 PRELIMINARY UTILITY PLAN
16. C4 PRELIMINARY STORMWATER QUALITY CONTROL PLAN
17. SE-1 SITE LIGHTING PLAN
18. TREE REMOVAL EXHIBIT
19. LLA-EX LOT LINE ADJUSTMENT EXHIBIT

DBA # P.290

DB+A

DAVID BABCOCK + ASSOCIATES
ARCHITECTURE PLANNING LANDSCAPE
3581 MT. DIABLO BLVD., SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070



1 VIEW OF SITE ALONG SILVA VALLEY PARKWAY AT WEST HWY 50



2 VIEW OF SITE ALONG SILVA VALLEY PARKWAY



3 VIEW AT MAIN ENTRY ALONG SILVA VALLEY PARKWAY



4 VIEW AT CLARKSVILLE CROSSING AND SILVA VALLEY PARKWAY



5 VIEW LOOKING SITE ALONG CLARKSVILLE CROSSING AT NORTHWEST CORNER



6 VIEW ALONG CLARKSVILLE CROSSING AT SOUTHWEST CORNER



PHOTO KEY PLAN

NORTH

DBA # P.290

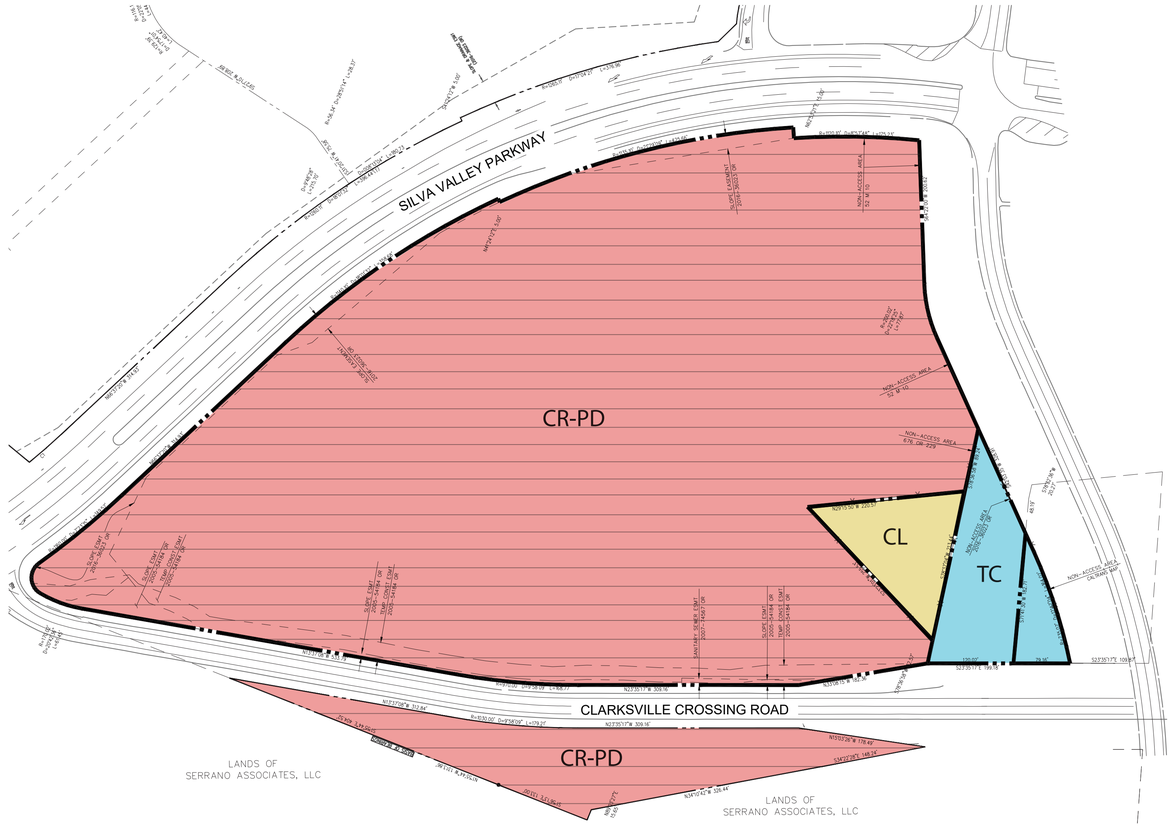
DB+A

DAVID BABCOCK + ASSOCIATES
ARCHITECTURE LANDSCAPE PLANNING
3581 MT. DIABLO BLVD. , SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

COSTCO EL DORADO HILLS

SITE CONTEXT PHOTOS

NOT TO SCALE
APRIL 28, 2021

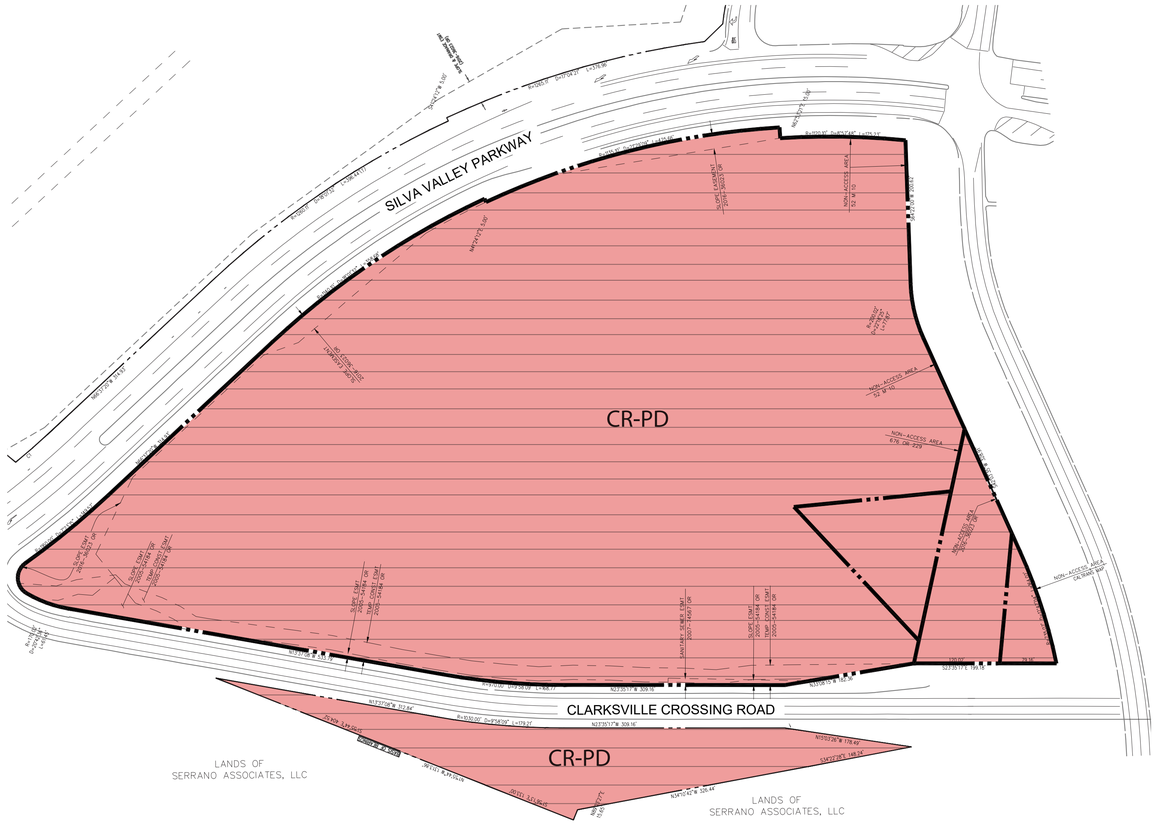


EXISTING ZONING: CR-PD, CL, TC
EXISTING ACREAGE: ± 17.05 AC

CR-PD
Commercial Regional Planned Development

CL
Commercial Limited

TC
Transportation Corridor



PROPOSED ZONING: CR-PD
PROPOSED ACREAGE: ± 17.05 AC

CR-PD
Commercial Regional Planned Development

DBA # P.290

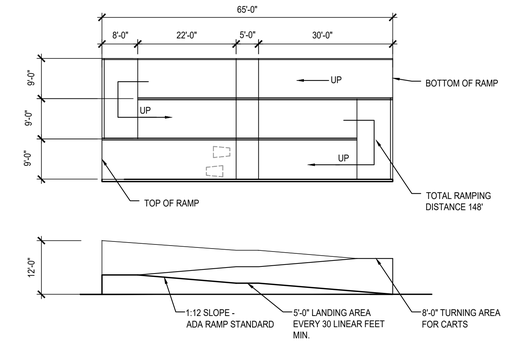
DB+A
DAVID BABCOCK + ASSOCIATES
ARCHITECTURE LANDSCAPE PLANNING
3581 MT. DIABLO BLVD. , SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

COSTCO EL DORADO HILLS

EXISTING AND PROPOSED ZONING EXHIBIT

0 50' 100' 200'
SCALE 1"= 100'
APRIL 28, 2021

NORTH
PLAN



PARKING GARAGE PEDESTRIAN RAMP ACCESS

LOWER LEVEL PARKING STRUCTURE - 214 STALLS

AT GRADE WAREHOUSE UPPER LEVEL PARKING STRUCTURE - 550 STALLS

PROJECT DATA

CLIENT: COSTCO WHOLESALE
999 LAKE DRIVE
ISSAQUAH, WA 98027

PROJECT ADDRESS: SILVA VALLEY PARKWAY
EL DORADO HILLS, CA

SITE DATA:

COSTCO SITE AREA: 17.04 ACRES (742,262)

JURISDICTION: EL DORADO COUNTY

ZONING: CR-PD

SETBACKS:

REQUIRED		ACTUAL	
FRONT:	TBD	FRONT:	TBD
SIDE:	TBD	SIDE:	TBD
REAR:	TBD	REAR:	TBD

BUILDING DATA:

TOTAL BUILDING FOOTPRINT AREA: 155,693 SF

INCLUDES:

NET SALES FLOOR	**151,074 SF**
NET MECHANICAL / FIRE	2,459 SF
BUILDING ENVELOPE	2,160 SF
NET OPEN CANOPY	4,737 SF

PARKING DATA:

TOTAL PARKING: 762

INCLUDES:

MAIN LEVEL PARKING PROVIDED:

10' WIDE STALLS	532 STALLS
ACCESSIBLE STALLS	18 STALLS

PARKING STRUCTURE PARKING PROVIDED:

10' WIDE STALLS	214 STALLS

NUMBER OF STALLS PER 1000 SF OF BUILDING AREA: 4.89 STALLS

NOTES:
EXISTING CONDITIONS TO BE FIELD VERIFIED.

0 30' 60' 120'
1" = 60'-0"

COSTCO WHOLESALE
EL DORADO HILLS, CA

1101 Second Ave, Ste 100
Seattle, WA 98101
206 962 6500
MG2.com

19-5017-01
JUNE 22, 2021

CONCEPT SITE PLAN

DD11-10

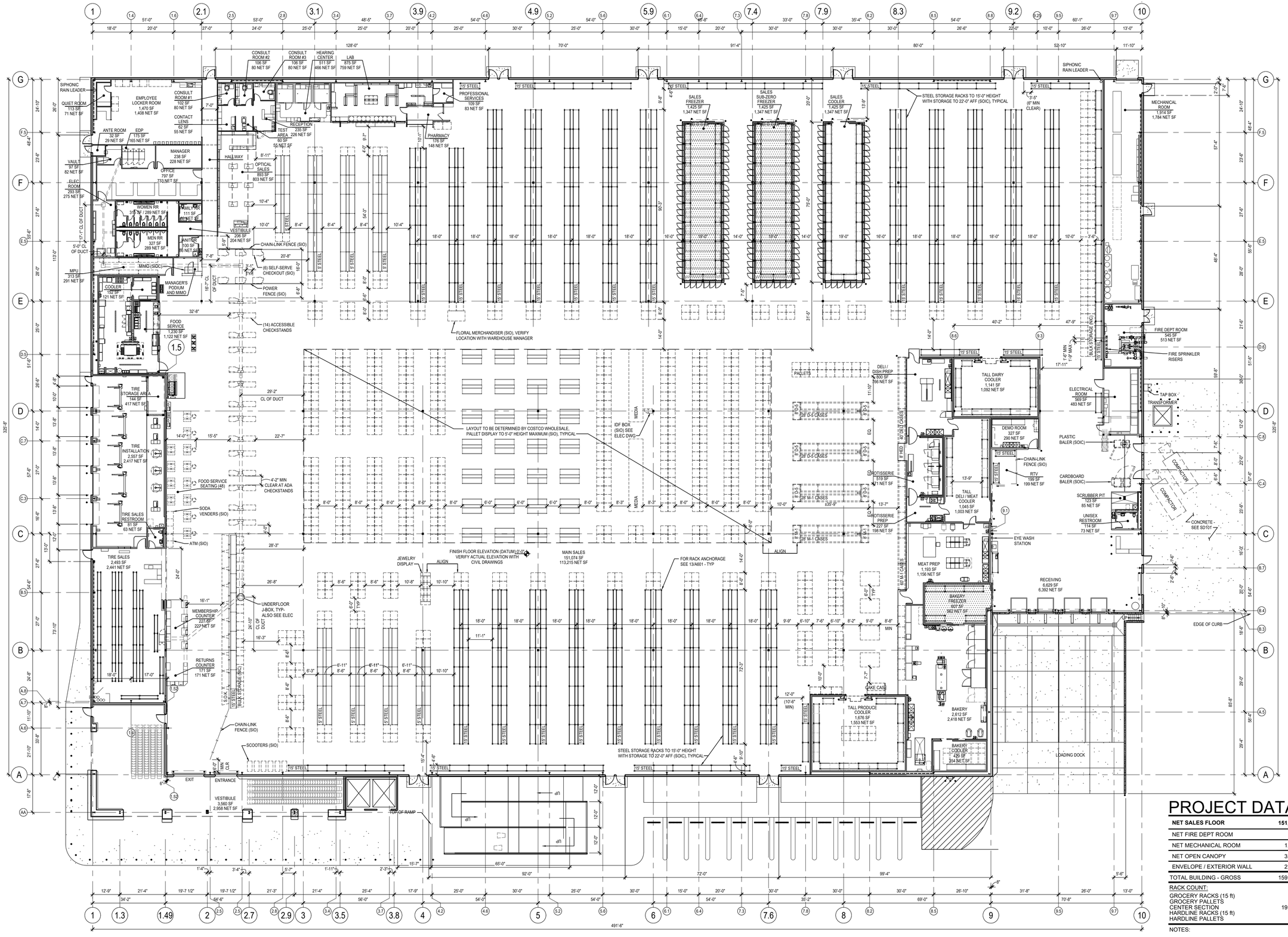
© MG2, Inc. All rights reserved. No part of this document may be reproduced in any form or by any means without permission in writing from MG2.

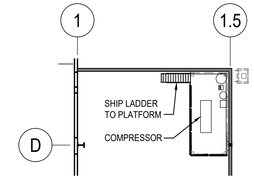
COSTCO WHOLESALE

EL DORADO HILLS, CA

CONCEPT SITE PLAN

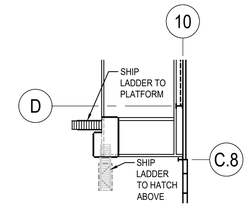
JUNE 22, 2021





COMPRESSOR PLATFORM

SCALE: 1/16" = 1'-0"



EQUIPMENT PLATFORM

SCALE: 1/16" = 1'-0"

0 10' 20' 40'

1" = 20'-0"

COSTCO WHOLESALE

EL DORADO HILLS, CA

1101 Second Ave, Ste 100
Seattle, WA 98101
206 962 6500
MG2.com

MG2

19-5017-01
APRIL 28, 2021

SHEET
5
OF 17

PROJECT DATA

NET SALES FLOOR	**151,074 SF**
NET FIRE DEPT ROOM	545 SF
NET MECHANICAL ROOM	1,914 SF
NET OPEN CANOPY	3,560 SF
ENVELOPE / EXTERIOR WALL	2,066 SF
TOTAL BUILDING - GROSS	159,159 SF
RACK COUNT:	
GROCERY RACKS (15 ft)	276
GROCERY PALLETS	132
CENTER SECTION	19,586 SF
HARDLINE RACKS (15 ft)	170
HARDLINE PALLETS	36

NOTES:

COSTCO WHOLESALE

EL DORADO HILLS, CA

CONCEPT FLOOR PLAN

APRIL 28, 2021

© MG2, Inc. All rights reserved. No part of this document may be reproduced in any form or by any means without permission in writing from MG2.





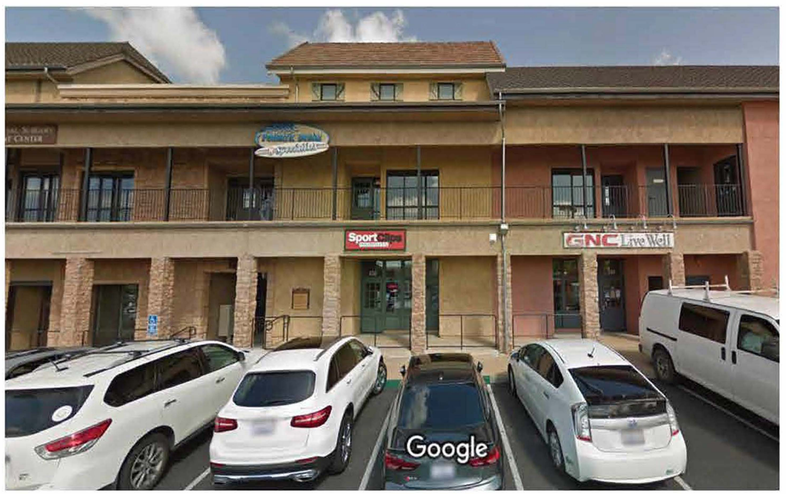


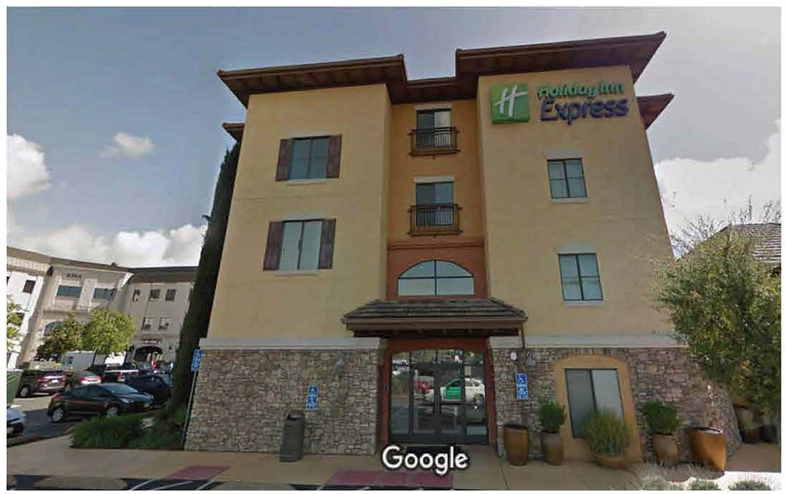










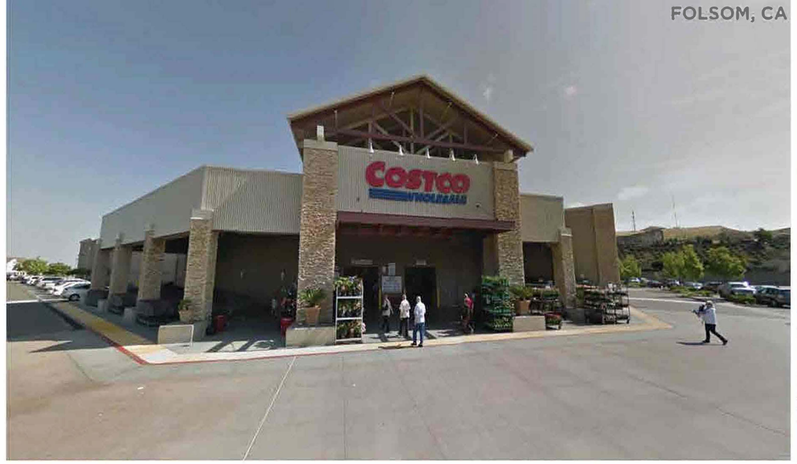


MG2

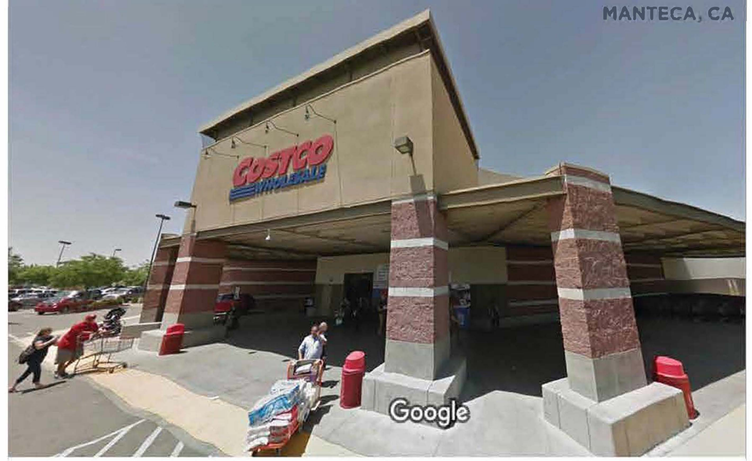
APRIL 28, 2021
PROJECT# 19-5017-01
EL DORADO HILLS, CA

EXISTING CONTEXT

COSTCO WHOLESALE















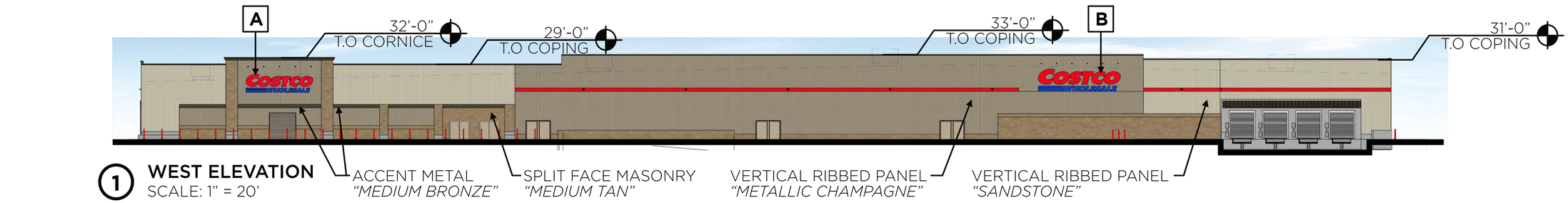


MG2

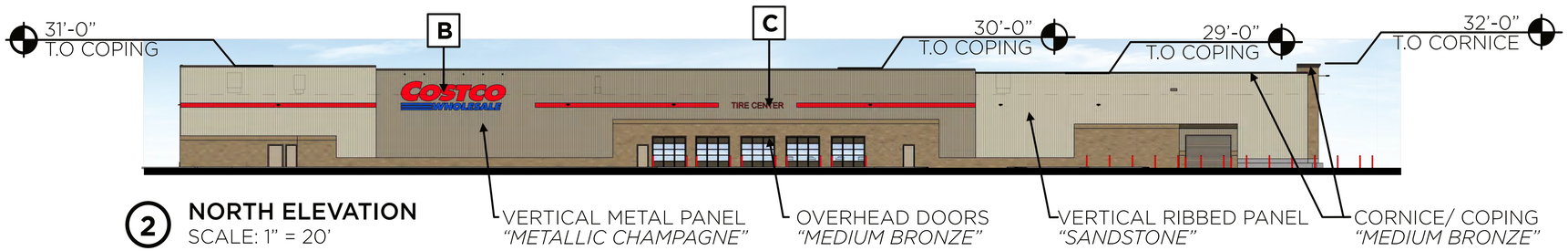
APRIL 28, 2021
PROJECT# 19-5017-01
EL DORADO HILLS, CA

COSTCO DESIGN INSPIRATION

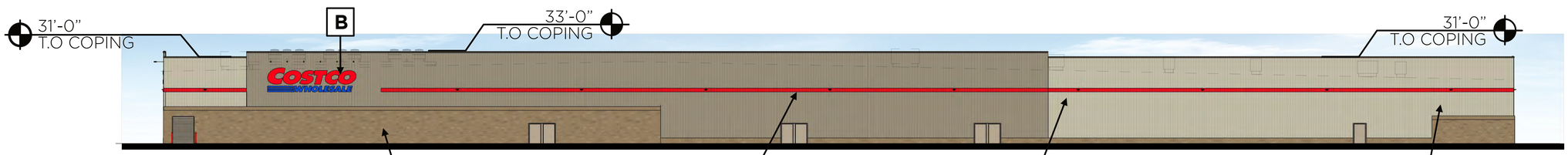
COSTCO WHOLESALE



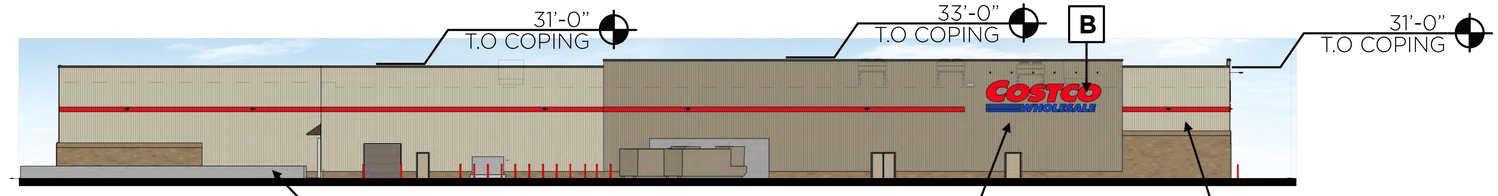
1 WEST ELEVATION
SCALE: 1" = 20'



2 NORTH ELEVATION
SCALE: 1" = 20'



3 EAST ELEVATION
SCALE: 1" = 20'

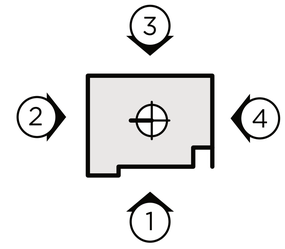


4 SOUTH ELEVATION
SCALE: 1" = 20'



A **B** **C**

5 SIGN PACKAGE



SIGN TABLE

IDENTITY	*QUANTITY*	*SIGN*	*SIZE*	*AREA (EACH)*	*TOTAL SF*
A	1	COSTCO WHOLESALE	5'-0" C	175 SF	***175 SF***
B	4	COSTCO WHOLESALE	6'-0" C	280 SF	***1,120 SF***
C	1	TIRE CENTER	1'-9" C	31 SF	***31 SF***
				TOTAL SIGN AREA:	**1,326 SF**

MG2

APRIL 28, 2021
PROJECT# 19-5017-01
EL DORADO HILLS, CA

CONCEPT WAREHOUSE ELEVATIONS

COSTCO WHOLESALE





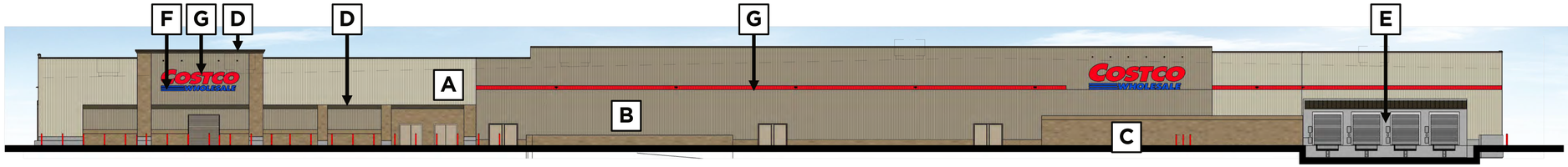


MG2

APRIL 28, 2021
PROJECT# 19-5017-01
EL DORADO HILLS, CA

CONCEPT PERSPECTIVES

COSTCO WHOLESALE



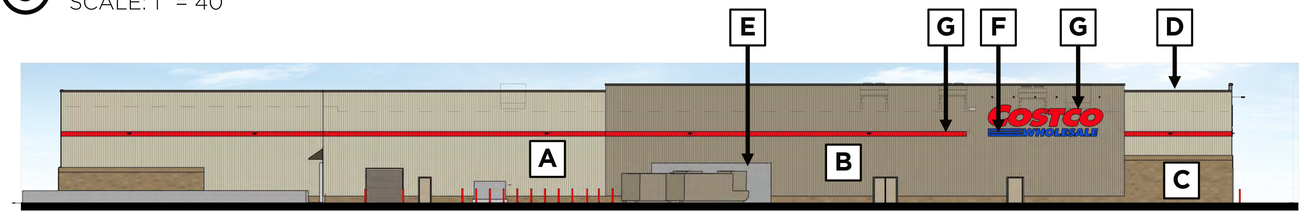
1 WEST ELEVATION
SCALE: 1" = 40'



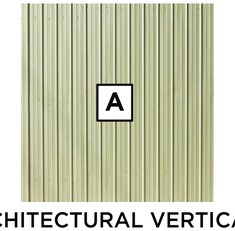
2 NORTH ELEVATION
SCALE: 1" = 40'



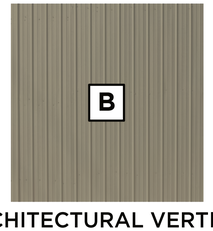
3 EAST ELEVATION
SCALE: 1" = 40'



4 SOUTH ELEVATION
SCALE: 1" = 40'



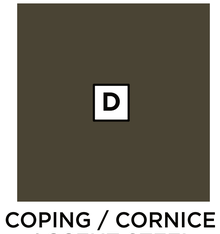
ARCHITECTURAL VERTICAL RIBBED METAL
"SANDSTONE"



ARCHITECTURAL VERTICAL RIBBED METAL
"METALLIC CHAMPAGNE"



SPLIT FACE CMU -
"MEDIUM TAN"



COPING / CORNICE / ACCENT STEEL -
"MEDIUM BRONZE"



CONCRETE -
"NATURAL"



'WHOLESALE' -
"COSTCO BLUE"



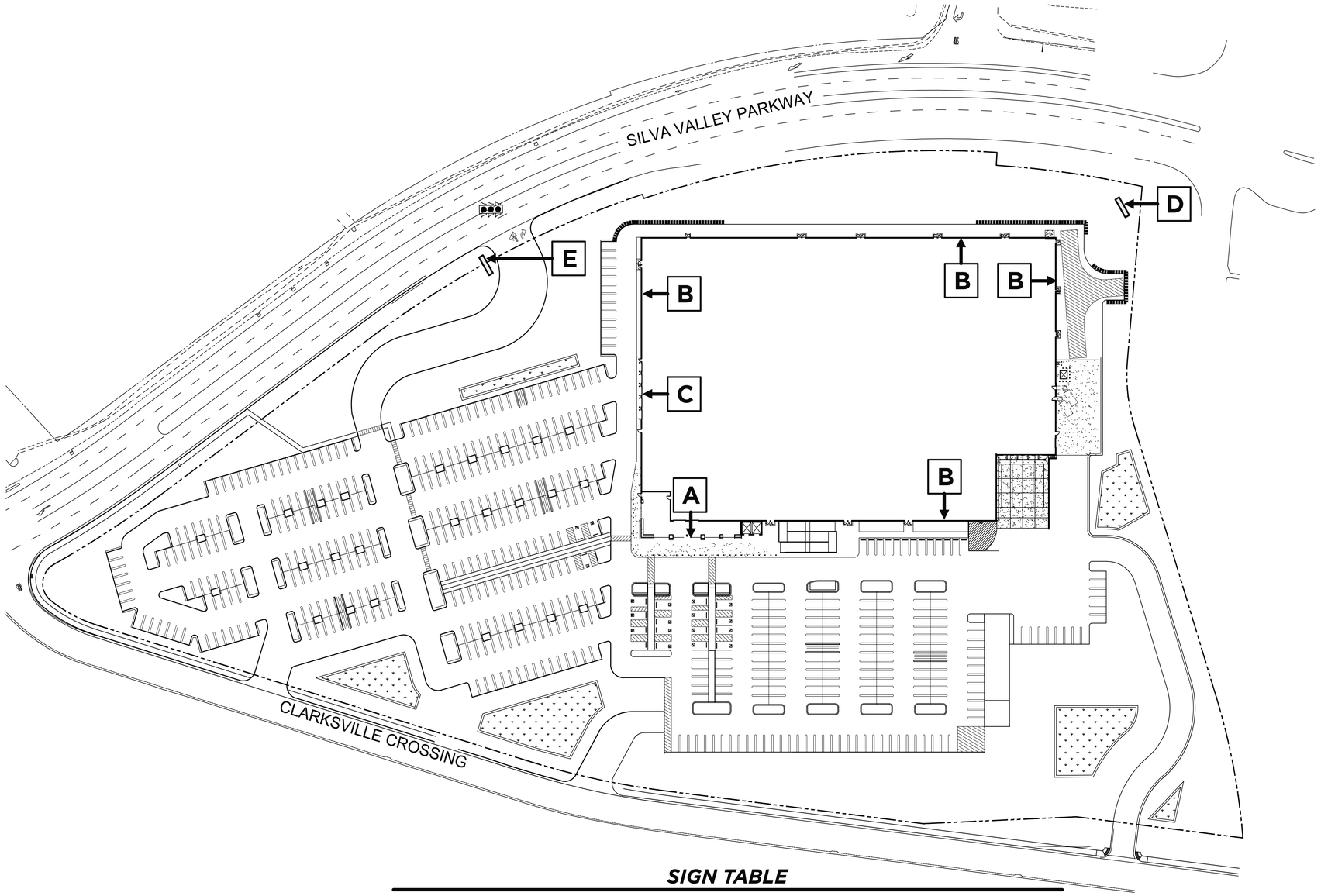
'COSTCO' AND ACCENT STRIPE -
"COSTCO RED"

MG2

APRIL 28, 2021
PROJECT# 19-5017-01
EL DORADO HILLS, CA

CONCEPT WAREHOUSE MATERIALS

COSTCO WHOLESALE





(A) WAREHOUSE SIGN
SCALE: NTS



(B) ENTRY CANOPY/ WAY FINDING SIGN
SCALE: NTS



(C) MISCELLANEOUS
SCALE: NTS

SIGN TABLE

IDENTITY	*QUANTITY*	*SIGN*	*SIZE*	*AREA (EACH)*	*TOTAL SF*
A	1	COSTCO WHOLESALE	5'-0" C	175 SF	***175 SF***
B	4	COSTCO WHOLESALE	6'-0" C	280 SF	***1,120 SF***
C	1	TIRE CENTER	1'-9" C	31 SF	***31 SF***
D	1	PYLON SIGN	20'-0" X 35'-0"	700 SF	***700 SF***
E	1	MONUMENT SIGN	16'-0" X 16'-4"	261 SF	***261 SF***
				TOTAL SIGN AREA:	**2,287 SF**

MG2

JUNE 22, 2021
PROJECT# 19-5017-01
EL DORADO HILLS, CA

WAREHOUSE SIGN PACKAGE

COSTCO WHOLESALE



Plant Legend

Symbols	Botanical / Common Name	Size	WUCOLS (Water Use Classification of Landscape Species)	Comments
	Trees			
	Acer platanoides ‘Crimson King’ / Crimson King Norway Maple	24” box	M	Matched Standards
	Lagerstroemia hyb. ‘Muskogee’ / Muskogee (Lavender) Crape Myrtle	24” box	L	Matched Standards
	Lagerstroemia hyb. ‘Tuscarora’ / Pink/Red Flowering Crape Myrtle	24” box	L	Matched Standards
	Zelkova serrata ‘Green Vase’ / Green Vase Zelkova	24” box	L	Matched Standards
	Quercus frainetto ‘Forest Green’ / Forest Green Italian Oak	24” box	L	Matched Standards
	Quercus ilex / Holly Oak	24” box	L	Matched Standards
	Quercus lobata / Valley Oak	24” box	L	Matched Standards
	Cedrus deodora /	24” box	L	Matched in Size
	Shrubs, Perennials, Ornamental Grasses, Ground Covers and Vine			
	Arbutus unedo ‘Compacta’ / Compact Strawberry Tree	15 gal.	L	
	Ceanothus ‘Concha’ / Concha Ceanothus	5 gal.	L	
	Cotoneaster dammeri ‘Lowfast’ / Lowfast Bearberry Cotoneaster	1 gal.	M	
	Dietes grandiflora 'Variegata' / Striped Fortnight Lily	1 gal.	L	
	Dianella revolute ‘Little Rev’ / Litlle Rev Dianella	1 gal.	L	
	Eleagnus x ebbingei ‘Gilt Edge’ / Gilt Edge Silver Berry	5 gal.	L	
	Festuca mairei / Atlas Fescue	1 gal.	L	
	Muhlenbergia capillaris ‘Regal Mist’ / Regal Mist Muhly Grass	1 gal.	L	
	Pennisetum orientale / Oriental Fountain Grass	1 gal.	L	
	Juniperus chinensis ‘Mint Julep’ / Mint Julep Juniper	5 gal.	L	
	Juniperus horizontalis ‘Blue Chip’ / Blue Chip Juniper	1 gal.	L	
	Phlomis fruticosa / Jerusalem Sage	1 gal.	L	
	Rosa ‘Meidrifora’ / Coral Drift Rose	1 gal.	M	
	Rosa banksiae ‘Lutea’ / Yellow Lady Banks Climbing Rose	5 gal.	M	
	Salvia leucantha ‘Santa Barbara’ / Santa Barbara Sage	1 gal.	L	
	Rosmarinus o. ‘Huntington Blue’ / Huntington Blue Rosemary	1 gal.	L	
	Stormwater Treatment Planter (SWTP)			
	Tree			
	Quercus wislizenii / Interior Live Oak	24” box	L	Matched Standards
	Perennials and Grasses			
	Chondropetalum tectorum / Cape Rush	5 gal.	L	
	Deschampsia cespitosa / Tufted Hairgrass	1 gal.	L	
	Juncus patens ‘Elk Blue’ / Elk Blue Gray Rush	1 gal.	M	
	Muhlenbergia rigens / Deer Grass	1 gal.	L	
	Nepeta racemosa ‘Walker’s Low’ / Walker’s Low Catmint	1 gal.	L	

IRRIGATION DESIGN STATEMENT:

The irrigation system will be a water efficient low flow, point source system designed to provide adequate watering to support plant growth and insure deeply rooted plant material while avoiding excess water application. The system will be programmable, allowing operation during late night and or early morning hours, with multiple start times and cycles. The system will interface with a weather based sensor that will adjust the amount of water applied to the plant material based on daily weather conditions. Irrigation materials specified for the site will be selected on the basis of durability and ease of maintenance. Landscape irrigation will comply with the California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELO).

LANDSCAPE DATA:

Costco Site Coverage
Total Parcel Area: +-17.04 AC (+- 742,262 SF)
Landscape Area Provided: 240,027 SF

Shading Requirements:
Required: 50% parking lot shading at 15 years
Provided: 56%

Upper Level Parking:
Provides 100% shading of lower level parking

WUCOLS LEGEND:

L Low Water Use

M Moderate Water Use

DBA # 290

DB+A

DAVID BABCOCK + ASSOCIATES
ARCHITECTURE LANDSCAPE PLANNING
3581 MT. DIABLO BLVD., SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

COSTCO EL DORADO HILLS

PRELIMINARY LANDSCAPE PLAN

0 20’ 40’ 80’ 160’

SCALE 1"= 80'

APRIL 28,2021

NORTH

PLAN

NOTES

1. THIS PLOT WAS PREPARED FROM INFORMATION FURNISHED IN PRELIMINARY TITLE REPORTS, PREPARED BY FIRST AMERICAN TITLE INSURANCE COMPANY, DATED JANUARY 9, 2019, NUMBER NCS-942714-WA1 & NUMBER NCS-942715-WA1. NO LIABILITY IS ASSUMED FOR MATTERS OF RECORD NOT STATED IN SAID PRELIMINARY TITLE REPORT THAT MAY AFFECT THE TITLE LINES, OR EXCEPTIONS, OR EASEMENTS OF THE PROPERTY.

2. ALL DISTANCES AND ELEVATIONS SHOWN HEREON ARE IN FEET AND DECIMALS THEREOF.

3. THE TYPES, LOCATIONS, SIZES AND/OR DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS TOPOGRAPHIC SURVEY WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS AND DEPTHS OF SUCH UNDERGROUND UTILITIES. (A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND UTILITIES). HOWEVER, THE ENGINEER CAN ASSUME NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF ITS DELINEATION OF SUCH UNDERGROUND UTILITIES WHICH MAY BE ENCOUNTERED, BUT WHICH ARE NOT SHOWN ON THESE DRAWINGS.

4. PHYSICAL ITEMS SHOWN ON THIS SURVEY ARE LIMITED TO THOSE ITEMS VISIBLE AS OF THE DATE OF THIS SURVEY. SUBSURFACE STRUCTURES, IF ANY, ARE NOT SHOWN. SAID SUBSURFACE OBJECTS MAY INCLUDE, BUT ARE NOT LIMITED TO, CONCRETE FOOTINGS, SLABS, SHORING, STRUCTURAL PILES, UTILITY VAULTS, PIPING, UNDERGROUND TANKS, AND ANY OTHER SUBSURFACE STRUCTURES NOT REVEALED BY A SURFACE INSPECTION.

5. THE SUBJECT PROPERTY IS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) FOR EL DORADO COUNTY, CALIFORNIA, MAP NUMBER 06017C0725E FOR COMMUNITY NUMBER 060040 (EL DORADO COUNTY), WITH AN EFFECTIVE DATE OF SEPTEMBER 26, 2008, AS BEING LOCATED IN FLOOD ZONE "X-UNSHADED". ACCORDING TO FEMA THE DEFINITION OF ZONE "X-UNSHADED" IS: AREA OF MINIMAL FLOOD HAZARD.

6. BENCHMARK:
CAL-TRANS TBM, NGS DISK ON TOP OF HEADWALL AT THE NORTHWEST CORNER OF THE BRIDGE ON CLARKSVILLE CROSSING AS TAKEN FROM THE CALTRANS IMPROVEMENT PLANS, SHEET 14 (PC-1) OF THE SILVA VALLEY CONSTRUCTION PLANS DATED JANUARY 4, 2013.
(PID: JS0692) ELEVATION= 673.08 FEET (NGVD 1929 DATUM)

7. BASIS OF BEARINGS:
THE BEARING OF NORTH 88° 27' 28" EAST, TAKEN ON THE NORTHERLY LINE OF PARCEL 4 AS SHOWN ON THAT CERTAIN PARCEL MAP FILED FOR RECORD ON DECEMBER 28, 2018, IN BOOK 52 OF MAPS AT PAGE 10, OFFICIAL RECORDS OF EL DORADO COUNTY WAS TAKEN AS THE BASIS FOR ALL BEARINGS SHOWN HEREON.

8. CORNER RECORD NOTE:
THE DEVELOPER AND/OR CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION AND FILING OF PRE-CONSTRUCTION AND POST-CONSTRUCTION CORNER RECORDS FOR ANY MONUMENTS OR PROPERTY CORNERS SHOWN HEREON THAT MAY BE DESTROYED DURING IMPROVEMENTS TO THE SUBJECT PROPERTY AS DEFINED IN SECTION 8771(B) OF THE PROFESSIONAL LAND SURVEYORS ACT.

10. THE AERIAL MAPPING WAS PREPARED USING COMPUTER ASSISTED, PHOTOGRAMMETRIC METHODS BY COOPER AERIAL SURVEYS CO., IN PHOENIX ARIZONA. JOB NUMBER 1901022. IN AREAS OF DENSE VEGETATION, ACCURACY OF CONTOURS MAY DEVIATE FROM ACCEPTED ACCURACY STANDARDS. DATE OF PHOTOGRAPHY 02-22-19, ORIGINAL COMPILED MAP SCALE 1"=40', CONTOUR INTERVAL 1 FOOT. THE GRID IS BASED ON PHOTOGRAMMETRIC METHODS COMPILED ON DIGITAL STEREO WORKSTATIONS USING AERIAL PHOTOGRAPHY. CONTROL SURVEY PERFORMED BY KIER & WRIGHT, LIVERMORE, CA.

7/XX/2019
PREPARED BY OR UNDER THE SUPERVISION OF DATE
RODNEY A. STEWART II, P.L.S. 9225

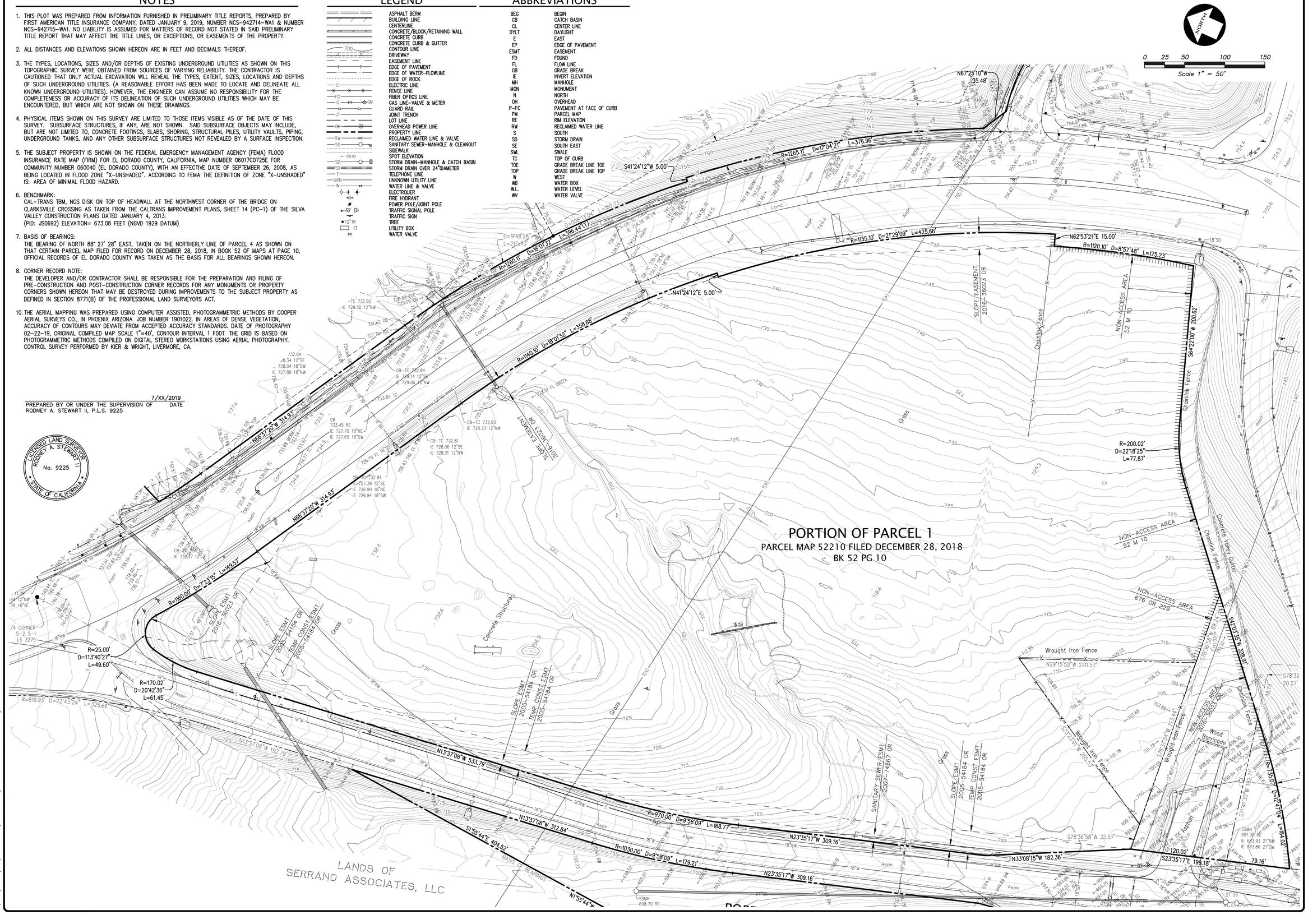
LICENSED LAND SURVEYOR
RODNEY A. STEWART II
No. 9225
STATE OF CALIFORNIA

LEGEND

	ASPHALT BERM
	BUILDING LINE
	CENTERLINE
	CONCRETE/BLOCK/RETAINING WALL
	CONCRETE CURB
	CONCRETE CURB & GUTTER
700	CONTOUR LINE
	DRIVEWAY
	EASEMENT LINE
	EDGE OF PAVEMENT
	EDGE OF WATER-FLOWLINE
	EDGE OF ROCK
E	ELECTRIC LINE
X X X	FENCE LINE
FO	FIBER OPTICS LINE
G GM	GAS LINE-VALVE & METER
	GUARD RAIL
JT	JOINT TRENCH
	LOT LINE
OH	OVERHEAD POWER LINE
	PROPERTY LINE
RW	RECLAIMED WATER LINE & VALVE
SS	SANITARY SEWER-MANHOLE & CLEANOUT
	SIDEWALK
700.00	SPOT ELEVATION
SD	STORM DRAIN-MANHOLE & CATCH BASIN
SD	STORM DRAIN OVER 24"DIAMETER
T	TELEPHONE LINE
UKN	UNKNOWN UTILITY LINE
W	WATER LINE & VALVE
	ELECTROLIER
	FIRE HYDRANT
	POWER POLE/JOINT POLE
	TRAFFIC SIGNAL POLE
	TRAFFIC SIGN
12"TR	TREE
	UTILITY BOX
	WATER VALVE

ABBREVIATIONS

BEG	BEGIN
CB	CATCH BASIN
CL	CENTER LINE
DYLT	DAYLIGHT
E	EAST
EP	EDGE OF PAVEMENT
ESMT	EASEMENT
FD	FOUND
FL	FLOW LINE
GB	GRADE BREAK
IE	INVERT ELEVATION
MH	MANHOLE
MON	MONUMENT
N	NORTH
OH	OVERHEAD
P-FC	PAVEMENT AT FACE OF CURB
PM	PARCEL MAP
RE	RIM ELEVATION
RW	RECLAIMED WATER LINE
S	SOUTH
SD	STORM DRAIN
SE	SOUTH EAST
SWL	SWALE
TC	TOP OF CURB
TOE	GRADE BREAK LINE TOE
TOP	GRADE BREAK LINE TOP
W	WEST
WB	WATER BOX
W.L.	WATER LEVEL
WV	WATER VALVE



NO.	REVISION	BY

KIER+WRIGHT
2995 Prospect Park Drive, Ste. 100
Rancho Cordova, CA 95670
Phone: (916) 970-5784
www.kierwright.com

TOPOGRAPHIC SURVEY
OF
EL DORADO HILLS COSTCO
FOR
COSTCO WHOLESALE CORPORATION
CALIFORNIA
EL DORADO HILLS,

DATE	APRIL, 2021
SCALE	AS SHOWN
DESIGNER	KRR
DRAFTER	KGH
JOB NO.	A18655
SHEET	C1.0
OF	SHEETS

Z:\2018\A18655\DWG\ENTITLEMENTS\A18655-PG.dwg 4-27-21 01:03:21 PM krodriguez

LEGEND

△	AREA DRAIN
□	STORM DRAIN CATCH BASIN(SDCB)
■	STORM DRAIN JUNCTION BOX(SDJB)
●	STORM DRAIN MANHOLE(SDMH)
FL	FLOW LINE
FF	FINISH FLOOR
FES	FLARED END SECTION
TOW	TOP OF WALL
CONF	CONFORM TO EXISTING
PV	PAVEMENT
RE	RIM ELEVATION
23.8	SPOT ELEVATION
X"SD	STORM DRAIN LINE
TC	TOP OF CURB
	ROCK WALL

NORTH

0 25 50 100 150

Scale 1" = 50'

MEDIAN IMPROVEMENTS FOR NEW LEFT TURN LANE

COSTCO WHOLESALE

FF=729.00

PROPOSED SIDEWALK

PROPOSED SIDEWALK

PROPOSED SIDEWALK

ELEVATORS

PEDESTRIAN RAMP TO /FROM LOWER GARAGE LEVEL

LOWER LEVEL GARAGE 10' BELOW UPPER LEVEL (TYP)

LOWER LEVEL GARAGE 10' BELOW UPPER LEVEL (TYP)

LOWER LEVEL GARAGE 10' BELOW UPPER LEVEL (TYP)

GARAGE SD STUB

EX. CB RE 693.31

EXISTING UTILITY VAULTS AND BOXES TO REMAIN

LANDS OF SERRANO ASSOCIATES, LLC

FND IP 1/16 CORNER S 2 S 1 RCE 20462

S78°32'36"W 20.27'

48.19'

NON-A...

S2

NO.	REVISION	BY

NO.	REVISION	BY

KIER+WRIGHT

2995 Prospect Park Drive, Ste. 100
Rancho Cordova, CA 95670

Phone: (916) 970-5784
www.kierwright.com

PRELIMINARY GRADING AND DRAINAGE PLAN
OF
EL DORADO HILLS COSTCO
FOR
COSTCO WHOLESALE CORPORATION
CALIFORNIA
EL DORADO HILLS,

DATE	APRIL, 2021
SCALE	AS SHOWN
DESIGNER	KRR
DRAFTER	KGH
JOB NO.	A18655
SHEET	C2.0
OF	SHEETS

Z:\2018\A18655\DWG\ENTITLEMENTS\A18655-PG.dwg 4-27-21 01:03:39 PM krodriguez

LEGEND

ASR	AUTOMATIC SPRINKLER RISER
RE	RIM ELEVATION
TC	TOP OF CURB
WS	WATER SERVICE
XXX	EXISTING UTILITY TO BE ABANDONDED BY REMOVAL
FS	FIRE SERVICE
SS	SANITARY SEWER
COTG	CLEANOUT TO GRADE
	STORM DRAIN LINE
	STORM DRAIN CATCH BASIN
	STORM DRAIN JUNCTION BOX
SSMH	STORM DRAIN MANHOLE
	BACK FLOW PREVENTION DEVICE
	FIRE DEPARTMENT CONNECTION
	FIRE HYDRANT & VALVE
	POST INDICATOR VALVE
	SANITARY SEWER MANHOLE
	SINGLE CHECK VALVE
SDMH	STORM DRAIN MANHOLE
	WATER METER
	GREASE INTERCEPTOR
	SAND OIL SEPARATOR

NORTH

0 25 50 100 150

Scale 1" = 50'

COSTCO WHOLESALE

FF=729.00

NEW SIGNALIZED INTERSECTION

STUB FOR FUTURE EXTENSION BY EID

STUB FOR FUTURE EXTENSION BY EID

FES RE 729.20

20' EID EASEMENT

SSMH

SDMH RE 732.92

18"SD

15' COUNTY DRAIN EASEMENT

8"SS(PUBLIC)

10"W(PUBLIC)

36"SD(PUBLIC)

SSMH RE 734.84

SDMH RE 732.27

8"SS(PUBLIC)

SDMH RE 732.59

SDMH RE 729.55

SDMH RE 729.30

SSMH RE 731.43

CB RE 726.40 FL 725.90

SSMH RE 729.61

12"SD

8"W

6"SS

SSMH RE 727.34

SSMH RE 728.80

12"RD STUB

8"RD STUB

CB RE 728.50

SDJB RE 728.43

SDMH RE 732.60

GAS METER

DOM WATER

BFP

WM

3" DOM SERVICE

FDC

PIV

DDCV

ASR

SSCO RE 728.01

SOS RE 728.19

SSCO RE 728.59

SSMH RE 728.33

SDMH RE 728.41

CB RE 724.83

BUBBLER RE 724.21 FL 722.00

CB RE 722.50 FL 722.00

SSCO RE 727.88

SSCO RE 727.96

GI RE 727.75

SSCO RE 727.73

SSCO RE 727.64

SSMH RE 725.44

SSMH RE 723.52

SSMH RE 718.52

VARIABLE WIDTH EID EASEMENT

10"FS

FH

NEW SIGNALIZED INTERSECTION

SDMH RE 730.43

49"SD (PUBLIC)

SDMH RE 727.67

EID EASEMENT VARIABLE WIDTH

15' COUNTY DRAIN EASEMENT

36"SD(PUBLIC)

CB-TC RE 724.35

CB-TC RE 724.83

BUBBLER RE 718.50 FL 718.00

SDMH RE 718.50 FL 718.00

SDMH RE 720.40

SSMH RE 720.92

CB-TC RE 724.72

BUBBLER RE 712.50 FL 712.00

CB RE 712.80 FL 712.00

SSMH RE 714.69

FES RE 705.42

EX.SSMH RE 0.27

CB-TC RE 723.04

SSCO RE 711.46

SSCO RE 710.74

SSMH RE 707.84

SSMH RE 706.61

SDMH RE 706.96

GARAGE SS STUB

GARAGE SD STUB

SSCO RE 712.69

SOS RE 713.16

BUBBLER RE 706.50 FL 706.00

CB RE 707.46 FL 706.00

15" COUNTY DRAINAGE EMENT RE 697.32

CB P2424 RE 697.38

SSMH RE 695.74

CB RE 694.00 FL 693.50

30"SD(PUBLIC)

24"SD

12"SD 24" FES RE 692.27

1.5" IRR SERVICE

SDMH RE 695.30

SDMH RE 695.12

24"SD(PUBLIC)

EXISTING VAULTS AND BOXES TO REMAIN

CB-TC RE 693.32

EX. CB RE 693.31

FES RE 4.21

LANDS OF SERRANO ASSOCIATES, LLC

FND IP 1/16 CORNER S-2, S-1 RCE 20462

JT

NON-ACCESS AREA

SLOPE EASEMENT DOTOD 36023 OR

SANITARY SEWER EASEMENT 2007-74567 OR

BLDG ESMT 2005-54184 OR

EXIST CONST ESMT 2005-54184 OR

NO.	REVISION	BY

NO.	REVISION	BY

KIER+WRIGHT
2995 Prospect Park Drive, Ste. 100
Rancho Cordova, CA 95670
Phone: (916) 970-5784
www.kierwright.com

PRELIMINARY UTILITY PLAN
OF
EL DORADO HILLS COSTCO
FOR
COSTCO WHOLESALE CORPORATION CALIFORNIA
EL DORADO HILLS,

DATE	APRIL, 2021
SCALE	AS SHOWN
DESIGNER	KRR
DRAFTER	KGH
JOB NO.	A18655
SHEET	C3.0
OF	SHEETS

Z:\2018\A18655\DWG\ENTITLEMENTS\A18655-PG.dwg 4-27-21 01:03:55 PM krodriguez

LEGEND

- TRIBUTARY AREA LIMITS
- LANDSCAPE AREA
- IMPERVIOUS ROOFTOP DRAINING TO BIO-RETENTION TREATMENT PLANTER
- IMPERVIOUS PAVEMENT DRAINING TO BIO-RETENTION TREATMENT PLANTER
- BIORETENTION TREATMENT PLANTER

TREATMENT AREA SUMMARY

DMA #	DMA AREA (SF)	DMA AREA (AC)	LANDSCAPE AREA (SF)	IMPERVIOUS AREA (SF)	TREATMENT REQUIRED (SF)*	TREATMENT PROVIDED (SF)	TREATMENT METHOD	SIZING RATIO (%)
DMA 1	59,650	1.37	23,572	34,668	1,387	1,410	Bioretention	4.1%
DMA 2	140,233	3.22	52,911	83,896	3,356	3,426	Bioretention	4.1%
DMA 3	19,568	0.45	7,033	12,025	481	510	Bioretention	4.2%
DMA 4	160,854	3.69	29,012	126,316	5,053	5,526	Bioretention	4.4%
DMA 5	189,720	4.36	16,700	166,238	6,650	6,782	Bioretention	4.1%
DMA 6	122,083	2.80	41,096	77,681	3,107	3,306	Bioretention	4.3%
DMA 7	42,619	0.98	38,484	4,135	165	0	Vegetated Swale	N/A
Totals	**734,727**	**16.87**	**208,808**	**504,960**	**20,198**	**20,959**		

* Treatment Area Required is based on 4% of the DMA Impervious Area

NORTH

0 25 50 100 150

Scale 1" = 50'

DMA 1
DMA 2
DMA3
DMA 4
DMA 5
DMA 6
DMA 7

LANDS OF SERRANO ASSOCIATES, LLC

NO.	REVISION	BY

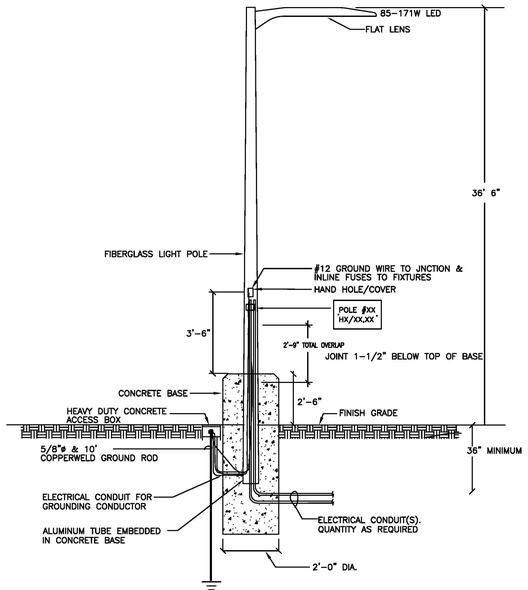
NO.	REVISION	BY

KIER+WRIGHT
2995 Prospect Park Drive, Ste. 100
Rancho Cordova, CA 95670
Phone: (916) 970-5784
www.kierwright.com

PRELIMINARY STORM WATER QUALITY CONTROL PLAN
OF
EL DORADO HILLS COSTCO
FOR
COSTCO WHOLESALE CORPORATION
CALIFORNIA
EL DORADO HILLS,

DATE	APRIL, 2021
SCALE	AS SHOWN
DESIGNER	KRR
DRAFTER	KGH
JOB NO.	A18655
SHEET	C4.0
OF	SHEETS

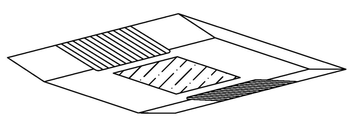
Z:\2018\A18655\DWG\ENTITLEMENTS\A18655-PG.dwg 4-27-21 01:04:12 PM krodriguez



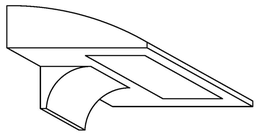
NOTE: PROVIDE CONCRETE J–BOX AS REQUIRED.
THIS DETAIL IS FOR ELECTRICAL CONDUITS ROUTING ONLY.
SEE STRUCTURAL DRAWINGS S0.2 FOR DETAILS.

POLE DETAIL
SCALE: NTS

FIXTURE DESCRIPTION	
P	COOPER GALLEON GLEON–SA4B–LED–U–5WQ–BZ, 171W TYPE 5 DISTRIBUTION. FIBERGLASS POLE 36'–6" ABOVE GRADE, WITH 2'–6" BASE.
P1	COOPER GALLEON GLEON–SA3B–LED–E1–SL3–HSS–BZ, 124W TYPE 3 DISTRIBUTION. FIBERGLASS POLE 36'–6" ABOVE GRADE, WITH 2'–6" BASE. (ROTATED OPTICS FOR 2 HEAD POLE)
P2	COOPER GALLEON GLEON–SA3B–LED–E1–SL4–HSS–BZ, 124W TYPE 4 DISTRIBUTION. FIBERGLASS POLE 36'–6" ABOVE GRADE, WITH 2'–6" BASE. (ROTATED OPTICS FOR 2 HEAD POLE)
P3	85W TYPE 4 DISTRIBUTION. FIBERGLASS POLE 36'–6" ABOVE GRADE, WITH 2'–6" BASE.
W	LITH DSXW2 LED 40K 30C 530 T2M, 54W LED, 17' MOUNTING HEIGHT
W1	LITH DSXW2 LED 40K 30C 530 T4M, 54W LED, 17' MOUNTING HEIGHT
W2	LITH DSXW2 LED 40K 30C 350 T2M, 36W LED, 17' MOUNTING HEIGHT
W3	LITH DSXW2 LED 40K 20C 350 TFTM, 25W LED, 17' MOUNTING HEIGHT
GA	96W LED, SURFACE SYMETRIC DOWN LIGHT, FLAT LENS, 18' MOUNTING HEIGHT
L	91W LED, SURFACE SYMETRIC DOWN LIGHT, FLAT LENS, 18' MOUNTING HEIGHT



FUEL FACILITY, CANOPY – LED (GA,L)
NO SCALE



TYPICAL WALL PACK DETAIL (W)
SCALE: NTS

SITE LIGHTING PLAN
SCALE: 1" = 60'–0"

PLANNING SUBMITTAL

ISSUE DATE: SEPTEMBER 2019
REVISION DATE:
DRAWN: JGM
CHECKED: ANT/JGM

ARCHITECT REFERENCE NO: 19–5017–01

© NO PART OF THIS DOCUMENT MAY BE USED OR COPIED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN CONSENT OF T.E.INC.

PROJECT NO: 19–427

SITE LIGHTING PLAN

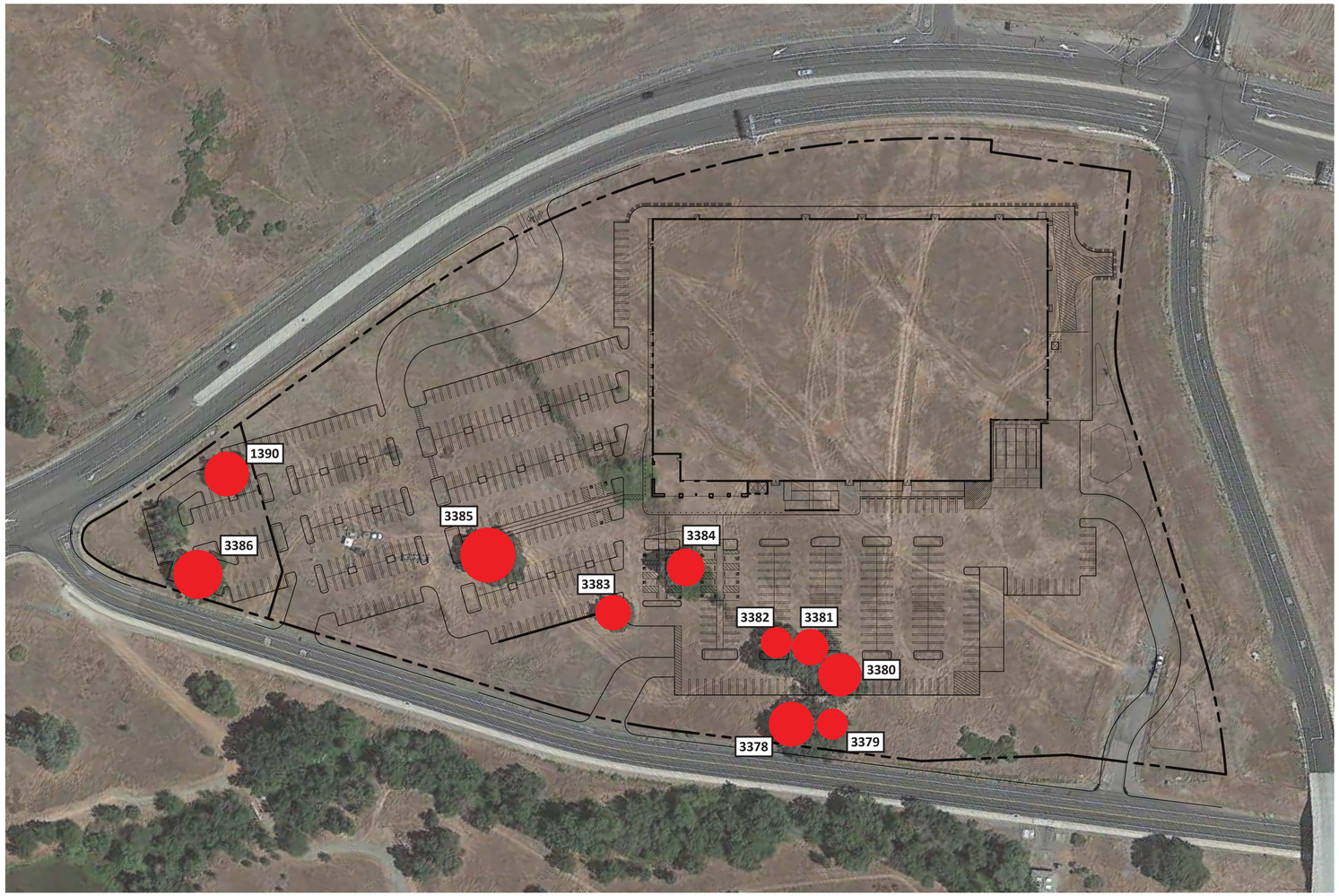
T.E., Inc.
830 N. RIVERSIDE DRIVE
SUITE #200
RENTON, WA 98057
PHONE: 425–970–3753
FAX: 425–970–3756

DD PACKAGE

SILVA VALLEY PARKWAY
EL DORADO HILLS, CA

COSTCO WHOLESALE

SE–1



Tree Data Table

	Tree #	Species	DBH (inches)	DLR (feet)	Height (feet)	Health	Structure	Comment
*	**1390**	Valley Oak	47	21	60	Poor-Fair	Poor	Deadwood, limb failure, acorn woodpecker granary tree
	3378	Valley Oak	35	30	40	Good	Fair-Good	Deadwood
	3379	Valley Oak	18	24	40	Good	Fair-Good	Asymmetrical canopy, suppressed growing environment
	3380	Valley Oak	33	38	40	Good	Good	
	3381	Valley Oak	27	30	40	Good	Good	
	3382	Valley Oak	27	25	40	Good	Fair	Codominant
	3383	Valley Oak	26	23	40	Fair-Good	Fair	Asymmetrical canopy
	3384	Valley Oak	10	13	15	Fair	Fair	Codominant, small leaves
*	**3385**	Blue Oak	48	40	60	Fair-Good	Fair	Asymmetrical canopy, pruning wound, 1 trunk removed
*	**3386**	Valley Oak	42	38	60	Fair-Good	Fair	Deadwood, dieback

* **Heritage tree**

● Trees to be Removed

Note: Tree data table information taken from the oak tree resources survey prepared for the El Dorado Hills 52 Oak Resources Technical Report dated 11/10/20 by Helix Environmental Planning (Project #AKT - 20)

DBA # P.290

DB+A
DAVID BABCOCK + ASSOCIATES
ARCHITECTURE LANDSCAPE PLANNING
3581 MT. DIABLO BLVD., SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

COSTCO EL DORADO HILLS

TREE REMOVAL EXHIBIT

0 40' 80' 160'

SCALE 1"= 80'

JUNE 23, 2021

NORTH

SHEET 1 of 1

NORTH

0 25 50 100 150

Scale 1" = 50'

N67°25'10"W 35.48'

R=1265.11' D=17°04'21" L=376.96'

S41°24'12"W 5.00'

D=28°51'14" L=28.37'

S48°35'47"W 25.00'

D=105°13'04" L=180.73

D=9°48'28" L=215.70'

R=1260.11' D=18°01'32" L=396.44'(T)

N66°37'20"W 314.93'

R=1140.10' D=18°01'32" L=358.58'

N41°24'12"E 5.00'

R=1135.10' D=21°29'09" L=425.66'

N62°53'21"E 15.00'

R=1120.10' D=8°57'48" L=175.23'

S64°22'00"W 200.62'

SLOPE EASEMENT 2016-36023 OR

NON-ACCESS AREA 52 M 10

R=200.02' D=22°18'25" L=77.87'

COSTCO WHOLESALE

NON-ACCESS AREA 52 M 10

NON-ACCESS AREA 676 OR 229

NON-ACCESS AREA 2016-36023 OR

S42°03'35"W 328.91'

S78°36'58"W 89.24'

N29°15'50"W 220.37'

S78°32 20.27'

48.19'

S29°21'10"W 213.44'

S29°21'10"W 188.34'

S29°41'30"W 182.71'

R=735.07' D=2°27'04" L=164.02'

EXISTING LOT LINE TO BE RELOCATED

EXISTING LOT LINES TO REMAIN

S78°36'58"W 32.57'

N33°08'15"W 182.36'

S23°35'17"E 199.18'

120.02'

79.16'

R=160.00' D=7°23'15" L=149.57'

R=25.00' D=113°40'27" L=49.60'

R=170.02' D=20°42'36" L=61.45'

R=819.93' D=22°45'24" L=325.66

N13°37'08"W 192.79'

N13°37'08"W 333.79'

N13°37'08"W 312.84'

R=970.00' D=9°58'09" L=168.77'

N23°35'17"W 309.16'

R=1030.00' D=9°58'09" L=179.21'

N23°35'17"W 309.16'

S1°55'44"E 404.52'

N1°55'44"W

BASIS OF BEARINGS

LANDS OF SERRANO ASSOCIATES, LLC

PROPOSED LOT LINE

SLOPE ESMT 2005-54184 OR

TEMP CONST ESMT 2005-54184 OR

SLOPE ESMT 2016-36023 OR

SANITARY SEWER ESMT 2007-74567 OR

SLOPE ESMT 2005-54184 OR

TEMP CONST ESMT 2005-54184 OR

1/4 CORNER S-2 S-1 LS 3279

CL

Asph

Conc.

Dir. t.

BY	NO.	REVISION

BY	NO.	REVISION

KIER+WRIGHT

2995 Prospect Park Drive, Ste. 100
Rancho Cordova, CA 95670

Phone: (916) 970-5784
www.kierwright.com

LOT LINE ADJUSTMENT EXHIBIT
OF
EL DORADO HILLS COSTCO
FOR
COSTCO WHOLESALE CORPORATION
CALIFORNIA
EL DORADO HILLS,

DATE	JUNE, 2021
SCALE	1"=50'
DESIGNER	PMB
DRAFTER	
JOB NO.	A18655
SHEET	LLA-EX
OF	SHEETS

Z:\2018\A18655\DWG\ENTITLEMENTS\EXHIBITS\A18655-PROPOSED LLA.dwg 6-07-21 07:21:08 AM pbernard

URBAN PLANNING PARTNERS INC.
388 17TH STREET
SUITE 230
OAKLAND, CA 94612
510.251.8210
WWW.UP-PARTNERS.COM

August 4, 2021

Gina Hamilton, Senior Planner
County of El Dorado
Planning and Building Department
2850 Fairlane Court, Building C

RE: NEW AND REVISED EXHIBITS FOR PD15-0001, Z17-0004, P17-0007, CUP-R21-0024, LLA21-0009

Dear Gina:

On behalf of Costco Wholesale, I am transmitting the following new and revised exhibits for the planning application for the EDH 52 Costco South Site project.

Updated APNs and Application Numbers

The title page has been updated to reflect new parcel numbers and application numbers for the south site.

Compiled Plan Set

The updated plan set includes the revised site plan, tree removal exhibit, and preliminary lot line adjustment exhibits from our previous submittals, which are also reflected in the sheet index of the title page.

We look forward to working with El Dorado County to move the project forward and are available to answer any questions you may have regarding the project.

Sincerely,
URBAN PLANNING PARTNERS, INC.



Brandon Northart
ASSOCIATE PLANNER
O: 510.251.8210 x1015

cc: Tiffany Wilson, RSC Engineering

Gina Hamilton <gina.hamilton@edcgov.us>

EDH52/Costco Scoping Meeting

John Davey <jdavey@daveygroup.net> Thu, Aug 12, 2021 at 6:55 AM
To: Gina Hamilton <gina.hamilton@edcgov.us>
Cc: Timothy White <tjwhitejd@gmail.com>, John Raslear <jjrazzpub@sbcglobal.net>, Brooke Washburn <washburn_bew@yahoo.com>, The BOSONE <bosone@edcgov.us>, Jon/ Stacy Vegna <jvegna@edcgov.us>

Good morning Gina,

Thanks again for your feedback last night regarding the audio in the virtual meeting format. We hope to have all of the issues in the setup of the EDH FIre Station meeting room squared away before our next meeting.

EDH APAC Vice Chair Tim White was informed by the project applicants after our meeting that the Scoping Meeting for the project would be in a virtual environment, and not in-person.

As a resident, and as APAC Chair, this is a significant concern for our community. This will be a transformative project for the El Dorado Hills Community - regardless of the levels of project support, or opposition, this one project will forever alter the nature of the El Dorado Hills Community. It is important for our community to have the benefit of a traditional scoping meeting, with access to the applicants, planning staff, the consultant, and to review project exhibits and details.

APAC Vice Chair Tim White summarized it well:

> This is, IMHO, both disappointing and unacceptable. This project is one of major concern to the community-many in the community are of the opinion that this is a “done deal”!
> Not having an in-person Scoping Meeting will just further the belief that the Planning Department doesn’t care about resident feedback.
> I appreciate the health concerns that exist, but masks could be required and social distancing observed.

Again, both as a resident, and as EDH APAC Chair, I feel that it is critical that some in-person aspect be considered for the scoping meeting.

Thanks again for your continuing assistance to EDH APAC as we review development projects in El Dorado Hills - your willingness to answer questions, and to support and facilitate our participation is deeply appreciated.

John.

John Davey
Chair
El Dorado Hills Area Planning Advisory Committee
https://edhapac.org

Cell 916-752-8183

URBAN PLANNING PARTNERS INC.
388 17TH STREET
SUITE 230
OAKLAND, CA 94612
510.251.8210
WWW.UP-PARTNERS.COM

August 12, 2021

Gina Hamilton, Senior Planner
County of El Dorado
Planning and Building Department
2850 Fairlane Court, Building C

RE: NEW AND REVISED EXHIBITS FOR PD15-0001, Z17-0004, P17-0007, CUP-R21-0024, LLA21-0009

Dear Gina:

On behalf of Costco Wholesale, I am transmitting the following new and revised exhibits for the planning application for the EDH 52 Costco South Site project.

Updated Project Name

The title page has been updated to reflect the official project name.

Updated Application Numbers

The title page has been updated to reflect application numbers only applicable for the south site.

We look forward to working with El Dorado County to move the project forward and are available to answer any questions you may have regarding the project.

Sincerely,
URBAN PLANNING PARTNERS, INC.



Brandon Northart
ASSOCIATE PLANNER
O: 510.251.8210 x1015

cc: Tiffany Wilson, RSC Engineering

Watermark Engineering, Inc.

DATE: August 20, 2021

TO: Jai Singh

FROM: Patrick Stiehr, PE

RE: Drainage Study for EDH 52, Proposed Self Storage and Costco at Highway 50 and Silva Valley Parkway

OVERVIEW

The project consists of two separate but hydraulically connected developments covering about 50 acres that includes a self-storage complex on the northeast side of Silva Valley Parkway and a Costco on the southwest side. Both are located just north of the Highway 50 interchange. See Figure 1, Vicinity Map.



Figure 1. Vicinity Map

3153 Jenna Court
Roseville, CA 95747

Phone: 916- 774- 1111, Fax: 916- 774- 1181
Mobile: 916- 715- 1167, email: pstiehr@wtrmark.com

A drainage study completed by AE COM evaluated the downstream impacts of the proposed development. Their findings indicated that the development would increase flows at Highway 50 by about 2% for the 10- and 100-year storms.

The AE-COM Drainage Report also included a conclusion that "with little development downstream, the chance of increased damages due to flooding is insignificant." A review using Google Maps indicates the watercourse does pass through several developments south of Hwy 50. After that, there is little or development downstream to State Highway 16 at Sloughhouse.

This study provides evaluation of the onsite facilities to demonstrate 10-year capacity of the proposed drainage facilities and does not address downstream conditions. However, as a comparison, the AE-COM had a unit runoff (cfs per acre) of about 2.0 from the proposed development for the 10-year storm. The analysis provided herein indicates the proposed facilities generate a peak unit runoff of about 1.5 cfs per acre, or about 20 cfs less than indicated within the AE-COM Study.

Another consideration is that the proposed self-storage and Costco development site are at the lower end of the 763-acre watershed the passes under Highway 50. The peak flow from this development area will enter the watercourse and pass under Highway 50 at least 15 minutes before the main stem peak arrives, meaning the likelihood of the proposed development increasing the main stem peak flow is minimal.

HYDROLOGY

The hydrology was based on the SCS methodology embedded within the XP-SWMM software.

Soils

The soils within the project area are classified by the NRCS as Auburn Silt Loam and fall within Hydrologic Group D, low infiltration. The published hydraulic conductivity for the Auburn Silt Loam is 7.09 micrometers per second, or one inch per hour in US units.

Shed Definition

The self-storage site was subdivided into 17 shed areas and as shown on the SW Q1 sheet prepared by RSC Engineering. Sheds 13 thru 17 are offsite sheds. Shed 13 and 17 will be redirected south along the west side of the development. Runoff from Sheds 14 and 15 will be conveyed through the project. Sheds 16 and 17 will be graded and be the transition area. These sheds will be sloped from the project area down to collection swales and then conveyed south under Silva Valley Parkway and then through the Costco site.

The Costco site was subdivided into seven Drainage Management Areas (DMAs) as shown on the Shed Map Exhibit prepared by Kier+Wright. There is an additional offsite shed at the southeast corner. Runoff from this area will be collected and conveyed southwest.

SCS Parameters

The idealized rainfall distribution for the 10-year, 24-hour storm was developed from the El Dorado County Table A2.2.3, depth-duration-frequency, developed by Jim Goodridge, 2008. A screen shot of the hyetograph is shown in Figure 2. The mean annual rainfall was estimated at 27 inches per year.

An assumed time-of-concentration of five minutes and a Curve Number of 95 were used for all nodes within the project areas. **Table 1** provides a summary of the shed areas and peak flows from the 10-year, 24-hour storm.

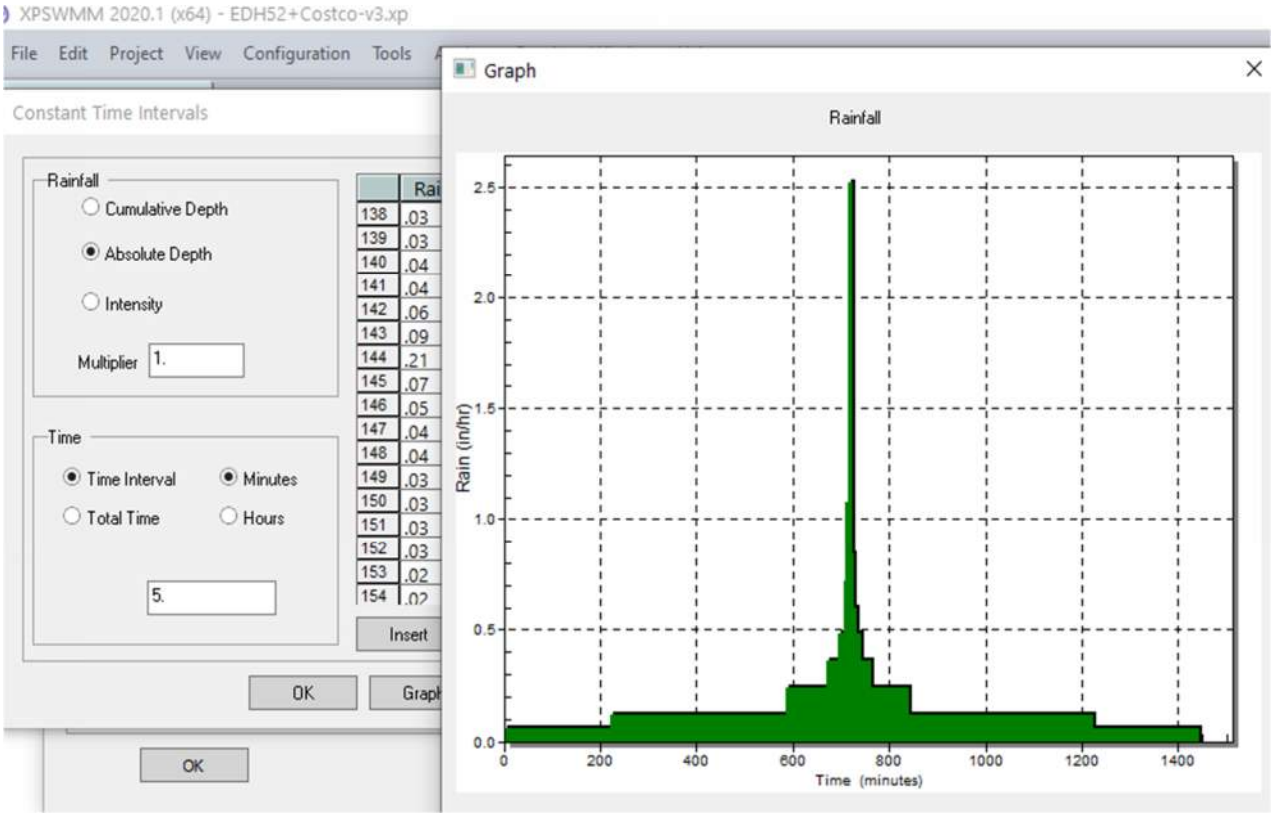


Figure 2. Plot of Rainfall Hyetograph for 10-year, 24-hour Storm

Table 1	Shed 10-yr Peak Flow and SCS Parameters					08/20/2021
Name	Area (ac)	Max 10-yr Pk Flow cfs	Initial Abstraction Depth (in)	Initial Abstraction Method	Pervious Area Curve Number	Time of Concentration (min)
Cc DMA1bio	1.37	3.06	0.05	Depth	95	5
Cc DMA2bio	3.22	7.199	0.05	Depth	95	5
Cc DMA4bio	3.69	8.317	0.05	Depth	95	5
Cc DMA5bio	4.36	9.861	0.05	Depth	95	5
CC DMA6bio	2.80	6.271	0.05	Depth	95	5
CC DMA7bio	0.98	2.136	0.05	Depth	95	5
CC-DMA3bio	0.12	0.268	0.05	Depth	95	5
Cc-SW Offsite	4.55	6.283	0.05	Depth	80	10
OffsiteShed 13	3.78	3.805	0.04	Fraction	80	10
OffsiteShed17	1.06	1.396	0.04	Fraction	80	5
s1a	0.20	0.453	0.05	Depth	95	5
s1b	0.19	0.431	0.05	Depth	95	5
s1c	0.20	0.453	0.05	Depth	95	5
s1d	0.30	0.68	0.05	Depth	95	5
s2a	0.35	0.794	0.05	Depth	95	5
s2b	0.25	0.567	0.05	Depth	95	5
s2c	0.25	0.567	0.05	Depth	95	5
s2d	0.27	0.612	0.05	Depth	95	5
s3a	0.30	0.68	0.05	Depth	95	5
s3b	0.25	0.567	0.05	Depth	95	5
s3c	0.20	0.453	0.05	Depth	95	5
s3d	0.20	0.453	0.05	Depth	95	5
s3e	0.28	0.635	0.05	Depth	95	5
s4a	0.35	0.794	0.05	Depth	95	5
s4b	0.20	0.453	0.05	Depth	95	5
s4c	0.20	0.453	0.05	Depth	95	5
s4d	0.20	0.453	0.05	Depth	95	5
s4e	0.36	0.816	0.05	Depth	95	5
s5	0.55	1.247	0.05	Depth	95	5
s6	0.40	0.907	0.05	Depth	95	5
s8	1.30	2.948	0.05	Depth	95	5
sDMA1	0.34	0.771	0.05	Depth	95	5
s-DMA10	0.16	0.362	0.05	Depth	95	5
s-DMA11	2.18	4.938	0.05	Depth	95	5
s-DMA12	0.49	1.108	0.05	Depth	95	5
s-DMA16	3.62	7.954	0.05	Depth	95	5
s-DMA2	0.39	0.884	0.05	Depth	95	5
s-DMA3	0.39	0.883	0.05	Depth	95	5
s-DMA4	0.52	1.177	0.05	Depth	95	5
s-DMA5	0.72	1.633	0.05	Depth	95	5
s-DMA6	0.42	0.952	0.05	Depth	95	5
s-DMA7	0.31	0.703	0.05	Depth	95	5
s-DMA8	0.37	0.837	0.05	Depth	95	5
s-DMA9	0.36	0.815	0.05	Depth	95	5
s-Offsite14	2.11	4.767	0.05	Depth	95	5
s-Offsite15	1.93	4.027	0.05	Depth	95	6

Table 1 – Shed Summary

HYDRAULICS

The XP-SWMM software was used for the backwater analysis. Drainage facilities information for the modeling was based on the Preliminary Grading Plan by RSC Engineering for the self-storage site and the Drainage Exhibit prepared by Kier+Wright for the Costco site.

Figure 3 provides a schematic modeling map for the two projects. **Figures 4 and 5** provide additional detail of the modeling schematic. **Table 2** provides a summary of the hydraulic parameters and characteristics of drainage facilities.

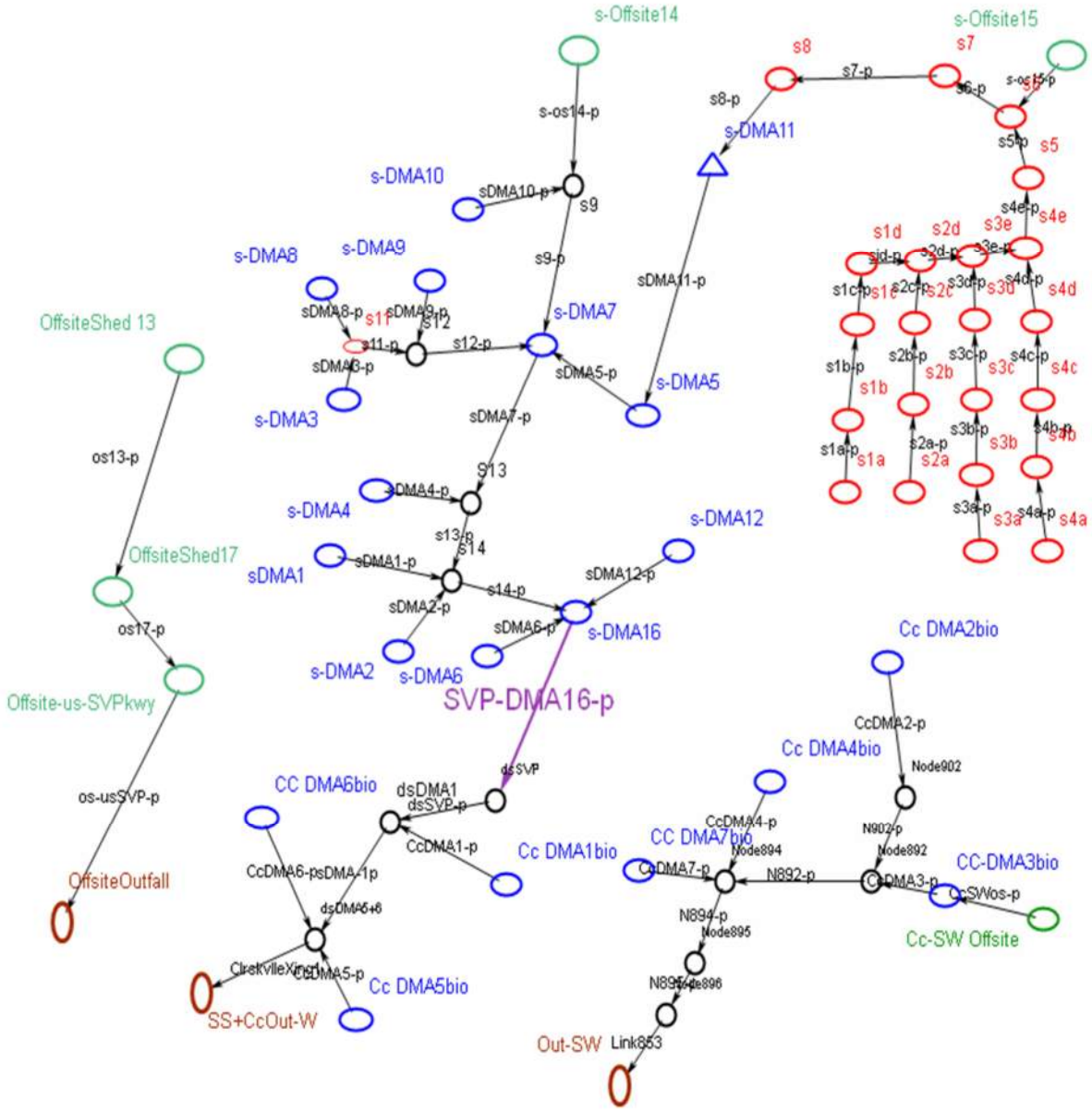


Figure 3 Modeling Map

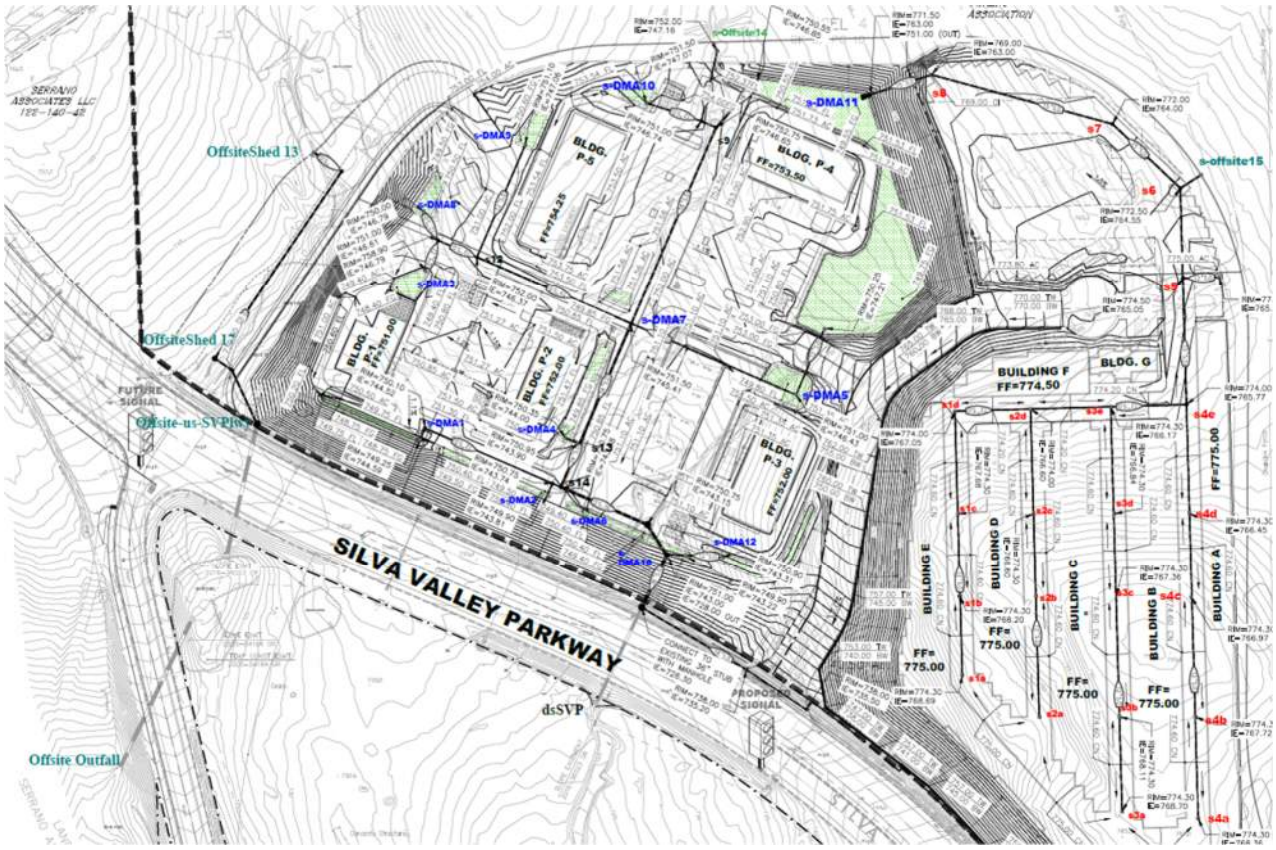


Figure 4. Modeling Map for Self Storage

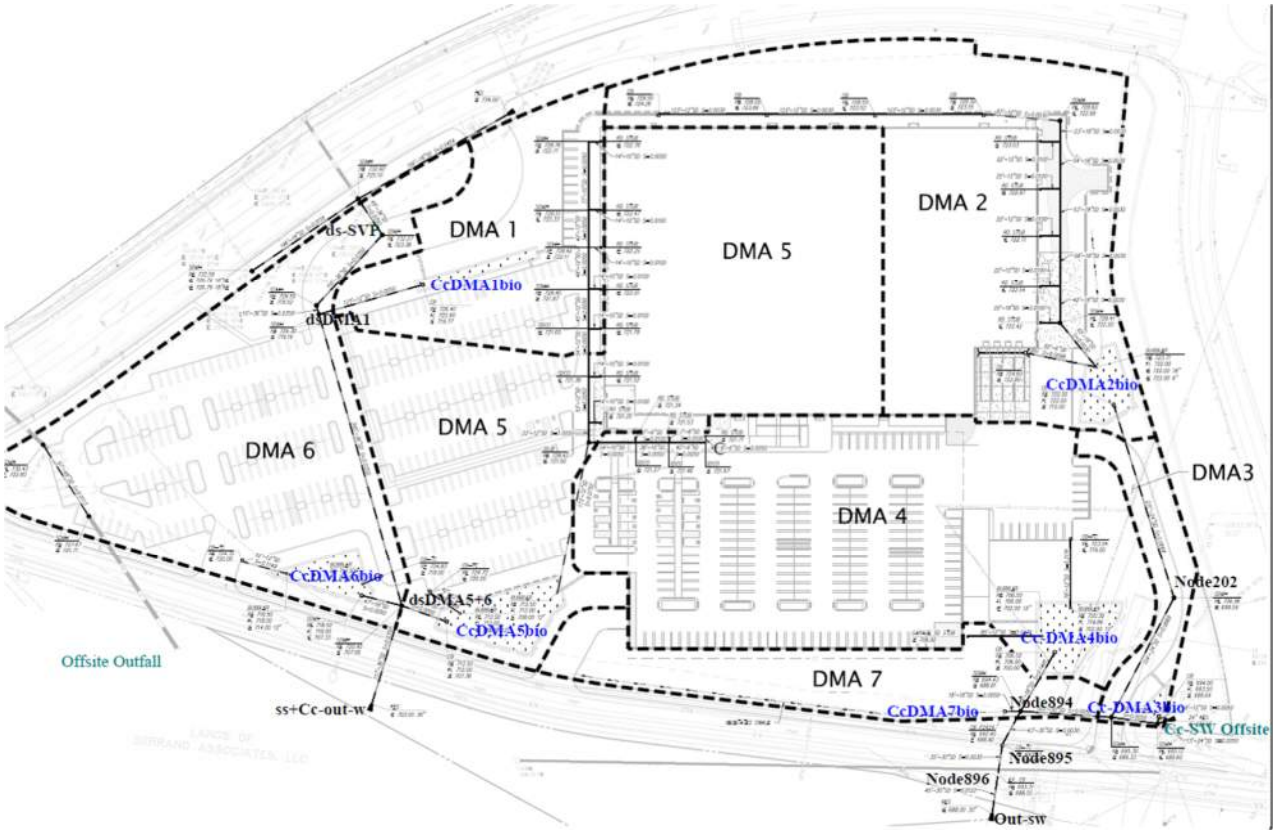


Figure 5. Modeling Map for Costco

Table 2		Hydraulic Information										8/20/21
Link Name	Upstream Node Name	US Max Crown Elev ft	US Max Water Elev ft	Max Flow cfs	Max Vel ft/s	US Invert Elevation ft	Dia meter ft	Length ft	Downstream Node Name	DS Max Crown Elev ft	DS Max Water Elev ft	DS Invert Elev ft
CcDMA1-p	Cc DMA1bio	726.40	721.28	3.1	3.8	719.77	1	123	dsDMA1	729.30	720.28	719.16
CcDMA2-p	Cc DMA2bio	722.50	715.55	7.2	12.3	715.00	1.5	231	Node902	706.96	700.14	699.59
CcDMA3-p	CC-DMA3bio	694.00	691.24	6.8	3.1	689.60	2	53	Node892	695.30	691.20	689.33
CcDMA4-p	Cc DMA4bio	706.50	700.50	8.3	11.7	700.00	1.5	78	Node894	694.43	690.69	688.81
CcDMA5-p	Cc DMA5bio	712.50	709.68	9.9	8.3	709.00	1.5	33	dsDMA5+6	720.40	708.48	707.09
CcDMA6-p	CC DMA6bio	718.50	708.64	6.3	3.8	707.33	1.5	47	dsDMA5+6	720.40	708.48	707.09
CcDMA7-p	CC DMA7bio	696.00	690.70	2.1	1.2	688.98	1.5	33	Node894	694.43	690.69	688.81
CcSWos-p	Cc-SW Offsite	696.00	691.26	6.4	3.3	689.66	2	33	CC-DMA3bio	694.00	691.24	689.60
ClrskvlleXing1	dsDMA5+6	720.40	708.48	50.4	15.8	707.09	3	117	SS+CcOut-W	710.01	704.38	703.00
dsSVP-p	dsSVP	732.27	724.42	31.6	13.8	723.38	3	110	dsDMA1	729.30	720.28	719.16
Link853	Node896	693.31	689.86	22.6	8.7	688.55	2.5	45	Out-SW	693.30	689.31	688.00
N892-p	Node892	695.30	691.20	13.0	4.4	689.33	2	154	Node894	694.43	690.69	688.81
N894-p	Node894	694.43	690.69	22.6	8.0	688.81	2	43	Node895	693.23	690.19	688.68
N895-p	Node895	693.23	690.19	22.6	7.9	688.68	2.5	35	Node896	693.31	689.86	688.55
N902-p	Node902	706.96	700.14	7.2	6.3	699.59	1.5	154	Node892	695.30	691.20	689.33
os-usSVP-p	Offsite-us-SVPkwy	734.00	730.36	4.8	8.6	730.00	4	427	OffsiteOutfall	714.00	710.35	710.00
os13-p	OffsiteShed 13	740.00	738.46	3.8	6.3	738.00	2	256	OffsiteShed17	735.00	732.54	732.00
os17-p	OffsiteShed17	735.00	732.54	4.8	7.0	732.00	3	93	Offsite-us-SVPkwy	734.00	730.36	730.00
s-os14-p	s-Offsite14	753.00	748.31	4.7	4.1	747.30	1.5	91.5	s9	751.00	747.88	747.04
s-os15-p	s-Offsite15	775.00	769.67	3.9	4.9	765.00	1	45	s6	772.50	769.20	764.55
s11-p	s11	750.00	747.55	1.5	3.0	746.61	1	48	s12	752.00	747.48	746.37
s12-p	s12	752.00	747.48	2.4	2.2	746.37	1.25	191	s-DMA7	751.50	747.28	745.41
s13-p	S13	750.95	746.37	20.3	6.3	743.90	2	56	s14	750.75	745.97	743.69
s14-p	s14	750.75	745.97	21.9	7.1	743.68	2	147	s-DMA16	751.00	744.67	743.00
s1a-p	s1a	774.45	772.35	-1.6	-2.0	768.69	1	90	s1b	774.45	772.34	768.20
s1b-p	s1b	774.45	772.34	-1.1	2.5	768.20	1	94	s1c	774.45	772.32	767.68
s1c-p	s1c	774.45	772.32	-1.1	2.5	767.68	1	116	s1d	774.00	772.26	767.05
s2a-p	s2a	774.45	772.34	-0.9	1.7	767.50	1	138	s2b	774.45	772.32	767.14
s2b-p	s2b	774.45	772.32	1.4	1.8	767.14	1	94	s2c	774.45	772.27	766.90
s2c-p	s2c	774.45	772.27	1.8	2.2	766.90	1	119	s2d	774.00	772.17	766.60
s2d-p	s2d	774.00	772.17	2.7	3.4	766.60	1	91	s3e	774.50	771.71	766.17
s3a-p	s3a	774.45	771.99	-0.8	2.3	768.70	1	107	s3b	774.45	771.98	768.11
s3b-p	s3b	774.45	771.98	1.1	2.8	768.11	1	137	s3c	774.45	771.92	767.36
s3c-p	s3c	774.45	771.92	1.3	2.9	767.36	1	95	s3d	774.45	771.85	766.84
s3d-p	s3d	774.45	771.85	1.3	2.1	766.84	1	121	s3e	774.50	771.71	766.17
s3e-p	s3e	774.50	771.71	4.4	3.5	766.17	1.25	86	s4e	774.00	771.36	765.77
s4a-p	s4a	774.30	771.58	0.8	2.5	768.36	1	112	s4b	774.30	771.55	767.72
s4b-p	s4b	774.30	771.55	1.0	2.8	767.72	1	134	s4c	774.30	771.49	766.97
s4c-p	s4c	774.30	771.49	1.3	3.0	766.97	1	92	s4d	774.30	771.41	766.45
s4d-p	s4d	774.30	771.41	1.7	1.6	766.45	1.25	120	s4e	774.00	771.36	765.77
s4e-p	s4e	774.00	771.36	6.2	4.9	765.77	1.25	143	s5	775.00	770.22	765.05
s5-p	s5	775.00	770.22	6.8	5.5	765.05	1.25	101	s6	772.50	769.20	764.55
s6-p	s6	772.50	769.20	10.4	5.8	764.55	1.5	106	s7	772.00	768.19	764.00
s7-p	s7	772.00	768.19	10.4	8.3	764.00	1.5	212	s8	769.00	763.57	763.00
s8-p	s8	769.00	763.57	12.7	16.6	763.00	1.25	74	s-DMA11	750.75	750.44	747.21
s9-p	s9	751.00	747.74	5.1	4.1	747.04	1.5	135	s-DMA7	751.50	747.28	745.41
sDMA-1p	dsDMA1	729.30	720.28	34.5	12.6	719.16	3	345	dsDMA5+6	720.40	708.48	707.09
sDMA1-p	sDMA1	750.50	746.04	0.8	1.0	744.60	1	172	s14	750.75	745.97	743.68
sDMA10-p	s-DMA10	751.50	747.75	0.4	0.7	747.10	1	84	s9	751.00	747.74	747.04
sDMA11-p	s-DMA11	750.75	750.44	12.1	6.8	747.21	1.5	87	s-DMA5	751.50	749.56	746.43
sDMA12-p	s-DMA12	750.50	744.13	1.1	2.8	743.60	1	162	s-DMA16	751.00	743.44	743.00
sDMA2-p	s-DMA2	750.00	745.99	0.9	1.1	743.80	1	33	s14	750.75	745.97	743.68
sDMA3-p	s-DMA3	750.00	747.56	0.8	2.1	746.80	1	37	s11	750.00	747.55	746.61
sDMA4-p	s-DMA4	750.50	746.40	1.2	1.5	744.00	1	33	S13	750.95	746.37	743.90
sDMA5-p	s-DMA5	751.50	749.56	12.6	7.5	746.43	1.5	190	s-DMA7	751.50	747.28	745.41
sDMA6-p	s-DMA6	749.50	743.60	0.9	3.2	743.20	1	33	s-DMA16	751.00	743.40	743.00
sDMA7-p	s-DMA7	751.50	747.28	19.3	6.5	745.41	2	149	S13	750.95	746.37	743.90
sDMA8-p	s-DMA8	750.00	747.55	0.8	2.0	746.80	1	35	s11	750.00	747.55	746.61
sDMA9-p	s-DMA9	751.50	747.54	0.8	1.9	747.10	1	138	s12	752.00	747.48	746.37
sid-p	s1d	774.00	772.26	1.3	2.3	767.05	1	86	s2d	774.00	772.17	766.60
SVP-DMA16-p	s-DMA16	751.00	729.30	31.6	12.2	728.00	3	230	dsSVP	732.27	724.42	723.38

Table 2 Summary of Hydraulic Parameters & Characteristics of Drainage Facilities

Note that the only DMA that was modelled as a storage area was at Node s-DMA11. This bio-retention area is relatively large and does provide noticeable attenuation that reduces downstream outflow.

The other DMA bio-retention areas could be added to the model if necessary. The modeling results indicate that the proposed storm drain pipes have adequate capacity to convey the 10-year, 24-hour storm. If the other bio-retention areas were added, there would be a decreased peak flow because of the attenuation throughout both projects. They were not added because it seemed unnecessary.

Attachment 1a provides a screen shot of a highlighted reach of storm drain pipe within the project, followed by **Attachment 1b** that shows a profile plot of the pipe with the 10-year, 24-hr storm water surface profile. A similar approach shows the other two drain systems identified as **Attachment 2** and **Attachment 3**. This information is available in Table 1 but is also provided graphically in these attachments to aid the reader.

SUMMARY AND COMMENTS

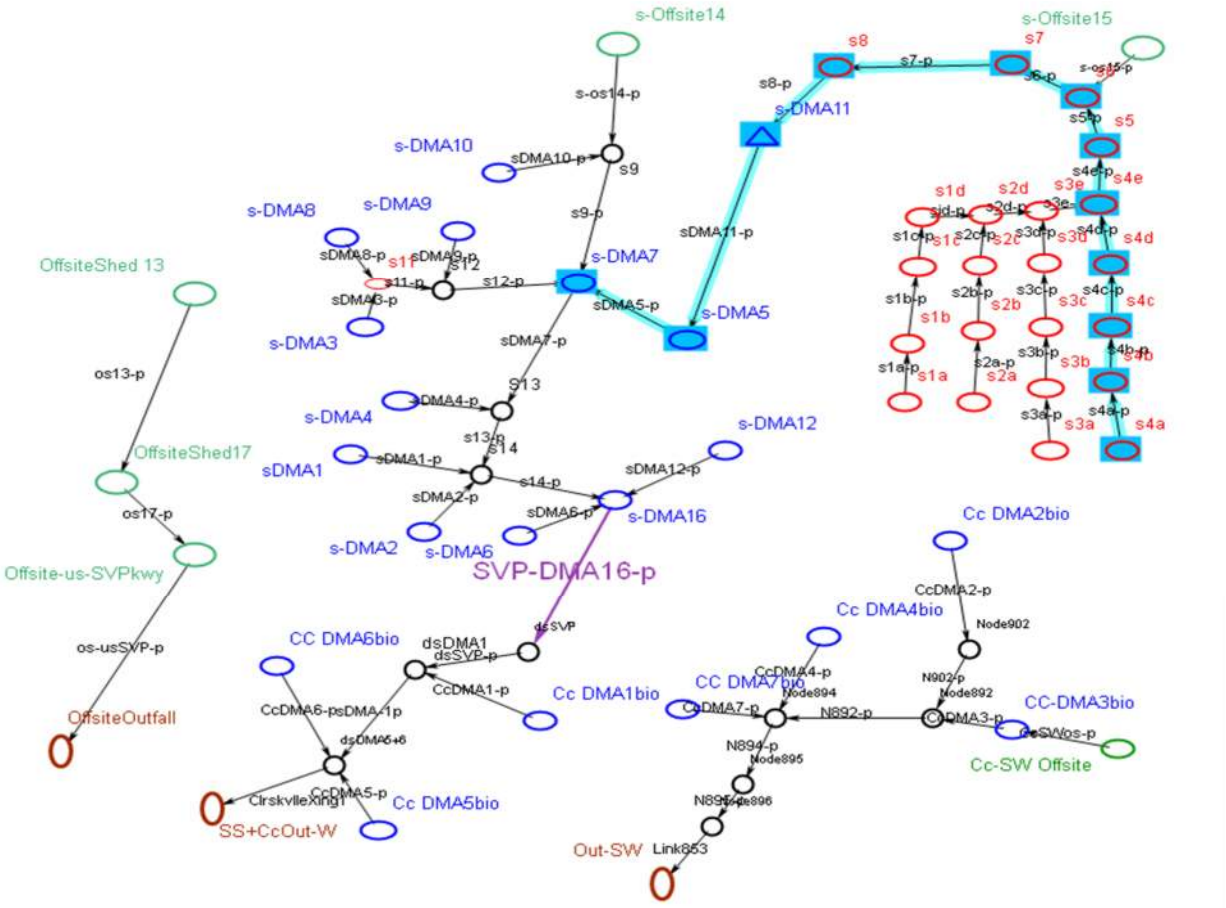
The modeling clearly shows that the proposed piping network for the two projects has adequate capacity to convey the 10-year storm.

Additional detailed information is available upon request including the XP-SWMM model and the rainfall 5-minute distribution depicted in Figure 2.

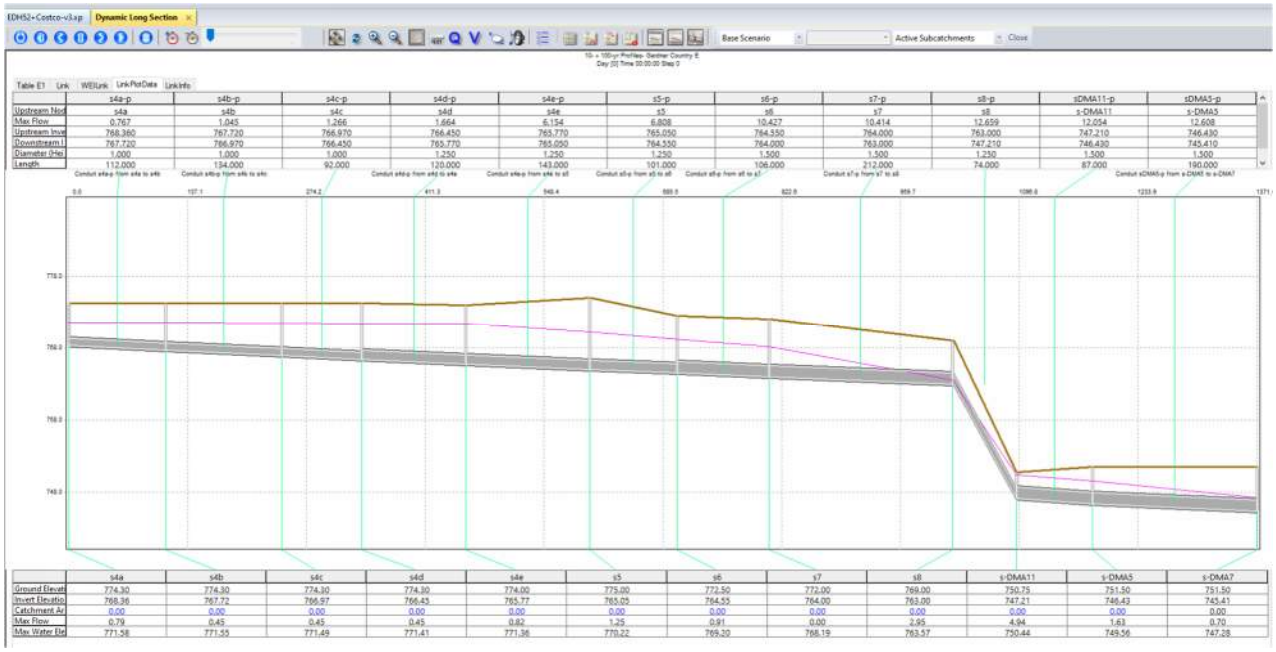
Water quality for the two projects is accomplished via the bio-retention area planters scattered within the projects. No additional information has been provided within this document.

The offsite drainage northwest of the self-storage development has been included in the analysis but is considered as pass-through flow.

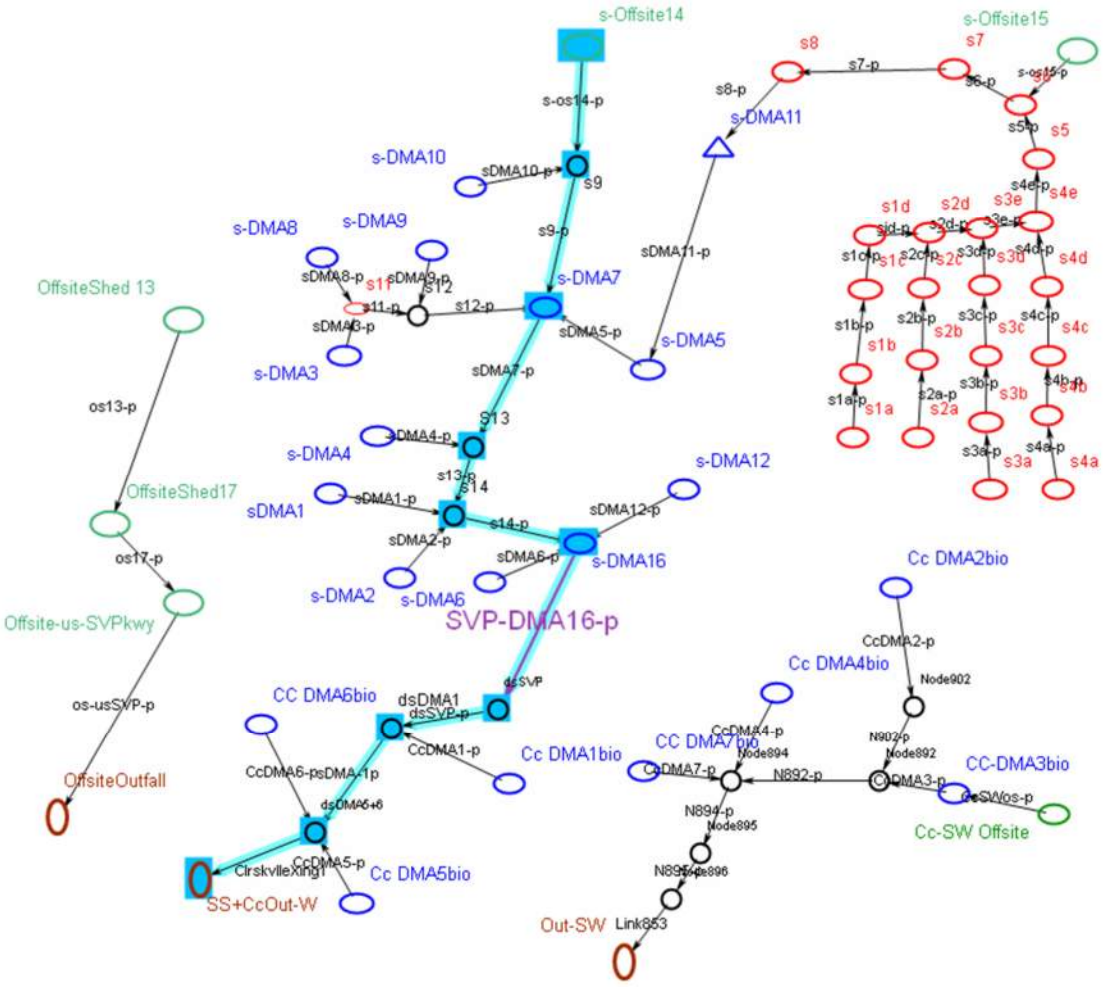
See the Shed and grading exhibits for both the Self-Storage and the Costco site for additional information.



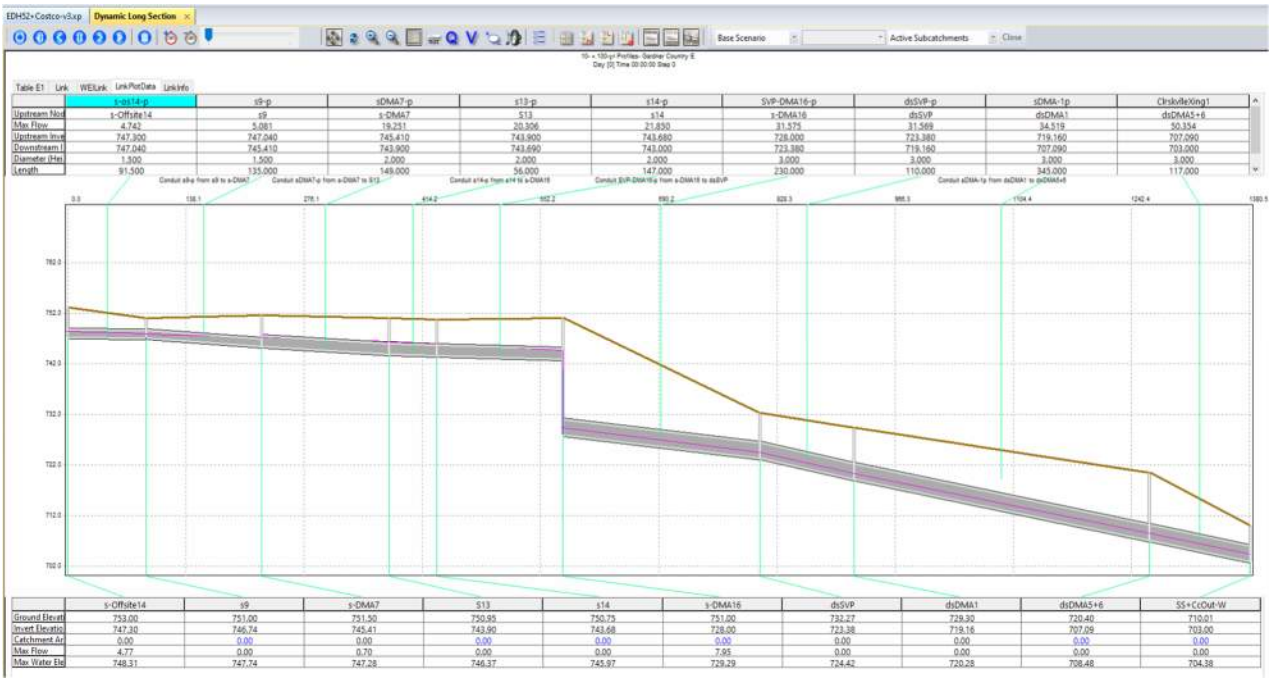
Attachment 1a. Modeling Map with Highlighted Reach 1



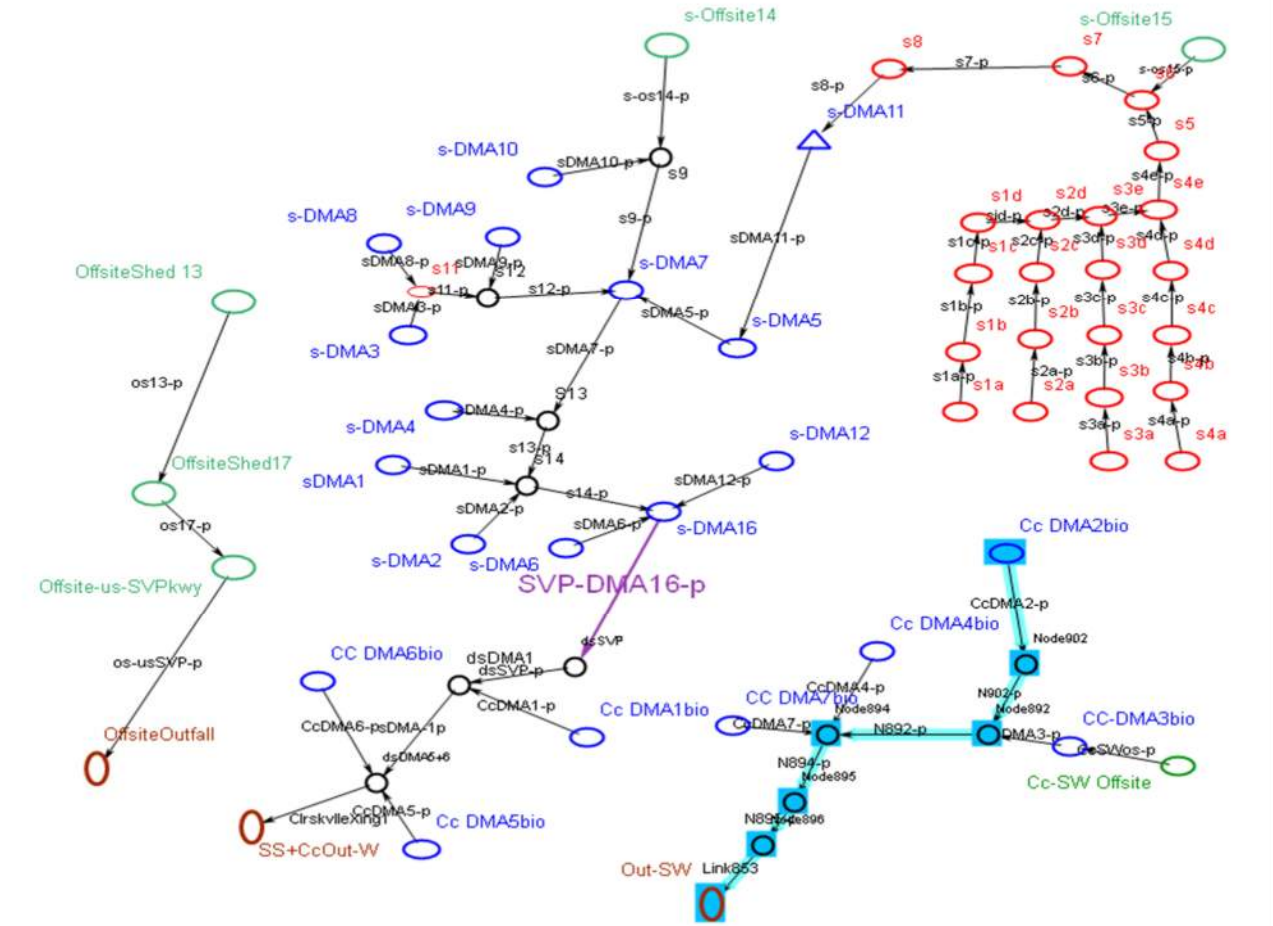
Attachment 1b. 10-yr Water Surface Profile along Reach 1



Attachment 2a. Modeling Map with Highlighted Reach 2

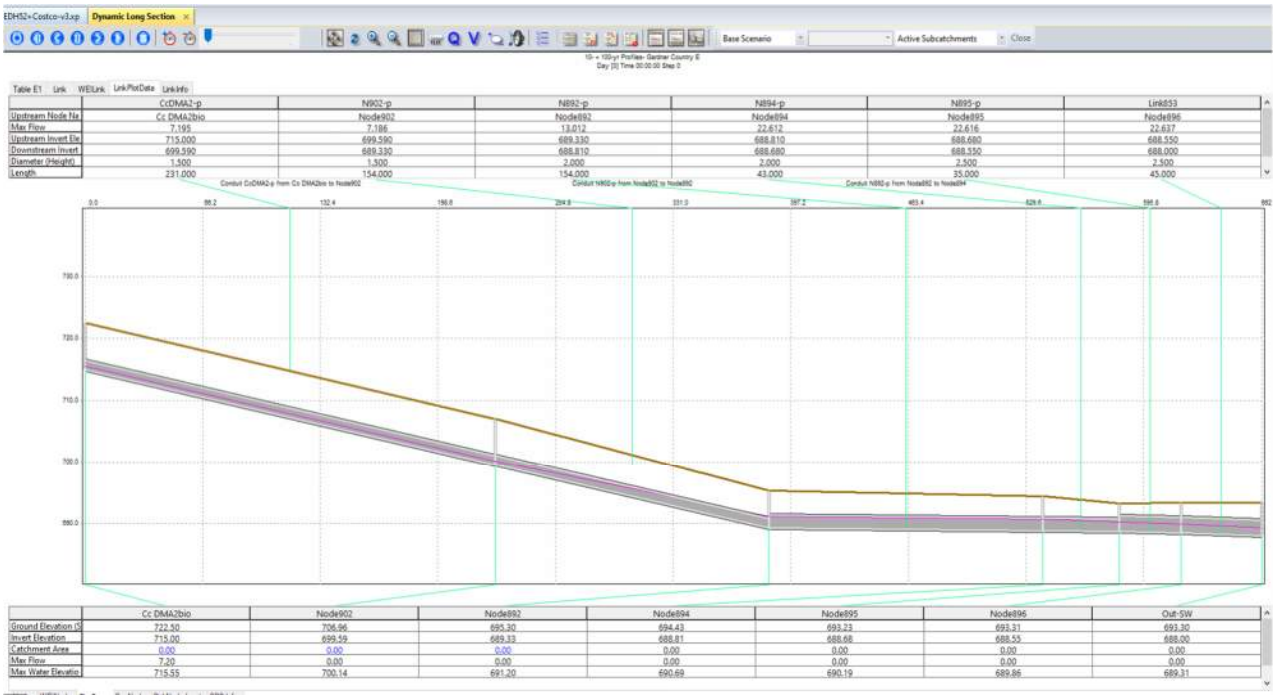


Attachment 2b. 10-yr Water Surface Profile along Reach 2



Attachment 3a. Modeling Map with Highlighted Reach 3

.



Attachment 3b. 10-yr Water Surface Profile along Reach 3

Watermark Engineering, Inc.

DATE: August 20, 2021

TO: Jai Singh

FROM: Patrick Stiehr, PE

RE: Drainage Study for EDH 52, Proposed Self Storage and Costco at Highway 50 and Silva Valley Parkway

OVERVIEW

The project consists of two separate but hydraulically connected developments covering about 50 acres that includes a self-storage complex on the northeast side of Silva Valley Parkway and a Costco on the southwest side. Both are located just north of the Highway 50 interchange. See Figure 1, Vicinity Map.



Figure 1. Vicinity Map

3153 Jenna Court
Roseville, CA 95747

Phone: 916- 774- 1111, Fax: 916- 774- 1181
Mobile: 916- 715- 1167, email: pstiehr@wtrmark.com

A drainage study completed by AE COM evaluated the downstream impacts of the proposed development. Their findings indicated that the development would increase flows at Highway 50 by about 2% for the 10- and 100-year storms.

The AE-COM Drainage Report also included a conclusion that "with little development downstream, the chance of increased damages due to flooding is insignificant." A review using Google Maps indicates the watercourse does pass through several developments south of Hwy 50. After that, there is little or development downstream to State Highway 16 at Sloughhouse.

This study provides evaluation of the onsite facilities to demonstrate 10-year capacity of the proposed drainage facilities and does not address downstream conditions. However, as a comparison, the AE-COM had a unit runoff (cfs per acre) of about 2.0 from the proposed development for the 10-year storm. The analysis provided herein indicates the proposed facilities generate a peak unit runoff of about 1.5 cfs per acre, or about 20 cfs less than indicated within the AE-COM Study.

Another consideration is that the proposed self-storage and Costco development site are at the lower end of the 763-acre watershed the passes under Highway 50. The peak flow from this development area will enter the watercourse and pass under Highway 50 at least 15 minutes before the main stem peak arrives, meaning the likelihood of the proposed development increasing the main stem peak flow is minimal.

HYDROLOGY

The hydrology was based on the SCS methodology embedded within the XP-SWMM software.

Soils

The soils within the project area are classified by the NRCS as Auburn Silt Loam and fall within Hydrologic Group D, low infiltration. The published hydraulic conductivity for the Auburn Silt Loam is 7.09 micrometers per second, or one inch per hour in US units.

Shed Definition

The self-storage site was subdivided into 17 shed areas and as shown on the SW Q1 sheet prepared by RSC Engineering. Sheds 13 thru 17 are offsite sheds. Shed 13 and 17 will be redirected south along the west side of the development. Runoff from Sheds 14 and 15 will be conveyed through the project. Sheds 16 and 17 will be graded and be the transition area. These sheds will be sloped from the project area down to collection swales and then conveyed south under Silva Valley Parkway and then through the Costco site.

The Costco site was subdivided into seven Drainage Management Areas (DMAs) as shown on the Shed Map Exhibit prepared by Kier+Wright. There is an additional offsite shed at the southeast corner. Runoff from this area will be collected and conveyed southwest.

SCS Parameters

The idealized rainfall distribution for the 10-year, 24-hour storm was developed from the El Dorado County Table A2.2.3, depth-duration-frequency, developed by Jim Goodridge, 2008. A screen shot of the hyetograph is shown in Figure 2. The mean annual rainfall was estimated at 27 inches per year.

An assumed time-of-concentration of five minutes and a Curve Number of 95 were used for all nodes within the project areas. **Table 1** provides a summary of the shed areas and peak flows from the 10-year, 24-hour storm.

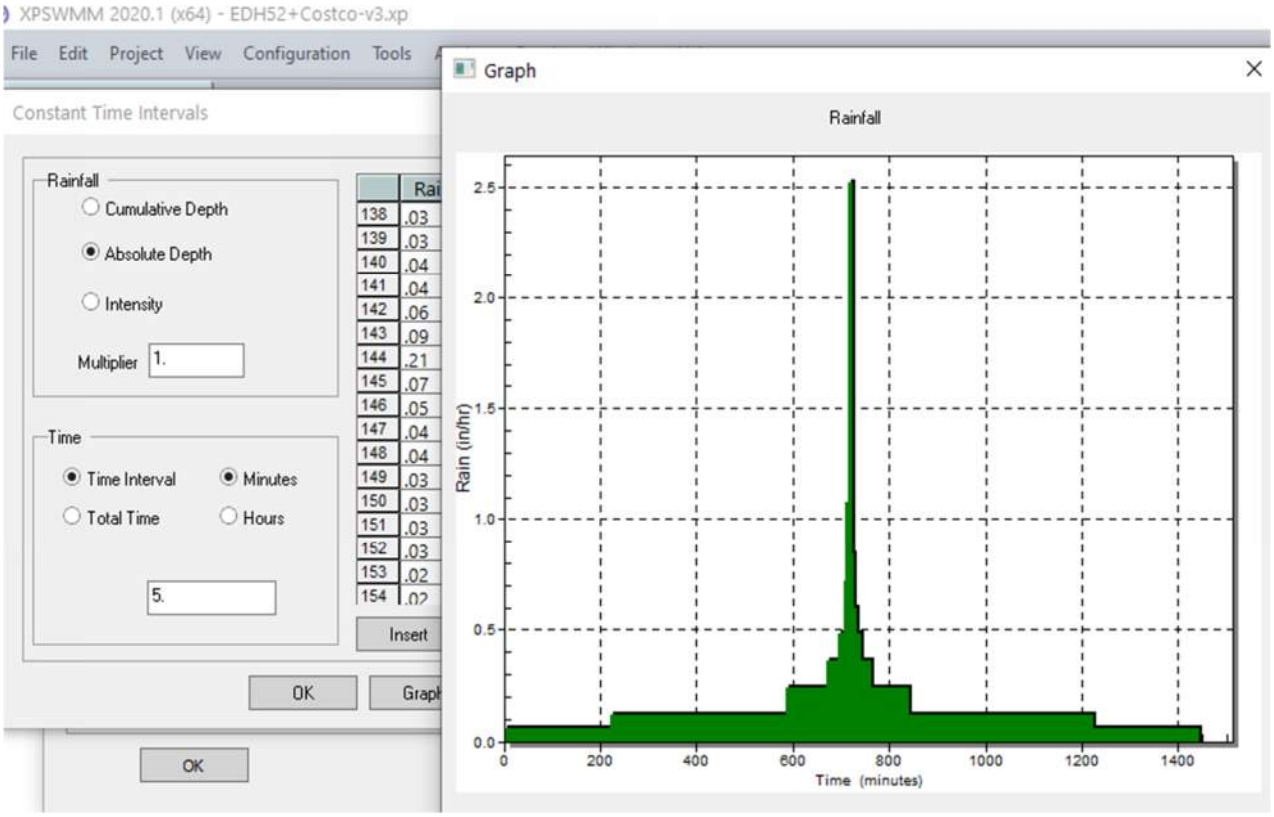


Figure 2. Plot of Rainfall Hyetograph for 10-year, 24-hour Storm

Table 1	Shed 10-yr Peak Flow and SCS Parameters					08/20/2021
Name	Area (ac)	Max 10-yr Pk Flow cfs	Initial Abstraction Depth (in)	Initial Abstraction Method	Pervious Area Curve Number	Time of Concentration (min)
Cc DMA1bio	1.37	3.06	0.05	Depth	95	5
Cc DMA2bio	3.22	7.199	0.05	Depth	95	5
Cc DMA4bio	3.69	8.317	0.05	Depth	95	5
Cc DMA5bio	4.36	9.861	0.05	Depth	95	5
CC DMA6bio	2.80	6.271	0.05	Depth	95	5
CC DMA7bio	0.98	2.136	0.05	Depth	95	5
CC-DMA3bio	0.12	0.268	0.05	Depth	95	5
Cc-SW Offsite	4.55	6.283	0.05	Depth	80	10
OffsiteShed 13	3.78	3.805	0.04	Fraction	80	10
OffsiteShed17	1.06	1.396	0.04	Fraction	80	5
s1a	0.20	0.453	0.05	Depth	95	5
s1b	0.19	0.431	0.05	Depth	95	5
s1c	0.20	0.453	0.05	Depth	95	5
s1d	0.30	0.68	0.05	Depth	95	5
s2a	0.35	0.794	0.05	Depth	95	5
s2b	0.25	0.567	0.05	Depth	95	5
s2c	0.25	0.567	0.05	Depth	95	5
s2d	0.27	0.612	0.05	Depth	95	5
s3a	0.30	0.68	0.05	Depth	95	5
s3b	0.25	0.567	0.05	Depth	95	5
s3c	0.20	0.453	0.05	Depth	95	5
s3d	0.20	0.453	0.05	Depth	95	5
s3e	0.28	0.635	0.05	Depth	95	5
s4a	0.35	0.794	0.05	Depth	95	5
s4b	0.20	0.453	0.05	Depth	95	5
s4c	0.20	0.453	0.05	Depth	95	5
s4d	0.20	0.453	0.05	Depth	95	5
s4e	0.36	0.816	0.05	Depth	95	5
s5	0.55	1.247	0.05	Depth	95	5
s6	0.40	0.907	0.05	Depth	95	5
s8	1.30	2.948	0.05	Depth	95	5
sDMA1	0.34	0.771	0.05	Depth	95	5
s-DMA10	0.16	0.362	0.05	Depth	95	5
s-DMA11	2.18	4.938	0.05	Depth	95	5
s-DMA12	0.49	1.108	0.05	Depth	95	5
s-DMA16	3.62	7.954	0.05	Depth	95	5
s-DMA2	0.39	0.884	0.05	Depth	95	5
s-DMA3	0.39	0.883	0.05	Depth	95	5
s-DMA4	0.52	1.177	0.05	Depth	95	5
s-DMA5	0.72	1.633	0.05	Depth	95	5
s-DMA6	0.42	0.952	0.05	Depth	95	5
s-DMA7	0.31	0.703	0.05	Depth	95	5
s-DMA8	0.37	0.837	0.05	Depth	95	5
s-DMA9	0.36	0.815	0.05	Depth	95	5
s-Offsite14	2.11	4.767	0.05	Depth	95	5
s-Offsite15	1.93	4.027	0.05	Depth	95	6

Table 1 – Shed Summary

HYDRAULICS

The XP-SWMM software was used for the backwater analysis. Drainage facilities information for the modeling was based on the Preliminary Grading Plan by RSC Engineering for the self-storage site and the Drainage Exhibit prepared by Kier+Wright for the Costco site.

Figure 3 provides a schematic modeling map for the two projects. **Figures 4 and 5** provide additional detail of the modeling schematic. **Table 2** provides a summary of the hydraulic parameters and characteristics of drainage facilities.

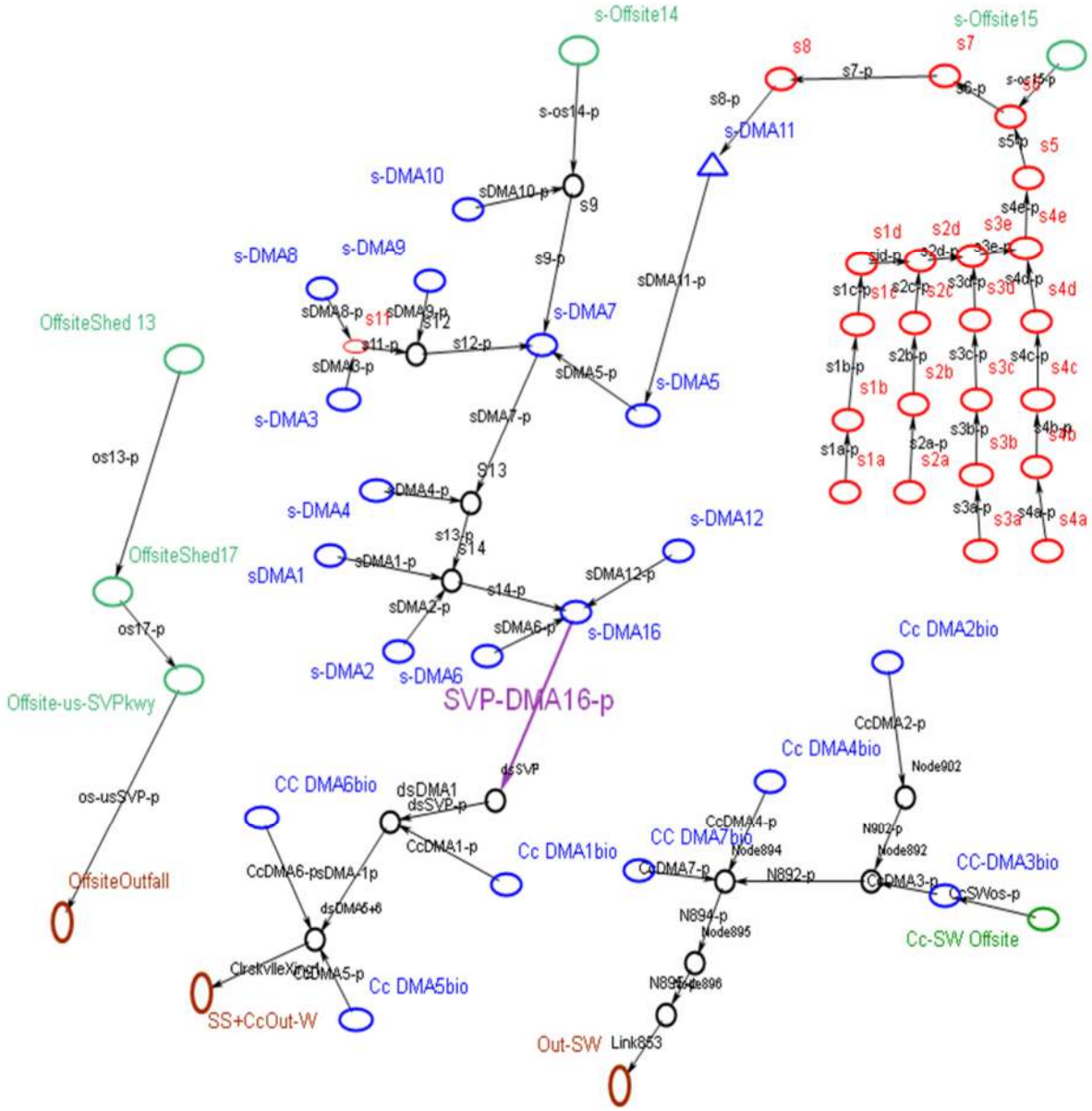


Figure 3 Modeling Map

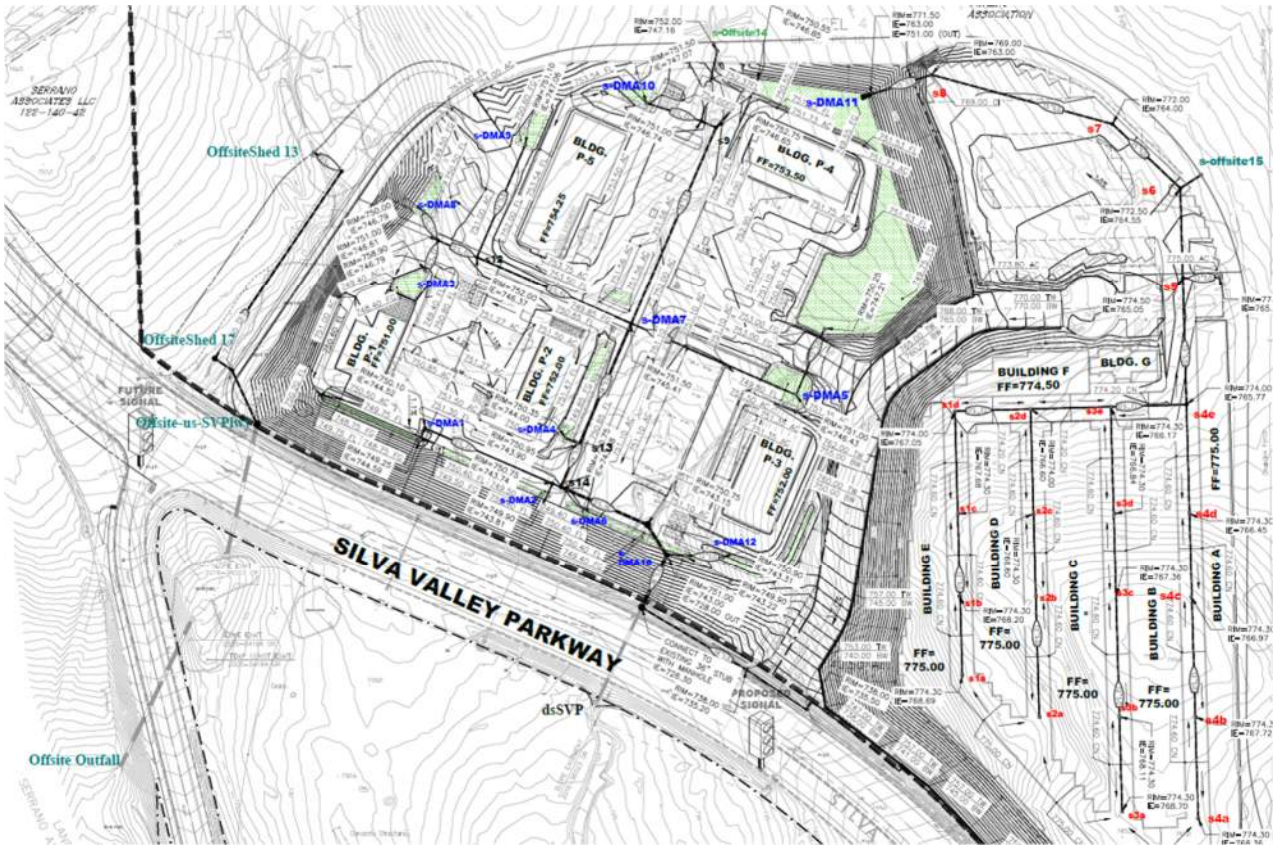


Figure 4. Modeling Map for Self Storage

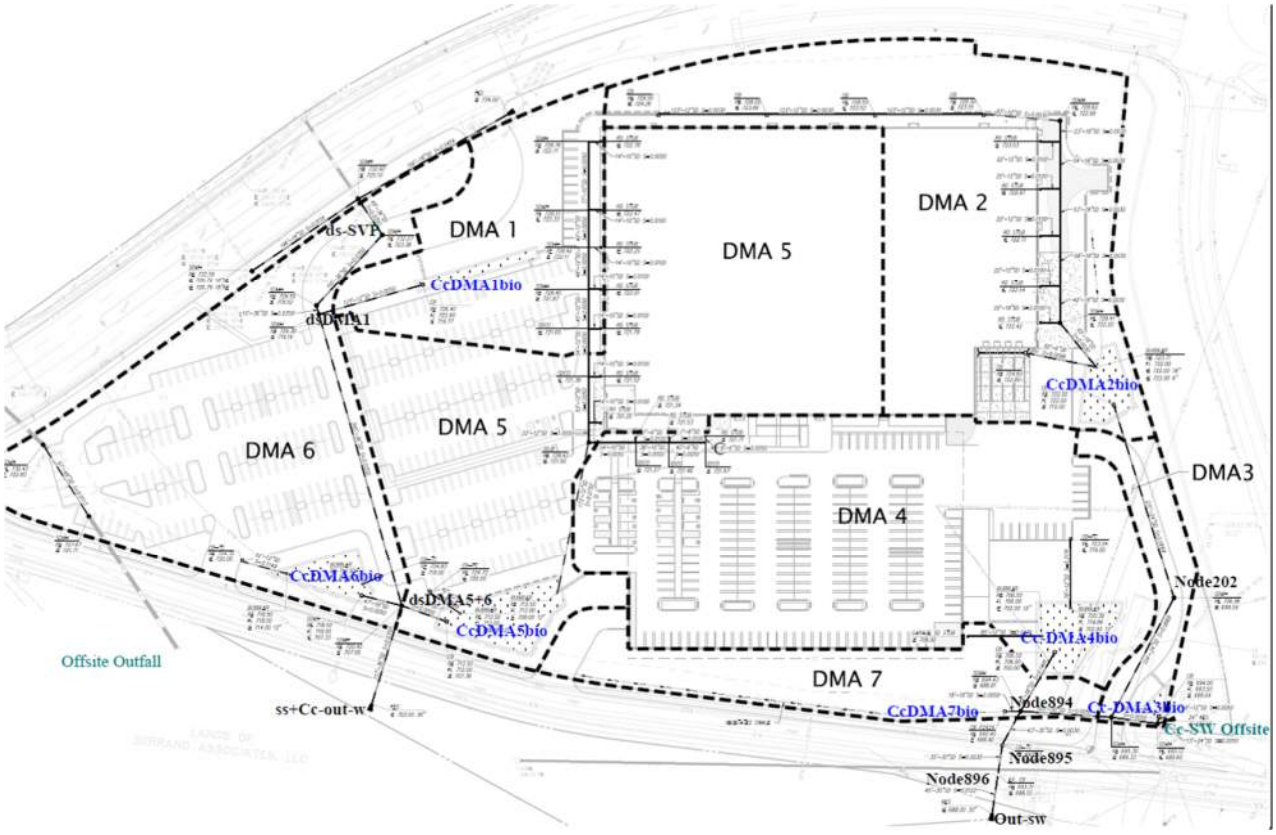


Figure 5. Modeling Map for Costco

Table 2		Hydraulic Information										8/20/21
Link Name	Upstream Node Name	US Max Crown Elev ft	US Max Water Elev ft	Max Flow cfs	Max Vel ft/s	US Invert Elevation ft	Dia meter ft	Length ft	Downstream Node Name	DS Max Crown Elev ft	DS Max Water Elev ft	DS Invert Elev ft
CcDMA1-p	Cc DMA1bio	726.40	721.28	3.1	3.8	719.77	1	123	dsDMA1	729.30	720.28	719.16
CcDMA2-p	Cc DMA2bio	722.50	715.55	7.2	12.3	715.00	1.5	231	Node902	706.96	700.14	699.59
CcDMA3-p	CC-DMA3bio	694.00	691.24	6.8	3.1	689.60	2	53	Node892	695.30	691.20	689.33
CcDMA4-p	Cc DMA4bio	706.50	700.50	8.3	11.7	700.00	1.5	78	Node894	694.43	690.69	688.81
CcDMA5-p	Cc DMA5bio	712.50	709.68	9.9	8.3	709.00	1.5	33	dsDMA5+6	720.40	708.48	707.09
CcDMA6-p	CC DMA6bio	718.50	708.64	6.3	3.8	707.33	1.5	47	dsDMA5+6	720.40	708.48	707.09
CcDMA7-p	CC DMA7bio	696.00	690.70	2.1	1.2	688.98	1.5	33	Node894	694.43	690.69	688.81
CcSWos-p	Cc-SW Offsite	696.00	691.26	6.4	3.3	689.66	2	33	CC-DMA3bio	694.00	691.24	689.60
ClrskvlleXing1	dsDMA5+6	720.40	708.48	50.4	15.8	707.09	3	117	SS+CcOut-W	710.01	704.38	703.00
dsSVP-p	dsSVP	732.27	724.42	31.6	13.8	723.38	3	110	dsDMA1	729.30	720.28	719.16
Link853	Node896	693.31	689.86	22.6	8.7	688.55	2.5	45	Out-SW	693.30	689.31	688.00
N892-p	Node892	695.30	691.20	13.0	4.4	689.33	2	154	Node894	694.43	690.69	688.81
N894-p	Node894	694.43	690.69	22.6	8.0	688.81	2	43	Node895	693.23	690.19	688.68
N895-p	Node895	693.23	690.19	22.6	7.9	688.68	2.5	35	Node896	693.31	689.86	688.55
N902-p	Node902	706.96	700.14	7.2	6.3	699.59	1.5	154	Node892	695.30	691.20	689.33
os-usSVP-p	Offsite-us-SVPkwy	734.00	730.36	4.8	8.6	730.00	4	427	OffsiteOutfall	714.00	710.35	710.00
os13-p	OffsiteShed 13	740.00	738.46	3.8	6.3	738.00	2	256	OffsiteShed17	735.00	732.54	732.00
os17-p	OffsiteShed17	735.00	732.54	4.8	7.0	732.00	3	93	Offsite-us-SVPkwy	734.00	730.36	730.00
s-os14-p	s-Offsite14	753.00	748.31	4.7	4.1	747.30	1.5	91.5	s9	751.00	747.88	747.04
s-os15-p	s-Offsite15	775.00	769.67	3.9	4.9	765.00	1	45	s6	772.50	769.20	764.55
s11-p	s11	750.00	747.55	1.5	3.0	746.61	1	48	s12	752.00	747.48	746.37
s12-p	s12	752.00	747.48	2.4	2.2	746.37	1.25	191	s-DMA7	751.50	747.28	745.41
s13-p	S13	750.95	746.37	20.3	6.3	743.90	2	56	s14	750.75	745.97	743.69
s14-p	s14	750.75	745.97	21.9	7.1	743.68	2	147	s-DMA16	751.00	744.67	743.00
s1a-p	s1a	774.45	772.35	-1.6	-2.0	768.69	1	90	s1b	774.45	772.34	768.20
s1b-p	s1b	774.45	772.34	-1.1	2.5	768.20	1	94	s1c	774.45	772.32	767.68
s1c-p	s1c	774.45	772.32	-1.1	2.5	767.68	1	116	s1d	774.00	772.26	767.05
s2a-p	s2a	774.45	772.34	-0.9	1.7	767.50	1	138	s2b	774.45	772.32	767.14
s2b-p	s2b	774.45	772.32	1.4	1.8	767.14	1	94	s2c	774.45	772.27	766.90
s2c-p	s2c	774.45	772.27	1.8	2.2	766.90	1	119	s2d	774.00	772.17	766.60
s2d-p	s2d	774.00	772.17	2.7	3.4	766.60	1	91	s3e	774.50	771.71	766.17
s3a-p	s3a	774.45	771.99	-0.8	2.3	768.70	1	107	s3b	774.45	771.98	768.11
s3b-p	s3b	774.45	771.98	1.1	2.8	768.11	1	137	s3c	774.45	771.92	767.36
s3c-p	s3c	774.45	771.92	1.3	2.9	767.36	1	95	s3d	774.45	771.85	766.84
s3d-p	s3d	774.45	771.85	1.3	2.1	766.84	1	121	s3e	774.50	771.71	766.17
s3e-p	s3e	774.50	771.71	4.4	3.5	766.17	1.25	86	s4e	774.00	771.36	765.77
s4a-p	s4a	774.30	771.58	0.8	2.5	768.36	1	112	s4b	774.30	771.55	767.72
s4b-p	s4b	774.30	771.55	1.0	2.8	767.72	1	134	s4c	774.30	771.49	766.97
s4c-p	s4c	774.30	771.49	1.3	3.0	766.97	1	92	s4d	774.30	771.41	766.45
s4d-p	s4d	774.30	771.41	1.7	1.6	766.45	1.25	120	s4e	774.00	771.36	765.77
s4e-p	s4e	774.00	771.36	6.2	4.9	765.77	1.25	143	s5	775.00	770.22	765.05
s5-p	s5	775.00	770.22	6.8	5.5	765.05	1.25	101	s6	772.50	769.20	764.55
s6-p	s6	772.50	769.20	10.4	5.8	764.55	1.5	106	s7	772.00	768.19	764.00
s7-p	s7	772.00	768.19	10.4	8.3	764.00	1.5	212	s8	769.00	763.57	763.00
s8-p	s8	769.00	763.57	12.7	16.6	763.00	1.25	74	s-DMA11	750.75	750.44	747.21
s9-p	s9	751.00	747.74	5.1	4.1	747.04	1.5	135	s-DMA7	751.50	747.28	745.41
sDMA-1p	dsDMA1	729.30	720.28	34.5	12.6	719.16	3	345	dsDMA5+6	720.40	708.48	707.09
sDMA1-p	sDMA1	750.50	746.04	0.8	1.0	744.60	1	172	s14	750.75	745.97	743.68
sDMA10-p	s-DMA10	751.50	747.75	0.4	0.7	747.10	1	84	s9	751.00	747.74	747.04
sDMA11-p	s-DMA11	750.75	750.44	12.1	6.8	747.21	1.5	87	s-DMA5	751.50	749.56	746.43
sDMA12-p	s-DMA12	750.50	744.13	1.1	2.8	743.60	1	162	s-DMA16	751.00	743.44	743.00
sDMA2-p	s-DMA2	750.00	745.99	0.9	1.1	743.80	1	33	s14	750.75	745.97	743.68
sDMA3-p	s-DMA3	750.00	747.56	0.8	2.1	746.80	1	37	s11	750.00	747.55	746.61
sDMA4-p	s-DMA4	750.50	746.40	1.2	1.5	744.00	1	33	S13	750.95	746.37	743.90
sDMA5-p	s-DMA5	751.50	749.56	12.6	7.5	746.43	1.5	190	s-DMA7	751.50	747.28	745.41
sDMA6-p	s-DMA6	749.50	743.60	0.9	3.2	743.20	1	33	s-DMA16	751.00	743.40	743.00
sDMA7-p	s-DMA7	751.50	747.28	19.3	6.5	745.41	2	149	S13	750.95	746.37	743.90
sDMA8-p	s-DMA8	750.00	747.55	0.8	2.0	746.80	1	35	s11	750.00	747.55	746.61
sDMA9-p	s-DMA9	751.50	747.54	0.8	1.9	747.10	1	138	s12	752.00	747.48	746.37
sid-p	s1d	774.00	772.26	1.3	2.3	767.05	1	86	s2d	774.00	772.17	766.60
SVP-DMA16-p	s-DMA16	751.00	729.30	31.6	12.2	728.00	3	230	dsSVP	732.27	724.42	723.38

Table 2 Summary of Hydraulic Parameters & Characteristics of Drainage Facilities

Note that the only DMA that was modelled as a storage area was at Node s-DMA11. This bio-retention area is relatively large and does provide noticeable attenuation that reduces downstream outflow.

The other DMA bio-retention areas could be added to the model if necessary. The modeling results indicate that the proposed storm drain pipes have adequate capacity to convey the 10-year, 24-hour storm. If the other bio-retention areas were added, there would be a decreased peak flow because of the attenuation throughout both projects. They were not added because it seemed unnecessary.

Attachment 1a provides a screen shot of a highlighted reach of storm drain pipe within the project, followed by **Attachment 1b** that shows a profile plot of the pipe with the 10-year, 24-hr storm water surface profile. A similar approach shows the other two drain systems identified as **Attachment 2** and **Attachment 3**. This information is available in Table 1 but is also provided graphically in these attachments to aid the reader.

SUMMARY AND COMMENTS

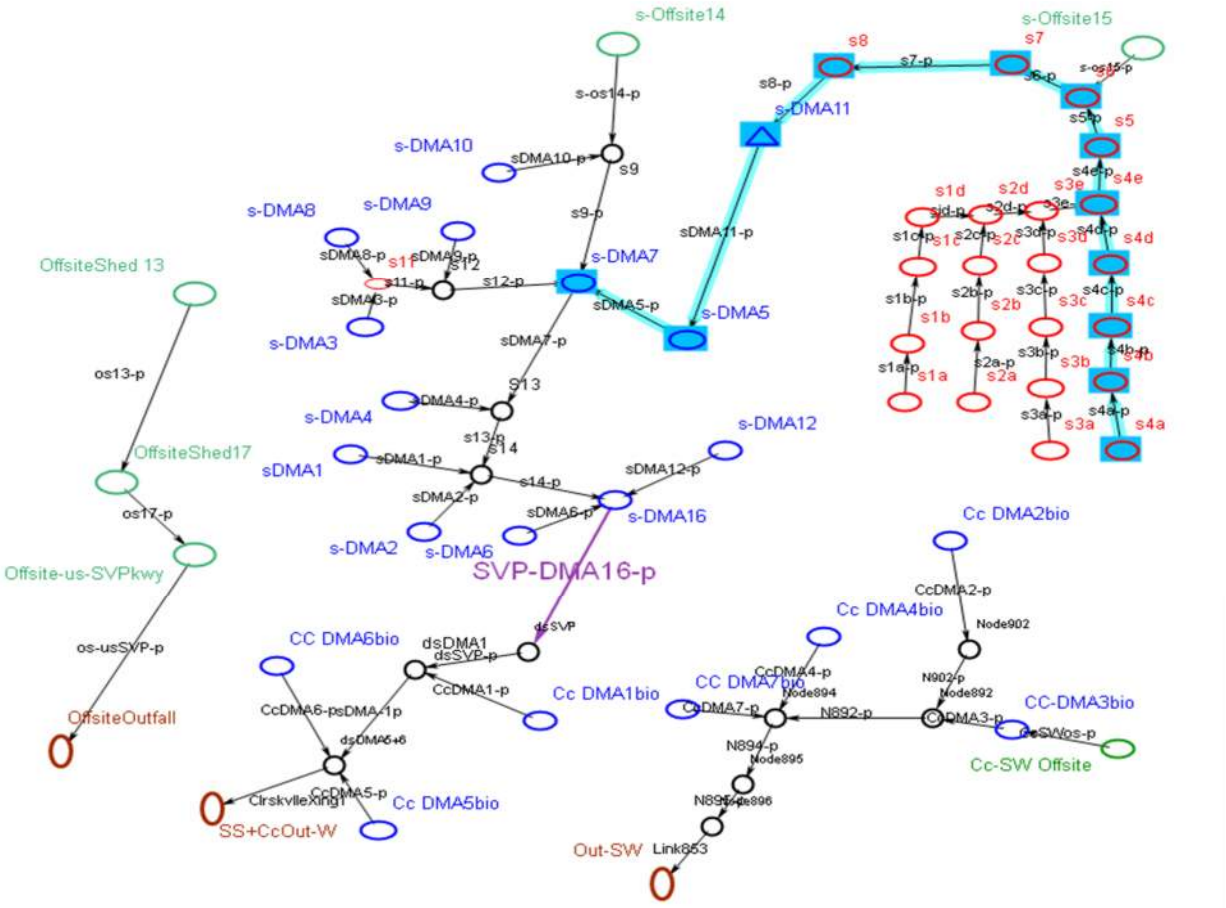
The modeling clearly shows that the proposed piping network for the two projects has adequate capacity to convey the 10-year storm.

Additional detailed information is available upon request including the XP-SWMM model and the rainfall 5-minute distribution depicted in Figure 2.

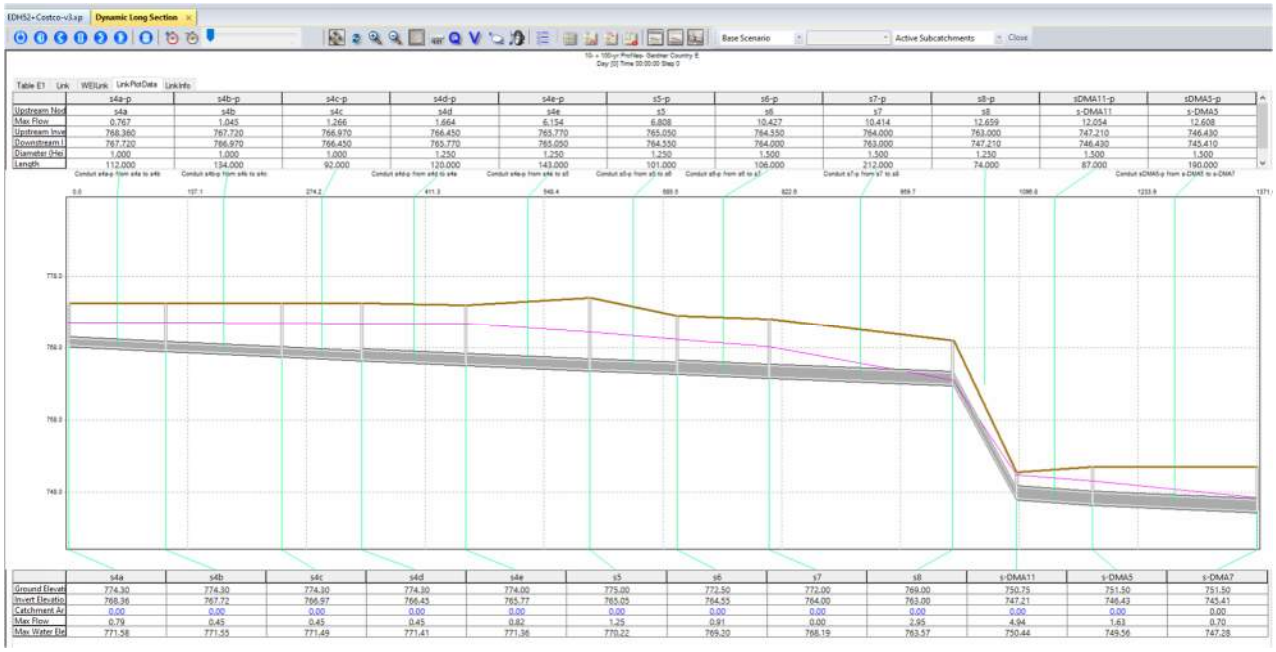
Water quality for the two projects is accomplished via the bio-retention area planters scattered within the projects. No additional information has been provided within this document.

The offsite drainage northwest of the self-storage development has been included in the analysis but is considered as pass-through flow.

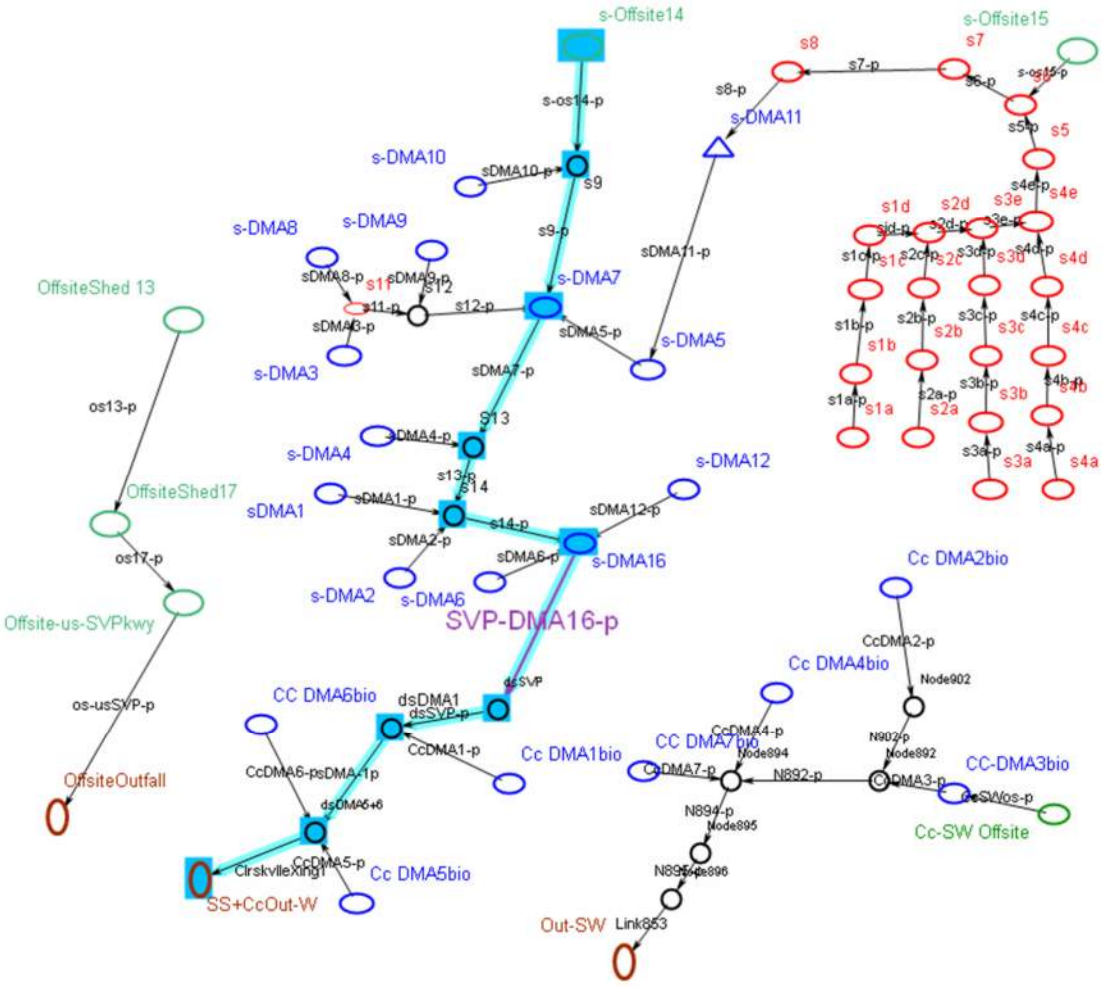
See the Shed and grading exhibits for both the Self-Storage and the Costco site for additional information.



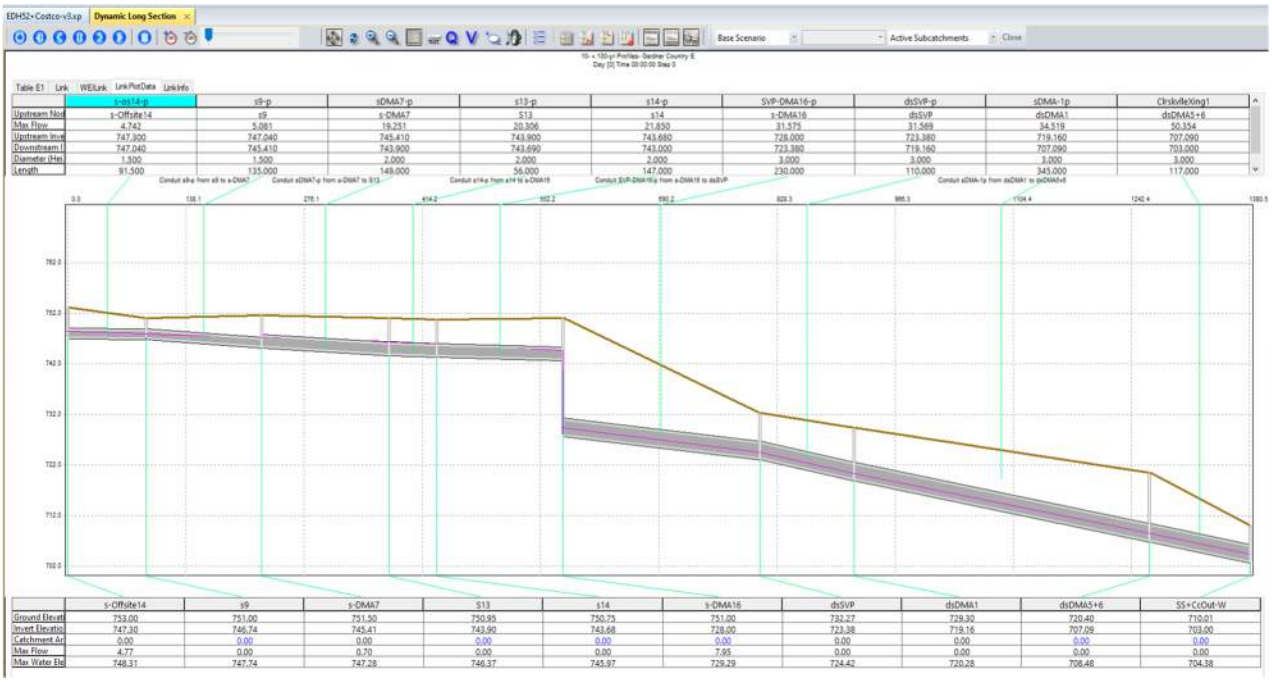
Attachment 1a. Modeling Map with Highlighted Reach 1



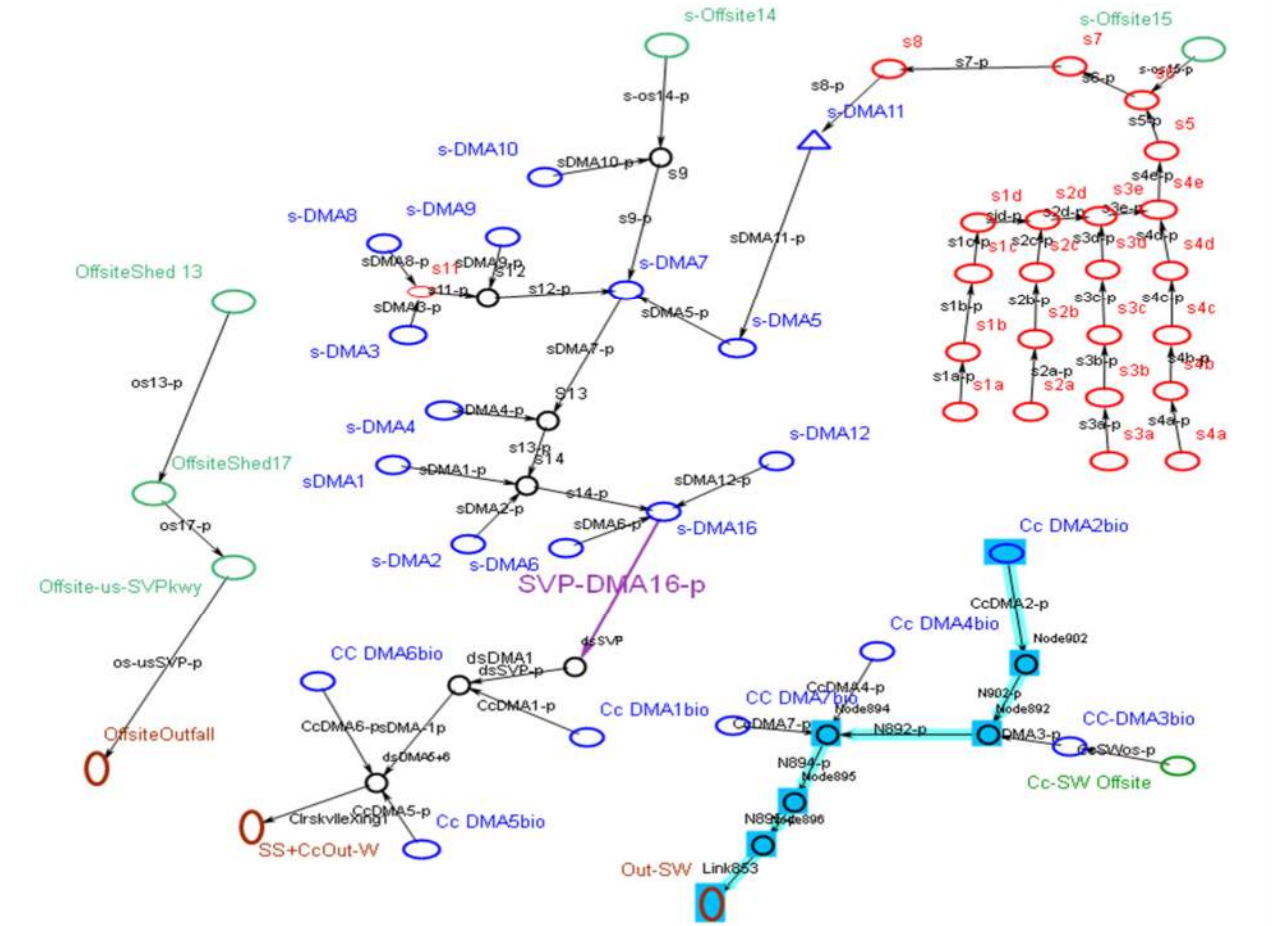
Attachment 1b. 10-yr Water Surface Profile along Reach 1



Attachment 2a. Modeling Map with Highlighted Reach 2

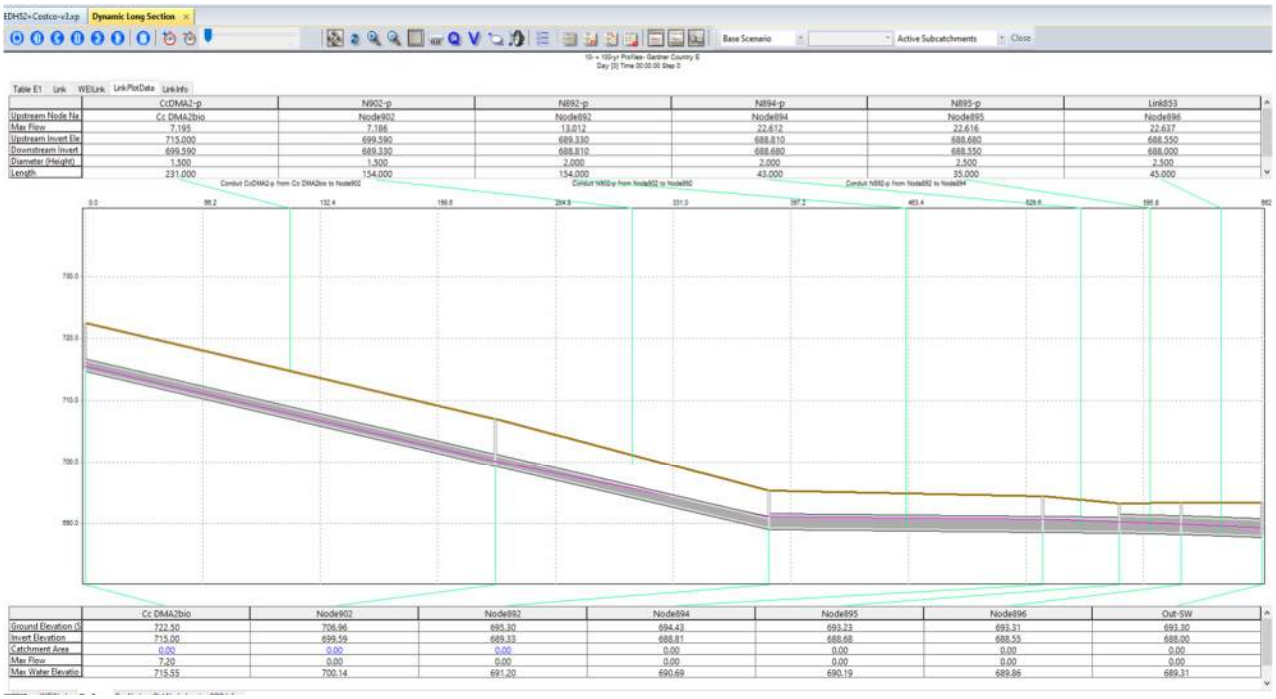


Attachment 2b. 10-yr Water Surface Profile along Reach 2



Attachment 3a. Modeling Map with Highlighted Reach 3

.



Attachment 3b. 10-yr Water Surface Profile along Reach 3

NOTICE OF PREPARATION
OF A DRAFT ENVIRONMENTAL IMPACT REPORT

Date: August 23, 2021

To: Agencies and Interested Parties

From: Gina Hamilton, Senior Planner, County of El Dorado

Subject: **Notice of Preparation of Draft Environmental Impact Report and Notice of Public Scoping Meeting for the EDH 52 Commercial Center (Application Nos. Planned Development Permit PD15-0001, Rezone Z17-0004, Conditional Use Permit CUP-R21-0024, Tentative Parcel Map P17-0007, Lot Line Adjustment LLA21-0009)**

Review Period: August 23, 2021 to September 21, 2021

The County of El Dorado will be the Lead Agency and will prepare an Environmental Impact Report (EIR) for the proposed EDH 52 Commercial Center (project) located in unincorporated El Dorado County (County). This Notice of Preparation (NOP) initiates the environmental scoping process in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code Section 21080.4) and CEQA Guidelines (14 California Code of Regulations [CCR] Section 15082). The purpose of an NOP is to provide sufficient information about the proposed project and its potential environmental effects to allow public agencies, organizations, tribes, and interested members of the public the opportunity to provide a meaningful response related to the scope and content of the EIR, including feasible mitigation measures and project alternatives that should be considered in the EIR (CEQA Guidelines, 14 CCR Section 15082[b]). The proposed project and location are briefly described below.

PROVIDING COMMENTS

El Dorado County is soliciting written comments from public agencies, organizations, tribes, and individuals regarding the scope and content of the environmental document. Because of time limits mandated by State law, comments should be provided at the earliest possible date, but no later than 5:00 p.m. on Tuesday, September 21, 2021. Please send all comments to:

Gina Hamilton, Senior Planner
County of El Dorado Planning Division
2850 Fairlane Court, Building C
Placerville, CA 95667
Email: EDH52CommercialCenter@edcgov.us

Agencies that are responsible agencies or trustee agencies will need to use the EIR when considering permits or other approvals for the project. Such agencies should provide the name of a contact person, phone number, and email address in their comment. Comments provided by email should include "EDH 52 Commercial Center NOP Comment" in the subject line, and the name and physical address of the commenter in the body of the email.

PROJECT LOCATION

The project site is located in an unincorporated area of El Dorado County, in the El Dorado Hills area (Figure 1). As shown in Figure 2, the project site is on the north side of U.S. Highway 50 (U.S. 50) and is bisected by Silva Valley Parkway. Existing land uses near the project site include vacant land, residences, and an elementary school to the north; Tong Road and U.S. 50 to the south; a church to the southeast; vacant land to the east; and Clarksville Crossing Road to the west. The project site encompasses 43.26 acres, including Assessor's Parcel Numbers (APNs) 122-720-002, -003, -018, -019, -020, and -021.

PROJECT DESCRIPTION

The project site is split into the North Site and the South Site. The northern portion of the site (North Site) is 24.83 acres and the southern site (South Site) is 18.43 acres. The entire project site has a General Plan Land Use Designation of Commercial (C). The North Site is currently zoned Commercial Regional – Planned Development (CR-PD). The South Site is predominantly zoned CR-PD and also includes small parcels of Commercial Limited (CL) and Transportation Corridor (TC). Because the project site has an existing Planned Development overlay, the applicant is seeking a Planned Development Permit (PD). Figure 3 shows the site plans for both the North Site and South Site.

North Site

The North Site would include rezoning the site from CR-PD to Community Commercial – Planned Development (CC-PD). The project also seeks approval of a Tentative Parcel Map for the North Site to reconfigure existing parcels create 8 individual parcels. Development of parcels 1 through 5 may include the following uses: drive-through uses, gas station with car wash, food service, outdoor patio, and other retail and office uses permitted in the CC zone. A self-storage facility would utilize parcels 5 and 6 for a recreational vehicle (RV) storage lot and self-storage buildings with approval of a Conditional Use Permit (CUP). A portion of the planned Country Club Drive extension (County Capital Improvement Project No. 36105008) would be constructed and would provide a secondary full access to the North Site on parcel 8. The remainder of parcel 8 would be for the future extension of Country Club Drive. The building area for the North Site would be approximately 162,000 square feet (sf).

South Site

The South Site would include rezoning of the CL and TC portions to CR-PD, resulting in the entire site having the CR-PD zone. The project also seeks a lot line adjustment for the South Site. Development of the South Site would include approximately 156,000 sf of building area that would include a Costco warehouse retail center, tire sales and installation, optical exams and optical sales, photo center and processing, hearing aid testing and sales, food service preparation and sales, meat preparation and sales, bakery and sales of baked goods, alcohol sales, and propane refueling and sales adjacent to the tire sales and installation facility. The warehouse is proposed to include one customer entrance to the main Costco store, which would be located at the northwest corner. Development on the South Site would exclude the 1.38-acre area located west of Clarksville Crossing.

The South Site has been designed to accommodate the existing slope of the site by locating the Costco warehouse building in the southeast corner of the site, where the elevation of existing streets adjacent to the site are the highest. Parking would be provided in two at-grade lots and one subterranean lot beneath one of the at-grade lots. Vehicle access to this lower-level parking would be provided by ramps on the north and south sides of the underground parking structure. A third ramp would provide pedestrian access from the lower level up to the at-grade parking and entry to the warehouse building.

It is anticipated that the Costco warehouse would employ approximately 165 to 170 employees. The warehouse hours are anticipated to be Monday through Friday from 9:00 a.m. to 8:30 p.m., and Saturday and Sunday from 9:00 a.m. to 7:00 p.m.

Signage

The project also proposes signage to include highway-oriented and monument signs as well as building signage.

Site Access

A traffic signal is proposed at the main driveways and Silva Valley Parkway where access would be provided to both the North Site and the South Site. A portion of Country Club Drive extension would be constructed to a secondary full access driveway to the North Site. An emergency access to Tong Road from the self-storage facility on the North Site is also proposed. Three full access driveways are proposed on Clarksville Crossing Road to provide additional points of access from the South Site.

Loading

The South Site truck loading dock is proposed to be located at the southwest corner of the building adjacent to U.S. 50. The bay doors would be equipped with sealed gaskets to limit noise impacts. A smaller on-grade door would also be located on the south side of the building. This door is to receive bread deliveries and small delivery vans/trucks. A transformer and two trash compactors would also be located along the south edge of the building proposed for the South Site. Landscape material would provide the necessary screening to this area.

Lighting

Lighting fixtures would also be located around the exterior of the building to provide safety and security. Parking and site lighting would incorporate the use of cutoff lenses to keep light from overflowing beyond the project site boundaries.

Off-Site Improvements

A proposed traffic signal and appurtenant facilities would be located on Silva Valley Parkway at the main driveway of the project to provide a connection to both the North Site and the South Site. An additional traffic signal is proposed at the intersection of Clarksville Crossing and Silva Valley Parkway. A portion of Country Club Drive extension would be constructed up to the secondary access point to the North Site.

Utilities

The project site would be required to annex into El Dorado Irrigation District (EID) to acquire sanitary sewer and water service. The project would connect into the existing 18-inch potable water main and the 21-inch gravity sewer pipeline in Clarksville Crossing Road.

The project site would also be required to annex into the El Dorado Hills County Water District (Fire Protection) prior to building permit issuance.

Sanitary service and potable water for the North Site would be provided by EID sanitary sewer and water lines that cross the South Site. Reclaimed water is available for non-potable irrigation use and would be provided by extending an existing reclaimed line in Silva Valley Parkway.

Dry utilities (e.g., electric, gas, and telecommunications) would be provided from existing infrastructure located in Silva Valley Parkway. Dry utilities would need to be extended along the frontage of both the North Site and the South Site.

Storm Drainage

The on-site drainage system would connect to County's storm drain infrastructure in Clarksville Crossing. The project proposes bioretention areas and underground water quality vaults for treatment of stormwater within the site.

Additional project information can be accessed via the following web link:

https://edc-trk.aspgov.com/etrakit/

POTENTIAL ENVIRONMENTAL IMPACTS

Pursuant to the CEQA Guidelines, 14 CCR Section 15063(a), the County has determined that an EIR is clearly required for the project and has elected to not prepare an initial study. The County anticipates that the EIR will address the following topic areas:

- Aesthetics
- Air Quality
- Archaeological and Historic Resources
- Biological Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards, Hazardous Materials, and Wildfire
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Public Services and Recreation
- Transportation

- Tribal Cultural Resources
- Utilities and Service Systems

Based on a preliminary analysis, the County has determined that impacts to the following topics would not be significant. Therefore, these topics will not be analyzed further in the EIR.

- Agricultural and Forestry Resources - no agricultural or forestry resources would be affected because these resources do not exist on the project site.
- Mineral Resources - no mineral resources would be affected because these resources do not exist on the project site.
- Population and Housing - no new residents would be added because no housing is proposed. The project would also not displace any people or housing.

Full documentation of the factual basis for this determination will be provided in the EIR. Unless specific comments are received during the NOP public comment period that indicates a potential for the project to result in significant impacts, these topics will not be analyzed further in the EIR.

SCOPING MEETING

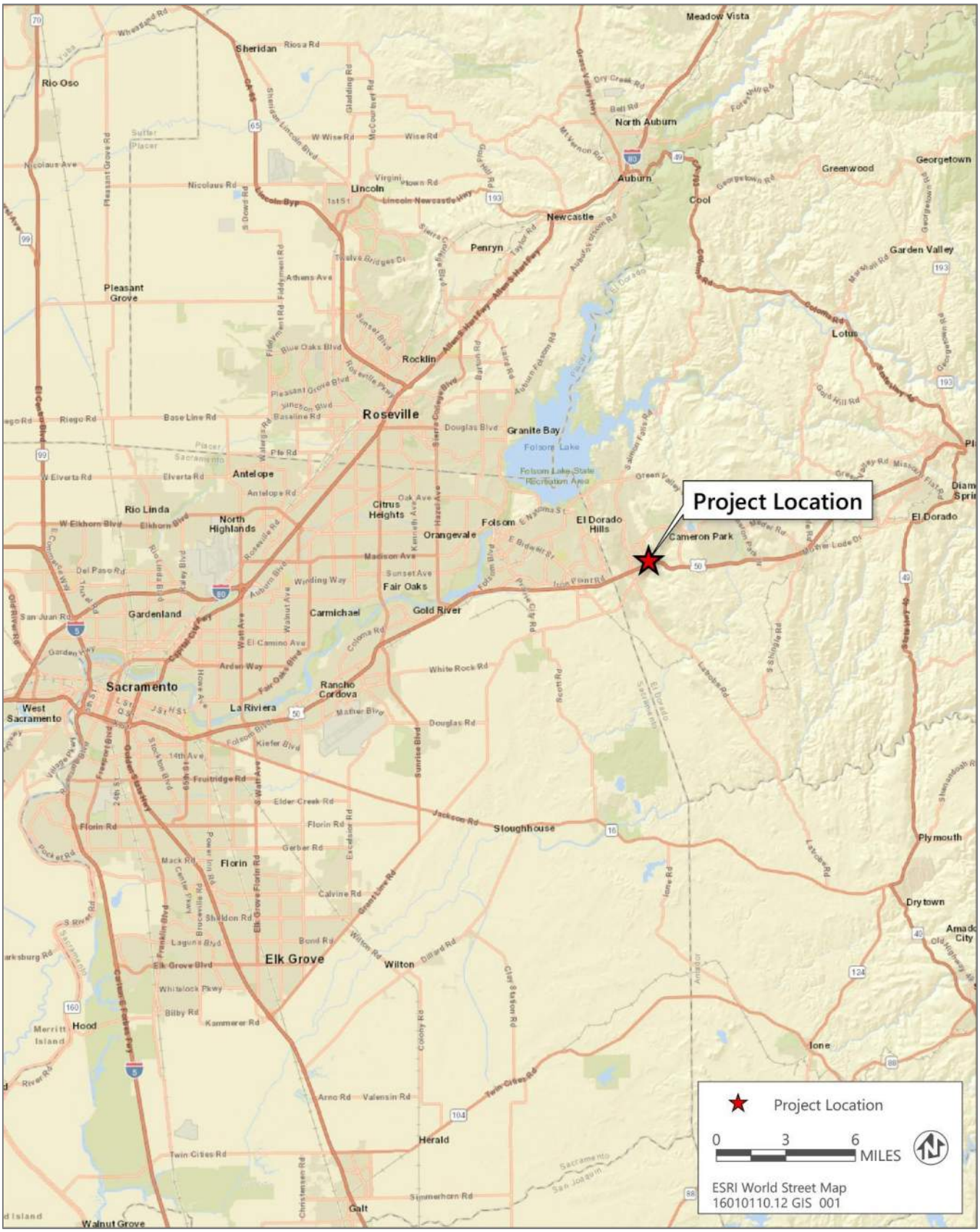
El Dorado County will hold a scoping meeting to receive comments regarding the scope and content of the environmental document and answer general questions regarding the environmental process. Due to COVID-19, the scoping meeting will be held remotely. The meeting will be on Wednesday, September 8, 2020 from 6:00 p.m. to 8:00 p.m. Please preregister using the link below. After registering, you will receive a confirmation email containing information about joining the webinar.

https://us06web.zoom.us/webinar/register/WN_Mri8i2thQmKx2ysgNOa2NA

By participating in this meeting, you acknowledge that you are being recorded. While speaking, please reduce any background noise to ensure that your comments can be heard. For those joining via Zoom, once public comment is open, if you wish to comment, press the "raise a hand" button. For those joining via phone, once public comment open, if you wish to comment, press *9 to indicate a desire to make a comment. You will be called by the last three digits of your phone number when it is your turn to comment. When your number is called, please press *6 to unmute your line.

Written comments regarding the scope and content of the environmental document may be submitted throughout the scoping period, which closes at 5:00 p.m. on Tuesday, September 21, 2021.

The County of El Dorado is committed to ensuring that persons with disabilities are provided the resources to participate in its public meetings. If you require accommodation, please contact Planning Services at 530-621-5355 or via e-mail, planning@edcgov.us.



Source: adapted by Ascent Environmental in 2021

Figure 1 Regional Location



Source: adapted by Ascent Environmental in 2021

Figure 2 Project Site



Source: Image produced and provided RSC Engineering, Inc. and David Babcock+Associates in 2021

Figure 3 North & South Site Plans

Gina Hamilton <gina.hamilton@edcgov.us>

EDH 52 Comment Letter

Amy Frith <amfrith@gmail.com> Thu, Aug 26, 2021 at 10:51 AM
To: EDH52Commercialcenter@edcgov.us

[Quoted text hidden]

2 attachments

Oak Meadow Costco Comment Letter_APAC.pdf
61K

petition_signatures_jobs_30202180_20210818000313.pdf
504K

Gina Hamilton <gina.hamilton@edcgov.us>

EDH 52 Comment Letter

Amy Frith <amfrith@gmail.com> Thu, Aug 26, 2021 at 10:46 AM
To: www.EDH52Commercialcenter@edcgov.us
Cc: Gina Hamilton <gina.hamilton@edcgov.us>

Good morning,

I would like to formally submit a comment letter on the EHD 52 project from the 300+ Oak Meadow families in the attached signature document. Please let me know if there is anything else that you need from me to have our comments formally submitted on record for this project.

Unfortunately I am not able to merge these two PDF documents together. Please note that the "petition_signatures_jobs_30202180_202108180" document belongs with the "Oak Meadow Costco Comment Letter_APAC". You can also find these documents here: https://chng.it/qNYsTBgx

Thank you,

Amy Frith

2 attachments

Oak Meadow Costco Comment Letter_APAC.pdf
61K

petition_signatures_jobs_30202180_20210818000313.pdf
504K

Gina Hamilton <gina.hamilton@edcgov.us>

Comments on the NOP for the Proposed EDH52 Commercial Center

marty abell <abellmarty@gmail.com> Sun, Sep 5, 2021 at 2:30 PM
To: EDH52CommercialCenter@edcgov.us
Cc: gina.hamilton@edcgov.us, jdavey@devygroup.net

Following are our comments on the Notice of Preparation for the Draft EIR on the proposed EDH52 Commercial Center. These are not comments on the proposed project itself, but rather, comments to be considered in preparing the Draft EIR(s) for the project(s).

As a modest, full-disclosure prologue, we are a recently retired couple, who are residents of El Dorado Hills. We have a pleasant home, immediately adjacent to the proposed North Site. Before my retirement, I had a 35-year career in writing, managing, and directing the preparation of EIRs for a well-known, successful, and respected environmental consulting firm. Upon my retirement, I received the California Association of Environmental Professionals' Lifetime Achievement Award for my EIR work. (I am pleased to be one of the rare recipients who did not receive the award posthumously.) One of the biggest lessons I learned in those 35 years of preparing EIRs is that combining two distinct and separate projects into one EIR leads inevitably to delay, if not processing disaster, for one, if not both, projects, and to prolonged, costly, and unnecessary agonies for not only the project sponsors, but for the staff of the lead agency, the decision-makers of the lead agency, the involved consultants, the interested members of the public, and all the lawyers who also inevitably become involved (though the lawyers don't seem to mind so much, since they get paid by the hour). When two projects are combined into one EIR, the problems of one project inevitably become the problems of the other (are you listening, Costco?).

1. The proposed project is actually two separate, distinct, and independent projects, each of which is subject to its own "Development Plan Permit package," each of which will be developed on its on its own schedule, each of which is on a site separate from the other, the success of neither of which is dependent on the success of the other, and each of which should be the subject of its own freestanding EIR. Each site is subject to its own discrete set of permits and approvals, which should be subject to separate processing schedules. The fact that the sites currently share a common owner is irrelevant to the environmental evaluation of the applications for the two separate individual projects. Only if the projects have separate EIRs can readers and decision-makers efficiently consider the impacts and actions proposed for each site separately and independently. The cumulative impacts of the projects can be addressed in a common, shared analysis of cumulative impacts. It seems clear that the Costco project is prepared to develop expeditiously, without respect to the progress of the North Site project, while the patchwork, speculative development of the North Site would inevitably proceed more slowly and sporadically. The EIRs must make it possible for the county to approve or deny the projects and requested approvals proposed for each site separately, each on its own merits and schedule, without the problems of one becoming the problems of the other. The EIR must not present the overall, two-site, project as an "all-or-nothing" "package deal" for both sites combined. The project proposed for the North Site should not be able to "piggy-back" on the Costco project, or vice-versa.

2. The current NOP should be withdrawn, and two new NOPs issued, one for each site.

3. In the interests of transparency and public disclosure, the DEIR should specifically identify the actual people who are the project sponsors, and describe their experience and qualifications to develop the proposed project. Have they ever successfully developed projects of this scale? If so, where, and when? Describe.

4.The EIR should also identify the consultants, and subconsultants, the county has retained to prepare the EIR. Describe the experience and qualifications of the prime EIR contractor and its subcontractors. Have any EIRs prepared by these consultants been found legally inadequate in court? If so, with what results? Explain.

5. The DEIR's statement of project objectives for the South Site should fully explain why Costco believes it necessary to construct a full-scale warehouse store within three miles of its next nearest existing Costco store in Folsom? (We are regular customers of the existing Folsom Costco, enjoy shopping there, and have had no problems with crowds or traffic congestion. And, even though the proposed store would be three minutes closer to our home, we have no problem with our existing nine-minute drive to the Folsom store).

6. The DEIR should fully describe the project's objectives concerning the natural environment. How does the project intend to preserve and protect existing on-site natural resources? What, if anything, will be left of the existing natural environment on each site when the project is built out?

7. The EIR should express all criteria for determining impact significance in objective, quantitative terms (See CEQA Guidelines, Appendix G). The EIR should be as graphic as possible, using color graphics, maps, photos, and tables to the maximum extent possible. The EIR should present all information for each site separately, but in consistent format, so as to readily permit comparisons of the settings, impacts and mitigation measures for each site.

8. What is the project schedule for each site? What is the timeline for completion of mass grading on each site? Installation of infrastructure improvements? Landscaping? Building construction? Full project occupancy? How long will it be between commencement of project grading and ultimate project buildout and occupancy of each site? How long will it be between completion and operation of the Costco store and completion and operation of all uses proposed for the North Site? Show the project schedules on a multi-color, fold-out bar graph, with the South Site in one color, and the North Site in another color, and plenty of footnotes to describe all uncertainties.

9. Who are the specific known prospective occupants, if any, of the individual parcels proposed for the North Site? Will the project sponsor actually build any buildings on the North Site, or will that be left up to the individual buyer or lessee of each parcel? By what time are all Parcels 1-7 expected to be sold or leased? By what time are Parcels 1-7 on the North Site expected to be built out and operational? By what time are all proposed components of the Costco project on the South Site, expected to be built out and fully operational? What is the expected time differential between full buildout and operation of Costco and full buildout and operation of all proposed components of the North Site?

10. The EIR should present, ideally in spreadsheet form, a summary of each county general plan policy relevant to the project, and the project's relationship with each policy, clearly identifying any inconsistencies between the policies and the proposed project. Would the inconsistencies be significant? The spreadsheet should clearly distinguish between the sites.

11. Will the project sponsor leave the remainder parcel on the South Site, adjacent to and west of Clarksville Crossing, and the remainder Parcel 8 (except for the proposed site access) on the North Site vacant and unimproved? Will the project sponsor be responsible for any ongoing maintenance of these remainder parcels, such as mowing, fire protection, litter cleanup, etc.?

12. How many acres of each site's existing topography will remain on each site after full buildout? What percentage of each site does that represent? What will be the maximum depth of fill at buildout on each site? What will be the maximum depth of cut? What will be the average depth of fill in areas to be filled? What will be the average depth of cut in areas to be cut? How many cubic yards of fill will need to be imported, or exported, at each site? The sponsor's Project Description, dated June 24, 2021, states that each site is designed "to balance independently," (p.12), but the engineers' Earthwork Summary diagram for the North Site indicates a net fill requirement of 28,150 cubic yards "net volume." It also shows, without explanation, a "Rock Quantity" of 19,130 cubic yards. Please explain "Rock Quantity." .

13. How will erosion be controlled during and after mass grading? How will site runoff be collected, treated, and discharged during grading and site preparation? What will be the quality of offsite runoff during these activities? Will the water quality of runoff and discharge meet applicable water quality standards?

14. Where will stormwater "bioretention areas" and "underground water quality vaults" be located? What's the difference between the two? What will be their storage capacities? When will they be constructed? How will collected stormwater be treated? Where will the treatment facilities be located? Will treated water be stored and used on each site?

15. Quantify, and show on a map, how many acres of riparian area/wetland area exist on each site? How many acres will be filled and how many will remain after full buildout? What is the status of the Corps of Engineers' Clean Water Act Section 404 review of the sponsor's application to fill? If the Corps has already approved the fill, what is its stated justification? If the Corps has not already approved the fill, what is the basis stated in the applications for the proposed fill?

16. How many trees exist on each site now? Of which species? How many will remain after project buildout? How many of these trees are subject to El Dorado County's tree preservation Ordinance 5061? How many will be preserved? Show all existing trees, and trees to be removed, on a map, designating which are subject to Ordinance 5061, and which are not. Describe the project's consistency with county General Plan Policy 7.4.4.4. In the Setting Section of the EIR, show color photos of the largest oaks and oak groupings proposed to be removed.

17. How will "payment of in-lieu fees" mitigate the actual physical loss of "oak woodland?" To whom will the fees be paid? How will the fees be used? What will be the total dollar amount of the fees, and how will the dollar amount be determined? If the in-lieu fees are to be used to replace trees removed from the project site, at a 2:1 ratio, where will those new trees be installed? Who will be responsible for actually planting and maintaining those trees? What is the estimated age of the oldest trees to be removed? When will the replacement trees be as mature as the oldest trees removed?

18. When will all proposed trees and other landscaping be fully mature?

19. Describe, and show on a map, how the perimeter of the North Site, particularly at its eastern edge, will be secured to prevent pedestrian intruders from entering the Serrano Village residential area from the project site? An unsecured gap of approximately 240 feet currently exists between residential parcels AP 122-100-038 (4894 Village Green Drive) and AP 122-580-001 (4924 Village Green Drive).

20. Since the project would reconfigure several property lines on the project's North Site, why not reconfigure them to connect the rear corners of the existing residential parcels at 4894 and 4924 Village Green, and offer to sell, or otherwise transfer, the resulting, commercially useless, quarter-acre acre triangular parcel to Serrano Partners, LLC? Serrano could then combine the new parcel with its existing "Remainder Parcel D" of the proposed Serrano Village A14 subdivision, thereby enabling Serrano LLC to further subdivide the resulting parcel into three standard residential lots fronting on Village Green Drive. Serrano could develop the three new lots as part of its proposed 51-unit Village A14, thus filling the existing residence gap on Village Green Drive with conforming, compatible residences, and making constructive use of an otherwise permanently wasted, commercially useless, and unimproved quarter-acre corner of North Site Parcel 8?

21. Why is a recreational vehicle storage facility proposed for the North Site, in the viewshed of, and a few yards from, neighboring and abutting, million-dollar homes? Because of the generally unsightly nature of stored RVs, open storage of individual RVs is prohibited in Serrano residential areas. Yet, ironically, the project proposes to store a group of as many as 52 RVs in the viewshed of, and a few yards from, neighboring residences. Same question for the proposed six-building "self-storage" facility? Why does the project sponsor believe such facilities would be good neighbors, and that they are visually, or otherwise, appropriate for this location? The EIR should make clear that the conditional use permit required for all proposed North Site storage uses will be subject to its own discrete conditional use action, independent of the county's actions on all other required project approvals.

22. Why not use the area proposed for the code-surplus 121 parking stalls proposed for the Costco site for these storage uses?

23. Why is surplus parking on the Costco site even proposed in the first place? If the proposed 121 excess spaces are fully occupied by Costco shoppers, won't the store become inconveniently, if not unsafely, overcrowded?

24. Provide visual analyses for each project site, including representative color visual simulations from Silva Valley Parkway, Clarksville Crossing, the upper and lower floors of neighboring residences, and any other relevant vantage points. Indicate on the simulations the date of the future year the simulations purport to simulate.

25. CEQA requires the EIR to consider "the whole of the action," which includes project signage. The EIR should examine the visual impacts of proposed on-site and off-site signage as part of the EIR's visual analysis, even though a sign permit "is not proposed at this time" for the North Site. (Is a sign permit proposed for the South Site "at this time?") Explain the sponsor's rationale for requesting substantial height, area, and location exceptions to the County's sign code (County Code Section 130.36). Omission of signage from consideration in the visual analysis will render the EIR incomplete and inadequate. The sign permits must not be "piecemealed" after the fact. Would the visual and aesthetic impacts of the signage as proposed be significant? Would the visual impacts of the signage be significant if the signage complied with the county sign code?

26. Is the "promotional vehicle" proposed for the Costco site allowable under the county's sign code? Will it promote off-site sales? Will the vehicle actually be used for transportation? If so, from where, to where? Will it be subject to a separate conditional use permit, or other county permit?

27. Will all rooftop mechanical equipment be concealed from view from neighboring residences at higher elevations?

28. Describe the existing quality of each site as a scenic vista and scenic resource. Describe how the scenic qualities of the existing sites would be altered, and whether these alterations would constitute significant and substantial degradation of their existing visual character. Describe the relationship of the terms "Oak Meadow" and "El Dorado Hills" to the proposed project sites? Will those terms become nostalgic?

29. Describe the proposed outdoor lighting for each site, and its effects on night time views from surrounding residences and other land uses.

30. Identify all animal species that inhabit, forage, and traverse each site? Which are classified as candidate, sensitive, or special status species in any local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service? Identify the special status of each. What will be the impacts to these species, and how will the impacts be mitigated? Map sensitive habitats and migration corridors.

31. What will be the increase in average auto travel time on Silva Valley Parkway, between the signal at the top of the eastbound Highway 50 offramp at Silva Valley Parkway/White Rock Road and Serrano Parkway, as a result of project-

related traffic and operation of the project's proposed traffic signals? What will be the increase in travel time during the pm weekday peak commute hours, and during Costco's peak weekday and weekend hours of operation?

32. What will be the increase in total vehicle miles travelled as a result of project-related traffic attributable to each site at full buildout? What will be the changes in average and peak-hour levels of service at intersections directly and indirectly affected by project traffic, including the driveway at Oak Meadow School during periods of student pick-up and drop-off, and the Serrano entrance at Entrada Way. Will additional signals or stop signs not proposed by the project be warranted at these, or any other, intersections?

33. Identify the traffic mitigation measures, including signalization of intersections, that would be required if only the development proposed for the South Site were approved? If only the development for the North Site? Describe how necessary signalization measures would differ if only one, or the other, of the North, or South, projects were approved. Describe the proposed "appurtenant facilities."

34. What will be the project's impacts on pedestrian, vehicle, and bicycle safety, particularly for children going to and from Oak Meadow School?

35.. Does the project propose crosswalks at its proposed signalized intersections, or elsewhere? Does the project propose sidewalks along Clarksville Crossing or Silva Valley Parkway (e.g., connecting the North Site to Oak Meadow School)? Does the project propose any particular measures to provide, protect, or enhance pedestrian safety, particularly as it relates to Oak Meadow School? How will pedestrians be able to walk safely across Silva Valley Parkway between the North Site and the South Site? Will the project provide any amenities for bicyclists other than the racks and lockers at Costco required by California Administrative Code Title 24? How will all traffic safety impacts be mitigated to less than significant levels?

36. Will road or lane closures be required during project grading or construction? If so, at what times of day, for how long, and how often? What will be the overall aggregate duration of any road and lane closures? How will emergency access be maintained during closures?

37. What is the County's best estimate for the year in which the Country Club Drive loop from Silva Valley Parkway to Tong Road will be completed? What does the timing depend on? Will the completion of Country Club Drive require its own separate EIR?

38.The North Site is windy. Characterize its degree of windiness in quantitative terms. In consideration of the relatively high degree of windiness, how will fugitive dust emissions from mass grading, and other site development activities, from the time of the commencement of mass grading until project buildout, be controlled? Notwithstanding these control measures, quantify, as best possible, the total cumulative depth, in inches, of project-generated particulate that will be deposited on the adjacent backyards and solar panels of adjoining residences, and on the parking and playground surfaces of Oak Meadow School, during the period between the commencement of mass grading and the completion of project buildout. Will these accumulations of particulate be significant? According to what criteria?

39. What will be the likely health effects of this dust, and hydrocarbon and other emissions from construction equipment, on school children at Oak Meadow School and on neighboring residents, including seniors, like us?

40. What will be the effects of wind on pedestrian comfort levels for future users of exposed project parking areas?

41. Quantify the project-related emissions of criteria pollutants and greenhouse gases based upon estimates of project-related vehicle miles traveled (VMT) and normal project operations. Identify any potential health effects of these emissions on sensitive receptors, including children at Oak Meadow School. Identify any potential project-related violations of applicable air quality standards, including those of the El Dorado County Air Quality Management District.

42. Would the project conflict with, or obstruct implementation of, any applicable air quality management plan? Would the project contribute to an existing or projected air quality violation?

43. Would the project result in a cumulatively considerable increase in any criteria pollutant or greenhouse gas emission for which the region is designated as non-attainment under an applicable federal or state ambient air quality standard? Would it release emissions which exceed quantitative thresholds for ozone precursors?

44. Would project-related greenhouse gas emissions contribute significantly to global climate change? What is the EIR's criterion for determining the significance level of this incremental cumulative contribution? Would the project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gasses?

45. How much water is currently supplied annually to each site by the El Dorado Irrigation District? How much would the district supply annually to each site at full buildout? Would the district be able to meet this additional demand in drought

years? What percentages of the district's total district-wide annual water deliveries are currently delivered to each site? What percentages would be delivered to each site at project buildout?

46. Would the project utilize any renewable energy sources independent of those already incorporated into the PG&E power grid? Would the project employ solar energy from on-site solar panels? If so, where would the panels be located? Would they be visible from neighboring residences? How would the project contribute to the overall reduction of global fossil fuel consumption?

47. Would the project have back-up electrical generation capability in the event of a PG&E electrical blackout? If so, where would the back-up generators be located on each site? What would be their visual impact? Noise impact? Would the increased electrical demand attributable to the project contribute significantly to the likelihood of future localized PG&E blackouts?

48. Would the project violate any applicable noise standard during mass grading, site preparation, construction, or operation? Would project noise from construction and operation contribute cumulatively to existing and projected noise levels, including roadway noise from Highway 50 and Silva Valley Parkway? What would be the increase in future cumulative ambient noise levels attributable to projected increases in traffic on Highway 50, Silva Valley Parkway, and other local roadways? Would project-related construction or other noise interfere with instruction or supervision activities at Oak Meadow School? What mitigation measures does the project propose to minimize day-time and night-time noise impacts to the school and local residents?

49. Concerning seismic issues, who cares? The engineers will take care of them, right? Same with hazardous materials and hazardous materials disposal, right? And the sewer plant has plenty of capacity, right? And the project couldn't possibly have a significant adverse impact on recreational resources, right? So, fuhgeddaboudit.

50. But, would the project impact any tribal, or other historical, archaeological, paleontological, or other, cultural resource? Would it disturb the burial site of any human remains? If so, describe and assess the significance.

51. Concerning topics dismissed from the EIR in the Notice of Preparation:
-- Provide evidence for the NOP's summary conclusion that there are "no mineral resources... on the project site."
-- The Costco project would employ "approximately 165 to 170 employees," the North Site would presumably employ an additional 50-100, or more, for a total project employment of approximately 220-270. The EIR should examine the effects of these new employees, their households, and the secondary population they would induce, on local housing supply, and public utility and service systems.

52. The EIR must identify and evaluate alternatives to the project that are environmentally superior to the proposed project, including:
-- A "No Project Alternative," with no development on either site;
-- A "Partial Project Alternative," with no development on the North Site;
-- A "Plan Consistent Alternative," that does not require any general plan amendment(s), rezoning(s), conditional use permit(s), or exception(s) to the county sign code, and that simply complies with all existing applicable county policies, rules and regulations;
-- An "Off Site Alternative" that would develop the proposed uses on a site, or sites, that would not be immediately adjacent to, and in the viewshed of, an existing school or neighboring single-family residences;
-- On-site alternatives that would preserve all or significant portions of existing land forms, existing riparian and wetland areas, existing trees and tree clusters; and other existing habitats, migration routes, and other on-site natural resources;
-- On-site alternatives of lower density than the proposed project, including alternatives with alternative combinations of uses, including single-family and multi-family residential, commercial, open space, and recreational uses;
-- On-site alternatives with no big-box commercial component (e.g., no Costco);
-- On-site alternatives with no recreational vehicle storage component;
-- On-site alternatives with no self-service storage component;
-- On-site alternatives with neither a self-storage component, nor an RV storage component;
-- Other alternatives, on-site or off-site, as necessary, to avoid, or mitigate to less than significant levels, any identified significant impacts of the proposed project on traffic, air quality, visual quality, noise, land use, water use, tribal and other cultural resources, and greenhouse gas emissions.

53. CEQA does not generally require that an EIR address the economic impacts of a proposed project, but it does not prohibit it from doing so. Because the economic effects of the project will undoubtedly be critical to the overall public perception of the project, and to the county's ultimate determination of whether and how to approve or deny the proposed project(s), and whether to ultimately issue a statement of overriding considerations, a cost-revenue analysis should be prepared, either as part of the EIR(s), or as a separate free-standing report. The cost-revenue analysis should examine in detail the direct and indirect, fiscal and economic impacts of the proposed project on the economies and treasuries of El Dorado County, and other economically affected public agencies and private entities. The economic analyses should be made publicly available, and subject to public review and comment, at the time of, or before, the publication of the Draft EIR, with ample time for public review and comment on each.

Thank you for your attention to these comments. We look forward to reviewing the Draft EIR(s).

Marty and Susan Abell
4894 Village Green Drive
El Dorado Hills

Date: August 27, 2021

To: Gina Hamilton, Senior Planner

From: Roy Templet
3340 Souza Dr. El Dorado Hills, CA 95762

Phone 504-606-3842

Email: R.templet@comcast.net

Subject: Comments in Opposition to Notice of Preparation of Draft Environmental Impact Report and Notice of Public Scoping Meeting for the EDH 52 Commercial Center (Application Nos. Planned Development Permit PF15-0001, Rezone Z17-0004, Conditional Use Permit CUP-R21-0024, Tentative Parcel Map, P17-0007, Lot Line Adjustment LLA21-0009)

Dear Ms. Hamilton,

We would like to express **our gravest concerns** about the impact of the proposed use and rezoning of the properties identified in this study. These parcels are located at the bottom of a valley surrounded by many existing residential homes that are located higher up on both sides of the valley, up and down the hills, overlooking the subject properties. The proposed development is not suitable for this location for the following reasons:

1. The Sylva Valley road traffic noise level is magnified by the echo chamber created by the hills on both sides of the roadway. This roadway is not suitable to support high volume traffic for businesses such as Costco or drive-throughs. The noise level for homes located on both sides of Sylva Valley has already increased significantly since the development of the intersection with HW-50 and can now be heard indoors day and night. The proposed developments can further increase the noise level many folds, particularly at night when these businesses receive deliveries.
2. The proposed properties and buildings and contents within the properties will be in the direct line of sight of hundreds of existing homes. Due to the properties being overlooked from the hills, these views cannot be screened with trees and landscaping. Therefore, use cases such as self-storage for RVs and boats, gas-stations, or Costco warehouse will be in full view of hundreds of residential properties day and night, creating an unsightly environment that can negatively impact the value of all these residential properties.
3. The proposed properties can also impact nighttime environment by generating too much reflective light that will be a nuisance to many homes in the area.
4. The nature of the proposed businesses does not allow for an architectural plan that is consistent with the surrounding residential buildings and subdivisions.

We therefore request that you kindly NOT APPROVE the proposed plans.

Best Regards,



Roy Templet

Gina Hamilton <gina.hamilton@edcgov.us>

[EDH52 commercial center] Re: Proposed commercial developments-EDH52

CRAIG COWIE <craigco2@msn.com> Mon, Sep 13, 2021 at 9:27 AM
To: "EDH52CommercialCenter@edcgov.us" <EDH52CommercialCenter@edcgov.us>

Dear Gina Hamilton,

Re: Proposed commercial developments-EDH52

My husband and I are residents of The Serrano Community, Village A. As like others in our community when we heard of the pending Costco and a Gas Station development next to our neighborhood, we were shocked and in disbelief.

These parcels of land are surrounded by low hills in which homes lie, (a residential community). Serrano is a gated community in which the homeowners pay HOA dues to keep our neighborhood clean, safe, quiet and friendly. The proposed parcels of land for the Costco development and Gas Station are too close to these homes. This is a residential area and not an area to place a bustling Costco that brings thousands of people a day or a Gas Station likely to release toxic fumes!

The Proposed developments run along Silva Valley Pkwy which is two-lanes in each direction, at times is very busy, especially during drop off and the pick-up of children from the local schools. The road conditions are not sufficient to handle the increased traffic especially considering the safety of children and probable increased auto accidents. Additionally, pollution, crowds, trash, noise and likely increased crime is a significant concern for the neighborhood residents.

The nearest school is Oak Meadow Elementary and would be adjacent to the proposed Gas Station (unacceptable). This gas station is unnecessary due to at least 2 other gas stations in the Town Center only a mile away and increased risks of Toxic Fumes to the community and elementary children.

Another consideration is that the Costco development sits adjacent to a nature trail (Buck Creek Trail) which is the home of several different wildlife species and with all the traffic, increased lights in the parking area would endanger these animals.

I recommend that you come to this area and visit the schools, go into the neighborhoods walk the nature trail. Ask yourself does this feel right and would you like to have a Costco and Gas Station in your backyard? Also, consider that there is another Costco only 6 minutes down the road and is not needed at this location. Gas Stations are to become a thing of the past with the development of electric vehicles.

Thank You for your consideration and doing what is right,

Elaine and Craig Cowie
1147 Bevinger Dr.
El Dorado Hills, CA. 95762

2021 SEP 15 AM
RECEIVED
PLANNING DEPARTMENT

Dear Gina Hamilton,
EDH52CommercialCenter@edcgov.us

Re: Proposed commercial developments-EDH52

My husband and I are residents of The Serrano Community, Village A. As like others in our community when we heard of the pending Costco and a Gas Station development next to our neighborhood, we were shocked and in disbelief.

These parcels of land are surrounded by low hills in which homes lie, (a residential community). Serrano is a gated community in which the homeowners pay HOA dues to keep our neighborhood clean, safe, quiet and friendly. The proposed parcels of land for the Costco development and Gas Station are too close to these homes. This is a residential area and not an area to place a bustling Costco that brings thousands of people a day or a Gas Station likely to release toxic fumes!

The Proposed developments run along Silva Valley Pkwy which is two-lanes in each direction, at times is very busy, especially during drop off and the pick up of children from the local schools. The road conditions are not sufficient to handle the increased traffic especially considering the safety of children and probable increased auto accidents. Additionally, pollution, crowds, trash, noise and likely increased crime is a significant concern for the neighborhood residents.

The nearest school is Oak Meadow Elementary and would be adjacent to the proposed Gas Station (unacceptable). This gas station is unnecessary due to at least 2 other gas stations in the Town Center only a mile away and increased risks of Toxic Fumes to the community and elementary children.

Another consideration is that the Costco development sits adjacent to a nature trail (Buck Creek Trail) which is the home of several different wildlife species and with all the traffic, increased lights in the parking area would endanger these animals.

I recommend that you come to this area and visit the schools, go into the neighborhoods walk the nature trail. Ask yourself does this feel right and would you like to have a Costco and Gas Station in your backyard? Also, consider that there is another Costco only 6 minutes down the road and is not needed at this location. Gas Stations are to become a thing of the past with the development of electric vehicles.

Thank You for your consideration and doing what is right,

Elaine Cowie + Craig Cowie

Elaine and Craig Cowie
1147 Bevinger Dr.
El Dorado Hills, CA. 95762

September 20, 2021

To: Gina Hamilton, Senior Planner
County of El Dorado Hills Planning Division

I am a resident of El Dorado Hills and live in the vicinity of the proposed EDH 52 Commercial Center development. My wife and I moved to El Dorado Hills to get away from the overpopulated Bay Area a little more than 2 years ago. I also have family that have lived in EDH for 20 years, so we were familiar with the area. We work in the public sector with one of us an elementary school teacher and the other a District Administrator for a local Park and Recreation District. We purchased a home in Serrano and have enjoyed the experience overall. We saw the signs for the commercial development near Oak Meadow School but never imagined the size and scope of the proposed buildings, especially the Costco.

I attended the on-line Scoping Meeting on Wednesday, September 8th and would like to add my voice to the opposition to what is being proposed with EDH 52 Commercial Center development. As I mentioned, we came from the Bay Area and saw what poor planning and urban sprawl did there over the years. The idea of a gas station, retail and commercial development, and a Costco look just like the development that ruined the Bay Area. I read the documents/comments on-line, and in one, it referenced the Costco in Redwood City, where I grew up and raised my daughters. I can tell you that the traffic gridlock in that area by Hoover School has become a disaster. I had to drive through it for 3+ years as my oldest daughter attended high school in the area. It is unsafe and the amount of light, noise, and carbon pollution is off the charts. I've seen the backup of traffic daily at Oak Meadow, and it will be so much more dangerous with this proposed development (just like Redwood City). Even worse, someone is going to get seriously hurt or killed.

This is not what El Dorado Hills should become. I'm not opposed to development, but what is being proposed does not fit the area. I also think adding a Costco in El Dorado County isn't a bad idea but having it in a location that fits better is what should be looked at by the developer, the County staff, and elected/appointed officials.

I know this is only the first step with the EIR, but there should be enough evidence after it's done that the whole concept for the area should go back to the drawing board.

Thank you for your time.



Mike Blondino
519 Meybees Court
El Dorado Hills

Gina Hamilton <gina.hamilton@edcgov.us>

[EDH52 commercial center] EDH 25 EIR Letter

'Mike Blondino' via CDA-EDH52CommercialCenter-m <edh52commercialcenter@edcgov.us>
Reply-To: Mike Blondino <mdino22@yahoo.com>
To: "EDH52CommercialCenter@edcgov.us" <edh52commercialcenter@edcgov.us>

Mon, Sep 20, 2021 at 8:59 AM

Hello!

Attached is a letter regarding the EDH 25 Commercial Center development that I would like added to the EIR comments. I attended the virtual scoping meeting and thought it was very valuable and done well.

I appreciate the work you to for El Dorado County.
Mike Blondino
519 Meybees Court

EIR letter for EDH 25 Commercial Center.pdf
79K

Gina Hamilton <gina.hamilton@edcgov.us>

[EDH52 commercial center] Do not build the Costco!!!!!

'salma downing' via CDA-EDH52CommercialCenter-m <edh52commercialcenter@edcgov.us>
Reply-To: salma downing <salma_426@yahoo.com>
To: EDH52Commercialcenter@edcgov.us

Mon, Sep 20, 2021 at 11:59 AM

We already have a Costco in Folsom. You are ruining our quality of life in every aspect from traffic to air quality to taking away from the beautiful nature we have. That's what why we live here is to enjoy our wonderful nature. You are also putting danger to kids that walk in the schools nearby. Shame on you guys for putting money before humans and nature!!!!! 😠😠😠😠😠 I guarantee that your Costco will fail. No one is going to go. Go somewhere else to build!!!!

Sent from my iPhone

21 September 2021

Gina Hamilton
County of El Dorado, Planning and Building Department
2850 Fairlane Court
Placerville, CA 95667
EDH52CommercialCenter@edcgov.us

COMMENTS TO REQUEST FOR REVIEW FOR THE NOTICE OF PREPARATION FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT, EDH 52 COMMERCIAL CENTER PROJECT, SCH#2021080402, EL DORADO COUNTY

Pursuant to the State Clearinghouse's 20 August 2021 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Notice of Preparation for the Draft Environmental Impact Report* for the EDH 52 Commercial Center Project, located in El Dorado County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

I. Regulatory Setting

Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by

the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases, the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues. For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:
http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/

Antidegradation Considerations

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Implementation Policy is available on page 74 at:
https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf

In part it states:

Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.

This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

II. Permitting Requirements

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), Construction General Permit Order No. 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). For more information on the Construction General Permit, visit the State Water Resources Control Board website at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

Phase I and II Municipal Separate Storm Sewer System (MS4) Permits[1]

The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml

Industrial Storm Water General Permit

Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 2014-0057-DWQ. For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/index.shtml

Clean Water Act Section 404 Permit

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACE). If a Section 404 permit is required by the USACE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements. If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACE at (916) 557-5250.

[1] Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

Clean Water Act Section 401 Permit – Water Quality Certification

If an USACE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications. For more information on the Water Quality Certification, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/

Waste Discharge Requirements – Discharges to Waters of the State

If USACE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation. For more information on the Waste Discharges to Surface Water NPDES Program and WDR processes, visit the Central Valley Water Board website at:https://www.waterboards.ca.gov/centralvalley/water_issues/waste_to_surface_water/

Projects involving excavation or fill activities impacting less than 0.2 acre or 400 linear feet of non-jurisdictional waters of the state and projects involving dredging activities impacting less than 50 cubic yards of non-jurisdictional waters of the state may be eligible for coverage under the State Water Resources Control Board Water Quality Order No. 2004-0004-DWQ (General Order 2004-0004). For more information on the General Order 2004-0004, visit the State Water Resources Control Board website at: https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2004/wqo/wqo2004-0004.pdf

Dewatering Permit

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Threat General Order) 2003-0003 or the Central Valley Water Board's Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Threat Waiver) R5-2018-0085. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at:

http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf

For more information regarding the Low Threat Waiver and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2018-0085.pdf

Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Limited Threat Discharges to Surface Water* (Limited Threat General Order). A complete Notice of Intent must be submitted to the Central Valley Water Board to obtain coverage under the Limited Threat General Order. For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2016-0076-01.pdf

NPDES Permit

If the proposed project discharges waste that could affect the quality of surface waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit. For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/help/permit/

If you have questions regarding these comments, please contact me at (916) 464-4709 or Greg.Hendricks@waterboards.ca.gov.



Greg Hendricks
Environmental Scientist

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento

Gina Hamilton <gina.hamilton@edcgov.us>

[EDH52 commercial center] EDH 52 Commercial Center Application

Curtis Cheney <cvcheney332@gmail.com> Tue, Sep 21, 2021 at 11:53 AM
To: edh52commercialcenter@edcgov.us
Cc: bosone@edcgov.us

Ms. Hamilton:

My name is Curtis V. Cheney. My wife is Sharon G. Cheney. We reside at 1008 Terracina Drive in El Dorado Hills. Please add our names to the many who oppose the referenced project.

I am certain that you have received many communications that address eloquently and in great detail the numerous reasons this application should be denied. A drive up the Silva Valley Parkway from Highway 50 provides ample reason for denial of this application. This is the entryway into a residential area with a school annexed. The proposed project will destroy residential vistas for dozens of homes, create massive traffic and safety problems adjacent to the school and residences and completely change the tone and mood of the area.

The residents of El Dorado Hills who have invested in homes and who enjoy the residential feel of this area deserve far better than what will be created if this application is approved. If the government of El Dorado County is truly dedicated to the well being of its citizens, this application will be summarily denied.

No commercial development should be permitted in this area, in particular, with respect to Costco, when there is an existing location three miles away.

Thank you,

C.V.Cheney

Gina Hamilton <gina.hamilton@edcgov.us>

[EDH52 commercial center] Comment Letter for 2021080402

Hendricks, Greg@Waterboards <Greg.Hendricks@waterboards.ca.gov> Tue, Sep 21, 2021 at 3:08 PM
To: "edh52commercialcenter@edcgov.us" <edh52commercialcenter@edcgov.us>
Cc: "Yang, Houa@Waterboards" <Houa.Yang@waterboards.ca.gov>

Hello,

A ached is the comment le er for the above project. Please respond to this email confirming receipt, thank you.

Greg Hendricks
Environmental Scien st – 401 Water Quality Cer fica on and Dredging Unit
Central Valley Regional Water Quality Control Board
Ph: 916-464-4709
Greg.Hendricks@waterboards.ca.gov

2021080402.pdf
223K

21 September 2021

Gina Hamilton
County of El Dorado, Planning and Building Department
2850 Fairlane Court
Placerville, CA 95667
EDH52CommercialCenter@edcgov.us

COMMENTS TO REQUEST FOR REVIEW FOR THE NOTICE OF PREPARATION FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT, EDH 52 COMMERCIAL CENTER PROJECT, SCH#2021080402, EL DORADO COUNTY

Pursuant to the State Clearinghouse's 20 August 2021 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Notice of Preparation for the Draft Environmental Impact Report* for the EDH 52 Commercial Center Project, located in El Dorado County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

I. Regulatory Setting

Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by

the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases, the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues. For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:
http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/

Antidegradation Considerations

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Implementation Policy is available on page 74 at:
https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf

In part it states:

Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.

This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

II. Permitting Requirements

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), Construction General Permit Order No. 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). For more information on the Construction General Permit, visit the State Water Resources Control Board website at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

Phase I and II Municipal Separate Storm Sewer System (MS4) Permits[1]

The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml

Industrial Storm Water General Permit

Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 2014-0057-DWQ. For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/index.shtml

Clean Water Act Section 404 Permit

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACE). If a Section 404 permit is required by the USACE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements. If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACE at (916) 557-5250.

[1] Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

Clean Water Act Section 401 Permit – Water Quality Certification

If an USACE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications. For more information on the Water Quality Certification, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/

Waste Discharge Requirements – Discharges to Waters of the State

If USACE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation. For more information on the Waste Discharges to Surface Water NPDES Program and WDR processes, visit the Central Valley Water Board website at:https://www.waterboards.ca.gov/centralvalley/water_issues/waste_to_surface_water/

Projects involving excavation or fill activities impacting less than 0.2 acre or 400 linear feet of non-jurisdictional waters of the state and projects involving dredging activities impacting less than 50 cubic yards of non-jurisdictional waters of the state may be eligible for coverage under the State Water Resources Control Board Water Quality Order No. 2004-0004-DWQ (General Order 2004-0004). For more information on the General Order 2004-0004, visit the State Water Resources Control Board website at: https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2004/wqo/wqo2004-0004.pdf

Dewatering Permit

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Threat General Order) 2003-0003 or the Central Valley Water Board's Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Threat Waiver) R5-2018-0085. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at:

http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf

For more information regarding the Low Threat Waiver and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2018-0085.pdf

Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Limited Threat Discharges to Surface Water* (Limited Threat General Order). A complete Notice of Intent must be submitted to the Central Valley Water Board to obtain coverage under the Limited Threat General Order. For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2016-0076-01.pdf

NPDES Permit

If the proposed project discharges waste that could affect the quality of surface waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit. For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/help/permit/

If you have questions regarding these comments, please contact me at (916) 464-4709 or Greg.Hendricks@waterboards.ca.gov.



Greg Hendricks
Environmental Scientist

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento

Gina Hamilton <gina.hamilton@edcgov.us>

[EDH52 commercial center] Comment Letter for 2021080402

Hendricks, Greg@Waterboards <Greg.Hendricks@waterboards.ca.gov> Tue, Sep 21, 2021 at 3:08 PM
To: "edh52commercialcenter@edcgov.us" <edh52commercialcenter@edcgov.us>
Cc: "Yang, Houa@Waterboards" <Houa.Yang@waterboards.ca.gov>

Hello,

A ached is the comment le er for the above project. Please respond to this email confirming receipt, thank you.

Greg Hendricks
Environmental Scien st – 401 Water Quality Cer fica on and Dredging Unit
Central Valley Regional Water Quality Control Board
Ph: 916-464-4709
Greg.Hendricks@waterboards.ca.gov

2021080402.pdf
223K

21 September 2021

Gina Hamilton
County of El Dorado, Planning and Building Department
2850 Fairlane Court
Placerville, CA 95667
EDH52CommercialCenter@edcgov.us

COMMENTS TO REQUEST FOR REVIEW FOR THE NOTICE OF PREPARATION FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT, EDH 52 COMMERCIAL CENTER PROJECT, SCH#2021080402, EL DORADO COUNTY

Pursuant to the State Clearinghouse's 20 August 2021 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Notice of Preparation for the Draft Environmental Impact Report* for the EDH 52 Commercial Center Project, located in El Dorado County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

I. Regulatory Setting

Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by

the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases, the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues. For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:
http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/

Antidegradation Considerations

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Implementation Policy is available on page 74 at:
https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf

In part it states:

Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.

This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

II. Permitting Requirements

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), Construction General Permit Order No. 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). For more information on the Construction General Permit, visit the State Water Resources Control Board website at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

Phase I and II Municipal Separate Storm Sewer System (MS4) Permits[1]

The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml

Industrial Storm Water General Permit

Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 2014-0057-DWQ. For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/index.shtml

Clean Water Act Section 404 Permit

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACE). If a Section 404 permit is required by the USACE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements. If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACE at (916) 557-5250.

[1] Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

Clean Water Act Section 401 Permit – Water Quality Certification

If an USACE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications. For more information on the Water Quality Certification, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/

Waste Discharge Requirements – Discharges to Waters of the State

If USACE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation. For more information on the Waste Discharges to Surface Water NPDES Program and WDR processes, visit the Central Valley Water Board website at:https://www.waterboards.ca.gov/centralvalley/water_issues/waste_to_surface_water/

Projects involving excavation or fill activities impacting less than 0.2 acre or 400 linear feet of non-jurisdictional waters of the state and projects involving dredging activities impacting less than 50 cubic yards of non-jurisdictional waters of the state may be eligible for coverage under the State Water Resources Control Board Water Quality Order No. 2004-0004-DWQ (General Order 2004-0004). For more information on the General Order 2004-0004, visit the State Water Resources Control Board website at: https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2004/wqo/wqo2004-0004.pdf

Dewatering Permit

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Threat General Order) 2003-0003 or the Central Valley Water Board's Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Threat Waiver) R5-2018-0085. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at:

http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf

For more information regarding the Low Threat Waiver and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2018-0085.pdf

Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Limited Threat Discharges to Surface Water* (Limited Threat General Order). A complete Notice of Intent must be submitted to the Central Valley Water Board to obtain coverage under the Limited Threat General Order. For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2016-0076-01.pdf

NPDES Permit

If the proposed project discharges waste that could affect the quality of surface waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit. For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/help/permit/

If you have questions regarding these comments, please contact me at (916) 464-4709 or Greg.Hendricks@waterboards.ca.gov.



Greg Hendricks
Environmental Scientist

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento

Gina Hamilton <gina.hamilton@edcgov.us>

FW: WSA for Commercial?

Gina Hamilton <gina.hamilton@edcgov.us> Tue, Sep 21, 2021 at 3:06 PM
To: "Brink, Mike" <mbrink@eid.org>
Cc: Greg Young <gyoung@tullyandyoung.com>

Thanks, Mike. I'll follow up on this end.

Gina Hamilton
Senior Planner

County of El Dorado
Planning and Building Department
2850 Fairlane Court, Bldg C
Placerville, CA 95667
Main Line (530) 621-5355
Direct Line (530) 621-5980
Fax (530) 642-0508
gina.hamilton@edcgov.us

CONFIDENTIALITY NOTICE: This electronic communication with its contents may contain confidential and/or privileged information. It is solely for the use of the intended recipient(s). Unauthorized interception, review, use, or disclosure is prohibited and may violate applicable laws including the Electronic Communications Privacy Act. If you are not the intended recipient, or authorized to receive for the intended recipient, please contact the sender and destroy all copies of the communication. Thank you for your consideration.

On Tue, Sep 21, 2021 at 2:15 PM Brink, Mike <mbrink@eid.org> wrote:

> Gina –
>
> See below from Greg. I do not know if the project triggers the WSA threshold. The county will need to determine that. But regardless, Greg brings up very good points about supporting Water documentation for the EIR. The Tech Memo should be reviewed by EID staff. A WSA would need to be approved by the EID Board.
>
> As I noted in my separate email, I recommend they get a current FIL.
>
> Greg thank you for your quick response.
>
> **Mike Brink, PE**
>
> EID Supervising Engineer
>
> (530) 642-4054
>
> ---
>
> **From:** Greg Young <gyoung@tullyandyoung.com>
> **Sent:** Tuesday, September 21, 2021 1:55 PM
> **To:** Brink, Mike <mbrink@eid.org>
> **Subject:** Re: WSA for Commercial?

Mike,

The trigger for a WSA include the following, which may trigger under “commercial office building” or “business establishment” but both have different thresholds. More importantly, the County’s CEQA document should include an analysis equivalent to elements of a WSA regardless. This can protect against using water availability/reliability as a basis for protest. Specifically, they would want to look at your UWMP and document that this project’s water needs fit within the non-residential forecast water needs included into the future (e.g. by 2030 or whenever expected). We often help draft this material, sometimes creating a technical memo we call a Water Supply Evaluation that the CEQA consultant can reference in their docs.

Here is the relevant code:

10912. For the purposes of this part, the following terms have the following meanings:

(a) “Project” means any of the following:

(1) A proposed residential development of more than 500 dwelling units.

(2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.

(3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.

(4) A proposed hotel or motel, or both, having more than 500 rooms.

(5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.

(6) A mixed-use project that includes one or more of the projects specified in this subdivision.

(7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

Regards,

Greg Young, P.E.

Principal
Tully & Young
Comprehensive Water Planning
o: 916.669.9356
m: 916.769.3749

965 University Avenue, Suite 222

Sacramento, California, 95825

gyoung@tullyandyoung.com
www.tullyandyoung.com

From: Mike Brink <mbrink@eid.org>
Date: Tuesday, September 21, 2021 at 12:54 PM

To: Greg Young <gyoung@tullyandyoung.com>
Subject: WSA for Commercial?

Greg –

The County is working on the EIR for the proposed Costco Site, which will include about 320,000 SF retail and no residential. It is proposed on the north side of Hwy 50 at the Silva Valley off ramp.

The County is asking if a WSA is required. I think the answer is no since does not involve over 500 residential lots.

Thanks for your input.

Mike Brink, PE

EID Supervising Engineer

(530) 642-4054

County of El Dorado
Air Quality Management District

330 Fair Lane, Placerville Ca 95667
Tel. 530.621.7501 Email: AQMD@edcgov.us
www.edcgov.us/airqualitymanagement

Dave Johnston
Air Pollution Control Officer

October 6, 2021

Gina Hamilton, Project Planner
El Dorado County Planning Services
2850 Fairlane Court
Placerville, CA 95667

Subject: AQMD Comments for a Planned Development Permit, a Rezone, a Tentative Parcel Map, Conditional Use Permit Revision and a Lot Line Adjustment for the proposed El Dorado Hills (EDH) 52 Commercial Center (Application Planned Development Permit PD15-0001, Rezone Z17-0004, Conditional Use Permit CUP-R21-0024, Tentative Parcel Map P17-0007, Lot Line Adjustment LLA21-0009)

Dear Ms. Hamilton:

The El Dorado County Air Quality Management District (AQMD) has reviewed the proposed project for a Planned Development Permit, a Rezone, a Tentative Parcel Map, a Conditional Use Permit Revision and a Lot Line Adjustment for the development of EDH 52 Commercial Center project. The proposed project will have approximately 318,000 square feet of commercial/retail development on both sides of Silva Valley Parkway, approximately 100 feet north of Highway 50. The property, identified by Assessor's Parcel Numbers 122-720-002, 122-720-003, 122-720-018, 122-720-019, 122-720-020, and 122-720-021, consists of 41.87 acres, and is located on the east side of old Silva Valley Road, north of the intersection with Tong Road, in the El Dorado Hills area. Based on the AQMD's review of the proposed project, the AQMD concluded the 318,000 square feet of commercial and retail development will be above the size of projects identified in the AQMD Guide to Air Quality Assessment for determining Significance of Air Quality Impacts under the California Environmental Quality Act, and it is expected to cause a significant air quality impact and has the following comments regarding potential air quality impacts.

Air Quality/GHG Analysis Required:

The western portion of El Dorado County (where the project is located) is in non-attainment of the state Ambient Air Quality Standards (AAQS) for Particulate Matter 10 micrometers (PM10), and the federal AAQS for PM2.5 (2.5 micrometers) in size. Additionally, the western portion of the County is in non-attainment of both the 1-hour and 8-hour state AAQS for ozone, and of the 8-hour federal AAQS for ozone. The two ozone precursor pollutants most responsible for ozone generated by this project are Volatile Organic Compounds (VOC, also known as Reactive Organic Gases or ROG) and Nitrogen Oxides (NOx).

An Air Quality and Greenhouse Gas (GHG) Analysis is required for adequate environmental review of the proposed project. AQMD recommends the use of the latest version of the California Emissions Estimator Model (CalEEMod), which can be downloaded for free at www.caleemod.com. This will compute mass emissions of criteria pollutants (NOx, ROG, SOx, PM & CO) and GHG (in CO2 equivalents) from both construction and operation of the project. Someone knowledgeable in all aspects of the project, such as construction phasing, materials usage, etc., should run the model and modify the defaults as appropriate, assuring that notes are included about any changes to defaults as the program requires.

AQMD's Guide to Air Quality Assessment: Determining Significance of Air Quality Impacts under the California Environmental Quality Act, February 2002 ("CEQA Guide") should be used to assess criteria pollutant emissions impacts and can be found here:
https://www.edcgov.us/Government/AirQualityManagement/pages/Guide_to_Air_Quality_Assessment.aspx

Additionally, the following standard conditions apply to the proposed project:

- Asbestos Dust: Current county records indicate the portions of the subject property are located within the Naturally Occurring Asbestos Review Area. An Asbestos Dust Mitigation Plan (ADMP) Application with applicable fees shall be submitted to and approved by the AQMD prior to project construction if the project moves more than 20 cubic yards of soil, pursuant to AQMD Rule 223.2, Fugitive Dust – Asbestos Hazard Mitigation. Mitigation measures for the control of fugitive dust shall comply with the requirements of Rule 223, Fugitive Dust – General Requirements, and Rule 223.2 Fugitive Dust – Asbestos Hazard Mitigation.

- Paving: Project construction and related paving shall adhere to AQMD Rule 224, Cutback and Emulsified Asphalt Paving Materials if applicable.

- Painting/Coating: The project construction will involve the application of architectural coatings, which shall adhere to AQMD Rule 215, Architectural Coatings.

- Open Burning: Burning of wastes that result from "Land Development Clearing" must be permitted through the AQMD. Only dry vegetative waste materials originating from the property may be disposed of using an open outdoor fire. Burning shall adhere to AQMD Rule 300, Open Burning.

- Construction Emissions: During construction, all self-propelled diesel-fueled engines greater than 25 horsepower shall be in compliance with the California Air Resources Board (CARB) Regulation for In-Use Off-Road Diesel Fueled Fleets (§ 2449 et al, title 13, article 4.8, chapter 9, California Code of Regulations (CCR)). The full text of the regulation can be found at CARB's website here: https://ww2.arb.ca.gov/our-work/topics/construction-earthmoving-equipment Questions on applicability should be directed to CARB at 1.866.634.3735. CARB is responsible for enforcement of this regulation.

- Portable Equipment: All portable combustion engine equipment with a rating of 50 horsepower or greater shall be registered with CARB. A copy of the current portable equipment registration shall be with said equipment. The applicant shall provide a complete list of heavy-duty diesel-fueled equipment to be used on this project, which includes the make, model, year of equipment, and daily hours of operations of each piece of equipment.

- New Point or Stationary Source: Prior to construction/installation of any new point/stationary source emissions units (e.g., emergency standby engine greater than 50 HP, etc.), Authority to Construct applications shall be submitted to the AQMD. Submittal of applications shall include facility diagram(s), equipment specifications and emissions estimates, and shall adhere to AQMD Rules 501, General Permit Requirements and 523, New Source Review.

- Electric Vehicle Charging – Non-Residential: The project shall comply with the Non-Residential Mandatory Measures identified in the 2019 Cal Green Building Code §5.106.5.3 concerning installation

of electric vehicle supply equipment (EVSE). Plans shall include; the location(s) and type of EVSE, a listed raceway capable of accommodating a 208/240-volt dedicated branch circuit originating at a service panel with sufficient capacity to accommodate a minimum 40A dedicated circuit, and terminating in a suitable enclosure in close proximity to the proposed location of the charging equipment. Plans, specifications and electrical calculations shall show the electrical system has sufficient capacity to simultaneously charge all required electric vehicles at their full rated amperage. Raceways shall be installed from the electrical service panel to the designated parking areas at the time of initial construction. Please refer to Cal Green Building Stds Code §5.106.5.3 for specific requirements[1]: https://www.edcgov.us/Government/building/pages/california_building_standards_in_effect.aspx

AQMD Rules and Regulations are available at the following CARB's webpage: https://ww2.arb.ca.gov/current-air-district-rules?frm=/app/www/outside/drdb/ed

Thank you for the opportunity to comment on this proposed project. If you have any questions regarding this letter, please contact me at 530.621.7509.

Respectfully,

Rania Serieh
Sr. Air Quality Engineer
Air Quality Management District

[1] Cal Green Building Code: https://codes.iccsafe.org/content/CAGBSC2019/chapter-5-nonresidential-mandatory-measures

Gina Hamilton <gina.hamilton@edcgov.us>

Costco - Signage Calcs

Brandon Northart <BNorthart@up-partners.com> Thu, Oct 7, 2021 at 10:49 AM
To: "gina.hamilton@edcgov.us" <gina.hamilton@edcgov.us>

Hi Gina,

Attached are my calculations for signage. Few notes:

1. The sign ID's shown in the excel correspond to the sign plan in the Costco Plans.
2. Technically, we are only allowed 120 square feet of wall signage in TOTAL for the Costco site. Our calculations show a per sign basis, which doesn't account for this.
3. The way the sign area is calculated for Costco's sign isn't necessarily in accordance with the Sign Code. Last I heard they were going to recalculate, but I don't anticipate changing the total area of each sign by too much.

Brandon Northart
URBAN PLANNING PARTNERS, INC.

388 17th Street, Suite 230

Oakland, CA 94612

510.251.8210

bnorthart@up-partners.com

COED_Signage Requirements.xlsx
18K

KITTELSON & ASSOCIATES
155 GRAND AVENUE, SUITE 505
OAKLAND, CA 94612
P 510.839.1742 F 510.839.0871

MEMORANDUM

REVIEW COMMENTS

Date: October 7, 2021

Project #: 26783

To: Natalie Porter, El Dorado County Department of Transportation
CC: Gina Hamilton, El Dorado County Planning and Building Department
Patrick Angell, Ascent Environmental, Inc.
Cori Resha, Ascent Environmental, Inc.

From: Amy Lopez, RSP; Joceline Suhaimi, Andrew McIntyre

Project: El Dorado Hills 52 Costco Commercial Center

Subject: Transportation Impact Study Scope of Work

AKT Investment, Inc. (AKT) and Costco Wholesale (Costco) together are proposing to jointly develop the El Dorado Hills (EDH) 52 Costco Commercial Center (project) in El Dorado County. This memorandum summarizes the scope of the transportation study to be prepared for the project. The scope includes the study area, trip generation, trip distribution, and analysis methodology to evaluate traffic operations on local and regional streets changes in relation to the County's General Plan Circulation Element level of service policies (Measure E and Y), as well as a vehicle-miles traveled (VMT) analysis based on the County's recently adopted VMT significance thresholds to evaluate environmental impacts pursuant to the California Environmental Quality Act (CEQA).

Kittelson & Associates, Inc. (Kittelson) developed this scope of work based on our review of the El Dorado County Community Development Agency's Transportation Impact Study Guidelines (TIS Guidelines), as approved in November 2014, and in coordination with Natalie Porter, Senior Traffic Civil Engineer with the County of El Dorado (County), as well as Ken Anderson of KD Anderson & Associates, Inc. (KDA).

PROJECT BACKGROUND

The El Dorado Hills (EDH) 52 Costco Commercial Center consists of two (2) separate commercial center sites (North Site and South Site) located north of U.S. 50 at the Silva Valley Parkway Interchange. These two commercial centers are being processed by El Dorado County as a single project for local land use entitlements and CEQA purposes. The North Site consists of 18.26 acres and would provide approximately 161,608 square feet (sf) of commercial uses, which would be split between 130,358 sf of self-storage building space and 30,250 sf of general commercial building space and would include approximately 173 parking stalls. The South Site is approximately 17.04 acres and would support a 155,693-square-foot Costco Warehouse with Tire Center and two levels of parking with up to 762 parking stalls.

Primary access to both sites is proposed via a new traffic signal on Silva Valley Parkway, situated approximately midway between the U.S. 50 westbound ramp and Clarksville Crossing. A second signal is proposed at the intersection of Silva Valley Parkway and ~~Clarksville Crossing/~~Country Club Drive. For the North Site, a second access is proposed on the planned Country Club Drive, and a third access is proposed on Tong Road. Two additional minor access points for the South Site are proposed along Clarksville Crossing.

The "second signal" should reflect the intersection of Country Club Dr and Silva Valley Pkwy. It is anticipated that Clarksville Crossing will no longer intersect with Silva Valley Pkwy.

Hours of operation for the Costco warehouse are expected to be approximately as follows:

- Monday – Friday: 10:00 AM – 8:30 PM
- Saturday: 9:30 AM – 7:00 PM
- Sunday: 10:00 AM – 6:00 PM

TASK 1 – PROJECT SCOPING

Kittelson's project manager and analyst, along with a representative from KDA, will meet with County staff to develop the scope of the transportation impact study (TIS) for the project. Kittelson will document the scope of work (contained herein) for review by the project proponents before submitting the scope of work to the County for review and confirmation.

The scope of work substantially mirrors the scope of the TIS report dated August 21, 2018 and prepared by KDA for a previously proposed development for the North and South Sites.

Deliverable: *Scope of work (contained herein)*

TASK 2 – DATA COLLECTION

County confirmed with Caltrans that this would be acceptable. Caltrans noted that the Bass Lake Ramps are not in PeMS.

Kittelson will access Caltrans Performance Measurement System (PeMS) traffic data during 2019 (before the COVID-19 pandemic shelter-in-place practices went into effect) for Caltrans facilities listed in Task 3. Kittelson will collect new traffic counts after Labor Day 2021 at intersections and on roadway segments for the study segments listed in Task 3. Kittelson will collect trip generation data at up to three exemplary Costco warehouses sites[1] (e.g., Elk Grove, Folsom, and Clovis) for use in estimating trip generation of the South Site under Task 3.

Kittelson has signed a confidentiality agreement with Costco, which permits Kittelson to utilize certain member-based data. Kittelson will request data regarding Costco members and their transactions at other Costco warehouses in the area, namely the Folsom Costco, to inform certain components of the analysis associated with the Costco warehouse and fuel station. Costco will scrub the data of identifying

[1] While the proposed Costco warehouse site does not include a fuel station, the trip generation data collected at the similar sites, which do have fuel stations, will provide a conservative basis for estimating trips for the TIS.

information to maintain privacy for its members prior to sharing with Kittelson. Summary trends and insights derived from the data will be presented in the traffic study; however, the raw data will not be shared with outside parties, such as the County, AKT, Ascent, or KDA out of respect for the confidentiality agreement requirements.

TASK 3 – TRAFFIC OPERATIONS ANALYSIS

Consistent with the County TIS Guidelines required under Measures E and Y, Kittelson will perform traffic operations analyses for selected intersections, roadway segments, and freeway ramp junctions. The following section outlines the analysis locations, methodology, and study scenarios.

Study Locations

Kittelson will analyze traffic operations on local and regional roadways, as described in this section and presented in Figure 1.

Intersections

Study intersections identified consistent with the 2018 TIS report by KDA are listed below. Pending further trip generation and distribution analysis, this list is subject to change.

1. Silva Valley Parkway/Harvard Way (signalized)
2. Silva Valley Parkway/Golden Eagle Lane (all-way stop controlled)
3. Silva Valley Parkway/Serrano Parkway (signalized)
4. Silva Valley Parkway/Entrada Lane (two-way stop controlled)
5. Silva Valley Parkway/Oak Meadow Elementary School (two-way stop controlled)
6. Silva Valley Parkway/Future Country Club Drive (two-way stop controlled; future signalized)
7. Silva Valley Parkway/Tong Road (side street stop controlled)
8. U.S. 50 Westbound Ramps/Silva Valley Parkway (signalized)
9. U.S. 50 Eastbound Ramps/Silva Valley Parkway (signalized)
10. White Rock Road/Clarksville Crossing-Old White Rock Road (signalized)
11. White Rock Road/Valley View Parkway-Vine Street (signalized)
12. White Rock Road/Post Street (signalized)
13. White Rock Road/Latrobe Road (signalized)
14. Bass Lake Road/Country Club Drive (signalized)
15. Silva Valley Parkway/Project Driveway (future intersection: signalized)
16. North Site access on Country Club Drive
17. North Site access on Tong Road
18. South Site north access on Clarksville Crossing
19. South Site south access on Clarksville Crossing
20. Serrano Pkwy/Future Country Club Drive (Future Conditions)

Intersection 15 - Silva Valley Pkwy and Project Driveway should be analyzed as signalized and unsignalized.

21. U.S. 50 Westbound Ramps/El Dorado Hills Blvd (Future Conditions)
22. U.S. 50 Eastbound Ramps/Latrobe Rd ramps (Future Conditions)
23. Bass Lake/Serrano Pkwy (Future Conditions)
24. U.S. 50 Westbound Ramps/Bass Lake Rd ramps (Future Conditions)
25. U.S. 50 Eastbound Ramps/Marble Valley Rd ramps (Future Conditions)

Roadway Segments

1. Silva Valley Parkway – U.S. 50 Westbound Ramps to Clarksville Crossing
2. Silva Valley Parkway – Future Country Club Drive to Serrano Parkway
3. White Rock Road – U.S. 50 Eastbound ramps to Clarksville Crossing
4. Clarksville Crossing – Future Country Club Drive to White Rock Road
5. U.S. 50 Westbound – Silva Valley Parkway to El Dorado Hills Boulevard
6. U.S. 50 Westbound – east of Silva Valley Parkway interchange
7. U.S. 50 Eastbound – El Dorado Hills Boulevard to Silva Valley Parkway
8. U.S. 50 Eastbound – east of Silva Valley Parkway interchange

Freeway Merge/Diverge Sections

1. U.S. 50 at Silva Valley Parkway – westbound on-ramp merge
2. U.S. 50 at Silva Valley Parkway – westbound off-ramp diverge
3. U.S. 50 at Silva Valley Parkway – eastbound on-ramp merge
4. U.S. 50 at Silva Valley Parkway – eastbound off-ramp diverge

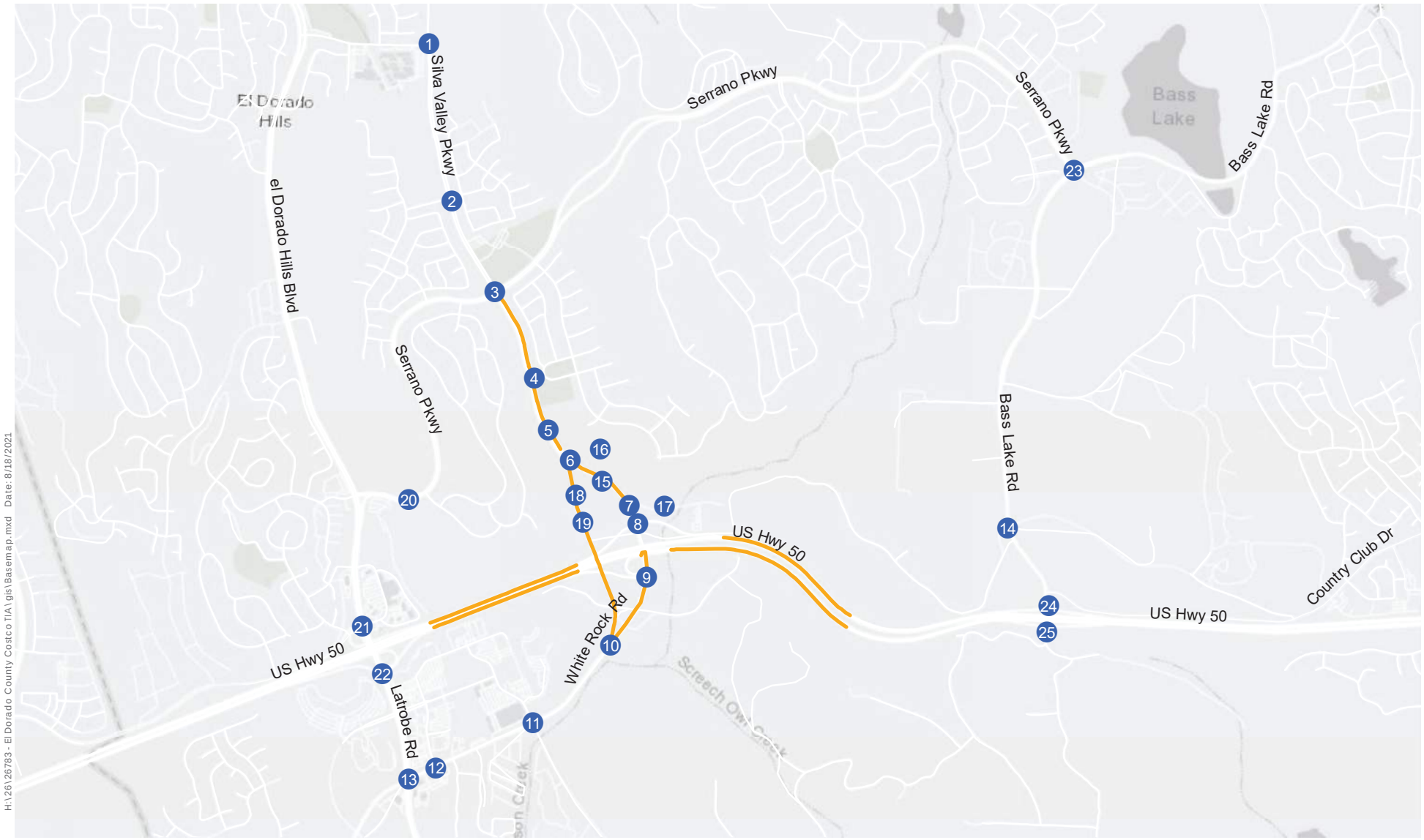


Figure 1

Study Intersections
El Dorado Hills, CA

KITTELSON & ASSOCIATES

Trip Generation

Kittelson will develop project weekday AM[2] and PM peak hour, weekday daily, and Saturday peak hour trip generation for the North Site and South Site using separate methodologies.

North Site. For the AKT development, Kittelson will estimate the trip generation of the AKT development using the 10th Edition of the Institute of Transportation Engineers (ITE) *Trip Generation Manual*. Kittelson will select the most appropriate ITE Land Use Codes to represent the uses planned for the North Site and will vet the selection with the County before continuing with the analysis.

South Site. Kittelson will use trip generation data from an exemplary Costco warehouse as well as warehouse transaction data in 2019 and 2021 to estimate use trip generation of the Costco warehouse and fuel station. Additionally, they will use data previously collected at Costco warehouses to develop trip characteristics (i.e., primary, pass-by, and diverted link trips).

- *Primary Trips* (an entirely new trip on the roadway system for the express purpose of driving to and from Costco),
- *Pass-by Trips* (existing trips that are on roadways adjacent to the site which allow the motorist to turn into the Costco development, and then continue on to their ultimate destination when their shopping is concluded), and
- *Diverted-Linked Trips* (existing trips on nearby roadways in which the motorist makes a decision to drive out-of-direction for a distance to stop at Costco, and when their shopping is concluded, continue on their trip to the ultimate destination).

While the ITE *Trip Generation Manual* does offer trip rates for a Discount Club land use (ITE Land Use Code 857), data collected at other Costco sites has demonstrated Costco warehouses typically generate higher traffic volumes than would be estimated using ITE rates.

Trip Generation Data

Kittelson will collect trip generation data as part of Task 2 to estimate trip generation for the South site. Table 1 summarizes average trip rates recorded at other Costco warehouse sites for reference purposes only. The table does not provide a weekday AM peak hour trip rate because the Costco warehouse is not open to members until 10:00 AM.

[2] Trip generation for the South Site (Costco) will not include a weekday AM peak hour trip generation estimate since the warehouse does not open to members until 10:00 a.m.

Table 1: Average Trip Characteristics for a Costco Warehouse with Gas Station

Land Use	Weekday Daily Trip Rate (per KSF)	Weekday PM Peak Hour of Adjacent Street Traffic Trip Rate (per KSF)			Saturday Midday Peak Hour (per KSF)		
		Total	In	Out	Total	In	Out
Costco Warehouse with Fuel Station	79.27	7.17	49%	51%	9.79	51%	49%
Primary Trips	*No Data*		*35.1%*			*50%*	
Pass-by Trips	*No Data*		*33.3%*			*29%*	
Diverted Trips	*No Data*		*31.5%*			*21%*	

Source: Kittelson & Associates, Inc., 2021

Trip generation studies were conducted at Costco Wholesale sites located across the western region of the United States using industry standard engineering practices consistent with guidance within the Institute of Transportation Engineers (ITE) standard reference, *Trip Generation Manual*, 10th *Edition*. These cordon surveys were conducted between 2001 and 2010 and include surveys of 22 Costco Warehouses with fuel centers in California, Oregon, Washington, Montana, Utah, and Colorado. The Costco Wholesale buildings surveyed range in size between 120,000 square-feet and 162,115 square-feet, with an average size of 143,782 square-feet. Trip generation rates are correlated to the overall warehouse size regardless of the number of fueling positions.

Trip Type Considerations

The previously surveyed Costco buildings are situated in a variety of locations, some adjacent to freeways/arterials, while others are located a couple of blocks away. This variation in warehouse locations results in differences in diverted and pass-by trips between locations. For example, sites adjacent to major arterial roadways tend to exhibit a high percentage of pass-by trips and a lower percentage of diverted trips. Similarly, Costco facilities located a block or two away from a freeway tend to experience a higher percentage of diverted trips. Given these factors, diverted and pass-by trips should be considered together with engineering judgment used to identify how these two trip characteristics should be applied.

Proper accounting of the diverted trips within the analysis models should include the impacts associated with these trips at the study area intersections. However, it should be noted that these trips do not create similar system capacity issues as new trips to the system because these trips generally provide no impact beyond the study area.

Trip Distribution

For the North Site, the trip distribution and assignment will be developed based on an analysis using the El Dorado County Travel Demand Model.

For the South Site, trip distribution will be developed based on Costco membership data. Two Costco Wholesale sites with fuel stations are currently located along Highway 50 in Folsom and Rancho Cordova. Based on Costco membership data and the existing Costco sites to the west, the market area served by the El Dorado County site is generally towards the east of the site.

> ***Task 3 Deliverable***: Technical memorandum summarizing project trip generation and distribution – *Draft, Final*
>
> ***Assumption:*** *Two (2) rounds of review; the County, their Peer Reviewer, and Ascent together will provide a single set of consolidated, non-conflicting comments per their review period(s) listed here:*
>
> - *County, Peer Reviewer, and Ascent review of Draft*
> - *County, Peer Reviewer, and Ascent review of Final Draft*

Study Scenarios

The study will assess weekday AM and PM peak hour conditions at the study intersections. The analysis excludes trips made on weekends. The following analysis horizon periods are anticipated:

- Existing (Year 2021) Conditions
- Existing plus Project Conditions (three alternatives)
  - Existing plus North Site
  - Existing plus South Site
  - Existing plus Both Projects
- Future (Year 2030) Conditions
  - 2030 conditions established using straight line interpolation of County travel demand model 2035 traffic projections
  - Assumes new roadway connections, including Country Club Drive extension to the west and east of Silva Valley Parkway
- Future plus Project Conditions

A Saturday mid-day peak analysis should be performed at the study intersections located along Silva Valley Pkwy, from Serrano Pkwy to the intersection of Clarksville Crossing and White Rock Rd.

For Future Conditions, the County will provide in writing any assumptions or adjustments Kittelson should make to the travel demand model (e.g., roadway connections not already coded in the model) to accurately represent reasonably foreseeable future roadway improvements and/or land uses.

The County intends for Country Club Drive to extend and connect to Serrano Pkwy in the future, and should be analyzed as such. Also, Clarksville Crossing will no longer intersect with Silva Valley Pkwy following construction of the new Country Club Dr intersection with Silva Valley Pkwy.

Kittelson will employ the methodologies discussed below to analyze traffic operations at intersections, along roadway segments, and at freeway ramp junctions (weaving analysis).

Intersections

Kittelson will use Synchro traffic analysis software version 10 for assessing signalized and unsignalized intersection performance using methodologies from the 6th Edition of the *Highway Capacity Manual (HCM)*. The traffic study of the proposed development will include an evaluation of level of service and control delay at the study intersections, as well as 95th percentile queuing for each of the proposed access points.

Roadways Segments

Roadway operations will be analyzed using methods presented in the 6th Edition HCM. The HCM provides guidance on developing level-of-service for different roadway types, including two-lane highways and multi-lane highway roadway segments.

Freeway Weaving Sections

Kittelson will analyze freeway weaving sections using methods presented in the 6th Edition HCM.

> ***Assumption:*** *Kittelson assumes KDA will provide traffic analysis files from the 2018 TIS by KDA to serve as a starting point for all analyses described in Task 3.*

TASK 4 – GENERAL TRANSPORTATION ASSESSMENT

This analysis will include a qualitative assessment of the following elements required by El Dorado County's *Transportation Impact Study Guidelines*:

- Emergency vehicle access
- Deliveries of goods and services
- On-Site Transportation Review
    - Existence of any current traffic problems in the local area such as a high-accident location, non-standard intersection or roadway, or an intersection in need of a traffic signal
    - Proximity of proposed site driveway(s) to other driveways or intersections
    - Adequacy of vehicle parking relative to both the anticipated demand and zoning code requirements
    - Adequacy of the project site design to fully satisfy truck loading demand on-site, when the anticipated number of deliveries and service calls may exceed 10 per day
    - Adequacy of the project site design to provide at least a 25' minimum required throat depth (MRTD) at project driveways, including calculation of the MRTD
    - Adequacy of the project site design to convey all vehicle types
    - Adequacy of sight distance on-site
    - Queuing analysis of "drive-through" facilities
- Complete street implementation, wherever possible

TASK 5 – CEQA ANALYSIS

Kittelson will prepare additional transportation analyses to address the CEQA Appendix G Checklist items for TRANSPORTATION/TRAFFIC consistent with the County's adopted VMT thresholds of significance in Resolution 141-2020:

Would the project:

a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
d) Result in inadequate emergency access?

Item (a) of the checklist refers to plans, which includes the County's General Plan. Per the TIS Guidelines, Kittelson will conduct a qualitative assessment of the proposed project for consistency with the following General Plan Circulation Element goals:

- Access to public transit services consistent with General Plan Circulation Element Goal TC-2:
  "To promote a safe and efficient transit system that provides service to all residents, including senior citizens, youths, the disabled, and those without access to automobiles that also helps to reduce congestion, and improves the environment."
- Transportation system management consistent with General Plan Circulation Element Goal TC-3:
  "To reduce travel demand on the County's road system and maximize the operating efficiency of transportation facilities, thereby reducing the quantity of motor vehicle emissions and the amount of investment required in new or expanded facilities."
- Non-Motorized Transportation consistent with General Plan Circulation Element Goal TC-4:
  "To provide a safe, continuous, and easily accessible non-motorized transportation system that facilitates the use of the viable alternative transportation modes."

Item (b) of the checklist centers on analysis of vehicle-miles traveled (VMT). As outlined in El Dorado County Resolution 141-2020 (and recommended by the Governor's Office of Planning and Research (OPR)), the significance threshold for identifying impacts resulting from retail projects is "no net increase" in VMT.[4]

Consistent with the County TIS Guidelines, Kittelson will work with the County to use the El Dorado County travel demand model to estimate VMT for the North Site. Because trip-making characteristics of Costco warehouses and fuel stations are not accurately reflected by the land uses in the County

[4] El Dorado County Resolution 141-2020

travel demand model, Kittelson will develop VMT for the South Site using member transaction data at nearby Costco warehouses (namely the Folsom Costco) to establish existing travel patterns and anticipated shifts in travel patterns by Costco members who would shop at the El Dorado Hills Costco warehouse if it were constructed. Kittelson will use these data to calculate the expected change in daily VMT within the County associated with the North and South Sites, and the total VMT attributable to the project.

The TIS will also include delay-based analysis required under Measures E and Y to document the results of the analysis described in Task 3; however, because traffic delay is not an environmental impact, the TIS will state clearly this information will not be used in any transportation impact determination for CEQA purposes.

If the TIS identifies any significant impacts, it will propose mitigation measures to reduce the severity of the identified impacts to the extent feasible. In addition, the TIS will identify any transportation improvements required based on the results of the analysis described in Task 3 so that Ascent can analyze the environmental effects that would result from construction of the identified improvements.

Alternatives Analysis

Kittelson will prepare a qualitative assessment of up to two project alternatives and document their anticipated effects on the transportation system in El Dorado County.

Task 3 – 5 Deliverables: *TIS Report – Draft, Final Draft, Final*

Assumption: *Two (2) rounds of review; the County, their Peer Reviewer, and Ascent together will provide a single set of consolidated, non-conflicting comments per their review period(s) listed here:*

- *County, Peer Reviewer, and Ascent review of Draft*
- *County, Peer Reviewer, and Ascent review of Final Draft*

TASK 6 – MEETINGS AND PROJECT TEAM COORDINATION

The Kittelson project manager will participate in up to 20 hours of project team coordination meetings (video conference) to support fulfillment of Tasks 2 – 5. On select occasions, other Kittelson staff will join project team coordination meetings, as appropriate for the purpose of fulfilling Tasks 2 – 5.

TASK 7 – PROJECT MANAGEMENT

Kittelson will utilize in-house resources to actively manage the project, including our internal project, budget, and schedule management systems. Kittelson will prepare monthly invoices with bullet point summaries of progress to keep the project team informed on our budget and schedule status and to highlight any modifications needed to address unexpected changes (such as alterations to the project description or site plan).

Deliverables: *Monthly invoices with bullet point summary of progress*

FEE PROPOSAL:
$184,442

Task		Brehmer, Christopher CLB	Lopez, Amy ARL	Suhaimi, Joceline JCS	McIntyre, Andrew ALM	Mansfield, Ryan RMM	Sommerville, Jon JKS	WORK TASK/ TASK HOURS	WORK TASK/ TASK COST
001	**Project Scoping**								
	Scoping Call with County		2	3				5	$790
	Draft/Final Scope of Work	1	6	2	4			13	$2,240
	Reimbursable Expense								$144
	Task #001 - Subtotal	1	8	5	4	0	0	18	$3,174
002	**Data Collection**								
	Gather and Review Files from KDA	1	4	8	8			21	$3,270
	Request Data from Costco		2	4				6	$930
	Arrange Field Data Collection at Costco Sites		2		4			6	$930
	Reimbursable Expense								$53,324
	Task #002 - Subtotal	1	8	12	12	0	0	33	$58,454
003	**Traffic Operations Analysis**								
	Site Visit		6					6	$1,110
	Existing Conditions	4	20		40			64	$10,460
	Site Trip Gen/Assignment	4	8		12			24	$4,320
	Future Conditions	4	20	8	40			72	$11,580
	SimTraffic Queueing	4	20			40		64	$11,260
	Mitigations	2	8		30			40	$6,260
	Draft Documentation	2	8	12	40		16	78	$11,820
	Final Draft Documentation	2	4	6	16		6	34	$5,330
	Final Documentation		4	4	8		2	18	$2,730
	Reimbursable Expense								$3,092
	Task #003 - Subtotal	22	98	30	186	40	24	400	$67,962
004	**General Transportation Assessment**								
	Qualitative Assessment	1	8	12	12			33	$5,130
	Draft Documentation	1	4	8	4			17	$2,710
	Final Draft Documentation	1	2	6	2			11	$1,780
	Final Documentation		2	4	2			8	$1,210
	Reimbursable Expense								$552
	Task #004 - Subtotal	3	16	30	20	0	0	69	$11,382
005	**CEQA Analysis**								
	Plans, Policies, Ordinances	1	2	8				11	$1,780
	VMT	4	20	40	20			84	$13,260
	Crash Analysis	1	4	12				17	$2,710
	Emergency Access	1	2	4				7	$1,220
	Alternatives Anlaysis (qualitative)	2	8	10	6		4	30	$4,920
	Draft Documentation	1	6	12	8		8	35	$5,440
	Final Draft Documentation	1	4	8	6			19	$2,990
	Final Documentation		2	4	4			10	$1,490
	Reimbursable Expense								$1,704
	Task #005 - Subtotal	11	48	98	44	0	12	213	$35,514
006	**Meetings & Coordination**								
	Meetings/Calls	2	20	4	4			30	$5,400
	Reimbursable Expense								$240
	Task #006 - Subtotal	2	20	4	4	0	0	30	$5,640
007	**Project Management**								
	Invoicing and Progress Updates		12					12	$2,220
	Reimbursable Expense								$96
	Task #007 - Subtotal	0	12	0	0	0	0	12	$2,316

	TOTAL HOURS	40	210	179	270	40	36	**TOTAL HOURS**	**TOTAL LABOR**
	LABOR RATE	$290.00	$185.00	$140.00	$140.00	$160.00	$155.00	**775**	**$125,290**
	LABOR COST	$11,600	$38,850	$25,060	$37,800	$6,400	$5,580		

TOTAL REIMBURSABLES
$59,152

TOTAL PROJECT BUDGET
$184,442

KITTELSON & ASSOCIATES
155 GRAND AVENUE, SUITE 505
OAKLAND, CA 94612
P 510.839.1742 F 510.839.0871

MEMORANDUM

REVIEW COMMENTS

Date: October 7, 2021

Project #: 26783

To: Natalie Porter, El Dorado County Department of Transportation
CC: Gina Hamilton, El Dorado County Planning and Building Department
Patrick Angell, Ascent Environmental, Inc.
Cori Resha, Ascent Environmental, Inc.

From: Amy Lopez, RSP; Joceline Suhaimi, Andrew McIntyre

Project: El Dorado Hills 52 Costco Commercial Center

Subject: Transportation Impact Study Scope of Work

AKT Investment, Inc. (AKT) and Costco Wholesale (Costco) together are proposing to jointly develop the El Dorado Hills (EDH) 52 Costco Commercial Center (project) in El Dorado County. This memorandum summarizes the scope of the transportation study to be prepared for the project. The scope includes the study area, trip generation, trip distribution, and analysis methodology to evaluate traffic operations on local and regional streets changes in relation to the County's General Plan Circulation Element level of service policies (Measure E and Y), as well as a vehicle-miles traveled (VMT) analysis based on the County's recently adopted VMT significance thresholds to evaluate environmental impacts pursuant to the California Environmental Quality Act (CEQA).

Kittelson & Associates, Inc. (Kittelson) developed this scope of work based on our review of the El Dorado County Community Development Agency's Transportation Impact Study Guidelines (TIS Guidelines), as approved in November 2014, and in coordination with Natalie Porter, Senior Traffic Civil Engineer with the County of El Dorado (County), as well as Ken Anderson of KD Anderson & Associates, Inc. (KDA).

PROJECT BACKGROUND

The El Dorado Hills (EDH) 52 Costco Commercial Center consists of two (2) separate commercial center sites (North Site and South Site) located north of U.S. 50 at the Silva Valley Parkway Interchange. These two commercial centers are being processed by El Dorado County as a single project for local land use entitlements and CEQA purposes. The North Site consists of 18.26 acres and would provide approximately 161,608 square feet (sf) of commercial uses, which would be split between 130,358 sf of self-storage building space and 30,250 sf of general commercial building space and would include approximately 173 parking stalls. The South Site is approximately 17.04 acres and would support a 155,693-square-foot Costco Warehouse with Tire Center and two levels of parking with up to 762 parking stalls.

Primary access to both sites is proposed via a new traffic signal on Silva Valley Parkway, situated approximately midway between the U.S. 50 westbound ramp and Clarksville Crossing. A second signal is proposed at the intersection of Silva Valley Parkway and ~~Clarksville Crossing/~~Country Club Drive. For the North Site, a second access is proposed on the planned Country Club Drive, and a third access is proposed on Tong Road. Two additional minor access points for the South Site are proposed along Clarksville Crossing.

The "second signal" should reflect the intersection of Country Club Dr and Silva Valley Pkwy. It is anticipated that Clarksville Crossing will no longer intersect with Silva Valley Pkwy.

Hours of operation for the Costco warehouse are expected to be approximately as follows:

- Monday – Friday: 10:00 AM – 8:30 PM
- Saturday: 9:30 AM – 7:00 PM
- Sunday: 10:00 AM – 6:00 PM

TASK 1 – PROJECT SCOPING

Kittelson's project manager and analyst, along with a representative from KDA, will meet with County staff to develop the scope of the transportation impact study (TIS) for the project. Kittelson will document the scope of work (contained herein) for review by the project proponents before submitting the scope of work to the County for review and confirmation.

The scope of work substantially mirrors the scope of the TIS report dated August 21, 2018 and prepared by KDA for a previously proposed development for the North and South Sites.

Deliverable: *Scope of work (contained herein)*

TASK 2 – DATA COLLECTION

County confirmed with Caltrans that this would be acceptable. Caltrans noted that the Bass Lake Ramps are not in PeMS.

Kittelson will access Caltrans Performance Measurement System (PeMS) traffic data during 2019 (before the COVID-19 pandemic shelter-in-place practices went into effect) for Caltrans facilities listed in Task 3. Kittelson will collect new traffic counts after Labor Day 2021 at intersections and on roadway segments for the study segments listed in Task 3. Kittelson will collect trip generation data at up to three exemplary Costco warehouses sites[1] (e.g., Elk Grove, Folsom, and Clovis) for use in estimating trip generation of the South Site under Task 3.

Kittelson has signed a confidentiality agreement with Costco, which permits Kittelson to utilize certain member-based data. Kittelson will request data regarding Costco members and their transactions at other Costco warehouses in the area, namely the Folsom Costco, to inform certain components of the analysis associated with the Costco warehouse and fuel station. Costco will scrub the data of identifying

[1] While the proposed Costco warehouse site does not include a fuel station, the trip generation data collected at the similar sites, which do have fuel stations, will provide a conservative basis for estimating trips for the TIS.

information to maintain privacy for its members prior to sharing with Kittelson. Summary trends and insights derived from the data will be presented in the traffic study; however, the raw data will not be shared with outside parties, such as the County, AKT, Ascent, or KDA out of respect for the confidentiality agreement requirements.

TASK 3 – TRAFFIC OPERATIONS ANALYSIS

Consistent with the County TIS Guidelines required under Measures E and Y, Kittelson will perform traffic operations analyses for selected intersections, roadway segments, and freeway ramp junctions. The following section outlines the analysis locations, methodology, and study scenarios.

Study Locations

Kittelson will analyze traffic operations on local and regional roadways, as described in this section and presented in Figure 1.

Intersections

Study intersections identified consistent with the 2018 TIS report by KDA are listed below. Pending further trip generation and distribution analysis, this list is subject to change.

1. Silva Valley Parkway/Harvard Way (signalized)
2. Silva Valley Parkway/Golden Eagle Lane (all-way stop controlled)
3. Silva Valley Parkway/Serrano Parkway (signalized)
4. Silva Valley Parkway/Entrada Lane (two-way stop controlled)
5. Silva Valley Parkway/Oak Meadow Elementary School (two-way stop controlled)
6. Silva Valley Parkway/Future Country Club Drive (two-way stop controlled; future signalized)
7. Silva Valley Parkway/Tong Road (side street stop controlled)
8. U.S. 50 Westbound Ramps/Silva Valley Parkway (signalized)
9. U.S. 50 Eastbound Ramps/Silva Valley Parkway (signalized)
10. White Rock Road/Clarksville Crossing-Old White Rock Road (signalized)
11. White Rock Road/Valley View Parkway-Vine Street (signalized)
12. White Rock Road/Post Street (signalized)
13. White Rock Road/Latrobe Road (signalized)
14. Bass Lake Road/Country Club Drive (signalized)
15. Silva Valley Parkway/Project Driveway (future intersection: signalized)
16. North Site access on Country Club Drive
17. North Site access on Tong Road
18. South Site north access on Clarksville Crossing
19. South Site south access on Clarksville Crossing
20. Serrano Pkwy/Future Country Club Drive (Future Conditions)

21. U.S. 50 Westbound Ramps/El Dorado Hills Blvd (Future Conditions)
22. U.S. 50 Eastbound Ramps/Latrobe Rd ramps (Future Conditions)
23. Bass Lake/Serrano Pkwy (Future Conditions)
24. U.S. 50 Westbound Ramps/Bass Lake Rd ramps (Future Conditions)
25. U.S. 50 Eastbound Ramps/Marble Valley Rd ramps (Future Conditions)

Roadway Segments

1. Silva Valley Parkway – U.S. 50 Westbound Ramps to Clarksville Crossing
2. Silva Valley Parkway – Future Country Club Drive to Serrano Parkway
3. White Rock Road – U.S. 50 Eastbound ramps to Clarksville Crossing
4. Clarksville Crossing – Future Country Club Drive to White Rock Road
5. U.S. 50 Westbound – Silva Valley Parkway to El Dorado Hills Boulevard
6. U.S. 50 Westbound – east of Silva Valley Parkway interchange
7. U.S. 50 Eastbound – El Dorado Hills Boulevard to Silva Valley Parkway
8. U.S. 50 Eastbound – east of Silva Valley Parkway interchange

Freeway Merge/Diverge Sections

1. U.S. 50 at Silva Valley Parkway – westbound on-ramp merge
2. U.S. 50 at Silva Valley Parkway – westbound off-ramp diverge
3. U.S. 50 at Silva Valley Parkway – eastbound on-ramp merge
4. U.S. 50 at Silva Valley Parkway – eastbound off-ramp diverge

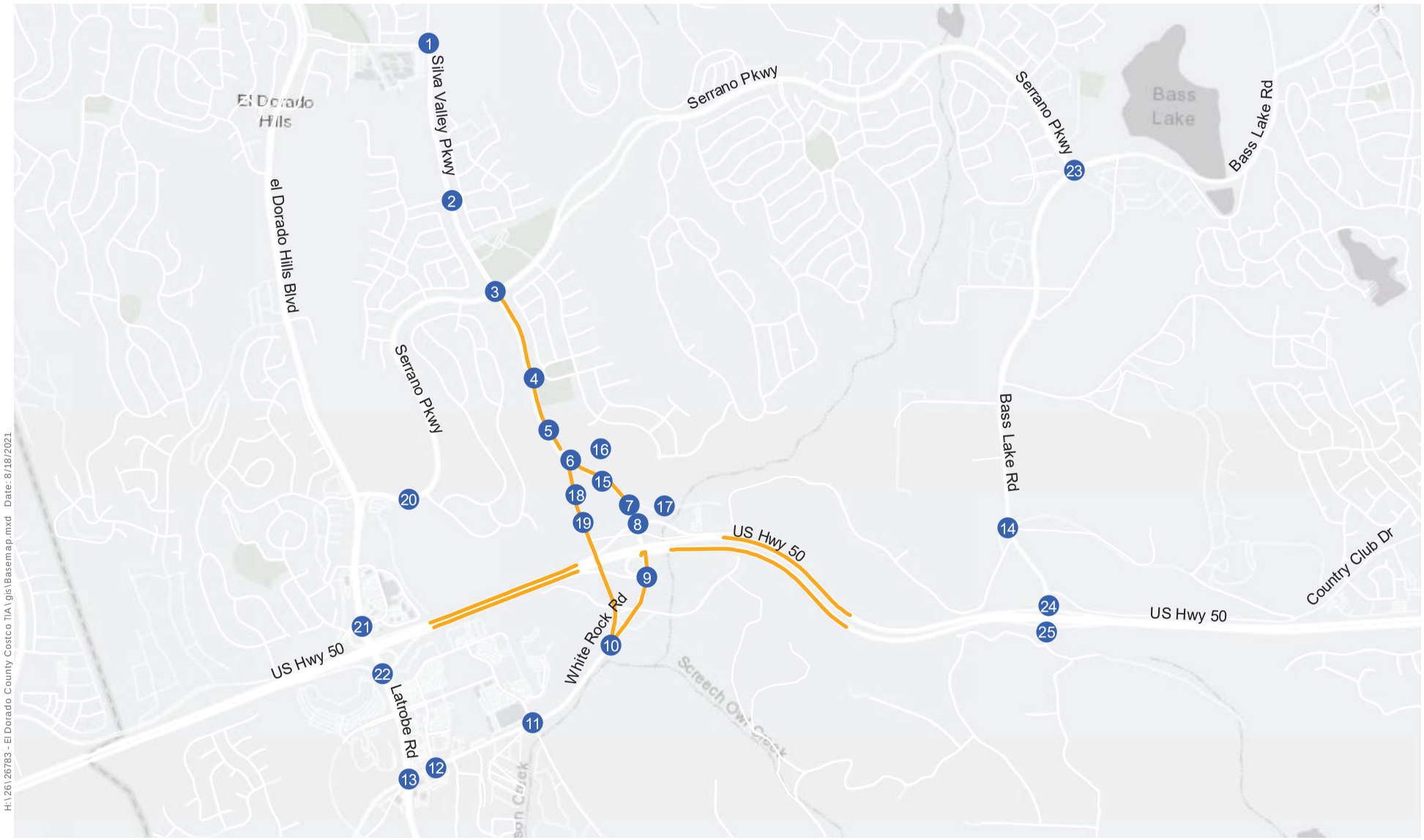


Figure 1

Study Intersections
El Dorado Hills, CA

KITTELSON & ASSOCIATES

Trip Generation

Kittelson will develop project weekday AM[2] and PM peak hour, weekday daily, and Saturday peak hour trip generation for the North Site and South Site using separate methodologies.

North Site. For the AKT development, Kittelson will estimate the trip generation of the AKT development using the 10th Edition of the Institute of Transportation Engineers (ITE) *Trip Generation Manual*. Kittelson will select the most appropriate ITE Land Use Codes to represent the uses planned for the North Site and will vet the selection with the County before continuing with the analysis.

South Site. Kittelson will use trip generation data from an exemplary Costco warehouse as well as warehouse transaction data in 2019 and 2021 to estimate use trip generation of the Costco warehouse and fuel station. Additionally, they will use data previously collected at Costco warehouses to develop trip characteristics (i.e., primary, pass-by, and diverted link trips).

- *Primary Trips* (an entirely new trip on the roadway system for the express purpose of driving to and from Costco),
- *Pass-by Trips* (existing trips that are on roadways adjacent to the site which allow the motorist to turn into the Costco development, and then continue on to their ultimate destination when their shopping is concluded), and
- *Diverted-Linked Trips* (existing trips on nearby roadways in which the motorist makes a decision to drive out-of-direction for a distance to stop at Costco, and when their shopping is concluded, continue on their trip to the ultimate destination).

While the ITE *Trip Generation Manual* does offer trip rates for a Discount Club land use (ITE Land Use Code 857), data collected at other Costco sites has demonstrated Costco warehouses typically generate higher traffic volumes than would be estimated using ITE rates.

Trip Generation Data

Kittelson will collect trip generation data as part of Task 2 to estimate trip generation for the South site. Table 1 summarizes average trip rates recorded at other Costco warehouse sites for reference purposes only. The table does not provide a weekday AM peak hour trip rate because the Costco warehouse is not open to members until 10:00 AM.

[2] Trip generation for the South Site (Costco) will not include a weekday AM peak hour trip generation estimate since the warehouse does not open to members until 10:00 a.m.

Table 1: Average Trip Characteristics for a Costco Warehouse with Gas Station

Land Use	Weekday Daily Trip Rate (per KSF)	Weekday PM Peak Hour of Adjacent Street Traffic Trip Rate (per KSF)			Saturday Midday Peak Hour (per KSF)		
		Total	In	Out	Total	In	Out
Costco Warehouse with Fuel Station	79.27	7.17	49%	51%	9.79	51%	49%
Primary Trips	*No Data*		*35.1%*			*50%*	
Pass-by Trips	*No Data*		*33.3%*			*29%*	
Diverted Trips	*No Data*		*31.5%*			*21%*	

Source: Kittelson & Associates, Inc., 2021

Trip generation studies were conducted at Costco Wholesale sites located across the western region of the United States using industry standard engineering practices consistent with guidance within the Institute of Transportation Engineers (ITE) standard reference, *Trip Generation Manual*, 10th *Edition*. These cordon surveys were conducted between 2001 and 2010 and include surveys of 22 Costco Warehouses with fuel centers in California, Oregon, Washington, Montana, Utah, and Colorado. The Costco Wholesale buildings surveyed range in size between 120,000 square-feet and 162,115 square-feet, with an average size of 143,782 square-feet. Trip generation rates are correlated to the overall warehouse size regardless of the number of fueling positions.

Trip Type Considerations

The previously surveyed Costco buildings are situated in a variety of locations, some adjacent to freeways/arterials, while others are located a couple of blocks away. This variation in warehouse locations results in differences in diverted and pass-by trips between locations. For example, sites adjacent to major arterial roadways tend to exhibit a high percentage of pass-by trips and a lower percentage of diverted trips. Similarly, Costco facilities located a block or two away from a freeway tend to experience a higher percentage of diverted trips. Given these factors, diverted and pass-by trips should be considered together with engineering judgment used to identify how these two trip characteristics should be applied.

Proper accounting of the diverted trips within the analysis models should include the impacts associated with these trips at the study area intersections. However, it should be noted that these trips do not create similar system capacity issues as new trips to the system because these trips generally provide no impact beyond the study area.

Trip Distribution

For the North Site, the trip distribution and assignment will be developed based on an analysis using the El Dorado County Travel Demand Model.

For the South Site, trip distribution will be developed based on Costco membership data. Two Costco Wholesale sites with fuel stations are currently located along Highway 50 in Folsom and Rancho Cordova. Based on Costco membership data and the existing Costco sites to the west, the market area served by the El Dorado County site is generally towards the east of the site.

> ***Task 3 Deliverable***: Technical memorandum summarizing project trip generation and distribution – *Draft, Final*
>
> ***Assumption:*** *Two (2) rounds of review; the County, their Peer Reviewer, and Ascent together will provide a single set of consolidated, non-conflicting comments per their review period(s) listed here:*
>
> - *County, Peer Reviewer, and Ascent review of Draft*
> - *County, Peer Reviewer, and Ascent review of Final Draft*

A Saturday mid-day peak analysis should be performed at the study intersections located along Silva Valley Pkwy, from Serrano Pkwy to the intersection of Clarksville Crossing and White Rock Rd.

Study Scenarios

The study will assess weekday AM and PM peak hour conditions at the study intersections. The analysis excludes trips made on weekends. The following analysis horizon periods are anticipated:

- Existing (Year 2021) Conditions
- Existing plus Project Conditions (three alternatives)
  - Existing plus North Site
  - Existing plus South Site
  - Existing plus Both Projects
- Future (Year 2030) Conditions
  - 2030 conditions established using straight line interpolation of County travel demand model 2035 traffic projections
  - Assumes new roadway connections, including Country Club Drive extension to the west and east of Silva Valley Parkway
- Future plus Project Conditions

There are two design alternatives being proposed. Refer to the following page for revisions made to the study intersection list for the existing and future scenarios listed.

For Future Conditions, the County will provide in writing any assumptions or adjustments Kittelson should make to the travel demand model (e.g., roadway connections not already coded in the model) to accurately represent reasonably foreseeable future roadway improvements and/or land uses.

The County intends for Country Club Drive to extend and connect to Serrano Pkwy in the future, and should be analyzed as such. Also, Clarksville Crossing will no longer intersect with Silva Valley Pkwy following construction of the new Country Club Dr intersection with Silva Valley Pkwy.

Kittelson will employ the methodologies discussed below to analyze traffic operations at intersections, along roadway segments, and at freeway ramp junctions (weaving analysis).

Existing Conditions:

1) Intersection 6 should be SVP at Clarksville Crossing (side street stop-controlled)

Alternative 1

Existing + Project Study Intersection Revisions

1) Intersection 6: SVP at Country Club Drive (signalized)
2) Intersection 15: SVP at new Project Driveway (signalized) - left turn for northbound traffic into south site only, no left turn for southbound traffic into north site. The driveway into north site at this intersection will be right in, right out only.

Future + Project Study Intersection Revisions:

Match revisions made to existing + project.

Alternative 2

Existing + Project Study Intersection Revisions:

1) Intersection 6: SVP at Clarksville Crossing (signalized, interim signal until Country Club Dr is constructed) right turn in, right turn out for southbound traffic, left turn in for northbound traffic, right turn only for eastbound Clarksville Crossing traffic (no left turn or through movement)
2) Intersection 15: SVP at Project Driveway (signalized)

Future + Project Study Intersection Revisions:

1) Intersection 6 SVP at Country Club Drive (signalized) Clarksville Crossing will no longer intersect with SVP.
2) Intersection 15 SVP at new Project Driveway (signalized), same as existing + project

Alternative 2 must include a simulation model of northbound and southbound SVP traffic crossing the Highway 50 interchange for both existing + project and future + project scenarios.

Intersections

Kittelson will use Synchro traffic analysis software version 10 for assessing signalized and unsignalized intersection performance using methodologies from the 6th Edition of the *Highway Capacity Manual (HCM)*. The traffic study of the proposed development will include an evaluation of level of service and control delay at the study intersections, as well as 95th percentile queuing for each of the proposed access points.

Roadways Segments

Roadway operations will be analyzed using methods presented in the 6th Edition HCM. The HCM provides guidance on developing level-of-service for different roadway types, including two-lane highways and multi-lane highway roadway segments.

Freeway Weaving Sections

Kittelson will analyze freeway weaving sections using methods presented in the 6th Edition HCM.

> ***Assumption:*** *Kittelson assumes KDA will provide traffic analysis files from the 2018 TIS by KDA to serve as a starting point for all analyses described in Task 3.*

TASK 4 – GENERAL TRANSPORTATION ASSESSMENT

This analysis will include a qualitative assessment of the following elements required by El Dorado County's *Transportation Impact Study Guidelines*:

- Emergency vehicle access
- Deliveries of goods and services
- On-Site Transportation Review
    - Existence of any current traffic problems in the local area such as a high-accident location, non-standard intersection or roadway, or an intersection in need of a traffic signal
    - Proximity of proposed site driveway(s) to other driveways or intersections
    - Adequacy of vehicle parking relative to both the anticipated demand and zoning code requirements
    - Adequacy of the project site design to fully satisfy truck loading demand on-site, when the anticipated number of deliveries and service calls may exceed 10 per day
    - Adequacy of the project site design to provide at least a 25' minimum required throat depth (MRTD) at project driveways, including calculation of the MRTD
    - Adequacy of the project site design to convey all vehicle types
    - Adequacy of sight distance on-site
    - Queuing analysis of "drive-through" facilities
- Complete street implementation, wherever possible

TASK 5 – CEQA ANALYSIS

Kittelson will prepare additional transportation analyses to address the CEQA Appendix G Checklist items for TRANSPORTATION/TRAFFIC consistent with the County's adopted VMT thresholds of significance in Resolution 141-2020:

Would the project:

a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
d) Result in inadequate emergency access?

Item (a) of the checklist refers to plans, which includes the County's General Plan. Per the TIS Guidelines, Kittelson will conduct a qualitative assessment of the proposed project for consistency with the following General Plan Circulation Element goals:

- Access to public transit services consistent with General Plan Circulation Element Goal TC-2:
  "To promote a safe and efficient transit system that provides service to all residents, including senior citizens, youths, the disabled, and those without access to automobiles that also helps to reduce congestion, and improves the environment."
- Transportation system management consistent with General Plan Circulation Element Goal TC-3:
  "To reduce travel demand on the County's road system and maximize the operating efficiency of transportation facilities, thereby reducing the quantity of motor vehicle emissions and the amount of investment required in new or expanded facilities."
- Non-Motorized Transportation consistent with General Plan Circulation Element Goal TC-4:
  "To provide a safe, continuous, and easily accessible non-motorized transportation system that facilitates the use of the viable alternative transportation modes."

Item (b) of the checklist centers on analysis of vehicle-miles traveled (VMT). As outlined in El Dorado County Resolution 141-2020 (and recommended by the Governor's Office of Planning and Research (OPR)), the significance threshold for identifying impacts resulting from retail projects is "no net increase" in VMT.[4]

Consistent with the County TIS Guidelines, Kittelson will work with the County to use the El Dorado County travel demand model to estimate VMT for the North Site. Because trip-making characteristics of Costco warehouses and fuel stations are not accurately reflected by the land uses in the County

[4] El Dorado County Resolution 141-2020

travel demand model, Kittelson will develop VMT for the South Site using member transaction data at nearby Costco warehouses (namely the Folsom Costco) to establish existing travel patterns and anticipated shifts in travel patterns by Costco members who would shop at the El Dorado Hills Costco warehouse if it were constructed. Kittelson will use these data to calculate the expected change in daily VMT within the County associated with the North and South Sites, and the total VMT attributable to the project.

The TIS will also include delay-based analysis required under Measures E and Y to document the results of the analysis described in Task 3; however, because traffic delay is not an environmental impact, the TIS will state clearly this information will not be used in any transportation impact determination for CEQA purposes.

If the TIS identifies any significant impacts, it will propose mitigation measures to reduce the severity of the identified impacts to the extent feasible. In addition, the TIS will identify any transportation improvements required based on the results of the analysis described in Task 3 so that Ascent can analyze the environmental effects that would result from construction of the identified improvements.

Alternatives Analysis

Kittelson will prepare a qualitative assessment of up to two project alternatives and document their anticipated effects on the transportation system in El Dorado County.

Task 3 – 5 Deliverables: *TIS Report – Draft, Final Draft, Final*

Assumption: *Two (2) rounds of review; the County, their Peer Reviewer, and Ascent together will provide a single set of consolidated, non-conflicting comments per their review period(s) listed here:*

- *County, Peer Reviewer, and Ascent review of Draft*
- *County, Peer Reviewer, and Ascent review of Final Draft*

TASK 6 – MEETINGS AND PROJECT TEAM COORDINATION

The Kittelson project manager will participate in up to 20 hours of project team coordination meetings (video conference) to support fulfillment of Tasks 2 – 5. On select occasions, other Kittelson staff will join project team coordination meetings, as appropriate for the purpose of fulfilling Tasks 2 – 5.

TASK 7 – PROJECT MANAGEMENT

Kittelson will utilize in-house resources to actively manage the project, including our internal project, budget, and schedule management systems. Kittelson will prepare monthly invoices with bullet point summaries of progress to keep the project team informed on our budget and schedule status and to highlight any modifications needed to address unexpected changes (such as alterations to the project description or site plan).

Deliverables: *Monthly invoices with bullet point summary of progress*

FEE PROPOSAL:
$184,442

Task		Brehmer, Christopher CLB	Lopez, Amy ARL	Suhaimi, Joceline JCS	McIntyre, Andrew ALM	Mansfield, Ryan RMM	Sommerville, Jon JKS	WORK TASK/ TASK HOURS	WORK TASK/ TASK COST
001	**Project Scoping**								
	Scoping Call with County		2	3				5	$790
	Draft/Final Scope of Work	1	6	2	4			13	$2,240
	Reimbursable Expense								$144
	Task #001 - Subtotal	1	8	5	4	0	0	18	$3,174
002	**Data Collection**								
	Gather and Review Files from KDA	1	4	8	8			21	$3,270
	Request Data from Costco		2	4				6	$930
	Arrange Field Data Collection at Costco Sites		2		4			6	$930
	Reimbursable Expense								$53,324
	Task #002 - Subtotal	1	8	12	12	0	0	33	$58,454
003	**Traffic Operations Analysis**								
	Site Visit		6					6	$1,110
	Existing Conditions	4	20		40			64	$10,460
	Site Trip Gen/Assignment	4	8		12			24	$4,320
	Future Conditions	4	20	8	40			72	$11,580
	SimTraffic Queueing	4	20			40		64	$11,260
	Mitigations	2	8		30			40	$6,260
	Draft Documentation	2	8	12	40		16	78	$11,820
	Final Draft Documentation	2	4	6	16		6	34	$5,330
	Final Documentation		4	4	8		2	18	$2,730
	Reimbursable Expense								$3,092
	Task #003 - Subtotal	22	98	30	186	40	24	400	$67,962
004	**General Transportation Assessment**								
	Qualitative Assessment	1	8	12	12			33	$5,130
	Draft Documentation	1	4	8	4			17	$2,710
	Final Draft Documentation	1	2	6	2			11	$1,780
	Final Documentation		2	4	2			8	$1,210
	Reimbursable Expense								$552
	Task #004 - Subtotal	3	16	30	20	0	0	69	$11,382
005	**CEQA Analysis**								
	Plans, Policies, Ordinances	1	2	8				11	$1,780
	VMT	4	20	40	20			84	$13,260
	Crash Analysis	1	4	12				17	$2,710
	Emergency Access	1	2	4				7	$1,220
	Alternatives Anlaysis (qualitative)	2	8	10	6		4	30	$4,920
	Draft Documentation	1	6	12	8		8	35	$5,440
	Final Draft Documentation	1	4	8	6			19	$2,990
	Final Documentation		2	4	4			10	$1,490
	Reimbursable Expense								$1,704
	Task #005 - Subtotal	11	48	98	44	0	12	213	$35,514
006	**Meetings & Coordination**								
	Meetings/Calls	2	20	4	4			30	$5,400
	Reimbursable Expense								$240
	Task #006 - Subtotal	2	20	4	4	0	0	30	$5,640
007	**Project Management**								
	Invoicing and Progress Updates		12					12	$2,220
	Reimbursable Expense								$96
	Task #007 - Subtotal	0	12	0	0	0	0	12	$2,316

TOTAL HOURS	40	210	179	270	40	36	**TOTAL HOURS**	**TOTAL LABOR**
LABOR RATE	$290.00	$185.00	$140.00	$140.00	$160.00	$155.00	**775**	**$125,290**
LABOR COST	$11,600	$38,850	$25,060	$37,800	$6,400	$5,580		

TOTAL REIMBURSABLES
$59,152

TOTAL PROJECT BUDGET
$184,442

Gina Hamilton <gina.hamilton@edcgov.us>

Project for Review & Comment - PD15-0001/Z17-0004/P17-0007/CUP-R21-0024/LLA21-0009 - EDH 52 COMMERCIAL CENTER

Amy Phillips <amy.phillips@edcgov.us> Fri, Sep 3, 2021 at 4:19 PM
To: Gina Hamilton <gina.hamilton@edcgov.us>

Hi Gina,

The County is subject to the State of CA Phase II MS4 Permit and thus the County's post construction water quality requirements follow those outlined in that Permit in Section E.12. Projects typically qualify as a "Regulated" project under the MS4 Permit / West Slope Development and Redevelopment Standards and Post Construction Stormwater Plan Requirements if improvements (i.e., parking lots, rooftops, driveways, etc.) create or replace 5,000 sf or more of impervious surface. Regulated Projects are required to provide treatment of stormwater from the 85th percentile/24-hour storm event prior to the water leaving the site or entering a waterbody. Submittal requirements for Regulated projects are provided here.

An Erosion and Sediment Control Plan will need to be included in the plan submittal. If the project will disturb an acre or more of land, the Legally Responsible Person (LRP) is required to obtain Construction General Permit (CGP) coverage through the State Water Resources Control Board. The CGP requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). CGP requirements can be found at the following link: https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.html

Thank you,
[Quoted text hidden]
--
Amy A. Phillips, CPSWQ, CPESC, QSD
Storm Water Coordinator - West Slope

County of El Dorado
Tahoe Planning and Stormwater Division
2850 Fairlane Court, Placerville, CA 95667
(530) 621-5921
amy.phillips@edcgov.us

Initial Consultation Letter_PD15-0001,Z17-0004,P17-0007,CUP-R21-0024,LLA21-0009.pdf
174K

ENVIRONMENTAL MANAGEMENT DEPARTMENT

http://www.edcgov.us/EMD/

PLACERVILLE OFFICE:
2850 Fairlane Court
Placerville, CA 95667
(530) 621-5300
(530) 626-7130 Fax

LAKE TAHOE OFFICE:
924 B Emerald Bay Road
South Lake Tahoe, CA 96150
(530) 573-3450
(530) 542-3364 Fax

INTEROFFICE MEMORANDUM

TO: **GINA HAMILTON**, Project Planner
EDC Development Services Division

FROM: Environmental Management

SUBJECT: PD15-0001 EDC52 COMMERCIAL CENTER

DATE: 10/3/2021

CC:

Environmental Management Department staff has reviewed the subject application. The following reflects our concerns and requirements:

Environmental Health (Bryan Vyverberg x5924):

This project will be served by public water and sewer. Facilities that prepare food and create fats, oils, and grease are part of this project. Please coordinate grease interceptor sizing requirements with the El Dorado Irrigation District.

Food facilities planned for the EDC52 Commercial Center are required to be constructed and operated to the standards of the California Retail Food Code. Each facility that will sell food at the retail level is required to submit plans to this Department for review and approval prior to construction. Once constructed, an annual health permit will be required for these facilities before they begin operating.

Hazardous Materials (Mark Moss x6665):

Solid Waste Division (Timothy Engle x6587):

Construction and Demolition (C&D) Debris Recycling
State Law mandates that a minimum of 65% of the waste materials generated from covered Construction and Demolition projects must be diverted from being landfilled by being recycled or reused on site. Please visit the following website to view El Dorado County's Construction & Demolition Debris Recycling Ordinance Program information and requirements. If after reviewing this information you still have questions, you're welcome to call Environmental Management at (530) 621-5300.

AB 341 - Mandatory Commercial Recycling (Non-Residential)
State law requires that all non-residential dwellings that generate at least two cubic yards of solid waste per week to have a recycling program for common recyclable materials such as bottles, cans, and paper

AB 1826 - Mandatory Commercial Organics Recycling (Non-Residential)
State law requires that all non-residential dwellings that generate at least two cubic yards of solid waste per week to have an organics recycling program for the following types of organic wastes: green waste, landscape, and pruning waste, non-hazardous wood waste, food waste

Trash and Recycling Enclosures: CalGreen Section 5.410.1
Recycling by occupants requires that new projects provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive. Please direct questions about this provision to Building Services. Building Services can be reached at (530) 621-5315

Trash and Recycling Enclosures: CalGreen Section 5.410.1
Recycling by occupants requires that new projects provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive. Please direct questions about this provision to Building Services. Building Services can be reached at (530) 621-5315.

County of El Dorado
Air Quality Management District

330 Fair Lane, Placerville Ca 95667
Tel. 530.621.7501 Email: AQMD@edcgov.us
www.edcgov.us/airqualitymanagement

Dave Johnston
Air Pollution Control Officer

October 6, 2021

Gina Hamilton, Project Planner
El Dorado County Planning Services
2850 Fairlane Court
Placerville, CA 95667

Subject: AQMD Comments for a Planned Development Permit, a Rezone, a Tentative Parcel Map, Conditional Use Permit Revision and a Lot Line Adjustment for the proposed El Dorado Hills (EDH) 52 Commercial Center (Application Planned Development Permit PD15-0001, Rezone Z17-0004, Conditional Use Permit CUP-R21-0024, Tentative Parcel Map P17-0007, Lot Line Adjustment LLA21-0009)

Dear Ms. Hamilton:

The El Dorado County Air Quality Management District (AQMD) has reviewed the proposed project for a Planned Development Permit, a Rezone, a Tentative Parcel Map, a Conditional Use Permit Revision and a Lot Line Adjustment for the development of EDH 52 Commercial Center project. The proposed project will have approximately 318,000 square feet of commercial/retail development on both sides of Silva Valley Parkway, approximately 100 feet north of Highway 50. The property, identified by Assessor's Parcel Numbers 122-720-002, 122-720-003, 122-720-018, 122-720-019, 122-720-020, and 122-720-021, consists of 41.87 acres, and is located on the east side of old Silva Valley Road, north of the intersection with Tong Road, in the El Dorado Hills area. Based on the AQMD's review of the proposed project, the AQMD concluded the 318,000 square feet of commercial and retail development will be above the size of projects identified in the AQMD Guide to Air Quality Assessment for determining Significance of Air Quality Impacts under the California Environmental Quality Act, and it is expected to cause a significant air quality impact and has the following comments regarding potential air quality impacts.

Air Quality/GHG Analysis Required:

The western portion of El Dorado County (where the project is located) is in non-attainment of the state Ambient Air Quality Standards (AAQS) for Particulate Matter 10 micrometers (PM10), and the federal AAQS for PM2.5 (2.5 micrometers) in size. Additionally, the western portion of the County is in non-attainment of both the 1-hour and 8-hour state AAQS for ozone, and of the 8-hour federal AAQS for ozone. The two ozone precursor pollutants most responsible for ozone generated by this project are Volatile Organic Compounds (VOC, also known as Reactive Organic Gases or ROG) and Nitrogen Oxides (NOx).

An Air Quality and Greenhouse Gas (GHG) Analysis is required for adequate environmental review of the proposed project. AQMD recommends the use of the latest version of the California Emissions Estimator Model (CalEEMod), which can be downloaded for free at www.caleemod.com. This will compute mass emissions of criteria pollutants (NOx, ROG, SOx, PM & CO) and GHG (in CO2 equivalents) from both construction and operation of the project. Someone knowledgeable in all aspects of the project, such as construction phasing, materials usage, etc., should run the model and modify the defaults as appropriate, assuring that notes are included about any changes to defaults as the program requires.

AQMD's Guide to Air Quality Assessment: Determining Significance of Air Quality Impacts under the California Environmental Quality Act, February 2002 ("CEQA Guide") should be used to assess criteria pollutant emissions impacts and can be found here:
https://www.edcgov.us/Government/AirQualityManagement/pages/Guide_to_Air_Quality_Assessment.aspx

Additionally, the following standard conditions apply to the proposed project:

- Asbestos Dust: Current county records indicate the portions of the subject property are located within the Naturally Occurring Asbestos Review Area. An Asbestos Dust Mitigation Plan (ADMP) Application with applicable fees shall be submitted to and approved by the AQMD prior to project construction if the project moves more than 20 cubic yards of soil, pursuant to AQMD Rule 223.2, Fugitive Dust – Asbestos Hazard Mitigation. Mitigation measures for the control of fugitive dust shall comply with the requirements of Rule 223, Fugitive Dust – General Requirements, and Rule 223.2 Fugitive Dust – Asbestos Hazard Mitigation.

- Paving: Project construction and related paving shall adhere to AQMD Rule 224, Cutback and Emulsified Asphalt Paving Materials if applicable.

- Painting/Coating: The project construction will involve the application of architectural coatings, which shall adhere to AQMD Rule 215, Architectural Coatings.

- Open Burning: Burning of wastes that result from "Land Development Clearing" must be permitted through the AQMD. Only dry vegetative waste materials originating from the property may be disposed of using an open outdoor fire. Burning shall adhere to AQMD Rule 300, Open Burning.

- Construction Emissions: During construction, all self-propelled diesel-fueled engines greater than 25 horsepower shall be in compliance with the California Air Resources Board (CARB) Regulation for In-Use Off-Road Diesel Fueled Fleets (§ 2449 et al, title 13, article 4.8, chapter 9, California Code of Regulations (CCR)). The full text of the regulation can be found at CARB's website here: https://ww2.arb.ca.gov/our-work/topics/construction-earthmoving-equipment Questions on applicability should be directed to CARB at 1.866.634.3735. CARB is responsible for enforcement of this regulation.

- Portable Equipment: All portable combustion engine equipment with a rating of 50 horsepower or greater shall be registered with CARB. A copy of the current portable equipment registration shall be with said equipment. The applicant shall provide a complete list of heavy-duty diesel-fueled equipment to be used on this project, which includes the make, model, year of equipment, and daily hours of operations of each piece of equipment.

- New Point or Stationary Source: Prior to construction/installation of any new point/stationary source emissions units (e.g., emergency standby engine greater than 50 HP, etc.), Authority to Construct applications shall be submitted to the AQMD. Submittal of applications shall include facility diagram(s), equipment specifications and emissions estimates, and shall adhere to AQMD Rules 501, General Permit Requirements and 523, New Source Review.

- Electric Vehicle Charging – Non-Residential: The project shall comply with the Non-Residential Mandatory Measures identified in the 2019 Cal Green Building Code §5.106.5.3 concerning installation

of electric vehicle supply equipment (EVSE). Plans shall include; the location(s) and type of EVSE, a listed raceway capable of accommodating a 208/240-volt dedicated branch circuit originating at a service panel with sufficient capacity to accommodate a minimum 40A dedicated circuit, and terminating in a suitable enclosure in close proximity to the proposed location of the charging equipment. Plans, specifications and electrical calculations shall show the electrical system has sufficient capacity to simultaneously charge all required electric vehicles at their full rated amperage. Raceways shall be installed from the electrical service panel to the designated parking areas at the time of initial construction. Please refer to Cal Green Building Stds Code §5.106.5.3 for specific requirements[1]: https://www.edcgov.us/Government/building/pages/california_building_standards_in_effect.aspx

AQMD Rules and Regulations are available at the following CARB's webpage: https://ww2.arb.ca.gov/current-air-district-rules?frm=/app/www/outside/drdb/ed

Thank you for the opportunity to comment on this proposed project. If you have any questions regarding this letter, please contact me at 530.621.7509.

Respectfully,

Rania Serieh
Sr. Air Quality Engineer
Air Quality Management District

[1] Cal Green Building Code: https://codes.iccsafe.org/content/CAGBSC2019/chapter-5-nonresidential-mandatory-measures

COUNTY OF EL DORADO
OFFICE of COUNTY SURVEYOR

MEMO

DATE: October 8, 2021

TO: Gina Hamilton, Project Planner

FROM: Brian Frazier - Phone (530) 621-5325 brian.frazier@edcgov.us

SUBJECT: PD15-0001/P17-0007 - EDH 52 COMMERCIAL CENTER (RSC Engineering, Inc./EDH 52 GP)

We have looked over the application and have the following comments.

1) All survey monuments must be set prior to filing the Parcel Map.

2) The roads serving the development shall be named by filing a Road Name Petition, with the County Surveyors Office. Proof of any signage required by the Surveyor's Office must be provided to our office prior to filing the Parcel Map.

3) Situs addressing for the project shall be coordinated with the County Surveyors Office prior to filing the Parcel Map.

4) Prior to filing the Parcel Map, a letter will be required from all agencies that have placed conditions on the map. The letter will state that **"all conditions placed on P17-0007 by (that agency) have been satisfied."** The letters are to be compiled and sent to the County Surveyor.

5) All boundary monuments disturbed during project construction shall be reset by a Professional Land Surveyor or Qualified Engineer as defined by Section 8771 of the California Business and Professions Code (Land Surveyors Act).

LOCAL AGENCY FORMATION COMMISSION
550 Main Street, Suite E. Placerville, CA 95667
(530) 295-2707 · lafco@edlafco.us · www.edlafco.us

VIA EMAIL

October 1, 2021

Gina Hamilton
Project Planner
El Dorado County Planning Services
2850 Fairlane Court
Placerville, CA 95667

RE: EDH 52 COMMERCIAL CENTER – PD15-0001 / Z17-0004 / P17-0007 / CUP-R21-0024 / LLA21-0009 (RSC Engineering, Inc. / EDH 52 GP)

Dear Ms. Hamilton:

Thank you for the opportunity to review and provide comments on the EDH 52 Commercial Center. LAFCO's State mandated role is to promote orderly growth and development and to encourage efficient service areas for local service providers. To that end, LAFCO has reviewed the information relating to this project and would like to comment on the proposed development and necessary future services.

APNs 122-720-018, 122-720-019, 122-720-020, and 122-720-021 are not within the boundaries of the El Dorado Irrigation District (EID) nor the El Dorado Hills County Water District (EDH Fire). These parcels will require annexation into these districts prior to receiving water and sewer services from EID, or fire protection and emergency medical services from EDH Fire. APNs 122-720-002 and 122-720-003 do appear to be within the EID and EDH Fire boundaries and will not require any LAFCO action.

LAFCO requests that annexation into EID and EDH Fire be included as required conditions of approval for this project. Annexation would occur after the County's approval process; please ensure the applicant is aware of this future requirement and advise the applicant to contact LAFCO staff near the end of the County's approval process to schedule a pre-application meeting. LAFCO may also request additional roadway parcels be included in the annexation application, to result in more orderly local government boundaries.

Since the above project will require LAFCO involvement for future boundary changes, and LAFCO will also require an environmental review for the application, it is in the best interest of the applicant and all involved parties if one CEQA document is prepared that covers all of the necessary processes. LAFCO respectfully requests that the project description include annexation into EID for water and wastewater services, and annexation into EDH Fire for fire

COMMISSIONERS
Public Member: Michael Powell • Alternate Public Member: Vacant
City Members: Cody Bass, Jackie Neau • Alternate City Member: Patricia "Patty" Borelli
County Members: John Hidahl, Wendy Thomas • Alternate County Member: George Turnboo
Special District Members: Brian Veerkamp, Vacant • Alternate Special District Member: Michael Saunders
STAFF
Erica Sanchez, Assistant Executive Officer • Kelly Witt, Administrative Assistant
Malathy Subramanian, Commission Counsel

protection and emergency medical services, and that the Initial Study and subsequent environmental document include the following:

Water Supply, Pumping and Treatment Facilities: A detailed analysis of all existing and planned on-site and off-site water facilities required for this project. A discussion of the potential water supply impacts that may occur as a result of the project, including how much water would be required to adequately serve this project, whether that water is currently projected to be available, the existing infrastructure that will be used to deliver service; the location, size and capacity of existing infrastructure, and how this water requirement will affect the overall water supply for the service area. The same scope of discussion should occur in regards to local pumping and treatment facilities: the location and size of the existing infrastructure of the nearest water treatment facility; whether it has the capacity to serve the proposed project; or whether additional infrastructure will be required for pumping the water to the project site.

Water Quality / Wastewater Treatment Issues: A detailed analysis of all existing and planned on-site and off-site sewer facilities required for this project. The same scope of discussion and analysis for water issues should also be included for sewer treatment issues.

Fire and Emergency Medical Services: The proposed project's impact on fire and emergency services, including a discussion on the impacts on existing facilities and financial implications to EDH Fire. In addition, please include the location(s) of the nearest staffed fire station(s) and estimated response time, and any existing or planned fire hydrants that will be used to deliver water to the project area.

In addition, please continue to ensure that LAFCO is on the distribution list for any project notices, hearings, or decisions as this project moves through the County's approval process. Once again, we thank you for giving LAFCO the opportunity to comment and we look forward to receiving additional materials in the future.

I can be contacted at (530) 295-2707 if you have any questions.

Sincerely,

Erica Sanchez
LAFCO Interim Executive Officer

Gina Hamilton <gina.hamilton@edcgov.us>

Project for Review & Comment - PD15-0001/Z17-0004/P17-0007/CUP-R21-0024/LLA21-0009 - EDH 52 COMMERCIAL CENTER

Brink, Mike <mbrink@eid.org> Tue, Sep 21, 2021 at 2:04 PM
To: Gina Hamilton <gina.hamilton@edcgov.us>

Gina –

A ached is the most current FIL dated December 6, 2018. As noted in the first paragraph, this FIL is valid for 3 years. We are a long ways away from Improvement Plans. It might be advisable for the applicant to get an updated FIL for the EIR so all the numbers/water availability values are more current.

The property will need to be annexed into EID's service area. To do that, LAFCO will need a cer fied EIR. Once the LAFCO Commission condi onally approves the annexa on, it then will be considered by the EID's Board. Assuming they approve it, it then must be approved by the USBR. That is a linear process. When we met with AKT on this a few years ago they were going to reach out to the USBR to see if they could do some reviews in parallel. I never heard the outcome of that.

Once annexa on is complete EID can accept plans for review. Depending on workload we may be able to review plans in parallel with the annexa on process. Other projects, that are annexed, will have priority for review. Plans cannot be approved un l the annexa on is fully approved by all agencies.

Please let me know if any ques ons.

Mike Brink, PE

EID Supervising Engineer

(530) 642-4054

[Quoted text hidden]

[Quoted text hidden]

DS1218-271 EDH 52 Annexation 2782FIL.pdf
2308K

EL DORADO COUNTY
TRANSPORTATION PLANNING

2850 Fairlane Court, Placerville, CA 95667
Phone (530) 621-5355, Fax (530) 642-0508

Date: October 21, 2021

To: Amy Lopez, Kittelson & Associates
CC: Gina Hamilton, El Dorado County Planning and Building Dept.
Patrick Angell, Ascent Environmental, Inc.
Cori Resha, Ascent Environmental, Inc.

From: Zach Oates, P.E.; Natalie Porter, P.E., T.E.

Subject: Revised Review Comments on the Transportation Impact Study Scope of Work for the El Dorado Hills 52 Commercial Center

---

The County received the latest draft Transportation Impact Study Scope of Work (Scope) for the El Dorado Hills 52 Commercial Center project on October 7, 2021. We have reviewed the Scope and have provided minor comments listed below. Comments have also been added to the Scope in the accompanying attachment.

Scope Comments:

- Project Background
  - On page 2, the description of the "second signal" should be revised to reflect the intersection of the new Country Club Drive and Silva Valley Parkway. It is anticipated that Clarksville Crossing will no longer intersect with Silva Valley Parkway.
- Task 2 - Data collection:
  - On page 2, Kittelson is proposing to use Caltrans data from pre-pandemic 2019 for the Caltrans facilities outlined in the analysis sections. We discussed this with Caltrans, and they find it acceptable. Caltrans did note that the Bass Lake Rd ramps are not in the PeMS.
- Task 3 – Traffic Operations Analysis
  - On page 3, you are missing the Intersection of Silva Valley Parkway/Clarksville Crossing (existing conditions only – side street stop controlled)
  - On page 3, Intersection #15 (Silva Valley Parkway/Project Driveway) should be analyzed for both signalized and unsignalized operations

- On page 4, Road Segment #1 – the limits should be U.S. 50 Westbound Ramps to Future Country Club Drive.
- Study Scenarios on page 8: Per comments sent on a previous version of the draft Scope, a Saturday analysis should also be performed. The draft as written states, "The analysis excludes trips made on weekends." Per 10/21 phone conversation, traffic counts for Saturday mid-day peak analysis should be collected at the following locations:

    1. Silva Valley Parkway at Serrano Parkway
    2. Silva Valley Parkway at Entrada Drive
    3. Silva Valley Parkway at Clarksville Crossing
    4. Silva Valley Parkway at the westbound US Hwy 50 ramps
    5. Silva Valley Parkway at the eastbound US Hwy 50 ramps
    6. Clarksville Crossing at White Rock Road

    Additionally, the future scenario should also include a Saturday mid-day peak analysis for the future intersection of Silva Valley Parkway and Country Club Drive.

- Study Scenarios on page 8: Kittelson asked for written assumptions for adjustments to the Travel Demand Model to accurately represent foreseeable roadway improvements. The following two assumptions should be accounted for during analysis:

    1. As part of the General Plan, Country Club Drive will extend beyond the project to the west, and connect to Serrano Parkway. As of this review, this segment of Country Club Drive is included in the 20 year CIP.
    2. The intersection of Silva Valley Parkway and Clarksville Crossing will be replaced by the intersection of Silva Valley Parkway and Country Club Drive slightly to the north. Clarksville Crossing will terminate into a cul-de-sac at its northern end.

Attached: Draft Transportation Impact Study Scope of Work with County Comments Included

El Dorado Hills Community Council

***2021 Leadership Team*:** Jon Vegna, Richard Ross, Mike Lilienthal, Glenn Krakow, Sita Burgess, John Davey and Cindy Munt

AGENDA: Monday, November 1st, 2021 @ **5:00 PM**

Held in person at EDH Fire Station 85, 1050 Wilson Blvd.

For those who would like to attend virtually, go to https://us06web.zoom.us/j/97259116041

To call in, 530-621-7603 or 530-621-7610. The Meeting ID is 972 5911 6041

By participating in this meeting, you acknowledge that you are being recorded.

1. **Call to Order - Leadership Team Roll Call and recognition of District 1 Commissioners and Committee members present**

2. **Adoption of regular meeting Agenda**

3. **Public Comment**

4. **Guest Speaker: Rob Peters, EDC Deputy Director of Planning will describe the pros and cons of Planned Development (PD) projects per the County Zoning Ordinance**

5. **Supervisor Communications**

- Karen Purtich and Jan Robbins-Friends of the EDH Library will describe their Annual Campaign which starts November 1st
- EDH Redistricting- City Based Alternative selected unanimously by the BOS as being the baseline for additional alternative maps that better accommodate not splitting up significant Communities of interest (i.e. Serrano Village, Cameron Park, Pollock Pines). The next redistricting meeting is Weds. November 3rd from 9 AM to noon.
- Town and Country Village J-6 (Conceptual) presentation to the BOS was well received with significant support, while recognizing the Traffic/circulation and Air Quality issues that will need to be mitigated.
- Special BOS meeting scheduled for Tuesday November 2nd to primarily address the Caldor Fire Relief planning, and will include the initial discussion of the Federal-American Rescue Plan Act (ARPA) funding distributions.

6. **Leadership Team Progress Reports (~3 to 5 minutes each)**

- Public Safety - Sheriff's report, CHP report and EDH Fire report

- Economic Development- Community and Economic Development Advisory Committee report
- Infrastructure- EDH52/Costco/Country Club Drive-Traffic/Circulation preliminary planning
- Good Governance- CAL-OES appeal letter to FEMA for Caldor Fire Individual Assistance and supporting letters from Senators Feinstein and Padilla
- Healthy Communities- November 8th Special Community Council Meeting on Mental Illness and related County Services
- APAC – November 10th meeting agenda topics
- Community Information and Outreach

7. Council Member Items

- Next meeting is Monday December 6th, 2021
- Next month's Guest Speaker- Irene Muzio and Wendi-Mae Davis from the Assistance League of the Sierra Foothills

8. Adjournment

Courtesy Notice: Anyone wishing to record any segment of a CC meeting shall express their intent to do so before they start recording.

Questions regarding this agenda should be addressed to Supervisor John Hidahl @ (530) 621-5650
Email: Bosone@edcgov.us
Mailing address: 330 Fair Lane
Placerville, Ca 95667

EL DORADO COUNTY
PLANNING & BUILDING DEPARTMENT

2850 Fairlane Court, Placerville, CA 95667
Phone (530) 621-5355, Fax (530) 642-0508

Date: December 17, 2021

To: Gina Hamilton

From: Matthew Aselage, Assistant Planner

Subject: CUP-R21-0024 EDH52 Self-Storage and RV Storage Outstanding Application Materials Request

---

The following list is inclusive of outstanding application materials for the Conditional Use Permit CUP-R21-0024 only. No other permits associated with the EDH52 project are discussed within this letter.

The County is in need of an expanded project description to include the following information:

- The square footage ranges for proposed storage units, if possible
- A clarification of what stored items will be allowed within the outdoor parking area on site (ex. RV's, boats, tractors)
- Expected activities allowed on site
- Hours of operation, including 24-hour access
- Number of employees working on site
- Number of employees living in caretaker unit
- Justification of the necessity for the caretaker unit
- Odor impacts
- Proposed drive aisle surfacing for both the self-storage and RV/outdoor storage areas (pavement, gravel, etc)
- Proposed outdoor lighting to be used, if not provided on a preliminary outdoor lighting plan sheet.

Additionally, the county is in need of more project site plan sheets including the following:

- A preliminary outdoor lighting plan along with a photometric study as outlined in item number 14 of the site plan requirements on page 8 of the CUP application form
- A plan sheet denoting the interior floor plans for the proposed caretaker unit. Alternatively, an updated project description which includes the proposed number of bedrooms/bathrooms and total square feet of proposed living space.

Kind regards,
Matt Aselage
Matthew Aselage
Assistant Planner

3.3 ARCHAEOLOGICAL, HISTORICAL, AND TRIBAL CULTURAL RESOURCES

This section analyzes and evaluates the potential impacts of the project on known and unknown cultural resources. Cultural resources include districts, sites, buildings, structures, or objects generally older than 50 years and considered to be important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. They include pre-historic resources, historic-period resources, and "tribal cultural resources" (the latter as defined by Assembly Bill (AB) 52, Statutes of 2014, in Public Resources Code [PRC] Section 21074).

Archaeological resources are locations where human activity has measurably altered the earth or left deposits of prehistoric or historic-period physical remains (e.g., stone tools, bottles, former roads, house foundations). Historical (or built-environment) resources include standing buildings (e.g., houses, barns, outbuildings, cabins) and intact structures (e.g., dams, bridges, roads, districts), or landscapes. A cultural landscape is defined as a geographic area (including both cultural and natural resources and the wildlife therein), associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values. Tribal cultural resources are sites, features, places, cultural landscapes, sacred places and objects, with cultural value to a tribe.

One comment letter regarding cultural resources was received in response to the Notice of Preparation (see Appendix A). The Native American Heritage Commission (NAHC) requested AB 52 and SB 18 compliance information; SB 18 does not apply to the project because there is no General Plan amendment associated with the project. AB 52 compliance is described below.

3.3.1 Regulatory Setting

FEDERAL

National Register of Historic Places

The National Register of Historic Places (NRHP) is the nation's master inventory of known historic properties. It is administered by the National Park Service and includes listings of buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, or cultural significance at the national, state, or local level.

The formal criteria (36 CFR 60.4) for determining NRHP eligibility are as follows:

1. The property is at least 50 years old (however, properties under 50 years of age that are of exceptional importance or are contributors to a district can also be included in the NRHP);
2. It retains integrity of location, design, setting, materials, workmanship, feeling, and associations; and
3. It possesses at least one of the following characteristics:

   Criterion A Is associated with events that have made a significant contribution to the broad patterns of history (events).

   Criterion B Is associated with the lives of persons significant in the past (persons).

   Criterion C Embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant, distinguishable entity whose components may lack individual distinction (architecture).

   Criterion D Has yielded, or may be likely to yield, information important in prehistory or history (information potential).

For a property to retain and convey historic integrity it must possess most of the seven aspects of integrity: location, design, setting, materials, workmanship, feeling, and association. Location is the place where the historic property was constructed or the place where a historic event occurred. Integrity of location refers to whether the property has been moved since its construction. Design is the combination of elements that create the form, plan, space, structure, and style of a property. Setting is the physical environment of a historic property that illustrates the character of the place. Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property. Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory. Feeling is a property's expression of the aesthetic or historic sense of a particular period of time. This is an intangible quality evoked by physical features that reflect a sense of a past time and place. Association is the direct link between the important historic event or person and a historic property. Continuation of historic use and occupation help maintain integrity of association.

Listing in the NRHP does not entail specific protection or assistance for a property but it does guarantee consideration in planning for federal or federally-assisted projects, eligibility for federal tax benefits, and qualification for federal historic preservation assistance. Additionally, project effects on properties listed in the NRHP must be evaluated under CEQA.

The National Register Bulletin series was developed to assist evaluators in the application of NRHP criteria. For example, National Register Bulletin #36 provides guidance in the evaluation of archaeological site significance. If a property cannot be placed within a particular theme or time period, and thereby lacks "focus," it will be unlikely to possess characteristics which would make it eligible for listing in the NRHP. Evaluation standards for linear features (such as roads, trails, fence lines, railroads, ditches, and flumes) are considered in terms of four related criteria that account for specific elements that define engineering and construction methods of linear features: (1) size and length, (2) presence of distinctive engineering features and associated properties, (3) structural integrity, and (4) setting. The highest probability for NRHP eligibility exists in the intact, longer segments, where multiple criteria coincide.

STATE

California Register of Historical Resources

All properties in California that are listed in or formally determined eligible for listing in the NRHP are also listed in the California Register of Historical Resources (CRHR). The CRHR is a listing of State of California resources that are significant in the context of California's history. It is a Statewide program with a scope and with criteria for inclusion similar to those used for the NRHP. In addition, properties designated under municipal or county ordinances are also eligible for listing in the CRHR.

A historical resource must be significant at the local, state, or national level under one or more of the criteria defined in the California Code of Regulations Title 15, Chapter 11.5, Section 4850 to be included in the CRHR. The CRHR criteria are tied to CEQA because any resource that meets the criteria below is considered a significant historical resource under CEQA. As noted above, all resources listed in or formally determined eligible for listing in the NRHP are automatically listed in the CRHR.

The CRHR uses four evaluation criteria:

Criterion 1. Is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.

Criterion 2. Is associated with the lives of persons important to local, California, or national history.

Criterion 3. Embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of a master; or possesses high artistic values.

Criterion 4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

Similar to the NRHP, a historical resource must meet one of the above criteria and retain integrity to be listed in the CRHR. The CRHR uses the same seven aspects of integrity used by the NRHP.

California Environmental Quality Act

CEQA requires public agencies to consider the effects of their actions on "historical resources," "unique archaeological resources," and "tribal cultural resources." Pursuant to PRC Section 21084.1, a "project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." Section 21083.2 requires agencies to determine whether projects would have effects on unique archaeological resources. PRC Section 21084.2 establishes that "[a] project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment."

Historical Resources

"Historical resource" is a term with a defined statutory meaning (PRC Section 21084.1; State CEQA Guidelines Sections 15064.5[a] and [b]). Under State CEQA Guidelines Section 15064.5(a), historical resources include the following:

1) A resource listed in, or determined to be eligible by the State Historical Resources Commission for listing in, the CRHR (PRC Section 5024.1).

2) A resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g), will be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

3) Any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource will be considered by the lead agency to be historically significant if the resource meets the criteria for listing in the CRHR (PRC Section 5024.1).

4) The fact that a resource is not listed in or determined to be eligible for listing in the CRHR, not included in a local register of historical resources (pursuant to PRC Section 5020.1[k]), or identified in a historical resources survey (meeting the criteria in PRC Section 5024.1[g]) does not preclude a lead agency from determining that the resource may be a historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

Unique Archaeological Resources

CEQA also requires lead agencies to consider whether projects will affect unique archaeological resources. PRC Section 21083.2(g) states that "unique archaeological resource" means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets one or more of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Tribal Cultural Resources

CEQA also requires lead agencies to consider whether projects will affect tribal cultural resources. PRC Section 21074 states:

a) "Tribal cultural resources" are either of the following:

1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

   A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.

   B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

b) A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

Public Resources Code Section 21080.3

AB 52, signed by the California Governor in September of 2014, established a new class of resources under CEQA: "tribal cultural resources," defined in PRC Section 21074. Pursuant to PRC Sections 21080.3.1, 21080.3.2, and 21082.3, lead agencies undertaking CEQA review must, upon written request of a California Native American Tribe, begin consultation before the release of an EIR, negative declaration, or mitigated negative declaration. PRC Section 21080.3.2 states:

> Within 14 days of determining that a project application is complete, or to undertake a project, the lead agency must provide formal notification, in writing, to the tribes that have requested notification of proposed projects in the lead agency's jurisdiction. If it wishes to engage in consultation on the project, the tribe must respond to the lead agency within 30 days of receipt of the formal notification. The lead agency must begin the consultation process with the tribes that have requested consultation within 30 days of receiving the request for consultation. Consultation concludes when either: 1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource, or 2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached.

California Native American Historical, Cultural, and Sacred Sites Act

The California Native American Historical, Cultural, and Sacred Sites Act (PRC Section 5097.9) applies to both State and private lands. The act requires, upon discovery of human remains, that construction or excavation activity cease and that the county coroner be notified. If the remains are those of a Native American, the coroner must notify the Native American Heritage Commission (NAHC), which notifies and has the authority to designate the most likely descendant (MLD) of the deceased. The act stipulates the procedures the descendants may follow for treating or disposing of the remains and associated grave goods.

Health and Safety Code, Sections 7050.5

Section 7050.5 of the Health and Safety Code requires that construction or excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If they are determined to be those of a Native American, the coroner must contact NAHC.

Public Resources Code, Section 5097

PRC Section 5097 specifies the procedures to be followed if human remains are unexpectedly discovered on nonfederal land. The disposition of Native American burials falls within the jurisdiction of NAHC. Section 5097.5 of the code states:

> No person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized

footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

LOCAL

El Dorado County General Plan

The El Dorado County General Plan includes policies related to cultural resources related to the project.

- **Policy 7.5.1.2.** Reports and/or maps identifying specific locations of archaeological or historical sites shall be kept confidential in the Planning Department but shall be disclosed where applicable.
- **Policy 7.5.1.3.** Cultural resource studies (historic, prehistoric, and paleontological resources) shall be conducted prior to approval of discretionary projects. Studies may include, but are not limited to, record searches through the North Central Information Center at California State University, Sacramento, the Museum of Paleontology, University of California, Berkeley, field surveys, subsurface testing, and/or salvage excavations. The avoidance and protection of sites shall be encouraged.
- **Policy 7.5.1.6.** The County shall treat any significant cultural resources (i.e., those determined California Register of Historical Resources/National Register of Historic Places eligible and unique paleontological resources), documented as a result of a conformity review for ministerial development, in accordance with CEQA standards.
- **Policy 7.5.2.4.** The County shall prohibit the modification of all National Register of Historic Places (NRHP)/California Register of Historical Resources (CRHR) listed properties that would alter their integrity, historic setting, and appearance to a degree that would preclude their continued listing on these registers. If avoidance of such modifications on privately owned listed properties is deemed infeasible, mitigation measures commensurate with NRHP/CRHR standards shall be formulated in cooperation with the property owner.

3.3.2 Environmental Setting

REGIONAL PREHISTORY

California archaeology can be described as a series of patterns—an essentially non-temporal, integrative cultural unit–the way of general life shared by people within a given geographic region. The Archaic Period, which in California lasted from about 6000 before current era (BCE) to 1000 CE, is divided by archaeologists into three sub-periods: Lower, Middle, and Upper (Helix 2020).

During the Lower Archaic, between 6000 and 3000 BCE, many pluvial lakes across the state became dry playas as a result of climatic changes. Early milling stone complexes of this sub-period have been identified by scholars at a number of sites in southern and northern California. Previous finds of milling stones and Pinto-like projectile points at sites in Marble Valley, two miles east of Clarksville, could reflect Native American use of the area dating back 4000 to 7000 years (Helix 2020).

The Middle Archaic, dating between 3000 and 500 BCE, marked the beginning of the fluorescence of aboriginal cultures in California's Great Central Valley. Though concerted exploration of the Sacramento Delta's ancient village mounds was well underway by the 1930s, it was not until much later that archaeologists began taking a systematic look at the region where the Sacramento Valley meets the Sierra foothills (Helix 2020).

The petroglyphs or "Indian rock art" of Sacramento and adjoining counties was reported on in 1959. This included an analysis of rock art styles found at sites along the valley edge in the general vicinity of Clarksville. In 1962, a protohistoric and prehistoric midden (village site) along Alder Creek, five miles west of Clarksville was discovered. Native Americans of the Middle Archaic may have used the lower foothills as a summer resource area. A study of Hawyer Cave located in the foothills near the American River revealed artifact types common in the Middle Archaic

levels of village mounds in the Sacramento Delta region. Bedrock mortars are common along the Sacramento Valley-Sierra foothills edge. Reliance on acorns as a staple is inferred from what is generally recognized as the first appearance of mortars and pestles in archeological sites dating early in the period. In the mid-Sacramento Valley, these developments followed the formation of the Sacramento Delta and marsh lands, which were fully formed by 2000 BCE. Birth of the delta was a consequence of the rising sea level caused by global warming and melting of glaciers at the end of the Pleistocene (Helix 2020).

The Windmiller Pattern dates back as early as 2400 BCE in the Central Valley. Its origins are also tentatively traced to the Altithermal cultures of the northwest Great Basin and southern Columbia Plateau, as archaeologists have speculated that people of the same language group occupied the juncture between the Great Basin and Plateau provinces before 2500 BCE. It is also possible that other Great Basin peoples occupied the area in place of the proto-Yokutsan speaking people of the Windmiller Pattern. The so-called "Martis Complex" with its characteristic dart points made of basalt originally identified by archaeologists at sites in the high Sierra is also represented in the Sierra foothills and may reflect local settlement by an entirely different language group. Such sites may date to the period of 2000 BCE to 500 CE. Large, Martis-like projectile points have been discovered at archaeological sites in the lower foothills. Finds in Marble Valley included projectile point styles similar to Martis (Helix 2020).

Between 2000 and 500 BCE, Utian populations appear to have occupied the Sacramento Delta, the areas along rivers and streams, and marsh land, as well as the hills on both the east and west sides of the Sacramento Valley. Expansion westward into the San Francisco Bay area seems to have brought about some type of fusion between the bearers of Utian languages and the resident speakers of Hokan and Yukian languages. This apparent fusion of cultures, whatever its precise nature, resulted in what archaeologists now recognize as the Berkeley Pattern, sometimes still referred to as the "Middle Horizon" (Helix 2020).

Ancestors of the Nisenan, a Maiduan people who historically inhabited the American River drainage and who lived for part of their history in the Clarksville vicinity, migrated to the region rather late in time. Increased aridity in the Great Basin seems to have been an important factor that initially prompted entry of ancestral Maiduans into the northern Sierra Nevada (Helix 2020).

The Emergent Period, 1000 to 1800 CE, was characterized by the consolidation of territories formed as a result of the migration of native groups, including the Nisenan. The territories formed during the Emergent probably remained in much the same locations as noted by early Spanish observers. Interregional trade seems to have expanded greatly during the Emergent, up to the succeeding Mission Period when Spanish intrusions began tearing the fabric of native life in California (Helix 2020).

ETHNOHISTORY

The project site is located within a boundary zone between traditional Nisenan and Miwok territories; this boundary area has been described as being located between Latrobe on the south and Folsom on the north.

In both Valley Nisenan and Plains Miwok groups, the tribelet, a loose political organization, controlled specific districts usually bounded by the land between drainages. Prior to the gold rush, the establishment of Sutter's Fort, and the 1833 epidemic, villages were distributed along the banks and tributaries of major rivers such as the Sacramento, American, and Cosumnes (Helix 2020).

Valley Nisenan communities ranged in size from small, extended families of 15 to 25 people to large villages with a population over 500. In the early 1800s, a large group could be found at a single village or a cluster of small camps around a large village. The Valley Nisenan built their villages on low, natural levees along rivers and streams, or on gentle slopes with southern exposure. The post-Sutter Nisenan village of *Kadema* was situated on a low knoll along the American River 20 miles west of Clarksville. The villages varied in size from three to 40 or 50 houses. Living quarters were dome shaped, 10 to 15 feet in diameter, and covered with earth, tule mats or grasses. Brush shelters supported by upright posts were constructed in summer and during seasonal rounds of food-gathering. Specialized structures included the semi-subterranean assembly house located at major villages, the sweat house used for curing

and purification, and the acorn granary. The women of most villages made mortar holes in exposures of bedrock to pulverize acorns (Helix 2020).

According to the published literature, foothill Nisenan villages were located on ridges and large flats along major streams. These village sites were smaller than their valley counterparts. Littlejohn reported on the Nisenan village sites of *Bamon* at Shingle Springs, *Yo hi mu* and *Tu lul* near Shingle Springs, *Po lun kit* near Clarksville, and *Wapumi* at Latrobe. In the foothills, it was common for families to live away from the main village. Other sites included seasonal camps, quarries, ceremonial grounds, trading sites, fishing locales, cemeteries, river crossings, and battlefields. The nearest known historic Native American cemetery is located on a ridge between the ravine of Screech Owl Creek and Marble Valley some distance southeast of Clarksville (Helix 2020).

The 1833 epidemic, probably malaria brought south from Oregon by a party of trappers, decimated an estimated 75 percent of California's native population. By the 1840s, a number of the remaining Nisenan people settled around Sutter's Fort and worked for Sutter until the gold rush. Others pressed into traditional Miwok territory. Independent records show the 1840 to 1843 location of *Yusumne*, a Valley Nisenan village, on the valley portion of the American River six miles east of Sutter's Fort. However, in 1846, records show that *Yusumne* was located between Sloughhouse and Plymouth. This apparent move is the first concrete evidence of Nisenan intrusion into Miwok territory (Helix 2020).

A Nisenan group from Carson Creek moved five miles southwest of Clarksville to Walltown under pressure from miners on Carson Creek during the early part of the gold rush. The Walltown Nisenan group attended a "Big Time" (dances and ceremonies) at *Po lun kit*, thereby retaining their connections with the Clarksville area. In the 1870s, however, Walltown residents apparently forced the native people to move again. This time, the move was to *Palmul* at Michigan Bar on the Cosumnes River. Prior to 1848, members of another Nisenan tribelet, the *Wapumne*, were apparently located along the foothills portion of the American River drainage. The tribelet's center may have been near Shingle Springs. However, the tribelet moved to Latrobe, several miles south of Clarksville, sometime between 1847 and 1864 (Helix 2020).

HISTORIC SETTING

Clarksville History

Following the initial discovery of gold at Sutter's Mill, Coloma, in January 1848, two members of the disbanded Mormon Battalion found gold on the South Fork of the American River about a mile above its confluence with the North Fork. The March 1848 discovery at "Mormon Island" actually started the gold rush. The discoveries spurred thousands of immigrants to California. By May 1848, there were only a few hundred working at shallow placer mines. By the end of 1848, there were 8,000 to 10,000. During the following year, almost 40,000 followed routes by land and sea to the gold fields. The early mining focused on the river placers. Deposits of gravel along the river meanders were an initial attraction. Mining camps arose at these river "bars." Early placer mining expanded from Coloma to Weber Creek and then to the rich creek gravels in the vicinity of present-day Placerville. Fueled by discoveries at Coloma, Placerville and Folsom, soon nearly every ravine in the region was mined (Helix 2020).

The earliest settlement in the project area vicinity was Mormon Tavern. There is some discrepancy as to the original owner of the inn. It was established either in 1848 by a Mormon immigrant named "Morgan," or in 1849 by another Mormon, Asabel A. Lathrop. Mormon Tavern was situated at the foot of the first steep grade into the Sierra foothills from Sacramento. As the earliest settlement in the locality, Mormon Tavern lent its name to the steep grade beyond it and to the toll road that climbed the grade (also known as the old Bass Lake Road). Mormon Tavern was a stage stop during the 1850s. During the short-lived Pony Express, Mormon Tavern also served as a changing station for the horses (Helix 2020).

Most of what is now the project site was first deeded to the Central Pacific Railroad. On the west side of the project site was William Daly's homestead. On the northeast was William Johnson's homestead. Clarksville, established one-eighth mile southeast of the project site and one-half mile east of Mormon Tavern, began as a mining camp and way station. In the early years of the gold rush, Clarksville was known as "Clarkson's" or "Clarkson Town." The town was

apparently named after David P. Clark who, along with his wife and daughter, settled there in 1850. The mining camp was situated near the junction of the freighting road to the mines and the stagecoach road that connected Rhoad's Diggings, Prairie City, and Sacramento. The freight wagon road was a separate route owing to the fact that freight wagons were much slower than stagecoaches. The freighting route connected Clarksville with Placerville to the east and White Rock Springs and Mill's Station to the west (Helix 2020).

The early period of mining was confined to the wet seasons of winter and spring when sufficient water was available in the local creeks. Miners constructed small, temporary camps near the diggings along the creeks and gullies. Archaeologist Susan Lindstrom indicated that Carson, Screech Owl, and Plunket creeks were all seasonal; the seasonal availability of water needed for mining along these creeks and their tributaries was supplemented by ditches tapping the system connected with the American Reservoir (Bass Lake), which was constructed in 1856 (Helix 2020).

By the 1860s, most of the region surrounding Clarksville was dry farmed and winter grazed by sheep or cattle. The land around Clarksville was rocky and clearing fields was necessary to allow the grass to grow and to relieve difficulty in mowing. Ranchers would extend brush fences or, later, barbed wire from the rock walls to create acreage. The fences functioned as field divisions, section lines and corrals. Sheep were introduced to the semi-arid foothills around Clarksville in the 1850s. The peak of sheep raising was probably reached by the 1860s and 1870s. The California Trespass Act of 1850 required farmers to fence their crops to keep out grazing animals. By the late 1860s, however, the burden of fencing was placed on the ranchers who kept livestock. Many of the rock fences found in the region may date to this period and later (Helix 2020).

The period from 1870 to 1960 was characterized by a consolidation of land holdings and the transhumance or seasonal movement of livestock to greener pastures in the Sierra. By the early 1870s, it was virtually impossible to earn a living from the smaller parcels of land that once dotted the countryside around Clarksville. The early mixed economy of mining, ranching and other activities was replaced by the focused strategy of large-scale cattle and sheep ranching (Helix 2020).

The 1960s brought significant changes to the Clarksville viewshed. U.S. Highway 50, which by then bypassed Clarksville, was widened into a modern divided freeway. High voltage 115kV lines parallel the highway. During the 1965 construction of additional highway lanes and Tong Road, construction equipment graded at least a portion of the area where the Richmond-Hall graves were reputedly located (Helix 2020).

RECORDS SEARCHES, SURVEYS, AND CONSULTATION

On March 29, 2013, a California Historical Resources Information System (CHRIS) records search of the project site was conducted at the North Central Information Center (NCIC), at California State University, Sacramento. On February 5, 2018, a supplemental CHRIS records search was conducted for the project site and a 1-mile radius. The following information was reviewed as part of the records search:

- NRHP and CRHR,
- California Office of Historic Preservation Historic Property Directory,
- California Inventory of Historic Resources,
- California State Historic Landmarks,
- California Points of Historical Interest, and
- Historic properties reference map.

The records searches determined that six previously recorded archaeological sites are located within the project site and an additional 57 located within 1 mile of the project site. The six sites within the project site are a fieldstone reinforced fence segment, a precontact bedrock milling feature, the Finch House Site, a pile of quarried rock associated with the Finch House Site, the Sacramento to Placerville Road segment of Lincoln Highway, and the Mormon Hill Historic District. There were no previously recoded built environment features.

The project site was surveyed in 2013; in 2018 known archaeological sites were revisited [COUNTY: the site has not been fully surveyed since 2013, which is considered out of date]. On October 15, 2020, a pedestrian survey was conducted for the approximately 2-acre portion of the project's south site that had not been addressed by previous surveys The survey consisted of a pedestrian inspection, with the surveyors walking 10-meter-wide intervals to ensure maximum ground. No precontact or historic-era artifacts or features were found during the 2020 survey.

Archaeological Sites

P-09-00016

The site consists of the remnants of an east-west bearing fieldstone reinforced fence. The linear resource was first recorded in 1987 and is made up of a single course of stones appearing at regular intervals where barbed-wire posts were once place. All posts have since been removed and evidence of the remnant stone piles that once supported them is scant. In a June 27, 2012 letter from the US Army Corps of Engineers (USACOE) to the State Historic Preservation Officer (SHPO), the USACOE determined that P-09-00016 was a non-contributing resource in the Mormon Hill Historic District. In a December 2012 Memorandum of Agreement, the SHPO concurred with the USACOE regarding the fence's ineligibility for the NRHP. [COUNTY: no CRHR eligibility evaluation is included in the cultural report]

P-09-00017

This minor archaeological feature is a single shallow bedrock mortar hole located on a greenstone outcrop. The cupule measures 9 centimeters (cm) by 10 cm and is 2 cm deep. No artifacts have been found in association with the feature. In 2013 a single shovel test pit adjacent to the outcrop revealed no artifacts or cultural deposits. Inspection of nearby backdirt from gophers and/or other bun-owing animals was also negative. In a June 2012 letter from the USACOE to the SHPO, the USACOE recommended that P-09-00017 was not eligible for the NRHP as an individual resource or as a contributing resource to the Mormon Hill Historic District. The SHPO concurred with these determinations in an August 2012 letter. [COUNTY: no CRHR eligibility evaluation is included in the cultural report]

P-09-00646 and P-09-05361

The Fitch House Site (P-09-00646) was originally recorded as the remains of a 1920s residential building including an associated garden and other features in 1987 and additional elements were added in 1992. Site records for all elements were updated subsequently in 2010 and 2013. Features 4, 6, and 7 are within the project site. Feature 4 is a circular concrete well with timbers. Feature 6 was described as a locally quarried rock pile measuring 12 feet by 5 feet by 3 feet high. It was subsequently documented as P-09-05361 with some disturbance to the resource noted by that time. Feature 7 is a linear north-south bearing, rock reinforced, split-rail and barbed-wire fence that marks the eastern boundary of the historical Fitch House Site. In 2003 the Fitch residence site was evaluated and recommended not eligible for the NRHP and CRHR. In 2004, the Albert Fitch House and features were determined ineligible for the NRHP as an individual resource and as a contributing resource to the Mormon Hill Historic District by consensus between USACOE and the SHPO.

P-09-00809

The primary number "P-09-00809" has been assigned to more than one historic route between Sacramento and Placerville. The specific road segment evaluated here is associated with an old fence line remnant that follows the road on its east side from the north side of Tong Road northeast to the west edge of a hill where the road and the fence line remnant tum east and end at the east boundary of the project site. Modem traffic over the old road trace has literally made it impossible to distinguish the old from the new. The southern portion of the trace, while not impacted by modern traffic, is so eroded that it is difficult to distinguish from the surrounding landscape. The USACOE recommended that the road segment was a non-contributing resource to the Mormon Hill Historic District. In a December 2012 Memorandum of Agreement, the SHPO concurred with the USACOE regarding the road segment's ineligibility for the NRHP. [COUNTY: no CRHR eligibility evaluation is included in the cultural report]

P-09-01670

The Mormon Hill Historic District contains remains associated with both the Gold Rush-era and late 19th century agricultural development. Its key characteristics include economic dependence on the Sacramento to Placerville transportation corridor, the Mormon Tavern, the town of Clarksville, eight large ranch complexes, mining camps, transitional mining claims and homesteads, and the remains of the Eureka Ditch. Mormon Hill Historic District encompasses the entire project site and surrounding area, however. none of the six archaeological sites described above are considered contributing resources to the Mormon Hill Historic District. SHPO recommended further evaluation and review. Because the boundaries of the Mormon Hill District encompass numerous unevaluated resources outside the project site, evaluation and review of the district as a whole exceeded the scope of the studies discussed here.

Tribal Cultural Resources

Native American Consultation

On August 2, 2021, in compliance with AB 52 requirements, El Dorado County sent notification letters to the following seven California Native American tribal representatives:

- Colfax-Todds Valley Consolidated Tribe; Pamela Cubbler, Treasurer
- Ione Band of Miwok Indians; Sara D. Setshwaelo, Chairperson
- Nashville Enterprise Miwok-Maidu-Nishinam Tribe; Mr. Cosme Valdez, Chairperson
- Shingle Springs Band of Miwok Indians (Shingle Springs); Regina Cuellar, Chairperson
- Tsi Akim Maidu; Mr. Don Ryberg, Chairperson
- United Auburn Indian Community of the Auburn Rancheria; Gene Whitehouse, Chairperson
- Washoe Tribe of Nevada and California; Darrel Cruz, Cultural Resources Department

On August 18, 2021, United Auburn Indian Community of the Auburn Rancheria responded, and deferred to Shingle Springs, as the project site is more closely in Shingle Spring's territory. On September 22, 2021, Shingle Springs responded to the County's notification letter and requested consultation. On October 6th, the County provided the cultural resources report; the County requested potential meeting dates on October 7th and November 18th of 2021, and again on May 18, 2022. Shingle Springs has not replied to these messages. [County, please conclude AB 52 consultation with Shingle Springs, if still outstanding. Recommend sending a follow-up email stating that because they have not responded, County considers consultation closed.]

Additionally, a search of NAHC's sacred lands file on May 2, 2022, returned negative results.

3.3.3 Impacts and Mitigation Measures

METHODOLOGY

The impact analysis for archaeological and historical resources is based on the findings and recommendations of the *El Dorado Hills 52 Project Cultural Resources Technical Report* (Helix 2020). The analysis is also informed by the provisions and requirements of federal, state, and local laws and regulations that apply to cultural resources.

PRC Section 21083.2(g) defines a "unique archaeological resource" as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets one or more of the following CRHR-related criteria: (1) that it contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information; (2) that it as a special and particular quality, such as being the oldest of its type or the best available example of its type; or (3) that it is directly associated with a scientifically recognized important prehistoric or historic event or person. An impact on a resource that is not unique is not a significant environmental impact under CEQA (State CEQA Guidelines

Section 15064.5[c][4]). If an archaeological resource qualifies as a resource under CRHR criteria, then the resource is treated as a unique archaeological resource for the purposes of CEQA.

PRC Section 21074 defines "tribal cultural resources" as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" that are listed or determined eligible for listing in the CRHR, listed in a local register of historical resources, or otherwise determined by the lead agency to be a tribal cultural resource.

For the purposes of the impact discussion, "historical resource" is used to describe built-environment historic-period resources. Archaeological resources (both prehistoric and historic-period), which may qualify as "historical resources" pursuant to CEQA, are analyzed separately from built-environment historical resources.

THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the State CEQA Guidelines, the project would result in a significant impact on cultural resources if it would:

- cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5 of the State CEQA Guidelines;
- cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the State CEQA Guidelines;
- cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe; or
- disturb any human remains, including those interred outside of formal cemeteries.

ISSUES NOT DISCUSSED FURTHER

As described above, no built environment features that would qualify as historical resources were identified on the project site, either from the CHRIS records search or any of the pedestrian surveys. Therefore, project construction and operation would have no impact on historical resources. This issue is not analyzed further.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.3-1: Cause a Substantial Adverse Change in the Significance of Unique Archaeological Resources

The NCIC records search revealed one archaeological site that has not been evaluated for NRHP- or CRHR-listing. Additionally, project-related ground-disturbing activities could result in discovery or damage of yet undiscovered archaeological resources pursuant to Section 15064.5. This would be a **significant** impact.

The following analysis applies to both the North Site and South Site.

North Site and South Site

The Mormon Hill Historic District (P-09-001670) encompasses the entire project site (North Site and South Site) and surrounding area but has not been fully evaluated for NRHP/CRHR significance. Five other known archaeological sites within the project site have been determined to be ineligible for listing the NRHP and/or CRHR **[COUNTY: CRHR eligibility was not included in the cultural report. This is required for CEQA analysis]** and are not considered resources for purposes of CEQA. These five archaeological sites have also been determined through concurrence with SHPO to be non-contributing elements of the potential historic district. Therefore, project activities affecting these five sites will not affect the ability of the potential historic district to qualify for NRHP- or CRHR-listing.

Additionally, because these five archaeological sites are non-contributing elements, the project site itself would not be considered a contributor to the potential Mormon Hill Historic District. Therefore, development of the entirety of the project site would not affect the ability of the potential historic district to qualify for NRHP- or CRHR-listing. [COUNTY: NEED CRHR FROM HELIX]

Nevertheless, components of the project that require earth-moving and excavation may result in the discovery of previously undisturbed archaeological deposits. Because project-related ground-disturbing activities could result in the damage or destruction of yet undiscovered significant archaeological resources pursuant to Section 15064.5, the impact would be **significant**.

Mitigation Measures

Mitigation Measure 3.3-1: Halt Ground Disturbance Upon Discovery of Subsurface Archaeological Features

In the event that any prehistoric or historic-period subsurface archaeological features or deposits, including locally darkened soil ("midden"), and concentrations of charcoal, flaked stone, glass, metal, or ceramic, that could conceal cultural deposits are discovered during construction, all ground-disturbing activity within 100 feet of the find shall be halted and a qualified professional archaeologist shall be retained to assess the significance of the find. If the qualified archaeologist determines the archaeological material to be Native American in nature, applicant shall contact the appropriate Native American tribe for their input on the preferred treatment of the find. [This may be revised after AB 52 is complete] If the find is determined to be significant by the archaeologist (i.e., because it is determined to constitute a unique archaeological resource), the archaeologist shall develop, and applicant shall implement, appropriate procedures to protect the integrity of the resource and ensure that no additional resources are affected. Procedures could include but would not necessarily be limited to preservation in place (which shall be the preferred manner of mitigating impacts to archaeological sites), archival research, subsurface testing, or contiguous block unit excavation and data recovery (when it is the only feasible mitigation, and pursuant to a data recovery plan).

Significance after Mitigation

Implementation of Mitigation Measure 3.3-1 would reduce impacts associated with archaeological resources to a **less-than-significant** level by requiring the performance of professionally accepted and legally compliant procedures in the event of a discovery, as well as the protection of any previously undocumented significant archaeological resources.

Impact 3.3-2: Cause a Substantial Adverse Change in the Significance of a Tribal Cultural Resource

Although consultation did not result in the identification of any tribal cultural resources, ground-disturbing activities could damage or destroy previously unknown tribal cultural resources. Therefore, impacts to tribal cultural resources is considered to be **significant**.

The following analysis applies to both the North Site and South Site.

North Site and South Site

As described previously, the County sent letters notifying that the proposed project was being addressed under CEQA, as required by PRC 21080.3.1, to seven California Native American tribal representatives. Only the Shingle Springs Band of Miwok Indians requested consultation. However, numerous messages sent to Shingle Springs went unanswered and no consultation meetings took place, and no tribal cultural resources were identified. In addition, the precontact archaeological site identified in the CHRIS search has been evaluated as not eligible for CRHR-listing **[CRHR evaluation still needed]** and the record search of the NAHC Sacred Lands File database was completed with negative results. For these reasons, no part of the project site meets any of the criteria for tribal cultural resources as defined in PRC Section 21074.

Nevertheless, construction-related activities, both ground-disturbing and staging access, could encounter previously undiscovered or unrecorded resources. This could result in physical changes to sites, structures, and areas that have

religious or sacred significance or other cultural significance to the Washoe people. Therefore, this impact would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.3-2: Protect Previously Undiscovered Tribal Cultural Resources

Implement Mitigation Measure 3.3-1.

Significance after Mitigation

Implementation of Mitigation Measure 3.3-2 would reduce the proposed project's impact to a **less-than-significant** level by requiring preservation options and proper care of significant artifacts if they are recovered.

Impact 3.3-3: Disturb Human Remains

Based on documentary research, no evidence suggests that any prehistoric or historic-period marked or un-marked human interments are present within or in the immediate vicinity of the project site. However, ground-disturbing construction activities could uncover previously unknown human remains. Compliance with California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097 would make this impact **less than significant**.

The following analysis applies to both the North Site and South Site.

North Site and South Site

Based on documentary research, no evidence suggests that any prehistoric or historic-period marked or un-marked human interments are present within or in the immediate vicinity of the project site. However, the location of grave sites and Native American remains can occur outside of identified cemeteries or burial sites. Therefore, there is a possibility that unmarked, previously unknown Native American or other graves could be present within the project site and could be uncovered by project-related construction activities.

California law recognizes the need to protect Native American human burials, skeletal remains, and items associated with Native American burials from vandalism and inadvertent destruction. The procedures for the treatment of Native American human remains are contained in California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.

These statutes require that, if human remains are discovered, potentially damaging ground-disturbing activities in the area of the remains shall be halted immediately, and the appropriate County coroner shall be notified immediately. If the remains are determined by the coroner to be Native American, NAHC shall be notified within 24 hours and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. Following the coroner's findings, the NAHC-designated Most Likely Descendant, and the landowner shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments, if present, are not disturbed. The responsibilities for acting upon notification of a discovery of Native American human remains are identified in PRC Section 5097.94.

Compliance with California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097 would provide an opportunity to avoid or minimize the disturbance of human remains, and to appropriately treat any remains that are discovered. Therefore, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

This page intentionally left blank.

3.4 BIOLOGICAL RESOURCES

This section addresses biological resources known or with potential to occur on or near the project site and describes potential effects of implementation of the EDH Commercial Center Project on those resources. Data reviewed in preparation of this analysis include:

- *Biological Resources Assessment* (Foothill Associates, 2017);
- *El Dorado Hills 52 Project Biological Resources Assessment* (Helix Environmental Planning 2020a);
- *El Dorado Hills 52 Project Aquatic Resources Delineation Report* (Helix Environmental Planning 2020b);
- *El Dorado Hills 52 Oak Resources Technical Reports* (Helix Environmental Planning 2020c and 2021);
- *California Red-Legged Frog (*Rana draytonii*) Protocol-Level Survey Report* (Foothill Associates 2016a);
- *Special-Status Plant Surveys within the El Dorado Hills 52 Project Site* (Foothill Associates 2016b);
- *Protocol-Level Burrowing Owl Surveys within the El Dorado Hills 52 Project Site* (Foothill Associates 2016c);
- Results of California Natural Diversity Database (CNDDB) record search of the Rocklin, Pilot Hill, Coloma, Folsom, Clarksville, Shingle Springs, Buffalo Creek, Folsom SE, and Latrobe US Geological Survey (USGS) 7.5-minute quadrangles (CNDDB 2022);
- Results of California Native Plant Society (CNPS), Inventory of Rare Plants search of the Rocklin, Pilot Hill, Coloma, Folsom, Clarksville, Shingle Springs, Buffalo Creek, Folsom SE, and Latrobe USGS 7.5-minue quadrangles (CNPS 2022);
- Results of US Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) electronic records search (USFWS 2022);
- Reconnaissance-level survey of the project site by an Ascent Environmental wildlife biologist on April 18, 2022; and
- Aerial photographs of the project site and region.

In response to the NOP for the project EIR, comment letters were received from several members of the public; however, no comments specifically pertaining to biological resources were received. Refer to Appendix A for comments received on the NOP.

3.4.1 Regulatory Setting

FEDERAL

Federal Endangered Species Act

Pursuant to the federal Endangered Species Act (ESA) (16 U.S.C. Section 1531 et seq.), USFWS regulates the taking of species listed in the ESA as threatened or endangered. In general, persons subject to ESA (including private parties) are prohibited from "taking" endangered or threatened fish and wildlife species on private property, and from "taking" endangered or threatened plants in areas under federal jurisdiction or in violation of state law. Under Section 9 of the ESA, the definition of "take" is to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." USFWS has also interpreted the definition of "harm" to include significant habitat modification that could result in take.

Section 10 of the ESA applies if a non-federal agency is the lead agency for an action that results in take and no other federal agencies are involved in permitting or funding the action. Section 7 of the ESA applies if a federal discretionary action is required (e.g., a federal agency must issue a permit), in which case the involved federal agency consults with USFWS.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA), first enacted in 1918, provides for protection of international migratory birds and authorizes the Secretary of the Interior to regulate the taking of migratory birds. The MBTA provides that it will be unlawful, except as permitted by regulations, to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird. Under the MBTA, "take" is defined as "to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or any attempt to carry out these activities." A take does not include habitat destruction or alteration, as long as there is not a direct taking of birds, nests, eggs, or parts thereof. The current list of species protected by the MBTA can be found in Title 50 of the Code of Federal Regulations (CFR), Section 10.13 (50 CFR 10.13). The list includes nearly all birds native to the United States.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act, enacted in 1940 and amended multiple times since, prohibits the taking of bald and golden eagles without a permit from the Secretary of the Interior. Similar to ESA, the Bald and Golden Eagle Protection Act defines "take" to include "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb" (16 U.S. Code 668–668c). For the purpose of the act, disturbance that would injure an eagle, decrease productivity, or cause nest abandonment, including habitat alterations that could have these results, are considered take and can result in civil or criminal penalties.

Clean Water Act

Section 404 of the Clean Water Act (CWA) requires project applicants to obtain a permit from US Army Corps of Engineers (USACE) before performing any activity that involves any discharge of dredged or fill material into waters of the United States, including wetlands. Waters of the United States include navigable waters of the United States, interstate waters, tidally influenced waters, and all other waters where the use, degradation, or destruction of the waters could affect interstate or foreign commerce, tributaries to any of these waters, and wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries. Many surface waters and wetlands in California meet the criteria for waters of the United States.

In accordance with Section 401 of the CWA, projects that apply for a USACE permit for discharge of dredged or fill material must obtain water quality certification from the appropriate state agency, which in California is the State Water Resources Control Board or designated regional water quality control board (RWQCB), indicating that the action would uphold state water quality standards.

STATE

California Endangered Species Act

Pursuant to the California Endangered Species Act (CESA), a permit from California Department of Fish and Wildlife (CDFW) is required for projects that could result in the "take" of a plant or animal species that is listed by the state as threatened or endangered. Under CESA, "take" is defined as an activity that would directly or indirectly kill an individual of a species but does not include "harm" or "harass," as does the federal definition. As a result, the threshold for take is higher under CESA than under the federal ESA. Authorization for take of state-listed species can be obtained through a California Fish and Game Code Section 2081 incidental take permit.

California Fish and Game Code Sections 3503 and 3503.5—Protection of Bird Nests and Raptors

Section 3503 of the Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 of the California Fish and Game Code states that it is unlawful to take, possess, or destroy any raptors (i.e., species in the orders *Falconiformes* and *Strigiformes*), including their nests or eggs. Typical violations include destruction of active nests as a result of tree removal or disturbance caused by project construction or other activities that cause the adults to abandon the nest, resulting in loss of eggs and/or young.

Fully Protected Species under the California Fish and Game Code

Protection of fully protected species is described in Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code. These statutes prohibit take or possession of fully protected species and do not provide for authorization of incidental take.

California Fish and Game Code Section 1602—Lake and Streambed Alteration

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports fish or wildlife resources are subject to regulation by CDFW under Section 1602 of the California Fish and Game Code. Under Section 1602, it is unlawful for any person, governmental agency, or public utility to do any of the following without first notifying CDFW:

- substantially divert or obstruct the natural flow of, or substantially change or use any material from, the bed, channel, or bank of any river, stream, or lake; or
- deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

The regulatory definition of a stream is a body of water that flows at least periodically or intermittently through a bed or channel that has banks and supports fish or other aquatic life. This definition includes watercourses with a surface or subsurface flow that supports or has supported riparian vegetation (California Code of Regulations Title 14, Section 1.72). CDFW jurisdiction within altered or artificial waterways is based on the value of those waterways to fish and wildlife. A lake and streambed alteration agreement must be obtained for any diversion or alteration that would substantially adversely affect a fish or wildlife resource in a river, stream, or lake.

Native Plant Protection Act

The Native Plant Protection Act (NPPA) (California Fish and Game Code Section 1900 et seq.) allows the California Fish and Game Commission to designate plants as rare or endangered. Sixty-four species, subspecies, and varieties of plants are protected as rare under the NPPA. The act prohibits take of endangered or rare native plants but includes exceptions for agricultural and nursery operations; for emergencies; and, after proper notification of CDFW, for vegetation removal from canals, roads, and other building sites, changes in land use, and other situations.

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Act, waters of the state fall under the jurisdiction of the appropriate RWQCB. The project site is within the Central Valley RWQCB. The RWQCB must prepare and periodically update water quality control plans (basin plans). Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control point and nonpoint sources of pollution to achieve and maintain these standards. The RWQCB's jurisdiction includes federally protected waters as well as areas that meet the definition of "waters of the state," including waters meeting the state definition of a wetland. Waters of the state are defined as any surface water or groundwater, including saline waters, within the boundaries of the state. Under the state definition, an area is a wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater or shallow surface water or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and; (3) the area either lacks vegetation or the vegetation is dominated by hydrophytes.

RWQCB has the discretion to take jurisdiction over areas not federally protected under Section 401 of the CWA provided they meet the definition of waters of the State. The California Water Code generally regulates more substances contained in discharges and defines discharges to receiving waters more broadly than does the CWA. In addition, waters of the State cover a broader range of aquatic habitats than the CWA, including ephemeral streams and wetlands. Actions that affect waters of the State, including wetlands, must meet the RWQCB waste discharge requirements. This issue is addressed comprehensively in Section 3.9, "Hydrology and Water Quality," as well as herein with respect to state protected wetlands and associated biological resources.

LOCAL

El Dorado County General Plan

The adopted El Dorado County General Plan Conservation and Open Space Element discusses significant natural resources in the County, including aquatic habitat, special-status species, and sensitive habitats, and establishes goals, objectives, and policies related to these topics. Relevant policies from the El Dorado County General Plan include:

- **Policy 7.3.3.1:** For projects that would result in the discharge of material to or that may affect the function and value of river, stream, lake, pond, or wetland features, the application shall include a delineation of all such features. For wetlands, the delineation shall be conducted using the US Army Corps of Engineers (USACE) Wetland Delineation Manual.
- **Policy 7.3.3.5**: Rivers, streams, lakes and ponds, and wetlands shall be integrated into new development in such a way that they enhance the aesthetic and natural character of the site while disturbance to the resource is avoided or minimized and fragmentation is limited.
- **Policy 7.3.4.1**: Natural watercourses shall be integrated into new development in such a way that they enhance the aesthetic and natural character of the site without disturbance.
- **Policy 7.3.4.2**: Modification of natural stream beds and flow shall be regulated to ensure that adequate mitigation measures are utilized.
- **Policy 7.4.1.1:** The County shall continue to provide for the permanent protection of the eight sensitive plant species known as the Pine Hill endemics and their habitat through the establishment and management of ecological preserves consistent with County Code Chapter 17.71 and the USFWS *Gabbro Soil Plants for the Central Sierra Nevada Foothills Recovery Plan* (USFWS 2002).
- **Policy 7.4.1.6**: All development projects involving discretionary review shall be designed to avoid disturbance or fragmentation of important habitats to the extent reasonably feasible. Where avoidance is not possible, the development shall be required to fully mitigate the effects of important habitat loss and fragmentation. Mitigation shall be defined in the Integrated Natural Resources Management Plan (INRMP) (see Policy 7.4.2.8 and Implementation Measure CO-M).

  The County Agricultural Commission, Plant and Wildlife Technical Advisory Committee, representatives of the agricultural community, academia, and other stakeholders shall be involved and consulted in defining the important habitats of the County and in the creation and implementation of the INRMP.
- **Policy 7.4.2.8:** Conserve contiguous blocks of important habitat to offset the effects of increased habitat loss and fragmentation elsewhere in the County through a Biological Resource Mitigation Program (Program). The Program will result in the conservation of:
  - Habitats that support special status species;
  - Aquatic environments including streams, rivers, and lakes;
  - Wetland and riparian habitat;
  - Important habitat for migratory deer herds; and
  - Large expanses of native vegetation.

  A. **Habitat Protection Strategy**. The Program establishes mitigation ratios to offset impacts to special-status species habitat and special-status vegetation communities within the County.

  Special-status species include plants and animals in the following categories:
  - Species listed or proposed for listing as Threatened or Endangered under the federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA);
  - Species considered as candidates for listing as Threatened or Endangered under ESA or CESA;

- Wildlife species identified by CDFW as Species of Special Concern;
- Wildlife species identified by US Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) as Species of Concern;
- Plants listed as Endangered or Rare under the California Native Plant Protection Act;
- Animals fully protected under the California Fish and Game Code; and
- Plants that have a California Native Plant Society (CNPS) California Rare Plant Rank (CRPR) of 1A (plants presumed extirpated in California and either rare or extinct elsewhere), 1B (plants rare, threatened, or endangered in California and elsewhere), 2A (plants presumed extirpated in California, but more common elsewhere), or 2B (plants rare, threatened, or endangered in California, but more common elsewhere). The CNPS CRPRs are used by both CDFW and USFWS in their consideration of formal species protection under ESA or CESA.

With the exception of oak woodlands, which would be mitigated in accordance with the Oak Resources Management Plan (ORMP) (see General Plan Policy 7.4.4.4), and Pine Hill rare plant species and their habitat, which would be mitigated in accordance with County Code Chapter 130.71 (see General Plan Policy 7.4.1.1), mitigation of impacts to vegetation communities will be implemented in accordance with the table below. Preservation and creation of the following vegetation communities will ensure that the current range and distribution of special-status species within the County are maintained.

Habitat Mitigation Summary Table

Vegetation Type	Preservation	Creation	Total
Water	NA	1:1	1:1
Herbaceous Wetland	1:1	1:1	2:1
Shrub and Tree Wetlands	2:1	1:1	3:1
Upland (non-oak and non-Pine Hill rare plant species habitat)	1:1	NA	1:1

C. Biological Resources Assessment. A site-specific biological resources technical report will be required to determine the presence of special-status biological resources that may be affected by a proposed discretionary project. Vegetation communities and special-status plants shall be mapped and assessed in accordance with the CDFG 2009 Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities and subsequent updates, and the List of Vegetation Alliances and Associations and subsequent updates. Any surveys conducted to evaluate potential presence of special-status wildlife species shall conform to practices recommended by CDFW and/or USFWS at the time of the surveys. The report will include an assessment of direct, indirect, and cumulative impacts to biological resources, including vegetation communities, plant and wildlife species and wildlife movement. The report shall include recommendations for:

   - pre-construction surveys and avoidance/protection measures for nesting birds;
   - pre-construction surveys and avoidance/protection measures for roosting bats;
   - avoidance and minimization measures to reduce impacts related to entrapment, entanglement, injury, or poisoning of wildlife; and
   - avoidance and minimization measures to reduce indirect impacts to wildlife in open space adjacent to a project site. The results of the biological resources technical report shall be used as the basis for establishing mitigation requirements in conformance with this policy and the Oak Resources Management Plan (ORMP, see General Plan Policy 7.4.4.4).

D. Habitat Protection. Mitigation for impacts to vegetation communities defined above in Section A will occur within the County on a minimum contiguous habitat block of 5 acres. Wetlands mitigation may occur within

mitigation banks and/or outside the County if within the watershed of impact. Mitigation sites will be prioritized based on the following criteria:

- Location within PCAs and IBCs;
- Location within other important ecological areas, as defined in the Updated INRMP Initial Inventory and Mapping (June 2010);
- Woodland, forest and shrub communities with diverse age structure;
- Woodland and forest communities with large trees and dense canopies;
- Opportunities for active land management to be used to enhance or restore natural ecosystem processes;
- Presence of or potential to support special-status species;
- Connectivity with adjacent protected lands;
- Parcels that achieve multiple agency and community benefits;
- Parcels that are located generally to the west of the Eldorado National Forest; and
- Parcels that would preserve natural wildlife movement corridors such as crossings under major roadways (e.g., US Highway 50 and across canyons).

F. Mitigation Monitoring. Prior to final approval of an individual development project, applicants shall submit to the County a Mitigation Monitoring Plan that provides for periodic monitoring of preserved lands to assess effectiveness of the measures implemented to protect special-status and native species. The Mitigation Monitoring Plan shall demonstrate that funding is secured to implement the monitoring strategy in perpetuity.

- Policy 7.4.4.4: For all new development projects or actions that result in impacts to oak woodlands and/or individual native oak trees, including Heritage Trees, the County shall require mitigation as outlined in the El Dorado County Oak Resources Management Plan (ORMP). The ORMP functions as the oak resources component of the County's biological resources mitigation program, identified in Policy 7.4.2.8

El Dorado County General Plan Biological Resources Policy Update and Oak Resources Management Plan

The El Dorado County Board of Supervisors adopted the Biological Resources Policy Update and ORMP in October 2017. The Biological Resources Policy Update included revisions to the General Plan objectives, policies, and implementation measures to establish a comprehensive Biological Resource Mitigation Program. The objective of this program is to conserve special-status species habitat, aquatic habitat, wetland and riparian habitat, habitat for migratory deer herds, and large expanses of native vegetation. The ORMP updated and revised the existing Oak Woodland Management Plan, and now defines mitigation requirements for impacts on oak woodlands, individual native oak trees, and heritage trees; and also outlines El Dorado County's strategy for oak resource management and conservation. The ORMP establishes an in-lieu fee payment option for impacts on oak woodlands and oak trees and identifies Priority Conservation Areas where oak woodland conservation efforts will be focused.

The ORMP designates three classes of protected oak resources: oak woodlands that have at least 10 percent oak canopy; heritage trees, defined as native oaks with a total trunk diameter at breast height of 36 inches or greater; and individual oak trees, defined as native oak trees with a trunk diameter at breast height of 6 inches or greater that are not located in oak woodlands. An oak woodland removal permit is required before removal of oak trees that are part of an oak woodland and an oak tree removal permit is required before removal of heritage trees and individual oak trees. Mitigation for impacts on oak woodlands is based on the total area affected ranging from 1:1 mitigation for zero to 50 percent removal to 2:1 mitigation for more than 75 percent removal. Mitigation may be completed with a combination of the following options: acquisition of an off-site conservation easement, payment of in-lieu fees, or either on- or off-site replacement planting of up to 50 percent of the required mitigation area. Mitigation for removal

of heritage or individual oak trees requires on- or off-site replacement planting or payment of in-lieu fees at a 3:1 (heritage trees) or 1:1 (individual oak trees) ratio, respectively, to the number of trunk inches removed. Any oak woodland preserved on site and all mitigation planting areas must be protected in perpetuity through deed restrictions or a conservation easement.

3.4.2 Environmental Setting

HABITAT TYPES

As described in Section 2.0, "Project Description," the project site is split into the North Site and the South Site. Habitat types present on both sections of the project site are shown in Figure 3.4-1 and summarized in Table 3.4-1. Four upland habitat types are present on the project site: annual grassland, riparian woodland, valley oak woodland, and disturbed/developed land. Several aquatic features are present within these upland habitats: perennial marsh, seasonal wetland, wetland swale, seeps, and seasonal drainages. Descriptions of each habitat type are included below (Helix Environmental Planning 2020a). Five habitat types; purple needlegrass grassland, elderberry shrubs, valley oak woodland, perennial marsh, and seep; are present only on the South Site.

Upland Habitat Types

Annual Grassland

Annual grassland on the project site is characterized primarily by an assemblage of nonnative annual grasses and forbs. Dominant species include ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), and wild oat (*Avena fatua*) associated with red-stemmed filaree (*Erodium cicutarium*), popcornflower (*Plagiobothrys* spp.), black mustard (*Brassica nigra*), winter vetch (*Vicia villosa*), scarlet pimpernel (*Lysimachia arvensis*), St. John's wort (*Hypericum perforatum*), brodiaea (*Brodiaea elegans*), fiddleneck (*Amsinckia* sp.), rose clover (*Trifolium hirtum*), and milk-thistle (*Silybum marianum*).

Purple Needlegrass Grassland

Two small areas within the annual grassland habitat on the South Site contain purple needlegrass (*Nassella pulchra*; Figure 3.4-1). Species associated with the purple needlegrass include annual willow herb (*Epilobium brachycarpum*), ripgut brome, soft chess, and wild oat. Purple needlegrass grassland has not been mapped on the North Site, but could be present.

Disturbed/Developed

Disturbed/developed areas on the project site include graded roads and a stockpile area (Figure 3.4-1). The disturbed/developed areas are sparsely vegetated with red-stemmed filaree, soft chess, wild oat, and winter vetch.

Riparian Woodland

Riparian woodland habitat on the project site occurs along the seasonal drainage on the northwest boundary of the project site including portions of the North Site and South Site (Figure 3.4-1). Dominant species include broadleaf cattail (*Typha latifolia*), willow, spike rush (*Eleocharis macrostachya*), pennyroyal (*Mentha pulegium*), Himalayan blackberry (*Rubus armeniacus*), and valley oak (*Quercus lobata*).

Valley Oak Woodland

Valley oak woodland is present on the South Site where a small stand of mature valley oak trees overhangs a small seasonal drainage. Scattered blue oaks (*Quercus douglasii*) are also present in this habitat type. The understory is primarily annual grassland with small areas of milkweed (*Asclepias fascicularis*) and pennyroyal immediately adjacent to the seasonal drainage.

Elderberry Shrubs

Two small clumps of blue elderberry shrubs (*Sambucus nigra* ssp. *caerulea*) are present on the South Site; one near the riparian woodland habitat another within the annual grassland habitat (Figure 3.4-1). There are no elderberry shrubs on the North Site.

Wetland Habitat Types

Perennial Marsh

Perennial marsh habitat is present on the project site only on the South Site within the ordinary high-water mark of the seasonal drainage (Figure 3.4-1). This habitat appears to have formed as a result of a brick check dam that was constructed across the seasonal drainage allowing water to periodically back up in this area. The perennial marsh is dominated by common knotweed (*Persicaria lapathifolia*) and curly dock with areas of dense cattails, Himalayan blackberry, and a small clump of willows (*Salix* spp.).

Seasonal Drainages

The annual grassland habitat on the project site contains small seasonal drainages (Figure 3.4-1). The seasonal drainages vary from mostly unvegetated to containing small clumps of willows and broadleaf cattail.

Seasonal Wetland and Wetland Swale

A number of seasonal wetland and wetland swale features are present on the project site (Figure 3.4-1). Most of the seasonal wetlands and wetland swales are associated with the seasonal drainage on the North Site (Figure 3.4-1). Dominant species in the seasonal wetland and wetland swale habitat include rabbitsfoot grass (*Polypogon monspeliensis*), spike rush, nutsedge (*Cyperus eragrostis*), curly dock (*Rumex crispus*), pennyroyal, coyote-thistle (*Eryngium vaseyi*), brome fescue (*Festuca bromoides*), ryegrass, annual hair grass (*Deschampsia danthonioides*), and rye grass (*Festuca perennis*).

Seep

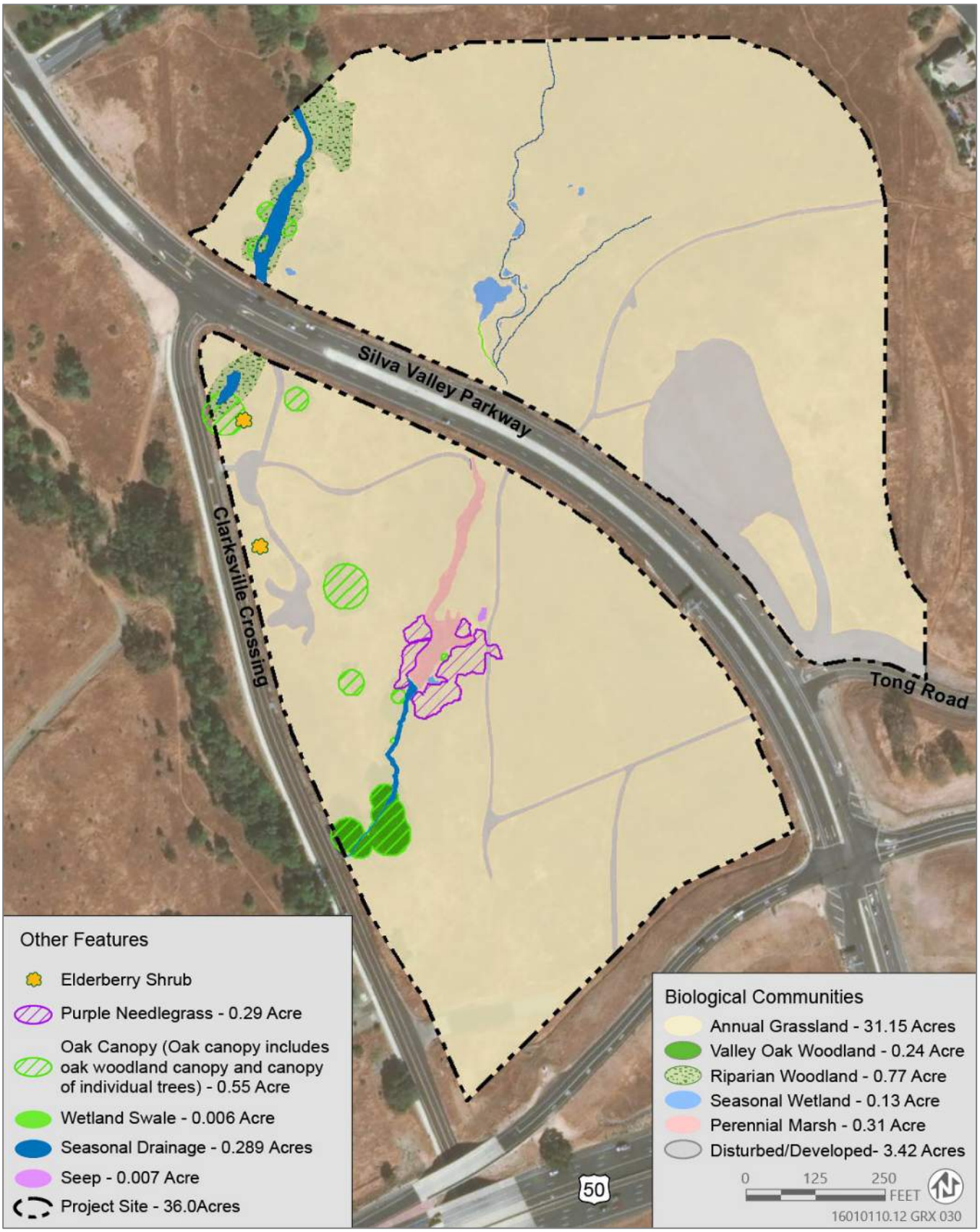
Seep habitat is present adjacent to the perennial marsh habitat on the South Site (Figure 3.4-1). Seeps are characterized as areas where groundwater intersects the soil surface. Typically, water flow from seeps persists for some period after the rainy season or, more rarely, nearly year-round. Seeps accessing sufficient amounts of subsurface water can support isolated wetland vegetation (such as on a hillside) or they may form the headwaters of other jurisdictional drainage or wetland features, such as wetland swales. Vegetation in seeps often consists of plant species associated with seasonal and semi-permanent marsh habitats. When seeps are active for only short periods beyond the rainy season and into the warm season, herbaceous perennial wetland species typically dominate, as is of the case with the seep within the project site. Vegetation in the seep consists almost entirely of iris leaved rush (*Juncus xiphioides*), an obligate wetland plant.

Table 3.4-1 Habitat Types on the Project Site

Habitat Types	Size (acres)
Upland Habitat Types	
Annual Grassland	31.15
Purple Needlegrass Grassland	*0.29*
Disturbed/Developed	3.42
Riparian Woodland	0.77
Valley Oak Woodland	0.24
Wetland Habitat Types	
Perennial Marsh	0.31
Seasonal Drainage	0.289
Seasonal Wetland	0.13
Wetland Swale	0.006

Habitat Types	Size (acres)
Upland Habitat Types	
Seep	0.007

Source: Helix Environmental Planning 2020a.



Source: Helix Environmental Planning 2020a

Figure 3.4-1 Habitat Types on the Project Site

SENSITIVE BIOLOGICAL RESOURCES

State and Federally Protected Wetlands

The perennial marsh, seasonal wetland, wetland swale, and seep habitats on the project site may meet the state- and federal definitions of wetlands. While the seasonal drainages are not vegetated wetlands, they and all of the wetland features on the project site meet the criteria for protection as waters of the United States and state.

Sensitive Natural Communities

Sensitive natural communities are those native plant communities defined by CDFW as having limited distribution statewide or within a county or region and that are often vulnerable to environmental effects of projects (CDFW 2018). These communities may or may not contain special-status plants or their habitat (CDFW 2018). CDFW designates sensitive natural communities based on their state rarity and threat ranking using NatureServe's Heritage Methodology. Natural communities with rarity ranks of S1 to S3, where S1 is critically imperiled, S2 is imperiled, and S3 is vulnerable, are considered sensitive natural communities to be addressed in the environmental review processes of CEQA and its equivalents (CDFW 2018). Four sensitive natural communities were identified in the CNDDB as having potential to occur on the project site: central valley drainage hardhead/squawfish stream, northern hardpan vernal pool, northern volcanic mud flow vernal pool, and valley needlegrass grassland (CNDDB 2022). The project site does not contain hardhead/squawfish stream habitat, vernal pool habitat, or volcanic soils. Approximately 0.3 acres of purple needlegrass grassland is present on the South Site (Figure 3.4-1, Table 3.4-1). This sensitive natural community is also referred to as Needle grass – Melic grass grassland and has a state rank of S3S4 (i.e., vulnerable; Sawyer et al. 2009)

Many riparian plant communities qualify as sensitive natural communities based on the plant associations therein. In addition, riparian habitats are protected under section 1602 of California Fish and Game Code. The project site contains approximately 0.8 acre of riparian woodland habitat (Table 3.4-1, Figure 3.4-1).

Special-Status Species

Special-status species are defined as species that are legally protected or that are otherwise considered sensitive by federal, state, or local resource agencies. Special-status species are species, subspecies, or varieties that fall into one or more of the following categories, regardless of their legal or protection status:

- officially listed under the California Endangered Species Act (CESA) or under the federal Endangered Species Act (ESA) as endangered, threatened, or rare;
- a candidate for state or federal listing as endangered, threatened, or rare under CESA or ESA;
- taxa (i.e., taxonomic category or group) that meet the criteria for listing, even if not currently included on any list, as described in Section 15380 of the State CEQA Guidelines;
- species identified by CDFW as species of special concern;
- species listed as fully protected under the California Fish and Game Code;
- species afforded protection under local planning documents; and
- taxa considered by the CDFW to be "rare, threatened, or endangered in California" and assigned a California Rare Plant Rank (CRPR) of 1, or 2. The CDFW system includes rarity and endangerment ranks for categorizing plant species of concern, and ranks 1 and 2 are summarized as follows:
  - CRPR 1A - Plants presumed to be extinct in California;
  - CRPR 1B - Plants that are rare, threatened, or endangered in California and elsewhere;
  - CRPR 2A - Plants presumed to be extinct in California but common elsewhere; and
  - CRPR 2B - Plants that are rare, threatened, or endangered in California but more common elsewhere.

The term "California species of special concern" is applied by CDFW to animals not listed under ESA or CESA, but that are considered to be declining at a rate that could result in listing, or that historically occurred in low numbers and known threats to their persistence currently exist. CDFW's fully protected status was California's first attempt to identify and protect animals that were rare or facing extinction. Most species listed as fully protected were eventually listed as threatened or endangered under CESA; however, some species remain listed as fully protected but do not have simultaneous listing under CESA. Fully protected species may not be taken or possessed at any time and no take permits can be issued for these species except for scientific research purposes, for relocation to protect livestock, or as part of a Natural Community Conservation Plan (NCCP).

Of the 19 special-status plant species that are known to occur within the nine USGS 7.5-minute quadrangles including and surrounding the project site, three species were determined to have potential to occur on the project site based on the presence of habitat suitable for the species (CNDDB 2022; CNPS 2022; Table 3.4-2). Of the 33 special-status wildlife species known to occur within the nine USGS quadrangles, 17 species were determined to have potential to occur on the project site based on the presence of habitat suitable for the species (CNDDB 2022; USFWS 2022; Table 3.4-3). The tables describe the species' regulatory status, habitat, and potential for occurrence on the project site.

Table 3.4-2 Special-Status Plant Species Known to Occur in the Vicinity of the Project Site and Potential for Occurrence on the Project Site

Species	Listing Status[1] Federal	Listing Status[1] State	CRPR	Habitat	Potential for Occurrence
Jepson's onion *Allium jepsonii*	–	–	1B.2	On serpentine soils in Sierra foothills, volcanic soil on Table Mountain. On slopes and flats; usually in an open area. 1,165–3,710 feet in elevation. Blooms April–August. Geophyte.	Not expected to occur. The project site does not contain serpentine soils.
Big-scale balsamroot *Balsamorhiza macrolepis*	–	–	1B.2	Chaparral, valley and foothill grassland, cismontane woodland. Most often, on serpentine. 115–4,810 feet in elevation. Blooms March–June. Perennial.	May occur. While serpentine soils are not present, the project site contains annual grassland habitat, and this species is not restricted to serpentine soils (65 to 74 percent of known occurrences are on serpentine).
Stebbins' morning-glory *Calystegia stebbinsii*	FE	SE	1B.1	On red clay soils of the Pine Hill formation; gabbro or serpentine; open areas. 980–2,380 feet in elevation. Blooms April–July. Geophyte.	Not expected to occur. The project site does not contain gabbro or serpentine soils.
Chaparral sedge *Carex xerophila*	–	–	1B.2	Serpentine and gabbro soils. 900–2,530 feet in elevation. Blooms March–June. Perennial.	Not expected to occur. The project site does not contain gabbro or serpentine soils.
Pine Hill ceanothus *Ceanothus roderickii*	FE	SR	1B.1	Gabbroic or serpentine soils; often in disturbed areas with an ensemble of other rare plants. 850–2,070 feet in elevation. Blooms April–June. Perennial.	Not expected to occur. The project site does not contain gabbro or serpentine soils.
Red Hills soaproot *Chlorogalum grandiflorum*	–	–	1B.2	Occurs frequently on serpentine or gabbro, but also on non-ultramafic substrates; often on disturbed sites. 800–4,070 feet in elevation. Blooms May–June. Geophyte.	Not expected to occur. The project site does not contain gabbro or serpentine soils.
Dwarf downingia *Downingia pusilla*	–	–	2B.2	Vernal lake and pool margins with a variety of associates. In several types of vernal pools and seasonal wetlands. 0–1,610 feet in elevation. Blooms March–May. Annual.	May occur. The project site contains seasonal wetland habitat potentially suitable for this species.

Species	Listing Status[1] Federal	Listing Status[1] State	CRPR	Habitat	Potential for Occurrence
Tuolumne button-celery *Eryngium pinnatisectum*	–	–	1B.2	Volcanic soils; vernal pools and mesic sites within other natural communities. 230–3,000 feet in elevation. Blooms May–August. Annual/Perennial.	Not expected to occur. The project site does not contain volcanic soils.
Pine Hill flannelbush *Fremontodendron decumbens*	FE	SR	1B.2	Rocky ridges; gabbro or serpentine endemic; often among rocks and boulders. 1,390–2,510 feet in elevation. Blooms April–July. Perennial.	Not expected to occur. The project site does not contain gabbro or serpentine soils.
El Dorado bedstraw *Galium californicum* ssp. *sierrae*	FE	SR	1B.2	In pine-oak woodland or chaparral. Restricted to gabbroic or serpentine soils. 425–1,920 feet in elevation. Blooms May–June. Perennial.	Not expected to occur. The project site does not contain gabbro or serpentine soils.
Boggs Lake hedge-hyssop *Gratiola heterosepala*	–	SE	1B.2	Clay soils; usually in vernal pools, sometimes on lake margins. 30–7,795 feet in elevation. Blooms April–August. Annual.	Not expected to occur. The project site does not contain vernal pools or lakes.
Ahart's dwarf rush *Juncus leiospermus* var. *ahartii*	–	–	1B.2	Valley and foothill grassland. Restricted to the edges of vernal pools in grassland. 100–330 feet in elevation. Blooms March–May. Annual.	Not expected to occur. The project site does not contain vernal pools.
Legenere *Legenere limosa*	–	–	1B.1	In beds of vernal pools. 0–2,890 feet in elevation. Blooms April–June. Annual.	Not expected to occur. The project site does not contain vernal pools.
Pincushion navarretia *Navarretia myersii* ssp. *myersii*	–	–	1B.1	Vernal pools with clay soils. 145–330 feet in elevation. Blooms April–May. Annual.	Not expected to occur. The project site does not contain vernal pools.
Slender Orcutt grass *Orcuttia tenuis*	FT	SE	1B.1	Vernal pools. Often in gravelly substrate. 80–5,760 feet in elevation. Blooms May–September. Annual.	Not expected to occur. The project site does not contain vernal pools.
Sacramento Orcutt grass *Orcuttia viscida*	FE	SE	1B.1	Vernal pools, wetland. 50–280 feet in elevation. Blooms April–July. Annual.	Not expected to occur. The project site does not contain vernal pools.
Layne's ragwort *Packera layneae*	FT	SR	1B.2	Ultramafic soil (serpentine or gabbro); occasionally along streams. 655–3,560 feet in elevation. Blooms April–August. Perennial.	Not expected to occur. The project site does not contain gabbro or serpentine soils.
Sanford's arrowhead *Sagittaria sanfordii*	–	–	1B.2	In standing or slow-moving freshwater ponds, marshes, and ditches. 0–2,130 feet in elevation. Blooms May–October. Geophyte.	May occur. The project site contains seasonal drainage habitat potentially suitable for this species.
El Dorado County mule ears *Wyethia reticulata*	–	–	1B.2	Stony red clay and gabbroic soils; often in openings in gabbro chaparral. 605–2,070 feet in elevation. Blooms April–August. Perennial.	Not expected to occur. The project site does not contain gabbro or red clay soils.

Notes: CRPR = California Rare Plant Rank; CEQA = California Environmental Quality Act; ESA = Endangered Species Act; NPPA = Native Plant Protection Act

1 Legal Status Definitions

Federal:

FE Federally Listed as Endangered (legally protected by ESA)
FT Federally Listed as Threatened (legally protected by ESA)

State:

SE State Listed as Endangered (legally protected by CESA)
SR State Listed as Rare (legally protected by NPPA)

California Rare Plant Ranks (CRPR):

1B Plant species considered rare or endangered in California and elsewhere (protected under CEQA, but not legally protected under ESA or CESA).
2B Plant species considered rare or endangered in California but more common elsewhere (protected under CEQA, but not legally protected under ESA or CESA).

CRPR Threat Ranks:

0.1 Seriously threatened in California (over 80% of occurrences threatened; high degree and immediacy of threat)
0.2 Moderately threatened in California (20-80% occurrences threatened; moderate degree and immediacy of threat)

Sources: CNDDB 2022; CNPS 2022

Table 3.4-3 Special-Status Wildlife Species Known to Occur in the Vicinity of the Project Site and Their Potential for Occurrence on the Project Site

Species	Listing Status[1] Federal	Listing Status[1] State	Habitat	Potential for Occurrence
Amphibians and Reptiles				
California red-legged frog *Rana draytonii*	FT	SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	Not expected to occur. Breeding habitat marginally suitable for California red-legged frog is present in the project site within perennial marsh habitat, which holds water for at least four consecutive months (Foothill Associates 2016a). Upland migration habitat is also present on the project site (Foothill Associates 2016a). A protocol-level survey for California red-legged frog was conducted in 2016 and no California red-legged frogs were detected on the project site (Foothill Associates 2016a). The nearest known occurrence of California red-legged frog is approximately 5 miles north of the project site near Folsom Lake (CNDDB 2022). The project site is surrounded by dense residential development to the north, and it is unlikely that frogs from these documented occurrences would disperse to the project site.
California tiger salamander - central California DPS *Ambystoma californiense* pop. 1	FT	ST	Lives in vacant or mammal-occupied burrows throughout most of the year; in grassland, savanna, or open woodland habitats. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	Not expected to occur. The project site is outside of the current range of California tiger salamander.
Coast horned lizard *Phrynosoma blainvillii*	–	SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	May occur. The project site is within the range of coast horned lizard and annual grassland and woodland habitats on the project site may provide marginal habitat for this species.

Species	Listing Status[1] Federal	Listing Status[1] State	Habitat	Potential for Occurrence
Foothill yellow-legged frog *Rana boylii*	–	SE SSC	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Need at least some cobble-sized substrate for egg-laying. Need at least 15 weeks to attain metamorphosis.	Not expected to occur. The nearest documented occurrence of foothill yellow-legged frog is approximately 3.4 miles north of the project site (CNDDB 2022). Most of the occurrences in the vicinity of the project site are considered extirpated (CNDDB 2022). Therefore, the likelihood of foothill yellow-legged frogs occurring on the project site is relatively low. Aquatic habitat on the project site does not provide breeding habitat suitable for this species; however, seasonal drainages on the project site are hydrologically connected with a stream west of the project site (on the west side of Clarksville Road) and the larger local watershed. The stream west of the project site, which flows into Carson Creek south of the project site, would provide only marginal habitat for foothill yellow-legged frog due to extensive shading, and the intermittent nature of the stream. Based on the marginal nature of the aquatic habitat on the project site and the lack of nearby extant occurrences of the species, foothill yellow-legged frog is unlikely to occur.
Giant garter snake *Thamnophis gigas*	FT	ST	Prefers freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches. This is the most aquatic of the garter snakes in California.	Not expected to occur. The project site is outside of the current range of giant garter snake.
Western pond turtle *Emys marmorata*	–	SSC	Ponds, marshes, rivers, streams, and irrigation ditches, usually with aquatic vegetation, below 6,000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to approximately 1,650 feet (0.5 km) from water for egg-laying.	May occur. Aquatic habitat on the project site may provide marginal habitat for western pond turtle. Additionally, suitable aquatic habitat for western pond turtle is present in a stream west of the project site and the project site may provide upland habitat suitable for the species.
Western spadefoot *Spea hammondii*	–	SSC	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	May occur. The nearest documented occurrence of western spadefoot is approximately 3.8 miles northwest of the project site near Folsom Lake (CNDDB 2022). While marginal, the seasonal wetland habitats on the project site may provide habitat suitable for this species.
Birds				
Bald eagle *Haliaeetus leucocephalus*	FD	SE FP	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	Not expected to occur. Nesting habitat suitable for bald eagle (i.e., large trees within 1 mile of water) is not present on the project site.

Species	Listing Status[1] Federal	Listing Status[1] State	Habitat	Potential for Occurrence
Bank swallow *Riparia riparia*	–	ST	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	Not expected to occur. Bank or cliff habitat suitable for bank swallows is not present on the project site.
Burrowing owl *Athene cunicularia*	–	SSC	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	May occur. The project site is within the wintering range of burrowing owl and contains annual grassland habitat that may provide wintering habitat suitable for this species. A protocol-level survey for burrowing owl was conducted in 2016 and no burrowing owls or their sign (e.g., burrows, scat, pellets) were detected on the project site (Foothill Associates 2016a). However, burrowing owls may have established burrows on the project site since completion of the 2016 survey.
California black rail *Laterallus jamaicensis coturniculus*	–	ST FP	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	Not expected to occur. The perennial marsh habitat on the project site does not provide sufficient nesting habitat for California black rail due to its limited size and lack of connectivity to other marsh habitat nearby.
Golden eagle *Aquila chrysaetos*	–	FP	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	Not expected to occur. The nearest documented nesting occurrence of golden eagle is approximately 2 miles northwest of the project site (CNDDB 2022). This documented nest is atypical for golden eagles because it is surrounded by residential development. The project site does not contain nesting habitat (i.e., large trees surrounded by open habitat) for golden eagle.
Grasshopper sparrow *Ammodramus savannarum*	–	SSC	Dense grasslands on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs and scattered shrubs. Loosely colonial when nesting.	May occur. Annual grassland habitat potentially suitable for grasshopper sparrow is present on the project site.
Loggerhead shrike *Lanius ludovicianus*	–	SSC	Broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub and washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	May occur. The oak woodland on the project site may provide nesting habitat suitable for loggerhead shrike.
Northern harrier *Circus hudsonius*	–	SSC	Nest and forage in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	May occur. The perennial marsh and annual grassland on the project site may provide nesting habitat suitable for northern harrier.

Species	Listing Status[1] Federal	Listing Status[1] State	Habitat	Potential for Occurrence
Purple martin *Progne subis*	–	SSC	Inhabits woodlands, low elevation coniferous forest of Douglas-fir, ponderosa pine, and Monterey pine. Nests in old woodpecker cavities mostly, also in human-made structures. Nest often located in tall, isolated tree/snag.	Not expected to occur. The project site does not contain coniferous forest habitat or human-made structures suitable for purple martin nesting.
Swainson's hawk *Buteo swainsoni*	–	ST	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	May occur. Nesting habitat potentially suitable for Swainson's hawk is present in oak woodlands on the project site.
Tricolored blackbird *Agelaius tricolor*	–	ST SSC	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony.	May occur. The project site contains a large bramble of Himalayan blackberry that may provide nesting habitat suitable for tricolored blackbirds.
White-tailed kite *Elanus leucurus*	–	FP	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	May occur. Nesting habitat potentially suitable for white-tailed kite is present in oak woodlands on the project site.
Yellow warbler *Setophaga petechia*	–	SSC	Dense riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada. Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	Not expected to occur. The project site does not contain dense riparian nesting habitat suitable for this species.
Yellow-breasted chat *Icteria virens*	–	SSC	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 feet of ground.	May occur. The project site contains a large bramble of Himalayan blackberry that may provide nesting habitat suitable for yellow-breasted chat.

Species	Listing Status[1] Federal	Listing Status[1] State	Habitat	Potential for Occurrence
Fish				
Delta smelt *Hypomesus transpacificus*	FT	SE	Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay.	Not expected to occur. The project site does not contain aquatic habitat suitable for this species.
Steelhead - Central Valley DPS *Oncorhynchus mykiss irideus* pop. 11	FT	–	Populations in the Sacramento and San Joaquin rivers and their tributaries.	Not expected to occur. The project site does not contain aquatic habitat suitable for this species.
Invertebrates				
Crotch bumble bee *Bombus crotchii*	–	–	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include *Antirrhinum*, *Phacelia*, *Clarkia*, *Dendromecon*, *Eschscholzia*, and *Eriogonum*.	May occur. While the population of crotch bumble bee has declined significantly, the project site is within the current range of this species. The nearest recent (2020) occurrence of crotch bumble bee is approximately 11 miles southwest of the project site (CNDDB 2022). The project site contains floral resources and natural habitat that may provide foraging, breeding, and overwintering habitat suitable for crotch bumble bee.
Monarch *Danaus plexippus*	FC	–	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Along migration routes and within summer ranges, monarch butterflies require two suites of plants: (1) host plants for monarch caterpillars, which are primarily milkweeds (*Asclepias* spp.) within the family Apocynaceae upon which adult monarchs lay eggs; and (2) nectar-producing flowering plants of many other species that provide food for adult butterflies. Having both host and nectar plants available from early spring to late fall and along migration corridors is critical to the survival of migrating pollinators.	May occur. The project site is outside of the overwintering range of monarch butterflies. However, milkweed plants and other floral resources are present on the project site (Helix Environmental Planning 2020a); thus, monarch may forage or breed on the project site.
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT	–	Occurs only in the Central Valley of California, in association with blue elderberry (*Sambucus nigra* ssp. *caerulea*). Prefers to lay eggs in elderberry stems 2-8 inches in diameter; some preference shown for "stressed" elderberry shrubs.	May occur. The South Site contains two blue small clumps of elderberry shrubs, which may provide habitat suitable for valley elderberry longhorn beetle.

Species	Listing Status[1] Federal	Listing Status[1] State	Habitat	Potential for Occurrence
Vernal pool fairy shrimp *Branchinecta lynchi*	FT	–	Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	Not expected to occur. The project site does not contain vernal pool habitat.
Vernal pool tadpole shrimp *Lepidurus packardi*	FE	–	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid.	Not expected to occur. The project site does not contain vernal pool habitat.
Western bumble bee Bombus occidentalis	–	–	Bumble bees have three basic habitat requirements: suitable nesting sites for the colonies, availability of nectar and pollen from floral resources throughout the duration of the colony period (spring, summer, and fall), and suitable overwintering sites for the queens.	Not expected to occur. The project site is outside of the current range of western bumble bee, which includes high elevation areas in the Sierra Nevada and some areas along the northern California coast (Xerces 2018).
Mammals				
American badger *Taxidea taxus*	–	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	May occur. Annual grassland habitat potentially suitable for American badger is present on the project site.
Fisher - West Coast DPS *Pekania pennanti*	–	SSC	Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure. Uses cavities, snags, logs and rocky areas for cover and denning. Needs large areas of mature, dense forest. Endangered status applies to Southern Sierra DPS.	Not expected to occur. The project site is outside of the current range of this species.
Pallid bat *Antrozous pallidus*	–	SSC	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	May occur. Large oak trees on the project site may provide roosting habitat suitable for pallid bat.
Ringtail *Bassariscus astutus*	–	FP	Riparian habitats, forest habitats, and shrub habitats in lower to middle elevations.	Not expected to occur. While the project site contains riparian woodland and valley oak woodland that may provide habitat suitable for ringtail, the habitat is marginal due to surrounding urban and residential development and lack of connectivity with other natural habitat.

Species	Listing Status[1] Federal	Listing Status[1] State	Habitat	Potential for Occurrence
Western red bat *Lasiurus blossevillii*	–	SSC	Roosts primarily in trees, 2-40 feet above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	May occur. Large oak trees on the project site may provide roosting habitat suitable for western red bat.

Notes: CNDDB = California Natural Diversity Database; CEQA = California Environmental Quality Act

1 Legal Status Definitions

Federal:

FE Federally Listed as Endangered (legally protected)
FT Federally Listed as Threatened (legally protected)
FD Federally Delisted

State:

FP Fully protected (legally protected)
SSC Species of special concern (no formal protection other than CEQA consideration)
SE State Listed as Endangered (legally protected)
ST State Listed as Threatened (legally protected)
SC State Candidate for listing (legally protected)
SD State Delisted

Sources: CNDDB 2022; USFWS 2022

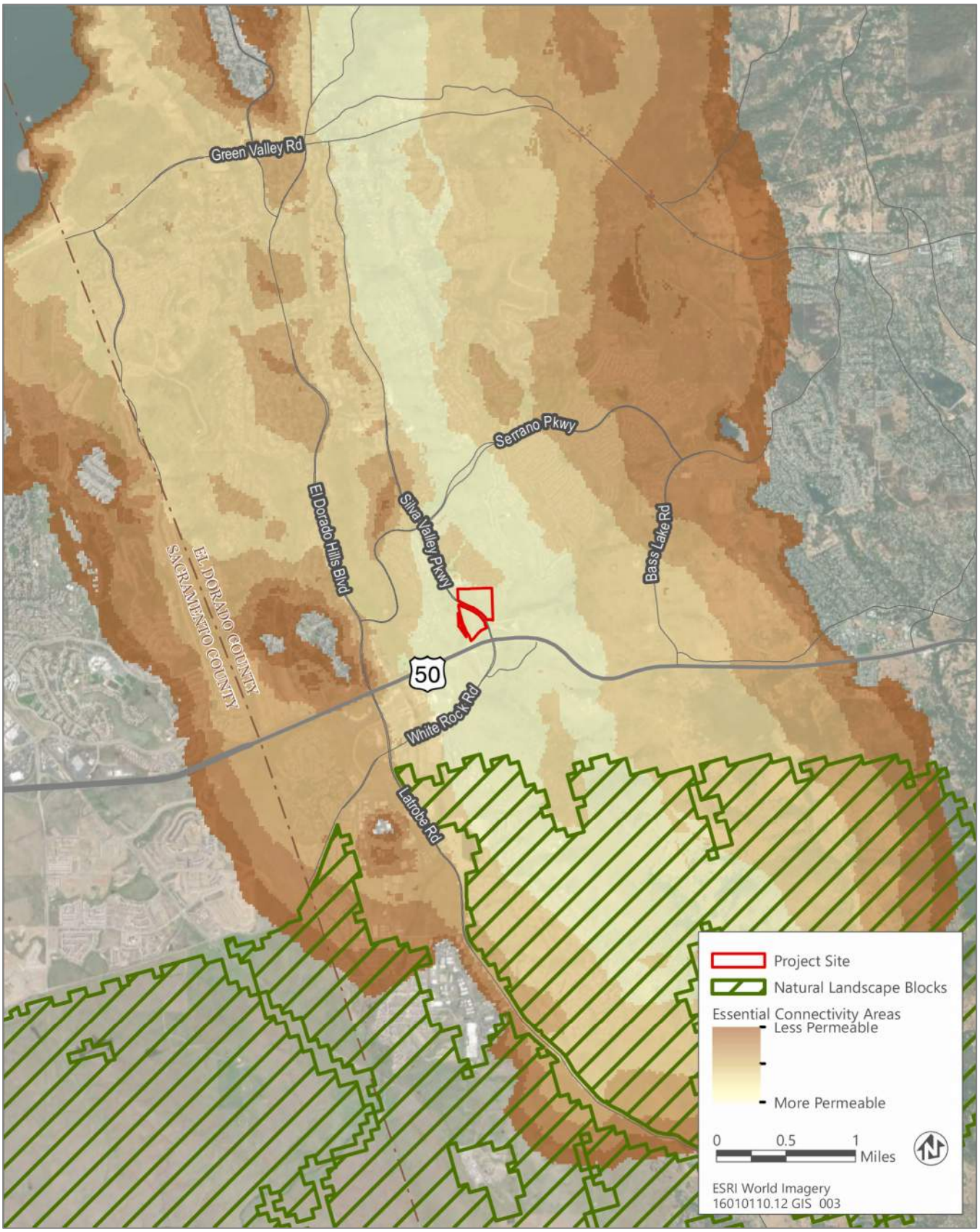
Wildlife Movement Corridors

A wildlife movement corridor is generally a topographical/landscape feature or movement zone that connects two or more natural habitat areas. Wildlife corridors link areas of suitable wildlife habitat that are separated by variation in vegetation, rugged terrain, human disturbance and habitat fragmentation, or other biophysical factors. Movement corridors may provide favorable locations for wildlife to travel between different habitat areas, such as foraging sites, breeding sites, cover areas, and preferred summer and winter range locations. They may also function as dispersal corridors allowing animals to move between various locations within their range. Therefore, wildlife movement and migration corridors are considered an important ecological resource by CDFW and other agencies and are protected by many local governments in California.

Some of the important areas for habitat connectivity in California were mapped as Essential Connectivity Areas (ECA) for the California Essential Habitat Connectivity Project, which was commissioned by the California Department of Transportation and CDFW with the purpose of making transportation and land-use planning more efficient and less costly, while helping reduce dangerous wildlife-vehicle collisions (Spencer et al. 2010). The ECAs were not developed for the purposes of defining areas subject to specific regulations by CDFW or other agencies. The project site is located within a modeled ECA, connecting natural landscape blocks to the south to undeveloped areas north and east of the project site (Figure 3.4-2). The project site contains natural habitat; however, it is surrounded by residential development to the north and west and US 50 to the south. Therefore, it is unlikely that the project site currently functions as a critical habitat linkage; however, it likely functions as a movement corridor for some wildlife species.

Wildlife Nursery Sites

Nursery sites are locations where fish or wildlife concentrate for hatching and/or raising young, such as nesting rookeries for birds (e.g., herons, egrets), spawning areas for native fish, fawning areas for mule deer (*Odocoileus hemionus*), and maternal roosts for bats. The valley oak woodland and riparian woodland habitats on the project site may provide roosting habitat potentially suitable for special-status bats (e.g., pallid bat) or common bat species (e.g., big brown bat [*Eptesicus fuscus*], silver-haired bat [*Lasionycteris noctivagans*]).



Source: CDFW 2022

Figure 3.4-2 Essential Connectivity Areas and Natural Landscape Blocks in the Vicinity of the Project Site

3.4.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

This impact evaluation is based on existing biological resource assessments, review of aerial photographs, and review of existing databases that address biological resources in the project vicinity as described above.

THRESHOLDS OF SIGNIFICANCE

An impact on biological resources is considered significant if implementation of EDH 52 Commercial Center Project would do any of the following:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS;
- have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and/or
- conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

ISSUES NOT DISCUSSED FURTHER

Consistency with Habitat Conservation Plans

The project site is not located within the plan area of any adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. Therefore, this impact is not discussed further.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.4-1: Result in Disturbance or Loss of Special-Status Plant Species

Development of the project site, including ground disturbance associated with construction of roads, parking areas, or buildings, could result in direct removal, or damage that results in eventual death or loss of special-status plants, if present on the project site. Because the loss of special-status plants could substantially affect the abundance, distribution, and viability of local and regional populations of these species, this would be a **significant** impact.

A total of 19 special-status plant species were identified as having potential to occur within the vicinity of the project site (Table 3.4-2; CNDDB 2022, CNPS 2022). Of these 19 species, three have potential to occur on the project site: big-scale balsamroot, dwarf downingia, and Sanford's arrowhead. Protocol-level surveys for special-status plants were conducted on the project site in 2015, and these species were not observed (Foothill Associates 2016b). However, because these surveys were conducted approximately seven years ago, and because there has not been any

significant disturbance (i.e., vegetation removal, ground disturbance) on the project site, it is possible that these species could have colonized suitable habitat within the project site since the surveys.

North Site

Development of the North Site, including ground disturbance associated with construction of roads, parking areas, or buildings, as well as extension of a natural gas pipeline approximately 1,900 feet north of the site along eastern side of Silva Valley Parkway, could result in direct removal of special-status plants, if present on the North Site, or in habitat alterations or plant damage that leads to the ultimate death of special-status plants or failure to successfully reproduce. Loss of special-status plants could substantially affect the abundance, distribution, and viability of local and regional populations of these species; thus, this would be a **significant** impact.

South Site

Development of the South Site, including ground disturbance associated with construction of roads, parking areas, or buildings, extension of a natural gas pipeline approximately 1,900 feet north of the site along eastern side of Silva Valley Parkway and the connection to the existing sewer pipeline along the western side of Clarksville Crossing, could result in direct removal of special-status plants, if present on the South Site, or in habitat alterations or plant damage that leads to the ultimate death of special-status plants or failure to successfully reproduce. Loss of special-status plants could substantially affect the abundance, distribution, and viability of local and regional populations of these species; thus, this would be a **significant** impact.

Mitigation Measures

Mitigation 3.4-1: Conduct Special-Status Plant Surveys and Implement Avoidance Measures and Mitigation

- Before implementation of project activities and during the blooming period for the special-status plant species with potential to occur on the project site, a qualified botanist shall conduct protocol-level surveys for special-status plants within the project site following survey methods from CDFW's *Protocols for Surveying and Evaluating Impacts on Special-Status Native Plant Populations and Natural Communities* (CDFW 2018 or most recent version). The qualified botanist shall: 1) be knowledgeable about plant taxonomy, 2) be familiar with plants of the Sierra Nevada region, including special-status plants and sensitive natural communities, 3) have experience conducting floristic botanical field surveys as described in CDFW 2018, 4) be familiar with the *California Manual of Vegetation* (Sawyer et al. 2009 or current version, including updated natural communities data at http://vegetation.cnps.org/), and 5) be familiar with federal and state statutes and regulations related to plants and plant collecting.
- If special-status plants are not found, the botanist shall document the findings in a report to the applicant and El Dorado County, and no further mitigation shall be required.

Typical Blooming Period for Special-Status Plants That May Occur within the Project Site[1]

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Big-scale balsamroot												
Dwarf downingia												
Sanford's arrowhead												

[1] This is the published blooming period for the species across their entire range and through history. The actual blooming period for any species at a given location in a given year is variable and should be based on observations of nearby reference populations.

Source: Data compiled by Ascent Environmental in 2022; CNPS 2022

- If special-status plants are found during special-status plant surveys and cannot be avoided, the applicant shall, in consultation with CDFW or USFWS, as appropriate depending on species status, develop and implement a site-specific mitigation strategy to compensate for loss of occupied habitat or individuals. Mitigation measures shall include, at a minimum, preserving and enhancing existing populations, establishing populations through seed collection or transplantation from the site that is to be affected, and/or restoring or creating habitat in sufficient quantities to offset loss of occupied habitat or individuals. Potential mitigation sites could include suitable locations

within or outside of the project site. Habitat and individual plants lost shall be mitigated at a minimum 1:1 ratio, considering acreage as well as function and value. Success criteria for preserved and compensatory populations shall include:

- The extent of occupied area and plant density (number of plants per unit area) in compensatory populations shall be equal to or greater than the affected occupied habitat.
- Compensatory and preserved populations shall be self-producing. Populations would be considered self-producing when:
  - plants reestablish annually for a minimum of five years with no human intervention such as supplemental seeding; and
  - reestablished and preserved habitats contain an occupied area and flower density comparable to existing occupied habitat areas in similar habitat types in the project vicinity.
  - If off-site mitigation includes dedication of conservation easements, purchase of mitigation credits, or other off-site conservation measures, the details of these measures shall be included in the mitigation plan, including information on responsible parties for long-term management, conservation easement holders, long-term management requirements, success criteria such as those listed above and other details, as appropriate to target the preservation of long-term viable populations.

Significance after Mitigation

Implementation of Mitigation Measure 3.4-1 would reduce significant impacts on special-status plants to a **less-than-significant** level by requiring protocol-level surveys for special-status plants and implementation of avoidance measures and compensation for impacts on special-status plants if present on the project site and offsite infrastructure improvements.

Impact 3.4-2: Result in Disturbance to or Loss of Special-Status Wildlife Species and Habitat

Project implementation would include land use conversion and development activities including ground disturbance, vegetation removal, and overall conversion of wildlife habitat, which could result in disturbance, injury, or mortality of several special-status wildlife species if present, reduced breeding productivity of these species, and loss of species habitat. This would be a **potentially significant** impact.

Seventeen special-status wildlife species have potential to occur on the project site: coast horned lizard, western pond turtle, western spadefoot, burrowing owl, grasshopper sparrow, loggerhead shrike, northern harrier, Swainson's hawk, tricolored blackbird, white-tailed kite, yellow-breasted chat, crotch bumble bee, monarch, valley elderberry longhorn beetle, American badger, pallid bat, and western red bat. Additionally, native birds without special status protected by California Fish and Game Code and the federal MBTA may also nest on the project site. Project activities associated with development of the North Site and South Site and extension of a natural gas pipeline along eastern side of Silva Valley Parkway (i.e., tree removal, vegetation clearing, ground disturbance, staging, heavy equipment use) may result in direct loss of special-status wildlife species, loss of or disturbance to nests or dens, or disturbance leading to abandonment of active nests or dens.

Coast Horned Lizard and Western Spadefoot

Coast horned lizards typically occur in open areas with loose soil and scattered, low bushes for cover. Habitat potentially suitable for coast horned lizard on the project site includes annual grassland and valley oak woodland habitat. Western spadefoot has potential to occur in low-elevation (i.e., less than approximately 1,000 feet) grassland and oak woodland habitats that contain vernal pools or other seasonal wetland habitat formed by winter rains. Seasonal wetland habitat on the project site may provide marginal habitat for western spadefoot.

North Site

Project activities (i.e., vegetation clearing, ground disturbance, staging, heavy equipment use) may result in direct loss of coast horned lizards or western spadefoot if present on the North Site. This would be a **significant** impact.

South Site

Project activities (i.e., vegetation clearing, ground disturbance, staging, heavy equipment use) may result in direct loss of coast horned lizards or western spadefoot if present on the South Site as well as the proposed connection to the existing sewer pipeline along the western side of Clarksville Crossing. This would be a **significant** impact.

Mitigation Measures

Mitigation 3.4-2a: Conduct Preconstruction Surveys for Coast Horned Lizard and Western Spadefoot, Implement Avoidance Measures, and Relocate Individuals

- A qualified biologist familiar with the life history of coast horned lizard and western spadefoot shall conduct a focused visual survey of habitat suitable for these species within the project site, which shall include walking linear transects of the project site. The biologist shall identify burrow habitat potentially suitable for western spadefoot and will inspect the burrows for use by western spadefoots, which may include the use of a borescope or other methods. The surveys shall be conducted at the appropriate time of year to detect western spadefoot, generally the breeding season, according to methods approved by CDFW.
- If coast horned lizards or western spadefoot are not detected during the focused survey, the qualified biologist shall submit a report summarizing the results of the survey to the applicant and El Dorado County, and further mitigation shall not be required.
- If western spadefoot is found in habitat that will be eliminated or made unsuitable for western spadefoot, then a plan to collect and relocate adult and larval western spadefoot and egg masses to suitable habitat that will be preserved in perpetuity.
- If coast horned lizards are detected, a qualified biologist with an appropriate CDFW Scientific Collecting Permit that allows handling of reptiles and amphibians shall be present during initial ground disturbance activities and shall inspect the project site before initiation of project activities. If coast horned lizards or western spadefoot toads are detected, the qualified biologist shall move individuals into nearby suitable habitat for the respective species that will not be disturbed by project activities.

Significance after Mitigation

Implementation of Mitigation Measure 3.5-2a would reduce potential impacts on coast horned lizard and western spadefoot to a **less-than-significant** level by requiring focused visual surveys for the species and relocation to protected suitable habitat of individuals by a qualified biologist with an appropriate CDFW Scientific Collecting Permit, if detected.

Western Pond Turtle

Western pond turtle can be found in many different aquatic habitats, including ponds (natural or human-made), marshes, rivers, and irrigation ditches. Western pond turtle uses upland habitat for basking and egg-laying. Upland habitat may include grasslands, scrub, or woodland habitats. Western pond turtles are known to travel into uplands up to 0.3 mile (approximately 1,600 feet) from aquatic habitat (Reese and Welsh 1997).

North Site

Project activities (i.e., vegetation clearing, ground disturbance, staging, heavy equipment use, fill of wetlands and other waters) may result in direct loss of western pond turtles and occupied burrows if present on the North Site. This would be a **significant** impact.

South Site

Project activities (i.e., vegetation clearing, ground disturbance, staging, heavy equipment use, fill of wetlands and other waters) may result in direct loss of western pond turtles and occupied burrows if present on the South Site as well as if they are present along the proposed connection corridor to the existing sewer pipeline along the western side of Clarksville Crossing. This would be a **significant** impact.

Mitigation Measures

Mitigation 3.4-2b: Conduct Preconstruction Surveys for Western Pond Turtle, Implement Avoidance Measures, and Relocate Individuals

- Within 24 hours of commencement of ground disturbing activities, a qualified biologist familiar with the life history of western pond turtle and experienced in performing surveys for western pond turtle shall conduct a focused survey of aquatic and upland habitat suitable for the species within the project site. The qualified biologist shall inspect the project site for western pond turtles as well as suitable burrow habitat.
- If western pond turtles are not detected during the focused survey, the qualified biologist shall submit a report summarizing the results of the survey to the applicant and El Dorado County, and further mitigation shall not be required.
- If western pond turtles are detected, a no-disturbance buffer of at least 100 feet shall be established around any identified nest sites or overwintering sites until the nest is no longer active as determined by a qualified biologist, and no project activities will occur within the no-disturbance buffer. A qualified biologist with an appropriate CDFW Scientific Collecting Permit that allows handling of reptiles shall be present during initial ground disturbance activities and shall inspect the project site before initiation of project activities. If western pond turtles are detected, the qualified biologist shall move the turtles to Carson Creek or its tributaries that provide suitable aquatic habitat for western pond turtle.

Significance after Mitigation

Implementation of Mitigation Measures 3.5-2b would reduce potential impacts on western pond turtle to a **less-than-significant** level by requiring focused surveys for the species, implementation of measures to avoid injury or mortality of western pond turtles if detected, and relocation of individual turtles by a qualified biologist with an appropriate CDFW Scientific Collecting Permit.

Burrowing Owl

Annual grassland habitat on the project site may provide habitat suitable for this species. The project site and vicinity are located in the westernmost extent of the range of burrowing owl on the western slope of the Sierra Nevada. The portion of the species' range that overlaps the project site is considered winter range for burrowing owl; therefore, burrowing owls are not expected to nest on the project site. However, burrowing owls may overwinter on the project site. Protocol-level surveys for burrowing owls were conducted on the project site in 2015, and burrowing owls were not observed (Foothill Associates 2016c). However, because these surveys were conducted approximately seven years ago, it is possible that burrowing owls could have established overwintering burrows within the project site since the surveys.

North Site

Project activities (i.e., vegetation clearing, ground disturbance, staging, heavy equipment use) may result in direct loss of burrowing owls or active burrows if present on the North Site. This would be a **significant** impact.

South Site

Project activities (i.e., vegetation clearing, ground disturbance, staging, heavy equipment use) may result in direct loss of burrowing owls or active burrows if present on the South Site as well as if they are present along the proposed connection corridor to the existing sewer pipeline along the western side of Clarksville Crossing. This would be a **significant** impact.

Mitigation Measures

Mitigation 3.4-2c: Conduct Take Avoidance Survey for Burrowing Owl, Implement Avoidance Measures, and Compensate for Loss of Occupied Burrows

- A qualified biologist shall conduct a focused survey for burrowing owls in areas of habitat suitable for the species on and within 1,640 feet (500 meters) of the project site no less than 14 days before initiating ground disturbance

activities using survey methods described in Appendix D of the CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012).

- If no occupied burrows are found, the qualified biologist shall submit a report documenting the survey methods and results to the applicant and El Dorado County, and no further mitigation shall be required.
- If an active burrow is found within 1,500 feet of pending construction activities that would occur during the nonbreeding season (September 1 through January 31), the applicant shall establish and maintain a minimum protection buffer of 164 feet (50 meters) around the occupied burrow throughout construction. The actual buffer size shall be determined by the qualified biologist based on the time of year and level of disturbance in accordance with guidance provided in the CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012). The protection buffer may be adjusted if, in consultation with CDFW, a qualified biologist determines that an alternative buffer would not disturb burrowing owl use of the burrow because of particular site features or other buffering measures. If occupied burrows are present that cannot be avoided or adequately protected with a no-disturbance buffer, a burrowing owl exclusion plan shall be developed, as described in Appendix E of the CDFW Staff Report. Burrowing owls shall not be excluded from occupied burrows until the project burrowing owl exclusion plan is approved by CDFW. The exclusion plan shall include a compensatory habitat mitigation plan (see below).
- If an active burrow is found during the breeding season (February 1 through August 31), occupied burrows shall not be disturbed and shall be provided with a protective buffer at a minimum of 164 feet unless a qualified biologist verifies through noninvasive means that either: (1) the birds have not begun egg laying, or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival. The size of the buffer may be adjusted depending on the time of year and level of disturbance as outlined in the CDFW Staff Report. The size of the buffer may be reduced if a broad-scale, long-term, monitoring program acceptable to CDFW is implemented so that burrowing owls are not adversely affected. Once the fledglings are capable of independent survival, the owls can be evicted, and the burrow can be destroyed per the terms of a CDFW-approved burrowing owl exclusion plan developed in accordance with Appendix E of CDFW Staff Report.
- If burrowing owls are evicted from burrows and the burrows are destroyed by implementation of project activities, the applicant shall mitigate the loss of occupied habitat in accordance with guidance provided in the CDFW Staff Report, which states that permanent impacts on nesting, occupied and satellite burrows, and burrowing owl habitat (i.e., grassland habitat with suitable burrows) shall be mitigated such that habitat acreage and number of burrows are replaced through permanent conservation of comparable or better habitat with similar vegetation communities and burrowing mammals (e.g., ground squirrels) present to provide for nesting, foraging, wintering, and dispersal. The applicant shall retain a qualified biologist to develop a burrowing owl mitigation and management plan that incorporates the following goals and standards:
    - Mitigation lands shall be selected based on comparison of the habitat lost to the compensatory habitat, including type and structure of habitat, disturbance levels, potential for conflicts with humans, pets, and other wildlife, density of burrowing owls, and relative importance of the habitat to the species throughout its range.
    - If feasible, mitigation lands shall be provided adjacent or proximate to the project site so that displaced owls can relocate with reduced risk of injury or mortality. Feasibility of providing mitigation adjacent or proximate to the project site depends on availability of sufficient habitat to support displaced owls that may be preserved in perpetuity.
    - If habitat suitable for burrowing owl is not available for conservation adjacent or proximate to the project site, mitigation lands can be secured offsite and shall aim to consolidate and enlarge conservation areas outside of planned development areas and within foraging distance of other conservation lands. Mitigation may be also accomplished through purchase of mitigation credits at a CDFW-approved mitigation bank, if available. Alternative mitigation sites and acreages may also be determined in consultation with CDFW.
    - If burrowing owl habitat mitigation is completed through permittee-responsible conservation lands, the mitigation plan shall include mitigation objectives, site selection factors, site management roles and

responsibilities, vegetation management goals, financial assurances and funding mechanisms, performance standards and success criteria, monitoring and reporting protocols, and adaptive management measures. Success shall be based on the number of adult burrowing owls and pairs using the site and if the numbers are maintained over time. Measures of success, as suggested in the CDFW Staff Report, shall include site tenacity, number of adult owls present and reproducing colonization by burrowing owls from elsewhere, changes in distribution, and trends in stressors.

Significance after Mitigation

Implementation of Mitigation Measure 3.5-2c would reduce potential impacts on burrowing owl to a **less-than-significant** level by requiring protocol-level surveys for the species, implementation of measures to avoid injury or mortality of burrowing owls and destruction of active burrows if detected, and compensation for loss of burrows.

Special-Status Birds and Other Native Nesting Birds

Six special-status bird species have potential to nest on the project site: grasshopper sparrow, loggerhead shrike, northern harrier, Swainson's hawk, tricolored blackbird, white-tailed kite, and yellow-breasted chat (Table 3.4-3). These species may nest in grassland and trees on the project site. Additionally, other raptor species (e.g., Cooper's hawk [*Accipiter cooperi*], red-tailed hawk [*Buteo jamaicensis*], red-shouldered hawk [*Buteo lineatus*]) and other native nesting birds could nest on the project site, and these species and their nests are protected under California Fish and Game Code and MBTA.

North Site

Project activities (i.e., tree removal, vegetation clearing, ground disturbance, staging, heavy equipment use) may result in direct loss of special-status birds or active nests if present on the North Site. Additionally, operation of heavy equipment and other construction activities could result in noise or visual stimuli that could result in disturbance to nearby nesting birds, which may result in nest abandonment and potential loss of eggs or chicks. This would be a **significant** impact.

South Site

Project activities (i.e., tree removal, vegetation clearing, ground disturbance, staging, heavy equipment use) may result in direct loss of special-status birds or active nests if present on the South Site as well as if they are present along the proposed connection corridor to the existing sewer pipeline along the western side of Clarksville Crossing. Additionally, operation of heavy equipment and other construction activities could result in noise or visual stimuli that could result in disturbance to nearby nesting birds, which may result in nest abandonment and potential loss of eggs or chicks. This would be a **significant** impact.

Mitigation Measures

Mitigation 3.4-2d: Conduct Focused Surveys for Special-Status Birds, Nesting Raptors, and Other Native Nesting Birds and Implement Protective Buffers

- To minimize the potential for loss of special-status bird species, raptors, and other native birds, project activities (e.g., tree removal, vegetation clearing, ground disturbance, staging) shall be conducted during the nonbreeding season (approximately September 1-January 31, as determined by a qualified biologist), if feasible. If project activities are conducted during the nonbreeding season, no further mitigation shall be required.
- Within 14 days before the onset of project activities during the breeding season (approximately February 1 through August 31, as determined by a qualified biologist), a qualified biologist familiar with birds of California and with experience conducting nesting bird surveys shall conduct focused surveys for special-status birds, other nesting raptors, and other native birds. Surveys shall be conducted in accessible areas within 0.25 mile of the project site for Swainson's hawk, within 500 feet of the project site for other raptor species and special-status birds, and within 50 feet of the project site for non-raptor common native bird nests.
- If no active nests are found, the qualified biologist shall submit a report documenting the survey methods and results to the applicant and El Dorado County, and no further mitigation shall be required.

- If active nests are found, impacts on nesting birds shall be avoided by establishing appropriate buffers around active nest sites identified during focused surveys to prevent disturbance to the nest. Project activity shall not commence within the buffer areas until a qualified biologist has determined that the young have fledged, the nest is no longer active, or reducing the buffer would not likely result in nest abandonment. Buffers typically shall be 0.25 mile for Swainson's hawk, and 500 feet for other raptors. Buffer size for non-raptor bird species shall be determined by a qualified biologist. Factors to be considered for determining buffer size shall include presence of natural buffers provided by vegetation or topography, nest height above ground, baseline levels of noise and human activity, species sensitivity, and proposed project activities. Generally, buffer size for these species shall be at least 20 feet. The size of the buffer may be adjusted if a qualified biologist, determines that such an adjustment shall not be likely to adversely affect the nest. Any buffer reduction for a special-status species shall require consultation with CDFW. Periodic monitoring of the nest by a qualified biologist during project activities shall be required if the activity has potential to adversely affect the nest, the buffer has been reduced, or if birds within active nests are showing behavioral signs of agitation (e.g., standing up from a brooding position, flying off the nest) during project activities, as determined by the qualified biologist.

Significance after Mitigation

Implementation of Mitigation Measure 3.4-2d would reduce potential impacts on special-status birds, raptors, and other native nesting birds to a **less-than-significant** level by requiring focused surveys for the nesting birds and implementation of measures to avoid disturbance, injury, or mortality of the species if nests are detected.

Crotch Bumble Bee

Crotch bumble bee was designated as a candidate for listing as endangered under CESA by the California Fish and Game Commission on June 12, 2019. A November 13, 2020, court decision by the Superior Court of Sacramento ruled that insects are not eligible for listing under CESA and vacated the candidacy of this and four other bumble bee species. Although crotch bumble bee is not currently a candidate for listing under CESA, the species is imperiled and considered sufficiently rare by the scientific community to be considered a special-status species under CEQA. Crotch bumble bee has recently undergone a decline in abundance and distribution and is no longer present across much of its historic range. In California, crotch bumble bee populations are currently largely restricted to the Central Valley and adjacent foothills (Williams et al. 2014; Xerces 2018). There is a known occurrence of crotch bumble bee approximately 11 miles southwest of the project site (CNDDB 2022).

Although the life history characteristics of crotch bumble bees are not well understood, bumble bees have three basic habitat requirements: suitable nesting sites for the colonies, availability of nectar and pollen from floral resources throughout the duration of the colony period (spring, summer, and fall), and suitable overwintering sites for queens. Bumble bees in general are capable of flying up to approximately 6 miles from the nest while foraging; however, most foraging activity is likely conducted much closer to the nest (Williams et al. 2014).

Known native floral resources for crotch bumble bee include milkweed (*Asclepias* spp.), lupine (*Lupinus* spp.), *Phacelia* spp., *Clarkia* spp., poppy (*Eschscholzia* spp.), sage (*Salvia* spp.), and buckwheat (*Eriogonum* spp.). Bumble bees are typically generalist foragers and are known to use other native and nonnative floral resources, such as vetch (*Vicia* spp.) and clover (*Trifolium* spp.) (Williams et al. 2014). These floral species are fairly common within grassland habitats in California. Grassland habitat within the project site is dominated by nonnative grasses and forbs and may include flowering plants that could be used by bumble bees for foraging. Vegetation removal activities would result in removal of this potential foraging habitat, and conversion of the habitat to urban uses.

Crotch bumble bee is generally believed to overwinter near the ground surface in loose soil or under leaf litter or other debris (e.g., thatch and bunch grasses). Crotch bumble bee nests typically occur in abandoned rodent burrows or other animal nests. Nesting and overwintering habitat potentially suitable for this species may be present on the project site within grassland, oak woodland, or riparian woodland habitats. Vegetation removal and ground disturbing activities could result in mortality of crotch bumble bees while foraging and within nesting or overwintering colonies (e.g., in underground rodent holes, loose soil, leaf litter, log/tree cavities, surface vegetation).

While project implementation could result in loss of individual crotch bumble bees and loss of foraging and breeding habitat for the species, it is unlikely that the project site would support a high concentration of bumble bee colonies due to the lack of documented occurrences nearby, and project implementation is not expected to result in loss of a significant number of bumble bees, if present. While loss of individual crotch bumble bees or a colony as a result of project activities may not cause the population to drop below self-sustaining levels, threaten to eliminate the species, or substantially reduce the range of the species, the population status of this species is poorly understood, and loss of a colony could have a substantial effect on the population.

Additionally, if the decision by the Superior Court of Sacramento is appealed by CDFW and overturned, CDFW would reinstate the candidacy of crotch bumble bee, and the species would be provided protection under CESA. It is possible that the candidacy of crotch bumble bee under CESA could be reinstated before completion of the project. If this were to occur, the project applicant would be required to demonstrate that project implementation would not result in take of crotch bumble bees.

North Site

Project activities that could result in loss (i.e., take) of crotch bumble bees include ground disturbance and vegetation removal. Loss of crotch bumble bees would be a **significant** impact.

South Site

Project activities that could result in loss (i.e., take) of crotch bumble bees include ground disturbance and vegetation removal. This would also include proposed connection corridor to the existing sewer pipeline along the western side of Clarksville Crossing. Loss of crotch bumble bees would be a **significant** impact.

Mitigation Measure 3.4-e: Conduct Focused Surveys for Crotch Bumble Bee and Implement Avoidance Measures

Before implementation of vegetation removal of ground disturbing activities, the applicant shall implement the following measures:

- The applicant shall retain a qualified biologist familiar with bumble bees of California, with experience using survey methods for bumble bees, to conduct focused surveys of suitable habitat within the project site. Because a survey protocol for this species has not been established, survey methods shall include but not be limited to the following elements (included in survey protocols for other bumble bee species in the United States [USFWS 2018]):
  - Surveys shall be conducted during the active flight season (typically March through September).
  - Surveys shall be conducted by walking transects through suitable habitat, or by surveying a minimum of one person-hour per three acres of suitable habitat without transects.
  - Bumble bees within the project site shall be identified through passive, non-lethal methods (e.g., visual surveys using binoculars, photographic documentation).
- If no crotch bumble bees are detected during focused surveys, the survey results shall be submitted to El Dorado County, and further mitigation would not be required.
- If crotch bumble bees are detected during focused surveys, the survey results shall be submitted to El Dorado County, and appropriate avoidance measures shall be implemented. Avoidance measures may include but not be limited to the following, if feasible:
  - Protective buffers shall be implemented around active overwintering or breeding colonies until the colonies are no longer active.
  - Vegetation removal shall occur from October through February to avoid the bumble bee flight season.
  - Vegetation removal and ground disturbance shall be conducted using a phased approach, such that the entirety of the habitat is not removed at once; the objective of this measure is to provide refuge for bumble bees during project activities and temporary retention of suitable floral resources proximate to the active construction areas.

- If the candidacy of crotch bumble bee under CESA is reinstated before completion of the project, and project activities that could result in take of crotch bumble bees (e.g., ground disturbance, vegetation removal) would occur, the applicant shall implement the above measures in consultation with and with approval from CDFW. If crotch bumble bees are detected on the project site and the candidacy of the species under CESA has been reinstated, then an incidental take permit pursuant to California Fish and Game Code Section 2081, and implementation of measures required under such a permit (i.e., potentially including compensatory mitigation to fully mitigate impacts on crotch bumble bee) may be required.

Significance after Mitigation

Implementation of Mitigation Measure 3.4-2e would reduce potential impacts on crotch bumble bee to a **less-than-significant** level by requiring focused surveys for the species and implementation of measures to avoid injury or mortality of crotch bumble bees if detected.

Monarch Butterfly

There are no documented occurrences of monarchs on the project site and the nearest documented sighting of a monarch is approximately 4.6 miles east of the project site in Cameron Park (Western Monarch Milkweed Mapper 2022). However, the project site is within the range of this species and milkweed plants and other floral resources on the project site may provide foraging or breeding habitat suitable for monarchs (Helix Environmental Planning 2020a). Project implementation would result in loss of approximately 43 acres of potential breeding and migratory habitat for monarchs. Project activities, including ground disturbance or vegetation removal, could result in disturbance of monarchs and habitat suitable for the species. Milkweed host plants and breeding monarch butterflies could be disturbed, injured, or lost during construction activities if present on the project site.

North Site

While project implementation could result in loss of individual monarchs and loss of foraging and breeding habitat for the species, the North Site is not expected to support large numbers of monarch butterflies due to the lack of documented occurrences nearby and the small number of milkweed plants observed on the project site (Helix Environmental Planning 2020a). As a result, project implementation is not expected to substantially reduce the number of monarchs, restrict the range of the species, or cause the population to drop below self-sustaining levels. Further, the North Site and associated infrastructure improvements are relatively small compared to natural habitat areas to the north and south, and development is not expected to result in a significant loss of foraging or breeding habitat for the local and statewide populations of monarchs. Therefore, impacts on monarchs would be **less than significant**.

South Site

While project implementation could result in loss of individual monarchs and loss of foraging and breeding habitat for the species, the South Site is not expected to support large numbers of monarch butterflies due to the lack of documented occurrences nearby and the small number of milkweed plants observed on the project site (Helix Environmental Planning 2020a). As a result, project implementation is not expected to substantially reduce the number of monarchs, restrict the range of the species, or cause the population to drop below self-sustaining levels. Further, the South Site and associated infrastructure improvements are relatively small compared to natural habitat areas to the north and south, and development is not expected to result in a significant loss of foraging or breeding habitat for the local and statewide populations of monarchs. Therefore, impacts on monarchs would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Valley Elderberry Longhorn Beetle

Valley elderberry longhorn beetles are entirely dependent on blue elderberry shrubs for habitat. Two clumps of blue elderberry shrubs are present on the project site (Figure 3.4-1). The USFWS *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle* outlines circumstances under which blue elderberry shrubs would be considered

likely to be occupied by valley elderberry longhorn beetles (USFWS 2017). These circumstances include presence of shrubs with stems greater than 1 inch in diameter, valley elderberry longhorn beetle records within 800 meters (approximately 0.5 mile) of the project site, and presence of riparian habitat or a historic riparian corridor on the project site (USFWS 2017). When riparian habitat or a historic riparian corridor is present on a project site, elderberry shrubs are considered potentially occupied regardless of the presence of beetle exit holes (USFWS 2017).

All elderberry shrubs on the project site contain stems greater than 1 inch in diameter. The nearest documented occurrence of valley elderberry longhorn beetle is approximately 3.8 miles west of the project site (CNDDB 2022). However, the project site contains approximately 0.8 acre of riparian woodland habitat (Table 3.4-1, Figure 3.4-1) that is part of a historic riparian corridor. One of the elderberry shrub clumps on the project site is located adjacent to this riparian woodland habitat (Figure 3.4-1). The other elderberry shrub clump is isolated; however, it may be continuous with a historical riparian corridor based on nearby riparian habitat. Based on the guidelines included in the USFWS *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle*, the elderberry shrubs on the project site may be occupied by valley elderberry longhorn beetle (USFWS 2017).

North Site

Elderberry shrubs are not present on the North Site; thus, impacts on valley elderberry longhorn beetle are not expected to occur as a result of development of the North Site. There would be **no impact**.

South Site

Project activities that could result in loss (i.e., take) of valley elderberry longhorn beetle include removal of elderberry shrubs on the South Site and potentially the associated infrastructure improvements or damage to these shrubs from ground disturbance that may result in eventual loss of the shrubs (e.g., root damage, trimming). Loss of valley elderberry longhorn beetle would be a **significant** impact.

Mitigation 3.4-2f: Consult with USFWS, Relocate Elderberry Shrubs, and Compensate for Impacts

The following measures shall be implemented to avoid or minimize loss of elderberry shrubs, and valley elderberry longhorn beetle consistent with the USFWS *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle* (USFWS 2017):

- Because elderberry shrubs cannot be avoided, compliance with the ESA and consultation with USFWS is required and may involve acquiring an incidental take permit through Section 10, or a take exemption through Section 7. All elderberry shrubs with stems greater than 1 inch in diameter that cannot be avoided or have been adversely affected by indirect damage to stems of the entire shrub shall be transplanted.
- No elderberry shrub shall be removed or transplanted until authorization has been issued by USFWS and the project applicant has abided by all pertinent conditions of the incidental take permit or biological opinion.
- Relocation of existing elderberry shrubs and planting of new elderberry seedlings and associated riparian species shall be implemented according to the Framework (USFWS 2017). The Framework uses presence or absence of exit holes, and whether the affected elderberry shrubs are located in riparian habitat to determine the number of elderberry seedlings or cuttings and associated riparian vegetation that would need to be planted as compensatory mitigation for affected valley elderberry longhorn beetle habitat. Compensatory mitigation may include purchasing credits at a USFWS-approved conservation bank or establishing and protecting habitat for valley elderberry longhorn beetle.

Significance after Mitigation

Implementation of Mitigation Measure 3.4-2f would reduce potential impacts on valley elderberry longhorn beetle to a **less-than-significant** level by requiring relocation (i.e., transplantation) of elderberry shrubs and compensatory mitigation for unavoidable loss of elderberry shrubs.

American Badger

North Site

Annual grassland habitat on the North Site may provide habitat suitable for American badger. Project activities (i.e., vegetation clearing, ground disturbance, staging, heavy equipment use) may result in direct loss of American badgers or active badger dens if present on the North Site. This would be a **significant** impact.

South Site

Annual grassland habitat on the South Site proposed connection corridor to the existing sewer pipeline along the western side of Clarksville Crossing may provide habitat suitable for American badger. Project activities (i.e., vegetation clearing, ground disturbance, staging, heavy equipment use) may result in direct loss of American badgers or active badger dens if present on the South Site. This would be a **significant** impact.

Mitigation Measures

Mitigation 3.4-2g: Conduct Focused American Badger Survey and Establish Protective Buffers

- Within 30 days before commencement of project activities, a qualified wildlife biologist familiar with American badger and experience using survey methods for the species shall conduct focused surveys of habitat suitable for the species within the project site to identify any American badger dens.
- If occupied dens are not found, the qualified biologist shall submit a report summarizing the results of the survey to the applicant and El Dorado County, and further mitigation shall not be required.
- If occupied dens are found, impacts on active badger dens shall be avoided by establishing exclusion zones around all active badger dens, the size of which shall be determined by the qualified biologist. No project activities (e.g., vegetation removal, ground disturbance, staging) shall occur within the exclusion zone until denning activities are complete or the den is abandoned, as confirmed by a qualified biologist. The qualified biologist shall monitor each den once per week to track the status of the den and to determine when it is no longer occupied. When it is no longer occupied, project activities within the exclusion zone may occur.

Significance after Mitigation

Implementation of Mitigation Measure 3.4-2g would reduce potential impacts on American badger to a **less-than-significant** level by requiring focused surveys for the species and implementation of measures to avoid injury or mortality of American badger and destruction of active dens if detected.

Special-Status Bats

North Site

Two special-status bat species have potential to occur on the North Site: pallid bat and western red bat. Roosting habitat potentially suitable for these species on the North Site is present within large oak trees (i.e., crevices, cavities, exfoliating bark, foliage). Project activities (i.e., tree removal) may result in direct loss of roosting special-status bats if present on the North Site. This would be a **significant** impact.

South Site

Two special-status bat species have potential to occur on the South Site: pallid bat and western red bat. Roosting habitat potentially suitable for these species on the South Site and the proposed connection corridor to the existing sewer pipeline along the western side of Clarksville Crossing is present within large oak trees (i.e., crevices, cavities, exfoliating bark, foliage). Project activities (i.e., tree removal) may result in direct loss of roosting special-status bats if present on the South Site. This would be a **significant** impact.

Mitigation Measures

Mitigation 3.4-2h: Conduct Focused Bat Surveys and Implement Avoidance Measures

- Before the start of project activities, a qualified biologist familiar with bats and bat ecology, and experienced in conducting bat surveys, shall conduct surveys for bat roosts in suitable habitat (e.g., large trees, crevices, cavities, exfoliating bark, foliage) within and adjacent to the project site.
- If no evidence of bat roosts is found, the qualified biologist shall submit a report summarizing the results of the survey to the applicant and El Dorado County, and no further study shall be required.
- If evidence of bat roosts is observed, the species and number of bats using the roost shall be determined by a qualified biologist. Bat detectors shall be used if deemed necessary to supplement survey efforts by the qualified biologist.
- A no-disturbance buffer of 250 feet shall be established around active pallid bat or western red bat roosts, and project activities shall not occur within this buffer until after the roosts are unoccupied.
- If roosts of pallid bat or western red bat are determined to be present and must be removed, the bats shall be excluded from the roosting site before the tree is removed. A program addressing compensation, exclusion methods, and roost removal procedures shall be developed in consultation with CDFW before implementation. Exclusion methods may include use of one-way doors at roost entrances (bats may leave but not reenter) or sealing roost entrances when the site can be confirmed to contain no bats. Exclusion efforts may be restricted during periods of sensitive activity (e.g., during hibernation or while females in maternity colonies are nursing young). The loss of each roost (if any) shall be replaced in consultation with CDFW and may require construction and installation of bat boxes suitable to the bat species and colony size excluded from the original roosting site. If determined necessary during consultation with CDFW, replacement roosts shall be implemented before bats are excluded from the original roost sites. Once the replacement roosts are constructed and it is confirmed that bats are not present in the original roost site by a qualified biologist, the roost tree may be removed

Significance after Mitigation

Implementation of Mitigation Measure 3.4-2h would reduce potential impacts on pallid bat and western red bat to **less than significant** by requiring focused surveys for bat roosts and implementation of no-disturbance buffers around active special-status bat roosts.

Impact 3.4-3: Result in Degradation or Loss of Riparian Habitat or Other Sensitive Natural Communities

Project implementation would include activities resulting in ground disturbance, vegetation removal, and land development, which would result in removal of riparian habitat and sensitive natural communities. This would be a **significant** impact.

Approximately 0.3 acre of purple needlegrass grassland (also known as Needle grass – Melic grass grassland) is present on the South Site and 0.8 acre of riparian woodland habitat is present on the project site, including portions of the North Site and South Site (Table 3.4-1; Figure 3.4-1).

North Site

Project activities would include ground disturbance, vegetation removal, and land development, which would result in removal of all riparian woodland on the North Site. This would be a **significant** impact.

South Site

Project activities would include ground disturbance, vegetation removal, and land development, which would result in removal of all purple needlegrass grassland and riparian woodland on the South Site and the proposed connection corridor to the existing sewer pipeline along the western side of Clarksville Crossing. This would be a **significant** impact.

Mitigation Measures

Mitigation Measure 3.4-3a: Compensate for Loss of Sensitive Natural Communities

The following measures shall be implemented before vegetation removal or ground disturbing activities:

- The applicant shall compensate for unavoidable loss of purple needlegrass grassland on the South Site such that no net loss of habitat function occurs by:
  - restoring degraded purple needlegrass grassland outside of the project site at a sufficient ratio to offset the loss of habitat function (at least 1:1); or
  - preserving existing purple needlegrass grassland of equal or better value to the sensitive natural community affected through a conservation easement at a sufficient ratio to offset the loss of habitat function (at least 1:1).
- Prepare and implement a Compensatory Mitigation Plan that includes the following:
  - For preserving existing habitat outside of the project site in perpetuity, the Compensatory Mitigation Plan shall include a summary of the proposed compensation lands (e.g., the number and type of credits, location of mitigation bank or easement), parties responsible for the long-term management of the land, and the legal and funding mechanism for long-term conservation (e.g., holder of conservation easement or fee title). The applicant shall provide evidence in the plan that the necessary mitigation has been implemented or that the applicant has entered into a legal agreement to implement it and that compensatory habitat shall be preserved in perpetuity.
  - For restoring or enhancing habitat outside of the project site, the Compensatory Mitigation Plan shall include a description of the proposed habitat improvements, success criteria that demonstrate the performance standard of maintained habitat function has been met, legal and funding mechanisms, and parties responsible for long-term management and monitoring of the restored or enhanced habitat.
  - Success criteria required to maintain habitat function for preserved and compensatory populations shall include:
    - The extent of occupied area and density of plants associated with the sensitive natural community (number of plants per unit area) in compensatory habitats shall be equal to or greater than the affected occupied habitat.
    - Compensatory and preserved sensitive natural communities shall be self-producing. Populations would be considered self-producing when:
      - Plants associated with sensitive natural communities reestablish annually for a minimum of five years with no human intervention such as supplemental seeding; and
      - Reestablished and preserved habitats contain an occupied area and density comparable to existing occupied habitat areas in similar habitat types in the project vicinity.

Mitigation Measure 3.4-3b: Compensate for Loss of Riparian Habitat

The following measures shall be implemented before vegetation removal or ground disturbing activities on the North Site and South Site:

- A Streambed Alteration Notification shall be submitted to CDFW, pursuant to Section 1602 of the California Fish and Game Code. If proposed project activities are determined to be subject to CDFW jurisdiction, the applicant shall abide by the measures to protect fish and wildlife resources required by any executed agreement before any vegetation removal or activity that may affect the resource. Measures to protect fish and wildlife resources shall include, at a minimum, a combination of the following mitigation.

- The applicant shall compensate for the loss of riparian habitat such that no net loss of habitat function and values occurs by:
  - restoring degraded riparian habitat outside of the project site;
  - purchasing riparian habitat credits at a CDFW-approved mitigation bank; or
  - preserving existing riparian habitat of equal or better value to the affected riparian habitat through a conservation easement at a sufficient ratio to offset the loss of riparian habitat function (at least 1:1).
- The applicant shall prepare and implement a Compensatory Mitigation Plan that includes the following:
  - For preserving existing riparian habitat outside of the project site in perpetuity, the Compensatory Mitigation Plan shall include a summary of the proposed compensation lands (e.g., the number and type of credits, location of mitigation bank or easement), parties responsible for the long-term management of the land, and the legal and funding mechanism for long-term conservation (e.g., holder of conservation easement or fee title). The applicant shall provide evidence in the plan that the necessary mitigation has been implemented or that the applicant has entered into a legal agreement to implement it and that compensatory habitat shall be preserved in perpetuity.
  - For restoring or enhancing riparian habitat outside of the project site, the Compensatory Mitigation Plan shall include a description of the proposed habitat improvements, success criteria that demonstrate the performance standard of maintained habitat function has been met, legal and funding mechanisms, and parties responsible for long-term management and monitoring of the restored or enhanced habitat.
  - Compensatory mitigation may be satisfied through compliance with permit conditions, or other authorizations obtained by the applicant (e.g., Lake and Streambed Alteration Agreement), if these requirements are equally or more effective than the mitigation identified above.

Significance after Mitigation

Implementation of Mitigation Measures 3.5-3a and 3.5-3b would reduce significant impacts on sensitive natural communities and riparian habitat to a **less-than-significant** level by requiring compensation for permanent loss of these habitats such that there is no net loss, potentially including a streambed alteration agreement with CDFW.

Impact 3.4-4: Result in Degradation or Loss of State or Federally Protected Wetlands

Project implementation would include activities resulting in ground disturbance, vegetation removal, and land development, which would result in removal (fill) of wetlands. This would be a **significant** impact.

An aquatic resources delineation of the project site was conducted on October 13, 2020 (Helix Environmental Planning 2020b). A total of 0.740 acre of aquatic resources was delineated on the project site, including 0.15 acre of wetlands (i.e., seasonal wetland, wetland swale, seep) and 0.59 acre of other waters (i.e., seasonal drainage; Table 3.4-1; Figure 3.4-1; Helix Environmental Planning 2020b). This aquatic resources delineation has not been verified by USACE. A previous aquatic resources delineation was conducted on December 15, 2015, of approximately 17.9-acres on the North Site (Helix Environmental Planning 2020a and 2020b). This 2015 delineation, which identified 0.19 acre of waters of the United States, was verified by USACE in August of 2019 (Helix Environmental Planning 2020a; 2020b). All delineated aquatic resources in the project site are expected to be considered waters of the state, and would be subject to regulation by the Central Valley RWQCB. At least a subset of these aquatic resources would likely also be considered waters of the United States subject to verification by USACE.

North Site

Project activities would include ground disturbance, vegetation removal, and land development. These activities would result in removal of all wetland habitats on the North Site. This would be a **significant** impact.

South Site

Project activities would include ground disturbance, vegetation removal, and land development. These activities would result in removal of all wetland habitats on the South Site. This would be a **significant** impact.

Mitigation Measures

Mitigation 3.4-4: Obtain Permits for Impacts on Wetlands

- The 2020 aquatic resources delineation report shall be submitted by the applicant to USACE, with a request for preliminary jurisdictional determination.
- Authorization for fill or waters of the United States shall be secured from USACE and the RWQCB through the Clean Water Act Sections 401 and 404 permitting processes. In association with the Section 404 and before the issuance of any grading permit, Section 401 Water Quality Certification from the Central Valley RWQCB shall be obtained. For impacts on waters of the state that are not also waters of the United States and are therefore not covered by the 401 Water Quality Certification, the applicant shall apply to the RWQCB for Waste Discharge Requirements following the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (State Water Resources Control Board 2021). Any waters of the United States or waters of the state that are affected by the project shall be replaced on a no-net-loss basis in accordance with the applicable USACE and California Water Board mitigation standards in place at the time of construction.
- Prior to commencing activity that may divert the natural flow or otherwise alter the bed or bank, of any lake or stream on the project site, the applicant shall notify CDFW, through issuance of a Lake and Streambed Alteration Notification (notification). If CDFW determines, based on the notification, project activities trigger the need for a Lake and Streambed Alteration Agreement, the proponent shall obtain an agreement from CDFW before the activity commences. The applicant shall conduct project construction activities in accordance with the agreement, including implementing reasonable measures in the agreement necessary to protect fish and wildlife resources, when working within the bed or bank of waterways or in riparian habitats associated with those waterways. These measures may include but not be limited to demarcation of the construction area, biological monitoring, environmental awareness training for construction crews, and compensatory measures (e.g., restoration, long-term habitat management).

Significance after Mitigation

Implementation of Mitigation Measure 3.4-4 would reduce significant impacts on state and federally protected wetlands to a **less-than-significant** level by requiring permitting and compensation for unavoidable impacts on state or federally protected wetlands such that there is no net loss of these resources.

Impact 3.4-5: Interfere with Wildlife Movement Corridors or Impede the Use of Wildlife Nurseries

Development of the project site would result in removal of natural habitat, which has been identified as an ECA. Natural habitat on the project site may also provide roosting habitat for common bat species (i.e., in large oak trees). However, the oak trees on the project site are unlikely to support substantial bat colonies, and the project site is surrounded by dense residential development and large roads and highways. As a result, the project site likely does not currently function as a significant wildlife nursery site or wildlife movement corridor. Therefore, the impact related wildlife movement corridors or wildlife nurseries would be **less than significant**.

The project site is located within a modeled ECA, connecting natural landscape blocks to the south to undeveloped areas north and east of the project site (Figure 3.4-2). The valley oak woodland and riparian woodland habitats on the project site may provide roosting habitat potentially suitable for common bat species. However, based on the number and size of the trees on the project site, it is unlikely that the project site would support a large colony of common bats. Further, as discussed above in Impact 3.4-2, while implementation of the project may affect special-status birds and bats, mitigation measures, including preconstruction surveys and avoidance of active bird nests and bat roosts, would be implemented to reduce impacts to less than significant. These mitigation measures would also result in protection of active bat roosts that would be considered nursery sites.

While the project site contains natural habitat and may provide some wildlife nursery habitat and function as a movement corridor for some wildlife species, it is surrounded by residential development to the north and west and I-50 (including onramps and offramps) to the south. Silva Valley Parkway, which bisects the north and south portions of the project site, is a busy four-lane road. There are relatively undeveloped areas south of the project site, characterized by rural residences, creeks, streams, wetlands, and oak woodlands; and north of the project site, characterized by rural residences, oak woodlands, chaparral, creeks, streams, the American River, and Folsom Lake. However, I-50 presents a significant barrier to movement to the south and dense residential development and roads present a significant barrier to movement to the north. Therefore, it is unlikely that the project site currently functions as a critical habitat linkage for wildlife.

North Site

Project activities are not expected to significantly impede wildlife movement in the vicinity of the North Site or the region, and this impact would be **less than significant**.

South Site

Project activities are not expected to significantly impede wildlife movement in the vicinity of the South Site or the region, and this impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.4-6: Conflict with Local Policies and Ordinances

Project implementation would include activities resulting in removal of oak trees and oak woodlands which could result in conflict with the El Dorado County ORMP. This would be a **significant** impact.

The El Dorado County General Plan includes policies intended to protect aquatic habitat, special-status species, and sensitive habitats (See Section 3.4.1, "*Regulatory Setting*"). Development of the INRMP as required under the El Dorado County General Plan has included mapping of important habitats (i.e., aquatic environments, wetland and riparian habitat, important habitat for migratory deer herds, California red-legged frog recovery plan areas, Pine Hill Preserve areas, valley oak woodlands, important biological corridors; El Dorado County 2010). The El Dorado County General Plan also includes development of a Biological Resource Mitigation Program; however, this program has not yet been developed. No important habitats have been identified on the project site at the scale of the INRMP mapping; however, aquatic environments, wetland and riparian habitat, and valley oak woodlands are present on the project site. As discussed above in Impacts 3.4-1, 3.4-2, 3.4-3, and 3.4-4, while implementation of the project may affect special-status plants, special-status wildlife, sensitive natural communities, riparian habitat, and wetlands, mitigation measures would be implemented to reduce impacts to less than significant. Therefore, there would be no conflict with General Plan policies protecting these resources.

The El Dorado County ORMP defines mitigation requirements for impacts on oak woodlands, individual native oak trees, and heritage trees; and also outlines El Dorado County's strategy for oak resource management and conservation (See Section 3.4.1, "*Regulatory Setting*"). Oak trees on the project site were surveyed in 2013, 2015, and 2020 (Helix Environmental Planning 2020c and 2021). Four protected oak trees were identified on the North Site (Helix Environmental Planning 2021). A total of 0.51 acre of oak woodland habitat was identified on the South Site (Helix Environmental Planning 2021). Seven protected oak trees were identified on the South Site; four of which are considered heritage trees: three valley oaks and one blue oak (Helix Environmental Planning 2021).

North Site

Project implementation will result in removal of protected oak trees oak woodlands on the North Site. Removal of these trees would conflict with tree protection requirements in El Dorado County ORMP. This impact would be **significant**.

South Site

Project implementation will result in removal of protected oak trees, heritage trees, and oak woodlands on the South Site and potentially in the proposed connection corridor to the existing sewer pipeline along the western side of Clarksville Crossing.. Removal of these trees and woodlands would conflict with tree protection requirements in El Dorado County ORMP. This impact would be **potentially significant**.

Mitigation Measures

Mitigation 3.4-6: Remove Protected Oak Trees and Oak Woodlands and Compensate for Impacts through In-Lieu Fee Payment Consistent with the El Dorado County ORMP

Prior to removing oak trees or oak woodlands on the project site, the applicant shall implement the following measures:

- The applicant will submit a final version of the Oak Resources Technical Report and an Oak Resources Code Compliance Certificate to the El Dorado County Community Development Services Planning and Building Department that address all onsite and offsite oak tree and oak woodland impacts.
- Upon application approval, the applicant will compensate for loss of protected oak trees and oak woodlands through any combination of in-lieu fees, conservation, and/or replanting, as required under the ORMP.

Significance after Mitigation

Implementation of Mitigation Measure 3.4-6 would reduce significant impacts related to compliance with local ordinances to a **less-than-significant** level by requiring compensation for removal of oak trees and oak woodlands consistent with the El Dorado County ORMP.

———. 2016b (February). *Special-Status Plant Surveys within the El Dorado Hills 52 Project Site*. Prepared for EDH 52, General Partnership, Sacramento, CA.

———. 2016c (February). *Protocol-Level Burrowing Owl Surveys within the El Dorado Hills 52 Project Site*. Prepared for EDH 52, General Partnership, Sacramento, CA.

———. 2017 (October). *Biological Resources Assessment, El Dorado Hills 52, El Dorado County, California*. Prepared for EDH 52, General Partnership, Sacramento, CA.

El Dorado County. 2010. El Dorado County Draft Initial Inventory for INRMP. Available: https://www.edcgov.us/government/planning/inrmp/documents/Final_Initial_Composite_040408.pdf. Accessed April 29, 2022.

Helix Environmental Planning. 2020a (November). *El Dorado Hills 52 Project Biological Resources Assessment*. Prepared for EDH 52, General Partnership, Sacramento, CA.

———. 2020b (November). *El Dorado Hills 52 Project Aquatic Resources Delineation Report*. Prepared for EDH 52, General Partnership, Sacramento, CA.

———. 2020c (November). *El Dorado Hills 52 Oak Resources Technical Report*. Prepared for EDH 52, General Partnership, Sacramento, CA.

———. 2021 (July). *El Dorado Hills 52 Oak Resources Technical Report*. Prepared for EDH 52, General Partnership, Sacramento, CA.

Reese, D. A. and H. H. Welsh. 1997. Use of Terrestrial Habitat by Western Pond Turtles, *Clemmys marmorata*: Implications for Management. *Proceedings: Conservation, Restoration, and Management of Tortoises and Turtles*. An International Conference held by the New York Turtle and Tortoise Society, pp. 352-357.

Sawyer, J. O., T. Keeler-Wolf, and J. M. Evens. 2009. *A Manual of California Vegetation*. Second edition. California Native Plant Society Press, Sacramento, California, USA.

Spencer, W.D., P. Beier, K. Penrod, K. Winters, C. Paulman, H. Rustigian-Romsos, J. Strittholt, M. Parisi, and A. Pettler. 2010. *California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California*. Available: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18366. Accessed April 14, 2022.

State Water Resources Control Board. 2021. State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. Available: https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/2021/procedures.pdf. Accessed April 20, 2021.

US Fish and Wildlife Service. 2002. Final Recovery Plan for Gabbro Soil Plants of the Central Sierra Nevada Foothills. Available: https://www.fws.gov/species-publication-action/notice-availability-final-recovery-plan-gabbro-soil-plants-central. Accessed June 21, 2022.

———. 2017. *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*). Available*: https://ipac.ecosphere.fws.gov/guideline/assessment/population/436/office/%2011420.pdf. Accessed April 14, 2022.

———. 2018. *Survey Protocols for the Rusty Patched Bumble Bee (Bombus affinis).* Available: https://ecos.fws.gov/ipac/guideline/survey/population/10383/office/32410.pdf Accessed April 20, 2022.

———. 2022. Information for Planning and Consultation electronic records search. Available: https://ecos.fws.gov/ipac/. Accessed April 4, 2022.

USFWS. *See* US Fish and Wildlife Service.

Western Monarch Milkweed Mapper. 2022. *Sightings Map*. Available. https://www.monarchmilkweedmapper.org/app/#/combined/map. Accessed April 20, 2022.

Williams, P. H., R. W. Thorp, L. L. Richardson, and S. R. Colla. 2014. *Bumble Bees of North America*. Princeton, NJ: Princeton University Press.

Xerces Society. 2018. *A Petition to the State of California Fish and Game Commission to List the Crotch Bumble Bee (Bombus crotchii), Franklin's Bumble Bee (Bombus franklini), Suckley Cuckoo Bumble Bee (Bombus suckleyi), and Western Bumble Bee (Bombus occidentalis occidentalis) as Endangered Under the California Endangered Species Act.* Available: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=161902&inline. Accessed April 14, 2022.

3.7 GEOLOGY AND SOILS

This section describes current conditions relative to geology and soils at the EDH 52 Commercial Center project site. It includes a description of soils and mineral resources, analysis of environmental impacts, and recommendations for mitigation measures for any significant or potentially significant impacts. The primary source of information used for this analysis is the Geotechnical Report prepared by Blackburn Consulting (Blackburn Consulting 2013). The information contained in the Geotechnical Report is representative of existing conditions because no ground disturbing or engineering work has occurred on the site that would change geologic conditions since its preparation.

3.7.1 Regulatory Setting

FEDERAL

National Earthquake Hazards Reduction Act

In October 1977, the U.S. Congress passed the Earthquake Hazards Reduction Act to reduce the risks to life and property from future earthquakes in the United States. To accomplish this, the act established the National Earthquake Hazards Reduction Program (NEHRP). The mission of NEHRP includes improved understanding, characterization, and prediction of hazards and vulnerabilities; improved building codes and land use practices; risk reduction through post-earthquake investigations and education; development and improvement of design and construction techniques; improved mitigation capacity; and accelerated application of research results.

STATE

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 (PRC Sections 2621-2630) intends to reduce the risk to life and property from surface fault rupture during earthquakes by regulating construction in active fault corridors, and by prohibiting the location of most types of structures intended for human occupancy across the traces of active faults. A fault is considered sufficiently active if one or more of its segments or strands shows evidence of surface displacement during Holocene time (defined for purposes of the act as within the last 11,000 years). The law addresses only the hazard of surface fault rupture and is not directed toward other earthquake hazards.

Seismic Hazards Mapping Act

The intention of the Seismic Hazards Mapping Act of 1990 (PRC Sections 2690–2699.6) is to reduce damage resulting from earthquakes. While the Alquist-Priolo Act addresses surface fault rupture, the Seismic Hazards Mapping Act addresses other earthquake-related hazards, including ground shaking, liquefaction, and seismically induced landslides. The act's provisions are similar in concept to those of the Alquist-Priolo Act: The State is charged with identifying and mapping areas at risk of strong ground shaking, liquefaction, landslides, and other corollary hazards, and cities and counties are required to regulate development within mapped Seismic Hazard Zones. Under the Seismic Hazards Mapping Act, permit review is the primary mechanism for local regulation of development.

California Building Code

The California Building Code (CBC) (California Code of Regulations, Title 24) is based on the International Building Code. The CBC has been modified from the International Building Code for California conditions, with more detailed and/or more stringent regulations. Specific minimum seismic safety and structural design requirements are set forth in Chapter 16 of the CBC. The CBC identifies seismic factors that must be considered in structural design. Chapter 18 of the CBC regulates the excavation of foundations and retaining walls, while Chapter 18A regulates construction on unstable soils, such as expansive soils and areas subject to liquefaction. Appendix J of the CBC regulates grading activities, including drainage and erosion control. The CBC contains a provision that provides for a preliminary soil

report to be prepared to identify "…the presence of critically expansive soils or other soil problems which, if not corrected, would lead to structural defects." (CBC Chapter 18 Section 1803.1.1.2).

National Pollutant Discharge Elimination System Construction General Permit for Stormwater Discharges Associated with Construction Activity

The State Water Resources Control Board has adopted a Statewide National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction Activity (SWRCB Construction General Permit Order 2009-0009-DWQ). The State requires that projects disturbing more than 1 acre of land during construction file a Notice of Intent with the regional water quality control board (RWQCB) to be covered under this permit. Construction activities subject to the general permit include clearing, grading, stockpiling, and excavating. Dischargers are required to eliminate or reduce nonstormwater discharges to storm sewer systems and other waters. A storm water pollution prevention plan (SWPPP) must be developed and implemented for each site covered by the permit. The SWPPP must include best management practices (BMPs) designed to prevent construction pollutants from contacting stormwater and keep products of erosion from moving off-site into receiving waters throughout the construction and life of the project; the BMPs must address source control and, if necessary, pollutant control.

Regulations Regarding Paleontological Resources

Paleontological resources on private property are considered the property of the landowner and receive no particular legal protection unless otherwise addressed in the conditions of approval of a land development permit, as mitigation in an applicable CEQA document, or through local policy and/or regulation (see below). Paleontological resources on public lands are protected by State statute (PRC Chapter 1.7, Section 5097.5, Archeological, Paleontological, and Historical Sites and Appendix G). This statute states:

> A person shall not knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over the lands.

LOCAL

El Dorado County General Plan

The adopted El Dorado County General Plan Conservation and Open Space Element discusses significant natural resources in the County, including geology and soils and paleontological resources, and establishes goals, objectives, and policies related to these topics. Relevant policies from the El Dorado County General Plan include:

- **Policy 6.3.2.5:** Applications for development of habitable structures shall be reviewed for potential hazards associated with steep or unstable slopes, areas susceptible to high erosion, and avalanche risk. Geotechnical studies shall be required when development may be subject to geological hazards. If hazards are identified, applicants shall be required to mitigate or avoid identified hazards as a condition of approval. If no mitigation is feasible, the project will not be approved.
- **Policy 7.1.2.1:** Development or disturbance shall be prohibited on slopes exceeding 30 percent unless necessary for access. The County may consider and allow development or disturbance on slopes 30 percent and greater when:
  - Reasonable use of the property would otherwise be denied.
  - The project is necessary for the repair of existing infrastructure to avoid and mitigate hazards to the public, as determined by a California registered civil engineer or a registered engineering geologist.
  - Replacement or repair of existing structures would occur in substantially the same footprint.
  - The use is a horticultural or grazing use that utilizes "best management practices (BMPs)" recommended by the County Agricultural Commission and adopted by the Board of Supervisors.

Access corridors on slopes 30 percent and greater shall have a site-specific review of soil type, vegetation, drainage contour, and site placement to encourage proper site selection and mitigation. Septic systems may only be located on slopes under 30 percent. Roads needed to complete circulation/access and for emergency access may be constructed on such cross slopes if all other standards are met.

- **Policy 7.1.2.2:** Discretionary and ministerial projects that require earthwork and grading, including cut and fill for roads, shall be required to minimize erosion and sedimentation, conform to natural contours, maintain natural drainage patterns, minimize impervious surfaces, and maximize the retention of natural vegetation. Specific standards for minimizing erosion and sedimentation shall be incorporated into the Zoning Ordinance.
- **Policy 7.1.2.3:** Enforce Grading Ordinance provisions for erosion control on all development projects and adopt provisions for ongoing, applicant-funded monitoring of project grading.
- **Policy 7.5.1.3:** Cultural resource studies (historic, prehistoric, and paleontological resources) shall be conducted prior to approval of discretionary projects. Studies may include, but are not limited to, record searches through the North Central Information Center at California State University, Sacramento, the Museum of Paleontology, University of California, Berkeley, field surveys, subsurface testing, and/or salvage excavations. The avoidance and protection of sites shall be encouraged.

El Dorado County Code

County Code Chapter 110.14 (Grading, Erosion, and Sediment Control) covers grading and requires grading and drainage plans to be developed for major development projects. Chapter 4 of the County Land Development Manual sets forth standards and procedures for grading activities in the County. The purpose of these requirements are to protect lives, property, and public improvements from damage due to unregulated grading and to limit water quality and sediment impacts.

Chapter 4 includes the following:

- All earthwork shall comply with CBC for design and construction standards.
- Complete fills shall comply with the provisions of CBC, unless recommended otherwise in an accepted geotechnical report.
- For projects on the West Slope of the Sierra Nevada, storm water manage storm water management, erosion and sediment control and drainage shall comply with the adopted Drainage Manual, Storm Water Management Plan (SWMP) and current California State Water Resources Control Board's (SWRCB) Order(s) regulating construction activities. This includes the development of a storm water pollution prevention plan (SWPPP).
- Proper design and construction of retaining wall systems.
- Provision of certain technical reports as part of grading permit applications (e.g., geotechnical report, geologic report, and drainage report).

3.7.2 Environmental Setting

REGIONAL AND LOCAL GEOLOGY

The project site is located at the western base of the foothills of the Sierra Nevada Mountain Range. The Sierra Nevada geomorphic province trends in a northwest direction and is about 40 to 80 miles wide and 430 miles long. The Sierra Nevada Mountain Range resulted from buckling and warping of sediment and volcanic rocks about 120 to 130 million years ago, which were then intruded by granitic rock. Metavolcanic and metasedimentary rocks underlay much of El Dorado County. Metavolcanic rock underlays the project site at shallow depths, with some rocks exposed on the project site surface (Blackburn Consulting 2013).

There is no known mapped occurrence of naturally occurring asbestos (NOA) minerals on the project site, nor are there ultramafic rocks that are typical hosts for NOA. There are ultramafic rocks and faulting nearby, such that there

remains a potential for NOA to occur in the area (Blackburn Consulting 2013). El Dorado County's NOA Review Area Map also shows the project site straddling the border of an area that is mapped as a quarter mile buffer for more likely to contain asbestos or fault line (Blackburn Consulting 2013, El Dorado County 2015). Hazards associated with NOA are addressed in Section 3.8, Hazards and Hazardous Materials.

FAULTING AND SEISMICITY

Most earthquakes originate along fault lines. A fault is a fracture in the Earth's crust along which rocks on one side are displaced relative to those on the other side due to shear and compressive crustal stresses. The state of California has a classification system that designates faults as either active, potentially active, or inactive, depending on how recently displacement has occurred along them. Faults that show evidence of movement within the last 11,000 years (the Holocene geologic period) are considered active, and faults that have moved between 11,000 and 1.6 million years ago (comprising the later Pleistocene geologic period) are considered potentially active. There are no active or potentially active mapped faults on or near the project site (Blackburn Consulting 2013). Additionally, and the project site is not in an Alquist-Priolo Earthquake Fault Zone (CGS 2021). The West Bear Mountains Fault crosses U.S. 50 approximately 3,100 feet west of Silva Valley Parkway, with a splay crossing U.S. 50 1,200 feet to the west. However, these are not considered active faults, and the risk for fault rupture on the site is low (Blackburn Consulting 2013).

As noted in the Blackburn Geotechnical Report, the project site is underlaid with metavolcanic rock at shallow depths with groundwater limited to fractures in the bedrock. Thus, the project has low potential for liquefaction during a seismic event.

TOPOGRAPHY AND DRAINAGE

The site is located on the flank of a ridge. The slope of the project site generally ranges from 3 to 25 percent, with the steepest areas located in the northeast area of the project site (Blackburn Consulting 2013). There are limited areas where the slope exceeds 30 percent (EDH 52, LLC 2021). There are two drainages in the western area of the project site that flow south-southwest and cross Silva Valley Parkway. There is an old dam in one of the drainages. Project site disturbance consists of minor areas of fill and disturbance (Blackburn Consulting 2013).

GROUNDWATER

In boring and test pits, no groundwater was encountered; however, borings were cored below depths that could be augered, and groundwater could not be confirmed at core depths because of the use of water in the coring process. No springs or seeps were observed, but there was standing water during field work in one of the drainages. It is anticipated that groundwater could occur in isolated areas in fractured rock underlying the site, and that water can accumulate in the soil-rock interface during and after the rainy season, and perched groundwater and saturated soil conditions were identified as geotechnical challenges (Blackburn Consulting 2013).

SITE GEOLOGY AND SOIL STABILITY

Significant ground instability and unsuitable soil conditions were not observed on the site (Blackburn Consulting 2013). Based on 17 borings and test pits on the project site, the following is a summary of the soil and geologic conditions of the North Site and South Site:

- North Site Profile
  - 1 to 2 feet of soil that consists of brown, stiff sandy silt with gravel, over
  - 1.5 to 5 feet of decomposed to intensely weathered, metavolcanic rock, over
  - Intensely to moderately weathered rock to depths of 5.5 to 8 feet where refusal to excavation with the backhoe was encountered.

- South Site Profile
  - 0.5 to 2 feet of soil that consists of brown to reddish brown, stiff sandy silt, over
  - 0 to 7 feet of decomposed to intensely weathered, metavolcanic rock, over
  - Intensely to moderately weathered rock to depths of 2 to 15 feet. Refusal to excavation with the backhoe was encountered at depths of2.5 to 7.5 feet.

MINERAL RESOURCES

The California Geologic Survey has mapped mineral and mineral aggregate resources in El Dorado County. The County General Plan does not indicate the project vicinity is within an important mineral resource area (El Dorado County 2004: Figure C0-1). No mineral extraction operations exist at the property and there are no oil and gas extraction wells within or in the vicinity of the property (CalGEM 2021).

PALEONTOLOGICAL RESOURCES

Paleontological resources consist of vertebrate, invertebrate, and plant fossils. These resources are usually found in sedimentary and metasedimentary deposits. As noted above, the project site is underlain by metavolcanic rocks; therefore, the project area is unlikely to contain paleontological resources.

3.7.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

The examination of geology, soils, and mineral resources is based on information obtained from reviews of:

- the project description;
- applicable elements of the County of El Dorado General Plan as well as applicable State and County regulations related to seismic, geologic, and soil stability related to development activities;
- available literature, including documents published by the State and County dealing with geotechnical conditions in the Sacramento area; and
- Geotechnical Report prepared by Blackburn Consulting (Blackburn Consulting 2013).

THRESHOLDS OF SIGNIFICANCE

A geology and soils or minerals impact is considered significant if implementation of the EDH 52 Commercial Center Project would do any of the following:

- A geology and soils impact is considered significant if implementation of the project would do any of the following. These thresholds of significance are based on State CEQA Guidelines Appendix G and were determined appropriate for this project due to its existing geologic, soil, and slope conditions.
- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42.)
  - Strong seismic ground shaking
  - Seismic-related ground failure, including liquefaction

  - Landslides
- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial direct or indirect risks to life or property;
- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; and/or
- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state; and/or
- Result in the loss of availability of a locally important mineral resources recovery site delineated on a local general plan, specific plan, or other land use plan.

ISSUES NOT DISCUSSED FURTHER

The project would be annexed to the EID service boundary for public water and wastewater service and would not involve the construction and operation of a septic or alternative wastewater disposal system. Thus, no impact is expected, and this topic is not further addressed in the Draft EIR.

As described in Section 3.7.1, "Environmental Setting," the project site geologic conditions would not support paleontological resources and does not have mineral resources. Thus, no impact is expected, and these topics are not further addressed in the Draft EIR.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.7-1: Loss, Injury or Death Resulting from Seismic Hazards

Construction and operation of the project would not exacerbate existing seismic hazards and would comply with state and County regulatory design requirements related to seismic hazards (e.g., building codes and other laws and regulations), such that the exposure of people or structures to hazards, risk of loss, injury or death resulting from rupture of a known earthquake fault or strong seismic shaking would be avoided or reduced. This impact would be **less than significant**.

An earthquake of moderate to high magnitude generated in the region may cause considerable ground shaking at the project site. To account for the potential effects of ground shaking, project structures would be designed using sound engineering judgment and the latest CBC requirements. The seismic design provisions of the CBC generally prescribe minimum lateral forces (horizontal pressure caused by seismic movement), applied to the structure, combined with gravity forces. The code-prescribed lateral forces are generally considered to be substantially smaller than the comparable forces that would be associated with a major earthquake. Therefore, structures should be able to (1) resist minor earthquakes without damage; (2) resist moderate earthquakes without structural damage but with some nonstructural damage; and (3) resist major earthquakes without collapse but with some structural, as well as nonstructural damage.

It is also important to note that environmental impact analyses under CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents unless the proposed project might cause or risk exacerbating environmental hazards or conditions that already exist (CCR Section 15126.2[a]). In those specific instances, it is the project's impact on the environment and not the environment's impact on the project that compels an evaluation of how future residents or users may be affected by exacerbated conditions

(*California Building Industry Association v. Bay Area Air Quality Management District* [2015] 62 Cal. 4th 369). Project construction and operation would not create new seismic events or exacerbate existing seismic hazards, because the project improvements would involve limited excavation (e.g., 30 feet in depth) that would not alter seismic and fault conditions in the region.

North Site

As identified in Chapter 2, "Project Description," development of the North Site would involve grading of the site that would recontour the site using 30,000 cubic yards of fill from onsite excavation as well as the removal of approximately 19,000 cubic yards of rock from the site. The North Site would also include trenching for utilities as well as excavation for the fuel tanks for the proposed gas station, but would not occur at a depth that would alter fault conditions to seismic hazards. All project structures and final grading would be subject to CBC standards and County Code that specific address stability and safety during seismic events. Therefore, the potential for the North Site to cause adverse effects related to strong seismic shaking would be **less than significant**.

South Site

Development of the South Site would involve grading of the site that would recontour the site as well as creation of a subterranean parking structure and trenching for utilities. Approximately 11,000 cubic yards of fill would be imported as part of the final grade of the site. All project structures and final grading would be subject to CBC standards and County Code that specific address stability and safety during seismic events. Therefore, the potential for the South Site to cause adverse effects related to strong seismic shaking would be **less than significant**.

Mitigation Measures

No mitigation is required in addition to CBC seismic standards.

Impact 3.7-2: Soil Erosion

Project construction activities would expose soils and increase the potential for soil erosion. Compliance with the statewide NPDES General Permit for Discharge of Stormwater Associated with Construction Activity as well as the conditions associated with obtaining a grading permit from the County would require the project to implement best management practices to reduce erosion and loss of topsoil. Therefore, this impact would be **less than significant**.

Project construction would require earthwork activities, which could temporarily expose soils and increase the potential for soil erosion from wind or stormwater runoff. This would also include earthwork activities and soil erosion potential associated with offsite roadway improvements and extension of natural gas pipeline along Silva Valley Parkway.

Because construction activities would disturb more than 1 acre of soil, the applicant would need to obtain coverage under the statewide NPDES General Permit for Discharge of Stormwater Associated with Construction Activity (Construction General Permit). Coverage under the Construction General Permit and Chapter 4 of the County Land Development Manual requires preparation and implementation of an SWPPP. The SWPPP would be required to identify temporary BMPs to prevent the transport of earthen materials from construction sites during periods of precipitation or runoff, and temporary BMPs would be required to prevent wind erosion of earthen materials. Mandatory compliance with adopted regulations would require the project to minimize erosion and loss of topsoil during construction. Operations and maintenance would not require additional soil disturbance and would not result in erosion or loss of topsoil. In addition, once the project is constructed, there would be a reduction in areas of exposed soil compared to current conditions, limiting the potential for soil erosion to occur.

Additionally, the applicant would need to obtain a grading permit from El Dorado County. As part of that permit, an erosion and sediment control plan would be required because the site includes more than 10,000 feet of grading for a non-agricultural project. The erosion and sediment control plan would have to comply with the County's Storm Water Management Plan and Chapter 4 of the County Land Development Manual that implements County Code Chapter 110.14 (Grading, Erosion, and Sediment Control). These standards are designed to prevent increased

discharge of sediment during construction. The project proposed operational water quality controls consist of the use of bioretention basins to treat storm water consistent with State and County standards.

North Site

As noted above, construction of the North Site would include the implementation of SWPPP that would identify best management practices to address soil erosion (e.g., temporary sediment basins, waddles, and silt fencing). As identified in Chapter 2, "Project Description," the North Site storm drainage system would include 12 onsite bioretention basins that would capture sediment from being discharged to the South Site and eventually to natural waterways. The potential for increased erosion would be addressed through compliance with the County and SWRCB erosion control requirements and project design. Thus, this impact would be **less than significant**.

South Site

Like the North Site, construction of the South Site would include the implementation of SWPPP that would identify best management practices to address soil erosion (e.g., temporary sediment basins, waddles, and silt fencing). As identified in Chapter 2, "Project Description," the South Site storm drainage system would include six onsite bioretention basins that would capture sediment from being discharged with treated North Site drainage to natural waterways. The potential for increased erosion would be addressed through compliance with the County and SWRCB erosion control requirements and project design. Thus, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required in addition to compliance with County Code Chapter 110.14 (Grading, Erosion, and Sediment Control) and the requirements of SWRCB Construction General Permit Order 2009-0009-DWQ.

Impact 3.7-3: Locate Project Facilities on an Unstable Geologic Unit or Expansive Soils

Construction of the project would require earthwork that could destabilize slope and soil conditions. The project is required to comply with California Building Code and County Code and improvement standards for grading and erosion control that are designed to ensure slope and soil stability. The project geotechnical report identified that the project site does not contain areas of significant ground instability or unsuitable soil conditions; however, the report did identify geotechnical challenges for site development. This impact would be **significant**.

As identified in Chapter 2, "Project Description," the project site would involve grading activities that would recontour the North Site and South Site and involve the use of retaining walls. As noted above, substantial ground instability and unsuitable soil conditions were not observed on the site. However, the project geotechnical report identified geotechnical challenges with the 2013 grading plans for the project associated with hard rock excavations, generation of rocky fill material from excavation, perched groundwater, possibility for expansive soil issues (depending on the extent of rocky material in the fill), and the construction of utilities and foundations in areas of hard rock. As a result, it is possible that the current project design (which differs from the previous 2013 grading plans for the project) may also result in unstable slopes if it does not incorporate project-specific geotechnical recommendations.

North Site

Development of the North Site would involve grading of the site that would recontour the site using 30,000 cubic yards of fill from onsite excavation as well as the removal of approximately 19,000 cubic yards of rock from the site. Final grading would be subject to CBC standards and County Code that specific address stability. However, no details on how site development would implement recommendations of the geotechnical report have been identified. Therefore, the potential for the North Site to create geologic and soil stability issues could be **significant**.

South Site

Development of the South Site would involve grading of the site that would recontour the site as well as creation of a subterranean parking structure and trenching for utilities. Approximately 11,000 cubic yards of fill would be imported as part of the final grade of the site. Final grading would be subject to CBC standards and County Code that specific address stability. However, no details on how site development would implement recommendations of the

geotechnical report have been identified. Therefore, the potential for the South Site to create geologic and soil stability issues could be **significant**.

Mitigation Measures

Mitigation Measure 3.7-3: Incorporate Recommendations of Geotechnical Report In Project Design.

Final grading plans and foundation design for the both the North Site and South Site shall incorporate the recommendations regarding slope design and stability, retaining wall design, foundation and pavement specifications, and other grading and soil treatments of the final geotechnical report that will be reflective of the proposed project site plans. The final geotechnical report and project design shall be prepared consistent with Chapter 4 of the County Land Development Manual.

Significance after Mitigation

Mitigation Measure 3.7-3 would require that the applicant prepare a final geotechnical report for the proposed project that would address the final site design to ensure geologic and soil stability consistent with the requirements of CBC and County Code Chapter 110.14. Therefore, implementation of Mitigation Measure 3.7-3 would reduce impacts to **less than significant**.

This page intentionally left blank.

3.8 HAZARDS, HAZARDOUS MATERIALS, AND WILDFIRE

This section describes the potential impacts of the EDH 52 Commercial Center Project related to hazardous materials and public health. The evaluation provided in this section is based, in part, on review of State databases and other material pertaining to wildfire and other hazards, including an Initial Site Assessment and update to that Initial Site Assessment for the Silva Valley Parkway/U.S. 50 interchange, which addresses the proposed project site (Blackburn Consulting 2007, Blackburn Consulting 2010). The reader is referred to Section 3.2, "Air Quality," for an analysis of toxic air contaminant impacts associated with the project's operation.

For purposes of this section, the term "hazardous materials" refers to both hazardous substances and hazardous wastes. A "hazardous material" is defined in the CFR as "a substance or material that … is capable of posing an unreasonable risk to health, safety, and property when transported in commerce" (49 CFR 171.8). California Health and Safety Code Section 25501 defines a hazardous material as follows:

> "Hazardous material" means any material that, because of its quantity, concentration, or physical, or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. "Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material which a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

"Hazardous wastes" are defined in California Health and Safety Code Section 25141(b) as wastes that:

> … because of their quantity, concentration, or physical, chemical, or infectious characteristics, [may either] cause, or significantly contribute to an increase in mortality or an increase in serious illness [or] pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

3.8.1 Regulatory Setting

FEDERAL

The US Environmental Protection Agency (EPA) has primary responsibility for enforcing and implementing federal laws and regulations pertaining to hazardous materials. Applicable regulations are contained mainly in Titles 29, 40, and 49 of the CFR. Hazardous materials, as defined in the CFR, are listed in 49 CFR 172.101. Management of hazardous materials is governed by the following laws:

- **Resource Conservation and Recovery Act of 1976:** The Resource Conservation and Recovery Act of 1976 (RCRA) (42 U.S. Code [U.S.C.] 6901 et seq.) established a federal regulatory program for the generation, transport, and disposal of hazardous substances. Under RCRA, EPA regulates the generation, transportation, treatment, storage, and disposal of hazardous substances. RCRA was amended by the Hazardous and Solid Waste Amendments of 1984, which banned the disposal of hazardous waste on land and strengthened EPA's reporting requirements.
- **Comprehensive Environmental Response, Compensation, and Liability Act of 1980:** Also called the Superfund Act, the Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. 9601 et seq.) provided broad federal authority and created a trust fund for addressing releases and threatened releases of hazardous substances that could endanger public health or the environment. EPA is responsible for compiling the National Priorities List for known or threatened release sites of hazardous substances, pollutants, or contaminants (commonly referred to as "Superfund sites"). EPA provides oversight of, and supervision for, Superfund investigation/remediation projects, evaluates remediation technologies, and develops hazardous materials disposal restrictions and treatment standards.

- **Superfund Amendments and Reauthorization Act of 1986:** Also called SARA Title III or the Emergency Planning and Community Right-to-Know Act of 1986, the Superfund Amendments and Reauthorization Act (Public Law 99-499; U.S.C. Title 42, Chapter 116) imposes hazardous materials planning requirements to help protect local communities in the event of accidental release.
- **Clean Air Act:** Regulations under the Clean Air Act (42 U.S.C. 7401 et seq., as amended) are designed to prevent accidental releases of hazardous materials. The regulations require facilities that store a threshold quantity or greater of regulated substances to develop a risk management plan that includes hazard assessments and response programs to prevent accidental releases of listed chemicals.
- **Spill Prevention, Control, and Countermeasure Rule:** The Spill Prevention, Control, and Countermeasure (SPCC) rule includes requirements for oil spill prevention, preparedness, and response to prevent oil discharges to navigable waters and adjoining shorelines. The rule requires specific facilities to prepare, amend, and implement SPCC Plans. The SPCC rule is part of the Oil Pollution Prevention regulation, which also includes the Facility Response Plan rule.

Transport of Hazardous Materials

The US Department of Transportation (DOT) regulates transport of hazardous materials between states and is responsible for protecting the public from dangers associated with such transport. The basic statute regulating transport of hazardous materials in the United States, addressed in 49 USC 5101 et seq. (formerly the Hazardous Materials Transportation Act, 49 USC 1801 et seq.), regulates intrastate and interstate transport by rail car, aircraft, motor vehicle, and vessel and includes requirements related to the appropriate packaging and labeling of the hazardous material for transit. There are registration requirements for individuals that offer and accept hazardous wastes, and hazardous materials must be properly classed, described, packaged, marked, and labeled. Hazardous materials transport regulations are enforced by the Federal Highway Administration, the US Coast Guard, the Federal Railroad Administration, and FAA.

Occupational Safety and Health Administration Worker Safety Requirements

The Occupational Safety and Health Administration (OSHA) is responsible for ensuring worker safety. OSHA sets federal standards for implementation of workplace training, exposure limits, and safety procedures for handling hazardous substances and addressing other potential industrial hazards. OSHA also establishes criteria by which each state can implement its own health and safety program. The Hazard Communication Standard (CFR Title 29, Part 1910) requires that workers be informed of the hazards associated with the materials they handle. Workers must be trained in safe handling of hazardous materials, use of emergency response equipment, and building emergency response plans and procedures. Containers must be labeled appropriately, and material safety data sheets must be available in the workplace.

STATE

The Hazardous Waste Control Act

The Hazardous Waste Control Act (HSC Section 25100 et seq.) is the seminal hazardous waste control law in California. It establishes standards for regulating the generation, handling, processing, storage, transportation, and disposal of hazardous wastes. The hazardous waste control program is administered by California Department of Toxic Substances Control (DTSC) and local Certified Unified Program Agencies (CUPAs). Within the California Environmental Protection Agency (CalEPA), DTSC is primarily responsible for regulating the generation, transport, and disposal of hazardous substances under the authority of the Hazardous Waste Control Act; enforcement is delegated to local jurisdictions. Regulations implementing the Hazardous Waste Control Act list hazardous chemicals and common substances that may be hazardous; establish criteria for identifying, packaging, and labeling hazardous substances; prescribe hazardous substances management; establish permit requirements for the treatment, storage, disposal, and transportation of hazardous substances; and identify hazardous substances prohibited from landfills. These regulations apply to the protection of human health and the environment during construction.

Unified Program

CalEPA has adopted regulations implementing the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program). The six program elements of the Unified Program are hazardous waste generation and on-site treatment, underground storage tanks, aboveground storage tanks, hazardous material release response plans and inventories, risk management and prevention programs, and Uniform Fire Code hazardous materials management plans and inventories. The program is implemented at the local level by a local agency, referred to as the CUPA, which is responsible for consolidating the administration of the six program elements within its jurisdiction.

Emergency Response to Hazardous Materials Incidents

California has developed an emergency response plan to coordinate emergency services provided by federal, State, and local governments and private agencies. Response to hazardous material incidents is one part of this plan. The plan is managed by the California Emergency Management Agency, which coordinates the responses of other agencies, including CalEPA, the California Highway Patrol, the California Department of Fish and Wildlife, and regional water quality control boards (RWQCBs).

California Government Code Section 65962.5 (Cortese List)

The provisions of California Government Code Section 65962.5 are commonly referred to as the "Cortese List" (after the legislator who authored the law). The Cortese List is a planning document used by State and local agencies to comply with CEQA requirements in providing information about the location of hazardous materials release sites. The list, or a site's presence on the list, has bearing on the local permitting process. DTSC is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies in California, such as the State Water Resources Control Board (SWRCB), also must provide additional release information.

Government Code Section 65962.5 requires CalEPA to develop an updated Cortese List at least annually. However, because this statute was enacted more than 20 years ago, some of the provisions refer to agency activities that are no longer being implemented, and in some cases, the information to be included in the Cortese List does not exist. Further, although Government Code Section 65962.5 makes reference to the preparation of a "list," many changes have occurred related to web-based information access since 1992, and this information is now largely available on the internet sites of the responsible organizations. A centralized list is no longer compiled.

California Hazardous Materials Release Response Plans and Inventory Law

The California Hazardous Materials Release Response Plans and Inventory Law requires preparation of hazardous materials business plans and disclosure of hazardous materials inventories. Such plans must include an inventory of hazardous materials handled, facility floor plans showing where hazardous materials are stored, and an emergency response plan, and they must establish emergency response procedures that include employee training (HSC, Division 20, Chapter 6.95, Article 1). The business plan program is administered by the California Emergency Management Agency.

California Accidental Release Prevention Program

The goal of the California Accidental Release Prevention Program (CCR Title 19, Division 2, Chapter 4.5) is to reduce the likelihood and severity of consequences of any releases of extremely hazardous materials. Any business that handles regulated substances (chemicals that pose a major threat to public health and safety or the environment because they are highly toxic, flammable, or explosive, including ammonia, chlorine gas, hydrogen, nitric acid, and propane) must prepare a risk management plan. The risk management plan is a detailed engineering analysis of the potential accident factors present at a business and the measures that can be implemented to reduce this accident potential. The plan must provide safety information, hazard data, operating procedures, and training and maintenance requirements. The list of regulated substances is found in Article 8, Section 2770.5 of the program regulations.

Porter-Cologne Water Quality Control Act

Through the Porter-Cologne Water Quality Control Act and the National Pollutant Discharge Elimination System (NPDES) program, RWQCBs have the authority to require proper management of hazardous materials during project

construction. For a detailed description of the Porter-Cologne Water Quality Control Act, the NPDES program, and the role of the Central Valley RWQCB, see Section 3.9, "Hydrology and Water Quality."

SWRCB adopted the Statewide NPDES General Permit in August 1999. The State requires that projects disturbing more than 1 acre of land during construction file a notice of intent with the RWQCB to be covered under this permit. Construction activities subject to the general permit include clearing, grading, stockpiling, and excavation. Dischargers are required to eliminate or reduce nonstormwater discharges to storm sewer systems and other waters. A stormwater pollution prevention plan must be developed and implemented for each site covered by the permit. The plan must identify best management practices (BMPs) designed to prevent construction pollutants from contacting stormwater and keep products of erosion from moving off-site into receiving waters throughout the construction and life of the project; the BMPs must address source control and, if necessary, pollutant control.

California Occupational Safety and Health Administration Worker Safety Requirements

The California Occupational Safety and Health Administration (Cal/OSHA) assumes primary responsibility for developing and enforcing workplace safety regulations in California. Cal/OSHA regulations for the use of hazardous materials in the workplace (CCR Title 8) require safety training, available safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and preparation of emergency action and fire prevention plans. Cal/OSHA enforces regulations on hazard communication programs and mandates specific training and information requirements. These requirements include procedures for identifying and labeling hazardous substances, providing hazard information about hazardous substances and their handling, and preparing health and safety plans to protect workers and employees at hazardous waste sites. Employers must make material safety data sheets available to employees and document employee information and training programs.

Transport of Hazardous Materials and Hazardous Materials Emergency Response Plan

The State of California has adopted US Department of Transportation regulations for the movement of hazardous materials originating within the state and passing through the state; state regulations are contained in 26 California Code of Regulations (CCR). State agencies with primary responsibility for enforcing state regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol and the California Department of Transportation (Caltrans). Together, these agencies determine container types used and license hazardous waste haulers to transport hazardous waste on public roads.

California has developed an emergency response plan to coordinate emergency services provided by federal, state, and local governments and private agencies. Response to hazardous materials incidents is one part of the plan. The plan is managed by the Governor's Office of Emergency Services, which coordinates the responses of other agencies in the project area.

California Fire Code

The California Fire Code (CFC) is Chapter 9 of CCR Title 24. It is the primary means for authorizing and enforcing procedures and mechanisms to ensure the safe handling and storage of any substance that may pose a threat to public health and safety. The CFC regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. The CFC and the California Building Code use a hazard classification system to determine what protective measures are required to protect life and provide fire safety. These measures may include applying construction standards, requiring separation between structures and property lines, and using specialized equipment. To ensure that these safety measures are met, the CFC employs a permit system based on hazard classification. The CFC is updated every 3 years.

California Public Resources Code – State Responsibility Area

The State of California has determined that some non-federal lands in unincorporated areas with watershed value are of statewide interest and have classified those lands as State Responsibility Areas (SRAs). SRAs are managed by the California Department of Forestry and Fire Protection (CAL FIRE), the state agency established for fire protection and stewardship of over 31 million acres of the state's privately-owned wildlands and to provide emergency services in 36 of California's 58 counties via contracts with local governments.

The **Error! Bookmark not defined.** requires the designation of SRAs, which are identified based on cover, beneficial water uses, probable erosion damage and fire risks, and hazards. CAL FIRE is required by law to map areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors (PRC 4201-4204, Government Code 51175-89, and Title 14 of the California Code of Regulations (Title 14 CCR) Section 1280.01). Factors that increase an area's susceptibility to fire hazards include slope, vegetation type and condition, and atmospheric conditions. CAL FIRE has identified two types of wildland fire risk areas: 1) wildland areas that may contain substantial forest fire risks and hazards, and 2) very high fire hazard risk zones. The financial responsibility of preventing and suppressing fires in the SRA is primarily the responsibility of the State pursuant to PRC Sections 4113 and 4125). New development located in SRAs are subject to the following requirements:

- Determination that new subdivisions are consistent with regulations adopted by the State Board of Forestry and Fire Protection pursuant to PRC Sections 4290 and 4291 or are consistent with local ordinances certified by the State Board of Forestry and Fire Protection as meeting or exceeding the state regulations (14 CCR Section 1266.01)
- Defensible space of 100 feet around all buildings and structures (PRC Section 4291 and Title 14 CCR Section 1299.03)
- Provision of adequate emergency access and egress (PRC Sections 4290 and 4291, Title 14 CCR Sections 1273.01 through 1273.09)
- Emergency water requirements (Title 14 CCR Sections 1275.01 through 1275.04)
- Building signing and number requirements (PRC Sections 4290 and 4291 and Title 14 CCR Sections 1274.01 through 1274.04)
- Title 24 CCR, Part 2, S Section 701A.3 (New Buildings Located in Any Fire Hazard Severity Zone) requires that new buildings located in any Fire Hazard Severity Zone within SRAs, any local agency Very-High Fire Hazard Severity Zone, or any Wildland-Urban Interface Fire Area designated by the enforcing agency for which an application for a building permit is submitted, shall comply with all the requirements of Chapter 7A. These requirements include the following:
  - roofing design to be fire resistant and constructed to prevent the intrusion of flames and embers (Section 705A);
  - attic ventilation designed to be resistant to the intrusion of flames and embers into the attic area of the structure (Section 706A);
  - exterior walls design (including vents, window, and door) with noncombustible or ignition-resistant material and resist the intrusion of flame and ember (Section 707A and 707A);
  - decking be designed with ignition-resistant material (Section 709A); and
  - ancillary buildings and structures comply with the above provisions (Section 710A).

Fire protection in areas outside the SRA are the responsibilities of local or federal jurisdictions and are referred to as local responsibility areas and federal responsibility areas, respectively. El Dorado County includes SRAs and local responsibility areas. The project site is located within a SRA, but seeks annexation into the El Dorado Hills Fire Department's service area, which would transfer the project site from State responsibility to local responsibility.

California Public Resources Code – Extremely Hazardous Substances Near Schools

Under PRC Section 21151.4,

a) An environmental impact report shall not be certified or a negative declaration shall not be approved for any project involving the construction or alteration of a facility within one-fourth of a mile of a school that might reasonably be anticipated to emit hazardous air emissions, or that would handle an extremely hazardous substance or a mixture containing extremely hazardous substances in a quantity equal to or greater than the state threshold quantity specified pursuant to subdivision (j) of Section 25532 of the Health and Safety Code , that may pose a health or safety hazard to persons who would attend or would be employed at the school, unless both of the following occur:

1. The lead agency preparing the environmental impact report or negative declaration has consulted with the school district having jurisdiction regarding the potential impact of the project on the school.
2. The school district has been given written notification of the project not less than 30 days prior to the proposed certification of the environmental impact report or approval of the negative declaration.

b) As used in this section, the following definitions apply:

1. "Extremely hazardous substance" means an extremely hazardous substance as defined pursuant to paragraph (2) of subdivision (g) of Section 25532 of the Health and Safety Code.
2. "Hazardous air emissions" means emissions into the ambient air of air contaminants that have been identified as a toxic air contaminant by the State Air Resources Board or by the air pollution control officer for the jurisdiction in which the project is located. As determined by the air pollution control officer, hazardous air emissions also means emissions into the ambient air of a substance identified in subdivisions (a) to (f), inclusive, of Section 44321 of the Health and Safety Code.

LOCAL

El Dorado County General Plan

The following goals and associated policies are established in the El Dorado County General Plan and are applicable to the project.

- **Policy 2.1.1.7:** Development within Community Regions, as with development elsewhere in the County, may proceed only in accordance with all applicable General Plan Policies, including those regarding infrastructure availability as set forth in the Transportation and Circulation and the Public Services and Utilities Elements. Accordingly, development in Community Regions and elsewhere will be limited in some cases until such time as adequate roadways, utilities, and other public service infrastructure become available and wildfire hazards are mitigated as required by an approved Fire Safe Plan
- **Policy 6.2.1.1:** Implement Fire Safe ordinance to attain and maintain defensible space through conditioning of tentative maps and in new development at the final map and/or building permit stage.
- **Policy 6.2.2.2:** The County shall preclude development in areas of high and very high wildland fire hazard or in areas identified as wildland-urban interface (WUI) communities within the vicinity of Federal lands that are a high risk for wildfire, as listed in the Federal Register Executive Order 13728 of May 18, 2016, unless such development can be adequately protected from wildland fire hazard, as demonstrated in a WUI Fire Safe Plan prepared by a qualified professional as approved by the El Dorado County Fire Prevention Officers Association. The WUI Fire Safe Plan shall be approved by the local Fire Protection District having jurisdiction and/or California Department of Forestry and Fire Protection.
- **Policy 6.2.3.1:** As a requirement for approving new development, the County must find, based on information provided by the applicant and the responsible fire protection district that, concurrent with development, adequate emergency water flow, fire access, and firefighting personnel and equipment will be available in accordance with applicable State and local fire district standards.
- **Policy 6.2.3.2:** As a requirement of new development, the applicant must demonstrate that adequate access exists, or can be provided to ensure that emergency vehicles can access the site and private vehicles can evacuate the area.
- **Policy 6.2.3.4:** All new development and public works projects shall be consistent with applicable State Wildland Fire Standards and other relevant State and federal fire requirements.

- **Policy 6.2.4.1:** Discretionary development within high and very high fire hazard areas shall be conditioned to designate fuel break zones that comply with fire safe requirements to benefit the new and, where possible, existing development.
- **Policy 6.2.4.2:** The County shall cooperate with the California Department of Forestry and Fire Protection and local fire protection districts to identify opportunities for fuel breaks in zones of high and very high fire hazard either prior to or as a component of project review
- **Policy 6.6.1.2:** Prior to the approval of any subdivision of land or issuing of a permit involving ground disturbance, a site investigation, performed by a Registered Environmental Assessor or other person experienced in identifying potential hazardous wastes, shall be submitted to the County for any subdivision or parcel that is located on a known or suspected contaminated site included in a list on file with the Environmental Management Department as provided by the State of California and federal agencies. If contamination is found to exist by the site investigations, it shall be corrected and remediated in compliance with applicable laws, regulations, and standards prior to the issuance of a new land use entitlement or building permit.

El Dorado County Hazardous Waste Management Plan

Objectives of the El Dorado County Hazardous Waste Management Plan include promoting source reduction and proper management of hazardous materials at businesses; developing public education programs; promoting clean-up of contaminated sites; minimizing improper disposal of hazardous wastes; developing siting criteria for hazardous waste management facilities; ensuring emergency response capabilities; and coordination of hazardous waste planning efforts with the public and private sectors, as well as local and state plans.

El Dorado County Local Hazard Mitigation Plan

The County developed its Local Hazard Mitigation Plan to reduce or eliminate long-term risk to people and property from natural hazards consistent with the Disaster Mitigation Act of 2000. The Plan identifies actions associated with wildfire that are summarized below (El Dorado County Sheriff 2018: 4-33 through 4-36). This Plan does not establish designated evacuation routes. Direction regarding evacuation routes is provided as part of evacuation orders issued by the El Dorado County Sheriff through the El Dorado County Sheriff's Office- Office of Emergency Services Alert Notification System.

- Action 2. Ensure Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness: Implementation of a comprehensive multi-hazard outreach program to provide timely and consistent messaging to communicate the risk and vulnerability of natural hazards of concern to the community.
- Action 13. Public Education: Community outreach by County, fire agencies, animal services, Fire Safe councils, and other stakeholders work regarding defensible space and living with fire.
- Action 14. Defensible Space Programs: Manage properties and infrastructure through the management of fuels.
- Action 15. Large Strategic Fuel Break: Provision of large strategic fuel breaks to provide landscape scale community protection.
- Action 16. Fuel Breaks in the Wildland Urban Interface: Establishment of "Shaded Fuel" breaks for dense vegetation areas approximately 300 feet wide for communities with a wildland urban interface.

El Dorado County Code

Chapter 8.09 (Vegetation Management and Defensible Space) of Title 8 of the County Code requires the removal or abatement of all hazardous vegetation and combustible material, which constitutes a fire hazard which may endanger or damage neighboring property. Section 8.09.070(F) establishes defensible space requirements for parcels in, upon, or adjoining land that is covered with flammable material.

Chapter 17 of Title 14 contains El Dorado County's SRA Fire Safe Regulations, which apply to construction within an SRA that is approved after January 1, 1991, including activities such as permitting new parcels, applying for a building permit for new construction, and road construction.

El Dorado Hills Fire Department Standards

The project is located within the sphere of influence for the El Dorado Hills Fire Department (also known as the El Dorado Hills County Water District) (EDHFD). Applicable fire protection regulations and programs consist of Ordinance 2019-01, Resolution 2021-01, and the implementation of community Wildland Fire Safe Plans.

Ordinance 2019-01 consists of the adoption of the 2019 California Fire Code with amendments to address local climate, geologic, and topographic conditions of the El Dorado Hills area. These amendments consist of more restrictive standards than the California Fire Code that include, but is not limited to, the following:

- Fire apparatus access roads (Chapter 5, Section 503 and Appendix D)
- Fire protection water supplies (Chapter 5, Section 507 and Chapter 33, Section 3312)
- Fire sprinkler requirements (Chapter 9, Section 903 and Chapter 80)
- Development plan review and wildfire protection for building construction (Chapter 49, Section 4903 and 4905)

Resolution 2021-01 declares that weeds and similar materials on vacant properties to be a fire hazard and public nuisance. Property owners of vacant parcels are required to maintain their property in accordance with El Dorado Hills Fire Department Standard W-001 by no later than May 1.

El Dorado County General Plan policies 2.1.1.7, 6.2.2.2, 7.4.2.2, and 7.6.1.4 require new development to prepare a Fire Safe Plan (also referred to as a Wildfire Safe Plan). EDHFD provides assistance and review of Fire Safe Plans.

Standard #B-003 (Emergency Apparatus Access Ways) requirements include roadway access distances from structures, roadway design must handle the weight of fire apparatus equipment, two points of access during construction activities, roadway width, vertical clearance and turning radii standards.

El Dorado County Air Quality Management District Rule 223-2

Rule 223-2 regulates grading in asbestos review areas and requires that finished grade surface asbestos concentrations be below 0.25 percent as measured by CARB Test Method (TM) 435; potentially requiring testing and management for asbestos during grading followed by the testing of finished grades for asbestos. All export soil/rock is required to be tested along with the completion of special documentation to accompany the export. Public disclosure is required for properties containing asbestos.

3.8.2 Environmental Setting

WILDLAND FIRE CONDITIONS

Long, hot, dry summers in El Dorado County, combined with inadequate clearance between structures and vegetation, flammable vegetation, and steep topography, result in conditions conducive for wildfires. The community of El Dorado Hills includes open space areas that consist of grassland habitat that are at current risk to fire. In 2021, a fire incident occurred on the land area of the closed El Dorado Hills Executive Golf Course south of Serrano Parkway that burned approximately 10 acres

Wind direction and intensity during wildfires are important because air quality is poorest immediately adjacent to and downwind of such fires. Fires near populated areas may pose an increased risk of air quality-related health problems. Mountain-to-valley breezes may also distribute smoke. At night, the air drains down-slope, but during the day winds reverse and blow upslope, carrying the polluted air. Mountain areas may become smoky in late afternoon or early evening for this reason. By morning, however, cold, dense nighttime air has traveled down-slope and polluted valleys and mountain basins. This may cause ground-level inversions to form as the land radiates heat. Mountain basins or valleys, such as the Sacramento Valley, have high smoke impact potential creating public health issues. This condition was recently experienced during the 2018 and 2020 fire seasons when smoke from northern California fires elevated particulate matter levels in the Sacramento Valley Air Basin to unhealthy levels.

Wildland fire may be started by natural processes (primarily lightning) or it may be started (intentionally or accidentally) by human activities, such as smoking and equipment operation. Emergency fire access plays a major role in whether a fire can be quickly extinguished. The State Board of Forestry identifies lands where the California Department of Forestry and Fire Protection (CAL FIRE) has the primary duty for wildland fire prevention and suppression in SRAs and has mapped the fire hazard potential within SRAs based on relevant factors such as fuels, terrain, and weather. Hazards are described according to their potential to cause ignition of buildings. The project site is mapped as an in a moderate fire hazard severity zone (CAL FIRE 2007).

In 2009, the CPUC adopted fire-safety regulations that apply to high fire-threat areas, in which there is a heightened risk of power lines igniting fires that spread rapidly. The CPUC adopted a final CPUC Fire-Threat Map in 2018, which is one of several documents that form the HFTD Map where stricter fire-safety regulations apply. The other documents forming the High Fire-Threat District Map include the map of Tier 1 High Hazard Zones (HHZs) in the US Forest Service and CAL FIRE's joint map of tree mortality HHZs. The project area is mapped as a Tier 2 CPUC High Fire-Threat District, which designates an "elevated risk from wildfires associated with overhead utility power lines or overhead utility power-line facilities also supporting communication facilities" (CPUC 2021).

KNOWN AND POTENTIAL CONTAMINATION

The project site consists of undeveloped grazing land. There are remnant concrete structures and related debris, but it is unclear what the use of the structures were. It appears the site was a ranch, with structures made out of concrete. Potential hazards associated with sites previously used for agriculture with a residential structure includes leach fields, septic tanks, and buried heating oil tanks. The concrete structures may contain lead-based paint and asbestos containing material. The parcel may also contain aerially deposited lead due to proximity to US 50. The risk of residual pesticides is low because the land was used for grazing (Blackburn Consulting 2007). Lead tends to be found within 30 feet of the edge of pavement and within the top 6 inches of soil, though can be found a few feet below the ground surface (DTSC 2016). Recent queries of the State Water Resources Control Board's GeoTracker database and DTSC's EnviroStor database found no known contamination on the project site (DTSC 2021, SWRCB 2021).

NATURALLY OCCURRING ASBESTOS

There is no known mapped occurrence of naturally occurring asbestos (NOA) minerals on the project site, nor are there ultramafic rocks that are typical hosts for NOA. There are ultramafic rocks and faulting nearby, such that there remains a potential for NOA to occur in the area (Blackburn Consulting 2013). El Dorado County's NOA Review Area Map also shows the project site straddling the border of an area that is mapped as a quarter mile buffer for more likely to contain asbestos or fault line (Blackburn Consulting 2013, El Dorado County 2015).

PROXIMITY TO AIRPORTS

The Cameron Airpark Airport is located approximately 4 miles northeast of the project site. It is a public use airport with two runways and an average of 99 operations per day during 2017 (FAA 2021). The project site is not within the Airport Influence Area of the Cameron Park Airport established in the Land Use Compatibility Plan (EDCALUC 2012).

PROXIMITY TO SCHOOLS

Oak Meadow Elementary School is about 0.15 miles north of the project site at 7701 Silva Valley Parkway.

EMERGENCY RESPONSE AND EVACUATION

Emergency response is addressed through several planning documents, including the El Dorado County's Local Hazard Mitigation Plan and Hazardous Materials Emergency Response Plan (El Dorado County Sheriff 2018, El Dorado County 2009). Direction regarding evacuation routes is provided as part of evacuation orders issued by the El

Dorado County Sheriff through the El Dorado County Sheriff's Office- Office of Emergency Services Alert Notification System. There are several two to six lane roadways in the El Dorado Hills community (e.g., El Dorado Hills Boulevard, Serrano Parkway, Silva Valley Parkway, US 50, White Rock Road, Green Valley Road) that can be used for evacuation depending on the details of the emergency, such as the speed and trajectory of a fire or other hazard.

3.8.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

The following reports and data sources document potential hazardous conditions at the project site and were reviewed for this analysis:

- available literature, including documents published by federal, State, County, and other local agencies (e.g., El Dorado Hills Fire Department);
- review of applicable elements from the El Dorado County General Plan; and
- the Initial Site Assessment and update to that Initial Stie Assessment for the Silva Valley Parkway/U.S. 50 interchange, which addresses the proposed project site (Blackburn Consulting 2007, Blackburn Consulting 2010).

Project construction and operation were evaluated against the hazardous materials and wildfire information gathered from these sources to determine whether any risks to public health and safety or other conflicts would occur.

THRESHOLDS OF SIGNIFICANCE

An impact related to hazards and hazardous materials is considered significant if implementation of the project would do any of the following:

- create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment;
- emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;
- for a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area;
- implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan;
- expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires;
- due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire;
- require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment; and/or
- expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes

ISSUES NOT DISCUSSED FURTHER

No known hazardous materials sites are located on or immediately adjacent to the project site. Impacts related to locating the project on site included on a list of hazardous materials sites pursuant to Government Code Section 65962.5 is not discussed further in this EIR.

The Cameron Airpark Airport is located approximately 4 miles northeast of the project site. The project site is not within the Airport Influence Area of the Cameron Park Airport established in the Land Use Compatibility Plan and would not result in a safety hazard. Impacts related to airport hazards is not discussed further in this EIR.

The project site, including the surrounding El Dorado Hills area, is exposed to single-noise events from cargo aircraft landing at Mather Airport, approximately 13 miles southwest of the site. The 2004 General Plan EIR states that new development under the County General Plan could be subject to aircraft noise and that development within El Dorado Hills is an area that is already considered to be affected by single event levels, because of aircraft overflights associated with the operation of Mather Airport in Sacramento County. The project would not include noise-sensitive land uses exposed to this noise source. Thus, this issue is not discussed further in this EIR.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.8-1: Create a Significant Hazard Through the Routine Transport, Use, or Disposal of Hazardous Materials or Accidental Release of Hazardous Materials During Construction

Construction of the project would involve grading, excavation, and other ground-disturbing activities which could result in the accidental release of hazardous materials. No known contamination is located on the project site. The site may contain NOA, and construction would involve transportation, use, storage, and disposal of common hazardous materials. Existing laws and regulations govern management of these hazards. Therefore, impacts would be **less than significant**.

Construction activities associated with the project would involve transportation, use, storage, and disposal of hazardous materials and petroleum products commonly used at construction sites (such as diesel fuel, lubricants, paints and solvents, and cement products containing strong basic or acidic chemicals). Construction of the project would involve grading, excavation, facility construction, and other activities that could result in the accidental release of hazardous materials. Standard accident and hazardous materials recovery training and procedures—enforced by the state and followed by private state-licensed, certified, and bonded transportation companies and contractors—reduce the potential for hazards associated with this routine use. Hazardous materials would be transported to the project area according to applicable hazardous materials transport and handling laws and regulations (such as the DOT Office of Hazardous Materials Safety regulations for the safe transportation of hazardous materials described in Title 49 of the CFR) and would only be stored in proper containers within a secured construction staging area. Hazardous wastes (including used oil, used oil filters, used gasoline containers, spent batteries, and other items) would be collected regularly and disposed of in accordance with all applicable laws and regulations.

As required under State and federal law, plans for notification and evacuation of site workers and local residents and other persons nearby in the event of a hazardous materials release would be in place throughout construction. Inspections would be conducted to verify consistent implementation of general construction permit conditions and BMPs to avoid and minimize the potential for spills and releases, and of the immediate cleanup and response thereto. BMPs include, for example, the designation of special storage areas and labeling, containment berms, coverage from rain, and concrete washout areas. Compliance with various federal, State, and local regulations would minimize the risk of a spill or accidental release of hazardous materials.

As stated previously, the project site is not identified as a hazardous materials site on any list maintained by the California Environmental Protection Agency pursuant to Government Code Section 65962.5. Because of the relatively recent ground disturbance and development of the current uses on the site, it is unlikely that undocumented hazards, such as spills of potentially hazardous materials that have not been reported, are present. Nevertheless, the

disturbance of undocumented hazardous wastes during grading or excavation activities may result in hazards to the environment and human health. Potential hazards to human health include ignition of flammable liquids or vapors, inhalation of toxic vapors in confined spaces, such as trenches, and skin contact with contaminated soil or water. If hazardous materials are discovered through the construction process, existing regulations provide prescriptive requirements for ceasing work, notifying appropriate government agencies, and providing remediation if necessary. Federal and State laws require that soils and groundwater having concentrations of contaminants such as lead, gasoline, or industrial solvents that are higher than certain acceptable levels are handled and disposed of as hazardous waste during excavation, transportation, and disposal. Title 22 of the CCR, Sections 66261.20–66261.24, contains technical descriptions of characteristics that would cause soil to be classified as a hazardous waste. Additionally, although many hazardous construction materials remaining after project construction can likely be reused on other projects, those materials that cannot be (or are not) reused would require disposal. Hazardous waste generated during construction may consist of welding materials, fuel and lubricant containers, paint and solvent containers, and cement products containing strong basic or acidic chemicals.

North Site and South Site

As discussed above, construction of the North Site would involve transportation, use, storage, and disposal of hazardous materials and petroleum products commonly used at construction sites. These activities are regulated through a variety of agencies and instruments. All construction activities involving the transportation, use, storage, and disposal of hazardous materials would be subject to the requirements and regulations that would minimize the risk of a spill or accidental release of hazardous materials. Therefore, the potential for the North Site to create a significant hazard through the routine transport, use, or disposal of hazardous materials or accidental release of hazardous materials during construction would be **less than significant**.

Mitigation Measures

No mitigation is required.

Impact 3.8-2: Create a Significant Hazard Through the Routine Transport, Use, or Disposal of Hazardous Materials or Accidental Release of Hazardous Materials During Operation

The project would involve the routine transport, use, and disposal of hazardous materials during fueling activities, vehicle maintenance, and landscaping and site maintenance. Given measures taken to improve the safety of USTs and fuel storage areas, compliance with applicable regulations which would reduce impacts associated with the use, transport, storage, and sale of hazardous materials; and the handling of hazardous materials in accordance with the HMBEP, impacts associated the routine transport, use, and disposal of hazardous materials would be **less than significant**.

For both the North Site and South Site, potentially hazardous materials such as petroleum products, paint products, solvents, cleaning products, and automotive fluids may be transported, stored, and used. Potentially hazardous materials such as pesticides, fertilizer, and other household hazardous products may also be used during landscaping and site maintenance activities.

As described in Title 49 of the Code of Federal Regulations and implemented by Title 13 of the CCR, the USDOT Office of Hazardous Materials Safety has established strict regulations for the safe transportation of hazardous materials. Appropriate documentation for all hazardous waste that is transported in connection with project activities would be provided as required for compliance with existing hazardous materials regulations. Hazardous wastes produced on site are subject to requirements associated with accumulation time limits, proper storage locations and containers, and proper labeling. Additionally, for removal of hazardous waste from the site, hazardous waste generators are required to use a certified hazardous waste transportation company, which must ship hazardous waste to a permitted facility for treatment, storage, recycling, or disposal.

The State of California requires all businesses that handle more than a specified amount of hazardous material or extremely hazardous material, to submit an HMBEP to its local CUPA. The HMBEP must include an inventory of the hazardous materials used in the facility, and emergency response plans and procedures to be used in the event of a significant or threatened significant release of a hazardous material. The HMBEP must also include the Material Safety Data Sheet for each hazardous and potentially hazardous substance used, which summarizes the physical and chemical properties of the substances and their health impacts. In the event of an accidental release of hazardous materials, the HMBEP requires immediate notification to all appropriate agencies and personnel of a release, identification of local emergency medical assistance appropriate for potential accident scenarios, contact information of all company emergency coordinators of the business, a listing and location of emergency equipment at the business, an evacuation plan, and a training program for business personnel.

Typical retail and office land uses do not typically involve transport, use, or disposal of significant quantities of hazardous materials. Generally, small quantities of hazardous materials, such as paints, cleaning chemicals, and fertilizers, are used for routine maintenance within these types of land uses. As described under Impact 3.8-1 for construction, conformance with established regulations and policies would reduce the potential for improper handling of materials and wastes that could result in accidental releases. In addition, the El Dorado County EMD inspects businesses that handle hazardous materials and responds to hazardous material spills and releases.

North Site

As identified in Chapter 2, "Project Description," the North Site would include operation of a fueling station. Fueling station uses are subject to standard regulations related to the routine transportation, storage, and dispensing of gasoline. Fuel pump dispensers would be required to be equipped with automatic shutoffs and other safety device and signage, as required by Fire, Building, and Health codes. All USTs would be double walled and all above ground fuel storage tanks would be surrounded by fencing. In accordance with Title 23, Section 2635(b) of the CCR, USTs would be required to have spill containment and overfill prevention systems. Fuel tank storage areas would have appropriate safety design, equipment, and signage to protect public health and safety from leaks, fires, or spills involving vehicle fuel if any were to occur on the project site. A SWPPP would be prepared and would include BMPs designed to prevent project-generated pollutants from entering stormwater and moving off-site into receiving waters throughout the operation of the project. Compliance with all federal, State, and local requirements related to hazardous materials would ensure that operational impacts from the North Site would be **less than significant**.

South Site

As identified in Chapter 2, "Project Description," the South Site would include a tire center for the repair and replacement of tires, as well as propane sales and refueling. Propane refill operations also present potential hazards from improper refilling. OSHA regulates storage and handling of liquefied petroleum gases. For example, section 1910.110 of Title 29 of the Code of Federal Regulations contains requirements related to odorizing, approval of equipment and systems, container welding, container marking, and transfer of liquids to reduce hazards. Compliance with all federal, State, and local requirements related to hazardous materials would ensure that operational impacts from the South Site would be **less than significant**.

Mitigation Measures

No mitigation is required.

Impact 3.8-3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school

The project would involve the routine transport, use, and disposal of hazardous materials during construction and operation activities within one-quarter mile of an existing elementary school. However, the project would not involve handling of extremely hazardous substances. This impact would be **less than significant**.

North Site

As identified in Chapter 2, "Project Description," the North Site would include operation of a fueling station. Oak Meadow Elementary School is about 0.15 miles north of the project site at 7701 Silva Valley Parkway. Proposed activities include the handling of hazardous materials as discussed in detail under Impact 3.8-1 and Impact 3.8-2. Specific to schools and hazardous materials, Public Resources Code section 21151.4 requires consultation with school districts for a "project involving the construction or alteration of a facility within one-fourth of a mile of a school that might reasonably be anticipated to emit hazardous air emissions, or that would handle an extremely hazardous substance or a mixture containing extremely hazardous substances in a quantity equal to or greater than the state threshold quantity" in HSC Section 25532. The list of extremely hazardous substances under HSC Section 25534 can be found in Appendix A of Part 355 (commencing with Section 355.10) of Subchapter J of Chapter I of Title 40 of the Code of Federal Regulations. According to this list, gasoline is not considered an extremely hazardous substance. Therefore, the North Site would not include the handling of an extremely hazardous substance and consultation with the school district is not required under PRC Section 21151.4. Regarding air emissions, refer to Section 3.2, "Air Quality," for an analysis of toxic air contaminants. As discussed under Impact 3.8-1 and 3.8-2, the project would adhere to all applicable federal, State, and local requirements related to hazardous materials. This impact would be **less than significant**.

South Site

As identified in Chapter 2, "Project Description," the South Site would include a tire center for the repair and replacement of tires, as well as propane sales and refueling. As discussed above relative to the North Site, PRC Section 21151.4 requires consultation with the school district for uses that propose to handle extremely hazardous substances near schools. Like gasoline, propane is not included on the list of extremely hazardous substances. Therefore, no consultation with the school district is necessary under PRC Section 21151.4. Regarding air emissions, refer to Section 3.2, "Air Quality," for an analysis of toxic air contaminants. As discussed under Impact 3.8-1 and 3.8-2, the project would adhere to all applicable federal, State, and local requirements related to hazardous materials.

Mitigation Measures

No mitigation is required for this impact in addition to federal, State, and local requirements.

Impact 3.8-4: Impair Implementation or Physically Interfere with an Adopted Emergency Response Plan or Emergency Evacuation Plan

Project construction and operation would not impair implementation of, or interfere with, the County Multi-Jurisdictional Hazard Mitigation Plan. Adequate road design for emergency vehicle access and private vehicle evacuation would be provided, as required El Dorado County Fire Department Standard #B-003. This impact would be **less than significant**.

The project site is vacant and does not currently have an internal roadway system. A traffic signal is proposed at the main driveways and Silva Valley Parkway where access would be provided to both the North Site and the South Site.

Three full access driveways are proposed on Clarksville Crossing Road to provide additional points of access from the South Site. Access to the site would need to comply with El Dorado County Regional Fire Protection Standard B-003, which applies to fire access roadways. This standard requires following standards that ensure that there are adequate vehicle access points for Fire Department vehicles, other emergency access vehicles, and evacuations (EDCFPO 2009).

El Dorado County has not identified specific roads as emergency evacuation routes but encourages residents to learn their local roads in preparation for an emergency. The El Dorado County Sheriff's Office would determine whether evacuation is recommended or required of the El Dorado Hills community based on parameters of an emergency. An evacuation is developed and directed in real time in response to the unique conditions of the emergency. Direction regarding evacuation routes is provided as part of evacuation orders issued by the El Dorado County Sheriff through the El Dorado County Sheriff's Office- Office of Emergency Services Alert Notification System. There are several two to six lane roadways in the El Dorado Hills community (e.g., El Dorado Hills Boulevard, Serrano Parkway, Silva Valley

Parkway, US 50, White Rock Road, Green Valley Road) that can be used for evacuation depending on the details of the emergency, such as the speed and trajectory of a fire or other hazard.

North Site

As discussed in Chapter 2, "Project Description," right-in and right-out access would also be provided to the North Site from Silva Valley Parkway via a driveway north of the new signal at the main driveway. An emergency access to Tong Road from the self-storage facility on the North Site is also proposed.

South Site

As discussed above, the main driveway for the South Site would be via a signalized intersection at Silva Valley Parkway. There would also be an intersection at Silva Valley Parkway and Clarksville Crossing Road that would be partially signalized to provide protected turn movements to vehicles traveling northbound on Silva Valley Parkway to make a left turn on to Clarksville Crossing Road. From Clarksville Crossing Road, there would be three driveways providing access to the South Site. The signalization of the intersection of Silva Valley Parkway and Clarksville Crossing Road would remain in place until the County constructs the Country Club Drive extension project in 2041. After completion of the Country Club Drive extension project the signal at the intersection of Silva Valley Parkway and Clarksville Crossing Road would be removed and Clarksville Crossing Road's existing connection to Silva Valley Parkway would be eliminated.

Development of the proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan because no such plans exist within the County's Local Hazard Mitigation Plan or as a separate planning document.. Thus, the project would result in a **less-than-significant** impact.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.8-5: Expose People or Structures to Wildland Fire Hazards or Exacerbate Wildland Fire Hazards

The project site is surrounded mostly by undeveloped grassy areas, though there are residential areas to the north and west. The project site is also partially bordered by existing roadways. Implementation of the project would result in construction of a commercial center that would extend water and fire hydrant infrastructure through the site. These improvements would reduce the potential for wildland fire conditions as compared to existing undeveloped conditions. This impact would be **less than significant**.

Several factors contribute to the susceptibility of wildfire danger in El Dorado County, including climate, winds, steep terrain, vegetation, subdivision design, and water supply. The community of El Dorado Hills includes open space areas that consist of grassland habitat that are at current risk to fire. Introducing construction activities, electrical service, structures, and people to this area could expose them and the surrounding community to potential increases in wildfire risk and associated impacts from tree and habitat loss and air quality impacts from smoke.

Development of the project site would be required to comply with state and El Dorado Hills Fire Department (once the site is annexed to their service area) requirements that are designed to mitigate the potential for wildfire events to occur from site development as well as limit the extent of fire events. As noted above, Title 14 and 24 CCR and EDHFD Ordinance 2019-01 requires buildings on the project site comply with specific requirements intended to provide defensible space, adequate emergency access, water for firefighting, and structure construction to improve fire resistance. The provision of defensible space and the associated reduction of vegetative fuels have specifically been found to be effective at reducing fire frequency, fire severity, and annual area burned over an extended period of time. Where treatments have occurred, the pattern of wildfire progression may be limited to low-intensity underbrush and surface burning, which can create safe conditions for firefighters to successfully suppress fires in areas near homes or other structures, or around areas of high resource value (Kim et al. 2013; Martinson and Omi 2013; Tubbesing et al. 2019). The project has prepared a Fire Safe Plan in compliance with General Plan Policy 2.1.1.7.

Commented [PA1]: County - placeholder for plan

Given the implementation of the fire requirements and standards that would minimize the potential for wildfire to occur from site development, implementation of the project would not exacerbate existing wildfire hazards in the El Dorado Hills community. Therefore, impacts would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

3.9 HYDROLOGY AND WATER QUALITY

This section identifies the regulatory context and policies related to hydrology and water quality, describes the existing hydrologic conditions at the project site, and evaluates potential hydrology and receiving water-quality impacts of the proposed EDH 52 Commercial Center Project. Potential effects on the capacity of County of El Dorado water-supply, sewer/wastewater, and drainage/stormwater facilities are addressed in Section 3.14, "Utilities and Service Systems."

3.9.1 Regulatory Setting

FEDERAL

Clean Water Act

The US Environmental Protection Agency (EPA) is the lead federal agency responsible for water quality management. The Clean Water Act (CWA) is the primary federal law that governs and authorizes water quality control activities by EPA as well as the states. Various elements of the CWA address water quality. These are discussed below.

CWA Water Quality Criteria/Standards

Pursuant to federal law, EPA has published water quality regulations under Title 40 of the Code of Federal Regulations (CFR). Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States. As defined by the act, water quality standards consist of designated beneficial uses of the water body in question and criteria that protect the designated uses. Section 304(a) requires EPA to publish advisory water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use. As described in the discussion of state regulations below, the State Water Resources Control Board (State Water Board) and its nine regional water quality control boards (RWQCBs) have designated authority in California to identify beneficial uses and adopt applicable water quality objectives.

CWA Section 303(d) Impaired Waters List

Under Section 303(d) of the CWA, states are required to develop lists of water bodies that do not attain water quality objectives after implementation of required levels of treatment by point source dischargers (municipalities and industries). Section 303(d) requires that the state develop a total maximum daily load (TMDL) for each of the listed pollutants. The TMDL is the amount of the pollutant that the water body can receive and still comply with water quality objectives. The TMDL is also a plan to reduce loading of a specific pollutant from various sources to achieve compliance with water quality objectives. In California, implementation of TMDLs is achieved through water quality control plans, known as Basin Plans, of the State RWQCBs. See "State Plans, Policies, Regulations, and Laws," below.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program was established in the CWA to regulate municipal and industrial discharges to surface waters of the United States. NPDES permit regulations have been established for broad categories of discharges including point source waste discharges and nonpoint source stormwater runoff. Each NPDES permit identifies limits on allowable concentrations and mass emissions of pollutants contained in the discharge. Sections 401 and 402 of the CWA contain general requirements regarding NPDES permits.

"Nonpoint source" pollution originates over a wide area rather than from a definable point. Nonpoint source pollution often enters receiving water in the form of surface runoff and is not conveyed by way of pipelines or discrete conveyances. Two types of nonpoint source discharges are controlled by the NPDES program: discharges caused by general construction activities and the general quality of stormwater in municipal stormwater systems. The goal of the NPDES nonpoint source regulations is to improve the quality of stormwater discharged to receiving

waters to the maximum extent practicable. The RWQCBs in California are responsible for implementing the NPDES permit system (see the discussion of "State Plans, Policies, Regulations, and Laws" section below).

National Flood Insurance Act

The Federal Emergency Management Agency (FEMA) is tasked with responding to, planning for, recovering from and mitigating against disasters. The Federal Insurance and Mitigation Administration within FEMA is responsible for administering the National Flood Insurance Program (NFIP) and administering programs that aid with mitigating future damages from natural hazards. FEMA prepares Flood Insurance Rate Maps (FIRMs) that delineate the regulatory floodplain to assist local governments with the land use planning and floodplain management decisions needed to meet the requirements of NFIP. Floodplains are divided into flood hazard areas, which are areas designated per their potential for flooding, as delineated on FIRMs. Special Flood Hazard Areas are the areas identified as having a one percent chance of flooding in each year (otherwise known as the 100-year flood).

STATE

California Porter-Cologne Act

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Porter-Cologne Act). The Porter-Cologne Act grants the State Water Board and each of the nine RWQCBs power to protect water quality, and is the primary vehicle for implementation of California's responsibilities under the Clean Water Act. The applicable RWQCB for the proposed project is the Central Valley RWQCB. The State Water Board and the Central Valley RWQCB have the authority and responsibility to adopt plans and policies, regulate discharges to surface and groundwater, regulate waste disposal sites, and require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substances, sewage, or oil or petroleum products.

Under the Porter-Cologne Act, each RWQCB must formulate and adopt a water quality control plan (known as a "Basin Plan") for its region. The Basin Plan for the Central Valley Region includes a comprehensive list of waterbodies within the region and detailed language about the components of applicable Water Quality Objectives (WQOs). The Basin Plan recognizes natural water quality, existing and potential beneficial uses, and water quality problems associated with human activities throughout the Sacramento and San Joaquin River Basins. Through the Basin Plan, the Central Valley RWQCB executes its regulatory authority to enforce the implementation of TMDLs, and to ensure compliance with surface WQOs. The Basin Plan includes both narrative, and numerical WQOs designed to provide protection for all designated and potential beneficial uses in all its principal streams and tributaries. Applicable beneficial uses include municipal and domestic water supply, irrigation, non-contact and contact water recreation, groundwater recharge, fresh water replenishment, hydroelectric power generation, and preservation and enhancement of wildlife, fish, and other aquatic resources. The nearest stream is an unnamed tributary to Carson Creek, which a tributary to Deer Creek and the Cosumnes River (Helix Environmental Planning 2020). Deer Creek's beneficial uses include municipal domestic supply, various fish habitat, and contact and non-contact recreation. The Basin Plan also outlines temperature, turbidity, and diazinon and chlorpyrifos water quality objectives for Deer Creek (CVRWQCB 2018).

The Central Valley RWQCB also administers the adoption of waste discharge requirements (WDRs), manages groundwater quality, and adopts projects within its boundaries under the NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (General Permit).

NPDES Construction General Permit for Stormwater Discharges Associated with Construction Activity

The State Water Board adopted the statewide NPDES General Permit in August 1999. The state requires that projects disturbing more than one acre of land during construction file a Notice of Intent with the RWQCB to be covered under this permit. Construction activities subject to the General Permit include clearing, grading, stockpiling, and excavation. Dischargers are required to eliminate or reduce non stormwater discharges to storm sewer systems and

other waters. A stormwater pollution prevention plan (SWPPP) must be developed and implemented for each site covered by the permit. The SWPPP must include best management plans (BMPs) designed to prevent construction pollutants from contacting stormwater and keep products of erosion from moving off-site into receiving waters throughout the construction and life of the project; the BMPs must address source control and, if necessary, pollutant control.

NPDES Stormwater Permit for Discharges from Small Municipal Separate Storm Sewer Systems

The Municipal Stormwater Permitting Program regulates stormwater discharges from municipal separate storm sewer systems (MS4s). Stormwater is runoff from rain or snow melt that runs off surfaces such as rooftops, paved streets, highways or parking lots and can carry with it pollutants such as oil, pesticides, herbicides, sediment, trash, bacteria and metals. The runoff can then drain directly into a local stream, lake or bay. Often, the runoff drains into storm drains which eventually drain untreated into a local waterbody.

Groundwater Management

Groundwater Management is outlined in the California Water Code, Division 6, Part 2.75, Chapters 1-5, Sections 10750 through 10755.4. The Sustainable Groundwater Management Act of 2014 (SGMA) became law on January 1, 2015, and applies to all groundwater basins in the state (Water Code Section 10720.3). By enacting the SGMA, the legislature intended to provide local agencies with the authority and the technical and financial assistance necessary to sustainably manage groundwater within their jurisdiction (Water Code Section 10720.1).

LOCAL

El Dorado County General Plan

Policies included in the El Dorado County General Plan (El Dorado County 2004) that are relevant to the proposed project including the following:

- **Policy 5.4.1.1:** Require storm drainage systems for discretionary development that protect public health and safety, preserve natural resources, prevent erosion of adjacent and downstream lands, prevent the increase in potential for flood hazard or damage on either adjacent, upstream or downstream properties, minimize impacts to existing facilities, meet the NPDES requirements, and preserve natural resources such as wetlands and riparian areas.
- **Policy 7.3.1.2:** Establish water conservation programs that include both drought tolerant landscaping and efficient building design requirements as well as incentives for the conservation and wise use of water.
- **Policy 7.3.2.2:** Projects requiring a grading permit shall have an erosion control program approved, where necessary.

Design and Improvement Standards Manual

The purpose of the Design and Improvement Standards Manual is to standardize development practices used in the hillside environment that is prevalent in El Dorado County and to minimize the environmental effects of construction. Volume II of the manual includes drainage and design criteria for stormwater and Volume III of the manual provides guidance on how to implement the erosion and sediment control standards in Chapter 110.14 of the El Dorado County Code.

Drainage Manual

The El Dorado County Drainage Manual (Drainage Manual) establishes guidelines for the design of stormwater drainage facilities and the performance of hydraulic and hydrologic analyses. This manual is designed to supplement El Dorado County ordinances and the provisions defined in the Design and Improvement Standards Manual. For example, the Drainage Manual requires that potential downstream impacts to water quality and flow regimes be taken into account when designing stormwater drainage systems and that mitigation measures be included as part of drainage analyses.

Western El Dorado County Storm Water Management Plan

The unincorporated areas of El Dorado County's west slope are covered by a Phase III NPDES that went into effect on July 1, 2013. A new Phase II MS4 Permit (2013-0001-DWQ) was adopted by the SWRCB on February 5, 2013. The permit focuses on the enhancement of surface water quality within high priority urbanized areas. The West Slope of the County implemented new Development and Redevelopment Standards and Post Construction Storm Water Plan Requirements pursuant to the requirements listed in the current MS4 Permit on July 1, 2015 and these new requirements supersede Section 4.5 of the SWMP, which contains a Construction Site Runoff Control Program. Depending on the type of project, there are varying requirements for implementation of site design measures. For example, for projects other than single family homes that create or replace 5,000 square feet or more of impervious surface, requirements include but are not limited to:

- Remaining runoff from the 85th percentile 24-hour storm event (~1.13 inches of water) shall be directed to one or more storm water treatment and baseline hydromodification measures using volumetric and/or flow-based sizing criteria.
- Identify potential sources of pollutants and implement corresponding source control measures.
- Provide ongoing maintenance of water retention and treatment facilities.

El Dorado County Stormwater Quality Ordinance

The El Dorado County Stormwater Quality Ordinance is contained in El Dorado County Code of Ordinances Chapter 8.79. The Stormwater Quality Ordinance intends to ensure the County is compliant with state and federal laws, fulfilling its requirements to:

- protect the health, safety, and general welfare of the citizens of the County;
- enhance and protect the quality of Waters of the State in the County by reducing pollutants in storm water discharges to the maximum extent practicable and controlling non-storm water discharges to a storm water facility; and
- cause the use of Best Management Practices by the County and its citizens that will reduce the adverse effects of polluted runoff discharges of Waters of the State.

El Dorado County Code

The purpose of the Grading, Erosion and Sediment Control Ordinance (Chapter 110.14) is to regulate grading within the unincorporated areas of El Dorado County, to prevent the pollution of surface water, and to ensure that the intended use of the site is consistent with all applicable local and state plans and standards, including the El Dorado County General Plan, SWMP, and County Code. This ordinance also establishes the procedures for the issuance of permits, approval of plans, and inspection of construction sites. The Grading, Erosion and Sediment Control Ordinance requires that waterways and adjacent properties be protected from erosion, flooding, or sediment deposits that could result from grading activities. It also states that the discharge of sediments to any waterway, drainage system, or adjacent property remain at or below levels before grading activities.

El Dorado County has provided the following standard conditions of approval related to stormwater drainage and infrastructure that apply to the proposed project.

Grading Permit/Plan

A grading permit is required for the proposed project. The plan shall be in conformance with the El Dorado County Design and Improvement Standards Manual; the Grading, Erosion and Sediment Control Ordinance; and the Drainage Manual.

Grading and improvement plans shall be submitted to the El Dorado County Resource Conservation District (RCD) and the Transportation Division. The RCD shall review and make appropriate recommendations to the County. Upon receipt of the review report by the RCD, the Transportation Division shall consider imposition of appropriate conditions for reducing or mitigating erosion and sedimentation from the project. Grading plans shall incorporate appropriate erosion control measures as provided in the Grading, Erosion and Sediment Control Ordinance and

El Dorado County SWMP. Appropriate runoff controls such as berms, storm gates, detention basins, overflow collection areas, filtration systems, and sediment traps shall be implemented to control siltation, and the potential discharge of pollutants into drainages.

Resource Conservation District Coordination

The timing of construction and method of revegetation shall be coordinated with the El Dorado County RCD. If grading activities are not completed by September, the applicant shall implement a temporary grading and erosion control plan. Such temporary plans shall be submitted to the RCD for review and recommendation to the Transportation Division. The Transportation Division shall approve or conditionally approve such plans and cause the applicant to implement said plan on or before October 15.

Drainage Study/SWMP Compliance

The applicant shall provide a drainage report at time of improvement plans or grading permit application, consistent with the Drainage Manual, the County's West Slope Development and Redevelopment Standards and Post Construction Water Plan Requirements, and the SWMP, which addresses stormwater runoff increase, impacts to downstream facilities and properties, and identification of appropriate stormwater quality management practices to the satisfaction of the Transportation Division. The drainage study must demonstrate the subject property has adequate existing and proposed storm drainage facilities. At a minimum, the drainage study, plans, and calculations shall provide evidence of the following:

- The site can be adequately drained.
- The development of the site will not cause problems to nearby properties, particularly downstream sites.
- The onsite drainage will be controlled in such a manner as to not increase the downstream peak flow more than the pre-development 10-year storm event or cause a hazard or public nuisance. Detention shall be required if said condition is not met or the applicant shall demonstrate that there are no downstream impacts.
- The improvements to the drainage outfall shall be completed to the approval of the Transportation Division before the filing of the final map or the applicant shall obtain an approved improvement agreement with security.

National Pollutant Discharge Elimination System Permit

At the time that an application is submitted for improvement plans or a grading permit, and if the proposed project disturbs more than 1 acre of land area, the applicant shall file a notice of intent to comply with the Statewide General NPDES Permit for stormwater discharges associated with construction activity with the SWRCB. This condition is mandated by the CWA and the California Water Code. A filing form, a filing fee, a location map, and a SWPPP are required for this filing. A copy of the application shall be submitted to the County, before building permit issuance, and by state law must be done before commencing construction.

Storm Water Drainage Best Management Practices

Storm drainage from on- and offsite impervious surfaces (including roads) shall be collected and routed through specially designed water quality treatment facilities (i.e., BMPs) pursuant to the County's West Slope Development and Redevelopment Standards and Post Construction Water Plan Requirements for removal of pollutants of concern (e.g., sediment, oil/grease), as approved by the Transportation Division. The applicant shall verify that the proposed BMPs are appropriate to treat the pollutants of concern from the project.

El Dorado County Multi-Jurisdiction Hazard Mitigation Plan

The El Dorado County Local Hazard Mitigation Plan (LHMP) recommends specific actions to combat the forces of nature and protect its residents from hazard losses. For flooding, goals include (El Dorado County Sheriff 2018):

- Prevent and reduce flood risk and related damages, with a focus on repetitive loss if structures and infrastructure.
- Provide protection for critical infrastructure from flood (e.g., repeaters, cell towers, water tanks, utilities).

3.9.2 Environmental Setting

HYDROLOGY AND DRAINAGE

Regional Hydrology

The climate of the El Dorado Hills area is Mediterranean, with cool wet winters and warm dry summers. Total rainfall in 2020 was about 15 inches, with the highest precipitation occurring in March, and no precipitation occurring from July through October (NOAA Regional Climate Centers 2021). El Dorado County contains four major watersheds: the Tahoe Watershed, the Middle Fork American River, the South Fork American River, and the Cosumnes River. The project site is located within the South Fork American River Watershed, and drains into the Cosumnes River Watershed. The South Fork American River watershed encompasses the central portion of the county and extends from the Echo Summit west to Folsom Reservoir. Major tributaries within the South Fork American River Watershed include Silver Fork American River, Silver Creek, Slab Creek, Rock Creek, and Weber Creek. Other water features within the watershed include Caples Lake, Silver Lake, Lake Aloha, Weber Reservoir, Ice House Reservoir, Union Valley Reservoir, Junction Reservoir, Camino Reservoir, Brush Creek Reservoir, Slab Creek Reservoir, and Chili Bar Reservoir (El Dorado County 2003).

The Cosumnes River watershed is within the southern portion of El Dorado County and south of the South Fork American River Watershed. The Cosumnes River Watershed extends from Iron Mountain Ridge west to where the Cosumnes River enters Sacramento County. Tributaries to the Cosumnes River include the South, Middle, and North Fork Cosumnes Rivers, Canyon Creek, Deer Creek, and Carson Creek. Bass Lake and Sly Park Reservoir are also located in the Carson Creek watershed, which is tributary to the Cosumnes River watershed (El Dorado County 2003).

Hydrology in the area is dominated by irrigation runoff and seasonal stormwater runoff from surrounding developments and direct precipitation. Precipitation primarily occurs as snowfall in the upper elevations of the watershed and rainfall in the lower elevations (El Dorado County 2003).

Geologic conditions and associated fragmented/fractured rock groundwater systems limit access to groundwater within the county. Recharge, movement, and storage of water in rock fractures are also limited. As such, the long-term reliability of groundwater within the county is difficult to estimate (El Dorado County 2003).

Local Hydrology

Hydrology, Runoff, and Drainage

Drainage generally trends northeast–southwest across the project site. The project area contains aquatic resources and other waters of the United States., as described in the aquatic resources delineation report prepared by Helix Environmental (2020). This includes 0.133 acre of seasonal wetlands, 0.007 acre of seep, 0.006 acre of wetland swale, 0.234 acre of ephemeral drainage, and 0.360 acre of intermittent drainage (Helix Environmental 2020:9-10). Much of the area mapped as seasonal wetland is adjacent to the ephemeral drainage in the North Parcel, though there is one area of seasonal wetland on the south parcel. Two seasonal wetlands appear to be the result of excavation as there are mounds adjacent to them. The wetland swale is located in the northern parcel and conveys water from a seasonal wetland to an ephemeral drainage. The largest area of ephemeral drainage is located on the west side of the north parcel. The intermittent drainage bisects the south parcel. There is a brick check dam across part of the intermittent drainage, which occasionally results in retention of water. It expected the waters of the United States would also be considered waters of the State (Helix Environmental 2020:12). Impacts specific to waters of the United States are also addressed in Section 3.4, Biological Resources.

Flooding

The 100-year flood refers to the flood resulting from a storm event which has a probability of occurring once every 100 years, or a 1 percent chance of occurring in any given year. Areas mapped in the 100-year floodplain area are subject to inundation during a 100-year storm event. According to the FEMA flood insurance rate map (FIRM), the project site is not located within or adjacent to the 100-year or 500-year floodplain (FEMA 2008).

Water Quality

a segment of Carson Creek located approximately 0.5 mile southeast of the project site was listed under Section 303(d) as water quality impaired in 2012 for aluminum and manganese. The segment of Carson Creek that was listed as water quality impaired is approximately 12 miles in length and extends from the Wastewater Treatment Plant to Deer Creek (EPA 2012). However, that segment is currently unlisted and noted as "condition unknown" (EPA 2018).

Groundwater

The project site is not located in an area mapped as a groundwater basin (DWR 2018). No active seeps or springs were identified on site; however, perched groundwater may occur near in isolated locations in the fractured rock that underlies the project site (Blackburn Consulting 2013).

Stormwater Drainage

There is existing stormwater infrastructure under Clarksville Crossing and Silva Valley Parkway, which includes gutters as well as storm drains.

3.9.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

Evaluation of potential hydrologic and water quality impacts is based on a review of existing documents and studies that address water resources in the vicinity of the project. Information obtained from these sources was reviewed and summarized to describe existing conditions and to identify potential environmental effects, based on the standards of significance presented in this section. In determining the level of significance, the analysis assumes that the project would comply with relevant federal, state, and local laws, ordinances, and regulations.

THRESHOLDS OF SIGNIFICANCE

An impact on hydrology or water quality is considered significant if implementation of the EDH 52 Commercial Center Project would do any of the following:

- violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality;
- substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;
- substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would
  - result in substantial erosion or siltation on- or off-site;
  - result in flooding on-site or off-site;
  - create or contribute runoff water that would exceed the capacity of existing or planned stormwater- drainage systems or provide substantial additional sources of polluted runoff;
  - impede or redirect flood flows
- in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation; and/or
- conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

ISSUES NOT DISCUSSED FURTHER

The project would not use groundwater for its water supply needs. The applicant has proposed that potable water be supplied to the project site by El Dorado Irrigation District (EID). EID's existing water supplies include surface water and recycled water; EID does not use groundwater. Although project construction would result in new impervious surfaces, bioretention areas and underground water quality vaults would be included in the project design to treat stormwater runoff. The project is not anticipated to significantly affect groundwater quality because this proposed stormwater infrastructure would sufficiently detain and infiltrate stormwater runoff and prevent long-term water quality degradation. Therefore, project construction and operation would have no impact on groundwater resources and these issues are not discussed further in this Draft EIR.

According to the FEMA flood insurance rate map (FIRM), the project site is not located within or adjacent to the 100-year or 500-year floodplain (FEMA 2008). Therefore, project implementation would not place buildings and structures in a 100-year flood hazard area that would redirect flood flows. Furthermore, the project would not expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam. Thus, the project would have no impact to exposure to flood hazards and these issues are not discussed further in this Draft EIR.

Because the Pacific Ocean is more than 80 miles west of the project site, there is no risk of tsunami on site. Folsom Lake is the nearest large lake and is about 4 miles from the project site. It is also about 270 feet lower in elevation. Therefore, there is no risk of seiche on the project site.

The project site is near a tributary to Carson Creek, which is a tributary to Deer Creek. Deer Creek has beneficial uses outlined in the Basin Plan for the CVRWQCB. However, stormwater would be controlled and treated in the stormwater system on site, so that it would not adversely affect beneficial uses in Deer Creek. Therefore, the project would not conflict with or obstruct implementation of a water quality control plan. There is no sustainable groundwater management plan in the project area; therefore, the project would not conflict with or obstruct implementation of a sustainable groundwater management plan.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.9-1: Short-Term Construction-Related Water Quality Degradation

Project construction activities would involve extensive grading, movement of soil, and blasting, which could result in erosion and sedimentation, and discharge of other nonpoint source pollutants in onsite stormwater that could then drain to offsite areas and degrade local water quality. To avoid or minimize the potential for adverse construction-related effects on water quality, the project would be required to comply with Central Valley RWQCB and County regulations that protect water quality and minimize erosion. The applicant would also be required to prepare and implement a SWPPP for compliance with the NPDES General Construction Permit. With adherence to existing requirements, impacts related to water quality degradation as a result of soil erosion would be **less than significant**.

Construction activities would create the potential for soil erosion and sedimentation of stormwater drainage systems, both within and downstream of the project site. Project construction would involve extensive ground-disturbing activities over approximately 43.3 acres, including grading, trenching, blasting, and facility construction activities. The increase in exposed surfaces and the earth-moving activities would result in an increased potential for erosion and sedimentation, particularly during the rainy season.

The construction process may also result in accidental release of other pollutants to surface waters, including oil and gas, chemical substances used during construction, waste concrete, and wash water. Many construction-related wastes have the potential to degrade existing water quality by altering the dissolved-oxygen content, temperature, pH, suspended-sediment and turbidity levels, or nutrient content, or by causing toxic effects in the aquatic environment. Proposed construction activities, if not properly implemented, could violate water quality standards or cause direct harm to aquatic organisms.

Because the project site has some steep slopes and the soils onsite are susceptible to erosion, project implementation could cause localized erosion hazards (see Section 3.6, "Geology and Soils"). Intense rainfall and associated stormwater runoff could result in short periods of sheet erosion within areas of exposed or stockpiled soils. If uncontrolled, these soil materials could contribute to sedimentation and blockage of offsite waterways. Further, the compaction of soils by heavy equipment may reduce the infiltration capacity of soils and increase the potential for runoff and erosion. Stormwater runoff could also wash construction materials into receiving waterbodies and negatively impact water quality. Non-stormwater discharges could result from activities such as discharge or accidental spills of hazardous substances such as fuels, oils, concrete, paints, solvents, cleaners, or other construction materials.

Construction activities would be required to comply with State and County regulations pertaining to the control of onsite stormwater, including requirements of the Central Valley RWQCB. Additionally, compliance with the NPDES General Construction Permit would be required because grading would be conducted across the 43.3-acre site. Applicants for coverage under the General Construction Permit must submit a notice of intent to the SWRCB and to prepare a SWPPP, which identifies BMPs that will be implemented to reduce construction effects on receiving water quality by protecting water quality from polluted stormwater runoff. These BMPs may include:

- Erosion control blankets/mats, geotextiles, plastic covers: These erosion control methods would be used on flat or sloped surfaces to keep soil in place and can be used to cover disturbed soil to prevent runoff.
- Hydraulic, straw, and wood mulch: The use of these various mulches temporarily stabilizes soil on surfaces with little or no slope.
- Scheduling and planning: Appropriate scheduling and planning provide ways to minimize disturbed areas, which reduces the amount of activity in the area that requires protection and minimizes the duration of exposure of disturbed soils to erosion.
- Stabilized construction entrance/exit: A graveled area or pad located at points where vehicles enter and leave a construction site can be built. This BMP provides a buffer area where vehicles can drop their mud and sediment to avoid transporting it onto public roads, to control erosion from surface runoff and to help control dust.
- Storm drain inlet protection: Protection consists of devices and procedures that detain or filter sediment from runoff, thereby preventing them from reaching drainage systems that would be used post-construction, as well as surface waters.

In addition to preparing a SWPPP, the project applicant would comply with the SWMP, Construction General Permit, Grading, Erosion and Sediment Control and Stormwater Quality Ordinances, Design and Improvement Standards Manual, and Drainage Manual.

North Site

As discussed above, construction of the North Site and associated offsite infrastructure improvements (natural gas pipeline) could result in erosion and sedimentation, and discharge of other nonpoint source pollutants in onsite stormwater that could then drain to offsite areas and degrade local water quality Implementation of the SWPPP would reduce construction-related water quality impacts by requiring the project applicant to incorporate appropriate BMPs into the design of the development to prevent water quality degradation. The plan would be designed to prevent increased discharge of sediment at all stages of construction, from initial ground disturbance to project completion. Adequate surface drainage control would be designed by the project civil engineer in accordance with the latest applicable edition of the California Building Code. All slopes would have appropriate drainage and vegetation measures to minimize erosion of soils. In addition, the project would fully comply with El Dorado County's SWMP, Grading, Erosion and Sediment Control and Stormwater Quality Ordinances, Design and Improvement Standards Manual, and Drainage Manual. Contract provisions would also require compliance with County requirements. With adherence to existing requirements, impacts related to water quality degradation as a result of soil erosion would be **less than significant**.

South Site

As discussed above, construction of the South Site and offsite infrastructure improvements (natural gas pipeline and sewer pipeline connection west of Clarksville Crossing) could result in erosion and sedimentation, and discharge of other nonpoint source pollutants in onsite stormwater that could then drain to offsite areas and degrade local water quality Implementation of the SWPPP would reduce construction-related water quality impacts by requiring the project applicant to incorporate appropriate BMPs into the design of the development to prevent water quality degradation. The plan would be designed to prevent increased discharge of sediment at all stages of construction, from initial ground disturbance to project completion. Adequate surface drainage control would be designed by the project civil engineer in accordance with the latest applicable edition of the California Building Code. All slopes would have appropriate drainage and vegetation measures to minimize erosion of soils. In addition, the project would fully comply with El Dorado County's SWMP, Grading, Erosion and Sediment Control and Stormwater Quality Ordinances, Design and Improvement Standards Manual, and Drainage Manual. Contract provisions would also require compliance with County requirements. With adherence to existing requirements, impacts related to water quality degradation as a result of soil erosion would be **less than significant**.

Mitigation Measures

No mitigation is required.

Impact 3.9-2: Increase in Surface Water Runoff Potentially Exceeding the Capacity of Existing Stormwater Drainage Systems

The proposed development would add additional impervious surfaces at the project site as well as fill drainages, which would increase surface runoff on an ongoing basis. This increase could result in an increase in both the total volume and the peak discharge rate of stormwater runoff, and could result in exceeding the capacity of onsite stormwater systems and greater potential for on- and offsite flooding. However, project proposed drainage improvements would attenuate peak drainage flows to predevelopment conditions. Therefore, this impact would be **less than significant**.

The development would cover the majority of the 43.4-acre project site with impervious areas such as buildings, parking lots, and walkways. The project would also fill the existing drainages on site. Therefore, the project would substantially increase the amount of impervious surface on-site and change the on-site drainage. To accommodate the increase, the project would include storm drain improvements with on-site drainage facilities, manholes and drain lines designed to collect and convey stormwater to existing stormwater infrastructure in Silva Valley Parkway and Clarksville Crossing. North Site

Modeling of the proposed development and stormwater infrastructure (consisting of 12 bioretention basins) indicates that the proposed infrastructure is adequate to convey a 10-year, 24-hour storm. Additionally, the drainage study prepared for the project notes that the project site is at the lower end of the watershed so that the peak flow from the project area would enter the watercourse and pass under U.S. 50 at least 15 minutes before the main stem peak flow arrives. As a result, there is only a minimal possibility that the proposed project would increase the main stem peak flow (Watermark Engineering 2021). Thus, this impact would be **less than significant**.

South Site

Modeling of the proposed development and stormwater infrastructure (consisting of six bioretention basins) indicates that the proposed infrastructure is adequate to convey a 10-year, 24-hour storm. Additionally, the drainage study prepared for the project notes that the project site is at the lower end of the watershed so that the peak flow from the project area would enter the watercourse and pass under U.S. 50 at least 15 minutes before the main stem peak flow arrives. As a result, there is only a minimal possibility that the proposed project would increase the main stem peak flow (Watermark Engineering 2021). Thus, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required.

Impact 3.9-3: Long-Term Water Quality Degradation

The conversion of undeveloped land to developed uses would alter the types, quantities, and timing of contaminant discharges in stormwater runoff. Overall, the project could cause or contribute to long-term discharges of urban contaminants (e.g., oil and grease, trace metals and organics, trash) into the stormwater drainage system compared with existing conditions. The project's drainage improvements include water quality control features consistent with County standards to address stormwater quality. This impact would be **less than significant**.

The proposed development would alter land uses at the project site, which could increase the level of urban contaminants discharged into the stormwater drainage system if the system is not properly designed. Anticipated pollutants associated with the project include trash, debris, heavy metals, and hydrocarbons from roads and parking lots. Potential pollutants could also include pesticides from potential pest control activities, nutrients, fertilizers, and oxygen-demanding substances from landscaped areas.

North Site

Project on-site storm drainage improvements would include LID features, underground stormwater detention piping, and aboveground basins (12 bioretention basins) to detain runoff such that pre-development flow volumes are maintained consistent with County water quality requirements identified in Section 3.9.2, "Regulatory Setting." See Figure 2-8 in Chapter 2, "Project Description," for the preliminary landscape plan showing the water quality basins and Figure 2-14 for the preliminary utility plan. These water quality controls have been identified effective in protecting water quality in the California Storm Water Quality Association Industrial and Commercial and New and Redevelopment BMP Handbook. Thus, this impact would be **less than significant**.

South Site

Project on-site storm drainage improvements would include LID features, underground stormwater detention piping, and aboveground basins (six 12 bioretention basins) to detain runoff such that pre-development flow volumes are maintained consistent with County water quality requirements identified in Section 3.9.2, "Regulatory Setting." See Figure 2-18 in Chapter 2, "Project Description," for the South Site preliminary landscape plan and Figure 2-22 for the preliminary utility plan. These water quality controls have been identified effective in protecting water quality in the California Storm Water Quality Association Industrial and Commercial and New and Redevelopment BMP Handbook. Thus, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required.

3.14 UTILITIES AND SERVICE SYSTEMS

This section evaluates the availability of existing utility and infrastructure systems (water, wastewater, stormwater, electricity and natural gas, and solid waste) to serve the EDH 52 Commercial Center Project and the impact of the project on these systems. The analysis is based on documents prepared by the El Dorado Irrigation District (EID) and California's Department of Resources Recycling and Recovery (Cal Recycle).

3.14.1 Regulatory Setting

Federal

Safe Drinking Water Act

As mandated by the Safe Drinking Water Act (SDWA) (Public Law 93-523), passed in 1974, the United States Environmental Protection Agency (EPA) regulates contaminants of concern to domestic water supply. Such contaminants are defined as those that pose a public health threat or that alter the aesthetic acceptability of the water. These types of contaminants are regulated by EPA primary and secondary Maximum Contaminant Levels (MCLs). MCLs and the process for setting these standards are reviewed every three years. Amendments to the Safe Drinking Water Act enacted in 1986 established an accelerated schedule for setting drinking water MCLs. EPA has delegated responsibility for California's drinking water program to the State Water Resources Control Board Division of Drinking Water (SWRCB-DDW). SWRCB-DDW is accountable to EPA for program implementation and for adoption of standards and regulations that are at least as stringent as those developed by EPA.

State

Urban Water Management Plan

In 1983, the California Legislature enacted the Urban Water Management Planning Act (UWMPA) (California Water Code Sections 10610–10656). The UWMPA states that every urban water supplier that provides water to 3,000 or more customers, or that provides more than 3,000 acre-feet (af) of water annually, should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry years. This effort includes the adoption of an Urban Water Management Plan (UWMP) by every urban-water supplier and an update of the plan every 5 years on or before December 31, of every year ending in a five or zero. The UWMPA has been amended several times since 1983 with the most recent amendment occurring with Senate Bill (SB) 318 in 2004. El Dorado Irrigation District (EID) adopted the *2020 Urban Water Management Plan* was adopted on June 28, 2021. .

California Safe Drinking Water Act

The California Safe Drinking Water Act (CA SDWA) was passed in 1976 to build on and strengthen the federal SDWA. The CA SDWA protects the public from contaminants in drinking water by establishing maximum contaminant levels (MCLs) that are at least as stringent as those developed by EPA, as required by the federal SDWA.

The SWRCB-DDW is responsible for implementing the federal SDWA and its updates, as well as California statutes and regulations related to drinking water. State primary and secondary drinking-water standards are promulgated in California Code of Regulations (CCR) Title 22, Sections 64431–64501.

California Green Building Standards Code

The Green Building Standards Code, which was first adopted in 2010 and revised in 2013, applies to all newly-constructed structures. Indoor water standards established in the code are satisfied through incorporation of appliances and fixtures such as high-efficiency toilets, faucet aerators, and on-demand water heaters, as well as Energy Star and appliances approved by the California Energy Commission.

California Waste Management Act

The California Waste Management Act of 1989 requires State, County, and local governments to substantially decrease the volume of waste disposed at landfills by the year 2000 and beyond. The act requires each County to submit an Integrated Waste Management Plan to the California Integrated Waste Management Board that includes an adopted Source Reduction and Recycling Element from each of its cities as well as a County-prepared Source Reeducation and Recycling Element for the unincorporated area. The element identifies existing and future quantities and types of solid waste, an inventory of existing disposal sites, a determination of the plan's economic feasibility, enforcement programs, and implementation schedule.

SB 1383 and AB 1826 have established additional waste reductions for organic waste. SB 1383 was placed in code and requires 50-percent reduction in organic waste levels from 2014 levels by 2020 and 75-percent reduction by 2025. AB 1826 requires business recycling of organic waste.

Local

El Dorado Local Agency Formation Commission

El Dorado Local Agency Formation Commission (LAFCo) approval is required for annexation of the project site into the El Dorado Irrigation District (EID) and the El Dorado Hills County Water District (El Dorado Hills Fire Department). LAFCo requires that applicants and service providers document their ability to provide service to areas proposed for annexations. When considering applications for annexation to a special district, LAFCo evaluates the following items:

- 6.2.1 The annexation must provide for the most efficient delivery of services. The most efficient services are those provided at the lowest cost and highest service level. In the case of similar providers with the same level of service, the one that delivers the same service at the lowest cost will be considered to be most efficient.
- 6.2.2 The annexation shall be modified, conditioned or disapproved if it permits the more efficient delivery of one or more services to the detriment of other services.
- 6.2.3 The annexing agency must demonstrate that no parcel located within district boundaries will be deprived of its right to receive services if the annexation is approved (§56668).
- 6.2.4 The annexing agency must demonstrate that levels of service for existing and potential customers within its service boundaries will not be lowered, or costs of service increased, if the annexation is approved (§56668). If any adverse impacts may occur, the applicant or annexing agency must provide, for LAFCO consideration, a written justification for project approval despite the negative impacts. (El Dorado LAFCO 2021:6-3)

El Dorado Irrigation District

El Dorado Irrigation District (EID) is a public agency dedicated to providing high quality water, wastewater treatment, recycled water, hydropower, and recreation services. Strategic goals associated with EID include:

- maintain continuous, dependable water service and a clean, healthy water supply;
- provide quality wastewater collection, treatment and disposal service;
- provide recycled water in geographic locations where feasible;
- generate hydro-electric power, when appropriate, and according to the Federal Energy Regulatory Commission requirements;
- ensure opportunities for quality recreation; and
- ensure District operations consistently meet all appropriate environmental and other regulations.

EID policies relevant to the project include the following:

- **AR 5010.1 Annual reporting:** The District will maintain adequate water supply and demand records to ensure accurate monitoring and reporting. The General Manager will ensure that an updated Water Resources and Service Reliability Report is prepared annually for review by the Board of Directors. The report will include the current

system firm yield of the overall District, along with the water supply and infrastructure capacity, potential demands, existing commitments, and meter availability for each water service area of the District as defined in the report.

- **AR 5010.2 Shortages:** The Water Resources and Service Reliability Report will use a system firm yield method to determine that sufficient water supply exists to meet potential demands. Under this methodology, approximately 95 percent of the time sufficient water supply is available to meet normal water demands, but during the remaining 5 percent of the time water shortages may occur. Such shortages may result in the implementation of voluntary or mandatory conservation measures.
- **AR 5010.3 New meter restrictions:** Should findings in the Water Resources and Service Reliability Report warrant restrictions on the issuance of new water meters, the General Manager will bring the situation to the attention of the Board of Directors. During emergency conditions when supplies are restricted or limited, the General Manager may also bring to the Board's attention possible restrictions on water meter availability.
- **BP 6010 Wastewater System Management:** The District will maintain a wastewater collection, treatment, and disposal system that complies with applicable state and federal wastewater discharge requirements and regulations.
- **AR 6020 Wastewater Discharge and Disposal:** Where sufficient capacity exists in mainline and collection sewers, the District will make service available subject to applicable connection procedures and fees. Connection to the District's sewer shall not cause objectionable odors or significant corrosive conditions such as those associated with effluent-only systems or pumped services.
- **AR 9028.6 Letters issued by the District:** The District will issue a Facility Improvement Letter (FIL) for water, wastewater, and/or recycled water services to applicants requesting service to existing parcels, lands being subdivided, and lands being rezoned or involving petition for amendment to the County or City general plans. The FIL will be valid for three years from the date of issuance. This document will state the current availability of service and the ability of the District's existing system to provide the requested service. The District may require the submittal of a Facility Plan Report for approval if deemed necessary because of project size or complexity. An extension of up to one year for the FIL may be granted upon request and submittal of the appropriate application and fee.

El Dorado County General Plan

Policies included in the El Dorado County General Plan relevant to the project are identified below.

- **Policy 5.1.2.3:** New development shall be required to pay its proportionate share of the costs of infrastructure improvements required to serve the project to the extent permitted by State law. Lack of available public or private services or adequate infrastructure to serve the project which cannot be satisfactorily mitigated shall be grounds for denial of any project or cause for the reduction of size, density, and/or intensity otherwise indicated on the general plan land use map to the extent allowed by State law.
- **Policy 5.2.1.2:** An adequate quantity and quality of water for all uses, including fire protection, shall be provided for with discretionary development.
- **Policy 5.2.1.3:** All medium-density residential, high-density residential, multifamily residential, commercial, industrial and research and development projects shall be required to connect to public water systems when located within Community Regions and to either a public water system or to an approved private water systems in Rural Centers.
- **Policy 5.2.1.4:** Rezoning and subdivision approvals in Community Regions or other areas dependent on public water supply shall be subject to the availability of a permanent and reliable water supply.
- **Policy 5.2.1.6:** Priority shall be given to discretionary developments that are infill or where there is an efficient expansion of the water supply delivery system.
- **Policy 5.2.1.7:** In times of declared water shortages, the Board of Supervisors shall give priority within the affected water district to approving affordable housing and non-residential development projects.

- **Policy 5.2.1.9:** In an area served by a public water purveyor or an approved private water system, the applicant for a tentative map or for a building permit on a parcel that has not previously complied with this requirement must provide a WSA that contains the information that would be required if a water supply assessment were prepared pursuant to Water Code section 10910. In order to approve the tentative map or building permit for which the assessment was prepared the County must (a) find that by the time the first grading or building permit is issued in connection with the approval, the water supply from existing water supply facilities will be adequate to meet the highest projected demand associated with the approval on the lands in question; and (b) require that before the first grading permit or building permit is issued in connection with the approval, the applicant will have received a sufficient water meters or a comparable supply guarantee to provide adequate water supply to meet the projected demand associated with the entire approval. A water supply is adequate if the total entitled water supplies available during normal, single, dry, and multiple dry years within a 20-year projection will meet the highest projected demand associated with the approval, in addition to existing and 20-year projected future uses within the area served by the water supplier, including but not limited to, fire protection, agricultural, and industrial uses, 95 percent of the time, with cutbacks calculated not to exceed 20 percent in the remaining 5 percent of the time.
- **Policy 5.2.1.11:** The County shall direct new development to areas where public water service already exists. In Community Regions, all new development shall connect to a public water system. In Rural Centers, all new development shall connect either to a public water system or to an approved private water system.
- **Policy 5.3.1.1:** High-density and multifamily residential, commercial, and industrial projects shall be required to connect to public wastewater collection facilities as a condition of approval except in Rural Centers and areas designated as Platted Lands (-PL). In the Community Region of Camino/Pollock Pines, the long term development of public sewer service shall be encouraged; however, development projects will not be required to connect to wastewater collection facilities where such connection is infeasible, based on the scale of the project. (Res. No. 298-98; 12/8/98)
- **Policy 5.3.1.7:** In Community Regions, all new development shall connect to public wastewater treatment facilities. In Community Regions where public wastewater collection facilities do not exist project applicants must demonstrate that the proposed wastewater disposal system can accommodate the highest possible demand of the project.
- **Policy 5.5.2.1:** Concurrent with the approval of new development, evidence will be required that capacity exists within the solid waste system for the processing, recycling, transformation, and disposal of solid waste.
- **Policy 5.5.2.3:** The County shall adopt a Construction and Demolition Debris Diversion Ordinance requiring that a minimum of 50 percent of the debris from construction and demolition projects be reused or recycled. The County shall encourage a higher rate of diversion.

El Dorado County Construction and Demolition Debris Recycling Ordinance

The El Dorado County Construction and Demolition Debris Recycling Ordinance establishes a program for the recycling and salvage of construction and demolition debris. The ordinance requires at least 50 percent of the debris from construction and demolition project with structure footprints exceeding 5,000 square feet to be diverted from landfills through recycling practices. Before the issuance of a permit, the project applicant must file a Debris Recycling Acknowledgment (DRA) with the County's Environmental Management Division. A Debris Recycling Report (demonstrating compliance with the 50 percent diversion goal) must be filed within 60 days after final and/or occupancy approval. If the in two years of the date the DRA was filed, the project applicant would be required to submit a Performance Securities with subsequent DRAs.

3.14.2 Environmental Setting

WATER

The El Dorado Irrigation District (EID) is an irrigation special district, organized and existing under the California Irrigation District Law (Water Code Section 20500, et seq.) and authorizing statutes (Water Code Section 22975, et seq.). EID serves nearly 110,000 residents in El Dorado County. EID is a public water agency that provides potable and recycled water directly to retail customers and the City of Placerville throughout the approximately 220 square mile service area boundary.

EID serves a combination of municipal and agricultural customers throughout the County in 16 unique service zones. While the population of nearly 130,000 residential customers are the primary water users, the number of connections, ratio of different user classifications, and water use characteristics vary across each service zone. EID serves these customers from an array of surface water supplies, diversion points, treatment plants, and water infrastructure.

Water Supply Plans

As discussed above, EID serves nearly 130,000 residents in El Dorado County. EID's existing sources of water include surface water and recycled water. The potable water system has three principal points of diversion that deliver raw water to the system: 1) EID-owned-and-operated Sly Park Dam and Jenkinson Lake; 2) EID-owned-and-operated El Dorado Hydroelectric Federal Energy Regulatory Commission Project 184 at Forebay Reservoir; and 3) Folsom Reservoir via two US Bureau of Reclamation water service contracts. Raw water diverted at these locations is treated at the Reservoir A Water Treatment Plant (WTP), Reservoir 1 WTP, and El Dorado Hills WTP, respectively.

EID's 2020 UWMP was prepared in accordance with the State's UWMPA. The 2020 UWMP provides the following information: water services and systems, water supply, water use, existing and forecasted customer uses, water system reliability, and water shortage contingency planning (EID 2021).

The available supply in the El Dorado Hills supply area is currently restricted by infrastructure, which includes the capacity of the El Dorado Hills WTP and other conveyance facilities. Water allocations associated with supply areas are limited to their physical boundaries. As a result, consideration of water supply associated with the project is relevant only to the El Dorado Hills supply area. The most recent Water Supply and Demand Report (2019) provides data, shown in Table 3.14-1.

Table 3.14-1 El Dorado Hills Supply Area – 2019 Water Meter Availability

Water Supply	23,775 acre feet
Total Potential Demand	11,734 acre feet
Unallocated Water Supply	12,041 acre feet
Water Meter Availability	20,068 equivalent dwelling units

Source: EID 2019:ES-2.

From a water use characteristics and infrastructure perspective, EID has been divided into three water service regions:

- El Dorado Hills Region – includes Service Zones 1, 2 and 4 which represent the communities of Bass Lake, El Dorado Hills and Cameron Park.
- Western Region – includes Service Zones 3, 5, 6, and 7 which represent the communities of Lotus/Coloma, Shingle Springs, Logtown, and Diamond Springs/El Dorado.
- Eastern Region – includes Service Zones 9, 10, 11, 12, 13, 18, and 28 which represent the communities of Swansboro, Camino, Pleasant Valley, Sly Park, Pollock Pines, and Placerville, but also includes the two small independent systems for Service Zones 14 and 15, which represent the communities of Outingdale and Strawberry, respectively.

The project site is located within the El Dorado Hills Region, Service Zone 2.

Growth in the El Dorado Hills region was recently projected to build-out conditions in conjunction with EID's activities to extend provision related to its Water Right Permit 21112. The effort developed growth projections using two categories:

- Facility Improvement Letters (FILs) – this designation reflects all development projects known to EID at a particular point in time that have formally submitted an initial request for service to EID. A full list of current FILs is available from EID.
- Future Beyond FILs – this designation reflects additional development beyond the current FILs on existing parcels within Zone 1, 2 and 4 that are greater than 10 acres and are not otherwise designated for any other use.

The analysis projected total Equivalent Dwelling Units (EDU) expected within the EDH region, where the EDU value represents the number of residential "dwelling units" that each project would reflect regardless of whether the project includes residential or non-residential land uses. One EDU is the quantity of water an average single-family residential customer uses, based on standards adopted by the American Water Works Association (AWWA) and is approximately 0.70 acre feet of water demand. Each residential home is assigned one EDU. Commercial customers are assigned EDUs based on their expected water demand, relative to an average single-family residential customer. The analysis determined over 25,000 EDUs could ultimately occur at build-out within this demand region – about 45 percent represented in the existing FILs and the remainder projected as part of the "Beyond FILs." This EDU projection was compared to projected housing demand expected by 2040 to estimate the potential growth rate and determine if build-out would occur beyond the 2020 UWMP's planning horizon of 2045.

The 2020 UWMP indicates that the project site has been accounted for within its expected growth area for Water Rights Permit 2112, because a FIL has been reviewed for the project site (EID 2021: Figure 2-7).

EID Facility Improvement Letter

On March 30, 2022, EID provided a Facility Improvement Letter (FIL) to the applicant in response to a request for water, sewer, private fire service, and fire hydrant services for the project. The FIL does not represent a commitment to serve, but rather addresses the location and approximate capacity of existing facilities that may be available to serve the project. EID expresses existing and available wastewater and water supply service levels in terms of equivalent dwelling units (EDUs). Pertinent discussions related to water supply, provided in the FIL, are summarized as follows (Brink, pers. comm., 2022).

- The project site is not located within the EID service district boundary and would require annexation before service could be obtained.
- As of January 1, 2021, there were approximately 18,968 EDUs of water supply were available in the El Dorado Hills Water Supply Region. The project would require approximately 50 EDUs of water supply. An 18-inch water pipeline is located along the western edge of the project site. The El Dorado Hills Fire Department has determined that the minimum fire flow for this project ranges from 1,500 gallons per minute (gmp) up to 3,000 gpm for a 3-hour duration while maintaining a 20-pounds per square inch (psi) residual pressure. According to EID's hydraulic model, the existing system can deliver the required fire flow; however, the applicant must construct a looped water pipeline extension connecting to the 18-inch water pipeline located along the western edge of the project site.

Water Treatment Facilities

The project is located within Zone 2, which would be served water under Permit 2112 (Project 184 Warren Act Contract). EID acquired Federal Energy Regulatory Commission (FERC) Project 184 from Pacific Gas and Electric (PG&E) in 1999. Project 184 includes Silver Lake, Lake Aloha, Echo Lake, Caples Lake and associated dams, 22 miles of canals, flumes and tunnels, a 21-megawatt powerhouse, and other ancillary facilities. The El Dorado Hills region obtains its primary supplies under rights and entitlements from Folsom Reservoir. This water is delivered to the El Dorado Hills water treatment plant and currently serves El Dorado Hills Zone 2. EID also has a separate recycled water system in the El Dorado Hills system, which delivers treated wastewater from the El Dorado Hills Wastewater Treatment Plant (EDHWWTP) and the Deer Creek Wastewater Treatment Plant (DCWWTP) for residential and

commercial landscape irrigation. Water supplies conveyed from Folsom Reservoir and the EDHWTP are currently limited to use in the El Dorado Hills system to avoid the costs of pumping to higher elevations.

Water Distribution System and Facilities

The EID water conveyance system is a combination of pipelines, regulating reservoirs, diurnal storage tanks, and a few gold-rush-era ditches. The piped potable system consists of 1,245 miles of pipelines, 50 miles of canals and ditches, 5 treatment plants, 38 potable water storage reservoirs/ tanks, 42 pump stations (EID 2022a).

In addition to a potable water system, EID operates a recycled water system. EID's two treatment plants produce more than 900 million gallons of recycled water each year for landscape irrigation. The recycled water is delivered to over 5,000 residential customers and almost 100 businesses in the El Dorado Hills community (EID 2022b).

WASTEWATER

Wastewater Collection and Treatment Systems

EID provides wastewater collection and treatment services to the project area. EID has the following four permitted wastewater collection systems: El Dorado Hills, Deer Creek, Camino Heights, and Gold Ridge Forest. The project would be served by the El Dorado Hills Collection System, which consists of a series of lift stations, force mains, and gravity mains that convey wastewater to the El Dorado Hills Wastewater Treatment Plant (EDHWWTP).

The EDHWWTP is located approximately 1.25 miles south of Highway 50 on Latrobe Road in the El Dorado Hills business park area. Liquid treatment processes located within the EDHWWTP consist of headworks, screening and grit removal, primary clarifiers, biological nutrient removal basins, activated sludge basins with nitrification, secondary clarifiers, tertiary filters, and ultraviolet light disinfection. Solids handling processes consist of waste activated sludge, dissolved air flotation thickeners, anaerobic digesters, and belt filter presses. Dewatered biosolids are hauled offsite for use in biosolids land application (El Dorado LAFCO 2020).

The EDHWWTP has a rated average dry weather flow capacity of 4 million gallons per day (mgd). Treated effluent is either recycled or discharged into Carson Creek, a tributary to the Cosumnes River, during the wet season. The EDHWWTP typically discharges to Carson Creek between November and April, and recycles all of the treated effluent for beneficial reuse between May and October. At times, there is intermittent discharge to Carson Creek during periods when the EHDWWTP is recycling the treated effluent for beneficial reuse. The existing average dry weather flow at EDHWWTP is 1.80 mgd (El Dorado LAFCO 2020).

EID Facility Improvement Letter

As described above for water supply, EID's March 30, 2022 FIL does not represent a commitment to provide wastewater service but addresses the location and approximate capacity of existing facilities that may be available to serve the project. Pertinent discussions related to wastewater treatment capacity, provided in the FIL, are summarized as follows (Brink, pers. comm., 2022).

Sewer Facilities

According to the FIL, the project would require approximately 42 EDUs of sewer service. Existing gravity sewer pipelines are located at the western edge of the project site. While the sewer line currently has adequate capacity, an extension of facilities of adequate size must be constructed for the project to receive services from the line. Currently, the existing sewer pipeline is under evaluation for potential upsizing, per EID's Wastewater Facilities Master Plan.

ELECTRICITY AND NATURAL GAS

The Pacific Gas and Electric Company (PG&E) provides electricity and natural gas service to the El Dorado Hills community. PG&E Company charges connection and user fees for all new development, in addition to sliding rates for electrical and natural gas service based on use. The project would connect to existing electrical transmission

facilities along Clarksville Crossing. Natural gas is to the project site by an extension of an existing natural gas pipeline located approximately 1,900 feet north of the project site along the eastern edge of Silva Valley Parkway.

SOLID WASTE

The project site is located within the El Dorado Hills Community Services District (EDHCSD) boundary. EDHCSD contracts with El Dorado Disposal Service, a Waste Connections Company, for franchised solid waste collection, disposal, and recycling services. El Dorado Disposal Service transports waste to the Western El Dorado Recovery Systems (WERS) Transfer Station and Material Recovery Facility, which handles mixed municipal waste and has a maximum permitted throughput of 400 tons per day. Transferred materials is be disposed either at Kiefer Landfill, Forward Landfill, Potrero Hills Landfill, or another Class III permitted landfill (see Table 3.14-1 for information related to these landfills) (CalRecycle 2022).

Table 3.14-2 Disposal Facilities and Remaining Capacities

Facility	Total Estimated Permitted Capacity (in cubic yards)	Remaining Estimated Capacity Cubic Yards	Remaining Estimated Capacity Percentage	Estimated Closure Year
Sacramento County Landfill (Kiefer) (34-AA-0001)	117,400,000	112,900,000	96.2%	2064
Forward Landfill, Inc. (39-AA-0015)	59,160,000	24,720,669	43.2%	2036
Potrero Hills Landfill (48-AA-0075)	83,100,000	13,872,000	16.7%	2048

Source: CalRecycle 2022.

3.14.3 Environmental Impacts and Mitigation Measures

ANALYSIS METHODOLOGY

As required by EID, water and sewer service is determined through the allocation of EDUs. The potential for EDU availability for the project site was provided in the FIL, submitted to the project applicant in March 2022. Solid waste generation rates from CalRecycle's Targeted Statewide Waste Characterization Study, which included a waste generation rate of 21 pounds/employee/day (lbs/employee/day) for big box retail facilities and 10 lbs/employee/day for other types of retail, is used to calculate the projected solid waste that would be generated by the project (CalRecycle 2006).

THRESHOLDS OF SIGNIFICANCE

A utilities and service systems impact is considered significant if implementation of the EDH 52 Commercial Center Project would do any of the following:

- require or result in the relocation or construction of new or expanded water, or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects
- have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years
- result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments
- generate solid waste in excess of State or local standards or in excess of the capacity of local infrastructure
- negatively impact the provision of solid waste services or impair the attainment of solid waste reduction goals; and/or

- comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.14-1: Expansion of Infrastructure That Could Cause Adverse Environmental Effects

Infrastructure associated with the water, wastewater, stormwater, electricity, and natural gas services for the project would be into the project site as part of site development. Connections to existing infrastructure would be expected to occur primarily within new paved areas and disturbed areas along and near the project's frontage with Silva Valley Parkway and Clarksville Crossing. This impact would be **significant**.

Commented [PA1]: County - this impact conclusion and associated mitigation may change depending on the Air Quality construction impact analysis

The following describes the extent of infrastructure extent improvements for the North Site and South Site. All connections would be made in accordance with the County's, EID's, and PG&E's requirements. These requirements may include, but are not limited to, approval of engineered improvement plans, extension of facilities applications and fees, payment of applicable connection feeds, and service agreement approvals.

North Site

Figure 2-14 in Chapter 2, "Project Description," shows the preliminary utility plan for the North Site. Water would be provided to the North Site through a 12-inch pipeline that would connect to the existing 18-inch water pipeline within Silva Valley Parkway. This 12-inch pipeline would connect north of the northern driveway access and would traverse the site until it splits such that one branch would serve the storage facility and the other would follow the main driveway and cross Silva Valley Parkway where it would serve the South Site. An eight-inch sewer pipeline would connect with South Site sewer infrastructure near the North Site's main driveway at Silva Valley Parkway. Stormwater pipelines varying in size from 12 inches to 36 inches would be installed throughout the North Site that interconnect with 12 onsite bioretention basin, with connections to the South Site. Electrical and natural gas service would be provided by PG&E would be extended from existing facilities along Clarksville Crossing (electrical) and extension of a natural gas pipeline approximately 1,900 feet north of the site along eastern side of Silva Valley Parkway. These areas of infrastructure extension consist of pavement, disturbed shoulders of the roadways, and grassland/riparian areas. The environmental effects of the construction of these offsite connections are considered in each technical analysis of this EIR (see Sections 3.2, "Air Quality," 3.3, "Archaeological, Historical, and Tribal Cultural Resources," 3.4, "Biological Resources," and 3.9, "Hydrology and Water Quality") and would be subject to applicable mitigation measures to mitigate impacts. No significant offsite improvements that would involve significant environmental impacts beyond what is addressed in this EIR would occur. This impact would be **significant**.

South Site

Figure 2-22 in Chapter 2, "Project Description," shows the preliminary utility plan for the South Site. Water would be provided to the site via 10-inch pipelines connecting to existing water pipeline within Silva Valley Parkway as well as a 6-inch and 10-inch water pipeline connection to the existing water pipeline in Clarksville Crossing. An eight-inch sewer pipeline would connect to North Site sewer infrastructure within Silva Valley Parkway and would serve the South Site via six-inch and eight-inch pipelines. This onsite sewer system would connect an existing sewer pipeline along the west side of Clarksville Crossing. Stormwater pipelines varying in size from 12 inches to 36 inches would be installed throughout the site and would convey stormwater to proposed six bioretention basins within the South Site as well as existing vaults and boxes. Electrical and natural gas service would be provided by PG&E that would be extended from existing facilities along Clarksville Crossing (electrical) and extension of a natural gas pipeline approximately 1,900 feet north of the site along eastern side of Silva Valley Parkway.. These areas of infrastructure extension consist of pavement, disturbed shoulders of the roadways, and grassland/riparian areas. The environmental effects of the construction of these offsite connections are considered in each technical analysis of this EIR (see Sections 3.2, "Air Quality," 3.3, "Archaeological, Historical, and Tribal Cultural Resources," 3.4, "Biological Resources," and 3.9, "Hydrology and Water Quality") and would be subject to applicable mitigation measures to mitigate impacts. No significant offsite improvements that would involve significant environmental impacts beyond what is addressed in this EIR would occur. This impact would be **significant**.

Mitigation Measures

Implementation of mitigation measures NEED TO ADD ANY CONSTRUCTION AIR QUALITY MITIGATION MEASURES, 3.3-1, 3.4-1, 3.4-2a through 3.4-2h, 3.4-3a, and 3.4-3b would address construction air pollutant emissions, protect discovered cultural resources, and minimize impacts to biological resources. As identified in Sections 3.2, "Air Quality," 3.3, "Archaeological, Historical, and Tribal Cultural Resources," and 3.4, "Biological Resources," implementation of these mitigation measures would reduce this impact to **less than significant**.

Impact 3.14-2: Provision of Sufficient Water Supplies

The project would require approximately 50 EDUs of water supply from EID. As stated in the FIL, sufficient water supply exists to serve buildout of the project. Fire flow would be provided to the site upon construction of a looped water line extension. Thus, because water supply and connections are currently available for the project, this impact would be **less than significant**.

North Site and South Site

Project implementation would result in development of land that is currently vacant with no existing use of municipal water. As of January 1, 2021, 18,968 EDUs (approximately 13,278 acre-feet) of water supply were available in the El Dorado Hills Water Supply Region (Brink, pers. comm. 2022). The project would require approximately 50 EDUs (approximately 35 acre-feet) of water supply, which have been requested from EID. In response to the request, as described above under Section 3.14.1, "Environmental Setting," an FIL was prepared by EID on March 30, 2022 and received by the applicant. As stated in the FIL, sufficient water supply exists to serve buildout of the project. It is important to note that water supply is not yet guaranteed by EID and the entire project site would require approval from El Dorado LAFCo for annexation into EID's service area.

The El Dorado Hills Fire Department has determined that the minimum fire flow for this project ranges from 1,500 gallons per minute (gmp) to 3,000 gpm for a 3-hour duration while maintaining a 20-pounds per square inch (psi) residual pressure. According to the EID's hydraulic model, the existing system can deliver the required fire flow; however, the applicant must construct a looped water line extension connecting to the 18-inch water line located within Silva Valley Parkway.

Thus, because water supply and connections are currently available for the project, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.14-3: Availability of Wastewater Treatment Capacity

The project site does not currently have any connection to the existing wastewater collection and conveyance infrastructure. The project would require approximately 42 EDUs of sewer service. EID provided a FIL to the applicant on, which confirmed that adequate wastewater conveyance and treatment capacity is available. Thus, this impact would be **less than significant**.

North Site and South Site

The project site is located within EID's service area, but does not currently have any connection to the existing collection and conveyance infrastructure. Sewer service to the project site was requested from EID from the project applicant. The FIL received for the project indicates that the project would require approximately 42 EDUs of sewer service. The FIL indicated that adequate wastewater treatment capacity is available. Existing gravity sewer lines are located at the western edge of the South Site. While the sewer pipeline currently has adequate capacity, an extension of facilities of adequate size must be constructed for the project to receive services from the pipeline. Currently, the existing sewer line is under evaluation for potential upsizing, per EID's Wastewater Facilities Master Plan. However,

upsizing is not part of this requirement or necessary to accommodate the project. All connections would be made in accordance with the County's and EID's requirements as well as require approval from El Dorado LAFCo for annexation into EID's service area. Thus, because adequate sewer capacity is available, and because connections would be made in accordance with County and EID requirements, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.14-4: Provision of Adequate Capacity at Solid Waste Facilities and Compliance with Regulations Related to Solid Waste

As discussed above, the project site is located within EDHCSD boundary where the El Dorado Disposal Service provides solid waste collection, disposal, and recycling services. The project would generate levels of solid waste that would not be a substantial amount of the permitted capacity and would not result in the need to expand or construct new landfill facilities. In addition, this project would adhere to all required State and County waste management ordinances and requirements. Thus, impacts on solid waste disposal facilities would be **less than significant**.

As discussed above, the project site is located within EDHCSD boundary where the El Dorado Disposal Service provides solid waste collection, disposal, and recycling services. Collected waste is transported to the WERS Transfer Station and Materials Recovery Facility, which is permitted to accept up to 400 tons per day. Transferred materials is be disposed either at Kiefer Landfill, Forward Landfill, Potrero Hills Landfill, or another Class III permitted landfill. As shown in Table 3.14-2, capacity at the listed landfills is available through 2064.

North Site

Assuming up to 100 employees, the North Site would generate approximately 1,000 pounds of waste per day (0.5 tons). This represents approximately 0.25 percent of the permitted capacity at WERS Transfer Station and Materials Recovery Facility. This relatively small increase in solid waste would not consume a substantial proportion of the permitted capacity of 400 ton per day. Transferred materials is be disposed either at Kiefer Landfill, Forward Landfill, Potrero Hills Landfill, or another Class III permitted landfill. As shown in Table 3.14-2, capacity at the listed landfills is available through 2064.

In addition, this project would adhere to all required State or County waste management ordinances and requirements, such as diversion of construction and demolition debris and hazardous waste handing requirements that ensure that use of landfill space is limited and potential for accidental spills is minimized. Thus, impacts on solid waste would be **less than significant**.

South Site

The South Site would include a Costco warehouse retail center and a tire sales and installation center. Based on a targeted statewide study prepared for Cal Recycle, waste generation rates for big box retail is 21 lbs/employee/day (Cal Recycle 2006). Assuming up to 170 employees, the Costco Center would generate 3,570 pounds of waste per day (1.8 tons per day). This represents approximately 0.5 percent of the permitted capacity at WERS Transfer Station and Materials Recovery Facility. This relatively small increase in solid waste would not consume a substantial proportion of the permitted capacity of 400 ton per day. Transferred materials is be disposed either at Kiefer Landfill, Forward Landfill, Potrero Hills Landfill, or another Class III permitted landfill. As shown in Table 3.14-2, capacity at the listed landfills is available through 2064.

In addition, this project would adhere to all required State or County waste management ordinances and requirements, such as diversion of construction and demolition debris and hazardous waste handing requirements that ensure that use of landfill space is limited and potential for accidental spills is minimized. Thus, impacts on solid waste would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

This page intentionally left blank.

1 INTRODUCTION

This draft environmental impact report (Draft EIR) evaluates the environmental impacts of the proposed EDH 52 Commercial Center Project. This Draft EIR has been prepared under the direction of El Dorado County in accordance with the requirements of the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] Section 21000 et seq.) and the State CEQA Guidelines. This chapter of the Draft EIR provides information on the following:

- project requiring environmental analysis (synopsis);
- type, purpose, and intended uses of the Draft EIR;
- scope of the Draft EIR;
- agency roles and responsibilities; and
- standard terminology.

1.1 PROJECT REQUIRING ENVIRONMENTAL ANALYSIS

The project site is split into the North Site and the South Site. The North Site is 24.83 acres and the South Site is 18.43 acres. The entire project site has a General Plan Land Use Designation of Commercial (C). The North Site is currently zoned Commercial Regional – Planned Development (CR-PD). The South Site is predominantly zoned CR-PD and also includes small parcels of Commercial Limited (CL) and Transportation Corridor (TC). Because the project site has an existing Planned Development overlay, the applicant is seeking a Planned Development Permit (PD) and Master Signage Program. Figure 2-3 shows the site plans for both the North Site and South Site. The North Site would consist of a self-storage facility and five commercial buildings that would include drive-through uses, gas station with car wash, food service, outdoor patio, and other retail and office uses. The South Site would consist of the development of a Costco warehouse retail center. The project is also anticipated to require offsite roadway improvements to address conformance with El Dorado County General Plan transportation policies and extension of natural gas pipeline along Silva Valley Parkway. For further information on the proposed project, see Chapter 2, "Project Description."

1.2 PURPOSE AND INTENDED USES OF THIS DRAFT EIR

According to CEQA, preparation of an EIR is required whenever it can be fairly argued, based on substantial evidence, that a proposed project may result in a significant environmental impact. An EIR is an informational document used to inform public-agency decision makers and the general public of the significant environmental impacts of a project, identify possible ways to minimize the significant impacts, and describe reasonable alternatives to the project that could feasibly attain most of the basic objectives of the project while substantially lessening or avoiding any of the significant environmental impacts. Public agencies are required to consider the information presented in the EIR when determining whether to approve a project. This Draft EIR has been prepared to meet the requirements of a project EIR as defined by Section 15161 of the State CEQA Guidelines. A project EIR focuses on the changes in the physical environment that would result from the implementation of a project, including its planning, construction, and operation. The State's intention in preparing a project EIR is that no further environmental analysis would be required for additional regulatory approvals following approval of the project, absent conditions requiring a subsequent EIR, a supplement to the EIR, or an addendum. (See State CEQA Guidelines Sections 15162–15164.)

1.3 SCOPE OF THIS DRAFT EIR

This Draft EIR includes an evaluation of the following 15 environmental issue areas as well as other CEQA-mandated issues (e.g., cumulative impacts, growth-inducing impacts, significant unavoidable impacts, alternatives):

- Aesthetics;
- Air Quality;
- Archaeological, Historical, and Tribal Cultural Resources;
- Biological Resources;
- Energy;
- Geology and Soils;
- Greenhouse Gas Emissions and Climate Change;
- Hazards, Hazardous Materials, and Wildfire;
- Hydrology and Water Quality;
- Land Use and Planning;
- Noise and Vibration;
- Public Services;
- Transportation; and
- Utilities and Service Systems.

Under the CEQA statutes and the State CEQA Guidelines, a lead agency may limit an EIR's discussion of environmental effects when such effects are not considered potentially significant (PRC Section 21002.1[e]; State CEQA Guidelines Sections 15128, 15143). Information used to determine which impacts would be potentially significant was derived from review of the EDH 52 Commercial Center Project; review of applicable planning documents and CEQA documentation; field work; feedback from public and agency consultation; comments received during a public scoping meeting held on September 8, 2021; and comments received on the notice of preparation (NOP) (see Appendix A of this Draft EIR).

The NOP was distributed on August 23, 2021, to responsible agencies, interested parties, and organizations, as well as private organizations and individuals that may have an interest in the project. The purpose of the NOP and the scoping meeting was to provide notification that an EIR for the EDH 52 Commercial Center Project was being prepared and to solicit input on the scope and content of the environmental document. As a result of the review of existing information and the scoping process, it was determined that each of the issue areas listed above should be evaluated fully in this Draft EIR. Further information on the NOP and scoping process is provided below in Section 1.5, "Public Review Process."

1.4 AGENCY ROLES AND RESPONSIBILITIES

1.4.1 LEAD AGENCY

El Dorado County is the lead agency responsible for approving the project and for ensuring that the requirements of CEQA have been met.

1.4.2 TRUSTEE AND RESPONSIBLE AGENCIES

A trustee agency is a State agency that has jurisdiction by law over natural resources that are held in trust for the people of the State of California. The only trustee agency that has jurisdiction over resources potentially affected by the project is the California Department of Fish and Wildlife (CDFW).

Responsible agencies are public agencies, other than the lead agency, that have discretionary-approval responsibility for reviewing, carrying out, or approving elements of a project. Responsible agencies should participate in the lead agency's CEQA process, review the lead agency's CEQA document, and use the document when making a decision on project elements. Agencies that may have responsibility for, or jurisdiction over, the implementation of elements of the project include the following:

STATE AGENCIES

- California Department of Fish and Wildlife (CDFW)
- Central Valley Regional Water Quality Control Board (RWQCB)

REGIONAL AND LOCAL AGENCIES

- El Dorado County Air Management District (EDCAQMD)
- El Dorado Local Agency Formation Commission (LAFCo)
- El Dorado Hills Water District (El Dorado Hills Fire Department)
- El Dorado Irrigation District (EID)

1.5 CEQA PUBLIC REVIEW PROCESS

1.5.1 Notice of Preparation

In accordance with PRC Section 21092 and State CEQA Guidelines Section 15082, the County issued a notice of preparation (NOP) on August 23, 2021, to inform agencies and the general public that an EIR was being prepared and to invite comments on the scope and content of the document (Appendix A). The NOP was submitted to the State Clearinghouse. In addition, the NOP was distributed directly to public agencies (including potential responsible and trustee agencies) and the public. The NOP was circulated for a 30-day review period, with comments accepted between August 23, 2021 and September 21, 2021. In accordance with State CEQA Guidelines Section 15082 (c), a noticed virtual scoping session for the EIR occurred on September 8, 2021.

The purpose of an NOP is to provide sufficient information about the project and its potential environmental impacts to allow agencies and interested parties the opportunity to provide a meaningful response related to the scope and content of the EIR, including mitigation measures that should be considered and alternatives that should be addressed (State CEQA Guidelines Section 15082[b]). Comments submitted in response to the NOP are used by the lead agency to identify broad topics to be addressed in the EIR. Comments on environmental issues received during the NOP public comment periods are considered and addressed in this Draft EIR.

1.5.2 Draft EIR

This Draft EIR is being circulated for public review and comment for a period of 60 days. During the public comment period, written comments from the general public as well as organizations and agencies on the Draft EIR's accuracy and completeness may be submitted to the lead agency. Please send all comments to:

Gina Hamilton, Planning Manager
El Dorado County Planning and Building Department, Planning Services Division
2850 Fairlane Court, Building C
Placerville, CA 95667
Email: EDH52CommercialCenter@edcgov.us
Fax: (530) 642-0508

Agencies that will need to use the EIR when considering permits or other approvals for the project should provide the name of a contact person, phone number, and email address. Comments provided by email should include the name and physical address of the commenter.

Copies of this Draft EIR are available for public review at the following locations:

- El Dorado County Planning and Building Department, Planning Services Division, 2850 Fairlane Court, Building C, Placerville, CA 95667
- El Dorado County Library, 345 Fair Lane, Placerville, CA 95667
- El Dorado County Library, 7455 Silva Valley Parkway, El Dorado Hills, CA 95762
- El Dorado County Library, 2500 Country Club Drive, Cameron Park, CA 95682.

Commented [PA1]: County - please confirm

The Draft EIR is also available for public review online at: http://www.edcgov.us/government/planning

1.5.3 Response to Comments/Final EIR and Project Consideration

Upon completion of the public review and comment period, a Final EIR will be prepared that will include both written and oral comments on the Draft EIR received during the public-review period, responses to those comments, and any revisions to the Draft EIR made in response to public comments. The Draft EIR and Final EIR will comprise the EIR for the project.

Before approving the project, the lead agency, is required to certify that the EIR has been completed in compliance with CEQA, that the decision-making body reviewed and considered the information in the EIR, and that the EIR reflects the independent judgment of the County.

1.6 DRAFT EIR ORGANIZATION

This Draft EIR is organized into chapters, as identified and briefly described below. Chapters are further divided into sections (e.g., Chapter 3, "Environmental Impacts and Mitigation Measures" and Section 3.6, "Energy"):

- The "Executive Summary": This chapter introduces the EDH 52 Commercial Center Project; provides a summary of the environmental review process, effects found not to be significant, and key environmental issues; and lists significant impacts and mitigation measures to reduce significant impacts to less-than-significant levels.
- Chapter 1, "Introduction": This chapter provides a description of the lead and responsible agencies, the legal authority and purpose for the document, and the public review process.
- Chapter 2, "Project Description": This chapter describes the location, background, and goals and objectives for the EDH 52 Commercial Center Project, and describes the project elements in detail.
- Chapter 3, "Environmental Impacts and Mitigation Measures": The sections within this chapter evaluate the expected environmental impacts generated by the EDH 52 Commercial Center Project, arranged by subject area

(e.g., Land Use, Hydrology and Water Quality). Within each subsection of Chapter 3, the regulatory background, existing conditions, analysis methodology, and thresholds of significance are described. The anticipated changes to the existing conditions after development of the project are then evaluated for each subject area. For any significant or potentially significant impact that would result from project implementation, mitigation measures are presented and the level of impact significance after mitigation is identified. Environmental impacts are numbered sequentially within each section (e.g., Impact 3.2-1, Impact 3.2-2, etc.). Any required mitigation measures are numbered to correspond to the impact numbering; therefore, the mitigation measure for Impact 3.2-2 would be Mitigation Measure 3.2-2.

- Chapter 4, "Cumulative Impacts": This chapter provides information required by CEQA regarding cumulative impacts that would result from implementation of the EDH 52 Commercial Center Project together with other past, present, and probable future projects.
- Chapter 5, "Alternatives": This chapter evaluates alternatives to the EDH 52 Commercial Center Project, including alternatives considered but eliminated from further consideration, the No Project Alternative, and two alternative development options. The environmentally superior alternative is identified.
- Chapter 6, "Other CEQA Sections": This chapter evaluates growth-inducing impacts and irreversible and irretrievable commitment of resources, and discloses any significant and unavoidable adverse impacts.
- Chapter 7, "Report Preparers": This chapter identifies the preparers of the document.
- Chapter 8, "References": This chapter identifies the organizations and persons consulted during preparation of this Draft EIR and the documents and individuals used as sources for the analysis.

1.7 STANDARD TERMINOLOGY

This Draft EIR uses the following standard terminology:

- "No impact" means no change from existing conditions (no mitigation is needed).
- "Less-than-significant impact" means no substantial adverse change in the physical environment (no mitigation is needed).
- "Potentially significant impact" means an impact that might cause a substantial adverse change in the environment (mitigation is recommended because potentially significant impacts are treated as significant).
- "Significant impact" means an impact that would cause a substantial adverse change in the physical environment (mitigation is recommended).
- "Significant and unavoidable impact" means an impact that would cause a substantial adverse change in the physical environment and that cannot be avoided, even with the implementation of all feasible mitigation.

This page intentionally left blank.

2 PROJECT DESCRIPTION

2.1 PROJECT OVERVIEW

The proposed EDH 52 Commercial Center (project) would develop various commercial uses on two vacant sites bisected by Silva Valley Parkway just north of U.S. Highway 50 (U.S. 50).

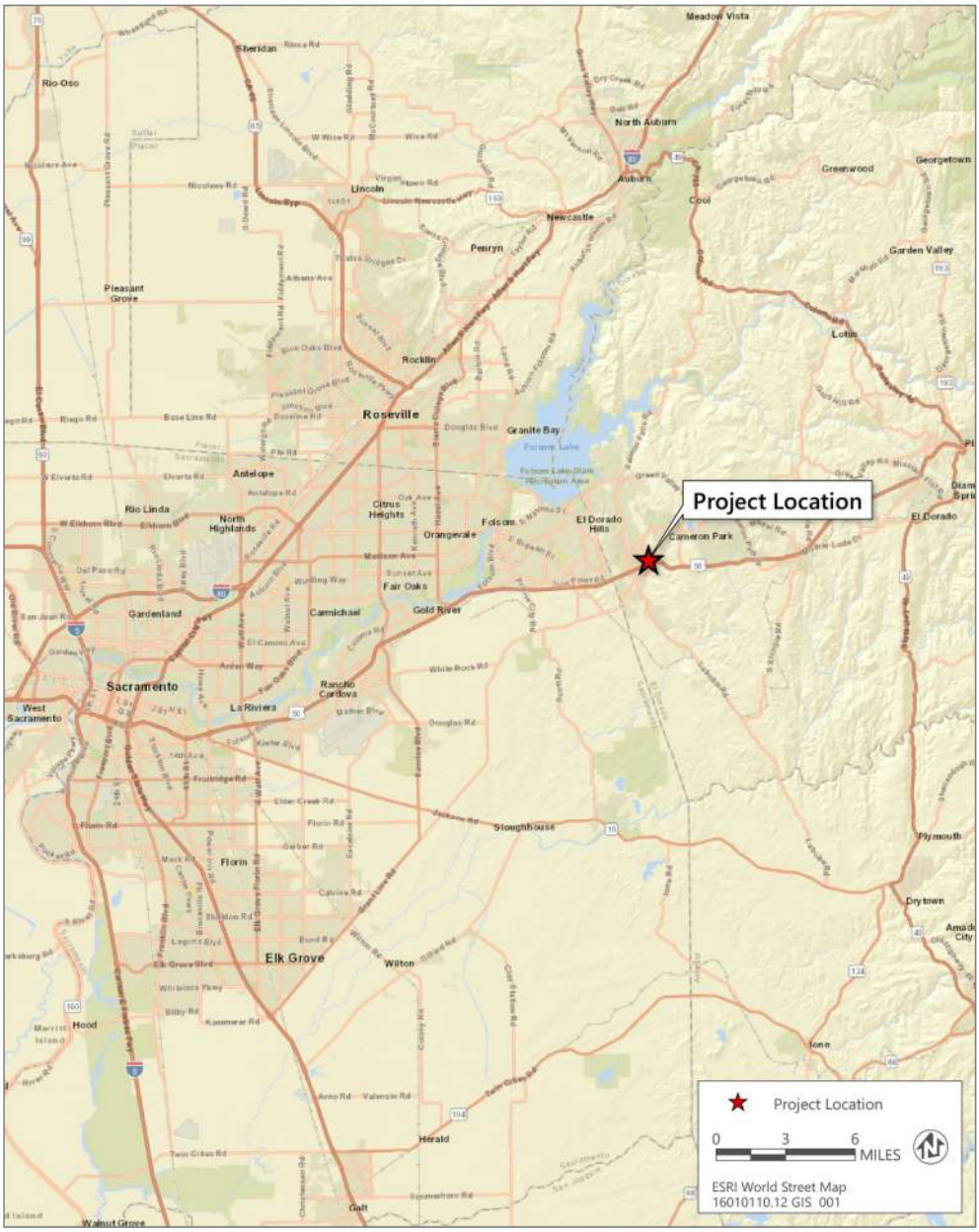
2.2 PROJECT LOCATION AND SETTING

The project is in the El Dorado Hills community of California, which is located in an unincorporated area of El Dorado County approximately 23 miles east of Sacramento and 20 miles west of the City of Placerville (Figure 2-1). As shown in Figure 2-2, the project site is on the north side of U.S. 50 and is bisected by Silva Valley Parkway. Existing land uses near the project site include vacant land, residences, and an elementary school to the north; Tong Road and U.S. 50 to the south; a church to the southeast; vacant land to the east; and Clarksville Crossing Road to the west. The project site encompasses approximately 43.26 acres, including Assessor's Parcel Numbers (APNs) 122-720-002, -003, -018, -019, -020, and -021.

2.3 PROJECT OBJECTIVES

- Overall Project:
  - Develop two high-quality planned commercial developments on currently vacant and underutilized land adjacent to U.S. 50 adequately served by public services and utilities.
  - Promote economic growth and diverse new employment and retail/service opportunities for County residents.
  - Increase the number of employees and contribute to the local job/housing balance.
- North Site:
  - Provide additional retail uses for the local market area that is serviced by adequate existing utilities and roadways.
  - Provide additional commercial services closer to existing housing.
  - Increase contribution to the County's tax base.
  - Develop architectural and landscaping designs that soften the scale and mass of the buildings, create a pleasant and attractive appearance, and complement the surrounding area.
  - Develop site plans that minimize potential access and circulation conflicts between automobiles and pedestrians, provide adequate off-street parking for store customers and employees, and minimize impacts to the surrounding area.
- South Site:
  - Construct and operate a new, state-of-the-art Costco warehouse that serves the membership in the greater El Dorado Hills area with competitively priced goods and services from both nationally known businesses and also more regional and local businesses.
  - Reduce energy consumption by incorporating sustainable design features and systems with enhanced energy efficiencies meeting State and federal code requirements.
  - Provide a membership wholesale center in a location that is convenient for its members, the community, and employees to travel to shop and work.

- Create an architectural design that enhances the area by responding to the El Dorado Hills area design context in a way that is sensitive to the adjacent community, future development(s) and compatible with the need for a new warehouse in this market area.
- Increase contributions to the County's tax base.
- Expand the space available for integrated retail sales of goods and services in the El Dorado Hills market.



Source: adapted by Ascent Environmental in 2021

Figure 2-1 Regional Location



Source: adapted by Ascent Environmental in 2021

Figure 2-2 Project Site Location

- Minimize circulation conflicts between automobiles and pedestrians.
- Provide a Costco warehouse in a location that is serviced by adequate existing infrastructure, including roadways and nearby utilities.
- Develop a Costco warehouse that is large enough to accommodate all of the uses and services Costco provides to its members.
- Locate a Costco warehouse on a site Costco can purchase (rather than lease) to protect its substantial investment of time, money and goodwill in the location.

2.4 PROJECT DESCRIPTION

The project site is split into the North Site and the South Site. The North Site is 24.83 acres and the South Site is 18.43 acres. The entire project site has a General Plan Land Use Designation of Commercial (C). The North Site is currently zoned Commercial Regional – Planned Development (CR-PD). The South Site is predominantly zoned CR-PD and also includes small parcels of Commercial Limited (CL) and Transportation Corridor (TC). Because the project site has an existing Planned Development overlay, the applicant is seeking a Planned Development Permit (PD) and the following rezoning (Figure 2-4):

- North Site: from CR-PD to Community Commercial-Planned Development (CC-PD)
- South Site: from CR-PD, CL, and TC to CR-PD for the entire site

Figure 2-3 shows the site plans for both the North Site and South Site. The proposed Master Signage Program applies to both the North Site and the South Site.

2.4.1 North Site

The North Site would include rezoning the site from CR-PD to Community Commercial – Planned Development (CC-PD) (See Figure 2-4). The project also seeks approval of a Tentative Parcel Map for the North Site to reconfigure existing parcels create 8 individual parcels (See Figure 2-5). Development of parcels 1 through 5 may include the following uses: up to five drive-through uses, one gas station with car wash, food service uses, an outdoor patio, and/or other retail and office uses permitted in the CC zone. A self-storage facility would use parcels 6 and 7 for a recreational vehicle (RV) storage lot with 56 RV spaces and six self-storage buildings, which are allowed with the approval of a Conditional Use Permit (CUP). A portion of the planned Country Club Drive extension (County Capital Improvement Project No. 36105008) would be constructed at a future date by the County within parcel 8. The total building area for the North Site would be approximately 162,000 square feet (sf). Table 2-1 below identifies the proposed parcel sizes, building square footage, and potential future uses.

Commented [MAA1]: Creating 8 parcels rather than reconfiguring?

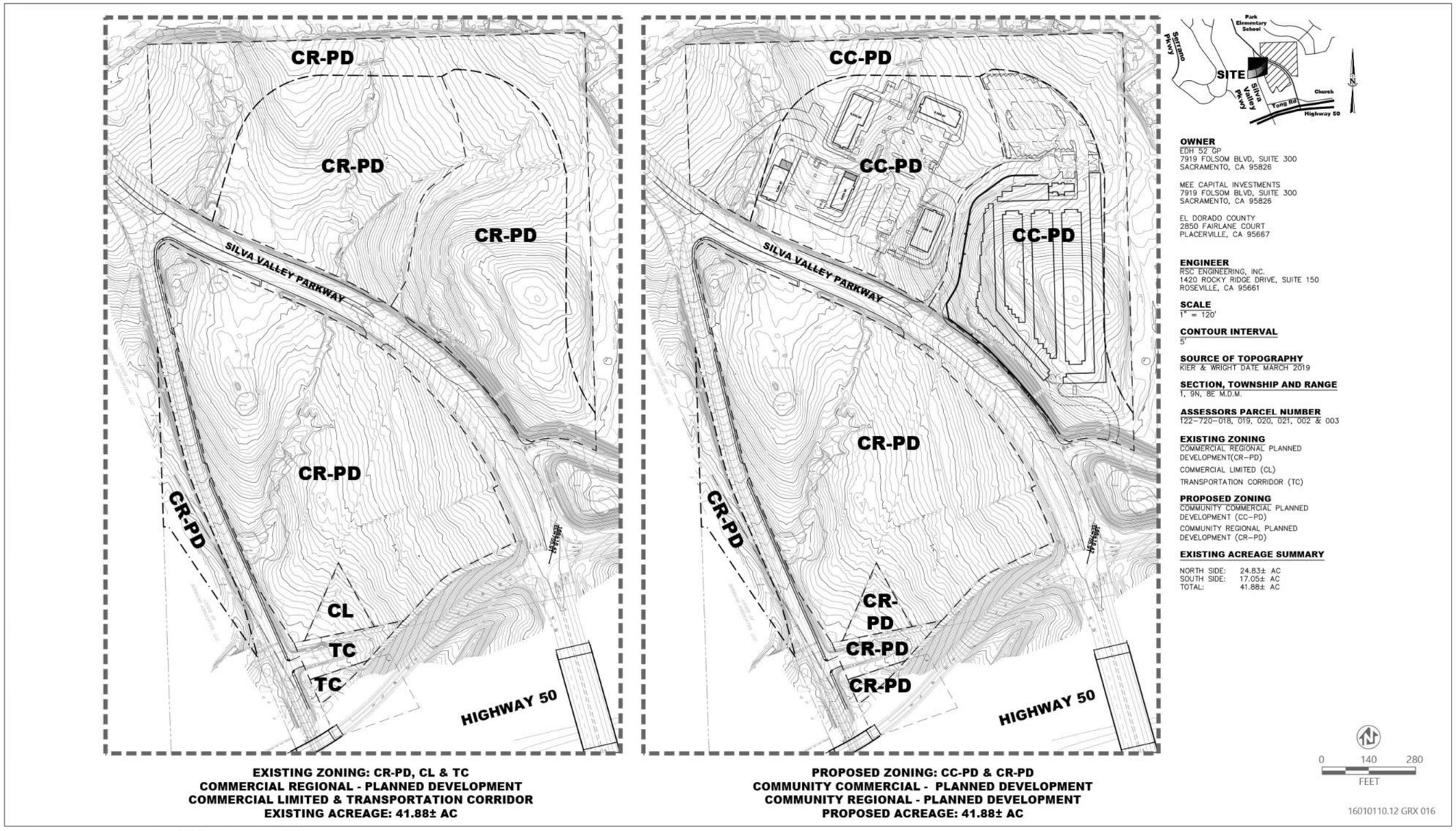
Table 2-1 North Site Parcel and Building Size

Parcel	Acreage	Building Size (square feet)	Proposed Use
1	2.49	5,000	Retail with a Potential Drive-through
2	1.92	9,250	Retail with a Potential Drive-through
3	1.99	6,000	Retail with a Potential Drive-through
4	2.23	7,250	Gas Station with a Potential Drive-through
5	1.08	4,050	Retail with a Potential Drive-through
6	7.84	130,358	Self-Storage and RV Storage
7	1.66		
8	5.63	0	Future Country Club Drive Extension
Total	**24.83**	**161,908**	



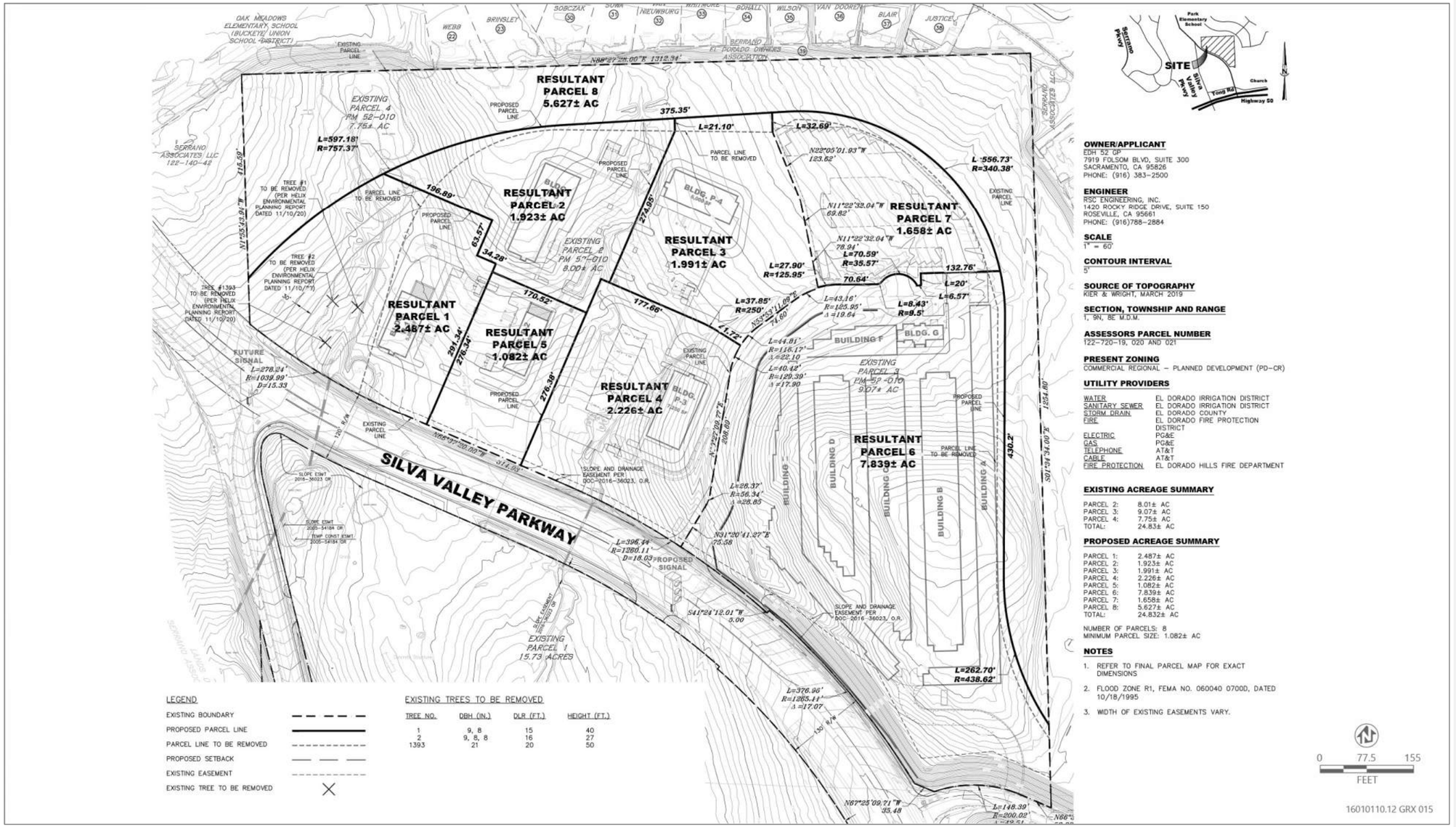
Source: Image produced and provided RSC Engineering, Inc. and David Babcock+Associates in 2022

Figure 2-3 North and South Site Concept Plans



Source: Image produced and provided RSC Engineering, Inc. in 2022

Figure 2-4 North Stie and South Site Rezone



Source: Image produced and provided RSC Engineering, Inc. in 2022

Figure 2-5 North Site - Tentative Parcel Map

SITE ACCESS AND ROADWAY IMPROVEMENTS

As shown in Figure 2-6, a traffic signal is proposed at the main driveway and Silva Valley Parkway to provide access to both the North Site and the South Site. Right-in and right-out access would also be provided to the North Site from Silva Valley Parkway via a driveway north of the new signal at the main driveway. An emergency access to Tong Road from the self-storage facility is also proposed. The North Site would include 166 surface parking spaces for retail uses and seven spaces for the self-storage facility. Sidewalks and bike lanes would be provided along the site frontage.

ARCHITECTURE

The design theme for the North Site is based on the existing building design theme of the Serrano area, which is a California/Mediterranean style. Preliminary elevations for the self-storage facility are shown in Figure 2-7 and provide an example of the proposed design theme for the North Site. Where single tenant types (retail shops) occur, the proposed design guidelines contain specific architectural design for these buildings. Where multiple tenant types (drive-thru restaurants and fuel stations) occur, the proposed design guidelines contain a typical example of the design intent for that tenant type. Each of these specific tenants would use the typical example shown and vary their design to add individuality and yet maintain a common thread of colors, materials, and design elements as identified in the proposed North Site Design Guidelines (Appendix B).

Each building on the North Site would vary in building height to achieve visual interest and distinct building character, avoiding the monotony of multiple structures with a continuous building height. Each building would combine horizontal and vertical elements to provide variation, interest, and rhythm within and among the buildings. In no case would any roof mounted equipment be higher than the lowest parapet height of the building.

The color and material palette for the North Site contains multiple options for color and materials. The intent is for these options to occur in various combinations throughout the North Site so that each building is unique in its design and materials while maintaining design continuity among the buildings. The proposed colors and materials of the palette would be maintained throughout the development of the North Site.

Within the development of the North Site, all sides of all buildings would be visible from adjacent roadways and properties. Screening would be required for loading and storage areas, utilities meters and boxes using landscaping, walls, fences in combination. The use of colored concrete, concrete pavers, accent patterns, etc. would be encouraged in the flatwork areas around the buildings. Provisions for gathering and resting areas would be accomplished using intimate seating areas in near proximity of the building.

LANDSCAPING

The preliminary landscape plan for the North Site is shown in Figure 2-8. Within the parking lots of the North Site, trees would provide a shade canopy while understory plantings would consist of low shrubs and groundcovers. Primary plantings along the property boundaries would consist of evergreen trees and shrub rows designed to screen adjacent properties. Areas fronting the streets would incorporate shade trees along with mixed species and forms of shrubs for interest, color, and buffering the shopping center from the streets. Plantings at entries would include seasonal accent trees and low shrubs in order to maintain sight lines. Landscaping would include drought tolerant species. The project would remove four individual oak trees located near the western edge of the North Site, which requires an oak tree removal permit.

LIGHTING

The North Site would provide various single, two- or four-light fixtures throughout the parking areas and driveways. The overall height of the lighting on the North Site, including the lighting fixtures and a three-foot base, would be 33 feet in the parking lot, 25 feet along the perimeter and main drive aisles, and 16 feet around drive-through lanes. LED luminaires would be used for the parking lot lights. The lighting plan for the North Site is shown in Figure 2-9.

SIGNAGE

As part of the proposed Master Signage Program (see Section 2.4.3, "Master Signage Program"), the applicant proposes a 75-foot pylon sign designed to be visible to motorists on U.S. 50 as well as two 28-foot monument signs at entrances to the North Site (see Figure 2-10). Figure 2-11 shows the proposed sign elevations. The highway-oriented pylon sign would allow advertising from either commercial center and would include one (1) major tenant panel, one (1) junior tenant panel, and eight (8) shop tenant panels (see Figure 2-10). The proposed sign area for the highway-oriented pylon sign would not exceed 652 square feet. The highway-oriented pylon sign would have a stone veneer base, fabricated aluminum panels, and texcote finish to compliment the color scheme of the commercial centers. Tenant names and logos would be fabricated aluminum, pan channel construction. Tenant names and logos would be flush mounted to the panel background and internally illuminated with white LED lights. Colors would comply with tenant specifications.

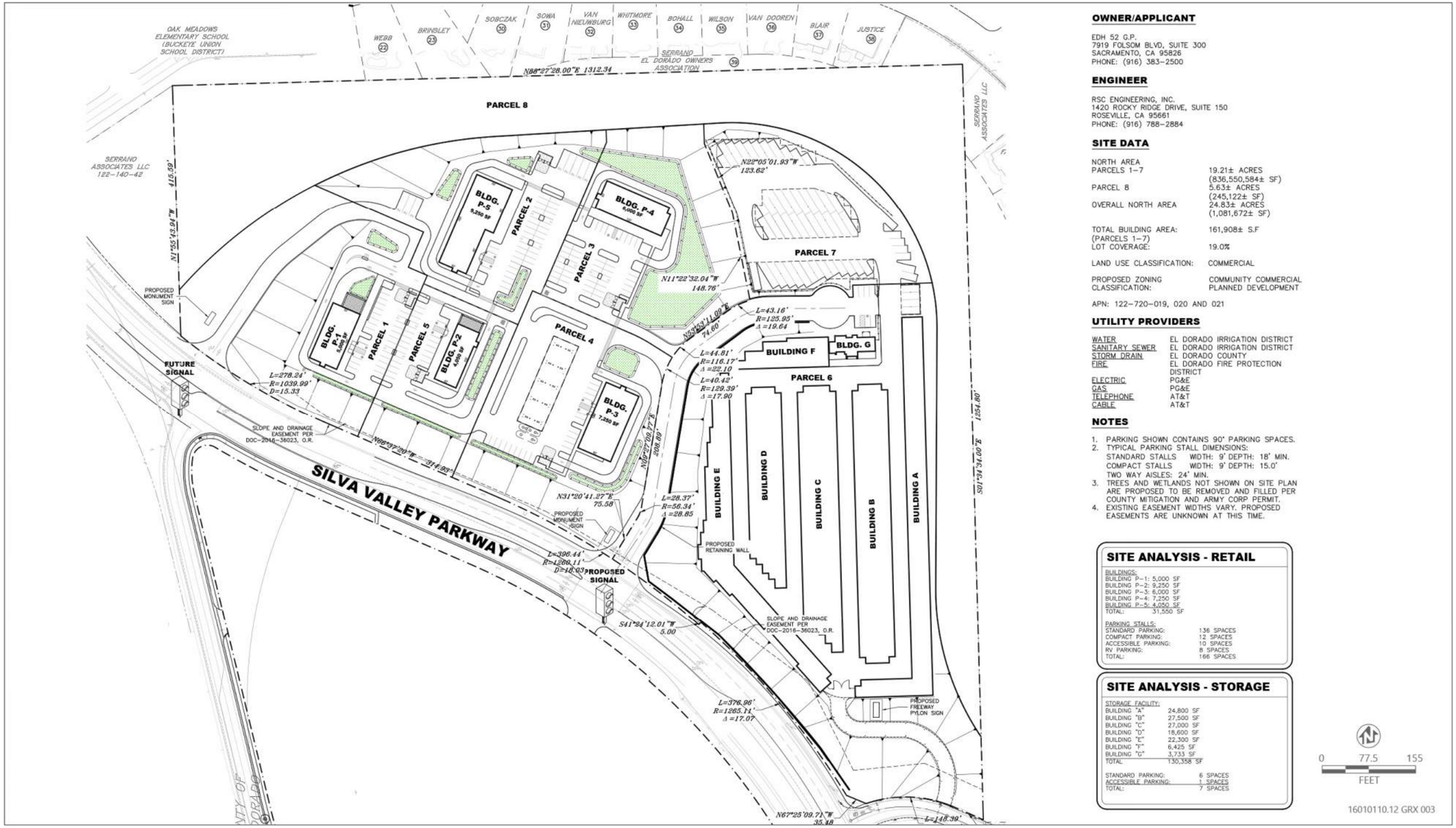
Each of the two monument signs would have one (1) featured tenant panel and six (6) shop tenant panels. The proposed area for each monument sign is 242 square feet. The monument signs would have a stone veneer base, fabricated aluminum panels, and texcote finish to compliment the color scheme of the commercial centers. Tenant names and logos would be routed out with acrylic push-through graphics and vinyl film overlays. Tenant names would be internally illuminated with white LED lights. Colors would comply with tenant specifications.

INFRASTRUCTURE IMPROVEMENTS

Figure 2-14 shows the preliminary utility plan for the North Site. Water would be provided to the North Site through a 12-inch pipeline that would connect to the existing water pipeline within Silva Valley Parkway. This 12-inch pipeline would connect north of the northern driveway access and would traverse the site until it splits such that one branch would serve the storage facility and the other would follow the main driveway and cross Silva Valley Parkway where it would serve the South Site. Within the North Site, various smaller water pipelines would be installed to serve specific buildings as well as fire hydrants. An eight-inch sewer pipeline would connect with existing infrastructure near the North Site's main driveway at Silva Valley Parkway and would continue through the site to serve all proposed buildings. Stormwater pipelines varying in size from 12 inches to 36 inches would be installed throughout the North Site that interconnect with 12 onsite bioretention basins, with connections to the South Site. Electrical and natural gas service would be provided by Pacific Gas and Electric Company (PG&E) that would be extended from existing facilities along Clarksville Crossing (electrical) and extension of a natural gas pipeline approximately 1,900 feet north of the site along eastern side of Silva Valley Parkway.

CONSTRUCTION

Construction for the North Site is anticipated to begin as early as October 2023 and last approximately 14 months. The timing for development of the North Site is dependent on market conditions, so all parcels on the North Site may not be developed at the same time. Figure 2-12 identifies proposed earthwork movement (cut and fill), while Figure 2-13 identifies the proposed grading plan. Site development is expected to require the import of approximately 30,000 cubic yards (CY) of fill material and the removal of approximately 19,000 CY of rock material offsite.



OWNER/APPLICANT

EDH 52 G.P.
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

ENGINEER

RSC ENGINEERING, INC.
1420 ROCKY RIDGE DRIVE, SUITE 150
ROSEVILLE, CA 95661
PHONE: (916) 788-2884

SITE DATA

NORTH AREA	
PARCELS 1-7	19.21± ACRES (836,550,584± SF)
PARCEL 8	5.63± ACRES (245,122± SF)
OVERALL NORTH AREA	24.83± ACRES (1,081,672± SF)
TOTAL BUILDING AREA: (PARCELS 1-7)	161,908± S.F
LOT COVERAGE:	19.0%
LAND USE CLASSIFICATION:	COMMERCIAL
PROPOSED ZONING CLASSIFICATION:	COMMUNITY COMMERCIAL PLANNED DEVELOPMENT

APN: 122-720-019, 020 AND 021

UTILITY PROVIDERS

WATER	EL DORADO IRRIGATION DISTRICT
SANITARY SEWER	EL DORADO IRRIGATION DISTRICT
STORM DRAIN	EL DORADO COUNTY
FIRE	EL DORADO FIRE PROTECTION DISTRICT
ELECTRIC	PG&E
GAS	PG&E
TELEPHONE	AT&T
CABLE	AT&T

NOTES

1. PARKING SHOWN CONTAINS 90° PARKING SPACES.
2. TYPICAL PARKING STALL DIMENSIONS:
   STANDARD STALLS WIDTH: 9' DEPTH: 18' MIN.
   COMPACT STALLS WIDTH: 9' DEPTH: 15.0'
   TWO WAY AISLES: 24' MIN.
3. TREES AND WETLANDS NOT SHOWN ON SITE PLAN ARE PROPOSED TO BE REMOVED AND FILLED PER COUNTY MITIGATION AND ARMY CORP PERMIT.
4. EXISTING EASEMENT WIDTHS VARY. PROPOSED EASEMENTS ARE UNKNOWN AT THIS TIME.

SITE ANALYSIS - RETAIL

BUILDINGS:

BUILDING P-1:	5,000 SF
BUILDING P-2:	9,250 SF
BUILDING P-3:	6,000 SF
BUILDING P-4:	7,250 SF
BUILDING P-5:	4,050 SF
TOTAL:	31,550 SF

PARKING STALLS:

STANDARD PARKING:	136 SPACES
COMPACT PARKING:	12 SPACES
ACCESSIBLE PARKING:	10 SPACES
RV PARKING:	8 SPACES
TOTAL:	166 SPACES

SITE ANALYSIS - STORAGE

STORAGE FACILITY:

BUILDING "A"	24,800 SF
BUILDING "B"	27,500 SF
BUILDING "C"	27,000 SF
BUILDING "D"	18,600 SF
BUILDING "E"	22,300 SF
BUILDING "F"	6,425 SF
BUILDING "G"	3,733 SF
TOTAL:	130,358 SF

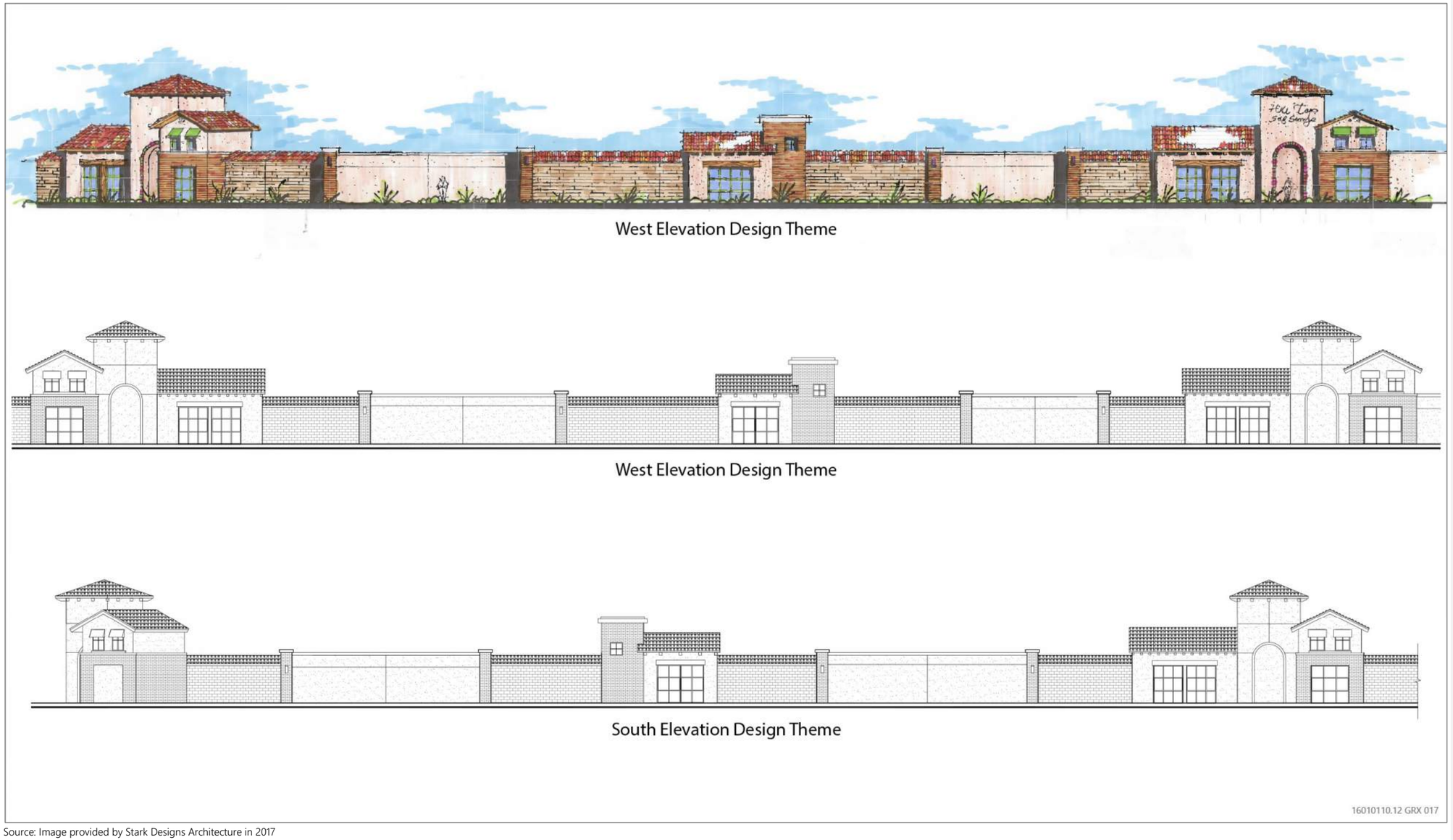
STANDARD PARKING:	6 SPACES
ACCESSIBLE PARKING:	1 SPACES
TOTAL:	7 SPACES

0 77.5 155
FEET

16010110.12 GRX 003

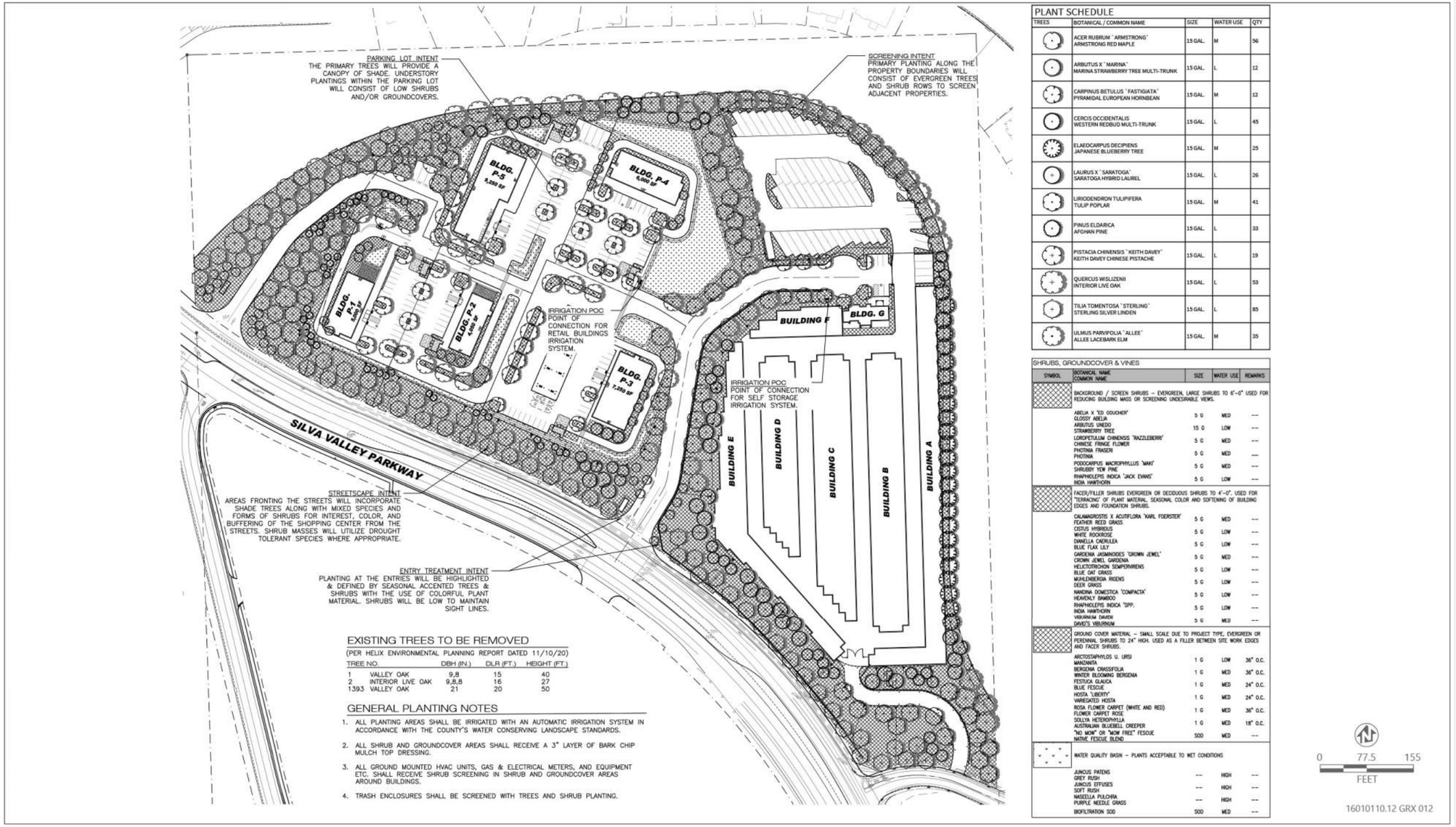
Source: Image produced and provided RSC Engineering, Inc. in 2022

Figure 2-6 North Site Preliminary Site Plan



Source: Image provided by Stark Designs Architecture in 2017

Figure 2-7 Self Storage Elevations



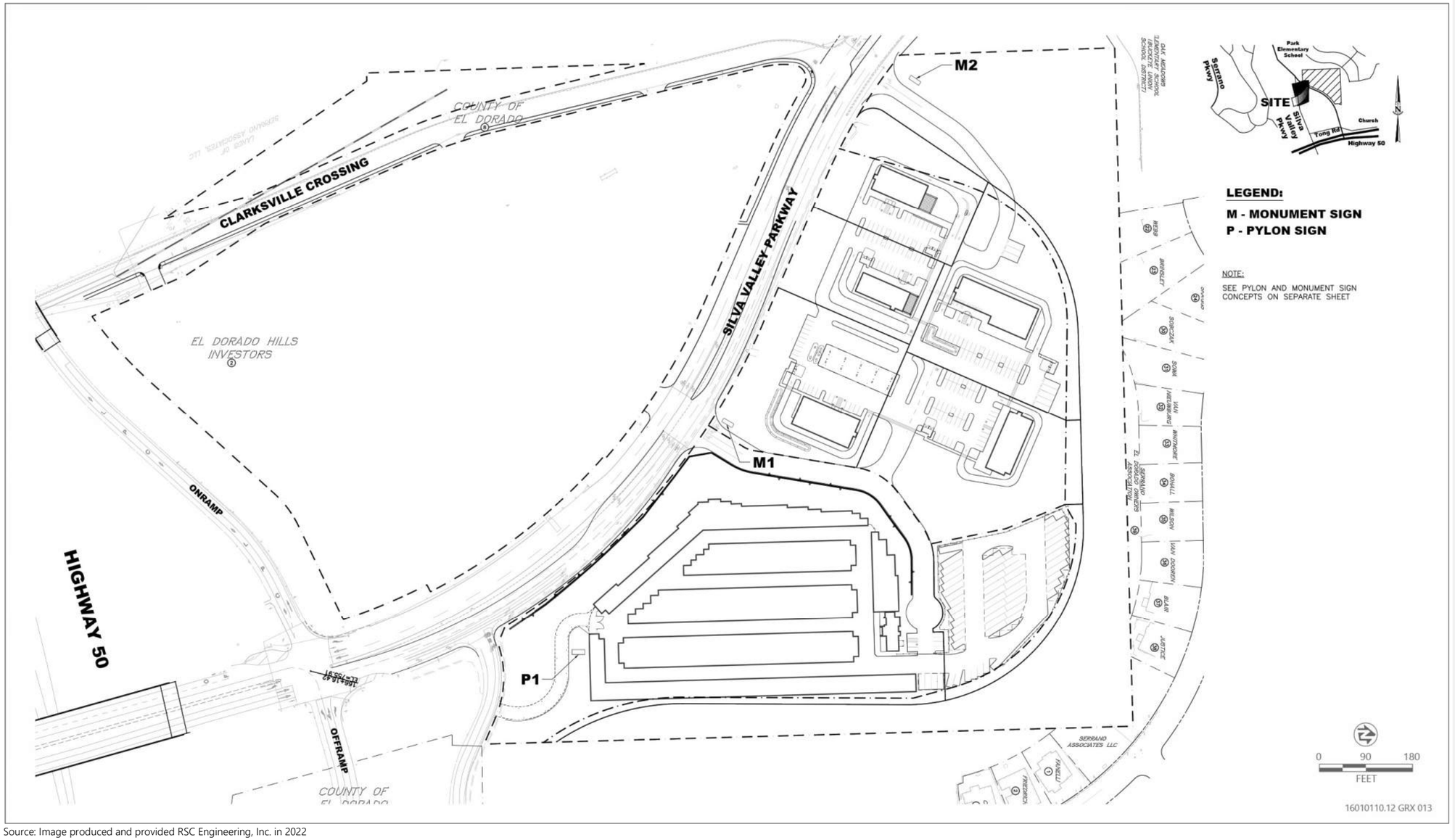
Source: Image produced and provided RSC Engineering, Inc. in 2022

Figure 2-8 Preliminary Landscape Plan – North Site



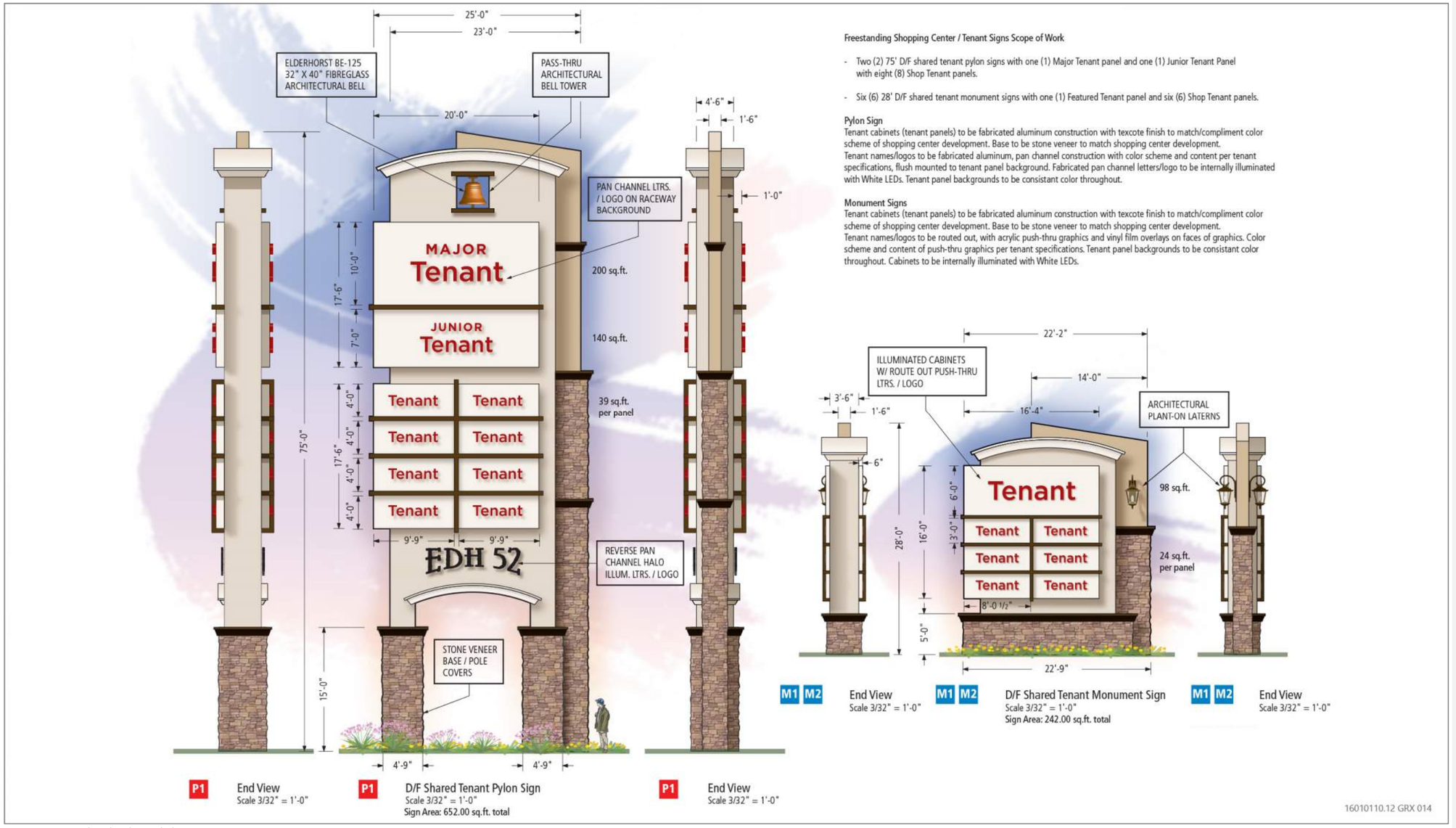
Source: Image produced and provided RSC Engineering, Inc. in 2022

Figure 2-9 Lighting Plan – North Site



Source: Image produced and provided RSC Engineering, Inc. in 2022

Figure 2-10 Sign Concept Plan



Freestanding Shopping Center / Tenant Signs Scope of Work

- Two (2) 75' D/F shared tenant pylon signs with one (1) Major Tenant panel and one (1) Junior Tenant Panel with eight (8) Shop Tenant panels.
- Six (6) 28' D/F shared tenant monument signs with one (1) Featured Tenant panel and six (6) Shop Tenant panels.

Pylon Sign
Tenant cabinets (tenant panels) to be fabricated aluminum construction with texcote finish to match/compliment color scheme of shopping center development. Base to be stone veneer to match shopping center development.
Tenant names/logos to be fabricated aluminum, pan channel construction with color scheme and content per tenant specifications, flush mounted to tenant panel background. Fabricated pan channel letters/logo to be internally illuminated with White LEDs. Tenant panel backgrounds to be consistant color throughout.

Monument Signs
Tenant cabinets (tenant panels) to be fabricated aluminum construction with texcote finish to match/compliment color scheme of shopping center development. Base to be stone veneer to match shopping center development.
Tenant names/logos to be routed out, with acrylic push-thru graphics and vinyl film overlays on faces of graphics. Color scheme and content of push-thru graphics per tenant specifications. Tenant panel backgrounds to be consistant color throughout. Cabinets to be internally illuminated with White LEDs.

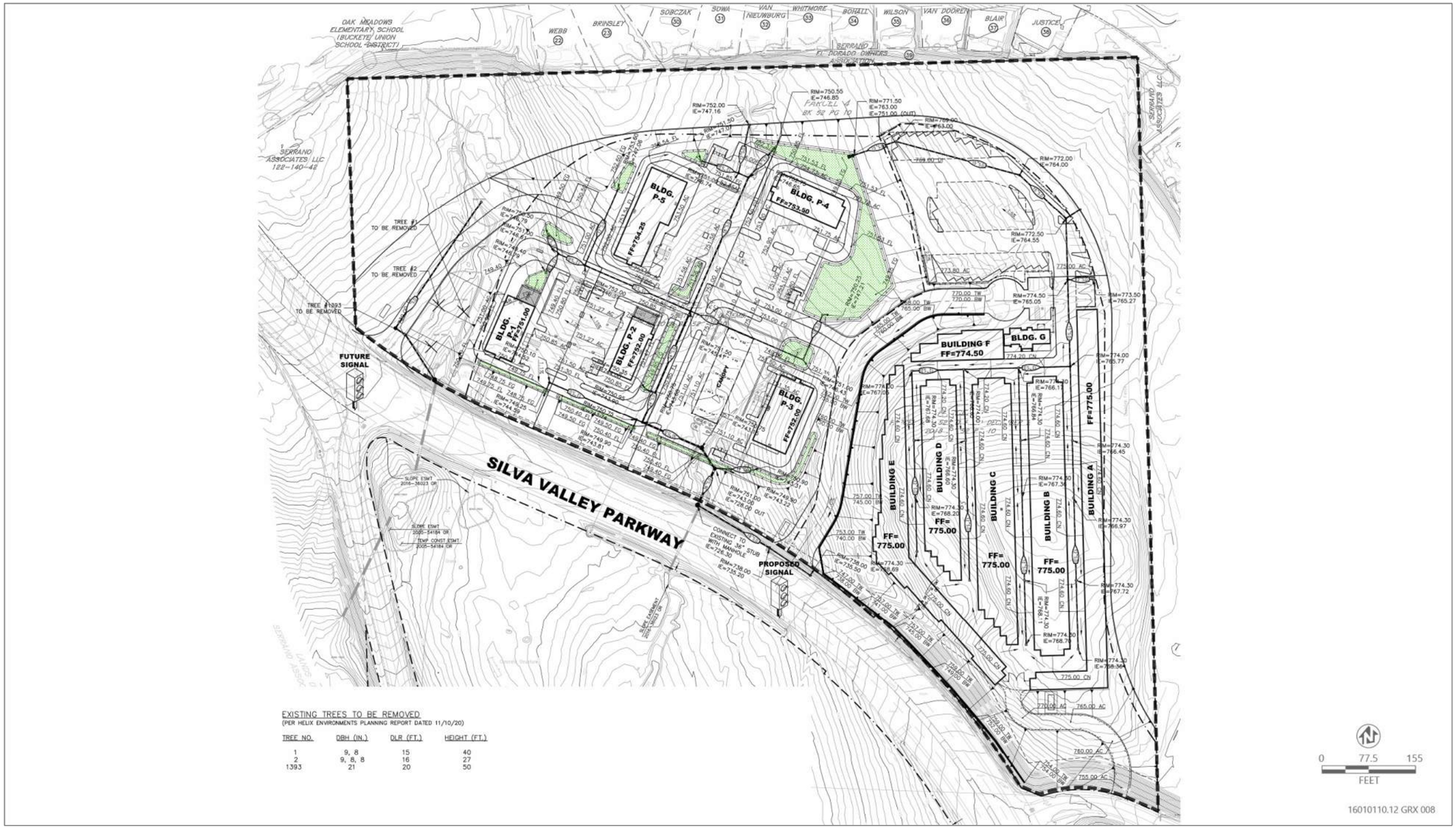
Source: Image produced and provided RSC Engineering, Inc. in 2022

Figure 2-11 Sign Elevations



Source: Image produced and provided RSC Engineering, Inc. in 2022

Figure 2-12 North Site Earthwork



Source: Image produced and provided RSC Engineering, Inc. in 2022

Figure 2-13 North Site Preliminary Grading Plan



Source: Image produced and provided RSC Engineering, Inc. in 2022

Figure 2-14 North Site Preliminary Utility Plan

OPERATIONS

As discussed previously, development of the North Site may include the following uses: operation of up to five drive-through uses, one gas station with car wash, food service uses, an outdoor patio, and/or other retail and office uses permitted in the CC zone, and an RV and self-storage facility. The proposed gas station would be expected to have an annual throughput of less than 3.6 million gallons per year. The proposed self-storage facility would consist of 6 buildings plus an office and 52 RV storage spaces.

While specific end users have not been determined for the North Site, it is estimated that it would provide between 90 and 100 employees based on review of a range of employee per square foot of building area estimates for a range of commercial uses (ABAG 2011).

ENERGY EFFICENCY FEATURES

As noted above, the North Site would obtain electrical and natural gas services from PG&E. The development would comply with energy efficiency standards under California Code of Regulations Title 24. Additional energy efficiency measures incorporated into the project would include high efficiency restroom fixtures, low or no VOC paints, drought tolerant planting, and LED parking lot lights. The reader is referred to Section 3.5, "Energy," for a further discussion of project energy demands.

2.4.2 South Site

The majority of the South Site is already zoned CR-PD. The project would include rezoning of the CL portion to CR-PD, both to harmonize the zoning designation across the South Site and to apply the PD designation uniformly as required by General Plan Policy 2.2.6.1 (see Figure 2-15). Development of the South Site would include up to approximately 165,000 sf of building area that would include a Costco warehouse retail center and a tire sales and installation center. The proposed site plan is shown in Figure 2-16. Within the warehouse retail center, Costco would offer optical exams and optical sales, photo center and processing, hearing aid testing and sales, food service preparation and sales, meat preparation and sales, bakery and sales of baked goods, and alcohol sales. The tire center would include propane refueling and sales as well as tire sales and installation. The warehouse is proposed to include one customer entrance to the main Costco store, which would be located at the northwest corner. The tire center would have bay doors accessible from outside of the warehouse, though the tire center sales area would be accessible through the warehouse building. Promotional sales materials would occasionally be placed outside near the entrance to the warehouse or in the parking area. Development on the South Site would exclude the 1.38-acre area located west of Clarksville Crossing. No uses are proposed for the 1.38-acre site, which would be its own parcel (see Figure 2-15).

The South Site has been designed to accommodate the existing slope of the site by locating the Costco warehouse building in the southeast corner of the site, where the elevation of existing streets adjacent to the site are the highest. Parking would be provided in two at-grade lots and one subterranean lot beneath one of the at-grade lots. Vehicle access to this lower-level parking would be provided by ramps on the north and south sides of the underground parking structure consisting of 214 spaces. A third ramp would provide pedestrian access from the lower level up to the at-grade parking and entry to the warehouse building. Total parking for the South Site would be 762 spaces.

SITE ACCESS AND ROADWAY IMPROVEMENTS

As shown in Figure 2-16, the primary customer entrance to the South Site would be from a signalized intersection at the main driveway at Silva Valley Parkway. There would also be an intersection at Silva Valley Parkway and Clarksville Crossing Road that would be partially signalized to provide protected turn movements to vehicles traveling northbound on Silva Valley Parkway to make a left turn on to Clarksville Crossing Road. From Clarksville Crossing Road, there would be three driveways providing access to the South Site. The signalization of the intersection of Silva

Valley Parkway and Clarksville Crossing Road would remain in place until the County constructs the Country Club Drive extension project in 2041. After completion of the Country Club Drive extension project, the signal at the intersection of Silva Valley Parkway and Clarksville Crossing Road would be removed and Clarksville Crossing Road's existing connection to Silva Valley Parkway would be eliminated. Sidewalks and bike lanes would be provided along the site frontage.

ARCHITECTURE

The warehouse design for the South Site is proposed to be contemporary and would include a variety of massing and appropriate materials for the building, as shown in Figure 2-17. By combining concrete masonry block and architectural metal panels, Costco intends to create a scale and architectural interest to minimize the visual impact of a large retail warehouse. By use of design techniques such as the location of building materials, landscaping, and the incorporation of varying parapet cap heights, Costco proposes to break the long elevations both horizontally and vertically at the appropriate height to conceal roof top mounted mechanical equipment. The proposed colors are warm natural earth tones, which would relate to the proposed surrounding development by utilizing similar building materials and architectural detailing.

The South Site has been designed to use the existing slope of the site by locating the warehouse in the southeast corner of the site, where the elevation of existing streets adjacent to the site are the highest. By building the warehouse adjacent to higher elevation land and providing a subterranean parking structure, the height of the building and visual impacts relative to the surrounding environment would be minimized. The subterranean portion of the parking structure would be adjacent to the west side of the warehouse and contain 214 parking spaces underneath the at-grade parking structure. Vehicle access to this lower-level parking would be provided by ramps on the north and south sides of the underground parking structure – the ramp on the north side would allow vehicles to enter the lower-level parking structure directly from Clarksville Crossing and the ramp on the south side would allow vehicle access from the at-grade parking lot above. A third ramp would provide pedestrian access from the lower level up to the at-grade parking and entry to the warehouse. The main entry feature to the warehouse is proposed to be oriented towards the northwest so that the loading dock and truck deliveries would be accessed from and oriented towards U.S. 50, providing greater separation between the warehouse's commercial activities and the existing residences.

The South Site truck loading dock is proposed to be located at the southwest corner of the building adjacent to U.S. 50. The bay doors would be equipped with sealed gaskets to limit noise impacts. A smaller on-grade door would also be located on the south side of the building. This door is to receive bread deliveries and small delivery vans/trucks. A transformer and two trash compactors would also be located along the south edge of the building proposed for the South Site. Landscape material would provide the necessary screening to this area.

LANDSCAPING

The preliminary landscape plan for the South Site is shown in Figure 2-18. Landscaping would include a variety of tree species along the property lines and throughout the surface parking area. The side of the warehouse building facing Silva Valley Parkway would be shielded from the road by tree plantings. Shrubs, perennials, ornamental grasses, ground covers and vines would occupy the understory. The landscape plan would include multiple stormwater treatment planters (SWTPs) that would include trees, perennials, and grasses. While some existing oak trees on the site would remain, development of the South Site would require an oak tree removal permit for the removal of 10 individual oak trees (see Figure 2-19).

Commented [PA2]: What is their proposal for addressing tree removal? I know they asked for "relief" - no idea what that is...

Commented [CR3R2]: I do not see anything in the

LIGHTING

The preliminary site lighting plan is shown in Figure 2-20. The South Site parking lot would be illuminated with standard downward LED fixtures affixed to a 37-foot light pole. The lighting fixtures are of a "shoe-box" style. Parking lot light standards are typically designed to provide even light distribution for vehicle and pedestrian safety. The parking lot lights would be controlled by a timer to limit lighting after the warehouse has closed and most employees

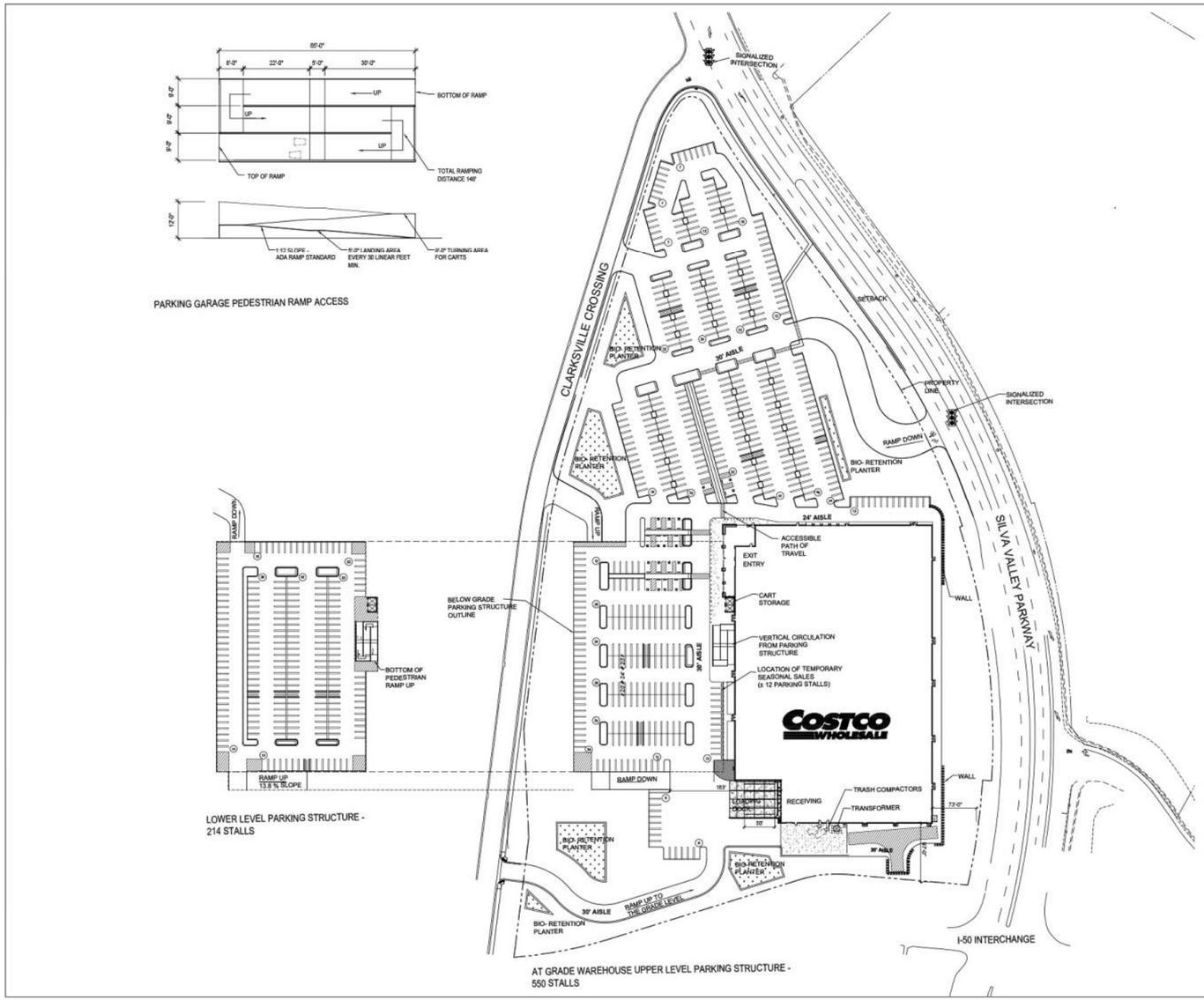
Commented [PA4]: Include exhibit/figure of lighting plan

are gone from the site. Parking lot lighting would only remain on to provide security and emergency lighting only along the main driveways. Lighting fixtures would also be located approximately every 40 feet around the exterior of the building to provide safety and security. Parking and site lighting would incorporate the use of cutoff lenses to keep light from overflowing beyond the South Site boundaries.



Source: Image provided by RSC Engineering, Inc. and David Babcock + Associates in 2022

Figure 2-15 South Site Zoning Plan



PROJECT DATA

CLIENT: COSTCO WHOLESALE
999 LAKE DRIVE
ISSAQUAH, WA 98027

PROJECT ADDRESS: SILVA VALLEY PARKWAY
EL DORADO HILLS, CA

SITE DATA:

COSTCO SITE AREA: 17.04 ACRES (742,262)

JURISDICTION: EL DORADO COUNTY

ZONING: CR-PD

SETBACKS:	REQUIRED		ACTUAL	
	FRONT:	TBD	FRONT:	TBD
	SIDE:	TBD	SIDE:	TBD
	REAR:	TBD	REAR:	TBD

BUILDING DATA:

TOTAL BUILDING FOOTPRINT AREA: 155,693 SF

INCLUDES:

NET SALES FLOOR	**151,074 SF**
NET MECHANICAL / FIRE	2,459 SF
BUILDING ENVELOPE	2,160 SF
NET OPEN CANOPY	4,737 SF

PARKING DATA:

TOTAL PARKING: 762

INCLUDES:

MAIN LEVEL PARKING PROVIDED:
- 10' WIDE STALLS 532 STALLS
- ACCESSIBLE STALLS 18 STALLS

PARKING STRUCTURE PARKING PROVIDED:
- 10' WIDE STALLS 214 STALLS

NUMBER OF STALLS PER 1000 SF OF BUILDING AREA: 4.89 STALLS

NOTES:
EXISTING CONDITIONS TO BE FIELD VERIFIED.

0 70 140
FEET

16010110.12 GRX 019

Source: Image produced and provided MG2 in 2021

Figure 2-16 South Site Preliminary Site Plan -



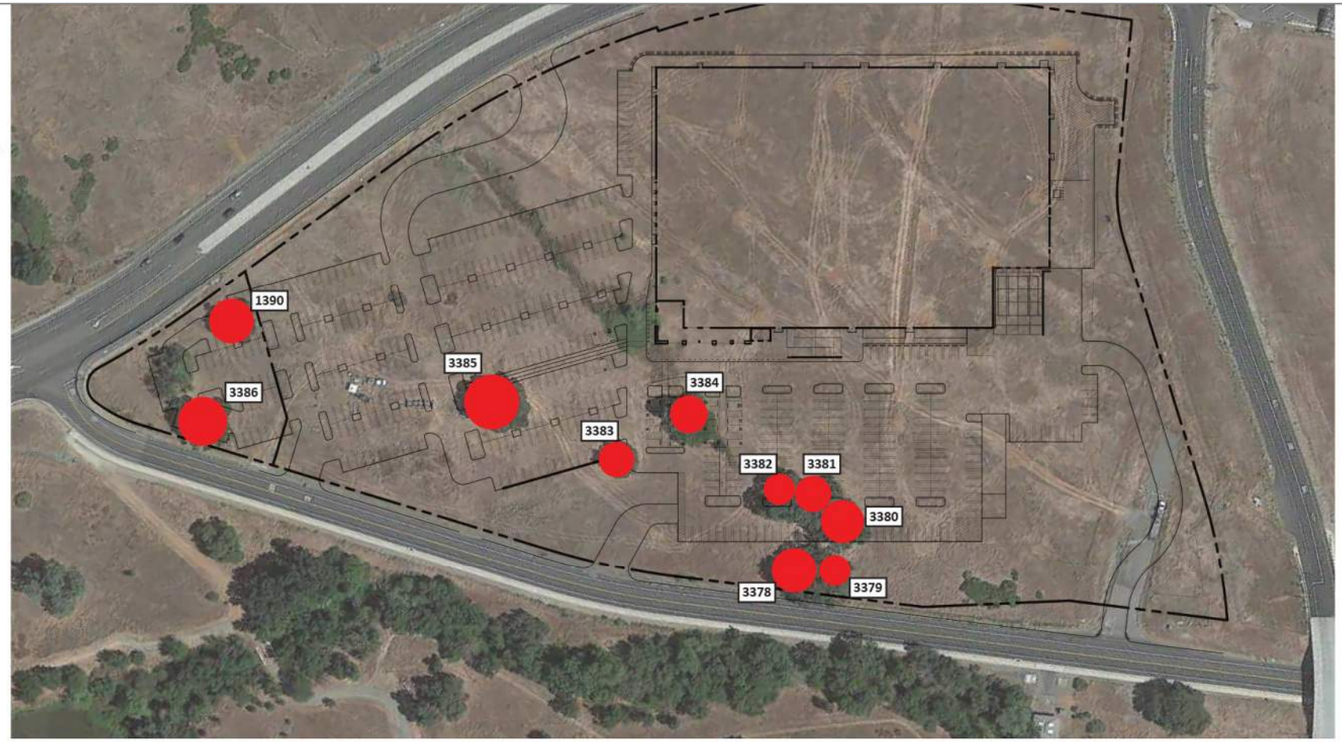
Source: Rendering created by MG2 in 2021

Figure 2-17 Costco Perspectives



Source: Image produced and provided DB+A in 2021

Figure 2-18 South Site Preliminary Landscape Plan



Tree Data Table

	Tree #	Species	DBH (inches)	DLR (feet)	Height (feet)	Health	Structure	Comment
*	1390	Valley Oak	47	21	60	Poor-Fair	Poor	Deadwood, limb failure, acorn woodpecker granary tree
	3378	Valley Oak	35	30	40	Good	Fair-Good	Deadwood
	3379	Valley Oak	18	24	40	Good	Fair-Good	Asymmetrical canopy, suppressed growing environment
	3380	Valley Oak	33	38	40	Good	Good	
	3381	Valley Oak	27	30	40	Good	Good	
	3382	Valley Oak	27	25	40	Good	Fair	Codominant
	3383	Valley Oak	26	23	40	Fair-Good	Fair	Asymmetrical canopy
	3384	Valley Oak	10	13	15	Fair	Fair	Codominant, small leaves
*	3385	Blue Oak	48	40	60	Fair-Good	Fair	Asymmetrical canopy, pruning wound, 1 trunk removed
*	3386	Valley Oak	42	38	60	Fair-Good	Fair	Deadwood, dieback

* Heritage tree

Trees to be Removed

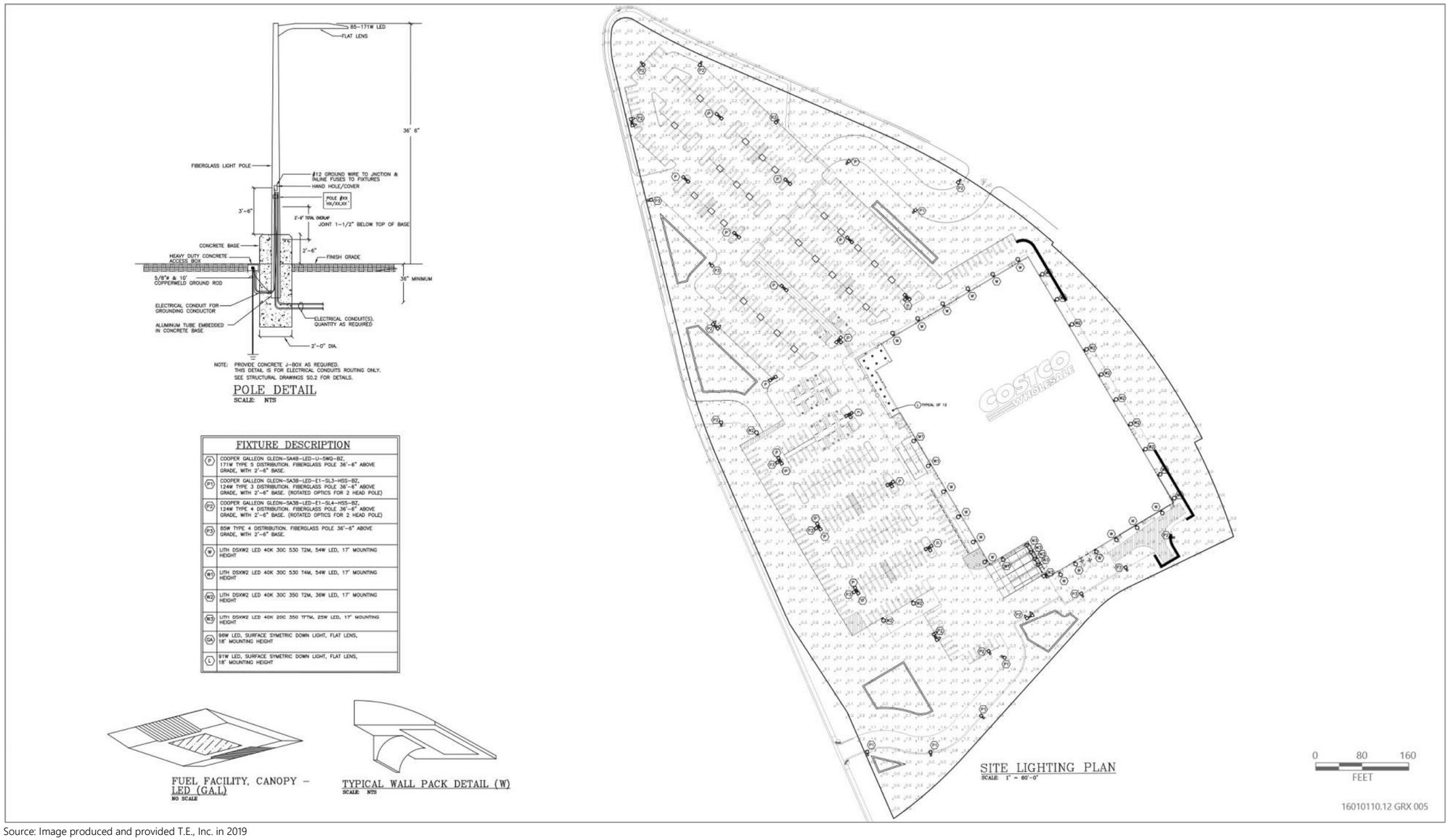
Note: Tree data table information taken from the oak tree resources survey prepared for the El Dorado Hills 52 Oak Resources Technical Report dated 11/10/20 by Helix Environmental Planning (Project #AKT - 20)

0 80 160
FEET

16010110.12 GRX 022

Source: Image produced and provided by Kier+Wright in 2021

Figure 2-19 South Site Tree Removal

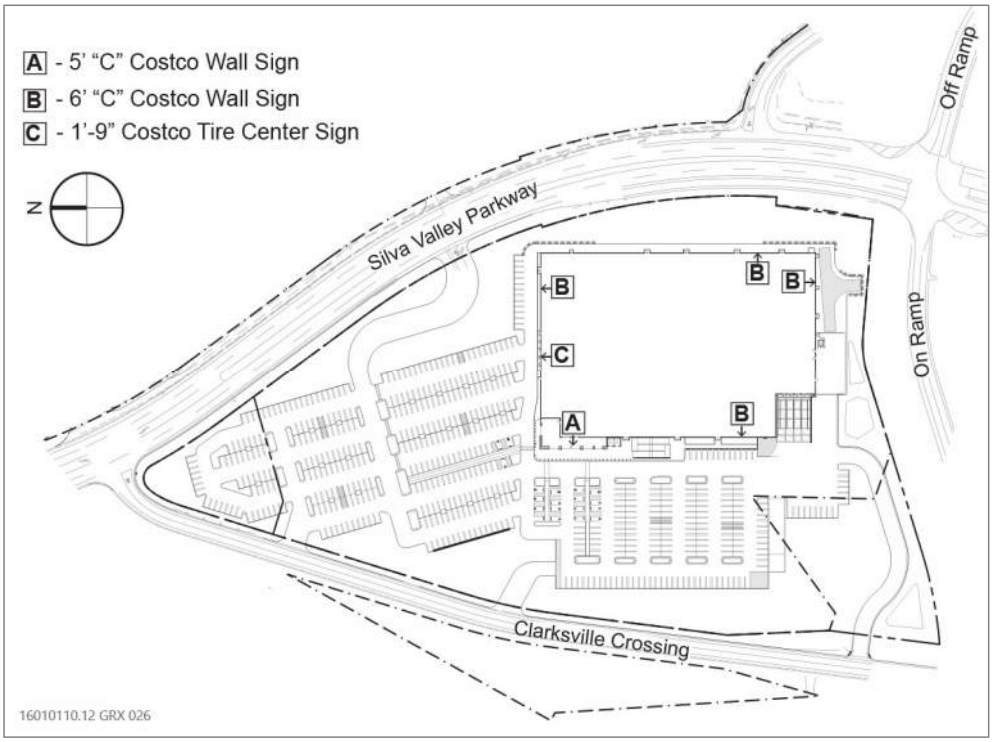


Source: Image produced and provided T.E., Inc. in 2019

Figure 2-20 South Site Lighting Plan

SIGNAGE

As part of the proposed Master Signage Program (see Section 2.4.3, "Master Signage Program"), proposed signage includes the typical Costco warehouse signage (externally illuminated reverse pan channel letters), a pylon sign at the southeast corner of the parcel at Silva Valley Parkway, and a monument sign located at the northern side of the main entry (see Figure 2-21).



Source: Adapted by Ascent 2022

Figure 2-21 Costco Sign Locations

A pylon sign oriented towards U.S. 50 would be located at the southeast corner of the South Site adjacent to Silva Valley Parkway. The sign would be approximately 75 feet tall and 28 feet wide with multiple internally illuminated panels for tenant identification for businesses located on the North Site. A monument sign located on the north side of the main entry would also be included as part of the project signage. The sign would be approximately 16 feet tall and 17 feet wide with multiple internally illuminated panels for tenant identification for businesses located on the North Site.

INFRASTRUCTURE IMPROVEMENTS

Figure 2-22 shows the preliminary utility plan for the South Site. Water would be provided to the site via 10-inch pipelines connecting to existing water pipelines within Silva Valley Parkway. An eight-inch water pipeline would connect the warehouse building to the 10-inch pipeline. An eight-inch sewer pipeline would connect to existing infrastructure within Silva Valley Parkway and would serve the South Site via six-inch and eight-inch pipelines. Stormwater pipelines varying in size from 12 inches to 36 inches would be installed throughout the site and would convey stormwater to proposed six bioretention basins within the South Site as well as existing vaults and boxes. Electrical and natural gas service would be provided by PG&E.

CONSTRUCTION

Construction for the South Site is anticipated to begin in early 2024 and would take approximately 9 months. Approximately 11,000 CY of fill would be exported offsite as part of site grading activities.

OPERATIONS

The warehouse is proposed to include one member entrance to the main Costco store, which would be located at the northwest corner. The El Dorado Hills Costco is expected to include a bakery and sales of baked goods, meat preparation and sales, alcohol sales, food service preparation and sales, pharmacy, optical center with optical exams and retail optical sales, hearing aid testing center, food court, and a photo center along with the sales of approximately 4,000 products. The warehouse would include a five-bay tire center, an approximately 5,300 sf facility with member access via the inside of the main Costco building, which would include tire sales and a tire installation facility.

It is anticipated that the El Dorado Hills Costco warehouse would employ approximately 165 to 170 employees. The warehouse hours are anticipated to be Monday through Friday from 9:00 am to 8:30 pm, and Saturday and Sunday from 9:00 am to 7:00 pm.

Costco anticipates an average of about 10 trucks delivering goods on a typical weekday. The trucks range in size from 26 feet long for single-axle trailers to 70 feet long for double-axle trailers. Receiving time would be from 2:00 a.m. to 1:00 p.m., averaging 2 to 3 trucks per hour, with most of the deliveries completed before 10:00 a.m. Deliveries to the warehouse are made primarily in Costco trucks from its freight consolidation facility in Tracy, California, coming to the site from U.S. 50, and accessing the site from Silva Valley Parkway via Clarksville Crossing Road.

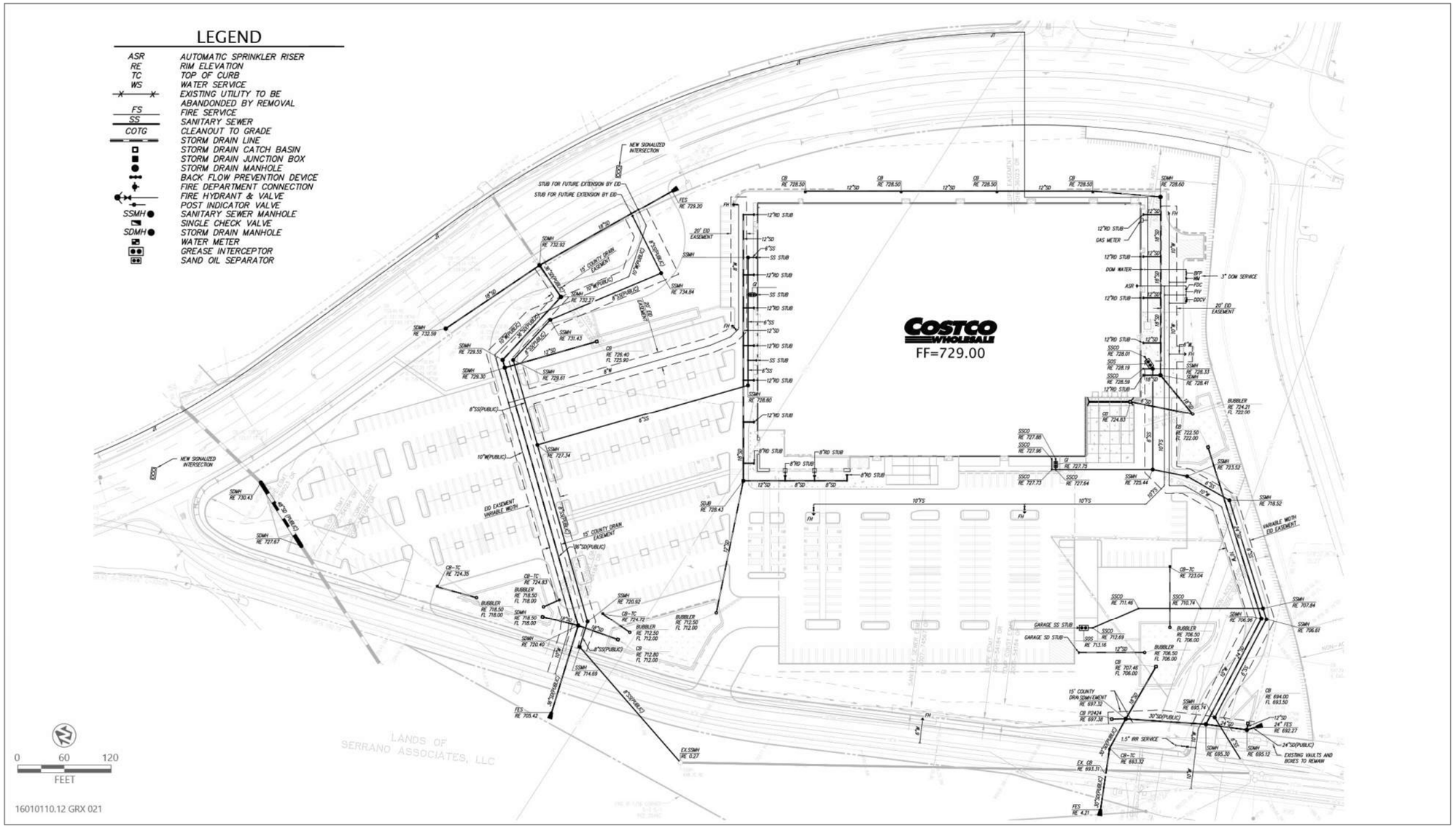
The tire center typically would receive shipments of tires once or twice per week in single- or double-trailer trucks up to 70 feet in length, and the same delivery truck will pick up old tires for recycling. Deliveries to and pickups from the tire center would be scheduled for pre-opening hours, typically about 6:00 a.m. Tire center deliveries would not occur at the loading dock but would occur directly at the tire center.

ENERGY EFFICIENCY FEATURES

As noted above, the South Site would obtain electrical and natural gas services from PG&E. The development would comply with energy efficiency standards under California Code of Regulations Title 24. Additional energy efficiency and sustainability measures incorporated into the Costco warehouse are noted below. The reader is referred to Section 3.5, "Energy," for a further discussion of project energy demands.

- Parking lot light standards would be designed in order to provide even light distribution, and utilize less energy compared to a greater number of fixtures at lower heights. The use of LED lamps can provide a higher level of perceived brightness with less energy than other lamps such as high-pressure sodium.
- New and renewable building materials are typically extracted and manufactured within the region. When masonry and concrete are used, the materials purchased are local to the project, minimizing the transportation distances and impact to local road networks.

- The use of pre-manufactured building components, including structural framing and metal panels, helps to minimize waste during construction.
- Pre-manufactured metal wall panels with insulation carry a higher R-Value and greater solar reflectivity to help conserve energy as compared to other materials. Building heat absorption is further reduced by a decrease in the thermal mass of the metal wall when compared to a typical masonry block wall.
- A substantial amount of the proposed landscaping material for the South Site is climate adapted to the region and would use less water than other common species.
- The irrigation system proposes to include the use of deep root watering bubblers for parking lot trees to minimize usage and ensure that water goes directly to the intended planting areas.
- Storm water management plans are designed to maintain quality control and storm water discharge rates based on the County requirements.
- High-efficiency restroom fixtures.
- Commissioning of mechanical systems will occur to ensure that the HVAC systems are preforming as designed. HVAC comfort systems can be controlled by a computerized building management system to maximize efficiency.
- HVAC units planned for the South Site are high efficiency direct ducted units, which have phased out the use of HCFC's completely.
- Parking lot and exterior lights would be controlled by a photo sensor and time clock.
- Lighting is controlled by the overall project energy management system.
- Energy efficient Transformers (i.e., Square D Type EE transformers) would be used.
- Variable speed motors would be used on make-up air units and booster pumps.
- Gas water heaters are direct vent and 94 percent efficient or greater.
- Reclaim tanks are used to capture heat released by refrigeration equipment to heat domestic water in lieu of venting heat to the outside.
- The building structure is a pre-engineered system that uses 100 percent recycled steel materials and is designed to minimize the amount of material used.
- Construction waste is recycled whenever possible.
- Floor sealant is No-VOC and represents over 80 percent of the floor area.
- CO_2 is monitored throughout the warehouse.
- Extensive recycling/reuse program is implemented for warehouse including tires, cardboard, grease, plastics, and electronic waste.
- Use of plastic shopping bags is avoided.
- Suppliers are required to reduce packaging and consider alternative packaging solutions.
- Distribution facilities are strategically located to minimize miles traveled for delivery.
- Deliveries are made in full trucks.
- All Costco trucks are equipped with an engine idle shut off timers.



Source: Image produced and provided by Kier+Wright in 2021

Figure 2-22 South Site Utility Plan

2.4.3 Master Signage Program

The applicant has proposed a master signage program to cover the signage for both the North Site and South Site. Details about the proposed signage are included above for each of the sites. The applicant is requesting deviations from Chapter 130.36 of the County Code, including an increase in maximum allowed sign area and an increase in maximum allowed sign height.

2.5 REQUIRED OFFSITE TRANSPORTATION IMPROVEMENTS

An analysis and identification of recommended roadway improvements for the project to comply with El Dorado County General Plan Transportation policies are provided in the EDH 52 Transportation Impact Analysis (Appendix E). It is anticipated that the County would require the following conditions of approval to be applied to the project:

- Silva Valley Parkway and Entrada Lane Intersection: Signalize the intersection.
- White Rock Road and Valley View Parkway-Vine Street Intersection: Add a northbound right turn lane and change the right turn phase to permissive and overlap. Increase the westbound left turn storage length.
- Bass Lake Road and Country Club Drive Intersection: Add a southbound right turn lane and an eastbound left turn lane. Optimize the signal timing.
- Serrano Parkway and Bass Lake Road Intersection: Optimize the signal timing.
- US 50 EB Ramps and Marble Lake Road Intersection: Signalize the intersection. If this intersection is signalized, the U.S. 50 Westbound Ramps/Bass Lake Rd Ramp Intersection will likely need to be signalized as well.
- Silva Valley Parkway and Project Driveway Intersection: Optimize the signal timing to reduce the queue length. Increase length of southbound left turn pocket to 380 feet.

2.6 REQUESTED ENTITLEMENTS

2.6.1 Both Sites

- Master Sign Program
- Variance to allow Master Sign Program that would allow for signage beyond currently allowed by PD zoning regulations
- Oak Tree Removal Permit

2.6.2 North Site

- Planned Development Permit (PD15-0001) to include site plans, and design guidelines;
- Rezone (Z17-0004) of site from Regional Commercial – Planned Development (CR-PD) to Community Commercial - Planned Development (CC-PD) ;
- Conditional Use Permit (CUP-R21-0024) to allow the use of a self-storage operation within the CC-PD zone; and
- Tentative Parcel Map (P17-0007) to reconfigure existing and create new parcels .

2.6.3 South Site

- Planned Development Permit (PD15-0001) to include site plans, design guidelines, and signage program;

- Rezone the entire site to CR-PD zoning; and
- County Road Improvement and Maintenance Agreement

2.7 OTHER AGENCY APPROVALS

The project may require additional approvals or entitlements from agencies other than El Dorado County. The agencies and approvals that may be required include the following:

- El Dorado Local Agency Formation Commission: annexation of the project site into the El Dorado Irrigation District (EID) and the El Dorado Hills County Water District (El Dorado Hills Fire Department) for both North Site and South Site;
- EID (associated U.S. Bureau of Reclamation action) for water supply service and wastewater service for both North Site and South Site;
- El Dorado Hills Fire Department approval of Fire Safe Plan for both North Site and South Site;
- El Dorado Air Quality Management District permitting approval for the North Site gas station;
- California Department of Fish and Wildlife streambed alteration agreement for both North Site and South Site; and
- U.S. Army Corps of Engineers for wetland fill for both North Site and South Site.

This page intentionally left blank.

URBAN PLANNING PARTNERS INC.
388 17TH STREET
SUITE 230
OAKLAND, CA 94612
510.251.8210
WWW.UP-PARTNERS.COM

February 4, 2022

Gina Hamilton, Senior Planner
County of El Dorado
Planning and Building Department
2850 Fairlane Court, Building C

RE: UPDATED PROJECT MATERIALS FOR PD15-0001, Z17-0004, P17-0007, CUP-R21-0024, LLA21-0009

Dear Gina:

On behalf of the EDH-52 team, I am transmitting the following new and revised exhibits for the planning application for the EDH-52 Commercial Center project.

Updated Project Description

The project description has been updated to reflect the off-site improvements and other various project revisions such as the Costco warehouse square footage and revised zoning proposal.

Updated South Site Exhibits

Several new exhibits have been created, including a new site plan detailing the revised off-site transportation improvements, a revised preliminary utility plan, and revised zoning proposal.

Updated North Site Exhibit

Revised North Site Plan has been included.

Variance Application and Master Signage Program

We've included an application for a variance and associated justification memo which details our reasoning for the need for modifications to the current County signage ordinance. We've also included our draft Master Signage Program which details our unified signage proposal for both the North and South site.

We look forward to working with El Dorado County to move the project forward and are available to answer any questions you may have regarding the project.

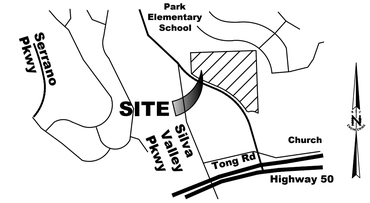
Sincerely,
URBAN PLANNING PARTNERS, INC.



Brandon Northart
ASSOCIATE PLANNER
O: 510.251.8210 x1015

cc: Tiffany Wilson, RSC Engineering





EARTHWORK SUMMARY

APPROXIMATE EARTHWORK VOLUMES:
GRADING FROM EXISTING GRADE TO FINISH GRADE

CUT VOLUME = 89,750 CY
FILL VOLUME = 117,900 CY

NET VOLUME = 28,150 CY FILL

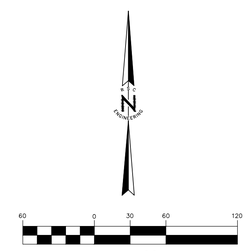
APPROXIMATE ROCK EXCAVATION VOLUMES:
GRADING FROM EXISTING GRADE TO FINISH GRADE

ROCK QUANTITY = 19,130 CY

EARTHWORK LEGEND

APPROXIMATE AREA OF CUT GREATER THAN 6' BELOW EXISTING GRADE

APPROXIMATE AREA OF FILL GREATER THAN 6' ABOVE EXISTING GRADE



OWNER:
EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

NO	DESCRIPTION	DATE	BY	CITY APPROVED
			ENG MC	

REGISTERED PROFESSIONAL ENGINEER
JAIRAJ SINGH
No.62091
Sept. 30, 2023
CIVIL
STATE OF CALIFORNIA

RSC ENGINEERING
1420 Rocky Ridge Drive, Suite 150
Roseville, CA 95661
Ph:916.788.2884 Fax:916.788.4408

PROJECT NO:	104-003A
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

PLANNED DEVELOPMENT APPLICATION FOR EDH 52

HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95762
EL DORADO COUNTY

SHEET TITLE
EARTHWORK

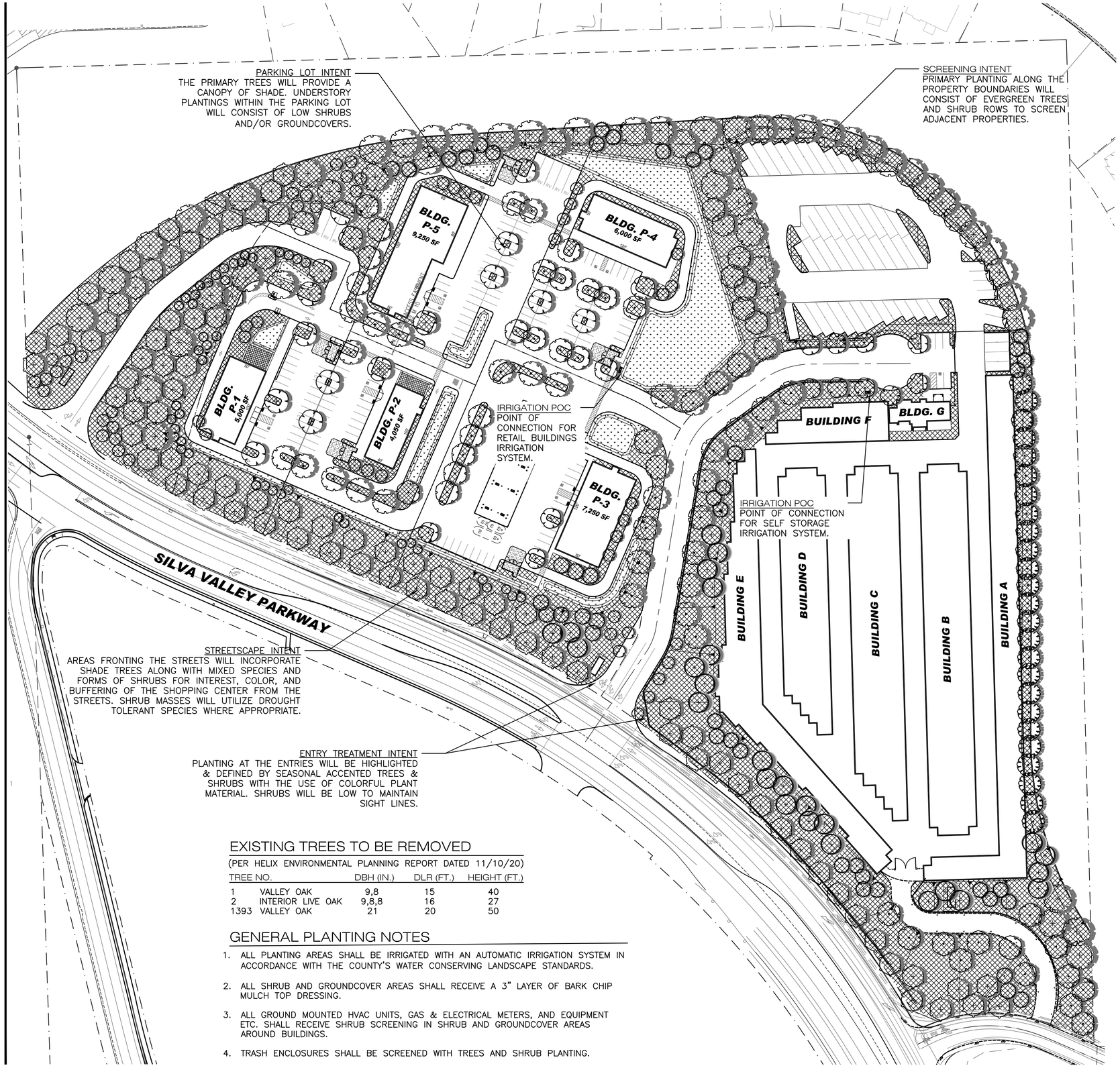
SHEET NO.
EW1
3 OF **12**

DATE: MARCH 4, 2022

XREFs: P:\104-003A\Planning\Concepts\104003A_ALTS.dwg
P:\104-003A\Planning\Concepts\104003A_ARCH.dwg
P:\104-003A\Planning\Concepts\104003A_MP00-SHP2.dwg
P:\104-003A\Planning\Concepts\104003A_MP00.dwg
P:\104-003A\Planning\Concepts\104003A_MP00ER.dwg

DRAWING: P:\104-003A\Planning\Concepts\104003A_EW-(01-10).dwg
LAST MODIFIED: Mar 08, 2022 - 1:16:49 PM
PLOT DATE: Mar 08, 2022 - 3:36:00 PM

FUHRMAN LEAMY LAND GROUP HEREBY EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS AND DRAWINGS. ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING WRITTEN PERMISSION AND CONSENT



EXISTING TREES TO BE REMOVED

(PER HELIX ENVIRONMENTAL PLANNING REPORT DATED 11/10/20)

TREE NO.		DBH (IN.)	DLR (FT.)	HEIGHT (FT.)
1	VALLEY OAK	9,8	15	40
2	INTERIOR LIVE OAK	9,8,8	16	27
1393	VALLEY OAK	21	20	50

GENERAL PLANTING NOTES

1. ALL PLANTING AREAS SHALL BE IRRIGATED WITH AN AUTOMATIC IRRIGATION SYSTEM IN ACCORDANCE WITH THE COUNTY'S WATER CONSERVING LANDSCAPE STANDARDS.
2. ALL SHRUB AND GROUNDCOVER AREAS SHALL RECEIVE A 3" LAYER OF BARK CHIP MULCH TOP DRESSING.
3. ALL GROUND MOUNTED HVAC UNITS, GAS & ELECTRICAL METERS, AND EQUIPMENT ETC. SHALL RECEIVE SHRUB SCREENING IN SHRUB AND GROUNDCOVER AREAS AROUND BUILDINGS.
4. TRASH ENCLOSURES SHALL BE SCREENED WITH TREES AND SHRUB PLANTING.

PLANT SCHEDULE

TREES	BOTANICAL / COMMON NAME	SIZE	WATER USE	QTY
	ACER RUBRUM `ARMSTRONG` ARMSTRONG RED MAPLE	15 GAL.	M	56
	ARBUTUS X `MARINA` MARINA STRAWBERRY TREE MULTI-TRUNK	15 GAL.	L	12
	CARPINUS BETULUS `FASTIGIATA` PYRAMIDAL EUROPEAN HORNBEAN	15 GAL.	M	12
	CERCIS OCCIDENTALIS WESTERN REDBUD MULTI-TRUNK	15 GAL.	L	45
	ELAEOCARPUS DECIPIENS JAPANESE BLUEBERRY TREE	15 GAL.	M	25
	LAURUS X `SARATOGA` SARATOGA HYBRID LAUREL	15 GAL.	L	26
	LIRIODENDRON TULIPIFERA TULIP POPLAR	15 GAL.	M	41
	PINUS ELDARICA AFGHAN PINE	15 GAL.	L	33
	PISTACIA CHINENSIS `KEITH DAVEY` KEITH DAVEY CHINESE PISTACHE	15 GAL.	L	19
	QUERCUS WISLIZENII INTERIOR LIVE OAK	15 GAL.	L	53
	TILIA TOMENTOSA `STERLING` STERLING SILVER LINDEN	15 GAL.	L	85
	ULMUS PARVIFOLIA `ALLEE` ALLEE LACEBARK ELM	15 GAL.	M	35

SHRUBS, GROUNDCOVER & VINES				
SYMBOL	BOTANICAL NAME COMMON NAME	SIZE	WATER USE	REMARKS
	BACKGROUND / SCREEN SHRUBS – EVERGREEN, LARGE SHRUBS TO 6'–0" USED FOR REDUCING BUILDING MASS OR SCREENING UNDESIRABLE VIEWS.			
	ABELIA X 'ED GOUCHER' GLOSSY ABELIA	5 G	MED	--
	ARBUTUS UNEDO STRAWBERRY TREE	15 G	LOW	--
	LOROPETULUM CHINENSIS 'RAZZLEBERRI' CHINESE FRINGE FLOWER	5 G	MED	--
	PHOTINIA FRASERI PHOTINIA	5 G	MED	--
	PODOCARPUS MACROPHYLLUS 'MAKI' SHRUBBY YEW PINE	5 G	MED	--
	RHAPHIOLEPIS INDICA 'JACK EVANS' INDIA HAWTHORN	5 G	LOW	--
	FACER/FILLER SHRUBS EVERGREEN OR DECIDUOUS SHRUBS TO 4'–0". USED FOR "TERRACING" OF PLANT MATERIAL. SEASONAL COLOR AND SOFTENING OF BUILDING EDGES AND FOUNDATION SHRUBS.			
	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER' FEATHER REED GRASS	5 G	MED	--
	CISTUS HYBRIDUS WHITE ROCKROSE	5 G	LOW	--
	DIANELLA CAERULEA BLUE FLAX LILY	5 G	LOW	--
	GARDENIA JASMINOIDES 'GROWN JEWEL' CROWN JEWEL GARDENIA	5 G	MED	--
	HELICTOTRICHON SEMPERVIRENS BLUE OAT GRASS	5 G	LOW	--
	MUHLENBERGIA RIGENS DEER GRASS	5 G	LOW	--
	NANDINA DOMESTICA 'COMPACTA' HEAVENLY BAMBOO	5 G	LOW	--
	RHAPHIOLEPIS INDICA 'SPP. INDIA HAWTHORN	5 G	LOW	--
	VIBURNUM DAVIDII DAVID'S VIBURNUM	5 G	MED	--
	GROUND COVER MATERIAL – SMALL SCALE DUE TO PROJECT TYPE, EVERGREEN OR PERENNIAL SHRUBS TO 24" HIGH. USED AS A FILLER BETWEEN SITE WORK EDGES AND FACER SHRUBS.			
	ARCTOSTAPHYLOS U. URSI MANZANITA	1 G	LOW	36" O.C.
	BERGENIA CRASSIFOLIA WINTER BLOOMING BERGENIA	1 G	MED	36" O.C.
	FESTUCA GLAUCA BLUE FESCUE	1 G	MED	24" O.C.
	HOSTA 'LIBERTY' VARIEGATED HOSTA	1 G	MED	24" O.C.
	ROSA FLOWER CARPET (WHITE AND RED) FLOWER CARPET ROSE	1 G	MED	36" O.C.
	SOLLYA HETEROPHYLLA AUSTRALIAN BLUEBELL CREEPER	1 G	MED	18" O.C.
	"NO MOW" OR "MOW FREE" FESCUE NATIVE FESCUE BLEND	SOD	MED	--
	WATER QUALITY BASIN – PLANTS ACCEPTABLE TO WET CONDITIONS			
	JUNCUS PATENS GREY RUSH	--	HIGH	--
	JUNCUS EFFUSES SOFT RUSH	--	HIGH	--
	NASELLA PULCHRA PURPLE NEEDLE GRASS	--	HIGH	--
	BIOFILTRATION SOD	SOD	MED	--

0 60' 120'
Scale: 1" = 60'-0"

UNDERGROUND SERVICE ALERT
CALL TOLL FREE
1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG

FUHRMAN LEAMY LAND GROUP
DESIGN • SERVICE • SOLUTIONS
2140 PROFESSIONAL DRIVE, SUITE 115
ROSEVILLE, CALIFORNIA 95661
916.783.5263` FLLANDGROUP.COM

JOB NO. : RSC-20054

CONSULTANT

PROJECT:

EDH 52

HWY 50 & SILVA VALLEY PKWY
EL DORADO HILLS, CA

CLIENT:

REVISIONS	DATE
1	
2	
3	
4	

ISSUE		DATE
1	1st SUBMITTAL	11.02.2020
2	2nd SUBMITTAL	04.23.2021
3	3rd SUBMITTAL	06.08.2021
4	4th SUBMITTAL	03.04.2022
5		

REGISTERED LANDSCAPE ARCHITECT
KEVIN C.
No.
PRELIMINARY
NOT FOR CONSTRUCTION
03/31/22
Date
XX/XX/XX
Date
STATE OF CALIFORNIA

DRAWN : KCL
CHECKED : KCL
SCALE: : 1" = 60'-0"

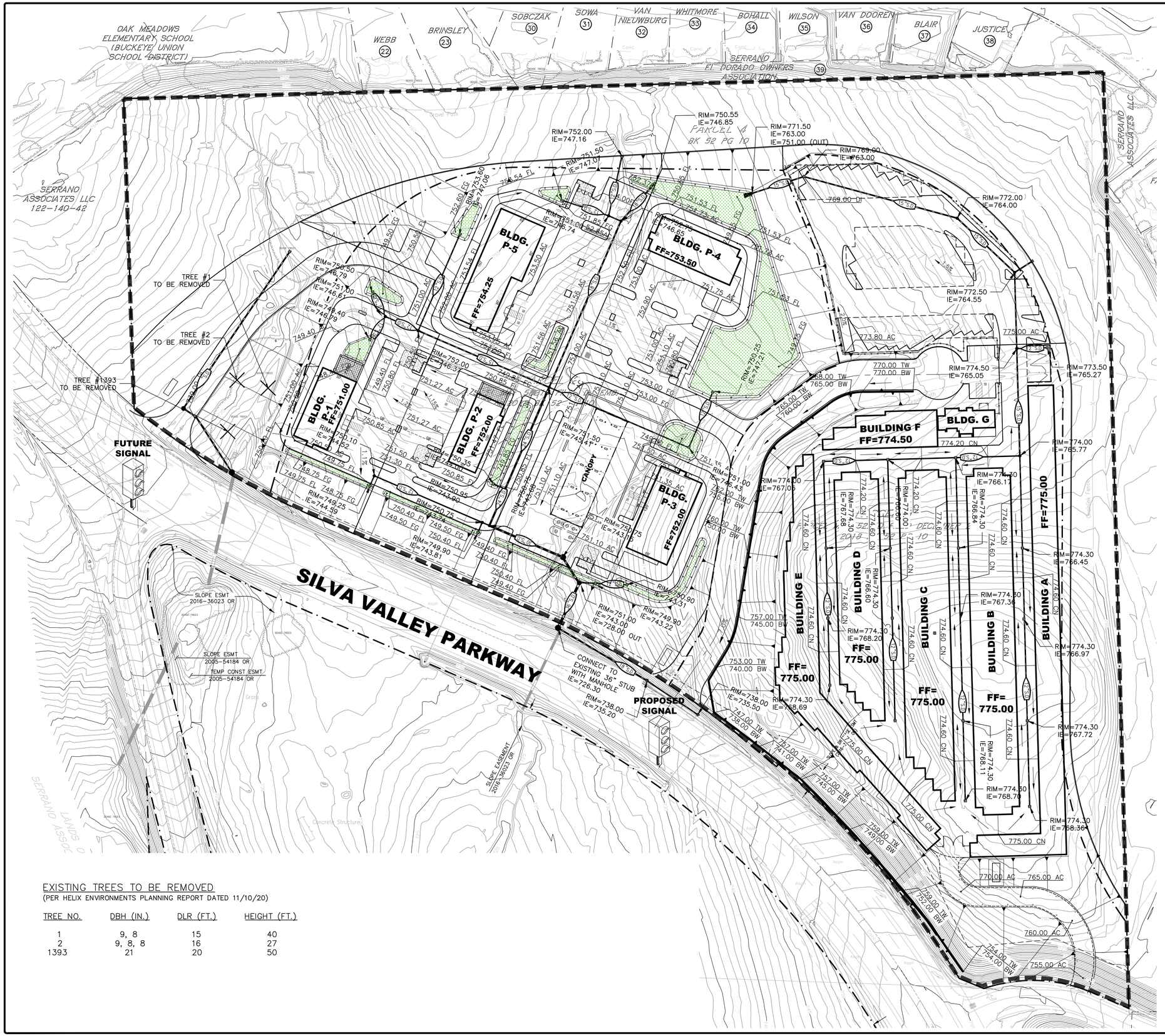
SHEET TITLE:

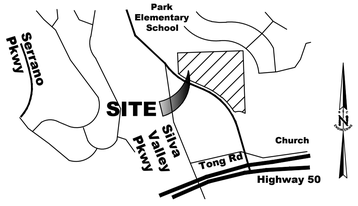
PRELIMINARY LANDSCAPE PLAN

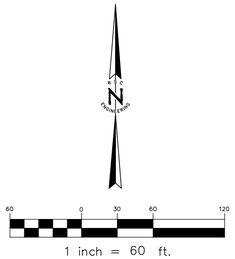
SHEET

PL-1

1 OF 1 SHEETS







EXISTING TREES TO BE REMOVED

(PER HELIX ENVIRONMENTS PLANNING REPORT DATED 11/10/20)

TREE NO.	DBH (IN.)	DLR (FT.)	HEIGHT (FT.)
1	9, 8	15	40
2	9, 8, 8	16	27
1393	21	20	50

OWNER:

EDH 52 GP

7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

NO.	DESCRIPTION	DWG INIT.	BY	DATE	CITY APPROVED

REGISTERED PROFESSIONAL ENGINEER
JATRAJ SINGH
No.62091
Sept. 30, 2023
CIVIL
STATE OF CALIFORNIA

RSC ENGINEERING
1420 Rocky Ridge Drive, Suite 150
Roseville, CA 95661
Ph:916.788.2884 Fax:916.788.4408

PROJECT NO:	104-003A
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

PLANNED DEVELOPMENT APPLICATION FOR EDH 52

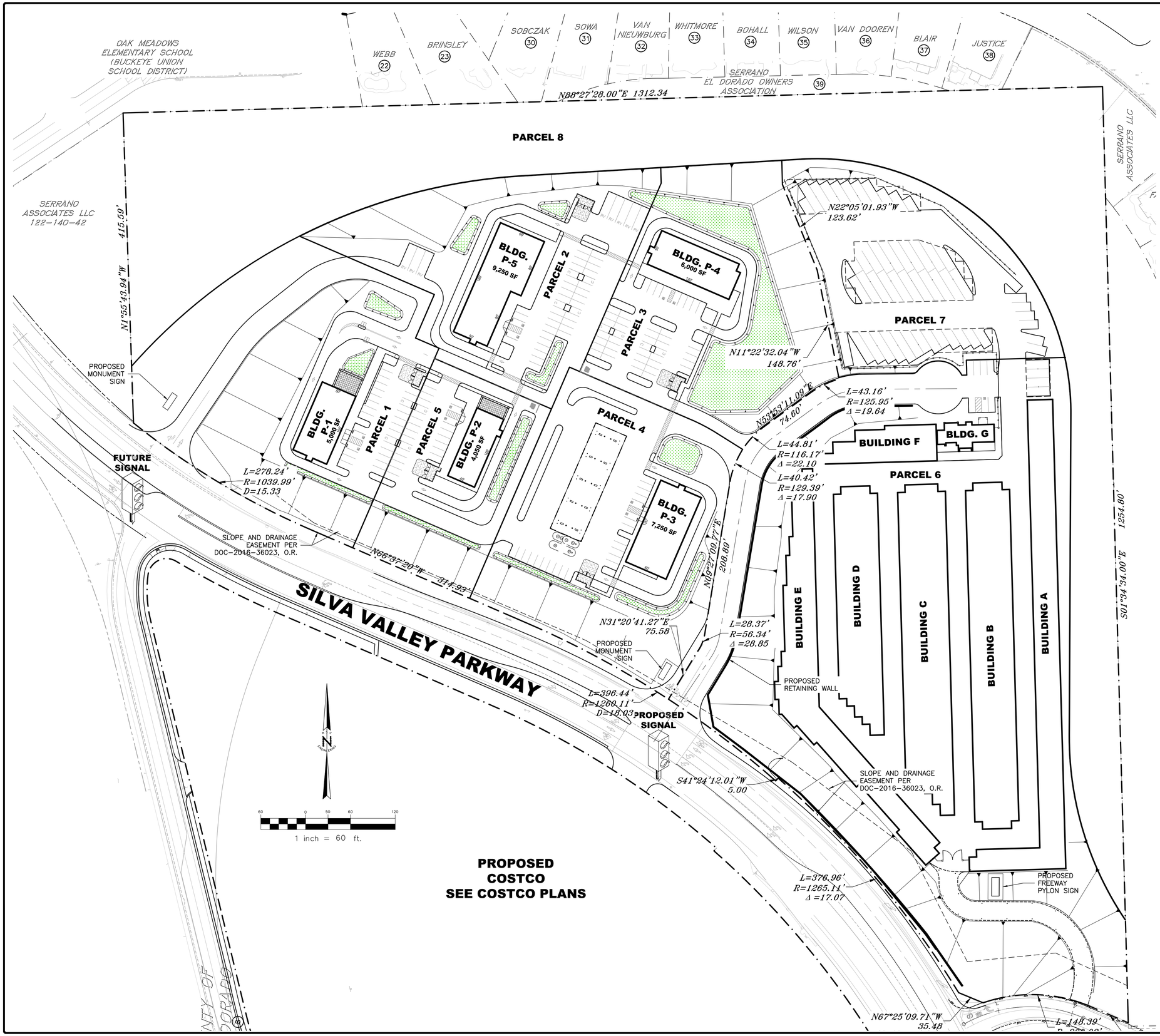
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95762
EL DORADO COUNTY

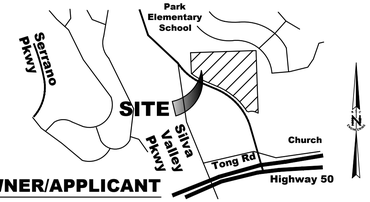
SHEET TITLE
PRELIMINARY GRADING PLAN

SHEET NO.
GR1
2 OF **12**

DATE: MARCH 4, 2022

XRefs: \104003A_XBORDER.dwg \104003A_GTOPO.dwg \104003A_GTOPO_1.dwg \104003A_GTOPO_2.dwg \104003A_GTOPO_3.dwg \104003A_GTOPO_4.dwg
DRAWING: P:\104-003A\Planning\Conceptual\104003A_GR.dwg
USER: jsingh
LAYOUT: GR1
PLOT DATE: 09_26_2023 - 3:24:21 PM





OWNER/APPLICANT

EDH 52 G.P.
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

ENGINEER

RSC ENGINEERING, INC.
1420 ROCKY RIDGE DRIVE, SUITE 150
ROSEVILLE, CA 95661
PHONE: (916) 788-2884

SITE DATA

NORTH AREA	
PARCELS 1-7	19.21± ACRES (836,550,584± SF)
PARCEL 8	5.63± ACRES (245,122± SF)
OVERALL NORTH AREA	24.83± ACRES (1,081,672± SF)
TOTAL BUILDING AREA: (PARCELS 1-7)	161,908± S.F
LOT COVERAGE:	19.0%
LAND USE CLASSIFICATION:	COMMERCIAL
PROPOSED ZONING CLASSIFICATION:	COMMUNITY COMMERCIAL PLANNED DEVELOPMENT

APN: 122-720-019, 020 AND 021

UTILITY PROVIDERS

WATER	EL DORADO IRRIGATION DISTRICT
SANITARY SEWER	EL DORADO IRRIGATION DISTRICT
STORM DRAIN	EL DORADO COUNTY
FIRE	EL DORADO FIRE PROTECTION DISTRICT
ELECTRIC	PG&E
GAS	PG&E
TELEPHONE	AT&T
CABLE	AT&T

NOTES

1. PARKING SHOWN CONTAINS 90° PARKING SPACES.
2. TYPICAL PARKING STALL DIMENSIONS:
   STANDARD STALLS WIDTH: 9' DEPTH: 18' MIN.
   COMPACT STALLS WIDTH: 9' DEPTH: 15.0'
   TWO WAY AISLES: 24' MIN.
3. TREES AND WETLANDS NOT SHOWN ON SITE PLAN ARE PROPOSED TO BE REMOVED AND FILLED PER COUNTY MITIGATION AND ARMY CORP PERMIT.
4. EXISTING EASEMENT WIDTHS VARY. PROPOSED EASEMENTS ARE UNKNOWN AT THIS TIME.

SITE ANALYSIS - RETAIL

BUILDINGS:

BUILDING P-1:	5,000 SF
BUILDING P-2:	9,250 SF
BUILDING P-3:	6,000 SF
BUILDING P-4:	7,250 SF
BUILDING P-5:	4,050 SF
TOTAL:	31,550 SF

PARKING STALLS:

STANDARD PARKING:	136 SPACES
COMPACT PARKING:	12 SPACES
ACCESSIBLE PARKING:	10 SPACES
RV PARKING:	8 SPACES
TOTAL:	166 SPACES

SITE ANALYSIS - STORAGE

STORAGE FACILITY:

BUILDING "A"	24,800 SF
BUILDING "B"	27,500 SF
BUILDING "C"	27,000 SF
BUILDING "D"	18,600 SF
BUILDING "E"	22,300 SF
BUILDING "F"	6,425 SF
BUILDING "G"	3,733 SF
TOTAL	130,358 SF

STANDARD PARKING:	6 SPACES
ACCESSIBLE PARKING:	1 SPACES
TOTAL:	7 SPACES

OWNER:
EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

NO	DESCRIPTION	ENG INIT	BY	DATE
1	CITY APPROVED			

RSC ENGINEERING
1420 Rocky Ridge Drive, Suite 150
Roseville, CA 95661
Ph:916.788.2884 Fax:916.788.4408

PROJECT NO:	104-003A
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

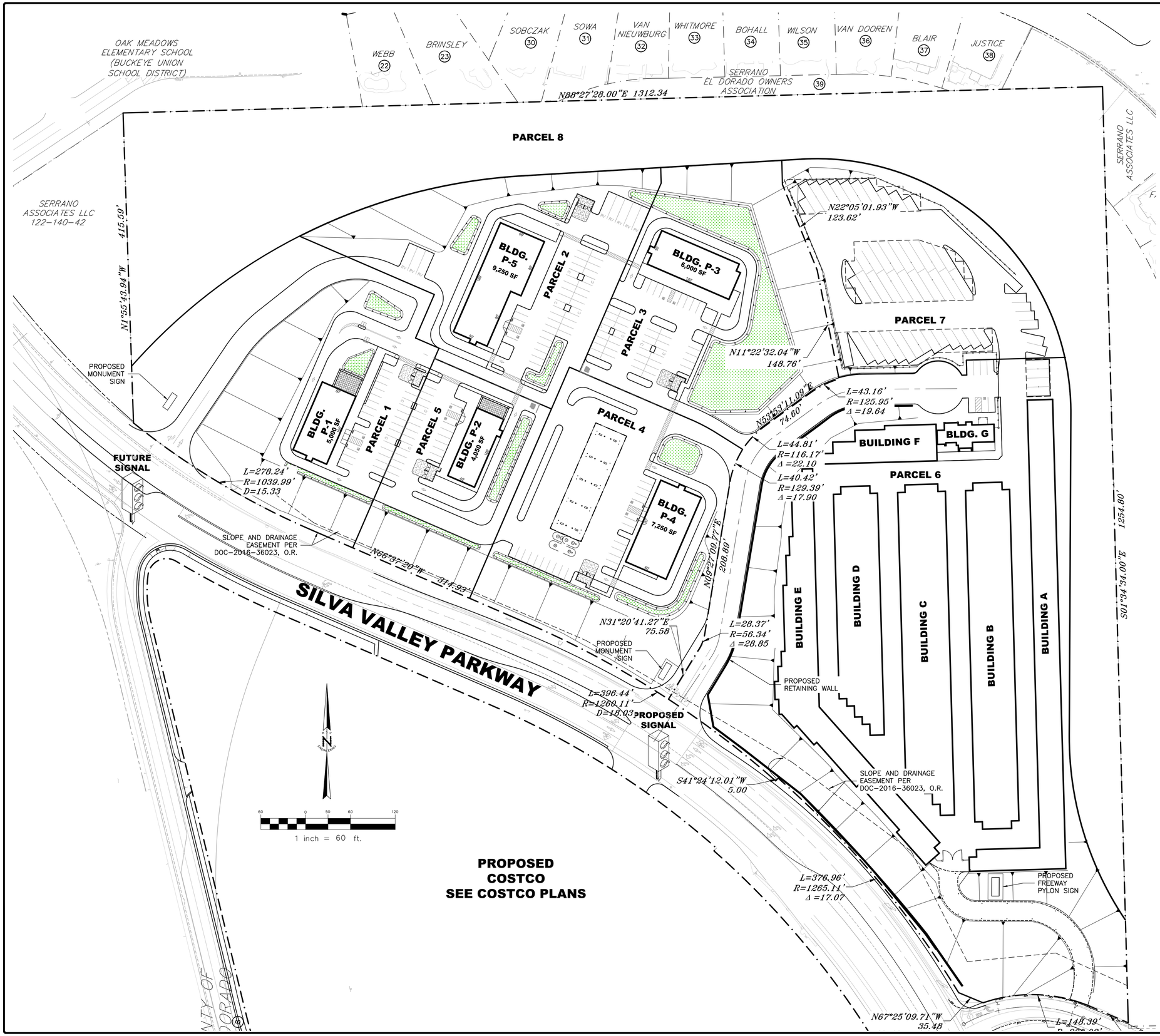
PLANNED DEVELOPMENT APPLICATION FOR EDH 52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95762
EL DORADO COUNTY

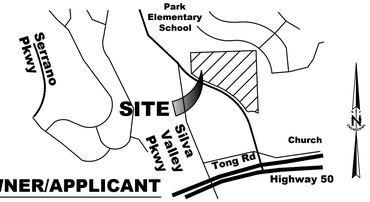
SHEET TITLE
PRELIMINARY OVERALL SITE PLAN

SHEET NO.
SP1
1 OF **12**

DATE: MARCH 4, 2022

XREFs: \\104003A_SBP#29.dwg \\104003A_SBP#30.dwg \\104003A_SP#9.dwg \\104003A_SP#10.dwg \\104003A_SP#36.dwg \\104003A_SP#36-39P.dwg
DRAWING: R:\104-003A\Planning\Conceptual\104003A_SP.dwg
LAST MODIFIED: Mar 01, 2022 - 1:46:15 AM
PLOT DATE: Mar 01, 2022 - 1:46:15 AM





OWNER/APPLICANT

EDH 52 G.P.
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

ENGINEER

RSC ENGINEERING, INC.
1420 ROCKY RIDGE DRIVE, SUITE 150
ROSEVILLE, CA 95661
PHONE: (916) 788-2884

SITE DATA

NORTH AREA	
PARCELS 1-7	19.21± ACRES (836,550,584± SF)
PARCEL 8	5.63± ACRES (245,122± SF)
OVERALL NORTH AREA	24.83± ACRES (1,081,672± SF)
TOTAL BUILDING AREA: (PARCELS 1-7)	161,908± S.F
LOT COVERAGE:	19.0%
LAND USE CLASSIFICATION:	COMMERCIAL
PROPOSED ZONING CLASSIFICATION:	COMMUNITY COMMERCIAL PLANNED DEVELOPMENT

APN: 122-720-019, 020 AND 021

UTILITY PROVIDERS

WATER	EL DORADO IRRIGATION DISTRICT
SANITARY SEWER	EL DORADO IRRIGATION DISTRICT
STORM DRAIN	EL DORADO COUNTY
FIRE	EL DORADO FIRE PROTECTION DISTRICT
ELECTRIC	PG&E
GAS	PG&E
TELEPHONE	AT&T
CABLE	AT&T

NOTES

1. PARKING SHOWN CONTAINS 90° PARKING SPACES.
2. TYPICAL PARKING STALL DIMENSIONS:
   STANDARD STALLS WIDTH: 9' DEPTH: 18' MIN.
   COMPACT STALLS WIDTH: 9' DEPTH: 15.0'
   TWO WAY AISLES: 24' MIN.
3. TREES AND WETLANDS NOT SHOWN ON SITE PLAN ARE PROPOSED TO BE REMOVED AND FILLED PER COUNTY MITIGATION AND ARMY CORP PERMIT.
4. EXISTING EASEMENT WIDTHS VARY. PROPOSED EASEMENTS ARE UNKNOWN AT THIS TIME.

SITE ANALYSIS - RETAIL

BUILDINGS:	
BUILDING P-1: 5,000 SF	
BUILDING P-2: 4,050 SF	
BUILDING P-3: 6,000 SF	
BUILDING P-4: 7,250 SF	
BUILDING P-5: 9,250 SF	
TOTAL: 31,550 SF	
PARKING STALLS:	
STANDARD PARKING:	136 SPACES
COMPACT PARKING:	12 SPACES
ACCESSIBLE PARKING:	10 SPACES
RV PARKING:	8 SPACES
TOTAL:	166 SPACES

SITE ANALYSIS - STORAGE

STORAGE FACILITY:	
BUILDING "A"	24,800 SF
BUILDING "B"	27,500 SF
BUILDING "C"	27,000 SF
BUILDING "D"	18,600 SF
BUILDING "E"	22,300 SF
BUILDING "F"	6,425 SF
BUILDING "G"	3,733 SF
TOTAL	130,358 SF
STANDARD PARKING:	6 SPACES
ACCESSIBLE PARKING:	1 SPACES
TOTAL:	7 SPACES

OWNER:
EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

NO	DESCRIPTION	ENG INIT	BY	DATE
				CITY APPROVED

RSC ENGINEERING
1420 Rocky Ridge Drive, Suite 150
Roseville, CA 95661
Ph: 916.788.2884 Fax: 916.788.4408

PROJECT NO:	104-003A
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

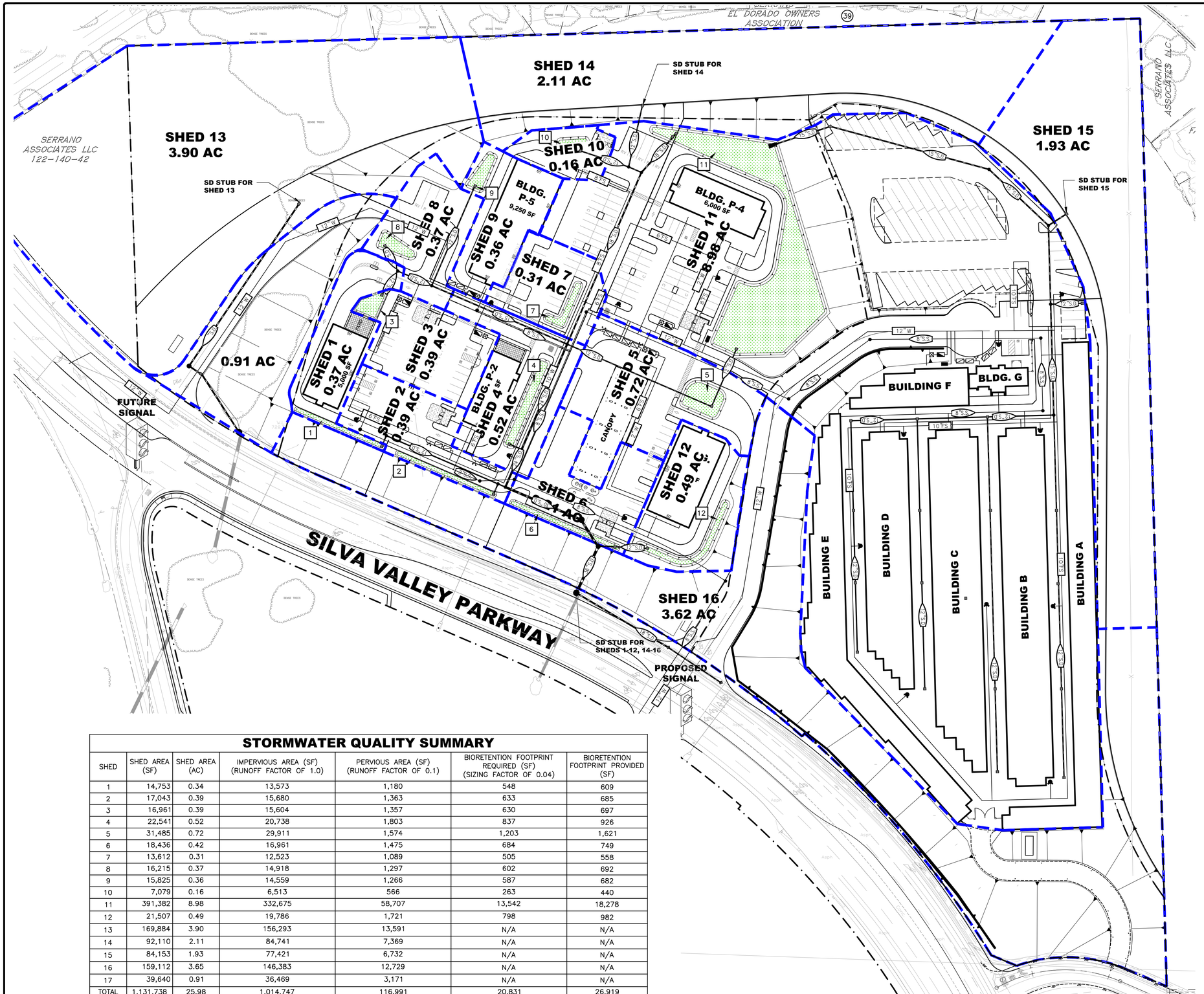
PLANNED DEVELOPMENT APPLICATION FOR EDH 52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95762
EL DORADO COUNTY

SHEET TITLE
PRELIMINARY OVERALL SITE PLAN

SHEET NO.
SP1
1 OF **12**

DATE: MARCH 4, 2022

XREFs: \\104003A_SBP#29.dwg
\\104003A_SBP#30.dwg
\\104003A_SBP#31.dwg
\\104003A_SBP#32.dwg
\\104003A_SBP#33.dwg
DRAWING: R:\104-003A\Planning\Conceptual\104003A_SP.dwg
LAST MODIFIED: Jun 09, 2022 - 12:22:59 PM
PLOT DATE: Jun 09, 2022 - 12:22:59 PM



STORMWATER QUALITY SUMMARY

SHED	SHED AREA (SF)	SHED AREA (AC)	IMPERVIOUS AREA (SF) (RUNOFF FACTOR OF 1.0)	PERVIOUS AREA (SF) (RUNOFF FACTOR OF 0.1)	BIORETENTION FOOTPRINT REQUIRED (SF) (SIZING FACTOR OF 0.04)	BIORETENTION FOOTPRINT PROVIDED (SF)
1	14,753	0.34	13,573	1,180	548	609
2	17,043	0.39	15,680	1,363	633	685
3	16,961	0.39	15,604	1,357	630	697
4	22,541	0.52	20,738	1,803	837	926
5	31,485	0.72	29,911	1,574	1,203	1,621
6	18,436	0.42	16,961	1,475	684	749
7	13,612	0.31	12,523	1,089	505	558
8	16,215	0.37	14,918	1,297	602	692
9	15,825	0.36	14,559	1,266	587	682
10	7,079	0.16	6,513	566	263	440
11	391,382	8.98	332,675	58,707	13,542	18,278
12	21,507	0.49	19,786	1,721	798	982
13	169,884	3.90	156,293	13,591	N/A	N/A
14	92,110	2.11	84,741	7,369	N/A	N/A
15	84,153	1.93	77,421	6,732	N/A	N/A
16	159,112	3.65	146,383	12,729	N/A	N/A
17	39,640	0.91	36,469	3,171	N/A	N/A
TOTAL	1,131,738	25.98	1,014,747	116,991	20,831	26,919

NOTE: SIZING SHOWN ABOVE USES THE TREATMENT CRITERIA OUTLINED IN THE CITY OF ROCKLIN POST-CONSTRUCTION MANUAL

OWNER:
EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

NO	DESCRIPTION	DATE
		CITY APPROVED
		BY
		ENG MK

REGISTERED PROFESSIONAL ENGINEER
JATRAJ SINGH
No.62091
Sept. 30, 2023
CIVIL
STATE OF CALIFORNIA

RSC ENGINEERING
1420 Rocky Ridge Drive, Suite 150
Roseville, CA 95661
Ph:916.788.2884 Fax:916.788.4408

PROJECT NO:	104-003A
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

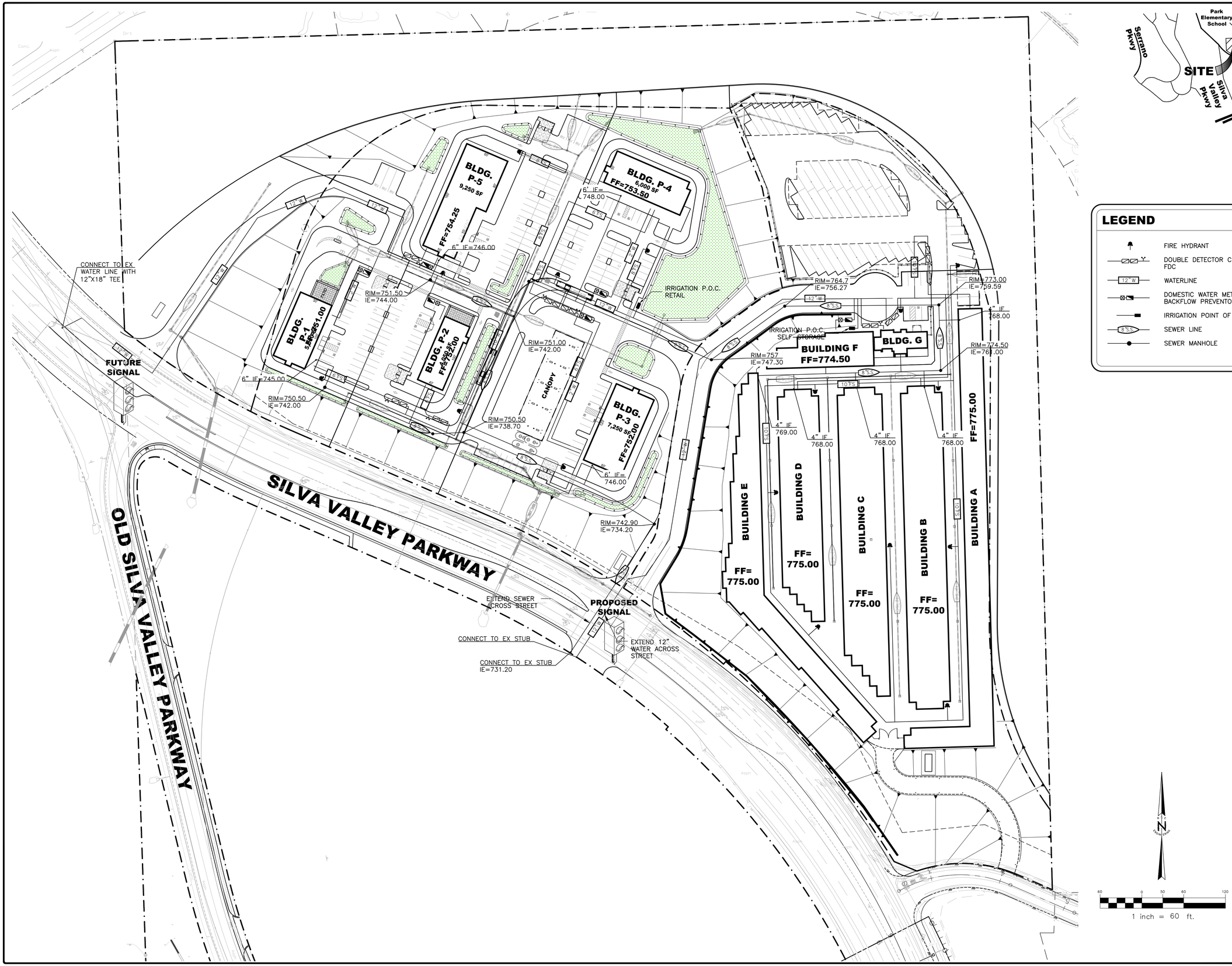
PLANNED DEVELOPMENT APPLICATION FOR EDH 52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95762
EL DORADO COUNTY

SHEET TITLE
PRELIMINARY SWQ SHED MAP

SHEET NO.
SWQ1
5 OF **12**

DATE: MARCH 4, 2022

XRefs: \\140003A_BORDER.dwg \\140003A_TITLE.dwg \\140003A_XTOPO.dwg \\140003A_XUTILITIES.dwg \\140003A_XSHED.dwg
DRAWING: P:\104-003A\Planning\Submittals\140003A_SWQ.dwg
USER: jatraj.singh
PLOT DATE: Mar 04, 2022 - 3:23:37 PM



LEGEND

- FIRE HYDRANT
- DOUBLE DETECTOR CHECK VALVE AND FDC
- 12" W — WATERLINE
- DOMESTIC WATER METER AND BACKFLOW PREVENTOR
- IRRIGATION POINT OF CONNECTION
- 8"SS — SEWER LINE
- SEWER MANHOLE

OWNER:

EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

REV NO	DESCRIPTION	DATE
ENG WC	BY	CITY APPROVED

REGISTERED PROFESSIONAL ENGINEER
JAYRAJ SINGH
No.62091
Sept. 30, 2023
CIVIL
STATE OF CALIFORNIA

RSC ENGINEERING
1420 Rocky Ridge Drive, Suite 150
Roseville, CA 95661
Ph:916.788.2884 Fax:916.788.4408

PROJECT NO:	104-003A
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

PLANNED DEVELOPMENT APPLICATION FOR EDH 52

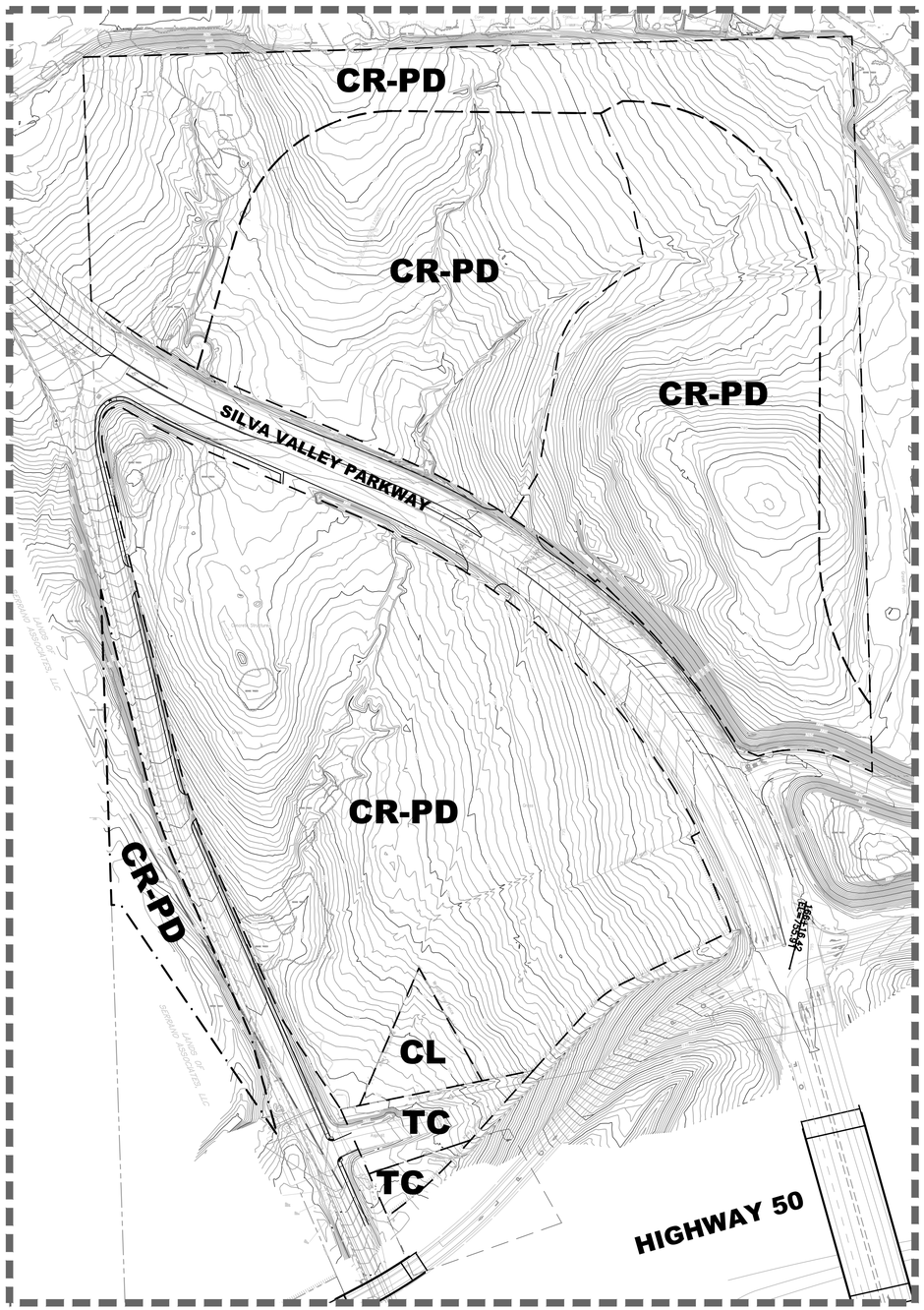
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95762
EL DORADO COUNTY

SHEET TITLE
PRELIMINARY UTILITY PLAN

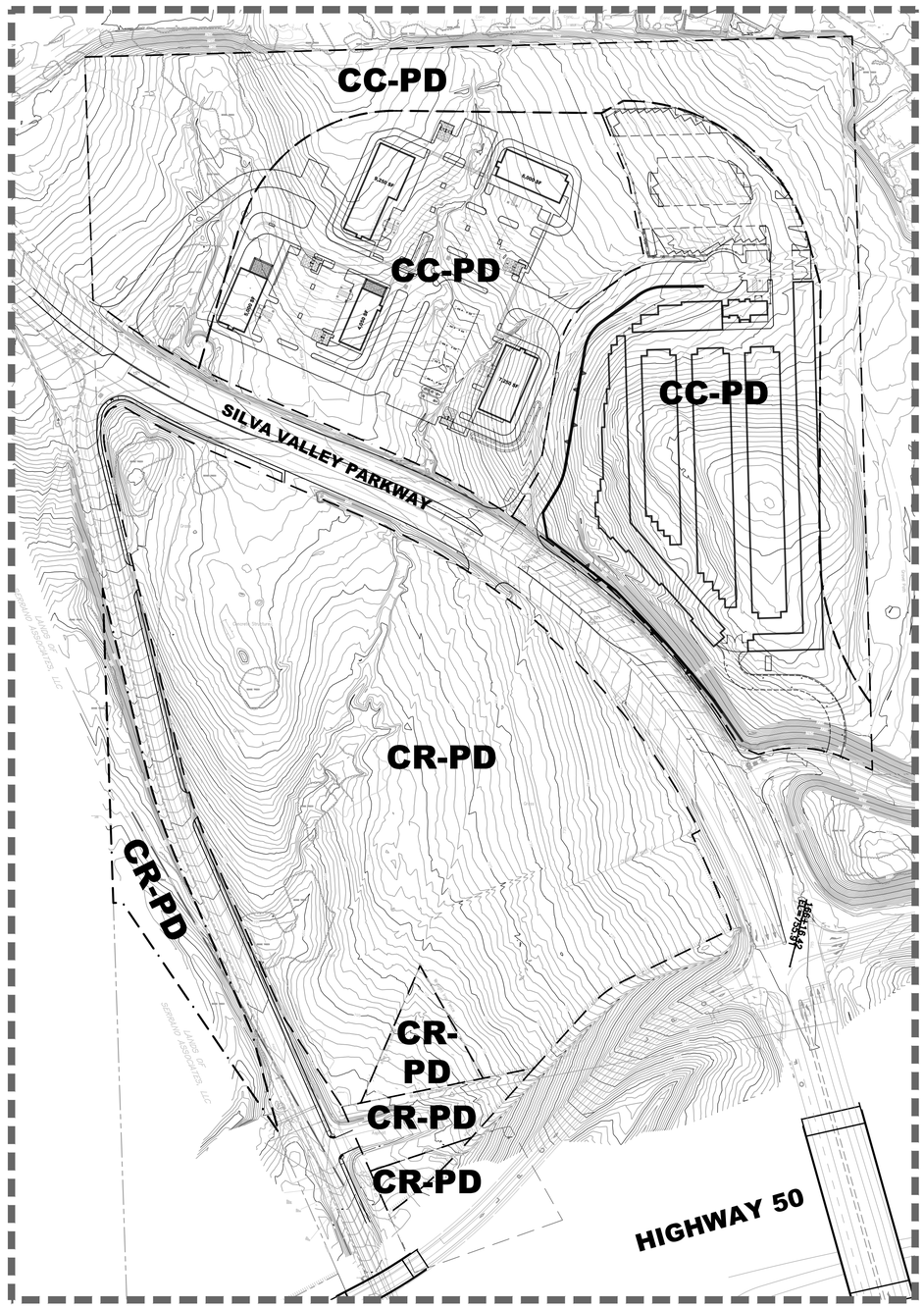
SHEET NO.
UT1
4 OF **12**

DATE: MARCH 4, 2022

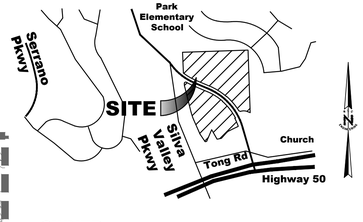
Xrefs: \104003A_GRADE.dwg \104003A_SITE.dwg \104003A_GRADE.dwg \104003A_GRADE.dwg \104003A_UTIL.dwg \104003A_GRADE.dwg \104003A_UTIL.dwg
DRAWING: R:\104-003A\Planning\Conceptual\104003A_UT1.dwg
USER: jsingh
PLOT DATE: Mon, 01, 2022 - 11:43A AM



EXISTING ZONING: CR-PD, CL & TC
COMMERCIAL REGIONAL - PLANNED DEVELOPMENT
COMMERCIAL LIMITED & TRANSPORTATION CORRIDOR
EXISTING ACREAGE: 41.88± AC



PROPOSED ZONING: CC-PD & CR-PD
COMMUNITY COMMERCIAL - PLANNED DEVELOPMENT
COMMUNITY REGIONAL - PLANNED DEVELOPMENT
PROPOSED ACREAGE: 41.88± AC



OWNER
EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826

MEE CAPITAL INVESTMENTS
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826

EL DORADO COUNTY
2850 FAIRLANE COURT
PLACERVILLE, CA 95667

ENGINEER
RSC ENGINEERING, INC.
1420 ROCKY RIDGE DRIVE, SUITE 150
ROSEVILLE, CA 95661

SCALE
1" = 120'

CONTOUR INTERVAL
5'

SOURCE OF TOPOGRAPHY
KIER & WRIGHT DATE MARCH 2019

SECTION, TOWNSHIP AND RANGE
1, 9N, 8E M.D.M.

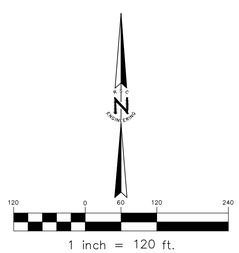
ASSESSORS PARCEL NUMBER
122-720-018, 019, 020, 021, 002 & 003

EXISTING ZONING
COMMERCIAL REGIONAL PLANNED DEVELOPMENT(CR-PD)
COMMERCIAL LIMITED (CL)
TRANSPORTATION CORRIDOR (TC)

PROPOSED ZONING
COMMUNITY COMMERCIAL PLANNED DEVELOPMENT (CC-PD)
COMMUNITY REGIONAL PLANNED DEVELOPMENT (CR-PD)

EXISTING ACREAGE SUMMARY

NORTH SIDE:	24.83± AC
SOUTH SIDE:	17.05± AC
TOTAL:	41.88± AC



1 inch = 120 ft.

OWNER:
EDH 52 GP
7919 FOLSOM BLD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

NO	DESCRIPTION	ENG INIT	BY	CITY APPROVED DATE
1				
2				
3				
4				
5				

RSC ENGINEERING
1420 Rocky Ridge Dr., Suite 150
Roseville, CA 95661
Ph:916.788.2864 Fax:916.788.4408

PROJECT NO:	104-003A
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

REZONE EXHIBIT FOR
EDH52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95762
EL DORADO COUNTY

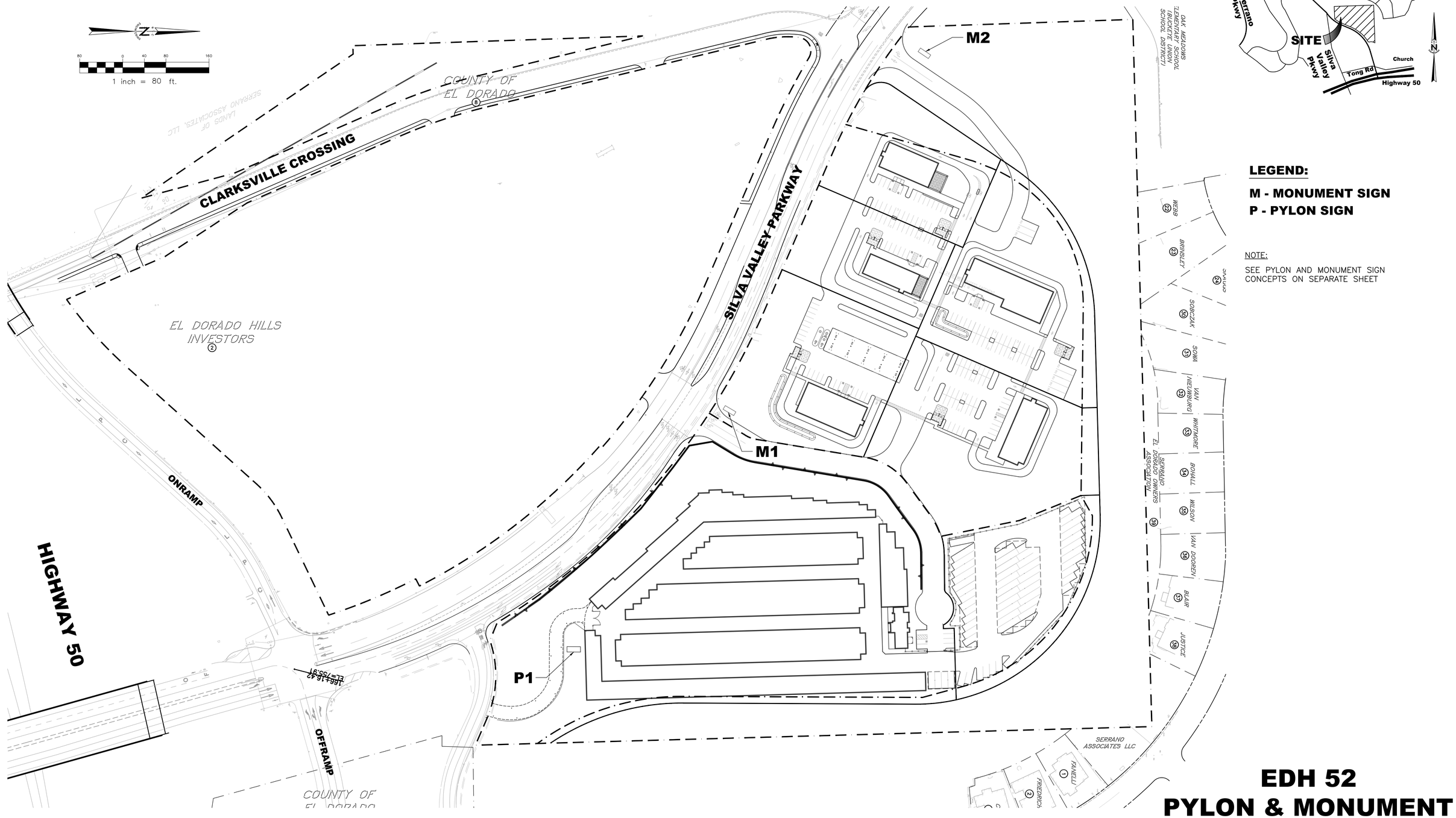
SHEET TITLE
REZONE EXHIBIT

SHEET NO.
RZ
12 OF **12**

DATE: MARCH 4, 2022

Xrefs: ...\104003A_XPRPN.dwg
...\104003A_XBASE.dwg
...\104003A_XROAD-SW.dwg

DRAWING: P:\104-003A\Planning\Concepts\rh\104003A_RZ.dwg
USER: rhall
PLOT DATE: Mar 01, 2022 - 11:55:05 AM



LEGEND:

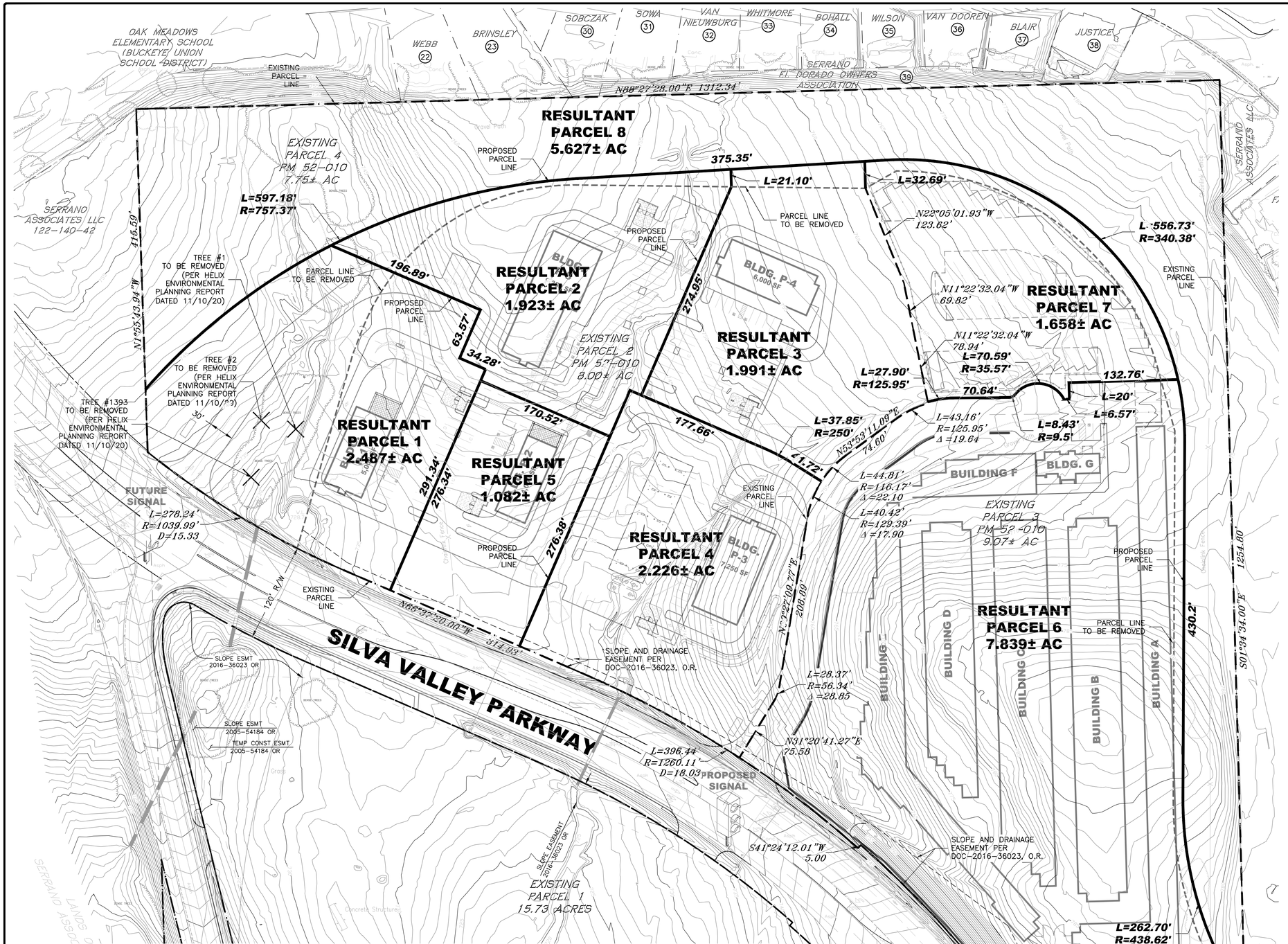
M - MONUMENT SIGN
P - PYLON SIGN

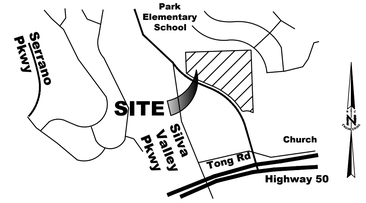
NOTE:

SEE PYLON AND MONUMENT SIGN CONCEPTS ON SEPARATE SHEET

EDH 52
PYLON & MONUMENT SIGN CONCEPT

DATE: MARCH 4, 2022
SHEET 9 OF 12





LEGEND

- EXISTING BOUNDARY
- PROPOSED PARCEL LINE
- PARCEL LINE TO BE REMOVED
- PROPOSED SETBACK
- EXISTING EASEMENT
- EXISTING TREE TO BE REMOVED

EXISTING TREES TO BE REMOVED

TREE NO.	DBH (IN.)	DLR (FT.)	HEIGHT (FT.)
1	9, 8	15	40
2	9, 8, 8	16	27
1393	21	20	50

1 inch = 60 ft.

OWNER/APPLICANT
EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

ENGINEER
RSC ENGINEERING, INC.
1420 ROCKY RIDGE DRIVE, SUITE 150
ROSEVILLE, CA 95661
PHONE: (916)788-2884

SCALE
1" = 60'

CONTOUR INTERVAL
5'

SOURCE OF TOPOGRAPHY
KIER & WRIGHT, MARCH 2019

SECTION, TOWNSHIP AND RANGE
1, 9N, 8E M.D.M.

ASSESSORS PARCEL NUMBER
122-720-19, 020 AND 021

PRESENT ZONING
COMMERCIAL REGIONAL - PLANNED DEVELOPMENT (PD-CR)

UTILITY PROVIDERS

WATER	EL DORADO IRRIGATION DISTRICT
SANITARY SEWER	EL DORADO IRRIGATION DISTRICT
STORM DRAIN	EL DORADO COUNTY
FIRE	EL DORADO FIRE PROTECTION DISTRICT
ELECTRIC	PG&E
GAS	PG&E
TELEPHONE	AT&T
CABLE	AT&T
FIRE PROTECTION	EL DORADO HILLS FIRE DEPARTMENT

EXISTING ACREAGE SUMMARY

PARCEL 2:	8.01± AC
PARCEL 3:	9.07± AC
PARCEL 4:	7.75± AC
TOTAL:	24.83± AC

PROPOSED ACREAGE SUMMARY

PARCEL 1:	2.487± AC
PARCEL 2:	1.923± AC
PARCEL 3:	1.991± AC
PARCEL 4:	2.226± AC
PARCEL 5:	1.082± AC
PARCEL 6:	7.839± AC
PARCEL 7:	1.658± AC
PARCEL 8:	5.627± AC
TOTAL:	24.832± AC

NUMBER OF PARCELS: 8
MINIMUM PARCEL SIZE: 1.082± AC

NOTES

1. REFER TO FINAL PARCEL MAP FOR EXACT DIMENSIONS
2. FLOOD ZONE R1, FEMA NO. 060040 0700D, DATED 10/18/1995
3. WIDTH OF EXISTING EASEMENTS VARY.

Zoning Administrator: _____
Approval/Denial Date: _____
Board of Supervisors: _____
Approval/Denial Date: _____

OWNER:
EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

NO.	DESCRIPTION	ENG INIT	BY	CITY APPROVED	DATE

REGISTERED PROFESSIONAL ENGINEER JAYRAJ SINGH No.62091 Sept. 30, 2023 CIVIL STATE OF CALIFORNIA

RSC ENGINEERING
1420 Rocky Ridge Drive, Suite 150
Roseville, CA 95661
Ph: 916.788.2884 Fax: 916.788.4408

PROJECT NO: 104-003A
DRAWN BY: RSC Eng
CHECKED BY: RSC Eng
DESIGNED BY: RSC Eng

TENTATIVE PARCEL MAP OR
EDH 52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95762
EL DORADO COUNTY

SHEET TITLE
TENTATIVE PARCEL MAP

SHEET NO.
TM
11 OF **12**

DATE: MARCH 4, 2022

XRefs: \\104003A_XADJUST.dwg \\104003A_XBASE.dwg \\104003A_XBOND_TRP.dwg \\104003A_XBOND_TRP.dwg
DRAWING: R:\104-003A\Planning\Conceptual\104003A_TM.dwg
LAST MODIFIED: Mar 01, 2022 - 11:45:15 AM
PLOT DATE: Mar 01, 2022 - 11:48:15 AM

March 8, 2022

El Dorado County
Planning & Building Department
2850 Fairlane Court
Placerville, CA 95667

Attn: Matthew Aselage

RE: CUP-R21-0024 EDH52 Self-Storage and RV Storage

Dear Matt,

Please find below the responses to your list of information needs for the self-storage project dated January 6, 2022.

1. Storage unit sizes range from 25 sf per unit to a maximum of 450 sf/unit. A 5'x5' units is the smallest with the largest being approximately 10'x45'. This is a draft unit mix from our initial conversations with the storage operator. The actual unit size and count will vary from this.

Type of Unit / Bldg	UNIT SIZE			Sq. Ft. Per Unit	Total # of Units
INTERIOR GROUND LEVEL CC	5.00	X	5.00	25.00	19
INTERIOR GROUND LEVEL CC	5.00	X	7.00	35.00	3
INTERIOR GROUND LEVEL CC	10.00	X	5.00	50.00	40
INTERIOR GROUND LEVEL CC	5.00	X	15.00	75.00	3
INTERIOR GROUND LEVEL CC	10.00	X	10.00	100.00	118
INTERIOR GROUND LEVEL CC	10.00	X	15.00	150.00	140
INTERIOR GROUND LEVEL CC				175.00	1
INTERIOR GROUND LEVEL CC	10.00	X	20.00	200.00	75
INTERIOR GROUND LEVEL CC	10.00	X	25.00	250.00	4
INTERIOR GROUND LEVEL CC	10.00	X	30.00	300.00	3
INTERIOR GROUND LEVEL CC	10.00	X	35.00	350.00	3
INTERIOR GROUND LEVEL CC	10.00	X	45.00	450.00	3
GROUND LEVEL OUTSIDE LOADED	10.00	X	5.00	50.00	1
GROUND LEVEL OUTSIDE LOADED	10.00	X	10.00	100.00	6
GROUND LEVEL OUTSIDE LOADED	10.00	X	15.00	150.00	1
GROUND LEVEL OUTSIDE LOADED	10.00	X	20.00	200.00	74
GROUND LEVEL OUTSIDE LOADED	10.00	X	25.00	250.00	35
GROUND LEVEL OUTSIDE LOADED	10.00	X	30.00	300.00	36
GROUND LEVEL OUTSIDE LOADED	10.00	X	35.00	350.00	5
GROUND LEVEL OUTSIDE LOADED	12.00	X	35.00	420.00	50

2. The outdoor storage area may include open and canopy parking spaces with spot sizes between 12'x20' and 12'x35'. The allowable uses are recreation vehicles class A, B & C, travel trailers, 5th wheels, compact cars, boats, any recreation trailer (ATV, motorcycle, snowmobile). Farm equipment can be stored is located on a trailer. Mobile contractor trailers (landscaper, framer, plumber, etc.). All vehicles must have a current registration to be stored.

3. Activities allowed on site will be limited to parking the vehicles and loading and unloading storage units. Tenants may visit the storage facility to organize, pickup, drop off contents of their units. Customers cannot run any business activities from their storage units. There may be a small retail component to allow purchasing of storage and moving supplies such as boxes, tape, and packing materials either on-line or at the facility.

4. Office business hours will be from 9 am to 6 pm 7 days a week. The gate hours will be from 7 am to 7 pm 7 days a week. We do not allow 24-hour access to the facility. The office is closed for all major holidays, but gate access is available 365 days per year.

5. There will be up to 2 people living in the caretaker unit or 1 person depending on the employment contract. Typically, a couple is hired to live in the caretaker unit and work full time. Or it can be one person in the caretaker unit and one employee offsite. This depends on the qualified hiring of the employee and job experience. Having a caretaker on site provides security of the tenant's goods and for emergencies. Tenants appreciate having someone watching over their contents. It also helps if someone is locked out or a gate is damaged if it is outside office hours.

6. There will be 2 full time employees working 40 hours per week and 1 relief manager working part time.

7. We don't foresee any potential odor impacts.

8. The drive aisle surface for both the self-storage and RV/Boat storage will be asphalt or concrete depending on the economics of the material.

9. Lighting at the self-storage will be from wall packs. The RV/Boat storage parking will have 25' tall parking lot lights. The lights will be shielded and pointed downward.

10. The caretaker's unit will consist of 1 bedroom and 1 bathroom. A floor plan has not be prepared at this stage.

EDH 52 NORTH AND COSTCO SOUTH

OVERALL COMMERCIAL CENTER

PROJECT DESCRIPTION

~~April 23~~January ~~28~~March 18, ~~2021~~2022

DESCRIPTION AND PURPOSE OF THE REQUEST

The owner is pleased to submit this revised application requesting approval to construct two (2) new commercial centers (collectively, the "Project") in El Dorado County encompassing APNs: 122-720-002, 018, 019, 020 & 021. In addition, a portion of 122-720-003 and the unused former Tong Road right-of-way between Silva Valley Parkway and Clarksville Crossing are proposed to be a part of the Project. The property is located north of Highway 50 and Tong Road, east of Clarksville Crossing, and is bisected by Silva Valley Parkway. The northern portion of the property is approximately 18.26 acres (EDH 52 – North Site), and the southern portion is approximately 17.05 acres (EDH 52 Costco South Site), net of the right-of-way for roads. There is a 6.57-acre area on the North Site for the right-of-way associated with the future extension of Country Club Drive. There is a 1.38-acre area west of Clarksville Crossing on the Costco South Site that will not be developed as part of the Project.

The revised application seeks a series of zoning changes to facilitate development of the Project, including a rezone proposed on the North Site to CC-PD to allow more uses primarily seen in a shopping center setting and to allow a self-storage use with the approval of a conditional use permit. In addition, the application proposes to extend the existing CR-PD zoning to a portion of the Costco South Site to enable development of a commercial center there.

The Project is within the Planned Development Overlay zone such that a Development Plan Permit is required. To reflect the separate needs of each commercial center, the revised application includes two separate Development Plan Permit packages: one for the North Site and one for the Costco South Site. Each Development Plan Permit will address the design guidelines and signage for the corresponding portion of the Project. In addition, the owner is processing separate wetlands permits from the Army Corps of Engineers for the North Site and Costco South Site. However, both the North Site and the Costco South Site are one "project" for purposes of evaluating the Project's environmental impacts under the California Environmental Quality Act ("CEQA").

The maximum building area for the Costco South Site will be approximately 165,000 square feet and includes, without limitation, a Costco warehouse retail center, tire sales and installation, optical exams and optical sales, photo center and processing, hearing aid testing and sales, food service preparation and sales, meat preparation and sales, bakery and sales of baked goods, alcohol sales, and propane refueling and sales adjacent to tire sales and installation facility. Temporary outdoor sales may occur within the parking field adjacent to the warehouse for seasonal sales, such as Christmas trees from late November through December. The building area for the North Site will be approximately 162,000 square feet and may include the following uses: drive through uses, gas station with car wash, food uses, outdoor patio, outdoor storage and outdoor sales and other retail and offices uses permitted in the CC zone as well as a self-storage use permitted with a use permit.

ENTITLEMENTS REQUESTED

Overall Project:

- ~~As preservation of 90% of the existing oak tree canopy is not feasible, this Project will be requesting relief from General Plan Policy 7.4.4.4 due to topographic constraints and the need to grade the site in relation to Silva Valley Parkway.~~ Tree Permit for removal of all trees on site as development will impact the entire site. Mitigation is expected through the payment of in lieu fees.

- Master Sign Program for uniform signage for both North and Site South.

- Variance to allow for Master Sign Program that will allow for signage beyond currently permitted by PD zoning regulations.

North Site:

- Rezoning from CR-PD to CC-PD zoning designation.

- Development Plan Permit approval to cover:

    - the site plan, building design, and preliminary landscape plan, storm drainage, and grading;

    - design guidelines;

- Use Permit approval for a self-storage project within the CC-PD zone.

- Tentative Parcel Map to reconfigure existing and create eight (8) new parcels for purposes of sale, lease, or financing of the North Site.

Costco South Site:

- Abandonment of the former Tong Road extension right of way and disposition of subsequent parcel;

- Disposition of County-owned land near Highway 50;

- Extension of existing CR-PD zoning designation for the portion of the South Site currently zoned as Commercial Limited (CL);

- Development Plan Permit approval to cover:

    - the site plan, building design, and preliminary landscape plan, storm drainage, and grading;

- Each of the entitlements described above will be analyzed in an Environmental Impact Report to study the impacts and potential mitigation measures required for the Project.

PROJECT OBJECTIVES

Overall Project:

- Develop two high-quality planned commercial developments on currently vacant and underutilized land adjacent to Highway 50 adequately served by public services and utilities.

- Promote economic growth and diverse new employment and retail/service opportunities for County residents.

- Increase the number of employees and contribute to the local job/housing balance.

North Site:

- Develop architectural and landscaping designs that soften the scale and mass of the buildings, create a pleasant and attractive appearance, and complement the surrounding area.

- Develop site plans that minimize potential access and circulation conflicts between automobiles and pedestrians, provide adequate off-street parking for store customers and employees, and minimize impacts to the surrounding area.

Costco South Site:

- Construct and operate a new Costco warehouse that serves the local community with goods and services from both nationally known businesses but also more regional and local businesses.

- Reduce energy consumption by incorporating sustainable design features and systems with enhanced energy efficiencies meeting State and federal code requirements.

- Provide a Costco warehouse in a location that is convenient for its members, the community, and employees to travel to shop and work.

- Provide a state-of-the-art Costco warehouse to better serve the membership in the greater El Dorado Hills area.

- Enhance the area with a warehouse that is architecturally designed to be responsive to the El Dorado Hills area design context and sensitive to the adjacent community, future development(s) and compatible with the need for a new warehouse in this market area.

- Continue and increase contribution to the County's tax base by Costco.
- Expand the space available for integrated retail sales of goods and services in El Dorado Hills market.
- Minimize circulation conflicts between automobiles and pedestrians.
- Provide a Costco warehouse in a location that is serviced by adequate existing infrastructure including roadways and utilities.
- Develop a Costco warehouse that is large enough to accommodate all the uses and services Costco provides to its members elsewhere.
- Locate a Costco warehouse on a site Costco can purchase (rather than lease) to protect its substantial investment of time, money and goodwill in the location.

SITE INFORMATION

Location

The proposed Project is in El Dorado County. The Project site is on the north side of Highway 50 and is bisected by Silva Valley Parkway. It is bordered by existing residences and an elementary school to the north, vacant land to the east, Clarksville Crossing to the west, and Highway 50 to the south.

Site Description

The Project site is currently vacant. A small portion of the unused Tong Road right-of-way is proposed to be included in the South Site. The site consists of annual grassland with small oak woodlands. Slivers of wetlands and riparian areas are located on site.

DESCRIPTION OF THE PROPOSED PROJECT

The building area for the North Site will be approximately 162,000 square feet and may include the following uses: drive-through uses, gas station with car wash, food uses, outdoor patio, outdoor storage and outdoor sales and other retail and offices uses permitted in the CC zone. A use permit is requested for the self-storage project on the north site. The self-storage project will consist of 6 buildings plus an office and 52 RV storage spaces.

The maximum building area for the Costco South Site will be approximately 165,000 square feet and includes, without limitation, a Costco warehouse retail center, tire sales and installation, optical exams and optical sales, photo center and processing, hearing aid testing and sales, food service preparation and sales, meat preparation and sales, bakery and sales of baked goods, alcohol sales, and propane refueling and sales adjacent to tire sales and installation facility. The warehouse retail center will also facilitate Costco's home delivery program by serving as a hub for Costco home delivery drivers to collect member orders for delivery to the surrounding area. Temporary outdoor sales may occur within the parking field adjacent to the warehouse for seasonal sales, such as Christmas trees from late November through December.

North Site Architecture

The design theme for the North Site is based on the existing building design theme of the Serrano area, which is a California/Mediterranean style, examples of which are included in the design guidelines proposed for the North Site.

Where single tenant types (retail shops) occur, the guidelines contain specific architectural design for these buildings. Where multiple tenant types (drive-thru restaurants and fuel stations) occur, the guidelines contain a typical example of the design intent for that tenant type. Each of these specific tenants will use the typical example shown and vary their design to add individuality and yet maintain a common thread of colors, materials, and design elements as shown in the guidelines. No building design for any tenant type shall be repeated on the North Site.

Each building on the North Site shall vary in building height to achieve more visual interest and distinct building character, avoiding the monotony of continuous building height. Each building shall combine horizontal and vertical elements to provide variation, interest, and rhythm within and among the buildings. In no case shall any roof mounted equipment be higher than the lowest parapet height of the building.

The color and material palette for the North Site contains multiple options for color and materials. The intent is for these options to occur in various combinations throughout the North Site so that each building is unique in its design and materials while maintaining design continuity among the buildings. The proposed colors and materials of the palette must be maintained throughout the development of the North Site.

Within the development of the North Site, all sides of all buildings will be visible from adjacent roadways and properties. The architecture of all sides of all buildings must, therefore, be of equal quality and attention. Screening is required for loading and storage areas, utilities meters and boxes using landscaping, walls, fences in combination.

The use of colored concrete, concrete pavers, accent patterns, etc. shall be encouraged in the flatwork areas around the buildings. Provisions for gathering and resting areas shall be accomplished using intimate seating areas in near proximity of the building.

Costco South Site Architecture

The warehouse design is proposed to be contemporary and will set the standard for large format retail facades with variety of massing and appropriate materials for the building. By combining concrete masonry block and architectural metal panels, Costco intends to create a scale and architectural interest to minimize the visual impact of a large retail warehouse. By use of design techniques such as the location of building materials, landscaping, and the incorporation of varying parapet cap heights, Costco can successfully break the long elevations both horizontally and vertically at the appropriate height to conceal roof top mounted mechanical equipment. The technique of breaking a long elevation into smaller elements with varied materials and colors is used to create a more pedestrian-friendly scale in the proposed design. The proposed colors are warm natural earth tones, which will relate to the proposed surrounding development by utilizing similar building materials and architectural detailing.

The Costco South Site has been designed to utilize the existing slope of the site by locating the warehouse in the southeast corner of the site, where the elevation of existing streets adjacent to the site are the highest. By building the warehouse adjacent to higher elevation land and providing a subterranean parking structure, the height of the building and visual impacts relative to the surrounding environment are minimized. The subterranean portion of the parking structure will be adjacent to the west side of the warehouse and contain 214 parking spaces underneath the at-grade parking structure. Vehicle access to this lower-level parking would be provided by ramps on the north and south sides of the underground parking structure – the ramp on the north side would allow vehicles to enter the lower-level parking structure directly from Clarksville Crossing and the ramp on the south side would allow vehicle access from the at-grade parking lot above. A third ramp would provide pedestrian access from the lower level up to the at-grade parking and entry to the warehouse. The main entry feature to the warehouse is proposed to be oriented towards the northwest so that the loading dock and truck deliveries would be accessed from and oriented towards Interstate 50, providing greater separation with the existing residences.

The warehouse is proposed to include one customer entrance to the main Costco store that would be located at the northwest corner. The El Dorado Hills Costco is expected to include a bakery, pharmacy, optical center with optical exams and retail optical sales, hearing aid testing center, food court, and a photo center along with the sales of approximately 4,000 products. The warehouse would include a five bay Tire Center, a +/-5,300 square-foot facility with member access via the inside of the main Costco building, which would include tire sales and a tire installation facility. A promotional vehicle may be on display near the entry to the building. This vehicle would be used to promote online or offsite vehicle sales; no vehicles are proposed to be sold on site.

Costco Operations

It is anticipated that the El Dorado Hills Costco warehouse will employ approximately 165 to 170 employees.

Costco Wholesale is a membership-only retail/wholesale business, selling high quality national brands and private label merchandise for commercial and personal use. The warehouse hours are anticipated to be Monday through Friday from 9:00 am to 8:30 pm, and Saturday and Sunday from 9:00 am to 7:00 pm.

Costco anticipates an average of about 10 trucks delivering goods on a typical weekday. The trucks range in size from 26 feet long for single-axle trailers to 70 feet long for double-axle trailers. Receiving time is from 2:00 a.m. to 1:00 p.m., averaging 2 to 3 trucks per hour, with most of the deliveries completed before the 10:00 a.m. opening time. Deliveries to the warehouse are made primarily in Costco trucks from its freight consolidation facility in Tracy, California, coming to the site from Interstate 50, and accessing the site from Silva Valley Parkway.

The tire center typically will receive shipments of tires one to two times per week in single- or double-trailer trucks of up to 70 feet in length, and the same delivery truck will pick up old tires for recycling. Deliveries to and pickups from the tire center will be scheduled for pre-opening hours, typically about 6:00 a.m.

Costco Sustainability Features

The entire proposed Project will incorporate sustainability features per the California Title 24 energy requirements. In addition, to reduce energy consumption and promote sustainability, Costco will incorporate many energy saving measures when constructing a new facility. Below are some of the significant practices that Costco currently incorporates into new buildings that help conserve energy and other natural resources that are expected to be used in connection with the development of the South Site:

- Parking lot light standards will be designed in order to provide even light distribution, and utilize less energy compared to a greater number of fixtures at lower heights. The use of LED lamps can provide a higher level of perceived brightness with less energy than other lamps such as high-pressure sodium.

- New and renewable building materials are typically extracted and manufactured within the region. When masonry and concrete are used, the materials purchased are local to the project, minimizing the transportation distances and impact to local road networks.

- The use of pre-manufactured building components, including structural framing and metal panels, helps to minimize waste during construction.

- Pre-manufactured metal wall panels with insulation carry a higher R-Value and greater solar reflectivity to help conserve energy as compared to other materials. Building heat absorption is further reduced by a decrease in the thermal mass of the metal wall when compared to a typical masonry block wall.

- A substantial amount of the proposed plant material for the South Site is climate adapted to the region and will use less water than other common species.

- The irrigation system includes the use of deep root watering bubblers for parking lot trees to minimize usage and ensure that water goes directly to the intended planting areas.

- Storm water management plans are designed to maintain quality control and storm water discharge rates based on the County requirements.

- High-efficiency restroom fixtures can achieve a 40% decrease and water savings over U.S. standards.

- Commissioning of mechanical systems will occur to ensure that the HVAC systems are preforming as designed. HVAC comfort systems can be controlled by a computerized building management system to maximize efficiency.

- HVAC units planned for the South Site are high efficiency direct ducted units, which have phased out the use of HCFC's completely, long before the Montreal Protocol timeline.

- Parking lot and exterior lights can be controlled by a photo sensor and time clock.

- Lighting is controlled by the overall project energy management system.

- Energy efficient Transformers (i.e., Square D Type EE transformers) are planned to be used.

- Variable speed motors will be used on make-up air units and booster pumps.

- Gas water heaters are direct vent and 94% efficient or greater.

- Reclaim tanks are used to capture heat released by refrigeration equipment to heat domestic water in lieu of venting heat to the outside.

- The Main Building structure is a pre-engineered system that uses 100% recycled steel materials and is designed to minimize the amount of material used.

- Construction waste is recycled whenever possible.

- Floor sealant is No-VOC and represents over 80% of the floor area.

- CO2 is monitored throughout the warehouse.

- Extensive recycling/reuse program is implemented for warehouse and office space including tires, cardboard, grease, plastics, and electronic waste.

- Use of plastic shopping bags is avoided.

- Suppliers are required to reduce packaging and consider alternative packaging solutions.

- Distribution facilities are strategically located to minimize miles traveled for delivery.

- Deliveries are made in full trucks.

- All Costco trucks are equipped with an engine idle shut off timers.

SIGNAGE

Proposed highway-oriented and monument sign locations are depicted on the proposed site plan and in the Master Sign Program for both the North Site and the South Site.

North Site

A highway-oriented sign is proposed on the North Site greater than 100 feet from the freeway right of way. The owner is requesting certain deviations from Chapter 130.36 of the County Code via a Variance for the proposed highway-oriented signs, including a reduction in the minimum separation between highway-oriented signs, a reduction in the minimum setback from the adjacent residential district (North Site only), an increase in the maximum allowed area, and an increase in the maximum allowed height. Each highway-oriented sign will be a 75-foot tenant pylon sign allowing advertising from either commercial center and will include one (1) major tenant panel, one (1) junior tenant panel, and eight (8) shop tenant panels. The proposed sign area for each highway-oriented sign is 652 square feet. The highway-oriented signs will have a stone veneer base, fabricated aluminum panels, and texcote finish to compliment the color scheme of the commercial centers. Tenant names and logos will be fabricated aluminum, pan channel construction. Tenant names and logos will be flush mounted to the panel background and internally illuminated with white LED lights. Colors will comply with tenant specifications.

The owner is also requesting certain deviations from Chapter 130.36 of the County Code for the proposed monument signs, including an increase in the maximum allowed area, and an increase in the maximum allowed height. The developer is proposing two (2) 28-foot tenant monument signs on the North Site. Each monument sign will have one (1) featured tenant panel and six (6) shop tenant panels. The proposed area for each monument sign is 242 square feet. The monument signs will have a stone veneer base, fabricated aluminum panels, and texcote finish to compliment the color scheme of the commercial centers. Tenant names and logos will be routed out with acrylic push-through graphics and vinyl film overlays. Tenant names will be internally illuminated with white LED lights. Colors will comply with tenant specifications.

Building signs for retail tenants of the North Site are described in detail in the Master Signage Program.

Costco South Site

On the Costco South Site, proposed signage includes the Costco warehouse typical signage, a pylon signage at the southeast corner of the parcel at Silva Valley Parkway, and a monument sign located at the northern side of the main entry. The South Site is requesting deviations from Chapter 130.36 of the County Code via the proposed Variance, including an increase in maximum allowed sign area and an increase in maximum allowed sign height.

Building signage consists of the signature Costco red and blue corporate colors. The signage is scaled appropriately to the mass of the building elevations to not overwhelm but to reinforce the brand that Costco has established. The warehouse wall signage will consist of externally illuminated reverse pan channel letters, and the gas station signage will also be externally illuminated.

A pylon sign oriented towards Highway 50 will be located at the southeast corner of the site adjacent to Silva Valley Parkway. The sign will be approximately 75 feet tall and 28 feet wide with multiple internally illuminated panels for tenant identification for businesses located on the North Site. A monument sign consistent with the Master Signage Program would be located on the north side of the main entry will also be include as part of the Project signage.

SITE ACCESS

It is anticipated that the Project site will have multiple points of access. A traffic signal is proposed at the main driveway and Silva Valley Parkway to provide access to both the Costco South Site and the North Site. A partial traffic signal is also proposed at Silva Valley Parkway and Clarksville Crossing for a protected left turn into the North Site via Clarksville Crossing.

North Site

A right in and out is proposed on Silva Valley Parkway generally across from the existing Clarksville Crossing.~~A portion of Country Club Drive extension will be constructed to a secondary full access to the North Site.~~ An emergency access to Tong Road from the self-storage facility is proposed. ~~Three full access driveways are proposed on Clarksville Crossing to provide additional points of access from the North Site to the South Site.~~

Costco South Site

Regional access to the warehouse will be from Interstate 50 via the Silva Valley Parkway exit. One full-access driveway with a signalized intersection is proposed along the eastern portion of the site, and an additional three driveways are proposed along the Project's western side to provide access from Clarksville Crossing. An interim signal at Clarksville Crossing is proposed to allow a northbound left turn from Silva Valley Parkway onto Clarksville Crossing. This signal will go away when the County constructs the Country Club Drive extension further north. At that time the Clarksville Crossing will become a right in and out only. An ADA-compliant pedestrian pathway will extend from the warehouse to the northern property boundary where it will connect to Silva Valley Parkway. The Project provides oversized parking stalls of 10 feet x 20 feet that are larger than the minimum El Dorado County requirements to provide members with easier accessibility to vehicles.

LOADING

The Costco warehouse truck loading dock is located at the southwest corner of the building adjacent to Interstate 50. The bay doors will be equipped with sealed gaskets to limit noise impacts. A smaller on-grade door is also located on the south side of the building. This door is to receive bread delivery and Federal Express type trucks. A transformer and two trash compactors will also be located along the south edge of the warehouse building. Dense landscape material provides the necessary screening to this area (see Costco South Site Landscape Plan).

PARKING LOT

The North Site proposes a main parking lot area in front of the buildings. The parking lot will provide approximately 166 parking spaces, proposed at 90 degrees to maximize the number of stalls on the site. This number includes 10 accessible parking stalls and 12 compact stalls (7%) and 8 RV stalls.

The self-storage project proposed 7 parking stalls including 1 accessible stall.

The South Site proposes 763 total parking stalls, which exceeds the required El Dorado County parking requirement of 642 stalls. Approximately 549 parking stalls are provided at grade adjacent to the warehouse entry and tire center. The remaining 214 parking stalls are provided within the subterranean parking structure on the west side of the warehouse.

ADA parking will comply with the County Code and Title 24 requirements.

BICYCLE PARKING

The Project will provide bicycle parking spaces (lockers and racks) throughout the site that will meet County and Title 24 requirements.

PEDESTRIAN CIRCULATION

A pedestrian walkway for each portion of the Project will connect the buildings to Silva Valley Parkway.

LANDSCAPING

The Project will include a variety of drought-tolerant landscaping options. The North Site landscaping will provide screening along the boundary which will consist of evergreen trees and shrub rows. Shade trees with large canopy coverage will be planted in the North Site parking lot for shade. Planting at the North Site entries will be highlighted and defined by seasonal accented trees and shrubs with the use of colorful plant material. Shrubs will be low growing to maintain line-of-sight to the street. Along the streets, plantings will incorporate shade trees and mixed species and forms of shrubs to create interest, color, and buffering from the North Site shopping center.

The Costco South Site landscape plan includes a mix of climate adapted shrubs and grasses, and a variety of shade trees. The Costco South Site landscape design has incorporated a generous perimeter buffer which includes evergreen and deciduous trees and shrubs to enhance the streetscape. Landscape islands are typically provided at one island per five lineal parking spaces in the Costco South Site parking field to provide shading of the parking lot with the parking lot trees and landscaping per County requirements. The Costco South Site landscape plan has been designed to assist with the screening of the at-grade parking deck above the lower-level parking. The proposed trees and landscaping will meet El Dorado County requirements of 50% shading on the site within the majority of the provided parking area, with the grade-level deck above the subterranean parking meeting this requirement only where trees can be planted due to the constraints of the structure beneath.

The Project proposes to pay in-lieu fees as mitigation for the loss of the oak woodland.

LIGHTING

The North Site will provide various single, two- or four-light fixtures throughout the parking areas and driveways. The overall height of the lighting on the North Site, including the

lighting fixtures and a 3-foot base, will be 33 feet in the parking lot, 25 feet along the perimeter and main drive aisles, and 16 feet around drive-through lanes. LED luminaires will be used for the parking lot lights.

The Costco South Site parking lot will be illuminated with standard downward LED fixtures affixed to a 37-foot light pole. The lighting fixtures are of a "shoe-box" style. Parking lot light standards are designed to provide even light distribution for vehicle and pedestrian safety. The parking lot lights will be timer controlled to limit lighting after the warehouse has closed and most employees are gone from the warehouse. Parking lot lighting will only remain on to provide security and emergency lighting only along the main driveways. Lighting fixtures will also be located on the building approximately every 40 feet around the exterior of the building to provide safety and security. Parking and site lighting will incorporate the use of cutoff lenses to keep light from overflowing beyond the Costco South Site boundaries.

GRADING

A preliminary grading plan has been prepared for review as part of the application submittals. Each site is designed to balance independently, and it is the intent of this application to allow for mass grading of both sites individually.

ON-SITE IMPROVEMENTS

The Project is designed to allow either the North Site or the Costco South Site to develop independent from the other. Mass grading of each site to accommodate future development will occur in the first phase of development, including filling of the permitted wetlands and permitted tree removal. In the event the South Site develops first, utility crossings under Silva Valley Parkway will be constructed as part of the South Site infrastructure work to serve the North Site. In the event the North Site develops first, interim facilities will be constructed on the North Site.

The second phase for each site will include construction of the parking, landscaping, lighting, utility infrastructure, and driveways designed to support the buildings. Site improvements will be constructed in various phases depending on the extent of development occurring at any given time. Buildings can be started once site improvements are sufficiently completed to allow construction and emergency fire access.

OFF-SITE IMPROVEMENTS

A proposed traffic signal and appurtenant facilities will be located on Silva Valley Parkway at the main driveway of the Project to provide a connection to both the South Site and the North Site. An additional partial traffic signal is proposed at the intersection of Clarksville Crossing and Silva Valley Parkway.

A portion of Country Club Drive extension will be constructed up to the secondary access point to the North Site.

UTILITY INFRASTRUCTURE

The property will need to annex into El Dorado Irrigation District (EID) in order to acquire sanitary sewer and water service. EID stated in its December 6, 2018 Facilities Improvement Letter that there should be adequate water supply and sewer capacity available to serve a similar type of project. The Project will tie into the existing 18-inch potable water main and the 21-inch gravity sewer line in Clarksville Crossing. An updated Facilities Improvement Letter will be requested through EID at the appropriate time.

The property will also annex into the El Dorado Hills County Water District (Fire Protection) prior to building permit issuance.

Sanitary service and potable water for the North Site will be provided by public (EID) sanitary sewer and water lines that cross the South Site. Reclaimed water is available for non-potable irrigation use and will be provided by extending an existing reclaimed line in Silva Valley Parkway north of the Project site.

Dry utilities (electric, gas, telephone, and cable TV) will be provided from existing infrastructure located to the north of the Project site in Silva Valley Parkway. Dry utilities will need to be extended along the frontage of both the North Site and the Costco South Site.

STORM DRAINAGE DESCRIPTION

The on-site drainage system will connect to El Dorado County's storm drain infrastructure in Clarksville Crossing. The Project has typical pollutant sources from parking lot runoff, loading/unloading areas, outdoor storage areas, and a trash compactor. This Project proposes bioretention areas and underground water quality vaults as the form of treatment for the site.

TRUCK CIRCULATION

Truck access will be allowed at all driveway locations depending on the size of the delivery truck and direction of travel.

OTHER GOVERNMENTAL AGENCY APPROVALS

Additional subsequent approvals and permits that may be required from local, regional, state, and federal agencies are identified below.

- El Dorado Irrigation District -Water and Sewer-Annexation and Utility Approval
- El Dorado County Resource Conservation District-Onsite Plan Approval
- El Dorado Hills County Water District (Fire Protection)-Annexation and Fire Approval
- El Dorado County Air Quality Management District-Air Quality Permit

- El Dorado County Department of Transportation -Encroachment Permit/Grading Permit/Onsite Plan Approval

- El Dorado County Building Services-Building Permit/Sign Permit

- Central Valley Regional Water Quality Control Board-NPDES General Permit for Stormwater Discharge

- California Department of Fish and Wildlife-Wetland Approval

- Army Corps-Wetland Permitting for each side

- LAFCO-Annexation approval for EID and El Dorado Fire Protection District along with the Bureau of Land Reclamation

2 PROJECT DESCRIPTION

2.1 PROJECT OVERVIEW

The proposed EDH 52 Commercial Center (project) would develop various commercial uses on two vacant sites bisected by Silva Valley Parkway just north of U.S. Highway 50 (U.S. 50).

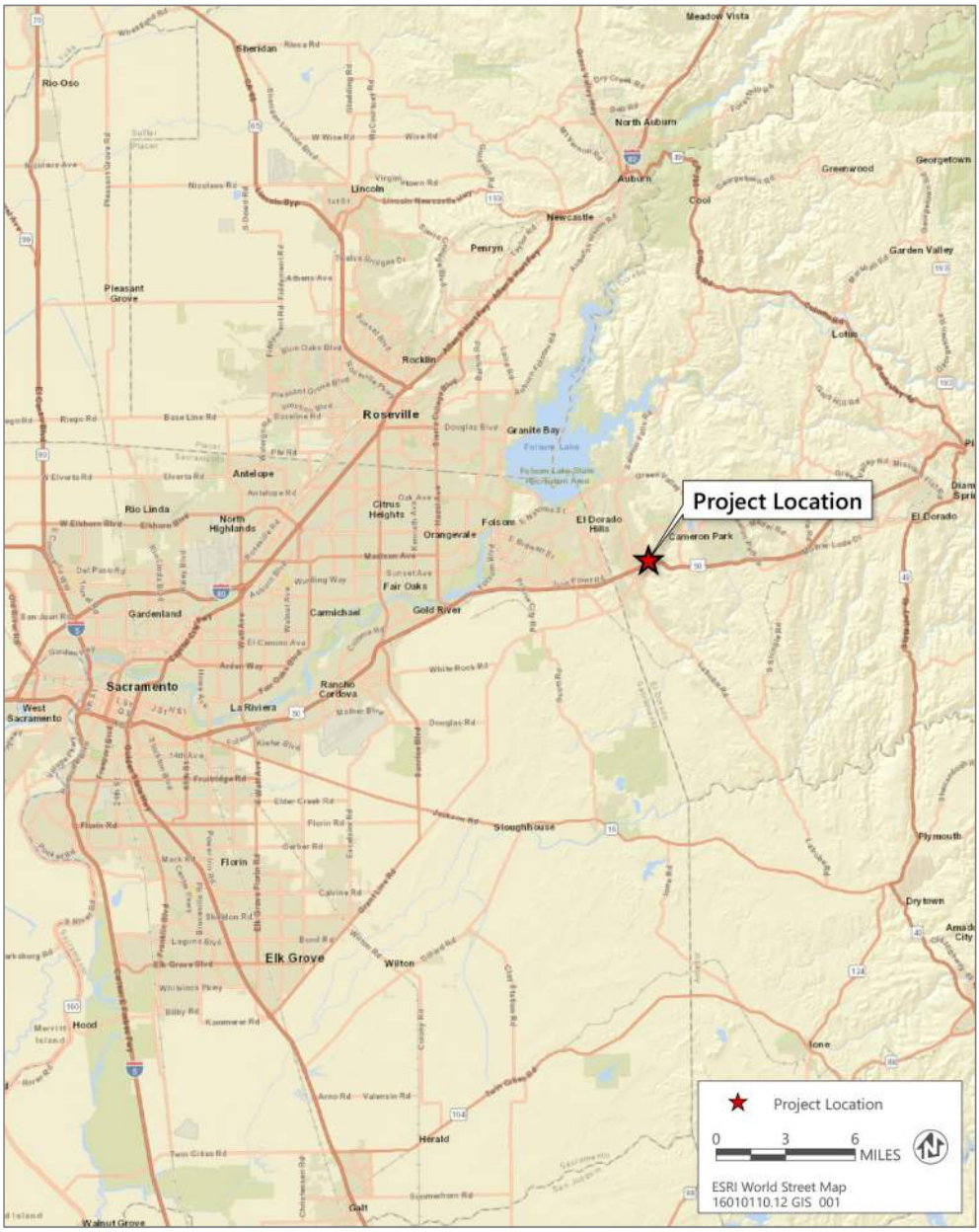
2.2 PROJECT LOCATION AND SETTING

The project is in the El Dorado Hills community of California, which is located in an unincorporated area of El Dorado County approximately 23 miles east of Sacramento and 20 miles west of the City of Placerville (Figure 2-1). As shown in Figure 2-2, the project site is on the north side of U.S. 50 and is bisected by Silva Valley Parkway. Existing land uses near the project site include vacant land, residences, and an elementary school to the north; Tong Road and U.S. 50 to the south; a church to the southeast; vacant land to the east; and Clarksville Crossing Road to the west. The project site encompasses approximately 43.26 acres, including Assessor's Parcel Numbers (APNs) 122-720-002, -003, -018, -019, -020, and -021.

2.3 PROJECT OBJECTIVES

- Overall Project:
  - Develop two high-quality planned commercial developments on currently vacant and underutilized land adjacent to U.S. 50 adequately served by public services and utilities.
  - Promote economic growth and diverse new employment and retail/service opportunities for County residents.
  - Increase the number of employees and contribute to the local job/housing balance.
- North Site:
  - Provide additional retail uses for the local market area that is serviced by adequate existing utilities and roadways.
  - Provide additional commercial services closer to existing housing.
  - Increase contribution to the County's tax base.
  - Develop architectural and landscaping designs that soften the scale and mass of the buildings, create a pleasant and attractive appearance, and complement the surrounding area.
  - Develop site plans that minimize potential access and circulation conflicts between automobiles and pedestrians, provide adequate off-street parking for store customers and employees, and minimize impacts to the surrounding area.
- South Site:
  - Construct and operate a new, state-of-the-art Costco warehouse that serves the membership in the greater El Dorado Hills area with competitively priced goods and services from both nationally known businesses and also more regional and local businesses.
  - Reduce energy consumption by incorporating sustainable design features and systems with enhanced energy efficiencies meeting State and federal code requirements.
  - Provide a membership wholesale center in a location that is convenient for its members, the community, and employees to travel to shop and work.

- Create an architectural design that enhances the area by responding to the El Dorado Hills area design context in a way that is sensitive to the adjacent community, future development(s) and compatible with the need for a new warehouse in this market area.
- Increase contributions to the County's tax base.
- Expand the space available for integrated retail sales of goods and services in the El Dorado Hills market.



Source: adapted by Ascent Environmental in 2021

Figure 2-1 Regional Location



Source: adapted by Ascent Environmental in 2021

Figure 2-2 Project Site Location

- Minimize circulation conflicts between automobiles and pedestrians.
- Provide a Costco warehouse in a location that is serviced by adequate existing infrastructure, including roadways and nearby utilities.
- Develop a Costco warehouse that is large enough to accommodate all of the uses and services Costco provides to its members.
- Locate a Costco warehouse on a site Costco can purchase (rather than lease) to protect its substantial investment of time, money and goodwill in the location.

2.4 PROJECT DESCRIPTION

The project site is split into the North Site and the South Site. The North Site is 24.83 acres and the South Site is 18.43 acres. The entire project site has a General Plan Land Use Designation of Commercial (C). The North Site is currently zoned Commercial Regional – Planned Development (CR-PD). The South Site is predominantly zoned CR-PD and also includes small parcels of Commercial Limited (CL) and Transportation Corridor (TC). Because the project site has an existing Planned Development overlay, the applicant is seeking a Planned Development Permit (PD) and the following rezoning (Figure 2-4):

- North Site: from CR-PD to Community Commercial-Planned Development (CC-PD)
- South Site: from CR-PD, CL, and TC to CR-PD for the entire site

Figure 2-3 shows the site plans for both the North Site and South Site. The proposed Master Signage Program applies to both the North Site and the South Site.

2.4.1 North Site

The North Site would include rezoning the site from CR-PD to Community Commercial – Planned Development (CC-PD) (See Figure 2-4). The project also seeks approval of a Tentative Parcel Map for the North Site to reconfigure existing parcels create 8 individual parcels (See Figure 2-5). Development of parcels 1 through 5 may include the following uses: up to five drive-through uses, one gas station with car wash, food service uses, an outdoor patio, and/or other retail and office uses permitted in the CC zone. A self-storage facility would use parcels 6 and 7 for a recreational vehicle (RV) storage lot with 56 RV spaces and six self-storage buildings, which are allowed with the approval of a Conditional Use Permit (CUP). A portion of the planned Country Club Drive extension (County Capital Improvement Project No. 36105008) would be constructed at a future date by the County within parcel 8. The total building area for the North Site would be approximately 162,000 square feet (sf). Table 2-1 below identifies the proposed parcel sizes, building square footage, and potential future uses.

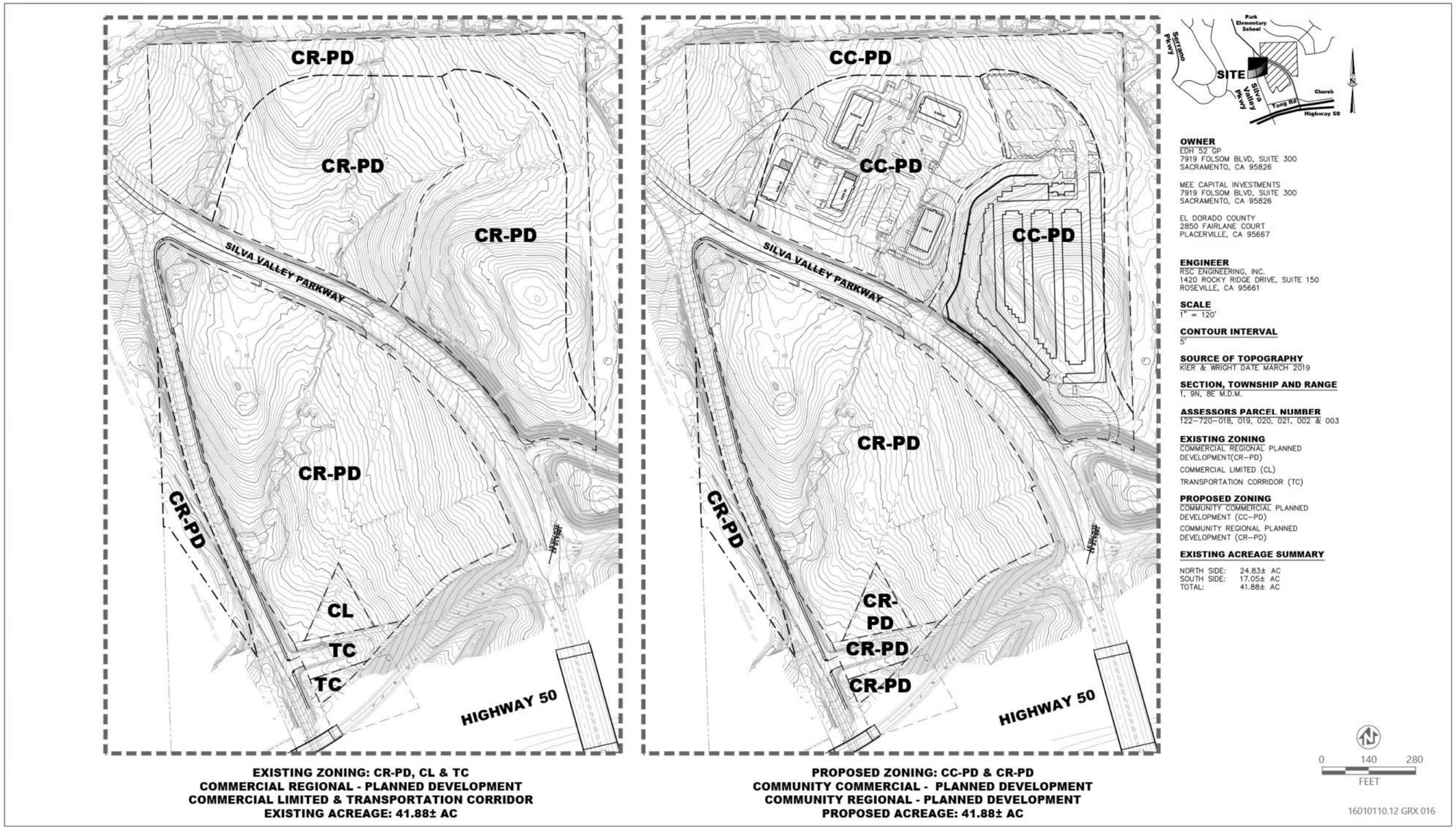
Table 2-1 North Site Parcel and Building Size

Parcel	Acreage	Building Size (square feet)	Proposed Use
1	2.49	5,000	Retail with a Potential Drive-through
2	1.92	9,250	Retail with a Potential Drive-through
3	1.99	6,000	Retail with a Potential Drive-through
4	2.23	7,250	Gas Station with a Potential Drive-through
5	1.08	4,050	Retail with a Potential Drive-through
6	7.84	130,358	Self-Storage and RV Storage
7	1.66		
8	5.63	0	Future Country Club Drive Extension
Total	**24.83**	**161,908**	



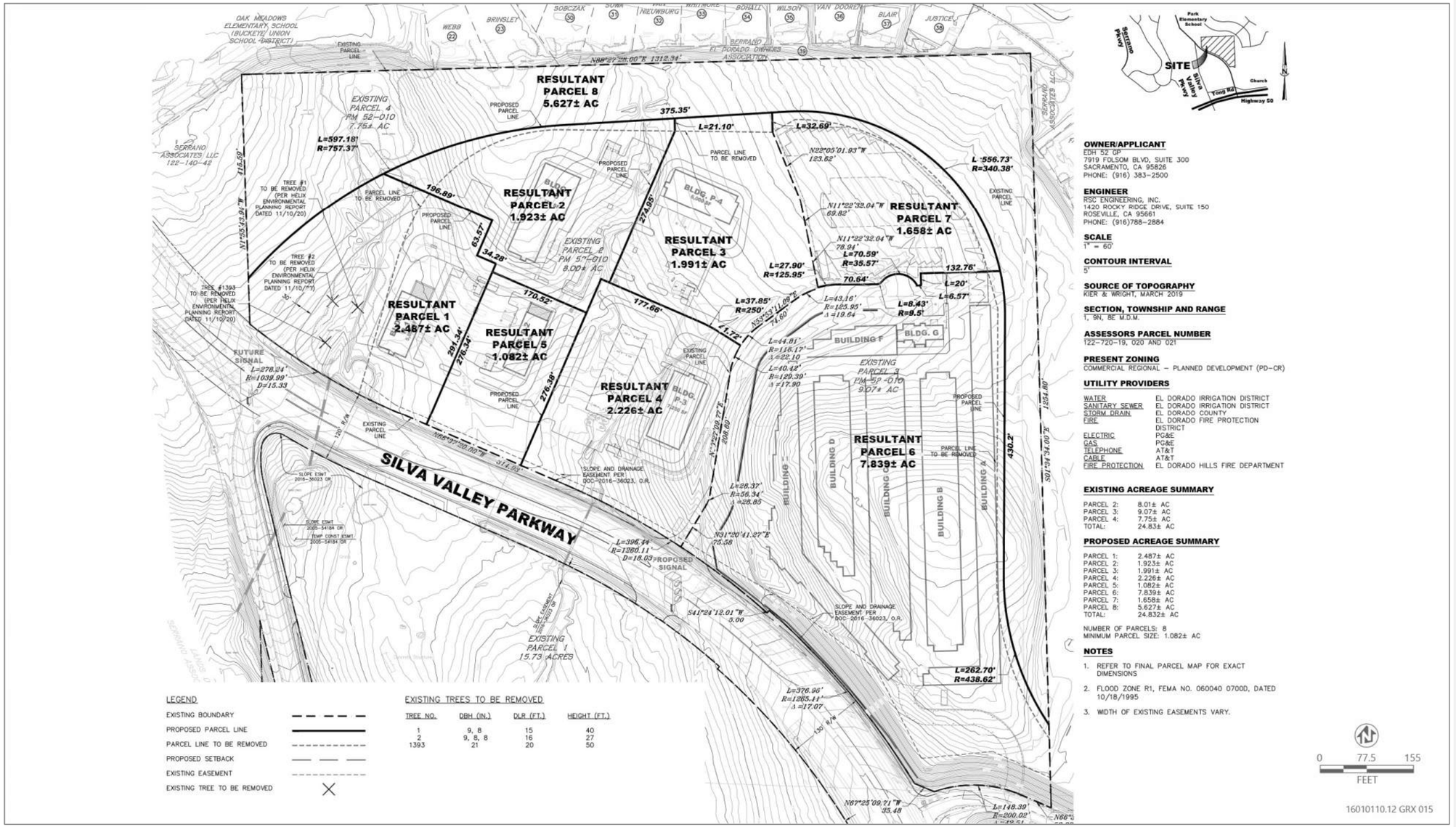
Source: Image produced and provided RSC Engineering, Inc. and David Babcock+Associates in 2022

Figure 2-3 North and South Site Concept Plans



Source: Image produced and provided RSC Engineering, Inc. in 2022

Figure 2-4 North Stie and South Site Rezone



Source: Image produced and provided RSC Engineering, Inc. in 2022

Figure 2-5 North Site - Tentative Parcel Map

SITE ACCESS AND ROADWAY IMPROVEMENTS

As shown in Figure 2-6, a traffic signal is proposed at the main driveway and Silva Valley Parkway to provide access to both the North Site and the South Site. Right-in and right-out access would also be provided to the North Site from Silva Valley Parkway via a driveway north of the new signal at the main driveway. An emergency access to Tong Road from the self-storage facility is also proposed. The North Site would include 166 surface parking spaces for retail uses and seven spaces for the self-storage facility. Sidewalks and bike lanes would be provided along the site frontage.

ARCHITECTURE

The design theme for the North Site is based on the existing building design theme of the Serrano area, which is a California/Mediterranean style. Preliminary elevations for the self-storage facility are shown in Figure 2-7 and provide an example of the proposed design theme for the North Site. Where single tenant types (retail shops) occur, the proposed design guidelines contain specific architectural design for these buildings. Where multiple tenant types (drive-thru restaurants and fuel stations) occur, the proposed design guidelines contain a typical example of the design intent for that tenant type. Each of these specific tenants would use the typical example shown and vary their design to add individuality and yet maintain a common thread of colors, materials, and design elements as identified in the proposed North Site Design Guidelines (Appendix B).

Each building on the North Site would vary in building height to achieve visual interest and distinct building character, avoiding the monotony of multiple structures with a continuous building height. Each building would combine horizontal and vertical elements to provide variation, interest, and rhythm within and among the buildings. In no case would any roof mounted equipment be higher than the lowest parapet height of the building.

The color and material palette for the North Site contains multiple options for color and materials. The intent is for these options to occur in various combinations throughout the North Site so that each building is unique in its design and materials while maintaining design continuity among the buildings. The proposed colors and materials of the palette would be maintained throughout the development of the North Site.

Within the development of the North Site, all sides of all buildings would be visible from adjacent roadways and properties. Screening would be required for loading and storage areas, utilities meters and boxes using landscaping, walls, fences in combination. The use of colored concrete, concrete pavers, accent patterns, etc. would be encouraged in the flatwork areas around the buildings. Provisions for gathering and resting areas would be accomplished using intimate seating areas in near proximity of the building.

LANDSCAPING

The preliminary landscape plan for the North Site is shown in Figure 2-8. Within the parking lots of the North Site, trees would provide a shade canopy while understory plantings would consist of low shrubs and groundcovers. Primary plantings along the property boundaries would consist of evergreen trees and shrub rows designed to screen adjacent properties. Areas fronting the streets would incorporate shade trees along with mixed species and forms of shrubs for interest, color, and buffering the shopping center from the streets. Plantings at entries would include seasonal accent trees and low shrubs in order to maintain sight lines. Landscaping would include drought tolerant species. The project would remove four individual oak trees located near the western edge of the North Site, which requires an oak tree removal permit.

LIGHTING

The North Site would provide various single, two- or four-light fixtures throughout the parking areas and driveways. The overall height of the lighting on the North Site, including the lighting fixtures and a three-foot base, would be 33 feet in the parking lot, 25 feet along the perimeter and main drive aisles, and 16 feet around drive-through lanes. LED luminaires would be used for the parking lot lights. The lighting plan for the North Site is shown in Figure 2-9.

SIGNAGE

As part of the proposed Master Signage Program (see Section 2.4.3, "Master Signage Program"), the applicant proposes a 75-foot pylon sign designed to be visible to motorists on U.S. 50 as well as two 28-foot monument signs at entrances to the North Site (see Figure 2-10). Figure 2-11 shows the proposed sign elevations. The highway-oriented pylon sign would allow advertising from either commercial center and would include one (1) major tenant panel, one (1) junior tenant panel, and eight (8) shop tenant panels (see Figure 2-10). The proposed sign area for the highway-oriented pylon sign would not exceed 652 square feet. The highway-oriented pylon sign would have a stone veneer base, fabricated aluminum panels, and texcote finish to compliment the color scheme of the commercial centers. Tenant names and logos would be fabricated aluminum, pan channel construction. Tenant names and logos would be flush mounted to the panel background and internally illuminated with white LED lights. Colors would comply with tenant specifications.

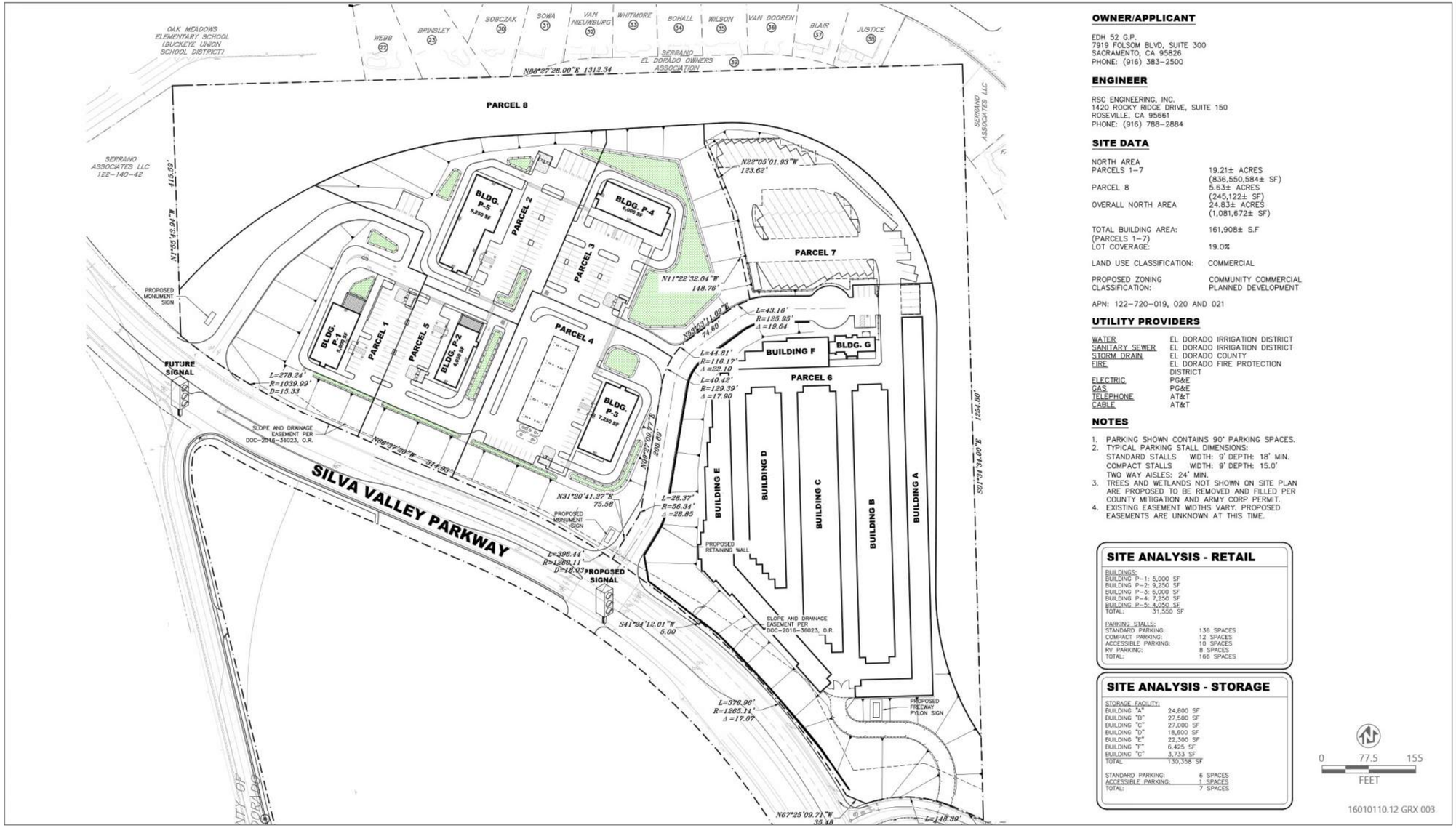
Each of the two monument sign would have one (1) featured tenant panel and six (6) shop tenant panels. The proposed area for each monument sign is 242 square feet. The monument signs would have a stone veneer base, fabricated aluminum panels, and texcote finish to compliment the color scheme of the commercial centers. Tenant names and logos would be routed out with acrylic push-through graphics and vinyl film overlays. Tenant names would be internally illuminated with white LED lights. Colors would comply with tenant specifications.

INFRASTRUCTURE IMPROVEMENTS

Figure 2-14 shows the preliminary utility plan for the North Site. Water would be provided to the North Site through a 12-inch pipeline that would connect to the existing 18-inch water pipeline within Silva Valley Parkway. This 12-inch pipeline would connect north of the northern driveway access and would traverse the site until it splits such that one branch would serve the storage facility and the other would follow the main driveway and cross Silva Valley Parkway where it would serve the South Site. Within the North Site, various smaller water pipelines would be installed to serve specific buildings as well as fire hydrants. An eight-inch sewer pipeline would connect with South Site sewer infrastructure near the North Site's main driveway at Silva Valley Parkway and would continue through the site to serve all proposed buildings. Stormwater pipelines varying in size from 12 inches to 36 inches would be installed throughout the North Site that interconnect with 12 onsite bioretention basin, with connections to the South Site. Electrical and natural gas service would be provided by Pacific Gas and Electric Company (PG&E) that would be extended from existing facilities along Clarksville Crossing (electrical) and extension of a natural gas pipeline approximately 1,900 feet north of the site along eastern side of Silva Valley Parkway.

CONSTRUCTION

Construction for the North Site is anticipated to begin as early as October 2023 and last approximately 14 months. The timing for development of the North Site is dependent on market conditions, so all parcels on the North Site may not be developed at the same time. Figure 2-12 identifies proposed earthwork movement (cut and fill), while Figure 2-13 identifies the proposed grading plan. Site development is expected to require the import of approximately 30,000 cubic yards (CY) of fill material and the removal of approximately 19,000 CY of rock material offsite.



OWNER/APPLICANT

EDH 52 G.P.
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

ENGINEER

RSC ENGINEERING, INC.
1420 ROCKY RIDGE DRIVE, SUITE 150
ROSEVILLE, CA 95661
PHONE: (916) 788-2884

SITE DATA

NORTH AREA	
PARCELS 1-7	19.21± ACRES (836,550,584± SF)
PARCEL 8	5.63± ACRES (245,122± SF)
OVERALL NORTH AREA	24.83± ACRES (1,081,672± SF)
TOTAL BUILDING AREA: (PARCELS 1-7)	161,908± S.F
LOT COVERAGE:	19.0%
LAND USE CLASSIFICATION:	COMMERCIAL
PROPOSED ZONING CLASSIFICATION:	COMMUNITY COMMERCIAL PLANNED DEVELOPMENT

APN: 122-720-019, 020 AND 021

UTILITY PROVIDERS

WATER	EL DORADO IRRIGATION DISTRICT
SANITARY SEWER	EL DORADO IRRIGATION DISTRICT
STORM DRAIN	EL DORADO COUNTY
FIRE	EL DORADO FIRE PROTECTION DISTRICT
ELECTRIC	PG&E
GAS	PG&E
TELEPHONE	AT&T
CABLE	AT&T

NOTES

1. PARKING SHOWN CONTAINS 90° PARKING SPACES.
2. TYPICAL PARKING STALL DIMENSIONS:
   STANDARD STALLS WIDTH: 9' DEPTH: 18' MIN.
   COMPACT STALLS WIDTH: 9' DEPTH: 15.0'
   TWO WAY AISLES: 24' MIN.
3. TREES AND WETLANDS NOT SHOWN ON SITE PLAN ARE PROPOSED TO BE REMOVED AND FILLED PER COUNTY MITIGATION AND ARMY CORP PERMIT.
4. EXISTING EASEMENT WIDTHS VARY. PROPOSED EASEMENTS ARE UNKNOWN AT THIS TIME.

SITE ANALYSIS - RETAIL

BUILDINGS:

BUILDING P-1:	5,000 SF
BUILDING P-2:	9,250 SF
BUILDING P-3:	6,000 SF
BUILDING P-4:	7,250 SF
BUILDING P-5:	4,050 SF
TOTAL:	31,550 SF

PARKING STALLS:

STANDARD PARKING:	136 SPACES
COMPACT PARKING:	12 SPACES
ACCESSIBLE PARKING:	10 SPACES
RV PARKING:	8 SPACES
TOTAL:	166 SPACES

SITE ANALYSIS - STORAGE

STORAGE FACILITY:

BUILDING "A"	24,800 SF
BUILDING "B"	27,500 SF
BUILDING "C"	27,000 SF
BUILDING "D"	18,600 SF
BUILDING "E"	22,300 SF
BUILDING "F"	6,425 SF
BUILDING "G"	3,733 SF
TOTAL:	130,358 SF

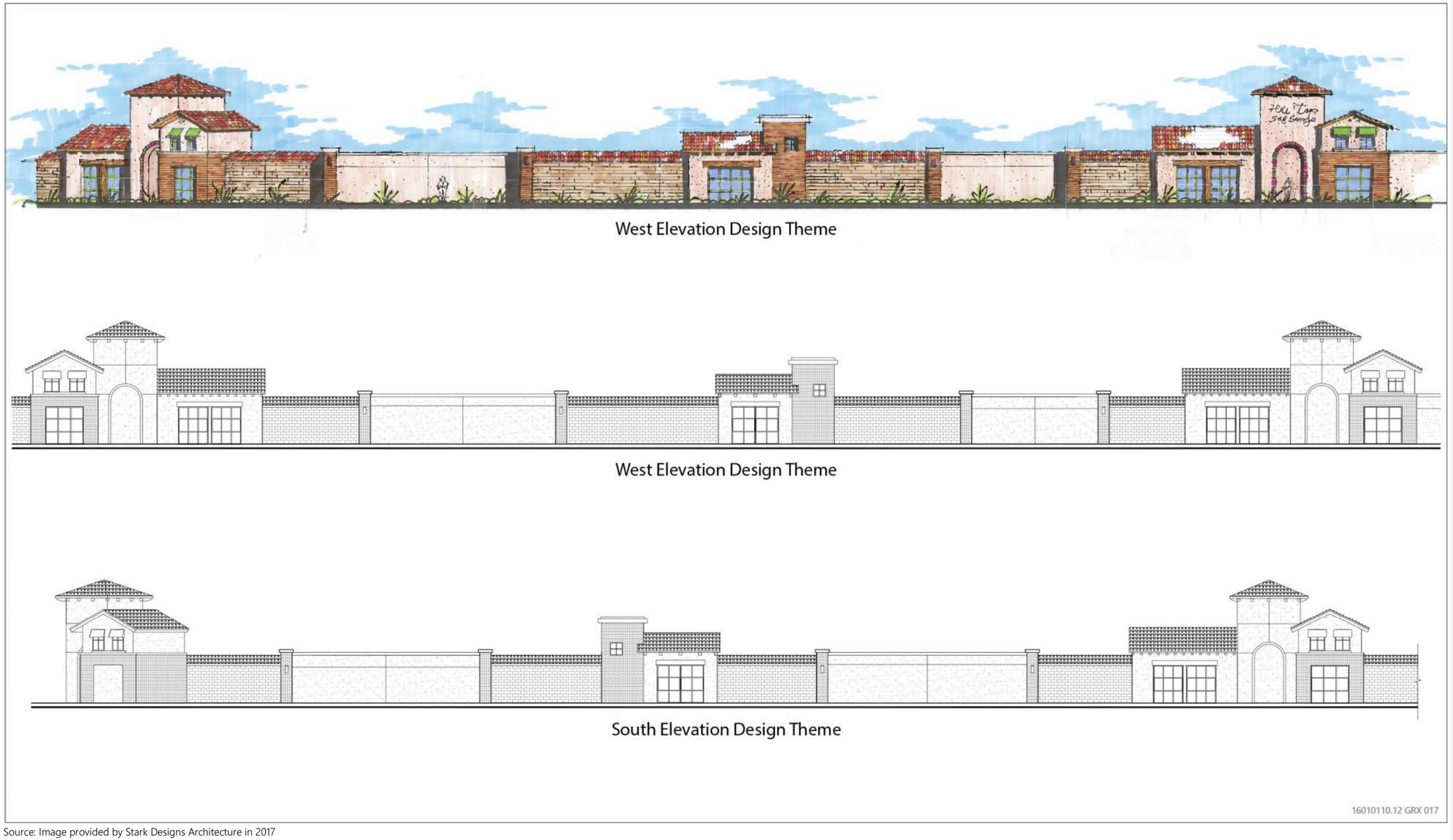
STANDARD PARKING:	6 SPACES
ACCESSIBLE PARKING:	1 SPACES
TOTAL:	7 SPACES

0 77.5 155
FEET

16010110.12 GRX 003

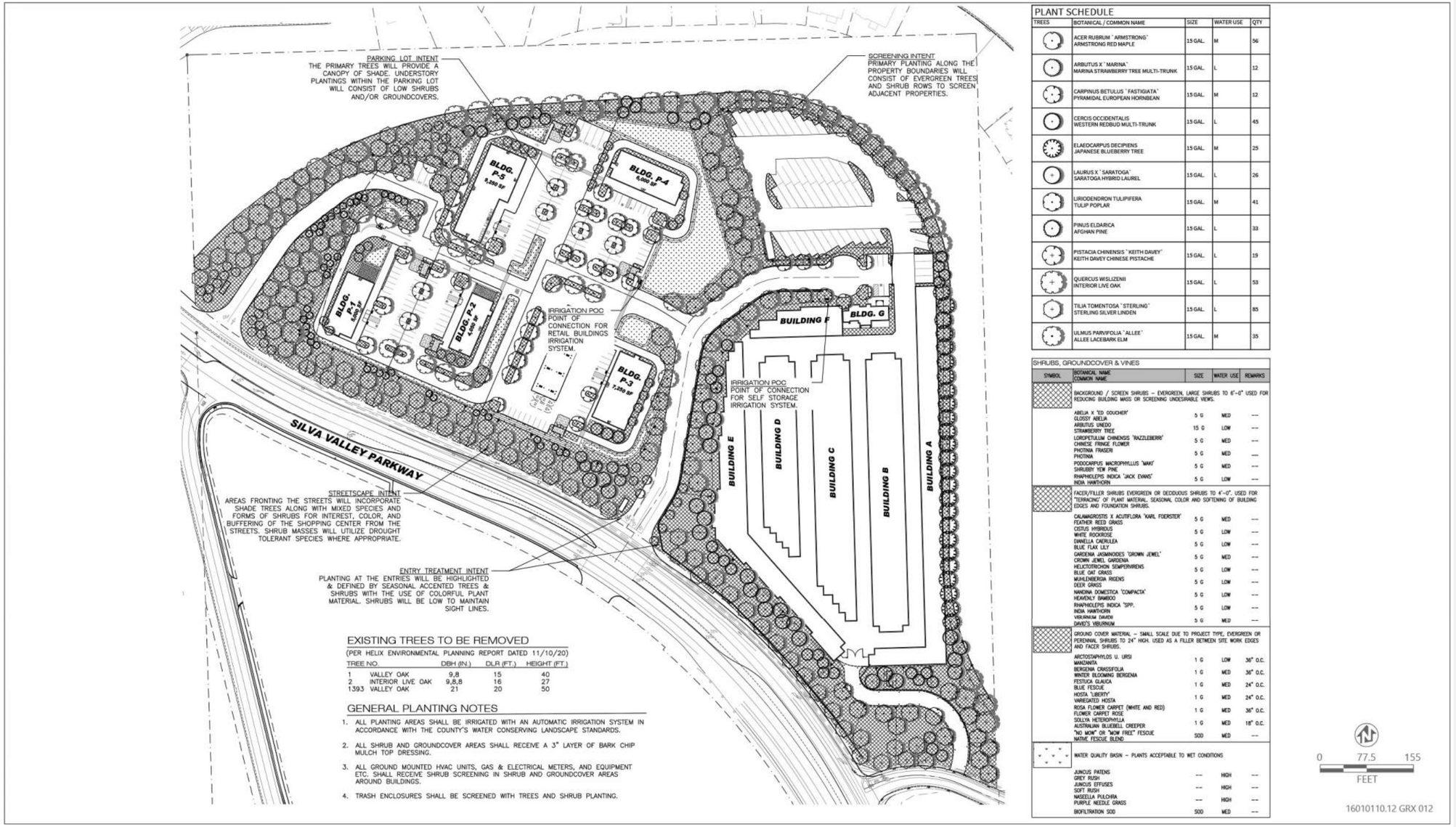
Source: Image produced and provided RSC Engineering, Inc. in 2022

Figure 2-6 North Site Preliminary Site Plan



Source: Image provided by Stark Designs Architecture in 2017

Figure 2-7 Self Storage Elevations



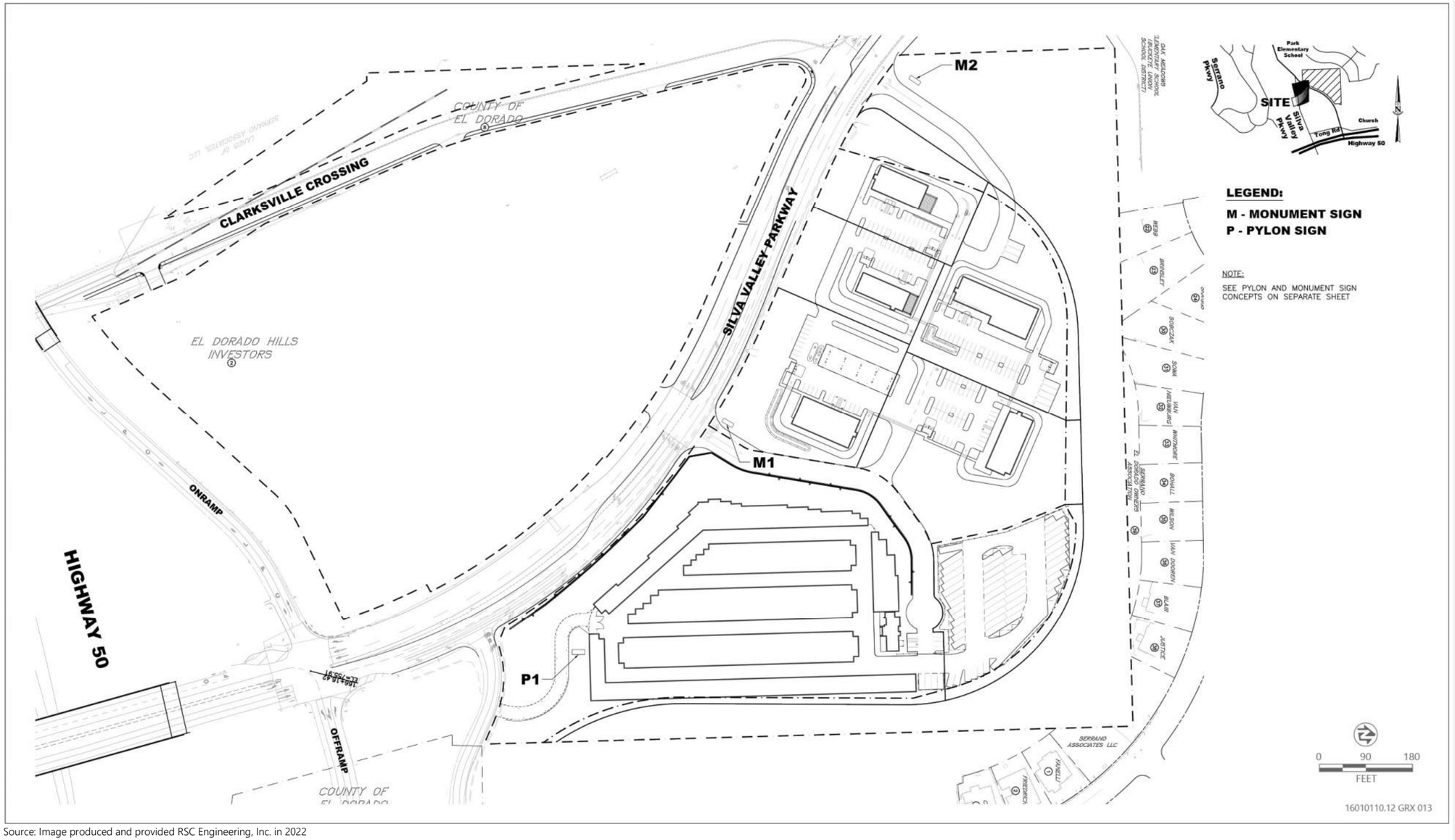
Source: Image produced and provided RSC Engineering, Inc. in 2022

Figure 2-8 Preliminary Landscape Plan – North Site



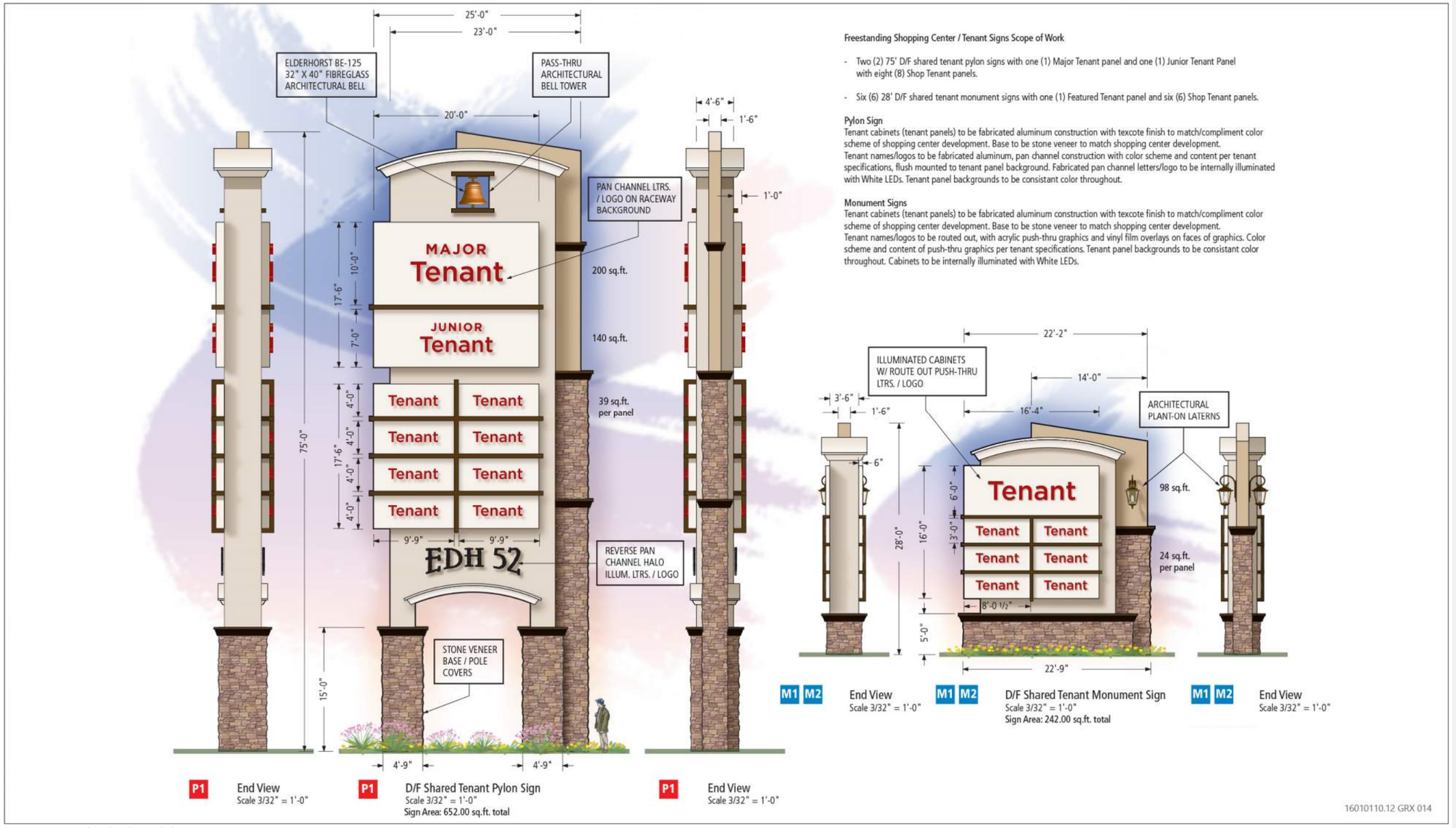
Source: Image produced and provided RSC Engineering, Inc. in 2022

Figure 2-9 Lighting Plan – North Site



Source: Image produced and provided RSC Engineering, Inc. in 2022

Figure 2-10 Sign Concept Plan



Freestanding Shopping Center / Tenant Signs Scope of Work

- Two (2) 75' D/F shared tenant pylon signs with one (1) Major Tenant panel and one (1) Junior Tenant Panel with eight (8) Shop Tenant panels.
- Six (6) 28' D/F shared tenant monument signs with one (1) Featured Tenant panel and six (6) Shop Tenant panels.

Pylon Sign
Tenant cabinets (tenant panels) to be fabricated aluminum construction with texcote finish to match/compliment color scheme of shopping center development. Base to be stone veneer to match shopping center development.
Tenant names/logos to be fabricated aluminum, pan channel construction with color scheme and content per tenant specifications, flush mounted to tenant panel background. Fabricated pan channel letters/logo to be internally illuminated with White LEDs. Tenant panel backgrounds to be consistant color throughout.

Monument Signs
Tenant cabinets (tenant panels) to be fabricated aluminum construction with texcote finish to match/compliment color scheme of shopping center development. Base to be stone veneer to match shopping center development.
Tenant names/logos to be routed out, with acrylic push-thru graphics and vinyl film overlays on faces of graphics. Color scheme and content of push-thru graphics per tenant specifications. Tenant panel backgrounds to be consistant color throughout. Cabinets to be internally illuminated with White LEDs.

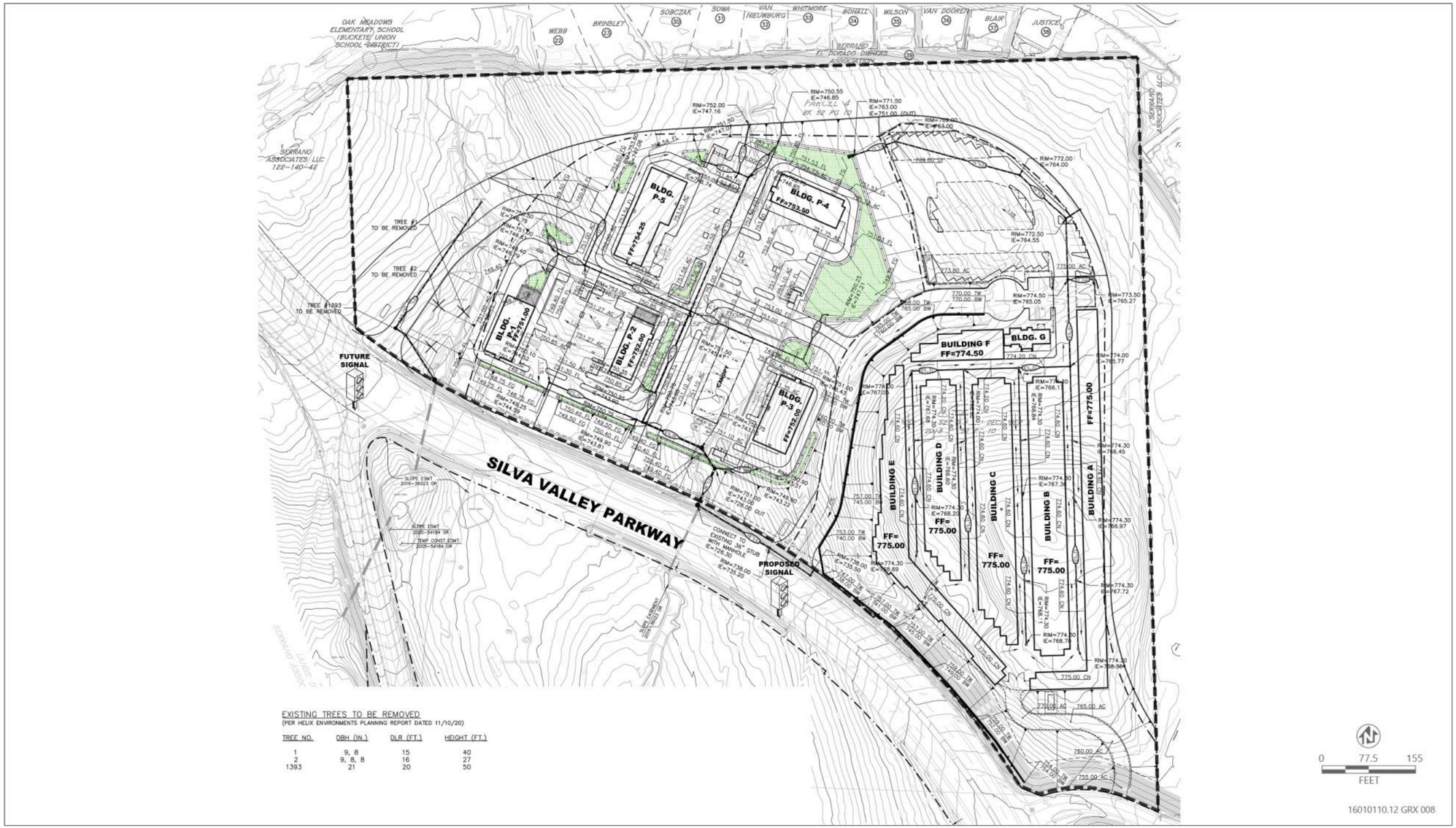
Source: Image produced and provided RSC Engineering, Inc. in 2022

Figure 2-11 Sign Elevations



Source: Image produced and provided RSC Engineering, Inc. in 2022

Figure 2-12 North Site Earthwork



Source: Image produced and provided RSC Engineering, Inc. in 2022

Figure 2-13 North Site Preliminary Grading Plan



Source: Image produced and provided RSC Engineering, Inc. in 2022

Figure 2-14 North Site Preliminary Utility Plan

OPERATIONS

As discussed previously, development of the North Site may include the following uses: operation of up to five drive-through uses, one gas station with car wash, food service uses, an outdoor patio, and/or other retail and office uses permitted in the CC zone, and an RV and self-storage facility. The proposed gas station would be expected to have an annual throughput of less than 3.6 million gallons per year. The proposed self-storage facility would consist of 6 buildings plus an office and 52 RV storage spaces.

While specific end users have not been determined for the North Site, it is estimated that it would provide between 90 and 100 employees based on review of a range of employee per square foot of building area estimates for a range of commercial uses (ABAG 2011).

ENERGY EFFICENCY FEATURES

As noted above, the North Site would obtain electrical and natural gas services from PG&E. The development would comply with energy efficiency standards under California Code of Regulations Title 24. Additional energy efficiency measures incorporated into the project would include high efficiency restroom fixtures, low or no VOC paints, drought tolerant planting, and LED parking lot lights. The reader is referred to Section 3.5, "Energy," for a further discussion of project energy demands.

2.4.2 South Site

The majority of the South Site is already zoned CR-PD. The project would include rezoning of the CL portion to CR-PD, both to harmonize the zoning designation across the South Site and to apply the PD designation uniformly as required by General Plan Policy 2.2.6.1 (see Figure 2-15). Development of the South Site would include up to approximately 165,000 sf of building area that would include a Costco warehouse retail center and a tire sales and installation center. The proposed site plan is shown in Figure 2-16. Within the warehouse retail center, Costco would offer optical exams and optical sales, photo center and processing, hearing aid testing and sales, food service preparation and sales, meat preparation and sales, bakery and sales of baked goods, and alcohol sales. The tire center would include propane refueling and sales as well as tire sales and installation. The warehouse is proposed to include one customer entrance to the main Costco store, which would be located at the northwest corner. The tire center would have bay doors accessible from outside of the warehouse, though the tire center sales area would be accessible through the warehouse building. Promotional sales materials would occasionally be placed near outside near the entrance to the warehouse or in the parking area. Development on the South Site would exclude the 1.38-acre area located west of Clarksville Crossing. No uses are proposed for the 1.38-acre site, which would be its own parcel (see Figure 2-15).

The South Site has been designed to accommodate the existing slope of the site by locating the Costco warehouse building in the southeast corner of the site, where the elevation of existing streets adjacent to the site are the highest. Parking would be provided in two at-grade lots and one subterranean lot beneath one of the at-grade lots. Vehicle access to this lower-level parking would be provided by ramps on the north and south sides of the underground parking structure consisting of 214 spaces. A third ramp would provide pedestrian access from the lower level up to the at-grade parking and entry to the warehouse building. Total parking for the South Site would be 762 spaces.

SITE ACCESS AND ROADWAY IMPROVEMENTS

As shown in Figure 2-16, the primary customer entrance to the South Site would be from a signalized intersection at the main driveway at Silva Valley Parkway. There would also be an intersection at Silva Valley Parkway and Clarksville Crossing Road that would be partially signalized to provide protected turn movements to vehicles traveling northbound on Silva Valley Parkway to make a left turn on to Clarksville Crossing Road. From Clarksville Crossing Road, there would be three driveways providing access to the South Site. The signalization of the intersection of Silva

Valley Parkway and Clarksville Crossing Road would remain in place until the County constructs the Country Club Drive extension project in 2041. After completion of the Country Club Drive extension project the signal at the intersection of Silva Valley Parkway and Clarksville Crossing Road would be removed and Clarksville Crossing Road's existing connection to Silva Valley Parkway would be eliminated. Sidewalks and bike lanes would be provided along the site frontage.

ARCHITECTURE

The warehouse design for the South Site is proposed to be contemporary and would include a variety of massing and appropriate materials for the building, as shown in Figure 2-17. By combining concrete masonry block and architectural metal panels, Costco intends to create a scale and architectural interest to minimize the visual impact of a large retail warehouse. By use of design techniques such as the location of building materials, landscaping, and the incorporation of varying parapet cap heights, Costco proposes to break the long elevations both horizontally and vertically at the appropriate height to conceal roof top mounted mechanical equipment. The proposed colors are warm natural earth tones, which would relate to the proposed surrounding development by utilizing similar building materials and architectural detailing.

The South Site has been designed to use the existing slope of the site by locating the warehouse in the southeast corner of the site, where the elevation of existing streets adjacent to the site are the highest. By building the warehouse adjacent to higher elevation land and providing a subterranean parking structure, the height of the building and visual impacts relative to the surrounding environment would be minimized. The subterranean portion of the parking structure would be adjacent to the west side of the warehouse and contain 214 parking spaces underneath the at-grade parking structure. Vehicle access to this lower-level parking would be provided by ramps on the north and south sides of the underground parking structure – the ramp on the north side would allow vehicles to enter the lower-level parking structure directly from Clarksville Crossing and the ramp on the south side would allow vehicle access from the at-grade parking lot above. A third ramp would provide pedestrian access from the lower level up to the at-grade parking and entry to the warehouse. The main entry feature to the warehouse is proposed to be oriented towards the northwest so that the loading dock and truck deliveries would be accessed from and oriented towards U.S. 50, providing greater separation between the warehouse's commercial activities and the existing residences.

The South Site truck loading dock is proposed to be located at the southwest corner of the building adjacent to U.S. 50. The bay doors would be equipped with sealed gaskets to limit noise impacts. A smaller on-grade door would also be located on the south side of the building. This door is to receive bread deliveries and small delivery vans/trucks. A transformer and two trash compactors would also be located along the south edge of the building proposed for the South Site. Landscape material would provide the necessary screening to this area.

LANDSCAPING

The preliminary landscape plan for the South Site is shown in Figure 2-18. Landscaping would include a variety of tree species along the property lines and throughout the surface parking area. The side of the warehouse building facing Silva Valley Parkway would be shielded from the road by tree plantings. Shrubs, perennials, ornamental grasses, ground covers and vines would occupy the understory. The landscape plan would include multiple stormwater treatment planters (SWTPs) that would include trees, perennials, and grasses. While some existing oak trees on the site would remain, development of the South Site would require an oak tree removal permit for the removal of 10 individual oak trees (see Figure 2-19).

Commented [PA1]: What is their proposal for addressing tree removal? I know they asked for "relief" - no idea what that is...

Commented [CR2R1]: I do not see anything in the

LIGHTING

The preliminary site lighting plan is shown in Figure 2-20. The South Site parking lot would be illuminated with standard downward LED fixtures affixed to a 37-foot light pole. The lighting fixtures are of a "shoe-box" style. Parking lot light standards are typically designed to provide even light distribution for vehicle and pedestrian safety. The parking lot lights would be controlled by a timer to limit lighting after the warehouse has closed and most employees

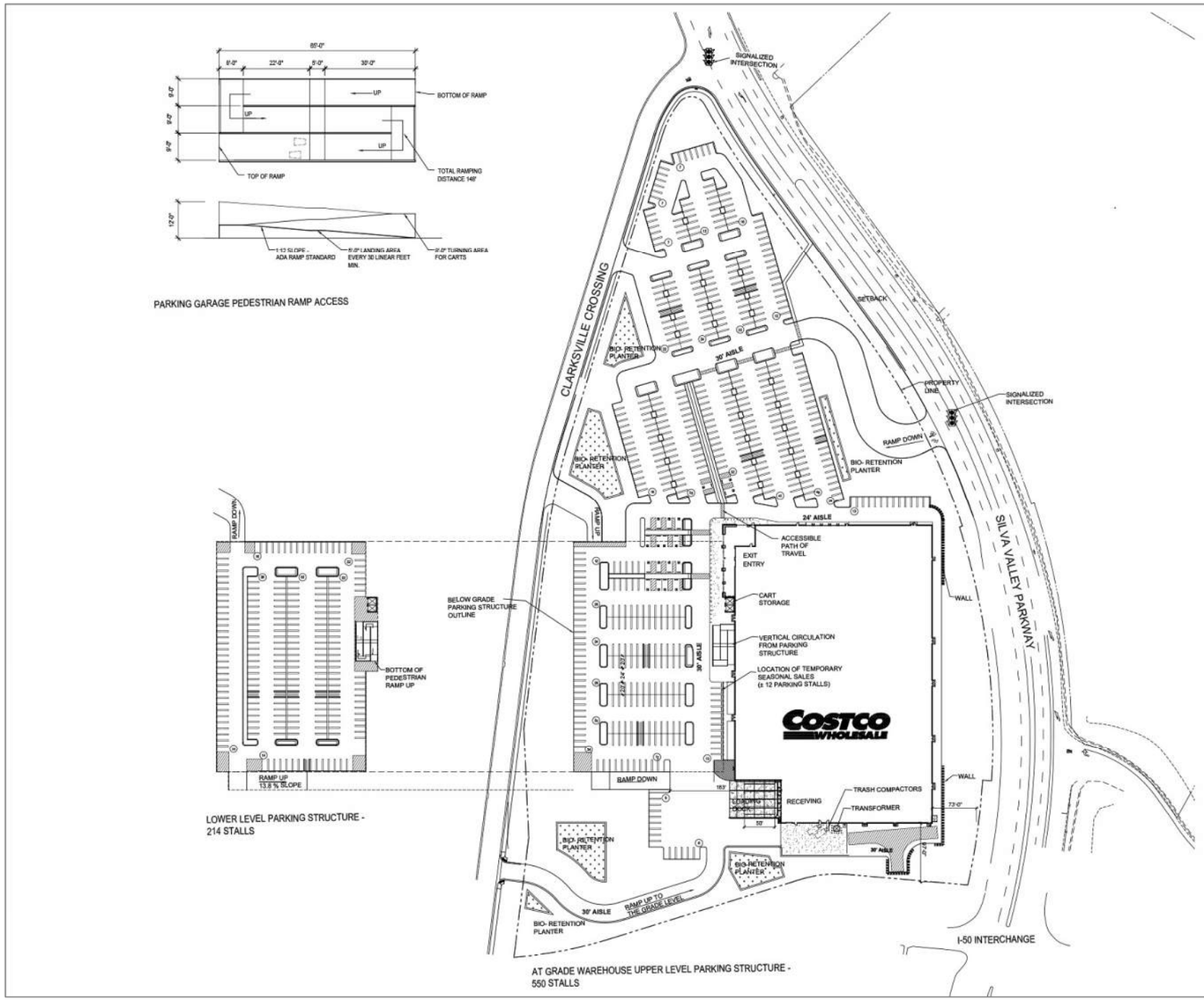
Commented [PA3]: Include exhibit/figure of lighting plan

are gone from the site. Parking lot lighting would only remain on to provide security and emergency lighting only along the main driveways. Lighting fixtures would also be located approximately every 40 feet around the exterior of the building to provide safety and security. Parking and site lighting would incorporate the use of cutoff lenses to keep light from overflowing beyond the South Site boundaries.



Source: Image provided by RSC Engineering, Inc. and David Babcock + Associates in 2022

Figure 2-15 South Site Zoning Plan



PROJECT DATA

CLIENT: COSTCO WHOLESALE
999 LAKE DRIVE
ISSAQUAH, WA 98027

PROJECT ADDRESS: SILVA VALLEY PARKWAY
EL DORADO HILLS, CA

SITE DATA:

COSTCO SITE AREA: 17.04 ACRES (742,262)

JURISDICTION: EL DORADO COUNTY

ZONING: CR-PD

SETBACKS:	REQUIRED		ACTUAL	
	FRONT:	TBD	FRONT:	TBD
	SIDE:	TBD	SIDE:	TBD
	REAR:	TBD	REAR:	TBD

BUILDING DATA:

TOTAL BUILDING FOOTPRINT AREA: 155,693 SF

INCLUDES:

NET SALES FLOOR	**151,074 SF**
NET MECHANICAL / FIRE	2,459 SF
BUILDING ENVELOPE	2,160 SF
NET OPEN CANOPY	4,737 SF

PARKING DATA:

TOTAL PARKING: 762

INCLUDES:

MAIN LEVEL PARKING PROVIDED:
- 10' WIDE STALLS 532 STALLS
- ACCESSIBLE STALLS 18 STALLS

PARKING STRUCTURE PARKING PROVIDED:
- 10' WIDE STALLS 214 STALLS

NUMBER OF STALLS PER 1000 SF OF BUILDING AREA: 4.89 STALLS

NOTES:
EXISTING CONDITIONS TO BE FIELD VERIFIED.

0 70 140
FEET

16010110.12 GRX 019

Source: Image produced and provided MG2 in 2021

Figure 2-16 South Site Preliminary Site Plan -



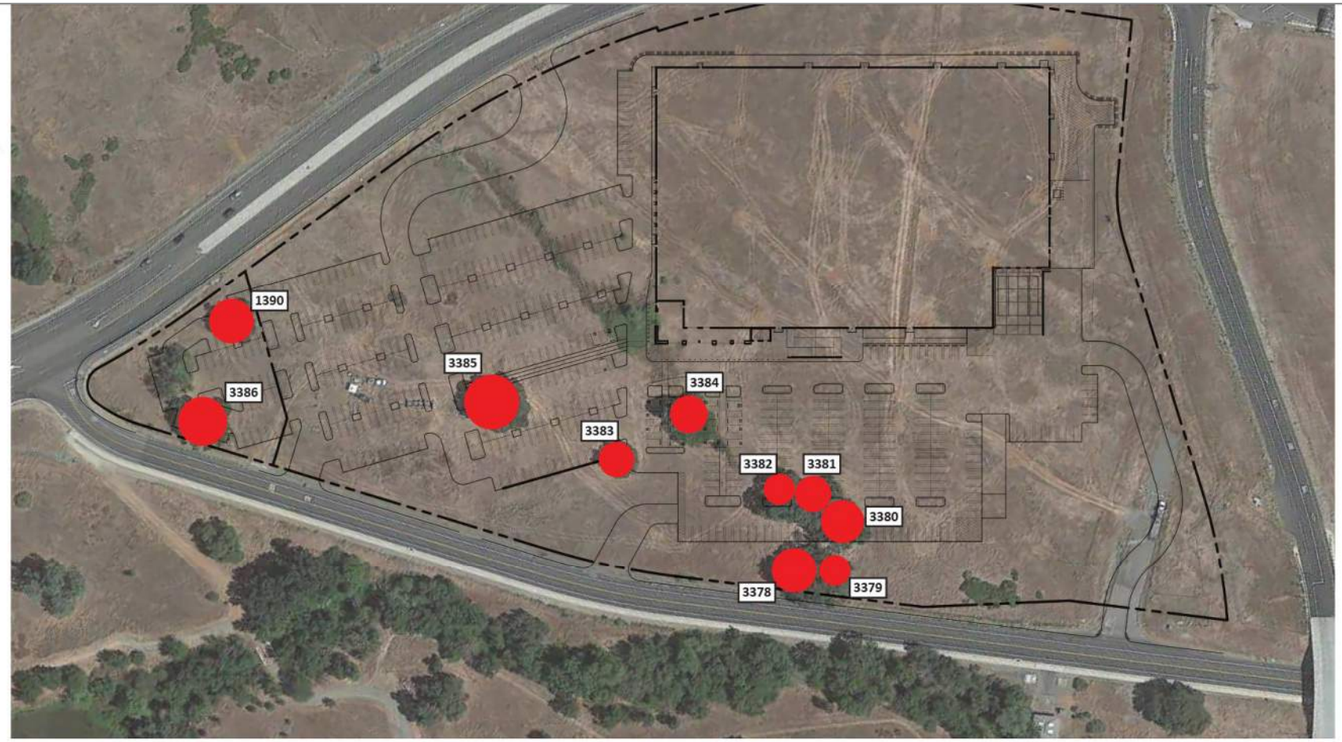
Source: Rendering created by MG2 in 2021

Figure 2-17 Costco Perspectives



Source: Image produced and provided DB+A in 2021

Figure 2-18 South Site Preliminary Landscape Plan



Tree Data Table

	Tree #	Species	DBH (inches)	DLR (feet)	Height (feet)	Health	Structure	Comment
*	1390	Valley Oak	47	21	60	Poor-Fair	Poor	Deadwood, limb failure, acorn woodpecker granary tree
	3378	Valley Oak	35	30	40	Good	Fair-Good	Deadwood
	3379	Valley Oak	18	24	40	Good	Fair-Good	Asymmetrical canopy, suppressed growing environment
	3380	Valley Oak	33	38	40	Good	Good	
	3381	Valley Oak	27	30	40	Good	Good	
	3382	Valley Oak	27	25	40	Good	Fair	Codominant
	3383	Valley Oak	26	23	40	Fair-Good	Fair	Asymmetrical canopy
	3384	Valley Oak	10	13	15	Fair	Fair	Codominant, small leaves
*	3385	Blue Oak	48	40	60	Fair-Good	Fair	Asymmetrical canopy, pruning wound, 1 trunk removed
*	3386	Valley Oak	42	38	60	Fair-Good	Fair	Deadwood, dieback

* Heritage tree

Trees to be Removed

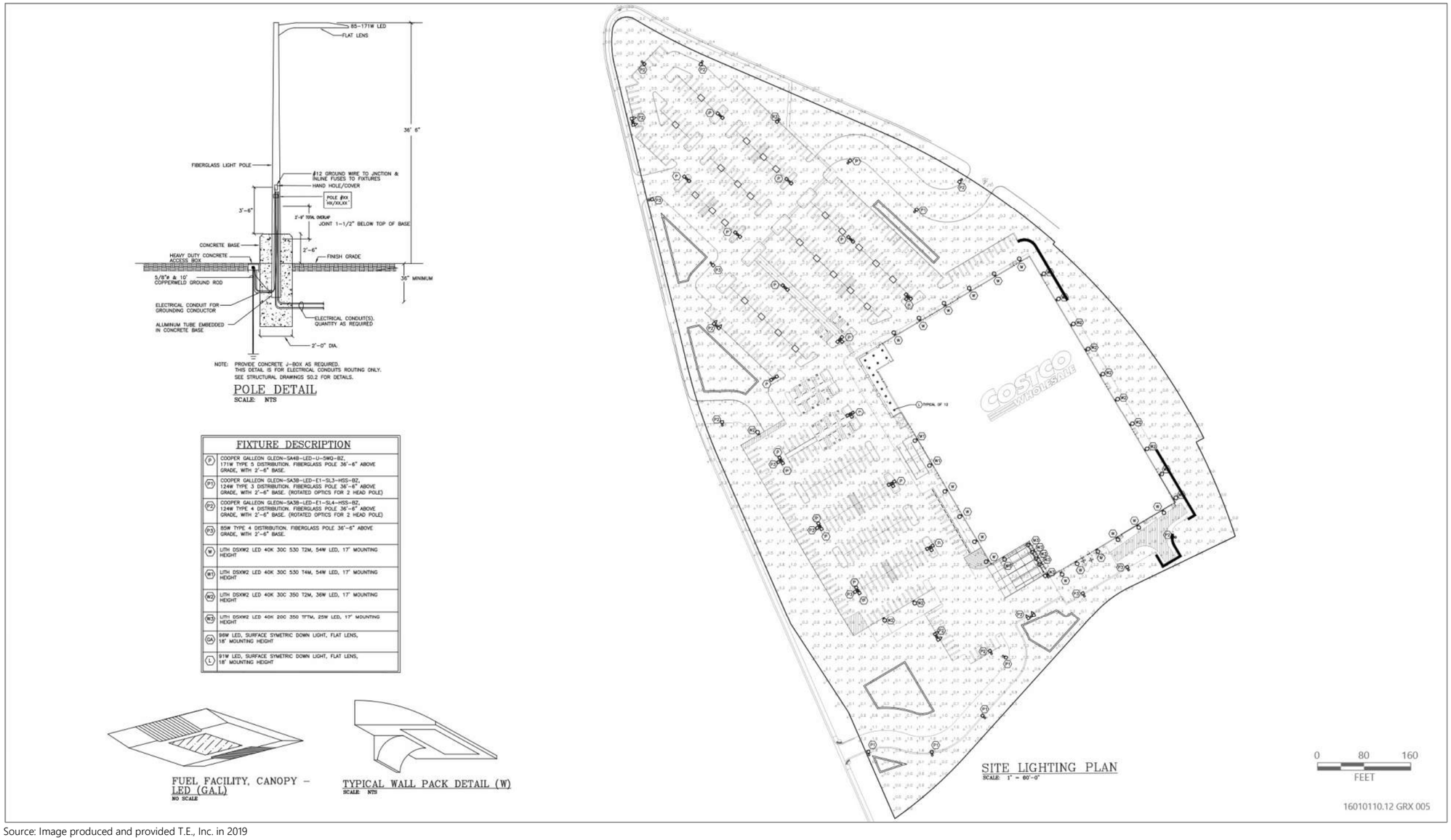
Note: Tree data table information taken from the oak tree resources survey prepared for the El Dorado Hills 52 Oak Resources Technical Report dated 11/10/20 by Helix Environmental Planning (Project #AKT - 20)

0 80 160
FEET

16010110.12 GRX 022

Source: Image produced and provided by Kier+Wright in 2021

Figure 2-19 South Site Tree Removal

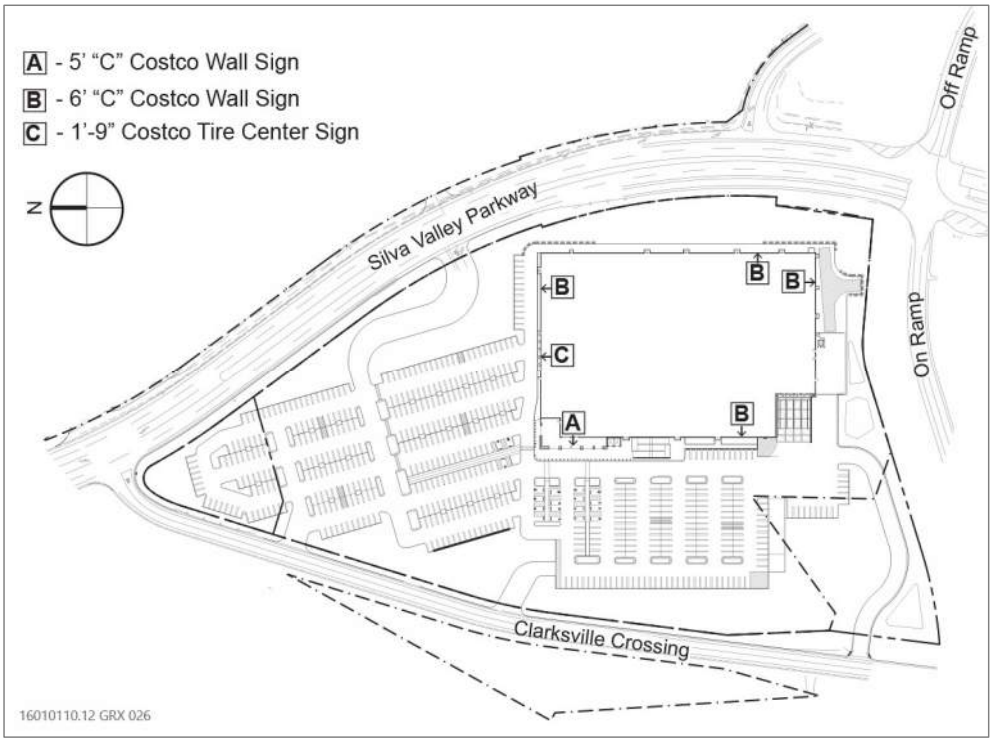


Source: Image produced and provided T.E., Inc. in 2019

Figure 2-20 South Site Lighting Plan

SIGNAGE

As part of the proposed Master Signage Program (see Section 2.4.3, "Master Signage Program"), proposed signage includes the typical Costco warehouse signage (externally illuminated reverse pan channel letters), a pylon sign at the southeast corner of the parcel at Silva Valley Parkway, and a monument sign located at the northern side of the main entry (see Figure 2-21).



Source: Adapted by Ascent 2022

Figure 2-21 Costco Sign Locations

A pylon sign oriented towards U.S. 50 would be located at the southeast corner of the South Site adjacent to Silva Valley Parkway. The sign would be approximately 75 feet tall and 28 feet wide with multiple internally illuminated panels for tenant identification for businesses located on the North Site. A monument sign located on the north side of the main entry would also be include as part of the project signage. The sign would be approximately 16 feet tall and 17 feet wide with multiple internally illuminated panels for tenant identification for businesses located on the North Site.

INFRASTRUCTURE IMPROVEMENTS

Figure 2-22 shows the preliminary utility plan for the South Site. Water would be provided to the site via 10-inch pipelines connecting to existing water pipeline within Silva Valley Parkway as well as a 6-inch and 10-inch water pipeline connection to the existing water pipeline in Clarksville Crossing. An eight-inch sewer pipeline would connect to North Site sewer infrastructure within Silva Valley Parkway and would serve the South Site via six-inch and eight-inch pipelines. This onsite sewer system would connect an existing sewer pipeline along the west side of Clarksville Crossing. Stormwater pipelines varying in size from 12 inches to 36 inches would be installed throughout the site and would convey stormwater to proposed six bioretention basins within the South Site as well as existing vaults and boxes. Electrical and natural gas service would be provided by PG&E that would be extended from existing facilities along Clarksville Crossing (electrical) and extension of a natural gas pipeline approximately 1,900 feet north of the site along eastern side of Silva Valley Parkway.

CONSTRUCTION

Construction for the South Site is anticipated to begin in early 2024 and would take approximately 9 months. Approximately 11,000 CY of fill would be exported offsite as part of site grading activities.

OPERATIONS

The warehouse is proposed to include one member entrance to the main Costco store, which would be located at the northwest corner. The El Dorado Hills Costco is expected to include a bakery and sales of baked goods, meat preparation and sales, alcohol sales, food service preparation and sales, pharmacy, optical center with optical exams and retail optical sales, hearing aid testing center, food court, and a photo center along with the sales of approximately 4,000 products. The warehouse would include a five-bay tire center, an approximately 5,300 sf facility with member access via the inside of the main Costco building, which would include tire sales and a tire installation facility.

It is anticipated that the El Dorado Hills Costco warehouse would employ approximately 165 to 170 employees. The warehouse hours are anticipated to be Monday through Friday from 9:00 am to 8:30 pm, and Saturday and Sunday from 9:00 am to 7:00 pm.

Costco anticipates an average of about 10 trucks delivering goods on a typical weekday. The trucks range in size from 26 feet long for single-axle trailers to 70 feet long for double-axle trailers. Receiving time would be from 2:00 a.m. to 1:00 p.m., averaging 2 to 3 trucks per hour, with most of the deliveries completed before 10:00 a.m. Deliveries to the warehouse are made primarily in Costco trucks from its freight consolidation facility in Tracy, California, coming to the site from U.S. 50, and accessing the site from Silva Valley Parkway via Clarksville Crossing Road.

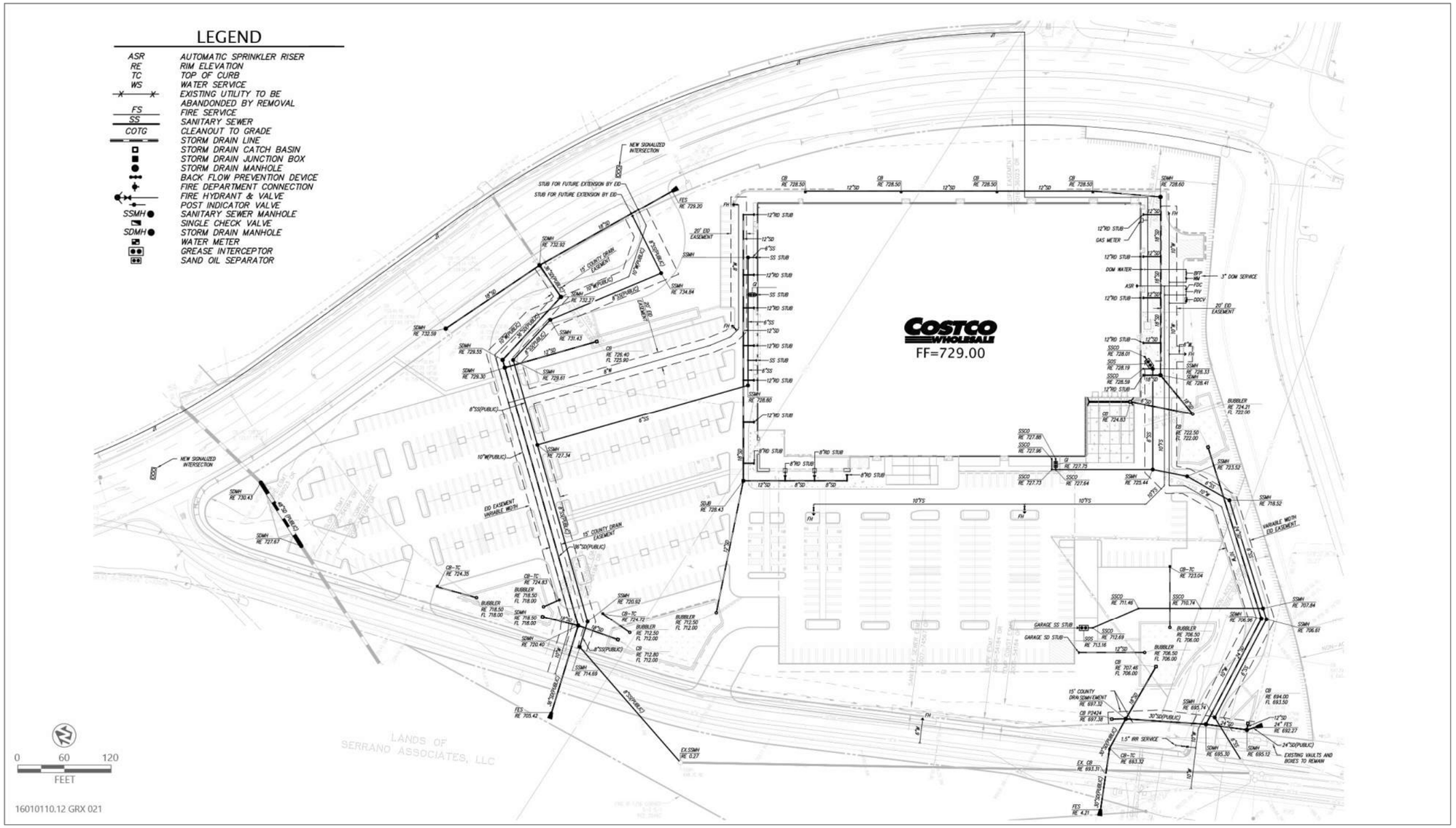
The tire center typically would receive shipments of tires once or twice per week in single- or double-trailer trucks up to 70 feet in length, and the same delivery truck will pick up old tires for recycling. Deliveries to and pickups from the tire center would be scheduled for pre-opening hours, typically about 6:00 a.m. Tire center deliveries would not occur at the loading dock but would occur directly at the tire center.

ENERGY EFFICIENCY FEATURES

As noted above, the South Site would obtain electrical and natural gas services from PG&E. The development would comply with energy efficiency standards under California Code of Regulations Title 24. Additional energy efficiency and sustainability measures incorporated into the Costco warehouse are noted below. The reader is referred to Section 3.5, "Energy," for a further discussion of project energy demands.

- Parking lot light standards would be designed in order to provide even light distribution, and utilize less energy compared to a greater number of fixtures at lower heights. The use of LED lamps can provide a higher level of perceived brightness with less energy than other lamps such as high-pressure sodium.

- New and renewable building materials are typically extracted and manufactured within the region. When masonry and concrete are used, the materials purchased are local to the project, minimizing the transportation distances and impact to local road networks.
- The use of pre-manufactured building components, including structural framing and metal panels, helps to minimize waste during construction.
- Pre-manufactured metal wall panels with insulation carry a higher R-Value and greater solar reflectivity to help conserve energy as compared to other materials. Building heat absorption is further reduced by a decrease in the thermal mass of the metal wall when compared to a typical masonry block wall.
- A substantial amount of the proposed landscaping material for the South Site is climate adapted to the region and would use less water than other common species.
- The irrigation system proposes to include the use of deep root watering bubblers for parking lot trees to minimize usage and ensure that water goes directly to the intended planting areas.
- Storm water management plans are designed to maintain quality control and storm water discharge rates based on the County requirements.
- High-efficiency restroom fixtures.
- Commissioning of mechanical systems will occur to ensure that the HVAC systems are preforming as designed. HVAC comfort systems can be controlled by a computerized building management system to maximize efficiency.
- HVAC units planned for the South Site are high efficiency direct ducted units, which have phased out the use of HCFC's completely.
- Parking lot and exterior lights would be controlled by a photo sensor and time clock.
- Lighting is controlled by the overall project energy management system.
- Energy efficient Transformers (i.e., Square D Type EE transformers) would be used.
- Variable speed motors would be used on make-up air units and booster pumps.
- Gas water heaters are direct vent and 94 percent efficient or greater.
- Reclaim tanks are used to capture heat released by refrigeration equipment to heat domestic water in lieu of venting heat to the outside.
- The building structure is a pre-engineered system that uses 100 percent recycled steel materials and is designed to minimize the amount of material used.
- Construction waste is recycled whenever possible.
- Floor sealant is No-VOC and represents over 80 percent of the floor area.
- CO_2 is monitored throughout the warehouse.
- Extensive recycling/reuse program is implemented for warehouse including tires, cardboard, grease, plastics, and electronic waste.
- Use of plastic shopping bags is avoided.
- Suppliers are required to reduce packaging and consider alternative packaging solutions.
- Distribution facilities are strategically located to minimize miles traveled for delivery.
- Deliveries are made in full trucks.
- All Costco trucks are equipped with an engine idle shut off timers.



Source: Image produced and provided by Kier+Wright in 2021

Figure 2-22 South Site Utility Plan

2.4.3 Master Signage Program

The applicant has proposed a master signage program to cover the signage for both the North Site and South Site. Details about the proposed signage are included above for each of the sites. The applicant is requesting deviations from Chapter 130.36 of the County Code, including an increase in maximum allowed sign area and an increase in maximum allowed sign height.

2.5 REQUIRED OFFSITE TRANSPORTATION IMPROVEMENTS

An analysis and identification of recommended roadway improvements for the project to comply with El Dorado County General Plan Transportation policies are provided in the EDH 52 Transportation Impact Analysis (Appendix E). It is anticipated that the County would require the following conditions of approval to be applied to the project:

- Silva Valley Parkway and Entrada Lane Intersection: Signalize the intersection.
- White Rock Road and Valley View Parkway-Vine Street Intersection: Add a northbound right turn lane and change the right turn phase to permissive and overlap. Increase the westbound left turn storage length.
- Bass Lake Road and Country Club Drive Intersection: Add a southbound right turn lane and an eastbound left turn lane. Optimize the signal timing.
- Serrano Parkway and Bass Lake Road Intersection: Optimize the signal timing.
- US 50 EB Ramps and Marble Lake Road Intersection: Signalize the intersection. If this intersection is signalized, the U.S. 50 Westbound Ramps/Bass Lake Rd Ramp Intersection will likely need to be signalized as well.
- Silva Valley Parkway and Project Driveway Intersection: Optimize the signal timing to reduce the queue length. Increase length of southbound left turn pocket to 380 feet.

2.6 REQUESTED ENTITLEMENTS

2.6.1 Both Sites

- Master Sign Program
- Variance to allow Master Sign Program that would allow for signage beyond currently allowed by PD zoning regulations
- Oak Tree Removal Permit

2.6.2 North Site

- Planned Development Permit (PD15-0001) to include site plans, and design guidelines;
- Rezone (Z17-0004) of from Regional Commercial – Planned Development (CR-PD) to Community Commercial - Planned Development (CC-PD) ;
- Conditional Use Permit (CUP-R21-0024) to allow the use of a self-storage operation within the CC-PD zone; and
- Tentative Parcel Map (P17-0007) to reconfigure existing and create new parcels .

2.6.3 South Site

- Planned Development Permit (PD15-0001) to include site plans, design guidelines, and signage program;

- Rezone the entire site to CR-PD zoning; and
- County Road Improvement and Maintenance Agreement

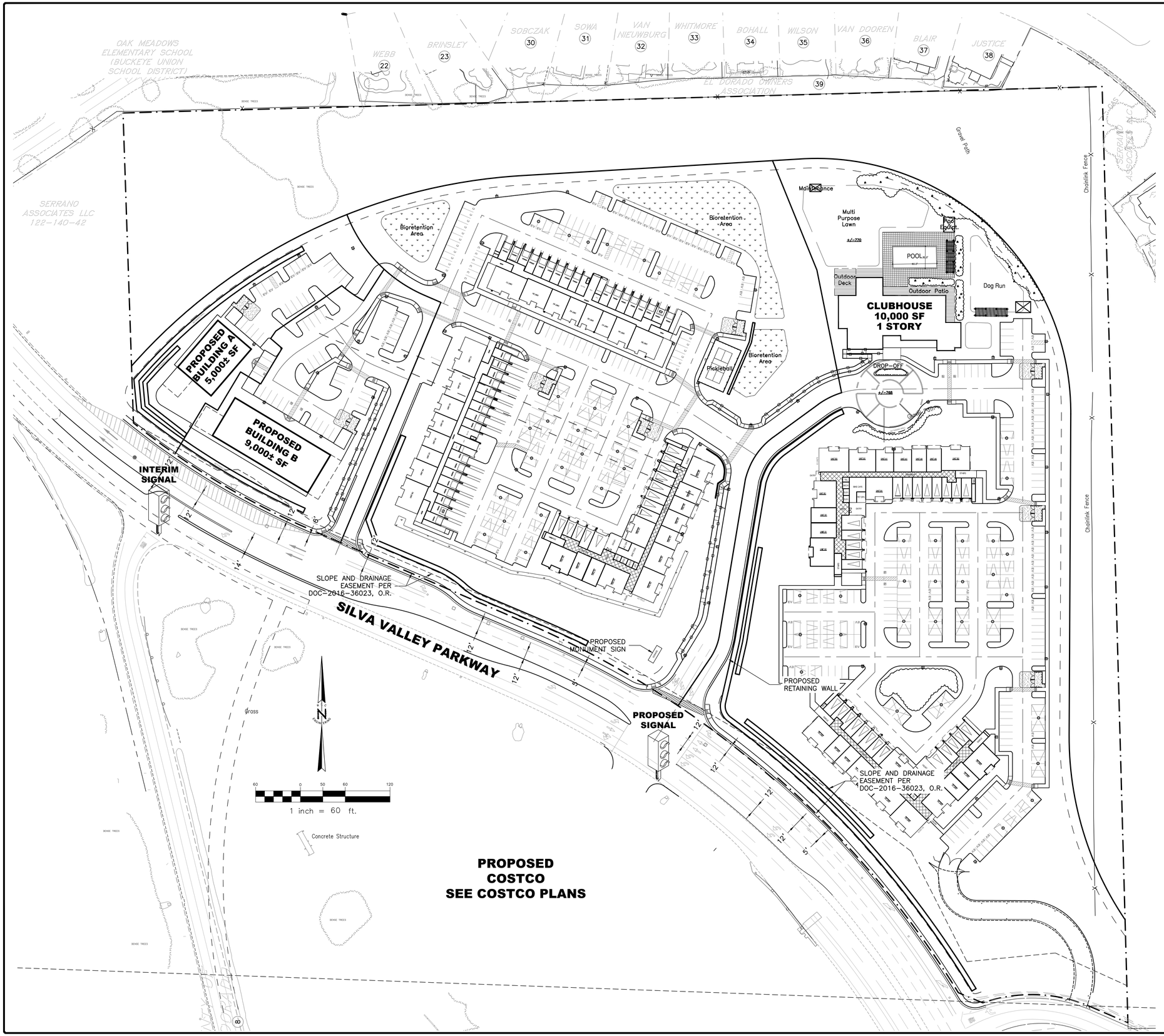
2.7 OTHER AGENCY APPROVALS

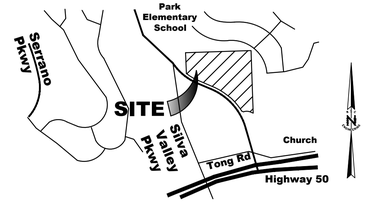
The project may require additional approvals or entitlements from agencies other than El Dorado County. The agencies and approvals that may be required include the following:

- El Dorado Local Agency Formation Commission: annexation of the project site into the El Dorado Irrigation District (EID) and the El Dorado Hills County Water District (El Dorado Hills Fire Department) for both North Site and South Site;
- EID (associated U.S. Bureau of Reclamation action) for water supply service and wastewater service for both North Site and South Site;
- El Dorado Hills Fire Department approval of Fire Safe Plan for both North Site and South Site;
- El Dorado Air Quality Management District permitting approval for the North Site gas station;
- California Department of Fish and Wildfire streambed alteration agreement for both North Site and South Site; and
- U.S .Army Corps of Engineers for wetland fill for both North Site and South Site.

This page intentionally left blank.

EDH 52 Administrative Draft EIR						
Section	**Rec'd from Ascent**		**CR Reviewed**	**GH Reviewed**	**Other Reviewed**	**Comments back to Ascent**
Cover and title						
Executive Summary						
01 Introduction	08.17.2022					
02 Project Description						
03 Intro to Analysis						
3.1 Aesthetics						
3.2 Air Quality						
3.3 Archaeo, Historic, and TCRs	08.17.2022					
3.4 Bio	08.17.2022					
3.5 Energy						
3.6 Geo & Soils	08.17.2022					
3.7 GHG						
3.8 Hazards & Wildfire	08.17.2022					
3.9 Hydro & Water Quality	08.17.2022					
3.10 Land Use						
3.11 Noise and Vibration						
3.12 Public Services						
3.13 Transportation						
3.14 Utilities	08.17.2022					
4 Cumulative						
5 Alternatives						
6 Other CEQA Sections						
7 Preparers						
8 References						





OWNER/APPLICANT

EDH 52 G.P.
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

ENGINEER

RSC ENGINEERING, INC.
1420 ROCKY RIDGE DRIVE, SUITE 150
ROSEVILLE, CA 95661
PHONE: (916) 788-2884

SITE DATA

OVERALL NORTH AREA	24.83± ACRES (1,081,672± SF)
LAND USE CLASSIFICATION:	COMMERCIAL
PROPOSED ZONING CLASSIFICATION:	COMMUNITY COMMERCIAL PLANNED DEVELOPMENT

APN: 122-720-019, 020 AND 021

UTILITY PROVIDERS

WATER	EL DORADO IRRIGATION DISTRICT
SANITARY SEWER	EL DORADO IRRIGATION DISTRICT
STORM DRAIN	EL DORADO COUNTY
FIRE	EL DORADO FIRE PROTECTION DISTRICT
ELECTRIC	PG&E
GAS	PG&E
TELEPHONE	AT&T
CABLE	AT&T

NOTES

1. PARKING SHOWN CONTAINS 90° PARKING SPACES.
2. TYPICAL PARKING STALL DIMENSIONS:
   STANDARD STALLS WIDTH: 9' DEPTH: 18' MIN.
   COMPACT STALLS WIDTH: 9' DEPTH: 15.0'
   TWO WAY AISLES: 24' MIN.
3. TREES AND WETLANDS NOT SHOWN ON SITE PLAN ARE PROPOSED TO BE REMOVED AND FILLED PER COUNTY MITIGATION AND ARMY CORP PERMIT.
4. EXISTING EASEMENT WIDTHS VARY. PROPOSED EASEMENTS ARE UNKNOWN AT THIS TIME.

SITE ANALYSIS - RETAIL

ACREAGE		
RETAIL PARCEL:		106,282± SF (2.44± AC)
LOT COVERAGE:		13.17%
BUILDINGS:		
BUILDING A:	5,000 SF	
BUILDING B:	9,000 SF	
TOTAL:	14,000 SF	
PARKING STALLS:		
STANDARD PARKING:		59 STALLS
ACCESSIBLE PARKING:		2 STALLS
EV PARKING:		2 STALLS
RV PARKING:		2 STALLS
TOTAL:		65 STALLS
PARKING RATIO:		4.64/1,000

SITE ANALYSIS - MULTI FAMILY

ACREAGE:	16.81± AC
UNITS:	295 UNITS
DWELLING UNITS (DU)/AC:	17.55
PARKING	
UNCOVERED	
STANDARD:	147 STALLS
COMPACT:	23 STALLs
ADA:	7 STALLS
EV CAPABLE:	75 STALLS
TANDEM:	17 STALLS
UNCOVERED TOTAL:	269 STALLS
COVERED	
GARAGE/EV READY:	68 STALLS
GARAGE/ADA:	5 STALLS
CARPORT:	223 STALLS
COVERED TOTAL:	296 STALLS
TOTAL PARKING:	565 STALLS
STALLS/DWELLING UNIT:	1.92

OWNER:
EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

NO	DESCRIPTION	DATE
		BY:
		ENG INIT
		CITY APPROVED

RSC ENGINEERING
1420 Rocky Ridge Drive, Suite 150
Roseville, CA 95661
Ph:916.788.2884 Fax:916.788.4408

PROJECT NO: 104-003C
DRAWN BY: RSC Eng
CHECKED BY: RSC Eng
DESIGNED BY: RSC Eng

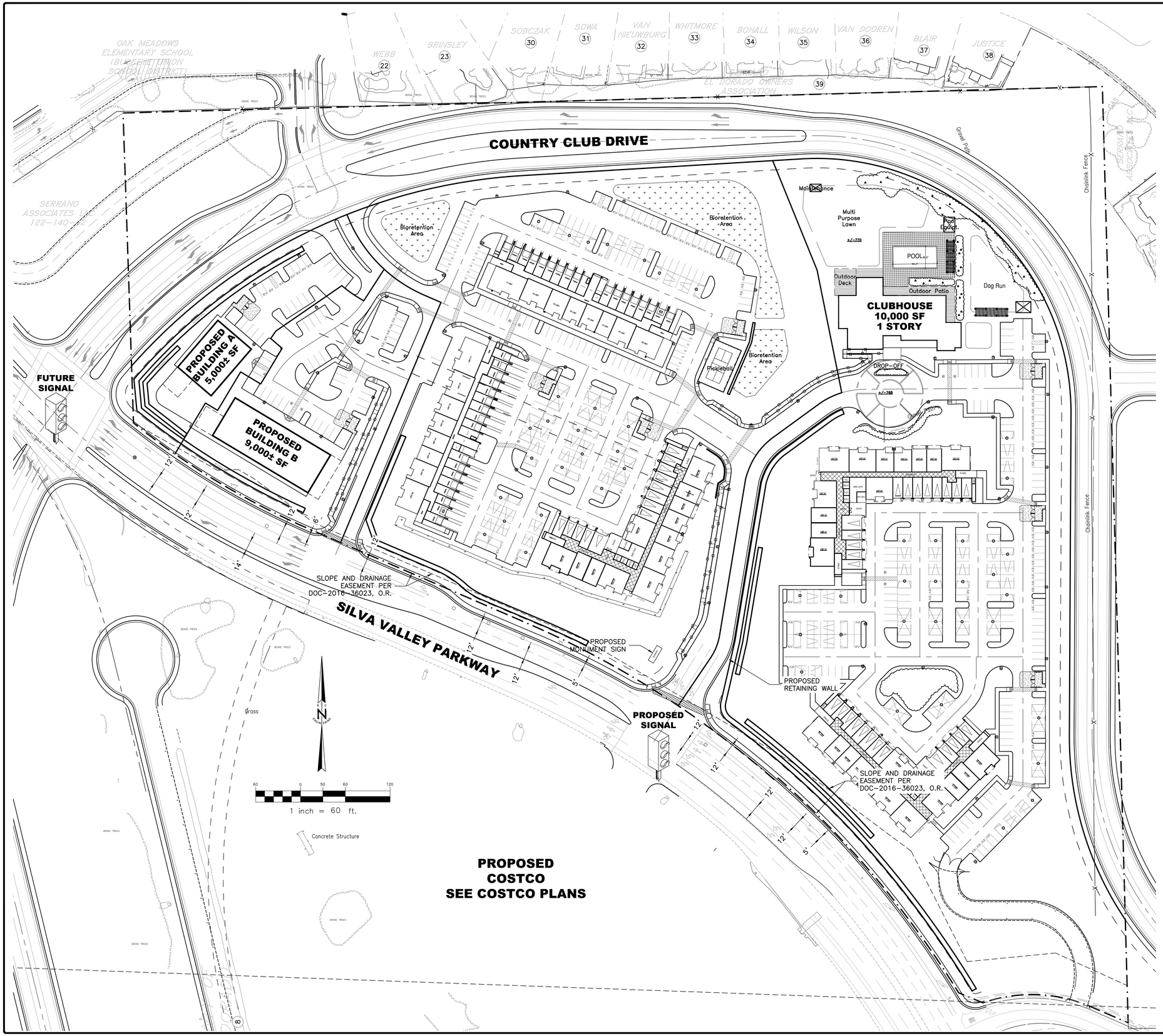
PLANNED DEVELOPMENT APPLICATION FOR EDH 52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95762
EL DORADO COUNTY

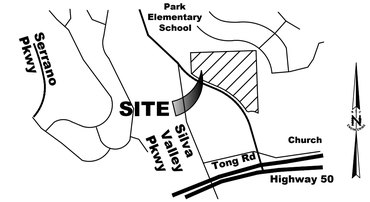
SHEET TITLE
PRELIMINARY SITE PLAN INTERIM

SHEET NO.
SP1
1 OF XX

DATE: MAY 5, 2023

DRAWING: C:\104-003C\Planning\Conceptual\104003C_SP.dwg
LAST SAVED: Apr 26, 2023 - 12:52:05 PM
PLOT DATE: Apr 26, 2023 - 12:52:05 PM





OWNER/APPLICANT

EDH 52 G.P.
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

ENGINEER

RSC ENGINEERING, INC.
1420 ROCKY RIDGE DRIVE, SUITE 150
ROSEVILLE, CA 95661
PHONE: (916) 788-2884

SITE DATA

OVERALL NORTH AREA	24.83± ACRES (1,081,672± SF)
LAND USE CLASSIFICATION:	COMMERCIAL
PROPOSED ZONING CLASSIFICATION:	COMMUNITY COMMERCIAL PLANNED DEVELOPMENT

APN: 122-720-019, 020 AND 021

UTILITY PROVIDERS

WATER	EL DORADO IRRIGATION DISTRICT
SANITARY SEWER	EL DORADO IRRIGATION DISTRICT
STORM DRAIN	EL DORADO COUNTY
FIRE	EL DORADO FIRE PROTECTION DISTRICT
ELECTRIC	PG&E
GAS	PG&E
TELEPHONE	AT&T
CABLE	AT&T

NOTES

1. PARKING SHOWN CONTAINS 90° PARKING SPACES.
2. TYPICAL PARKING STALL DIMENSIONS:
   STANDARD STALLS WIDTH: 9' DEPTH: 18' MIN.
   COMPACT STALLS WIDTH: 9' DEPTH: 15.0'
   TWO WAY AISLES: 24' MIN.
3. TREES AND WETLANDS NOT SHOWN ON SITE PLAN ARE PROPOSED TO BE REMOVED AND FILLED PER COUNTY MITIGATION AND ARMY CORP PERMIT.
4. EXISTING EASEMENT WIDTHS VARY. PROPOSED EASEMENTS ARE UNKNOWN AT THIS TIME.

SITE ANALYSIS - RETAIL

ACREAGE	
RETAIL PARCEL:	106,282± SF (2.44± AC)
LOT COVERAGE:	13.17%
BUILDINGS:	
BUILDING A: 5,000 SF	
BUILDING B: 9,000 SF	
TOTAL: 14,000 SF	
PARKING STALLS:	
STANDARD PARKING:	59 STALLS
ACCESSIBLE PARKING:	2 STALLS
EV PARKING:	2 STALLS
RV PARKING:	2 STALLS
TOTAL:	65 STALLS
PARKING RATIO:	4.64/1,000

SITE ANALYSIS - MULTI FAMILY

ACREAGE:	16.81± AC
UNITS:	295 UNITS
DWELLING UNITS (DU)/AC:	17.55
PARKING	
UNCOVERED	
STANDARD:	147 STALLS
COMPACT:	23 STALLS
ADA:	7 STALLS
EV CAPABLE:	75 STALLS
TANDEM:	17 STALLS
UNCOVERED TOTAL:	269 STALLS
COVERED	
GARAGE/EV READY:	68 STALLS
GARAGE/ADA:	5 STALLS
CARPORT:	223 STALLS
COVERED TOTAL:	296 STALLS
TOTAL PARKING:	565 STALLS
STALLS/DWELLING UNIT:	1.92

OWNER:
EDH 52 GP
7919 FOLSOM BLVD, SUITE 300
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

NO	DESCRIPTION	DATE
1	ENG MC	BY
2	CITY APPROVED	

RSC ENGINEERING
1420 Rocky Ridge Drive, Suite 150
Roseville, CA 95661
Ph:916.788.2884 Fax:916.788.4408

PROJECT NO:	104-003C
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

PLANNED DEVELOPMENT APPLICATION FOR EDH 52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95762
EL DORADO COUNTY

SHEET TITLE
PRELIMINARY SITE PLAN ULTIMATE

SHEET NO.
SP2
1 OF **XX**

DATE: MAY 5, 2023

DRAWING: P:\104-003C\Planning\Conceptual\104003C_SP.dwg
LAST MODIFIED: Apr 26, 2023 - 12:16:06 PM
PLOT DATE: Apr 26, 2023 - 12:16:06 PM

El Dorado Hills Area Planning Advisory Committee

APAC 2023 Officers
John Davey, Chair jdavey@daveygroup.net
John Raslear, Vice Chair jjrazzpub@sbcglobal.net
Timothy White, Vice Chair tjwhitejd@gmail.com
Brooke Washburn, Vice Chair washburn_bew@yahoo.com
Robert Williams, Secretary bobw1800@gmail.com

1021 Harvard Way, El Dorado Hills, CA 95762
https://edhapac.org

The County of El Dorado Planning Department
County Planner: Anna Leanza

2850 Fairlane Court
Building C
Placerville, CA 95667

July 24, 2023

RE: PD15-0001, Z17-0004, P17-0007, LLA21-0009, V22-0001 – EDH 52 Technical Advisory Committee Meeting, scheduled for July 31, 2023

The El Dorado Hills Area Planning Advisory Committee (EDH APAC) would like to offer the following questions, concerns, and comments on the proposed PD15-0001, Z17-0004, P17-0007, LLA21-0009, V22-0001 – EDH 52 to member agencies and staff for the July 31, 2023 Technical Advisory Committee meeting.

1. Reviewing the July 13, 2023 Revised Project Application Packet, EDH APAC has concerns regarding the following elements.
2. "*SITE ACCESS: It is anticipated that the Project site will have multiple points of access. A traffic signal is proposed at the main driveway and Silva Valley Parkway to provide access to both the South Site and the North Site.*"
   In discussions with EDC DOT, it has been explained that a signalized FMA intersection on Silva Valley Pkwy at the center of the project site(s) is an unworkable element. The impacts to the SIlva Valley Pkwy-HWY50 interchange would negatively impact the performance of the interchange, and circulation on Silva Valley Pkwy.
3. EDH APAC also has concerns about the signalized FMA intersection on Silva Valley Pkwy at the center of the project site(s) that would negatively impact the existing performance of the roadway in relation to the challenges currently existing for access at Oak Meadow Elementary School. With the close proximity to the Oak Meadow Elementary School site, improvements and mitigations MUST consider impacts on the sensitive population of students, staff, and families accessing the school property.
4. "*North Site: A right in and out is proposed on Silva Valley Parkway generally across from the existing Clarksville Crossing in the interim. An emergency access to Tong Road from the apartments is proposed. After Country Club Drive is extended through the property a driveway will connect to that road for an additional point of access. South Site Regional*

access to the warehouse will be from Interstate 50 via the Silva Valley Parkway exit. One full-access driveway with a signalized intersection is proposed along the eastern portion of the site, and an additional three driveways are proposed along the Project's western side to provide access from Clarksville Crossing. An interim signal at Clarksville Crossing is proposed to allow a northbound left turn from Silva Valley Parkway onto Clarksville Crossing. This signal will go away when the County constructs the Country Club Drive extension further north. At that time the Clarksville Crossing will become a right in and out only. An ADA-compliant pedestrian pathway will extend from the warehouse to the northern property boundary where it will connect to Silva Valley Parkway. The Project provides oversized parking stalls of 10 feet x 20 feet that are larger than the minimum El Dorado County requirements to provide members with easier accessibility to vehicles."

Also:

"*OFF-SITE IMPROVEMENTS A proposed traffic signal and appurtenant facilities will be located on Silva Valley Parkway at the main driveway of the Project to provide a connection to both the South Site and the North Site. An additional traffic signal is proposed at the intersection of Clarksville Crossing and Silva Valley Parkway as an interim until Country Club Drive is extended by the County.*"

EDH APAC is concerned about the timing of the proposed circulation improvements/mitigation elements of the final conditions to Silva Valley Pkwy, Tong Road, Clarksville Crossing, and the future Country Club Drive alignment. EDH APAC believes the construction of Country Club Drive from Silva Valley Pkwy to the northeast side of the North Site MUST be concurrent with the development of the first Apartment Buildings, and the first of the two Retail buildings.

5. "*TRUCK CIRCULATION Truck access will be allowed at all driveway locations depending on the size of the delivery truck and direction of travel.*"
   EDH APAC suggests that to avoid circulation impacts, that Truck Access MUST be limited to specific driveway locations, designed to accommodate commercial traffic, with signage. Truck Access should NOT be unlimited at ALL driveway locations.
6. "*South Site Objectives: Minimize circulation conflicts between automobiles and pedestrians.*" EDH APAC is concerned about the driveway locations proposed along Clarksville Crossing. As it exists now, Clarksville Crossing is a two lane road, constrained by an elevated bridge section of HWY50. EDH APAC is concerned that adequate vehicle and pedestrian capacity does not exist on Clarksville Crossing to facilitate the South Site/Costco portion of the proposed project.
7. Building Heights. Have building heights been established for the apartment buildings or the two retail buildings proposed for the north site - including the height added by architectural elements? Will they fall with the building heights established by El Dorado County Design standards for the proposed zoning?

EDH APAC appreciates the opportunity to review and provide feedback on proposed development projects to mitigate impacts in our El Dorado Hills Community. Through question and feedback, our goal is to realize the best possible project outcome for our community, the project applicants, and for El Dorado County.

Respectfully,

John Davey
Chair
El Dorado Hills Area Planning Advisory Committee
“Non-Partisan Volunteers Planning Our Future Since 1981”

LOCAL AGENCY FORMATION COMMISSION
550 Main Street, Suite E. Placerville, CA 95667
(530) 295-2707 · lafco@edlafco.us · www.edlafco.us

VIA EMAIL

July 24, 2023

Anna Leanza
Project Planner
El Dorado County Planning Services
2850 Fairlane Court
Placerville, CA 95667

RE: **EDH 52** (AKT Investments / EDH 52 GP / RSC Engineering, Inc. – Tiffany Wilson)
PD15-0001, Z17-0004, P17-0007, LLA21-0009, V22-0001

Dear Ms. Leanza:

Thank you for the opportunity to review and provide additional comments on the revised EDH 52 project. LAFCO's State mandated role is to promote orderly growth and development and to encourage efficient service areas for local service providers. To that end, LAFCO has reviewed the information relating to this project and would like to comment on the proposed development and necessary future services.

As you are aware, APNs 122-720-018, 122-720-019, 122-720-020, and 122-720-021 are not within the boundaries of the El Dorado Irrigation District (EID) nor the El Dorado Hills County Water District (EDH Fire). These parcels will require annexation into these districts prior to receiving water and/or sewer services from EID, or fire protection and emergency medical services from EDH Fire. APNs 122-720-002 and 122-720-003 do appear to be within the EID and EDH Fire boundaries and will not require any LAFCO action.

LAFCO requests that annexation into EID and EDH Fire be included as required conditions of approval for this project. Annexation would occur after the County's approval process; please ensure the applicant is aware of this future requirement and advise the applicant to contact LAFCO staff near the end of the County's approval process to schedule a pre-application meeting. LAFCO may also request additional roadway parcels be included in the annexation application, to result in more orderly local government boundaries.

Since the above project will require LAFCO involvement for future boundary changes, and LAFCO will also require an environmental review for the application, it is in the best interest of the applicant and all involved parties if one CEQA document is prepared that covers all of the necessary processes. LAFCO respectfully requests that the project description include annexation into EID for water and wastewater services, and annexation into EDH Fire for fire

COMMISSIONERS
Public Member: Bill Wilde • Alternate Public Member: Dawn Hodson
City Members: John Clerici, Tamara Wallace • Alternate City Member: Nicole Gotberg
County Members: John Hidahl, George Turnboo • Alternate County Member: Wendy Thomas
Special District Members: Brian Veerkamp, Timothy J. White • Alternate Special District Member: Michael Saunders
STAFF
Shiva Frentzen, Executive Officer • Erica Sanchez, Assistant Executive Officer
Malathy Subramanian, Commission Counsel

protection and emergency medical services, and that the Initial Study and subsequent environmental document include the following:

Water Supply, Pumping and Treatment Facilities: A detailed analysis of all existing and planned on-site and off-site water facilities required for this project. A discussion of the potential water supply impacts that may occur as a result of the project, including how much water would be required to adequately serve this project, whether that water is currently projected to be available, the existing infrastructure that will be used to deliver service; the location, size and capacity of existing infrastructure, and how this water requirement will affect the overall water supply for the service area. The same scope of discussion should occur in regards to local pumping and treatment facilities: the location and size of the existing infrastructure of the nearest water treatment facility; whether it has the capacity to serve the proposed project; or whether additional infrastructure will be required for pumping the water to the project site.

Water Quality / Wastewater Treatment Issues: A detailed analysis of all existing and planned on-site and off-site sewer facilities required for this project. The same scope of discussion and analysis for water issues should also be included for sewer treatment issues.

Fire and Emergency Medical Services: The proposed project's impact on fire and emergency services, including a discussion on the impacts on existing facilities and financial implications to EDH Fire. In addition, please include the location(s) of the nearest staffed fire station(s) and estimated response time, and any existing or planned fire hydrants that will be used to deliver water to the project area.

In addition, please continue to ensure that LAFCO is on the distribution list for any project notices, hearings, or decisions as this project moves through the County's approval process. Once again, we thank you for giving LAFCO the opportunity to comment and we look forward to receiving additional materials in the future.

I can be contacted at (530) 295-2707 if you have any questions.

Sincerely,

Erica Sanchez
Assistant Executive Officer

July 24, 2023

Anna Leanza, County Planner
anna.leanza@edcgov.us
El Dorado County Planning and Building Department
Planning Division
2850 Fairlane Court, Building C
Placerville, CA 95667

RE: **PD15-0001, Z17-0004, P17-0007, LLA21-0009, V22-0001 – EDH 52** *(AKT Investments/EDH 52 GP/RSC Engineering, Inc. – Tiffany Wilson)*

The El Dorado Hills Community Services District ("District") appreciates this opportunity to respond to the request to review and comment on the above referenced project. Below are comments and conditions to be addressed.

PLANNED DEVELOPMENT PERMIT, REZONE, TENTATIVE PARCEL MAP, LOT LINE ADJUSTMENT, AND VARIANCE PER REVISED PROJECT APPLICATION

The Revised Application proposes two sites – a southerly site of 17 acres with 156,000 square feet of commercial use (Costco) and a northerly site of 18 acres of mixed-use development with 14,000 square feet of commercial uses and 304 multifamily units within five four-story buildings, amenities including a pool area, gym, and outdoor gathering space on the properties identified as APNs 122-720-002, 122-720-003,122-720-018,122-720-019,122-720-020,122-720-021, consisting of 40.56 acres.

PARKLAND DEDICATION & IMPACT FEE REQUIREMENTS

District Policy 6110.10
All subdividers of land within the District's jurisdiction shall dedicate park land suitable for active recreation use, or pay fees in lieu thereof (Quimby), or by District Board authorization, follow a combination of these alternatives.

Application of all Parkland Dedication requirements shall follow the El Dorado County Subdivision Ordinance and be consistent with the project.

The below provides the requirements for project development related to acceptable parklands:

PARKLAND DEDICATION AND DEVELOPMENT STANDARDS

District Policy 6110.10
Park dedication amounts shall be determined as a result of calculation based on the legislated rate of 5 acres per 1000 population project yield. Population is calculated at the rate of 3.3 persons for single family subdivisions and 2.8 for multi-family subdivisions on a per parcel basis.

District Policy 6110.20
As an alternative to parkland dedication, where Quimby fees are paid in lieu of land dedication; the sum owed shall be determined by District staff by consulting with the County Assessor's Office, County Planning Department and/or an approved private appraiser, as authorized by ordinance.

The proposed tentative subdivision creates 304 multi-family housing units, which yields a population of 851 persons. Using the 5 acres per 1,000 persons formula, the required land dedication is 4.26 acres. The applicant can satisfy this requirement by way of Quimby fees paid in lieu of land dedication.

District Policy 6110.30 and 6110.40
The amount of park land to be dedicated shall be calculated on the basis of the subdivision's dwelling unit yield as determined from the approved tentative map or the final map should the yield increase. Also, per District Policy 6110.40, staff shall inspect and evaluate all proposed park land dedications to determine the suitability of the subdivider's offering. The District will confer jointly with the County to determine the amount of park land to be dedicated within the subdivision and its most suitable location.

LAND SUITABLE FOR PARKLAND DEDICATION

District Policy 6110.60
Land suitable for dedication as an active recreation site (park land) shall include the following important elements to take into consideration:

- Minimum desirable park site size is normally three (3) acres for purposes of economical maintenance and procuring adequate land for the development of multi-purpose fields.

- Active recreational pursuits, such as team field sports, game courts, and activity buildings require predominantly level land, 2% slope. Land with a greater slope, up to 20% of the site, may be acceptable where it has utility for picnicking or other passive recreation activities and when it complements usable park area (2% slope) or when it appears consistent with uses proposed for a special purpose park site. All parks improved for active recreation purposes (i.e., ball fields, hard courts, etc.) shall be graded to a maximum 2% slope within areas proposed for such uses.

- Site shall be free and clear of surface and overhead utility line easements which contain design, maintenance or operation constraints or place the public at unreasonable risk. Where easements unavoidably occur, only those compatible to the intended active recreation development, will be allowed for consideration as an acceptable dedication.

- A neighborhood park, to the extent practicable, shall be centrally located within its residential service area and easily accessed by pedestrian or light vehicular traffic. Typical amenities include children's play apparatus, hard court, a multi-purpose turfed area and suitable landscaping.

- Village/area parks shall generally provide recreation facilities needful by a larger community segment. These may be located on more significant transportation routes and shall furnish adequate parking. Ample hard courts, including tennis, larger field areas, group picnic facilities and a larger, more complex play apparatus for children, is customary.

- Drainage courses, or dedications near or adjacent to hazardous or noxious material's sites are not acceptable. Flood plains are generally not accepted unless the site's potential risks are fully mitigated at the subdivider's risk and expense.

Private parks (neighborhood parks behind development gates) are eligible for a portion of parkland credit per County Subdivision Ordinance and District policy, and are not eligible for park impact fee reduction, as the park impact fee imposed is for public parks, not private parks.

COMMUNITY FACILITIES DISTRICT (CFD)

As a Condition of Approval, prior to the approval of the project's Final Map, annexation into the following Community Facilities Districts (CFDs) is required:

El Dorado Hills Community Services District Master CFD 2019-01

Annexation into the District's Master CFD 2019-01 will satisfy the requirement for participating in the funding of the ongoing maintenance of future parks, trails and pathways, open space, landscaping, lighting and other common or public areas owned/maintained by the District within the District's service boundary.

For complete District Policy guidelines, please see Policy Guide Services 6000 – Facility Development on our website at www.eldoradohillscsd.org/about/administration-finance.html

Should you have any questions or comments regarding the concerns expressed in this letter, please contact me at (916) 614-3214.

Best regards,

Jeff Kernen

Jeff Kernen
Principal Planner
El Dorado Hills Community Services District

cc:
AKT Investments, Angelo Christie, angeloc@aktdev.com
RSC Engineering, Inc., Tiffany Wilson, t.wilson@rsc-engr.com

El Dorado County
Air Quality Management District

330 Fair Lane, Placerville Ca 95667
Tel. 530.621.7501 Fax 530.295.2774
www.edcgov.us/airqualitymanagement

Dave Johnston
Air Pollution Control Officer

July 26, 2023

Anna Leanza, County Planner
El Dorado County Planning Services
2850 Fairlane Court
Placerville, CA 95667

Subject: Planned Development Permit (PD)15-0001, Z17-0004, P17-0007, LLA21-0009, V22-0001 – EDH 52 (AKT Investments/EDH 52 GP/RSC– AQMD Comment

Dear Ms. Leanza:

The El Dorado County Air Quality Management District (AQMD) has reviewed the proposed project for subject PD, Rezone, Tentative Parcel Map, Lot Line Adjustment, and Variance to develop two sites; the southerly site is approximately 17 acres where 156,000 square feet of commercial uses are proposed, the northerly site is approximately 18 acres where a mixed-use development is proposed. The mixed-use development will include 14,000 square feet of neighborhood commercial uses, as well as 304 multifamily units within five four-story buildings, amenities include a pool area, gym and outdoor gathering space, with associated site improvements. The properties, identified by Assessor's Parcel Numbers 122-720-002, 122-720-003, 122-720-018, 122-720-019, 122-720-020 and 122-720-021, consist of 40.56 acres, and are located directly north of US Highway 50 at the Silva Valley Parkway exit, in the El Dorado Hills area. Based on the AQMD's review of the proposed project, the AQMD concluded that the project will be above the size of projects identified in the AQMD Guide to Air Quality Assessment for determining Significance of Air Quality Impacts under the California Environmental Quality Act, and it is expected to cause a significant air quality impact and has the following comments regarding potential air quality impacts.

Air Quality/GHG Analysis Required:

The western portion of El Dorado County (where the project is located) is in non-attainment of the state Ambient Air Quality Standards (AAQS) for Particulate Matter 10 micrometers (PM10), and the federal AAQS for PM2.5 (2.5 micrometers) in size. Additionally, the western portion of the County is in non-attainment of both the 1-hour and 8-hour state AAQS for ozone, and of the 8-hour federal AAQS for ozone. The two ozone precursor pollutants most responsible for ozone generated by this project are Volatile Organic Compounds (VOC, also known as Reactive Organic Gases or ROG) and Nitrogen Oxides (NOx).

An Air Quality and Greenhouse Gas (GHG) Analysis is required for adequate environmental review of the proposed project. AQMD recommends the use of the latest version of the California Emissions Estimator Model (CalEEMod), which can be downloaded for free at www.caleemod.com. This will compute mass emissions of criteria pollutants (NOx, ROG, SOx, PM & CO) and GHG (in CO2 equivalents) from both construction and operation of the project. Someone knowledgeable in all aspects of the project, such as construction phasing, materials usage, etc., should run the model and modify the defaults as appropriate, assuring that notes are included about any changes to defaults as the program requires.

Additionally, the following standard conditions may apply to the project:

- Asbestos Dust: Current county records indicate the portions of the subject property are located within the Naturally Occurring Asbestos Review Area. An Asbestos Dust Mitigation Plan (ADMP) Application with applicable fees shall be submitted to and approved by the AQMD prior to project construction if the project moves more than 20 cubic yards of soil, pursuant to AQMD Rule 223.2, Fugitive Dust – Asbestos Hazard Mitigation. Mitigation measures for the control of fugitive dust shall comply with the requirements of Rule 223, Fugitive Dust – General Requirements, and Rule 223.2 Fugitive Dust – Asbestos Hazard Mitigation.

- Open Burning: Burning of waste vegetation that results from "Land Development Clearing" must be permitted through the AQMD. Only dry vegetative waste materials originating from the property may be disposed of using an open outdoor fire. Burning shall adhere to AQMD Rule 300, Open Burning.

- Paving: Road construction shall adhere to AQMD Rule 224, Cutback and Emulsified Asphalt Paving Materials.

- Painting/Coating: The application of architectural coatings shall adhere to AQMD Rule 215, Architectural Coatings.

- New Point or Stationary Source: Prior to construction/installation of any new point/stationary source emissions units (e.g., emergency standby engine greater than 50 HP, etc.), Authority to Construct applications shall be submitted to the AQMD. Submittal of applications shall include facility diagram(s), equipment specifications and emissions estimates, and shall adhere to AQMD Rules 501, General Permit Requirements and 523, New Source Review.

- Open Burning: Burning of waste vegetation that results from "Land Development Clearing" must be permitted through the AQMD. Only dry vegetative waste materials originating from the property may be disposed of using an open outdoor fire. Burning shall adhere to AQMD Rule 300, Open Burning.

- Construction Emissions: During construction, all self-propelled diesel-fueled engines greater than 25 horsepower shall be in compliance with the California Air Resources Board (CARB) Regulation for In-Use Off-Road Diesel Fueled Fleets (§ 2449 et al, title 13, article 4.8, chapter 9,

California Code of Regulations (CCR)). The full text of the regulation can be found at CARB's website here: https://ww2.arb.ca.gov/our-work/topics/construction-earthmoving-equipment Questions on applicability should be directed to CARB at 1.866.634.3735. CARB is responsible for enforcement of this regulation.

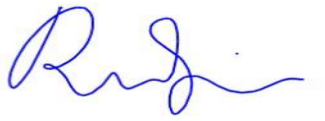
- Portable Equipment: All portable combustion engine equipment with a rating of 50 horsepower or greater shall be registered with CARB. A copy of the current portable equipment registration shall be with said equipment. The applicant shall provide a complete list of heavy-duty diesel-fueled equipment to be used on this project, which includes the make, model, year of equipment, and daily hours of operations of each piece of equipment.

- Electric Vehicle Charging – Non-Residential: The project shall comply with the non-Residential Mandatory Measures identified in the 2022 Cal Green Building Code to facilitate future installation and use of EV chargers[1].

- Electric Vehicle Charging – Residential: The residential portion of the project shall comply with the Residential Mandatory Measures identified in the 2022 Cal Green Building Code §4.106.4.2.2 to facilitate future installation and use of EV chargers[2].

If you have any questions, please do not hesitate to contact me at (530) 621-7509. The complete list of District Rules can be viewed at: https://ww2.arb.ca.gov/current-air-district-rules.

Respectfully,



Rania Serieh
Sr. Air Quality Engineer

\\AQData\AQ-Shared\CEQA or AQMD COMMENTS\AQMD Comments\2021\EDH 52

[1] Cal Green Building Code: CHAPTER 5 NONRESIDENTIAL MANDATORY MEASURES, 2022 California Green Building Standards Code, Title 24, Part 11 (CALGreen) | ICC Digital Codes (iccsafe.org) , https://www.dgs.ca.gov/BSC/CALGreen

[2] Cal Green Building Code: CHAPTER 4 - RESIDENTIAL MANDATORY MEASURES, 2019 California Green Building Standards code, Title 24, Part 11 with July 2021 Supplement | ICC Digital Codes (iccsafe.org), https://www.dgs.ca.gov/BSC/CALGreen

LOCAL AGENCY FORMATION COMMISSION
550 Main Street, Suite E. Placerville, CA 95667
(530) 295-2707 · lafco@edlafco.us · www.edlafco.us

VIA EMAIL

July 24, 2023

Anna Leanza
Project Planner
El Dorado County Planning Services
2850 Fairlane Court
Placerville, CA 95667

RE: **EDH 52** (AKT Investments / EDH 52 GP / RSC Engineering, Inc. – Tiffany Wilson)
PD15-0001, Z17-0004, P17-0007, LLA21-0009, V22-0001

Dear Ms. Leanza:

Thank you for the opportunity to review and provide additional comments on the revised EDH 52 project. LAFCO's State mandated role is to promote orderly growth and development and to encourage efficient service areas for local service providers. To that end, LAFCO has reviewed the information relating to this project and would like to comment on the proposed development and necessary future services.

As you are aware, APNs 122-720-018, 122-720-019, 122-720-020, and 122-720-021 are not within the boundaries of the El Dorado Irrigation District (EID) nor the El Dorado Hills County Water District (EDH Fire). These parcels will require annexation into these districts prior to receiving water and/or sewer services from EID, or fire protection and emergency medical services from EDH Fire. APNs 122-720-002 and 122-720-003 do appear to be within the EID and EDH Fire boundaries and will not require any LAFCO action.

LAFCO requests that annexation into EID and EDH Fire be included as required conditions of approval for this project. Annexation would occur after the County's approval process; please ensure the applicant is aware of this future requirement and advise the applicant to contact LAFCO staff near the end of the County's approval process to schedule a pre-application meeting. LAFCO may also request additional roadway parcels be included in the annexation application, to result in more orderly local government boundaries.

Since the above project will require LAFCO involvement for future boundary changes, and LAFCO will also require an environmental review for the application, it is in the best interest of the applicant and all involved parties if one CEQA document is prepared that covers all of the necessary processes. LAFCO respectfully requests that the project description include annexation into EID for water and wastewater services, and annexation into EDH Fire for fire

COMMISSIONERS
Public Member: Bill Wilde • Alternate Public Member: Dawn Hodson
City Members: John Clerici, Tamara Wallace • Alternate City Member: Nicole Gotberg
County Members: John Hidahl, George Turnboo • Alternate County Member: Wendy Thomas
Special District Members: Brian Veerkamp, Timothy J. White • Alternate Special District Member: Michael Saunders
STAFF
Shiva Frentzen, Executive Officer • Erica Sanchez, Assistant Executive Officer
Malathy Subramanian, Commission Counsel

protection and emergency medical services, and that the Initial Study and subsequent environmental document include the following:

Water Supply, Pumping and Treatment Facilities: A detailed analysis of all existing and planned on-site and off-site water facilities required for this project. A discussion of the potential water supply impacts that may occur as a result of the project, including how much water would be required to adequately serve this project, whether that water is currently projected to be available, the existing infrastructure that will be used to deliver service; the location, size and capacity of existing infrastructure, and how this water requirement will affect the overall water supply for the service area. The same scope of discussion should occur in regards to local pumping and treatment facilities: the location and size of the existing infrastructure of the nearest water treatment facility; whether it has the capacity to serve the proposed project; or whether additional infrastructure will be required for pumping the water to the project site.

Water Quality / Wastewater Treatment Issues: A detailed analysis of all existing and planned on-site and off-site sewer facilities required for this project. The same scope of discussion and analysis for water issues should also be included for sewer treatment issues.

Fire and Emergency Medical Services: The proposed project's impact on fire and emergency services, including a discussion on the impacts on existing facilities and financial implications to EDH Fire. In addition, please include the location(s) of the nearest staffed fire station(s) and estimated response time, and any existing or planned fire hydrants that will be used to deliver water to the project area.

In addition, please continue to ensure that LAFCO is on the distribution list for any project notices, hearings, or decisions as this project moves through the County's approval process. Once again, we thank you for giving LAFCO the opportunity to comment and we look forward to receiving additional materials in the future.

I can be contacted at (530) 295-2707 if you have any questions.

Sincerely,

Erica Sanchez
Assistant Executive Officer

El Dorado Hills Area Planning Advisory Committee

APAC 2023 Officers
John Davey, Chair jdavey@daveygroup.net
John Raslear, Vice Chair jjrazzpub@sbcglobal.net
Timothy White, Vice Chair tjwhitejd@gmail.com
Brooke Washburn, Vice Chair washburn_bew@yahoo.com
Robert Williams, Secretary bobw1800@gmail.com

1021 Harvard Way, El Dorado Hills, CA 95762
https://edhapac.org

The County of El Dorado Planning Department
County Planner: Anna Leanza

2850 Fairlane Court
Building C
Placerville, CA 95667

July 24, 2023

RE: PD15-0001, Z17-0004, P17-0007, LLA21-0009, V22-0001 – EDH 52 Technical Advisory Committee Meeting, scheduled for July 31, 2023

The El Dorado Hills Area Planning Advisory Committee (EDH APAC) would like to offer the following questions, concerns, and comments on the proposed PD15-0001, Z17-0004, P17-0007, LLA21-0009, V22-0001 – EDH 52 to member agencies and staff for the July 31, 2023 Technical Advisory Committee meeting.

1. Reviewing the July 13, 2023 Revised Project Application Packet, EDH APAC has concerns regarding the following elements.
2. "*SITE ACCESS: It is anticipated that the Project site will have multiple points of access. A traffic signal is proposed at the main driveway and Silva Valley Parkway to provide access to both the South Site and the North Site.*"
   In discussions with EDC DOT, it has been explained that a signalized FMA intersection on Silva Valley Pkwy at the center of the project site(s) is an unworkable element. The impacts to the SIlva Valley Pkwy-HWY50 interchange would negatively impact the performance of the interchange, and circulation on Silva Valley Pkwy.
3. EDH APAC also has concerns about the signalized FMA intersection on Silva Valley Pkwy at the center of the project site(s) that would negatively impact the existing performance of the roadway in relation to the challenges currently existing for access at Oak Meadow Elementary School. With the close proximity to the Oak Meadow Elementary School site, improvements and mitigations MUST consider impacts on the sensitive population of students, staff, and families accessing the school property.
4. "*North Site: A right in and out is proposed on Silva Valley Parkway generally across from the existing Clarksville Crossing in the interim. An emergency access to Tong Road from the apartments is proposed. After Country Club Drive is extended through the property a driveway will connect to that road for an additional point of access. South Site Regional*

access to the warehouse will be from Interstate 50 via the Silva Valley Parkway exit. One full-access driveway with a signalized intersection is proposed along the eastern portion of the site, and an additional three driveways are proposed along the Project's western side to provide access from Clarksville Crossing. An interim signal at Clarksville Crossing is proposed to allow a northbound left turn from Silva Valley Parkway onto Clarksville Crossing. This signal will go away when the County constructs the Country Club Drive extension further north. At that time the Clarksville Crossing will become a right in and out only. An ADA-compliant pedestrian pathway will extend from the warehouse to the northern property boundary where it will connect to Silva Valley Parkway. The Project provides oversized parking stalls of 10 feet x 20 feet that are larger than the minimum El Dorado County requirements to provide members with easier accessibility to vehicles."

Also:

"*OFF-SITE IMPROVEMENTS A proposed traffic signal and appurtenant facilities will be located on Silva Valley Parkway at the main driveway of the Project to provide a connection to both the South Site and the North Site. An additional traffic signal is proposed at the intersection of Clarksville Crossing and Silva Valley Parkway as an interim until Country Club Drive is extended by the County.*"

EDH APAC is concerned about the timing of the proposed circulation improvements/mitigation elements of the final conditions to Silva Valley Pkwy, Tong Road, Clarksville Crossing, and the future Country Club Drive alignment. EDH APAC believes the construction of Country Club Drive from Silva Valley Pkwy to the northeast side of the North Site MUST be concurrent with the development of the first Apartment Buildings, and the first of the two Retail buildings.

5. "*TRUCK CIRCULATION Truck access will be allowed at all driveway locations depending on the size of the delivery truck and direction of travel.*"
   EDH APAC suggests that to avoid circulation impacts, that Truck Access MUST be limited to specific driveway locations, designed to accommodate commercial traffic, with signage. Truck Access should NOT be unlimited at ALL driveway locations.
6. "*South Site Objectives: Minimize circulation conflicts between automobiles and pedestrians.*" EDH APAC is concerned about the driveway locations proposed along Clarksville Crossing. As it exists now, Clarksville Crossing is a two lane road, constrained by an elevated bridge section of HWY50. EDH APAC is concerned that adequate vehicle and pedestrian capacity does not exist on Clarksville Crossing to facilitate the South Site/Costco portion of the proposed project.
7. Building Heights. Have building heights been established for the apartment buildings or the two retail buildings proposed for the north site - including the height added by architectural elements? Will they fall with the building heights established by El Dorado County Design standards for the proposed zoning?

EDH APAC appreciates the opportunity to review and provide feedback on proposed development projects to mitigate impacts in our El Dorado Hills Community. Through question and feedback, our goal is to realize the best possible project outcome for our community, the project applicants, and for El Dorado County.

Respectfully,

John Davey
Chair
El Dorado Hills Area Planning Advisory Committee
“Non-Partisan Volunteers Planning Our Future Since 1981”

EL DORADO HILLS FIRE DEPARTMENT

"Serving the Communities of El Dorado Hills, Rescue and Latrobe"

July 27, 2023

Anns Leanza, Project Planner
El Dorado County Planning Department
2850 Fair Lane
Placerville, CA 95667

PROJECT: PD15-0001 & CUP23-0012 – EDH 52 – APN: 122-720-002, 018-021, 122-720-003 THROUGH 050 AND 117-210-060

Dear AKT Investments,

The El Dorado Hills Fire Department (EDHFD) has reviewed the above-referenced project application submittal, hereafter referenced as the "project". Our review of the application is intended to ensure this agency can provide fire and emergency medical services that are consistent with the El Dorado County General Plan, State Fire Safe Regulations, as adopted by El Dorado County, and the California Fire Code as amended locally.

This agency reviewed the application based on the following criteria provided by the applicant:

A Costco warehouse retail center, 304 multi-family housing units, and 2 14,000 square feet retail buildings.

See Table 1 that describes our review of the application in conformance with these standards.

Table 1: El Dorado County General Plan Policies Related to Fire Protection

Policy	Topic	Standard	Does the Project Comply			Comments
			Yes	No	N/A	
5.1.2.2	Fire District Response	Community Region – 8-Minute Response to 80% of Population.	X			
5.7.2.1	Fire Protection	Sufficient emergency water supply, storage, and conveyance facilities for fire protection. Adequate access is provided.		X		See comments below.
6.2.1	Defensible Space	Tentative maps shall be conditioned to attain and maintain defensible space.		X		See comments below.

6.2.2	Limits to Development	Development in areas of moderate, high, and very high fire hazard areas shall have a WUI Fire Safe Plan.		X		See comments below.
6.2.3	Adequate Fire Protection	The development shall meet uniform fire protection standards.		X		See comments below.
6.2.4	Area Wide Fire Management	Reduce fire hazards through cooperative fuel management activities.		X		See comments below.

EDHFD GENERAL CONDITIONS OF APPROVAL SPECIFIC TO THIS PROJECT:

1. **Structural Fire Protection and Suppression Services:** Consistent with California Code of Regulations Title 14 §1266.01, structural fire protection and suppression services will be available for this project by the El Dorado Hills Fire Department (EDHFD). The project is located within the service boundaries of EDHFD. The nearest staffed fire station to the project location is EDHFD Station No. 85 located at 1050 Wilson Blvd., El Dorado Hills, CA 95762 in El Dorado Hills. The average response time to the project site from this fire station is approximately 8 minutes or less to 80% of the population in the area.

2. **Natural Hazard Disclosure:** The project is located in a **MODERATE** Fire Hazard Severity Zone within a CAL FIRE Responsibility Area (SRA). The applicant shall provide a Wildfire Hazard Real Estate Disclosure to all future property owners regarding this risk.

3. **Limits to Development:** The project is **NOT** currently identified in an area of high or very-high wildland fire hazard or in an area identified as a wildland-urban interface (WUI) community within the vicinity of federal land that is a high risk of a wildfire.

PRIOR TO THE RECORDATION OF PARCEL/SUBDIVISION MAP

1. **Annexation:** This development shall be conditioned to annex into the El Dorado Hills County Water District and pay all fees associated with that annexation.

2. **Emergency Water Supply:** The project area **IS** currently provided with an adequate means of emergency water supply, storage, or conveyance facilities. Prior to new buildings or structures being placed on one or more of these parcels, the applicant will need to demonstrate that they can meet the required emergency water supply provisions found in Chapter 5 of the California Fire Code, along with local ordinances and standards of EDHFD.

    a. Approved fire hydrants capable of providing the required fire flow for the protection of any and all structures shall be located along the fire apparatus access roadway. Fire hydrant quantities and locations shall be in accordance with the California Fire Code, as amended locally. The required fire hydrants shall be installed and operational prior to any combustible construction (including foundations).

3. **Roads and Driveways:** Roads and driveways, whether public or private, shall comply with California Code of Regulations (CCR) Title 14 §§ 1270.00 - 1276.04 and California Code of Regulations Title 24 – Part 9 (CFC), Section 503 (Fire Apparatus Access Roads), as amended locally.

The required fire access roads shall be installed prior to any combustible construction (including foundations).

Aerial apparatus access shall be provided to all buildings 30-ft in height or greater. Aerial apparatus access shall be in accordance with California Fire Code, Appendix D and El Dorado Hills Standard B-003.

Circumferential fire access shall be provided at all new buildings in accordance with California Fire Code, Appendix D, as amended locally.

a. Fire access roadways shall be of not less than 20 feet of unobstructed width, 15 feet of vertical clearance, and minimum turning radii of 40 feet inside and 56 feet outside dimensions on the improvement plans. The access roadway shall extend to within 150 feet of all portions of the exterior walls of the first story of any proposed building. **The use of turf-block or Grass-Crete or similar alternate road surfaces is not approved for installation in fire apparatus access roadways.**

b. Fire access roadways shall be built to bear a minimum of 75,000 pounds and meet County Department of Transportation standards for roadways. A report, prepared by a registered geotechnical or California-licensed Civil engineer, verifying the ability of the road to bear the required minimum weight, shall be submitted with any plan indicating the construction of the roadway. Verification of constructed roadway shall be provided by a registered geotechnical or California-licensed Civil engineer prior to the final of the project.

c. Where a bridge or elevated surface is part of a fire apparatus access road, the bridge shall be constructed and maintained in accordance with AASHTO HB-17.

d. Traffic calming measures and gates along fire access roads are prohibited unless approved by EDHFD.

e. When a road is required, it shall be named in accordance with the requirements identified by the County of El Dorado Surveyors Office. An approved street sign shall be placed at the entrance to the road.

f. Fire Lane identification shall be provided along required fire access roadways. Fire Lane identification shall be in accordance with the El Dorado County Regional Fire Protection Standard #B-004 and the California Vehicle Code. Vehicle parking is prohibited on any street less than 30 feet in width. Vehicle parking is permitted on both sides of streets 40 feet or more in width. Roadway widths shall be measured between the gutter line or edge of pavement on opposite sides of the road. Identification of fire apparatus access roadways may be required on private roads.

g. All essential road and driveway improvements shall be complete and meet all of the requirements of CCR Title 14 and the California Fire Code prior to the approval of the final map for the project.

4. **Shared Access Agreement or Easement:** Provide shared access agreement or easement between all parcels connected to and served by the fire access roadway and/or driveway when serving

more than one parcel. The Fire Access Roadway Maintenance Agreement shall be recorded with the El Dorado County Recorder's Office

5. **Road Maintenance Agreement:** Provide Fire Access Roadway Maintenance Agreement (RMA) between all parcels connected to and served by the fire access roadway and/or driveway when serving more than one parcel. The Fire Access Roadway Maintenance Agreement shall be recorded with the El Dorado County Recorder's Office. The roadway maintenance agreement shall include the following:

   a) Provisions for the necessary repair and maintenance of the roadway surface
   b) Removal of vegetation overgrowing the roadway and infringing on the roadway clear vertical height of fifteen feet (15') or width of twenty feet (20')
   c) Provisions for the maintenance, repair, and/or replacement of NO PARKING-FIRE LANE signage or striping
   d) Provisions for the necessary repair and maintenance of vehicle and pedestrian access gates and opening systems

6. **Fire Protection Plan (Fire Safe Plan):** A preliminary fire protection plan shall be prepared to determine the acceptability of fire protection and life safety measures designed to mitigate wildfire hazards. The wildfire protection plan shall be in accordance with Chapter 49 of the California Fire Code and EDHFD standards.

7. **Community Facilities District:** In order to maintain certain services provided by the Department, which are impacted by the proposed development, including, but not limited to, fire protection and suppression, ambulance response services, emergency response services, administrative fees of the Department, and any other services permitted under the Mello-Roos Community Facilities Act of 1982, as amended, commencing with Section 53311 of the Government Code (the "Act"), as well as costs of administration, operating, and reporting, the Developer shall elect and provide for one (1) of three (3) financing options. The Developer can (i) form a new Community Facilities District ("CFD") subject to the review and approval of the Department, (ii) make a deposit and annex into any existing and approved Department CFD, or (iii) make a lump-sum payment for the present value of an annuity authorized by the Department. If the Developer chooses to create a new CFD or annex into an existing El Dorado Hills Fire Department CFD, the creation of the new CFD or the annexation into the existing El Dorado Hills Fire Department CFD shall be completed concurrently with final approval, as determined jointly by the Department and the County, of all land use entitlements requested by the landowner/applicant/developer.

PRIOR TO THE ISSUANCE OF THE FINAL BUILDING PERMIT

1. **Fire Protection Plan (Fire Safe Plan):** A final fire protection plan shall be prepared to determine the acceptability of fire protection and life safety measures designed to mitigate wildfire hazards. The wildfire protection plan shall be in accordance with Chapter 49 of the California Fire Code and EDHFD standards.

2. **Plan submittal.** The applicant shall meet the following: Civil Site Plans and Architectural Plans shall be submitted and approved prior to Final Building Permit being issued. Fire Sprinkler and Fire Alarm plans shall be submitted prior to Final Building Permit being issued. Please note: EDHFD **does not** allow deferred submittals for Fire Sprinkler or Fire Alarm plans.

3. **Roof Coverings:** Residential roof coverings shall consist of materials having a minimum Class A rating.

4. **New Buildings and Structures:** New buildings and structures placed on a parcel shall comply with all applicable fire safety regulations found in the California Code of Regulations Titles 14, 19, 24, and EDHFD ordinances and regulations.

   a. All parcels shall provide a minimum thirty (30) foot setback for all buildings from all property lines and/or the center of a road in accordance with California Code of Regulations Title 14 – Section 1276 (Setback for Structure Defensible Space).

PRIOR TO GRANTING FINAL OCCUPANCY

1. **Address.** All parcels shall be provided with an approved address number as issued by the County Surveyors Office. Approved numbers or addresses shall be placed on all new or existing buildings in such a position as to be easily read from the street or road fronting the property. The minimum size of the numbers shall not be less than sixteen (16) inches and shall be mounted immediately adjacent to a light source and shall also contrast with their background. Addressing shall be in accordance with EDH Fire standard B-001.

Applicant: It is highly recommended that specific requirements for your project be addressed with the Fire District during the planning stage. Specific requirements for bridges, fire hydrants, entry gates, and access roadways shall be clearly understood and complied with. It is advisable to schedule a design review conference with the Fire District to provide clarification on specific requirements or to enquire about an Alternative Materials & Methods Request.

If this property is sold prior to development, the seller shall disclose the above requirements to the buyer.

EDHFD requirements are not to be construed as abrogating more restrictive requirements by other agencies having jurisdiction. Final acceptance is subject to field approval and completion of required tests.

EDHFD reserves the right to update the following comments to comply with all current Codes, Standards, Local Ordinances, and Laws with respect to the official documented time of project application and/or building application to the County. Any omissions and/or errors in respect to this letter, as it relates to the aforementioned codes, regulations, and plans, shall not be valid, and does not constitute a waiver to the responsible party of the project from complying as required with all Codes, Standards, Local Ordinances, and Laws.

Please do not hesitate to contact me at (916) 933-6623, Extension 1021 with any questions pertaining to the content of this review letter.

Sincerely,

Chrishana Fields
Fire Marshal

ENVIRONMENTAL MANAGEMENT DEPARTMENT

http://www.edcgov.us/EMD/

PLACERVILLE OFFICE:
2850 Fairlane Court
Placerville, CA 95667
(530) 621-5300
(530) 626-7130 Fax

LAKE TAHOE OFFICE:
924 B Emerald Bay Road
South Lake Tahoe, CA 96150
(530) 573-3450
(530) 542-3364 Fax

INTEROFFICE MEMORANDUM

TO: **ANNA LEANZA**, Project Planner
EDC Development Services Division

FROM: Environmental Management

SUBJECT: PD15-0001 EDH 52

DATE: 7/25/2023

CC:

Environmental Management Department staff has reviewed the subject application. The following reflects our concerns and requirements:

Environmental Health (Bryan Vyverberg x5924):

This project proposes a mixed-use development adding up to 304 multifamily housing units with a public pool, a Costco warehouse, and other commercial uses. The project will be served by a public water supply provided by the El Dorado Irrigation District and will be annexed into public sewer services provided by EID.

Facilities selling food at the retail level are required to be constructed an operated to the requirements of the California Retail Food Code. A plan review and approval by this department is required in conjunction with a building permit prior to construction. Once the facility has been built, an annual health permit issued by this department will be required and health inspections of the facility will be conducted.

Public pools are required to be constructed to the standards of the California Building Code, the California Health and Safety Code, and the Virginia Graeme Baker Pool Safety Act. A plan review and approval by this department will be required in conjunction with a building permit will be required prior to construction. Once constructed an approved for operation, an annual health permit and pool inspections will be required/conducted.

Hazardous Materials (Mark Moss x6665):

Solid Waste Division (Timothy Engle x6587):

Construction and Demolition (C&D) Debris Recycling
State Law mandates that a minimum of 65% of the waste materials generated from covered Construction and Demolition projects must be diverted from being landfilled by being recycled or reused on site. Please visit the following website to view El Dorado County's Construction & Demolition Debris Recycling Ordinance Program information and requirements. If after reviewing this information you still have questions, you're welcome to call Environmental Management at (530) 621-5300.

AB 341 - Mandatory Commercial Recycling (Non-Residential)
State law requires that all non-residential dwellings that generate at least two cubic yards of solid waste per week to have a recycling program for common recyclable materials such as bottles, cans, and paper

AB 1826 - Mandatory Commercial Organics Recycling (Non-Residential)
State law requires that all non-residential dwellings that generate at least two cubic yards of solid waste per week to have an organics recycling program for the following types of organic wastes: green waste, landscape, and pruning waste, non-hazardous wood waste, food waste

Trash and Recycling Enclosures: CalGreen Section 5.410.1
Recycling by occupants requires that new projects provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive. Please direct questions about this provision to Building Services. Building Services can be reached at (530) 621-5315

Trash and Recycling Enclosures: CalGreen Section 5.410.1
Recycling by occupants requires that new projects provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive. Please direct questions about this provision to Building Services. Building Services can be reached at (530) 621-5315.

SB 1383 – Short-Lived Climate Pollutants (Non-Residential)

State and County law requires that all non-residential dwellings that generate at least two cubic yards of solid waste per week to have an organics recycling program for the following types of organic wastes: green waste, landscape, pruning waste, food waste, and food-soiled paper

El Dorado County
Air Quality Management District

330 Fair Lane, Placerville Ca 95667
Tel. 530.621.7501 Fax 530.295.2774
www.edcgov.us/airqualitymanagement

Dave Johnston
Air Pollution Control Officer

July 26, 2023

Anna Leanza, County Planner
El Dorado County Planning Services
2850 Fairlane Court
Placerville, CA 95667

Subject: Planned Development Permit (PD)15-0001, Z17-0004, P17-0007, LLA21-0009, V22-0001 – EDH 52 (AKT Investments/EDH 52 GP/RSC– AQMD Comment

Dear Ms. Leanza:

The El Dorado County Air Quality Management District (AQMD) has reviewed the proposed project for subject PD, Rezone, Tentative Parcel Map, Lot Line Adjustment, and Variance to develop two sites; the southerly site is approximately 17 acres where 156,000 square feet of commercial uses are proposed, the northerly site is approximately 18 acres where a mixed-use development is proposed. The mixed-use development will include 14,000 square feet of neighborhood commercial uses, as well as 304 multifamily units within five four-story buildings, amenities include a pool area, gym and outdoor gathering space, with associated site improvements. The properties, identified by Assessor's Parcel Numbers 122-720-002, 122-720-003, 122-720-018, 122-720-019, 122-720-020 and 122-720-021, consist of 40.56 acres, and are located directly north of US Highway 50 at the Silva Valley Parkway exit, in the El Dorado Hills area. Based on the AQMD's review of the proposed project, the AQMD concluded that the project will be above the size of projects identified in the AQMD Guide to Air Quality Assessment for determining Significance of Air Quality Impacts under the California Environmental Quality Act, and it is expected to cause a significant air quality impact and has the following comments regarding potential air quality impacts.

Air Quality/GHG Analysis Required:

The western portion of El Dorado County (where the project is located) is in non-attainment of the state Ambient Air Quality Standards (AAQS) for Particulate Matter 10 micrometers (PM10), and the federal AAQS for PM2.5 (2.5 micrometers) in size. Additionally, the western portion of the County is in non-attainment of both the 1-hour and 8-hour state AAQS for ozone, and of the 8-hour federal AAQS for ozone. The two ozone precursor pollutants most responsible for ozone generated by this project are Volatile Organic Compounds (VOC, also known as Reactive Organic Gases or ROG) and Nitrogen Oxides (NOx).

An Air Quality and Greenhouse Gas (GHG) Analysis is required for adequate environmental review of the proposed project. AQMD recommends the use of the latest version of the California Emissions Estimator Model (CalEEMod), which can be downloaded for free at www.caleemod.com. This will compute mass emissions of criteria pollutants (NOx, ROG, SOx, PM & CO) and GHG (in CO2 equivalents) from both construction and operation of the project. Someone knowledgeable in all aspects of the project, such as construction phasing, materials usage, etc., should run the model and modify the defaults as appropriate, assuring that notes are included about any changes to defaults as the program requires.

Additionally, the following standard conditions may apply to the project:

- Asbestos Dust: Current county records indicate the portions of the subject property are located within the Naturally Occurring Asbestos Review Area. An Asbestos Dust Mitigation Plan (ADMP) Application with applicable fees shall be submitted to and approved by the AQMD prior to project construction if the project moves more than 20 cubic yards of soil, pursuant to AQMD Rule 223.2, Fugitive Dust – Asbestos Hazard Mitigation. Mitigation measures for the control of fugitive dust shall comply with the requirements of Rule 223, Fugitive Dust – General Requirements, and Rule 223.2 Fugitive Dust – Asbestos Hazard Mitigation.

- Open Burning: Burning of waste vegetation that results from "Land Development Clearing" must be permitted through the AQMD. Only dry vegetative waste materials originating from the property may be disposed of using an open outdoor fire. Burning shall adhere to AQMD Rule 300, Open Burning.

- Paving: Road construction shall adhere to AQMD Rule 224, Cutback and Emulsified Asphalt Paving Materials.

- Painting/Coating: The application of architectural coatings shall adhere to AQMD Rule 215, Architectural Coatings.

- New Point or Stationary Source: Prior to construction/installation of any new point/stationary source emissions units (e.g., emergency standby engine greater than 50 HP, etc.), Authority to Construct applications shall be submitted to the AQMD. Submittal of applications shall include facility diagram(s), equipment specifications and emissions estimates, and shall adhere to AQMD Rules 501, General Permit Requirements and 523, New Source Review.

- Open Burning: Burning of waste vegetation that results from "Land Development Clearing" must be permitted through the AQMD. Only dry vegetative waste materials originating from the property may be disposed of using an open outdoor fire. Burning shall adhere to AQMD Rule 300, Open Burning.

- Construction Emissions: During construction, all self-propelled diesel-fueled engines greater than 25 horsepower shall be in compliance with the California Air Resources Board (CARB) Regulation for In-Use Off-Road Diesel Fueled Fleets (§ 2449 et al, title 13, article 4.8, chapter 9,

California Code of Regulations (CCR)). The full text of the regulation can be found at CARB's website here: https://ww2.arb.ca.gov/our-work/topics/construction-earthmoving-equipment Questions on applicability should be directed to CARB at 1.866.634.3735. CARB is responsible for enforcement of this regulation.

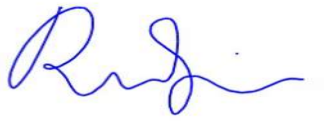
- Portable Equipment: All portable combustion engine equipment with a rating of 50 horsepower or greater shall be registered with CARB. A copy of the current portable equipment registration shall be with said equipment. The applicant shall provide a complete list of heavy-duty diesel-fueled equipment to be used on this project, which includes the make, model, year of equipment, and daily hours of operations of each piece of equipment.

- Electric Vehicle Charging – Non-Residential: The project shall comply with the non-Residential Mandatory Measures identified in the 2022 Cal Green Building Code to facilitate future installation and use of EV chargers[1].

- Electric Vehicle Charging – Residential: The residential portion of the project shall comply with the Residential Mandatory Measures identified in the 2022 Cal Green Building Code §4.106.4.2.2 to facilitate future installation and use of EV chargers[2].

If you have any questions, please do not hesitate to contact me at (530) 621-7509. The complete list of District Rules can be viewed at: https://ww2.arb.ca.gov/current-air-district-rules.

Respectfully,



Rania Serieh
Sr. Air Quality Engineer

\\AQData\AQ-Shared\CEQA or AQMD COMMENTS\AQMD Comments\2021\EDH 52

[1] Cal Green Building Code: CHAPTER 5 NONRESIDENTIAL MANDATORY MEASURES, 2022 California Green Building Standards Code, Title 24, Part 11 (CALGreen) | ICC Digital Codes (iccsafe.org) , https://www.dgs.ca.gov/BSC/CALGreen

[2] Cal Green Building Code: CHAPTER 4 - RESIDENTIAL MANDATORY MEASURES, 2019 California Green Building Standards code, Title 24, Part 11 with July 2021 Supplement | ICC Digital Codes (iccsafe.org), https://www.dgs.ca.gov/BSC/CALGreen

PLANNING AND BUILDING DEPARTMENT

PLANNING DIVISION

www.edcgov.us/Government/Planning

PLACERVILLE OFFICE:
2850 Fairlane Court, Placerville, CA 95667
BUILDING
(530) 621-5315 / (530) 622-1708 Fax
bldgdept@edcgov.us
PLANNING
(530) 621-5355 / (530) 642-0508 Fax
planning@edcgov.us

LAKE TAHOE OFFICE:
924 B Emerald Bay Rd
South Lake Tahoe, CA 96150
(530) 573-3330
(530) 542-9082 Fax

August 30, 2023

Angelo Christie
AKT Investments
7919 Folsom Blvd., Suite 300
Sacramento, California 95826

RE: EDH 52 Mixed-Use Project/PD15-0001, P17-0007, V22-0001, CUP23-0012
Assessor's Parcel Numbers (APNs) 122-720-019, -020, -021, and 122-720-018, -002, -003

Dear Mr. Christie:

The following information is being provided as summary of staff review regarding your above-referenced proposal.

Planning Observations and Notes

A. The proposed project design generally complies with the County's General Plan and Zoning Ordinance, with the following exceptions:
   a. Bicycle parking: Per the Mixed-Use Design Standards, three bicycle parking spaces per 2,000 square feet of commercial space is required, for a total of 21 bicycle parking spaces. (See Mixed-Use Design Standards, Page 28 here.)

B. **Electric Vehicle Charging Stations:** AQMD may require electric vehicle charging stations at the Building Permit stage depending on the regulations at submittal.

C. **Ecological Preserve Mitigation:** The project site is located within Pine Hill Endemic Rare Plant Mitigation Areas 1. Per Section 130.71.060, Off-site Mitigation or Fee Payment in Lieu of Ecological Preserve Mitigation in Mitigation Areas 1 and 2, development on the site is subject to either a) in-lieu fees or b) participation in an off-site mitigation program.

D. **Environmental Analysis:** At this time, the processing of the Design Review application and associated environmental analysis is subject to CEQA. The CEQA document required for this project will not be determined until the traffic study and associated documents are submitted and reviewed.

E. **Model Water Efficient Landscape Ordinance (MWELO):** The project will need to submit a complete MWELO landscape package demonstrating compliance with landscaping and water use.

F. **State of California Phase II MS4** permit may be required subject to actual project specifics

G. **Erosion and Sediment Control Plan** will be required at permit submittal.

This list is **not** necessarily exhaustive.

7. **Suggestions and Recommendations**

A. The applicant should contact the Cameron Park Community Services District Fire Department (CPCSD Fire District) directly to request review of any proposed project on the site. The CPCSD Fire District can be contacted at: 530.644.9630.

B. Applicant shall be required to submit various materials (appropriate applications, project plans, and technical studies and reports, if appropriate) in order for the County to adequately review and analyze the project. The project will be reviewed for consistency with the applicable policies of the General Plan and for adherence

with applicable development standards in the Zoning Ordinance including setbacks, building heights, site lighting and landscaping, signs, and parking.

The General Plan and Zoning Ordinance can be accessed online at:

https://www.edcgov.us/Government/Planning/pages/Adopted_General_Plan.aspx

https://www.edcgov.us/Government/planning/Pages/zoning_ordinance.aspx

8. Potentially Affected Departments and Agencies

Submittal of a formal project application and/or individual project applications to the Planning Department or for grading, building, or other site improvement applications may be routed to the following agencies for input and comment. Note that this is not necessarily an exhaustive list of potential reviewing and permitting bodies and agencies:

- El Dorado County Building Department: Review of building and grading permit plans
- El Dorado County Environmental Management Department: Hazardous Materials, Food/Safety
- El Dorado County Air Quality Management District
- Utility Companies: AT&T, PG&E, Comcast, etc. to review impacts to utilities in area.
- El Dorado County Department of Transportation
- Surveyor
- Cameron Park Community Services District
- Cameron Park Fire Protection Division
- County of El Dorado Stormwater

LIMITS OF STAFF RESPONSE

While staff will take utmost care to accurately represent County Codes, Policies, and applicable past positions of staff, the Planning Commission and the Board of Supervisors, it should be noted that matters discussed in the pre-application meeting should be not construed to bind, restrict, or obligate the staff or review boards when processing a subsequent application. A more thorough review that occurs during a formal application process could reveal issues and circumstances that were not known or reviewed during the much shorter review of the pre-application review process. Further, it is incumbent on the part of the applicant to obtain and understand all applicable Codes and Policies

Should you have any questions regarding the project or this letter, please feel free to contact me by email at jon.mijat@edcgov.us. or 5306215993.

Regards,

Jon Philip Mijat

Jon Philip Mijat, Associate Planner

INITIAL SITE ASSESSMENT

Silva Valley Pkwy/SR50 Interchange

03-ED-50, KP 3.1 (PM 1.7)

El Dorado Hills, California

April 2007

Prepared by:
BLACKBURN CONSULTING
BCI File Number 556.1

Prepared for:
Mark Thomas & Company

Auburn Office:
11521 Blocker Drive, Suite 110 ▪ Auburn, CA 95603
(530) 887-1494 ▪ Fax (530) 887-1495

blackburn consulting

Modesto Office: (209) 522-6273
West Sacramento Office: (916) 375-8706

Geotechnical ▪ Construction Services ▪ Forensics

BCI File 556.1
April 12, 2007

Dave Melis
Mark Thomas & Company, Inc.
7300 Folsom Blvd., Suite 203
Sacramento, CA 95826

Subject: **Initial Site Assessment**
Silva Valley Pkwy/SR50 Interchange
03-ED-50, KP 3.1 (PM 1.7)
El Dorado Hills, California

Dear Mr. Melis:

In accordance with our June 14, 2005, agreement, Blackburn Consulting, Inc. (BCI) prepared this Initial Site Assessment (ISA) for a proposed new interchange located east of the Silva Valley Road underpass on State Route 50 (SR50), near El Dorado Hills, California. The purpose of this assessment is to identify soil and groundwater contamination issues in the area of the proposed interchange.

Our investigation did not reveal the presence of significant hazardous materials impaets to the parcels located within the proposed project limits. Our report presents information about the minor hazardous materials issues noted in the project area.

Thank you for selecting BCI to assist you on this project. Please call if you have questions or require additional information.

Sincerely,

BLACKBURN CONSULTING

Prepared by:

Alfred P. Worcester, P.G.
Senior Project Geologist

Reviewed by:

Jeff Patton, P.E.
Principal Engineer

TABLE OF CONTENTS

INVESTIGATIVE SUMMARY 2

SITES WITH POTENTIAL CONTAMINATION/HAZARDOUS MATERIALS ISSUES 2

GENERAL CONTAMINATION/HAZARDOUS MATERIALS ISSUES 5

1 INTRODUCTION 7

1.1 SCOPE OF SERVICES 7

2 PROJECT DESCRIPTION AND LOCATION 8

2.1 PROJECT DESCRIPTION 8

2.1.1 Surrounding Area 12

2.2 SITE CONDITIONS AND LOCAL GEOLOGIC CHARACTERISTICS 12

2.3 CURRENT LAND USE 13

2.4 HISTORICAL LAND USE 13

2.4.1 Summary 13

2.4.2 Aerial Photograph Review 14

2.4.3 Topographic Map Review 20

3 RECORDS REVIEW 21

3.1 REVIEW OF COUNTY, STATE, AND FEDERAL RECORDS 21

3.2 SUMMARY OF RECORDS SEARCH 23

3.3 REVIEW OF TITLE DOCUMENTS 23

3.4 PRIOR ENVIRONMENTAL INVESTIGATIONS 23

3.5 WELL SEARCH 23

4 RECONNAISSANCE INFORMATION 23

4.1 VISUAL OBSERVATIONS 23

5 FINDINGS, CONCLUSIONS, & RECOMMENDATIONS 28

5.1 SITES WITH POTENTIAL CONTAMINATION/HAZARDOUS MATERIALS ISSUES 29

5.2 GENERAL CONTAMINATION/HAZARDOUS MATERIALS ISSUES 32

6 LIMITATIONS 34

FIGURES

Figure 1 – Vicinity Map
Figure 2 – Site Map

APPENDICES

Appendix A – EDR Records Check
Appendix B – Site Photos

INVESTIGATIVE SUMMARY

This section summarizes soil and groundwater contamination issues that could impact land acquisition and/or construction of the proposed improvements for the Silva Valley Parkway/SR50 Interchange project. Contamination and hazardous materials impacts along the proposed roadway widening corridor appear minimal, and are not expected to significantly affect the project. However, the following potential items of concern were identified. Parcels are identified by the Mark Thomas and Company (MTCo) assigned Parcel Number, ("Property Owner Information," Plan Sheet 1, March 22, 2006), followed by the business/owner name and the assessors parcel number (APN).

Sites with Potential Contamination/Hazardous Materials Issues

- PARCEL 10, "PG&E CLARKSVILLE ELECTRICAL SUBSTATION" – APN 107-130-06

Parcel is subject to partial acquisition. No site specific hazardous material issues were identified through the commercial database search. Based on use and age of the site, the substation is considered a potential risk for PCB contamination from older transformers and a risk for potential petroleum hydrocarbon contamination from leaking coolant oils and site maintentance activities. We recommend contacting PG&E and obtain a statement of fact addressing potential contamination/hazardous materials. PG&E needs to provide a "clean site" record. If a statement can not be provided, we recommend limited soil sampling and analysis within the potential acquisistion areas of the Parcel. Associated with Parcel 10 by proximity, we identified a former gas station/commercial structure along the old, two-lane SR50, as shown on the 1952 and 1961 airphotos. Although the structures were removed for the widening of SR50, we can not rule out the potential for petroleum hydrocarbon impacts to the subsurface, in the general area of Joeger Cutoff Rd, between the PG&E substation and SR50.

- PARCEL 5, "LAFONTSEE PROPERTY" – APN 108-070-0310

Parcel is subject to partial acquisition. No specific hazardous material issues were identified in the database search. The site's previous residential structure and outlying storage structures are removed, but many discarded objects, domestic-appearing waste, and smaller wooden-framed, delapidated structures remain. Historical aerial photos exhibited numerous automobiles, trucks, commercial truck trailers, boats, and farm vehicles on the site. Based on airphotos and our site reconnaissance, many of these items appear abandoned.

Common contamination/hazardous materials issues associated with the identified land use include: 1) potential petroleum hydrocarbon (oil) spillage, 2) leach fields and septic tanks, and 3) buried heating oil tanks, 4) asbestos containing building materials (ACM), and 5) lead-containing paint (LCP). Although none of these were positively identified in this ISA, plans for construction, and/or complete or partial site acquisition, should account for the potential of encountering one or more of these issues.

We recommend that the construction documents include specifications making the contractor aware of the possible presence of LCP and ACM, and his responsibility to respond accordingly. If potentially hazardous materials are encountered during grading operations, the local environmental health department and fire department should be notified.

- "SHELL", (ADJACENT TO PARCEL 32) - APN UNKNOWN

This is an active, petroleum fuel service station. No specific hazardous material issues were identified in the database and website searches. However, it appears that a Phase II investigation was recently conducted at the site, as indicated by the presence of at least ten, 55-gal drums, each mark as "hazardous waste". To determine the current status of possible clean-up activities, we recommend a review of existing regulatory documentation, which may be obtained from the local environmental health department, the RWQCB, and/or the site owner. Current plans do not include acquisition of this site; however groundwater and/or soil contamination could impact road widening or related project improvement activities at the adjacent properties, which includes Parcels 32 (APN 107-680-0910), 33 (APN 107-680-1010), and 34 (APN 107-680-0810).

- PARCEL 25, WILMINGTON TRUST/TOSCO TRUST" (UNION 76) - APN 107-120-0410

Parcel is subject to partial acquisition. This is an active, petroleum fuel service station. No specific hazardous material issues were identified in the database search. However, this site will require further assessment. Initially, further assessment should include a review of existing documentation from the local environmental health department, the RWQCB, and the site owner. If building demolition is planned, the existing structures need to be assessed for potential hazardous materials, such as LCP and ACM.

- PARCEL 21, "SERRANO ASSOCIATES" - APN 114-160-19

Parcel is subject to partial acquisition. No specific hazardous material issues were identified in the database search. Remnant structures were observed adjacent to the north (west-bound) side of SR50, approximately 600 feet west of the Silva Valley Parkway underpass. A house structure, barns, warehouse and associated improvements are observed in historical air photos. Common contamination/hazardous materials issues associated with the identified land use are: 1) ACM and LCP, 2) unidentified leach fields/septic tanks and buried heating oil tanks, and 3) ADL from the immediately adjacent SR50.

The presence of these one or more of these materials could affect the value of the parcel. If this project includes acquisition and demolition of any of the existing structures, then the structures should be assessed for potential ACM and LCP prior to acquisition. Assessment results will be used to estimate the financial impact to the project. Results of the assessment shall also be included in the plans and specifications (bid documents) so the contractors can plan for worker safety and material handling and disposal issues. Based on the proximity to SR50, some level of ADL may be present in the shallow subsurface soils adjacent to the freeway. ADL recommendations are presented in the section titled "General Contamination/Hazardous Materials Issues" of this report.

- PARCELS 13 AND 14, "KFRD INVESTORS INC. & TONG RANCH LLC" - APN 108-070-0510 AND 108-070-0610

Parcels are subject to partial or complete acquisition. No specific hazardous material issues were identified in the database search. During our site reconnnaissance, we noted poor housekeeping practices along Tong Road, where it passes through the two properties. We observed 55-gal drums, rusting machinery, trash and rubbish, and above ground fuel storage tanks (AST). Existing structures (large barn, mobile home, small sheds, etc.) may present an ACM and LCP issue if demolition is planned. Other issues include encountering unidentified items such as leach fields/septic tanks and buried heating oil tanks. An old cemetary is located in Parcel 13, close to SR50.

Existing structures subject to demolition need to be assessed for LCP and ACM, prior to preparation of construction documents. Additionally, we recommend that the construction documents include specifications making the contractor aware of the possible presence of LCP and ACM during grading operations, and his responsibility to respond accordingly.
Based on the proximity to SR50, some level of ADL may be present in the shallow subsurface soils adjaeent to the freeway. ADL may also be present adjacent to White Rock Road. ADL recommendations are presented in the section titled "General Contamination/Hazardous Materials Issues" of this report.

- PARCEL 31, "SYERS PROPERTIES, LLC" (VALERO SERVICE STATION) – APN 107-130-5010

Parcel does not appear to be subject to acquisition. The parcel is known as the "Town Center" shopping area. There is an active, petroleum fuel service station (Valero) located within the shopping center. We found no records of suspected soil and/or groundwater contamination from the searched database. Service stations are a principal concern for subsurface contamination. We recommend a local file search and review for additional environmental records at the EDCEHD and at the RWQCB and an interview with the current site owners.

- PARCEL 1, "EDH 52" - APN 108-030-1010

Parcel is subject to partial or complete acquisition. No specific hazardous material issues were identified at this site through the database search. The parcel consists of undeveloped grazing land that appears unused at the present. We observed remnant, concrete structures (ruins) and associated debris. We were unable to determine the past use of the concrete structure. These "ruins" are located east of Silva Valley Parkway, approximately 1,000 feet north of the existing underpass. The structure consists of a rectangular shaped, three-bin, concrete-walled basins, with concrete columns at the corners of each bin. Other outlying columns are located north and south of the described structure. Archeological research (LSA, 2006) indicates that this site was a ranch, and the owner had a fondness for constructing with concrete.

Issues associated with a former farm residence include leach fields/septic tanks and buried heating oil tanks. The remnant concrete structures need to be assessed for LCP and ACM, prior to demolition and preparation of construction documents. An assessment for the presenee of these materials may materially affect the purchase of the parcel. We recommend that the construction documents include specifications making the contractor aware of the possible presence of LCP and ACM during grading operations, and his responsibility to respond accordingly.

General Contamination/Hazardous Materials Issues

- PESTICIDES

The project includes acquisition of former cattle grazing and crop land; however, it appears that most of the open land in the project vicinity was used for grazing. Therefore, there is low to moderate potential for residual pesticides, herbicides, and fungicides. Based on the reviewed data, there is no obvious evidence of pesticide mixing, storage and/or misuse within the proposed right-of-way acquisition areas. Nonetheless, agricultural chemicals are typically used on farm lands. BCI considers it possible that pesticides, herbicides, and fungicides have been applied and used within the properties identified by MTCo as properties of interest.

Residual pesticides from normal agricultural application are generally exempt from mandatory assessment. This does not, however, preclude their existence. For roadway right-of-way acquisition projects, requirements for additional investigation are not clearly established. Therefore, it's important that the County of El Dorado understand the issue so they can make an informed decision on how to proceed. At a minimum, for sites with potential right-of-way acquisition, we recommend the County obtain a statement from the current property owner regarding past agricultural chemical use. If the statement is conclusive and suggests that usage would not result in significant residual pesticides concentrations, then no further action, such as sample collection and analysis, would be required.

- NATURALLY OCCURRING ASBESTOS

The project site is located in a geologic region identified as having at or near surface naturally occurring asbestos (NOA) bearing rocks and soils. Consequently, any development and/or construction in this area must comply with applicable rules and regulations, as written by El Dorado County Environmental Health Department. NOA-bearing rocks and soils potentially affect all parcels.

The contractor shall have experience implementing El Dorado County's special NOA grading requirements. An NOA monitoring plan will be required prior to grading. Some of the plan elements include: 1) a geologist trained in the recognition of NOA should be intermittently present during grading operations, 2) the geologist shall observe site conditions and implement special grading conditions when NOA is present. BMPs for dust control should be practiced during all grading operations in El Dorado County.

- AERIALLY DEPOSITED LEAD

The proposed interchange improvements will include grading within the existing SR50 shoulders and right-of-way (ROW). Caltrans is likely to require an aerially deposited lead (ADL) investigation prior to construction. Soil that is potentially impacted by ADL and disturbed during grading activities is subject to Department of Toxic Substances Control (DTSC) definition for handling hazardous waste. California currently defines material containing lead concentrations above 350 parts per million (ppm) as subject to Class I hazardous waste disposal. If ADL is detected at concentrations requiring hazardous waste handling and disposal, then we recommend that the local Caltrans district office be contacted to determine the applicability of reusing ADL-impacted soil under the terms of the DTSC-issued "Lead-impacted Soil Reuse

Variance". If the variance is not available to this district, then lead containing soils may require disposal at a Class I landfill.

ADL may also be present on privately-owned parcels adjacent to SR50. The potential ADL impact is likely limited to surface and shallow subsurface soils located within 2 feet of the existing ground surface (DTSC, 1995; Caltrans, 1998), and within 150 ft of the existing freeway right-of-way (Caltrans, 1995). The following Parcels are identified as potentially ADL-impacted: Parcels 1, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 22, 25, 26, 27, and 28. We recommend a minimum of one surface soil sample be obtained for ADL screening. The assessment should be performed on that portion of the parcel directly adjacent to and within 50 feet of the edge of pavement. Parcels with a long contiguaous portion of property adjacent to the freeway shall be sampled for ADL every 300 feet.

- TRANSFORMERS

The scope of this assessment did not include an inventory of past and present transformers along the alignment. However, BCI observed several pole-mounted transformers and high voltage power lines along the proposed SR 50 widening corridor, and along the existing Silva Valley Parkway, White Rock Road, Tong Road, and Joerger Cutoff Road. Many of these overhead electrical powerlines are located within the proposed right-of-way acquisition areas. The transmission lines and poles appear relatively new, and few of the transformers show signs of external rust or discoloration. The existing pole-mounted transfomers need to be considered potentially impacted if their removal or relocation is required during construction. Existing transformers should be checked for the presence of PCBs, and if present, they should be disposed of in accordance with current regulations. Surface mounted transformers and electrical switeh boxes were also observed within the project area, and may also constitute a potential PCB-impacted risk.

- YELLOW TRAFFIC STRIPES

Yellow traffic stripes are known to contain heavy metals such as lead and chromium at concentrations in excess of the hazardous waste thresholds established by the California Code of Regulations (CCR) and may produce toxic fumes when heated. Consequently, any yellow traffic striping removed from the existing surface streets and SR50 highway will require proper disposal, which may include disposal at a Class 1 disposal facility.

- UNDERGROUND PRODUCT DISTRIBUTION LINES

An assessment of utilities or buried petroleum product distribution lines is not within the scope of this ISA. We did not observe warning signs for petroleum product lines. We observed markings for gas, water, electric, sewer, and storm drain at various locations. A sewer lift-pump station is located along the west side of Silva Valley Road. These and other utilities are present throughout the proposed interchange improvement area. The database records do not indicate contamination resulting from utility spills; however, there is the potential for unidentified leaks.

1 INTRODUCTION

Mark Thomas & Company, Inc. retained Blackburn Consulting (BCI) to perform an Initial Site Assessment (ISA) for the El Dorado County Department of Transportation's proposed Silva Valley Parkway/SR50 Interchange project (03-ED-50, KP 3.1 (PM 1.7). The purpose of this assessment is to identify hazardous and potentially hazardous materials issues for parcels directly impacted by the proposed interchange project.

We show the general location of the project site on Figure 1. The proposed interchange improvements and identification of parcels impacted by the proposed project are shown on Figure 2.

1.1 Scope of Services

The purpose of this ISA is to:

- Identify known contamination as well as hazardous and potentially hazardous materials issues that may influence construction of the project, and
- Identify impacted parcels within the project area and assess the potential impacts to site acquisition and/or construction if all or a part of these must be acquired to facilitate the planned improvements.

To conduct this ISA, BCI:

- Received right-of-entry permits for the majority of parcels within the project area. Permits were obtained from the County of El Dorado, Department of Transportation (ELDOT) right-of-way staff. We provided ELDOT with 48-notice prior to parcel entry.
- Conducted a limited site reconnaissance to observe current land uses and indications of potential contamination on properties subject to partial or complete site acquisition, and to view publicly accessible portions of adjacent properties.
- Reviewed the site geology.
- Reviewed historical aerial photograph coverage and topographic map coverage of the project corridor and surrounding properties for indications of potential sources of contamination.
- Performed federal, state, and county records search for indications of the use, misuse, or storage of hazardous and/or potentially hazardous materials on or near the site. Environmental Data Resources, Inc. (EDR) of Southport, Connecticut, provided the federal, state, and county database search. We provide an electronic copy of EDR's report on a CD in Appendix A.
- Prepared this report to summarize the findings of our review, site reconnaissance, historical photographs, and regulatory records review. We identified potential contamination/hazardous materials impacts and provided recommendations for further investigation where necessary.

2 PROJECT DESCRIPTION AND LOCATION

2.1 Project Description

The interchange will eonnect Silva Valley Parkway, an arterial roadway linking approved development in El Dorado Hills, to State Route (SR) 50. The interchange will provide a needed eonnection, and relieve congestion at the existing El Dorado Hills/Latrobe Road interchange. There are several interchange configurations being evaluated, including variations on a Type L-9 partial cloverleaf interchange and a Type L-2 spread diamond interchange.

According to the preliminary site plan (MTCo, February 2006), this section describes parcels that may require partial or complete site acquisition to accommodate planned improvements. The current improvement plans also identifies parcels that are potentially impacted by the project, but which may not be subject to acquisition. We identify parcels by site name and APN. Each brief site description is followed by corresponding photo numbers. We provide a photograph of individual sites in Appendix B. We identify parcels by APN on Figure 2.

PARCEL 1, "EDH 52", APN 108-030-1010
Current interchange improvement plans require complete acquisition of this parcel. The parcel existing features include old foundations, pilasters, and concrete debris piles. The majority of the site is undeveloped barren land (Photos 15, 16, and 40 through 43).

PARCEL 2, "EL DORADO HILLS INVESTORS", APN 107-130-0110
Proposed for partial or complete site acquisition. Impact may be right-of-way acquisition along the property boundary with Tong Road. This parcel is currently undeveloped (Photo 13).

PARCEL 3, "COUNTY OF EL DORADO", APN 108-070-3210
Currently owned by the County. Proposed plans show an on- and off-ramp through the western part of the site. This parcel is currently undeveloped (Photo 17).

PARCEL 4, "CAPITAL KOREAN PRESBYTERIAN CHURCH", APN 108-070-0210
Proposed for partial site acquisition. Impact may be right-of-way acquisition along the south property boundary with Tong Road. This parcel is developed by a large church structure and parking area (Photo 21).

PARCEL 5, "LAFONTSEE BONNIE L & CHRIS L", APN 108-070-0310
Proposed for partial site acquisition. Impact may be right-of-way acquisition along the south property boundary. This parcel is undeveloped, with remnants of previous structures visible on the ground surface (Photo 21).

PARCEL 6, "TONG ARTHUR D & FAM REV 1999", APN 108-070-0410
Plans appear to indicate partial site acquisition, which shows possible improvements along Tong Road. Impacts may be along Tong Road, which bisects the property. This parcel is undeveloped (Photos 18 through 20).

PARCEL 7, "MOHANNA MOE & NASRIN", APN 108-070-2210
Plans appear to indicate partial site acquisition. Impacts may be along the south property boundary, where SR50 borders the parcel. This parcel is currently undeveloped along the freeway, but improved by a residence on the north side (Photos 69 and 72), away from the freeway.

PARCEL 8, "MOHANNA MOE & NASRIN", APN 108-070-2610
Plans appear to indicate partial site acquisition. Impacts may be along the south property boundary, where SR50 borders the parcel. This parcel is currently undeveloped along the freeway, but improved by a residence on the north side (Photos 69 and 70).

PARCEL 9, "EL DORADO HILLS INVESTORS", APN 107-130-0210
Current interchange improvement plans require complete acquisition of this parcel. This parcel is currently undeveloped and barren (Photo 14).

PARCEL 10, "PG&E CLARKSVILLE SUBSTATION", APN 107-130-0610
Proposed for partial site acquisition. Impacts may be along the north property boundary, where the pareel borders SR50. This parcel is currently used as an electrical transfer and substation (Photo 1).

PARCEL 11, "EL DORADO HILLS INVESTORS", APN 107-130-0510
Proposed for partial or complete site acquisition. Impacts are along the north property boundary, where the site borders SR50. This parcel is currently undeveloped, the majority of which is a marshy, wetland area (Photos 6 & 7).

PARCEL 12, "EL DORADO HILLS INVESTORS", APN 107-130-0410
The site is proposed for partial or complete site acquisition. Impacts may be along White Rock Road, which borders the site on the west, and where the property borders SR50 on the north. This parcel is currently undeveloped and barren (Photos 7 & 10).

PARCELS 13 & 14, "KFRD INVESTORS & TONG RANCH LLC", APN 108-070-0510 and -0610
Proposed for partial site acquisition along the northwest boundary of Parcel 13 with SR50, and partial acquisition where both properties border SR50 on the north. The parcels are mostly undeveloped; however a small residence, rusted farm equipment, debris piles, and a large barn are present along White Rock Road (Photos 30 through 39), which bisects Parcel 14. An old cemetery is also present on Parcel 13.

PARCELS 15 AND16, "HUDDRIDGE PARTNERS ", APN 108-780-0210 & 108-780-0110
Proposed for partial site acquisition. Impacts may occur along White Rock Road, which bisects between the parcels, and where the road is proposed to be re-aligned through both parcels as a part of the new interchange. The parcels are currently undeveloped and barren (Photos 8 & 9).

PARCEL 17, "PEERMAN, JACK & BETTY", APN 107-130-0710
Proposed for partial site acquisition along north boundary with SR50. The parcel is improved by a residential structure, garage, storage barn, pavement, and related improvements. The remainder of the parcel is mostly barren (Photo 3).

PARCEL 18, "EL DORADO HILLS INVESTORS", APN 107-130-0410
Proposed for partial site acquisition. Impacts are predominately along the north property line with SR50. This parcel is currently developed by a Mercedes dealership (Photos 2 and 4).

PARCEL 19, "PHOENIX PACIFIC COMPANY", APN 107-680-1310
May be proposed for partial acquisition. Impacts are likely located along the south property line with the west-bound off-ramp at the SR50/El Dorado Hills Boulevard interchange. This parcel is currently developed by a children's daycare facility (Photos 48 and 49) and associated paved parking improvements.

PARCEL 20, "SERRANO ASSOCIATES", APN 107-660-0310
Proposed for partial site acquisition. Impacts are located along the south property line with SR50. This parcel is currently developed by a country club and golf course (Photo 63).

PARCEL 21, "SERRANO ASSOCIATES", APN 114-160-1910
Proposed for partial site acquisition. Impacts are located along the south property line with SR50 and along the east property boundary with Silva Valley Parkway. This hilly parcel is currently undeveloped (Photos 62, 64, and 65). We note the presence of a former residence, exampled by old foundations.

PARCEL 22, "EL DORADO SAVINGS BANK", APN 107-680-0610
Similar to Parcel 19, may be proposed for partial acquisition. Impacts are likely along the south property line with the west-bound off-ramp at the SR50/El Dorado Hills Boulevard interchange. This parcel is developed by an El Dorado Savings Bank (Photos 49 and 50).

PARCEL 23, "SERRANO ASSOCIATES LLC", APN 114-780-0110
Proposed for partial site acquisition. Potential impacts are located near the west and south property lines, for the proposed Country Club Drive roadway improvements. The proposed road is located along the northern boundary of Parcels 3, 4, 5, and 6. This parcel is currently improved by a dirt road, but is otherwise barren (Photos 22 and 23), with some trees and imported gravel and soil stockpiles along the north boundary.

PARCEL 24, "SERRANO ASSOCIATES LLC", APN 114-150-42100
Proposed for partial site acquisition along the western property line with Silva Valley Parkway. The parcel is currently undeveloped (Photos 24 and 25). The parcel is located next to a sehool. We observed a soil stockpile, which may have been generated during grading for the recently completed, adjacent school.

PARCEL 25, "WILMINGTON TRUST / TOSCO TRUST", APN 107-120-0410
Parcel subject to partial site acquisition. Impacts located along south property line at the west-bound SR50 off-ramp. The site is currently developed by a Union 76 service station (Photo 25).

PARCEL 26, "AHART TRUST / JONES TRUST", APN 107-120-2610
Similar to Parcel 19, may be proposed for partial acquisition. Impact is likely located along the south property line with the west-bound off-ramp at the SR50/El Dorado Hills Boulevard interchange. This parcel is currently developed by a "Taco Bell" (Photo 51).

PARCEL 27, "TOWN CENTER EAST LP", APN 107-130-3610
Proposed for partial site acquisition. Impact is located along the north property line, adjacent to the SR50 eastbound on-ramp from the El Dorado Hills Blvd/Latrobe Road interchange. The parcel is developed as a shopping are and associated paved parking (Photos 56 and 57).

PARCEL 28, "EDH TOWN CNTR EAST OWNERS ASSOC", APN 107-130-4310
Proposed for partial site acquisition along the north property line with the SR50 eastbound on-ramp. This parcel is an undeveloped marshy area next to the "Town Center" (Photo 58).

PARCEL 29, "SYERS PROPERTIES III LLC", APN 107-130-4810
Possible partial site acquisition along western boundary with El Dorado Hills Boulevard. This parcel is developed as a landscaped area (no photo).

PARCEL 30, "SYERS PROPERTIES III LLC", APN 107-130-4910
Possible partial site acquisition along western boundary with El Dorado Hills Boulevard. This parcel is improved by a shopping center (no photo).

PARCEL 31, "SYERS PROPERTIES III LLC", APN 107-130-5010
Based on the current improvement plans, the parcel is identified within the project limits, but does not appear to be proposed for partial acquisition. This parcel is currently improved by a shopping center, which includes a gasoline service station (Photos 59, 60, and 61).

PARCEL 32, "COUNTY OF EL DORADO", APN 107-680-0910
Based on the current improvement plans, the parcel is identified within the project limits, but does not appear to be proposed for partial acquisition. The site is currently developed by a "Taco Bell", and is located adjacent to a "Shell" service station (Photos 53, 54 and 55).

PARCEL 33, "CRISP FAMILY TRUST", APN 107-680-1010
Based on the current improvement plans, the parcel is identified within the project limits, and may be subject to partial acquisition. The potential impact is located along the south boundary line with the paved entrance to the shopping center. The parcel is improved as a landscaped area (no photo) along El Dorado Hills Boulevard.

PARCEL 34, "MCNAN LLC", APN 107-680-0810
Based on the current improvement plans, the parcel is identified within the project limits, and may be subject to partial acquisition. The potential impact is located along the west boundary with El Dorado Hills Boulevard. This parcel is developed as a landscaped area (Photo 53).

2.1.1 Surrounding Area

Current land use surrounding the interchange is generally commercial, rural/urban residential, recreational. Historic uses are similar and include limited agricultural/ranching, and minor surface mining/dredging. In general, high-density residential and commercial uses are beginning to dominate the area. Low density, rural residential and ranch land are located to the south and east. Commercial development is located along El Dorado Hills Boulevard and Latrobe Road, southwest of the proposed Silva Valley interchange.

2.2 Site Conditions and Local Geologic Characteristics

The topography through the corridor is generally mild to moderately sloped, consisting of rolling hills of the western Sierra Nevada Foothills. The average elevation is between 610 to 825 feet above mean sea level (msl), with the proposed interchange at SR50 reaching Elev.736 feet near the Silva Valley/White Rock Road undercrossing. Elevations are based on the USGS 7.5 Minute Topographic Map, Clarksville, CA.

The region surrounding and including this project, is known to be potentially impacted by naturally occuring asbestos (NOA). Geologic maps of the project area (Churchill, 2001[1]) show ultramafic rock with the potential to contain NOA. NOA is typically present within local zones of ultramafic rock, typically serpentinite. In California, ultramafic rocks are often associated with fault complexes like the ones present in this portion of the Western Sierra Nevada Foothills. NOA is a known hazardous material. The following discussion is a summary of the geologic conditions related to the occurance of NOA in the project area.

Our site work and published geologic literature indicate that meta-volcanic, meta-sedimentary, granitic, and gabbroic (igneous) rocks underlie the site at shallow depth. Regionally, these rocks occur within an area that is predominately composed of a northwest trending belt of Mesozoic-age rock that extends along the western slopes of the Sierra Nevada, including most of western El Dorado County. This metamorphic belt is intruded by numerous small to moderately large bodies of mafic and ultra-mafic igneous rock, including the Pine Hills Intrusive complex composed predominately of gabbroic igneous rock. Published geologic literature indicates that the study area is underlain by Mesozoic age metavolcanic rocks of the Copper Hill Formation and metasedimentary rocks of the Salt Springs Slate Formation (CDMG, 1981).

The rock structure is dominated by a series of northwest trending faults and fault zones that mark the boundaries of various rock types. Wagner, 1987[2], and Busch, 2001[3], show the site approximately 1 mile east of the West Bear Mountains Fault Zone. The East Bear Mountains Fault Zone is located approximately 8 miles east of the site. The igneous rocks located between the west and east Bear Mountains Fault Zones are an ophiolitic terrain comprised of altered basic igneous rocks. Amphibolites and serpentinized ultramafic rocks are common alteration products and are present within selected areas of the Pine Hill intrusive complex. Amphibolites and

[1] Churchill, et al., 2001, Areas Most Likely to Contain Natural Occurrences of Asbestos in Western El Dorado County, California, California Geological Survey, OFR 2000-02

[2] Wagner, D.L. et al., 1987, The Geologic Map of the Sacramento Quadrangle, California Geological Survey, Map No. 1A

[3] Busch, 2001, Geologic Map of El Dorado County, California Geological Survey, OFR 2000-03

serpentine are silicate minerals that can occur as both asbestiform (fibrous) and non-asbestiform (platy or blocky) varieties. Exposed rock at the site consists predominantly of rocks identified as the Copper Hill Volcanics Formation. The rocks are moderately to intensely weathered, metamorphosed volcanics, with some metamorphosed sandstone and shale.

Occurrences of naturally occurring asbestos (NOA) are typically associated with local faulting and ultramafic rocks. We observed prominent shear zones along the western road-cut of El Dorado Hills Boulevard and along SR50 road cuts east and west of the El Dorado Hills Boulevard/SR50 interchange. The shear zones are related to faulting and/or compressional stresses from the west spur of the Bear Mountains Fault Zone. The fault trace, bearing approximately north-south, is located 500 feet east of the El Dorado Hills Interchange. Rocks associated with the faulting may contain talc-sericite schist or talc-chlorite schist.

2.3 Current Land Use

Land uses on parcels discussed in this report include:

- Retail gas and petroleum product sales
- Retail Convenience Stores
- "Strip Mall" - Grocers and Retail sales
- Auto Sales and Repair
- Restaurants
- State Route 50 (SR50)
- Dense, urban residential and rural residential
- Commercial Building Supplies
- Undeveloped land

Land use in the surrounding area includes commercial, urban and rural residential, and ranching (agricultural). The most notable surrounding land uses include a large commercial complex at the southeast corner of the El Dorado Hills Boulevard (EDHB) and SR50 interchange, and urban residential development to the north and west of the proposed new interchange. At the proposed interchange site, the predominant land use is rural residential, an electrical switching yard, ranch/farm land, a golf course, and a church. A marshy, wetland area borders two significant drainages that flow from northeast to southwest and beneath SR50, and are located east and west of the Silva Valley Parkway/White Rock Road undercrossing of SR50.

2.4 Historical Land Use

2.4.1 Summary

Prior to 1944, land use in the project area appears as rural residential, ranching, and agriculture. A 1944 topographic map shows SR50 as a two-lane road connecting Scotts Road to the Lake Tahoe area. This portion of the SR50 alignment appears similar to the present alignment of the four lane SR50 highway. The old road alignment passes through the community of Clarksville,

and connects eastward to the town of Shingle Springs. Based on the 1994 topographic map (Folsom Quad, USGS, 1944), Clarksville appears as the only significant residential community in the vicinity of the proposed new interchange.

The alignment of SR50 appears fixed between the years 1944 and 1952. Substantial residential and commercial development did not begin until around 1970, around the time of the improvements of SR50 to a four-lane highway. Residential development north of SR 50 started after construction of the freeway. Dense residential and commerical development north and south of SR50 began to flourish in the late 1990s.

2.4.2 Aerial Photograph Review

BCI's aerial photo review included photos from 1952, 1961, 1971, 1981, 1993, and 1998. For partial or complete acquisition parcels, the following summarizes noteworthy changes in each photo interval. We used the following photos:

1952 Photo by Pacific Air, Scale 1" = 555'
1961 Photo by Cartwright, Scale 1" = 555'
1971 Photo by Cartwright, Scale 1" = 333' and 1" = 666'
1981 Photo by Cartwright, Scale 1" = 333' and 1" = 666'
1993 Photo by USGS, Scale 1" = 666'
1998 Photo by USGS, Scale 1" = 666'

PARCEL 1, "EDH 52", APN 108-030-1010

1952 Predominately barren land, with a farm/ranch improvement at the center of property. The improvements are located on about one (1) acre of the site. Drainage flows from north to south across this site. SR50 borders the south side of the property. An access road connects the farm/ranch to SR50.
1961 The farm/ranch structures are partially removed, and site appears abandoned. A box shaped tower remains on site. Otherwise, the site is unchanged from the previous photograph.
1971 A box-shaped tower removed. SR50 is now a 4-lane freeway immediately adjacent to the south boundary of the site. The Silva Valley undercrossing (UC) of SR50 is present to the southwest of the parcel, and a golf course is present to the west. Residential development begins on the east side of El Dorado Hills Boulevard, directly west of this parcel.
1981 The site is essentially unchanged from the previous photograph.
1993 An east-west oriented dirt access road crosses the middle property. Otherwise, the parcel is essentially unchanged from the previous photograph.
1998 Essentially unchanged from previous photograph.

PARCEL 2, "EL DORADO HILLS INVESTORS", APN 107-130-0110

1952 Bare, unimproved parcel. Site is essentially unchanged from 1952 to the present.

PARCEL 3, "COUNTY OF EL DORADO", APN 108-070-3210

1952 Bare, unimproved parcel. Site is essentially unchanged from 1952 to the present.

PARCEL 4, "CAPITAL KOREAN PRESBYTERIAN CHURCH", APN 108-070-0210

1952 Bare, unimproved parcel. Site is essentially unchanged from 1952 to 1998.

1998 Sometime after 1998, a church structure is built on the parcel.

PARCEL 5, "LAFONTSEE BONNIE L & CHRIS L", APN 108-070-0310

1952 Site appears improved by a rural residential structure. Ancillary storage/barn structures and numerous motor vehicles and farm-type equipment also appear on the site.

1961 Not visible in the photograph.

1971 Not visible in the photograph.

1981 Essentially unchanged from the 1952 photograph.

1993 Essentially unchanged from previous photograph.

1998 Essentially unchanged from previous photograph.

PARCELS 6, 13 & 14, "TONG ARTHUR D & KFRD INVESTORS/TONG RANCH LLC ", APN 108-070-0410, 108-070-0510 & 108-070-0610, (RESPECTIVELY)

1952 White Rock Road/Tong Road bisects the Tong properties along a north-south orientation, and SR50 bisects the Tong properties from east to west. The majority of this large property is barren, unimproved land.

1961 Sometime between 1961 and 1998, residential/farm structure are built along White Rock Road, south of SR50.

1971 Property further bisected by the construction of the 4-lanes of SR50. The site is not visible in the photographs between 1971 and 1998.

1998 Essentially no change in the site from 1971 to 1998.

PARCELS 7 & 8, "MOHANNA MOE & NASRIN", APN 108-070-2210 & 108-070-2610

1952 Barren, undeveloped land in 1952. Essentially no site change from 1952 to 1993.

1993 A residence is present near the north property lines. Except for the construction of SR50, the properties are essentially unchanged.

1998 Essentially unchanged from previous aerial photograph.

PARCELS 9, 11, & 12, "EL DORADO HILLS INVESTORS", APN 107-130-0210, 107-130-0510, & 107-130-0410, (RESPECTIVELY)

1952 Barren, fallow land, covered by grasses. A significant drainage bisects Parcel 11, flowing into a marshy, wetland area just south of SR50. The parcels appear as a single contiguous parcel bisected by the two-lane SR50 highway.

1961 Essentially unchanged from previous aerial photograph.

1971 The existing, individual parcels are formed because of the construction of the 4-lane section of SR50. The White Rock Road/Silva Valley Parkway and the Clarksville undercrossing are constructed between Parcels 11 and 12. A PG&E substation is constructed adjacent and west of Parcel 11.

1981 Essentially unchanged from previous aerial photograph.

1993 Essentially unchanged from previous aerial photograph.

1998 Essentially unchanged from previous aerial photograph.

PARCEL 10, "PG&E CLARKSVILLE SUBSTATION", APN 107-130-0610

1952 *The site is partially improved by structures that appear to be a gas station/commercial building adjacent to eastbound SR50, a 2-lane road at this time.*

1961 *Essentially unchanged from previous aerial photograph.*

1971 *Previously noted structures are removed, and the PG&E "Clarksville" substation constructed.*

1981 *Additional electrical equipment improvements constructed on the substation site. Open space is noted within the station. A single–family residence is present adjacent and west of the PG&E substation.*

1993 *The substation appears to be fully built-out with additional transformers and related electrical equipment occupying the previous open space.*

1998 *Essentially unchanged from previous aerial photograph.*

PARCELS 15 AND16, "HUDDRIDGE PARTNERS ", APN 108-780-0210 & 108-780-0110

1952 *These parcels are located near confluence of Screech Owl Creek, Carson Creek, and an un-named drainage located adjacent to the future White Rock Road. Grasses and a sparse amount of trees cover the parcels. White Rock Road bisects the two parcels in a north-south orientation.*

1998 *White Rock Road is realigned to meet Silva Valley Road at SR50, further bisecting the two parcels. There are no other changes between 1952 and 1998.*

PARCEL 17, "PEERMAN, JACK & BETTY", APN 107-130-0710

1952 *Barren, undeveloped land, covered by low grasses. The Clarksville cemetery is located immediately southwest of the parcel.*

1961 *Essentially unchanged from previous aerial photograph.*

1971 *Essentially unchanged from previous aerial photograph, except for a small unidentified-use structure constructed adjacent and west of the PG&E substation.*

1981 *A residential structure, garage, and small barn are present.*

1993 *Essentially unchanged from previous aerial photograph.*

1998 *Essentially unchanged from previous aerial photograph. The vegetation has matured around the house.*

PARCEL 18, "EL DORADO HILLS INVESTORS", APN 107-130-0410

1952 *Barren, unimproved land, covered by low grasses. Site borders old SR50 on the south.*

1961 *Essentially unchanged from previous aerial photograph.*

1971 *Except for the improvement of SR50 to a 4-lane highway, the site is essentially unchanged from previous aerial photograph.*

1981 *Essentially unchanged from previous aerial photograph.*

1993 *Unchanged from previous aerial photograph. There is some maturation of vegetation.*

1998 *Essentially unchanged from previous aerial photograph.*

PARCEL 19, "PHOENIX PACIFIC COMPANY", APN 107-680-1310

1952 *Barren, unimproved land, covered by grasses.*

1961 *Essentially unchanged from previous aerial photograph.*

1971 The El Dorado Hills Boulevard/SR50 interchange is constructed. Commercial developments begin at the strip mall, where the parcel is located.
1981 The parcel is not located within the boundaries of the photograph.
1993 Other parcels around Parcel 19 are commercially improved. Site is graded, but no structural improvements (buildings) begun.
1998 Unchanged from previous aerial photograph.

PARCEL 20, "SERRANO ASSOCIATES LLC", APN 107-660-0310

1952 Parcel borders old SR50 on the north, and consists of barren, grass-covered, unimproved land.
1961 Essentially unchanged from previous aerial photograph. Grading begun for the construction of the Parcel's golf course and for El Dorado Hills Boulevard (adjacent to the west.
1971 The El Dorado Hills Boulevard/SR50 interchange is complete, and the construction of the golf course is complete.
1981 Aside from general landscaping improvements, the site is essentially unchanged from previous aerial photograph.
1993 Essentially unchanged from previous aerial photograph.
1998 Some vegetation maturation. Otherwise, unchanged from previous photograph.

PARCELS 21 & 24, "SERRANO ASSOCIATES LLC", APN 114-160-1910 & 114-150-42100

1952 Predominately barren, grass-covered land. A single-family residence is present where the property borders old SR50 on the north. Few trees on site.
1961 Essentially unchanged from previous aerial photograph.
1971 The residential foundation is still present, but the house is removed for the widening of SR50.
1981 Essentially unchanged from previous aerial photograph.
1993 Except for some minor dirt roads across the parcels they appear unchanged from previous aerial photograph.
1998 Essentially unchanged from previous aerial photograph.

PARCEL 22, "EL DORADO SAVINGS BANK", APN 107-680-0610

1952 Barren, unimproved land, covered by grasses.
1961 Essentially unchanged from previous aerial photograph.
1971 The El Dorado Hills Boulevard/SR50 interchange is constructed, and the first improvements are started for the commercial development, of which this parcel is a part.
1981 Not located within the boundaries of the photograph.
1993 Commercial structures built around Parcel 22. However, there are no structural improvements (building) on site. Minor grading of parcel is evident.
1998 Essentially unchanged from the previous aerial photograph.

PARCEL 23, "SERRANO ASSOCIATES LLC", APN 114-780-0110

1952 Site consists of barren, unimproved land covered by low grasses.
1961 Essentially unchanged from previous aerial photograph.
1971 Site not visible in the photograph.

1981 The parcel is essentially unchanged from previous 1961 aerial photograph.
1993 Essentially unchanged.
1998 Except for the maturation of trees along existing drainages the site is essentially unchanged from the previous aerial photograph.

PARCEL 25, "WILMINGTON TRUST / TOSCO TRUST", APN 107-120-0410

1952 Barren, unimproved land, covered by grasses.
1961 The El Dorado Hills Boulevard/SR50 interchange is under construction. Otherwise, site is essentially unchanged from the previous aerial photograph.
1971 Not located within the boundaries of the photograph.
1981 Not located within the boundaries of the photograph.
1993 The Union 76 service station is constructed on the parcel.
1998 Essentially unchanged from the previous aerial photograph.

PARCEL 26, "AHART TRUST / JONES TRUST", APN 107-120-2610

1952 Parcel consists of barren, unimproved land, covered by grasses.
1961 The El Dorado Hills Boulevard/SR50 (EDHB/SR50) interchange is under construction. Otherwise, site is essentially unchanged from the previous aerial photograph.
1971 Not located within the boundaries of the photograph.
1981 Not located within the boundaries of the photograph.
1993 Site surrounded by commercial development. No structural improvements (building) on site.
1998 The current "Taco Bell" is constructed on the site.

PARCEL 27, "TOWN CENTER EAST LP", APN 107-130-3610

1952 Barren, unimproved land, covered by grasses.
1961 The El Dorado Hills Boulevard/SR50 interchange is under construction. Otherwise, site is essentially unchanged from the previous aerial photograph.
1971 Not located within the boundaries of the photograph.
1981 Not located within the boundaries of the photograph.
1993 The parcel is essentially unchanged from previous improvements to the interchange. Construction of the new "Town Center" commercial development has started to the south.
1998 Parcel 27 is included in the areas developed as the "Town Center" commercial development.

PARCEL 28, "EDH TOWN CNTR EAST OWNERS ASSOC. ", APN 107-130-4310

1952 Barren, unimproved land, covered by grasses. A major drainage runs through the site.
1961 The EDHB/SR50 interchange is under construction. Otherwise, site is essentially unchanged from the previous aerial photograph.
1971 The widening of SR50 to a 4-lane highway is complete. SR50 borders the site on the north.
1981 Property is virtually unchanged from the previous aerial photograph.

1993 *Construction of the new "Town Center" commercial development has begun to the south of the site.*

1998 *The drainage that previously flowed due south from the eastbound SR50 on-ramp has been rerouted, and flows eastward to connect with the drainage flowing through Parcel 28.*

PARCELS 29 & 30, "SYERS PROPERTIES III LLC", APN 107-130-4810 & 107-130-4910

1952 *Barren, unimproved land, covered by grasses.*

1961 *The EDHB/SR50 interchange is under construction. Otherwise, site is essentially unchanged from the previous aerial photograph.*

1971 *Not located within the boundaries of the photograph.*

1981 *Not located within the boundaries of the photograph.*

1993 *The parcels are rough-graded as a part of the improvements for the new "Town Center" commercial development, under construction.*

1998 *New buildings and landscaping are constructed on the Parcel.*

PARCEL 31, "SYERS PROPERTIES III LLC", APN 107-130-5010

1952 *Bare, unimproved land, covered by grasses.*

1961 *The El Dorado Hills Boulevard/SR50 interchange is under construction. Otherwise, site is essentially unchanged from the previous aerial photograph.*

1971 *Predominately unchanged from previous photograph.*

1981 *Not located within the boundaries of the photograph.*

1993 *Roads for the new "Town Center" shopping area are visible. The drainage from a new, south flowing channel crosses diagonally across the site.*

1998 *Drainage re-routed to the north and east of the parcel. Construction of the "Town Center" commercial development is underway, with a new gas station and other structures on the site.*

PARCEL 32, "COUNTY OF EL DORADO", APN 107-680-0910

1952 *Parcel consists of barren, unimproved land, covered by grasses.*

1961 *The EDHB/SR50 interchange is under construction. The entrance road to the future shopping area is rough graded. Otherwise, site is essentially unchanged from the previous aerial photograph.*

1971 *Not located within the boundaries of the photograph.*

1981 *Not located within the boundaries of the photograph.*

1993 *Parcel 32 is graded for new commercial development. No structural improvements (building) on site.*

1998 *A "Jack in the Box" restaurant is constructed on the parcel.*

Parcel 33, "CRISP FAMILY TRUST", APN 107-680-1010

1952 *Parcel consists of narrow strip of barren, unimproved land, covered by grasses.*

1961 *Unchanged from previous aerial photograph.*

1971 *Not located within the boundaries of the photograph.*

1981 *Not located within the boundaries of the photograph.*

1993 Parcel 33 is a part of an existing commercial development, consisting of landscaping and a curb area on the north side of the shopping center's entrance from EDHB.
1998 Unchanged from previous aerial photograph.

Parcel 34, "MCNAN LLC", APN 107-680-0810
1952 Parcel consists of narrow strip of barren, unimproved land, covered by grasses.
1961 Unchanged from previous aerial photograph.
1971 Not located within the boundaries of the photograph.
1981 Not located within the boundaries of the photograph.
1993 Parcel 34 is a part of an existing commercial development, consisting of landscaping and a curb area east of EDHB, and bordering the shopping center on the west.
1998 Unchanged from previous aerial photograph.

2.4.3 Topographic Map Review

BCI's topographic map review includes 7½-minute USGS quad maps from 1944, 1953, and 1973. This summary includes the noted changes within the project area as recorded on the maps:

1944 USGS Folsom Quad, Scale 1:62,500

- SR50 shown along nearly the same alignment it has today. However, it terminates at Scott's Road to the west, where that road runs parallels to the Southern Pacific Railroad tracks, then continues eastward towards Shingle Springs.
- Clarksville/White Rock Road is shown as it exists today. The preliminary alignment of Silva Valley Road is present, and comprises a dirt/gravel road that crosses old SR50 and proceeds in a northerly direction.
- The Tong Road alignment appears on the map as a dirt road. The road has a spur that goes to a cemetery. The Clarksville cemetery is observed on the map.
- We note no other improvements within a one-mile radius of the subject intersection.

1953 USGS Clarksville Quad, Scale 1:24,000

- SR50 exists as a single lane road in each direction. Embankment fill and roadway cuts are visible, based on contours shown on the topographic map.
- There are no significant changes to the topography and road alignments observed in the 1944 map. Clarksville appears as the only concentration of residential and/or commercial structures in the immediate area.

1973 USGS Clarksville Quad, Scale 1:24,000

- SR50 is widened to a 4-lane highway, with a new 2-lane road constructed to the south of the earlier 2-lane alignment.

- The White Rock Road at-grade intersection is converted to an underpass with a concrete deck bridge at SR50. The road continues north of the freeway, where it is renamed Silva Valley Parkway.
- The EDHB/SR50 interchange is constructed, and a new subdivision is present north of the freeway. The map shows the golf course. Between EDHB/SR50 and the Bass Lake/SR50 interchange, all prior at-grade connections of local roads with SR50 are gone.
- Residential subdivision development is present along El Dorado Hills Boulevard.

3 RECORDS REVIEW

3.1 Review of County, State, and Federal Records

We requested EDR to perform a "Radius Search Report" for the Silva Valley Interchange, from roughly west of the El Dorado Hills Boulevard/SR50 interchange to the Bass Lake/SR50 interchange. The study included a search and review of county, state, and federal databases. The following databases were searched:

- National Priorities List (NPL)
- NPL Proposed
- NPL Delisted
- Resource Conservation and Recovery Act information (RCRA-SQG)
- Unconfirmed Properties Referred to Another Agency (REF)
- School Property Evaluation Program (SCH)
- Properties Needing Further Evaluation (NFE)
- Statewide SLIC Cases
- Emissions inventory data (EMI)
- Voluntary Cleanup Program Properties (VCP)
- Indian LUST
- Calsites Database (CAL-SITES)
- Section 7 tracking systems (SSTS)
- Uranium Mill Tailings Sites (UMTRA)
- Open dump inventory (ODI)
- Formerly used deposit sites (FUDS)
- Biennial Reporting systems (BRS)
- Department of defense sites (DOD)
- Deed restriction listing (DEED)
- No further Action determination (NFA)
- Notify 65
- Toxic Pits
- Comprehensive Environmental Response, Compensation, And Liability Information (CERLCIS)

- Comprehensive Environmental Response, Compensation, And Liability Information, No Further Remedial Action Planned (CERC-NFRAP)
- Corrective Action Report (CORRACTS)
- Above Ground Petroleum Storage Tank Facilities (AST)
- Leaking Underground Storage Tank Information System (LUST)
- Hazardous Substance Storage Container Database (UST)
- Cal Sites-AWP
- California Hazardous RCRA Administrative Tracking System (RAATS)
- Hazardous Materials Information Reporting System (HMIRS)
- California State Landfills ((SWF/L)\(SWIS))
- Waste Management Unit Database (WMUDS/SWAT)
- California Hazardous Materials Information Reporting System (CHMIRS)
- PCB Activity Database System (PADS)
- Emergency Response Notification System (ERNS)
- Faeility Index System (FINDS)
- Toxic Chemical Release Inventory System (TRIS)
- Toxic Substances Control Act (TSCA)
- Material Licensing Tracking System (MLTS)
- Federal Superfund Liens (NPL liens)
- CA Bond Exp. Plan (Ca. BEP)
- Records Of Decision (ROD)
- Superfund Consent Decrees (CONSENT)
- Waste Discharge System (CA WDS)
- HAZNET
- Mines Master Index File (MINES)
- Indian RESERV
- FIFRA/TSCA Tracking System (FTTS)
- Historical UST Database
- CLEANERS Drycleaners (Department of Toxic Substance Control)

The EDR reports are included as Appendix A. We requested a two-point search along the a corridor encompasing SR50, from El Dorado Hills Boulevard to west of Bass Lake Road, using a search radius of 1 mile. Figures in the EDR reports shows the approximate search radius of the project. Sites with adequate address information are plotted on EDR's site plan "EDR Radius Map with GeoCheck, Silva Valley Parkway IC, SR50".

Sites with inadequate address information were listed as "orphan sites" and were not plotted on EDR's site plan. Instead of plotting the "orphan sites", EDR provided available address information. BCI reviewed the address infromation for the orphan sites and determined that, with one exception, none of the list sites are located within 1,000 feet of the proposed corridor. The exception is a listing for naturally occurring asbestos in El Dorado Hills. There is no specific address for El Dorado Hills.

3.2 Summary of Records Search

No sites with known contamination or hazardous material leaks, spills, or dumping were noted in the EDR database search.

3.3 Review of Title Documents

BCI's scope did not include a review of title documents for this assessment.

3.4 Prior Environmental Investigations

We did not review any environmental assessment documents conducted for this or other nearby projects. If applicable documents are discovered, they should be reviewed relative to the conclusion and recommendations provided in this report. When available, submit these documents for BCI review during the next phase of the study.

3.5 Well Search

The well search portion of the EDR report did not identify any wells within 1-mile of the proposed interchange improvements. Our review of the Department of Water Resources website did not reveal known, recorded groundwater wells. However, based on our site reconnaissance and historic photo review, we believe that domestic water wells associated with former and current ranch properties are present within the former Clarksville rural residential area. Parcels where wells may be present include Parcels 1, 4, 5, 14, 17 and 21.

4 RECONNAISSANCE INFORMATION

4.1 Visual Observations

BCI staff performed reconnaissance observations from public streets, intersections, driveways, access roads, business parks, sidewalks and other public right-of-way. We also conducted a site inspection of all private properties, where El Dorado County Public Works, Department of Transportation staff, have obtained permission for entry. With the following qualifiers and/or exceptions, our observations generally support the described physical descriptions in Section 2.1 of this report.

PARCEL 1, "EDH 52", APN 108-030-1010
Low grasses, trees, and numerous shallow drainages and seasonal streams cover the majority of the site. Silva Valley Parkway borders the property on the west. Residential development borders the site on the north. Tong Road and SR50 bisect the southern one-third of the property.

Approximately 1,000 feet north of the freeway, and about 100 feet east of Silva Valley Parkway, we identified "ruins", including numerous columnar structures, masonry rubble, a portion of a concrete perimeter foundation, and a concrete box-basin with three separate bins. Over-grown landscaping (trees and brush) surround the "ruins." Our research did not identify specific structures associated with the ruins. It is our opinion that the "ruins" are most likely associated with the former agricultural use (farming and ranching) of the site.

PARCEL 2, "EL DORADO HILLS INVESTORS", APN 107-130-0110
A barbed wire fence borders this small triangular shaped parcel. We did not observe any obvious soil and/or groundwater contamination or hazardous materials issues on the site. However, a soil stockpile of unknown origin covers the majority of the parcel.

PARCEL 3, "COUNTY OF EL DORADO", APN 108-070-3210
Site is unimproved and covered by low grasses. The parcel is located immediately north of Tong Road. We did not identified obvious soil and/or groundwater contamination or hazardous materials issues on this site.

PARCEL 4, "CAPITAL KOREAN PRESBYTERIAN CHURCH", APN 108-070-0210
A two-story church is on the site. We observed a large parking area and two large propane tanks. We did not observe evidence of soil and/or groundwater contamination or hazardous materials issues on the site.

PARCEL 5, "LAFONTSEE BONNIE L & CHRIS L", PARCEL 5, APN 108-070-0310
We observed the "remains" of a prior residence and/or small business that we identified in air photos. The remains include a perimeter fence, a commercial advertising sign, a gravel access road, a small, abandoned wooden sheds, and similar dilapidated wooden structures. We did not have permission to enter the property. We were not granted site access; therefore, we made all observations from Tong Road.

PARCEL 6, "TONG ARTHUR", APN 108-070-0410
The site is located north of SR50. We were not granted access to this site. We made observations from Tong Road. It comprises bare, unimproved land, covered by low grasses and few trees. We did not observe evidence of soil and/or groundwater contamination or hazardous materials issues on the site.

PARCELS 7 & 8, "MOHANNA MOE & NASRIN", APN 108-070-2210 & 108-070-2610
We did not have permission to enter the properties. We made all observations from publicly accessible roads (SR50, Tong Road, and Bass Lake Road). The two parcels border SR50 on the north. Parcel 7 is improved by a single residential structure, driveway, and related improvements. Parcel 8 appears unimproved at this time. We did not observe evidence of soil and/or groundwater contamination or hazardous materials issues on the two parcels.

PARCEL 9, "EL DORADO HILLS INVESTORS", APN 107-130-0210
The site is unimproved and covered by low grasses. The parcel is located between Tong Road and SR50. We did not observe evidence of soil and/or groundwater contamination or hazardous materials issues on the site.

PARCEL 10, "PG&E CLARKSVILLE SUBSTATION", APN 107-130-0610
The site is an electrical substation located south of SR50, about 500 west of White Rock Road. Improvements include electrical transformers, circuit switchers, regulators, reclosers and control buildings. PG&E did not grant us access to the site. We observed the site from public roads and adjacent Parcel 17. We did not identify obvious soil and/or groundwater contamination or hazardous materials issues on this site.

PARCELS 11 & 12, "EL DORADO HILLS INVESTORS", PARCELS 11 & 12, APN 107-130-0510 & 107-130-0410
The two sites are bisected by Silva Valley Parkway, and are bordered by SR50 to the north. A perennial stream flows through Parcel 11, creating a marshy area over at least one-third of the parcel. Parcel 12 is east of Parcel 11 and covered by low grasses and a few trees. We did not identify obvious soil and/or groundwater contamination or hazardous materials issues on this site.

PARCELS 13 & 14, "KFRD INVESTORS & TONG RANCH LLC ", APN 108-070-0510 AND 108-070-0610
The two parcels are adjacent to each other, and are bordered by SR50 on the north. White Rock Road provides access and terminates at SR50. Along White Rock Road, we observed a large barn, fencing, and numerous small wooden storage sheds on Parcel 14. Two significant drainages flow from east to west across the eastern two-thirds of Parcel 14. The majority of Parcel 14 is open land, covered by low grasses. This parcel appears to be used for cattle grazing. Parcel 13 is immediately west of Parcel 14. The "Tong Cemetery" occupies the northwestern corner of Parcel 13, and is located within 100 feet of the freeway. Grasses cover the majority of the remainder of the site, and we observed its use as a horse pasture.

In general, we observed abandoned wooden sheds, miscellaneous trash, and related debris along the road through Parcel 14. The debris included household trash, discarded farm equipment, 55-gal drums, and rusting, above-ground, fuel storage tanks.

PARCELS 15 AND16, "HUDDRIDGE PARTNERS ", APN 108-780-0210 & 108-780-0110
These parcels are separated by White Rock Road. Similar to nearby parcels, they are covered by low grasses and a few trees. Previously described drainages to the north and east converge on Parcel 16, to become Carson Creek flowing south along White Rock Road. Some shrubs and bushes line the drainages, especially on Parcel 16, where the convergence of drainages forms a small wooded area in the north central portion of the parcel. We did not identify obvious soil and/or groundwater contamination or hazardous materials issues on this site.

PARCEL 17, "PEERMAN, JACK & BETTY", APN 107-130-0710
This parcel has a single family residence. Improvements include two small storage/barn structures, and a paved driveway and parking area. The property is bordered by Parcel 18 on the west, SR50 on the north, the Clarksville cemetery on the southwest, Parcel 15 on the east, and by Parcel 10(the PG&E site) on the northeast. We observed a "Mormon Tavern" historical marker located between Joerger Cutoff Road and SR50. The marker is placed east of the Parcel 17 property line and north of the PG&E substation.

Beyond the residence, the property is bare land covered with variable-height grasses. Overhead electrical lines are located along the north property line, parallel to SR50. We did not identify obvious soil and/or groundwater contamination or hazardous materials issues on this site.

PARCEL 18, "EL DORADO HILLS INVESTORS", APN 107-130-0410
The Von Hausen's Motors auto retail and repair facility occupies this site. Improvements include a large commercial structure and surrounding asphalt-paved parking area. We were able

to observe the site from publicly accessible locations within the shopping center. Access to the site was not granted; therefore, we did not observe any of the operations within the vehicle service area of the dealership. We did not observe evidence of soil and/or groundwater contamination or hazardous materials issues on the site.

PARCEL 19, "PHOENIX PACIFIC COMPANY LL", APN 107-680-1310
We were able to observe the site from public roads within the shopping center. Access to the site was not provided. The shopping center is located at the northeast corner of the El Dorado Hills Boulevard/SR50 interchange. The parcel is a part of the shopping center, and is improved by the "Kinder Kare Learning Center" building. A 10-foot masonry wall surrounds the building on the south and east. A paved parking area is located to the west of the building, and serves both the learning center and other commercial/retail businesses in the shopping center. We did not observe evidence of soil and/or groundwater contamination or hazardous materials issues exterior of the building.

PARCEL 20, "SERRANO ASSOCIATES LLC", APN 107-660-0310
A golf course occupies the parcel. Trees and shrubs line the parcel's south border with SR50. We did not observe significant contamination or hazardous materials issues on the site. We made all observations from public roads adjacent to the parcel, as we were not granted aecess at the time of our site visit.

PARCEL 21, "SERRANO ASSOCIATES LLC", APN 114-160-1910
SR50 borders the site on the south and Parcel 20 is located to the west. Silva Valley Parkway borders the site on the east. This sloping parcel is covered with moderately high grasses. Residential development occupies the top of the hill above the parcel. There is a minor drainage along the eastern property line, adjacent and west of Silva Valley Parkway. The "EID South Boost Pump Station" is located between the drainage and Silva Valley Parkway. We also observed remnant concrete foundations on the site. These structures are located adjacent and north of SR50, nearly opposite of the PG&E substation. Access to the parcel had not been granted at the time of our site visit; therefore, all observations were made from adjacent public roads. We did not observe evidence of soil and/or groundwater contamination or hazardous materials issues on the site.

PARCEL 22, "EL DORADO SAVINGS BANK", PARCEL 22, APN 107-680-0610
We were able to observe the site from publicly accessible locations within the shopping center. The parcel is developed with an "El Dorado Savings Bank," and surrounded by a paved parking lot. We did not observe evidence of soil and/or groundwater contamination or hazardous materials issues from the exterior of the parcel's building.

PARCEL 23, "SERRANO ASSOCIATES LLC", APN 114-780-0110
This is a large, undeveloped parcel located to the north of Parcels 3 through 6, and east of Parcel 1. A large, residential subdivision is located along the north property line. Access permission was not provided at the time of our site visit; therefore, we observed the parcel from Tong Road and Parcel 1. We observed imported, soil stockpiles at the northern portion of the site. The "spoils" are composed of processed rock (similar to aggregate baserock) and soil, and based on their location adjacent to the nearby residential streets, it appears that these "spoils" are derived

from recent construction activities at the adjacent residential area. Surface drainage from the residential subdivision (to the north) has created gullying and erosion in the north area of the parcel. The gully slopes to the southeast to a nearby stream channel that eventually becomes a part of Bass Lake Creek. Most of the parcel is gently to moderately sloping to the south and covered by low grasses. A moderate cover of trees is located adjacent to the stream channel. We did not observe evidence of soil and/or groundwater contamination or hazardous materials issues on the site.

PARCEL 24, "SERRANO ASSOCIATES LLC", APN 114-150-42100
Access to the property was not granted; therefore, all observations were made from adjacent public roads. This parcel is relatively small, and bordered by Parcel 1 on the east and by Silva Valley Road on the west and south. A large soil stockpile covered by low grasses is present on the site. We did not observe evidence of soil and/or groundwater contamination or hazardous materials issues on the site.

PARCEL 25, "WILMINGTON TRUST / TOSCO TRUST", APN 107-120-0410
The parcel is located adjacent to the east side of El Dorado Hills Boulevard, and north of SR50. We observed the site from publicly accessible locations within the shopping center. A "Union 76" service station, with dispensing islands, a retail shop, and a service area, occupies the parcel. The station has a paved parking area for both its customers and customers of other commercial/retail businesses in the shopping center. We did not observe evidence of soil and/or groundwater contamination or hazardous materials issues on the site.

PARCEL 26, "AHART TRUST / JONES TRUST", APN 107-120-2610
Parcel 26 is located in the northeast quadrant of the El Dorado Hills Boulevard/SR50 interchange. We were able to observe the site from publicly accessible locations within the shopping center. The parcel is improved by a "Taco Bell" restaurant. A paved parking area with modest landscaping surrounds the building. We did not observe significant contamination or hazardous materials issues on the site.

PARCEL 27, "TOWN CENTER EAST LP", APN 107-130-3610
Parcel 27 is a narrow (less than 100 ft wide) strip of land located north of Parcel 31 and south of the eastbound SR50 on-ramp. Improvements on the parcel consist of several commercial buildings occupied by retail businesses. We were able to observe the site from publicly accessible locations within the shopping center. We did not observe evidence of soil and/or groundwater contamination or hazardous materials issues on the site.

PARCEL 28, "EDH TOWN CNTR EAST OWNERS ASSOC. ", APN 107-130-4310
Parcel 28 is a marshy area partially modified into a pond and fountain surrounded by landscaping and sidewalks. The pond is located between Parcels 18 and 27, and bordered by SR50 on the north. Carson Creek flows from the north side of SR50 and through this parcel. We were able to observe the site from publicly accessible locations within the shopping center. We did not observe evidence of soil and/or groundwater contamination or hazardous materials issues on the site.

PARCEL 29, "SYERS PROPERTIES III LLC", PARCEL 29, APN 107-130-4810
Parcel 29 is a small, less than 1-acre, parcel located east of Latrobe Road, and is a part of the "Town Center" development. The site is used for landscaping, and is located near the entrance to the "Town Center". We were able to observe the site from adjacent El Dorado Hills Boulevard. We did not observe evidence of soil and/or groundwater contamination or hazardous materials issues on the site.

PARCELS 30 & 31, "SYERS PROPERTIES III LLC", APN 107-130-4910 AND 107-130-5010
Parcels 30 and 31 are improved properties for the "Town Center" shopping development. Improvements include a "Valero" service station, paved parking, 2-story shopping structures (strip-mall), and related improvements. A "Chevron" service station is located immediately adjacent to the south side of Parcel 31, just south of the entrance to the shopping center. We were able to observe the development from publicly accessible locations within the "Town Center". We did not observe activities that would indicate that subsurface contamination and/or remediation is occurring at either service station.

PARCEL 32, "COUNTY OF EL DORADO", APN 107-680-0910
A "Jack in the Box" restaurant is present on Parcel 32. The site appeared clean and well maintained. A "Shell" service station occupies the property immediately adjacent and west of the parcel. We observed approximately ten (10), 55-gal drums, marked as hazardous waste on the "Shell" site. We did not observe any monitoring wells. We observe evidence that may indicate an investigation for subsurface soil and/or groundwater contamination or hazardous materials issues is occurring at the "Shell" service station.

Parcel 33, "CRISP FAMILY TRUST", APN 107-680-1010
Parcel 33 is a small, narrow strip of land located along the north curb of the entrance to the shopping center. The shopping cneter is located at the northeast quadrant of the EDHB/SR50 interchange. Parcel 33 is currently used for landscaping along the west side of the previously described "Shell" service station. We were able to observe the site from publicly accessible locations within the shopping center. We did not observe evidence of soil and/or groundwater contamination or hazardous materials issues on the site.

Parcel 34, "MCNAN LLC", APN 107-680-0810
Parcel 34 is a small, narrow strip of land adjacent to El Dorado Hill Boulevard, north of the entrance to the shopping center. It is currently used for landscaping purposes adjacent to the above described "Shell" service station. We were able to observe the site from publicly accessible locations within the shopping center. We did not observe evidence of soil and/or groundwater contamination or hazardous materials issues on the site.

5 FINDINGS, CONCLUSIONS, & RECOMMENDATIONS

BCI performed an Initial Site Assessment for the Silva Valley Interchange project. Typieal of an Initial Site Assessment, the scope of this assessment was directed at:

- Determining whether there may be hazardous materials on, or near, proposed roadway improvements at levels likely to warrant mitigation pursuant to regulations, and to,

- Identify sites with hazardous material issues that may impact property acquisition and redevelopment, or that will be a significant consideration in determining the final alignment.

Our assessment identified the following environmental conditions that should be considered in present and future planning for the roadway alignment.

5.1 Sites with Potential Contamination/Hazardous Materials Issues

Following is a description of specific parcels within the proposed roadway widening that are identified as having potential soil and/or groundwater contamination or hazardous materials issues that could impact project related land acquisition and/or construction.

- PARCEL 10, "PG&E CLARKSVILLE ELECTRICAL SUBSTATION" – APN 107-130-06

Parcel is subject to partial acquisition. No site specific hazardous material issues were identified through the commercial database search. Based on use and age of the site, the substation is considered a potential risk for PCB contamination from older transformers and a risk for potential petroleum hydrocarbon contamination from leaking coolant oils and site maintentance activities. We recommend contacting PG&E and obtain a statement of fact addressing potential contamination/hazardous materials. PG&E needs to provide a "clean site" record. If a statement can not be provided, we recommend limited soil sampling and analysis within the potential acquisistion areas of the Parcel.

Associated with Parcel 10 by proximity, we identified a former gas station/commercial structure along the old, two-lane SR50, as shown on the 1952 and 1961 airphotos. Although the structures were removed for the widening of SR50, we can not rule out the potential for petroleum hydrocarbon impacts to the subsurface, in the general area of Joeger Cutoff Rd, between the PG&E substation and SR50.

- PARCEL 5, "LAFONTSEE PROPERTY" – APN 108-070-0310

Parcel is subject to partial acquisition. No specific hazardous material issues were identified in the database search. The site's previous residential structure and outlying storage structures are removed, but many discarded objects, domestic-appearing waste, and smaller wooden-framed, delapidated structures remain. Historical aerial photos exhibited numerous automobiles, trucks, commercial truck trailers, boats, and farm vehicles on the site. Based on airphotos and our site reconnaissance, many of these items appear abandoned.

Common contamination/hazardous materials issues associated with the identified land use include: 1) potential petroleum hydrocarbon (oil) spillage, 2) leach fields and septic tanks, and 3) buried heating oil tanks, 4) asbestos containing building materials (ACM), and 5) lead-containing paint (LCP). Although none of these were positively identified in this ISA, plans for construction, and/or complete or partial site acquisition, should account for the potential of encountering one or more of these issues.

We recommend that the construction documents include specifications making the contractor aware of the possible presence of LCP and ACM, and his responsibility to respond accordingly. If potentially hazardous materials are encountered during grading operations, the local environmental health department and fire department should be notified.

- "SHELL", (ADJACENT TO PARCEL 32) - APN UNKNOWN

This is an active, petroleum fuel service station. No specific hazardous material issues were identified in the database and website searches. However, it appears that a Phase II investigation was recently conducted at the site, as indicated by the presence of at least ten, 55-gal drums, each mark as "hazardous waste". To determine the current status of possible clean-up activities, we recommend a review of existing regulatory documentation, which may be obtained from the local environmental health department, the RWQCB, and/or the site owner. Current plans do not inelude acquisition of this site; however groundwater and/or soil contamination could impact road widening or related project improvement activities at the adjacent properties, which includes Parcels 32 (APN 107-680-0910), 33 (APN 107-680-1010), and 34 (APN 107-680-0810).

- PARCEL 25, WILMINGTON TRUST/TOSCO TRUST" (UNION 76) - APN 107-120-0410

Pareel is subject to partial acquisition. This is an active, petroleum fuel service station. No specific hazardous material issues were identified in the database search. However, this site will require further assessment. Initially, further assessment should include a review of existing documentation from the local environmental health department, the RWQCB, and the site owner. If building demolition is planned, the existing structures need to be assessed for potential hazardous materials, such as LCP and ACM.

- PARCEL 21, "SERRANO ASSOCIATES" - APN 114-160-19

Parcel is subject to partial acquisition. No specific hazardous material issues were identified in the database search. Remnant structures were observed adjacent to the north (west-bound) side of SR50, approximately 600 feet west of the Silva Valley Parkway underpass. A house structure, barns, warehouse and associated improvements are observed in historical air photos. Common contamination/hazardous materials issues associated with the identified land use are: 1) ACM and LCP, 2) unidentified leach fields/septic tanks and buried heating oil tanks, and 3) ADL from the immediately adjacent SR50.

The presence of these one or more of these materials could affect the value of the parcel. If this project includes acquisition and demolition of any of the existing structures, then the structures should be assessed for potential ACM and LCP prior to acquisition. Assessment results will be used to estimate the financial impact to the project. Results of the assessment shall also be included in the plans and specifications (bid documents) so the contractors can plan for worker safety and material handling and disposal issues.

Based on the proximity to SR50, some level of ADL may be present in the shallow subsurface soils adjacent to the freeway. ADL recommendations are presented in the section titled "General Contamination/Hazardous Materials Issues" of this report.

- PARCELS 13 AND 14, "KFRD INVESTORS INC. & TONG RANCH LLC" - APN 108-070-0510 AND 108-070-0610

Parcels are subject to partial or complete acquisition. No specific hazardous material issues were identified in the database search. During our site reconnnaissance, we noted poor housekeeping practices along Tong Road, where it passes through the two properties. We observed 55-gal drums, rusting machinery, trash and rubbish, and above ground storage tanks (AST). Existing structures (large barn, mobile home, small sheds, etc.) may present an ACM and LCP issue if demolition is planned. Other issues include encountering unidentified items such as leach fields/septic tanks and buried heating oil tanks. An old cemetary is located in Parcel 13, close to SR50.

Existing structures subject to demolition need to be assessed for LCP and ACM, prior to preparation of construction documents. Additionally, we recommend that the construction documents include specifications making the contractor aware of the possible presence of LCP and ACM during grading operations, and his responsibility to respond accordingly.
Based on the proximity to SR50, some level of ADL may be present in the shallow subsurface soils adjacent to the freeway. ADL may also be present adjacent to White Rock Road. ADL recommendations are presented in the section titled "General Contamination/Hazardous Materials Issues" of this report.

- PARCEL 31, "SYERS PROPERTIES, LLC" (VALERO SERVICE STATION) – APN 107-130-5010

Parcel does not appear to be subject to acquisition. The parcel is known as the "Town Center" shopping area. There is an active, petroleum fuel service station (Valero) located within the shopping center. We found no records of suspected soil and/or groundwater contamination from the searched database. Service stations are a principal concern for subsurface contamination. We recommend a local file search and review for additional environmental records at the EDCEHD and at the RWQCB and an interview with the current site owners.

- PARCEL 1, "EDH 52" - APN 108-030-1010

Parcel is subject to partial or complete acquisition. No specific hazardous material issues were identified at this site through the database search. The parcel consists of undeveloped grazing land that appears unused at the present. We observed remnant, concrete structures (ruins) and associated debris. We were unable to determine the past use of the concrete structure. These "ruins" are located east of Silva Valley Parkway, approximately 1,000 feet north of the existing underpass. The structure consists of a rectangular shaped, three-bin, concrete-walled basins, with concrete columns at the corners of each bin. Other outlying columns are located north and south of the described structure. Archeological research (LSA, 2006) indicates that this site was a ranch, and the owner had a fondness for constructing with concrete.

Issues associated with a former farm residence include leach fields/septic tanks and buried heating oil tanks. The remnant concrete structures need to be assessed for LCP and ACM, prior to demolition and preparation of construction documents. An assessment for the presence of these materials may materially affect the purchase of the parcel. We recommend that the construction documents include specifications making the contractor aware of the possible presence of LCP and ACM during grading operations, and his responsibility to respond accordingly.

5.2 General Contamination/Hazardous Materials Issues

- PESTICIDES

The project includes acquisition of former cattle grazing and crop land; however, it appears that most of the open land in the project vicinity was used for grazing. Therefore, there is low to moderate potential for residual pesticides, herbicides, and fungicides. Based on the reviewed data, there is no obvious evidence of pesticide mixing, storage and/or misuse within the proposed right-of-way acquisition areas. Nonetheless, agricultural chemicals are typically used on farm lands. BCI considers it possible that pesticides, herbicides, and fungicides have been applied and used within the properties identified by MTCo as properties of interest.

Residual pesticides from normal agricultural application are generally exempt from mandatory assessment. This does not, however, preclude their existence. For roadway right-of-way acquisition projects, requirements for additional investigation are not clearly established. Therefore, it's important that the County of El Dorado understand the issue so they can make an informed decision on how to proceed. At a minimum, for sites with potential right-of-way acquisition, we recommend the County obtain a statement from the current property owner regarding past agricultural chemical use. If the statement is conclusive and suggests that usage would not result in significant residual pesticides concentrations, then no further action, such as sample collection and analysis, would be required.

- NATURALLY OCCURRING ASBESTOS

The project site is located in a geologic region identified as having at or near surface naturally occurring asbestos (NOA) bearing rocks and soils. Consequently, any development and/or construction in this area must comply with applicable rules and regulations, as written by El Dorado County Environmental Health Department. NOA-bearing rocks and soils potentially affect all parcels.

The contractor shall have experience implementing El Dorado County's special NOA grading requirements. An NOA monitoring plan will be required prior to grading. Some of the plan elements include: 1) a geologist trained in the recognition of NOA should be intermittently present during grading operations, 2) the geologist shall observe site conditions and implement special grading conditions when NOA is present. BMPs for dust control should be practiced during all grading operations in El Dorado County.

- AERIALLY DEPOSITED LEAD

The proposed interchange improvements will include grading within the existing SR50 shoulders and right-of-way (ROW). Caltrans is likely to require an aerially deposited lead (ADL) investigation prior to construction. Soil that is potentially impacted by ADL and disturbed during grading activities is subject to Department of Toxic Substances Control (DTSC) definition for handling hazardous waste. California currently defines material containing lead concentrations above 350 parts per million (ppm) as subject to Class I hazardous waste disposal. If ADL is detected at concentrations requiring hazardous waste handling and disposal, then we

recommend that the local Caltrans district office be contacted to determine the applicability of reusing ADL-impacted soil under the terms of the DTSC-issued "Lead-impacted Soil Reuse Variance". If the variance is not available to this district, then lead containing soils may require disposal at a Class I landfill.

ADL may also be present on privately-owned parcels adjacent to SR50. The potential ADL impact is likely limited to surface and shallow subsurface soils located within 2 feet of the existing ground surface (DTSC, 1995; Caltrans, 1998), and within 150 ft of the existing freeway right-of-way (Caltrans, 1995). The following Parcels are identified as potentially ADL-impacted: Parcels 1, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 22, 25, 26, 27, and 28. We recommend a minimum of one surface soil sample be obtained for ADL screening. The assessment should be performed on that portion of the parcel directly adjacent to and within 50 feet of the edge of pavement. Parcels with a long contiguaous portion of property adjacent to the freeway shall be sampled for ADL every 300 feet.

- TRANSFORMERS

The scope of this assessment did not include an inventory of past and present transformers along the alignment. However, BCI observed several pole-mounted transformers and high voltage power lines along the proposed SR 50 widening corridor, and along the existing Silva Valley Parkway, White Rock Road, Tong Road, and Joerger Cutoff Road. Many of these overhead electrical powerlines are located within the proposed right-of-way acquisition areas. The transmission lines and poles appear relatively new, and few of the transformers show signs of external rust or discoloration. The existing pole-mounted transfomers need to be considered potentially impacted if their removal or relocation is required during construction. Existing transformers should be checked for the presence of PCBs, and if present, they should be disposed of in accordance with current regulations. Surface mounted transformers and electrical switch boxes were also observed within the project area, and may also constitute a potential PCB-impacted risk.

- YELLOW TRAFFIC STRIPES

Yellow traffic stripes are known to contain heavy metals such as lead and chromium at concentrations in excess of the hazardous waste thresholds established by the California Code of Regulations (CCR) and may produce toxic fumes when heated. Consequently, any yellow traffic striping removed from the existing surface streets and SR50 highway will require proper disposal, which may include disposal at a Class 1 disposal facility.

- UNDERGROUND PRODUCT DISTRIBUTION LINES

An assessment of utilities or buried petroleum product distribution lines is not within the seope of this ISA. We did not observe warning signs for petroleum product lines. We observed markings for gas, water, electric, sewer, and storm drain at various locations. A sewer lift-pump station is located along the west side of Silva Valley Road. These and other utilities are present throughout the proposed interchange improvement area. The database records do not indieate contamination resulting from utility spills; however, there is the potential for unidentified leaks.

6 LIMITATIONS

This report summarizes the findings and opinions of Blackburn Consulting, Inc. (BCI), with regard to the potential for contamination/hazardous materials to be present on the subject parcels at concentrations likely to warrant mitigation under current statutes and guidelines. Our findings and opinions are based on information obtained on given dates or provided by specified individuals, through records review, site review, and related activities. Our information is only as good as the information provided to us. Conditions can change after we have made our observations. We cannot warrant or guarantee that hazardous materials do not exist within the study area. To further reduce your risk, an invasive exploration program may be necessary.

Site assessment activities performed, our findings obtained, and our recommendations prepared in accordance with currently and generally accepted principles and practices for this type of Initial Site Assessment. Information in this report does not confirm the presence or absence of hazardous materials within the MTCo-defined project boundaries, but indicates whether the possibility of such materials exists. We performed our on-site observations by reconnaissance of visible surface features only. Site conditions are subject to change. Certain indicators of the presence of hazardous materials may have been latent at the time of our site reconnaissance and may have subsequently become observable. In a similar manner, the research effort conducted for an ISA is limited. Accordingly, it is possible that our research, while fully appropriate, failed to indicate the existence of important information sources. Assuming such sources actually exists, their information is not considered in the formulation of our findings and opinions.

Environmental issues not specifically addressed in the proposal or this report, are beyond the scope of services, and are not included in our evaluation. We base our report upon various selected information sources available to us at the time of our investigation. These sources may not have accurate or complete information. We base our conclusions and recommendations on the information available and our interpretation of this information.
Our communications with selected agency personnel are limited to the information kept on file at the various offices we contacted. Some agencies may not maintain accurate or complete records. Many agencies have only recently developed hazardous materials programs and so historical information may be incomplete. We did not contact owners, property renters, or operators. Our on-site study was limited to a general observation of the property and use. Evidence of hazardous material use or misuse, not observed during our site visit, and may be present.

This report was prepared for the specific use of our client and applies only to the subject project. We are not responsible for interpretations by others of data presented in this report. This report does not represent a legal opinion. No warranty is expressed or implied. We base our conclusions in this report on judgment and experience. This report is not intended to follow the Phase I site assessment guidelines provided by ASTM. Instead, the scope of this report addresses the needs of the project.

The scope of our investigation does not include determining the presence of naturally-occurring asbestos (NOA), radon, lead based paint, or asbestos containing building products. However, this report does identify parcels where these items may be present. Identification of endangered

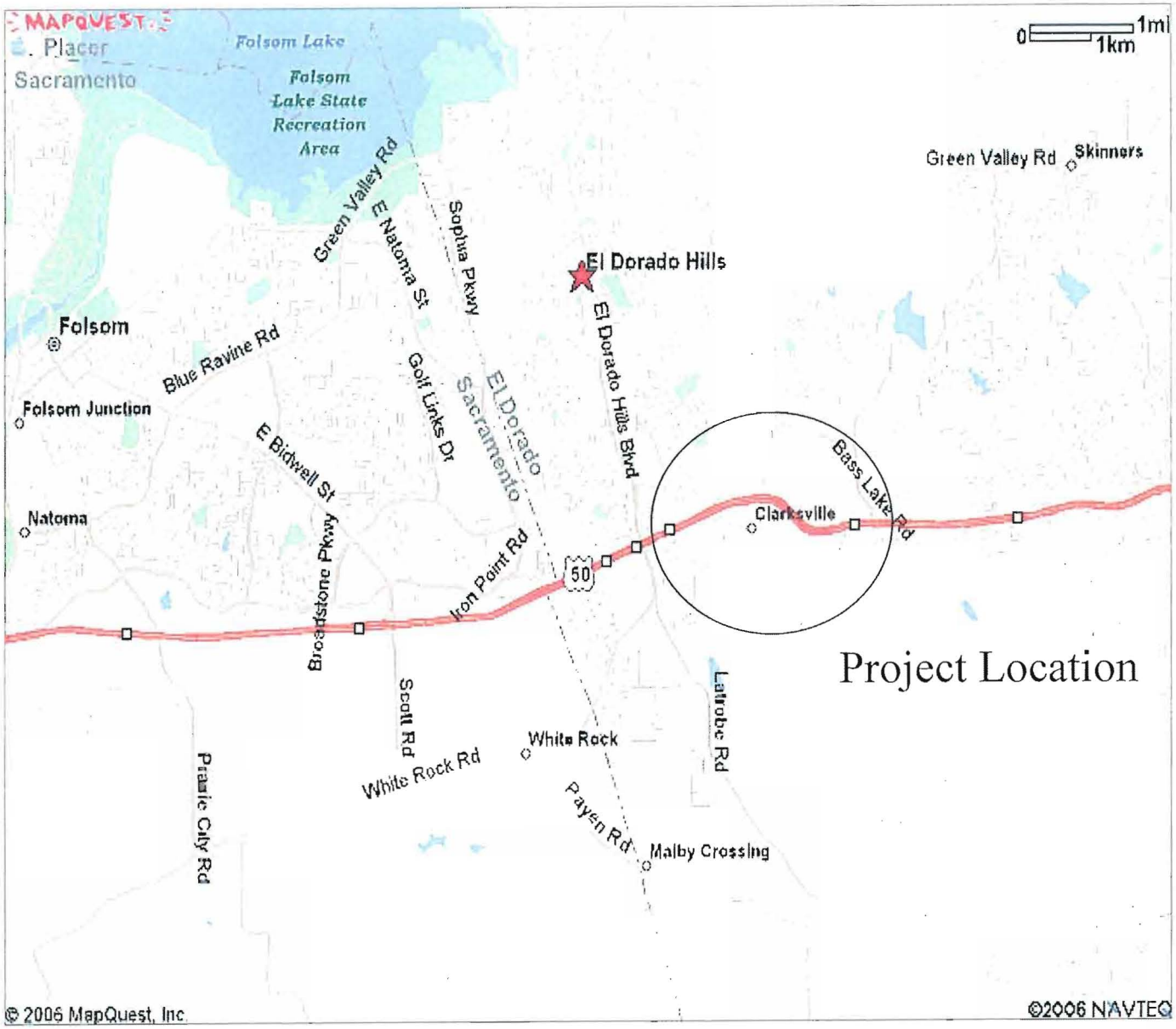
speeies, geologic hazards, wetlands habitat, archeological sites, or ecologically sensitive areas is also beyond the scope of this assessment. Our site reconnaissance did not include evaluation of possible hidden/buried dumps or pits within the property.

The governmental records portion of this report is derived from public records. The governmental records are updated on a continual basis. For this reason, we do not advise you to use this information to base a decision after 180 days of the issue date of this report. Also, conditions at the site can and will change over time. Please contact BCI to revise this report to reflect new information.

Figures

Figure 1 – Vicinity Map

Figure 2 – Site Map



N

blackburn consulting

11521 Blocker Drive, Suite 110
Auburn, CA 95603
(530) 887-1494
(530) 887-1495-Fax
www.blackburnconsulting.com

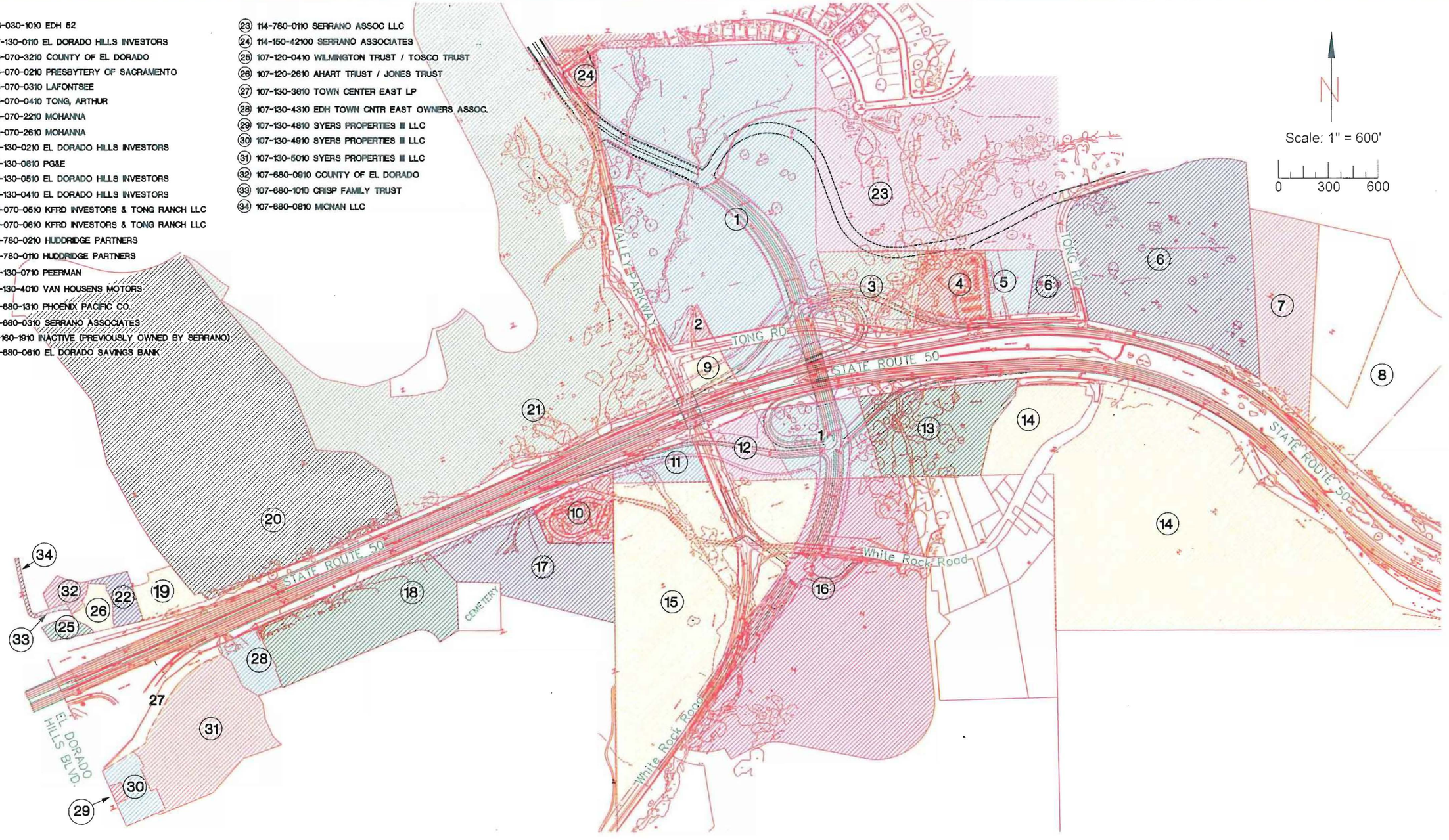
VICINITY MAP
Silva Valley Parkway ISA
Silva Valley/SR50 Interchange Project
El Dorado Hills, California

Job No. 556.1

April 2007

Figure 1

1. 108-030-1010 EDH 52
2. 107-130-0110 EL DORADO HILLS INVESTORS
3. 108-070-3210 COUNTY OF EL DORADO
4. 108-070-0210 PRESBYTERY OF SACRAMENTO
5. 108-070-0310 LAFONTSEE
6. 108-070-0410 TONG, ARTHUR
7. 108-070-2210 MOHANNA
8. 108-070-2610 MOHANNA
9. 107-130-0210 EL DORADO HILLS INVESTORS
10. 107-130-0610 PG&E
11. 107-130-0510 EL DORADO HILLS INVESTORS
12. 107-130-0410 EL DORADO HILLS INVESTORS
13. 108-070-0510 KFRD INVESTORS & TONG RANCH LLC
14. 108-070-0610 KFRD INVESTORS & TONG RANCH LLC
15. 108-780-0210 HUDDRIDGE PARTNERS
16. 108-780-0110 HUDDRIDGE PARTNERS
17. 108-130-0710 PEERMAN
18. 107-130-4010 VAN HOUSENS MOTORS
19. 107-680-1310 PHOENIX PACIFIC CO.
20. 107-680-0310 SERRANO ASSOCIATES
21. 114-160-1910 INACTIVE (PREVIOUSLY OWNED BY SERRANO)
22. 107-680-0610 EL DORADO SAVINGS BANK
23. 114-780-0110 SERRANO ASSOC LLC
24. 114-150-42100 SERRANO ASSOCIATES
25. 107-120-0410 WILMINGTON TRUST / TOSCO TRUST
26. 107-120-2610 AHART TRUST / JONES TRUST
27. 107-130-3610 TOWN CENTER EAST LP
28. 107-130-4310 EDH TOWN CNTR EAST OWNERS ASSOC.
29. 107-130-4810 SYERS PROPERTIES III LLC
30. 107-130-4910 SYERS PROPERTIES III LLC
31. 107-130-5010 SYERS PROPERTIES III LLC
32. 107-680-0910 COUNTY OF EL DORADO
33. 107-680-1010 CRISP FAMILY TRUST
34. 107-680-0810 MCNAN LLC



Adapted from: "Property Owner Information" by: Mark Thomas and Company, 2006

blackburn consulting

Blackburn Consulting, Inc.
11521 Blocker Drive, Ste 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495
www.blackburnconsulting.com

Site Plan
Silva Valley Parkway ISA
Silva Valley/SR50 Interchange Project
El Dorado Hills, California

File No. 556.1

April 2007

Figure 2

APPENDIX



EDR Records Check

The EDR Radius Map
with GeoCheck®

Silva Valley Parkway IC
SR 50
El Dorado Hills, CA 95762

Inquiry Number: 1594857.7s

January 17, 2006

EDR® Environmental
Data Resources Inc

The Standard in Environmental Risk Management Information

440 Wheelers Farms Road
Milford, Connecticut 06461

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

TABLE OF CONTENTS

SECTION	PAGE
Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	6
Orphan Summary	7
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting Source Map	A-7
Physical Setting Source Map Findings	A-8
Physical Setting Source Records Searched	A-9

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2006 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

SR 50
EL DORADO HILLS, CA 95762

COORDINATES

Latitude (North):	38.657700 - 38° 39' 27.7"
Longitude (West):	121.055200 - 121° 3' 18.7"
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	669223.6
UTM Y (Meters):	4280379.5
Elevation:	721 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property:	38121-F1 CLARKSVILLE, CA
Source:	USGS 7.5 min quad index

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

FEDERAL RECORDS

NPL---------- National Priority List
Proposed NPL---------- Proposed National Priority List Sites
Delisted NPL---------- National Priority List Deletions
NPL Liens---------- Federal Superfund Liens
CERCLIS---------- Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP---------- CERCLIS No Further Remedial Action Planned
CORRACTS---------- Corrective Action Report
RCRA-TSDF---------- Resource Conservation and Recovery Act Information
RCRA-LQG---------- Resource Conservation and Recovery Act Information

RCRA-SQG..... Resource Conservation and Recovery Act Information
ERNS..... Emergency Response Notification System
HMIRS..... Hazardous Materials Information Reporting System
US ENG CONTROLS..... Engineering Controls Sites List
US INST CONTROL..... Sites with Institutional Controls
DOD..... Department of Defense Sites
FUDS..... Formerly Used Defense Sites
US BROWNFIELDS..... A Listing of Brownfields Sites
CONSENT..... Superfund (CERCLA) Consent Decrees
ROD..... Records Of Decision
UMTRA..... Uranium Mill Tailings Sites
ODI..... Open Dump Inventory
TRIS..... Toxic Chemical Release Inventory System
TSCA..... Toxic Substances Control Act
FTTS..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
SSTS..... Section 7 Tracking Systems
PADS..... PCB Activity Database System
MLTS..... Material Licensing Tracking System
MINES..... Mines Master Index File
FINDS..... Facility Index System/Facility Registry System
RAATS..... RCRA Administrative Action Tracking System

STATE AND LOCAL RECORDS

AWP..... Annual Workplan Sites
Cal-Sites..... Calsites Database
CA BOND EXP. PLAN..... Bond Expenditure Plan
NFA..... No Further Action Determination
NFE..... Properties Needing Further Evaluation
REF..... Unconfirmed Properties Referred to Another Agency
SCH..... School Property Evaluation Program
Toxic Pits..... Toxic Pits Cleanup Act Sites
SWF/LF..... Solid Waste Information System
CA WDS..... Waste Discharge System
WMUDS/SWAT..... Waste Management Unit Database
Cortese..... "Cortese" Hazardous Waste & Substances Sites List
SWRCY..... Recycler Database
LUST..... Geotracker's Leaking Underground Fuel Tank Report
CA FID UST..... Facility Inventory Database
SLIC..... Statewide SLIC Cases
UST..... Active UST Facilities
HIST UST..... Hazardous Substance Storage Container Database
AST..... Aboveground Petroleum Storage Tank Facilities
SWEEPS UST..... SWEEPS UST Listing
CHMIRS..... California Hazardous Material Incident Report System
Notify 65..... Proposition 65 Records
DEED..... Deed Restriction Listing
VCP..... Voluntary Cleanup Program Properties
CLEANERS..... Cleaner Facilities
WIP..... Well Investigation Program Case List
HAZNET..... Facility and Manifest Data
EMI..... Emissions Inventory Data

TRIBAL RECORDS

INDIAN RESERV..... Indian Reservations

EXECUTIVE SUMMARY

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land
INDIAN UST..... Underground Storage Tanks on Indian Land

EDR PROPRIETARY RECORDS

Manufactured Gas Plants... EDR Proprietary Manufactured Gas Plants

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were not identified.

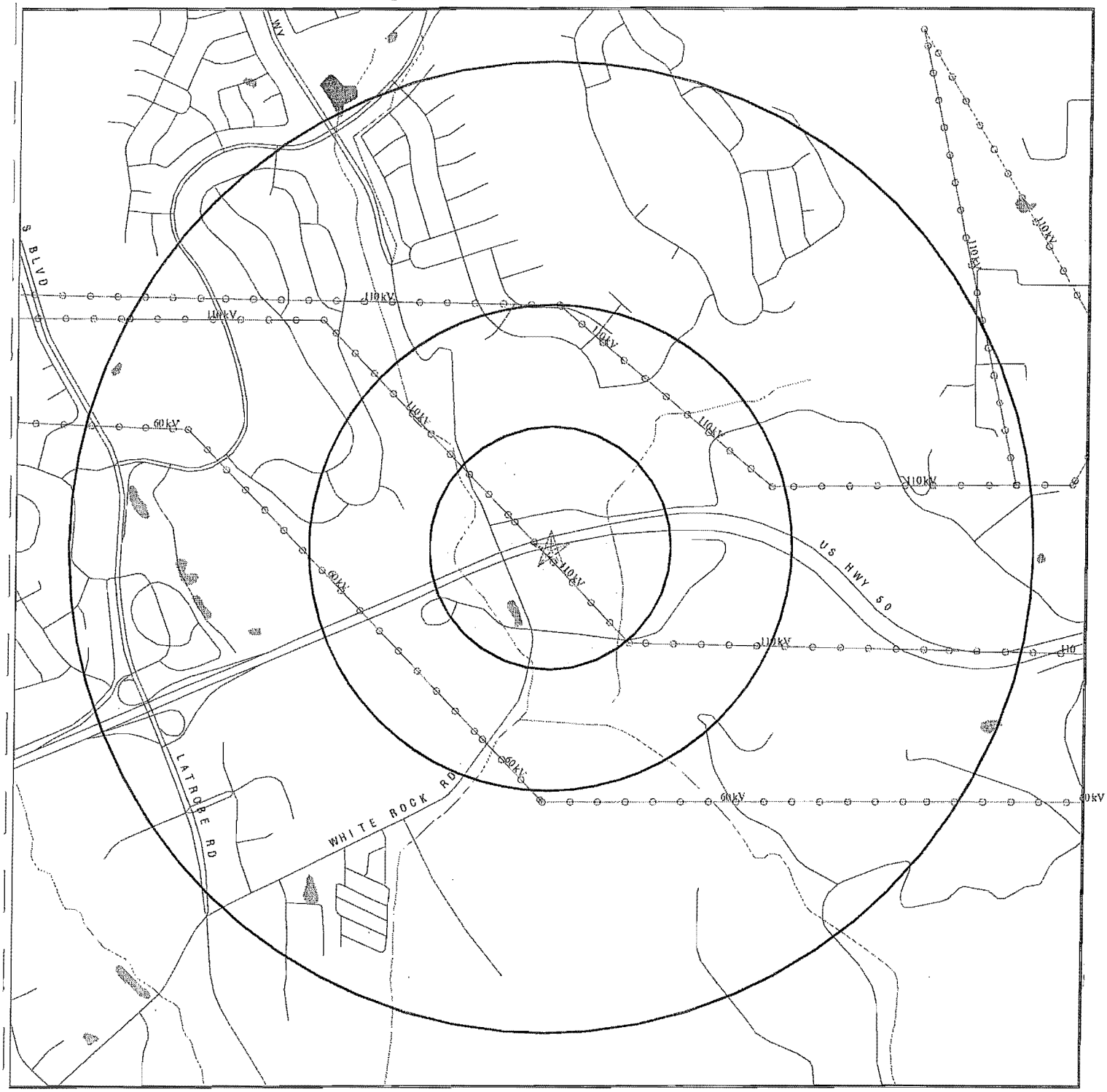
Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
T-2 LIFT STATION	SWEEPS UST
EL DORADO HILLS BUSINESS PARK	SWEEPS UST
T-1 LIFT STATION	SWEEPS UST
HILLTOP MARKET DELI	SWEEPS UST
HIGHLANDS VILLAGE LIFT STATION	SWEEPS UST
WETSEL-OVIATT LUMBER CO.	SWEEPS UST
EL DORADO HILLS W.T.P.	SWEEPS UST
NEW YORK CREEK LIFT STATION	SWEEPS UST
MARINA VILLAGE LIFT STA.	HIST UST, SWEEPS UST
RIDGE VIEW LIFT STATION	SWEEPS UST
ST. ANDREWS LIFT STATION	SWEEPS UST
FOLSOM LAKE MARINA/BROWN'S RAVINE	SWEEPS UST
PLATINUM AVIATION GROUP INC	CLEANERS
EL DORADO HILLS NATURALLY OCCURRING ASBESTOS	CERCLIS
EDH BUSINESS PARK	UST
HILLTOP MARKET & DELI	UST
HIGHLANDS VILLAGE LIFT	UST
T-2 LIFT STATION	HIST UST
T-1 LIFT STATION	HIST UST
HIGHLANDS VILLAGE LIFT	HIST UST
WETSEL-OVIATT LUMBER CO.	HIST UST
EL DORADO HILLS W.T.P.	HIST UST
NEW YORK CREEK LIFT STA.	HIST UST
RIDGE VIEW LIFT STATION	HIST UST
ST. ANDREWS LIFT STATION	HIST UST
BROWN'S RAVINE, FOLSOM LAKE	AST
EL DORADO HILLS WWTP-1	AST, CA WDS
MORMON ISLAND LIFT STATION OFF OF GREEN VALLEY RD	ERNS
MORMON ISLAND LIFT STATION OFF OF GREEN VALLEY RD	ERNS
WETSEL-OVIATT LUMBER COMPANY	REF
PROMONTORY ELEMENTARY SCHOOL	SCH
WEIS RECYCLE CENTERS INC/RALEYS 424	SWRCY

OVERVIEW MAP - 1594857.7s



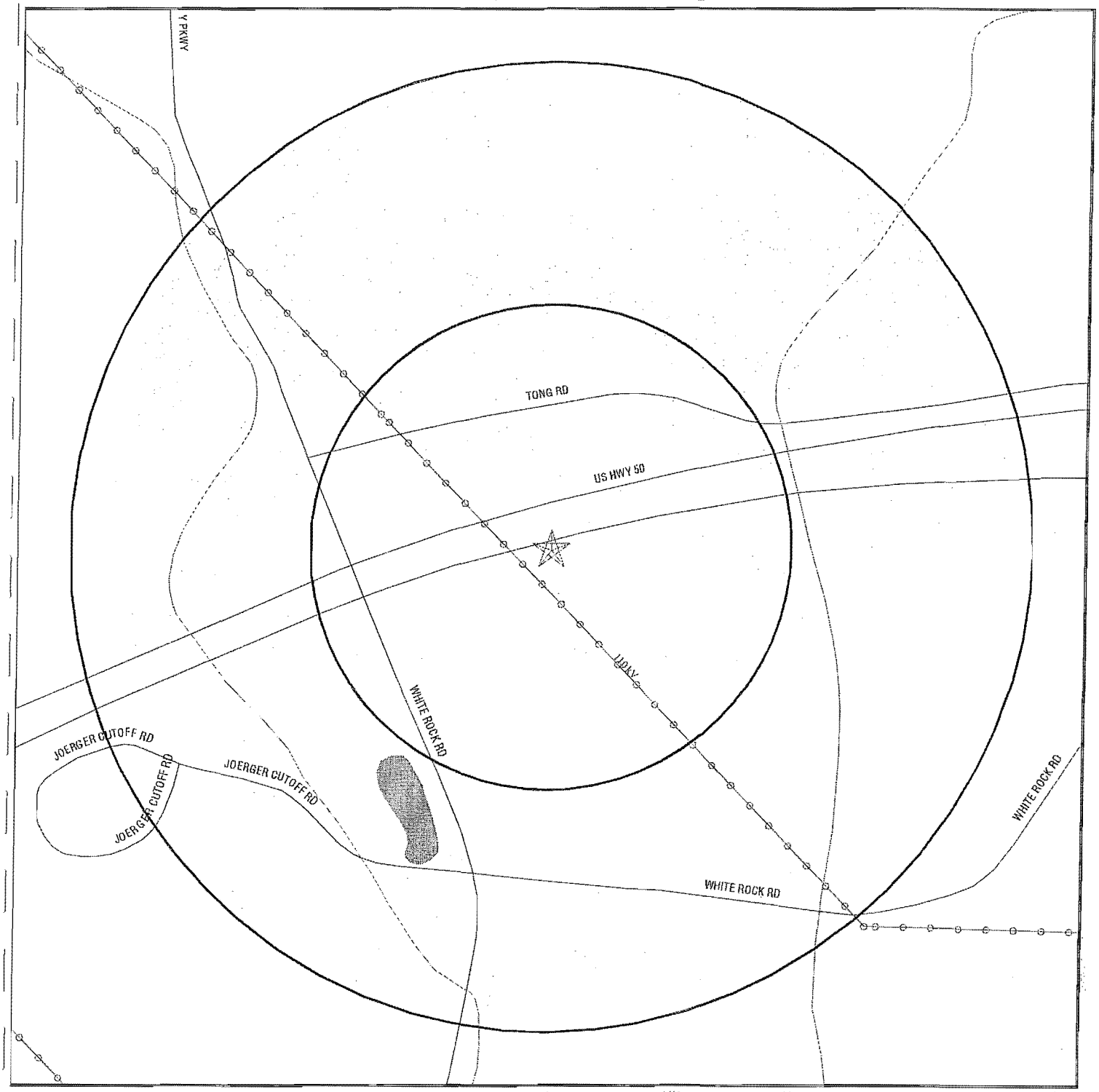
- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Federal Wetlands
- Areas of Concern

0 1/4 1/2 1 Miles

SITE NAME: Silva Valley Parkway IC ADDRESS: SR 50 El Dorado Hills CA 95762 LAT/LONG: 38.6577 / 121.0552	CLIENT: Blackburn Consulting CONTACT: Alfred P. Worcester INQUIRY #: 1594857.7s DATE: January 17, 2006

Copyright © 2006 EDR, Inc. © 2004 GDT, Inc. Rel. 07/2004. All Rights Reserved.

DETAIL MAP - 1594857.7S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Federal Wetlands
- Areas of Concern

SITE NAME: Silva Valley Parkway IC	CLIENT: Blackburn Consulting
ADDRESS: SR 50	CONTACT: Alfred P. Worcester
El Dorado Hills CA 95762	INQUIRY #: 1594857.7s
LAT/LONG: 38.6577 / 121.0552	DATE: January 17, 2006

Copyright © 2006 EDR, Inc. © 2004 GDT, Inc. Rel. 07/2004. All Rights Reserved.

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL RECORDS								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
Delisted NPL		1.000	0	0	0	0	NR	0
NPL Liens		TP	NR	NR	NR	NR	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		0.500	0	0	0	NR	NR	0
CORRACTS		1.000	0	0	0	0	NR	0
RCRA TSD		0.500	0	0	0	NR	NR	0
RCRA Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRA Sm. Quan. Gen.		0.250	0	0	NR	NR	NR	0
ERNS		TP	NR	NR	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
US ENG CONTROLS		0.500	0	0	0	NR	NR	0
US INST CONTROL		0.500	0	0	0	NR	NR	0
DOD		1.000	0	0	0	0	NR	0
FUDS		1.000	0	0	0	0	NR	0
US BROWNFIELDS		0.500	0	0	0	NR	NR	0
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
UMTRA		0.500	0	0	0	NR	NR	0
ODI		0.500	0	0	0	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
SSTS		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
STATE AND LOCAL RECORDS								
AWP		1.000	0	0	0	0	NR	0
Cal-Sites		1.000	0	0	0	0	NR	0
CA Bond Exp. Plan		1.000	0	0	0	0	NR	0
NFA		0.250	0	0	NR	NR	NR	0
NFE		0.250	0	0	NR	NR	NR	0
REF		0.250	0	0	NR	NR	NR	0
SCH		0.250	0	0	NR	NR	NR	0
Toxic Pits		1.000	0	0	0	0	NR	0
State Landfill		0.500	0	0	0	NR	NR	0
CA WDS		TP	NR	NR	NR	NR	NR	0
WMUDS/SWAT		0.500	0	0	0	NR	NR	0
Cortese		0.500	0	0	0	NR	NR	0
SWRCY		0.500	0	0	0	NR	NR	0
LUST		0.500	0	0	0	NR	NR	0
CA FID UST		0.250	0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
SLIC		0.500	0	0	0	NR	NR	0
UST		0.250	0	0	NR	NR	NR	0
HIST UST		0.250	0	0	NR	NR	NR	0
AST		0.250	0	0	NR	NR	NR	0
SWEEPS UST		0.250	0	0	NR	NR	NR	0
CHMIRS		TP	NR	NR	NR	NR	NR	0
Notify 65		1.000	0	0	0	0	NR	0
DEED		0.500	0	0	0	NR	NR	0
VCP		0.500	0	0	0	NR	NR	0
CLEANERS		0.250	0	0	NR	NR	NR	0
WIP		0.250	0	0	NR	NR	NR	0
HAZNET		TP	NR	NR	NR	NR	NR	0
EMI		TP	NR	NR	NR	NR	NR	0
TRIBAL RECORDS								
INDIAN RESERV		1.000	0	0	0	0	NR	0
INDIAN LUST		0.500	0	0	0	NR	NR	0
INDIAN UST		0.250	0	0	NR	NR	NR	0
EDR PROPRIETARY RECORDS								
Manufactured Gas Plants		1.000	0	0	0	0	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID Direction Distance Distance (ft.) Elevation	Site	Database(s)	EDR ID Number EPA ID Number

NO SITES FOUND

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
EL DORADO HILLS	S105954489	PROMONTORY ELEMENTARY SCHOOL	3371 BRITTANY WAY	95762	SCH
EL DORADO HILLS	A100115649	BROWN'S RAVINE, FOLSOM LAKE	BROWN'S RAVINE-FOLSOM LAKE	95762	AST
EL DORADO HILLS	U001612933	T-2 LIFT STATION	CROWN DRIVE	95762	HIST UST
EL DORADO HILLS	S106932756	T-2 LIFT STATION	CROWN DR	95762	SWEEPS UST
EL DORADO HILLS	1007490845	EL DORADO HILLS NATURALLY OCCURRING ASBESTOS	EL DORADO HILLS BOULEVARD	95762	CERCLIS
EL DORADO HILLS	U003982035	EDH BUSINESS PARK	FOOTHILL & HILLSDALE PKWY	95762	UST
EL DORADO HILLS	S106925769	EL DORADO HILLS BUSINESS PARK	FOOTHILL PKY HILLDLE	95762	SWEEPS UST
EL DORADO HILLS	U003940048	HILLTOP MARKET & DELI	2222 FRANCISCO DR	95762	UST
EL DORADO HILLS	U001612932	T-1 LIFT STATION	FRANCISCO DRIVE	95762	HIST UST
EL DORADO HILLS	S106932755	T-1 LIFT STATION	FRANCISCO DR	95762	SWEEPS UST
EL DORADO HILLS	S106927307	HILLTOP MARKET DELI	2222 FRANCISCO DR 600	95762	SWEEPS UST
EL DORADO HILLS	U003895494	HIGHLANDS VILLAGE LIFT	LAKERIDGE DR	95762	UST
EL DORADO HILLS	S106927286	HIGHLANDS VILLAGE LIFT STATION	LAKERIDGE DR	95762	SWEEPS UST
EL DORADO HILLS	S105799364	HIGHLANDS VILLAGE LIFT	LAKERIDGE DRIVE	95762	HIST UST
EL DORADO HILLS	U001612938	WETSEL-OVIATT LUMBER CO.	LATROBE ROAD	95762	HIST UST
EL DORADO HILLS	U001612912	EL DORADO HILLS W.T.P.	LATROBE ROAD	95762	HIST UST
EL DORADO HILLS	S106934420	WETSEL-OVIATT LUMBER CO.	LATROBE RD	95762	SWEEPS UST
EL DORADO HILLS	S106925771	EL DORADO HILLS W.T.P.	LATROBE RD	95762	SWEEPS UST
EL DORADO HILLS	S105255307	EL DORADO HILLS WWTP-1	LATROBE RD	95762	AST, CA WDS
EL DORADO HILLS	S100714128	WETSEL-OVIATT LUMBER COMPANY	6000 LATROBE ROAD	95762	REF
EL DORADO HILLS	U001612924	NEW YORK CREEK LIFT STA.	MALCOM DIXON ROAD	95762	HIST UST
EL DORADO HILLS	S106929874	NEW YORK CREEK LIFT STATION	MALCOM DIXON RD	95762	SWEEPS UST
EL DORADO HILLS	U001612923	MARINA VILLAGE LIFT STA.	MARINA LIFT ACCESS	95762	HIST UST, SWEEPS UST
EL DORADO HILLS	99634237	MORMON ISLAND LIFT STATION OFF OF GREEN VALLEY RD	MORMON ISLAND LIFT STATION OFF OF GREEN VALLEY RD		ERNS
EL DORADO HILLS	99634756	MORMON ISLAND LIFT STATION OFF OF GREEN VALLEY RD	MORMON ISLAND LIFT STATION OFF OF GREEN VALLEY RD		ERNS
EL DORADO HILLS	S107138334	WEIS RECYCLE CENTERS INC/RALEYS 424	3935 PARK DR STE A	95762	SWRCY
EL DORADO HILLS	U001612929	RIDGE VIEW LIFT STATION	POWERS DRIVE	95762	HIST UST
EL DORADO HILLS	S106931375	RIDGE VIEW LIFT STATION	POWERS DR	95762	SWEEPS UST
EL DORADO HILLS	S106661436	PLATINUM AVIATION GROUP INC	3920 SANDSTONE DR STE 100	95762	CLEANERS
EL DORADO HILLS	U001612930	ST. ANDREWS LIFT STATION	TAM O'SHANTER	95762	HIST UST
EL DORADO HILLS	S106932498	ST. ANDREWS LIFT STATION	TAM O'SHANTER DR	95762	SWEEPS UST
FOLSOM	S106926291	FOLSOM LAKE MARINA/BROWN'S RAVINE	FOLSOM LAKE	95762	SWEEPS UST

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

FEDERAL RECORDS

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 10/14/05
Date Data Arrived at EDR: 11/02/05
Date Made Active in Reports: 12/07/05
Number of Days to Update: 35

Source: EPA
Telephone: N/A
Last EDR Contact: 11/02/05
Next Scheduled EDR Contact: 01/30/06
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 8
Telephone: 303-312-6774

EPA Region 4
Telephone 404-562-8033

Proposed NPL: Proposed National Priority List Sites

Date of Government Version: 10/14/05
Date Data Arrived at EDR: 11/02/05
Date Made Active in Reports: 12/07/05
Number of Days to Update: 35

Source: EPA
Telephone: N/A
Last EDR Contact: 11/02/05
Next Scheduled EDR Contact: 01/30/06
Data Release Frequency: Quarterly

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 10/14/05
Date Data Arrived at EDR: 11/02/05
Date Made Active in Reports: 12/07/05
Number of Days to Update: 35

Source: EPA
Telephone: N/A
Last EDR Contact: 11/02/05
Next Scheduled EDR Contact: 01/30/06
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/91
Date Data Arrived at EDR: 02/02/94
Date Made Active in Reports: 03/30/94
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 11/21/05
Next Scheduled EDR Contact: 02/20/06
Data Release Frequency: No Update Planned

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 09/19/05
Date Data Arrived at EDR: 10/21/05
Date Made Active in Reports: 10/27/05
Number of Days to Update: 6

Source: EPA
Telephone: 703-413-0223
Last EDR Contact: 12/21/05
Next Scheduled EDR Contact: 03/20/06
Data Release Frequency: Quarterly

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

Date of Government Version: 08/22/05
Date Data Arrived at EDR: 09/20/05
Date Made Active in Reports: 10/27/05
Number of Days to Update: 37

Source: EPA
Telephone: 703-413-0223
Last EDR Contact: 12/21/05
Next Scheduled EDR Contact: 03/20/06
Data Release Frequency: Quarterly

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 10/13/05
Date Data Arrived at EDR: 10/27/05
Date Made Active in Reports: 12/07/05
Number of Days to Update: 41

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/06/05
Next Scheduled EDR Contact: 03/06/06
Data Release Frequency: Quarterly

RCRA: Resource Conservation and Recovery Act Information

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS). The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month. Transporters are individuals or entities that move hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 10/14/05
Date Data Arrived at EDR: 10/27/05
Date Made Active in Reports: 12/07/05
Number of Days to Update: 41

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/28/05
Next Scheduled EDR Contact: 02/27/06
Data Release Frequency: Quarterly

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/04
Date Data Arrived at EDR: 01/27/05
Date Made Active in Reports: 03/24/05
Number of Days to Update: 56

Source: National Response Center, United States Coast Guard
Telephone: 202-260-2342
Last EDR Contact: 01/12/06
Next Scheduled EDR Contact: 04/24/06
Data Release Frequency: Annually

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 08/17/05
Date Data Arrived at EDR: 10/18/05
Date Made Active in Reports: 12/07/05
Number of Days to Update: 50

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 01/16/06
Next Scheduled EDR Contact: 04/17/06
Data Release Frequency: Annually

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 08/02/05
Date Data Arrived at EDR: 08/12/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 55

Source: Environmental Protection Agency
Telephone: 703-603-8867
Last EDR Contact: 01/03/06
Next Scheduled EDR Contact: 04/03/06
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 01/10/05
Date Data Arrived at EDR: 02/11/05
Date Made Active in Reports: 04/06/05
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 703-603-8867
Last EDR Contact: 01/03/06
Next Scheduled EDR Contact: 04/03/06
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/04
Date Data Arrived at EDR: 02/08/05
Date Made Active in Reports: 08/04/05
Number of Days to Update: 177

Source: USGS
Telephone: 703-692-8801
Last EDR Contact: 11/11/05
Next Scheduled EDR Contact: 02/06/06
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/04
Date Data Arrived at EDR: 06/29/05
Date Made Active in Reports: 08/08/05
Number of Days to Update: 40

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 10/03/05
Next Scheduled EDR Contact: 12/26/05
Data Release Frequency: Varies

US BROWNFIELDS: A Listing of Brownfields Sites

Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 08/18/05
Date Data Arrived at EDR: 08/18/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 49

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 11/30/05
Next Scheduled EDR Contact: 03/13/06
Data Release Frequency: Semi-Annually

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/14/04
Date Data Arrived at EDR: 02/15/05
Date Made Active in Reports: 04/25/05
Number of Days to Update: 69

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 10/31/05
Next Scheduled EDR Contact: 01/23/06
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 10/07/05
Date Data Arrived at EDR: 10/20/05
Date Made Active in Reports: 12/07/05
Number of Days to Update: 48

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 01/04/06
Next Scheduled EDR Contact: 04/03/06
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized. In 1978, 24 inactive uranium mill tailings sites in Oregon, Idaho, Wyoming, Utah, Colorado, New Mexico, Texas, North Dakota, South Dakota, Pennsylvania, and on Navajo and Hopi tribal lands, were targeted for cleanup by the Department of Energy.

Date of Government Version: 12/29/04
Date Data Arrived at EDR: 01/07/05
Date Made Active in Reports: 03/14/05
Number of Days to Update: 66

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 10/28/05
Next Scheduled EDR Contact: 12/19/05
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/85
Date Data Arrived at EDR: 08/09/04
Date Made Active in Reports: 09/17/04
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/04
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/03
Date Data Arrived at EDR: 07/13/05
Date Made Active in Reports: 08/17/05
Number of Days to Update: 35

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 12/21/05
Next Scheduled EDR Contact: 03/20/06
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/02
Date Data Arrived at EDR: 04/27/04
Date Made Active in Reports: 05/21/04
Number of Days to Update: 24

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 01/16/06
Next Scheduled EDR Contact: 04/17/06
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/12/05
Date Data Arrived at EDR: 10/31/05
Date Made Active in Reports: 12/20/05
Number of Days to Update: 50

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 09/19/05
Next Scheduled EDR Contact: 12/19/05
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

Date of Government Version: 10/12/05
Date Data Arrived at EDR: 10/31/05
Date Made Active in Reports: 12/20/05
Number of Days to Update: 50

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 09/19/05
Next Scheduled EDR Contact: 12/19/05
Data Release Frequency: Quarterly

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/03
Date Data Arrived at EDR: 01/03/05
Date Made Active in Reports: 01/25/05
Number of Days to Update: 22

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 01/16/06
Next Scheduled EDR Contact: 04/17/06
Data Release Frequency: Annually

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 08/30/05
Date Data Arrived at EDR: 09/13/05
Date Made Active in Reports: 10/27/05
Number of Days to Update: 44

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 12/29/05
Next Scheduled EDR Contact: 02/06/06
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/18/05
Date Data Arrived at EDR: 10/31/05
Date Made Active in Reports: 12/20/05
Number of Days to Update: 50

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 01/03/06
Next Scheduled EDR Contact: 04/03/06
Data Release Frequency: Quarterly

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/12/05
Date Data Arrived at EDR: 09/27/05
Date Made Active in Reports: 11/14/05
Number of Days to Update: 48

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 12/27/05
Next Scheduled EDR Contact: 03/27/06
Data Release Frequency: Semi-Annually

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 09/29/05
Date Data Arrived at EDR: 10/04/05
Date Made Active in Reports: 11/14/05
Number of Days to Update: 41

Source: EPA
Telephone: N/A
Last EDR Contact: 01/03/06
Next Scheduled EDR Contact: 04/03/06
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/95
Date Data Arrived at EDR: 07/03/95
Date Made Active in Reports: 08/07/95
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 12/05/05
Next Scheduled EDR Contact: 03/06/06
Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/03
Date Data Arrived at EDR: 06/17/05
Date Made Active in Reports: 08/04/05
Number of Days to Update: 48

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 09/12/05
Next Scheduled EDR Contact: 12/12/05
Data Release Frequency: Biennially

STATE AND LOCAL RECORDS

AWP: Annual Workplan Sites

Known Hazardous Waste Sites. California DTSC's Annual Workplan (AWP), formerly BEP, identifies known hazardous substance sites targeted for cleanup.

Date of Government Version: 08/08/05
Date Data Arrived at EDR: 08/29/05
Date Made Active in Reports: 09/21/05
Number of Days to Update: 23

Source: California Environmental Protection Agency
Telephone: 916-323-3400
Last EDR Contact: 11/30/05
Next Scheduled EDR Contact: 02/27/06
Data Release Frequency: Annually

CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database.

Date of Government Version: 08/08/05
Date Data Arrived at EDR: 08/29/05
Date Made Active in Reports: 09/21/05
Number of Days to Update: 23

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 11/30/05
Next Scheduled EDR Contact: 01/30/06
Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/89
Date Data Arrived at EDR: 07/27/94
Date Made Active in Reports: 08/02/94
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/94
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

NFA: No Further Action Determination

This category contains properties at which DTSC has made a clear determination that the property does not pose a problem to the environment or to public health.

Date of Government Version: 08/08/05
Date Data Arrived at EDR: 08/29/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 38

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/30/05
Next Scheduled EDR Contact: 02/27/06
Data Release Frequency: Quarterly

NFE: Properties Needing Further Evaluation

This category contains properties that are suspected of being contaminated. These are unconfirmed contaminated properties that need to be assessed using the PEA process. PEA in Progress indicates properties where DTSC is currently conducting a PEA. PEA Required indicates properties where DTSC has determined a PEA is required, but not currently underway.

Date of Government Version: 08/08/05
Date Data Arrived at EDR: 08/29/05
Date Made Active in Reports: 09/21/05
Number of Days to Update: 23

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/30/05
Next Scheduled EDR Contact: 02/27/06
Data Release Frequency: Quarterly

REF: Unconfirmed Properties Referred to Another Agency

This category contains properties where contamination has not been confirmed and which were determined as not requiring direct DTSC Site Mitigation Program action or oversight. Accordingly, these sites have been referred to another state or local regulatory agency.

Date of Government Version: 08/08/05
Date Data Arrived at EDR: 08/29/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 38

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/30/05
Next Scheduled EDR Contact: 02/27/06
Data Release Frequency: Quarterly

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 08/08/05
Date Data Arrived at EDR: 08/29/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 38

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/30/05
Next Scheduled EDR Contact: 02/27/06
Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/95
Date Data Arrived at EDR: 08/30/95
Date Made Active in Reports: 09/26/95
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 10/31/05
Next Scheduled EDR Contact: 01/30/06
Data Release Frequency: No Update Planned

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 09/12/05
Date Data Arrived at EDR: 09/13/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 23

Source: Integrated Waste Management Board
Telephone: 916-341-6320
Last EDR Contact: 12/13/05
Next Scheduled EDR Contact: 03/13/06
Data Release Frequency: Quarterly

CA WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 09/19/05
Date Data Arrived at EDR: 09/20/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 16

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 12/21/05
Next Scheduled EDR Contact: 03/20/06
Data Release Frequency: Quarterly

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/00
Date Data Arrived at EDR: 04/10/00
Date Made Active in Reports: 05/10/00
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 12/05/05
Next Scheduled EDR Contact: 12/19/05
Data Release Frequency: Quarterly

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites). This listing is no longer updated by the state agency.

Date of Government Version: 04/01/01
Date Data Arrived at EDR: 05/29/01
Date Made Active in Reports: 07/26/01
Number of Days to Update: 58

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-9100
Last EDR Contact: 10/26/05
Next Scheduled EDR Contact: 01/23/06
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 10/03/05
Date Data Arrived at EDR: 10/10/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 21

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 01/09/06
Next Scheduled EDR Contact: 04/10/06
Data Release Frequency: Quarterly

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/03
Date Data Arrived at EDR: 09/10/03
Date Made Active in Reports: 10/07/03
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 916-542-5424
Last EDR Contact: 12/05/05
Next Scheduled EDR Contact: 03/06/06
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Date of Government Version: 10/01/05
Date Data Arrived at EDR: 10/20/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 11

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 01/16/06
Next Scheduled EDR Contact: 04/03/06
Data Release Frequency: Quarterly

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/04
Date Data Arrived at EDR: 09/07/04
Date Made Active in Reports: 10/12/04
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 12/27/05
Next Scheduled EDR Contact: 03/27/06
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database

Date of Government Version: 05/19/03
Date Data Arrived at EDR: 05/19/03
Date Made Active in Reports: 06/02/03
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 11/14/05
Next Scheduled EDR Contact: 02/13/06
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Date of Government Version: 09/30/04
Date Data Arrived at EDR: 10/20/04
Date Made Active in Reports: 11/19/04
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 01/09/06
Next Scheduled EDR Contact: 04/10/06
Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/01
Date Data Arrived at EDR: 02/28/01
Date Made Active in Reports: 03/29/01
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-576-2220
Last EDR Contact: 11/21/05
Next Scheduled EDR Contact: 02/20/06
Data Release Frequency: No Update Planned

LUST: Geotracker's Leaking Underground Fuel Tank Report

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 10/10/05
Date Data Arrived at EDR: 10/10/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 21

Source: State Water Resources Control Board
Contact: El Dorado County Environmental Health, (530) 621-6654
Last EDR Contact: 01/09/06
Next Scheduled EDR Contact: 04/10/06
Data Release Frequency: Quarterly

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Date of Government Version: 06/07/05
Date Data Arrived at EDR: 06/07/05
Date Made Active in Reports: 06/29/05
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-346-7491
Last EDR Contact: 01/04/06
Next Scheduled EDR Contact: 04/03/06
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing

Date of Government Version: 02/26/04
Date Data Arrived at EDR: 02/26/04
Date Made Active in Reports: 03/24/04
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-346-7491
Last EDR Contact: 12/27/05
Next Scheduled EDR Contact: 03/27/06
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks
California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/05
Date Data Arrived at EDR: 02/15/05
Date Made Active in Reports: 03/28/05
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-4130
Last EDR Contact: 11/07/05
Next Scheduled EDR Contact: 11/07/05
Data Release Frequency: Varies

LUST REG 9: Leaking Underground Storage Tank Report
Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/01
Date Data Arrived at EDR: 04/23/01
Date Made Active in Reports: 05/21/01
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 01/16/06
Next Scheduled EDR Contact: 04/17/06
Data Release Frequency: No Update Planned

CA FID UST: Facility Inventory Database
The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/94
Date Data Arrived at EDR: 09/05/95
Date Made Active in Reports: 09/29/95
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/98
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SLIC: Statewide SLIC Cases
The Spills, Leaks, Investigations, and Cleanups (SLIC) listings includes unauthorized discharges from spills and leaks, other than from underground storage tanks or other regulated sites.

Date of Government Version: 10/10/05
Date Data Arrived at EDR: 10/10/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 21

Source: State Water Resources Control Board
Contact: El Dorado County Environmental Health, (530) 621-6654
Last EDR Contact: 01/09/06
Next Scheduled EDR Contact: 04/10/06
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

Date of Government Version: 04/03/03
Date Data Arrived at EDR: 04/07/03
Date Made Active in Reports: 04/25/03
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 11/21/05
Next Scheduled EDR Contact: 02/20/06
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
Any contaminated site that impacts groundwater or has the potential to impact groundwater.

Date of Government Version: 09/30/04
Date Data Arrived at EDR: 10/20/04
Date Made Active in Reports: 11/19/04
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 01/09/06
Next Scheduled EDR Contact: 04/10/06
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
Any contaminated site that impacts groundwater or has the potential to impact groundwater.

Date of Government Version: 11/16/05
Date Data Arrived at EDR: 11/16/05
Date Made Active in Reports: 12/12/05
Number of Days to Update: 26

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 11/14/05
Next Scheduled EDR Contact: 02/13/06
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
Any contaminated site that impacts groundwater or has the potential to impact groundwater.

Date of Government Version: 11/17/04
Date Data Arrived at EDR: 11/18/04
Date Made Active in Reports: 01/04/05
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 10/24/05
Next Scheduled EDR Contact: 01/23/06
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
Unregulated sites that impact groundwater or have the potential to impact groundwater.

Date of Government Version: 04/01/05
Date Data Arrived at EDR: 04/05/05
Date Made Active in Reports: 04/21/05
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 01/16/06
Next Scheduled EDR Contact: 04/03/06
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

Date of Government Version: 05/24/05
Date Data Arrived at EDR: 05/25/05
Date Made Active in Reports: 06/16/05
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 01/06/06
Next Scheduled EDR Contact: 04/03/06
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites

Date of Government Version: 09/07/04
Date Data Arrived at EDR: 09/07/04
Date Made Active in Reports: 10/12/04
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 12/05/05
Next Scheduled EDR Contact: 03/06/06
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List

Date of Government Version: 11/24/04
Date Data Arrived at EDR: 11/29/04
Date Made Active in Reports: 01/04/05
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 11/21/05
Next Scheduled EDR Contact: 02/20/06
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

Date of Government Version: 07/01/04
Date Data Arrived at EDR: 08/10/04
Date Made Active in Reports: 09/08/04
Number of Days to Update: 29

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 01/17/06
Next Scheduled EDR Contact: 04/03/06
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

Date of Government Version: 09/28/05
Date Data Arrived at EDR: 09/29/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 32

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 12/12/05
Next Scheduled EDR Contact: 02/27/06
Data Release Frequency: Annually

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 10/10/05
Date Data Arrived at EDR: 10/10/05
Date Made Active in Reports: 11/18/05
Number of Days to Update: 39

Source: SWRCB
Contact: El Dorado County Environmental Health, (530) 621-6654
Last EDR Contact: 01/09/06
Next Scheduled EDR Contact: 04/10/06
Data Release Frequency: Semi-Annually

HIST UST: Hazardous Substance Storage Container Database
The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/90
Date Data Arrived at EDR: 01/25/91
Date Made Active in Reports: 02/12/91
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/01
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

AST: Aboveground Petroleum Storage Tank Facilities
Registered Aboveground Storage Tanks.

Date of Government Version: 11/01/05
Date Data Arrived at EDR: 11/23/05
Date Made Active in Reports: 12/15/05
Number of Days to Update: 22

Source: State Water Resources Control Board
Telephone: 916-341-5712
Last EDR Contact: 11/22/05
Next Scheduled EDR Contact: 01/30/06
Data Release Frequency: Quarterly

SWEEPS UST: SWEEPS UST Listing
Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1980?s. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/94
Date Data Arrived at EDR: 07/07/05
Date Made Active in Reports: 08/11/05
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/05
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CHMIRS: California Hazardous Material Incident Report System
California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 12/31/03
Date Data Arrived at EDR: 05/18/04
Date Made Active in Reports: 06/25/04
Number of Days to Update: 38

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 10/26/05
Next Scheduled EDR Contact: 02/20/06
Data Release Frequency: Varies

NOTIFY 65: Proposition 65 Records
Proposition 65 Notification Records. NOTIFY 65 contains facility notifications about any release which could impact drinking water and thereby expose the public to a potential health risk.

Date of Government Version: 10/21/93
Date Data Arrived at EDR: 11/01/93
Date Made Active in Reports: 11/19/93
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 01/16/06
Next Scheduled EDR Contact: 04/17/06
Data Release Frequency: No Update Planned

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 10/03/05
Date Data Arrived at EDR: 10/03/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 28

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/03/06
Next Scheduled EDR Contact: 04/03/06
Data Release Frequency: Semi-Annually

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 08/08/05
Date Data Arrived at EDR: 08/29/05
Date Made Active in Reports: 09/21/05
Number of Days to Update: 23

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/30/05
Next Scheduled EDR Contact: 02/27/06
Data Release Frequency: Quarterly

CLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 04/18/05
Date Data Arrived at EDR: 04/18/05
Date Made Active in Reports: 05/06/05
Number of Days to Update: 18

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 01/04/06
Next Scheduled EDR Contact: 04/03/06
Data Release Frequency: Annually

WIP: Well Investigation Program Case List

Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 11/07/05
Date Data Arrived at EDR: 11/07/05
Date Made Active in Reports: 11/29/05
Number of Days to Update: 22

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 11/07/05
Next Scheduled EDR Contact: 01/23/06
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method.

Date of Government Version: 12/31/03
Date Data Arrived at EDR: 10/11/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 20

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 11/07/05
Next Scheduled EDR Contact: 02/06/06
Data Release Frequency: Annually

EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/03
Date Data Arrived at EDR: 07/19/05
Date Made Active in Reports: 08/11/05
Number of Days to Update: 23

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 01/16/06
Next Scheduled EDR Contact: 04/17/06
Data Release Frequency: Varies

TRIBAL RECORDS

INDIAN RESERV: Indian Reservations
This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/04
Date Data Arrived at EDR: 02/08/05
Date Made Active in Reports: 08/04/05
Number of Days to Update: 177

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 11/11/05
Next Scheduled EDR Contact: 02/06/06
Data Release Frequency: Semi-Annually

INDIAN LUST: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 09/07/05
Date Data Arrived at EDR: 09/08/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 53

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/10/06
Next Scheduled EDR Contact: 05/22/06
Data Release Frequency: Varies

INDIAN LUST: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 06/02/05
Date Data Arrived at EDR: 06/03/05
Date Made Active in Reports: 07/01/05
Number of Days to Update: 28

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 11/21/05
Next Scheduled EDR Contact: 02/20/06
Data Release Frequency: Varies

INDIAN UST: Underground Storage Tanks on Indian Land

Date of Government Version: 11/08/05
Date Data Arrived at EDR: 11/09/05
Date Made Active in Reports: 12/12/05
Number of Days to Update: 33

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 10/21/05
Next Scheduled EDR Contact: 02/20/06
Data Release Frequency: Varies

EDR PROPRIETARY RECORDS

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants

Date of Government Version: 11/15/05
Date Data Arrived at EDR: 12/05/05
Date Made Active in Reports: 12/28/05
Number of Days to Update: 23

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: 12/05/05
Next Scheduled EDR Contact: 03/13/06
Data Release Frequency: No Update Planned

COUNTY RECORDS

ALAMEDA COUNTY:

Underground Tanks

Date of Government Version: 11/08/05
Date Data Arrived at EDR: 11/10/05
Date Made Active in Reports: 12/08/05
Number of Days to Update: 28

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 10/24/05
Next Scheduled EDR Contact: 01/23/06
Data Release Frequency: Semi-Annually

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 11/08/05
Date Data Arrived at EDR: 11/15/05
Date Made Active in Reports: 12/12/05
Number of Days to Update: 27

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 10/24/05
Next Scheduled EDR Contact: 01/23/06
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

Site List

List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 08/29/05
Date Data Arrived at EDR: 08/30/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 37

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 12/09/05
Next Scheduled EDR Contact: 02/27/06
Data Release Frequency: Semi-Annually

FRESNO COUNTY:

CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 10/17/05
Date Data Arrived at EDR: 10/18/05
Date Made Active in Reports: 11/29/05
Number of Days to Update: 42

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 10/18/05
Next Scheduled EDR Contact: 02/06/06
Data Release Frequency: Semi-Annually

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing

Kern County Sites and Tanks Listing.

Date of Government Version: 12/09/05
Date Data Arrived at EDR: 12/09/05
Date Made Active in Reports: 01/11/06
Number of Days to Update: 33

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 12/05/05
Next Scheduled EDR Contact: 02/27/06
Data Release Frequency: Quarterly

LOS ANGELES COUNTY:

List of Solid Waste Facilities

Date of Government Version: 02/01/05
Date Data Arrived at EDR: 02/18/05
Date Made Active in Reports: 03/28/05
Number of Days to Update: 38

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 11/23/05
Next Scheduled EDR Contact: 02/13/06
Data Release Frequency: Varies

City of El Segundo Underground Storage Tank

Date of Government Version: 11/14/05
Date Data Arrived at EDR: 11/14/05
Date Made Active in Reports: 12/08/05
Number of Days to Update: 24

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 11/14/05
Next Scheduled EDR Contact: 02/13/06
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank

Date of Government Version: 03/28/03
Date Data Arrived at EDR: 10/23/03
Date Made Active in Reports: 11/26/03
Number of Days to Update: 34

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 11/22/05
Next Scheduled EDR Contact: 02/20/06
Data Release Frequency: Annually

City of Torrance Underground Storage Tank

Date of Government Version: 11/29/05
Date Data Arrived at EDR: 12/01/05
Date Made Active in Reports: 12/16/05
Number of Days to Update: 15

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 11/28/05
Next Scheduled EDR Contact: 02/13/06
Data Release Frequency: Semi-Annually

City of Los Angeles Landfills

Date of Government Version: 03/01/05
Date Data Arrived at EDR: 03/18/05
Date Made Active in Reports: 04/08/05
Number of Days to Update: 21

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 12/13/05
Next Scheduled EDR Contact: 03/13/06
Data Release Frequency: Varies

HMS: Street Number List

Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 08/31/05
Date Data Arrived at EDR: 10/26/05
Date Made Active in Reports: 11/29/05
Number of Days to Update: 34

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 11/14/05
Next Scheduled EDR Contact: 02/13/06
Data Release Frequency: Semi-Annually

Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 05/25/05
Date Data Arrived at EDR: 05/27/05
Date Made Active in Reports: 07/01/05
Number of Days to Update: 35

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 11/14/05
Next Scheduled EDR Contact: 02/13/06
Data Release Frequency: Annually

San Gabriel Valley Areas of Concern

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 12/31/98
Date Data Arrived at EDR: 07/07/99
Date Made Active in Reports: N/A
Number of Days to Update: 35

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 07/06/99
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

MARIN COUNTY:

Underground Storage Tank Sites

Currently permitted USTs in Marin County.

Date of Government Version: 08/08/05
Date Data Arrived at EDR: 08/26/05
Date Made Active in Reports: 09/28/05
Number of Days to Update: 33

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 10/31/05
Next Scheduled EDR Contact: 01/30/06
Data Release Frequency: Semi-Annually

NAPA COUNTY:

Sites With Reported Contamination

Date of Government Version: 09/28/05
Date Data Arrived at EDR: 09/29/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 32

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 12/27/05
Next Scheduled EDR Contact: 03/27/06
Data Release Frequency: Semi-Annually

Closed and Operating Underground Storage Tank Sites

Date of Government Version: 12/27/05
Date Data Arrived at EDR: 12/28/05
Date Made Active in Reports: 01/11/06
Number of Days to Update: 14

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 12/27/05
Next Scheduled EDR Contact: 03/27/06
Data Release Frequency: Annually

ORANGE COUNTY:

List of Underground Storage Tank Cleanups

Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 09/01/05
Date Data Arrived at EDR: 09/19/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 17

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 12/07/05
Next Scheduled EDR Contact: 03/06/06
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities

Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 12/01/05
Date Data Arrived at EDR: 12/16/05
Date Made Active in Reports: 01/11/06
Number of Days to Update: 26

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 12/07/05
Next Scheduled EDR Contact: 03/06/06
Data Release Frequency: Quarterly

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 09/01/05
Date Data Arrived at EDR: 09/19/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 17

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 12/07/05
Next Scheduled EDR Contact: 03/06/06
Data Release Frequency: Annually

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 10/12/05
Date Data Arrived at EDR: 10/12/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 19

Source: Placer County Health and Human Services
Telephone: 530-889-7312
Last EDR Contact: 12/20/05
Next Scheduled EDR Contact: 03/20/06
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 11/22/05
Date Data Arrived at EDR: 11/23/05
Date Made Active in Reports: 12/12/05
Number of Days to Update: 19

Source: Department of Public Health
Telephone: 951-358-5055
Last EDR Contact: 01/16/06
Next Scheduled EDR Contact: 04/17/06
Data Release Frequency: Quarterly

Underground Storage Tank Tank List

Date of Government Version: 11/22/05
Date Data Arrived at EDR: 11/23/05
Date Made Active in Reports: 12/16/05
Number of Days to Update: 23

Source: Health Services Agency
Telephone: 951-358-5055
Last EDR Contact: 01/16/06
Next Scheduled EDR Contact: 04/17/06
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS - Contaminated Sites

Date of Government Version: 08/19/05
Date Data Arrived at EDR: 09/02/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 34

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 12/02/05
Next Scheduled EDR Contact: 01/30/06
Data Release Frequency: Quarterly

ML - Regulatory Compliance Master List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 07/25/05
Date Data Arrived at EDR: 08/19/05
Date Made Active in Reports: 09/13/05
Number of Days to Update: 25

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 12/02/05
Next Scheduled EDR Contact: 01/30/06
Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 09/20/05
Date Data Arrived at EDR: 09/20/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 16

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 12/05/05
Next Scheduled EDR Contact: 03/06/06
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 08/01/00
Date Data Arrived at EDR: 12/13/01
Date Made Active in Reports: 01/15/02
Number of Days to Update: 33

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 12/12/05
Next Scheduled EDR Contact: 02/20/06
Data Release Frequency: Varies

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 05/16/05
Date Data Arrived at EDR: 05/18/05
Date Made Active in Reports: 06/16/05
Number of Days to Update: 29

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 01/06/06
Next Scheduled EDR Contact: 04/03/06
Data Release Frequency: Quarterly

SAN FRANCISCO COUNTY:

Local Oversite Facilities

Date of Government Version: 09/07/05
Date Data Arrived at EDR: 09/08/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 28

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 12/05/05
Next Scheduled EDR Contact: 03/06/06
Data Release Frequency: Quarterly

Underground Storage Tank Information

Date of Government Version: 12/07/05
Date Data Arrived at EDR: 12/07/05
Date Made Active in Reports: 01/11/06
Number of Days to Update: 35

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 12/05/05
Next Scheduled EDR Contact: 03/06/06
Data Release Frequency: Quarterly

SAN MATEO COUNTY:

Fuel Leak List

Date of Government Version: 11/28/05
Date Data Arrived at EDR: 11/28/05
Date Made Active in Reports: 12/12/05
Number of Days to Update: 14

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 01/09/06
Next Scheduled EDR Contact: 04/10/06
Data Release Frequency: Semi-Annually

Business Inventory

List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 08/17/05
Date Data Arrived at EDR: 08/17/05
Date Made Active in Reports: 09/21/05
Number of Days to Update: 35

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 01/09/06
Next Scheduled EDR Contact: 04/10/06
Data Release Frequency: Annually

SANTA CLARA COUNTY:

LOP Listing

A listing of open leaking underground storage tanks.

Date of Government Version: 10/24/05
Date Data Arrived at EDR: 11/28/05
Date Made Active in Reports: 12/12/05
Number of Days to Update: 14

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 12/27/05
Next Scheduled EDR Contact: 03/27/06
Data Release Frequency: No Update Planned

Fuel Leak Site Activity Report

A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/05
Date Data Arrived at EDR: 03/30/05
Date Made Active in Reports: 04/21/05
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 12/27/05
Next Scheduled EDR Contact: 03/27/06
Data Release Frequency: Semi-Annually

Hazardous Material Facilities

Date of Government Version: 09/13/05
Date Data Arrived at EDR: 09/13/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 23

Source: City of San Jose Fire Department
Telephone: 408-277-4659
Last EDR Contact: 12/05/05
Next Scheduled EDR Contact: 12/19/05
Data Release Frequency: Annually

SOLANO COUNTY:

Leaking Underground Storage Tanks

Date of Government Version: 10/13/05
Date Data Arrived at EDR: 10/31/05
Date Made Active in Reports: 11/29/05
Number of Days to Update: 29

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 12/12/05
Next Scheduled EDR Contact: 03/13/06
Data Release Frequency: Quarterly

Underground Storage Tanks

Date of Government Version: 10/13/05
Date Data Arrived at EDR: 10/31/05
Date Made Active in Reports: 12/08/05
Number of Days to Update: 38

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 12/12/05
Next Scheduled EDR Contact: 03/13/06
Data Release Frequency: Quarterly

SONOMA COUNTY:

Leaking Underground Storage Tank Sites

Date of Government Version: 10/01/05
Date Data Arrived at EDR: 10/24/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 7

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 10/24/05
Next Scheduled EDR Contact: 01/23/06
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks

Date of Government Version: 01/29/04
Date Data Arrived at EDR: 01/29/04
Date Made Active in Reports: 02/23/04
Number of Days to Update: 25

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 01/03/06
Next Scheduled EDR Contact: 04/03/06
Data Release Frequency: Semi-Annually

VENTURA COUNTY:

Inventory of Illegal Abandoned and Inactive Sites

Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 08/01/05
Date Data Arrived at EDR: 09/20/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 16

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 11/21/05
Next Scheduled EDR Contact: 02/20/06
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites

Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 08/30/05
Date Data Arrived at EDR: 09/26/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 35

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 12/14/05
Next Scheduled EDR Contact: 03/13/06
Data Release Frequency: Quarterly

Underground Tank Closed Sites List

Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 09/28/05
Date Data Arrived at EDR: 10/27/05
Date Made Active in Reports: 11/18/05
Number of Days to Update: 22

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 01/11/06
Next Scheduled EDR Contact: 04/10/06
Data Release Frequency: Quarterly

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks

The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 08/30/05
Date Data Arrived at EDR: 09/29/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 32

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 12/14/05
Next Scheduled EDR Contact: 03/13/06
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report

Date of Government Version: 10/18/05
Date Data Arrived at EDR: 11/16/05
Date Made Active in Reports: 12/08/05
Number of Days to Update: 22

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 01/16/06
Next Scheduled EDR Contact: 04/17/06
Data Release Frequency: Annually

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data

Source: PennWell Corporation
Telephone: (800) 823-6277
This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

STREET AND ADDRESS INFORMATION

© 2004 Geographic Data Technology, Inc., Rel. 07/2004. This product contains proprietary and confidential property of Geographic Data Technology, Inc. Unauthorized use, including copying for other than testing and standard backup procedures, of this product is expressly prohibited.

GEOCHECK®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

SILVA VALLEY PARKWAY IC
SR 50
EL DORADO HILLS, CA 95762

TARGET PROPERTY COORDINATES

Latitude (North):	38.657700 - 38° 39' 27.7"
Longitude (West):	121.055199 - 121° 3' 18.7"
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	669223.6
UTM Y (Meters):	4280379.5
Elevation:	721 ft. above sea level

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

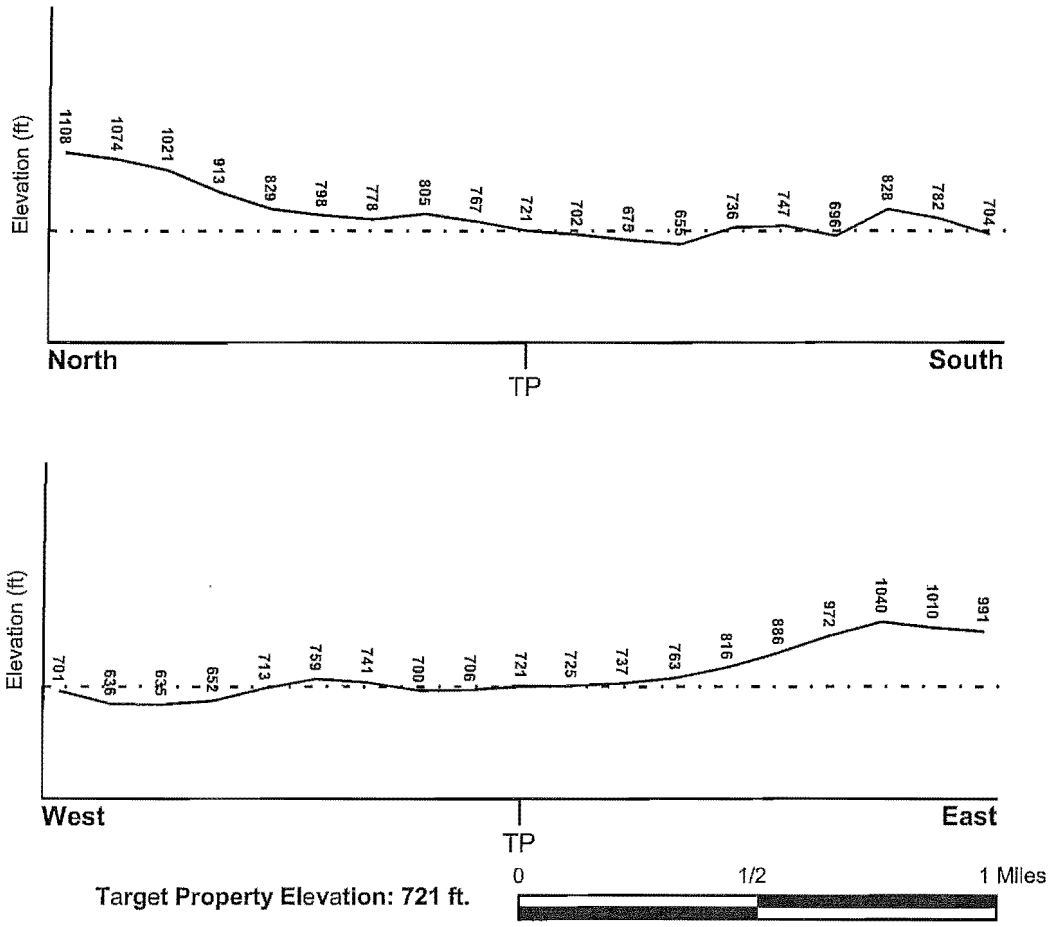
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

USGS Topographic Map:	38121-F1 CLARKSVILLE, CA
General Topographic Gradient:	General South
Source:	USGS 7.5 min quad index

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Target Property Elevation: 721 ft.

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
EL DORADO, CA	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 0600400700C

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
CLARKSVILLE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius: 1.25 miles
Status: Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site-specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT **GEOLOGIC AGE IDENTIFICATION**

Era:	Mesozoic	Category:	Eugeosynclinal Deposits
System:	Lower Jurassic and Upper Triassic		
Series:	Lower Mesozoic		
Code:	IMze *(decoded above as Era, System & Series)*		

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name:	AUBURN
Soil Surface Texture:	loam
Hydrologic Group:	Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.
Soil Drainage Class:	Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: MODERATE

Depth to Bedrock Min: > 10 inches

Depth to Bedrock Max: > 28 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	14 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 2.00 Min: 0.60	Max: 7.30 Min: 5.60
2	14 inches	18 inches	unweathered bedrock	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: silt loam
unweathered bedrock
gravelly - loam
gravelly - silt loam

Surficial Soil Types: silt loam
unweathered bedrock
gravelly - loam
gravelly - silt loam

Shallow Soil Types: clay loam
gravelly - loam
gravelly - clay loam
gravelly - sandy clay loam
sandy clay loam

Deeper Soil Types: weathered bedrock
stratified

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

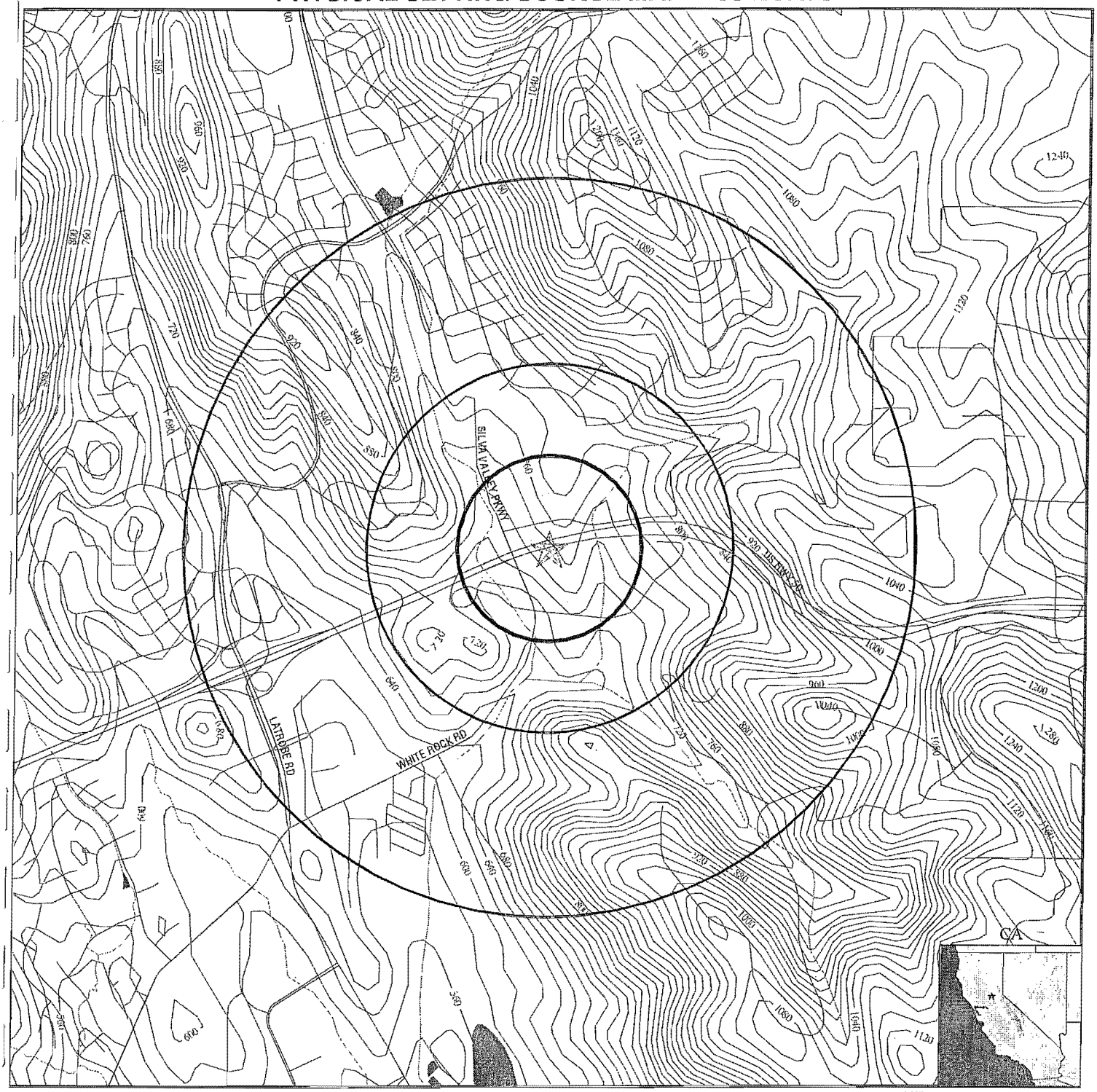
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 1594857.7s



0 1/4 1/2 1 Miles

- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME: Silva Valley Parkway IC	CLIENT: Blackburn Consulting
ADDRESS: SR 50	CONTACT: Alfred P. Worcester
El Dorado Hills CA 95762	INQUIRY #: 1594857.7s
LAT/LONG: 38.6577 / 121.0552	DATE: January 17, 2006

Copyright © 2006 EDR, Inc. © 2004 GDT, Inc. Rel. 07/2004 All Rights Reserved

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zip	Total Sites	> 4 Pci/L	Pct. > 4 Pci/L
95762	10	0	0.00

Federal EPA Radon Zone for EL DORADO County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for EL DORADO COUNTY, CA

Number of sites tested: 27

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.844 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	3.400 pCi/L	50%	50%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002. 7.5-Minute DEMs correspond to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STATE RECORDS

California Drinking Water Quality Database
Source: Department of Health Services
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations for District 2, 3, 5 and 6
Source: Department of Conservation
Telephone: 916-323-1779

RADON

State Database: CA Radon
Source: Department of Health Services
Telephone: 916-324-2208
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

EDR® Environmental
Data Resources Inc

"Linking Technology with Tradition"®

Sanborn® Map Report

hip To: Alfred P. Worcester
Blackburn Consulting
11521 Blocker Drive
Auburn, CA 95603

Order Date: 1/17/2006 **Completion Date:** 1/17/2006
Inquiry #: 1594857.15
P.O. #: Cameron Park IC
Site Name: Cameron Park IC
Address: SR 50
City/State: Cameron Park, CA 95682
Cross Streets:

ustomer Project: Cameron Park IC
)10132VLA 530-887-1494

This document reports that the largest and most complete collection of Sanborn fire insurance maps has been reviewed based on client supplied information, and fire insurance maps depicting the target property at the specified address were not identified.

NO COVERAGE

is Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this port that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN ONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT MITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA ESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF AMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA ESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report AS IS. Any analyses, estimates, ratings, vironmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any fact jarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide ormation regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

pyright 2006 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, ., or its affiliates, is prohibited without prior written permission. EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its iliates. All other trademarks used herein are the property of their respective owners.



The EDR Aerial Photo Decade Package

Silva Valley Parkway IC
SR 50
El Dorado Hills, CA 95630

Inquiry Number: 1594857.4

January 18, 2006

The Standard in Environmental Risk Management Information

440 Wheelers Farms Road
Milford, Connecticut 06460

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

VLA

THE EDR AERIAL PHOTO DECADE PACKAGE

Environmental Data Resources, Inc.s (EDR) Aerial Photography Print Service is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDRs professional researchers provide digitally reproduced historical aerial photographs at one photo per decade.

References
EPAs Standards and Practices for All Appropriate Inquiries (AAI), section 312.24, identifies the historical sources of information necessary to achieve the objectives and performance factors of section 312.20. According to AAI, *"historical documents and records may include, but are not limited to, aerial photographs, fire insurance maps, building department records, chain of title documents, and land use records."*

To meet the prior use requirements of ASTM E 1527-05, Section 8.3.2, the following standard *historical sources* may be used: aerial photographs, fire insurance maps, property tax files, land title records (although these cannot be the sole historical source consulted), topographic maps, city directories, building department records, or zoning/land use records. ASTM E 1527-05, Section 8.3 on Historical Use Information, identifies the prior use requirements for a Phase I environmental site assessment. ASTM E 1527-05 requires *"All obvious uses of the property shall be identified from the present, back to the property's first developed use, or back to 1940, whichever is earlier. This task requires reviewing only as many of the standard historcal sources as are necessary and both reasonably ascertainable and likely to be useful."* (ASTM E 1527-05, Section 8.3.2) *Reasonably ascertainable means information that is publicly available, obtainable from a source within reasonable time and cost constraints, and practically reviewable.*

Data Gaps
In order to address *data gaps*, additional sources of information may be consulted. According the AAI, Section 312.20 (g), *"to the extent there are data gaps (as defined in section 312.10) in the information developed...that affect the ability of persons (including the environmental professional) conducting the all appropriate inquiries to identify conditions indicative of releases or threatened releases...such persons should identify such data gaps, identify the sources of information consulted to address such data gaps, and comment upon the significance of such data gaps."* According to ASTM E 1527-05, Section 8.3.2.3, *"historical research is complete when either: (1) the objectives in 8.3.1 through 8.3.2.2 are achieved; or (2) data failure is encountered. Data failure occurs when all of the standard historical sources that are reasonably ascertainable and likely to be useful have been reviewed and yet the objectives have not been met....If data failure is encountered, the report shall document the failure and, if any of the standard historical sources were excluded, give the reasons for their exclusion."*

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account executive.

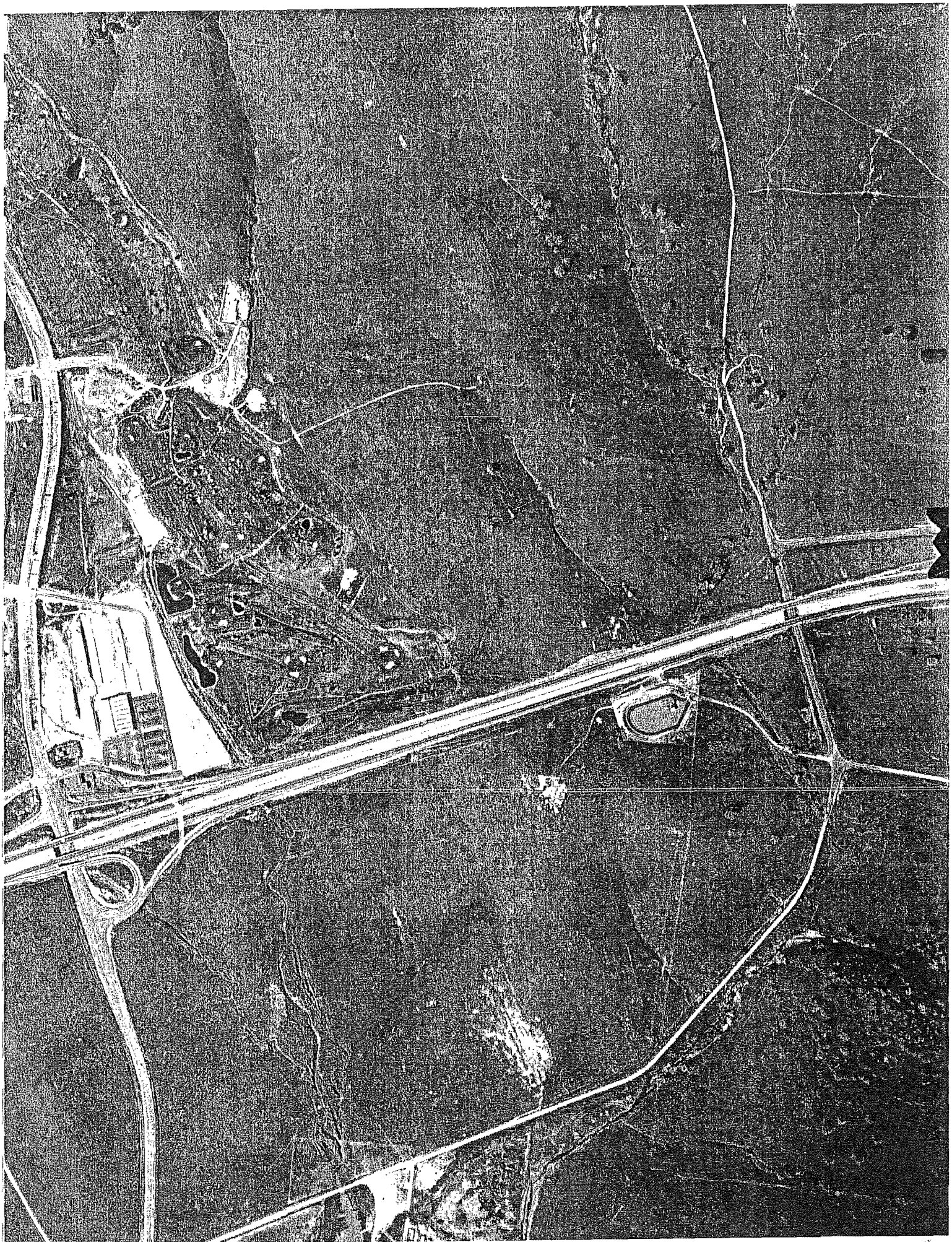
Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

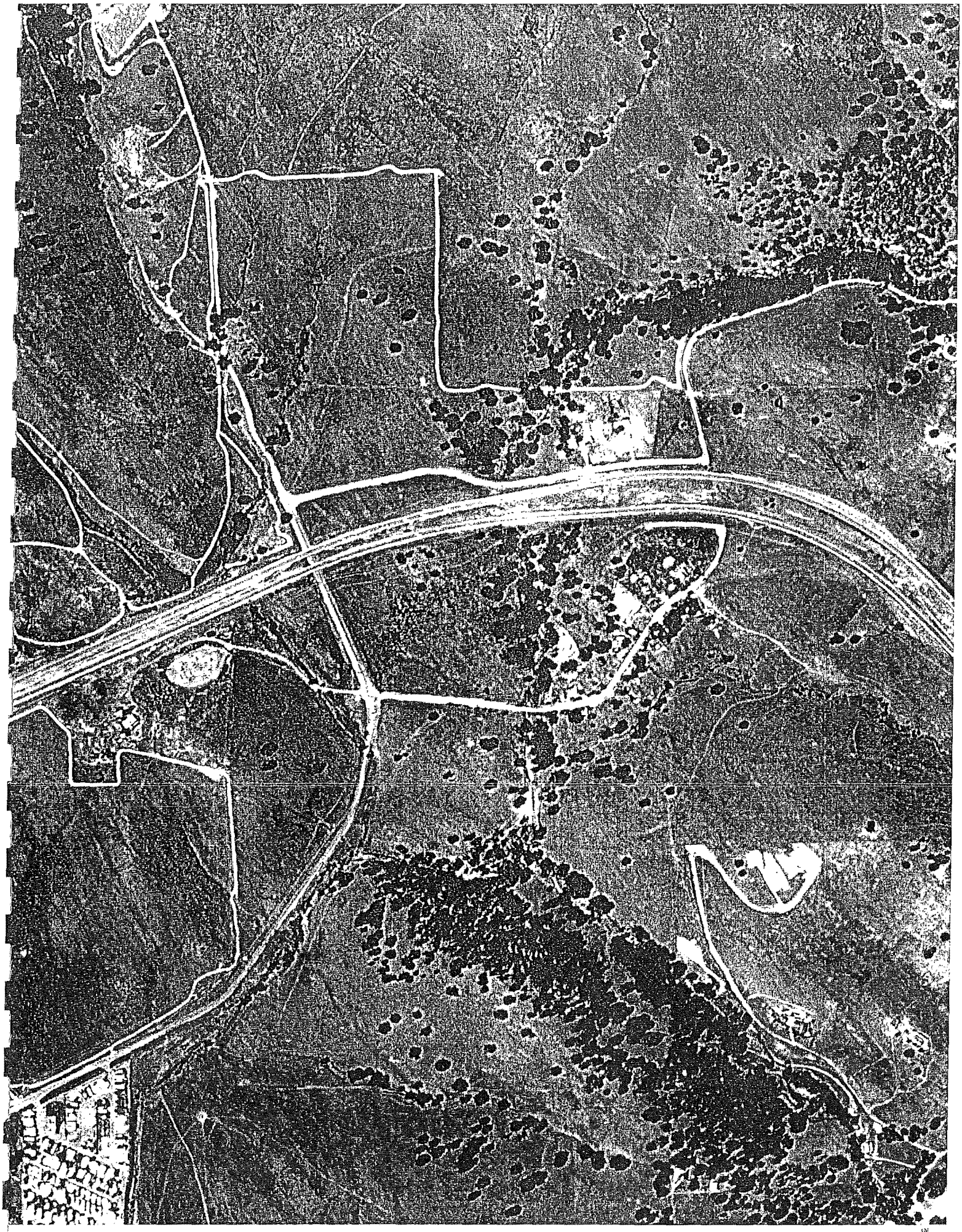
This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report AS IS. Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2005 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

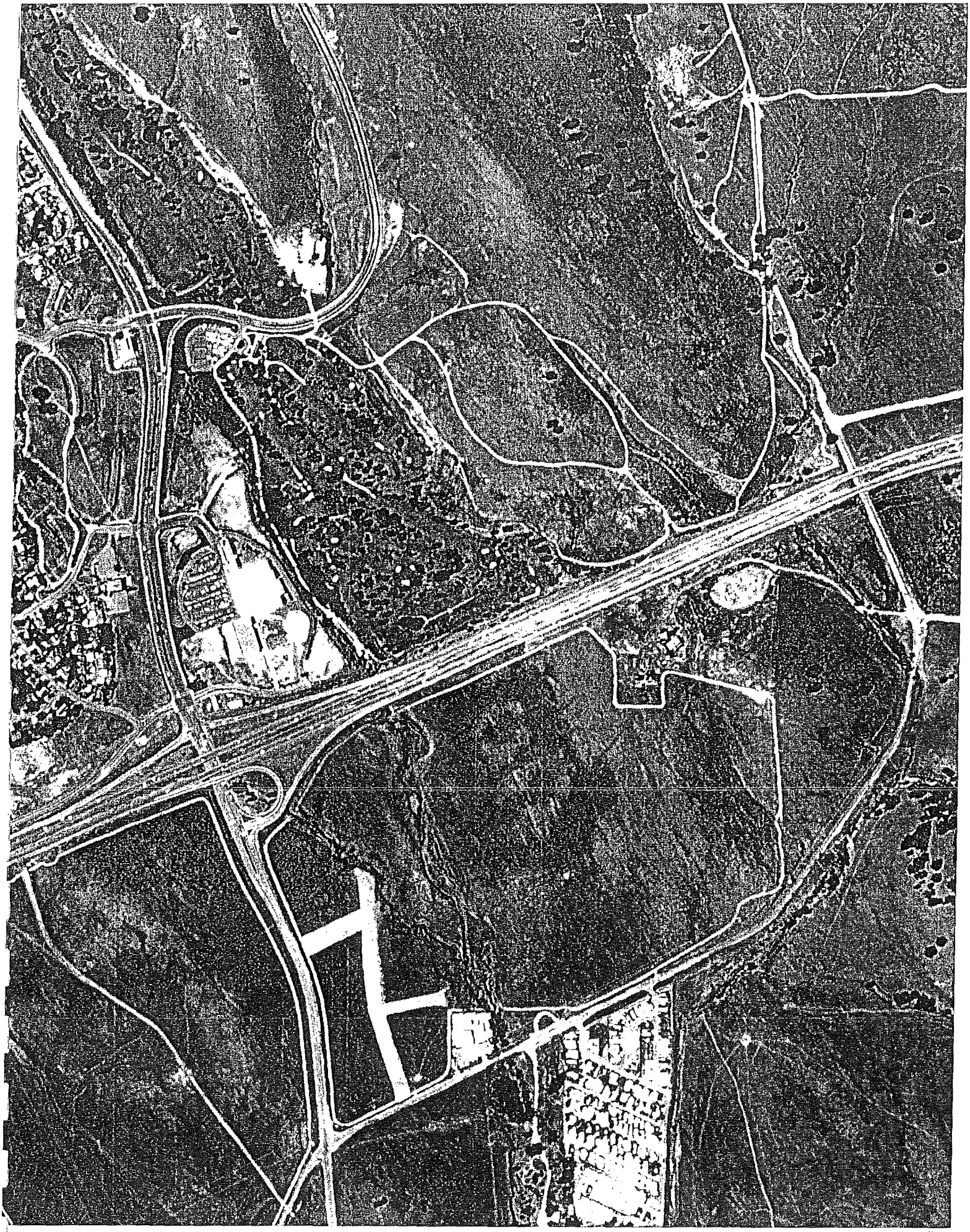
EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.



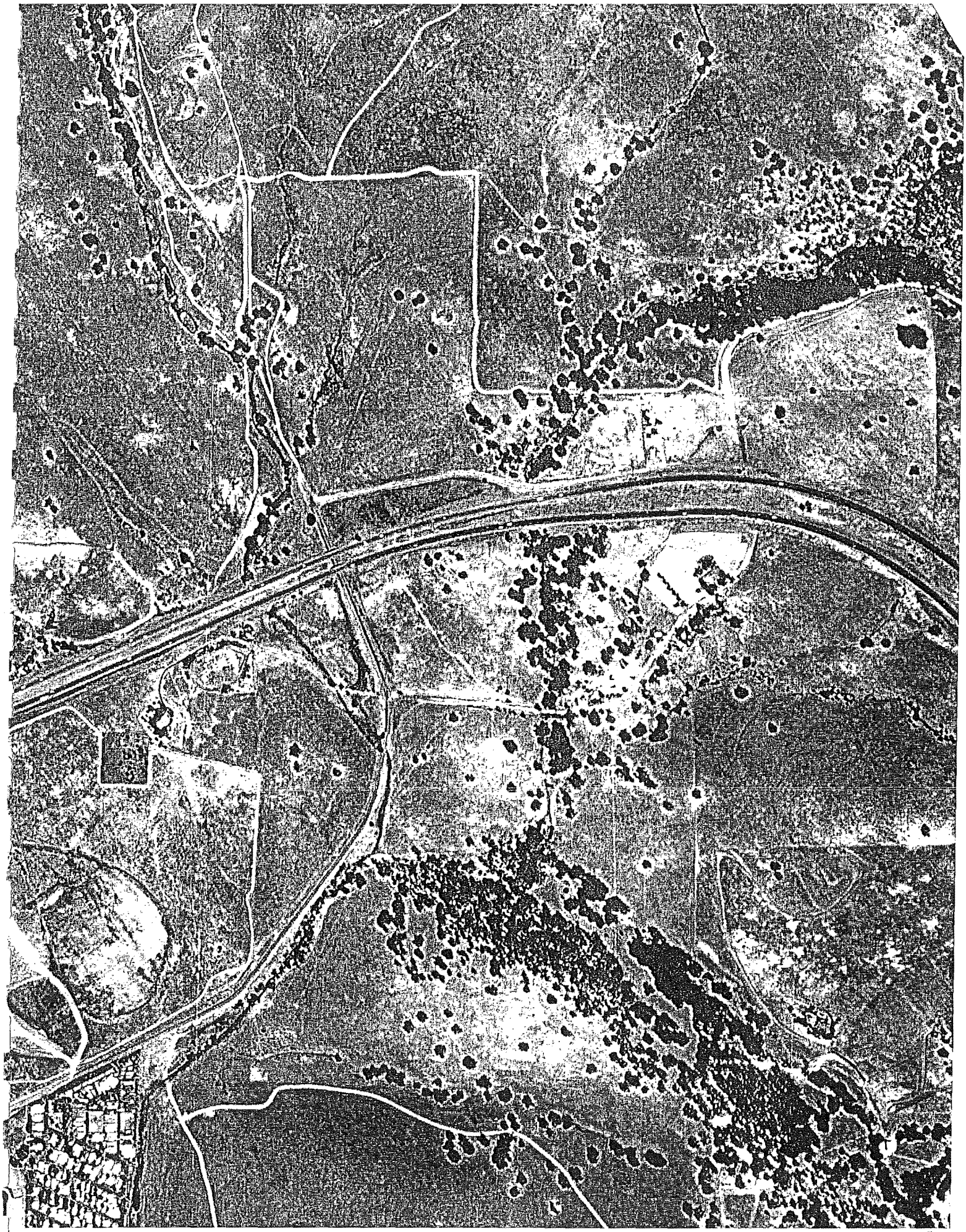
Inquiry: 1699371.1 Year: 1971 Flyer: Cartwright best copy available Scale: 1"=666'



Inquiry: 159485711 Year: 1993 Flyer: USGS Scale: 1"=666'



Inquiry: 1594857.4 Year: 1993 Flyer: USGS Scale: 1"=666'



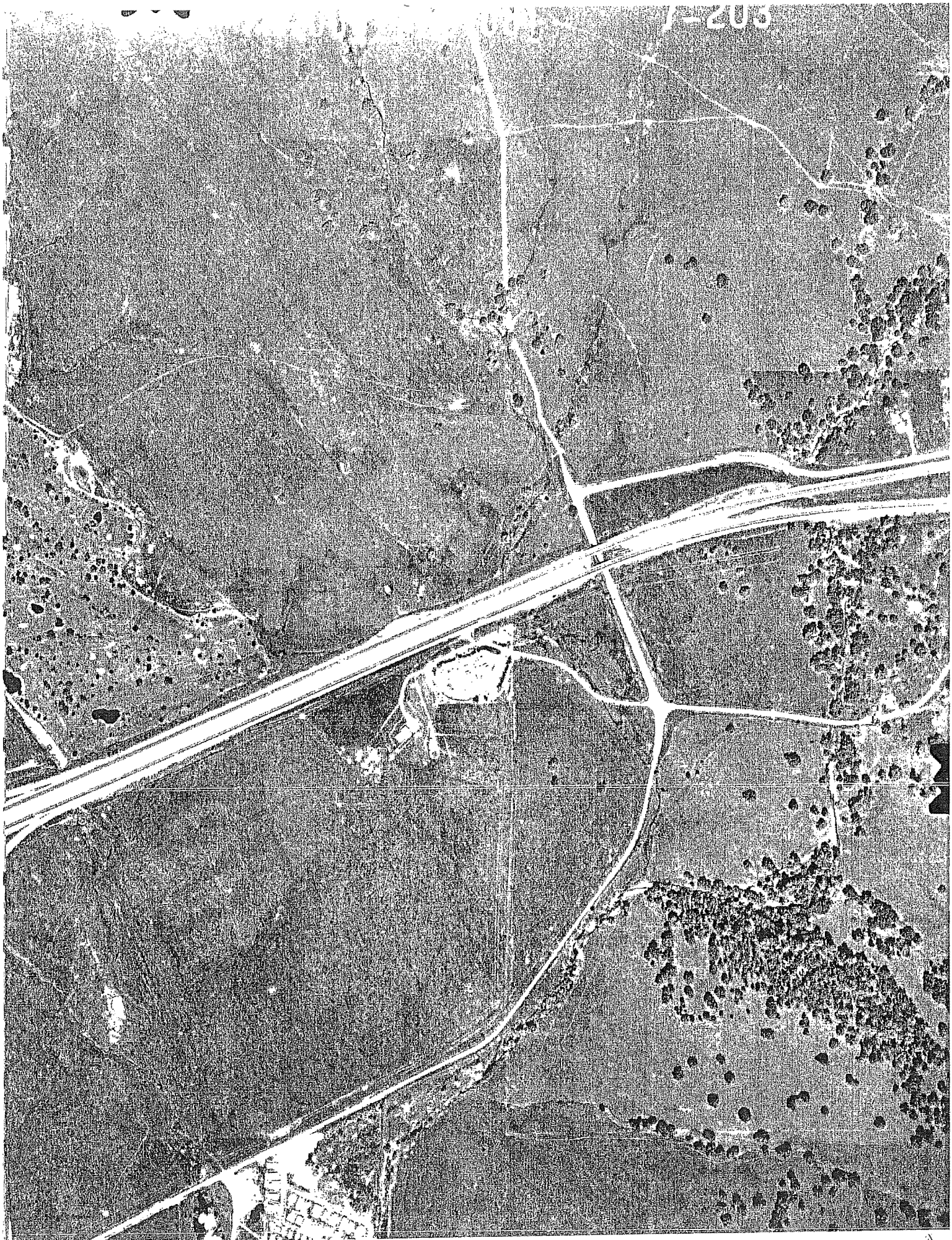
Inquiry: 1594857.11 Year: 1998 Flyer: USGS Scale: 1″=666′



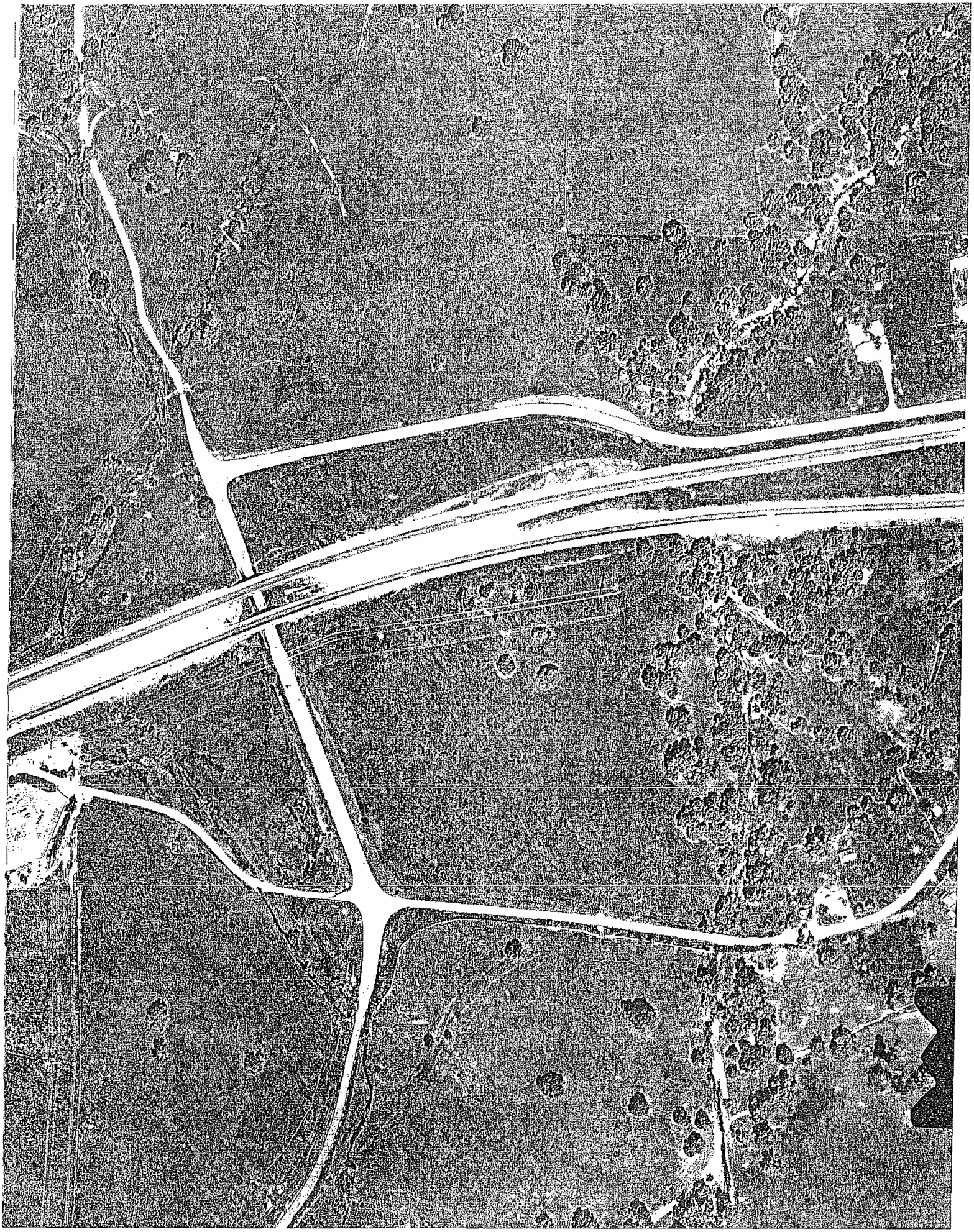
uiry: 1594857.4 Year: 1998 Flyer: USGS Scale: 1″=666′



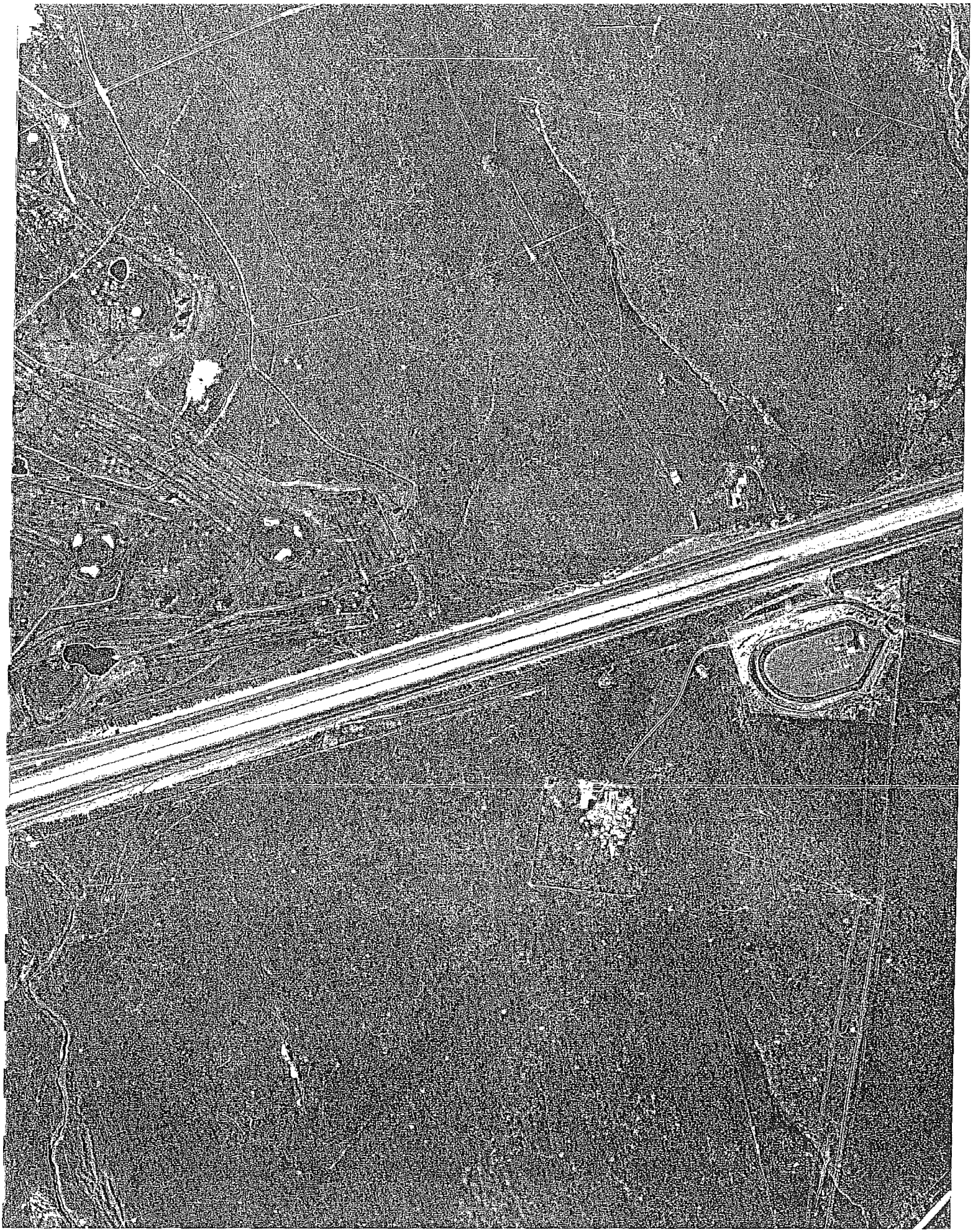
uiry:1594857.4 Year:1981 Flyer: Cartwright Scale: 1"=333'



Inquiry: 1699371.1 Year: 1981 Flyer: Cartwright Scale: 1″=666′



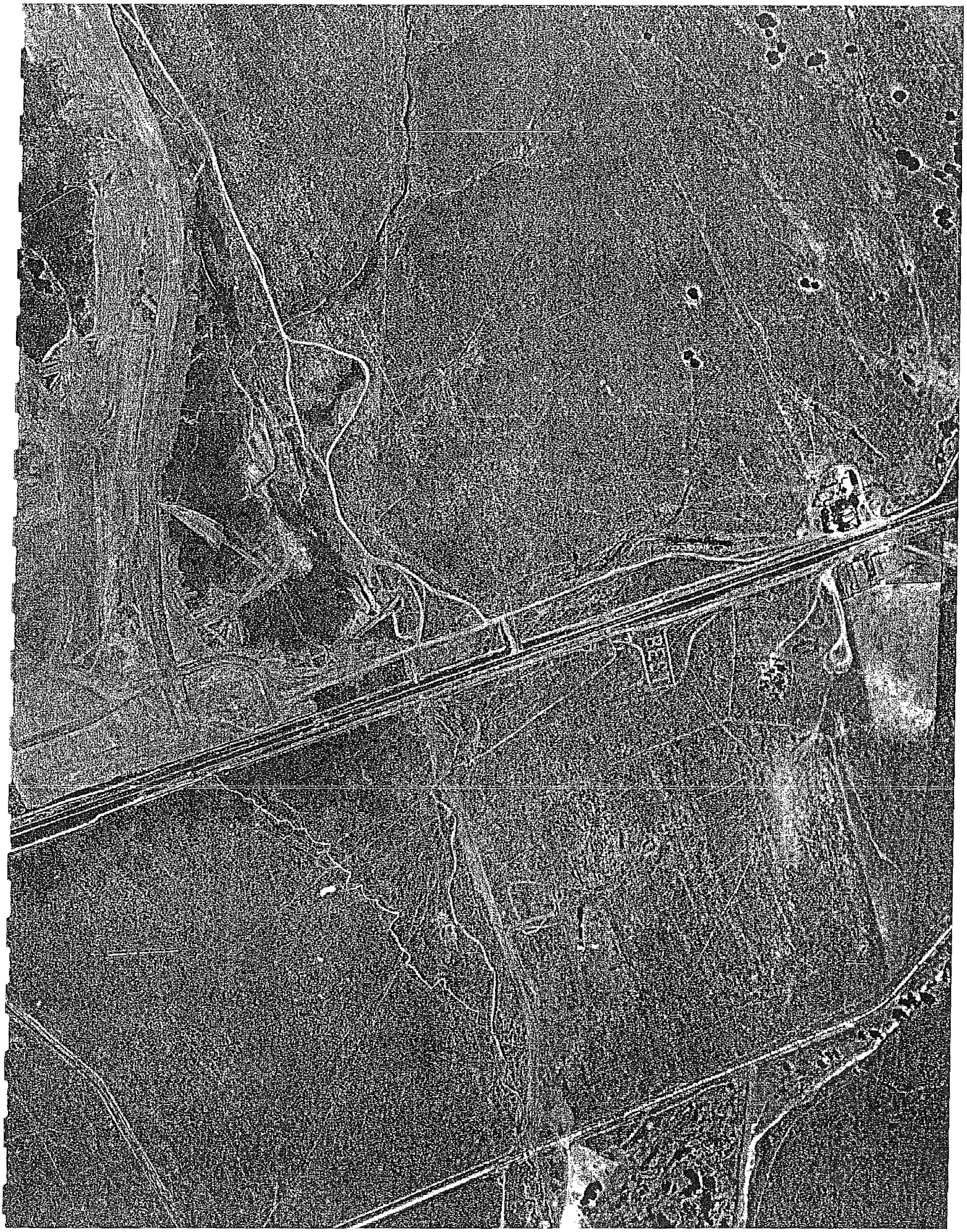
Inquiry: 1594857.11 Year: 1981 Flyer: Cartwright Scale: 1"=333'



Inquiry: 1594857.4 Year: 1971 Flyer: Cartwright Scale: 1"=333'



Inquiry: 1594857.4 Year: 1952 Flyer: Pacific Air Scale: 1″=555′



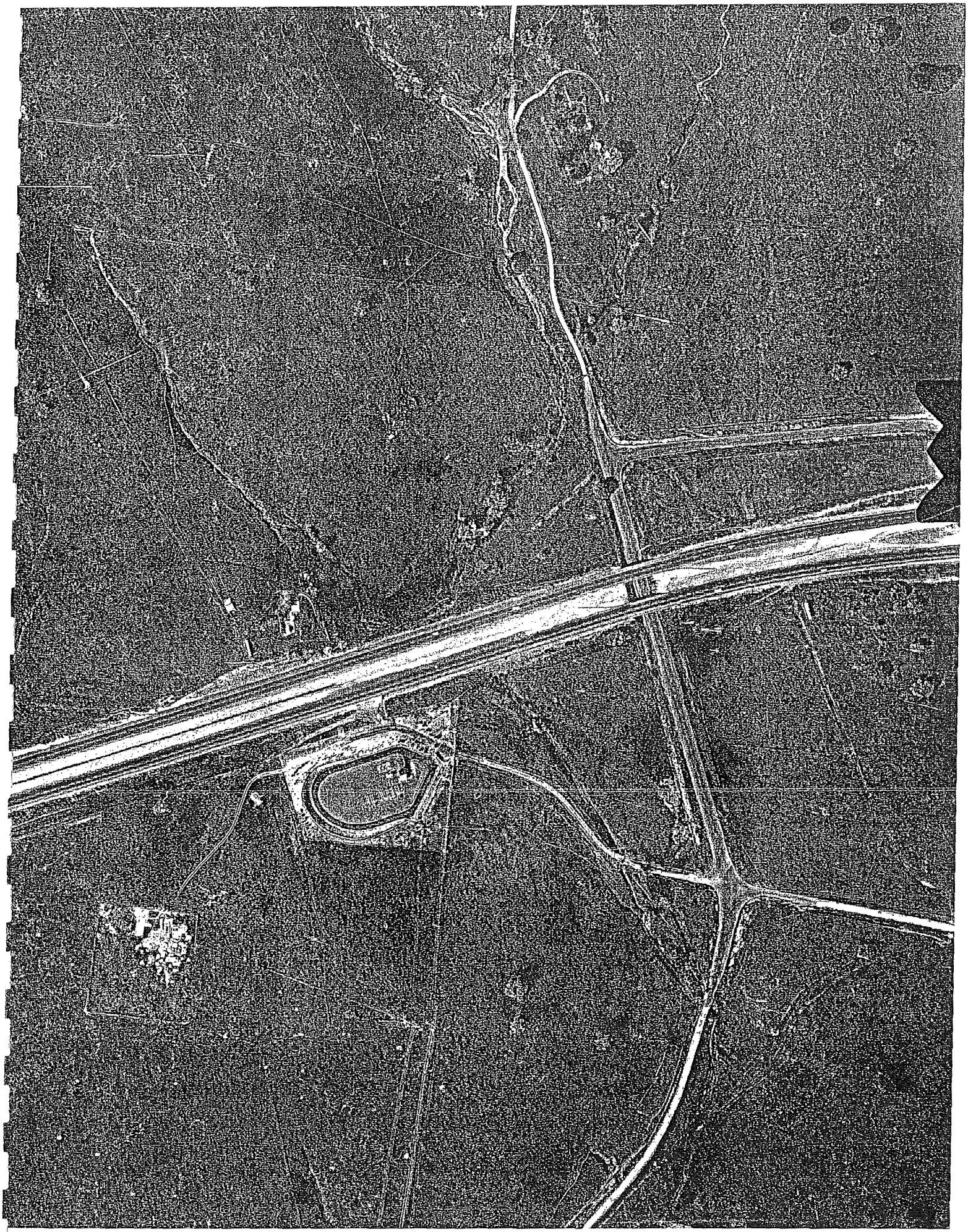
Inquiry: 1594857.4 Year: 1961 Flyer: Cartwright Scale: 1″=555′



Inquiry: 1594857.11 Year: 1961 Flyer: Cartwright Photo East Not Avail. Scale: 1"=555'



Inquiry: 1594857.11 Year: 1952 Flyer: Pacific Air Scale: 1"=555'



Inquiry: 1594857.11 Year: 1971 Flyer: Cartwright Photo East Not Avail. Scale: 1"=333'



EDR Historical Topographic Map Report

Silva Valley Parkway IC
SR 50
El Dorado Hills, CA 95762

Inquiry Number: 1594857.9

January 18, 2006

The Standard in Environmental Risk Management Information

440 Wheelers Farms Road
Milford, Connecticut 06461

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

Form-VLA

EDR Historical Topographic Map Report

Environmental Data Resources, Inc.'s (EDR) Historical Topographic Map Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR Historical Topographic Map Report includes a search of available public and private color historical topographic map collections. For more than a century, the USGS has been creating and revising topographic maps for the entire country at a variety of scales. There are about 60,000 U.S. Geological Survey (USGS) produced topographic maps covering the United States.

References

To meet the prior use requirements of ASTM E 1527-05, Section 8.3.2, the following *standard historical sources* may be used: aerial photographs, fire insurance maps, property tax files, land title records (although these cannot be the sole historical source consulted), topographic maps, city directories, building department records, or zoning/land use records. ASTM E 1527-05, Section 8.3 on Historical Use Information, identifies the prior use requirements for a Phase I environmental site assessment. ASTM E 1527-05 requires *"All obvious uses of the property shall be identified from the present, back to the property's first developed use, or back to 1940, whichever is earlier. This task requires reviewing only as many of the standard historcal sources as are necessary and both reasonably ascertainable and likely to be useful."* (ASTM E 1527-05, Section 8.3.2) *Reasonably ascertainable means information that is publicly available, obtainable from a source within reasonable time and cost constraints,and practically reviewable.*

EPA's Standards and Practices for All Appropriate Inquiries (AAI), Section § 312.24, identifies the historical sourcesof information necessary to achieve the objectives and performance factors of § 312.20. According to AAI,*"historical documents and records may include, but are not limited to, aerial photographs, fire insurance maps,building department records, chain of title documents, and land use records."*

Data Gaps

In order to address data gaps, additional sources of information may be consulted. According the AAI, Section § 312.20 (g), *"to the extent there are data gaps (as defined in § 312.10) in the information developed...that affect the ability of persons (including the environmental professional) conducting the all appropriate inquiries to identify conditions indicative of releases or threatened releases...such persons should identify such data gaps, identify the sources of information consulted to address such data gaps, and comment upon the significance of such data gaps."* According to ASTM E 1527-05, Section 8.3.2.3, "historical research is complete when either: (1) the objectives in 8.3.1 through 8.3.2.2 are achieved; or (2) data failure is encountered. Data failure occurs when all of the standard historical sources that are reasonably ascertainable and likely to be useful have been reviewed and yet the objectives have not been met....If data failure is encountered, the report shall document the failure and, if any of the standard historical sources were excluded, give the reasons for their exclusion."

Disclaimer - Copyright and Trademark Notice

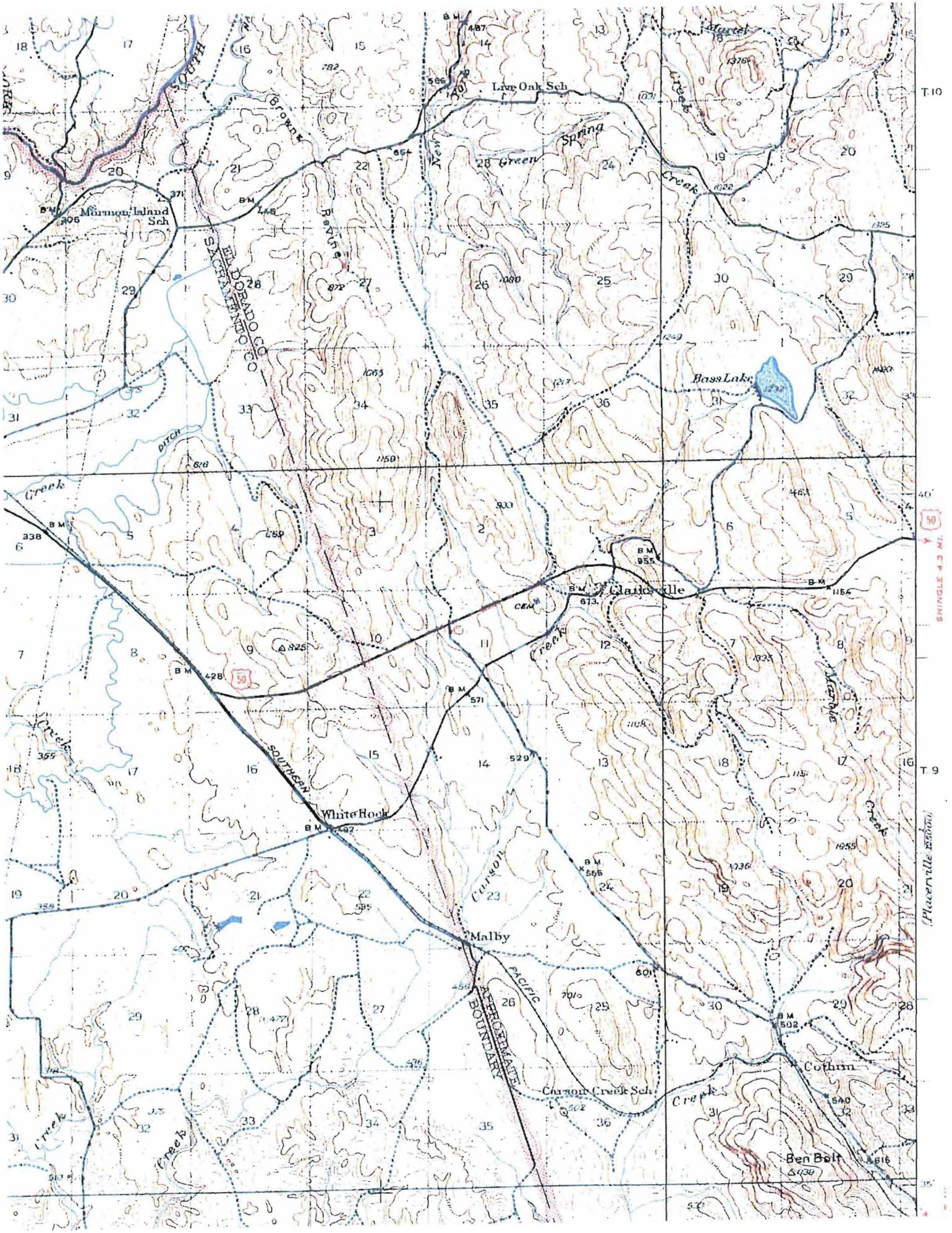
This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright © 2006 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

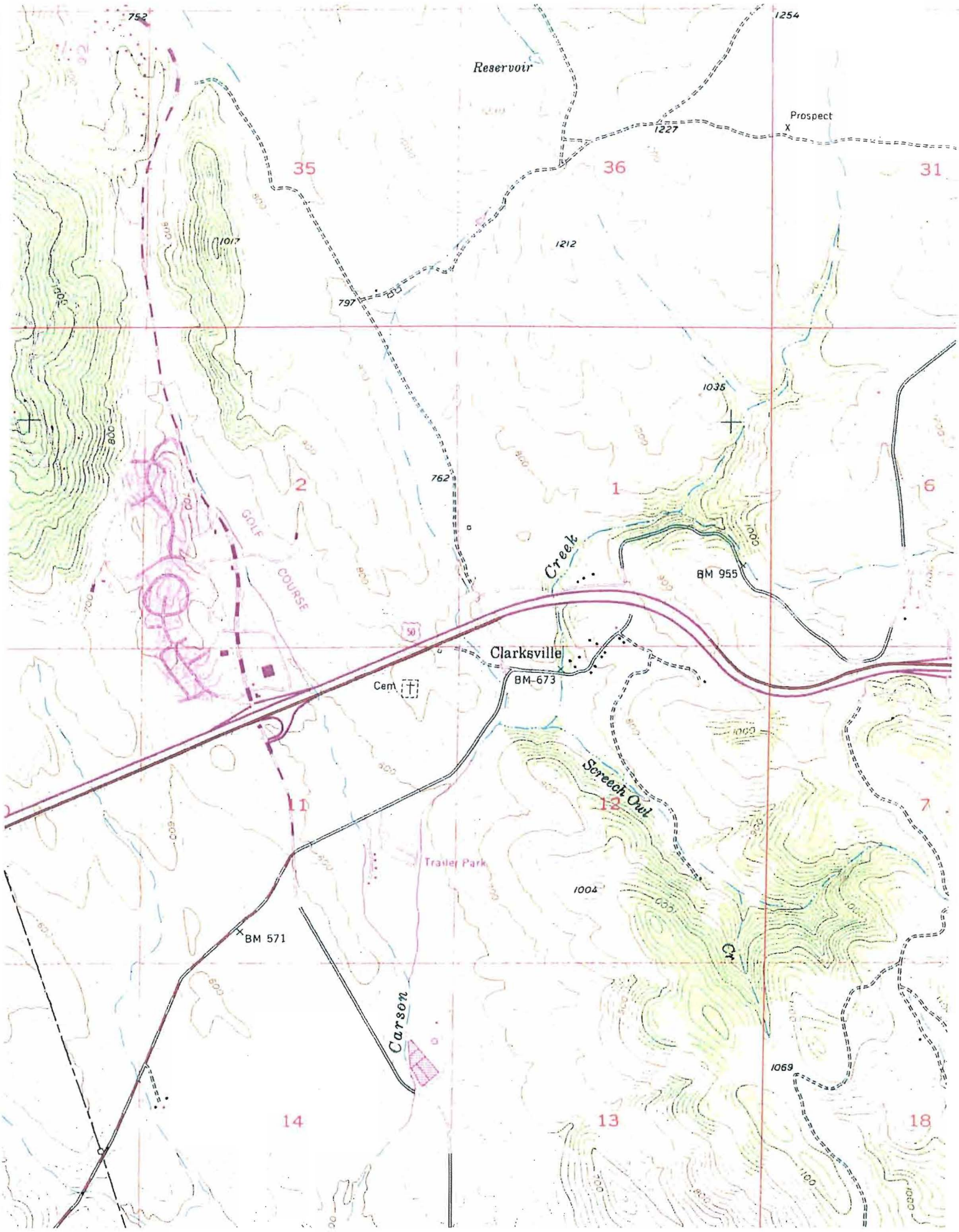
EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.



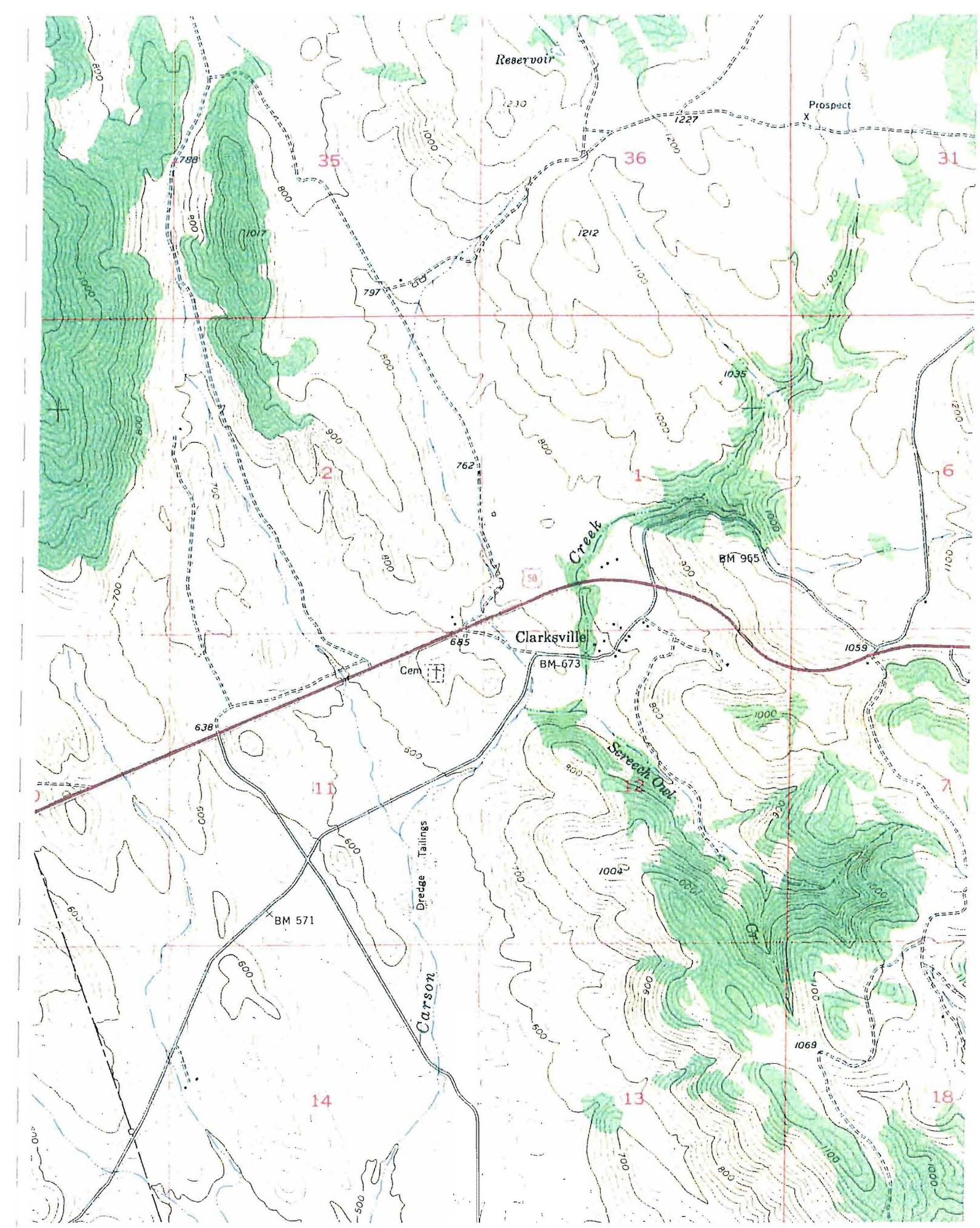
N ^ EDR INQUIRY# 1594857.3 TARGET QUAD: FOLSOM YEAR: 1944 Series: 15' Scale: 1:62,500



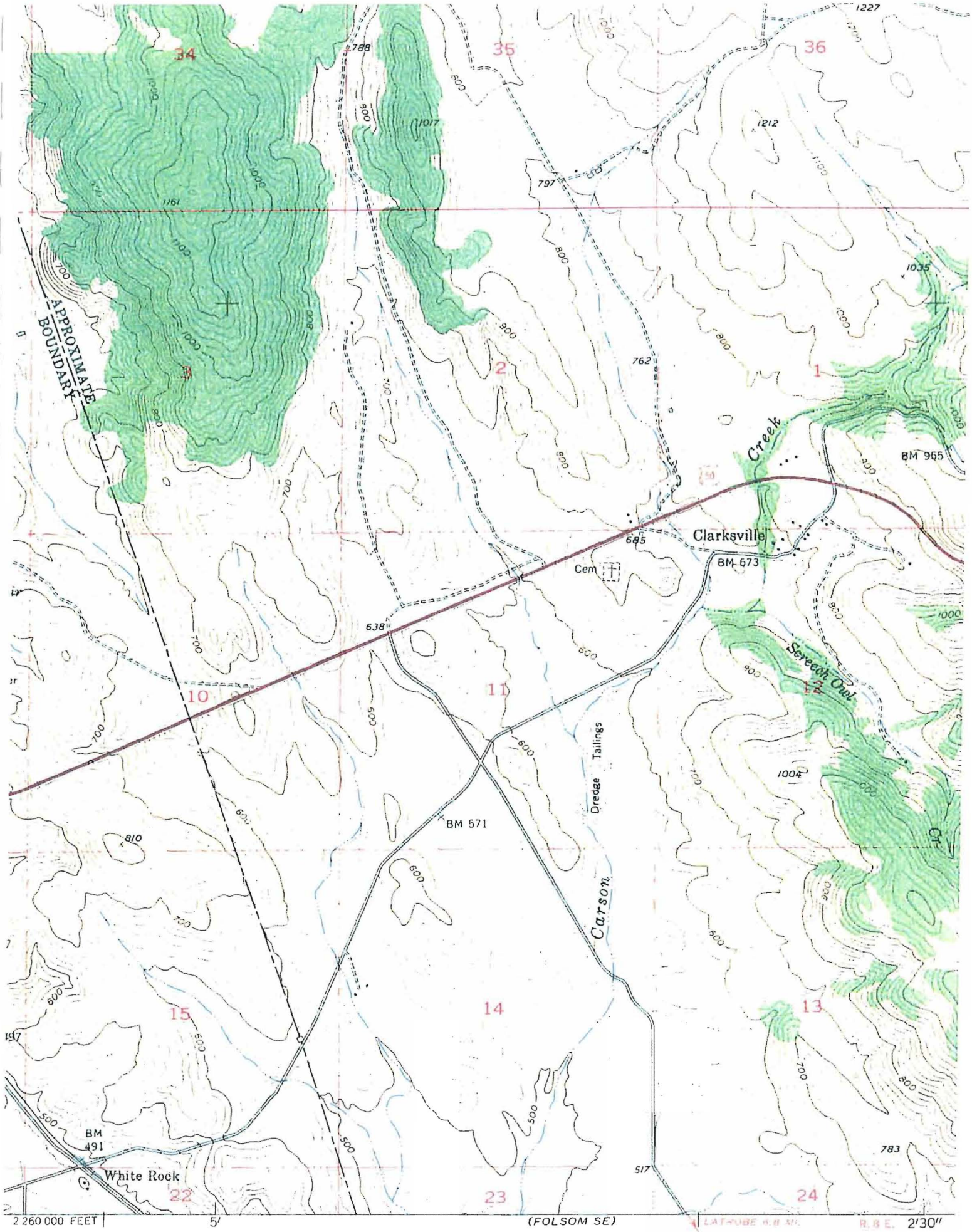
N ^ EDR INQUIRY# 1594857.9 TARGET QUAD: FOLSOM YEAR: 1944 Series: 15' Scale: 1:62,500



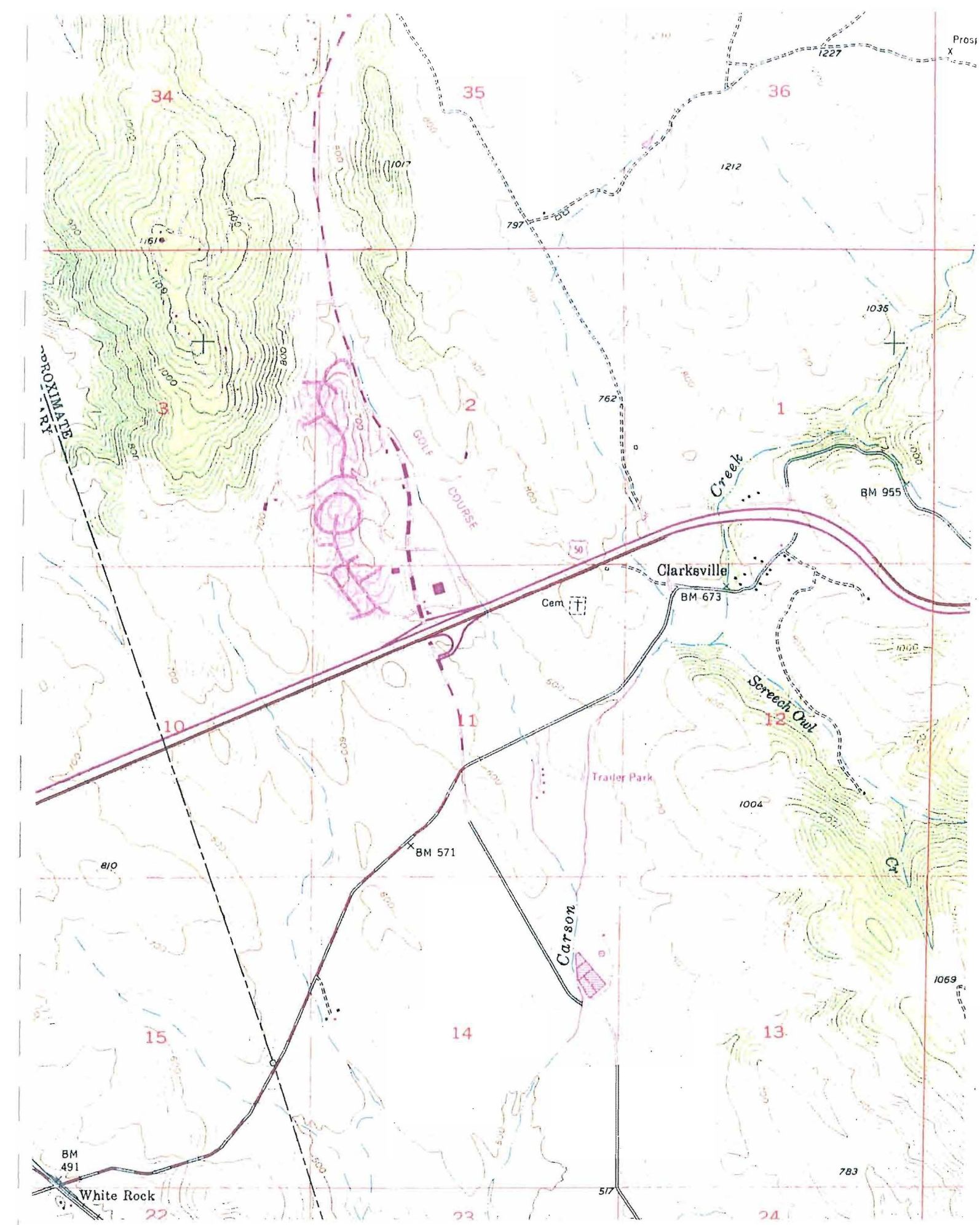
N ^ EDR INQUIRY# 1594857.9 TARGET QUAD: CLARKSVILLE PhotoRevised: 1953-1973 Series: 7.5' Scale: 1:24,000



N ^ EDR INQUIRY# 1594857.9 TARGET QUAD: CLARKSVILLE YEAR: 1953 Series: 7.5' Scale: 1:24,000



N ^ EDR INQUIRY# 1594857.3 TARGET QUAD: CLARKSVILLE YEAR: 1953 Series: 7.5' Scale: 1:24,000



N ^ EDR INQUIRY# 1594857.3 TARGET QUAD: CLARKSVILLE PhotoRevised: 1953-1973 Series: 7.5' Scale: 1:24,000

APPENDIX

B

Site Photos



Photo 1: Lot 10 – the PG&E Clarksville Substation; looking east.



Photo 2: Lot 18 – Von Hausen's Motors; looking west from Lot 17.



Photo 3: Lot 17 – Peerman Property; looking north at Lot 20. SR50 is between the hill in the foreground and the golf course.



Photo 4: - Looking west at Lot 18 and the SR50 right-of-way (fence in foreground).



Photo 5: "Mormon Tavern" - historical marker; located on Joerger Cutoff Road, between Lot 10 and SR50.



Photo 6: Lot 11 – El Dorado Hills Investors; wetlands area near Bass Lake Creek.



Photo 7: Lot 11 – Wetlands area; looking northeast from west of Silva Valley Parkway. Lot 12 and Lot 1 are in the background.



Photo 8: Lot 15 – Huddridge Partners; looking northeast from intersection of Silva Valley Pkwy. and White Rock Road.



Photo 9: Lot 16 – Huddridge Partners; looking southeast.



Photo 10: Lot 12 – El Dorado Hills Investors; looking north along Silva Valley Pkwy.



Photo 11: Lot 15 - Huddridge Partners; in foreground, Lot 1 in background; looking northeast from corner of White Rock Road and Silva Valley Pkwy.



Photo 12: Lot 16 - Huddridge Partners; looking north from White Rock Road at bridge over Carson Creek.



Photo 13: Lot 2 – El Dorado Hills Investors; looking north from Tong Road.



Photo 14: Lot 9 – El Dorado Hills Investors; Looking south with Tong Road in foreground and SR50 in background.



Photo 15: Lot 1 – EDH-52; looking southwest from Tong Road.



Photo 16: Lot 1- EDH-52; looking north from Tong Road.



Photo 17: Carson Creek, located between Lots 3 & 4. The creek flows south beneath the Tong Road embankment and then beneath SR50.



Photo 18: Lot 6 - Tong Ranch LLC; looking east along SR50, Lot 7 in right background.



Photo 19: Lot 6 – Looking north-northeast from Tong Road.



Photo 20: Lot 6 – Looking northwest from Tong Road, Lot 23 is in background.



Photo 21: Lot 6, Lot 5 (bare lot with signs) and Lot 4 (Presbyterian Church) – looking from foreground to background, respectively; WNW from Tong Road.



Photo 23: Lot 23; looking north from Lot 4.



Photo 22: Lot 23 – Serrano Associates, LLC; looking northeast from Lot 4.



Photo 24: Elementary school located north of Lot 24. Looking northeast from Silva Valley Parkway.



Photo 25: Lot 24 – Serrano Associates, LLC; looking southeast at soil stockpile, from Silva Valley Parkway.



Photo 26: Lot 14 – Tong Ranch LLC; looking east at SR50 in background.



Photo 27: Lot 14; looking northeast from White Rock Road (inside the Tong Ranch), with SR50 in background.



Photo 28: Lot 14; looking north from White Rock Road, across SR50. Lot 6 is in background.



Photo 29: Lot 14 in foreground, Lot 13 is to the left. Looking northwest across SR50 at the Presbyterian Church, located on Lot 4.



Photo 30: Lot 13 – Tong Ranch LLC; looking west at embankment fill of SR50, from dead-end of White Rock Road.



Photo 31: Lot 14; looking southwest from White Rock Road. Note the barn structure.



Photo 32: Lot 13; Looking west at the "Tong Cemetery" in background. SR50 is about 150 ft to the right in the photo.



Photo 33: Lot 13 (background) and 14 (foreground); looking west along south side of SR50.



Photo 34: Lot 14 – Tong Ranch LLC; trash and related waste materials along White Rock Road, looking south.



Photo 35: Lot 14; 55-gal drums on the Tong Ranch site (slightly out of focus).



Photo 35: Lot 14; above ground storage tanks, contents unknown. Looking south from White Rock Road.



Photo 37: Lot 14; more municipal-type "trash" on the Tong Ranch.



Photo 38: Lot 14; Chinese railroad laborers ("Coolie-built") historical rock walls along north side of White Rock Road.

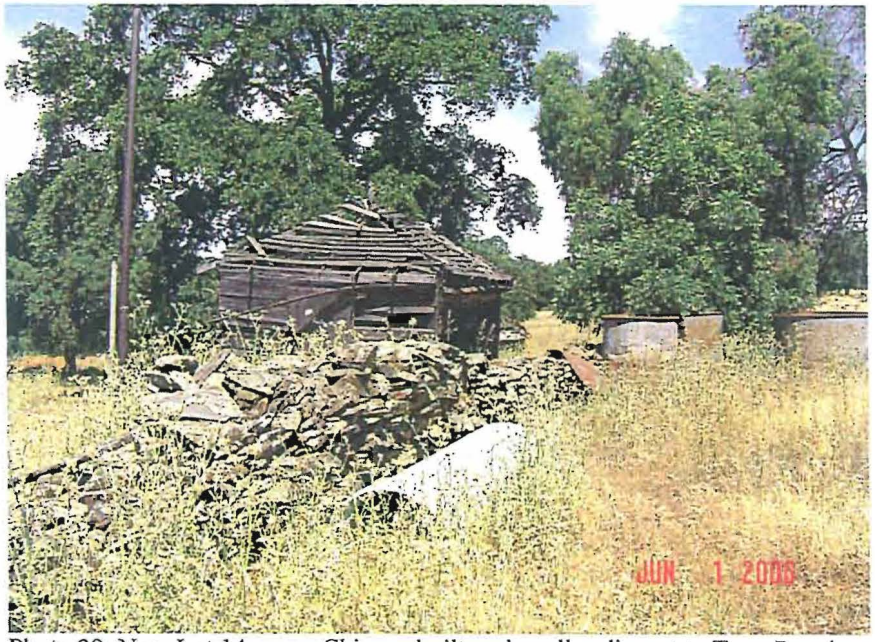


Photo 39: Near Lot 14; more Chinese-built rock walls adjacent to Tong Ranch entrance.



Photo 40: Lot 1 – EDH-52; Concrete column of an "older" structure, located north of SR50 and east of Silva Valley Parkway.



Photo 41: Lot 1; Remnant foundation structure(s); looking north. Concrete "basins" in background.



Photo 42: Lot 1; close-up of the "basin" structure. Looking north. Silva Valley Parkway can be seen on the left.



Photo 43: Lot 1; additional concrete columns, looking west along a dirt road through the site.



Photo 44: Lot 23 – Serrano Associates LLC; looking southeast from the corner of Russi Ranch Dr. and Village Green Dr. Soil stockpiles in background.



Photo 45: Lot 23, looking east. Small drainage from subdivision (to left) flows southeasterly through the lot, towards Bass Lake Creek.



Photo 47: Lot 21; looking southeast towards Silva Valley Pkwy and SR50. Tong Road is north of SR50, with adjacent Lots 1, 2, & 9. Lot 12 is in background.



Photo 46: Lot 21 – Serrano Associates LLC; looking south towards SR50, with the adjacent PG&E substation (barely visisble). Near Ponta Delgado Court (to right).



Photo 48: Lot 19 – Phoenix Pacific Co.; "Kinder Kare Learning Center" located north and adjacent of the westbound SR50 off-ramp to El Dorado Hills Boulevard.



Photo 49: Lot 19, with Lots 22 & 26 in background. Looking west, with SR50 adjacent and south.



Photo 50: Lot 22 – El Dorado Savings Bank; adjacent and west of Lot 19.



Photo 51: Lot 26 – Ahart Trust/Jones Trust; "Taco Bell" and paved parking. Located west of Lot 22



Photo 52: Lot 25 – Wilmington Trust/Tosco Trust; "Union 76" gasoline service station, located adjacent and west of Lot 22.



Photo 53: Lots 33 and 34 – Lots 33 & 34 consist of narrow strips of landscaping between the roads and the station.



Photo 54: Lot 32 – County of El Dorado with "Jack in the Box" on right. Entrance to "Shopping" area is in foreground. "Shell" service station is to left of Lot 32.



Photo 55: "Shell" service station; located between Lots 32 and 34 (the landscape area). Note the 55-gal drums, with El Dorado Hills Blvd. in background.



Photo 56: Lot 27, 30 & 31 – Town Center East LP & Syers Properties LLC; looking south across SR50 from near Lot 22.



Photo 57: Lot 27 and 31 – Town Center East LP & Syers Properties LLC; looking south across SR50 from near Lot 22.



Photo 58: Lot 28 – EDH Town Center East Owners Association; looking southeast across SR50.



Photo 59: Lot 31; Stores within the Town East Shopping Center, looking west.



Photo 60: Lot 31; "Valero" service station, looking south.



Photo 61: "Chevron" service station looking south across entrance road to the shopping center. The gas station is located south and adjacent to Lot 31.



Photo 62: Lot 21; looking northwest from SR50. Old building foundations are located to the west (left) of view shown in the photograph.



Photo 63: Lot 20 – Serrano Associates; looking north from SR50 at the golf course.



Photo 64: Road cut on SR50 looking north at Lot 21.



Photo 65: Looking west from intersection of Tong Road and Silva Valley Parkway, showing an EID-owned pump station (PS). Lot 21 in background.



Photo 66: County right-of-way along west side of Silva Valley Pkwy., showing an EID PS with above ground electrical transformers and in-ground sewer vaults.



Photo 67: EID-owned South Booster Pump Station.



Photo 68: Lot 6 - Tong Ranch, with Lot 23 in background. Looking north from the a dead-end on Tong Road (fenced gate).

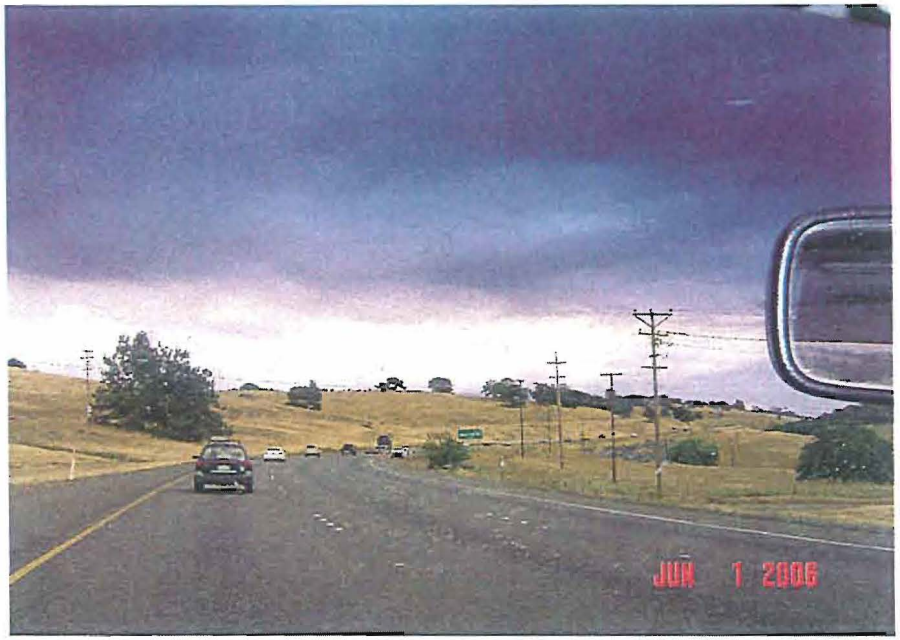


Photo 69: Looking east along SR50, with Lots 6, 7, & 8 in background (left side of SR50) and Lots 13 & 14 in background (right side of SR50).



Photo 71: Right shoulder of SR50; Lot 8 to right, and Lot 7 in background (right).



Photo 70: LOT 8 - Mohanna Property; looking west along SR 50, Lot 8 is on the north (right) shoulder.



Photo 72: Lot 7 – Mohanna property; looking west-northwest along SR50. Lot 7 is on the north (right) shoulder.

West Sacramento Office:
2491 Boatman Avenue • West Sacramento, CA 95691
(916) 375-8706 • Fax (916) 375-8709

blackburn consulting

Main Office: (530) 887-1494
11521 Blocker Drive, Suite 110 • Auburn, CA 95603
Modesto Office: (209) 522-6273

Geotechnical • Construction Services • Forensics

BCI File No. 556.1
February 23, 2010

Mr. Derek Minnema
Mark Thomas & Company, Inc.
7300 Folsom Boulevard, Suite 203
Sacramento, CA 95826

Subject: **UPDATED INITIAL SITE ASSESSMENT (ISA)**
Silva Valley Parkway/State Route 50 Interchange (03-ED-50, KP 3.1, PM 1.7)
El Dorado County, California

Dear Mr. Minnema,

Blackburn Consulting (BCI) has prepared this Update of the Initial Site Assessment dated April 2007 for the Silva Valley Parkway/Route 50 Interchange (03-ED-50, KP 3.1, PM 1.7) Project in El Dorado County, California. BCI prepared this update per your request and includes the following:

- Current Database Search. Environmental Data Resources, Inc. (EDR), a commercial data base search firm performed a radius search for the study area on February 16, 2010.
- Review of BCI's Initial Site Assessment for US 50/El Dorado Hills Boulevard Interchange (EA 03-2E5100) and Pedestrian Overcrossing Project (EA 03-2E4700) El Dorado Hills, CA, BCI File No. 1072.5 dated May 2009.
- Review of Geocon's Aerially Deposited Lead, Naturally Occurring Asbestos, and Lead Containing Paint Site Investigation and Bridge Survey/Highway 50 Report, dated March 10, 2008.
- Site Visit conducted on February 18, 2010.

The purpose of this update is to identify and discuss significant changes in site use and/or facilities that may indicate the potential for hazardous materials and/or petroleum hydrocarbon contamination within or adjacent to the project area. It is understood that the project scope includes the original thirty-four (34) parcels as identified in the 2007 Initial Site Assessment.

Based on this review, no significant changes in site use were identified. Supplemental information for several parcels was obtained and is presented below:

Parcel 25, *Wilmington Trust/Tosco Trust (Union 76) – APN 107-120-0410, El Dorado Hills Union 76, 1020 Saratoga Way*

Our recommendations regarding risks associated with this active petroleum fuel service station have not changed. Records review, however, provided the following updated information:

This service station appears to have been operating since 1971. A leaking underground storage tank (LUST) was discovered in 1987 during tank closure. The release is estimated at five hundred (500) gallons of gasoline. Following tank removal, contaminated soil was excavated and disposed of at an approved facility. Contamination was reported as "soil only" and the case was closed in 1991. Currently, four registered Underground Fuel Storage Tanks (USTs) installed in 1993 exist at the site.

Parcel 31, "*Syers Properties, LLC" (Valero Service Station) – APN 107-130-5010*

Our recommendations regarding the exiting Valero service station have not changed. Site reconnaissance, however, identified a second service station, El Dorado Hills Chevron at this parcel. We found no records of suspected soil and/or ground water contamination from the searched database. Service stations are a principal concern for subsurface contamination. If acquisition is to occur at this site we recommend further review and investigation of potential petroleum hydrocarbon impacts including an in depth records review, site inspection, and interviews with the property owner and county environmental health department.

Parcel 32 *(Adjacent) "Shell" - APN 121-180-08, 1021 Saratoga Way*

Our recommendations regarding the existing Shell service station have not changed; however, the records review (1985 City Directory) identified a dry cleaning facility (Swanson Cleaners Store 67) at this parcel where the Shell service station is now located. The records search did not indicate if underground product storage tanks were utilized for material storage, or if any releases were indicated. Dry cleaners have been associated with releases of hazardous materials, such as perchloroethylene (PCE). If acquisition occurs on this property we recommend further review and investigation of potential contaminant impacts.

AERIALLY DEPOSITED LEAD

Geocon Consultants performed ADL Testing along US 50 (PM 0.16/2.90) for the California Department of Transportation (Caltrans). In their report, titled Aerially Deposited Lead, Naturally Occurring Asbestos, and Lead Containing Paint Site Investigation and Bridge Survey Report, dated March 10, 2008, Geocon concluded that soil generated from excavations to depths between 0.0 and 3.0 feet would not be classified as California hazardous waste. Sampling, however, was conducted in the center median and not the shoulder area, therefore we recommend that Caltrans verify that the Geocon Report results are valid for this project.

NATURALLY OCCURRING ASBESTOS

Our recommendations regarding naturally occurring asbestos (NOA) have not changed. Additional supporting information is provided in Geocon's Aerially Deposited Lead, Naturally Occurring Asbestos, and Lead Containing Paint Site Investigation and Bridge Survey Report, dated March 10, 2008.

ASBESTOS CONTAINING MATERIALS (ACM)

In Geocon's Aerially Deposited Lead, Naturally Occurring Asbestos, and Lead Containing Paint Site Investigation and Bridge Survey Report, dated March 10, 2008, Geocon concluded that ACM is present in the Clarkesville Road bridge guardrail shim. The guardrail shims are classified as Category I ACM (nonfriable/nonhazardous material). National Emissions Standards for Hazardous Air Pollutants regulations do not require that the Category I material be removed prior to demolition or treated as hazardous waste; however, the disturbance of the material is still covered by the Cal-OSHA asbestos standard.

Please contact us if you have any questions concerning this report update or if we may be of further service.

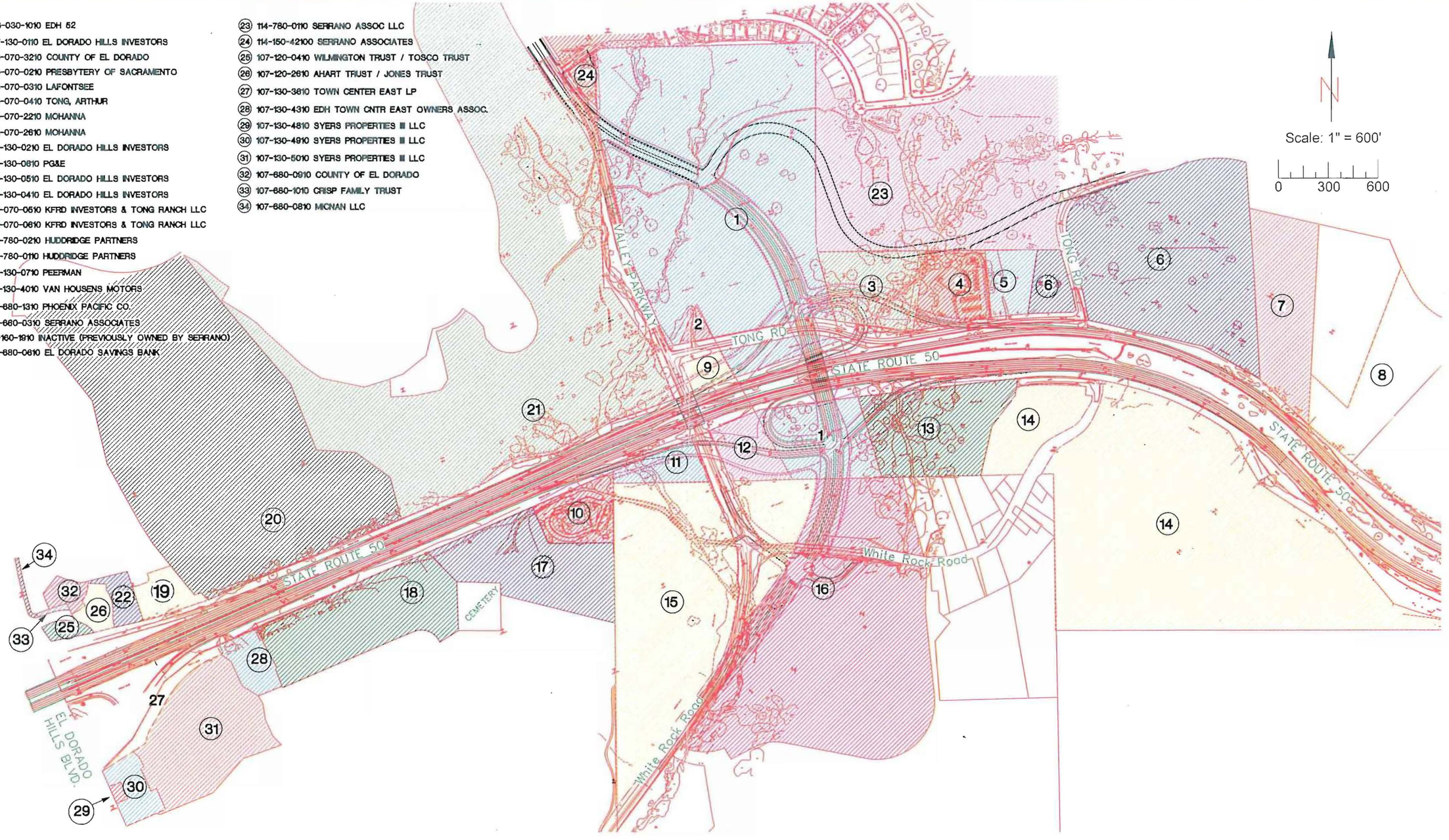
Sincerely,

BLACKBURN CONSULTING

Laura Long
Environmental Engineer

Laura Long for
Jeff Patton, P.E.
Principal Engineer

1. 108-030-1010 EDH 52
2. 107-130-0110 EL DORADO HILLS INVESTORS
3. 108-070-3210 COUNTY OF EL DORADO
4. 108-070-0210 PRESBYTERY OF SACRAMENTO
5. 108-070-0310 LAFONTSEE
6. 108-070-0410 TONG, ARTHUR
7. 108-070-2210 MOHANNA
8. 108-070-2610 MOHANNA
9. 107-130-0210 EL DORADO HILLS INVESTORS
10. 107-130-0610 PG&E
11. 107-130-0510 EL DORADO HILLS INVESTORS
12. 107-130-0410 EL DORADO HILLS INVESTORS
13. 108-070-0510 KFRD INVESTORS & TONG RANCH LLC
14. 108-070-0610 KFRD INVESTORS & TONG RANCH LLC
15. 108-780-0210 HUDDRIDGE PARTNERS
16. 108-780-0110 HUDDRIDGE PARTNERS
17. 108-130-0710 PEERMAN
18. 107-130-4010 VAN HOUSENS MOTORS
19. 107-680-1310 PHOENIX PACIFIC CO.
20. 107-680-0310 SERRANO ASSOCIATES
21. 114-160-1910 INACTIVE (PREVIOUSLY OWNED BY SERRANO)
22. 107-680-0610 EL DORADO SAVINGS BANK
23. 114-780-0110 SERRANO ASSOC LLC
24. 114-150-42100 SERRANO ASSOCIATES
25. 107-120-0410 WILMINGTON TRUST / TOSCO TRUST
26. 107-120-2610 AHART TRUST / JONES TRUST
27. 107-130-3610 TOWN CENTER EAST LP
28. 107-130-4310 EDH TOWN CNTR EAST OWNERS ASSOC.
29. 107-130-4810 SYERS PROPERTIES III LLC
30. 107-130-4910 SYERS PROPERTIES III LLC
31. 107-130-5010 SYERS PROPERTIES III LLC
32. 107-680-0910 COUNTY OF EL DORADO
33. 107-680-1010 CRISP FAMILY TRUST
34. 107-680-0810 MCNAN LLC



Adapted from: "Property Owner Information" by: Mark Thomas and Company, 2006

blackburn consulting

Blackburn Consulting, Inc.
11521 Blocker Drive, Ste 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495
www.blackburnconsulting.com

Site Plan
Silva Valley Parkway ISA
Silva Valley/SR50 Interchange Project
El Dorado Hills, California

File No. 556.1

April 2007

Figure 2

GEOTECHNICAL REPORT
EDH 52, Silva Valley Parkway at US 50
Rough Site Grading and Preliminary Foundation Design
El Dorado Hills, CA

Prepared by:

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
(530) 887-1494

March 2013

Prepared for

EDH 52 LLC
Sacramento, CA

Auburn Office:
11521 Blocker Drive, Suite 110 ▪ Auburn, CA 95603
(530) 887-1494

blackburn consulting

Fresno Office: (559) 438-8411
Modesto Office: (209) 522-6273
West Sacramento Office: (916) 375-8706

Geotechnical ▪ Geo-Environmental ▪ Construction Services ▪ Forensics

File No. 556.6
March 11, 2013

Mr. Yanni Verrios
EDH 52 LLC
7700 College Town Drive, Suite 101
Sacramento, CA 95826

Subject: Geotechnical Report
EDH 52, Silva Valley Parkway at US 50
Rough Site Grading and Preliminary Foundation Design
El Dorado Hills, California

Dear Mr. Verrios,

Blackburn Consulting (BCI) prepared this Geotechnical Report for the EDH 52 site rough grading in accordance with our proposal dated January 15, 2013. Below, we present a summary of site conditions and recommendations for rough site grading and preliminary foundation design.

Thank you for selecting us to be on the design team. Please call if you have questions.

Sincerely,

BLACKBURN CONSULTING

Patrick Fischer, P.E., C.E.G.
Engineering Geologist, Principal

PROFESSIONAL GEOLOGIST
PATRICK F. FISCHER
No. 1739
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

Thomas Blackburn, P.E., G.E.
Geotechnical Engineer, President

REGISTERED PROFESSIONAL ENGINEER
THOMAS W. BLACKBURN
No. 2311
Exp. 6/14
GEOTECHNICAL
STATE OF CALIFORNIA

GEOTECHNICAL REPORT

EDH 52, Silva Valley Parkway at US 50

Rough Site Grading and Preliminary Foundation Design

El Dorado Hills, California

TABLE OF CONTENTS

INTRODUCTION **1**
Purpose 1
Scope of Services 1
PROJECT LOCATION AND DESCRIPTION **1**
Project Location 1
Project Description 1
GEOLOGIC CONDITIONS **2**
General Geology 2
Faulting 3
Naturally Occurring Asbestos Minerals 4
FIELD INVESTIGATION AND LABORATORY TESTING **4**
Exploratory Borings 4
Exploratory Test Pits 4
Laboratory Tests 5
Seismic Refraction Survey 5
Existing Subsurface Information 6
SITE CONDITIONS **6**
Surface Conditions 6
Subsurface Soil and Rock Conditions 7
Groundwater 8
Seismic Refraction Profiling 8
CONCLUSIONS AND RECOMMENDATIONS **8**
General Site Suitability 8
Slope Stability and Slope Construction 9
Grading 9
FOUNDATIONS **15**
Bearing Capacity 15
Settlement 15
Seismic Design 16
CONCRETE SLABS-ON-GRADE **17**
Design Recommendations for Geotechnical Support 17
Design Considerations for Moisture 18
PRELIMINARY PAVEMENT DESIGN **18**
Preliminary Structural Sections 18
Pavement Subgrade Preparation 19
UNDERGROUND UTILITY CONSTRUCTION **19**
PRELIMINARY SOIL CORROSIVITY **20**
NATURALLY OCCURRING ASBESTOS **21**
RISK MANAGEMENT **21**
LIMITATIONS **22**

TABLE OF CONTENTS (continued)

FIGURES

Figure 1 – Vicinity Map
Figure 2 – Site Map
Figure 3 – Geologic Map
Figure 4 – Subdrain Detail

APPENDIX A

Exploration Notes
Boring and Test Pit Logs
Rock Core and Test Pit Photographs

APPENDIX B

Laboratory Test Results

APPENDIX C

Seismic Refraction Notes
Seismic Refraction Profiles (SR1 to SR5)

APPENDIX D

Silva Valley Parkway Interchange Investigation Logs (excerpt from BCI, 2012)

INTRODUCTION

Purpose

This report is for rough grading and preliminary foundation design, pavement, and utility installation considerations; final geotechnical design recommendations will be necessary following rough grading and determination of actual improvements. Do not rely upon this report for different locations or improvements without the written consent of BCI.

Scope of Services

To prepare this report, BCI:

- Reviewed our previously obtained subsurface data and analyses for the Silva Valley Parkway Interchange project
- Drilled, sampled, and logged four borings
- Excavated, sampled, and logged 11 test pits
- Performed a site review and reconnaissance
- Performed laboratory tests including a compaction curve, direct shear, moisture density, and rock compression testing
- Compiled existing and new subsurface data
- Performed engineering analyses.

PROJECT LOCATION AND DESCRIPTION

Project Location

The EDH 52 site is a roughly rectangular parcel of land located at the northeast corner of the intersection of Silva Valley Parkway and Tong Road (just north of Highway 50), in El Dorado Hills, California. Figure 1 (attached) shows the approximate site location.

Project Description

Based on the rough grading plans dated January 2013, the EDH 52 site will be split diagonally by the new Silva Valley Parkway which will be constructed as part of the new interchange. Two large commercial lots, Area 1 in the southwest portion and Area 2 in the northeast portion, will be created by the split. The Site Map, attached as Figure 2, shows the general site layout.

Rough grading will create a flat building pad along the south side of Area 1 that will then slope gently up to the north. A flat building pad will also be created along the east side of Area 2 that will then slope gently down to the west. Significant cut and fill are proposed for rough grading in each area.

In Area 1, cuts will generally occur along the east and north sides and fills along the west side. Rough Grading Plans provided by RSC Engineering (1/23/2013) show planned cuts along the east side are up to a maximum of approximately 28 feet in height and fills along the west side are up to approximately 30 feet deep. In general, cut slopes will be created along the east side of Area 1 (below the new Silva Valley Parkway) and fill slopes along the south and west sides (along the existing Silva Valley Parkway). Cut slopes are proposed at gradients of 2:1 to 4:1 (horizontal to vertical) and fill slopes at 2:1 or flatter with most slopes at a gradient of 2:1. Drainages cross the central portion and north end of Area 1 in a southwesterly direction; the central drainage will likely be filled and the other may be filled depending on the final rough grading alternative selected.

In Area 2, cuts will generally occur along the east side and fills in the central and west side. Planned cuts along the east side are up to a maximum of approximately 35 feet in height and fills are up to approximately 25 feet deep. Cut slopes will be created along the south, east, and north sides of Area 2 and fill slopes along the south and west sides. Cut and fill slopes are proposed at a gradient of 2:1. Drainages cross the central and western portion of Area 2 in a southwesterly direction; the central drainage may be filled depending on the final rough grading alternative selected and the western drainage will not be filled.

Structure and foundation details are not known at this time but we assume conventional slab-on-grade commercial/retail structures, likely concrete tilt-up, with light to moderate loads on shallow spread and strip footing foundations.

GEOLOGIC CONDITIONS

General Geology

The project site is located within the foothills of the Sierra Nevada Geomorphic Province of California. The Sierra Nevada has a general northwest topographic/structural trend and is on the order of 430 miles long and 40 to 80 miles wide. The mountain ranges of the Sierra Nevada were created roughly 120 to 130 million years ago when sediments as thick as 30,000 feet along with volcanic rocks were buckled and warped resulting in a series of low mountain ranges. The roots of these mountain ranges were then intruded by granitic rock.

The Sierra Nevada was tilted upward along faulting at the eastern edge. In the higher elevations, much of the younger sedimentary material and older metamorphic rock has been eroded and exposes the granitic rock. In the lower foothills of the Sierra Nevada, the older metamorphic rocks remain and are exposed at the surface.

Much of El Dorado County is underlain by Mesozoic-age metavolcanic and metasedimentary rocks and metavolcanic rock occurs at relatively shallow depths throughout the project site. Published geologic mapping by Wagner[1] and Busch[2] shows Jurassic-age metavolcanic rock at the project site. Our site review and subsurface work confirm the presence of shallow, metavolcanic rock. The Geologic Map, attached as Figure 3, shows the local site geology.

Regional rock structure is dominated by northwest trending foliation and northwest trending faults and fault zones that mark the boundaries of major rock types. Rock structure that we mapped within the project area has a predominant foliation with a general strike of north, 35° to 40° west, and a steep dip of 70°-90° to the northeast.

Rock is exposed intermittently on the surface of the site. We did not observe indications of slope instability on the natural slopes in the area.

Faulting

Active or potentially active faults have not been mapped on or near the site. In general, faults with Historic or Holocene (last 10,000 to 11,000 years) rupture are often considered "active." Late Quaternary or Quaternary age faults are often referred to as "potentially active."

Our review of published geologic mapping and site review did not reveal the presence of Late Quaternary (displacement within the last 700,000 years) or younger faults within or adjacent to the project site.

The site does not lie within or adjacent to an Alquist–Priolo Earthquake Fault Zone for fault rupture hazard (Bryant and Hart, 2007)[3], and no known active faults are mapped with the project area. Busch (2001) shows the main trace of the West Bear Mountains Fault crossing US 50 approximately 3,100 feet west of the existing Silva Valley Parkway and a north-south trending splay associated with this fault crossing US 50 approximately 1,200 feet to the west. Jennings (2010)[4] shows the West Bear Mountains Fault as Pre-Quaternary in age and is not considered as an active seismic source. We consider the potential for fault rupture at the site to be low.

---

[1] Wagner, D.L. et al, "Geologic Map of the Sacramento Quadrangle, California", California Geological Survey, Map No. 1A, 1981, revised 1987.
[2] Busch, "Generalized Geologic Map of El Dorado County, California", June, 2001, California Geological Survey, OFR 2000-03.
[3] Fault Rupture Hazard Zones in California, Special Publication 42, Interim Revision; California Geological Survey
[4] Jennings, C.W. and Bryant, W.A., 2010 Fault Activity Map of California, Geologic Data Map No. 6; California Geological Survey

Naturally Occurring Asbestos Minerals

Published mapping and our site review does not indicate that the project is within an ultramafic rock area which is typical host rock for naturally occurring asbestos (NOA) minerals; however, ultramafic rock and faulting are mapped nearby and NOA can potentially occur in the area.

Geologic mapping by Churchill[5] shows an "area more likely to contain naturally occurring asbestos" (NOA) about one mile north of the existing Silva Valley Parkway and also east of Bass Lake Road (over 1 mile east of the site). The map shows the project area to be within an area "that probably does not contain asbestos." Mapping by Bruyn[6], shows the western third of Area 1 (along the existing Silva Valley Parkway) as within an Asbestos Review Area identified as "Quarter Mile Buffer for More Likely to Contain Asbestos or Fault Line".

FIELD INVESTIGATION AND LABORATORY TESTING

To characterize the subsurface soil and rock conditions at the site, BCI observed and logged four borings (B1-B4) and 11 test pits (TP1-TP11). We field located exploration locations by taping and pacing from features shown on the topographic map; therefore, consider exploration locations and elevations shown as approximate.

Exploratory Borings

Taber Drilling drilled and sampled four exploratory borings in February 2013. Boring depths range from 24.2 to 40 feet below ground surface (bgs). BCI planned the general location of the borings based on existing data, planned rough grade, and site accessibility. The depth of the borings is based on the proposed rough grade elevation (excavation depths). Figure 2 shows the approximate boring locations and Appendix A has a discussion of drilling and sampling procedures, logs of the borings, and photographs of rock core.

Exploratory Test Pits

Burke Backhoe excavated 11 test pits with a Caterpillar 430D backhoe equipped with a 2-foot wide bucket in February 2013. The backhoe weighs approximately 14,500 pounds. Typical trenches were 2 to 3 feet wide, 8 to 12 feet long, and 3 to 8 feet deep. Figure 2 shows the approximate test pit locations and Appendix A has a discussion of excavation details and logs and photographs of the test pits.

[5] Churchill, 2000, Areas More Likely to Contain Natural Occurrences of Asbestos in Western El Dorado County, California; California Geological Survey, OFR 2000-002.
[6] Bruyn, 2005, Asbestos Review Areas, Western Slope, County of El Dorado, State of California; El Dorado County, Environmental Management

Laboratory Tests

In addition to the field penetration tests and pocket penetrometer field testing, we completed the following laboratory tests on representative soil samples from our borings and test pits:

- Moisture Content (ASTM D 2216) and Unit Weight (ASTM D 2937) for soil classification and in-place soil characteristics.
- Direct Shear (ASTM D 3080) for soil strength.
- Unconfined Compression (ASTM D 2938) for rock strength.
- Liquid and Plastic (Atterberg) Limits (ASTM D 4318) for soil classification and characteristics
- Maximum Dry Density (ASTM D 1557) for compaction characteristics.

Moisture and density tests indicate that the dry density of the shallow soils and weathered rock generally range from 100 to 108 pounds per cubic foot (pcf) with moisture contents generally in the range of 18% to 22%.

A direct shear test on a mix of soil and weathered rock (clayey sand with gravel) indicates an internal friction angle of 36 degrees and cohesion of 219 pounds per square foot (psf) at normal loads of 1000, 2000, and 3000 psf.

Unconfined compressive strength tests on rock resulted in values that range from 3,200 pounds per square inch (psi) to 17,370 psi. The unit weight of the rock varies from 174 pcf to 184 pcf.

Liquid and Plastic Limit tests confirm the presence of low plasticity silts, with a Plasticity Index of 3, in the upper 1 to 2 feet of soil.

Maximum dry density tests on mixed surface soils and weathered rock is 134.1 to 135.4 pcf at an optimum moisture content of 8.7% and 8.0%.

We attach complete laboratory test results in Appendix B and show selected results on the boring logs in Appendix A.

Seismic Refraction Survey

Seismic refraction profiling is the process by which seismic waves are produced, recorded and analyzed to determine the seismic velocity of subsurface materials. The seismic velocity of the subsurface materials can be correlated to soil and rock types, and rock weathering and competency.

We performed our seismic refraction fieldwork in January 2013. Refraction work consisted of 5 survey lines (SR1 to SR5), each 110 feet in length. The location of our refraction work is based on the rough grading plan and where significant cuts are proposed.

Our Professional Geologist led the field exercises, monitored the data acquisition, and used the computer program SeisImager by Geometrics, Inc. to analyze the acquired data. Figure 2 shows the approximate location of each seismic refraction survey. Appendix C contains a discussion of data retrieval procedures and the interpreted seismic profiles.

Existing Subsurface Information

BCI completed subsurface exploration (borings and test pits) in the project area for the planned Silva Valley Parkway Interchange[7]. Some of this information was collected within or adjacent to the EDH 52 project site. We use the information from these additional exploration points to supplement this evaluation. Figure 2 shows the location of these additional borings and test pits and we include the logs in Appendix D.

SITE CONDITIONS

Surface Conditions

In general, the site is located along the westerly flank of a northwest trending ridge with south-southwest flowing drainages. Natural slope gradients range from a low of approximately 3% (within the drainage areas) to as steep as 25% (4:1, horizontal to vertical) in the northeastern portion of the site. Elevations across the site range from a low of approximately 695 feet in the southwestern portion of the site to a high of approximately 793 feet in the northeast. Figure 1 shows the regional topography and Figure 2, Site Map, shows site details.

The site is covered with moderately dense grasses with scattered oak on knoll tops. Oak and other brush occurs along the drainages particularly in the northwest corner of the site. A thin (1 to 3 inch) layer of organic debris typically covers the ground surface.

Two well-defined drainages are present along the western half of the site (in Area 1 and Area 2, see Figure 2). The drainages flow south-southwest and across Silva Valley Parkway. At the time of our fieldwork, only the more westerly drainage had water in it (several inches with low flow). Flow in this drainage appears to emanate from piping (covered in dense vegetation) below an off-site fill at the north end.

Other surface features of significance include the following (see Figure 2 for approximate locations):

- Soil stockpile in the east-central portion of the site (southeast corner of Area 2)
- Old excavated wells or cisterns. One in the northwestern corner of the site (west end of Area 2 along the drainage) that is approximately 5.5 ft in diameter, and one in the north-central portion of the site (center of Area 2) that is approximately 4 ft in diameter. Depths are unknown.
- Structure remnants on the knoll top in the west-central portion (north end of Area 1)
- Old dam in the drainage at the west central portion (central portion of Area 1)

[7] BCI, 2012, Geotechnical Design Report, US50, Silva Valley Parkway Interchange, Phase 1, El Dorado County, California, 03-ED-50, PM 1.07/R2.40, EA 03-1E2901; Consultants Report to Mark Thomas & Co., Inc.

Tong Road, which will be realigned with the interchange project, traverses the southwest corner of the site. Minor cut slopes exist along Tong Road and along Silva Valley Parkway at the south end of the site. The soil and rock exposed in these slopes stands without significant sloughing or erosion issues (except where water has been directed down a dirt road).

In general, most of the site is undisturbed and we did not observe significant amounts of existing fill or cut area on site. We did observe some existing fill where the new Silva Valley Parkway will cross the most westerly drainage (primarily within the road right-of-way). Also, areas of disturbed ground (minor excavated areas and mounds of soil) occur in and adjacent to the drainage located east of the remnant structures in Area 1.

Subsurface Soil and Rock Conditions

Soil and rock conditions are relatively uniform across the site. In general, we observed 1 to 3 feet of stiff, sandy silt (ML) over weathered metavolcanic rock. We briefly describe the soil and rock conditions below. Refer to the Boring and Test Pit Logs in Appendix A for more specific subsurface conditions in each area.

In Area 1(southwest portion of the site) we typically encountered the following profile:

- 1 to 2 feet of soil that consists of brown, stiff sandy silt with gravel, over
- 1.5 to 5 feet of decomposed to intensely weathered, metavolcanic rock, over
- Intensely to moderately weathered rock to depths of 5.5 to 8 feet where refusal to excavation with the backhoe was encountered. Our borings and seismic refraction work show that rock below this depth becomes progressively less weathered and harder with depth.

In Area 2(northeast portion of the site) we typically encountered the following profile:

- 0.5 to 2 feet of soil that consists of brown to reddish brown, stiff sandy silt, over
- 0 to 7 feet of decomposed to intensely weathered, metavolcanic rock, over
- Intensely to moderately weathered rock to depths of 2 to 15 feet. Refusal to excavation with the backhoe was encountered at depths of 2.5 to 7.5 feet. Our borings and seismic refraction work show that rock below these depths becomes progressively less weathered and harder with depth.

We observed the rock to be intensely to moderately fractured with a predominant/pervasive foliation fracture that has a north-northwest strike and steep dip to the east. Other fracturing we observed appears to be mostly random (no preferred or repeated orientation observed).

Probing of the drainages with a rod indicates that generally 1 to 3 feet of soft or loose soil is present at the surface. Saturated soil conditions can (and do) occur within the drainages.

Groundwater

We did not encounter groundwater in any of our borings or test pits. The borings were cored below augerable depths and the presence of groundwater could not be confirmed at core depths because water is used in the coring process. We did not observe active springs or seeps within the site; however, water was standing in the drainage in the northwest corner of the site at the time of our field investigation.

Based on our experience in the area, groundwater can occur at isolated locations within the fractured rock, and an accumulation of water often occurs near the soil rock interface during and for several months following the rainy season.

Seismic Refraction Profiling

We completed seismic refraction surveys at 5 locations across the site and recorded seismic velocities from ±2,000 to over ±20,000 feet per second (fps). Based on mapped ground conditions and the materials encountered in our borings, we estimate that residual soils have a seismic velocity of 2,000 to 3,000 fps, or less. The underlying metavolcanic rock has velocities ranging from 3,000 to 20,000 fps or higher, depending on the depth, general weathering conditions, and rock fracturing. In general, the less weathered and less fractured the underlying rock, the greater the seismic velocity.

For profiles at each seismic refraction location, refer to the Seismic Refraction Profiles in Appendix C. The refraction surveys reflect average rock conditions; harder or softer rock can occur at depths different than that shown on the profiles.

CONCLUSIONS AND RECOMMENDATIONS

General Site Suitability

We did not observe areas of significant ground instability or unsuitable soil conditions at the site. The site should be suitable for the planned improvements when graded in accordance with the project plans, industry standards, and our geotechnical recommendations. Significant geotechnical challenges for site development include the following:

- Hard rock excavation especially below depths of 10 to 15 feet below existing grade
- Generation of rocky fill material from deeper cuts
- Presence of perched groundwater and/or saturated surface soil conditions during the winter and spring and at low drainage areas throughout the year
- Construction of utilities and foundations in areas cut down to hard rock

Slope Stability and Slope Construction

Fill slopes

Fill slopes are proposed at gradients of 2:1 (horizontal to vertical) or flatter. Maximum fill slope heights are 25 to 30 feet. Fill slopes constructed at a gradient of 2:1 or flatter will be stable when constructed in accordance with our grading recommendations.

Cut Slopes

Cut slopes are proposed at gradients of 2:1 or flatter. Cuts will expose surficial soils and rock that is weathered/fractured to varying degrees. Rock slope stability is commonly controlled by failure along discontinuities within the rock mass; however, weak rock masses can also fail through general shear. At the proposed slope gradients, we do not expect potential for failure through general shear.

We recorded prominent/pervasive discontinuities within test pits and at rock outcrop and reviewed the potential for failure at the proposed cut slopes. In general, most pervasive discontinuities are foliation fracture that has a steep dip (greater than 70° to the northeast) and, therefore, do not create planes or wedges out of proposed slopes with a gradient of 2:1 or flatter. We consider the proposed cut slopes to be stable.

Retain BCI to review cut slopes upon completion to confirm anticipated conditions and evaluate potential for rockfall (and mitigation methods if necessary). Some removal of loose rock blocks may be necessary upon completion of slope cuts. While slopes at a gradient of 2:1 or flatter do not typically present a rockfall hazard, it is possible that some rockfall protection (such as fencing at the base of slope) may be necessary in some areas where the rock has been disturbed. The west facing slopes are more likely to have rock pieces that can roll downslope due to foliation fracture that approximately parallels the slope and the potential for some intersecting fractures that can create larger loose rock pieces following grading (particularly in the upper 10 feet where weathering and fracture is more intense).

Grading

Soil and Rock Excavatability

Our trenching and drilling work can provide insight into rock excavation characteristics. Refer to the logs of the Borings and Test Pits in Appendix A for auger drilling and excavation results.

Based on the soil and rock conditions in our test pits, borings, and existing cuts in the vicinity, the soil and rock should be excavatable with conventional grading equipment such as scrapers, dozers, backhoes and excavators to the depth of refusal encountered in our test pits. This typically occurred at a depth of approximately 5.5 to 8 feet below existing grade in Area 1 and 2.5 to 7 feet in Area 2.

We drilled borings to auger refusal prior to coring. Generally, when auger refusal is encountered using a small diameter auger and a moderate sized drill rig, it's an indication that conventional excavation can be difficult below those depths. Table 1 summarizes the depth of auger refusal at each boring location. At depths greater than these (auger refusal depths), we expect difficult excavation when using equipment such as a D8 to D11 and blasting may be required to facilitate excavation at some locations.

TABLE 1

AUGER REFUSAL DEPTH		
Boring No.	**General Location (see Figure 2)**	**Auger Refusal Depth (bgs)**
B1	Area 1, southeast corner	10 feet
B2	Area 2, southeast corner	20 feet
B3	Area 2, northeast corner	13 feet
B4	Area 2, north side, central	4.5 feet

To further evaluate rock conditions and excavation characteristics, BCI completed seismic refraction surveys. The seismic refraction survey provides an estimate of rock rippability based on compression wave velocities in the underlying soil and rock.

Based on our review of cuts and the results of our seismic refraction survey, we present an estimate of general material rippability in Table 2.

TABLE 2

GENERAL RIPPABILITY		
Seismic Velocity (feet per second, fps)	**Material Type**	**Estimated Rippability**
$\leq 3{,}000$	Soil and decomposed to intensely weathered rock	Rippable with common construction equipment
3,000 to 8,000	Intensely to moderately weathered rock, with local less weathered blocks	Rippable, with local resistant blocks that may require blasting or alternative excavation methods
$\geq 8{,}000$	Slightly weathered to fresh rock	Blasting or alternative excavation methods, with local blocks rippable along natural discontinuities

Seismic velocities we interpret within the site range from ±2,000 to greater than ±20,000 fps. In general, we find a velocity of approximately 4,000 fps or higher indicate material (rock) that is expected to present difficulty to conventional trenching equipment (large backhoe to moderate size excavator). Additionally, Caterpillar publishes the "Caterpillar Performance Handbook (2009)," which relates the performance of various tractors to the seismic velocity of various rock types. According to the handbook, metamorphic rock with seismic velocities less than ±6,000 fps should be rippable using a D8 with a multi or single shank No. 8 ripper. Rock with velocities greater than ±8,000 fps are likely non-rippable with a D8. For a D10, these values are about ±8,000 and ±10,000 fps. Table 3 shows the approximate depth to the 4,000 fps and 8,000 fps horizon at each of our survey locations.

TABLE 3

SEISMIC REFRACTION SUMMARY			
Seismic Profile No.	**General Location (see Figure 2)**	**Approx. Depth to 4000 fps horizon (ft bgs)[1]**	**Approx. Depth to 8000 fps horizon (ft bgs)[2]**
SR1	Area 2, southeast corner	3 to 5	10 to 15
SR2	Area 2, northeast corner	3 to 5	12 to 15
SR3	Area 1, east side	4 to 7	> 25*
SR4	Area 1, southeast corner	4 to 6	8 to 28
SR5	Area 2, north side	3 to 5	12 to 18

[1]Approximate seismic velocity expected to present difficulty to conventional trenching equipment
[2]Approximate seismic velocity expected to present difficulty to conventional excavation equipment (D8)
*Possible more deeply weathered zone

In general, it appears blasting may be required to facilitate excavation at depths greater than approximately 15 to 20 feet. The refraction surveys reflect average rock conditions; harder or softer rock can occur at depths different than that shown on the profiles. For profiles at each seismic refraction location, refer to the Seismic Refraction Profiles in Appendix C.

Competent rock and large boulders may also be present at shallower depths at other locations within the project, which may require alternative excavation methods and/or localized controlled blasting.

To facilitate foundation and utility trench excavation, consider overexcavation of hard rock where building pads will be cut down to this material.

Site Clearing and Original Ground Preparation

Prior to making cuts and fills complete the following:

1. Remove any debris and boulders from the surface of the site.
2. Completely remove all structures and associated foundations, pits, and piping. Structure remnants occur on the knoll top in the west-central portion of Area 1.
3. Remove the dam and accumulated loose/soft soils behind the dam where located in the drainage at the west central portion of Area 1.
4. Remove pavement at Tong Road where new fill will be placed across the old road.
5. Strip vegetation to a minimum depth of 2 inches below the ground surface, and remove brush and trees including the roots. Do not use strippings within engineered fill. Remove strippings from the site or place in landscape areas if approved by the landscape architect. As an alternative to stripping, if vegetation is thin at the time of grading based on review and approval of BCI, thin vegetation may be disced to mix with the upper soils.
6. Widen excavations resulting from tree, foundation, and other buried features to provide access for self-propelled compaction equipment.
7. Remove concentrations of organic material and loose/soft soils from the two drainages located in the western portion of the site. In general, we expect 1 to 3 feet of overexcavation within the drainages.
8. Two open wells or cisterns are present in Area 2. Probe these features to determine depth, completely remove any backfill materials, and backfill with concrete slurry or other approved backfill based on the conditions exposed.
9. Completely remove the soil stockpile in the east-central portion of the site (southeast corner of Area 2). This stockpile is expected to be completely removed when the area is cut down to planned grade.

Prior to placing fill on stripped or cut ground surfaces, scarify the ground surface to a minimum depth of 8 inches. Moisture condition the scarified soil to within 2% of optimum and compact it to a minimum of 90% relative compaction based on ASTM D 1557 test procedure. Scarification and recompaction may not be necessary if fresh to moderately weathered rock is present as determined by a BCI representative.

Subdrainage

Drainages tend to accumulate water even after they have been filled. To reduce the potential for detrimental accumulations of subsurface water along buried drainage locations, install subdrains where the existing drainages will be filled with more than 6 feet of cover (to avoid interference with utilities). We expect this to occur at the southwest trending drainage that crosses the central portion of Area 1 and Area 2, and possibly the drainage crossing the northwest corner of Area 2 (if filled).

Excavate subdrains into the prepared ground surface (surface following removal of organics and loose/soft soils). Refer to the subdrain detail on Figure 4 and construct as follows:

- Minimum depth of 3 feet below the prepared surface
- Minimum width of 2 feet
- Fill the trench with ¾-inch washed, crushed drain rock wrapped with a non-woven filtration geotextile (Mirafi 180N or equivalent)
- Place 6-inch diameter perforated plastic pipe 4 to 6 inches above the trench base (pipe strength must be adequate to support the load of the overlying drain rock and fill)
- Use a minimum gradient of 1% for trench base and pipe
- Provide cleanouts at regular intervals (200 to 300 feet)

Taper off drain rock and filter fabric approximately 15 feet upstream of the subdrain outlet to collect water within the trench. Use solid drain pipe for the last 15 feet and outlet to suitable drainage facilities at the toe of the fill slope or into the storm drain system. Accurately record subdrain and cleanout locations so that future underground installations do not damage them.

Fill Placement and Compaction

On-site soil and weathered rock excavated from proposed cut areas may be used as fill. Fill must be free of debris and concentrations of organic material.

Based on our exploratory work and experience in the area, fill material generated from cuts will predominantly consist of a mixture of sandy silt with gravel and rock fragments up to about 8 inches in greatest dimension. Fill material generated from cuts deeper than about 15 to 20 feet will likely have a relatively small amount of soil or decomposed rock mixed with the rock fragments, and may require mixing with less rocky material to generate suitable fill material. Large rock, several feet in diameter, will be generated at isolated locations during general excavation.

Unless otherwise approved by BCI and the project engineer, limit rock dimensions as follows:

- Upper 4 feet of fill in pavement and structural areas should not contain rock larger than 4 inches in greatest dimension
- Upper 10 feet of fill should not contain rock larger than 12 inches in greatest dimension
- Place rock greater than 12 inches but less than 36 inches in greatest dimension in fills deeper than 10 feet below finish grade. Disperse the large rock throughout the fill and compact soil around the rocks as necessary to prevent voids and nesting.
- Rock larger than 36 inches should be broken down or disposed of at pre-designated locations. Large rock may be placed at the toe of slopes or other locations specifically designated for rock disposal if approved by BCI and the project engineer.

Thoroughly mix soil and rock to prevent nesting and voids.

To reduce the potential for damaging differential settlement, where structures will be located across a cut/fill transition, maintain a maximum fill depth differential of 10 feet within a horizontal length of 50 feet (average fill depth gradient of 1ft of depth over 5ft horizontally). It appears that this condition may need to be addressed at the west central and southwest sides of the Area 2 pad. Overexcavation and recompaction on the cut side of the building pad will reduce fill depth differential.

Construct fill as follows:

- Place fill in maximum 8-inch-thick loose lifts (excluding large rock placement).
- Moisture condition to within 2% of optimum moisture content.
- Compact all fill below planned structure areas and 10 feet beyond to a minimum of 95% relative compaction up to subgrade elevation.
- Compact areas outside of structure locations to a minimum 90% relative compaction within 5 feet of finish subgrade, and a minimum 95% relative compaction when deeper than 5 feet below finish subgrade.
- Fill placed on or against existing slopes with a gradient steeper than 6H:1V must be benched into the existing slope a minimum of 2 feet (or into competent soil/weathered rock as determined by BCI's field representative) so that surficial soils are removed and stepped benches are created.
- Base relative compaction and optimum moisture content on the current ASTM D 1557 test procedure.
- Restrict maximum rock size as indicated above.

If the fill is untestable because of the quantity of rock; moisture condition thoroughly as recommended by BCI, and compact each 8-inch lift with 5 to 7 passes of a Caterpillar 825 sheepsfoot compactor or the equivalent. BCI may modify the number of passes and lift thickness during construction based on the compaction equipment used and material types.

Fill Slope Construction

Where fill slopes will be more than 5 feet high, construct a key at the base of the slope prior to fill placement. The base key excavation must be a minimum of 8 feet wide and extend a minimum of 2 feet below the ground surface or to weathered rock as determined by a BCI representative. Backfill the base key excavation and place fill as recommended above. Construct fill slopes at gradients no steeper than those indicated in the "Slope Stability and Slope Construction" section of this report.

Grading Factors

It is very difficult to assess overall shrink and swell for grading volume in rocky materials due to variation in soil cover, rock weathering and presence of bouldery materials; only rough estimates for general guidance are possible. We expect very little shrinkage (cut to compacted fill) for materials in the upper 10 to 15 feet (say approximately 0% to 5%). Excavations below that depth will likely result in swell (bulking) on the order of 10% to 20% (considering some loss due to oversize material).

The amount of oversize material (large boulders) generated from deeper cuts could significantly reduce the amount of useable fill. Other considerations in shrink/swell estimates include material loss during transport and site work, potential for variability within the weathered/fractured rock, survey errors, and import used for pavement construction and trench backfill.

FOUNDATIONS

Shallow, continuous strip and spread footings will be suitable for structure foundations when the ground surface is prepped and fills are placed in accordance with our recommendations. Structure plans are not available at this time but wood frame, masonry, or concrete tilt-up structures are anticipated. We expect light to moderate loads on the order of 75 to 85 kips for columns and 2 to 6 kips per lineal foot for strip footings.

Bearing Capacity

When building pads are prepared in accordance with these recommendations, the site will be suitable for conventional foundations (i.e., continuously reinforced perimeter wall footings and isolated interior column footings) and slab-on-grade floors.

For preliminary foundation sizing considerations, embed foundations a minimum of 18 inches into the prepared subgrade. Footings must be a minimum of 24 inches wide for continuous and 36 inches for isolated columns, and sized not to exceed an allowable bearing capacity of 5,000 psf. The allowable bearing capacity may be increased by one-third if transient loads are included.

To resist lateral movement, use a coefficient of friction of 0.45 and passive earth pressure of 300 psf per foot of embedment depth or up to 440 psf per foot of embedment if lateral movements of up to 2% of the foundation embedment depth can be tolerated.

Settlement

If the design and construction team follow the recommendations in this report, we expect that total settlement at foundation locations will not exceed 1-inch. Differential settlement between column loads and along strip footings (over a distance of approximately 50 feet) are expected to be less than ½ -inch.

Foundations and slabs-on-grade underlain by fill can experience greater magnitudes of total and differential settlement when the underlying fill thickness is significant (greater than 5 feet) even when properly compacted. Modified fill placement and compaction recommendations are provided in the "Grading Recommendations" section of this report to minimize differential settlement in areas of deep fill.

Seismic Design

The building pads will be underlain by weathered rock to fresh rock that would be classified as Site Class "B" (California Building Code (CBC), 2010). Based on the rough grading plan, portions of the building pad in Area 1 (west side of pad) will have fill and soil in excess of 10 feet deep between the foundations and the underlying rock; therefore, the Site Class must be adjusted to "C" for that location. For design in accordance with current California Building Code (CBC) procedures, we provide parameters in Table 4a and 4b below.

TABLE 4a

Seismic Design Parameters (CBC 2010) EDH 52 (Area 1) – Site Class C	
S_s – Mapped Acceleration Parameter	0.384
S_1 – Mapped Acceleration Parameter	0.191
F_a – Site Coefficient	1.2
F_v – Site Coefficient	1.609
S_{MS} – MCE* Spectral Response Acceleration, Short Period	0.461
S_{M1} – MCE* Spectral Response Acceleration, 1-Second Period	0.308
S_{DS} – 5% Damped Design Spectral Response Acceleration, Short Period	0.307
S_{D1} – 5% Damped Design Spectral Response Acceleration, 1-Second	0.205
T_L – Long-Period Transition Period**	12
Peak Horizontal Ground Acceleration (PGA) – estimated from S_{DS} /2.5	0.12

*Maximum Considered Earthquake
** From Figure 22-12, ASCE 7-10

TABLE 4b

Seismic Design Parameters (CBC 2010) EDH 52 (Area 2) – Site Class B	
S_s – Mapped Acceleration Parameter	0.384
S_1 – Mapped Acceleration Parameter	0.191
F_a – Site Coefficient	1.0
F_v – Site Coefficient	1.0
S_{MS} – MCE* Spectral Response Acceleration, Short Period	0.384
S_{M1} – MCE* Spectral Response Acceleration, 1-Second Period	0.191
S_{DS} – 5% Damped Design Spectral Response Acceleration, Short Period	0.256
S_{D1} – 5% Damped Design Spectral Response Acceleration, 1-Second	0.127
T_L – Long-Period Transition Period**	12
Peak Horizontal Ground Acceleration (PGA) – estimated from S_{DS} /2.5	0.10

*Maximum Considered Earthquake
** From Figure 22-12, ASCE 7-10

CONCRETE SLABS-ON-GRADE

Design Recommendations for Geotechnical Support

Provided the contractor(s) prepares the building pads in accordance with our grading recommendations and any addendums by BCI, slab-on-grade floors may be used to support normal floor loads. Underlay the concrete slabs with a minimum of 4 inches of washed, crushed, and compacted rock to provide uniform support. Crushed rock used beneath floor slabs should be graded so that 100% passes the ¾ inch sieve and less than 5% passes the No. 4 sieve. Compact crushed rock with at least two passes of a vibratory type compactor.

For building pads Concrete floor slabs with crushed rock underlayment may be designed using a Modulus of Subgrade Reaction, k, of 200 psi per inch in cut or fill locations.

Exterior flatwork such as sidewalks, etc. may be placed directly on the prepared subgrade without the use of rock underlayment. The subgrade should be free of debris, uniformly compacted, and thoroughly wetted before the concrete is placed.

Design Considerations for Moisture

Construction of the building pads will require deep cuts into intensely to slightly weathered rock. BCI did not observe seepage in our exploratory borings or test pits. However, after development, irrigation and rainwater may access deep excavations in rock via seepage and/or from the ground surface. While we don't expect this seepage to be significant enough to require underfloor drainage systems, water will travel on relatively impermeable rock surfaces and could be enough to cause higher than normal moisture vapor to pass through the concrete floor slabs. Excessive vapor can cause floor covering damage and mold.

The designer must consider the potential for excessive water vapor and design the slabs and underlayment accordingly. References providing guidelines for vapor mitigation and slab underlayment include ASTM E 1643, ACI 302.1R, PCA, and flooring manufacturer requirements for the intended use.

No matter how extensive the vapor mitigation design, some vapor will pass through the slabs and, the slabs themselves will absorb and release some moisture. Therefore, consult with floor covering and mold specialists, and include a contingency to replace some floor coverings and mitigate some mold growth.

PRELIMINARY PAVEMENT DESIGN

For this report, we provide preliminary pavement design recommendations based on the anticipated soil conditions in subgrade areas and Resistance (R) values we obtained during our work on the Silva Valley Parkway Interchange project. Base final pavement design on the subgrade conditions present after rough grading.

Preliminary Structural Sections

In general, we find that shallow soils in the area have R-Values on the order of 20 to 30, and mixtures of soil and rock have R-Values on the order of 40 to 60. In-place rock that has been ripped and prepped for subgrade is expected to have an R-Value in excess of 50.

The site has a relatively thin soil horizon that overlies weathered rock. We expect pavement subgrade to be composed of either fill that consists of a mixture of minor amounts of silt soil with excavated rock, or cut locations where the rock is exposed at subgrade elevation. For preliminary pavement considerations, an R-Value of 40 is applicable.

Based on an R-value of 40 and the Caltrans Flexible Pavement Design method, we recommend the preliminary asphalt concrete pavement sections in Table 5 for the Traffic Index (TI) shown. The TI is a measure of wheel load, frequency, and intensity. Our experience is that TI's of 4.0–5.0 are often used for automobile parking, and TI's of 6.0-7.0 are often used for fire truck access, channelized flow, and bus traffic. Use of the proper TI should be confirmed by the project designers.

TABLE 5

Preliminary Pavement Structural Sections (Based on an R-Value = 40)					
Material	**TI = 4**	**TI = 5**	**TI = 6**	**TI = 7**	**TI= 8**
Asphalt Concrete (ft)	0.20	0.20	0.25	0.30	0.40
Class 2 Agg. Baserock* (ft)	0.35	0.40	0.50	0.65	0.65

* ¾–inch or 1½-inch maximum

To develop these pavement sections we assume that the native subgrade soil (minimum of upper 1 foot) is uniformly compacted to 95% or higher relative compaction and that the baserock is uniformly compacted to 95% or higher relative compaction. BCI should provide design R-Value testing prior to final design.

Pavement Subgrade Preparation

Prior to placing aggregate base, check for subgrade stability by running a loaded water truck over the subgrade. Mitigate unstable areas as recommended by BCI.

Design the pavement areas to allow for positive surface drainage. Adequate surface slope, subgrade crown, and uniform compaction contribute to long-term pavement performance.

It is important to design the drainage of pavement areas so that water is not allowed under the paved areas. If water is trapped under paving the water can saturate the base course and soil subgrade, which results in premature pavement failures.

To reduce the amount of water that can seep beneath the pavement, install cutoff curbs where pavement abuts landscaped areas. Extend cutoff curbs a minimum depth of 4 inches below the pavement subgrade or to in-place rock, whichever depth is less. Where cutoff curbs are undesirable, subgrade drains can be constructed to remove excess water from landscape areas or an impermeable barrier, such as 20 mil HDPE, could be placed at the back of curb to a depth of approximately 1 foot below subgrade.

UNDERGROUND UTILITY CONSTRUCTION

Excavation of the exploratory trenches was difficult when we encountered moderately weathered rock. Trenching in moderately weathered to fresh rock will require heavy trenching equipment and or excavation facilitated by chiseling, pre-drilling, and/or blasting. The depth to moderately weathered rock varies throughout the site but it generally occurs at depths of 5 to 15 feet below the existing ground surface.

Trenches should be sloped or braced in accordance with current Cal/OSHA requirements.

With the exception of trenches that cross the existing drainages, we do not anticipate the need for significant dewatering during installation of utility lines (assuming construction takes place in the drier months of the year when the surface soil is not saturated and there is no surface water on the site).

Backfill utility trenches with approved on site soil and/or broken down rock mixed with soil. Use a maximum material size of 4 inches. Some excavated materials will have to be crushed and/or screened to a maximum size of 4 inches for use as trench backfill. Trench backfill materials should be approved by the geotechnical engineer prior to use. Due to the potentially rocky nature of trench backfill on the site, extend bedding materials at least 6-12 inches above the pipe before general trench backfill proceeds to reduce the potential for pipe damage.

Compact trench backfill as follows:

- Maximum uncompacted lift thickness of 1 foot unless field performance testing can demonstrate adequate compaction of thicker lifts
- Base compaction on ASTM D 1557 test specifications
- Minimum of 95% relative compaction in structural areas and 10 feet beyond
- Minimum of 90% relative compaction in pavement areas
- Minimum of 95% relative compaction where trench backfill exceeds a depth of 10 feet
- Minimum of 85% relative compaction in landscape areas
- Use mechanical methods of compaction
- Jetting is not an acceptable means of compaction
- Base compaction of untestable (rocky fill) on performance specifications determined to be adequate by the project geotechnical engineer at the time of backfilling

PRELIMINARY SOIL CORROSIVITY

For the adjacent Silva Valley Parkway Interchange project (BCI, 2012), we completed corrosion tests (pH, resistivity, chlorides, and sulfates) on soil and weathered rock samples retrieved from exploratory borings and trenches. Tests indicate maximum chloride and sulfate concentrations of 24 and 68 part per million (ppm), respectively. The soil pH ranged from 5.3 to 7.6 and the minimum resistivity ranged from 1,420 to 10,724 ohm-cm (most greater than 2,000 ohm-cm). In general, our tests indicate that the surface soils have a relatively low pH ranging from 5.3 to 6.1 and the underlying, weathered rock has a relatively neutral pH ranging from 7.1 to 7.6.

Based on our tests in the area and site conditions, we expect mild to moderate corrosion potential for iron pipe along the alignment and a generally non-corrosive environment for concrete. To further define site specific potential for corrosive soil and rock, additional testing should be completed.

NATURALLY OCCURRING ASBESTOS

We did not observe rock likely to contain NOA (serpentinite or ultramafic rock) within the site and our rock cores show no indication of fibrous minerals. However, the western third of Area 1 (along the existing Silva Valley Parkway) falls within area identified by El Dorado County Environmental Management as being within an "Asbestos Review Area".

El Dorado County Air Quality Management rule 223-2 requires that an Asbestos Dust Mitigation Plan be prepared, submitted, approved and implemented when more than 20 cubic yards of earth will be moved at sites identified as being in an "Asbestos Review Area". If desired, it is possible that an exemption to the rule may be obtained with further geologic evaluation for NOA. Since preliminary rough grading plans indicate that the portion of the site that falls within the "Asbestos Review Area" will only be filled above, discussion with the County regarding exemption on this basis could be considered.

RISK MANAGEMENT

Our experience and that of our profession clearly indicates that the risks of costly design, construction, and maintenance problems can be significantly lowered by retaining the geotechnical engineer of record to provide additional services during design and construction. For this project, BCI should be retained to:

- Review and provide comments on the civil plans, foundation plans, and specifications prior to construction.
- Monitor construction to check and document our report assumptions. At a minimum, BCI should monitor/test grading, cut slope excavation, foundation excavation, pavement subgrade, aggregate baserock and asphalt compaction.
- Update this report if design changes occur, 2 years or more lapses between this report and construction, and/or site conditions have changed.

If we are not retained to perform the above applicable services, we are not responsible for any other party's interpretation of our report, and subsequent addendums, letters, and discussions.

LIMITATIONS

BCI performed services in accordance with generally accepted geotechnical engineering principles and practices currently used in this area. We do not warranty our services.

This is report and preliminary foundation recommendations are based on rough grading plans. Final geotechnical recommendations will be necessary for final improvements.

BCI based this report on the current site conditions. We assumed the soil, rock and groundwater conditions are representative of the subsurface conditions on the site. Actual conditions between probes could be different.

Our scope did not include evaluation of on-site hazardous materials, soil corrosion potential, or flooding.

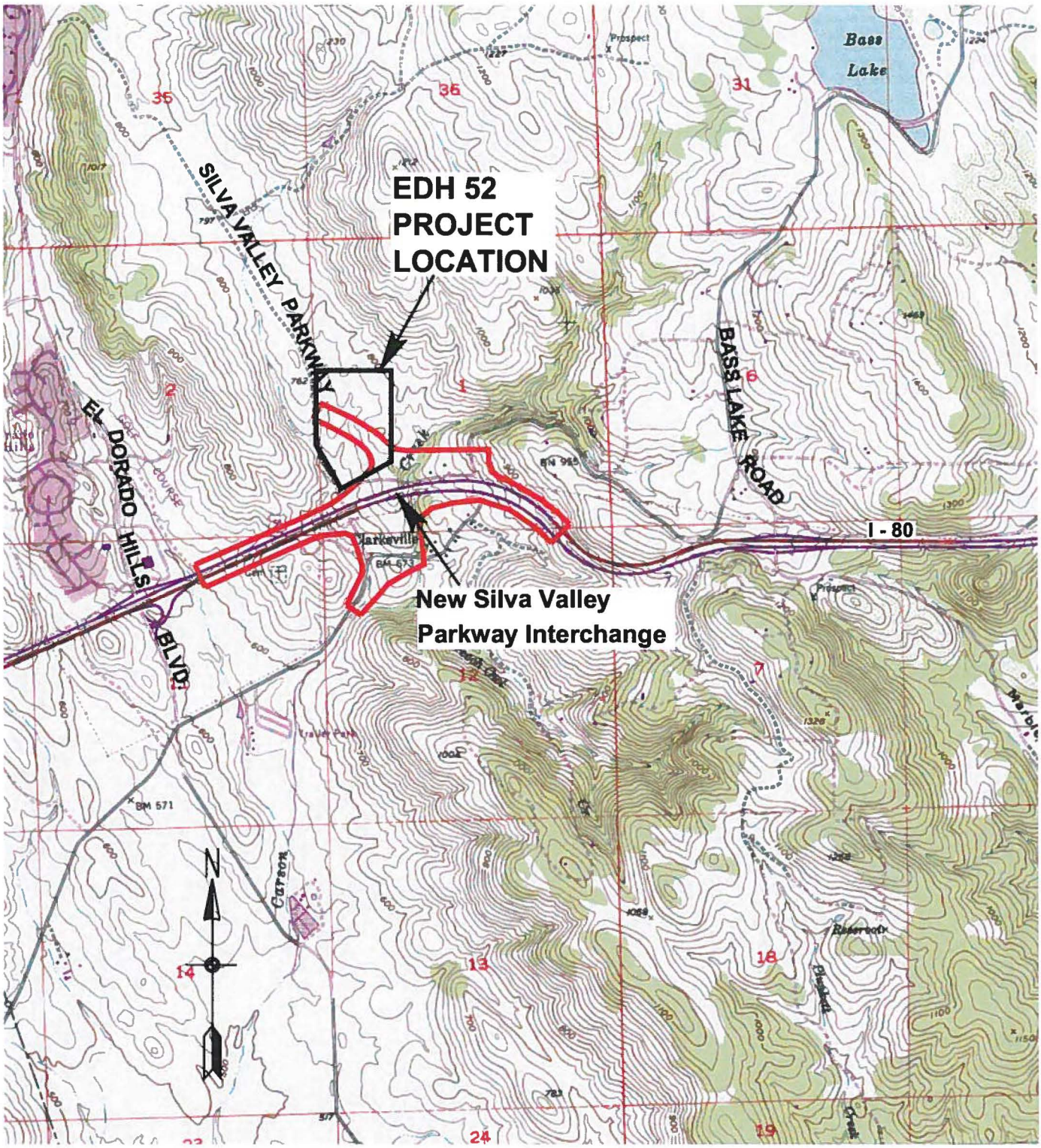
Modern design and construction are complex, with many regulatory sources/restrictions, involved parties, construction alternatives, etc. It is common to experience changes and delays. The owner should set aside a reasonable contingency fund based on complexities and cost estimates to cover changes and delays.

Logs of our borings and test pits are presented in Appendix A. The lines designating the interface between soil and rock types are approximate. The transition between soil types may be abrupt or gradual. Our recommendations are based on the final logs, which represent our interpretation of the field logs and general knowledge of the site and geological conditions.

Boring, test pit, and seismic refraction survey locations and elevations are approximate (locations were not surveyed).

FIGURES

Figure 1 – Vicinity Map
Figure 2 – Site Map
Figure 3 – Geologic Map
Figure 4 – Subdrain Detail



Source: MAPTECH Terrain Navigator Pro, v. 7.01, USGS topographic map, 7.5 minute quadrangle, 1:24000, Clarksville 1953 (revised 1980).

SCALE: 1"=0.5 Miles

blackburn consulting

11521 Blocker Drive, Suite 110
Auburn,CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495
www.blackburnconsulting.com

VICINITY MAP

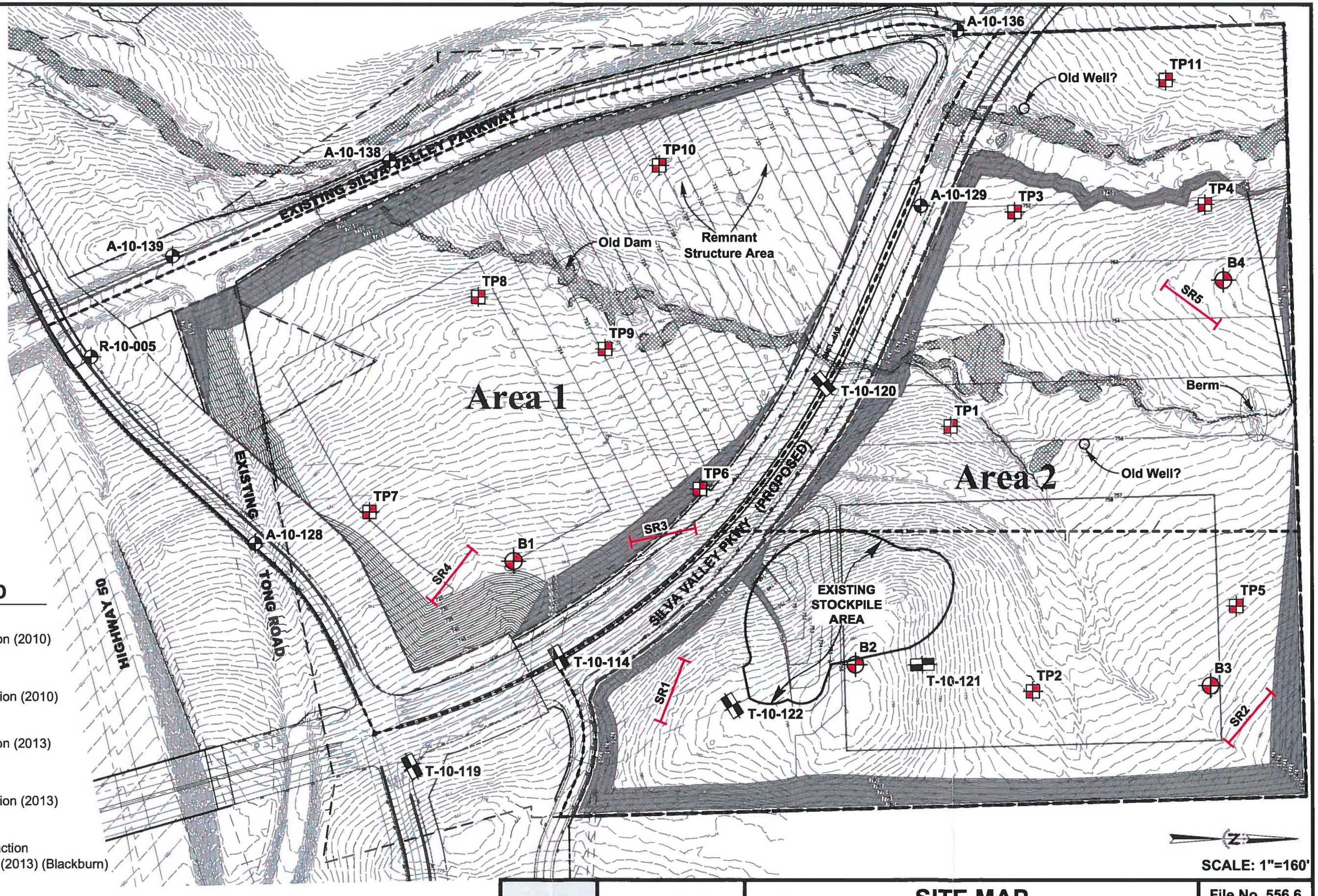
EDH 52
Highway 50 & Silva Valley Parkway
El Dorado Hills, California

File No. 556.6

March 2013

Figure 1

3/8/2013 556.6 Fig 1 EDH 52.dwg



LEGEND

X-10-001 Boring Location (2010) (Blackburn)

T-10-005 Test Pit Location (2010) (Blackburn)

B2 Boring Location (2013) (Blackburn)

TP3 Test Pit Location (2013) (Blackburn)

SR3 Seismic Refraction Line Location (2013) (Blackburn)

WETLANDS AREA

EXISTING STOCKPILE AREA

LIMITS OF GRADING ACTIVITY

Source: Rough Grading Plans for EDH 52 by RSC Engineering, Sheet C2.0, dated January 23, 2013.

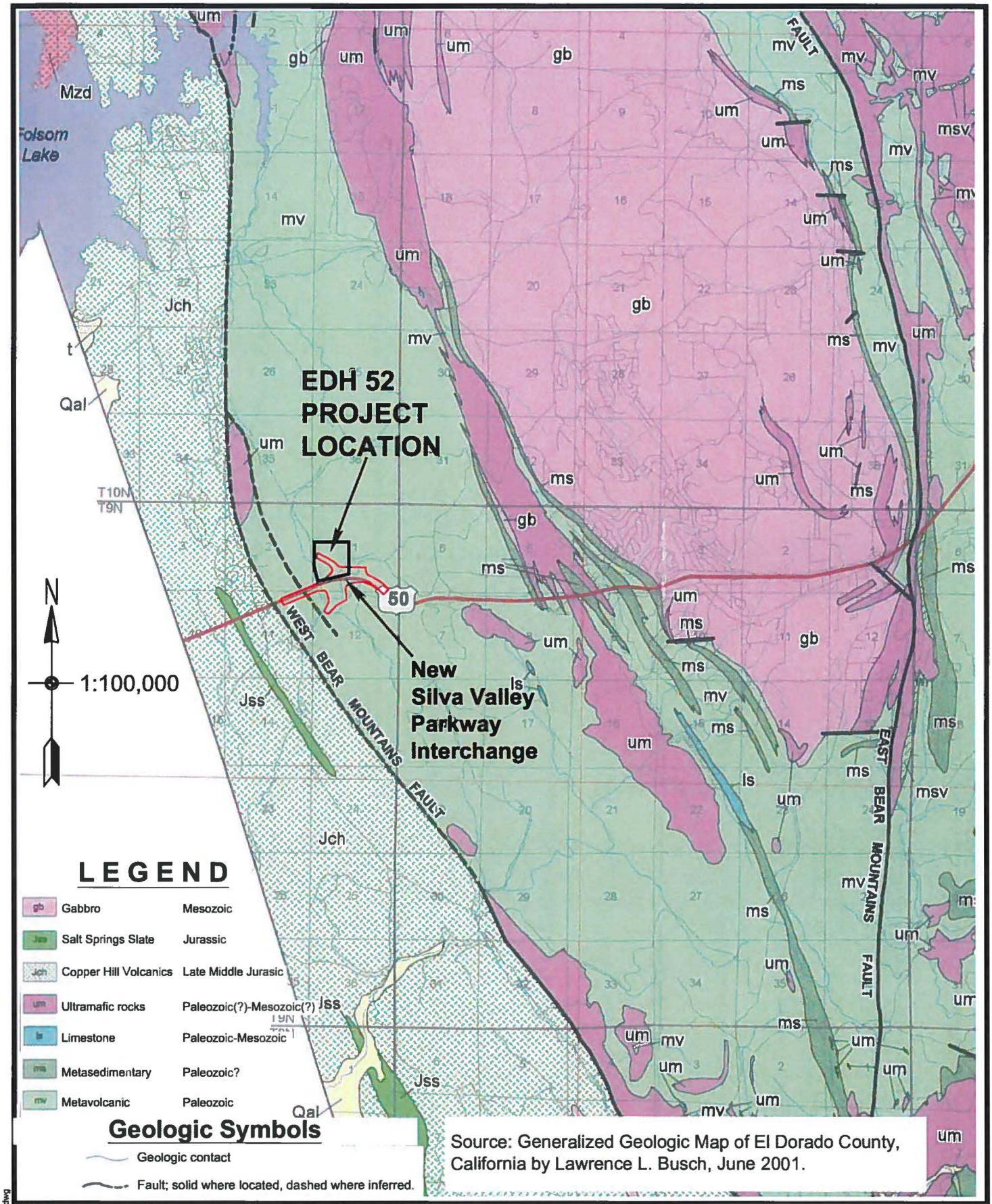
blackburn consulting
11521 Blocker Drive, Ste 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495
www.blackburnconsulting.com

SITE MAP

EDH 52
Highway 50 & Silva Valley Parkway
El Dorado Hills, California

File No. 556.6
March 2013
Figure 2

3/8/2013 556.6 Fig 2 EDH 52.dwg



3/8/2013 556 6 Fig 3 EDH 52.dwg

blackburn consulting
11521 Blocker Drive, Suite 110
Auburn,CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495
www.blackburnconsulting.com

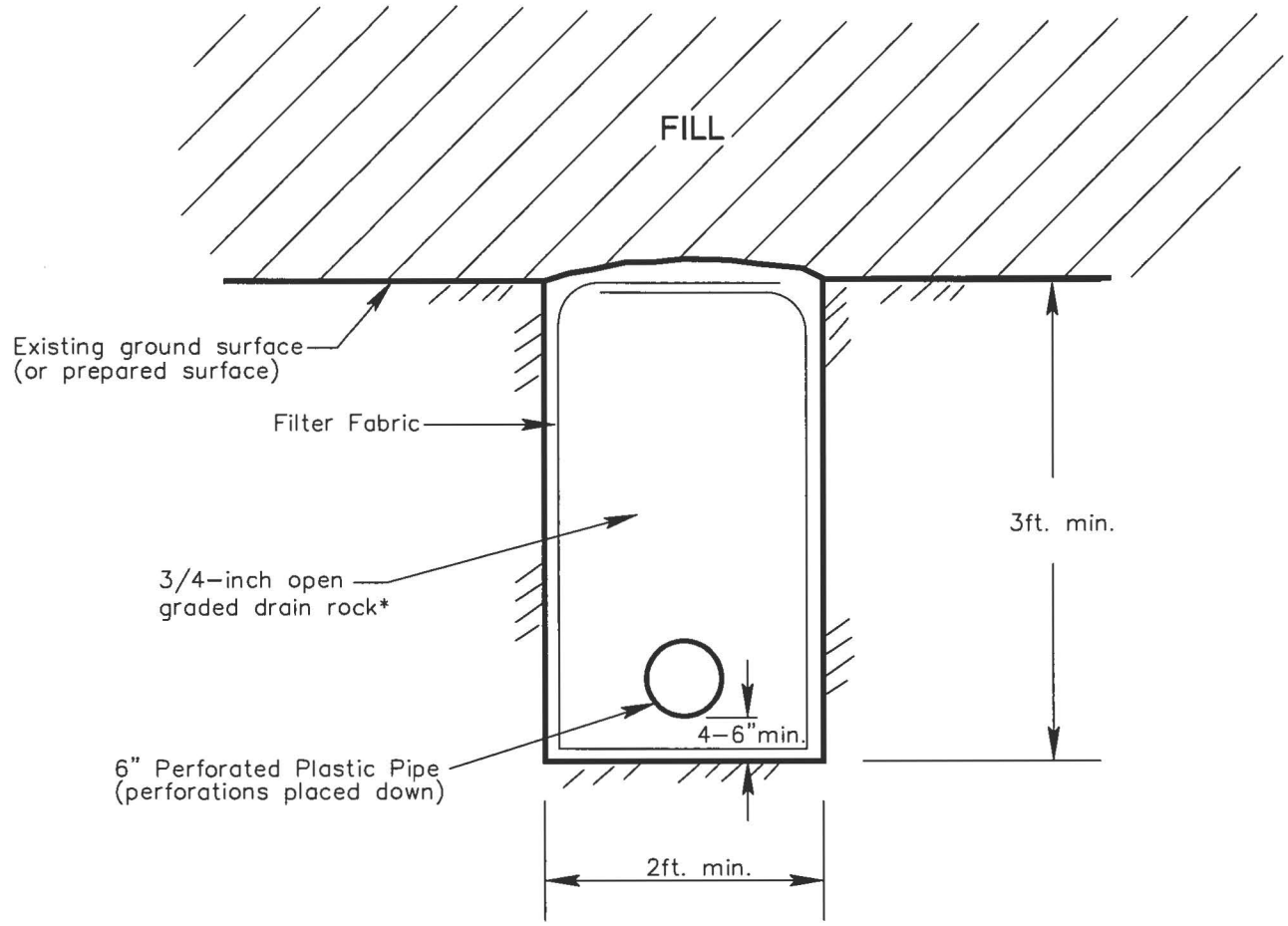
GEOLOGIC MAP

EDH 52
Highway 50 & Silva Valley Parkway
El Dorado Hills, California

File No. 556.6

March 2013

Figure 3



* Class II permeable filter mix (per Caltrans Standards, Section 68–1) may be substituted for drain rock and filter fabric.

NOT TO SCALE

blackburn consulting

11521 Blocker Drive, Suite 110
Auburn,CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495
www.blackburnconsulting.com

SUBDRAIN DETAIL

EDH 52

Highway 50 & Silva Valley Parkway

El Dorado Hills, California

File No. 556.6

March 2013

Figure 4

3/8/2013 556.6 Fig 4 EDH 52.dwg

APPENDIX A

Exploration Notes
Boring and Test Pit Logs
Rock Core and Test Pit Photographs

APPENDIX A – Logs of Borings and Test Pits

Field Exploration Notes

BCI drilled and sampled 4 exploratory borings and excavated 11 test pits in February 2013. The Site Map, Figure 2, shows boring and test pit locations. Logs of the borings and test pits are attached.

Our drilling subcontractor (Taber Drilling) drilled the borings using a CME 55 crawler and solid-stem (4-inch diameter) auger techniques in soil and weathered/fractured, penetrable rock. Harder, more competent rock was drilled and sampled using HQ wire-line coring techniques. Boring depths range from 24.2 to 40 feet below the ground surface (bgs). We obtained soil samples at various intervals using a 3.0-inch O.D. Modified California (MC) sampler (equipped with 2.4-inch diameter brass liners) and a Standard Penetration Test (SPT) sampler driven with an automatic hammer, weighing 140-pounds and falling approximately 30 inches.

Burke Backhoe excavated the test pits with a Caterpillar 430D backhoe equipped with a 2-foot wide bucket. The backhoe weighs approximately 14,500 pounds. Typical trenches were 2 to 3 feet wide, 8 to 12 feet long, and 3 to 8 feet deep. We obtained both hand-driven and bulk soil samples at various intervals.

BCI's project engineer logged the borings and test pits, retrieved samples for laboratory testing, and used plastic caps to seal and label the 2.4-inch diameter, 6-inch long brass tubes retrieved from MC sampling and hand-driven samples. We also retrieved bulk soil samples from soil/rock cuttings, placed this material in large cloth bags, and labeled for laboratory identification. We placed continuous core samples (rock) in labeled core boxes.

During drilling and trench excavation, BCI performed field strength testing with a pocket penetrometer on select cohesive and/or cemented soil samples. The logs include field test results.

LOGGED BY	BEGIN DATE	COMPLETION DATE	BOREHOLE LOCATION (Lat/Long or North/East and Datum)	HOLE ID
RCP	2-4-13	2-4-13	38.65985° / -121.05578°	B1
DRILLING CONTRACTOR			BOREHOLE LOCATION (Offset, Station, Line)	SURFACE ELEVATION
Taber				~744.0 ft
DRILLING METHOD			DRILL RIG	BOREHOLE DIAMETER
HQ Core			CME 55 Crawler	4 in
SAMPLER TYPE(S) AND SIZE(S) (ID)			HAMMER TYPE	HAMMER EFFICIENCY, ERi
2.5" ID CAL MOD, SPT, HQ Core			Safety semi-automatic drop (140#/ 30")	85%
BOREHOLE BACKFILL AND COMPLETION			GROUNDWATER READINGS DURING DRILLING	AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
Grout backfilled 2/4/2013			None		31.0 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION/REMARKS	Sample Type	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	% <200 Sieve	Plasticity Index	Phi Angle (°)	Shear Strength (psf)	Unconfined Compressive Strength (psi)	Additional Lab Tests	Drilling Method	Casing Depth
	0																		
	1		SANDY SILT; ML; (stiff); brown; moist		Bag A			100											
742.00	2		METAVOLCANIC ROCK; fine grained; massive; dusky yellow brown; decomposed to very intensely weathered; soft to moderately soft; very intensely fractured; excavates as silty sand																
740.00	4																		
	5				1	50/1"	REF	0											
738.00	6		METAVOLCANIC ROCK; fine grained; massive; medium to dark olive gray; intensely to moderately weathered; moderately soft; very intensely fractured																
	7		Drilling becomes difficult																
736.00	8																		
	9																		
734.00	10		Near refusal to auger drilling		2	50/2"	REF	100/100											
	11				Run 1				0										
732.00	12																		
	13		METAVOLCANIC ROCK; fine grained; massive; medium greenish gray; slightly to moderately weathered; hard to very hard; intensely to moderately fractured		Run 2			88	0										
730.00	14																		
	15																		
728.00	16		Some low angle fractures (10-15 degrees), moderately spaced, to a depth of approximately 15 ft																
	17																		
726.00	18				Run 3			100	38										
	19																		
724.00	20																		
	21		Foliation dips at approximately 70 degrees																
722.00	22				Run 4			100	60										
	23										180					UC =17370	UC		
720.00	24																		
	25																		

(continued)

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

PROJECT NAME		FILE NO.	HOLE ID
El Dorado Hills EDH 52		556.6	B1
COUNTY	ROUTE	POSTMILE	
ED			
CLIENT			
EDH 52 LLC.			
PREPARED BY	CHECKED BY	SHEET	
RCP	PFF	1 of 2	

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION/REMARKS	Sample Type	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	% <200 Sieve	Plasticity Index	Phi Angle (°)	Shear Strength (psf)	Unconfined Compressive Strength (psi)	Additional Lab Tests	Drilling Method	Casing Depth
	25																		
718.00	26		METAVOLCANIC ROCK; fine grained; massive; medium greenish gray; slightly to moderately weathered; hard to very hard; moderately fractured		Run 4			100	60										
	27				Run 5			100	80										
716.00	28																		
	29																		
714.00	30																		
	31																		
712.00	32		Bottom of borehole at 31.0 ft bgs																
	33		Grout backfilled 2/4/2013																
710.00	34																		
	35																		
708.00	36																		
	37																		
706.00	38																		
	39																		
704.00	40																		
	41																		
702.00	42																		
	43																		
700.00	44																		
	45																		
698.00	46																		
	47																		
696.00	48																		
	49																		
694.00	50																		
	51																		
692.00	52																		
	53																		
690.00	54																		
	55																		

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

PROJECT NAME: El Dorado Hills EDH 52		FILE NO.: 556.6	HOLE ID: B1
COUNTY: ED	ROUTE:	POSTMILE:	
CLIENT: EDH 52 LLC.			
PREPARED BY: RCP	CHECKED BY: PFF	SHEET: 2 of 2	

LOGGED BY	BEGIN DATE	COMPLETION DATE	BOREHOLE LOCATION (Lat/Long or North/East and Datum)	HOLE ID
RCP	2-1-13	2-1-13	38.66145° / -121.05513°	B2
DRILLING CONTRACTOR			BOREHOLE LOCATION (Offset, Station, Line)	SURFACE ELEVATION
Taber				~792.0 ft
DRILLING METHOD			DRILL RIG	BOREHOLE DIAMETER
HQ Core			CME 55 Crawler	4 in
SAMPLER TYPE(S) AND SIZE(S) (ID)			HAMMER TYPE	HAMMER EFFICIENCY, ERi
2.5" ID CAL MOD, SPT, HQ Core			Safety semi-automatic drop (140#/ 30")	85%
BOREHOLE BACKFILL AND COMPLETION			GROUNDWATER READINGS DURING DRILLING	AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
Grout backfilled 2/1/2013			None		40.0 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION/REMARKS	Sample Type	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	% <200 Sieve	Plasticity Index	Phi Angle (°)	Shear Strength (psf)	Unconfined Compressive Strength (psi)	Additional Lab Tests	Drilling Method	Casing Depth
	0																		
	1		SANDY SILT; ML; (soft); brown; moist		Bag B			100											
790.00	2																		
	3		METAVOLCANIC ROCK; fine grained; massive; olive brown; decomposed to very intensely weathered; very soft to soft; very intensely fractured; excavates as silty sand																
788.00	4																		
	5				1	50		100											
786.00	6																		
	7																		
784.00	8		METAVOLCANIC ROCK; fine grained; massive; light greenish gray; intensely weathered; moderately soft to moderately hard; very intensely fractured																
	9																		
782.00	10				2	50/3"	REF	100											
	11																		
780.00	12																		
	13																		
778.00	14																		
	15				3	50/5"	REF	100											
776.00	16		Becomes intensely to moderately weathered																
	17																		
774.00	18		Drilling becomes difficult																
	19										176					UC =3200	UC		
772.00	20				4	50/2"	REF	100											
	21		Refusal to auger drilling		Run 1			100	81										
770.00	22		METAVOLCANIC ROCK; fine grained; massive; medium greenish gray; moderately weathered; moderately hard to hard; intensely fractured		Run 2			100	40										
	23																		
768.00	24																		
	25																		

(continued)

blackburn consulting
Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

PROJECT NAME		FILE NO.	HOLE ID
El Dorado Hills EDH 52		556.6	B2
COUNTY	ROUTE	POSTMILE	
ED			
CLIENT			
EDH 52 LLC.			
PREPARED BY	CHECKED BY	SHEET	
RCP	PFF	1 of 2	

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION/REMARKS	Sample Type	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	% <200 Sieve	Plasticity Index	Phi Angle (°)	Shear Strength (psf)	Unconfined Compressive Strength (psi)	Additional Lab Tests	Drilling Method	Casing Depth
766.00	26		METAVOLCANIC ROCK; fine grained; massive; medium greenish gray; slightly weathered to fresh; hard to very hard; moderately to slightly fractured		Run 3			100	82										
764.00	28		Foliation dips at approximately 80 degrees																
762.00	30				Run 4			74	36										
760.00	32																		
758.00	34																		
756.00	36				Run 5			100	100										
754.00	38				Run 6			100	100		184					UC =12030	UC		
752.00	40		Bottom of borehole at 40.0 ft bgs Grout backfilled 2/1/2013																
750.00	42																		
748.00	44																		
746.00	46																		
744.00	48																		
742.00	50																		
740.00	52																		
738.00	54																		

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

PROJECT NAME: El Dorado Hills EDH 52		FILE NO.: 556.6	HOLE ID: B2
COUNTY: ED	ROUTE:	POSTMILE:	
CLIENT: EDH 52 LLC.			
PREPARED BY: RCP	CHECKED BY: PFF	SHEET: 2 of 2	

LOGGED BY	BEGIN DATE	COMPLETION DATE	BOREHOLE LOCATION (Lat/Long or North/East and Datum)	HOLE ID
RCP	2-1-13	2-1-13	38.66312° / -121.05495°	B3
DRILLING CONTRACTOR			BOREHOLE LOCATION (Offset, Station, Line)	SURFACE ELEVATION
Taber				~772.0 ft
DRILLING METHOD			DRILL RIG	BOREHOLE DIAMETER
HQ Core			CME 55 Crawler	4 in
SAMPLER TYPE(S) AND SIZE(S) (ID)			HAMMER TYPE	HAMMER EFFICIENCY, ERi
2.5" ID CAL MOD, SPT, HQ Core			Safety semi-automatic drop (140#/ 30")	85%
BOREHOLE BACKFILL AND COMPLETION			GROUNDWATER READINGS DURING DRILLING / AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
Grout backfilled 2/1/2013			None	30.1 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION/REMARKS	Sample Type	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	% <200 Sieve	Plasticity Index	Phi Angle (°)	Shear Strength (psf)	Unconfined Compressive Strength (psi)	Additional Lab Tests	Drilling Method	Casing Depth
	0																		
	1		SANDY lean CLAY; CL; (stiff); brown; moist	Bag	C			100											
770.00	2																		
	3		METAVOLCANIC ROCK; fine grained; massive; light olive gray to brown; decomposed; very soft to soft; very intensely fractured; excavates as clayey sand																
768.00	4																		
	5																		
					1	16 50/5"	50/5	100		22	101								
766.00	6																		
	7																		
764.00	8																		
	9		METAVOLCANIC ROCK; fine grained; massive; light olive gray to brown; very intensely to intensely weathered; moderately soft to moderately hard; very intensely fractured																
762.00	10				2	50/4"	REF	100											
	11																		
760.00	12																		
	13																		
758.00	14		Refusal to auger drilling		Run 1			98											
	15		METAVOLCANIC ROCK; fine grained; massive; medium greenish gray; slightly weathered to fresh; hard to very hard; slightly fractured																
756.00	16																		
	17																		
754.00	18				Run 2			100			175					UC =7060	UC		
	19																		
752.00	20																		
	21																		
750.00	22																		
	23				Run 3			100											
748.00	24																		
	25																		

(continued)

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

PROJECT NAME		FILE NO.	HOLE ID
El Dorado Hills EDH 52		556.6	B3
COUNTY	ROUTE	POSTMILE	
ED			
CLIENT			
EDH 52 LLC.			
PREPARED BY	CHECKED BY	SHEET	
RCP	PFF	1 of 2	

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION/REMARKS	Sample Type	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	% <200 Sieve	Plasticity Index	Phi Angle (°)	Shear Strength (psf)	Unconfined Compressive Strength (psi)	Additional Lab Tests	Drilling Method	Casing Depth
746.00	26		METAVOLCANIC ROCK; fine grained; massive; medium greenish gray; slightly weathered to fresh; hard to very hard; slightly fractured		Run 4			100			174					UC =5080	UC		
744.00	28																		
742.00	30																		
	31		Bottom of borehole at 30.1 ft bgs																
740.00	32		Grout backfilled 2/1/2013																
738.00	34																		
736.00	36																		
734.00	38																		
732.00	40																		
730.00	42																		
728.00	44																		
726.00	46																		
724.00	48																		
722.00	50																		
720.00	52																		
718.00	54																		
	55																		

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

PROJECT NAME		FILE NO.	HOLE ID
El Dorado Hills EDH 52		556.6	B3
COUNTY	ROUTE	POSTMILE	
ED			
CLIENT			
EDH 52 LLC.			
PREPARED BY	CHECKED BY	SHEET	
RCP	PFF	2 of 2	

LOGGED BY	BEGIN DATE	COMPLETION DATE	BOREHOLE LOCATION (Lat/Long or North/East and Datum)	HOLE ID
RCP	2-4-13	2-4-13	38.66322° / -121.05738°	B4
DRILLING CONTRACTOR			BOREHOLE LOCATION (Offset, Station, Line)	SURFACE ELEVATION
Taber				~760.0 ft
DRILLING METHOD			DRILL RIG	BOREHOLE DIAMETER
HQ Core			CME 55 Crawler	4 in
SAMPLER TYPE(S) AND SIZE(S) (ID)			HAMMER TYPE	HAMMER EFFICIENCY, ERi
2.5" ID CAL MOD, SPT, HQ Core			Safety semi-automatic drop (140#/ 30")	85%
BOREHOLE BACKFILL AND COMPLETION			GROUNDWATER READINGS DURING DRILLING	AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
Grout backfilled 2/4/2013			None		24.2 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION/REMARKS	Sample Type	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	% <200 Sieve	Plasticity Index	Phi Angle (°)	Shear Strength (psf)	Unconfined Compressive Strength (psi)	Additional Lab Tests	Drilling Method	Casing Depth
	0																		
	1		SANDY SILT; ML; (stiff); brown; moist																
758.00	2																		
	3		METAVOLCANIC ROCK; fine grained; massive; yellowish brown; decomposed to very intensely weathered; very soft to soft; very intensely fractured; excavates as silty sand																
756.00	4																		
	5		Refusal to auger drilling		1 Run 1	50/1"	REF	0 81	0										
754.00	6																		
	7		METAVOLCANIC ROCK; fine grained; massive; medium greenish gray; moderately weathered; moderately hard to hard; very intensely to intensely fractured																
752.00	8				Run 2			100	0										
	9		Foliation dips approximately at 80-85 degrees																
750.00	10				Run 3			37	0										
	11																		
748.00	12																		
	13																		
746.00	14				Run 4			91	26										
	15																		
744.00	16																		
	17																		
742.00	18				Run 5			100	43										
	19																		
740.00	20																		
	21																		
738.00	22				Run 6			94	12										
	23																		
736.00	24																		
	25																		
734.00	26		Bottom of borehole at 24.2 ft bgs																
	27		Grout backfilled 2/4/2013																
732.00	28																		
	29																		
	30																		

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

PROJECT NAME		FILE NO.	HOLE ID
El Dorado Hills EDH 52		556.6	B4
COUNTY	ROUTE	POSTMILE	
ED			
CLIENT			
EDH 52 LLC.			
PREPARED BY	CHECKED BY	SHEET	
RCP	PFF	1 of 1	

LOG OF TEST PIT TP01

Date Excavated: 2/5/13 Logged by: PFF Depth to Water (ft): None

Equipment: CAT 430D Backhoe Surface Elevation(ft): ~768 Time of Reading: 2/5/2013

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE	HAND PEN. (tsf)	MOISTURE (%)	DRY UNIT WT. (pcf)	LAB TESTS
		Sandy Silt, ML, stiff, moist, reddish brown					
		Metavolcanic Rock, fine grained, yellowish brown, intensely to moderately weathered, moderately to intensely fractured, moderately hard. Breaks out into pieces generally 3 to 10 inches in diameter. Some up to 10 to 14 inches.					
		Metavolcanic Rock, fine to medium grained, becomes moderately to slightly weathered, moderately fractured and hard. Predominate Fracture - foliation N35W, 80NE					
		Total Depth = 2.5 ft Refusal to excavation No groundwater					
5							

blackburn consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: 530-887-1494 Fax: 530-887-1495
E-Mail: bcistaff@blackburnconsulting.com

1LOGPERPAGE TEST PIT LOGS.GPJ BLACKBRN.GDT 3/11/13

LOG OF TEST PIT TP02

Date Excavated: 2/5/13 Logged by: PFF Depth to Water (ft): None

Equipment: CAT 430D Backhoe Surface Elevation(ft): ~768 Time of Reading: 2/5/2013

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE	HAND PEN. (tsf)	MOISTURE (%)	DRY UNIT WT. (pcf)	LAB TESTS
		Sandy Silt, ML, stiff, moist, brown		1.0	22	107	
		Metavolcanic Rock, fine grained, yellowish brown, moderately weathered, moderately to intensely fractured, soft to moderately hard.		4.5+			
		Foliation: N35-40W, 75-80NE Joint: N40E, 65NW					
		Total Depth = 3.5 ft Refusal to excavation No groundwater					
5							

blackburn consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: 530-887-1494 Fax: 530-887-1495
E-Mail: bcistaff@blackburnconsulting.com

1LOGPERPAGE TEST PIT LOGS.GPJ BLACKBRN.GDT 3/11/13

LOG OF TEST PIT TP03

Date Excavated: 2/5/13 Logged by: PFF Depth to Water (ft): None

Equipment: CAT 430D Backhoe Surface Elevation(ft): ~768 Time of Reading: 2/5/2013

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE	HAND PEN. (tsf)	MOISTURE (%)	DRY UNIT WT. (pcf)	LAB TESTS
		Sandy Silt, ML, stiff, moist, brown, some clay		1.0	18	108	
		Sandy Clay with gravel, CL, stiff, yellowish brown (decomposed rock)		1.5			
		Metavolcanic Rock, yellowish brown, intensely weathered, intensely fractured, soft.					
		Excavates as a very stiff to hard, sandy silt with gravel.		3.5			
5							
		Total Depth = 7.5 ft Slow to excavate No groundwater					

blackburn consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: 530-887-1494 Fax: 530-887-1495
E-Mail: bcistaff@blackburnconsulting.com

1LOGPERPAGE TEST PIT LOGS.GPJ BLACKBRN.GDT 3/11/13

LOG OF TEST PIT TP04

Date Excavated: 2/5/13 Logged by: PFF Depth to Water (ft): None

Equipment: CAT 430D Backhoe Surface Elevation(ft): ~768 Time of Reading: 2/5/2013

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE	HAND PEN. (tsf)	MOISTURE (%)	DRY UNIT WT. (pcf)	LAB TESTS
		Sandy Silt, ML, stiff, moist, reddish brown		1.0			
		Sandy Clay with gravel, CL, hard, moist, gray to yellowish brown (decomposed rock).		4.5+			
		Metavolcanic Rock, yellowish brown, intensely weathered, intensely fractured, soft. Excavates out as a sandy silt with gravel. Foliation: N42W, 80NE		4.5+			
5		Total Depth = 5.0 ft Near refusal to excavation No groundwater					

blackburn consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: 530-887-1494 Fax: 530-887-1495
E-Mail: bcistaff@blackburnconsulting.com

1LOGPERPAGE TEST PIT LOGS.GPJ BLACKBRN.GDT 3/11/13

LOG OF TEST PIT TP05

Date Excavated: 2/5/13 Logged by: PFF Depth to Water (ft): None

Equipment: CAT 430D Backhoe Surface Elevation(ft): ~768 Time of Reading: 2/5/2013

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE	HAND PEN. (tsf)	MOISTURE (%)	DRY UNIT WT. (pcf)	LAB TESTS
		Sandy Silt with gravel, ML, stiff, moist, reddish brown.		1.5			PA, CP (1557)
		Metavolcanic Rock, yellowish brown and gray, intensely weathered, intensely fractured, soft.		4.5+			
5		Metavolcanic Rock, fine to medium grained, yellowish brown and gray, moderately weathered, moderately fractured, moderately hard. Foliation: N40W, 75NE Joint: N75W, 35SW (within upper 5 feet) Excavates in pieces generally 3 to 8 inches in diameter with some pieces up to 8 to 12 inches.					
		Total Depth = 7.0 ft Refusal to excavation No groundwater					

blackburn consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: 530-887-1494 Fax: 530-887-1495
E-Mail: bcistaff@blackburnconsulting.com

1LOGPERPAGE TEST PIT LOGS.GPJ BLACKBRN.GDT 3/11/13

LOG OF TEST PIT TP06

Date Excavated: 2/5/13 Logged by: PFF Depth to Water (ft): None

Equipment: CAT 430D Backhoe Surface Elevation(ft): ~768 Time of Reading: 2/5/2013

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE	HAND PEN. (tsf)	MOISTURE (%)	DRY UNIT WT. (pcf)	LAB TESTS
		Sandy Silt with gravel, ML, stiff, moist, brown to reddish brown.		1.0	20	108	
		Metavolcanic Rock, yellowish brown and gray, intensely weathered, intensely fractured, soft.		4.5+			
5		Metavolcanic Rock, fine grained, brown and gray, moderately weathered, moderately fractured, moderately hard to hard. Foliation: N38W, 90 Excavates as sandy gravel/cobble with pieces generally 3 to 8 inches in diameter					
		Total Depth = 8.0 ft Refusal to excavation No groundwater					

blackburn consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: 530-887-1494 Fax: 530-887-1495
E-Mail: bcistaff@blackburnconsulting.com

1LOGPERPAGE TEST PIT LOGS.GPJ BLACKBRN.GDT 3/11/13

LOG OF TEST PIT TP07

Date Excavated: 2/5/13 Logged by: PFF Depth to Water (ft): None

Equipment: CAT 430D Backhoe Surface Elevation(ft): ~768 Time of Reading: 2/5/2013

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE	HAND PEN. (tsf)	MOISTURE (%)	DRY UNIT WT. (pcf)	LAB TESTS
		Sandy Silt, ML, stiff, moist, reddish brown.					
		Metavolcanic Rock, olive brown to dark gray, intensely weathered, intensely fractured, soft to moderately hard.		1.5			PA, CP (1557), DS
5		Metavolcanic Rock, fine grained, olive brown and dark gray, moderately weathered, moderately fractured, moderately hard. Foliation: N35W, 85NE Excavates as sandy gravel/cobble with pieces generally 3 to 6 inches in diameter and some 6 to 12 inches.					
		Total Depth = 8.0 ft Near refusal to excavation No groundwater					

blackburn consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: 530-887-1494 Fax: 530-887-1495
E-Mail: bcistaff@blackburnconsulting.com

1LOGPERPAGE TEST PIT LOGS.GPJ BLACKBRN.GDT 3/11/13

LOG OF TEST PIT TP08

Date Excavated: 2/5/13 Logged by: PFF Depth to Water (ft): None

Equipment: CAT 430D Backhoe Surface Elevation(ft): ~768 Time of Reading: 2/5/2013

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE	HAND PEN. (tsf)	MOISTURE (%)	DRY UNIT WT. (pcf)	LAB TESTS
		Sandy Silt, ML, stiff, moist, brown.		1.5			
		Metavolcanic Rock, olive to gray, intensely weathered, intensely fractured, soft.		4.0			
5		Metavolcanic Rock, olive to gray, fine to medium grained, intensely to moderately weathered, moderately fractured, moderately hard. Excavates as Gravelly silt with sand and cobbles with pieces generally 2 to 6 inches in diameter and some 8 to 14 inches.		4.5+			
		Total Depth = 5.5 ft Near refusal to excavation No groundwater					

blackburn consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: 530-887-1494 Fax: 530-887-1495
E-Mail: bcistaff@blackburnconsulting.com

1LOGPERPAGE TEST PIT LOGS.GPJ BLACKBRN.GDT 3/11/13

LOG OF TEST PIT TP09

Date Excavated: 2/5/13 Logged by: PFF Depth to Water (ft): None

Equipment: CAT 430D Backhoe Surface Elevation(ft): ~768 Time of Reading: 2/5/2013

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE	HAND PEN. (tsf)	MOISTURE (%)	DRY UNIT WT. (pcf)	LAB TESTS
		Sandy Silt with clay, ML, stiff, moist, reddish brown		1.5	19	100	
		Sandy Clay with gravel, CL, stiff to very stiff, moist, yellowish brown (decomposed rock).		1.75			
		Metavolcanic Rock, yellowish brown, intensely weathered, intensely fractured, soft. Excavates out as a sandy gravel with clay.					
5							
		Total Depth = 7.0 ft Slow to excavatable No groundwater					

blackburn consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: 530-887-1494 Fax: 530-887-1495
E-Mail: bcistaff@blackburnconsulting.com

1LOGPERPAGE TEST PIT LOGS.GPJ BLACKBRN.GDT 3/11/13

LOG OF TEST PIT TP10

Date Excavated: 2/5/13 Logged by: PFF Depth to Water (ft): None

Equipment: CAT 430D Backhoe Surface Elevation(ft): ~768 Time of Reading: 2/5/2013

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE	HAND PEN. (tsf)	MOISTURE (%)	DRY UNIT WT. (pcf)	LAB TESTS
		Sandy Silt with gravel, ML, soft to stiff, moist, reddish brown		1.0			
		Metavolcanic Rock, yellowish brown, intensely weathered, intensely fractured, soft. Foliation: N48W, 85NE		4.5+			
5		Metavolcanic Rock, fine grained, yellowish brown, intensely to moderately weathered, moderately fractured, soft. Excavates out with pieces generally less than 4 inches in diameter with some 6 to 12 inches.					
		Total Depth = 7.0 ft Refusal to excavation but on an irregularly weathered surface No groundwater					

blackburn consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: 530-887-1494 Fax: 530-887-1495
E-Mail: bcistaff@blackburnconsulting.com

1LOGPERPAGE TEST PIT LOGS.GPJ BLACKBRN.GDT 3/11/13

LOG OF TEST PIT TP11

Date Excavated: 2/5/13 Logged by: PFF Depth to Water (ft): None

Equipment: CAT 430D Backhoe Surface Elevation(ft): ~768 Time of Reading: 2/5/2013

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE	HAND PEN. (tsf)	MOISTURE (%)	DRY UNIT WT. (pcf)	LAB TESTS
		Sandy Silt, ML, stiff, moist, reddish brown.					PI
		Metavolcanic Rock, fine grained, yellowish brown to gray, moderately weathered, intensely fractured, moderately hard. Foliation: N38W, 70NE					
5		Total Depth = 3.0 ft Refusal to excavation No groundwater					

blackburn consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: 530-887-1494 Fax: 530-887-1495
E-Mail: bcistaff@blackburnconsulting.com

1LOGPERPAGE TEST PIT LOGS.GPJ BLACKBRN.GDT 3/11/13

GROUP SYMBOLS AND NAMES

Graphic / Symbol	Group Names
GW	Well-graded GRAVEL Well-graded GRAVEL with SAND
GP	Poorly graded GRAVEL Poorly graded GRAVEL with SAND
GW-GM	Well-graded GRAVEL with SILT Well-graded GRAVEL with SILT and SAND
GW-GC	Well-graded GRAVEL with CLAY (or SILTY CLAY) Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)
GP-GM	Poorly graded GRAVEL with SILT Poorly graded GRAVEL with SILT and SAND
GP-GC	Poorly graded GRAVEL with CLAY (or SILTY CLAY) Poorly graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)
GP	SILTY GRAVEL SILTY GRAVEL with SAND
GC	CLAYEY GRAVEL CLAYEY GRAVEL with SAND
GC-GM	SILTY, CLAYEY GRAVEL SILTY, CLAYEY GRAVEL with SAND
SW	Well-graded SAND Well-graded SAND with GRAVEL
SP	Poorly graded SAND Poorly graded SAND with GRAVEL
SW-SM	Well-graded SAND with SILT Well-graded SAND with SILT and GRAVEL
SW-SC	Well-graded SAND with CLAY (or SILTY CLAY) Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)
SP-SM	Poorly graded SAND with SILT Poorly graded SAND with SILT and GRAVEL
SP-SC	Poorly graded SAND with CLAY (or SILTY CLAY) Poorly graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)
SP	SILTY SAND SILTY SAND with GRAVEL
SP	CLAYEY SAND CLAYEY SAND with GRAVEL
SC-SM	SILTY, CLAYEY SAND SILTY, CLAYEY SAND with GRAVEL
PT	PEAT
	COBBLES COBBLES and BOULDERS BOULDERS

Graphic / Symbol	Group Names
CL	Lean CLAY Lean CLAY with SAND Lean CLAY with GRAVEL SANDY lean CLAY SANDY lean CLAY with GRAVEL GRAVELLY lean CLAY GRAVELLY lean CLAY with SAND
CL-ML	SILTY CLAY SILTY CLAY with SAND SILTY CLAY with GRAVEL SANDY SILTY CLAY SANDY SILTY CLAY with GRAVEL GRAVELLY SILTY CLAY GRAVELLY SILTY CLAY with SAND
ML	SILT SILT with SAND SILT with GRAVEL SANDY SILT SANDY SILT with GRAVEL GRAVELLY SILT GRAVELLY SILT with SAND
OL	ORGANIC lean CLAY ORGANIC lean CLAY with SAND ORGANIC lean CLAY with GRAVEL SANDY ORGANIC lean CLAY SANDY ORGANIC lean CLAY with GRAVEL GRAVELLY ORGANIC lean CLAY GRAVELLY ORGANIC lean CLAY with SAND
OL	ORGANIC SILT ORGANIC SILT with SAND ORGANIC SILT with GRAVEL SANDY ORGANIC SILT SANDY ORGANIC SILT with GRAVEL GRAVELLY ORGANIC SILT GRAVELLY ORGANIC SILT with SAND
CH	Fat CLAY Fat CLAY with SAND Fat CLAY with GRAVEL SANDY fat CLAY SANDY fat CLAY with GRAVEL GRAVELLY fat CLAY GRAVELLY fat CLAY with SAND
MH	Elastic SILT Elastic SILT with SAND Elastic SILT with GRAVEL SANDY elastic SILT SANDY elastic SILT with GRAVEL GRAVELLY elastic SILT GRAVELLY elastic SILT with SAND
OH	ORGANIC fat CLAY ORGANIC fat CLAY with SAND ORGANIC fat CLAY with GRAVEL SANDY ORGANIC fat CLAY SANDY ORGANIC fat CLAY with GRAVEL GRAVELLY ORGANIC fat CLAY GRAVELLY ORGANIC fat CLAY with SAND
OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL SANDY elastic ELASTIC SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
OL/OH	ORGANIC SOIL ORGANIC SOIL with SAND ORGANIC SOIL with GRAVEL SANDY ORGANIC SOIL SANDY ORGANIC SOIL with GRAVEL GRAVELLY ORGANIC SOIL GRAVELLY ORGANIC SOIL with SAND

FIELD AND LABORATORY TESTS

C	Consolidation (ASTM D 2435-04)
CL	Collapse Potential (ASTM D 5333-03)
CP	Compaction Curve (CTM 216 - 06)
CR	Corrosion, Sulfates, Chlorides (CTM 643 - 99; CTM 417 - 06; CTM 422 - 06)
CU	Consolidated Undrained Triaxial (ASTM D 4767-02)
DS	Direct Shear (ASTM D 3080-04)
EI	Expansion Index (ASTM D 4829-03)
M	Moisture Content (ASTM D 2216-05)
OC	Organic Content (ASTM D 2974-07)
P	Permeability (CTM 220 - 05)
PA	Particle Size Analysis (ASTM D 422-63 [2002])
PI	Liquid Limit, Plastic Limit, Plasticity Index (AASHTO T 89-02, AASHTO T 90-00)
PL	Point Load Index (ASTM D 5731-05)
PM	Pressure Meter
PP	Pocket Penetrometer
R	R-Value (CTM 301 - 00)
SE	Sand Equivalent (CTM 217 - 99)
SG	Specific Gravity (AASHTO T 100-06)
SL	Shrinkage Limit (ASTM D 427-04)
SW	Swell Potential (ASTM D 4546-03)
TV	Pocket Torvane
UC	Unconfined Compression - Soil (ASTM D 2166-06) Unconfined Compression - Rock (ASTM D 2938-95)
UU	Unconsolidated Undrained Triaxial (ASTM D 2850-03)
UW	Unit Weight (ASTM D 4767-04)
VS	Vane Shear (AASHTO T 223-96 [2004])

SAMPLER GRAPHIC SYMBOLS

- Standard Penetration Test (SPT)
- 2.5" ID Sampler
- 2" ID Sampler
- Shelby Tube
- Piston Sampler
- NX Rock Core
- HQ Rock Core
- Bulk Sample
- Other (see remarks)

DRILLING METHOD SYMBOLS

- Auger Drilling
- Rotary Drilling
- Dynamic Cone or Hand Driven
- Diamond Core

WATER LEVEL SYMBOLS

- First Water Level Reading (during drilling)
- Static Water Level Reading (short-term)
- Static Water Level Reading (long-term)

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

BORING RECORD LEGEND

COUNTY	ROUTE	POSTMILE
El Dorado		

PROJECT NAME
El Dorado Hills EDH 52

File No.	PREPARED BY	DATE	SHEET
556.6	**RCP**		**1 of 3**

CONSISTENCY OF COHESIVE SOILS				
Descriptor	**Unconfined Compressive Strength (tsf)**	**Pocket Penetrometer (tsf)**	**Torvane (tsf)**	**Field Approximation**
Very Soft	< 0.25	< 0.25	< 0.12	Easily penetrated several inches by fist
Soft	0.25 - 0.50	0.25 - 0.50	0.12 - 0.25	Easily penetrated several inches by thumb
Medium Stiff	0.50 - 1.0	0.50 - 1.0	0.25 - 0.50	Can be penetrated several inches by thumb with moderate effort
Stiff	1.0 - 2.0	1.0 - 2.0	0.50 - 1.0	Readily indented by thumb but penetrated only with great effort
Very Stiff	2.0 - 4.0	2.0 - 4.0	1.0 - 2.0	Readily indented by thumbnail
Hard	> 4.0	> 4.0	> 2.0	Indented by thumbnail with difficulty

APPARENT DENSITY OF COHESIONLESS SOILS	
Descriptor	**SPT N_{60} - Value (blows / foot)**
Very Loose	0 - 4
Loose	5 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	> 50

MOISTURE	
Descriptor	**Criteria**
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

PERCENT OR PROPORTION OF SOILS	
Descriptor	**Criteria**
Trace	Particles are present but estimated to be less than 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

SOIL PARTICLE SIZE		
Descriptor		**Size**
Boulder		> 12 inches
Cobble		3 to 12 inches
Gravel	Coarse	3/4 inch to 3 inches
	Fine	No. 4 Sieve to 3/4 inch
Sand	Coarse	No. 10 Sieve to No. 4 Sieve
	Medium	No. 40 Sieve to No. 10 Sieve
	Fine	No. 200 Sieve to No. 40 Sieve
Silt and Clay		Passing No. 200 Sieve

PLASTICITY OF FINE-GRAINED SOILS	
Descriptor	**Criteria**
Nonplastic	A 1/8-inch thread cannot be rolled at any water content.
Low	The thread can barely be rolled, and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll, and not much time is required to reach the plastic limit; it cannot be rerolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit.
High	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit.

CEMENTATION	
Descriptor	**Criteria**
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

NOTE: This legend sheet provides descriptors and associated criteria for required soil description components only. Refer to Caltrans Soil and Rock Logging, Classification, and Presentation Manual (July 2007), Section 2, for tables of additional soil description components and discussion of soil description and identification.

blackburn consulting
Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

BORING RECORD LEGEND

COUNTY	ROUTE	POSTMILE
El Dorado		

PROJECT NAME: **El Dorado Hills EDH 52**

File No.	PREPARED BY	DATE	SHEET
556.6	**RCP**		**2 of 3**

ROCK GRAPHIC SYMBOLS


IGNEOUS ROCK


SEDIMENTARY ROCK


METAMORPHIC ROCK

BEDDING SPACING

Descriptor	Thickness or Spacing
Massive	> 10 ft
Very thickly bedded	3 to 10 ft
Thickly bedded	1 to 3 ft
Moderately bedded	3-5/8 inches to 1 ft
Thinly bedded	1-1/4 to 3-5/8 inches
Very thinly bedded	3/8 inch to 1-1/4 inches
Laminated	< 3/8 inch

WEATHERING DESCRIPTORS FOR INTACT ROCK

	Diagnostic Features					
	Chemical Weathering-Discoloration-Oxidation		Mechanical Weathering and Grain Boundary Conditions	Texture and Solutioning		
Descriptor	Body of Rock	Fracture Surfaces		Texture	Solutioning	General Characteristics
Fresh	No discoloration, not oxidized	No discoloration or oxidation	No separation, intact (tight)	No change	No solutioning	Hammer rings when crystalline rocks are struck.
Slightly Weathered	Discoloration or oxidation is limited to surface of, or short distance from, fractures; some feldspar crystals are dull	Minor to complete discoloration or oxidation of most surfaces	No visible separation, intact (tight)	Preserved	Minor leaching of some soluble minerals may be noted	Hammer rings when crystalline rocks are struck. Body of rock not weakened.
Moderately Weathered	Discoloration or oxidation extends from fractures usually throughout; Fe-Mg minerals are "rusty"; feldspar crystals are "cloudy"	All fracture surfaces are discolored or oxidized	Partial separation of boundaries visible	Generally preserved	Soluble minerals may be mostly leached	Hammer does not ring when rock is struck. Body of rock is slightly weakened.
Intensely Weathered	Discoloration or oxidation throughout; all feldspars and Fe-Mg minerals are altered to clay to some extent; or chemical alteration produces in situ disaggregation (refer to grain boundary conditions)	All fracture surfaces are discolored or oxidized; surfaces are friable	Partial separation, rock is friable; in semi-arid conditions, granitics are disaggregated	Altered by chemical disintegration such as via hydration or argillation	Leaching of soluble minerals may be complete	Dull sound when struck with hammer; usually can be broken with moderate to heavy manual pressure or by light hammer blow without reference to planes of weakness such as incipient or hairline fractures or veinlets. Rock is significantly weakened.
Decomposed	Discolored of oxidized throughout, but resistant minerals such as quartz may be unaltered; all feldspars and Fe-Mg minerals are completely altered to clay		Complete separation of grain boundaries (disaggregated)	Resembles a soil; partial or complete remnant rock structure may be preserved; leaching of soluble minerals usually complete		Can be granulated by hand. Resistant minerals such as quartz may be present as "stringers" or "dikes".

Note: Combination descriptors (such as "slightly weathered to fresh") are used where equal distribution of both weathering characteristics is present over significant intervals or where characteristics present are "in between" the diagnostic feature. However, combination descriptors should not be used where significant identifiable zones can be delineated. Only two adjacent descriptors shall be combined. "Very intensely weathered" is the combination descriptor for "decomposed to intensely weathered".

RELATIVE STRENGTH OF INTACT ROCK

Descriptor	Uniaxial Compressive Strength (psi)
Extremely Strong	> 30,000
Very Strong	14,500 - 30,000
Strong	7,000 - 14,500
Medium Strong	3,500 - 7,000
Weak	700 - 3,500
Very Weak	150 - 700
Extremely Weak	< 150

ROCK HARDNESS

Descriptor	Criteria
Extremely Hard	Specimen cannot be scratched with pocket knife or sharp pick; can only be chipped with repeated heavy hammer blows
Very hard	Specimen cannot be scratched with pocket knife or sharp pick; breaks with repeated heavy hammer blows
Hard	Specimen can be scratched with pocket knife or sharp pick with heavy pressure; heavy hammer blows required to break specimen
Moderately Hard	Specimen can be scratched with pocket knife or sharp pick with light or moderate pressure; breaks with moderate hammer blows
Moderately Soft	Specimen can be grooved 1/6 in. with pocket knife or sharp pick with moderate or heavy pressure; breaks with light hammer blow or heavy hand pressure
Soft	Specimen can be grooved or gouged with pocket knife or sharp pick with light pressure, breaks with light to moderate hand pressure
Very Soft	Specimen can be readily indented, grooved, or gouged with fingernail, or carved with pocket knife; breaks with light hand pressure

CORE RECOVERY CALCULATION (%)

$$\frac{\Sigma \text{ Length of the recovered core pieces (in.)}}{\text{Total length of core run (in.)}} \times 100$$

RQD CALCULATION (%)

$$\frac{\Sigma \text{ Length of intact core pieces} > 4 \text{ in.}}{\text{Total length of core run (in.)}} \times 100$$

FRACTURE DENSITY

Descriptor	Criteria
Unfractured	No fractures
Very Slightly Fractured	Lengths greater 3 ft
Slightly Fractured	Lengths from 1 to 3 ft, few lengths outside that range
Moderately Fractured	Lengths mostly in range of 4 in. to 1 ft, with most lengths about 8 in.
Intensely Fractured	Lengths average from 1 in. to 4 in. with scattered fragmented intervals with lengths less than 4 in.
Very Intensely Fractured	Mostly chips and fragments with few scattered short core lengths

blackburn consulting
Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

BORING RECORD LEGEND

COUNTY	ROUTE	POSTMILE
El Dorado		

PROJECT NAME: El Dorado Hills EDH 52

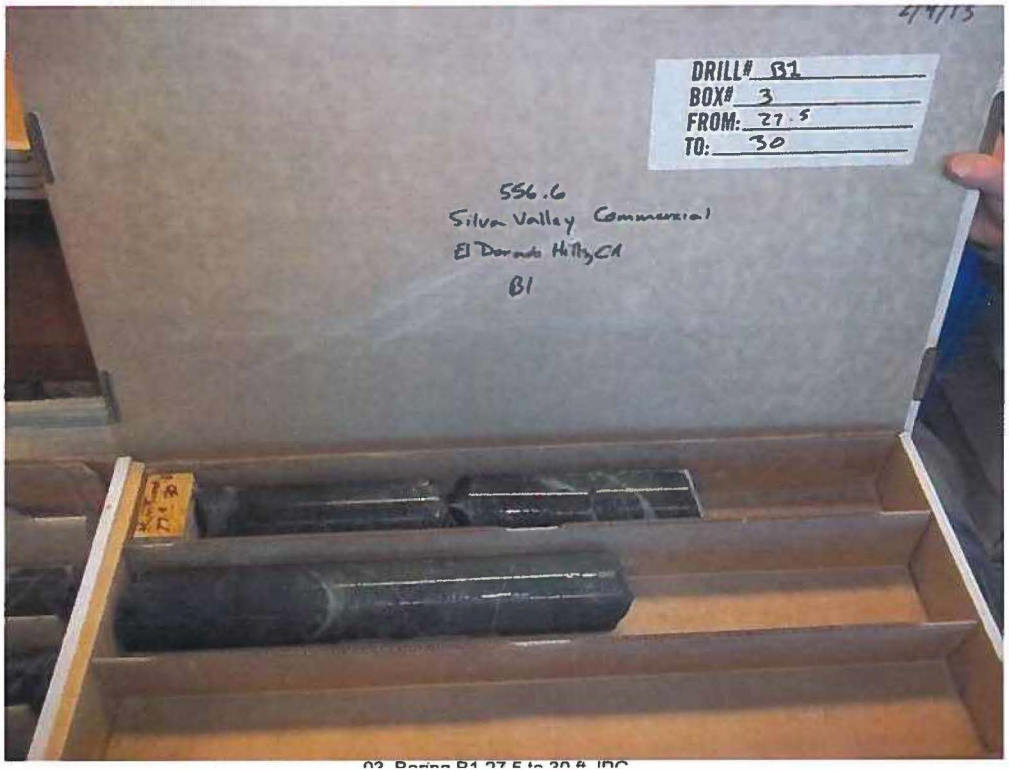
File No.	PREPARED BY	DATE	SHEET
556.6	RCP		3 of 3



01. Boring B1 10.2 to 19.2 ft.JPG



02. Boring B1 19.2 to 27.5 ft.JPG



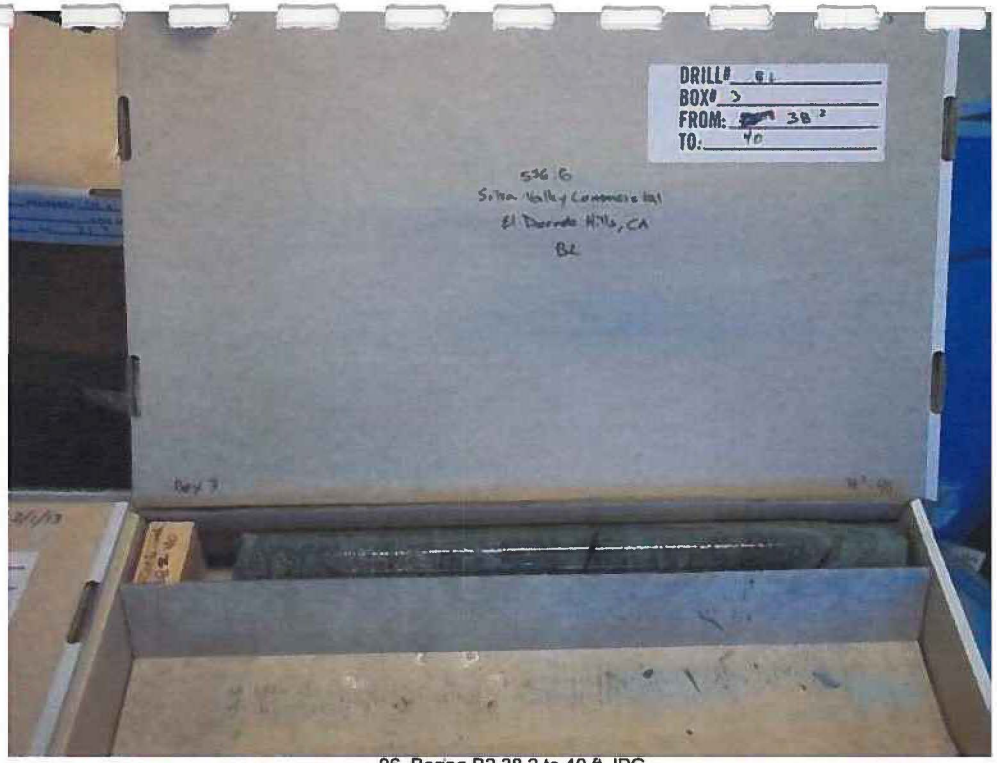
03. Boring B1 27.5 to 30 ft.JPG



04. Boring B2 20.5 to 29.8 ft.JPG



05. Boring B2 28.8 to 38.2 ft.JPG



06. Boring B2 38.2 to 40 ft.JPG



07. Boring B3 13.0 to 21.7 ft.JPG



08. Boring B3 21.7 to 30.1 ft.JPG



09. Boring B4 4.6 to 16.8 ft.JPG



10. Boring B4 16.8 to 24.2 ft.JPG



01. Test Pit TP 1.jpg
02/04/2013



02. Test Pit TP 1.jpg
02/04/2013



03. Test Pit TP 2.jpg
02/04/2013



04. Test Pit TP 2.jpg
02/04/2013



05. Test Pit TP 3.jpg
02/04/2013



06. Test Pit TP 3.jpg
02/04/2013



07. Test Pit TP 4.jpg
02/04/2013



08. Test Pit TP 4.jpg
02/04/2013



09. Test Pit TP 5.jpg
02/04/2013



10. Test Pit TP 5.jpg
02/04/2013



11. Test Pit TP 6.jpg
02/04/2013



12. Test Pit TP 6.jpg
02/04/2013



13. Test Pit TP 7.jpg
02/04/2013



14. Test Pit TP 7.jpg
02/04/2013



15. Test Pit TP 8.jpg
02/04/2013



16. Test Pit TP 8.jpg
02/04/2013



17. Test Pit TP 9.jpg
02/04/2013



18. Test Pit TP 9.jpg
02/04/2013



19. Test Pit TP 10.jpg
02/04/2013



20. Test Pit TP 10.jpg
02/04/2013



21. Test Pit TP 11.jpg
02/04/2013



22. Test Pit TP 11.jpg
02/04/2013

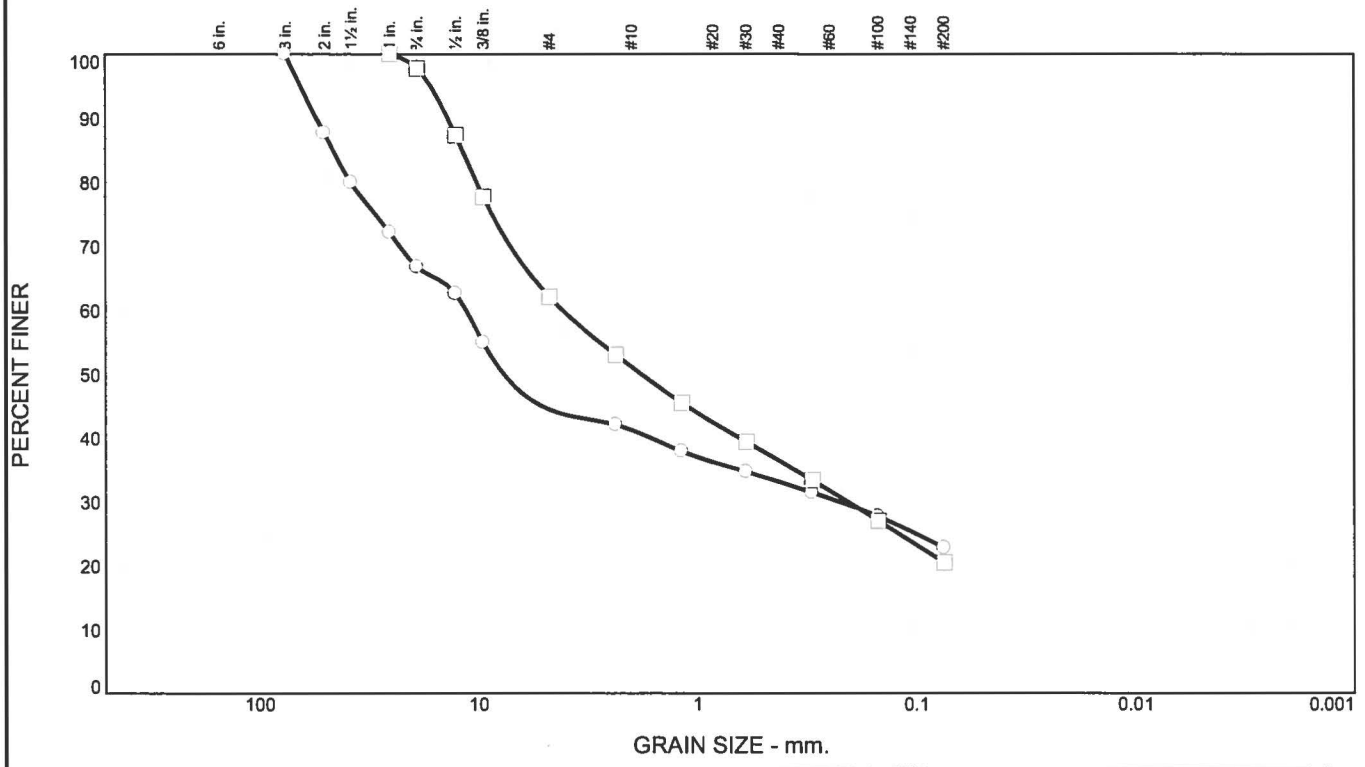


Remnant Structure, Area 1.jpg

APPENDIX B

Laboratory Test Results

Particle Size Distribution Report



	+3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PL	PI
○	0.0	55.5	21.7	22.8		GM			
□	0.0	37.9	41.7	20.4		SC			

SIEVE inches size	○	□
3.0"	100.0	
2.0"	87.7	
1.5"	79.9	
1.0"	72.1	100.0
3/4"	66.8	97.7
1/2"	62.6	87.3
3/8"	54.9	77.7
GRAIN SIZE		
D_{60}	11.3834	4.1397
D_{30}	0.2248	0.2075
D_{10}		
COEFFICIENTS		
C_c		
C_u		

SIEVE number size	○	□
#4		62.1
#8	42.1	53.0
#16	37.9	45.5
#30	34.7	39.4
#50	31.5	33.4
#100	27.7	27.0
#200	22.8	20.4

Material Description

○ Reddish Brown Silty Gravel

□ Brown Clayey SAND with Gravel

REMARKS:

○ Depth: 1.0'-5.0' Sample Number: T5-1 & T10-1

□ Depth: 2.0'-4.0' Sample Number: T7-1

Blackburn Consulting

Auburn, CA

Client: EDH 52 LLC

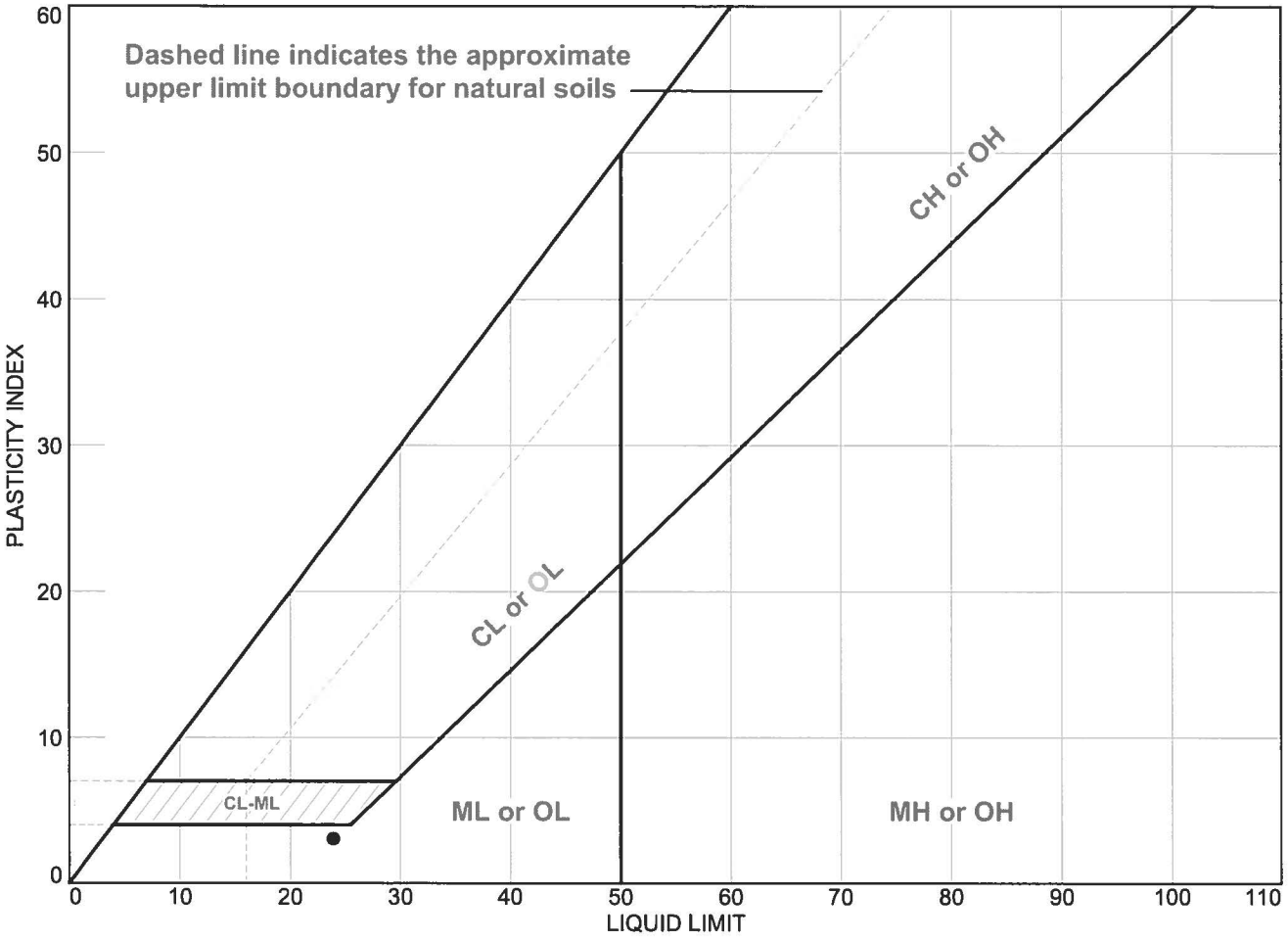
Project: EDH 52

Project No.: 556.6

Figure

Tested By: KLC **Checked By:** PFF

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●		T11-1	0.5'-1.0'		21	24	3	ML

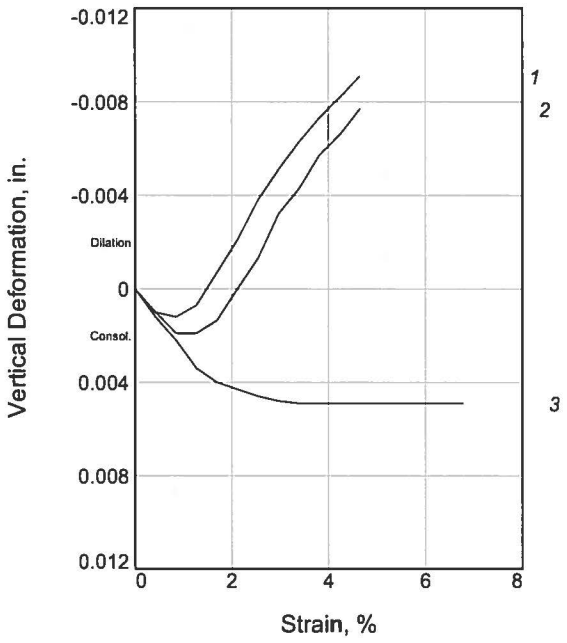
Blackburn Consulting

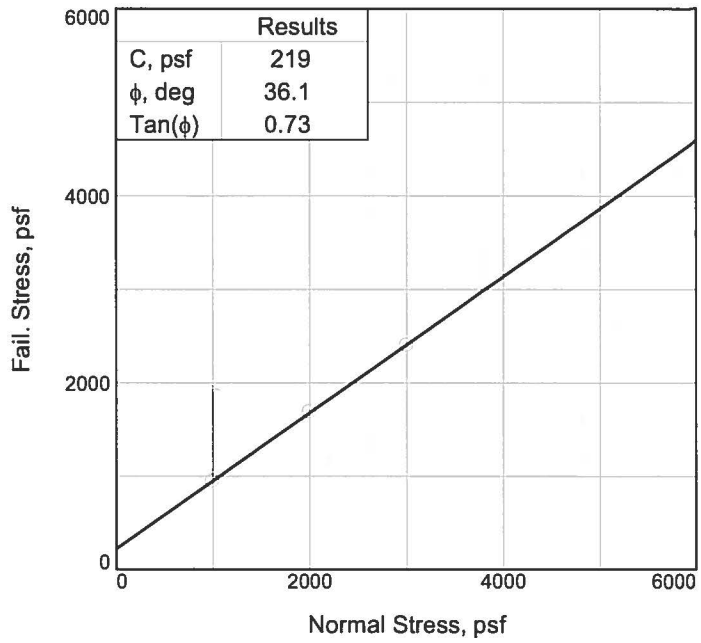
Auburn, CA

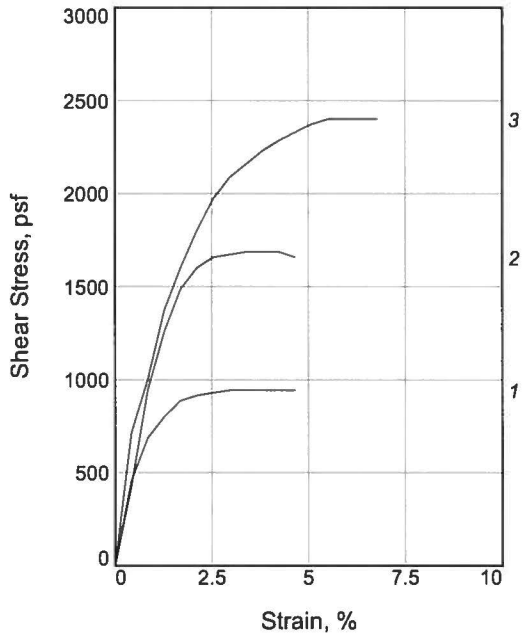
Client: EDH 52 LLC
Project: EDH 52
Project No.: 556.6

Figure

Tested By: KLC **Checked By:** PFF







Sample No.		1	2	3
Initial	Water Content, %	11.5	11.4	11.3
	Dry Density, pcf	116.0	116.0	116.3
	Saturation, %	65.9	65.5	65.3
	Void Ratio	0.4798	0.4798	0.4763
	Diameter, in.	2.36	2.36	2.36
	Height, in.	0.94	0.94	0.94
At Test	Water Content, %	16.4	15.0	16.9
	Dry Density, pcf	118.4	121.5	117.1
	Saturation, %	100.0	100.0	100.0
	Void Ratio	0.4497	0.4132	0.4660
	Diameter, in.	2.36	2.36	2.36
	Height, in.	0.93	0.90	0.94
Normal Stress, psf		1000	2000	3000
Fail. Stress, psf		944	1687	2402
Strain, %		3.0	3.4	5.5
Ult. Stress, psf				
Strain, %				
Strain rate, in./min.		0.10	0.10	0.10

Sample Type: remolded
Description: Brown Clayey SAND with Gravel

Assumed Specific Gravity= 2.75
Remarks: Material screened on 3/8" sieve, and remolded to aprroximately 92% of maximum dry denisity near optimum moisture.

Figure _____

Client: EDH 52 LLC

Project: EDH 52

Sample Number: T7-1 **Depth:** 2.0'-4.0'

Proj. No.: 556.6 **Date Sampled:**

DIRECT SHEAR TEST REPORT

Blackburn Consulting

Tested By: KLC **Checked By:** Pff

Auburn Office:
11521 Blocker Drive, Suite 110 • Auburn, CA 95603
(530) 887-1494 • Fax (530) 887-1495

blackburn consulting

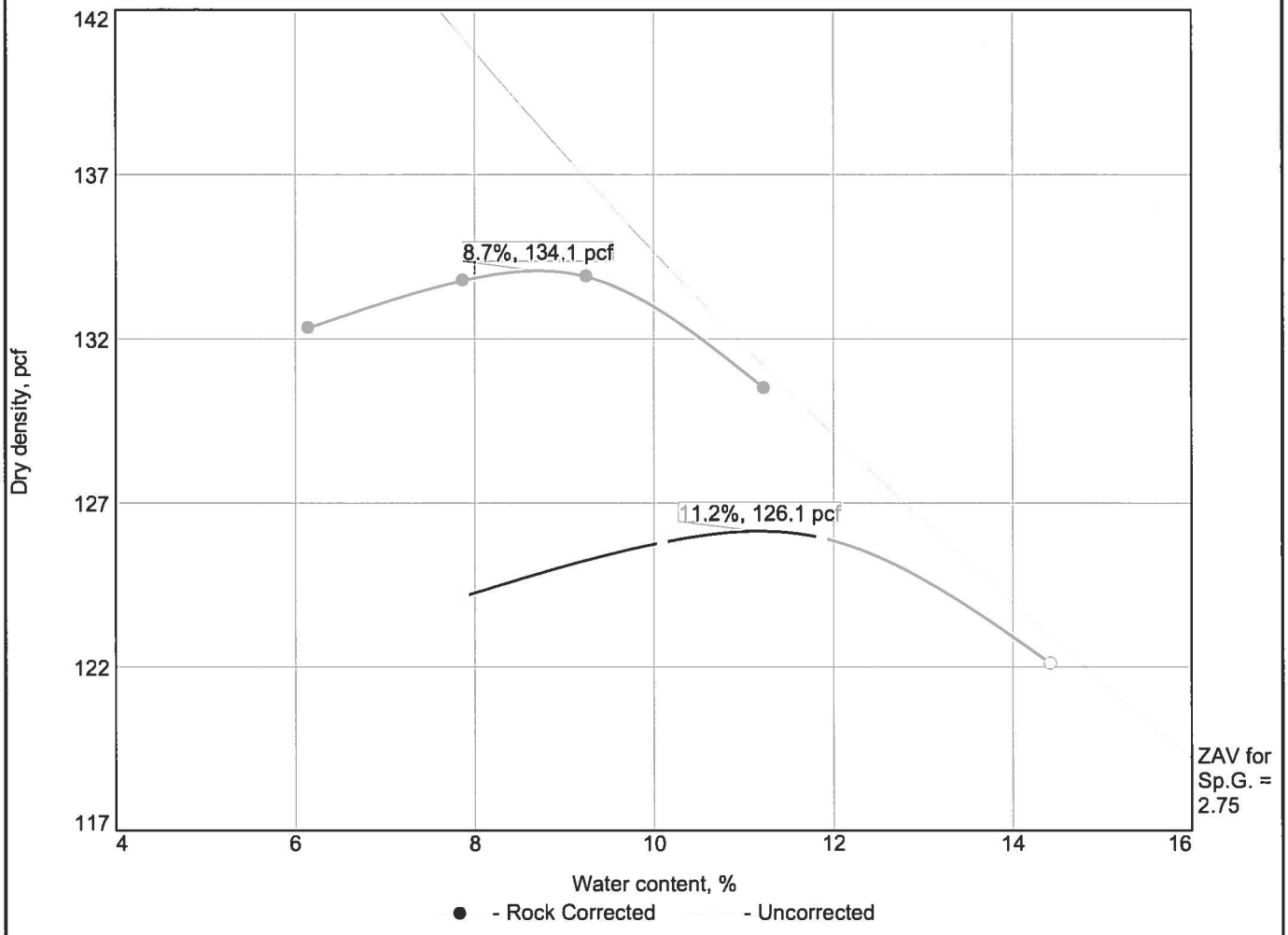
Modesto Office: (209) 522-6273
West Sacramento Office: (916) 375-8706

Rock Core Compression Test

BCI File No.: 556.6
Project Name: EDH 52

Specimen	Depth (ft)	FINAL TRIM LENGTH (In.)	Trim Length (In.)	ORIGINAL LENGTH	DIAMETER (In.)	AREA ($In.^2$)	TOTAL LOAD (lbs.)	COMP STRENGTH (psi)	L/D RATIO	CORR. FACTOR	CORR. COMP. STRENGTH (psi)	WET CORE WEIGHT	UNIT WEIGHT (pcf)
B1 Run 4	22.5	5.112	5.123	10.81	2.340	4.30	74685	17,370	2.18	1	**17370**	1037.2	179.8
B2 Run 3	22.0	5.136	5.176	10.82	2.394	4.50	14385	3,200	2.15	1	**3200**	1067.1	175.9
B2 Run 5	35.0	5.121	5.126	13.14	2.393	4.50	54085	12,030	2.14	1	**12030**	1113.2	184.2
B3 Run 2	18.3	5.147	5.154	13.25	2.389	4.48	31635	7,060	2.15	1	**7060**	1059.0	174.9
B3 Run4	28.0	5.033	5.062	23.25	2.390	4.49	22775	5,080	2.11	1	**5080**	1029.3	173.7

COMPACTION CURVE REPORT



Test specification: ASTM D 1557-00 Method B Modified
ASTM D 4718-87 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
2.0'-4.0'	SC			2.75			22.3	20.4

ROCK CORRECTED TEST RESULTS	UNCORRECTED
Maximum dry density = 134.1 pcf	126.1 pcf
Optimum moisture = 8.7 %	11.2 %

MATERIAL DESCRIPTION
Brown Clayey SAND with Gravel

Project No. 556.6 **Client:** EDH 52 LLC
Project: EDH 52

○ **Depth:** 2.0'-4.0' **Sample Number:** T7-1

Remarks:

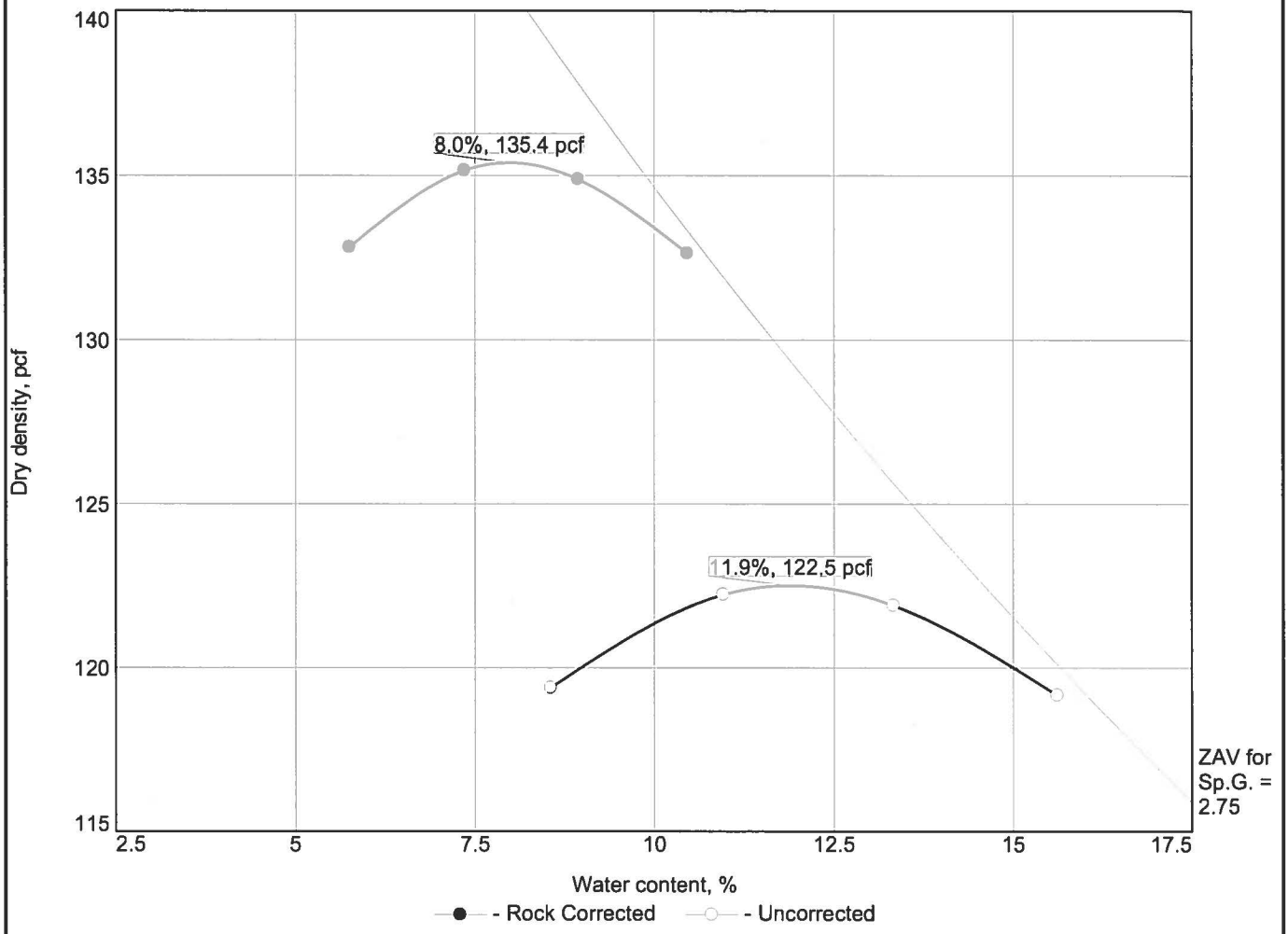
Blackburn Consulting

Auburn, CA

Figure

Tested By: KLC **Checked By:** PFF

COMPACTION CURVE REPORT



Test specification: ASTM D 1557-07 Method C Modified
ASTM D 4718-87 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
1.0'-5.0'	GM			2.70			33.2	22.8

ROCK CORRECTED TEST RESULTS	UNCORRECTED
Maximum dry density = 135.4 pcf	122.5 pcf
Optimum moisture = 8.0 %	11.9 %

MATERIAL DESCRIPTION
Reddish Brown Silty Gravel

Project No. 556.6 **Client:** EDH 52 LLC
Project: EDH 52

○ **Depth:** 1.0'-5.0' **Sample Number:** T5-1 & T10-1

Blackburn Consulting

Auburn, CA

Remarks:

Figure

Tested By: KLC **Checked By:** PFF

APPENDIX C

Seismic Refraction Notes
Seismic Refraction Profiles (SR1 to SR5)

APPENDIX C – Seismic Refraction Survey Notes and Profiles

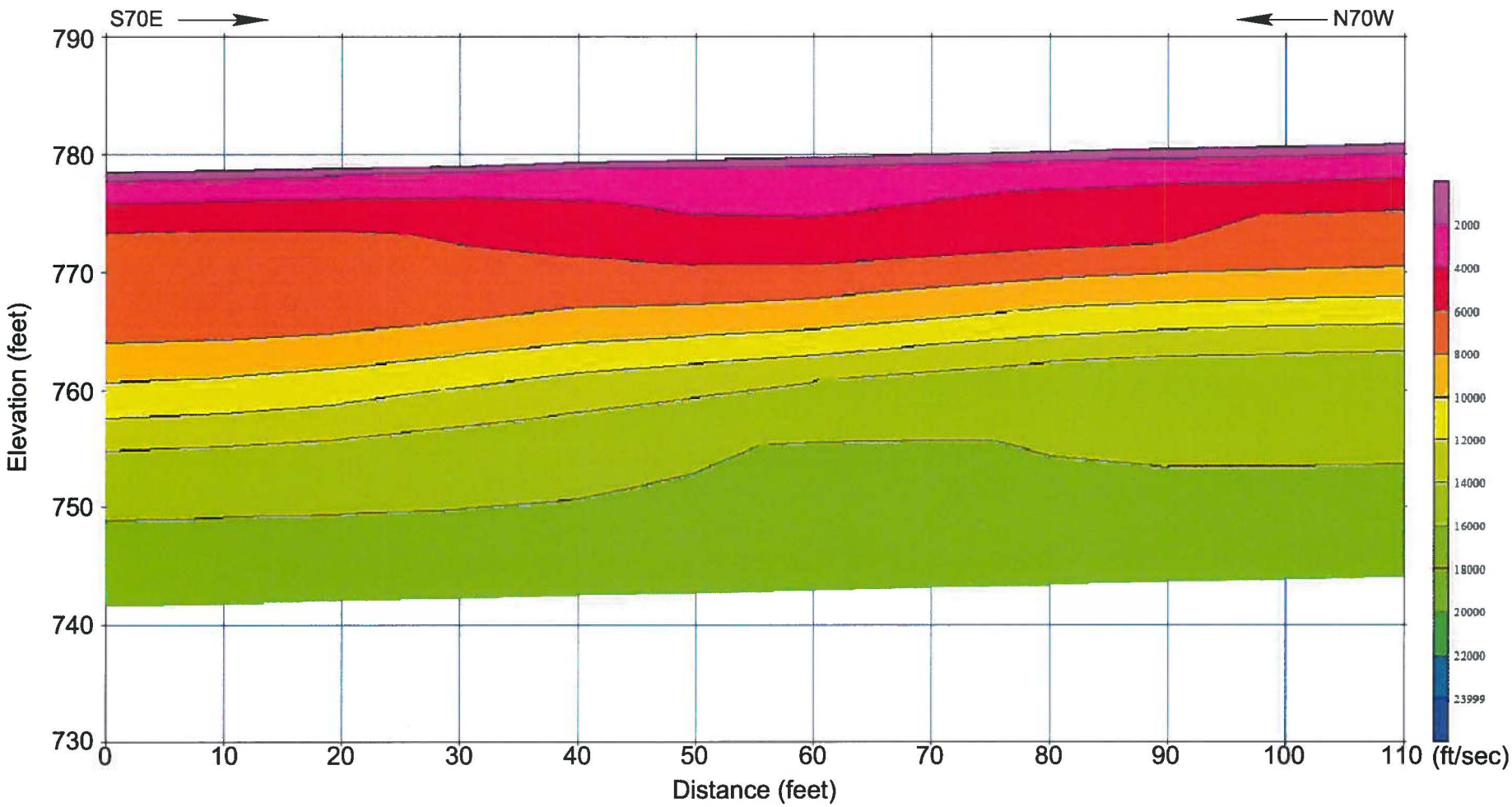
Seismic Refraction Survey Notes

Seismic refraction profiling is the process by which seismic waves are produced, recorded and analyzed to determine the seismic velocity of subsurface materials. In general terms, the seismic velocity of the subsurface is derived from the travel time of compressional wave (P-wave) energy over the distance from the source to recording devices. P-wave energy is generated at the surface by an impulsive source. The P-wave energy propagates into the subsurface and is refracted along subsurface interfaces (likely layers) representing an increase in velocity. P-wave energy returns to the surface where it is detected by an array of geophones and recorded by a seismograph. Analysis of this data produces the theoretical depth, thickness, and seismic velocity of the subsurface layers. The seismic velocity of the subsurface materials can be correlated to soil and rock types, and rock weathering and competency.

We performed our seismic refraction fieldwork in January 2013. Refraction work consisted of 5 survey lines, each 110 feet in length. Location of the refraction work is based on the proposed rough grade elevations and location of significant cuts. Our Professional Geologist led the field exercises and monitored the data acquisition. Figure 2 shows the approximate location of each seismic survey. Seismic line locations are based on measurement from features shown on the project base map and are considered approximate.

Each seismic refraction line consists of 5 shot points distributed along a linear array of 12 geophones placed at 10-foot intervals along the array. A multi-channel receiver (seismograph) is located at one end of the array to collect the data. Compressional wave energy (P-wave) is generated at each shot point using multiple impacts with a 20-pound sledge hammer striking a steel and/or aluminum plate placed on the ground surface. A Strataview R48 Seismograph is used to detect, digitize, and record the P-waves.

BCI used the computer program SeisImager by Geometrics, Inc. to analyze the acquired data. The profile of the ground surface at each seismic line location, as seen in the Seismic Profiles, is based on our interpretation of the topography shown on the project topography. Interpreted seismic profiles (subsurface) are attached.



blackburn consulting

11521 Blocker Drive, Ste 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495
www.blackburnconsulting.com

SR1 SEISMIC PROFILE

EDH 52

Highway 50 & Silva Valley Parkway

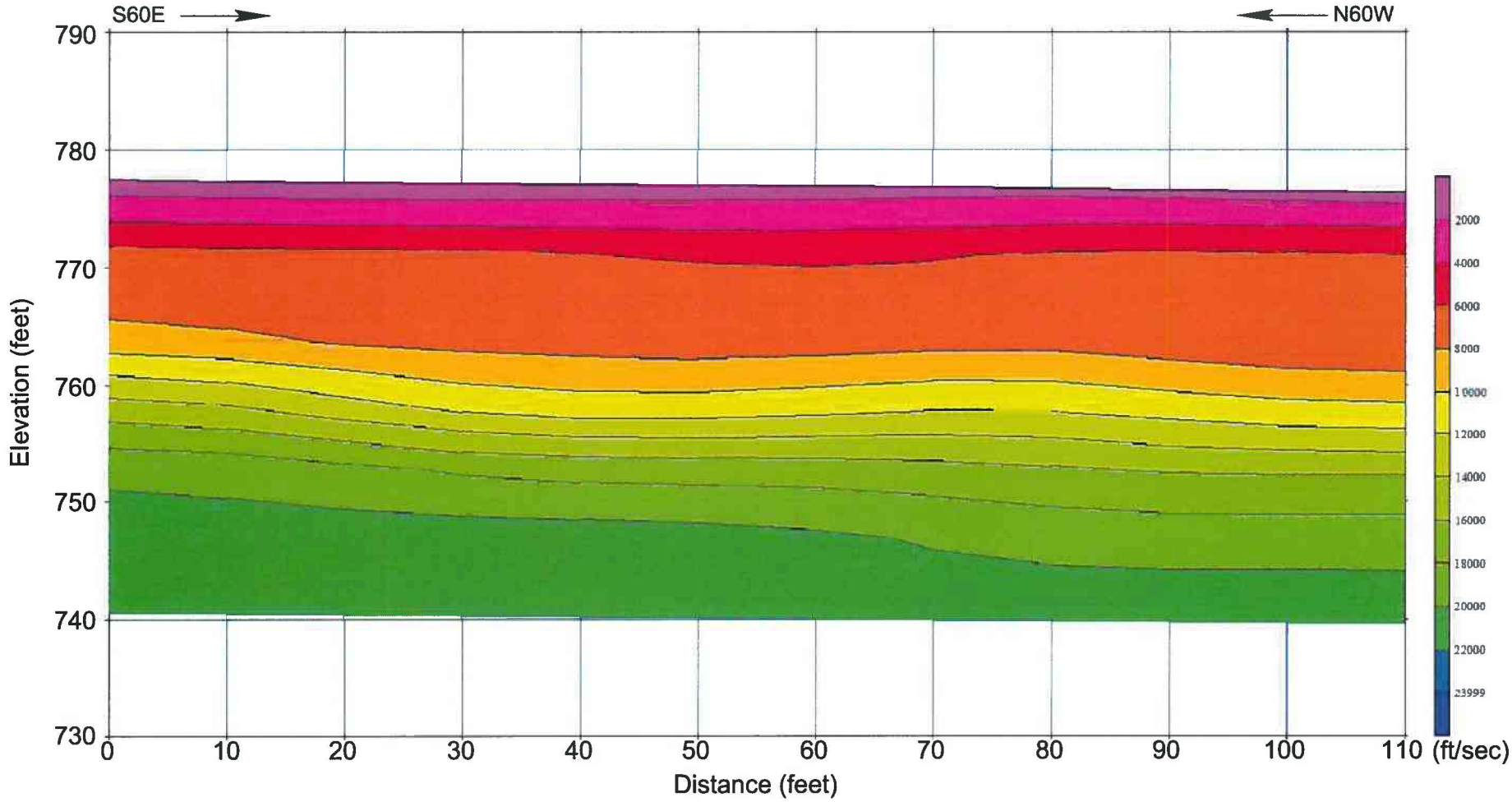
El Dorado Hills, California

File No. 556.6

March 2013

Appendix C

2/28/2013 556.6 App C EDH 52.dwg



SR2 SEISMIC PROFILE

EDH 52

Highway 50 & Silva Valley Parkway

El Dorado Hills, California

blackburn consulting

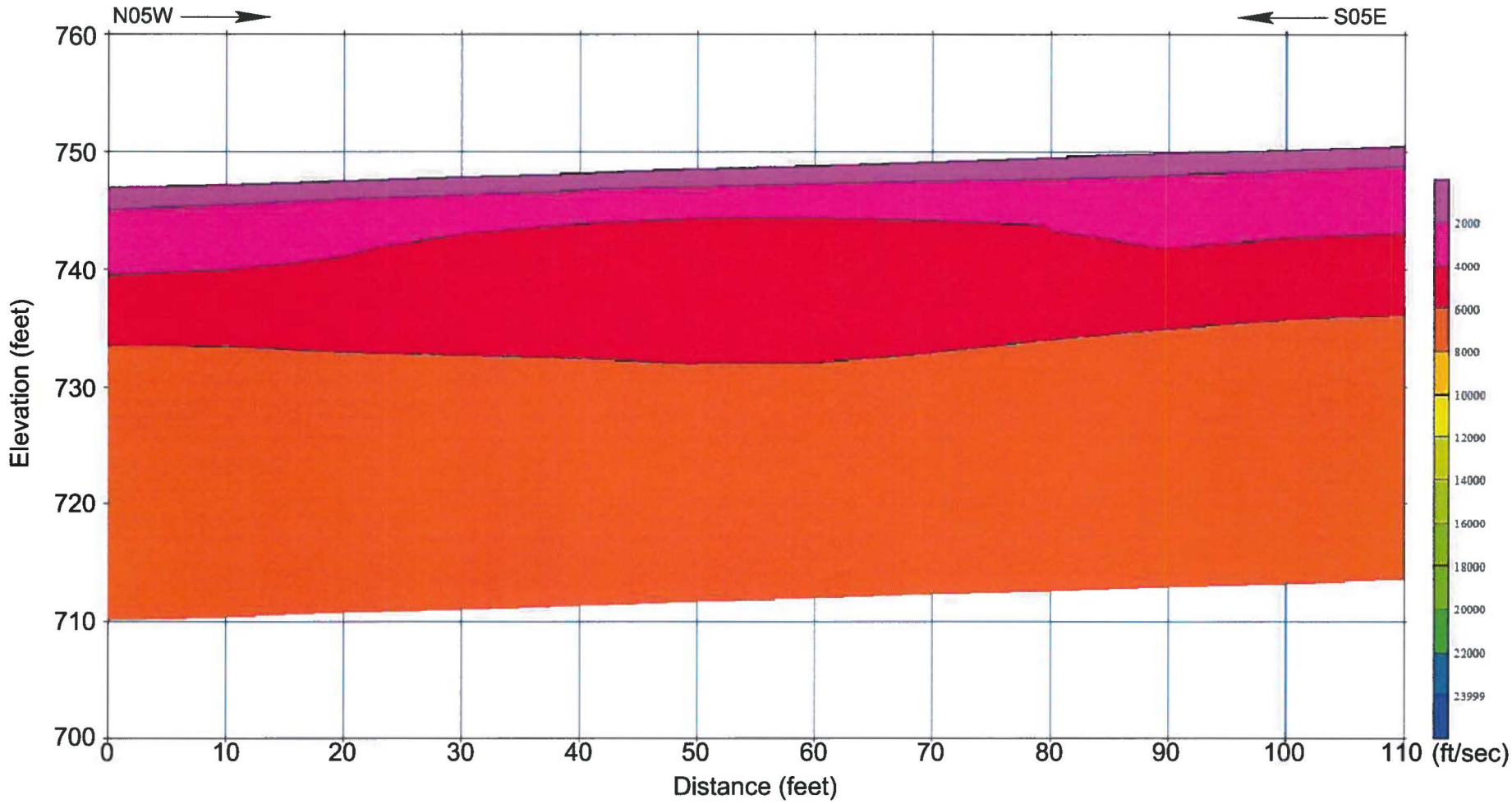
11521 Blocker Drive, Ste 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495
www.blackburnconsulting.com

File No. 556.6

March 2013

Appendix C

2/28/2013 556.6 App C EDH 52.dwg



SR3 SEISMIC PROFILE

EDH 52

Highway 50 & Silva Valley Parkway

El Dorado Hills, California

blackburn consulting

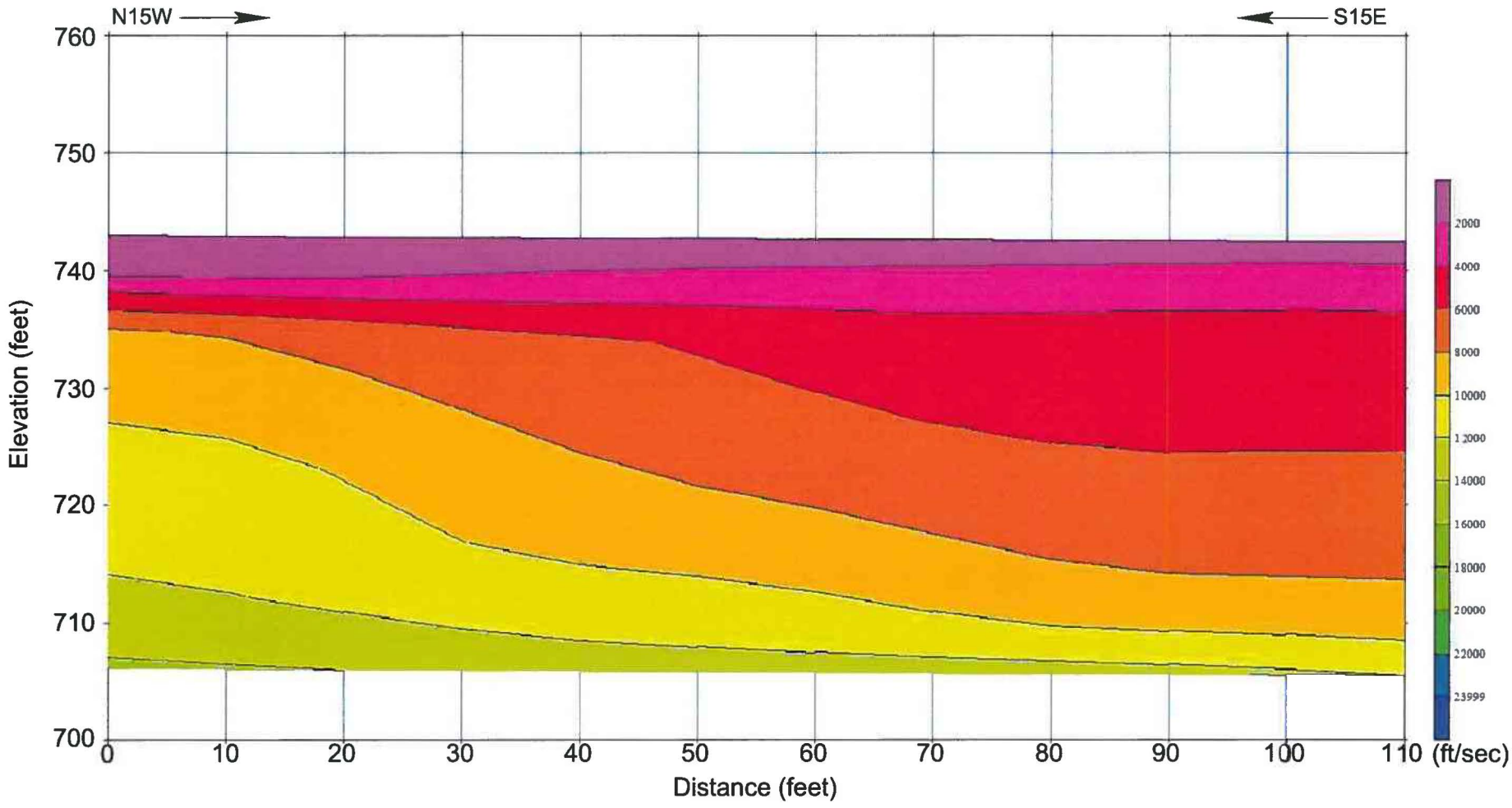
11521 Blocker Drive, Ste 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495
www.blackburnconsulting.com

File No. 556.6

March 2013

Appendix C

2/28/2013 556.6 App C EDH 52.dwg



blackburn consulting

11521 Blocker Drive, Ste 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495
www.blackburnconsulting.com

SR4 SEISMIC PROFILE

EDH 52

Highway 50 & Silva Valley Parkway

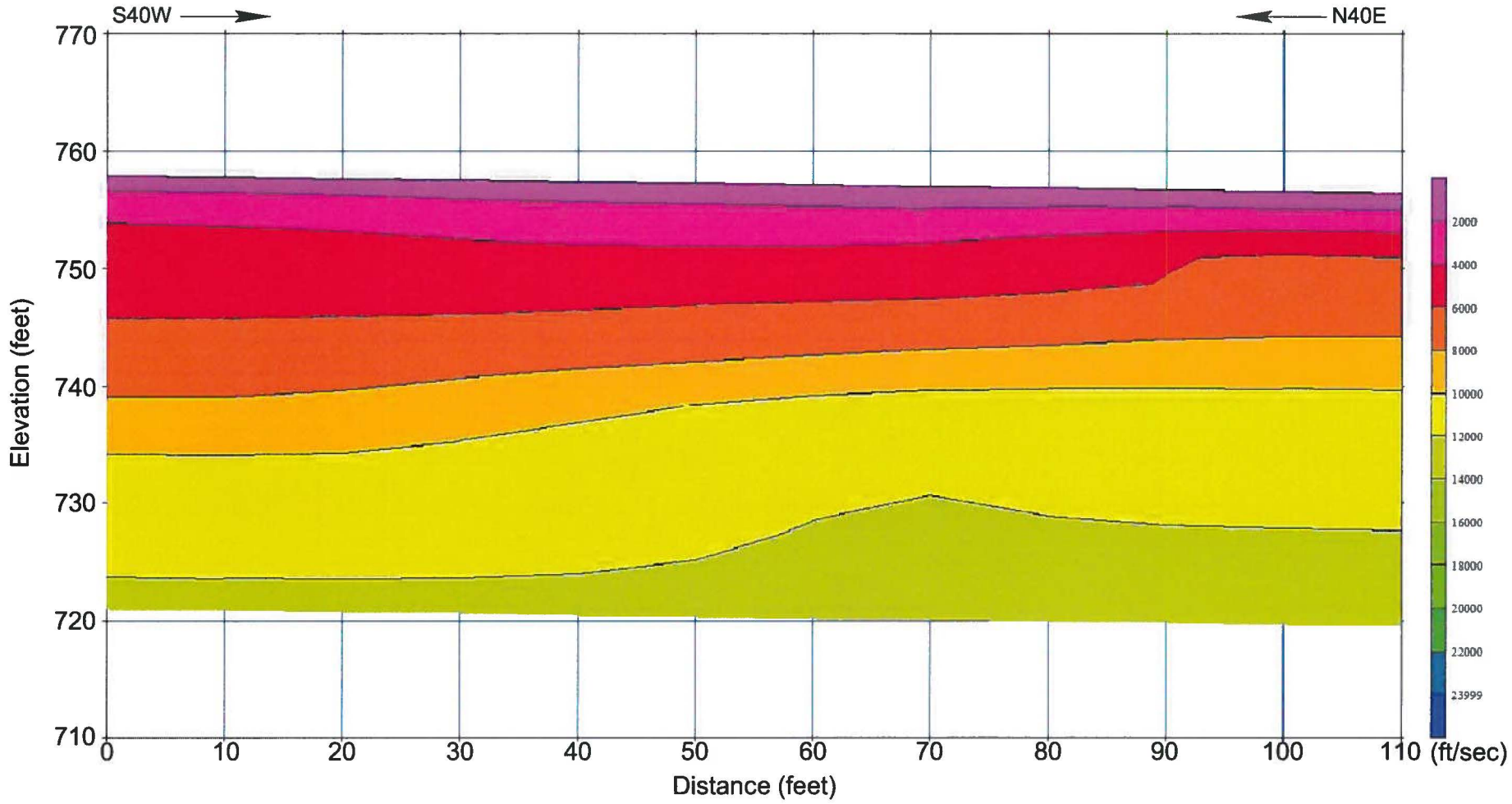
El Dorado Hills, California

File No. 556.6

March 2013

Appendix C

2/28/2013 556 6 App C EDH 52.dwg



SR5 SEISMIC PROFILE

EDH 52

Highway 50 & Silva Valley Parkway

El Dorado Hills, California

blackburn consulting

11521 Blocker Drive, Ste 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495
www.blackburnconsulting.com

File No. 556.6

March 2013

Appendix C

2/28/2013 556.6 App C EDH 52.dwg

APPENDIX D

Silva Valley Parkway Interchange Investigation Logs (Excerpt from BCI, 2012)

LOGGED BY	BEGIN DATE	COMPLETION DATE	BOREHOLE LOCATION (Lat/Long or North/East and Datum)	HOLE ID
PFF	7-2-10	7-2-10		T-10-114
DRILLING CONTRACTOR			BOREHOLE LOCATION (Offset, Station, Line)	SURFACE ELEVATION
Monte Rickey Excavating				~757.5 ft
DRILLING METHOD			DRILL RIG	BOREHOLE DIAMETER
Backhoe			CAT 430D	
SAMPLER TYPE(S) AND SIZE(S) (ID)			SPT HAMMER TYPE	HAMMER EFFICIENCY, ERi
bucket cuttings				
BOREHOLE BACKFILL AND COMPLETION			GROUNDWATER READINGS DURING DRILLING not encountered AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING 2.8 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	0		SANDY SILT (ML); stiff; reddish brown; dry.		D01			100							PA, PI
	1		METAMORPHIC ROCK, Metavolcanic, fine-grained to medium-grained, massive, grayish brown, decomposed, soft, intensely fractured, (Sandy Clay), with clay lenses 4-6" thick.												
755.50	2		METAMORPHIC ROCK, Metavolcanic, fine-grained to medium-grained, massive, medium gray, intensely to moderately weathered, moderately hard, intensely fractured, Predominate fracture (foliation) N35W, 80-85N and random..												
	3		Bottom of borehole at 2.8 ft bgs Essential Refusal at 2.8 ft. This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (June 2007) except as noted on the Soil or Rock Legend or below.												
753.50	4														
	5														
751.50	6														
	7														
749.50	8														
	9														
747.50	10														
	11														
	12														

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

REPORT TITLE				HOLE ID
BORING RECORD				T-10-114
DIST.	COUNTY	ROUTE	POSTMILE	EA
03	ED	50	1.1/R2.4	03-1E2901
PROJECT OR BRIDGE NAME				
Silva Valley Parkway Interchange				
BRIDGE NUMBER	PREPARED BY		DATE	SHEET
	RCP			1 of 1

LOGGED BY	BEGIN DATE	COMPLETION DATE	BOREHOLE LOCATION (Lat/Long or North/East and Datum)	HOLE ID
PFF	7-2-10	7-2-10		T-10-119
DRILLING CONTRACTOR			BOREHOLE LOCATION (Offset, Station, Line)	SURFACE ELEVATION
Monte Rickey Excavating				~762.6 ft
DRILLING METHOD			DRILL RIG	BOREHOLE DIAMETER
Backhoe			CAT 430D	
SAMPLER TYPE(S) AND SIZE(S) (ID)			SPT HAMMER TYPE	HAMMER EFFICIENCY, ERi
bucket cuttings				
BOREHOLE BACKFILL AND COMPLETION			GROUNDWATER READINGS DURING DRILLING not encountered AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING 2.8 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	0		SANDY SILT with GRAVEL (ML); stiff; reddish brown; dry.		D01			100							
	1		METAMORPHIC ROCK, Metavolcanic, fine-grained to medium-grained, massive, moderate reddish brown, intensely weathered, moderately hard, intensely fractured, (Silty Gravel).												
760.60	2		METAMORPHIC ROCK, Metavolcanic, fine-grained to medium-grained, massive, medium gray, moderately weathered, hard, intensely fractured, Predominate fractures (foliation) at N30W, 80-85 N.												
	3		Bottom of borehole at 2.8 ft bgs Essential Refusal at 2.8 ft. This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (June 2007) except as noted on the Soil or Rock Legend or below.												
758.60	4														
	5														
756.60	6														
	7														
754.60	8														
	9														
752.60	10														
	11														
	12														

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

REPORT TITLE				HOLE ID
BORING RECORD				T-10-119
DIST.	COUNTY	ROUTE	POSTMILE	EA
03	ED	50	1.1/R2.4	03-1E2901
PROJECT OR BRIDGE NAME				
Silva Valley Parkway Interchange				
BRIDGE NUMBER	PREPARED BY		DATE	SHEET
	RCP			1 of 1

LOGGED BY	BEGIN DATE	COMPLETION DATE	BOREHOLE LOCATION (Lat/Long or North/East and Datum)	HOLE ID
PFF	7-2-10	7-2-10		T-10-120
DRILLING CONTRACTOR			BOREHOLE LOCATION (Offset, Station, Line)	SURFACE ELEVATION
Monte Rickey Excavating				~730.3 ft
DRILLING METHOD			DRILL RIG	BOREHOLE DIAMETER
Backhoe			CAT 430D	
SAMPLER TYPE(S) AND SIZE(S) (ID)			SPT HAMMER TYPE	HAMMER EFFICIENCY, ERi
bucket cuttings				
BOREHOLE BACKFILL AND COMPLETION			GROUNDWATER READINGS DURING DRILLING not encountered AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING 6.5 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	0		SANDY SILTY CLAY (CL-ML); stiff to very stiff; brown; dry.												
	1				D01			100				PP = 2.0			
728.30	2														
	3		METAMORPHIC ROCK, Metavolcanic, fine-grained to medium-grained, massive, light olive gray, intensely to moderately weathered, soft to moderately soft, intensely fractured, (Clayey Gravel).									PP = 1.0			
726.30	4		METAMORPHIC ROCK, Metavolcanic, fine-grained to medium-grained, massive, light olive brown, decomposed, soft to moderately soft, intensely fractured, (Clayey Silt).		D02			100				PP = 3.0			
	5														
724.30	6														
	7		Bottom of borehole at 6.5 ft bgs Essential Refusal at 6.5 ft. This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (June 2007) except as noted on the Soil or Rock Legend or below.												
722.30	8														
	9														
720.30	10														
	11														
	12														

5 BR - STANDARD LOGS.GPJ BCI 2010 LOG.GLB 3/15/12

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

REPORT TITLE				HOLE ID
BORING RECORD				T-10-120
DIST.	COUNTY	ROUTE	POSTMILE	EA
03	ED	50	1.1/R2.4	03-1E2901
PROJECT OR BRIDGE NAME				
Silva Valley Parkway Interchange				
BRIDGE NUMBER	PREPARED BY		DATE	SHEET
	RCP			1 of 1

LOGGED BY	BEGIN DATE	COMPLETION DATE	BOREHOLE LOCATION (Lat/Long or North/East and Datum)	HOLE ID
PFF	7-2-10	7-2-10		T-10-121
DRILLING CONTRACTOR			BOREHOLE LOCATION (Offset, Station, Line)	SURFACE ELEVATION
Monte Rickey Excavating				~784.0 ft
DRILLING METHOD			DRILL RIG	BOREHOLE DIAMETER
Backhoe			CAT 430D	
SAMPLER TYPE(S) AND SIZE(S) (ID)			SPT HAMMER TYPE	HAMMER EFFICIENCY, ERi
bucket cuttings				
BOREHOLE BACKFILL AND COMPLETION			GROUNDWATER READINGS DURING DRILLING not encountered AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING 6.5 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	0		SANDY SILT (ML); stiff; reddish brown; dry.												
					D01			100							PA
	1				S02			100		14	89				
782.00	2		METAMORPHIC ROCK, Metavolcanic, fine-grained to medium-grained, massive, olive gray, intensely weathered, moderately soft to moderately hard, intensely fractured.												
	3														
780.00	4														
	5														
778.00	6		METAMORPHIC ROCK, Metavolcanic, fine-grained to medium-grained, massive, olive gray, moderately weathered, hard, intensely fractured, Predominate fractures (foliation) N30W, 90.												
	7		Bottom of borehole at 6.5 ft bgs Essential Refusal at 6.5 ft. This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (June 2007) except as noted on the Soil or Rock Legend or below.												
776.00	8														
	9														
774.00	10														
	11														
	12														

5 BR - STANDARD LOGS.GPJ BCI 2010.LOG.GLB 3/15/12

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

REPORT TITLE				HOLE ID
BORING RECORD				T-10-121
DIST.	COUNTY	ROUTE	POSTMILE	EA
03	ED	50	1.1/R2.4	03-1E2901
PROJECT OR BRIDGE NAME				
Silva Valley Parkway Interchange				
BRIDGE NUMBER	PREPARED BY		DATE	SHEET
	RCP			1 of 1

LOGGED BY	BEGIN DATE	COMPLETION DATE	BOREHOLE LOCATION (Lat/Long or North/East and Datum)	HOLE ID
PFF	7-2-10	7-2-10		T-10-122
DRILLING CONTRACTOR			BOREHOLE LOCATION (Offset, Station, Line)	SURFACE ELEVATION
Monte Rickey Excavating				~788.0 ft
DRILLING METHOD			DRILL RIG	BOREHOLE DIAMETER
Backhoe			CAT 430D	
SAMPLER TYPE(S) AND SIZE(S) (ID)			SPT HAMMER TYPE	HAMMER EFFICIENCY, ERi
bucket cuttings				
BOREHOLE BACKFILL AND COMPLETION			GROUNDWATER READINGS DURING DRILLING not encountered AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING 4.5 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	0		SANDY SILT (ML); stiff; reddish brown; dry.		D01			100							
	1		METAMORPHIC ROCK, Metavolcanic, fine-grained to medium-grained, massive, light gray, intensely to moderately weathered, moderately hard to hard, intensely fractured.												
786.00	2														
	3														
784.00	4		METAMORPHIC ROCK, Metavolcanic, fine-grained to medium-grained, massive, olive gray, moderately weathered, hard, intensely fractured, Breaks into 2-8" pieces, up to 16" in length.												
	5		Bottom of borehole at 4.5 ft bgs Essential Refusal at 4.5 ft. This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (June 2007) except as noted on the Soil or Rock Legend or below.												
782.00	6														
	7														
780.00	8														
	9														
778.00	10														
	11														
	12														

5 BR - STANDARD LOGS.GPJ BCI 2010 LOG.GLB 3/15/12

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

REPORT TITLE				HOLE ID
BORING RECORD				T-10-122
DIST.	COUNTY	ROUTE	POSTMILE	EA
03	ED	50	1.1/R2.4	03-1E2901
PROJECT OR BRIDGE NAME				
Silva Valley Parkway Interchange				
BRIDGE NUMBER	PREPARED BY		DATE	SHEET
	RCP			1 of 1

LOGGED BY	BEGIN DATE	COMPLETION DATE	BOREHOLE LOCATION (Lat/Long or North/East and Datum)	HOLE ID
RCP	7-14-10	7-14-10		A-10-128
DRILLING CONTRACTOR			BOREHOLE LOCATION (Offset, Station, Line)	SURFACE ELEVATION
PC Exploration				~723.0 ft
DRILLING METHOD			DRILL RIG	BOREHOLE DIAMETER
Solid-Stem Auger			CME 75	6 in
SAMPLER TYPE(S) AND SIZE(S) (ID)			SPT HAMMER TYPE	HAMMER EFFICIENCY, ERi
split spoon			Automatic	80%
BOREHOLE BACKFILL AND COMPLETION			GROUNDWATER READINGS DURING DRILLING	AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
Backfilled with native cuttings			not encountered		2.7 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	0		ASPHALT.												
			Well-graded GRAVEL (GW); (AB)..												
	1		METAMORPHIC ROCK, Metavolcanic, fine-grained to medium-grained, massive, grayish green, moderately to slightly weathered, hard, intensely fractured.		S01	22 50/5"	50/5	100		10	107				
721.00	2														
	3		Bottom of borehole at 2.7 ft bgs Essential refusal at 2.7 ft. This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (June 2007) except as noted on the Soil or Rock Legend or below.		S02	50/0"	REF								
719.00	4														
	5														
717.00	6														
	7														
715.00	8														
	9														
713.00	10														
	11														
	12														

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

REPORT TITLE				HOLE ID
BORING RECORD				A-10-128
DIST.	COUNTY	ROUTE	POSTMILE	EA
03	ED	50	1.1/R2.4	03-1E2901
PROJECT OR BRIDGE NAME				
Silva Valley Parkway Interchange				
BRIDGE NUMBER	PREPARED BY		DATE	SHEET
	RCP			1 of 1

5 BR - STANDARD LOGS.GPJ BCI 2010 LOG.GLB 3/15/12

LOGGED BY	BEGIN DATE	COMPLETION DATE	BOREHOLE LOCATION (Lat/Long or North/East and Datum)	HOLE ID
RCP	7-14-10	7-14-10		A-10-129
DRILLING CONTRACTOR			BOREHOLE LOCATION (Offset, Station, Line)	SURFACE ELEVATION
PC Exploration				~736.5 ft
DRILLING METHOD			DRILL RIG	BOREHOLE DIAMETER
Solid-Stem Auger			CME 75	6 in
SAMPLER TYPE(S) AND SIZE(S) (ID)			SPT HAMMER TYPE	HAMMER EFFICIENCY, ERi
split spoon			Automatic	80%
BOREHOLE BACKFILL AND COMPLETION			GROUNDWATER READINGS DURING DRILLING / AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
Backfilled with native cuttings			not encountered	5.1 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	0		SANDY SILT (ML); stiff; reddish brown; dry.		S01	7	40	100							
					D02	14		100							
	1					26									
734.50	2		METAMORPHIC ROCK, Metavolcanic, fine-grained to medium-grained, massive, moderate yellowish brown, intensely weathered, soft, intensely fractured, (Silty Gravel)..												
	3														
732.50	4														
	5				S03	50/1"	REF	100							
			Bottom of borehole at 5.1 ft bgs												
			Terminated at 5.1 ft.												
730.50	6		This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (June 2007) except as noted on the Soil or Rock Legend or below.												
	7														
728.50	8														
	9														
726.50	10														
	11														
	12														

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

REPORT TITLE				HOLE ID
BORING RECORD				A-10-129
DIST.	COUNTY	ROUTE	POSTMILE	EA
03	ED	50	1.1/R2.4	03-1E2901
PROJECT OR BRIDGE NAME				
Silva Valley Parkway Interchange				
BRIDGE NUMBER	PREPARED BY		DATE	SHEET
	RCP			1 of 1

5 BR - STANDARD LOGS.GPJ BCI 2010 LOG.GLB 3/15/12

LOGGED BY	BEGIN DATE	COMPLETION DATE	BOREHOLE LOCATION (Lat/Long or North/East and Datum)	HOLE ID
RCP	7-20-10	7-20-10		A-10-136
DRILLING CONTRACTOR			BOREHOLE LOCATION (Offset, Station, Line)	SURFACE ELEVATION
PC Exploration				~736.0 ft
DRILLING METHOD			DRILL RIG	BOREHOLE DIAMETER
Solid-Stem Auger			CME 75	6 in
SAMPLER TYPE(S) AND SIZE(S) (ID)			SPT HAMMER TYPE	HAMMER EFFICIENCY, ERi
split spoon			Automatic	80%
BOREHOLE BACKFILL AND COMPLETION			GROUNDWATER READINGS DURING DRILLING not encountered AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
Backfilled with native cuttings and concrete				6.3 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	0		ASPHALT.												
	1		Poorly graded GRAVEL (GP); dense; yellowish brown; dry.		S01	19 32	51	100							
734.00	2		SILTY GRAVEL (GM); dense; brown; dry to moist; (fill).		D02	19		100		5	122				
	3		SILTY GRAVEL (GM); dense; reddish brown; dry.												
732.00	4														
	5				S03	5 30	80/9	100							
730.00	6		METAMORPHIC ROCK, Metavolcanic, fine-grained to medium-grained, massive, dusky yellowish brown, very intensely weathered, soft, intensely fractured, (Silty Gravel).			50/3"									
	7		Bottom of borehole at 6.3 ft bgs Terminated at 6.3 ft. This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (June 2007) except as noted on the Soil or Rock Legend or below.												
728.00	8														
	9														
726.00	10														
	11														
	12														

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

REPORT TITLE				HOLE ID
BORING RECORD				A-10-136
DIST.	COUNTY	ROUTE	POSTMILE	EA
03	ED	50	1.1/R2.4	03-1E2901
PROJECT OR BRIDGE NAME				
Silva Valley Parkway Interchange				
BRIDGE NUMBER	PREPARED BY		DATE	SHEET
	RCP			1 of 1

LOGGED BY	BEGIN DATE	COMPLETION DATE	BOREHOLE LOCATION (Lat/Long or North/East and Datum)	HOLE ID
RCP	7-20-10	7-20-10		A-10-138
DRILLING CONTRACTOR			BOREHOLE LOCATION (Offset, Station, Line)	SURFACE ELEVATION
PC Exploration				~697.0 ft
DRILLING METHOD			DRILL RIG	BOREHOLE DIAMETER
Solid-Stem Auger			CME 75	6 in
SAMPLER TYPE(S) AND SIZE(S) (ID)			SPT HAMMER TYPE	HAMMER EFFICIENCY, ERi
split spoon			Automatic	80%
BOREHOLE BACKFILL AND COMPLETION			GROUNDWATER READINGS DURING DRILLING not encountered AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
Backfilled with native cuttings				6.5 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	0		Poorly graded GRAVEL (GP); dense; yellowish brown; dry.												
			SILTY GRAVEL (GM); dense; olive brown; dry to moist.												
	1				S01	8	42	100							
						13									
695.00	2					29				9	122				
	3														
693.00	4														
	5				S02	10	26	100							
			SANDY SILT (ML); stiff; reddish brown; moist.			11									
691.00	6		METAMORPHIC ROCK, Metavolcanic, fine-grained to medium-grained, massive, dusky yellowish brown, very intensely weathered, soft, very intensely to intensely fractured, (Silty Sand with Gravel).			15									
			Bottom of borehole at 6.5 ft bgs												
	7		Terminated at 6.5 ft.												
			This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (June 2007) except as noted on the Soil or Rock Legend or below.												
689.00	8														
	9														
687.00	10														
	11														
	12														

5 BR - STANDARD LOGS.GPJ BCI 2010 LOG.GLB 3/15/12

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

REPORT TITLE				HOLE ID
BORING RECORD				A-10-138
DIST.	COUNTY	ROUTE	POSTMILE	EA
03	ED	50	1.1/R2.4	03-1E2901
PROJECT OR BRIDGE NAME				
Silva Valley Parkway Interchange				
BRIDGE NUMBER	PREPARED BY		DATE	SHEET
	RCP			1 of 1

LOGGED BY	BEGIN DATE	COMPLETION DATE	BOREHOLE LOCATION (Lat/Long or North/East and Datum)	HOLE ID
RCP	7-20-10	7-20-10		A-10-139
DRILLING CONTRACTOR			BOREHOLE LOCATION (Offset, Station, Line)	SURFACE ELEVATION
PC Exploration				~693.5 ft
DRILLING METHOD			DRILL RIG	BOREHOLE DIAMETER
Solid-Stem Auger			CME 75	6 in
SAMPLER TYPE(S) AND SIZE(S) (ID)			SPT HAMMER TYPE	HAMMER EFFICIENCY, ERi
split spoon			Automatic	80%
BOREHOLE BACKFILL AND COMPLETION			GROUNDWATER READINGS DURING DRILLING not encountered AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
Backfilled with native cuttings and concrete				3.5 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	0		ASPHALT.												
	1		Poorly graded GRAVEL (GP); dense; dark yellowish brown; dry.												
			SILTY GRAVEL (GM); dense; olive brown; moist.		S01	32		100							
					D02	50		100		6	132				
691.50	2														
	3		METAMORPHIC ROCK, Metavolcanic, fine-grained to medium-grained, massive, grayish green, moderately weathered, moderately hard, intensely fractured.		S03	50/3"	REF	100							
689.50	4		Bottom of borehole at 3.5 ft bgs Essential refusal at 3.5 ft. This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (June 2007) except as noted on the Soil or Rock Legend or below.												
	5														
687.50	6														
	7														
685.50	8														
	9														
683.50	10														
	11														
	12														

5 BR - STANDARD LOGS.GPJ BCI 2010 LOG.GLB 3/15/12

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

REPORT TITLE				HOLE ID
BORING RECORD				A-10-139
DIST.	COUNTY	ROUTE	POSTMILE	EA
03	ED	50	1.1/R2.4	03-1E2901
PROJECT OR BRIDGE NAME				
Silva Valley Parkway Interchange				
BRIDGE NUMBER	PREPARED BY		DATE	SHEET
	RCP			1 of 1

GROUP SYMBOLS AND NAMES

Graphic / Symbol	Group Names
GW	Well-graded GRAVEL Well-graded GRAVEL with SAND
GP	Poorly graded GRAVEL Poorly graded GRAVEL with SAND
GW-GM	Well-graded GRAVEL with SILT Well-graded GRAVEL with SILT and SAND
GW-GC	Well-graded GRAVEL with CLAY (or SILTY CLAY) Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)
GP-GM	Poorly graded GRAVEL with SILT Poorly graded GRAVEL with SILT and SAND
GP-GC	Poorly graded GRAVEL with CLAY (or SILTY CLAY) Poorly graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)
GM	SILTY GRAVEL SILTY GRAVEL with SAND
GC	CLAYEY GRAVEL CLAYEY GRAVEL with SAND
GC-GM	SILTY, CLAYEY GRAVEL SILTY, CLAYEY GRAVEL with SAND
SW	Well-graded SAND Well-graded SAND with GRAVEL
SP	Poorly graded SAND Poorly graded SAND with GRAVEL
SW-SM	Well-graded SAND with SILT Well-graded SAND with SILT and GRAVEL
SW-SC	Well-graded SAND with CLAY (or SILTY CLAY) Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)
SP-SM	Poorly graded SAND with SILT Poorly graded SAND with SILT and GRAVEL
SP-SC	Poorly graded SAND with CLAY (or SILTY CLAY) Poorly graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)
SM	SILTY SAND SILTY SAND with GRAVEL
SC	CLAYEY SAND CLAYEY SAND with GRAVEL
SC-SM	SILTY, CLAYEY SAND SILTY, CLAYEY SAND with GRAVEL
PT	PEAT
	COBBLES COBBLES and BOULDERS BOULDERS

Graphic / Symbol	Group Names
CL	Lean CLAY Lean CLAY with SAND Lean CLAY with GRAVEL SANDY lean CLAY SANDY lean CLAY with GRAVEL GRAVELLY lean CLAY GRAVELLY lean CLAY with SAND
CL-ML	SILTY CLAY SILTY CLAY with SAND SILTY CLAY with GRAVEL SANDY SILTY CLAY SANDY SILTY CLAY with GRAVEL GRAVELLY SILTY CLAY GRAVELLY SILTY CLAY with SAND
ML	SILT SILT with SAND SILT with GRAVEL SANDY SILT SANDY SILT with GRAVEL GRAVELLY SILT GRAVELLY SILT with SAND
OL	ORGANIC lean CLAY ORGANIC lean CLAY with SAND ORGANIC lean CLAY with GRAVEL SANDY ORGANIC lean CLAY SANDY ORGANIC lean CLAY with GRAVEL GRAVELLY ORGANIC lean CLAY GRAVELLY ORGANIC lean CLAY with SAND
OL	ORGANIC SILT ORGANIC SILT with SAND ORGANIC SILT with GRAVEL SANDY ORGANIC SILT SANDY ORGANIC SILT with GRAVEL GRAVELLY ORGANIC SILT GRAVELLY ORGANIC SILT with SAND
CH	Fat CLAY Fat CLAY with SAND Fat CLAY with GRAVEL SANDY fat CLAY SANDY fat CLAY with GRAVEL GRAVELLY fat CLAY GRAVELLY fat CLAY with SAND
MH	Elastic SILT Elastic SILT with SAND Elastic SILT with GRAVEL SANDY elastic SILT SANDY elastic SILT with GRAVEL GRAVELLY elastic SILT GRAVELLY elastic SILT with SAND
OH	ORGANIC fat CLAY ORGANIC fat CLAY with SAND ORGANIC fat CLAY with GRAVEL SANDY ORGANIC fat CLAY SANDY ORGANIC fat CLAY with GRAVEL GRAVELLY ORGANIC fat CLAY GRAVELLY ORGANIC fat CLAY with SAND
OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL SANDY elastic ELASTIC SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
OL/OH	ORGANIC SOIL ORGANIC SOIL with SAND ORGANIC SOIL with GRAVEL SANDY ORGANIC SOIL SANDY ORGANIC SOIL with GRAVEL GRAVELLY ORGANIC SOIL GRAVELLY ORGANIC SOIL with SAND

FIELD AND LABORATORY TESTS

C	Consolidation (ASTM D 2435-04)
CL	Collapse Potential (ASTM D 5333-03)
CP	Compaction Curve (CTM 216 - 06)
CR	Corrosion, Sulfates, Chlorides (CTM 643 - 99; CTM 417 - 06; CTM 422 - 06)
CU	Consolidated Undrained Triaxial (ASTM D 4767-02)
DS	Direct Shear (ASTM D 3080-04)
EI	Expansion Index (ASTM D 4829-03)
M	Moisture Content (ASTM D 2216-05)
OC	Organic Content (ASTM D 2974-07)
P	Permeability (CTM 220 - 05)
PA	Particle Size Analysis (ASTM D 422-63 [2002])
PI	Liquid Limit, Plastic Limit, Plasticity Index (AASHTO T 89-02, AASHTO T 90-00)
PL	Point Load Index (ASTM D 5731-05)
PM	Pressure Meter
PP	Pocket Penetrometer
R	R-Value (CTM 301 - 00)
SE	Sand Equivalent (CTM 217 - 99)
SG	Specific Gravity (AASHTO T 100-06)
SL	Shrinkage Limit (ASTM D 427-04)
SW	Swell Potential (ASTM D 4546-03)
TV	Pocket Torvane
UC	Unconfined Compression - Soil (ASTM D 2166-06) Unconfined Compression - Rock (ASTM D 2938-95)
UU	Unconsolidated Undrained Triaxial (ASTM D 2850-03)
UW	Unit Weight (ASTM D 4767-04)
VS	Vane Shear (AASHTO T 223-96 [2004])

SAMPLER GRAPHIC SYMBOLS

- Standard Penetration Test (SPT)
- 2.5" Split Spoon Sampler
- 2" Split Spoon Sampler
- Shelby Tube
- Piston Sampler
- NX Rock Core
- HQ Rock Core
- Bulk Sample
- Other (see remarks)

DRILLING METHOD SYMBOLS

- Auger Drilling
- Rotary Drilling
- Dynamic Cone or Hand Driven
- Diamond Core

WATER LEVEL SYMBOLS

- First Water Level Reading (during drilling)
- Static Water Level Reading (short-term)
- Static Water Level Reading (long-term)

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

BORING RECORD LEGEND

COUNTY	ROUTE	POSTMILE
El Dorado	50	1.1/R2.4

PROJECT OR BRIDGE NAME: **Silva Valley Parkway Interchange**

PREPARED BY	DATE	SHEET
RCP		1 of 3

CONSISTENCY OF COHESIVE SOILS				
Descriptor	**Unconfined Compressive Strength (tsf)**	**Pocket Penetrometer (tsf)**	**Torvane (tsf)**	**Field Approximation**
Very Soft	< 0.25	< 0.25	< 0.12	Easily penetrated several inches by fist
Soft	0.25 - 0.50	0.25 - 0.50	0.12 - 0.25	Easily penetrated several inches by thumb
Medium Stiff	0.50 - 1.0	0.50 - 1.0	0.25 - 0.50	Can be penetrated several inches by thumb with moderate effort
Stiff	1.0 - 2.0	1.0 - 2.0	0.50 - 1.0	Readily indented by thumb but penetrated only with great effort
Very Stiff	2.0 - 4.0	2.0 - 4.0	1.0 - 2.0	Readily indented by thumbnail
Hard	> 4.0	> 4.0	> 2.0	Indented by thumbnail with difficulty

APPARENT DENSITY OF COHESIONLESS SOILS	
Descriptor	**SPT N_{60} - Value (blows / foot)**
Very Loose	0 - 4
Loose	5 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	> 50

MOISTURE	
Descriptor	**Criteria**
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

PERCENT OR PROPORTION OF SOILS	
Descriptor	**Criteria**
Trace	Particles are present but estimated to be less than 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

SOIL PARTICLE SIZE		
Descriptor		**Size**
Boulder		> 12 inches
Cobble		3 to 12 inches
Gravel	Coarse	3/4 inch to 3 inches
	Fine	No. 4 Sieve to 3/4 inch
Sand	Coarse	No. 10 Sieve to No. 4 Sieve
	Medium	No. 40 Sieve to No. 10 Sieve
	Fine	No. 200 Sieve to No. 40 Sieve
Silt and Clay		Passing No. 200 Sieve

PLASTICITY OF FINE-GRAINED SOILS	
Descriptor	**Criteria**
Nonplastic	A 1/8-inch thread cannot be rolled at any water content.
Low	The thread can barely be rolled, and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll, and not much time is required to reach the plastic limit; it cannot be rerolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit.
High	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit.

CEMENTATION	
Descriptor	**Criteria**
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

BORING RECORD LEGEND

COUNTY	ROUTE	POSTMILE
El Dorado	50	1.1/R2.4

PROJECT OR BRIDGE NAME: Silva Valley Parkway Interchange

PREPARED BY	DATE	SHEET
RCP		2 of 3

ROCK GRAPHIC SYMBOLS


IGNEOUS ROCK


SEDIMENTARY ROCK


METAMORPHIC ROCK

BEDDING SPACING

Descriptor	Thickness or Spacing
Massive	> 10 ft
Very thickly bedded	3 to 10 ft
Thickly bedded	1 to 3 ft
Moderately bedded	3-5/8 inches to 1 ft
Thinly bedded	1-1/4 to 3-5/8 inches
Very thinly bedded	3/8 inch to 1-1/4 inches
Laminated	< 3/8 inch

WEATHERING DESCRIPTORS FOR INTACT ROCK

	Diagnostic Features					
	Chemical Weathering-Discoloration-Oxidation		Mechanical Weathering and Grain Boundary Conditions	Texture and Solutioning		
Descriptor	Body of Rock	Fracture Surfaces		Texture	Solutioning	General Characteristics
Fresh	No discoloration, not oxidized	No discoloration or oxidation	No separation, intact (tight)	No change	No solutioning	Hammer rings when crystalline rocks are struck.
Slightly Weathered	Discoloration or oxidation is limited to surface of, or short distance from, fractures; some feldspar crystals are dull	Minor to complete discoloration or oxidation of most surfaces	No visible separation, intact (tight)	Preserved	Minor leaching of some soluble minerals may be noted	Hammer rings when crystalline rocks are struck. Body of rock not weakened.
Moderately Weathered	Discoloration or oxidation extends from fractures usually throughout; Fe-Mg minerals are "rusty"; feldspar crystals are "cloudy"	All fracture surfaces are discolored or oxidized	Partial separation of boundaries visible	Generally preserved	Soluble minerals may be mostly leached	Hammer does not ring when rock is struck. Body of rock is slightly weakened.
Intensely Weathered	Discoloration or oxidation throughout; all feldspars and Fe-Mg minerals are altered to clay to some extent; or chemical alteration produces in situ disaggregation (refer to grain boundary conditions)	All fracture surfaces are discolored or oxidized; surfaces are friable	Partial separation, rock is friable; in semi-arid conditions, granitics are disaggregated	Altered by chemical disintegration such as via hydration or argillation	Leaching of soluble minerals may be complete	Dull sound when struck with hammer; usually can be broken with moderate to heavy manual pressure or by light hammer blow without reference to planes of weakness such as incipient or hairline fractures or veinlets. Rock is significantly weakened.
Decomposed	Discolored of oxidized throughout, but resistant minerals such as quartz may be unaltered; all feldspars and Fe-Mg minerals are completely altered to clay		Complete separation of grain boundaries (disaggregated)	Resembles a soil; partial or complete remnant rock structure may be preserved; leaching of soluble minerals usually complete		Can be granulated by hand. Resistant minerals such as quartz may be present as "stringers" or "dikes".

Note: Combination descriptors (such as "slightly weathered to fresh") are used where equal distribution of both weathering characteristics is present over significant intervals or where characteristics present are "in between" the diagnostic feature. However, combination descriptors should not be used where significant identifiable zones can be delineated. Only two adjacent descriptors shall be combined. "Very intensely weathered" is the combination descriptor for "decomposed to intensely weathered".

RELATIVE STRENGTH OF INTACT ROCK

Descriptor	Uniaxial Compressive Strength (psi)
Extremely Strong	> 30,000
Very Strong	14,500 - 30,000
Strong	7,000 - 14,500
Medium Strong	3,500 - 7,000
Weak	700 - 3,500
Very Weak	150 - 700
Extremely Weak	< 150

ROCK HARDNESS

Descriptor	Criteria
Extremely Hard	Specimen cannot be scratched with pocket knife or sharp pick; can only be chipped with repeated heavy hammer blows
Very hard	Specimen cannot be scratched with pocket knife or sharp pick; breaks with repeated heavy hammer blows
Hard	Specimen can be scratched with pocket knife or sharp pick with heavy pressure; heavy hammer blows required to break specimen
Moderately Hard	Specimen can be scratched with pocket knife or sharp pick with light or moderate pressure; breaks with moderate hammer blows
Moderately Soft	Specimen can be grooved 1/6 in. with pocket knife or sharp pick with moderate or heavy pressure; breaks with light hammer blow or heavy hand pressure
Soft	Specimen can be grooved or gouged with pocket knife or sharp pick with light pressure, breaks with light to moderate hand pressure
Very Soft	Specimen can be readily indented, grooved, or gouged with fingernail, or carved with pocket knife; breaks with light hand pressure

CORE RECOVERY CALCULATION (%)

$$\frac{\Sigma \text{ Length of the recovered core pieces (in.)}}{\text{Total length of core run (in.)}} \times 100$$

RQD CALCULATION (%)

$$\frac{\Sigma \text{ Length of intact core pieces} > 4 \text{ in.}}{\text{Total length of core run (in.)}} \times 100$$

FRACTURE DENSITY

Descriptor	Criteria
Unfractured	No fractures
Very Slightly Fractured	Lengths greater 3 ft
Slightly Fractured	Lengths from 1 to 3 ft, few lengths outside that range
Moderately Fractured	Lengths mostly in range of 4 in. to 1 ft, with most lengths about 8 in.
Intensely Fractured	Lengths average from 1 in. to 4 in. with scattered fragmented intervals with lengths less than 4 in.
Very Intensely Fractured	Mostly chips and fragments with few scattered short core lengths

blackburn consulting
Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

BORING RECORD LEGEND

COUNTY	ROUTE	POSTMILE
El Dorado	50	1.1/R2.4

PROJECT OR BRIDGE NAME: **Silva Valley Parkway Interchange**

PREPARED BY	DATE	SHEET
RCP		3 of 3

September 9, 2019
Kleinfelder Project No. 20193180.001A

Costco Wholesale Corporation
9 Corporate, Suite 230
Irvine, California 92606

Attention: Ms. Michael Okuma, NCARB
Director of Real Estate Development

SUBJECT: Phase I Environmental Site Assessment
Proposed Costco Warehouse and Gas Station
West-Southwest of Silva Valley Parkway
El Dorado Hills, El Dorado County, California
CW: 18-0487

Dear Mr. Okuma:

Enclosed is the Phase I Environmental Site Assessment (ESA) report for the above-referenced property. We trust the information presented in this report meets your needs at this time.

An executive summary is provided. However, we recommend that the report be read in its entirety for a comprehensive understanding of the items contained therein.

We appreciate the opportunity to provide these services to Costco Wholesale Corporation. If you have questions regarding this report or if we can be of further service, please do not hesitate to contact Paolo Dizon at 949.727.4466 or Andy Franks, Kleinfelder's Client Account Manager for Costco, at 480.650.4905.

Sincerely,

KLEINFELDER

Paolo Dizon
Project Manager

Copyright 2019 Kleinfelder

24411 Ridge Route Drive, Suite 225, Laguna Hills, CA 92653 p | 949.727.4466 f | 949.727.9242

PHASE I ENVIRONMENTAL SITE ASSESSMENT
PROPOSED COSTCO WAREHOUSE AND GAS STATION
WEST-SOUTHWEST OF SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA
KLEINFELDER PROJECT NO. 20193180.001A

SEPTEMBER 9, 2019

Copyright 2019 Kleinfelder
All Rights Reserved

ONLY THE CLIENT OR ITS DESIGNATED REPRESENTATIVES MAY USE THIS DOCUMENT AND ONLY FOR THE SPECIFIC PROJECT FOR WHICH THIS REPORT WAS PREPARED.

Copyright 2019 Kleinfelder

24411 Ridge Route Drive, Suite 225, Laguna Hills, CA 92653 p | 949.727.4466 f | 949.727.9242

A Report Prepared for:

Costco Wholesale
999 Lake Drive
Issaquah, WA 98027

PHASE I ENVIRONMENTAL SITE ASSESSMENT
PROPOSED COSTCO WAREHOUSE AND
GAS STATION
WEST-SOUTHWEST OF SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

Prepared by:



Lindsey Dandridge-Perry
Project Professional

Reviewed by:



Lizanne Simmons, PG
California Professional Geologist No. 7431

KLEINFELDER
24411 Ridge Route Drive, Suite 225
Laguna Hills, California 92653
Phone: 949.727.4466
Fax: 949.727.9242

September 9, 2019
Kleinfelder Project No. 20193180.001A

Copyright 2019 Kleinfelder

TABLE OF CONTENTS

Section			Page
1	**EXECUTIVE SUMMARY**		**1**
2	**INTRODUCTION**		**5**
	2.1	PURPOSE	5
	2.2	DETAILED SCOPE OF SERVICES	6
	2.3	ADDITIONAL SERVICES	7
	2.4	SIGNIFICANT ASSUMPTIONS	8
	2.5	LIMITATIONS AND EXCEPTIONS	8
	2.6	SPECIAL TERMS AND CONDITIONS	9
3	**SITE DESCRIPTION**		**10**
	3.1	LOCATION AND LEGAL DESCRIPTION	10
	3.2	CURRENT / PROPOSED USE OF THE PROPERTY	10
	3.3	DESCRIPTION OF STRUCTURES / IMPROVEMENTS	11
	3.4	CURRENT USES OF ADJOINING PROPERTIES	11
4	**RECORDS REVIEW**		**13**
	4.1	STANDARD ENVIRONMENTAL RECORD SOURCES	13
	4.2	RESULTS OF DATABASE SEARCH	14
		4.2.1 Site Listings	15
		4.2.2 Off-Site Listings	15
		4.2.3 Orphan List	16
	4.3	OTHER RECORDS REVIEWED / AGENCIES CONTACTED	16
		4.3.1 Pipeline and Hazardous Materials Safety Administration, National Pipeline Mapping System	17
		4.3.2 State of California Division of Oil, Gas and Geothermal Resources	17
		4.3.3 El Dorado County Planning and Building Department	17
		4.3.4 El Dorado County Air Quality Management District	18
		4.3.5 El Dorado County Environmental Management	20
		4.3.6 State Water Resources Control Board	20
		4.3.7 Department of Toxic Substances Control	20
	4.4	PHYSICAL SETTING SOURCE(S)	20
	4.5	USER PROVIDED INFORMATION	22
	4.6	TITLE RECORDS	22
	4.7	ENVIRONMENTAL LIENS AND USAGE LIMITATIONS	22
	4.8	VALUE REDUCTION	22
	4.9	OTHER INFORMATION / DOCUMENTS PROVIDED	23
5	**SITE HISTORY**		**25**
	5.1	SANBORN FIRE INSURANCE MAPS	25
	5.2	AERIAL PHOTOGRAPHS	25
	5.3	CITY DIRECTORIES	27
	5.4	HISTORICAL TOPOGRAPHIC MAP REVIEW	28
	5.5	BUILDING PERMITS	29
	5.6	PREVIOUS ASSESSMENTS	29

Copyright 2019 Kleinfelder

24411 Ridge Route Drive, Suite 225, Laguna Hills, CA 92653 p | 949.727.4466 f | 949.727.9242

TABLE OF CONTENTS (Continued)

Section			Page
6	**SITE RECONNAISSANCE**		**31**
	6.1	METHODOLOGY AND LIMITING CONDITIONS	31
	6.2	GENERAL SITE SETTING	31
	6.3	SITE OBSERVATIONS	31
	6.4	RESULTS OF SITE RECONNAISSANCE	35
7	**INTERVIEWS**		**36**
	7.1	INTERVIEW WITH CLIENT/OWNER/MANAGER	36
	7.2	INTERVIEW WITH OWNER/MANAGER	36
	7.3	INTERVIEW WITH OCCUPANT(S)	36
	7.4	INTERVIEWS WITH LOCAL GOVERNMENT OFFICIALS	37
8	**EVALUATION**		**38**
	8.1	BACKGROUND	38
	8.2	FINDINGS AND OPINIONS	39
	8.3	DEVIATIONS AND ADDITIONAL SERVICES	39
		8.3.1 Protected Plant/Wildlife Assessment	40
		8.3.2 Wetland Assessment	41
	8.4	CONCLUSIONS	41
	8.5	RECOMMENDATIONS	42
	8.6	DATA GAPS	42
9	**REFERENCES**		**43**

TABLES

3-1 Location and Legal Description
3-2 Current and Proposed Uses
3-3 Structures and Improvements
3-4 Adjoining Properties
4-1 Physical Setting
4-2 Regional Geology and Hydrogeology
4-3 Owner and Occupant Information
5-1 Historical Information Sources
5-2 Historical Aerial Photographs Reviewed
5-3 Historical Topographic Maps Reviewed
6-1 Site Observations

FIGURES

1 Site Location Map
2 Site Vicinity Map
3-9 Site Photographs

APPENDICES

A Statement of Qualifications
B Regulatory Agency Database Report
C User-Provided and Regulatory Agency Documentation
D Historical Research Documentation
E Moore Biological Consultants – Biological Assessment

Copyright 2019 Kleinfelder

1 EXECUTIVE SUMMARY

This report documents a Phase I Environmental Site Assessment (ESA) performed by Kleinfelder for Costco Wholesale Corporation (Costco / Client), of the location of a proposed Costco warehouse and gas station (Site) in the unincorporated El Dorado Hills community of El Dorado County, California (the Site). Kleinfelder understands the Client intends to purchase the Site.

This report was prepared using the ASTM International Designation E 1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (the "ASTM Standard Practice"), the All Appropriate Inquiry (AAI) section of the Small Business Liability Relief and Revitalization Act (the Federal Brownfields Law), and Costco's Development Requirements, Version 2018, dated October 26, 2018. The Phase I ESA findings include the following:

- The Site is located on vacant land west-southwest of Silva Valley Parkway and north of United States Highway 50 (US-50) in the unincorporated El Dorado Hills community of El Dorado County, California (see Figure 1). It consists of approximately 17.04 acres of land identified as El Dorado County Assessor's Parcel Numbers (APNs) 122-720-018 and 122-720-002, and portions of two other parcels identified as APNs 122-720-003 and UN384934.
- The Site was historically used as grazing land. Farm/ranch structures occupied the northern portion of the Site from at least 1940 through 1973. Remnants of these structures are still present in the northern portion of the Site. Natural drainage channels cross the northern portion of the Site and the middle of the Site from the northeast to southwest. Remnants of a dam were present across the drainage channel in the middle of the Site. A dirt road extended to the farmhouse along the western Site boundary from US-50, which was constructed south of the Site by 1941. In 1966, US-50 was expanded from a 2-lane highway to a 4-lane highway, and Tong Road was constructed extending east to west through the southwestern portion of the Site. By 2006 the Old Silva Valley Parkway formed the western border of the Site. In 2012, earthwork was being performed on the property to the northeast in preparation of the Silva Valley Parkway/US-50 interchange construction activities, and a dirt road extended across the southern portion of the Site from Tong Road to the main earthwork area. By 2016, the current Silva Valley Parkway/US-50 interchange had been constructed, with Silva Valley Parkway forming the eastern border of the Site

Copyright 2019 Kleinfelder

KLEINFELDER 24411 Ridge Route Drive, Suite 225, Laguna Hills, CA 92653 p | 949.727.4466 f | 949.727.9242

and the US-50 on-ramp present south of the Site. A remnant of Tong Road remains in the southwestern portion of the Site.

- During Kleinfelder's Site reconnaissance, the ranch structure remnants and the aforementioned dam were observed on the Site. Standing water was observed up-stream of the dam. In the vicinity of the ranch structures was a pit, approximately 2- to 3-feet deep, and lined with concrete blocks. Other remnants include a watering trough, piles of concrete blocks, and building foundation remnants. An old couch had been dumped on the Site near the old structures. Other than the remnants of the previous ranch activities, the Site is vacant land. Utilities were observed adjoining Old Silva Parkway (also known as Clarksville Crossing), including three transformers and an electrical panel present in the southwestern portion of the Site, south of the old Tong Road, and a water utility vault with standpipes located north of old Tong Road. Evidence of stained soil, discolored water, stressed vegetation, underground storage tanks (USTs), wells, or lagoons was not observed on the Site during the reconnaissance.
- The western portion of the Site is located within an area identified by El Dorado County as considered "more likely to contain asbestos" in soil. Based on a review of the *Asbestos Review Areas, Western Slope, County of El Dorado, State of California* map, dated August 22, 2018, the western portion of the Site is within a quarter mile of an area where naturally-occurring asbestos (NOA) was found. Facilities within this buffer zone would require approval of an Asbestos Dust Mitigation Plan through the El Dorado County Air Quality Management District (AQMD) prior to construction. Therefore, it appears that an "Asbestos Dust Mitigation Plan" will be required for construction activities.
- No off-Site facilities are considered likely to have affected soil, soil vapor or groundwater beneath the Site.

Copyright 2019 Kleinfelder

KLEINFELDER 24411 Ridge Route Drive, Suite 225, Laguna Hills, CA 92653 p | 949.727.4466 f | 949.727.9242

Kleinfelder's scope of services included Standard Practice non-scope evaluations of wetlands and surface water; and threatened, endangered, and other protected species that may be required for a Phase I ESA pursuant to Costco's Development Requirements, Version 2018, dated October 26, 2018. Kleinfelder's subcontractor, Moore Biological Consultants (Moore), performed these Standard Practice non-scope evaluations. The findings include the following:

- During Moore's Site reconnaissance, two ephemeral creeks, flowing from the northeast to southwest, and one seasonal wetland swale, located in the creek in the center of the Site, were observed. These may be considered jurisdictional waters.

- No special status wildlife or plant species were observed during the Site reconnaissance. Ten special status plants were identified during database research as potentially occurring at the Site. Due to lack of habitat, it is unlikely these special status plants would occur at the Site. Sixteen special status species were documented in the Site vicinity; however, upon review of the available habitat and distribution of regional occurrences, in Moore's opinion, most of the species are unlikely to occur at the Site.

- Burrowing owls, Swainson's Hawk, and migratory birds have the potential to occur on Site.

Further discussion of the non-scope evaluations is provided in Section 8.3.

This assessment has revealed no evidence of recognized environmental conditions (RECs), historical RECs (HRECs) or controlled RECs (CRECs) associated with the Site. Although not considered RECs pursuant to the Standard Practice, the following environmental conditions were noted because of potential impact to construction activity at the Site.

- Based on the location of the Site within the asbestos buffer zone, preparation of an Asbestos Dust Mitigation Plan for AQMD is recommended prior to construction at the Site.

- Concrete structures, including a pit (unknown use), was observed in the northern portion of the Site. There is the potential for dumping in the pit and in the vicinity of the former structures on the Site. Therefore, Kleinfelder recommends environmental monitoring and observation of the removal of these structures and, if contamination is suspected, collection of soil samples from beneath this structure. Additionally, the concrete remnants from the former structures may contain asbestos. Sampling for asbestos in the concrete is also recommended.

Copyright 2019 Kleinfelder

- Two ephemeral creeks and one seasonal wetland swale were observed on the Site. Kleinfelder recommends that a wetland delineation be performed.

- Burrowing owls, Swainson's hawk, and migratory birds have the potential to occur on Site, therefore, pre-construction surveys for these species are recommended.

Deviations, HRECs, and *de minimis* findings are discussed in Section 8 of this report. This report is subject to the limitations in Section 2.5.

Copyright 2019 Kleinfelder

KLEINFELDER 24411 Ridge Route Drive, Suite 225, Laguna Hills, CA 92653 p | 949.727.4466 f | 949.727.9242

2 INTRODUCTION

This report is a summary of work performed using the guidelines set forth in the Standard Practice, the AAI section of the Federal Brownfields Law, and Costco's Development Requirements, Version 2018, dated October 26, 2018. This report also generally conforms to the Standard Practice's suggested table of contents. Minor format modifications have been made to the Standard Practice's suggested table of contents to assist in better reading and understanding the report findings.

2.1 PURPOSE

The purpose of this Phase I ESA is to identify, to the extent feasible pursuant to the scope of services defined in our Proposal No. 20193180.001A/LH19C99493, dated August 9, 2019, and limitations discussed in this report, RECs and other environmental issues related to the Site.

As defined in the Standard Practice, a REC is:

> *"The presence or likely presence of any hazardous substances or petroleum products in, on or at a property: (1) due to a release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not recognized environmental conditions."*

As defined in the Standard Practice, a *de minimis* condition is:

> *"A condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies."*

The 2013 Standard Practice also introduced the designation of CREC. As defined in the Standard Practice, a CREC is:

> *"… a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the*

Copyright 2019 Kleinfelder

implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).”

The 2013 Standard Practice defines an HREC as:

“…a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to environmental controls.”

The final decision regarding whether a past release is an HREC rests with the environmental professional (EP) and will be influenced by the current impact (if any) of the past release to the Site.

This report describes Kleinfelder’s assessment methodology and documents its findings, subject to the limitations presented in Section 2.5 of this report.

2.2 DETAILED SCOPE OF SERVICES

The following sections describe Kleinfelder’s work scope:

- Section 2, **Introduction**, includes a discussion of the purpose/reason for performing the Phase I ESA, additional services requested by the Client (e.g., an evaluation of business environmental risk factors associated with the Site), significant assumptions (e.g., property boundaries if not marked in the field), limitations, exceptions, special terms and conditions (e.g., contractual), and user reliance parameters.
- Section 3, **Site Description**, is a compilation of information concerning the Site location, legal description (if provided by the Client), current and proposed use of the Site, a description of structures and improvements on the Site at the time of Kleinfelder’s assessment, and adjoining property use.
- Section 4, **Records Review**, is a compilation of Kleinfelder’s review of several databases available from Federal, State, and local regulatory agencies regarding hazardous substance use, storage, or disposal at the Site; and for off-Site facilities within the search distances specified by the Standard Practice. Records provided by the Client are summarized, and copies of relevant documents are included in the appendices of this report. Physical setting sources (including topography and soil and groundwater

Copyright 2019 Kleinfelder

conditions) and typical Client-provided information (e.g., title records, environmental liens, specialized knowledge, valuation reduction for environmental issues, and owner, property manager, and occupant information) are also summarized. Other interviews with people knowledgeable about the Site (including the Client) are included in Section 7.

- Section 5, **History of the Site**, summarizes the history of the Site and adjoining properties. This Site history is based on various sources, which may include a review of historical aerial photographs, Sanborn Fire Insurance Maps, city or suburban directories, historical topographic maps, building department records, and results of previous Site assessments (if any and reasonably ascertainable).
- Section 6, **Site Reconnaissance**, describes Kleinfelder's observations during the Site reconnaissance. The methodology used and limiting conditions are also described.
- Section 7, **Interviews**, is a summary of telephone and personal interviews performed with "Key Site Managers" that may include the Site owner/manager, occupants/tenants, local government officials, and the Client. Additional interview sources may be contacted if Key Site Managers were not available prior to production of this report, and may include adjoining landowners and people with historical knowledge of the area.
- Section 8, **Evaluation**, is a presentation of findings and opinions regarding the information provided in Sections 3 through 7, and presents the conclusions regarding the presence of RECs connected with the Site, and Kleinfelder's recommendations.
- Section 9, **References**, is a summary listing of the resources used to compile this report.

A statement of qualifications of the signatories of this report is provided in Appendix A, and pertinent documentation regarding the Site is included in Appendices B through D.

2.3 ADDITIONAL SERVICES

Kleinfelder's scope of services as part of this Phase I ESA did not include Standard Practice non-scope evaluations of cultural, historic, and archaeological resources; and environmental regulatory compliance that may be required for a Phase I ESA pursuant to Costco's Development Requirements publication (revised October 26, 2018). In addition, the Phase I ESA did not include an assessment for asbestos-containing materials (ACMs), radon, lead-based paint (LBP), lead in drinking water, molds and mildews, indoor air quality, industrial hygiene, health and safety, and other Standard Practice non-scope considerations not described herein.

Copyright 2019 Kleinfelder

The Phase I ESA did, however, include evaluations of wetlands and surface water; and threatened, endangered, and other protected species that are required for a Phase I ESA pursuant to Costco's Development Requirements. No other additional services were provided by Kleinfelder for this Phase I ESA.

2.4 SIGNIFICANT ASSUMPTIONS

Kleinfelder does not guarantee the accuracy of information supplied by its sources, but reserves the right to rely on the information in forming a professional opinion regarding the potential for contamination at the Site. It is assumed the Client provided Kleinfelder all applicable and available environmental records and specialized knowledge in its possession regarding the Site. Kleinfelder has not made other significant assumptions during the performance of this Phase I ESA.

2.5 LIMITATIONS AND EXCEPTIONS

Phase I ESAs are non-comprehensive by nature and may not identify all environmental problems and will not eliminate all risk. This report is a qualitative assessment. Kleinfelder offers a range of investigative and engineering services to suit the needs of its clients, including more quantitative investigations. Although risk can never be eliminated, more detailed and extensive investigations yield more information, which may help the Client understand and better manage risks. Since such detailed services involve greater expense, Kleinfelder asks its clients to participate in identifying the level of service that will provide them with an acceptable level of risk. Please contact the signatories of this report if you would like to discuss this issue of risk further.

Kleinfelder performed this Phase I ESA consistent with the guidelines set forth in the Standard Practice; Costco's Development Requirements, Version 2018 publication (dated October 26, 2018); and the proposed scope of services subsequently approved by Costco. No other warranty, either express or implied, is made. Environmental issues not specifically addressed in this report were beyond the scope of Kleinfelder's services and not included in the evaluation.

This report may be used only by Costco and only for the purposes stated within a reasonable time from its issuance, but in no event later than one year from the date of the report. Land or facility use, on- and off-Site conditions, regulations, or other factors may change over time, and additional work may be required with the passage of time. Since Site activities and regulations beyond Kleinfelder's control may change at any time after the completion of this report, the observations, findings, and opinions provided herein are considered valid only as of the date of the Site visit.

Copyright 2019 Kleinfelder

KLEINFELDER 24411 Ridge Route Drive, Suite 225, Laguna Hills, CA 92653 p | 949.727.4466 f | 949.727.9242

Pursuant to Section 4.6 of the Standard Practice, this report should not be relied upon after 180 days from the date of its oldest component. Any party other than the Client who wishes to use this report shall notify Kleinfelder of such intended use. Based on the intended use of the report, Kleinfelder may require that additional work be performed and that an updated report be issued. Non-compliance with any of these requirements by the Client or anyone else will release Kleinfelder from any liability resulting from the use of this report by any unauthorized party, but only to the extent of any such non-compliance by the Client.

The Phase I ESA has been conducted in accordance with, and conforms to the Costco Wholesale Development Requirements Document and the latest edition of ASTM E 1527. This assessment has been prepared for the sole use of Costco Wholesale Corporation. Its contents should not be relied upon by other parties without the express written consent of Costco Wholesale Corporation.

2.6 SPECIAL TERMS AND CONDITIONS

No special terms and conditions were agreed to by the Client and Kleinfelder.

Copyright 2019 Kleinfelder

KLEINFELDER 24411 Ridge Route Drive, Suite 225, Laguna Hills, CA 92653 p | 949.727.4466 f | 949.727.9242

3 SITE DESCRIPTION

The Site description is presented in this section and describes the condition of the Site at the time of the Phase I ESA. The Site location is shown on Figure 1. Tables 3-1 through 3-4 summarize the physical characteristics of the Site and adjoining properties.

3.1 LOCATION AND LEGAL DESCRIPTION

The information presented in Table 3-1 denotes the physical location and legal description of the Site. This information was obtained from review of various maps (such as topographic maps and tax assessor maps), aerial photographs, public records at City and/or County offices, interviews, and/or information provided by the Client.

TABLE 3-1

Location and Legal Description

PARAMETER	INFORMATION/COMMENTS
LOCATION	The Site is located west-southwest of Silva Valley Parkway, and north of US-50, in the unincorporated El Dorado Hills community of El Dorado County, California (see Figure 1).
LEGAL DESCRIPTION	A legal description for the Site parcels, and specific description of the larger parcel from which the Site was divided, is presented in the *EDR Environmental Lien and AUL Search* reports (EDR, 2019a) provided in Appendix C.
ASSESSOR'S PARCEL NUMBER	The Site is situated on land identified as El Dorado County APNs 122-720-018, 122-720-002, 122-720-003 (portion), and UN384034 (portion).
ADDRESS(ES)	No address is currently associated with the Site.
SECTION, TOWNSHIP, AND RANGE	Township 9 North, Range 8 East, Section 1, Mt. Diablo Meridian and Baseline.
ZONING	Based on zoning information provided by Costco, the Site APN 122-720-018 is zoned "CR", which indicates Regional Commercial, and the Site APN 122-720-002 is zoned "CL", which means Commercial Limited. APN 122-720-003 is zoned "TC" for Transportation Corridor.

3.2 CURRENT / PROPOSED USE OF THE PROPERTY

Land use in the general vicinity appeared to be either residential or undeveloped at the time of Kleinfelder's assessment. Current and proposed Site uses are described in Table 3-2.

Copyright 2019 Kleinfelder

TABLE 3-2

Current and Proposed Uses

PARAMETER	GENERAL OBSERVATIONS
CURRENT USE	The Site is vacant land.
PROPOSED USE	Costco warehouse and gas station.

3.3 DESCRIPTION OF STRUCTURES / IMPROVEMENTS

Structures and/or improvements observed on the Site at the time of Kleinfelder's reconnaissance are described in Table 3-3.

TABLE 3-3

Structures and Improvements

PARAMETER	GENERAL OBSERVATIONS
STRUCTURES	No structures were present on Site, although remnants of previous structures (concrete foundations, walls, concrete blocks) are still visible.
IMPROVEMENTS	Improvements present on Site include a concrete dam and water trough, chain-link fencing, and utility infrastructure.

3.4 CURRENT USES OF ADJOINING PROPERTIES

Kleinfelder performed a brief drive-by survey of the properties immediately adjoining to the Site on July 29, 2019. A summary of the observations regarding the surrounding properties is presented in Table 3-4 and shown on Figure 2, Site Vicinity Map.

TABLE 3-4

Adjoining Properties

DIRECTION	LAND USE DESCRIPTION
NORTH	Silva Valley Parkway adjoins the Site. Undeveloped land followed by residential development is located north and northeast of Silva Valley Parkway.
WEST	Old Silva Valley Parkway (also known as Clarksville Crossing) adjoins the Site, with undeveloped land further to the west. Serrano Parkway Trail extends through the property west of the Site along the creek bed. A utility structure was present southwest of the Site, west of Old Silva Valley Parkway.
SOUTH	The on-ramp to US-50 and US-50 are located south of the Site.
EAST	Silva Valley Parkway adjoins the Site, with undeveloped land further to the east.

Copyright 2019 Kleinfelder

Hazardous materials and petroleum products were not directly observed to be stored on the properties adjoining the Site. No other environmental conditions were apparent on the adjoining properties at the time of Kleinfelder's Site reconnaissance.

Copyright 2019 Kleinfelder

KLEINFELDER 24411 Ridge Route Drive, Suite 225, Laguna Hills, CA 92653 p | 949.727.4466 f | 949.727.9242

4 RECORDS REVIEW

4.1 STANDARD ENVIRONMENTAL RECORD SOURCES

The purpose of the records review is to obtain and review records that would help to evaluate RECs in connection with the Site and bordering properties. Federal, State, and local regulatory agencies publish databases or "lists" of businesses and properties that handle hazardous materials or hazardous waste or are the known location of a release of hazardous substances to soil and/or groundwater. These databases are available for review and/or purchase at the regulatory agencies, or the information may be obtained through a commercial database service. Kleinfelder contracted a commercial database service, EDR, of Shelton, Connecticut, to perform the government database search for listings within the appropriate Standard Practice minimum search distance of the Site, and the distances set forth in Costco's Development Requirements, Version 2018, dated October 26, 2018. Included in the EDR Radius Map™ Report with GeoCheck® (EDR, 2019b) is a listing of specific databases outlined by the Standard Practice. A listing of the search distances, databases evaluated, dates the databases were last updated, and types of information contained in each database are included in the regulatory database search report provided in Appendix B of this report.

EDR utilizes a geographical information system to plot the locations of reported spills, leaks, incidents, etc. Kleinfelder reviews this information to help establish if the Site or nearby properties are listed in the databases and lists. Each of the listings was reviewed by Kleinfelder to assess whether the corresponding property details included in EDR's report revealed a potential environmental impact to the Site. Many listings in the report were concluded not to have the potential to impact the Site based on the following, or a combination thereof:

- The listed property is located at a distance where the facility is unlikely to impact the Site based on Kleinfelder's evaluation of the relevant data in EDR's report and knowledge of the Site vicinity.
- The listed property is located in a down-gradient or cross-gradient direction from the Site, based on the anticipated direction of groundwater flow at the property being evaluated, and is located at a distance such that it is unlikely to impact the Site. Judgements as to down- or cross-gradient direction are best made if groundwater flow direction information is available for a specific property.

Copyright 2019 Kleinfelder

- The listed property is identified in the underground storage tank (UST) or small quantity generator (SQG) databases and does not immediately adjoin the Site. The property is furthermore not listed in other databases that report a release of a hazardous substance or petroleum product and/or is not listed as having environmental violations. The listing of a facility in these databases alone is not indicative of an unauthorized release.
- The listing for the facility suggested a short-term release occurred (e.g., from incidental traffic accidents or involving limited quantities of chemicals from illegal drug labs found at residences), with associated response actions completed.
- The quantity of the hazardous substances or petroleum product released from an off-Site, non-adjoining facility was not judged to have resulted in contamination above the most stringent criteria requiring regulatory action. Therefore, no impact to the Site is anticipated.
- The listed property record indicates that the property was characterized, the reported release affected soil only, the listed property was not on or adjacent to the Site, and the release was not recognized as indicative of area-wide conditions or was characterized as a soil removal action only.
- The listed property record indicates that contamination on the property is limited to relatively non-mobile contaminants, including polyaromatic hydrocarbons (PAHs) and metals, in soil only, on a non-adjacent property.
- The listed property record indicates that the case for the property has been closed to the satisfaction of the designated lead regulatory agency, and residual contamination, if present, is not considered likely to affect the Site based on one or more of the criteria mentioned in the bulleted items above (a condition referred to by the Standard Practice as an HREC).

Based on these criteria indicating no material threat of a release that affected the Site and/or no release that could require future regulatory agency oversight, the listings concluded not to have the potential to impact the Site were not evaluated further and are not discussed in the following sections.

4.2 RESULTS OF DATABASE SEARCH

The remaining property listings, if applicable, were reviewed to assess whether these properties had environmental releases that may have resulted in RECs in connection with the Site. Listed

Copyright 2019 Kleinfelder

properties for which a reported release may have resulted in a REC in connection with the Site were further assessed by performing a review of agency files available through the GeoTracker™ website (https://geotracker.waterboards.ca.gov/) operated by the State Water Resources Control Board (SWRCB), and/or review of other relevant regulatory agency websites, to evaluate whether the listed release represents a potential impact to the Site.

4.2.1 Site Listings

The Site was listed in the California Integrated Water Quality System (CIWQS) database under the name "Tong Road Stockpile" and California Hazardous Material Incident Report System (CHMIRS) database under the name "Silva Valley Road at Tong Road". The CIWQS database indicates storm water construction was occurring at the Site from October 12, 2012 through August 30, 2013. The CHMIRS database listing indicates a surge anticipator at a buster pump station sensed low pressure and opened, and recycled water was released into Carson Creek on August 28, 2012. Neither listing represents a REC to the Site.

4.2.2 Off-Site Listings

Six facilities in the Site vicinity are listed in various databases searched by EDR. Three of the six listings were further reviewed as to the potential to impact the Site as summarized below.

"Serrano Elementary School" (Serrano Parkway/Silva Valley Parkway) – The school is located approximately 2,179 feet north-northwest of the Site. This facility was listed in the Department of Toxic Substance Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's EnviroStor database. The listing indicates that there was the potential for naturally-occurring asbestos, arsenic and lead in soil, and that the former property use was agricultural (livestock). The status of the case was listed as requiring "No Further Action". As no releases to soil or groundwater were reported and the case is closed; this facility is not considered a REC.

"El Dorado Hills Reclamation" (4525 Serrano Parkway) – The school is located approximately 4,026 feet north-northwest of the Site. This facility was listed in the ENF, CIWQS, and CERS databases. This facility handles waste water and storm water. This facility operated under a NPDES permit from 1994 through 2001. The ENF listing is for admin civil liability and violation of WDR. As no releases to soil or groundwater were reported; this facility is not considered a REC.

Copyright 2019 Kleinfelder

"Silver Dove Elementary School" (Silver Dove Way/Bass Lake Road) – This school is located approximately 4,939 east of the Site. This facility was listed in the DTSC EnviroStor database. The listing indicates that there was the potential for naturally-occurring asbestos in soil. The status of the case was listed as requiring "No Further Action". As no releases to soil or groundwater were reported and the case is closed, this facility is not considered a REC.

4.2.3 Orphan List

Facilities not plotted by EDR due to poor or inadequate address information are referred to as orphan facilities. No orphan facilities were listed in the EDR database report.

4.3 OTHER RECORDS REVIEWED / AGENCIES CONTACTED

The following additional sources of environmental records were reviewed during this Phase I ESA for the purposes of meeting the Standard Practice. Local regulatory agencies were contacted for reasonably ascertainable and practically reviewable documentation regarding RECs present at the Site and adjoining facilities. Summaries of interviews with local regulatory agency representatives, when performed, are included in Section 7 of this report (with interview documentation included in Appendix C). Information was obtained or reviewed from the following agencies:

☒ ..... Pipeline and Hazardous Materials Safety Administration (PHMSA), National Pipeline Mapping System (NPMS)
☒ ..... State of California, Division of Oil, Gas and Geothermal Resources (DOGGR)
☒ ..... El Dorado County Building Services
☒ ..... El Dorado County Air Quality Management District
☒ ..... El Dorado County Environmental Management (EDCEM)
☒ ..... State Water Resources Control Board, GeoTracker™ Database
☒ ..... State of California, Department of Toxic Substances Control, EnviroStor Database

Copyright 2019 Kleinfelder

Information/responses from the agencies contacted and agency databases reviewed is presented below:

4.3.1 Pipeline and Hazardous Materials Safety Administration, National Pipeline Mapping System

Pipeline information is available at the PHMSA's online NPMS website (https://www.npms.phmsa.dot.gov). Kleinfelder researched pipeline information on the website on July 19, 2019 for the Site and vicinity. Based on Kleinfelder's review of the NPMS website, no mapped natural gas transmission pipelines or hazardous liquid pipelines are located on Site or in the Site vicinity. The closest pipeline is located approximately 3,800 feet west-southwest of the Site. A copy of the NPMS map is included in Appendix C.

4.3.2 State of California Division of Oil, Gas and Geothermal Resources

Kleinfelder searched the State of California DOGGR website (http://www.conservation.ca.gov/dog) for oil and gas wells at the Site or in the Site vicinity. No oil or gas wells are depicted in the immediate vicinity of the Site. A copy of the DOGGR map results is presented in Appendix C.

4.3.3 El Dorado County Planning and Building Department

Kleinfelder submitted a records request on July 19, 2019 to El Dorado County Planning and Building for current or historical records pertaining to the Site. El Dorado County Planning and Building Department, Planning Services Division responded in an email on July 19, 2019 that there are documents available for the Site parcels. El Dorado County Building Department responded via telephone on August 8, 2019 that there were no permits available for the Site parcels. Planning records included the following:

- A letter from the Community Development Agency, *Approval of Administrative Zoning Map Correction for APN: 122-720-15*, dated October 3, 2016, approved the zone change from One-Family Residential- Planned Development to Commercial-Planned Development.

- El Dorado Planning Services Zone Change & General Plan Amendment Application for APN 122-720-15 dated September 11, 2017. This application included a conditional use permit for self-storage; a tentative parcel map application to subdivide the parcel into 10 lots; a completed Environmental Questionnaire dated September 13, 2017 indicating the project site contains wetlands, and an overall commercial center project description dated

Copyright 2019 Kleinfelder

October 5, 2017. The project area includes 17.07 acres of land northeast of Silva Valley Parkway and 15.73 acres of land southwest of Silva Valley Parkway (including a portion of the Site).

- An approved Zoning Application Package was dated June 20, 2018. The County split APN 122-720-15 into four parcels: three on the northeast side of Silva Valley Parkway and one on the southwest side of Silva Valley Parkway (including a portion of the Site).

- A letter from the Community Development Agency, *Zoning Administrator Approval of P17-0004/EDH 52*, dated July 9, 2018, approved the zone change project. This includes the final findings and conditions of approval, which indicate the project area is suitable for the proposed development.

The El Dorado County Planning Division also indicated in its response that there were four applications still in process: Planned Development PD15-0001/Conditional Use Permit S17-0017/Parcel Map P17-0007/Rezone Z17-0004/EDH 52. A copy of the El Dorado County response is presented in Appendix C.

4.3.4 El Dorado County Air Quality Management District

Kleinfelder submitted a records request to the AQMD on July 19, 2019 for available information pertaining to the Site. No records were available for the Site parcel numbers.

Kleinfelder spoke with Todd from the AQMD on July 30, 2019 and inquired about dust control plans from the Silva Valley Parkway and US-50 interchange. Todd was able to locate the following documents:

- An Asbestos Dust Control Plan for a permanent stockpile issued in May 2012 to "AKT, EDH 52 Partnership", with a 2008 Caltrans report entitled, *Aerially Deposited Lead, Naturally Occurring Asbestos and Lead Containing Paint Site Investigation and Bridge Survey Report, Highway 50 Site Investigation Post Mile 2.90 to 8.79, El Dorado County, California*, attached to this plan. The Caltrans report showed the stockpile locations on the property northeast of the Site and summarized asbestos results for composite soil samples collected from medians and sound wall areas within the Silva Valley Parkway Interchange project area. The sample locations were not shown. Asbestos was not detected in the 30 composite samples collected except for one composite sample, which contained less than 0.25% chrysotile asbestos.

Copyright 2019 Kleinfelder

KLEINFELDER 24411 Ridge Route Drive, Suite 225, Laguna Hills, CA 92653 p | 949.727.4466 f | 949.727.9242

- An Asbestos Dust Control Plan Application indicated that a 20,000 cubic yard soil stockpile, and approximately 120,000 cubic yards of soil to be excavated from a 5-acre section ("Borrow Area") on the property northeast of the Site, would be used as fill material for the highway interchange in 2013.
- An Asbestos Dust Control Plan Application, dated December 20, 2013 indicated that 20 acres of soil would be disturbed at the Silva Valley Parkway and US-50 interchange for earthwork, road widening, bridgework, utilities, and paving in 2014 through 2015. The site plan included with the application showed that Old Silva Valley Parkway (referred to as Clarksville Crossing) west of the Site was included in the stage 3 project area. The Asbestos Review Areas Map included with the application showed that the western portion of the Site is within a quarter mile buffer likely to contain asbestos or fault lines.
- An Asbestos Dust Control Plan Application, dated March 1, 2013 indicated that 2.0 acres of soil would be disturbed at the Silva Valley Parkway and US-50 interchange for Pacific Gas and Electric Company electric utility relocation. Most excavation would be used for trenching and some drilling for utility poles, excavated soils were proposed to be placed back in the trenches. Based on the site plan included with the application, areas with short conduit pipe appear to be located in the southwest portion of the Site, south and adjoining the former Tong Road.
- A Geotechnical Report, EDH 52, Silva Valley Parkway at US-50, Rough Site Grading and Preliminary Foundation Design, prepared by Blackburn Consulting and dated March 2013, described a geotechnical investigation performed at the Site. This report is further summarized in Section 4.9. This report indicated that the weathered rock observed during this investigation were metavolcanics and are unlikely to contain asbestos.

The AQMD regulates NOA in El Dorado County. Based on Kleinfelder's review of an El Dorado County *Asbestos Review Areas Map* dated August 22, 2018, the western portion of the Site is located within a quarter mile buffer zone for areas more likely to contain asbestos, and therefore, the potential exists for NOA to be present in soil at the Site. Based on review of the construction dust rules for El Dorado County, which are available on line, https://www.edcgov.us/Government/AirQualityManagement/Pages/construction_dust_rules.aspx, an Asbestos Dust Mitigation plan is required if the construction area is within a NOA area identified by El Dorado County. Copies of the AQMD documents are included in Appendix C.

Copyright 2019 Kleinfelder

KLEINFELDER 24411 Ridge Route Drive, Suite 225, Laguna Hills, CA 92653 p | 949.727.4466 f | 949.727.9242

4.3.5 El Dorado County Environmental Management

Kleinfelder submitted a records request to the El Dorado County Environmental Management on July 19, 2019 for well, UST, aboveground storage tank (AST), hazardous materials, and site mitigation documents pertaining to the Site. El Dorado County Environmental Management responded in an email on July 22, 2019 that no records exist for the provided parcel numbers. A copy of the email response is included in Appendix C.

4.3.6 State Water Resources Control Board

Kleinfelder reviewed the SWRCB GeoTracker™ database (http://geotracker.waterboards.ca.gov/) on July 19, 2019 for information pertaining to the Site and adjoining properties. The Site and adjoining properties are not listed in the GeoTracker™ database. A copy of the GeoTracker™ search results map is presented in Appendix C.

4.3.7 Department of Toxic Substances Control

Kleinfelder reviewed the DTSC's EnviroStor website (https://www.envirostor.dtsc.ca.gov/public/) on July 19, 2019, for available files pertaining to the Site and adjoining properties. The Site and adjoining properties are not listed. A copy of the EnviroStor search results is presented in Appendix C.

4.4 PHYSICAL SETTING SOURCE(S)

Table 4-1 presents information concerning the physical setting of the Site. The information was primarily obtained from published maps.

TABLE 4-1

Physical Setting

DATA	GENERAL INFORMATION
USGS TOPOGRAPHIC QUADRANGLE	Based on the United States Geological Survey (USGS) Clarksville Quadrangle 7.5-Minute Series (Topographic) Map, dated 2012, the Site elevation is between approximately 700 and 780 feet above mean sea level (msl). The Site has a general topographical slope towards the southwest.
SOIL TYPE	According to a geotechnical investigation performed by Blackburn Consulting in 2013, the Site in underlain by sandy silt with gravel in the upper 2 feet, with weathered metavolcanic bedrock beneath it (Blackburn, 2013).
OIL AND GAS WELLS	Information concerning oil and gas fields was obtained by Kleinfelder on July 19, 2019 from the DOGGR Well Finder online database (http://www.conservation.ca.gov/dog). Based on Kleinfelder's review, no oil or gas wells are located within the immediate vicinity of the Site. A copy of the Well Finder search results is presented in Appendix C.

Copyright 2019 Kleinfelder

KLEINFELDER 24411 Ridge Route Drive, Suite 225, Laguna Hills, CA 92653 p | 949.727.4466 f | 949.727.9242

Table 4-2 presents information concerning regional geology and hydrogeology. The information was obtained from published maps and other sources.

TABLE 4-2

Regional Geology and Hydrogeology

PHYSICAL PARAMETER	INFORMATION/COMMENTS
REGIONAL PHYSIOGRAPHY AND GEOLOGY	The Site is situated between the Great Valley and Sierra Nevada Geomorphic Provinces of California. The Great Valley Geomorphic Province is an alluvial plain about 50 miles wide and 400 miles long that includes the Sacramento Valley as its northern portion, and the San Joaquin Valley as its central and southern portion. The Great Valley is a trough in which sediments have been deposited almost continuously since the Jurassic. The Sierra Nevada Geomorphic Province is a tilted fault block characterized as a high multiple scarp mountain range that slopes gently to the west, and dips under the Great Valley (California Geological Survey [CGS], 2002). The Sierras are characterized by deep cut valleys that drain into the Great Valley. The high Sierras are granitic with the surrounding bedrock being metamorphic. The Site is located on Jurassic-Triassic metavolcanics rocks, which consist of basaltic and andesitic volcanic rocks, tuff, and volcanic breccia. The Bear Mountain Fault Zone is located approximately 1-mile west of the Site and extends northwest to southeast from Folsom Lake along the Sierra Nevada foothills (Strand and Koenig, 1965).
REGIONAL HYDROGEOLOGY	The Site is not located within a groundwater basin or subbasin recognized by the California Department of Water Resources (CDWR) Bulletin 118, last updated in July 2017. The closest groundwater basin is the Sacramento Valley-South American groundwater basin, located approximately 3 miles to the west-northwest of the Site (CDWR, https://gis.water.ca.gov/app/gicima/).
DEPTH TO GROUNDWATER DIRECTION OF ANTICIPATED FLOW [1]	Groundwater information was not available for the Site or Site vicinity. Groundwater is assumed to follow topographic trends and flow to the southwest.
REGIONAL GROUNDWATER QUALITY PROBLEMS	Groundwater information was not available for the Site or Site vicinity.
WATER SUPPLY	The Site is currently not connected to the municipal water system.
FLOOD ZONE DESIGNATION	According to *The EDR Radius Map™ Report with GeoCheck®*, the Site is not located within a 100-year or a 500-year flood zone (EDR, 2019b).

[1] Groundwater flow direction is based on regional information sources. Site-specific conditions may vary due to a variety of factors including geologic anomalies, utilities, nearby pumping wells (if present), and others.

Copyright 2019 Kleinfelder

4.5 USER PROVIDED INFORMATION

Kleinfelder understands that the Client intends to purchase the Site and develop it as a Costco Warehouse and gas station. Information regarding the current owners/occupants of the Site is summarized in Table 4-3.

TABLE 4-3

Owner and Occupant Information

ENTITY	NAME
OWNER	According to the *EDR Environmental Lien and AUL Search* report (EDR, 2019a), the current owner of the Site parcel APN 122-720-018 is "EDH 52, a California General Partnership" and the current owner of the Site parcel APN 122-720-002 is "Mee Capital Investments, LLC". According to the *EDR Environmental Lien and AUL Search* report (EDR, 2019h), the current owner of the Site parcels APN 122-720-003 and UN1384034 is "El Dorado Hills Investors, Inc.".
OCCUPANT(S)	The Site is currently vacant land.

Summaries of interviews of key individuals with knowledge of the Site ("Key Site Managers") are provided in Section 7. The following sections present information provided to Kleinfelder by the Client.

4.6 TITLE RECORDS

Chain-of-title information for the Site was not provided by the Client. Therefore, a review of a chain-of-title report was not reviewed as part of this Phase I ESA.

4.7 ENVIRONMENTAL LIENS AND USAGE LIMITATIONS

According to information provided in EDR's regulatory agency database search report (EDR, 2019b), no known recorded land-use environmental deed restrictions pertaining to the Site are listed in the State Liens Database. Kleinfelder's review of the *EDR Environmental Lien and AUL Search* report (EDR, 2019a) indicated no environmental liens or activity and use limitations (AULs) are associated with the Site parcels (Appendix C).

4.8 VALUE REDUCTION

As part of the Standard Practice process, information is to be gathered regarding the prospective purchase price of the Site relative to its fair market value. If there appears to be a value reduction, that reduction must be identified with respect to whether the difference may be attributed to

Copyright 2019 Kleinfelder

environmental degradation of the property. According to a questionnaire completed by Mr. Michael Okuma of Costco on July 22, 2019, the purchase price of the Site reflects the fair market value. A copy of the questionnaire is provided in Appendix C.

4.9 OTHER INFORMATION / DOCUMENTS PROVIDED

Documents pertaining to the Site that were provided to Kleinfelder for review include the following:

Blackburn Consulting, 2007, *Initial Site Assessment, Silva Valley Pkwy/SR50 Interchange, 03-ED-50, KP 3.1 (PM 1.7), EL Dorado Hills, California,* April 12.

This report identifies the Site as Parcel 1 APN 108-030-1010 EDH 52. This parcel includes the Site and the property northeast of the current Silva Valley Parkway. This investigation was preformed to assess environmental conditions for the proposed US-50 underpass and Silva Valley Parkway interchange improvements. No hazardous material issues were identified in this report. The subject parcel was undeveloped and used for grazing. Concrete structures/ruins (past use unknown) and associated debris were observed on this parcel. This report indicates that archaeological research identifies that this parcel was used as a ranch. Potential issues identified included issues associated with a former farm residence include leach fields/septic tanks and buried heating tanks. This report recommended assessing the concrete structures for potential lead and asbestos. This parcel was identified as being in an area with NOA. A NOA monitoring plan will be required prior to grading including having a geologist intermittently on the parcel to oversee the grading. BMPs for dust control should be practiced.

Blackburn Consulting, 2010, *Updated Initial Site Assessment (ISA), Silva Valley Parkway/State Route 50 Interchange (03-ED-50, KP 3.1, PM 1.7), EL Dorado Hills, California*, February 23.

This update report summarized the following:

- a database search performed in 2010,
- BCI's Initial Site Assessment for US 50/El Dorado Boulevard Interchange (EA 03-2E5100) and Pedestrian Overcrossing Project (EA 03-2E4700) El Dorado Hills, CA BCI File No. 1072.5 dated 2009,
- Geocon's Aerially Deposited Lead, Naturally Occurring Asbestos, and Lead Containing Paint Site Investigation and Bridge Survey/Highway 50 Report, dated March 10, 2008, and
- a site visit performed in 2010.

Copyright 2019 Kleinfelder

This report indicated no significant changes in the project site were identified. The facilities discussed in this report did not include the Site. The lead and asbestos investigation concluded that soil in the upper 3 feet of the investigation area (the center median of the US 50) would not be classified as hazardous waste.

Blackburn Consulting, 2013, *Geotechnical Report, EDH 52 Silva Valley Parkway at US 50, Rough Site Grading and Preliminary Foundation Design, EL Dorado Hills, California*, March 11.

This report summarizes a geotechnical investigation performed at the Site and the land northeast of the Site. Mesozoic-age metavolcanics and metasedimentary rocks were present at shallow depths beneath the project area. Northwest trending faults, fault zones, and foliation characterize the region. NOA is mapped in the project area. Southwest trending drainage was observed at the subject property. An old dam was observed in the drainage feature extending through the center of the subject property (in the center of the Site). Residual structures were also observed in the northern portion of the Site.

Four bores and 11 test pits were advanced during this investigation (one of these bores and six of these test pits are within the Site boundaries). Soils observed included 1 to 2 feet of sandy silt with gravel, over 1.5 to 5 feet of decomposed weathered metavolcanic rock, over weathered metavolcanic rock. Groundwater was not encountered. Blackburn states that asbestos minerals were not present in the rocks observed, but they also indicate that the western portion of the Site falls with the EL Dorado County Environmental Management “Asbestos Review Area”.

Copyright 2019 Kleinfelder

KLEINFELDER 24411 Ridge Route Drive, Suite 225, Laguna Hills, CA 92653 p | 949.727.4466 f | 949.727.9242

5 SITE HISTORY

The history of the Site was researched to identify obvious uses. Historical land use was researched to the first developed use, or back to 1940, whichever was earlier or readily available. Table 5-1 summarizes the availability of information reviewed during this assessment.

TABLE 5-1

Historical Information Sources

SOURCE	YEARS REVIEWED	SOURCE / AVAILABILITY
SANBORN FIRE INSURANCE MAPS	Not available	EDR, 2019c
AERIAL PHOTOGRAPHS	1940, 1952, 1962, 1966, 1972, 1984, 1993, 2006, 2009, 2012, and 2016	EDR, 2019d
CITY DIRECTORIES	1970 through 2014 (select years)	EDR, 2019e
HISTORICAL TOPOGRAPHIC MAP REPORT	1891, 1892, 1893, 1941, 1944, 1953, 1973, 1980, and 2012	EDR, 2019f
BUILDING DEPARTMENT	1980 - 2018	EDR, 2019g
PREVIOUS ASSESSMENT(S)	2007 - 2019	Section 4.9 and Section 5.6.

5.1 SANBORN FIRE INSURANCE MAPS

Sanborn Fire Insurance Maps provide historical land use information for some metropolitan areas and small, established towns. Kleinfelder requested EDR to search its library of Sanborn Fire Insurance Maps for maps of the Site. EDR responded that Sanborn Fire Insurance Maps were not available for the Site (EDR, 2019c) (Appendix D).

5.2 AERIAL PHOTOGRAPHS

A review of historical aerial photography may indicate past activities at a property that may not be documented by other means or observed during a reconnaissance visit. The effectiveness of this technique depends on the scale and quality of the photographs and the available coverage. Aerial photographs were obtained from several historical photograph collections through EDR (2019d) and span a period of 76 years. A tabulation of the aerial photographs reviewed by Kleinfelder is presented in Table 5-2. Copies of the aerial photographs provided by EDR are included in Appendix D.

Copyright 2019 Kleinfelder

TABLE 5-2

Historical Aerial Photographs Reviewed

YEAR	APPROXIMATE SCALE	SUMMARY
1940 1952	1" = 500' 1" = 500'	**Site:** The Site appears to be mostly vacant grazing land with a farmhouse and associated structures present in the north portion of the Site. There are a stand of trees in a rectangular-shaped lot just south of the farmhouse (possible orchard). Although difficult to see based on the resolution of the photo, a structure may be present within that stand of trees. A creek appears to extend northeast to southwest across the middle of the Site. A dirt track extends north through the eastern portion of the Site, then veers northwest, and then west to the farmhouse and structures. **Surrounding Area:** The adjoining properties appear to also be grazing land. Dirt roads are present throughout the grazing lands on the adjoining properties. A dirt road extends north to south along the western border of the Site, and then extends southwest from the southwest corner of the Site towards the US-50 and another farmhouse. Some farmhouses are present east-southeast of the Site along the highway.
1962	1" = 500'	**Site:** The Site appears generally the same, though the trees south of the farmhouse appear less dense. A dirt track runs from the southwest corner of the Site north and then east through the southern portion of the Site. **Surrounding Area:** The adjoining properties appear generally the same.
1966	1" = 500'	**Site:** The Site appears generally the same except a paved road extends through the southwest corner of the Site. **Surrounding Area:** The adjoining properties to the north, west, and east appear generally the same. The paved road that extends through the southwest corner of the Site extends eastward parallel to US-50. The paved road intersects another paved road at the western border of the Site. This paved road extends a couple hundred feet north along the Site border and then connects with the dirt road extending along the western side of the Site. The paved road also extends south under US-50. Highway US-50 appears more developed with westbound and eastbound lanes.
1972 1984 1993	1" = 500' 1" = 500' 1" = 500'	**Site:** The Site appears generally the same, except that the farmhouse is no longer present, though some farm structures may remain. **Surrounding Area:** The adjoining properties appear generally the same, though there appears to be some grading (dirt rings) at the location of the farmhouses east-southeast of the Site along US-50.

Copyright 2019 Kleinfelder

TABLE 5-2 (Continued)

Historical Aerial Photographs Reviewed

YEAR	APPROXIMATE SCALE	SUMMARY
2006 2009	1" = 500' 1" = 500'	**Site:** The Site appears generally the same. Though there are clear dirt tracks extending across the Site. There still appears to be some farm structures or remnants in the northern portion of the Site. There is a graded area in the southwestern portion of the Site adjoining the paved road crossing the southwest corner of the Site. **Surrounding Area:** The properties adjoining to the north and northeast appear generally the same, though residential development is present further to the north and northeast. A paved road is present along the western boundary of the Site, with undeveloped grazing land present beyond the paved road, with residential development present further to the west. Some structures are present southwest of the Site, on the west side of the paved road. US-50 remains south of the Site. The location of the former farmhouses southeast of the Site adjoining US-50 appears to have been developed with a commercial structure and associated parking lot.
2012	1" = 500'	**Site:** The Site appears generally the same, except that the dirt tracks crossing the Site are more apparent and there is a dirt road extending through the southeast of the Site. **Surrounding Area:** The adjoining properties remain generally the same, except that there is a stockpile of soil present on the property northeast of the Site that the dirt road crossing the Site connects with. US-50 appears to have been widened.
2016	1" = 500'	**Site:** The Site appears generally the same, except that the dirt tracks and dirt road is no longer apparent. Additionally, the road that extends through the southwest corner of the Site appears to no longer be in use and ends at the southern border of the Site. **Surrounding Area:** The adjoining properties remain generally the same. Silva Valley Parkway is now present along the north-northeast boundary of the Site. The freeway on and off ramps south of the Site have been reconstructed with a freeway on-ramp present south of the Site.
Note: Aerial photographs only provide information concerning indications of land use, and no conclusions regarding the release of hazardous substances or petroleum products can be drawn from the review of photographs alone.		

5.3 CITY DIRECTORIES

City directories provide information regarding property occupants by address. EDR provided a city directory image report (EDR, 2019e), which included a review of city directories for properties along Silva Valley Parkway for select years between 1970 and 2014. There were no listings reported for the Site. Kleinfelder reviewed the available listings and no RECs were identified.

Copyright 2019 Kleinfelder

5.4 HISTORICAL TOPOGRAPHIC MAP REVIEW

Kleinfelder obtained information regarding historical topographic maps of the Site vicinity from EDR (2019f). The topographic maps reviewed for this assessment are listed in Table 5-3 and copies of the maps are included in Appendix D.

TABLE 5-3

Historical Topographic Maps Reviewed

YEAR	SCALE	SUMMARY
1891 1892 1893	1:125,000 1:125,000 1:125,000	**Site:** The Site is shown as undeveloped land consisting of a hill sloping to the south-southwest. **Surrounding Area:** The immediate Site vicinity is shown as undeveloped land with a road to the south and west of the Site. Clarksville is indicated to be southeast of the Site.
1941 1944	1:62,500 1:62,500	**Site:** The Site remains mostly undeveloped land. A structure is present along the northwest boundary of the Site. **Surrounding Area:** The adjoining properties to the Site remain as undeveloped land. An unimproved road is present along the western Site boundary. US-50 is shown south of the Site.
1953	1:24,000	**Site:** The Site remains mostly undeveloped land. The structure on the Site appears to have been repositioned on the map slightly to the east. **Surrounding Area:** The adjoining properties remain generally the same.
1973 1980	1:24,000 1:24,000	**Site:** The Site remains generally the same, except that a road extends through the southwest corner of the Site on the 1973 topographic map. The structure located in the northern portion of the Site is no longer present on the 1980 topographic map. **Surrounding Area:** The adjoining properties to the Site remain generally the same. A road extends east to west south of the Site, crosses the southwest corner of the Site, and then turns south and extends under the US-50. US-50 has been developed with westbound and eastbound lanes.
2012	1:24,000	**Site:** The 2012 topographic map is similar in appearance and shows physical features (e.g., roads and surface water) with no structures. Therefore, no structures are shown on the Site. **Surrounding Area:** Off-Site roads (Silva Valley Parkway to the west, Tong Road to the south) are shown. However, Silva Valley Parkway and Tong Road do not match their current configurations.

No RECs were identified based on the historical topographic map review.

Copyright 2019 Kleinfelder

5.5 BUILDING PERMITS

EDR provided a Building Permit Report, included in Appendix D, (EDR, 2019g). No building permits were found for the Site. No RECs were identified based on the EDR Building Permit Report review.

5.6 PREVIOUS ASSESSMENTS

Kleinfelder prepared a draft Phase I ESA on the northern portion of APN 122-720-15, northeast of Silva Valley Parkway and north of Tong Road, dated March 15, 2019. No RECs were identified by this Phase I ESA. Findings from this Phase I ESA included the following:

- This property was historically undeveloped, though some earthwork appears to have occurred in the southern portion, northeast of the intersection of Tong Road and Silva Valley Parkway, between 2012 and 2016. This earthwork appears to be related to US-50 construction activities, and realignment of Silva Valley Parkway and Tong Road in 2012 and 2013. Two Asbestos Dust Mitigation Plan Applications were approved by the El Dorado County AQMD in 2012 and 2013 for grading/excavation activities associated with construction of a US-50 off-ramp, south of the Site. A March 2008 Caltrans report, entitled *Aerially Deposited Lead, Naturally Occurring Asbestos and Lead Containing Paint Site Investigation and Bridge Survey Report*, prepared for the US-50 Site Investigation project, was included with one of the Asbestos Dust Mitigation Plan Applications. This report indicated that 30 composite soil samples collected from the median and proposed sound wall areas (sample locations were not identified) were analyzed for the presence of NOA, total lead and chromium. One out of 30 composite soil samples contained less than 0.25% chrysotile asbestos (Composite sample NOA); remaining samples did not contain detectable NOA. Total lead and chromium were detected in soil samples analyzed, but at concentrations reported below California hazardous waste threshold levels. A figure presented in this report indicates that the southern portion of the property was used to temporarily stockpile soil that was to be covered with plastic and surrounded by fiber rolls. Hydroseed was to be planted at the end of the project. A Rough Grading Plan dated August 2013 indicates that 20,000 cubic yards of existing stockpiled soil and an additional 100,000 cubic yards of soil from a “Borrow Area” would be used as part of the construction of a future US-50 off-ramp, and future alignments of Tong Road and Silva Valley Parkway. The “Borrow Area” was shown to be on the southern portion of the property (east of the

Copyright 2019 Kleinfelder

Site and north of Tong Road) with a 10-foot wide maintenance access road to the area. This maintenance road appears to extend through the southern portion of the subject Site.

- A quarter-mile buffer zone pursuant to an *Asbestos Review Areas, Western Slope, County of El Dorado, State of California* map, dated August 22, 2018, is located adjacent to and extends into the westernmost portion of the property. This buffer zone is considered "more likely to contain asbestos" in soil. Facilities within this buffer zone would require approval of an Asbestos Dust Mitigation Plan through the AQMD prior to construction. Kleinfelder's March 15, 2019 Phase I ESA recommended collection and analysis of shallow soil samples for NOA. IF NOA was present in soil samples, then an Asbestos Dust Mitigation Plan was recommended for construction activities.

- An intermittent creek and ephemeral creek were observed flowing from north to south across the property. Two seasonal wetland areas were observed near the southern ends of these waterways. Kleinfelder recommended that a wetland delineation be performed in the spring.

- No special status wildlife or plant species were observed. A blue elderberry shrub was observed near the northern boundary of the property. This shrub can be home to the blue elderberry beetle; however, no sign of the beetle was observed on this shrub and due to the elevation of the location of the shrub it is unlikely the beetle will occur at this location. Two mitigation credits may need to be acquired to move the blue elderberry shrub even though no sign of the beetle was observed.

- Burrowing owls, Swainson's Hawk, and migratory birds have the potential to occur on the property but were not observed. Pre-construction surveys for these species were recommended.

- A concrete structure with a basin in the middle (probably to provide water for grazing livestock) was observed in the north-central portion of the property. Because of the potential for dumping in this structure, Kleinfelder recommended environmental monitoring and observation of the removal of this structure and, if contamination is suspected, collection of soil samples from beneath this structure.

- No off-Site facilities are considered likely to have affected soil, soil vapor or groundwater beneath the Site.

Copyright 2019 Kleinfelder

KLEINFELDER 24411 Ridge Route Drive, Suite 225, Laguna Hills, CA 92653 p | 949.727.4466 f | 949.727.9242

6 SITE RECONNAISSANCE

Kleinfelder's Phase I ESA activities included a Site reconnaissance. This section summarizes the findings from the Site reconnaissance.

6.1 METHODOLOGY AND LIMITING CONDITIONS

Mr. Curtis Conti of Kleinfelder performed a reconnaissance of the Site and vicinity on July 29, 2019. The Site reconnaissance included a visual inspection of the Site to assist in identifying the presence or likely presence of hazardous substances or petroleum hydrocarbons under conditions that indicate an existing release, a past release, or threat of release into structures, soil, groundwater, or surface water at the Site (i.e., RECs). Observations of readily-apparent environmental conditions are summarized in Table 6-1, and color photographs of the Site are presented on Figures 3 through 9. The approximate Site boundaries are shown on Figure 2.

6.2 GENERAL SITE SETTING

The Site is generally located west of Silva Valley Parkway, east of Old Silva Valley Parkway, and north of US-50 in the unincorporated El Dorado Hills community of El Dorado County, California.

6.3 SITE OBSERVATIONS

Kleinfelder's Site observations are summarized in Table 6-1.

TABLE 6-1

Site Observations

GENERAL OBSERVATIONS	REMARKS	OBSERVED	NOT OBSERVED
Current use	Site is currently undeveloped hillside.	X	
Current use likely to indicate RECs			X
Past use	Ranching.		X
Past use likely to indicate RECs			X
Structures	Remnants of concrete structures are located on the northwest side of the Site and northwest of the seasonal creek bisecting the Site. A concrete dam blocking the creek was also observed. The northwest side of the dam had been undermined by water.	X	

Copyright 2019 Kleinfelder

TABLE 6-1 (Continued)

Site Observations

GENERAL OBSERVATIONS	REMARKS	OBSERVED	NOT OBSERVED
Roads	Remnant of former Tong Road was observed	X	
Topography of Site and surrounding area	The Site slopes from the northeast to the southwest.	X	
Interior and exterior observations or environmental conditions that may involve the use, storage, disposal or generation of hazardous substances or petroleum products.		**Observed**	**Not Observed**
ASTs			X
Below grade vaults			X
Burned or buried debris			X
Chemical storage			X
Chemical mixing areas			X
Discolored soil or water			X
Ditches, streams	Two seasonal streams noted flowing north to south through the northern portion and middle of the Site.	X	
Drains and piping			X
Drums			X
Electrical or hydraulic equipment (polychlorinated biphenyls [PCBs])	Three transformers and an electrical panel were observed adjoining old Silva Valley Parkway, south of the former Tong Road.	X	

Copyright 2019 Kleinfelder

TABLE 6-1 (Continued)

Site Observations

Interior and exterior observations or environmental conditions that may involve the use, storage, disposal or generation of hazardous substances or petroleum products.		Observed	Not Observed
Hazardous chemical and petroleum products in connection with unknown use			X
Fill dirt from an unknown source			X
Fill dirt from a known source			X
Hazardous chemical and petroleum products in connection with known use			X
Non-hazardous containers with contents			X
Hazardous waste storage	.		X
Heating and cooling system and fuel source			X
Industrial waste treatment equipment			X
Loading and unloading areas			X
Odors			X
Pits, ponds, or lagoons	A 2- to 3-foot deep pit lined with concrete block was present in the northwestern portion of the Site.		X
Pools of liquid	Surface water was observed in the seasonal stream upstream of the dam.		X
Process waste water			X
Sanitary sewer system			X

Copyright 2019 Kleinfelder

TABLE 6-1 (Continued)

Site Observations

Interior and exterior observations or environmental conditions that may involve the use, storage, disposal or generation of hazardous substances or petroleum products.		Observed	Not Observed
Stressed vegetation			X
Septic system (e.g. tank and leach fields)			X
Soil piles			X
Solid waste/evidence of unauthorized dumping	A couch was observed dumped on northwest portion of the Site.	X	
Stained pavement, soil or concrete			X
Stains or corrosion (interior, non-water)			X
Storm drains/catch basins	Storm drains were observed in the streets surrounding the Site.	X	
Sumps and clarifiers			X
Surface water	Surface water was observed in the seasonal stream upstream of the dam.	X	
UST(s) (including heating oil tanks)			X
Unidentified substance containers			X
Waste water discharge			X
Water supplies (potable and process)	Water utility vault and standpipes observed at southwest portion of the Site.	X	
Wells (irrigation, monitoring, or domestic)			X
Wells (dry)			X
Wells (oil and gas)			X

Copyright 2019 Kleinfelder

6.4 RESULTS OF SITE RECONNAISSANCE

The Site currently consists of vacant, undeveloped land, which slopes from the northeast to the southwest. Seasonal streams, flowing from the northeast to the southwest, are located at the northern portion of the Site, as well as the middle of the Site. A concrete dam was observed partially blocking the stream in the middle of the Site, though the northwest side of the dam had been undermined by water. Surface water ponds were observed upstream of the dam. Concrete structures (pillars, remnants of ranch buildings and structures) and pile of concrete blocks were observed on the northwest portion of the Site. A concrete block-lined pit was observed in the northern portion of the Site. The use of this pit is not known. A Pacific Telephone utility marker was observed in the middle-northern portion of the Site. A dumped couch was also observed in the northwestern portion of the Site. A chain-link fence extended across the southern portion of the property north of the former Tong Road, which was present in the southwestern portion of the Site. Three transformers and an electrical panel were present on Site, south of former Tong Road, adjoining Old Silva Valley Parkway (Clarksville Crossing). A utility structure with subsurface vaults and a transformer adjoining the structure was present across Old Silva Valley Parkway (Clarksville Crossing), west of the southwestern portion of the Site. A subsurface utility vault with standpipes was also observed on Site adjoining Old Silva Valley Parkway (Clarksville Crossing). Evidence of stained soil, discolored water, stressed vegetation, USTs, wells, or lagoons was not observed on the Site during the reconnaissance.

Copyright 2019 Kleinfelder

KLEINFELDER 24411 Ridge Route Drive, Suite 225, Laguna Hills, CA 92653 p | 949.727.4466 f | 949.727.9242

7 INTERVIEWS

Key Site Managers are contacted to obtain current and historical environmental information concerning the Site. The following sections highlight information revealed during the interviews.

7.1 INTERVIEW WITH CLIENT/OWNER/MANAGER

A questionnaire completed by Mr. Michael Okuma of Costco on July 22, 2019 indicated the following:

- He is unaware of environmental liens that are filed or recorded against the property.
- He is unaware of AULs that are in place on the property or that have been filed or recorded against the property.
- He has no specialized knowledge or experience related to the property or nearby properties unrelated to the Costco warehouse.
- He indicated that the purchase price of the property reasonably reflects the fair market value of the property.
- He is not aware of commonly known or reasonably ascertainable information about the property that would help Kleinfelder identify conditions indicative of releases or threatened releases.
- He is unaware of obvious indicators that point to the presence or likely presence of releases at the property. He indicated that this Phase I ESA was being performed for due diligence.

The completed questionnaire is included in Appendix C.

7.2 INTERVIEW WITH OWNER/MANAGER

A completed questionnaire from the property owner has not been received to date.

7.3 INTERVIEW WITH OCCUPANT(S)

The Site is vacant land with no occupants present. Therefore, interviews with occupants were not performed as part of this Phase I ESA.

Copyright 2019 Kleinfelder

7.4 INTERVIEWS WITH LOCAL GOVERNMENT OFFICIALS

Kleinfelder spoke with Todd, representative for the El Dorado County AQMD, regarding available AQMD records associated with the Site on July 30, 2019. Kleinfelder inquired about asbestos dust control plans for projects near Silva Valley Parkway and the US-50. Todd indicated that there were no records associated with the Site parcel numbers. When Kleinfelder mentioned the asbestos dust control plans prepared by Caltrans for the Silva Valley Parkway, Todd was able to look them up, and also identify an asbestos dust mitigation plan for a utility conduit on the southwest portion of the Site and a grading plan for the Site (both of which were previously not filed under the Site parcel numbers). A summary of Kleinfelder's review of the documents was included in Section 4.3.4.

Copyright 2019 Kleinfelder

KLEINFELDER 24411 Ridge Route Drive, Suite 225, Laguna Hills, CA 92653 p | 949.727.4466 f | 949.727.9242

8 EVALUATION

Kleinfelder performed this Phase I ESA of the Site in conformance with the scope and limitations of the Standard Practice, the scope of services in our Proposal No. 20193180.001A/LH19C99493, dated August 9, 2019, and in accordance with Costco's Development Requirements, Version 2018, dated October 26, 2018. The following sections describe Kleinfelder's findings and provide general background information about the Site. Findings address RECs, HRECs, CRECs, and notation of *de minimis* quantities, as applicable to the Site. In summary, Kleinfelder's assessment revealed the following information concerning the Site:

8.1 BACKGROUND

The following is a summary of the Site background information:

- The Site is located on vacant land west-southwest of Silva Valley Parkway and north of US-50 in the unincorporated El Dorado Hills community of El Dorado County, California (see Figure 1). It consists of approximately 17.04 acres of land identified as El Dorado County APNs 122-720-018 and 122-720-002, and portions of two other parcels identified APNs 122-710-003 and UN1384034.
- The Site was historically used as grazing land. Farm/ranch structures occupied the northern portion of the Site from at least 1940 through 1973. Remnants of these structures are still present in the northern portion of the Site. Natural drainage channels cross the northern and the middle portions of the Site from the northeast to southwest. Remnants of a dam were present across the drainage channel in the middle of the Site. A dirt road extended to the farmhouse along the western Site boundary from US-50, which was constructed south of the Site by 1941. In 1966, US-50 was expanded from a 2-lane highway to a 4-lane highway, and Tong Road was constructed extending east to west through the southwestern portion of the Site. By 2006, the Old Silva Valley Parkway formed the western border of the Site. In 2012, earthwork was being performed on the property to the northeast in preparation of the Silva Valley Parkway/US-50 interchange construction activities, and a dirt road extended across the southern portion of the Site from Tong Road to the main earthwork area. By 2016, the current Silva Valley Parkway/US-50 interchange had been constructed, with Silva Valley Parkway forming the eastern border of the Site and the US-50 on-ramp present south of the Site. A remnant on Tong Road remains in the southwestern portion of the Site.

Copyright 2019 Kleinfelder

8.2 FINDINGS AND OPINIONS

The following is a summary of findings and opinions for the Site:

- During Kleinfelder's Site reconnaissance, the ranch structure remnants and the dam were observed on the Site. Standing water was observed down-stream of the dam. In the vicinity of the ranch structures was a pit, approximately 2- to 3-feet deep, and lined with concrete blocks. Other remnants include a watering trough, piles of concrete blocks, and building foundation remnants. An old couch had been dumped on the Site near the old structures. Other than the remnants of the previous ranch activities, the Site is vacant land. Utilities were observed adjoining Old Silva Parkway (Clarksville Crossing), including three transformers and an electrical panel present in the southwestern portion of the Site south of the old Tong Road, and a water utility vault with standpipes located on Site adjoining Old Silva Parkway (Clarksville Crossing), north of old Tong Road. Evidence of stained soil, discolored water, stressed vegetation, USTs, wells, or lagoons was not observed on the Site during the reconnaissance. No RECs were identified during the Site reconnaissance.
- The western portion of the Site is located within an area identified by El Dorado County as considered "more likely to contain asbestos" in soil. Base on a review of the *Asbestos Review Areas, Western Slope, County of El Dorado, State of California* map, dated August 22, 2018, the western portion of the Site is within a quarter mile of an area where NOA was found. Facilities within this buffer zone would require approval of an Asbestos Dust Mitigation Plan through the AQMD prior to construction. Therefore, it appears that an "Asbestos Dust Mitigation Plan" will be required for construction activities.
- No off-Site facilities are considered likely to have affected soil, soil vapor or groundwater beneath the Site.

8.3 DEVIATIONS AND ADDITIONAL SERVICES

Kleinfelder's scope of services did not include Standard Practice non-scope evaluations of cultural, historic, and archaeological resources and environmental regulatory compliance that may be required for a Phase I ESA pursuant to Costco's Development Requirements publication (revised October 26, 2018). In addition, the Phase I ESA did not include an assessment for ACMs, radon, LBP, lead in drinking water, molds and mildews, indoor air quality, industrial hygiene, health and safety, and other Standard Practice non-scope considerations not described herein.

Copyright 2019 Kleinfelder

Kleinfelder's scope of services included evaluations of wetlands and threatened, endangered, and other protected species pursuant to Development Requirements, Version 2018, revised October 26, 2018. Kleinfelder contracted with Moore to perform these evaluations. A copy of Moore's report is provided in Appendix E. A summary of the results of these evaluations is provided in Sections 8.3.1 and 8.3.2 below.

8.3.1 Protected Plant/Wildlife Assessment

Moore queried relevant agency databases to determine the potential biological constraints that could be imposed on the Site. Additionally, Moore performed visited the Site on July 26 and 29, 2019 to document existing biological conditions at the Site.

At the time of Moore's Site visits, the Site was open hillsides supporting grassland vegetation. The grassland appeared to be moderately to highly disturbed from historic grazing, grading, and construction of adjoining parcels, and discing for weed abatement. Two intermittent creeks were present on the Site. Water for these creeks was received from culverts along Silva Valley Parkway and flow to culverts along Old Silva Valley Parkway (Clarksville Crossing), and then eventually to Carson Creek west of the Site. There are also some areas that can be classified as seasonal wetland swale. There are a few trees and shrubs growing along the intermittent creek including valley oak, blue oak, willows, and California black walnut. No blue elderberry shrubs were observed on or adjacent to the Site. Several bird species were observed. The several large trees in the riparian corridor are suitable for nesting birds. The habitat is suitable for raptors and song birds. No mammals were observed, but the habitat is suitable for coyotes, striped skunks, black-tailed hares, desert cottontails, and Virginia opossum. Several ground squirrel burrows and gophers were observed in the grasslands. Mice and voles are also likely to occur in the grasslands. Of amphibians and reptiles, only the western fence lizard was observed. There is the potential for the Pacific chorus frog, bullfrog, western terrestrial garter snake, and gopher snake to occur.

Moore searched the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CBDDB, 2019) and the USFWS Information, Planning, and Consultation System (IPAC) Trust Report of Federally Threatened and Endangered species for plant and wildlife species that have been documented in the Site vicinity, or have the potential to occur based on suitable habitat. Ten special status plants were identified as potentially occurring at the Site. Due to lack of habitat, it is unlikely these special status plants would occur at the Site. Sixteen special status species were documented in the Site vicinity; however, upon review of the available habitat and distribution of regional occurrences, in Moore's opinion, most of the species are

Copyright 2019 Kleinfelder

unlikely to occur at the Site. The only species with a more than low potential to occur are Swainson's hawk and burrowing owls. Other special status species may forage or migrate through the area.

A preconstruction survey for burrowing owls within 250 feet of the Site is recommended if construction is scheduled between February 1 and August 31. A preconstruction survey for Swainson's hawk within 0.25-mile of the Site is recommended if construction is scheduled between March 1 and September 15.

Migratory birds are protected under the Migratory Bird Treaty Act (MBTA). If tree removal is scheduled between January 1 and July 31, a preconstruction survey for nesting raptors is recommended. If other vegetation is removed between March 1 and July 31, a pre-construction survey for any nesting birds is recommended. If active nests are observed, they are to be avoided until the young birds have been fledged.

8.3.2 Wetland Assessment

During Moore's Site visits, two ephemeral creeks and a seasonal wetland swale were observed. These features were not mapped on the USGS topographic map or the National Wetland Inventory, but are potentially jurisdictional Waters of the United States and wetlands. These features encompass approximately 0.2-acre of the Site. Moore recommends formal wetland delineation to map jurisdictional boundaries and calculate precise acreage. Avoidance of impacting jurisdictional waters is recommended. If avoidance is not feasible, permits would be required from United States Army Corp of Engineers (ACOE), CDFW, and Regional Water Quality Control Board prior to placement of fill material. As the acreage is less than 0.5 acre, ACOE would likely authorize placement of fill under a Nationwide Permit.

8.4 CONCLUSIONS

Kleinfelder has performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E 1527-13 of the location of a proposed Costco warehouse and gas station (Site) in the unincorporated El Dorado Hills community of El Dorado County, California. Any exceptions to, or deletions from, this practice are described in Section 8.3 of this report. This assessment has revealed no evidence of RECs or CRECs in connection with the Site.

Copyright 2019 Kleinfelder

8.5 RECOMMENDATIONS

Based on the findings and conclusions of this Phase I ESA, Kleinfelder has the following recommendations for further assessment.

- Based on the location of the Site within the asbestos buffer zone, preparation of an Asbestos Dust Mitigation Plan for AQMD is recommended prior to construction at the Site.

- Sampling of concrete remnants for asbestos-containing materials.
- Environmental monitoring and observation of the removal of the concrete block pit structure and, if contamination is suspected, collection of soil samples from beneath it.
- A wetland delineation is recommended.
- Pre-construction surveys for burrowing owls, Swainson's hawk, and migratory birds is recommended.

8.6 DATA GAPS

Data gaps, which may affect the identification of hazardous substances or petroleum products for the evaluation of RECs at the Site, include the following:

- A completed questionnaire from the current owner or the Site has not been received to date.

The absence of information from the property owner is not considered a significant data gap based on other information obtained as part of this Phase I ESA.

Copyright 2019 Kleinfelder

KLEINFELDER 24411 Ridge Route Drive, Suite 225, Laguna Hills, CA 92653 p | 949.727.4466 f | 949.727.9242

9 REFERENCES

California Department of Water Resources (CDWR), last updated 2017, Bulletin 118 Groundwater Basins, *https://gis.water.ca.gov/app/gicima/*.

California Geological Survey (CGS), 2002, California Geomorphic Provinces, Note 36.

California Natural Diversity Database (CNDDB), 2019, California Department of Fish and Wildlife's Natural Heritage Program, Sacramento, California.

Environmental Data Resources, Inc. (EDR), 2019a, *EDR Environmental Lien and AUL Search, Vacant Land, El Dorado Hills, CA 95762*, Inquiry Number: 5537129.7S, July 26.

_____, 2019b, *The EDR Radius Map™ Report with GeoCheck®, 122-720-15, El Dorado Hills, CA 95762*, Inquiry Number: 5711241.2s, July 9.

_____, 2019c, *Certified Sanborn® Map Report, Vacant Land, El Dorado Hills, CA 95762*, Inquiry Number: 5537129.3, January 17.

_____, 2019d, *The EDR Aerial Photo Decade Package, Vacant Land, El Dorado Hills, CA 95762*, Inquiry Number: 5537129.11, January 18.

_____, 2019e, *The EDR-City Directory Image Report, Vacant Land, El Dorado Hills, CA 95762*, Inquiry Number: 5537129.5, January 18.

_____, 2019f, *EDR Historical Topo Map Report with QuadMatch™, Vacant Land, El Dorado Hills, CA 95762*, Inquiry Number: 5537129.4, January 17.

_____, 2019g, *EDR Building Permit Report, Vacant Land, El Dorado Hills, CA 95762*, Inquiry Number: 5537129.8, January 17.

_____, 2019h, *EDR Environmental Lien and AUL Search, APN 122-720-003, UN1384034, El Dorado Hills, CA 95762*, Inquiry Number: 5748162.1s, August 18.

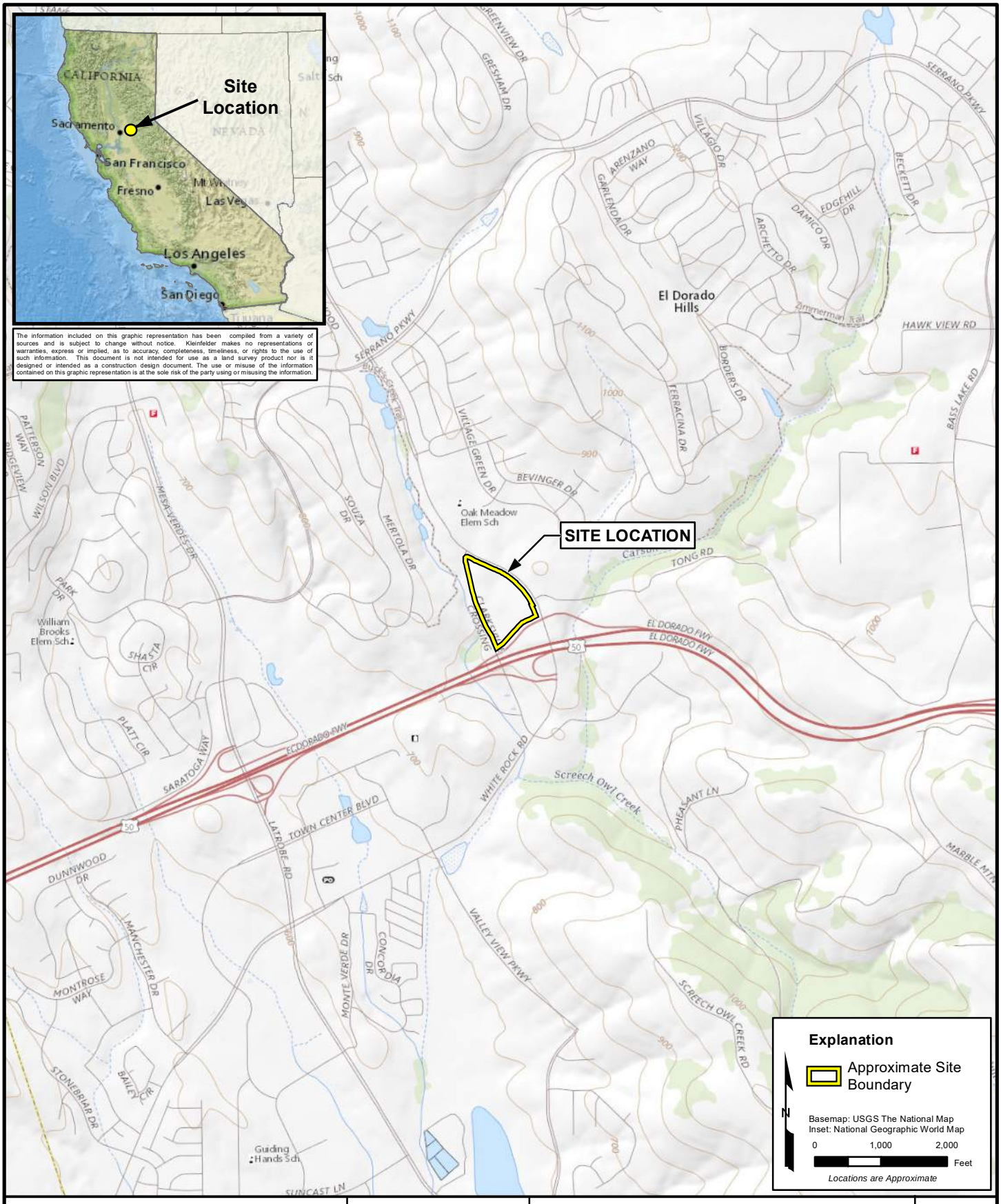
Strand, Rudolph G, and Koenig, James B., 1965, Geologic Map of California, Sacramento Sheet; 1:125,000.

United States Geologic Survey (USGS), 2012, 7.5-Minute Series (Topographic) Clarksville Quadrangle Map, 1:24,000.

Copyright 2019 Kleinfelder

FIGURES

Copyright 2019 Kleinfelder



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

PLOTTED: 7/31/2019 12:04:15 PM, KHagan

FILE: L:\2019\20193180.001A - CSM Costco El Dorado Hills CA Ph I -ENV\2.0 Technical Information\2.8 GIS

LAGUNA HILLS, CA

KLEINFELDER
Bright People. Right Solutions.

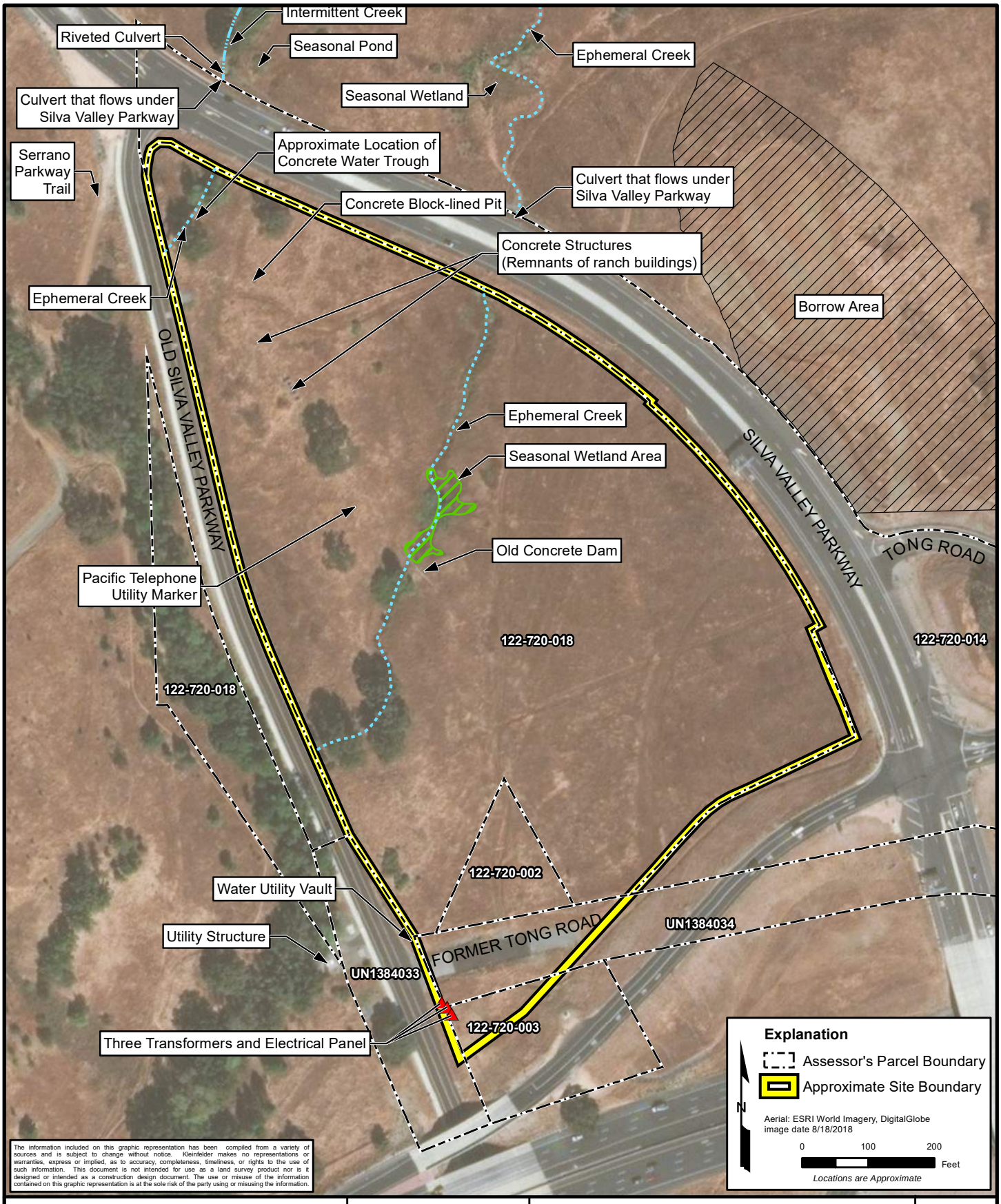
PROJECT:	20193180
DRAWN:	JUL 2019
DRAWN BY:	KFH
CHECKED BY:	LDP
FILE NAME:	Figure1_SW.mxd

SITE LOCATION MAP

PROPOSED COSTCO WAREHOUSE AND GAS STATION
WEST-SOUTHWEST OF SILVA VALLEY PARKWAY
EL DORADO HILLS, EL DORADO COUNTY, CALIFORNIA
CW: 18-0487

FIGURE

1



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT:	20193180
DRAWN:	AUG 2019
DRAWN BY:	RA
CHECKED BY:	LDP
FILE NAME:	Figure2_SW.mxd

SITE VICINITY MAP

PROPOSED COSTCO WAREHOUSE AND GAS STATION
WEST-SOUTHWEST OF SILVA VALLEY PARKWAY
EL DORADO HILLS, EL DORADO COUNTY, CALIFORNIA
CW: 18-0487

FIGURE
2

PLOTTED: 8/14/2019 4:08:20 PM, RAlvarez
FILE: L:\2019\20193180.001A - CSM Costco El Dorado Hills CA Ph I -ENV\2.0 Technical Information\2.8 GIS
LAGUNA HILLS, CA



Photograph 1. Facing north from southeastern border of the Site. Silva Valley Parkway is in background on right.



Photograph 2. Facing west along southern border of the Site. The US Highway 50 (US-50) is on background on left.

KLEINFELDER Bright People. Right Solutions.	PROJECT NO. 20192501 DRAWN BY: LDP CHECKED BY: MC DATE: 08/2019 REVISED:	SITE PHOTOGRAPHS Proposed Costco Warehouse and Gas Station Silva Valley Parkway El Dorado Hills, California CW: 18-0484	FIGURE 3



Photograph 3. Ranchhouse structure remnants in northern portion of the Site.



Photograph 4. Structure remnants in northern portion of the Site.

KLEINFELDER Bright People. Right Solutions.	PROJECT NO. 20192501 DRAWN BY: LDP CHECKED BY: MC DATE: 08/2019 REVISED:	SITE PHOTOGRAPHS Proposed Costco Warehouse and Gas Station Silva Valley Parkway El Dorado Hills, California CW: 18-0484	FIGURE 4



Photograph 5. Pit in foreground, and structure remnants in background in northern portion of the Site.



Photograph 6. Pile of rubble on left, and ranch structure remnant in background.

KLEINFELDER Bright People. Right Solutions.	PROJECT NO. 20192501 DRAWN BY: LDP CHECKED BY: MC DATE: 08/2019 REVISED:	SITE PHOTOGRAPHS Proposed Costco Warehouse and Gas Station Silva Valley Parkway El Dorado Hills, California CW: 18-0484	FIGURE 5



Photograph 7. Watering trough in trees near structure remnants.



Photograph 8. Concrete dam across creek in the middle of the Site.

KLEINFELDER Bright People. Right Solutions.	PROJECT NO. 20192501 DRAWN BY: LDP CHECKED BY: MC DATE: 08/2019 REVISED:	SITE PHOTOGRAPHS Proposed Costco Warehouse and Gas Station Silva Valley Parkway El Dorado Hills, California CW: 18-0484	FIGURE 6



Photograph 7. Facing southeast from the northern portion of the Site.



Photograph 8. Dumped couch remnants on northern portion of the Site.

KLEINFELDER Bright People. Right Solutions.	PROJECT NO. 20192501 DRAWN BY: LDP CHECKED BY: MC DATE: 08/2019 REVISED:	SITE PHOTOGRAPHS Proposed Costco Warehouse and Gas Station Silva Valley Parkway El Dorado Hills, California CW: 18-0484	FIGURE 7



Photograph 9. Facing south along Old Silva Valley Parkway (Clarksville Crossing). Structures on Site on far left.



Photograph 10. Three electrical transformers and electrical panel on southwestern portion of the Site. US-50 in background and Old Silva Valley Parkway (Clarksville Crossing) on right.

KLEINFELDER Bright People. Right Solutions.	PROJECT NO. 20192501 DRAWN BY: LDP CHECKED BY: MC DATE: 08/2019 REVISED:	SITE PHOTOGRAPHS Proposed Costco Warehouse and Gas Station Silva Valley Parkway El Dorado Hills, California CW: 18-0484	FIGURE 8



Photograph 11. Utility shed and transformer across Old Silva Valley Parkway (Clarksville Crossing) west of the Site.



Photograph 12. Water utility vault on Site adjoining Old Silva Valley Parkway (Clarksville Crossing).

KLEINFELDER Bright People. Right Solutions.	PROJECT NO. 20192501 DRAWN BY: LDP CHECKED BY: MC DATE: 08/2019 REVISED:	SITE PHOTOGRAPHS Proposed Costco Warehouse and Gas Station Silva Valley Parkway El Dorado Hills, California CW: 18-0484	FIGURE 9

APPENDIX A
STATEMENT OF QUALIFICATIONS

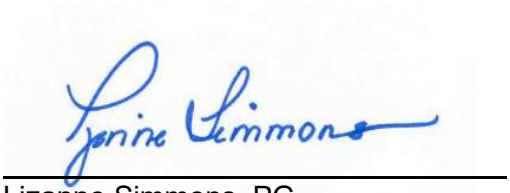
Copyright 2019 Kleinfelder

STATEMENT OF QUALIFICATIONS

We declare that to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in Section 312.10 of 40 CFR 312. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all-appropriate inquiries in conformance with the standards and practices set forth in CFR Part 312.



Lindsey Dandridge-Perry
Project Professional



Lizanne Simmons, PG
Senior Principal Geologist

The resumes of above-listed environmental professionals performing this Phase I ESA are on file at the Kleinfelder office and are available upon request.

Copyright 2019 Kleinfelder

APPENDIX B
REGULATORY AGENCY DATABASE REPORT

Copyright 2019 Kleinfelder

122-720-15
Silva Valley Parkway
El Dorado Hills, CA 95762

Inquiry Number: 5711241.2s
July 09, 2019

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION	PAGE
Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	8
Orphan Summary	23
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting SSURGO Soil Map	A-5
Physical Setting Source Map	A-8
Physical Setting Source Map Findings	A-10
Physical Setting Source Records Searched	PSGR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2019 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95762

COORDINATES

Latitude (North):	38.6597600 - 38° 39' 35.13''
Longitude (West):	121.0569440 - 121° 3' 24.99''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	669066.9
UTM Y (Meters):	4280605.0
Elevation:	730 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5629046 CLARKSVILLE, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140713, 20140621
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95762

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	TONG ROAD STOCKPILE	SILVA VALLEY PARKWAY	CIWQS		TP
A2		SILVA VALLEY PARKWAY	CHMIRS		TP
3	PG&E: CLARKSVILLE SU	JOERGER RD	CUPA Listings	Lower	1183, 0.224, SSW
4	NEHEMIAH CONSTRUCTIO	1400 WHITE ROCK RD	CUPA Listings	Lower	1374, 0.260, South
5	AT&T MOBILITY - LAKE	7000 ROSSMORE LN	CUPA Listings, CERS	Lower	2066, 0.391, SSW
6	SERRANO ELEMENTARY S	SERRANO PARKWAY/SILV	ENVIROSTOR, SCH	Higher	2179, 0.413, NNW
7	EL DORADO HILLS RECL	4525 SERRANO	ENF, CIWQS, CERS	Higher	4026, 0.762, NNW
8	SILVER DOVE ELEMENTA	SILVER DOVE WAY/BASS	ENVIROSTOR, SCH	Higher	4939, 0.935, East

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 8 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
TONG ROAD STOCKPILE SILVA VALLEY PARKWAY EL DORADO HILLS, CA 95762	CIWQS	N/A
SILVA VALLEY PARKWAY SILVA VALLEY PARKWAY EL DORADO HILLS, CA	CHMIRS OES Incident Number: 12-5144	N/A

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

EXECUTIVE SUMMARY

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System
US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROL ---------- Sites with Institutional Controls

Federal ERNS list

ERNS ---------- Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE ---------- State Response Sites

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ---------- Solid Waste Information System

State and tribal leaking storage tank lists

LUST ---------- Geotracker's Leaking Underground Fuel Tank Report
INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land
CPS-SLIC ---------- Statewide SLIC Cases

State and tribal registered storage tank lists

FEMA UST ---------- Underground Storage Tank Listing
UST ---------- Active UST Facilities
AST ---------- Aboveground Petroleum Storage Tank Facilities
INDIAN UST ---------- Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP ---------- Voluntary Cleanup Priority Listing
VCP ---------- Voluntary Cleanup Program Properties

State and tribal Brownfields sites

BROWNFIELDS ---------- Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ---------- A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT ---------- Waste Management Unit Database

SWRCY Recycler Database
HAULERS Registered Waste Tire Haulers Listing
INDIAN ODI Report on the Status of Open Dumps on Indian Lands
ODI Open Dump Inventory
DEBRIS REGION 9 Torres Martinez Reservation Illegal Dump Site Locations
IHS OPEN DUMPS Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL Delisted National Clandestine Laboratory Register
HIST Cal-Sites Historical Calsites Database
SCH School Property Evaluation Program
CDL Clandestine Drug Labs
CERS HAZ WASTE CERS HAZ WASTE
Toxic Pits Toxic Pits Cleanup Act Sites
US CDL National Clandestine Laboratory Register
PFAS PFAS Contamination Site Location Listing

Local Lists of Registered Storage Tanks

SWEEPS UST SWEEPS UST Listing
HIST UST Hazardous Substance Storage Container Database
CERS TANKS California Environmental Reporting System (CERS) Tanks
CA FID UST Facility Inventory Database

Local Land Records

LIENS Environmental Liens Listing
LIENS 2 CERCLA Lien Information
DEED Deed Restriction Listing

Records of Emergency Release Reports

HMIRS Hazardous Materials Information Reporting System
LDS Land Disposal Sites Listing
MCS Military Cleanup Sites Listing
SPILLS 90 SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR RCRA - Non Generators / No Longer Regulated
FUDS Formerly Used Defense Sites
DOD Department of Defense Sites
SCRD DRYCLEANERS State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR Financial Assurance Information
EPA WATCH LIST EPA WATCH LIST
2020 COR ACTION 2020 Corrective Action Program List
TSCA Toxic Substances Control Act
TRIS Toxic Chemical Release Inventory System
SSTS Section 7 Tracking Systems
ROD Records Of Decision
RMP Risk Management Plans
RAATS RCRA Administrative Action Tracking System
PRP Potentially Responsible Parties
PADS PCB Activity Database System

ICIS	Integrated Compliance Information System
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
ABANDONED MINES	Abandoned Mines
FINDS	Facility Index System/Facility Registry System
UXO	Unexploded Ordnance Sites
DOCKET HWC	Hazardous Waste Compliance Docket Listing
ECHO	Enforcement & Compliance History Information
FUELS PROGRAM	EPA Fuels Program Registered Listing
CA BOND EXP. PLAN	Bond Expenditure Plan
Cortese	"Cortese" Hazardous Waste & Substances Sites List
DRYCLEANERS	Cleaner Facilities
EMI	Emissions Inventory Data
Financial Assurance	Financial Assurance Information Listing
HAZNET	Facility and Manifest Data
ICE	ICE
HIST CORTESE	Hazardous Waste & Substance Site List
HWP	EnviroStor Permitted Facilities Listing
HWT	Registered Hazardous Waste Transporter Database
MINES	Mines Site Location Listing
MWMP	Medical Waste Management Program Listing
NPDES	NPDES Permits Listing
PEST LIC	Pesticide Regulation Licenses Listing
PROC	Certified Processors Database
Notify 65	Proposition 65 Records
UIC	UIC Listing
UIC GEO	UIC GEO (GEOTRACKER)
WASTEWATER PITS	Oil Wastewater Pits Listing
WDS	Waste Discharge System
WIP	Well Investigation Program Case List
MILITARY PRIV SITES	MILITARY PRIV SITES (GEOTRACKER)
PROJECT	PROJECT (GEOTRACKER)
WDR	Waste Discharge Requirements Listing
CERS	CERS
NON-CASE INFO	NON-CASE INFO (GEOTRACKER)
OTHER OIL GAS	OTHER OIL & GAS (GEOTRACKER)
PROD WATER PONDS	PROD WATER PONDS (GEOTRACKER)
SAMPLING POINT	SAMPLING POINT (GEOTRACKER)
WELL STIM PROJ	Well Stimulation Project (GEOTRACKER)

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	EDR Proprietary Manufactured Gas Plants

EXECUTIVE SUMMARY

EDR Hist Auto---------- EDR Exclusive Historical Auto Stations
EDR Hist Cleaner---------- EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF---------- Recovered Government Archive Solid Waste Facilities List
RGA LUST---------- Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

State- and tribal - equivalent CERCLIS

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 04/29/2019 has revealed that there are 2 ENVIROSTOR sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SERRANO ELEMENTARY S Facility Id: 9020004 Status: No Further Action	***SERRANO PARKWAY/SILV***	***NNW 1/4 - 1/2 (0.413 mi.)***	***6***	***15***
SILVER DOVE ELEMENTA Facility Id: 9000003 Status: No Further Action	***SILVER DOVE WAY/BASS***	***E 1/2 - 1 (0.935 mi.)***	***8***	***20***

EXECUTIVE SUMMARY

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

CUPA Listings: A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

A review of the CUPA Listings list, as provided by EDR, has revealed that there are 3 CUPA Listings sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
PG&E: CLARKSVILLE SU	JOERGER RD	SSW 1/8 - 1/4 (0.224 mi.)	3	10
Database: CUPA EL DORADO, Date of Government Version: 02/27/2019 Status: Active, billable				
NEHEMIAH CONSTRUCTIO	1400 WHITE ROCK RD	S 1/4 - 1/2 (0.260 mi.)	4	10
Database: CUPA EL DORADO, Date of Government Version: 02/27/2019 Status: Inactive, non-billable				
AT&T MOBILITY - LAKE	***7000 ROSSMORE LN***	***SSW 1/4 - 1/2 (0.391 mi.)***	***5***	***11***
Database: CUPA EL DORADO, Date of Government Version: 02/27/2019 Status: Inactive, non-billable Status: Active, billable				

ENF: A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

A review of the ENF list, as provided by EDR, and dated 11/01/2018 has revealed that there is 1 ENF site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
EL DORADO HILLS RECL	***4525 SERRANO***	***NNW 1/2 - 1 (0.762 mi.)***	***7***	***17***
Status: Historical Status: Historical Facility Id: 222432				

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 5711241.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

Power transmission lines

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Areas of Concern

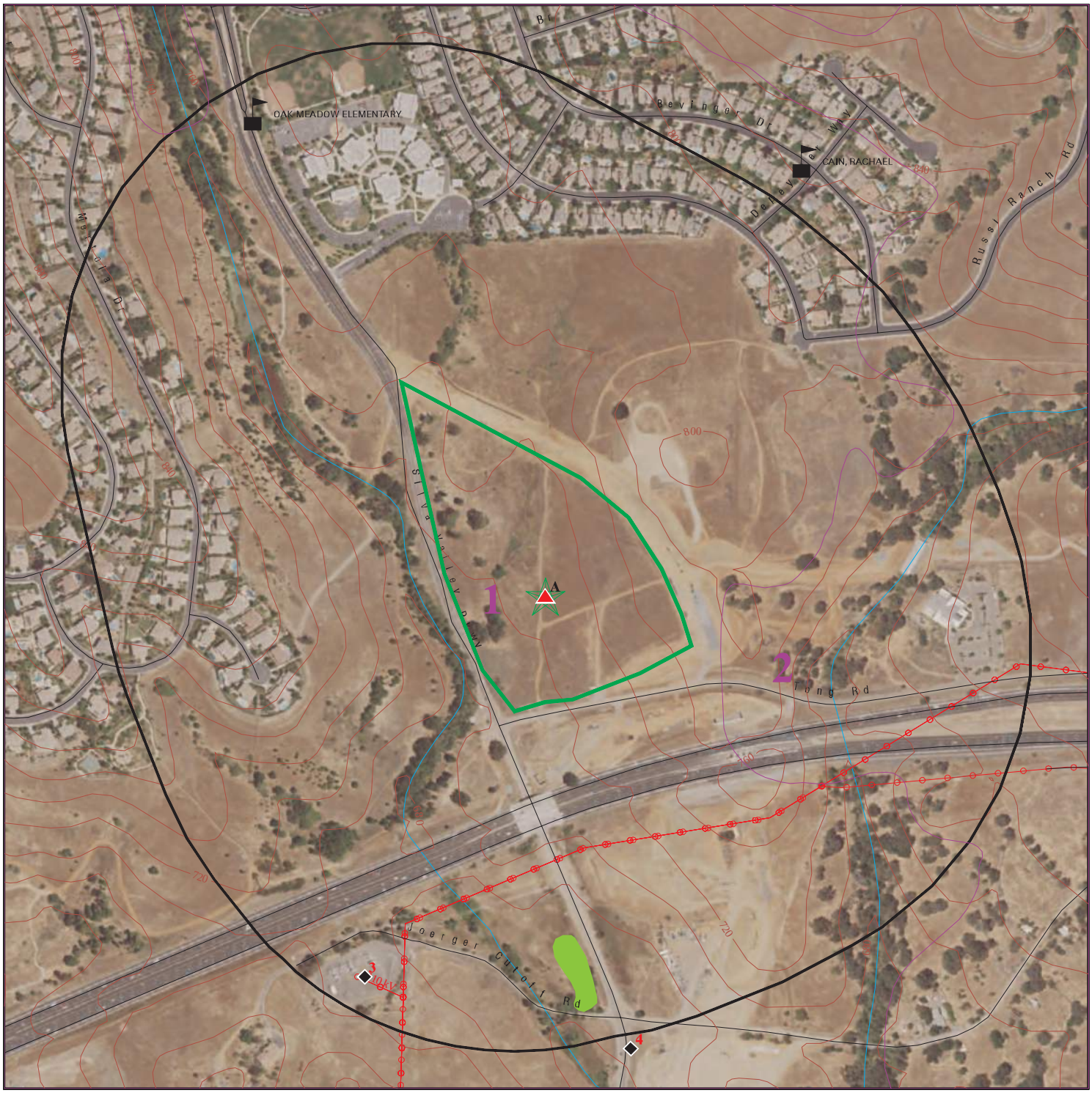
N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	122-720-15	CLIENT:	Kleinfelder, Inc.
ADDRESS:	Silva Valley Parkway El Dorado Hills CA 95762	CONTACT:	Lindsey Dandridge-Perry
LAT/LONG:	38.65976 / 121.056944	INQUIRY #:	5711241.2s
		DATE:	July 09, 2019 6:17 pm

Copyright © 2019 EDR, Inc. © 2015 TomTom Rel. 2015.

DETAIL MAP - 5711241.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

0 1/16 1/8 1/4 Miles

Indian Reservations BIA

Power transmission lines

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	122-720-15	CLIENT:	Kleinfelder, Inc.
ADDRESS:	Silva Valley Parkway El Dorado Hills CA 95762	CONTACT:	Lindsey Dandridge-Perry
LAT/LONG:	38.65976 / 121.056944	INQUIRY #:	5711241.2s
		DATE:	July 09, 2019 6:19 pm

Copyright © 2019 EDR, Inc. © 2015 TomTom Rel. 2015.

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	0.500		0	0	0	NR	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	1.000		0	0	0	0	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	TP		NR	NR	NR	NR	NR	0
US INST CONTROL	TP		NR	NR	NR	NR	NR	0
Federal ERNS list								
ERNS	0.250		0	0	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	1	1	NR	2
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	1.000		0	0	0	0	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.500		0	0	0	NR	NR	0
UST	0.500		0	0	0	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.500		0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
PFAS	0.500		0	0	0	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.500		0	0	0	NR	NR	0
HIST UST	0.500		0	0	0	NR	NR	0
CERS TANKS	0.250		0	0	NR	NR	NR	0
CA FID UST	0.500		0	0	0	NR	NR	0
Local Land Records								
LIENS	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	TP		NR	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
CHMIRS	TP	1	NR	NR	NR	NR	NR	1
LDS	TP		NR	NR	NR	NR	NR	0
MCS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	0.250		0	0	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	1.000		0	0	0	0	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	TP		NR	NR	NR	NR	NR	0
FINDS	0.250		0	0	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.500		0	1	2	NR	NR	3

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	TP		NR	NR	NR	NR	NR	0
ENF	1.000		0	0	0	1	NR	1
Financial Assurance	TP		NR	NR	NR	NR	NR	0
HAZNET	TP		NR	NR	NR	NR	NR	0
ICE	TP		NR	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	TP		NR	NR	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
PEST LIC	TP		NR	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
UIC GEO	TP		NR	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.500		0	0	0	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	TP		NR	NR	NR	NR	NR	0
PROJECT	TP		NR	NR	NR	NR	NR	0
WDR	TP		NR	NR	NR	NR	NR	0
CIWQS	TP	1	NR	NR	NR	NR	NR	1
CERS	TP		NR	NR	NR	NR	NR	0
NON-CASE INFO	TP		NR	NR	NR	NR	NR	0
OTHER OIL GAS	TP		NR	NR	NR	NR	NR	0
PROD WATER PONDS	TP		NR	NR	NR	NR	NR	0
SAMPLING POINT	TP		NR	NR	NR	NR	NR	0
WELL STIM PROJ	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.250		0	0	NR	NR	NR	0
EDR Hist Cleaner	0.250		0	0	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		2	0	1	3	2	0	8

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1 **TONG ROAD STOCKPILE** **CIWQS** **S112242099**
Target **SILVA VALLEY PARKWAY TONG ROAD INTERSECTION** **N/A**
Property **EL DORADO HILLS, CA 95762**

Site 1 of 2 in cluster A

Actual: CIWQS:
730 ft.

Name:	TONG ROAD STOCKPILE
Address:	SILVA VALLEY PARKWAY TONG ROAD INTERSECTION
City,State,Zip:	EL DORADO HILLS, CA 95762
Agency:	AKT Developement Corporation
Agency Address:	7700 College Town Drive Suite 101, Sacramento, CA 95826
Place/Project Type:	Construction
SIC/NAICS:	Not reported
Region:	5S
Program:	CONSTW
Regulatory Measure Status:	Terminated
Regulatory Measure Type:	Storm water construction
Order Number:	2009-0009-DWQ
WDID:	5S09C364792
NPDES Number:	CAS000002
Adoption Date:	Not reported
Effective Date:	10/12/2012
Termination Date:	08/30/2013
Expiration/Review Date:	Not reported
Design Flow:	Not reported
Major/Minor:	Not reported
Complexity:	Not reported
TTWQ:	Not reported
Enforcement Actions within 5 years:	0
Violations within 5 years:	0
Latitude:	38.658387
Longitude:	-121.057543

A2 **CHMIRS** **S112830014**
Target **SILVA VALLEY PARKWAY AT TONG ROAD** **N/A**
Property **EL DORADO HILLS, CA**

Site 2 of 2 in cluster A

Actual: CHMIRS:
730 ft.

Name:	Not reported
Address:	SILVA VALLEY PARKWAY AT TONG ROAD
City,State,Zip:	EL DORADO HILLS, CA
OES Incident Number:	12-5144
OES notification:	08/28/2012
OES Date:	Not reported
OES Time:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported

(Continued) **S112830014**

Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	Yes
Waterway:	Carson Creek
Spill Site:	Waterways
Cleanup By:	Reporting Party
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Gal(s)
Other:	Not reported
Date/Time:	1300
Year:	2012
Agency:	El Dorado Irrigation Dist.
Incident Date:	8/28/2012
Admin Agency:	El Dorado County Environmental Management
Amount:	Not reported
Contained:	No
Site Type:	Carson Creek
E Date:	Not reported
Substance:	Recycled Water
Quantity Released:	341,000
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	The caller is reporting a surge anticipator at a buster pump station sensed low pressure and opened. The water spilled into Carson Creek. The storage tanks have been off line since last Thursday and they have been putting potable water in the tanks. The EC level was 68 micros per centimeter and a chlorine residual of 0.2 milligrams per liter.

3
SSW
1/8-1/4
0.224 mi.
1183 ft.

PG&E: CLARKSVILLE SUBSTATION **CUPA Listings** **S122436176**
JOERGER RD **N/A**
CLARKSVILLE, CA 95630

Relative:
Lower

Actual:
690 ft.

CUPA EL DORADO:

Name:	PG&E: CLARKSVILLE SUBSTATION
Address:	JOERGER RD
City,State,Zip:	CLARKSVILLE, CA 95630
PE:	BUSINESS PLANS/LARGE BUSINESSES
Status:	Active, billable
Latitude:	38.6557
Longitude:	-121.0594
Name:	Pacific Gas & Electric Company
Email:	Not reported
Address2:	Joerger Road, West of White Rock Road
Permit:	PT0001633
Phone:	Not reported
Second Phone:	5308893314
APN:	Not reported
RP Name:	PG&E - CUPA Permits (REF: Clarksville Sub)
RP Care of:	CUPA
RP Phone:	7075511674
GIS Elevation:	Not reported
CERSID:	10136797
Business Type:	MOTOR VEHICLE FUEL
Current Inspection Date:	06/02/2018
Last Inspection Date:	12/02/2012

4
South
1/4-1/2
0.260 mi.
1374 ft.

NEHEMIAH CONSTRUCTION **CUPA Listings** **S110983949**
1400 WHITE ROCK RD **N/A**
EL DORADO HILLS, CA 95762

Relative:
Lower

Actual:
665 ft.

CUPA EL DORADO:

Name:	NEHEMIAH CONSTRUCTION
Address:	1400 WHITE ROCK RD
City,State,Zip:	EL DORADO HILLS, CA 95762
PE:	BUSINESS PLANS/SMALL BUSINESS
Status:	Inactive, non-billable
Latitude:	38.6534
Longitude:	-121.0542
Name:	NEHEMIAH CONSTRUCTION
Email:	Not reported
Address2:	Not reported
Permit:	PT0012827
Phone:	9166081500
Second Phone:	9166081500
APN:	11817004
RP Name:	Not reported
RP Care of:	Not reported
RP Phone:	0000000000
GIS Elevation:	Not reported
CERSID:	Not reported
Business Type:	OTHER
Current Inspection Date:	Not reported
Last Inspection Date:	Not reported

5
SSW
1/4-1/2
0.391 mi.
2066 ft.

AT&T MOBILITY - LAKEHILLS COMMUNITY COVENANT CHURC
7000 ROSSMORE LN
EL DORADO HILLS, CA 95762

CUPA Listings **S110983929**
CERS **N/A**

Relative:
Lower

Actual:
682 ft.

CUPA EL DORADO:

Name:	METROPCS #148 SO EDH
Address:	7000 ROSSMORE LN
City,State,Zip:	EL DORADO HILLS, CA 95762
PE:	BUSINESS PLANS/SMALL BUSINESS
Status:	Inactive, non-billable
Latitude:	38.6539
Longitude:	-121.059
Name:	T-Mobile West, LLC
Email:	Not reported
Address2:	Not reported
Permit:	PT0012822
Phone:	8883130188
Second Phone:	8883130188
APN:	12128020
RP Name:	Not reported
RP Care of:	Not reported
RP Phone:	0000000000
GIS Elevation:	Not reported
CERSID:	Not reported
Business Type:	OTHER
Current Inspection Date:	12/09/2017
Last Inspection Date:	06/01/2013

Name:	VERIZON WIRELESS SILVA VALLEY
Address:	7000 ROSSMORE LN
City,State,Zip:	EL DORADO HILLS, CA 95762
PE:	BUSINESS PLANS/SMALL BUSINESS
Status:	Active, billable
Latitude:	38.6533
Longitude:	-121.0602
Name:	Verizon Wireless
Email:	Not reported
Address2:	Not reported
Permit:	PT0014675
Phone:	8666942415
Second Phone:	8666942415
APN:	121-280-20-100
RP Name:	Environmental Compliance
RP Care of:	Not reported
RP Phone:	8666942415
GIS Elevation:	Not reported
CERSID:	10449082
Business Type:	OTHER
Current Inspection Date:	09/25/2017
Last Inspection Date:	Not reported

CERS:

Name:	VERIZON WIRELESS SILVA VALLEY
Address:	7000 ROSSMORE LN
City,State,Zip:	EL DORADO HILLS, CA 95762
Site ID:	167476
CERS ID:	10449082

AT&T MOBILITY - LAKEHILLS COMMUNITY COVENANT CHURCH - USID13 (Continued) **S110983929**

CERS Description: Chemical Storage Facilities

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-25-2014
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: El Dorado County Environmental Management
Eval Program: HMRRP
Eval Source: CERS

Coordinates:
Site ID: 167476
Facility Name: Verizon Wireless Silva Valley
Env Int Type Code: HMBP
Program ID: 10449082
Coord Name: Not reported
Ref Point Type Desc: Center of a facility or station.
Latitude: 38.653300
Longitude: -121.060200

Affiliation:
Affiliation Type Desc: Document Preparer
Entity Name: Steve Skanderson
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Affiliation Type Desc: Environmental Contact
Entity Name: Environmental Compliance
Entity Title: Not reported
Affiliation Address: 295 Parkshore Drive
Affiliation City: Folsom
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 95630
Affiliation Phone: Not reported

Affiliation Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title: Not reported
Affiliation Address: 295 Parkshore Drive
Affiliation City: Folsom
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 95630
Affiliation Phone: Not reported

Affiliation Type Desc: Identification Signer
Entity Name: armand delgado
Entity Title: environmental compliance mgr
Affiliation Address: Not reported

AT&T MOBILITY - LAKEHILLS COMMUNITY COVENANT CHURCH - USID13 (Continued) **S110983929**

Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Property Owner
Entity Name:	Lakehillls Covenane Communicty Church
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	United States
Affiliation Zip:	Not reported
Affiliation Phone:	(916) 939-9300
Affiliation Type Desc:	Legal Owner
Entity Name:	Verizon Wireless
Entity Title:	Not reported
Affiliation Address:	295 Parkshore Drive
Affiliation City:	Folsom
Affiliation State:	CA
Affiliation Country:	United States
Affiliation Zip:	95630
Affiliation Phone:	(866) 694-2415
Affiliation Type Desc:	CUPA District
Entity Name:	El Dorado County Environmental Management
Entity Title:	Not reported
Affiliation Address:	2850 Fairlane Court, Bldg C
Affiliation City:	Placerville
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	95667-4100
Affiliation Phone:	(530) 621-5300
Affiliation Type Desc:	Operator
Entity Name:	Verizon Wireless
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(866) 694-2415
Affiliation Type Desc:	Parent Corporation
Entity Name:	Verizon Wireless [Northern California]
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

AT&T MOBILITY - LAKEHILLS COMMUNITY COVENANT CHURCH - USID13 (Continued) **S110983929**

Name:	AT&T MOBILITY - LAKEHILLS COMMUNITY COVENANT CHURCH - USID134179
Address:	7000 ROSSMORE LN
City,State,Zip:	EL DORADO HILLS, CA 95762
Site ID:	518628
CERS ID:	10784320
CERS Description:	Chemical Storage Facilities

Coordinates:

Site ID:	518628
Facility Name:	AT&T Mobility - LAKEHILLS COMMUNITY COVENANT CHURCH - USID134179
Env Int Type Code:	HMBP
Program ID:	10784320
Coord Name:	Not reported
Ref Point Type Desc:	Center of a facility or station.
Latitude:	38.653290
Longitude:	-121.060140

Affiliation:

Affiliation Type Desc:	Environmental Contact
Entity Name:	AT&T EH&S Hotline - Option #1
Entity Title:	Not reported
Affiliation Address:	308 S. Akard St., 17th Floor
Affiliation City:	Dallas
Affiliation State:	TX
Affiliation Country:	Not reported
Affiliation Zip:	75202
Affiliation Phone:	Not reported

Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	308 S. Akard St., 17th Floor
Affiliation City:	Dallas
Affiliation State:	TX
Affiliation Country:	Not reported
Affiliation Zip:	75202
Affiliation Phone:	Not reported

Affiliation Type Desc:	Parent Corporation
Entity Name:	AT&T Mobility
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

Affiliation Type Desc:	Identification Signer
Entity Name:	Jeremy McGrue
Entity Title:	National EPCRA Manager
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

AT&T MOBILITY - LAKEHILLS COMMUNITY COVENANT CHURCH - USID13 (Continued) **S110983929**

Affiliation Type Desc:	Operator
Entity Name:	AT&T Mobility
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(800) 566-9347

Affiliation Type Desc:	CUPA District
Entity Name:	El Dorado County Environmental Management
Entity Title:	Not reported
Affiliation Address:	2850 Fairlane Court, Bldg C
Affiliation City:	Placerville
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	95667-4100
Affiliation Phone:	(530) 621-5300

Affiliation Type Desc:	Document Preparer
Entity Name:	Peter Burnell, Sigma Consultants, Inc.
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

Affiliation Type Desc:	Legal Owner
Entity Name:	New Cingular Wireless PCS, LLC dba AT&T Mobility
Entity Title:	Not reported
Affiliation Address:	308 S. Akard St., 17th Floor
Affiliation City:	Dallas
Affiliation State:	TX
Affiliation Country:	United States
Affiliation Zip:	75202
Affiliation Phone:	(214) 464-1712

---

6 **SERRANO ELEMENTARY SCHOOL** **ENVIROSTOR** **S116165442**
NNW **SERRANO PARKWAY/SILVA VALLEY PARKWAY** **SCH** **N/A**
1/4-1/2 **EL DORADO HILLS, CA 95762**
0.413 mi.
2179 ft.

Relative:
Higher

Actual:
801 ft.

ENVIROSTOR:

Name:	SERRANO ELEMENTARY SCHOOL
Address:	SERRANO PARKWAY/SILVA VALLEY PARKWAY
City,State,Zip:	EL DORADO HILLS, CA 95762
Facility ID:	9020004
Status:	No Further Action
Status Date:	06/29/2000
Site Code:	104061
Site Type:	School Investigation
Site Type Detailed:	School
Acres:	19

SERRANO ELEMENTARY SCHOOL (Continued) **S116165442**

NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Not reported
Supervisor: Mark Malinowski
Division Branch: Northern California Schools & Santa Susana
Assembly: 06
Senate: 01
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: School District
Latitude: 38.668
Longitude: -121.0595
APN: NONE SPECIFIED
Past Use: AGRICULTURAL - LIVESTOCK
Potential COC: Naturally Occurring Asbestos (NOA Arsenic Lead
Confirmed COC: NONE SPECIFIED
Potential Description: SOIL
Alias Name: Not reported
Alias Type: Not reported

Completed Info:
Completed Area Name: Not reported
Completed Sub Area Name: Not reported
Completed Document Type: Not reported
Completed Date: Not reported
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

SCH:

Name: SERRANO ELEMENTARY SCHOOL
Address: SERRANO PARKWAY/SILVA VALLEY PARKWAY
City,State,Zip: EL DORADO HILLS, CA 95762
Facility ID: 9020004
Site Type: School Investigation
Site Type Detail: School
Site Mgmt. Req.: NONE SPECIFIED
Acres: 19
National Priorities List: NO
Cleanup Oversight Agencies: SMBRP
Lead Agency: SMBRP
Lead Agency Description: DTSC - Site Cleanup Program
Project Manager: Not reported
Supervisor: Mark Malinowski
Division Branch: Northern California Schools & Santa Susana
Site Code: 104061

SERRANO ELEMENTARY SCHOOL (Continued) **S116165442**

Assembly:	06
Senate:	01
Special Program Status:	Not reported
Status:	No Further Action
Status Date:	06/29/2000
Restricted Use:	NO
Funding:	School District
Latitude:	38.668
Longitude:	-121.0595
APN:	NONE SPECIFIED
Past Use:	AGRICULTURAL - LIVESTOCK
Potential COC:	Naturally Occurring Asbestos (NOA, Naturally Occurring Asbestos (NOA, Arsenic, Lead
Confirmed COC:	NONE SPECIFIED
Potential Description:	SOIL
Alias Name:	Not reported
Alias Type:	Not reported

Completed Info:

Completed Area Name:	Not reported
Completed Sub Area Name:	Not reported
Completed Document Type:	Not reported
Completed Date:	Not reported
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

---

7 **EL DORADO HILLS RECLAMATION** **ENF** **S109434785**
NNW **4525 SERRANO** **CIWQS** **N/A**
1/2-1 **EL DORADO HILLS, CA 95762** **CERS**
0.762 mi.
4026 ft.

Relative:
Higher

Actual:
812 ft.

ENF:

Name:	EL DORADO HILLS RECLAMATION
Address:	4525 SERRANO
City,State,Zip:	EL DORADO HILLS, CA 95762
Region:	5S
Facility Id:	222432
Agency Name:	El Dorado Hills Development Company
Place Type:	Facility
Place Subtype:	Not reported
Facility Type:	Municipal/Domestic
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	38.670577
Place Longitude:	-121.062962
SIC Code 1:	4952
SIC Desc 1:	Sewerage Systems
SIC Code 2:	Not reported

EL DORADO HILLS RECLAMATION (Continued) **S109434785**

SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	1.5
Threat To Water Quality:	2
Complexity:	A
Pretreatment:	N - POTW does not have EPA approved pretreatment prog.
Facility Waste Type:	Domestic wastewater
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	NPDMUNIOTH
Program Category1:	NPDESWW
Program Category2:	NPDESWW
# Of Programs:	1
WDID:	5A091107001
Reg Measure Id:	141719
Reg Measure Type:	NPDES Permits
Region:	5S
Order #:	94-090
Npdes# CA#:	CA0083305
Major-Minor:	Minor
Npdes Type:	MUN
Reclamation:	2 - Producer-User
Dredge Fill Fee:	Not reported
301H:	N
Application Fee Amt Received:	Not reported
Status:	Historical
Status Date:	04/22/1994
Effective Date:	04/22/1994
Expiration/Review Date:	04/01/1999
Termination Date:	06/13/2001
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	Not reported
Direction/Voice:	Passive
Enforcement Id(EID):	244253
Region:	5S
Order / Resolution Number:	R5-2000-0522
Enforcement Action Type:	Admin Civil Liability
Effective Date:	10/10/2000
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported

EL DORADO HILLS RECLAMATION (Continued) **S109434785**

Termination Date:	06/12/2003
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	ACLC R5-2000-0522 for El Dorado Hills Development Co
Description:	Violation of WDRs re: Reclamation requirements.
Program:	NPDMUNIOTH
Latest Milestone Completion Date:	2003-06-12
# Of Programs1:	1
Total Assessment Amount:	30000
Initial Assessed Amount:	0
Liability $ Amount:	30000
Project $ Amount:	0
Liability $ Paid:	30000
Project $ Completed:	0
Total $ Paid/Completed Amount:	30000

CIWQS:

Name:	EL DORADO HILLS RECLAMATION
Address:	4525 SERRANO
City,State,Zip:	EL DORADO HILLS, CA 95762
Agency:	El Dorado Hills Development Company
Agency Address:	4525 Serrano Parkway, El Dorado Hills, CA 95762
Place/Project Type:	Other
SIC/NAICS:	4952
Region:	5S
Program:	NPDMUNIOTH
Regulatory Measure Status:	Historical
Regulatory Measure Type:	NPDES Permit
Order Number:	94-090
WDID:	5A091107001
NPDES Number:	CA0083305
Adoption Date:	04/22/1994
Effective Date:	04/22/1994
Termination Date:	06/13/2001
Expiration/Review Date:	04/01/1999
Design Flow:	1.5
Major/Minor:	Minor
Complexity:	A
TTWQ:	2
Enforcement Actions within 5 years:	0
Violations within 5 years:	0
Latitude:	38.670577
Longitude:	-121.062962

CERS:

Name:	EL DORADO HILLS RECLAMATION
Address:	4525 SERRANO
City,State,Zip:	EL DORADO HILLS, CA 95762
Site ID:	313931
CERS ID:	222432
CERS Description:	NPDES Wastewater and Stormwater

Enforcement Action:

Site ID:	313931
Site Name:	El Dorado Hills Reclamation
Site Address:	4525 SERRANO

EL DORADO HILLS RECLAMATION (Continued) **S109434785**

Site City:	EL DORADO HILLS
Site Zip:	95762
Enf Action Date:	10-10-2000
Enf Action Type:	Administrative Enforcement with Penality
Enf Action Description:	Administrative Enforcement with Civil Liability (Penality)
Enf Action Notes:	Not reported
Enf Action Division:	Water Boards
Enf Action Program:	UNSPEC
Enf Action Source:	CIWQS

---

8 **SILVER DOVE ELEMENTARY** **ENVIROSTOR** **S116165440**
East **SILVER DOVE WAY/BASS LAKE ROAD** **SCH** **N/A**
1/2-1 **EL DORADO HILLS, CA 95762**
0.935 mi.
4939 ft.

Relative:
Higher

Actual:
1070 ft.

ENVIROSTOR:

Name:	SILVER DOVE ELEMENTARY
Address:	SILVER DOVE WAY/BASS LAKE ROAD
City,State,Zip:	EL DORADO HILLS, CA 95762
Facility ID:	9000003
Status:	No Further Action
Status Date:	07/18/2006
Site Code:	104262
Site Type:	School Investigation
Site Type Detailed:	School
Acres:	10
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Not reported
Supervisor:	Mark Malinowski
Division Branch:	Northern California Schools & Santa Susana
Assembly:	06
Senate:	01
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	38.6615
Longitude:	-121.0379
APN:	NONE SPECIFIED
Past Use:	NONE
Potential COC:	Naturally Occurring Asbestos (NOA
Confirmed COC:	NONE SPECIFIED
Potential Description:	SOIL
Alias Name:	Not reported
Alias Type:	Not reported

Completed Info:

Completed Area Name:	Not reported
Completed Sub Area Name:	Not reported
Completed Document Type:	Not reported
Completed Date:	Not reported
Comments:	Not reported
Future Area Name:	Not reported

SILVER DOVE ELEMENTARY (Continued) **S116165440**

Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

SCH:

Name:	SILVER DOVE ELEMENTARY
Address:	SILVER DOVE WAY/BASS LAKE ROAD
City,State,Zip:	EL DORADO HILLS, CA 95762
Facility ID:	9000003
Site Type:	School Investigation
Site Type Detail:	School
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	10
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Not reported
Supervisor:	Mark Malinowski
Division Branch:	Northern California Schools & Santa Susana
Site Code:	104262
Assembly:	06
Senate:	01
Special Program Status:	Not reported
Status:	No Further Action
Status Date:	07/18/2006
Restricted Use:	NO
Funding:	School District
Latitude:	38.6615
Longitude:	-121.0379
APN:	NONE SPECIFIED
Past Use:	NONE
Potential COC:	Naturally Occurring Asbestos (NOA
Confirmed COC:	NONE SPECIFIED
Potential Description:	SOIL
Alias Name:	Not reported
Alias Type:	Not reported

Completed Info:

Completed Area Name:	Not reported
Completed Sub Area Name:	Not reported
Completed Document Type:	Not reported
Completed Date:	Not reported
Comments:	Not reported

Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported

SILVER DOVE ELEMENTARY (Continued) **S116165440**

Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
		NO SITES FOUND			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 04/11/2019
Date Data Arrived at EDR: 04/18/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 26

Source: EPA
Telephone: N/A
Last EDR Contact: 07/02/2019
Next Scheduled EDR Contact: 10/14/2019
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 04/11/2019
Date Data Arrived at EDR: 04/18/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 26

Source: EPA
Telephone: N/A
Last EDR Contact: 07/02/2019
Next Scheduled EDR Contact: 10/14/2019
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 04/11/2019
Date Data Arrived at EDR: 04/18/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 26

Source: EPA
Telephone: N/A
Last EDR Contact: 07/02/2019
Next Scheduled EDR Contact: 10/14/2019
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 04/03/2019
Date Data Arrived at EDR: 04/05/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 07/03/2019
Next Scheduled EDR Contact: 10/14/2019
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 04/11/2019
Date Data Arrived at EDR: 04/18/2019
Date Made Active in Reports: 05/23/2019
Number of Days to Update: 35

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 07/02/2019
Next Scheduled EDR Contact: 10/14/2019
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 04/11/2019
Date Data Arrived at EDR: 04/18/2019
Date Made Active in Reports: 05/23/2019
Number of Days to Update: 35

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 07/02/2019
Next Scheduled EDR Contact: 10/14/2019
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/25/2019
Date Data Arrived at EDR: 03/27/2019
Date Made Active in Reports: 04/17/2019
Number of Days to Update: 21

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 06/26/2019
Next Scheduled EDR Contact: 10/07/2019
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/25/2019
Date Data Arrived at EDR: 03/27/2019
Date Made Active in Reports: 04/17/2019
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/26/2019
Next Scheduled EDR Contact: 10/07/2019
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/25/2019
Date Data Arrived at EDR: 03/27/2019
Date Made Active in Reports: 04/17/2019
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/26/2019
Next Scheduled EDR Contact: 10/07/2019
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/25/2019
Date Data Arrived at EDR: 03/27/2019
Date Made Active in Reports: 04/17/2019
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/26/2019
Next Scheduled EDR Contact: 10/07/2019
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/25/2019
Date Data Arrived at EDR: 03/27/2019
Date Made Active in Reports: 04/17/2019
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/26/2019
Next Scheduled EDR Contact: 10/07/2019
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 02/22/2019
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 04/17/2019
Number of Days to Update: 41

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 05/10/2019
Next Scheduled EDR Contact: 08/26/2019
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 01/31/2019
Date Data Arrived at EDR: 02/04/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 05/29/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 01/31/2019
Date Data Arrived at EDR: 02/04/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 05/29/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 03/25/2019
Date Data Arrived at EDR: 03/26/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 36

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 06/26/2019
Next Scheduled EDR Contact: 10/07/2019
Data Release Frequency: Quarterly

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 04/29/2019
Date Data Arrived at EDR: 04/30/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 58

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/30/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 04/29/2019
Date Data Arrived at EDR: 04/30/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 58

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/30/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 02/11/2019
Date Data Arrived at EDR: 02/12/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 21

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 05/14/2019
Next Scheduled EDR Contact: 08/26/2019
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks
California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41
Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27
Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27
Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 9: Leaking Underground Storage Tank Report
Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28
Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)
Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35
Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 06/11/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 10/10/2018
Date Data Arrived at EDR: 03/08/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 54
Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 09/24/2018
Date Data Arrived at EDR: 03/12/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 50
Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 10/17/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55
Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 11/01/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55
Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 02/19/2019
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 10/16/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55
Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 10/12/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55
Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/13/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55
Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)

Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/11/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: No Update Planned

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 05/15/2017
Date Data Arrived at EDR: 05/30/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 136

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 04/25/2019
Next Scheduled EDR Contact: 07/22/2019
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases

UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 03/11/2019
Date Data Arrived at EDR: 03/13/2019
Date Made Active in Reports: 04/03/2019
Number of Days to Update: 21

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 06/12/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Varies

UST: Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 06/11/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Semi-Annually

MILITARY UST SITES: Military UST Sites (GEOTRACKER)

Military ust sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/11/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Varies

AST: Aboveground Petroleum Storage Tank Facilities

A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 06/17/2019
Next Scheduled EDR Contact: 09/30/2019
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/03/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 09/24/2018
Date Data Arrived at EDR: 03/12/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 50

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 10/12/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 11/01/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 11/07/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 10/16/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 10/10/2018
Date Data Arrived at EDR: 03/08/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 54

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 10/17/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142
Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 06/20/2019
Next Scheduled EDR Contact: 10/07/2019
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties
Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 04/29/2019
Date Data Arrived at EDR: 04/30/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 58
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/30/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: Quarterly

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27
Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 03/25/2019
Date Data Arrived at EDR: 03/26/2019
Date Made Active in Reports: 04/29/2019
Number of Days to Update: 34
Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 06/25/2019
Next Scheduled EDR Contact: 10/07/2019
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 12/17/2018
Date Data Arrived at EDR: 12/18/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 24
Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 06/04/2019
Next Scheduled EDR Contact: 09/30/2019
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 04/25/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 03/11/2019
Date Data Arrived at EDR: 03/13/2019
Date Made Active in Reports: 04/30/2019
Number of Days to Update: 48

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/12/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

Date of Government Version: 03/26/2019
Date Data Arrived at EDR: 03/27/2019
Date Made Active in Reports: 04/30/2019
Number of Days to Update: 34

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 05/09/2019
Next Scheduled EDR Contact: 08/26/2019
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 04/22/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 04/23/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 02/24/2019
Date Data Arrived at EDR: 02/26/2019
Date Made Active in Reports: 04/17/2019
Number of Days to Update: 50

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/24/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 04/29/2019
Date Data Arrived at EDR: 04/30/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 58

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/30/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/12/2018
Date Made Active in Reports: 08/06/2018
Number of Days to Update: 55

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 07/08/2019
Next Scheduled EDR Contact: 10/21/2019
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CERS HAZ WASTE: CERS HAZ WASTE

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

Date of Government Version: 04/09/2019
Date Data Arrived at EDR: 04/11/2019
Date Made Active in Reports: 05/08/2019
Number of Days to Update: 27

Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 04/11/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Quarterly

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/24/2019
Date Data Arrived at EDR: 02/26/2019
Date Made Active in Reports: 04/17/2019
Number of Days to Update: 50

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/24/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: Quarterly

PFAS: PFAS Contamination Site Location Listing

A listing of PFAS contaminated sites included in the GeoTracker database.

Date of Government Version: 02/21/2019
Date Data Arrived at EDR: 02/22/2019
Date Made Active in Reports: 04/15/2019
Number of Days to Update: 52

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/28/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Varies

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 12/04/2018
Date Data Arrived at EDR: 12/06/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 8

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 05/24/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing
Aboveground storage tank sites

Date of Government Version: 09/11/2018
Date Data Arrived at EDR: 09/12/2018
Date Made Active in Reports: 10/11/2018
Number of Days to Update: 29

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 05/02/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Varies

CA FID UST: Facility Inventory Database
The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CERS TANKS: California Environmental Reporting System (CERS) Tanks
List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 04/09/2019
Date Data Arrived at EDR: 04/11/2019
Date Made Active in Reports: 05/08/2019
Number of Days to Update: 27

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 04/11/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Quarterly

Local Land Records

LIENS: Environmental Liens Listing
A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 02/28/2019
Date Data Arrived at EDR: 03/01/2019
Date Made Active in Reports: 04/02/2019
Number of Days to Update: 32

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 06/03/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 04/11/2019
Date Data Arrived at EDR: 04/18/2019
Date Made Active in Reports: 05/23/2019
Number of Days to Update: 35

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 07/02/2019
Next Scheduled EDR Contact: 10/14/2019
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 03/04/2019
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 27

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 06/04/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 03/25/2019
Date Data Arrived at EDR: 03/26/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 49

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 06/26/2019
Next Scheduled EDR Contact: 10/07/2019
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 10/24/2018
Date Data Arrived at EDR: 01/24/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 40

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 06/24/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/11/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/11/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/25/2019
Date Data Arrived at EDR: 03/27/2019
Date Made Active in Reports: 04/17/2019
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/26/2019
Next Scheduled EDR Contact: 10/07/2019
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 03/07/2019
Date Data Arrived at EDR: 04/03/2019
Date Made Active in Reports: 05/23/2019
Number of Days to Update: 50

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 05/21/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 04/12/2019
Next Scheduled EDR Contact: 07/22/2019
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 04/12/2019
Next Scheduled EDR Contact: 07/22/2019
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 05/13/2019
Next Scheduled EDR Contact: 08/26/2019
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/25/2019
Date Data Arrived at EDR: 03/26/2019
Date Made Active in Reports: 05/07/2019
Number of Days to Update: 42

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 06/26/2019
Next Scheduled EDR Contact: 10/07/2019
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 05/06/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 05/10/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/21/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 198

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 06/18/2019
Next Scheduled EDR Contact: 09/30/2019
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 01/10/2018
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 2

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 05/24/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 04/24/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 04/11/2019
Date Data Arrived at EDR: 04/18/2019
Date Made Active in Reports: 05/23/2019
Number of Days to Update: 35

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 07/01/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 04/25/2019
Date Data Arrived at EDR: 05/02/2019
Date Made Active in Reports: 05/23/2019
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 04/22/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 04/11/2019
Date Data Arrived at EDR: 04/18/2019
Date Made Active in Reports: 05/23/2019
Number of Days to Update: 35
Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 07/01/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Quarterly

PADS: PCB Activity Database System
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 03/20/2019
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 34
Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 04/10/2019
Next Scheduled EDR Contact: 07/22/2019
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 07/03/2019
Next Scheduled EDR Contact: 10/21/2019
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/30/2016
Date Data Arrived at EDR: 09/08/2016
Date Made Active in Reports: 10/21/2016
Number of Days to Update: 43
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 04/22/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 06/07/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 06/07/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 05/24/2017
Date Data Arrived at EDR: 11/30/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 15
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 04/02/2019
Date Data Arrived at EDR: 04/02/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 42
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 07/01/2019
Next Scheduled EDR Contact: 10/14/2019
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 12/03/2018
Date Data Arrived at EDR: 01/29/2019
Date Made Active in Reports: 03/21/2019
Number of Days to Update: 51

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 04/30/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 03/31/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 05/23/2019
Number of Days to Update: 30

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 07/08/2019
Next Scheduled EDR Contact: 10/21/2019
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 06/26/2019
Next Scheduled EDR Contact: 10/07/2019
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 04/11/2019
Next Scheduled EDR Contact: 07/22/2019
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 05/02/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 06/23/2017
Date Data Arrived at EDR: 10/11/2017
Date Made Active in Reports: 11/03/2017
Number of Days to Update: 23

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 05/24/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 04/11/2019
Date Data Arrived at EDR: 04/18/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 26

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 07/01/2019
Next Scheduled EDR Contact: 10/14/2019
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 11/27/2018
Date Data Arrived at EDR: 02/27/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 33

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 05/29/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 05/31/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 05/31/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 03/27/2019
Date Data Arrived at EDR: 03/28/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 34

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 06/19/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 02/15/2019
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 03/15/2019
Number of Days to Update: 10

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 06/05/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 01/17/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 74

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 04/15/2019
Next Scheduled EDR Contact: 07/29/2019
Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 04/07/2019
Date Data Arrived at EDR: 04/09/2019
Date Made Active in Reports: 05/23/2019
Number of Days to Update: 44

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 04/09/2019
Next Scheduled EDR Contact: 07/22/2019
Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing
A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 07/26/2018
Date Made Active in Reports: 10/05/2018
Number of Days to Update: 71
Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 05/24/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing
This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 02/19/2019
Date Data Arrived at EDR: 02/21/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 39
Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 05/21/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan
Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6
Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 03/25/2019
Date Data Arrived at EDR: 03/26/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 36
Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 06/25/2019
Next Scheduled EDR Contact: 10/07/2019
Data Release Frequency: Quarterly

CUPA SAN FRANCISCO CO: CUPA Facility Listing
Cupa facilities

Date of Government Version: 04/18/2019
Date Data Arrived at EDR: 04/19/2019
Date Made Active in Reports: 04/30/2019
Number of Days to Update: 11
Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 04/18/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Varies

CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing
list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 01/23/2019
Date Data Arrived at EDR: 02/26/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 34
Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 05/14/2019
Next Scheduled EDR Contact: 08/26/2019
Data Release Frequency: Varies

DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 02/27/2019
Date Data Arrived at EDR: 02/28/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 32

Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 06/03/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Varies

DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 03/19/2019
Date Data Arrived at EDR: 03/22/2019
Date Made Active in Reports: 04/09/2019
Number of Days to Update: 18

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 05/23/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: Varies

DRYCLEANERS: Cleaner Facilities
A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 03/01/2019
Date Data Arrived at EDR: 04/25/2019
Date Made Active in Reports: 05/30/2019
Number of Days to Update: 35

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 06/03/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Annually

EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/20/2018
Date Made Active in Reports: 08/06/2018
Number of Days to Update: 47

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 06/24/2019
Next Scheduled EDR Contact: 09/30/2019
Data Release Frequency: Varies

ENF: Enforcement Action Listing
A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 11/01/2018
Date Data Arrived at EDR: 11/02/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 41

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 05/14/2019
Next Scheduled EDR Contact: 08/26/2019
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 04/22/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/26/2019
Number of Days to Update: 64

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 04/22/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing
A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 02/15/2019
Date Data Arrived at EDR: 02/19/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 14

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 05/09/2019
Next Scheduled EDR Contact: 08/26/2019
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 04/09/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 50

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 04/22/2019
Next Scheduled EDR Contact: 07/22/2019
Data Release Frequency: Annually

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 02/19/2019
Date Data Arrived at EDR: 02/20/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 13

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 05/21/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 02/19/2019
Date Data Arrived at EDR: 02/20/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 13

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/21/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 04/08/2019
Date Data Arrived at EDR: 04/09/2019
Date Made Active in Reports: 05/30/2019
Number of Days to Update: 51

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 04/09/2019
Next Scheduled EDR Contact: 07/22/2019
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing
A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/12/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 34
Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 06/11/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 02/20/2019
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 04/02/2019
Number of Days to Update: 28
Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 06/04/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Varies

NPDES: NPDES Permits Listing
A listing of NPDES permits, including stormwater.

Date of Government Version: 02/11/2019
Date Data Arrived at EDR: 02/12/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 23
Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 05/14/2019
Next Scheduled EDR Contact: 08/26/2019
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing
A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 03/04/2019
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 04/05/2019
Number of Days to Update: 31
Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 06/04/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Quarterly

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 03/11/2019
Date Data Arrived at EDR: 03/13/2019
Date Made Active in Reports: 04/29/2019
Number of Days to Update: 47
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/12/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 03/18/2019
Date Data Arrived at EDR: 03/19/2019
Date Made Active in Reports: 04/29/2019
Number of Days to Update: 41
Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 06/17/2019
Next Scheduled EDR Contact: 09/30/2019
Data Release Frequency: No Update Planned

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 04/27/2018
Date Data Arrived at EDR: 06/13/2018
Date Made Active in Reports: 07/17/2018
Number of Days to Update: 34
Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 06/11/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Varies

UIC GEO: Underground Injection Control Sites (GEOTRACKER)
Underground control injection sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35
Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/11/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 05/08/2018
Date Data Arrived at EDR: 07/11/2018
Date Made Active in Reports: 09/13/2018
Number of Days to Update: 64
Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 04/12/2019
Next Scheduled EDR Contact: 07/22/2019
Data Release Frequency: Varies

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9
Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 05/16/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: No Update Planned

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13
Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 06/19/2019
Next Scheduled EDR Contact: 10/07/2019
Data Release Frequency: No Update Planned

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)
Military privatized sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/11/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)
Projects sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/11/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Varies

WDR: Waste Discharge Requirements Listing

In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Date of Government Version: 03/11/2019
Date Data Arrived at EDR: 03/13/2019
Date Made Active in Reports: 04/29/2019
Number of Days to Update: 47

Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 06/12/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Quarterly

CIWQS: California Integrated Water Quality System

The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 03/05/2019
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 04/02/2019
Number of Days to Update: 28

Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 06/04/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Varies

CERS: CalEPA Regulated Site Portal Data

The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 04/09/2019
Date Data Arrived at EDR: 04/11/2019
Date Made Active in Reports: 05/08/2019
Number of Days to Update: 27

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 04/11/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)

Non-Case Information sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/11/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Varies

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)

Other Oil & Gas Projects sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/11/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)
Produced water ponds sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/11/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)
Sampling point - public sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/11/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Varies

WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)
Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/11/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations
EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

CS ALAMEDA: Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/09/2019
Date Data Arrived at EDR: 01/11/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 53

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 07/08/2019
Next Scheduled EDR Contact: 10/21/2019
Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 04/10/2019
Date Data Arrived at EDR: 04/11/2019
Date Made Active in Reports: 06/20/2019
Number of Days to Update: 70

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 07/08/2019
Next Scheduled EDR Contact: 04/24/2047
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA AMADOR: CUPA Facility List
Cupa Facility List

Date of Government Version: 01/07/2019
Date Data Arrived at EDR: 01/08/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 58

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 06/17/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA BUTTE: CUPA Facility Listing
Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 07/08/2019
Next Scheduled EDR Contact: 10/21/2019
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 05/01/2019
Date Data Arrived at EDR: 05/02/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 27

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 06/24/2019
Next Scheduled EDR Contact: 10/07/2019
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA COLUSA: CUPA Facility List
Cupa facility list.

Date of Government Version: 02/27/2019
Date Data Arrived at EDR: 02/28/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 32

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 05/16/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

SL CONTRA COSTA: Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 02/14/2019
Date Data Arrived at EDR: 02/19/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 17

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 04/29/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA DEL NORTE: CUPA Facility List
Cupa Facility list

Date of Government Version: 02/20/2019
Date Data Arrived at EDR: 05/01/2019
Date Made Active in Reports: 05/30/2019
Number of Days to Update: 29

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 04/25/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA EL DORADO: CUPA Facility List
CUPA facility list.

Date of Government Version: 02/27/2019
Date Data Arrived at EDR: 02/28/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 32

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 04/29/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA FRESNO: CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 04/10/2019
Date Data Arrived at EDR: 04/11/2019
Date Made Active in Reports: 04/30/2019
Number of Days to Update: 19

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 06/26/2019
Next Scheduled EDR Contact: 10/14/2019
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA GLENN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 04/22/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

HUMBOLDT COUNTY:

CUPA HUMBOLDT: CUPA Facility List
CUPA facility list.

Date of Government Version: 12/11/2018
Date Data Arrived at EDR: 12/13/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 33

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 05/20/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA IMPERIAL: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/24/2019
Date Data Arrived at EDR: 04/25/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 63

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 04/22/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INYO COUNTY:

CUPA INYO: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 72

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 05/16/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Varies

KERN COUNTY:

UST KERN: Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 01/28/2019
Date Data Arrived at EDR: 02/07/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 29

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 05/02/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA KINGS: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 05/16/2019
Date Data Arrived at EDR: 05/17/2019
Date Made Active in Reports: 05/30/2019
Number of Days to Update: 13

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 05/16/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List
Cupa facility list

Date of Government Version: 02/08/2019
Date Data Arrived at EDR: 02/12/2019
Date Made Active in Reports: 03/12/2019
Number of Days to Update: 28

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 04/15/2019
Next Scheduled EDR Contact: 07/29/2019
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA LASSEN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/17/2019
Date Data Arrived at EDR: 01/18/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 46

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 04/22/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

LOS ANGELES COUNTY:

AOCONCERN: Key Areas of Concerns in Los Angeles County
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office. Date of Government Version: 3/30/2009 Exide Site area is a cleanup plan of lead-impacted soil surrounding the former Exide Facility as designated by the DTSC. Date of Government Version: 7/17/2017

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: N/A
Telephone: N/A
Last EDR Contact: 06/17/2019
Next Scheduled EDR Contact: 09/30/2019
Data Release Frequency: No Update Planned

HMS LOS ANGELES: HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 12/19/2018
Date Data Arrived at EDR: 01/10/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 56

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 07/08/2019
Next Scheduled EDR Contact: 10/21/2019
Data Release Frequency: Semi-Annually

LF LOS ANGELES: List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 04/15/2019
Date Data Arrived at EDR: 04/16/2019
Date Made Active in Reports: 06/21/2019
Number of Days to Update: 66

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 04/16/2019
Next Scheduled EDR Contact: 07/29/2019
Data Release Frequency: Varies

LF LOS ANGELES CITY: City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 01/15/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 51

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 04/15/2019
Next Scheduled EDR Contact: 07/29/2019
Data Release Frequency: Varies

LOS ANGELES AST: Active & Inactive AST Inventory
A listing of active & inactive above ground petroleum storage tank site locations, located in the City of Los Angeles.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 04/05/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 54

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 06/25/2019
Next Scheduled EDR Contact: 10/07/2019
Data Release Frequency: Varies

LOS ANGELES CO LF METHANE: Methane Producing Landfills

This data was created on April 30, 2012 to represent known disposal sites in Los Angeles County that may produce and emanate methane gas. The shapefile contains disposal sites within Los Angeles County that once accepted degradable refuse material. Information used to create this data was extracted from a landfill survey performed by County Engineers (Major Waste System Map, 1973) as well as historical records from CalRecycle, Regional Water Quality Control Board, and Los Angeles County Department of Public Health

Date of Government Version: 04/30/2012
Date Data Arrived at EDR: 04/17/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 42

Source: Los Angeles County Department of Public Works
Telephone: 626-458-6973
Last EDR Contact: 04/17/2019
Next Scheduled EDR Contact: 07/29/2019
Data Release Frequency: No Update Planned

LOS ANGELES HM: Active & Inactive Hazardous Materials Inventory

A listing of active & inactive hazardous materials facility locations, located in the City of Los Angeles.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 04/05/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 54

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 06/25/2019
Next Scheduled EDR Contact: 10/07/2019
Data Release Frequency: Varies

LOS ANGELES UST: Active & Inactive UST Inventory

A listing of active & inactive underground storage tank site locations and underground storage tank historical sites, located in the City of Los Angeles.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 04/05/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 54

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 06/25/2019
Next Scheduled EDR Contact: 10/07/2019
Data Release Frequency: Varies

SITE MIT LOS ANGELES: Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 04/08/2019
Date Data Arrived at EDR: 04/16/2019
Date Made Active in Reports: 06/21/2019
Number of Days to Update: 66

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 04/16/2019
Next Scheduled EDR Contact: 07/29/2019
Data Release Frequency: Annually

UST EL SEGUNDO: City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 04/15/2019
Next Scheduled EDR Contact: 07/29/2019
Data Release Frequency: Semi-Annually

UST LONG BEACH: City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 04/22/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 65

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 04/22/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

UST TORRANCE: City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 04/04/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 65

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 04/22/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA MADERA: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 02/20/2019
Date Data Arrived at EDR: 02/22/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 13

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 05/16/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Varies

MARIN COUNTY:

UST MARIN: Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 29

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 06/26/2019
Next Scheduled EDR Contact: 10/14/2019
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

Date of Government Version: 03/11/2019
Date Data Arrived at EDR: 03/19/2019
Date Made Active in Reports: 05/08/2019
Number of Days to Update: 50

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 05/16/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Varies

MONO COUNTY:

CUPA MONO: CUPA Facility List
CUPA Facility List

Date of Government Version: 02/21/2019
Date Data Arrived at EDR: 02/26/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 34

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 05/23/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA MONTEREY: CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 02/05/2019
Date Data Arrived at EDR: 02/07/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 26

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 06/28/2019
Next Scheduled EDR Contact: 10/14/2019
Data Release Frequency: Varies

NAPA COUNTY:

LUST NAPA: Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 05/24/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: No Update Planned

UST NAPA: Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 02/21/2019
Date Data Arrived at EDR: 02/22/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 14

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 05/24/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List
CUPA facility list.

Date of Government Version: 05/20/2019
Date Data Arrived at EDR: 05/21/2019
Date Made Active in Reports: 05/30/2019
Number of Days to Update: 9

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 05/13/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: Varies

ORANGE COUNTY:

IND_SITE ORANGE: List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 05/01/2019
Date Data Arrived at EDR: 05/09/2019
Date Made Active in Reports: 05/30/2019
Number of Days to Update: 21

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/06/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 05/01/2019
Date Data Arrived at EDR: 05/09/2019
Date Made Active in Reports: 05/30/2019
Number of Days to Update: 21

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/06/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Quarterly

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 01/02/2019
Date Data Arrived at EDR: 02/05/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 31

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/07/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Quarterly

PLACER COUNTY:

MS PLACER: Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 02/28/2019
Date Data Arrived at EDR: 03/01/2019
Date Made Active in Reports: 04/12/2019
Number of Days to Update: 42

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 06/03/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 03/31/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/26/2019
Number of Days to Update: 64

Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 04/22/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

RIVERSIDE COUNTY:

LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 04/11/2019
Date Data Arrived at EDR: 04/12/2019
Date Made Active in Reports: 04/30/2019
Number of Days to Update: 18

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/17/2019
Next Scheduled EDR Contact: 09/30/2019
Data Release Frequency: Quarterly

UST RIVERSIDE: Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 04/11/2019
Date Data Arrived at EDR: 04/12/2019
Date Made Active in Reports: 06/20/2019
Number of Days to Update: 69

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/17/2019
Next Scheduled EDR Contact: 09/30/2019
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS SACRAMENTO: Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 02/05/2019
Date Data Arrived at EDR: 04/02/2019
Date Made Active in Reports: 06/18/2019
Number of Days to Update: 77

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 06/28/2019
Next Scheduled EDR Contact: 10/14/2019
Data Release Frequency: Quarterly

ML SACRAMENTO: Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 02/06/2019
Date Data Arrived at EDR: 04/02/2019
Date Made Active in Reports: 06/20/2019
Number of Days to Update: 79

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 06/28/2019
Next Scheduled EDR Contact: 10/14/2019
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA SAN BENITO: CUPA Facility List

Cupa facility list

Date of Government Version: 03/11/2019
Date Data Arrived at EDR: 03/13/2019
Date Made Active in Reports: 04/30/2019
Number of Days to Update: 48

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 05/02/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

PERMITS SAN BERNARDINO: Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 02/27/2019
Date Data Arrived at EDR: 02/28/2019
Date Made Active in Reports: 04/02/2019
Number of Days to Update: 33

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 05/06/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

HMMD SAN DIEGO: Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 03/04/2019
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 04/02/2019
Number of Days to Update: 28

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 06/04/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Quarterly

LF SAN DIEGO: Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 04/18/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 56
Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 04/22/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

SAN DIEGO CO LOP: Local Oversight Program Listing
A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 04/24/2019
Date Data Arrived at EDR: 04/25/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 63
Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 04/22/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

SAN DIEGO CO SAM: Environmental Case Listing
The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24
Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 06/03/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

LUST SAN FRANCISCO: Local Oversite Facilities
A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10
Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 05/02/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: No Update Planned

UST SAN FRANCISCO: Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/05/2018
Date Data Arrived at EDR: 11/06/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 38
Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 05/02/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

UST SAN JOAQUIN: San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 15
Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 06/17/2019
Next Scheduled EDR Contact: 09/30/2019
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA SAN LUIS OBISPO: CUPA Facility List
Cupa Facility List.

Date of Government Version: 02/13/2019
Date Data Arrived at EDR: 02/15/2019
Date Made Active in Reports: 03/14/2019
Number of Days to Update: 27

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 05/16/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Varies

SAN MATEO COUNTY:

BI SAN MATEO: Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 03/04/2019
Date Data Arrived at EDR: 03/13/2019
Date Made Active in Reports: 04/29/2019
Number of Days to Update: 47

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/12/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Annually

LUST SAN MATEO: Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/29/2019
Date Data Arrived at EDR: 03/29/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 61

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/10/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA SANTA BARBARA: CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 05/16/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: No Update Planned

SANTA CLARA COUNTY:

CUPA SANTA CLARA: Cupa Facility List
Cupa facility list

Date of Government Version: 02/13/2019
Date Data Arrived at EDR: 02/19/2019
Date Made Active in Reports: 03/06/2019
Number of Days to Update: 15

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 05/16/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Varies

HIST LUST SANTA CLARA: HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LUST SANTA CLARA: LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13
Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 05/24/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: No Update Planned

SAN JOSE HAZMAT: Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 01/30/2019
Date Data Arrived at EDR: 02/01/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 34
Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 05/16/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA SANTA CRUZ: CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90
Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 05/16/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA SHASTA: CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51
Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 05/16/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Varies

SOLANO COUNTY:

LUST SOLANO: Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 03/05/2019
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 04/29/2019
Number of Days to Update: 53
Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 06/03/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Quarterly

UST SOLANO: Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 03/05/2019
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 04/03/2019
Number of Days to Update: 27
Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 06/03/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Quarterly

SONOMA COUNTY:

CUPA SONOMA: Cupa Facility List
Cupa Facility list

Date of Government Version: 03/18/2019
Date Data Arrived at EDR: 03/26/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 36

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 06/19/2019
Next Scheduled EDR Contact: 10/07/2019
Data Release Frequency: Varies

LUST SONOMA: Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 04/03/2019
Date Data Arrived at EDR: 04/11/2019
Date Made Active in Reports: 04/30/2019
Number of Days to Update: 19

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 06/19/2019
Next Scheduled EDR Contact: 10/07/2019
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA STANISLAUS: CUPA Facility List
Cupa facility list

Date of Government Version: 12/11/2018
Date Data Arrived at EDR: 12/13/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 33

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 04/15/2019
Next Scheduled EDR Contact: 07/29/2019
Data Release Frequency: Varies

SUTTER COUNTY:

UST SUTTER: Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 02/28/2019
Date Data Arrived at EDR: 03/01/2019
Date Made Active in Reports: 04/03/2019
Number of Days to Update: 33

Source: Sutter County Environmental Health Services
Telephone: 530-822-7500
Last EDR Contact: 06/03/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA TEHAMA: CUPA Facility List
Cupa facilities

Date of Government Version: 12/13/2018
Date Data Arrived at EDR: 12/18/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 28

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 05/16/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List
Cupa facility list

Date of Government Version: 04/24/2019
Date Data Arrived at EDR: 04/25/2019
Date Made Active in Reports: 06/28/2019
Number of Days to Update: 64

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 04/22/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

TULARE COUNTY:

CUPA TULARE: CUPA Facility List
Cupa program facilities

Date of Government Version: 12/26/2018
Date Data Arrived at EDR: 12/27/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 19

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 05/06/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA TUOLUMNE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 05/02/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

VENTURA COUNTY:

BWT VENTURA: Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 03/26/2019
Date Data Arrived at EDR: 04/25/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 63

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 04/23/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Quarterly

LF VENTURA: Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/26/2019
Next Scheduled EDR Contact: 10/14/2019
Data Release Frequency: No Update Planned

LUST VENTURA: Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 05/09/2019
Next Scheduled EDR Contact: 08/26/2019
Data Release Frequency: No Update Planned

MED WASTE VENTURA: Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 03/26/2019
Date Data Arrived at EDR: 04/25/2019
Date Made Active in Reports: 05/30/2019
Number of Days to Update: 35
Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 04/23/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Quarterly

UST VENTURA: Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 02/26/2019
Date Data Arrived at EDR: 03/13/2019
Date Made Active in Reports: 04/03/2019
Number of Days to Update: 21
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/12/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Quarterly

YOLO COUNTY:

UST YOLO: Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 03/29/2019
Date Data Arrived at EDR: 04/05/2019
Date Made Active in Reports: 06/20/2019
Number of Days to Update: 76
Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 06/26/2019
Next Scheduled EDR Contact: 10/14/2019
Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 02/08/2019
Date Data Arrived at EDR: 02/12/2019
Date Made Active in Reports: 03/06/2019
Number of Days to Update: 22
Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 04/25/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 02/11/2019
Date Data Arrived at EDR: 02/12/2019
Date Made Active in Reports: 03/04/2019
Number of Days to Update: 20
Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 05/14/2019
Next Scheduled EDR Contact: 08/26/2019
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 04/10/2019
Next Scheduled EDR Contact: 07/22/2019
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 05/01/2019
Date Made Active in Reports: 06/21/2019
Number of Days to Update: 51

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 05/01/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/27/2018
Number of Days to Update: 35

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 04/15/2019
Next Scheduled EDR Contact: 07/29/2019
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 02/23/2018
Date Made Active in Reports: 04/09/2018
Number of Days to Update: 45

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 05/17/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/15/2018
Date Made Active in Reports: 07/09/2018
Number of Days to Update: 24

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 06/10/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: PennWell Corporation
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data
Source: PennWell Corporation
This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

© 2015 TomTom North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

122-720-15
SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95762

TARGET PROPERTY COORDINATES

Latitude (North):	38.65976 - 38° 39' 35.14''
Longitude (West):	121.056944 - 121° 3' 25.00''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	669066.9
UTM Y (Meters):	4280605.0
Elevation:	730 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5629046 CLARKSVILLE, CA
Version Date:	2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

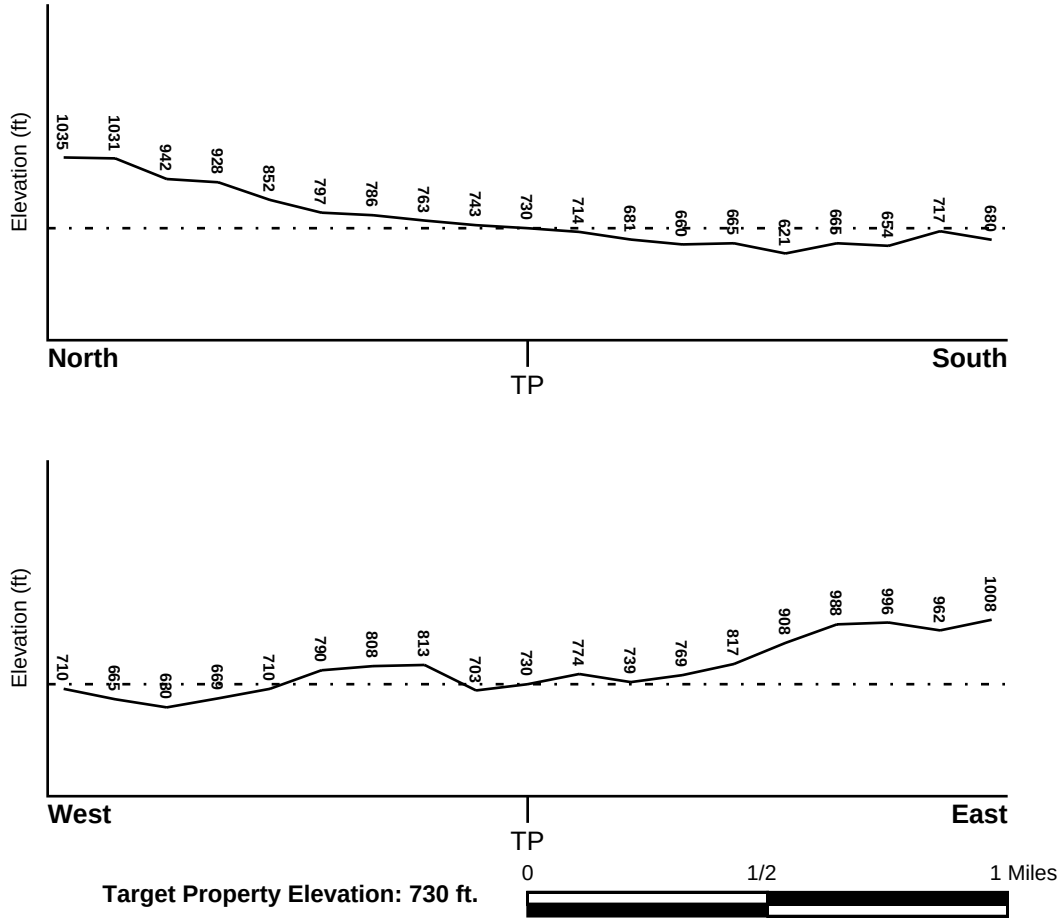
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Target Property Elevation: 730 ft.

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06017C0725E	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
06067C0140H	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
CLARKSVILLE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

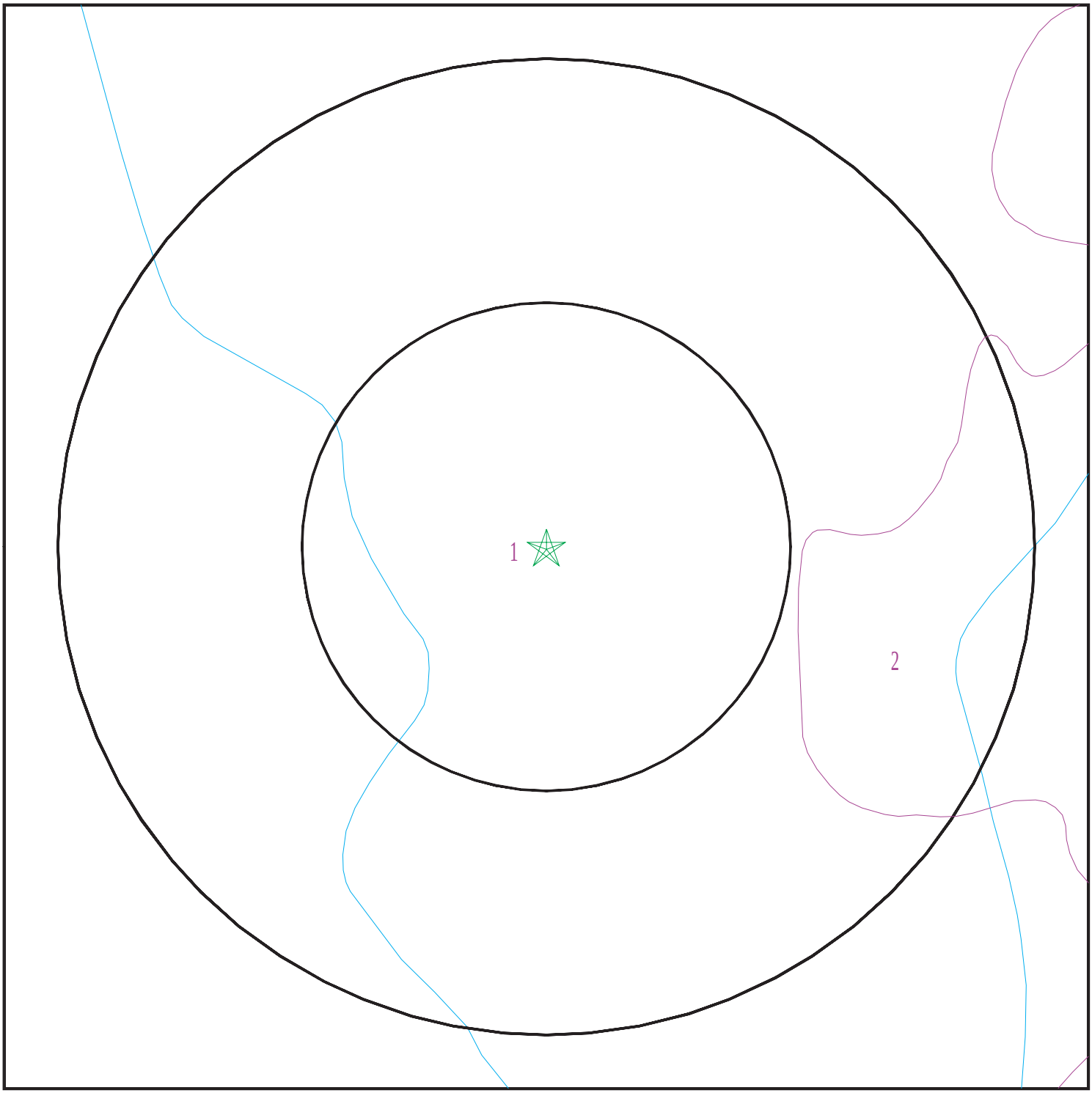
Era:	Mesozoic
System:	Lower Jurassic and Upper Triassic
Series:	Lower Mesozoic
Code:	lMze *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Eugeosynclinal Deposits

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 5711241.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	122-720-15	CLIENT:	Kleinfelder, Inc.
ADDRESS:	Silva Valley Parkway El Dorado Hills CA 95762	CONTACT:	Lindsey Dandridge-Perry
LAT/LONG:	38.65976 / 121.056944	INQUIRY #:	5711241.2s
		DATE:	July 09, 2019 6:19 pm

Copyright © 2019 EDR, Inc. © 2015 TomTom Rel. 2015.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: AUBURN

Soil Surface Texture: silt loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 48 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	14 inches	silt loam	Not reported	Not reported	Max: Min:	Max: Min:
2	14 inches	18 inches	unweathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 2

Soil Component Name: AUBURN

Soil Surface Texture: silt loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 48 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	14 inches	silt loam	Not reported	Not reported	Max: Min:	Max: Min:
2	14 inches	18 inches	unweathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

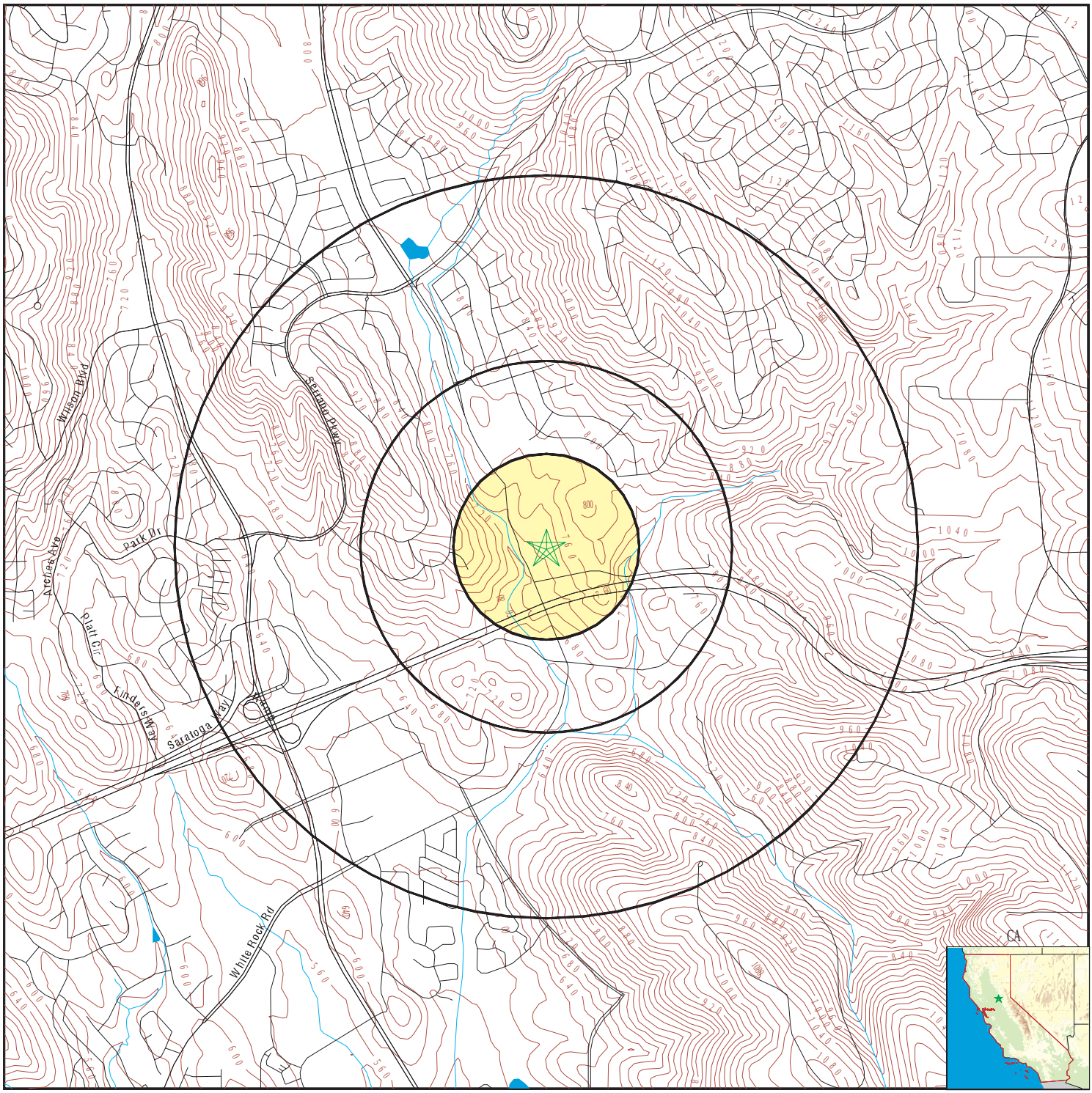
Note: PWS System location is not always the same as well location.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 5711241.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	122-720-15	CLIENT:	Kleinfelder, Inc.
ADDRESS:	Silva Valley Parkway El Dorado Hills CA 95762	CONTACT:	Lindsey Dandridge-Perry
LAT/LONG:	38.65976 / 121.056944	INQUIRY #:	5711241.2s
		DATE:	July 09, 2019 6:19 pm

Copyright © 2019 EDR, Inc. © 2015 TomTom Rel. 2015.

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
95762	31	3

Federal EPA Radon Zone for EL DORADO County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for EL DORADO COUNTY, CA

Number of sites tested: 27

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.844 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	3.400 pCi/L	50%	50%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779
Oil and Gas well locations in the state.

California Earthquake Fault Lines
Source: California Division of Mines and Geology
The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

RADON

State Database: CA Radon
Source: Department of Public Health
Telephone: 916-210-8558
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

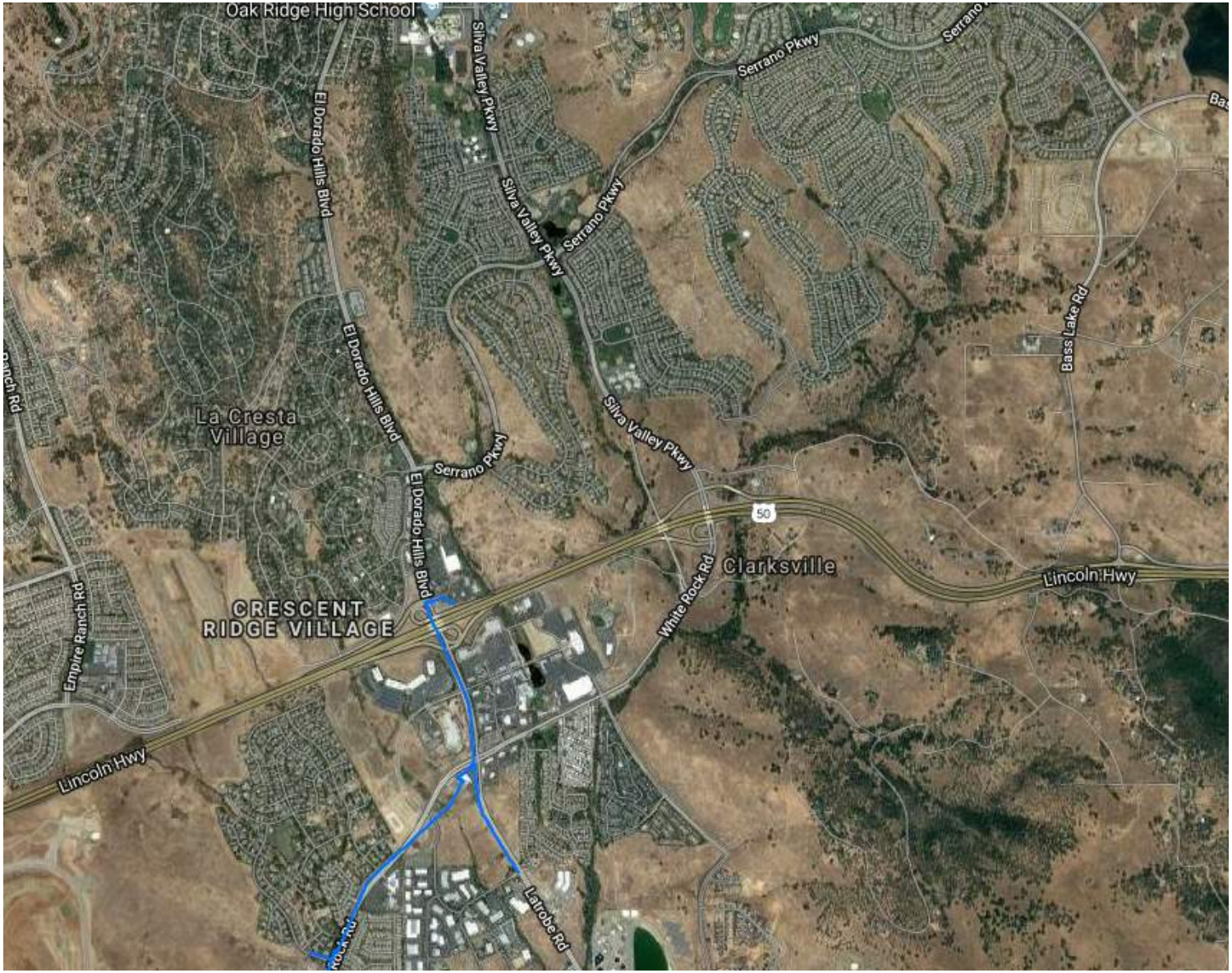
California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

© 2015 TomTom North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

APPENDIX C
USER PROVIDED AND REGULATORY AGENCY DOCUMENTATION

Copyright 2019 Kleinfelder



Legend

- Gas Transmission Pipelines
- Hazardous Liquid Pipelines

500 m
1000 ft

Pipelines depicted on this map represent gas transmission and hazardous liquid lines only. Gas gathering and gas distribution systems are not represented.

This map should never be used as a substitute for contacting a one-call center prior to excavation activities. Please call 811 before any digging occurs.

Questions regarding this map or its contents can be directed to npms@dot.gov.

Projection: Geographic

Datum: NAD83

Map produced by the Public Viewer application at www.npms.phmsa.dot.gov

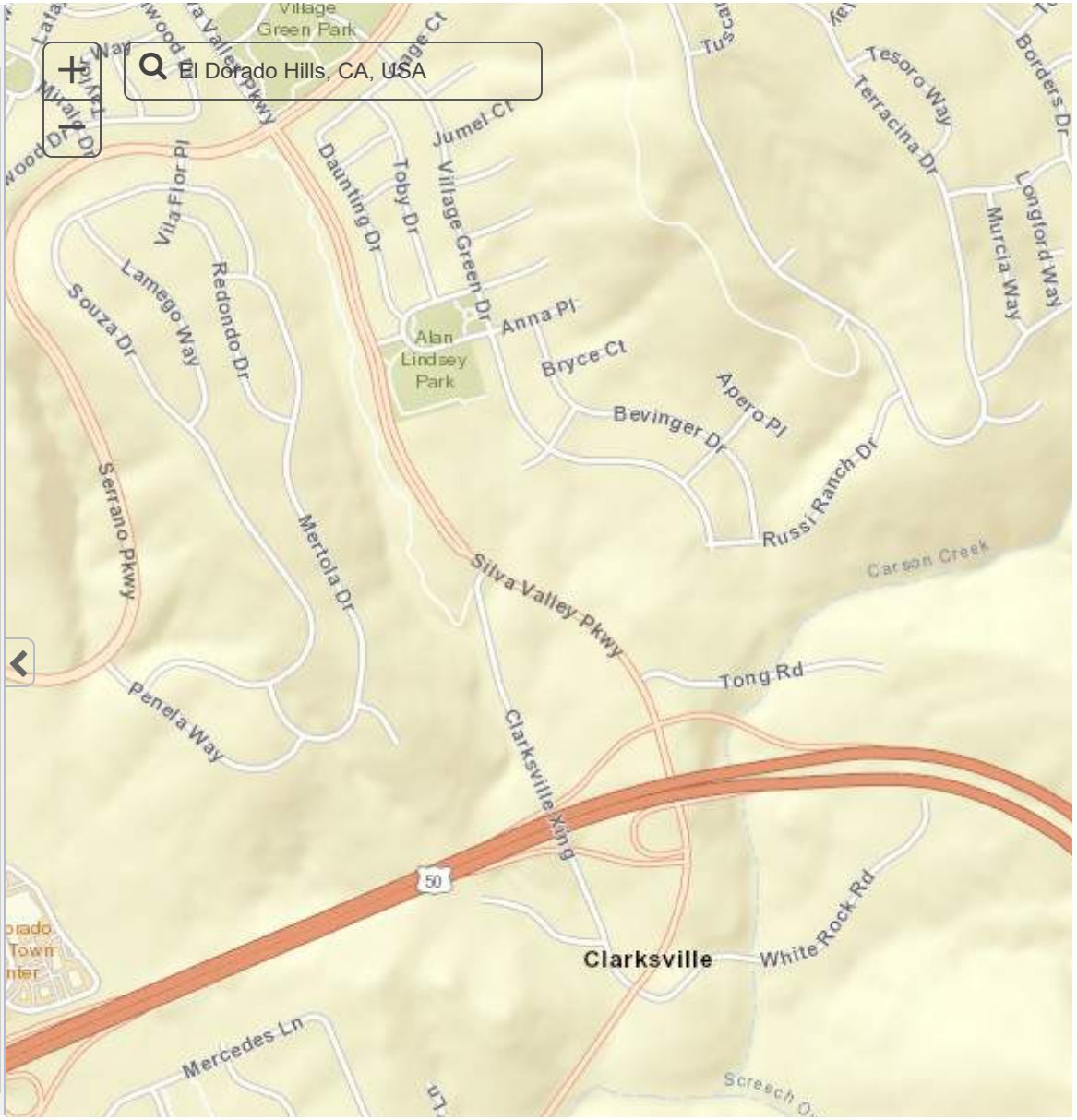
Date Printed: Jul 19, 2019

811 Know what's below. Call before you dig.

Well Finder
DOGGR GIS

More Info | Help | ©

- Well Status and Well Type Filter
- Search
- Zoom to Field
- Measurement
- Layers
  - Permit for Well
  - Well
    - Well
    - Geothermal Well
    - EPA Well for Aquifer Exemption Review
  - Facility
    - Tank
    - Pit/Sump
    - Setting
    - Facility Boundary (non-wellstar)
  - TR26 Onshore Seep Count
  - Oil/Gas Field
  - DOGGR District



Lindsey Dandridge-Perry

From: El Dorado County Public Records Center <eldoradocountyca@mycusthelp.net>
Sent: Friday, July 19, 2019 3:09 PM
To: Lindsey Dandridge-Perry
Subject: Public Records Request :: P002244-071919

External Email.

--- Please respond above this line ---

County of El Dorado

The Gold Standard in Public Service

Public Records

The Planning and Building Department, Planning Services Division has reviewed its files and has located records responsive to your request. Two projects, Rezone Z16-0008 and Parcel Map P17-0004 were Approved and as your request indicated a preference to receive the records in electronic form, they have been uploaded. These records can be accessed by visiting the Public Record Center.

Four projects, Planned Development PD15-0001/Conditional Use Permit S17-0017/Parcel Map P17-0007/Rezone Z17-0004/EDH 52, are still in processing. The Application Packet that was received from the applicant has been uploaded for your review. However, due to the large size of the project folder, the remaining documents can be viewed by contacting the Planning and Building Department, Planning Services Division at 530-621-5355 to schedule an appointment during normal office hours. This request is now deemed complete and has been closed.

To monitor the progress or update this request please log into the El Dorado County Public Records Center.

COMMUNITY DEVELOPMENT SERVICES
PLANNING AND BUILDING DEPARTMENT

http://www.edcgov.us/DevServices/

PLACERVILLE OFFICE:
2850 Fairlane Court, Placerville, CA 95667
BUILDING
(530) 621-5315 / (530) 622-1708 Fax
bldgdept@edcgov.us
PLANNING
(530) 621-5355 / (530) 642-0508 Fax
planning@edcgov.us

LAKE TAHOE OFFICE:
924 B Emerald Bay Rd
South Lake Tahoe, CA 96150
(530) 573-3330
(530) 542-9082 Fax

July 9, 2018

RSC Engineering, Inc
2250 Douglas Blvd., Suite 150
Roseville, CA 95661

Re: Zoning Administrator Approval of P17-0004/EDH 52

Dear Sir or Madam:

On June 20, 2018, the Zoning Administrator considered your project at a publicly noticed hearing and the 10-day appeal period has since ended. The project was approved with the attached Findings and Conditions of Approval. This document is also available on-line at https://edcgov.trakit.net/eTRAKiT/Search/project.aspx.

If you have Conditions of Approval from other departments, please contact your representative in that department to determine the next step in the process.

If you have any questions, please contact Mel Pabalinas in Planning Services at (530) 621-5363.

Sincerely,

Serena Carter

Serena Carter
Planning and Building Department

Enclosures: Final Findings/Conditions of Approval

cc: EDH 52 GP

COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT SERVICES
Planning and Building Department (Planning)
2850 Fairlane Court, Building C
Placerville, CA 95667

U.S. POSTAGE PITNEY BOWES
ZIP 95667 $ 000.47⁰
02 4W
0000341755 MAY 21 2018

2018 JUN -8 AM 10:59
RECEIVED
PLANNING DEPARTMENT

24 6-20-18
P17-04 EDH52

9029015
BURLESON SUZANNE M
4260 FRENCH CREEK RD
SHINGLE SPRINGS , CA 95682

NIXIE 957 FE 1 0006/05/18
RETURN TO SENDER
NOT DELIVERABLE AS ADDRESSED
UNABLE TO FORWARD
BC: 95667410050 *0641-03454-21-42

COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT SERVICES
Planning and Building Department (Planning)
2850 Fairlane Court, Building C
Placerville, CA 95667

U.S. POSTAGE PITNEY BOWES
ZIP 956 $ 000.47⁰
02 4W
0000341755 MAY 21 2018

2018 JUN -5 AM 10:57
RECEIVED
PLANNING DEPARTMENT

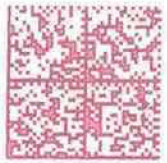
24 6-20-18
P17-04

9033001
COPLEY KATHLEEN M
4670 FRENCH CREEK RD
SHINGLE SPRINGS , CA 95682

NIXIE 957 FE 1 0006/01/18
RETURN TO SENDER
NOT DELIVERABLE AS ADDRESSED
UNABLE TO FORWARD
BC: 95667410050 *0641-03450-21-42

COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT SERVICES
Planning and Building Department (Planning)
2850 Fairlane Court, Building C
Placerville, CA 95667

P17-04
24 6-20-18



U.S. POSTAGE PITNEY BOWES
ZIP 95667 $ 000.47⁰
02 4W
0000341 MAY 21 2018

RECEIVED
2018 MAY 30 AM 10:49
PLANNING DEPARTMENT

9107009
FRENCHTOWN CEMETERY
SHINGLE SPRINGS , CA 95682

NIXIE 957 DE 1 0005/25/18
RETURN TO SENDER
INSUFFICIENT ADDRESS
UNABLE TO FORWARD
IA BC: 95667410050 *0641-03428-21-42

COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT SERVICES
Planning and Building Department (Planning)
2850 Fairlane Court, Building C
Placerville, CA 95667

P17-04
24 6-20-18



U.S. POSTAGE PITNEY BOWES
ZIP 95667 $ 000.47⁰
02 4W
0000341 MAY 21 2018

RECEIVED
2018 MAY 30 AM 10:49
PLANNING DEPARTMENT

9030006
KATZ ELLEN V
4575 HILLWOOD DR
SHINGLE SPRINGS , CA 95682

NIXIE 957 DE 1 0005/25/18
RETURN TO SENDER
NO SUCH NUMBER
UNABLE TO FORWARD
NSN BC: 95667410050 *0641-03414-21-42

COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT SERVICES
Planning and Building Department (Planning)
2850 Fairlane Court, Building C
Placerville, CA 95667

ZA 6-20-18
P17-04

U.S. POSTAGE PITNEY BOWES
ZIP 95667 $ 000.47⁰
02 4W
0000341755 MAY 23 2018

12209001
DELLEPERE GARY TR
250 BICENTENNIAL WAY APT 722
SANTA ROSA , CA 95403

RECEIVED
PLANNING DEPARTMENT
2018 MAY 30 AM 10:49

957 NFE 1 51 05/23/18
FORWARD TIME EXP RTN TO SE
DELLEPERE GARY
4775 VILLAGE GREEN DR
EL DORADO HLS CA 95762-7675

RETURN TO SENDER

UR1: 932609690001523 9540987421 007
95667>4100

PROJECT CHECKLIST

P 17-0004
Project Number(s)

EDH 52 TENTATIVE PARCEL MAP
Applicant/Agent/Engineer: RSC Engineering, Inc.
Owner: EDH 52
Project Name

Assigned Planner: Mel Pabalinas **Assignment Date:** 9-25-2017

Type of Review: ☐ Staff Level ☑ ZA ☐ PC ☐ BOS

☑ **LMIS J08 information added**

LEGISTAR ITEM #_____ (If previously heard by PC or BOS; Including all project-related items.)

PUBLIC HEARING NOTIFICATION REQUIREMENTS:
☑ **500 feet** ☐ **1,000 feet** ☐ **½ mile** ☐ **1 mile** ☐ **Physical Sign Posting**
TYPE OF PROJECT: ☐ **Flat Fee** ☑ **Time & Materials**

EARLY CONSULTATION AND TAC

Design Committee Review Needed? ☐ No ☐ Yes *(Identify one)*
☐ *Cameron Park DRC*
☐ *Diamond Springs-El Dorado CAC*
☐ *Pollock Pines DRC*

☐ **EPR (Early Project Review)**
☐ **Agency Distribution List**
☐ **Project Description**
☒ **AB52 Consultation** 10-2-2017/dre
☐ **Public Outreach**

Distribution Period: ☐ 15 Days ☐ 30 Days Ends: _____

TAC Meeting Required? ☐ No ☐ Yes Time Needed: _____

NEGATIVE DECLARATION

State Clearinghouse? ☐ No ☐ Yes *(Include NOC Form; Notify Admin)*

LAFCO Annexation Required? ☐ No ☐ Yes *(Circulate to LAFCO)*

☐ **Staff Report**
☐ **Exhibits** (Labeled)
☐ **Negative Declaration Form and Initial Study** (Signed by Planner and Principal Planner)
☐ **Legal Ad Information** (Staff Level Only)

APPROVALS: _____ _____
Principal Planner **(Date)** **Director** **(Date)**

Comments:

CATEGORICALLY EXEMPT

☐ **Staff Report**
☐ **Exhibits** (Labeled)
☐ **Legal Ad Information** (Staff Level Only)

APPROVALS: _____ 5/14/18 _____ 5-14-18
Principal Planner **(Date)** **Director** **(Date)**

Comments:

EL DORADO COUNTY PLANNING AND BUILDING DEPARTMENT
ZONING ADMINISTRATOR
STAFF REPORT

Agenda of:	June 20, 2018
Item:	4.c.
Staff:	Mel Pabalinas

TENTATIVE PARCEL MAP

FILE NO.: P17-0004/EDH 52

APPLICANT: RSC Engineering

OWNER: EDH 52 G.P.

REQUEST: Tentative Parcel Map subdividing 41.87-acre property into four commercial parcels ranging in size from 7.69 acres to 17.11 acres for phasing and financing purposes only.

LOCATION: Northeast area of U.S. Highway 50 and Silva Valley Parkway, in El Dorado Hills (Exhibit A); Supervisorial District 1.

APN: 122-720-15 (Exhibit B)

ACREAGE: 41.87 acres

GENERAL PLAN: Commercial (C) (Exhibit C)

ZONING: Commercial, Regional-Planned Development (CR-PD) (Exhibit D)

ENVIRONMENTAL DOCUMENT: Categorical Exemption under California Environmental Quality Act (CEQA) Section 15315 (Minor Land Division)

RECOMMENDATION: Staff recommends the Zoning Administrator take the following actions:

1. Deem Tentative Parcel Map P17-0004 to be Categorically Exempt from CEQA based on Section 15315 (Minor Land Division); and

2. Approve Tentative Parcel Map P17-0004 based on the Findings and subject to the Conditions of Approval as presented.

BACKGROUND

The subject 42-acre property is part of a larger 58-acre parcel that was subject of an acquisition and subsequent construction of the Silva Valley Parkway Interchange project. Following an extended right-of-way negotiation and settlement for portions of the original parcel north of US Highway 50 and a separate condemnation of the portion south of U.S. Highway 50, construction of the interchange project began in 2012, subsequently opening for operation in June 2016.

ANALYSIS

Setting: The vacant property contains moderate topography, sparse tree vegetation, and limited wetland areas. Silva Valley Parkway traverses property diagonally from the southeast to the northwest, while U.S. Highway 50 borders the property along the southern perimeter. Exhibit E depicts the existing uses surrounding the property.

Project Description: This large lot tentative parcel map would divide the property creating a total of four commercial parcels for phasing and financing purposes only. The resulting parcel sizes, which exceed the minimum lot area of 100,000 square feet required by the CR zoning consists of the following: Parcel 1: 17.11 acres, Parcel 2: 8.00 acres, Parcel 3: 9.07, and Parcel 4: 7.69 acres (Exhibit F). Parcels 2 through 4 are located north of the road, while Parcel 1 is located on the south side. No development is proposed with this tentative parcel map application and no development will be allowed until a Development Plan is approved by the Planning Commission. A separate commercial development application is currently in process and is filed under applications Planned Development Permit PD15-0001, Tentative Parcel Map P17-0007, Conditional Use Permit S17-0017, and Rezone Z17-0004.

Consistency: As discussed in further detail in the Findings section below, the proposed tentative parcel map is consistent with the applicable standards General Plan, Zoning Ordinance, and Subdivision Ordinance.

Environmental Review: The tentative parcel map qualifies for a Categorical Exemption status under Section 15315 (Minor Land Division) as the division would result in four commercial parcels consistent with the Commercial General Plan and Commercial Regional zoning. The tentative parcel map application does not include any variances, modifications, or exceptions. The subject property contains an average slope gradient below 20 percent and site access and public services would be available for future development. The property has not been involved in a division of a larger parcel within the past two years. No further environmental analysis is necessary.

In accordance with CEQA, a Notice of Exemption (NOE) is required to be filed, subject to a $50.00 filing fee submitted to Planning Department.

Conditions of Approval: Project conditions of approval are recommended based on the review of the agencies and department. Future access onto Silva Valley Road has been addressed through conditions recommended by the El Dorado County Transportation Department. The conditions involve development restrictions to be included as notes on the Tentative Parcel Map that ensure future access will meet County standards.

SUPPORT INFORMATION

Attachments to Staff Report:

Findings
Conditions of Approval

Exhibit A.....Location Map
Exhibit B.....Assessor's Parcel Map
Exhibit C.....General Plan Land Use Map
Exhibit D.....Zoning Map
Exhibit E.....Aerial Map
Exhibit F.....Proposed EDH 52Tentative Parcel Map

FINDINGS

Tentative Parcel Map Time P17-0004/EDH 52
Zoning Administrator/June 20, 2018

1.0 CEQA FINDINGS

1.1 The EDH 52 Tentative Parcel Map qualifies for a Categorical Exemption status under Section 15315 (Minor Land Division) as the division would result in four commercial parcels consistent with the underlying General Plan and zoning. No variances, modifications, or exceptions have been requested. The average slope gradient of the property is below 20% and site access and services would be available if the property is developed. The property has not been involved in a division of a larger parcel within the past two years. No further environmental analysis is necessary.

1.2 The documents and other materials which constitute the record of proceedings upon which this decision is based are in the custody of the Community Development Services-Planning and Building Department-Planning Services Division at 2850 Fairlane Court, Placerville, CA, 95667.

2.0 PARCEL MAP FINDINGS

2.1 **The proposed tentative map, including design and improvements, is consistent with the General Plan.**

The EDH 52 Tentative Parcel Map would result in the creation of four commercial parcels for financing and phasing purposes. The project is compatible with the land use designation.

2.2 **The proposed Parcel Map conforms to the applicable standards and requirements of the County zoning regulations and Minor Land Division Ordinance.**

The EDH 52 Tentative Parcel Map would result in the creation of four commercial parcels consistent with the Zoning Ordinance standards under Chapter 130.22 (Commercial Zones) for the underlying Commercial, Regional (CR) zone district.

2.3 **The site is physically suitable for the proposed type and density of development.**

The resultant commercial parcels are physically suitable for future commercial development. The sizes of the parcels exceed the minimum required lot size, which would enable future development design and improvement to be accommodated through application of Planned Development concepts. The parcels would have direct access along Silva Valley Parkway, a major arterial road in the El Dorado Hills area. The subject is property is surrounded by existing development, where necessary public utilities exists and can be accessed readily.

2.4 **The proposed subdivision is not likely to cause substantial environmental damage.**

The map is consistent with the General Plan and Zoning and no variances, modifications, or exceptions has been requested with this application. The vacant property has average slope gradient below 20%, would have direct access to public infrastructures necessary for subsequent development, and is surrounded by existing residential development and areas identified for future commercial and residential development, and. Though sensitive resources exist on the property, no physical change will occur as a result of this tentative parcel map. The property has not been involved in a division of a larger parcel within the past two years. Therefore, the project is exempt from CEQA pursuant to Section 15315 of the CEQA Guidelines.

CONDITIONS OF APPROVAL

Tentative Parcel Map Time P17-0004/EDH 52
Zoning Administrator/June 20, 2018

1. **Project Description**

This Tentative Parcel Map is based upon and limited to compliance with the project description, Conditions of Approval set forth below, and the hearing exhibits marked:

Exhibit F - EDH 52 Tentative Parcel Map, May 3, 2018

Tentative Parcel Map subdividing a 41.87-acre property into four commercial parcels ranging in size from 7.69 acres to 17.11 acres for phasing and financing purposes only.

The development, use, and maintenance of the property, the size, shape and the protection and preservation of resources shall conform to the project description above and the hearing exhibits and conditions of approval below. The property and any portions thereof shall be sold, leased or financed in compliance with this project description and the approved hearing exhibits and conditions of approval hereto. All plans must be submitted for review and approval and shall be implemented as approved by the County.

Any deviations from the project description, exhibits, or conditions must be reviewed and approved by the County for conformity with this approval. Deviations may require approved changes to the permit and/or further environmental review. Deviations without the above described approval would constitute a violation of permit approval.

Planning Department

2. **Permit Time Limits:** This Tentative Parcel Map shall expire 36 months from the date of approval unless a timely extension has been filed.

3. **Development Restrictions:** The applicant shall record the following note against the Parcel Map imposing development restrictions on the lots designated as Parcels 1 through 4:

"Parcels 1 through 4 are phasing lots only. No building permits shall be issued until future discretionary approvals, including but not limited to, a Planned Development (PD) Permit, have been approved by El Dorado County. Said restrictions shall be binding upon the heirs, assigns, and successors in interest of the grantors, and shall remain in effect until rescinded by El Dorado County. The purpose of the notice is to give constructive notice of the development limitation."

4. **Indemnity:** In the event of any legal action instituted by a third party challenging the validity of any provision of this approval, the developer and landowner agree to be responsible for the costs of defending such suit and shall hold County harmless from any legal fees or costs County may incur as a result of such action.

The developer and land owner shall defend, indemnify, and hold harmless El Dorado County and its agents, officers, and employees from any claim, action, or proceeding against El Dorado County or its agents, officers, or employees to attack, set aside, void, or annul an approval of El Dorado County concerning a Parcel Map.

The County shall notify the applicant of any claim, action, or proceeding, and the County shall cooperate fully in the defense.

Office of County Surveyor

5. All survey monuments shall be set prior to filing the Parcel Map.

6. Situs addressing for the project shall be coordinated the County Surveyors Office prior to filling the Final Map.

7. Prior to filing the Parcel Map, a letter will be required from all agencies that have placed conditions on the map. The letter will state that "all conditions placed on P17-0004 by (that agency) have been satisfied." The letter is to be sent to the County Surveyor and copied to the Consultant and the Applicant.

Transportation Department

8. Prior to filing of Parcel Map, the following note shall be added and verified:

   Parcels 1, 2 and 3 will each be allowed one (1) right-in, right-out only access point onto Silva Valley Parkway at locations determined by the Department of Transportation. Reciprocal access rights shall be provided mutually between Parcels 2, 3 and 4, with an easement shown on the final map from lot 3, through lot 2 to lot 4.

   This condition may be modified to provide enhanced coordinated access to Silva Valley Parkway by a Future Planned Development (PD) approval.

EDH 52 Tentative Parcel Map
File No. P17-0004

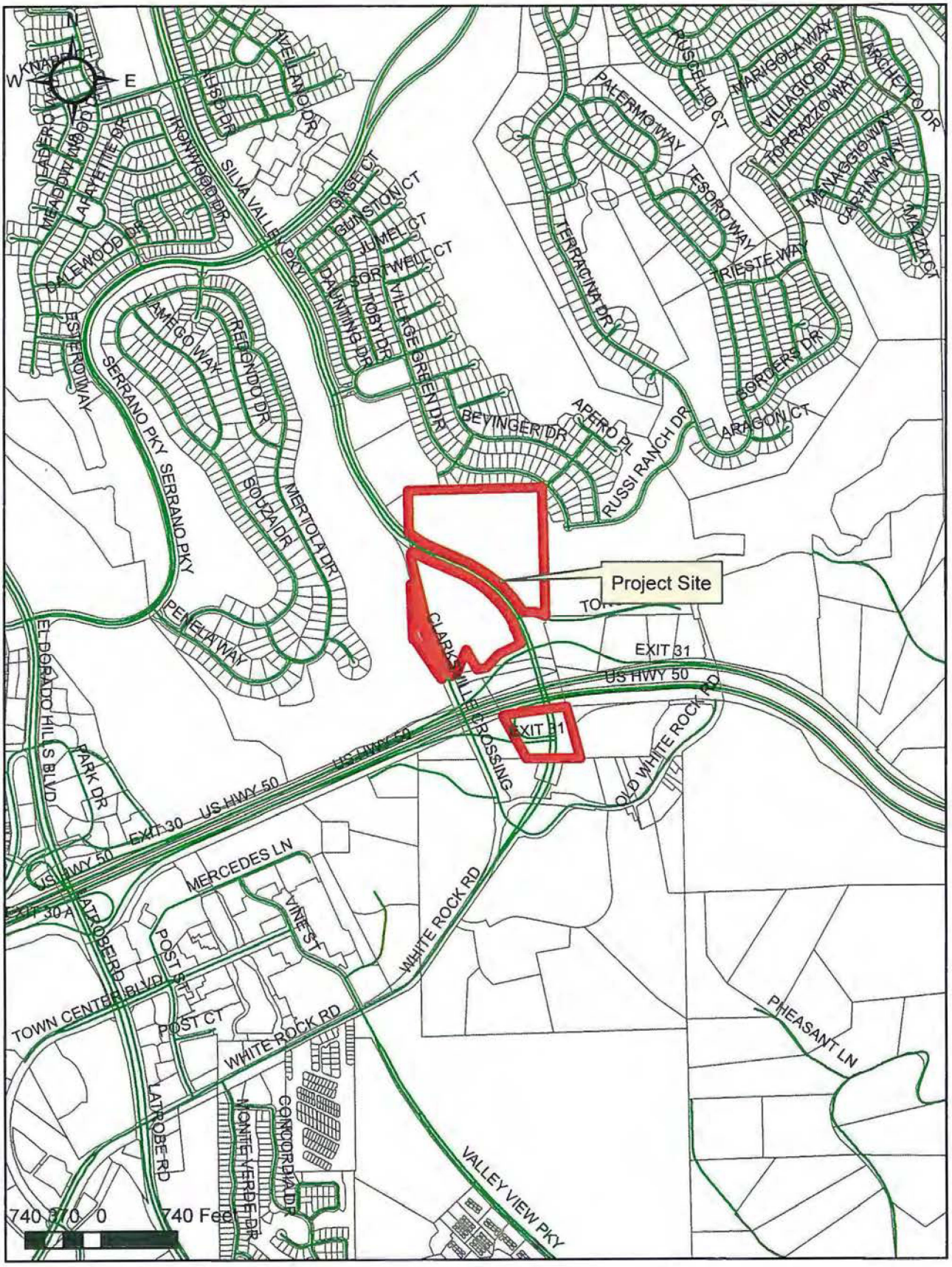
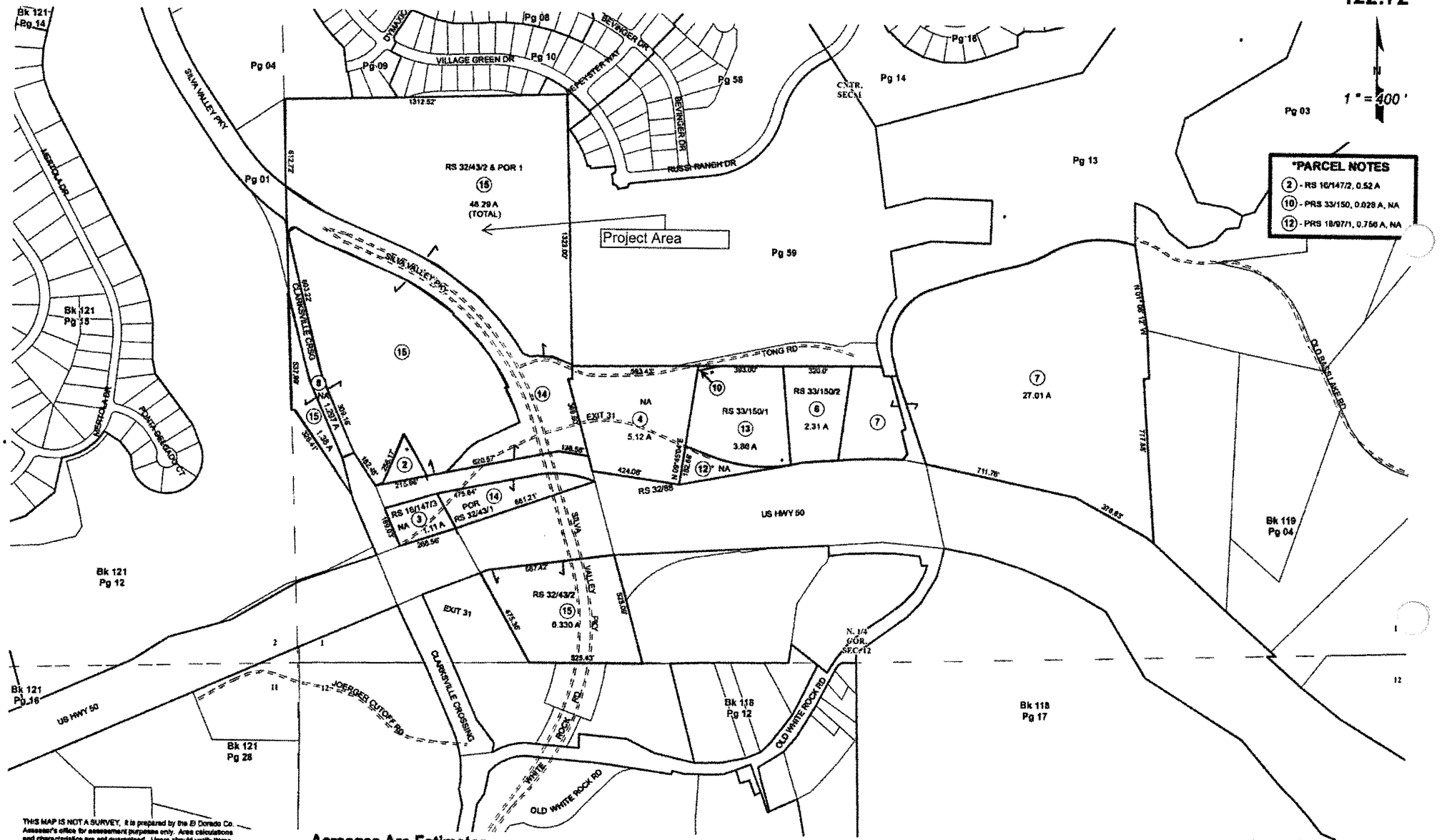


Exhibit A: Location Map


POR. SEC. 1, T.9N., R.8E., M.D.M.
122:72
1" = 400'
N
*PARCEL NOTES
(2) - RS 16/147/2, 0.52 A
(10) - PRS 33/150, 0.028 A, NA
(12) - PRS 18/97/1, 0.756 A, NA
Project Area
RS 32/43/2 & POR 1
(15)
46.29 A
(TOTAL)
RS 33/150/1
(13)
3.86 A
RS 33/150/2
(6)
2.31 A
27.01 A
5.12 A
(4)
NA
(10)
(12)
RS 16/147/3
(3)
1.11 A
POR
RS 32/43/1
(14)
RS 32/43/2
(15)
6.330 A
RS 32/88
US HWY 50
TONG RD
SILVA VALLEY PKY
CLARKSVILLE CROSSING
JOERGER CUTOFF RD
OLD WHITE ROCK RD
OLD KELSEY LAKE RD
RUSSI RANCH DR
VILLAGE GREEN DR
BEVINGER DR
DYLAN CT
HERCULA DR
ADARA GREEN CT
EXIT 31
Pg 01
Pg 04
Pg 08
Pg 09
Pg 10
Pg 13
Pg 14
Pg 16
Pg 58
Pg 59
Bk 121 Pg 14
Bk 121 Pg 15
Bk 121 Pg 12
Bk 121 Pg 16
Bk 121 Pg 28
Bk 118 Pg 12
Bk 118 Pg 17
Bk 118 Pg 04
Pg 03
THIS MAP IS NOT A SURVEY. It is prepared by the El Dorado Co. Assessor's office for assessment purposes only. Area calculations and characteristics are not guaranteed. Users should verify items such as dimensions and acreage.
Acreages Are Estimates
Adjacent Map Pages Shown in Gray Text
Assessor's Parcel Numbers Shown in Circles
EXHIBIT B
Rev. JUL 28, 2016
Assessor's Map Bk. 122 - Pg. 72
County of El Dorado, CA

EDH 52 Tentative Parcel Map
File No. P17-0004

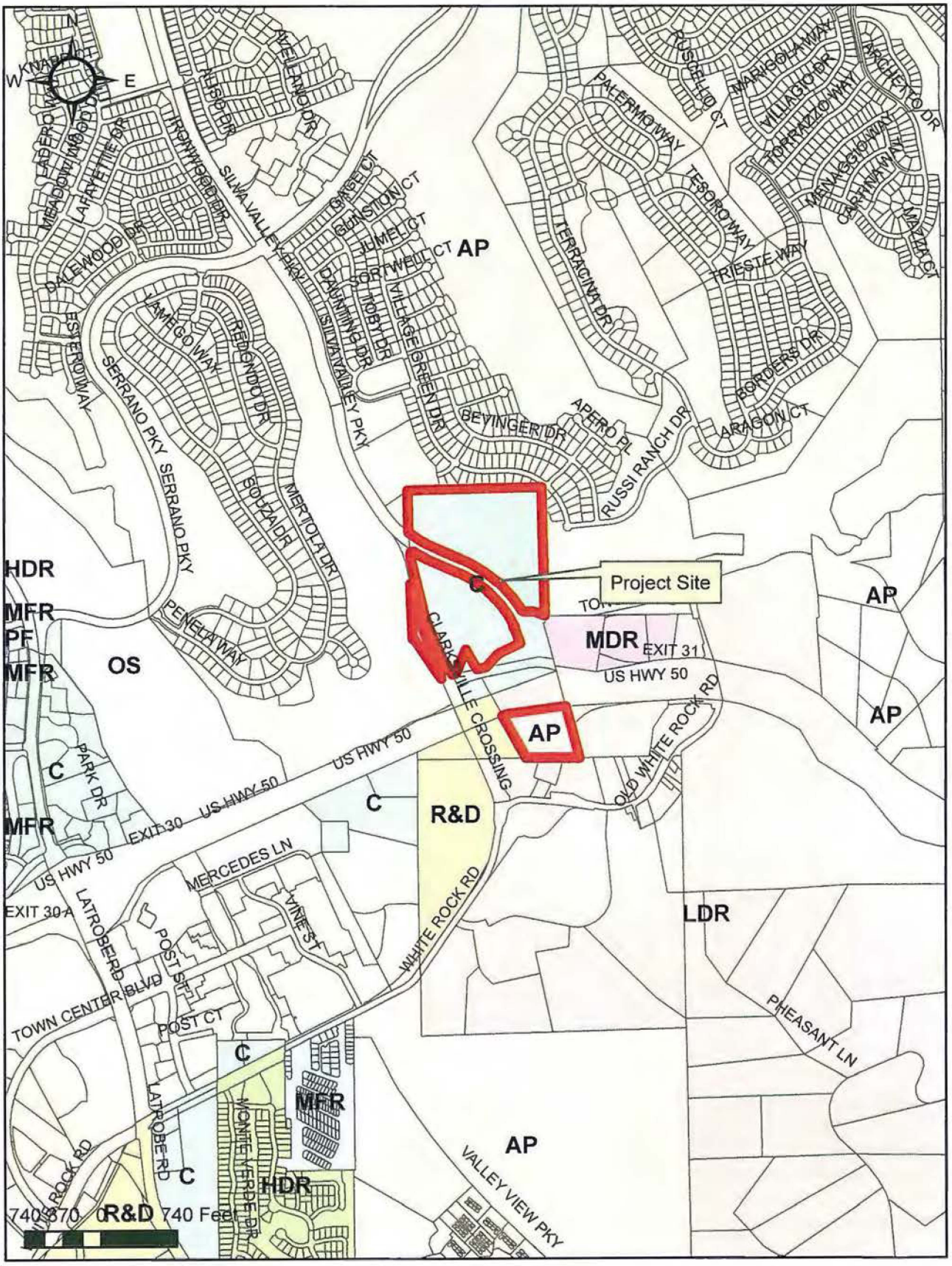


Exhibit C: General Plan Land Use Map

EDH 52 Tentative Parcel Map
File No. P17-0004

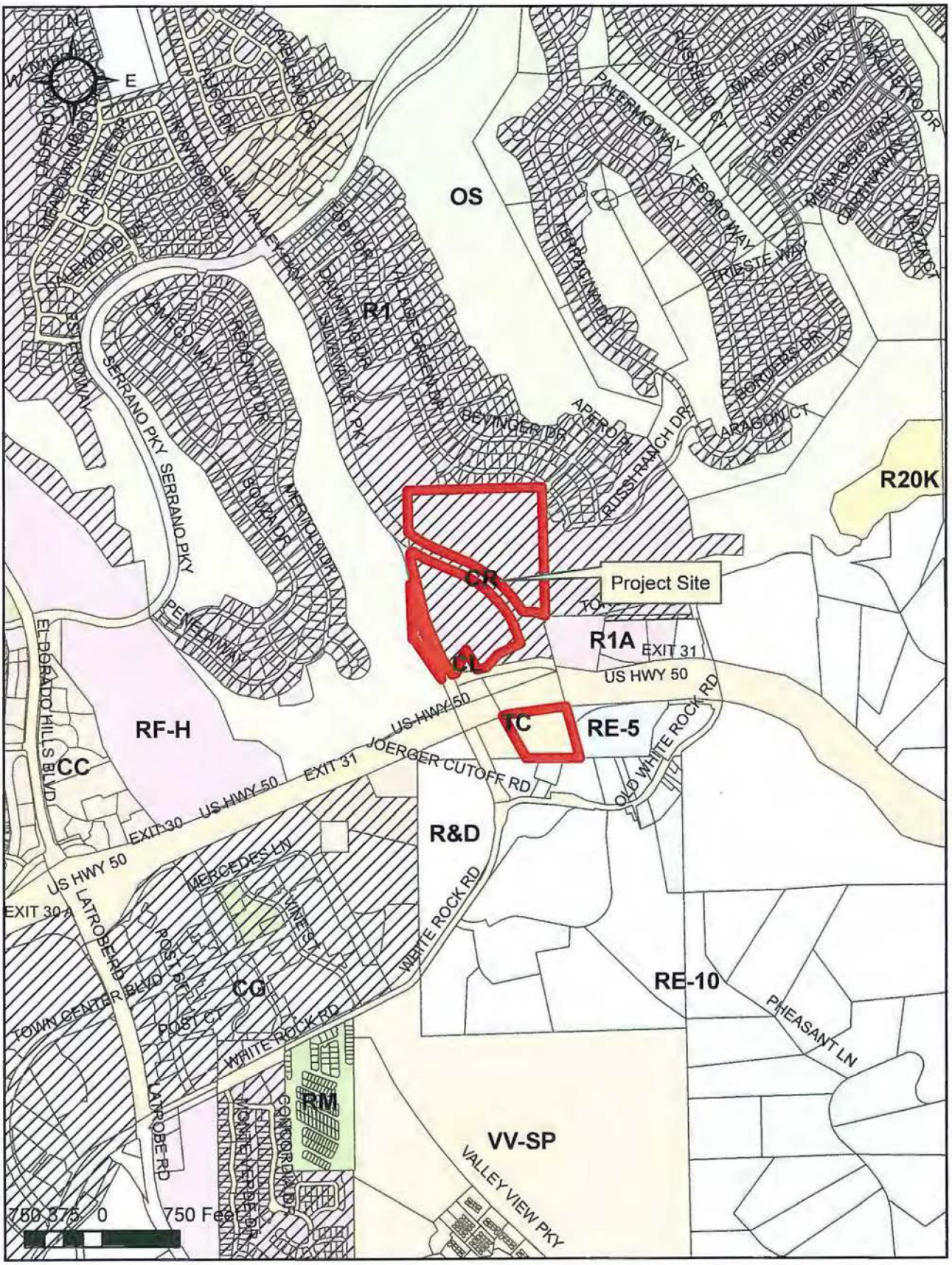


Exhibit D: Zoning Map

EDH 2 Tentative Parcel Map
File No. P17-0004

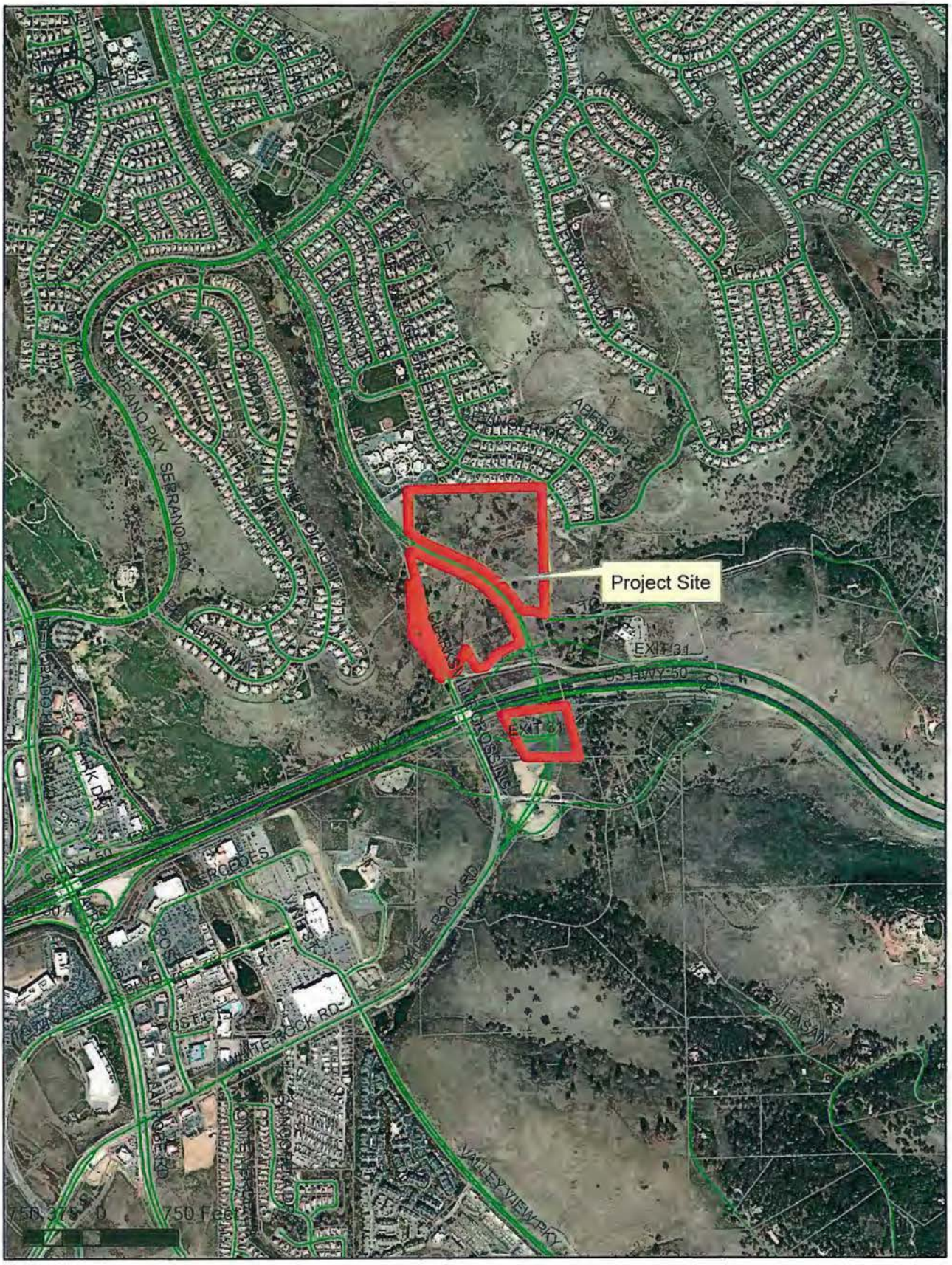
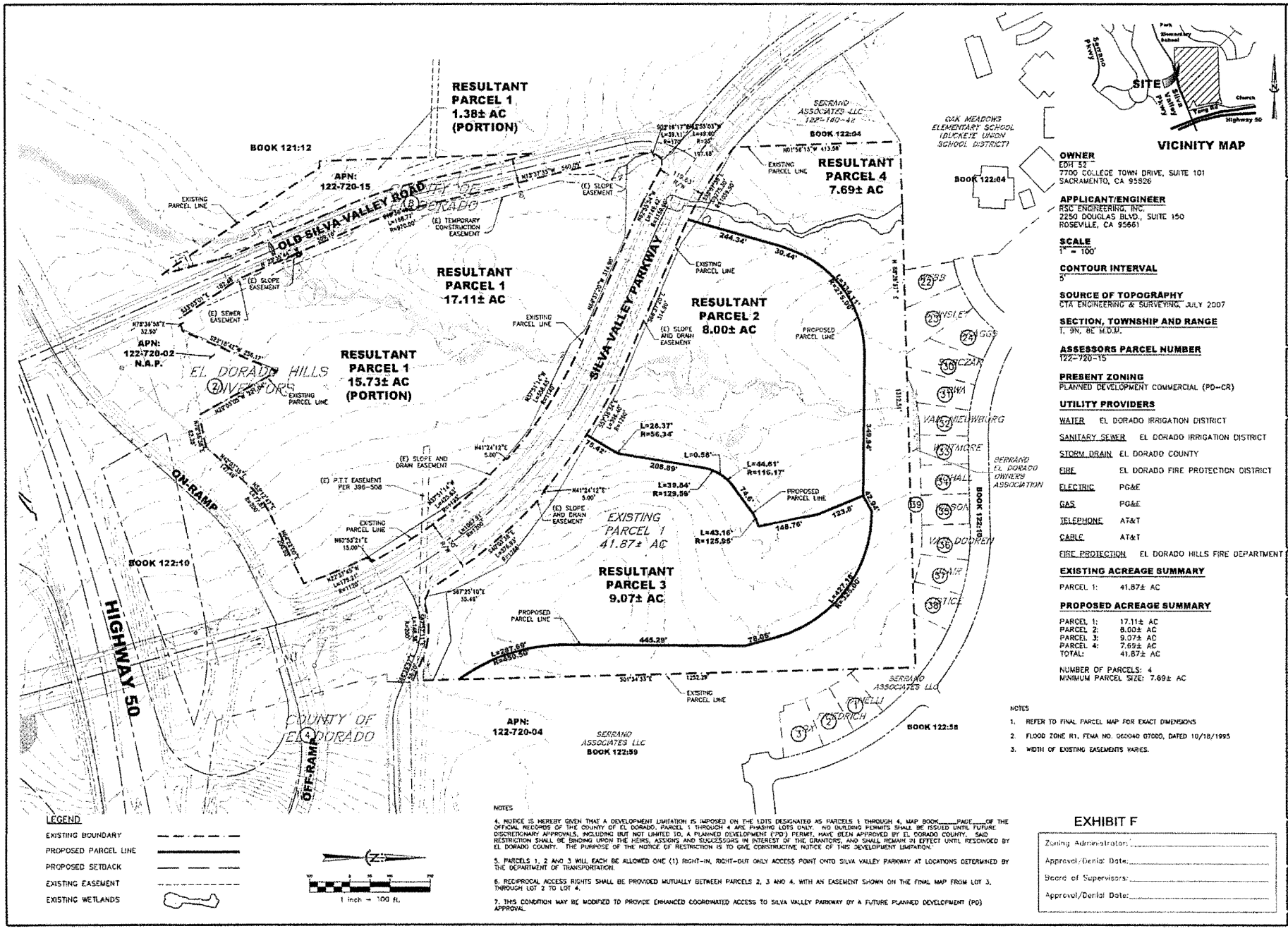


Exhibit E: Aerial Map



VICINITY MAP

OWNER
EDH 52
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826

APPLICANT/ENGINEER
RSC ENGINEERING, INC.
2250 DOUGLAS BLVD., SUITE 150
ROSEVILLE, CA 95661

SCALE
1" = 100'

CONTOUR INTERVAL
5'

SOURCE OF TOPOGRAPHY
CTA ENGINEERING & SURVEYING, JULY 2007

SECTION, TOWNSHIP AND RANGE
1, 9N, 8E, M.D.M.

ASSESSORS PARCEL NUMBER
122-720-15

PRESENT ZONING
PLANNED DEVELOPMENT COMMERCIAL (PD-CR)

UTILITY PROVIDERS

WATER	EL DORADO IRRIGATION DISTRICT
SANITARY SEWER	EL DORADO IRRIGATION DISTRICT
STORM DRAIN	EL DORADO COUNTY
FIRE	EL DORADO FIRE PROTECTION DISTRICT
ELECTRIC	PG&E
GAS	PG&E
TELEPHONE	AT&T
CABLE	AT&T
FIRE PROTECTION	EL DORADO HILLS FIRE DEPARTMENT

EXISTING ACREAGE SUMMARY

PARCEL 1: 41.87± AC

PROPOSED ACREAGE SUMMARY

PARCEL 1:	17.11± AC
PARCEL 2:	8.00± AC
PARCEL 3:	9.07± AC
PARCEL 4:	7.69± AC
TOTAL:	41.87± AC

NUMBER OF PARCELS: 4
MINIMUM PARCEL SIZE: 7.69± AC

NOTES

1. REFER TO FINAL PARCEL MAP FOR EXACT DIMENSIONS
2. FLOOD ZONE R1, FEMA NO. 060040 0700D, DATED 10/18/1995
3. WIDTH OF EXISTING EASEMENTS VARIES.

NOTES

4. NOTICE IS HEREBY GIVEN THAT A DEVELOPMENT LIMITATION IS IMPOSED ON THE LOTS DESIGNATED AS PARCELS 1 THROUGH 4, MAP BOOK_____PAGE_____OF THE OFFICIAL RECORDS OF THE COUNTY OF EL DORADO. PARCEL 1 THROUGH 4 ARE PHASING LOTS ONLY. NO BUILDING PERMITS SHALL BE ISSUED UNTIL FUTURE DISCRETIONARY APPROVALS, INCLUDING BUT NOT LIMITED TO, A PLANNED DEVELOPMENT ("PD") PERMIT, HAVE BEEN APPROVED BY EL DORADO COUNTY. SAID RESTRICTION SHALL BE BINDING UPON THE HEIRS, ASSIGNS AND SUCCESSORS IN INTEREST OF THE GRANTORS, AND SHALL REMAIN IN EFFECT UNTIL RESCINDED BY EL DORADO COUNTY. THE PURPOSE OF THE NOTICE OF RESTRICTION IS TO GIVE CONSTRUCTIVE NOTICE OF THIS DEVELOPMENT LIMITATION."
5. PARCELS 1, 2 AND 3 WILL EACH BE ALLOWED ONE (1) RIGHT-IN, RIGHT-OUT ONLY ACCESS POINT ONTO SILVA VALLEY PARKWAY AT LOCATIONS DETERMINED BY THE DEPARTMENT OF TRANSPORTATION.
6. RECIPROCAL ACCESS RIGHTS SHALL BE PROVIDED MUTUALLY BETWEEN PARCELS 2, 3 AND 4, WITH AN EASEMENT SHOWN ON THE FINAL MAP FROM LOT 3, THROUGH LOT 2 TO LOT 4.
7. THIS CONDITION MAY BE MODIFIED TO PROVIDE ENHANCED COORDINATED ACCESS TO SILVA VALLEY PARKWAY BY A FUTURE PLANNED DEVELOPMENT (PD) APPROVAL.

EXHIBIT F

Zoning Administrator: _____
Approval/Denial Date: _____
Board of Supervisors: _____
Approval/Denial Date: _____

OWNER
EDH 52
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 383-2400

NO.	BY	DESCRIPTION
1	JDH	1ST SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER RICHARD E. CARLETT No. 29033 Exp. 31, 2018 CIVIL STATE OF CALIFORNIA

RSC ENGINEERING
2250 Douglas Blvd., Suite 150
Roseville, CA 95661
Phone: (916) 782-9344 Fax: 916.789.4409

PROJECT NO:	104-0038
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

TENTATIVE PARCEL MAP

HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA
EL DORADO COUNTY

SHEET TITLE
TENTATIVE PARCEL MAP

SHEET NO.
TM
OF 1

DATE: MAY 3, 2018

COMMUNITY DEVELOPMENT SERVICES
PLANNING AND BUILDING DEPARTMENT

http://www.edcgov.us/DevServices/

PLACERVILLE OFFICE:
2850 Fairlane Court, Placerville, CA 95667
BUILDING
(530) 621-5315 / (530) 622-1708 Fax
bldgdept@edcgov.us
PLANNING
(530) 621-5355 / (530) 642-0508 Fax
planning@edcgov.us

LAKE TAHOE OFFICE:
924 B Emerald Bay Rd
South Lake Tahoe, CA 96150
(530) 573-3330
(530) 542-9082 Fax

NOTICE OF PUBLIC HEARING

The **County of El Dorado Zoning Administrator** will hold a public hearing in the **Building C Hearing Room**, 2850 Fairlane Court, Placerville, CA 95667 on **June 20, 2018** at **3:00 p.m.**, to consider the following: **Tentative Parcel Map P17-0004/EDH 52** submitted by RSC ENGINEERING to subdivide 41.87-acre property into four commercial parcels ranging in size from 7.69 acres to 17.11 acres for phasing and financing purposes only. The property, identified by Assessor's Parcel Number 122-720-15, consisting of 41.87 acres, is located in the northeast area of U.S. Highway 50 and Silva Valley Parkway, in the El Dorado Hills area, Supervisorial District 1. (County Planner: Mel Pabalinas) (Categorical Exemption pursuant to Section 15315 of the CEQA Guidelines)*

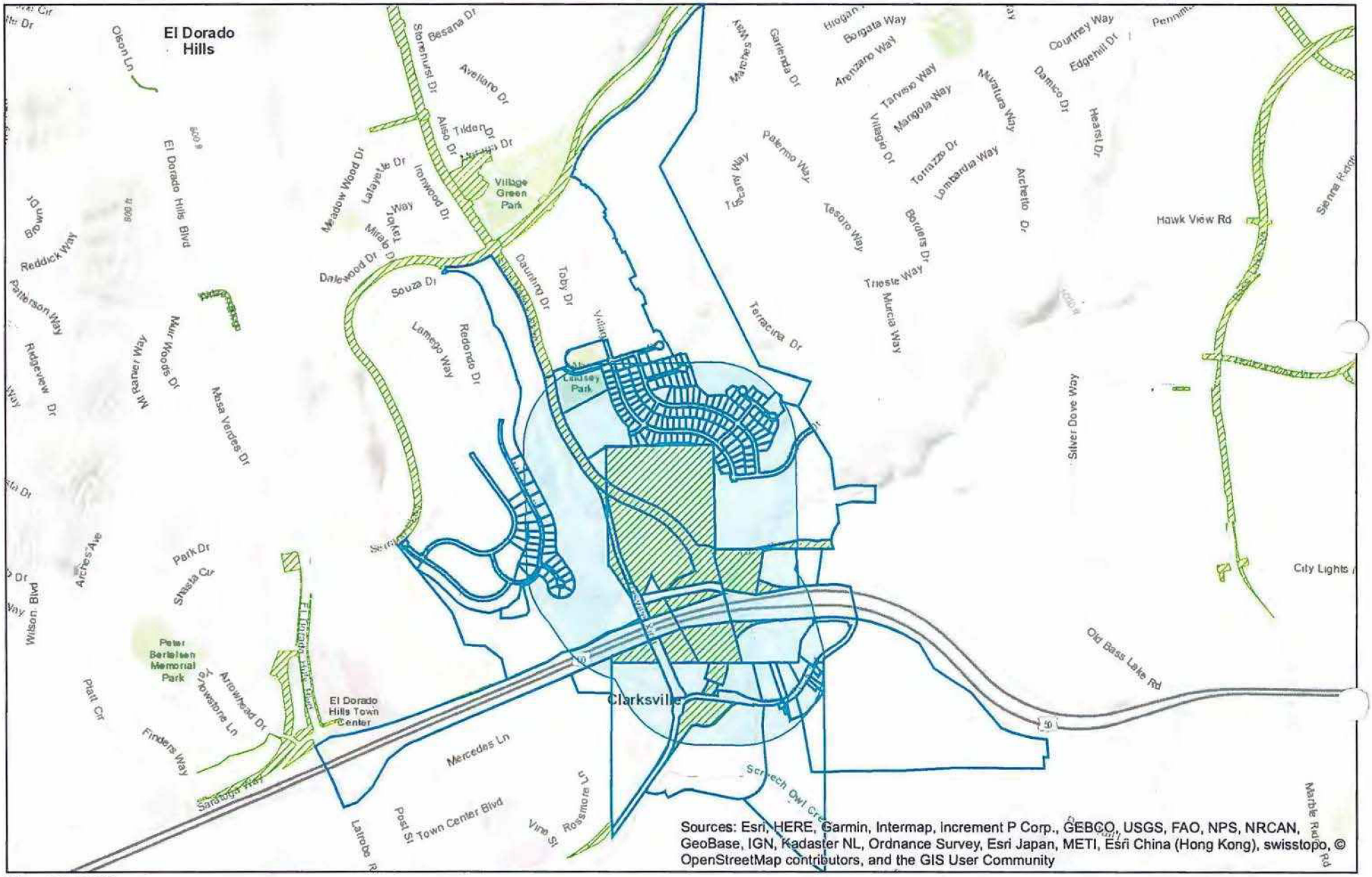
Staff Reports are available two weeks prior at
Staff or at http://edcgov.us/Government/Planning/Zoning_Administrator.aspx

All persons interested are invited to attend and be heard or to write their comments. If you challenge the application in court, you may be limited to raising only those items you or someone else raised at the public hearing described in this notice, or in written correspondence submitted at, or prior to, the public hearing. Any written correspondence should be directed to County of El Dorado, Planning and Building Department, 2850 Fairlane Court, Placerville, CA 95667 or via e-mail: planning@edcgov.us.

*This project is exempt from the California Environmental Quality Act (CEQA) pursuant to the above-referenced section, and it is not subject to any further environmental review.

To ensure delivery prior to the hearing, written information from the public is encouraged to be submitted to Planning Services by Friday the week prior to the meeting. Planning Services cannot guarantee that any FAX or mail received the day of the meeting will be delivered to the Zoning Administrator prior to any action.

COUNTY OF EL DORADO ZONING ADMINISTRATOR
ROGER TROUT, Planning and Building Department Director
Date: May 21, 2018



May 22, 2018

EDH52 (1000 feet) ZA 06-20-18

Search Results: Parcels

Override 1

County Outline

Highway Labels

Highways

Major Roads

Major Roads

Minor Roads

Cities

Parcels, County Owned

N W E S

0 570 1,140 1,710 2,280 Feet

12272006
ABEL JEFFREY S
PO BOX 95
DIAMOND SPRINGS , CA 95619

12208024
ADRAGNA DAVID P TR
1109 BEVINGER DR
EL DORADO HILLS , CA 95762

12208018
ANGELINI DENNIS TR
1075 BEVINGER DR
EL DORADO HILLS , CA 95762

12210002
ARTEMENKO YURIY
923 APERO WAY
EL DORADO HILLS , CA 95762

12115123
BALL DONALD J JR TR
726 PONTA DELGADO CT
EL DORADO HILLS , CA 95762

12210041
BARNHART JASON S
900 APERO CT
EL DORADO HILLS , CA 95762

12115215
BARSTAD TIMOTHY
1391 SOUZA DR
EL DORADO HILLS , CA 95762

12258015
BASTIAN STANTON J
P O BOX 4244
EL DORADO HILLS , CA 95762

12207029
BEFFA DAVID
708 ANNA PL
EL DORADO HILLS , CA 95762

12210020
BELANGER KEVIN
4897 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12208009
BELGAL HANMANT
834 BRYCE CT
EL DORADO HILLS , CA 95762

12210027
BENTZ DAVID E
4855 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12208031
BETTENCOURT PAUL
1070 BEVINGER DR
EL DORADO HILLS , CA 95762

12210034
BOHALL PAMELA A
4866 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12208030
BOWIK DAVID D
1076 BEVINGER DR
EL DORADO HILLS , CA 95762

12209023
BRINSLEY DAVID E
2037 DYMAXION WAY
EL DORADO HILLS , CA 95762

12204035
BUCKEYE UNION ELEM SCHOOL DIST
P O BOX 547
SHINGLE SPRINGS , CA 95682

12209013
BUDMARK JACK JEFFRY TR
4784 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12210015
CAIN GAMIL A TR
1126 BEVINGER DR
EL DORADO HILLS , CA 95762

12209003
CALLAN ANGELA
4789 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12258010
CAMPANILE GLENN
1152 BEVINGER DR
EL DORADO HILLS , CA 95762

12209020
CLICHE THOMAS
4820 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12208020
COLES FRED
1085 BEVINGER DR
EL DORADO HILLS , CA 95762

12207030
CONKLIN RODNEY DEAN TR
702 ANNA PL
EL DORADO HILLS , CA 95762

12115114
CROFOOT JANE T TR
5237 MERTOLA DR
EL DORADO HILLS , CA 95762

12208004
CROOK DANIEL F
825 BRYCE CT
EL DORADO HILLS , CA 95762

12208029
CURTIS KATHLEEN M TR
1084 BEVINGER DR
EL DORADO HILLS , CA 95762

12115118
DAM DAVID
715 PONTA DELGADO CT
EL DORADO HILLS , CA 95762

12258022
DANIEL MARCY L
938 APERO PL
EL DORADO HILLS , CA 95762

12208027
DASTMALCHI FATOHLLAH TR
1098 BEVINGER DR
EL DORADO HILLS , CA 95762

12209005
DAVENPORT BLAINE N TR
4801 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12209018
DE JONAGE FRANCOIS BEAU YON
75 WEST END AVE #P2I
NEW YORK , NY 10023

12115216
DE LA ROSA JOE G TR
1385 SOUZA DR
EL DORADO HILLS , CA 95762

12258007
DE LOS ANGELES VIRGINIA
4929 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12115202
DEFAZIO JOSEPH R TR
5228 MERTOLA DR
EL DORADO HILLS , CA 95762

12210022
DEL MAR RICKY
4887 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12209001
DELLEPERE GARY TR
250 BICENTENNIAL WAY APT 722
SANTA ROSA , CA 95403

12210028
DEPT OF VETERANS AFFAIRS %
4847 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12210010
DI MARCO JAMES F
1139 BEVINGER DR
EL DORADO HILLS , CA 95762

12208039
DOMINGUEZ JASON T
1024 BEVINGER DR
EL DORADO HILLS , CA 95762

12208002
DUTTA SANJAY
811 BRYCE CT
EL DORADO HILLS , CA 95762

12208034
EHTESHAMUDDIN SYED J
1054 BEVINGER DR
EL DORADO HILLS , CA 95762

12204037
EL DORADO HILLS COMM SERV DIST
1021 HARVARD WY
EL DORADO HILLS , CA 95762

12272002
EL DORADO HILLS INVESTORS LTD
4364 TOWN CENTER BLVD STE 310
EL DORADO HILLS , CA 95762

12258021
FAIRCHILD SHELBY
934 APERO PLACE
EL DORADO HILLS , CA 95762

12210038
FALK EARLY
4894 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12258001
FANELLI JOSEPH
3820 BRITTON PL
WEST SACRAMENTO , CA 95691

12115206
FANTE THOMAS M TR
5254 MERTOLA DR
EL DORADO HILLS , CA 95762

12115109
FERESHTEHNEJAD REZA TR
5197 MERTOLA DR
EL DORADO HILLS , CA 95762

12209021
FEUERBACH ADAM R TR
4826 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12210017
FOSTER STEVEN J TR
4917 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12115119
FRANK ERNEST W JR
721 PONTA DELGADO CT
EL DORADO HILLS , CA 95762

12115113
FRAZIER GRUBBS DEMITROUS TR
5229 MERTOLA DR
EL DORADO HILLS , CA 95762

12115125
FREDERES MATTHEW
716 PONTA DELGADO CT
EL DORADO HILLS , CA 95762

12258002
FRIEDRICH MAIC CO TR
4930 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12115201
FRITH STEVEN
5220 MERTOLA DR
EL DORADO HILLS , CA 95762

12258005
FU ANDREW C
4937 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12209011
GABRIAL MAHA K TR
4772 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12210007
GEHRKE CHRISTOPHER
908 APERO CT
EL DORADO HILLS , CA 95762

12210018
GIAUDRONE AARON PAUL TR
4907 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12115107
GODAVARTHI VINUPAMA
5171 MERTOLA DR
EL DORADO HILLS , CA 95762

12209009
GONZALEZ MICHAELLE
4825 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12115110
GV HOMES A NV LLC
PO BOX 10989
ZEPHYR COVE , NV 89448

12258016
HABRA HENRY CO TR
1155 BEVINGER DR
EL DORADO HILLS , CA 95762

12210035
HAGE LARRY D TR
95728 SAUNDERS CREEK RD
GOLD BEACH , OR 97444

12208033
HALL PATRICK W TR
1060 BEVINGER DR
EL DORADO HILLS , CA 95762

11817003
HARDY ROBERT STEPHEN TR
PO BOX 12429
ZEPHYR COVE , NV 89448

12210011
HERNANDEZ RAYMOND
3300 KORDES WAY
SACRAMENTO , CA 95826

12115204
HERRERA IVAN R
5240 MERTOLA DR
EL DORADO HILLS , CA 95762

12210014
HIGDON KEVIN R
1118 BEVINGER DR
EL DORADO HILLS , CA 95762

12210013
HILL JOAN CAROL SURV TR
1115 BEVINGER DR
EL DORADO HILLS , CA 95762

12210032
HORWATH FRANK WERNER
4854 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12128024
HUDDINGE PARTNERS
%B ROTTER 634A PROSPECT ROW
SAN MATEO , CA 94401

12209010
JAMES JENNIFER LYNNE
4766 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12115214
JARRETT JOHN
1397 SOUZA DR
EL DORADO HILLS , CA 95762

12258013
JONES CLIFTON
1174 BEVINGER DR
EL DORADO HILLS , CA 95762

12209004
KADIDAL INDRADEV J
4795 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12208028
KAMALIAN REZA CO TR
1090 BEVINGER DR
EL DORADO HILLS , CA 95762

12209014
KAZEMIRAD SAHAR
4790 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

11812215
KFRD INVESTMENTS INC
%3350 COUNTRY CLUB DR #202
SHINGLE SPRINGS , CA 95682

12115126
KLEIN CALLIE M
708 PONTA DELGADO CT
EL DORADO HILLS , CA 95762

12115106
KOZICKI DAVID J
5157 MERTOLA DR
EL DORADO HILLS , CA 95762

12115112
KUMAR DEVINDER
6068 PENELA WAY
EL DORADO HILLS , CA 95762

12210021
LANGE MICHAEL TR
4893 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12115120
LEE ANDREW H TR
725 PONTA DELGADO CT
EL DORADO HILLS , CA 95762

12208012
LEE GREGORY
818 BRYCE CT
EL DORADO HILLS , CA 95762

11812104
LESTER MICHAEL THOMAS
1481 WHITE ROCK RD
EL DORADO HILLS , CA 95762

12210024
LOENNEKER FRANCES ABAD TR
4875 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12209015
LOWRY MICHAEL
4796 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12210016
LU SHENGHUI TR
1138 BEVINGER DR
EL DORADO HILLS , CA 95762

12258028
MADASSERY LIJO
929 APERO PL
EL DORADO HILLS , CA 95762

12115205
MAHVI JOHN A TR
5246 MERTOLA DR
EL DORADO HILLS , CA 95762

12210026
MANON JAIME RABELL
4863 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12210004
MCCANN MICHAEL B
911 APERO CT
EL DORADO HILLS , CA 95762

12209007
MCGRATH WENDY M
4813 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12115203
MCGRAW CAROL L TR
5234 MERTOLA DR
EL DORADO HILLS , CA 95762

12258008
METZGER PAUL K
P O BOX 503
SUTTER CREEK , CA 95685

12208032
MOLLOY PATRICK J
1064 BEVINGER DR
EL DORADO HILLS , CA 95762

12210037
MOSS CHARLES W TR
4886 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12115219
NONIS PRIYANKARA
1367 SOUZA DR
EL DORADO HILLS , CA 95762

12115108
O ROURKE JOHN C
5185 MERTOLA DR
EL DORADO HILLS , CA 95762

12128002
PACIFIC GAS & ELECTRIC CO
245 MARKET ST
SAN FRANCISCO , CA 94100

12208006
PALMER DANIEL M
835 BRYCE CT
EL DORADO HILLS , CA 95762

12208038
PATEL NIRAJ
1030 BEVINGER DR
EL DORADO HILLS , CA 95762

12208021
PATEL REENA
1091 BEVINGER DR
EL DORADO HILLS , CA 95762

12208003
PATRICIO JOHN M
819 BRYCE CT
EL DORADO HILLS , CA 95762

12258023
PEARSON RYAN
942 APERO WAY
EL DORADO HILLS , CA 95762

12208013
PERRY DONALD E TR
810 BRYCE CT
EL DORADO HILLS , CA 95762

12258009
PILLILLI BHARAT TR
1144 BEVINGER DR
EL DORADO HILLS , CA 95762

12210012
POP STEPHAN
1121 BEVINGER DR
EL DORADO HILLS , CA 95762

12208015
POTTER ELLEN D
1047 BEVINGER DR
EL DORADO HILLS , CA 95762

12272013
PRESBYTERY OF SACRAMENTO
1441 TONG RD
EL DORADO HILLS , CA 95762

12208014
PREVOST CHARLES ANDREW
802 BRYCE CT
EL DORADO HILLS , CA 95762

12115116
QUAIN MAURICE J TR
5251 MERTOLA DR
EL DORADO HILLS , CA 95762

12210029
RADLEY CHRISTOPHER JAMES TR
4841 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12208036
RAMADOSS HARIHARAN
1040 BEVINGER DR
EL DORADO HILLS , CA 95762

12115122
RAMIREZ ROBERT
728 PONTA DELGADO CT
EL DORADO HILLS , CA 95762

12208022
RASHIDI SAEID
1099 BEVINGER DR
EL DORADO HILLS , CA 95762

12209019
REESE MILES ADDIE P
4816 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12210019
ROBERTS STACEY L
4901 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12258003
RODENSPIEL JON JR
4938 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12209016
RUDRARAJU RAVINDRA
4800 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12115111
RUIZ SALVADOR M
5217 MERTOLA DR
EL DORADO HILLS , CA 95762

11812103
RUSSLER JOANNA F SURV TR
4675 CHICAGO AVE
FAIR OAKS , CA 95628

12115117
RUSSO JASON E CO TR
PO BOX 5119
EL DORADO HILLS , CA 95762

12258004
SAEED AJMAL CO TR
4943 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12115208
SALE KEVITT D
5280 MERTOLA DR
EL DORADO HILLS , CA 95762

12115207
SANTOS AMADO R TR
5264 MERTOLA DR
EL DORADO HILLS , CA 95762

12208040
SARRESHTEH KAMRAN
1020 BEVINGER DR
EL DORADO HILLS , CA 95762

12210006
SCHMIDT TIMOTHY PATRICK
904 APERO CT
EL DORADO HILLS , CA 95762

12209017
SCHMIEDER WAYNE R
4806 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12208035
SCOTT DONALD L TR
1046 BEVINGER DR
EL DORADO HILLS , CA 95762

12208041
SENDINO GREGORIO S TR
1012 BEVINGER DR
EL DORADO HILLS , CA 95762

12112024
SERRANO ASSOCIATES LLC
4525 SERRANO PKWY
EL DORADO HILLS , CA 95762

12208042
SERRANO EL DORADO OWNERS ASSN
4525 SERRANO PARKWAY
EL DORADO HILLS , CA 95762

12115003
SERRANO EL DORADO OWNERS ASSOC
4525 SERRANO PARKWAY
EL DORADO HILLS , CA 95762

12115218
SEXTON WILLIAM T
1375 SOUZA DR
EL DORADO HILLS , CA 95762

12258017
SHARMA SAURABH
1151 BEVINGER DR
EL DORADO HILLS , CA 95762

12258011
SHIHABI KAREME C
1160 BEVINGER DR
EL DORADO HILLS , CA 95762

12115217
SHIM MOON BO
5620 PONY EXPRESS TRL
CAMINO , CA 95709

12210008
SHULL ROBERT B
912 APERO PL
EL DORADO HILLS , CA 95762

12258020
SIKDER MOHAMMAD S
930 APERO PL
EL DORADO HILLS , CA 95762

12208010
SILVA DARREN
830 BRYCE CT
EL DORADO HILLS , CA 95762

12209012
SINGH AMRIT
1358 VAN GOGH DR
EL DORADO HILLS , CA 95762

12207028
SINGHAI MRUGENDRA
716 ANNA PL
EL DORADO HILLS , CA 95762

12209024
SKAGGS JON E
4836 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12115115
SMITH GARY KEVIN
5243 MERTOLA DR
EL DORADO HILLS , CA 95762

12210030
SOBCZAK JAMES J TR
4842 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12209002
STELMACH ANNA G TR
P O BOX 4481
EL DORADO HILLS , CA 95762

12208037
STEPHENS DARIN JAMES
1036 BEVINGER DR
EL DORADO HILLS , CA 95762

12258014
SUN YANG
1180 BEVINGER DR
EL DORADO HILLS , CA 95762

12258018
TAK DICK TR
1147 BEVINGER DR
EL DORADO HILLS , CA 95762

12258019
TAK PURA B SURV TR
1143 BEVINGER DR
EL DORADO HILLS , CA 95762

12208005
TANDA JOSEPH R TR
831 BRYCE CT
EL DORADO HILLS , CA 95762

12258012
TANG DANIEL ZHIXIN TR
1168 BEVINGER DR
EL DORADO HILLS , CA 95762

12115121
TARR JEREMIAH TR
727 PONTA DELGADO CT
EL DORADO HILLS , CA 95762

12208019
TATE LAWRENCE J
1081 BEVINGER DR
EL DORADO HILLS , CA 95762

12208017
THOMAS SIMON
PO BOX 5076
EL DORADO HILLS , CA 95762

12258006
THURAU ELISE M
4933 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

11812204
TONG HARVEY
P O BOX 2654
TRUCKEE , CA 96160

12208011
TREXLER JEFFREY B
824 BRYCE CT
EL DORADO HILLS , CA 95762

12208008
TRZCINSKI JACOB ALAN
838 BRYCE CT
EL DORADO HILLS , CA 95762

12208001
TYLER PAULA K TR
803 BRYCE CT
EL DORADO HILLS , CA 95762

12208007
VALENTINO MARK S TR
839 BRYCE CT
EL DORADO HILLS , CA 95762

12210036
VAN DOOREN JOHANNES TR
4880 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

11817011
VAN NOORD THOMAS R TR
3350 COUNTRY CLUB DR #202
CAMERON PARK , CA 95682

12210025
VAVRA ANDREA R
4869 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12210009
WANG ERIC CHUAN
321 ENDLESS CT
EL DORADO HILLS , CA 95762

12209022
WEBB RICHARD M
2041 DYMAXION WAY
EL DORADO HILLS , CA 95762

12115124
WELLS JOHN R CO TR
724 PONTA DELGADO CT
EL DORADO HILLS , CA 95762

12210033
WHITMORE FUJIMURA ERIKA LESLIE
4860 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12208016
WILHELM HARALD
1061 BEVINGER DR
EL DORADO HILLS , CA 95762

12210023
WILHELMY JOHN J
4881 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12207027
WILLIAMS DAMON MATHEW
3578 PARK DR
EL DORADO HILLS , CA 95762

12208026
WILLIAMSON DAVID A TR
1104 BEVINGER DR
EL DORADO HILLS , CA 95762

12208023
YANG YONGGANG
1105 BEVINGER DR
EL DORADO HILLS , CA 95762

12208025
YAO MIN
1110 BEVINGER DR
EL DORADO HILLS , CA 95762

12210031
YBARRA ERICK
4848 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12210003
YOSHII DON Y TR
2762 WEXFORD DR
SAN JOSE , CA 95132

12209006
YOUNG LORAL
4807 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12209008
ZANG YIXIAO
4218 RIMINI WAY
EL DORADO HILLS , CA 95762

\\dsfs0\DS-Shared\DISCRETIONARY\P\2017\P17-0004 (EDH 52 TPM)_ZA\Parceling\P17-0004 Mailing Labels Ran 05-21-18 ZA 06-20-18 (1000 feet).docx

Original Planner request was for 500 ft notification, on 5-21-18 corrected to 1,000 ft notification. 500ft mailing Senton 5-21-18; Remaining mailing sent on 5-23-18. Current list is 1,000 ft notification.

Serena

181

Mountain Democrat

PROOF OF PUBLICATION
(2015.5 C.C.P.)

Proof of Publication of
NOTICE OF PUBLIC HEARING

STATE OF CALIFORNIA
County of El Dorado

I am a citizen of the United States and a resident of the County aforesaid; I'm over the age of eighteen years, and not a party to or interested in the above-entitled matter. I am principal clerk of the printer at the Mountain Democrat, 2889 Ray Lawyer Drive, a newspaper of general circulation, printed and published Monday, Wednesday, and Friday, in the City of Placerville, County of El Dorado, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court to the County of El Dorado, State of California, under the date of March 7, 1952, Case Number 7258; that the notice, of which the annexed is a printed copy (set in type no smaller than non-pareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

5/21

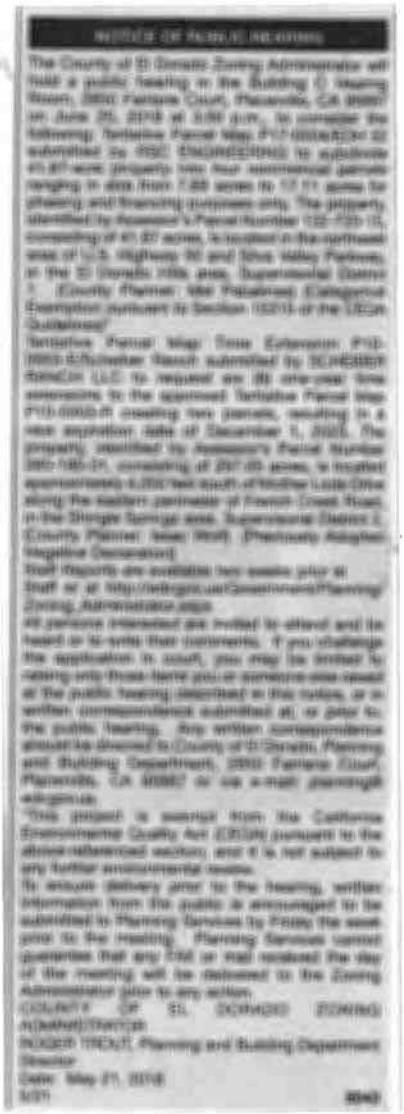
All in the year 2018.

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Dated at Placerville, California, this **21st** day of **MAY, 2018**

Allison Rains

Signature



Notice of Exemption

Form C

To: County Clerk
County of El Dorado
360 Fair Lane
Placerville, CA 95667

From: County of El Dorado Community Development Services-Planning and Building Department
2850 Fairlane Court
Placerville, CA 95667

Tentative Parcel Map P17-0004/EDH 52 — **Project Title**

EDH 52 — **Project Applicant**

APN 122-720-15; The property is located in the northeast area of U.S. Highway 50 and Silva Valley Parkway in the El Dorado Hills area

Project Location – Specific **(El Dorado County)**

Tentative Parcel Map subdividing 41.87-acre property into four commercial parcels ranging in size from 7.69 acres to 17.11 acres for phasing and financing purposes only

Project Description

Zoning Administrator

Name of Public Agency Approving Project

County of El Dorado Community Development Services-Planning and Building Department
2850 Fairlane Ct, Placerville, CA 95667 — **Name of Person or Agency Carrying out Project**

(530) 621-5355 — **Telephone Number**

Exempt Status:

- ☐ CEQA Statute Section 21080. _____
- ☒ Categorical Exemption. State type and section number: 15315 (Minor Land Division)
- ☐ Statutory Exemption. State code number: _____

Reasons why project is exempt:
The Tentative Parcel Map qualifies for an exemption under CEQA Section 15315 as the project involves a division of commercially-zoned property into four parcels consistent with the General Plan and Zoning without any variances or exceptions and where all services and access to the proposed parcels are available.

Lead Agency Contact Person: Rommel T. Pabalinas **Area Code/ Telephone/Extension:** (530) 621-5363

If filed by applicant:

1. Attach certified document of exemption finding.
2. Has a Notice of Exemption been filed by the public agency approving the project? ☐ Yes ☐ No

Signature (Public Agency)	7/24/18 *Date*	**Principal Planner** *Title*

- ☒ Signed by Lead Agency
- ☐ Signed by Applicant

FILED
JUL 24 2018
WILLIAM SCHULTZ, Recorder-Clerk
By _____

EL DORADO CO. RECORDER/CLERK

DATE POSTED: 7/25/18

DATE REMOVED: 8/29/18

DATE RETURNED: 9/11/18

State of California - Department of Fish and Wildlife

2018 ENVIRONMENTAL FILING FEE CASH RECEIPT

DFW 753.5a (Rev. 01/03/18) Previously DFG 753.5a

Print | StartOver | Finalize&Email

RECEIPT NUMBER:
09 — 07/24/201· — 89

STATE CLEARINGHOUSE NUMBER *(If applicable)*

SEE INSTRUCTIONS ON REVERSE. TYPE OR PRINT CLEARLY.

LEAD AGENCY	LEAD AGENCY EMAIL	DATE
El Dorado co. Comm. Dev. Services-Planning & Building		07/24/2018

COUNTY/STATE AGENCY OF FILING	DOCUMENT NUMBER
El Dorado	09-2018-89

PROJECT TITLE
Tentative Parcel Map P17-0004/EDH 52

PROJECT APPLICANT NAME	PROJECT APPLICANT EMAIL	PHONE NUMBER
Rommel T. Pabalinas		(530) 621-5355

PROJECT APPLICANT ADDRESS	CITY	STATE	ZIP CODE
2850 Fairlane Ct.	Placerville	Ca	95667

PROJECT APPLICANT *(Check appropriate box)*

☐ Local Public Agency ☐ School District ☐ Other Special District ☐ State Agency ☑ Private Entity

CHECK APPLICABLE FEES:

☐ Environmental Impact Report (EIR)	$3,168.00	$ 0.00
☐ Mitigated/Negative Declaration (MND)(ND)	$2,280.75	$ 0.00
☐ Certified Regulatory Program document (CRP)	$1,077.00	$ 0.00

☐ Exempt from fee
- ☑ Notice of Exemption (attach)
- ☐ CDFW No Effect Determination (attach)

☐ Fee previously paid (attach previously issued cash receipt copy)

☐ Water Right Application or Petition Fee (State Water Resources Control Board only)	$850.00	$ 0.00
☑ County documentary handling fee		$ 50.00
☐ Other		$

PAYMENT METHOD:

☐ Cash ☐ Credit ☑ Check ☐ Other **TOTAL RECEIVED** $ 50.00

SIGNATURE	AGENCY OF FILING PRINTED NAME AND TITLE
X Janet Rocha	El Dorado Co. Recorder Clerk - Janet Rocha - Deputy

Notice of Exemption — Form C

To: County Clerk
County of El Dorado
360 Fair Lane
Placerville, CA 95667

From: County of El Dorado Community Development Services-Planning and Building Department
2850 Fairlane Court
Placerville, CA 95667

Tentative Parcel Map P17-0004/EDH 52 — **Project Title**

EDH 52 — **Project Applicant**

APN 122-720-15; The property is located in the northeast area of U.S. Highway 50 and Silva Valley Parkway in the El Dorado Hills area
Project Location – Specific **(El Dorado County)**

Tentative Parcel Map subdividing 41.87-acre property into four commercial parcels ranging in size from 7.69 acres to 17.11 acres for phasing and financing purposes only
Project Description

Zoning Administrator
Name of Public Agency Approving Project

County of El Dorado Community Development Services-Planning and Building Department
2850 Fairlane Ct, Placerville, CA 95667 — **Name of Person or Agency Carrying out Project**

(530) 621-5355 — **Telephone Number**

Exempt Status:

- ☐ CEQA Statute Section 21080. _____
- ☒ Categorical Exemption. State type and section number: 15315 (Minor Land Division)
- ☐ Statutory Exemption. State code number: _____

Reasons why project is exempt:
The Tentative Parcel Map qualifies for an exemption under CEQA Section 15315 as the project involves a division of commercially-zoned property into four parcels consistent with the General Plan and Zoning without any variances or exceptions and where all services and access to the proposed parcels are available.

Lead Agency Contact Person: Rommel T. Pabalinas **Area Code/ Telephone/Extension:** (530) 621-5363

If filed by applicant:
1. Attach certified document of exemption finding.
2. Has a Notice of Exemption been filed by the public agency approving the project? ☐ Yes ☐ No

Signature (Public Agency)	7/24/18 *Date*	Principal Planner *Title*

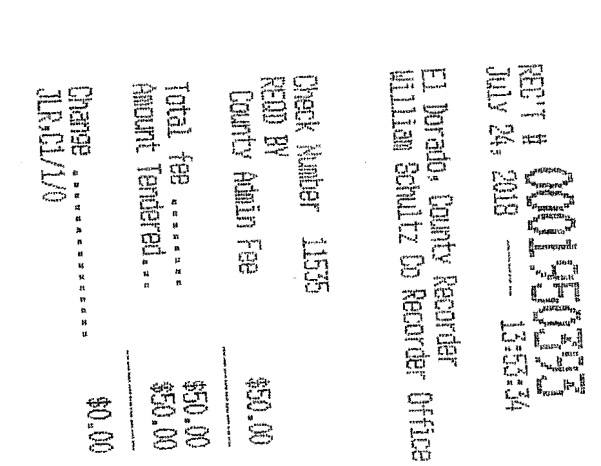
☒ Signed by Lead Agency
☐ Signed by Applicant

FILED
JUL 24 2018
WILLIAM SCHULTZ, Recorder Clerk
By

EDH 52, A GENERAL PARTNERSHIP 11535

EL DORADO COUNTY COMM. DEV. AGENCY 7/17/2018

Date	Type	Reference	Original Amt.	Balance Due	Discount	Payment
7/12/2018	Bill	19883	50.00	50.00		50.00
					Check Amount	50.00



Bank of the West x23 50.00

ZA 6-20-18
#4C

938 Apero Way
El Dorado Hills, CA 95762
May 31, 2018

2018 JUN -4 AM 11:14
RECEIVED
PLANNING DEPARTMENT

County of El Dorado
Planning and Building Department
2850 Fairlane Court
Placerville, CA 95667

RE: Tentative Parcel Map P17-0004/EDH52

Dear Planning and Building Department:

While my family of four and I support economic growth that is done with a careful planning esthetic, we have the following concerns about Tentative Parcel Map P17-0004/EDH52 and recommend that it NOT be subdivided:

1. The safety of our Children: Oak Meadow elementary is located adjacent to this property. Our child is a recent graduate of Oak Meadow and we experienced first-hand the safe and protected environment of the school. It is hard to imagine that culture not being impacted by the adjacent location of a gas station or convenience store. El Dorado Hills has had at least 2 documented cases of child trafficking abductions at retail outlets in recent years and we need to be assured that whatever is developed is safe. Protecting the safety of our children could be difficult if the property is subdivided.
2. The protection of property values: The neighborhood behind this property has very attractive property values and some of us have a view over this property. The construction needs to be done in a way that the buildings are upscale and fit the neighborhood and even the roofing needs to have a positive aesthetic such as is present with terra cotta looking roofing tiles in Serrano. We cannot be looking over flat "big box" or gas station style roofs. It will be more difficult to manage this if the parcels are subdivided. This will be difficult to enforce if the property is subdivided.
3. The development with proper architecture and landscaping to fit with the community: The development needs to be designed with an upscale appearance both front and back that fits with Serrano and the surrounding community. Landscaping needs to be developed around the entire perimeter so that the homes on Village Green are not looking into the back of a loading dock or parking lot. This will be difficult to enforce if the property is subdivided.
4. The avoidance of noise pollution: Any businesses need to close by 7 pm and open no earlier than 10 am in order to protect the families that live nearby. This will be easier to manage if the properties are not subdivided.
5. The protection of Heritage Native Oak Trees: As I look out my rear windows I see at least 2-3 Heritage Native Oak Trees (on the corner near the exit ramp onto Silva Valley).

These trees need to be protected. They would certainly enhance the image of the future development.

6. The protection of area wildlife travel patterns: It is not unusual for us to see Mountain Lions, Hawks, Deer, Rattlesnakes and other wildlife travelling from the hill in Serrano down to the property in question. A significant portion of the 41.87 acre parcel should be maintained as a green space, particularly as a buffer zone with adjacent property. This will be difficult to enforce if the property is subdivided.
7. The safety of residents utilizing Entrada gate: The traffic patterns need to be adjusted so that the developer assists with the cost of improving the traffic flow on Silva and allows for safer exiting from Entrada gate onto Silva Valley. This will be difficult to enforce if the property is subdivided.

While we are unable to attend the public hearing, we ask that these concerns be entered into the planning record. We trust that you will act in a manner that protects the quality of life and property value of existing property owners and residents. Thank you in advance for your review of these concerns.

Sincerely,

Brad Daniel

P17-0004/EDH 52 – As approved by the Zoning Administrator on June 20, 2018.

Findings

1.0 CEQA FINDINGS

1.1 The EDH 52 Tentative Parcel Map qualifies for a Categorical Exemption status under Section 15315 (Minor Land Division) as the division would result in four commercial parcels consistent with the underlying General Plan and zoning. No variances, modifications, or exceptions have been requested. The average slope gradient of the property is below 20% and site access and services would be available if the property is developed. The property has not been involved in a division of a larger parcel within the past two years. No further environmental analysis is necessary.

1.2 The documents and other materials which constitute the record of proceedings upon which this decision is based are in the custody of the Community Development Services-Planning and Building Department-Planning Services Division at 2850 Fairlane Court, Placerville, CA, 95667.

2.0 PARCEL MAP FINDINGS

2.1 **The proposed tentative map, including design and improvements, is consistent with the General Plan.**

The EDH 52 Tentative Parcel Map would result in the creation of four commercial parcels for financing and phasing purposes. The project is compatible with the land use designation.

2.2 **The proposed Parcel Map conforms to the applicable standards and requirements of the County zoning regulations and Minor Land Division Ordinance.**

The EDH 52 Tentative Parcel Map would result in the creation of four commercial parcels consistent with the Zoning Ordinance standards under Chapter 130.22 (Commercial Zones) for the underlying Commercial, Regional (CR) zone district.

2.3 **The site is physically suitable for the proposed type and density of development.**

The resultant commercial parcels are physically suitable for future commercial development. The sizes of the parcels exceed the minimum required lot size, which would enable future development design and improvement to be accommodated through application of Planned Development concepts. The parcels would have direct access along Silva Valley Parkway, a major arterial road in the El Dorado Hills area. The subject is property is surrounded by existing development, where necessary public utilities exists and can be accessed readily.

2.4 **The proposed subdivision is not likely to cause substantial environmental damage.**

The map is consistent with the General Plan and Zoning and no variances, modifications, or exceptions has been requested with this application. The vacant property has average slope gradient below 20%, would have direct access to public infrastructures necessary for subsequent development, and is surrounded by existing residential development and areas identified for future commercial and residential development, and. Though sensitive resources exist on the property, no physical change will occur as a result of this tentative parcel map. The property has not been involved in a division of a larger parcel within the past two years. Therefore, the project is exempt from CEQA pursuant to Section 15315 of the CEQA Guidelines.

Conditions Of Approval

1. **Project Description**

This Tentative Parcel Map is based upon and limited to compliance with the project description, Conditions of Approval set forth below, and the hearing exhibits marked:

Exhibit F - EDH 52 Tentative Parcel Map, May 3, 2018

Tentative Parcel Map subdividing a 41.87-acre property into four commercial parcels ranging in size from 7.69 acres to 17.11 acres for phasing and financing purposes only.

The development, use, and maintenance of the property, the size, shape and the protection and preservation of resources shall conform to the project description above and the hearing exhibits and conditions of approval below. The property and any portions thereof shall be sold, leased or financed in compliance with this project description and the approved hearing exhibits and conditions of approval hereto. All plans must be submitted for review and approval and shall be implemented as approved by the County.

Any deviations from the project description, exhibits, or conditions must be reviewed and approved by the County for conformity with this approval. Deviations may require approved changes to the permit and/or further environmental review. Deviations without the above described approval would constitute a violation of permit approval.

Planning Department

2. **Permit Time Limits:** This Tentative Parcel Map shall expire 36 months from the date of approval unless a timely extension has been filed.

3. **Development Restrictions:** The applicant shall record the following note against the Parcel Map imposing development restrictions on the lots designated as Parcels 1

through 4:

"Parcels 1 through 4 are phasing lots only. No building permits shall be issued until future discretionary approvals, including but not limited to, a Planned Development (PD) Permit, have been approved by El Dorado County. Said restrictions shall be binding upon the heirs, assigns, and successors in interest of the grantors, and shall remain in effect until rescinded by El Dorado County. The purpose of the notice is to give constructive notice of the development limitation."

4. **Indemnity:** In the event of any legal action instituted by a third party challenging the validity of any provision of this approval, the developer and landowner agree to be responsible for the costs of defending such suit and shall hold County harmless from any legal fees or costs County may incur as a result of such action.
The developer and land owner shall defend, indemnify, and hold harmless El Dorado County and its agents, officers, and employees from any claim, action, or proceeding against El Dorado County or its agents, officers, or employees to attack, set aside, void, or annul an approval of El Dorado County concerning a Parcel Map.

The County shall notify the applicant of any claim, action, or proceeding, and the County shall cooperate fully in the defense.

Office of County Surveyor

5. All survey monuments shall be set prior to filing the Parcel Map.

6. Situs addressing for the project shall be coordinated the County Surveyors Office prior to filling the Final Map.

7. Prior to filing the Parcel Map, a letter will be required from all agencies that have placed conditions on the map. The letter will state that "all conditions placed on P17-0004 by (that agency) have been satisfied." The letter is to be sent to the County Surveyor and copied to the Consultant and the Applicant.

Transportation Department

8. Prior to filing of Parcel Map, the following note shall be added and verified:

Parcels 1, 2 and 3 will each be allowed one (1) right-in, right-out only access point onto Silva Valley Parkway at locations determined by the Department of Transportation. Reciprocal access rights shall be provided mutually between Parcels 2, 3 and 4, with an easement shown on the final map from lot 3, through lot 2 to lot 4.

This condition may be modified to provide enhanced coordinated access to Silva Valley Parkway by a Future Planned Development (PD) approval.

Rommel Pabalinas <rommel.pabalinas@edcgov.us>

P 17-004 EDH 52 Condition sign off requested

6 messages

Tiffany Wilson <T.Wilson@rsc-engr.com> Mon, Dec 3, 2018 at 3:47 PM
To: Rommel Pabalinas <rommel.pabalinas@edcgov.us>

Mel,

The surveyor's office has approved the map. We need sign off from Planning on conditions 1-4. Attached is the map and final conditions. The map has not deviated from the approved tentative map and the notice of restriction being currently prepared by the surveyor will record concurrent with the map will address condition 3. The map will be filed prior to the expiration date of 36 months to address condition 2 and no appeals were filed on the project so condition 4 is not applicable. Please provide a letter or email stating the parcel map for EDH 52 has met the Planning Departments conditions 1-4 and that the Planning Department will allow it to record. Thanks.

Tiffany Ann Wilson, AICP
RSC Engineering, Inc.
2250 Douglas Blvd., Ste. 150
Roseville, CA 95661
Ph. (916) 788-2884
Fax (916) 788-4408
www.rsc-engr.com

****
The information contained in this electronic mail message is PRIVILEGED AND CONFIDENTIAL INFORMATION intended only for the use of the individual or entity named above. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is prohibited. If you have received this communication in error, please notify the sender either by telephone at (916) 788-2884 or return electronic mail. Thank you.
****

From: Adam Bishop [mailto:adam.bishop@edcgov.us]
Sent: Monday, December 03, 2018 11:10 AM
To: John Klamm <jklamm@tsdeng.com>
Cc: Tiffany Wilson <T.Wilson@rsc-engr.com>; Philip Mosbacher <philip.mosbacher@edcgov.us>; Richard Briner <rich.briner@edcgov.us>
Subject: Re: 2nd check P 17-004 EDH 52

Good morning John,

Your parcel map check is complete. I have attached the approved monumentation estimate. I have listed the items below that need to be completed before we can record the map.

1. We are now ready for you to work on getting us a conditions binder with the departmental approvals. Please be sure to have back-up documentation for each of the conditions showing they have been met and ask each department to provide a letter describing which conditions have been met and that they approve the map being recorded.

2. Please provide Placer Title a copy of the map. Our office will be providing them a copy of the Owner's Statement and a copy of the Notice of Restriction per condition #3. Both documents will record in conjunction with the map.

3. We require a check or bond to cover the monumentation estimated cost unless you plan on setting these monuments prior to recording the Parcel Map.

4. Taxes will have to be paid per the Tax Collec.. s requirements and an acknowledgement letter completed.

5. Once all of the above are completed we will verify and request the mylar from you.

If you have any questions, please feel free to contact me.

Thank you,

Adam Bishop

Assistant in Land Surveying

County of El Dorado

Surveyor's Office

360 Fair Lane

Placerville, CA 95667

(530) 621-5447

adam.bishop@edcgov.us

QUICK LINKS

https://www.edcgov.us/Surveyor/

NEW FEE SCHEDULE IMPORTANT NOTICE: NEW FEES EFFECTIVE ON APRIL 9, 2018

GOTNET

Private Surveyors and Engineers

---

2 attachments

PM-P17-0004-20181113.pdf
752K

FINAL Findings and Conditions of Approval P17-0004.pdf
92K

Tiffany Wilson <T.Wilson@rsc-engr.com> Tue, Dec 4, 2018 at 12:25 PM
To: Rommel Pabalinas <rommel.pabalinas@edcgov.us>

Mel,

Attached is the Notice of Restriction that addresses Condition 3. We would appreciate a quick turnaround not taking exception to the map and allowing it to record. Thanks.

Tiffany Ann Wilson, AICP

RSC Engineering, Inc.
2250 Douglas Blvd., Ste. 150
Roseville, CA 95661
Ph. (916) 788-2884
Fax (916) 788-4408
www.rsc-engr.com

From: Tiffany Wilson
Sent: Monday, December 03, 2018 3:48 PM
To: 'Rommel Pabalinas' <rommel.pabalinas@edcgov.us>
Subject: P 17-004 EDH 52 Condition sign off requested

[Quoted text hidden]

3 attachments

PM-P17-0004-20181113.pdf
752K

FINAL Findings and Conditions of Approval P17-0004.pdf
92K

Notice of Restriction.pdf
52K

Rommel Pabalinas <rommel.pabalinas@edcgov.us> Tue, Dec 11, 2018 at 6:31 AM
To: Tiffany Wilson <T.Wilson@rsc-engr.com>
Cc: Dave Spiegelberg <dave.spiegelberg@edcgov.us>, Adam Bane <adam.bane@edcgov.us>

Tiffany-
I will complete my review by the end of the week. I'll cc Transportation Department so they can formally review and sign off as well.

---------- Forwarded message ---------
From: **Tiffany Wilson** <T.Wilson@rsc-engr.com>
Date: Mon, Dec 3, 2018 at 3:47 PM
Subject: P 17-004 EDH 52 Condition sign off requested
To: Rommel Pabalinas <rommel.pabalinas@edcgov.us>
[Quoted text hidden]

--

==========
Rommel (Mel) Pabalinas, Principal Planner
El Dorado County Community Development Services
Planning and Building Department
Planning Division
2850 Fairlane Court
Placerville, CA 95667
Main Line 530-621-5355
Direct line 530-621-5363
Fax 530-642-0508

---

2 attachments

PM-P17-0004-20181113.pdf
752K

FINAL Findings and Conditions of Approval P17-0004.pdf
92K

Tiffany Wilson <T.Wilson@rsc-engr.com> Tue, Dec 11, 2018 at 9:07 AM
To: Rommel Pabalinas <rommel.pabalinas@edcgov.us>
Cc: Dave Spiegelberg <dave.spiegelberg@edcgov.us>, Adam Bane <adam.bane@edcgov.us>

Mel,

Dave's Team has already signed off. We are just waiting for Planning. We need to record by the end of the year. We are pressed for time. Anyway to speed things up would be appreciated. Thanks.

Tiffany Ann Wilson, AICP
RSC Engineering, Inc.
2250 Douglas Blvd., Ste. 150
Roseville, CA 95661
Ph. (916) 788-2884
Fax (916) 788-4408
www.rsc-engr.com

From: Rommel Pabalinas [mailto:rommel.pabalinas@edcgov.us]
Sent: Tuesday, December 11, 2018 6:32 AM
To: Tiffany Wilson <T.Wilson@rsc-engr.com>
Cc: Dave Spiegelberg <dave.spiegelberg@edcgov.us>; Adam Bane <adam.bane@edcgov.us>
Subject: Re: P 17-004 EDH 52 Condition sign off requested

[Quoted text hidden]

WARNING: This email and any attachments may contain private, confidential, and privileged material for the sole use of the intended recipient. Any unauthorized review, copying, or distribution of this email (or any attachments) by other than the intended recipient is strictly prohibited. If you are not the intended recipient, please contact the sender immediately and permanently delete the original and any copies of this email and any attachments.

---------- Forwarded message ----------
From: Dave Spiegelberg <dave.spiegelberg@edcgov.us>
To: Tiffany Wilson <T.Wilson@rsc-engr.com>
Cc:
Bcc:
Date: Tue, 4 Dec 2018 16:33:38 +0000
Subject: Re: 2nd check P 17-004 EDH 52
Tiffany -

The note complies with Condition #8 and DOT takes no exceptions to filing and recordation of the Final Map.

Dave W. Spiegelberg, P.E.
Senior Civil Engineer

County of El Dorado
Community Development Agency
Transportation Division, Development Section
2850 Fairlane Court
Placerville, CA 95667
530-621-6077 / 530-957-3521 (cell) / 530-295-2655 (fax)
dave.spiegelberg@edcgov.us

On Mon, Dec 3, 2018 at 12:01 PM Tiffany Wilson <T.Wilson@rsc-engr.com> wrote:

> Dave,
>
> We are requesting a letter or email to my attention stating that we have met the DOT condition 8 and DOT will accept the map recording. Note 3 on the cover sheet addresses the condition. Attached is a copy of the parcel map and the final conditions for reference. We would appreciate a response within the next week in hopes to record the map prior to the end of the year. Thanks.
>
> *Tiffany Ann Wilson, AICP*
> RSC sig

****
The information contained in this electronic mail message is PRIVILEGED AND CONFIDENTIAL INFORMATION intended only for the use of the individual or entity named above. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is prohibited. If you have received this communication in error, please notify the sender either by telephone at (916) 788-2884 or return electronic mail. Thank you.
****

From: Adam Bishop [mailto:adam.bishop@edcgov.us]
Sent: Monday, December 03, 2018 11:10 AM
To: John Klamm <jklamm@tsdeng.com>
Cc: Tiffany Wilson <T.Wilson@rsc-engr.com>; Philip Mosbacher <philip.mosbacher@edcgov.us>; Richard Briner <rich.briner@edcgov.us>
Subject: Re: 2nd check P 17-004 EDH 52

Good morning John,

Your parcel map check is complete. I have attached the approved monumentation estimate. I have listed the items below that need to be completed before we can record the map.

1. We are now ready for you to work on getting us a conditions binder with the departmental approvals. Please be sure to have back-up documentation for each of the conditions showing they have been met and ask each department to provide a letter describing which conditions have been met and that they approve the map being recorded.

2. Please provide Placer Title a copy of the map. Our office will be providing them a copy of the Owner's Statement and a copy of the Notice of Restriction per condition #3. Both documents will record in conjunction with the map.

3. We require a check or bond to cover the monumentation estimated cost unless you plan on setting these monuments prior to recording the Parcel Map.

4. Taxes will have to be paid per the Tax Collector's requirements and an acknowledgement letter completed.

5. Once all of the above are completed we will verify and request the mylar from you.

If you have any questions, please feel free to contact me.

Thank you,

Adam Bishop

Assistant in Land Surveying

County of El Dorado

Surveyor's Office

360 Fair Lane

Placerville, CA 95667

(530) 621-5447

adam.bishop@edcgov.us

QUICK LINKS

https://www.edcgov.us/Surveyor/

NEW FEE SCHEDULE IMPORTANT NOTICE: NEW FEES EFFECTIVE ON APRIL 9, 2018

GOTNET

Private Surveyors and Engineers

of this email and any attachments.

WARNING: This email and any attachments may contain private, confidential, and privileged material for the sole use of the

intended recipient. Any unauthorized review, copying, or distribution of this email (or any attachments) by other than the intended recipient is strictly prohibited. If you are not the intended recipient, please contact the sender immediately and permanently delete the original and any copies of this email and any attachments.

2 attachments



RSC Engineering, Inc.
2250 Douglas Blvd., Ste. 150
Roseville, CA 95661
Ph. (916) 788-2884
Fax (916) 788-4408
www.rsc-engr.com

image001.jpg
18K

noname.eml
74K

Rommel Pabalinas <rommel.pabalinas@edcgov.us> Tue, Dec 11, 2018 at 5:59 PM
To: Tiffany Wilson <T.Wilson@rsc-engr.com>
Cc: Dave Spiegelberg <dave.spiegelberg@edcgov.us>, Adam Bane <adam.bane@edcgov.us>

Tiffany-
I am juggling several projects and assignments at once, including yours. As stated before, I will complete my review of your map by the end of the week.

[Quoted text hidden]

[Quoted text hidden]
---------- Forwarded message ---------
From: Dave Spiegelberg <dave.spiegelberg@edcgov.us>
To: Tiffany Wilson <T.Wilson@rsc-engr.com>
Cc:
Bcc:
Date: Tue, 4 Dec 2018 16:33:38 +0000
Subject: Re: 2nd check P 17-004 EDH 52
Tiffany -

The note complies with Condition #8 and DOT takes no exceptions to filing and recordation of the Final Map.

Dave W. Spiegelberg, P.E.
Senior Civil Engineer

County of El Dorado
Community Development Agency
Transportation Division, Development Section
2850 Fairlane Court
Placerville, CA 95667
530-621-6077 / 530-957-3521 (cell) / 530-295-2655 (fax)
dave.spiegelberg@edcgov.us

On Mon, Dec 3, 2018 at 12:01 PM Tiffany Wilson <T.Wilson@rsc-engr.com> wrote:

> Dave,
>
> We are requesting a letter or email to my attention stating that we have met the DOT condition 8 and DOT will accept the map recording. Note 3 on the cover sheet addresses the condition. Attached is a copy of the parcel map and the final conditions for reference. We would appreciate a response within the next week in hopes to record the map prior to the end of the year. Thanks.
>
> [Quoted text hidden]
>
> of this email and any attachments.

WARNING: This email and any attachments may contain private, confidential, and privileged material for the sole use of the intended recipient. Any unauthorized review, copying, or distribution of this email (or any attachments) by other than the intended recipient is strictly prohibited. If you are not the intended recipient, please contact the sender immediately and permanently delete the original and any copies of this email and any attachments.

[Quoted text hidden]

Rommel Pabalinas <rommel.pabalinas@edcgov.us> Thu, Dec 13, 2018 at 4:29 PM

To: Tiffany Wilson <T.Wilson@rsc-engr.com>, Adam Bishop <adam.bishop@edcgov.us>

Hi Tiffany and Adam-

Planning Department has reviewed and hereby determines the final parcel map for EDH 52 to be consistent with the approved Tentative Parcel Map and conditions approval under application P17-0004. Planning Department approves the final parcel map.

[Quoted text hidden]

==========

Rommel (Mel) Pabalinas, Principal Planner
El Dorado County Community Development Services
Planning and Building Department
Planning Division
2850 Fairlane Court
Placerville, CA 95667
Main Line 530-621-5355
Direct line 530-621-5363
Fax 530-642-0508

Requested by
County Development Services

When recorded mail to:
Community Development Services
Planning and Building Department
2850 Fairlane Court
Placerville, CA 95667

NOTICE OF RESTRICTION

NOTICE IS HEREBY given that a Development Limitation is imposed on Parcels 1 through 4 of the Parcel Map filed in the Office of the County Recorder of the County of El Dorado, State of California, in Book _____ of Parcel Maps at Page _____.

This Notice of Restriction is imposed as Condition Number #3 of P17-0004, approved by the Zoning Administrator (June 20, 2018). Said development limitation states:

> **"Parcels 1 through 4 are phasing lots only. No building permits shall be issued until future discretionary approvals, including but not limited to, a Planned Development (PD) Permit, have been approved by El Dorado County."**

Said restriction shall be binding upon the heirs, assigns and successor in interest of the grantors, and shall remain in effect until rescinded by El Dorado County. The purpose of this Notice of Restriction is to give constructive notice of this development limitation.

_____ _____
TITLE CO TO SET UP CORRECT SIGNATURE LINE AND NOTARY

P17-0004/EDH 52 – As approved by the Zoning Administrator on June 20, 2018.

Findings

1.0 CEQA FINDINGS

1.1 The EDH 52 Tentative Parcel Map qualifies for a Categorical Exemption status under Section 15315 (Minor Land Division) as the division would result in four commercial parcels consistent with the underlying General Plan and zoning. No variances, modifications, or exceptions have been requested. The average slope gradient of the property is below 20% and site access and services would be available if the property is developed. The property has not been involved in a division of a larger parcel within the past two years. No further environmental analysis is necessary.

1.2 The documents and other materials which constitute the record of proceedings upon which this decision is based are in the custody of the Community Development Services-Planning and Building Department-Planning Services Division at 2850 Fairlane Court, Placerville, CA, 95667.

2.0 PARCEL MAP FINDINGS

2.1 **The proposed tentative map, including design and improvements, is consistent with the General Plan.**

The EDH 52 Tentative Parcel Map would result in the creation of four commercial parcels for financing and phasing purposes. The project is compatible with the land use designation.

2.2 **The proposed Parcel Map conforms to the applicable standards and requirements of the County zoning regulations and Minor Land Division Ordinance.**

The EDH 52 Tentative Parcel Map would result in the creation of four commercial parcels consistent with the Zoning Ordinance standards under Chapter 130.22 (Commercial Zones) for the underlying Commercial, Regional (CR) zone district.

2.3 **The site is physically suitable for the proposed type and density of development.**

The resultant commercial parcels are physically suitable for future commercial development. The sizes of the parcels exceed the minimum required lot size, which would enable future development design and improvement to be accommodated through application of Planned Development concepts. The parcels would have direct access along Silva Valley Parkway, a major arterial road in the El Dorado Hills area. The subject is property is surrounded by existing development, where necessary public utilities exists and can be accessed readily.

2.4 **The proposed subdivision is not likely to cause substantial environmental damage.**

The map is consistent with the General Plan and Zoning and no variances, modifications, or exceptions has been requested with this application. The vacant property has average slope gradient below 20%, would have direct access to public infrastructures necessary for subsequent development, and is surrounded by existing residential development and areas identified for future commercial and residential development, and. Though sensitive resources exist on the property, no physical change will occur as a result of this tentative parcel map. The property has not been involved in a division of a larger parcel within the past two years. Therefore, the project is exempt from CEQA pursuant to Section 15315 of the CEQA Guidelines.

Conditions Of Approval

1. **Project Description**

This Tentative Parcel Map is based upon and limited to compliance with the project description, Conditions of Approval set forth below, and the hearing exhibits marked:

Exhibit F - EDH 52 Tentative Parcel Map, May 3, 2018

Tentative Parcel Map subdividing a 41.87-acre property into four commercial parcels ranging in size from 7.69 acres to 17.11 acres for phasing and financing purposes only.

The development, use, and maintenance of the property, the size, shape and the protection and preservation of resources shall conform to the project description above and the hearing exhibits and conditions of approval below. The property and any portions thereof shall be sold, leased or financed in compliance with this project description and the approved hearing exhibits and conditions of approval hereto. All plans must be submitted for review and approval and shall be implemented as approved by the County.

Any deviations from the project description, exhibits, or conditions must be reviewed and approved by the County for conformity with this approval. Deviations may require approved changes to the permit and/or further environmental review. Deviations without the above described approval would constitute a violation of permit approval.

Planning Department

2. **Permit Time Limits:** This Tentative Parcel Map shall expire 36 months from the date of approval unless a timely extension has been filed.

3. **Development Restrictions:** The applicant shall record the following note against the Parcel Map imposing development restrictions on the lots designated as Parcels 1

through 4:

"Parcels 1 through 4 are phasing lots only. No building permits shall be issued until future discretionary approvals, including but not limited to, a Planned Development (PD) Permit, have been approved by El Dorado County. Said restrictions shall be binding upon the heirs, assigns, and successors in interest of the grantors, and shall remain in effect until rescinded by El Dorado County. The purpose of the notice is to give constructive notice of the development limitation."

Indemnity: In the event of any legal action instituted by a third party challenging the validity of any provision of this approval, the developer and landowner agree to be responsible for the costs of defending such suit and shall hold County harmless from any legal fees or costs County may incur as a result of such action.
The developer and land owner shall defend, indemnify, and hold harmless El Dorado County and its agents, officers, and employees from any claim, action, or proceeding against El Dorado County or its agents, officers, or employees to attack, set aside, void, or annul an approval of El Dorado County concerning a Parcel Map.

The County shall notify the applicant of any claim, action, or proceeding, and the County shall cooperate fully in the defense.

Office of County Surveyor

5. All survey monuments shall be set prior to filing the Parcel Map.

6. Situs addressing for the project shall be coordinated the County Surveyors Office prior to filling the Final Map.

7. Prior to filing the Parcel Map, a letter will be required from all agencies that have placed conditions on the map. The letter will state that "all conditions placed on P17-0004 by (that agency) have been satisfied." The letter is to be sent to the County Surveyor and copied to the Consultant and the Applicant.

Transportation Department

8. Prior to filing of Parcel Map, the following note shall be added and verified:

   Parcels 1, 2 and 3 will each be allowed one (1) right-in, right-out only access point onto Silva Valley Parkway at locations determined by the Department of Transportation. Reciprocal access rights shall be provided mutually between Parcels 2, 3 and 4, with an easement shown on the final map from lot 3, through lot 2 to lot 4.

This condition may be modified to provide enhanced coordinated access to Silva Valley Parkway by a Future Planned Development (PD) approval.

Michael Nihan <michael.nihan@edcgov.us>

Fwd: VHR Permits / Renewals

1 message

Melanie Shasha <melanie.shasha@edcgov.us> Thu, Dec 13, 2018 at 11:17 AM
To: Tiffany Schmid <tiffany.schmid@edcgov.us>, Michael Nihan <michael.nihan@edcgov.us>, Aaron Mount <aaron.mount@edcgov.us>

Please see below for questions regarding the final transfer of documents and correspondence from the Treasurer's Office for the VHR permits and renewals. As of today they will no longer issue VHR permits through their office.

Perhaps we should meet to discuss the timeline for new fees and changes to the zoning, etc?

Melanie Shasha
Associate Planner

County of El Dorado
Community Development Services
Planning and Building Department

2850 Fairlane Court,
Placerville, CA 95667
530.621.6530

924 B Emerald Bay Road
South Lake Tahoe, CA 96150
530.573.7904
melanie.shasha@edcgov.us

---------- Forwarded message ---------
From: **Ginnie Hibert** <ginnie.hibert@edcgov.us>
Date: Thu, Dec 13, 2018 at 11:04 AM
Subject: VHR Permits / Renewals
To: Melanie Shasha <melanie.shasha@edcgov.us>
Cc: Karen Coleman <karen.coleman@edcgov.us>, Sue Hennike <sue.hennike@edcgov.us>, Jennifer Stebbins <jennifer.stebbins@edcgov.us>

Good Morning Melanie -

Thank you for giving me a call.

Just need to know:

1) who is going to be on the group email vhrpermits@edcgov.us so I can complete the IT ticket.
2) what phone number do you wish phone calls to be directed regarding VHR permits & renewals
3) who/what office will we bring the "in process" applications & checks Monday? They will need to be signed for.
4) who/what office will the VHR documents (original application, owner & agent & local contact VHR Acknowledgement & Certification) be delivered to & signed for. It will take several weeks to get these documents pulled from the files.

Also I will scan and email over the applications with permit # later today of the new permits issued the last couple of weeks since the VHR software download was received.

Congratulations on getting the data into TrakIt.

Let me know and thank you.

Ginnie Hibert, Accounting Division Manager
County of El Dorado Treasurer-Tax Collector
360 Fair Lane, Placerville, CA 95667
(530) 621-5811

PARCEL MAP

BEING TRACT 1, AREA 3 AND PORTIONS OF TRACT 1 AREA 1, R.S. 32-43 AND BEING A PORTION OF THE S.W. 1/4 OF SECTION 1, T.9 N., R.8 E., M.D.M.

COUNTY OF EL DORADO
STATE OF CALIFORNIA
DECEMBER 2018

RSC ENGINEERING
2250 Douglas Blvd.
Suite 150
Roseville, CA 95661
Ph: 916.788.2884
Fax: 916.788.4408

NOTES

1. REFER TO DOCUMENT NO. 2018-_____ FOR THE CONSENT OF ALL PARTIES HAVING RECORD TITLE INTEREST.
2. REFER TO DOCUMENT NO. 2018-_____ FOR NOTICE OF RESTRICTION.
3. PARCELS 1, 2 AND 3 WILL EACH BE ALLOWED ONE (1) RIGHT-IN, RIGHT-OUT ONLY ACCESS POINT ONTO SILVA VALLEY PARKWAY AT LOCATIONS DETERMINED BY THE DEPARTMENT OF TRANSPORTATION. RECIPROCAL ACCESS RIGHTS SHALL BE PROVIDED MUTUALLY BETWEEN PARCELS 2, 3 AND 4, WITH AN EASEMENT SHOWN ON THIS FINAL MAP FROM LOT 3, THROUGH LOT 2 TO LOT 4.

REFERENCES

(1) R.S. 16-147
(2) R.S. 25-102
(3) R.S. 31-111
(4) R.S. 32-43
(5) R.S. 32-88
(6) SUBDIVISION I-26 VILLAGE D2, EL DORADO HILLS, UNIT NO. 1
(7) SUBDIVISION I-45 PLAT OF SERRANO VILLAGE A - UNIT 4
(8) SUBDIVISION I-46 PLAT OF SERRANO VILLAGE A - UNIT 5
(9) SUBDIVISION J-21 PLAT OF SERRANO VILLAGE A - UNIT 6
(10) 676 O.R. 229
(11) DOC-2009-0010886, O.R.
(12) DOC-2016-0036023, O.R.
(13) 3322 O.R. 79
(14) R.S. 25-148
(15) P.M. 48-45

NOTES:

1. THE EASEMENT DESCRIBED IN BOOK 84 OF DEEDS, PAGE 461 CANNOT BE LOCATED FROM RECORD INFORMATION.
2. THE EASEMENT DESCRIBED IN BOOK 99 OF DEEDS, PAGE 205 CANNOT BE LOCATED FROM RECORD INFORMATION.
3. THE EASEMENT DESCRIBED IN BOOK 396, PAGE 580, O.R. CANNOT BE LOCATED FROM RECORD INFORMATION.
4. ALL BEARINGS AND DISTANCES ALONG CURVES ARE CHORD MEASUREMENTS.
5. ALL DISTANCES SHOWN HEREON ARE GROUND DISTANCES IN U.S. SURVEY FEET.
6. ALL DISTANCES SHOWN PER REFERENCES (5) AND (12) HAVE BEEN CONVERTED TO GROUND DISTANCES.

BASIS OF BEARINGS

THE BASIS OF BEARINGS FOR THIS SURVEY IS IDENTICAL WITH THE WEST LINE OF THE SOUTHWEST QUARTER OF SECTION 1, T.9N., R.8E., M.D.M., AS SHOWN ON THE RECORD OF SURVEY FILED IN BOOK 32 OF SURVEYS, AT PAGE 88, EL DORADO COUNTY RECORDS, BASED UPON FOUND MONUMENTS SHOWN HEREON.

LEGEND

○	DIMENSION POINT (NOTHING FOUND OR SET)
●	FOUND MONUMENT AS NOTED
	FOUND 3/4" IRON PIPE NO TAG
	FOUND 3/4" CAPPED IRON PIPE "RCE 20462-1989"(1)
	FOUND 3/4" IRON PIPE WITH PLUG STAMPED "LS 4806"(3)(5)
	FOUND 6"x6" CONCRETE HIGHWAY MONUMENT (3)(5)
	FOUND 1/4 CORNER MONUMENT AS NOTED
	FOUND SECTION CORNER MONUMENT AS NOTED
○	SET 5/8" REBAR W/ALUMINUM CAP STAMPED: "L.S. 7375"
R.S.	RECORD OF SURVEY
S.D.	SUBDIVISION MAP
(R)	RADIAL LINE
S.E.	SLOPE EASEMENT
D.E.	DRAINAGE EASEMENT
	NO INGRESS OR EGRESS RIGHTS LINE

SURVEYOR'S STATEMENT

THIS MAP WAS PREPARED BY ME OR UNDER MY DIRECTION AND IS BASED UPON A FIELD SURVEY IN CONFORMANCE WITH THE REQUIREMENTS OF THE SUBDIVISION MAP ACT AND LOCAL ORDINANCE AT THE REQUEST OF EDH 52 ON JUNE 19, 2018. I HEREBY STATE THAT THIS PARCEL MAP SUBSTANTIALLY CONFORMS TO THE APPROVED OR CONDITIONALLY APPROVED TENTATIVE MAP, IF ANY. ALL THE MONUMENTS WILL BE OF THE CHARACTER AND WILL OCCUPY THOSE POSITIONS BEFORE NOVEMBER 31, 2020, AND THEY WILL BE SUFFICIENT TO ENABLE THE SURVEY TO BE RETRACED.

DATE: _____

PROFESSIONAL LAND SURVEYOR * JOHN E. KLAMM * No. 7375 Exp. 12-31-19 * STATE OF CALIFORNIA *

_____
JOHN E. KLAMM, L.S. 7375
LICENSE EXPIRES: 12-31-19

COUNTY SURVEYOR'S STATEMENT

I HAVE EXAMINED THE MAP. THE SUBDIVISION AS SHOWN IS SUBSTANTIALLY THE SAME AS IT APPEARED ON THE TENTATIVE MAP, IF REQUIRED, AND ANY APPROVED ALTERATIONS THEREOF. ALL PROVISIONS OF CHAPTER 2 OF THE SUBDIVISION MAP ACT AND OF ANY LOCAL ORDINANCES APPLICABLE AT THE TIME OF APPROVAL OF THE TENTATIVE MAP, IF REQUIRED, HAVE BEEN COMPLIED WITH. I AM SATISFIED THE MAP IS TECHNICALLY CORRECT.

DATE: _____

_____
RICHARD L. BRINER L.S. 5084
COUNTY SURVEYOR
COUNTY OF EL DORADO, CALIFORNIA

_____
PHILIP R. MOSBACHER L.S. 7189
DEPUTY SURVEYOR
COUNTY OF EL DORADO, CALIFORNIA

COUNTY RECORDER'S CERTIFICATE

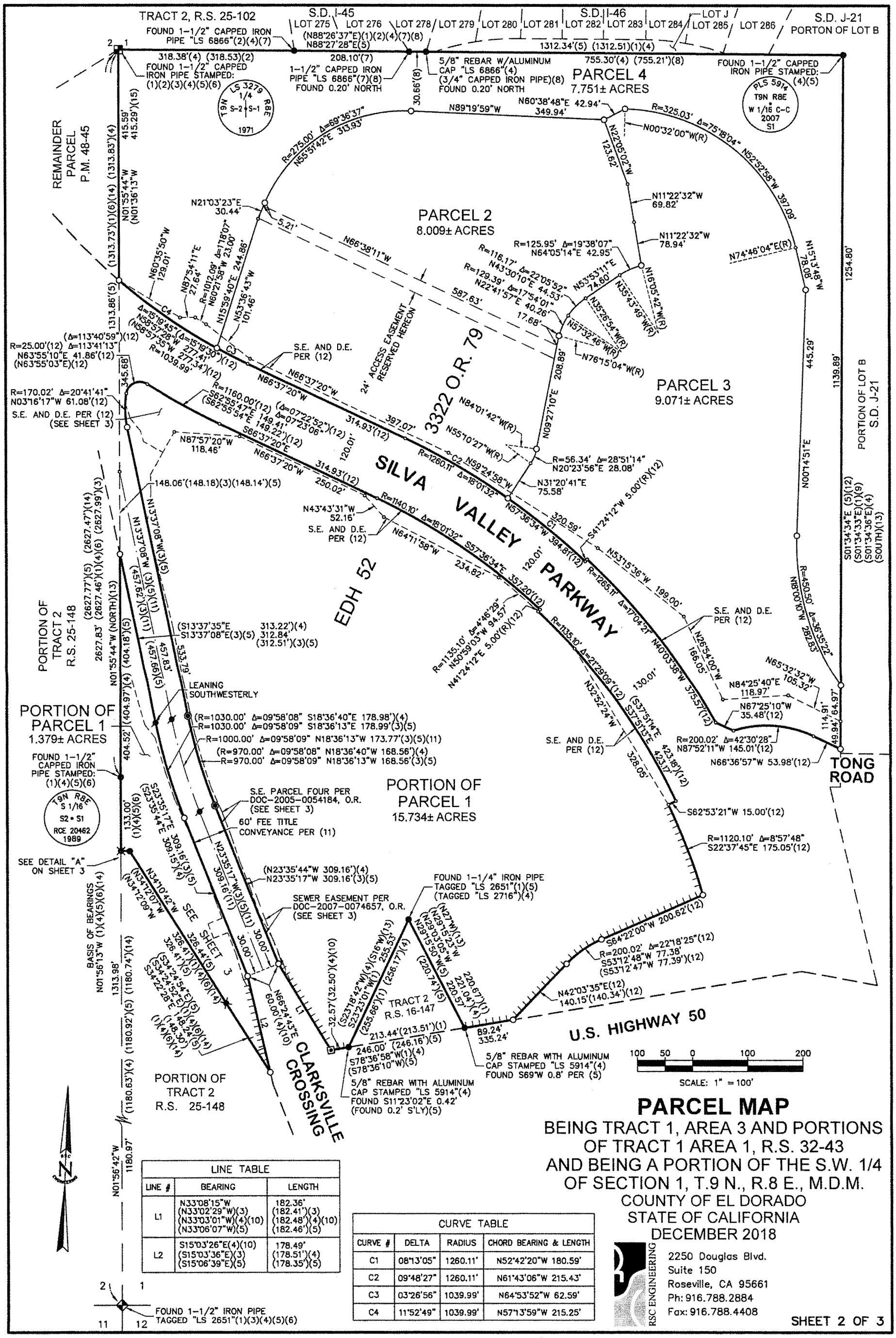
I, WILLIAM E. SCHULTZ HEREBY CERTIFY THAT PLACER TITLE COMPANY PARCEL MAP GUARANTEE NO. _____ WAS FILED WITH THIS OFFICE AND THAT THIS PARCEL MAP WAS ACCEPTED FOR RECORD AND FILED THIS _____ DAY OF _____, 2018 AT _____; _____; _____ IN BOOK _____ OF PARCEL MAPS AT PAGE _____ AT THE REQUEST OF EDH 52.

DOCUMENT NO. _____

_____
WILLIAM E. SCHULTZ
COUNTY RECORDER, CLERK
COUNTY OF EL DORADO, CALIFORNIA

BY: _____
DEPUTY

TENTATIVE PARCEL MAP #P17-0004 APPROVED JUNE 20, 2018 EXISTING ASSESSOR'S PARCEL NO. 122-720-15



PARCEL MAP

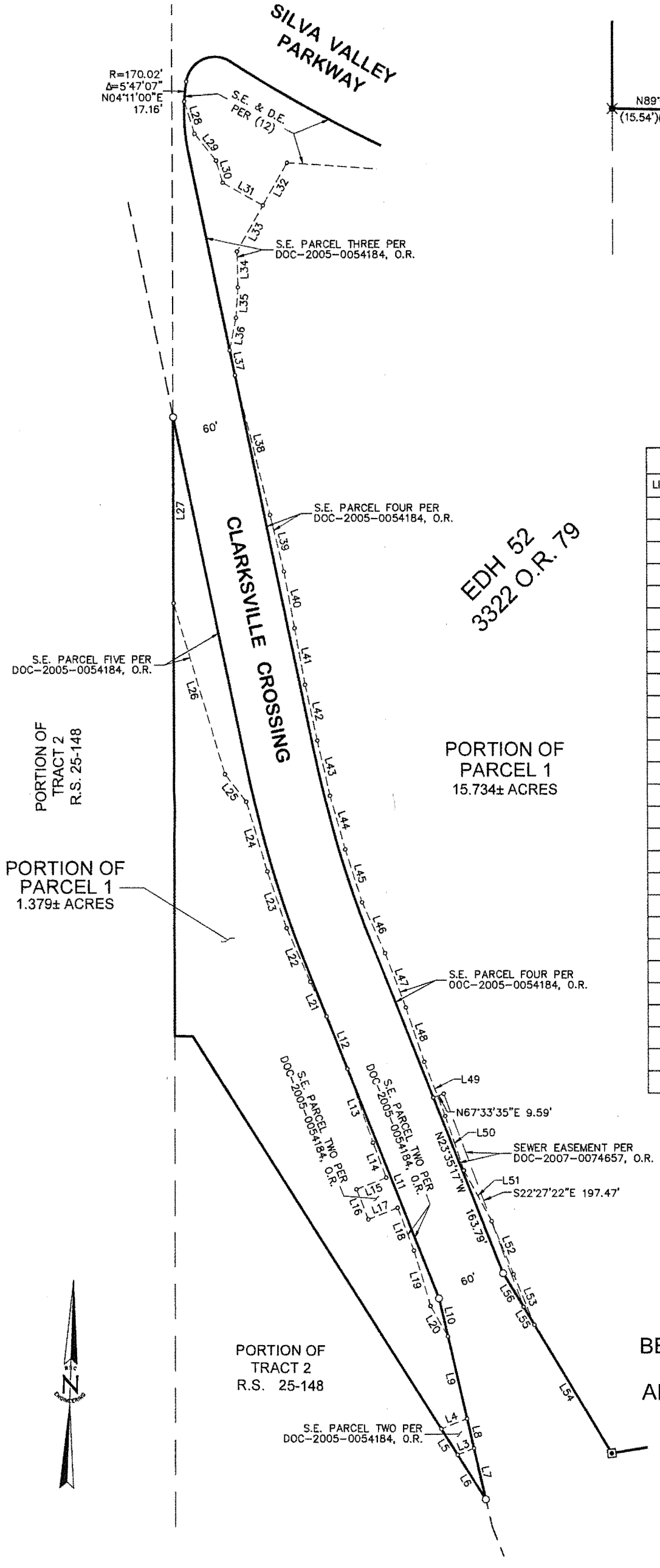
BEING TRACT 1, AREA 3 AND PORTIONS OF TRACT 1 AREA 1, R.S. 32-43 AND BEING A PORTION OF THE S.W. 1/4 OF SECTION 1, T.9 N., R.8 E., M.D.M.

COUNTY OF EL DORADO
STATE OF CALIFORNIA
DECEMBER 2018

LINE TABLE		
LINE #	BEARING	LENGTH
L1	N33°08'15"W (N33°02'29"W)(3) (N33°03'01"W)(4)(10) (N33°06'07"W)(5)	182.36' (182.41')(3) (182.48')(4)(10) (182.46')(5)
L2	S15°03'26"E(4)(10) (S15°03'36"E)(3) (S15°06'39"E)(5)	178.49' (178.51')(4) (178.35')(5)

CURVE TABLE			
CURVE #	DELTA	RADIUS	CHORD BEARING & LENGTH
C1	08°13'05"	1260.11'	N52°42'20"W 180.59'
C2	09°48'27"	1260.11'	N61°43'06"W 215.43'
C3	03°26'56"	1039.99'	N64°53'52"W 62.59'
C4	11°52'49"	1039.99'	N57°13'59"W 215.25'

RSC ENGINEERING
2250 Douglas Blvd.
Suite 150
Roseville, CA 95661
Ph: 916.788.2884
Fax: 916.788.4408



DETAIL "A"
SCALE: 1"=5'

LINE TABLE		
LINE #	BEARING	LENGTH
L3	N66°24'43"E	15.25'
L4	N66°24'43"E	24.10'
L5	N34°22'27"W	26.47'
L6	N34°22'27"W	45.58'
L7	N15°03'26"W	45.28'
L8	N15°03'26"W	26.29'
L9	N15°03'26"W	73.33'
L10	N15°03'26"W	33.59'
L11	N23°35'17"W	214.36'
L12	N23°35'17"W	48.86'
L13	N20°55'55"W	67.69'
L14	N22°30'09"W	32.33'
L15	N66°24'44"E	27.75'
L16	N23°35'16"W	28.00'
L17	N66°24'44"E	27.28'
L18	N22°50'18"W	39.58'
L19	N18°27'44"W	50.65'
L20	N31°49'26"W	29.93'
L21	N27°05'07"W	33.16'
L22	N25°19'37"W	51.08'
L23	N20°39'17"W	52.04'
L24	N18°39'02"W	62.94'
L25	N39°19'02"W	30.19'
L26	N18°28'49"W	154.79'
L27	N01°54'38"W	161.06'
L28	N19°28'51"W	29.19'
L29	N40°43'59"W	29.56'

LINE TABLE		
LINE #	BEARING	LENGTH
L30	N18°40'02"W	20.13'
L31	N62°32'00"W	39.83'
L32	N27°32'32"E	42.51'
L33	N27°28'00"E	45.92'
L34	N03°15'22"W	30.98'
L35	N01°59'09"E	26.54'
L36	N09°10'35"E	28.61'
L37	N13°37'08"W	22.21'
L38	N15°54'32"W	124.41'
L39	N15°35'45"W	50.46'
L40	N12°24'46"W	49.92'
L41	N12°12'02"W	50.09'
L42	N14°04'30"W	49.65'
L43	N14°31'37"W	48.79'
L44	N17°47'22"W	48.27'
L45	N19°32'26"W	48.05'
L46	N25°59'16"W	48.61'
L47	N22°33'56"W	50.55'
L48	N20°41'57"W	49.78'
L49	N22°59'54"W	50.21'
L50	N20°51'45"W	49.89'
L51	N30°38'43"W	50.18'
L52	N24°21'55"W	49.83'
L53	N24°18'09"W	47.59'
L54	N33°08'15"W	129.82'
L55	N33°08'15"W	18.23'
L56	N33°08'15"W	34.30'

PARCEL MAP

BEING TRACT 1, AREA 3 AND PORTIONS OF TRACT 1 AREA 1, R.S. 32-43 AND BEING A PORTION OF THE S.W. 1/4 OF SECTION 1, T.9 N., R.8 E., M.D.M.
COUNTY OF EL DORADO
STATE OF CALIFORNIA
DECEMBER 2018

RSC ENGINEERING
2250 Douglas Blvd.
Suite 150
Roseville, CA 95661
Ph: 916.788.2884
Fax: 916.788.4408

SHINGLE SPRINGS BAND
OF MIWOK INDIANS

Shingle Springs Rancheria
(Verona Tract), California
5168 Honpie Road
Placerville, CA 95667
Phone: 530-676-8010
shinglespringsrancheria.com

2017 OCT 19 AM 11:37
RECEIVED
PLANNING DEPARTMENT

CULTURAL RESOURCES

October 10, 2017

Community Development Services
Planning and Building Department
2850 Fairlane Court
Placerville, CA 95667

To Whom it May Concern,

The Most Likely Descendant, Daniel Fonseca would like to initiate consultation process with you in regard to the P17-0004/EDH 52 TENTATIVE PARCEL in El Dorado County. Among other things, we would like this consultation to address the cultural and historic resource issues, pursuant to the regulations implementing Section 106 of the National Historic Preservation Act and Assembly Bill 52.

Prior to meeting we would like to request any and all completed record searches and/or surveys that were done in/around the project area up to and including environmental, archaeological and cultural reports.

Please let this letter serve as a formal request for the Shingle Springs Band Of Miwok Indians to be added as a consulting party in identifying any Tribal Cultural Properties (TCPs) that may exist within the project's Area of Potential Effects (APE).

Please contact Kara Perry, Cultural Outreach Coordinator, (530) 488-4049, kperry@ssband.org, to schedule a consultation pursuant to Section 106 of the NHPA and Assembly 52.

Sincerely,

Daniel Fonseca
Tribal historic Preservation Officer (THPO)
Most Likely Descendant (MLD)

MIWOK United Auburn Indian Community
MAIDU of the Auburn Rancheria

Gene Whitehouse, Chairman | John L. Williams, Vice Chairman | Calvin Moman, Secretary | Jason Camp, Treasurer | Gabe Cayton, Council Member

RECEIVED
NOV 02 2017
EL DORADO COUNTY
DEVELOPMENT SERVICES DEPT

October 11, 2017

County of El Dorado Representative
County of El Dorado
2850 Fairlane Court
Placerville, CA 95667

RE: AB 52 Consultation Request for the P17-0004/EDH 52 Tentative Parcel Map Project, El Dorado Hills, CA

Dear County of El Dorado Representative,

The United Auburn Indian Community (UAIC) received a letter from the County of El Dorado dated 10/4/2017, formally notifying us of a proposed project, the P17-0004/EDH 52 Tentative Parcel Map Project in El Dorado Hills, and an opportunity to consult under AB 52. This letter is notice that UAIC would like to initiate consultation under AB 52.

This letter is also a formal request to allow UAIC tribal representatives to observe and participate in all cultural resource surveys, including initial pedestrian surveys for the project. Please send us all existing cultural resource assessments, as well as requests for, and the results of, any records searches that may have been conducted prior to our first consultation meeting. If tribal cultural resources are identified within the project area, it is UAIC's policy that tribal monitors must be present for all ground disturbing activities. Finally, please be advised that UAIC's strong preference is to preserve tribal cultural resources in place and avoid them whenever possible. Subsurface testing and data recovery must not occur without first consulting with UAIC and receiving UAIC's written consent.

In the letter, no lead contact person is identified for consultation on the proposed project. Marcos Guerrero, our Cultural Resources Manager, will be UAIC's point of contact for this consultation. Please contact Mr. Guerrero by phone at (530) 883-2364 or email at mguerrero@auburnrancheria.com to begin the consultation process.

Thank you for involving UAIC in the planning process at an early stage. We ask that you make this letter a part of the project record and we look forward to working with you to ensure that tribal cultural resources are protected.

Sincerely,



Gene Whitehouse
Chairman

CC: Matthew Moore, UAIC Tribal Historic Preservation Officer
Marcos Guerrero, UAIC Cultural Resources Manager

Rommel Pabalinas <rommel.pabalinas@edcgov.us>

Categorical Exemption

Rick Chavez <R.Chavez@rsc-engr.com> Mon, Apr 2, 2018 at 11:08 PM
To: Rommel Pabalinas <rommel.pabalinas@edcgov.us>
Cc: Tiffany Wilson <T.Wilson@rsc-engr.com>, Angelo Christie <angeloc@aktdev.com>

Mel,

This is in response to our telephone conversation this morning. We calculated the areas of the various slope categories on the slope exhibit map we prepared (prior to Silva Valley Parkway being constructed) for the original application. According to that exhibit, the area where the percentage of slope is greater than 20% is only 3.6% of the project area (the area with slopes less than 20% is 96.4%). The additional cut slopes due to the Silva Valley Parkway Interchange Project increases the area with slopes greater than 20% to 5.0% (95% of the project area will have slopes less than 20%) so the average slope of the project would still be significantly less than 20%.

We wanted to remind you that public sewer and water to serve the project are located in Old Silva Valley Road and that water and sewer will be extended through proposed Parcel 1 to serve proposed Parcels 2 and 3.

Please call me if you have any questions or need additional information.

Thanks,

Rick

Richard S. Chavez P.E.

RSC ENGINEERING
RSC Engineering, Inc.
2250 Douglas Blvd., Ste. 150
Roseville, CA 95661
Ph. (916) 788-2884
Fax (916) 788-4408
www.rsc-engr.com

****

The information contained in this electronic mail message is PRIVILEGED AND CONFIDENTIAL INFORMATION intended only for the use of the individual or entity named above. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is prohibited. If you

have received this communicatio error, please notify the sender either by phone at (916) 788-2884 or return electronic mail. Thank you.

****

From: Rommel Pabalinas [mailto:rommel.pabalinas@edcgov.us]
Sent: Monday, April 02, 2018 11:52 AM
To: Rick Chavez <R.Chavez@rsc-engr.com>
Subject: Categorical Exemption

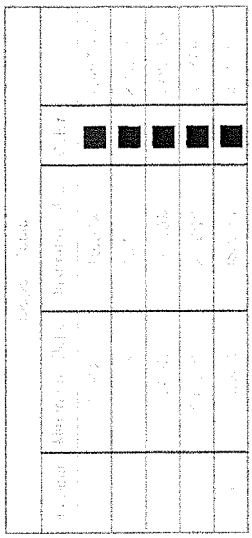
[Quoted text hidden]

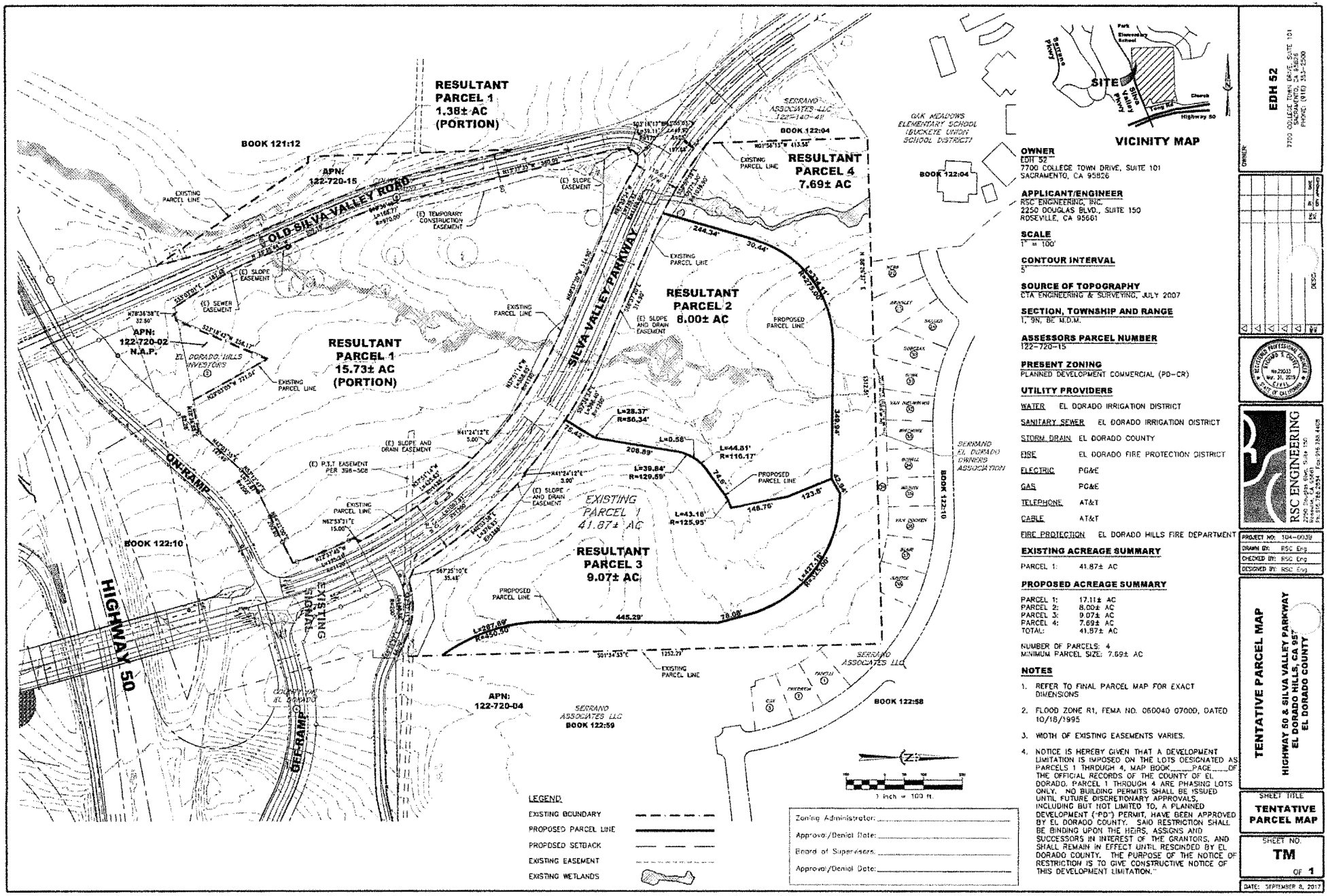
WARNING: This email and any attachments may contain private, confidential, and privileged material for the sole use of the intended recipient. Any unauthorized review, copying, or distribution of this email (or any attachments) by other than the intended recipient is strictly prohibited. If you are not the intended recipient, please contact the sender immediately and permanently delete the original and any copies of this email and any attachments.

2 attachments

Slope Exhibit.pdf
1932K

EDH 52 Parcel Map.pdf
812K





OWNER
EDH 52
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826

APPLICANT/ENGINEER
RSC ENGINEERING, INC.
2250 DOUGLAS BLVD., SUITE 150
ROSEVILLE, CA 95661

SCALE
1" = 100'

CONTOUR INTERVAL
5'

SOURCE OF TOPOGRAPHY
CTA ENGINEERING & SURVEYING, JULY 2007

SECTION, TOWNSHIP AND RANGE
1, 9N, 8E M.D.M.

ASSESSORS PARCEL NUMBER
122-720-15

PRESENT ZONING
PLANNED DEVELOPMENT COMMERCIAL (PD-CR)

UTILITY PROVIDERS

WATER	EL DORADO IRRIGATION DISTRICT
SANITARY SEWER	EL DORADO IRRIGATION DISTRICT
STORM DRAIN	EL DORADO COUNTY
FIRE	EL DORADO FIRE PROTECTION DISTRICT
ELECTRIC	PG&E
GAS	PG&E
TELEPHONE	AT&T
CABLE	AT&T
FIRE PROTECTION	EL DORADO HILLS FIRE DEPARTMENT

EXISTING ACREAGE SUMMARY
PARCEL 1: 41.87± AC

PROPOSED ACREAGE SUMMARY

PARCEL 1:	17.11± AC
PARCEL 2:	8.00± AC
PARCEL 3:	9.07± AC
PARCEL 4:	7.69± AC
TOTAL:	41.87± AC

NUMBER OF PARCELS: 4
MINIMUM PARCEL SIZE: 7.69± AC

NOTES

1. REFER TO FINAL PARCEL MAP FOR EXACT DIMENSIONS
2. FLOOD ZONE R1, FEMA NO. 060040 0700D, DATED 10/18/1995
3. WIDTH OF EXISTING EASEMENTS VARIES.
4. NOTICE IS HEREBY GIVEN THAT A DEVELOPMENT LIMITATION IS IMPOSED ON THE LOTS DESIGNATED AS PARCELS 1 THROUGH 4, MAP BOOK _____ PAGE _____ OF THE OFFICIAL RECORDS OF THE COUNTY OF EL DORADO. PARCEL 1 THROUGH 4 ARE PHASING LOTS ONLY. NO BUILDING PERMITS SHALL BE ISSUED UNTIL FUTURE DISCRETIONARY APPROVALS, INCLUDING BUT NOT LIMITED TO, A PLANNED DEVELOPMENT ("PD") PERMIT, HAVE BEEN APPROVED BY EL DORADO COUNTY. SAID RESTRICTION SHALL BE BINDING UPON THE HEIRS, ASSIGNS AND SUCCESSORS IN INTEREST OF THE GRANTORS, AND SHALL REMAIN IN EFFECT UNTIL RESCINDED BY EL DORADO COUNTY. THE PURPOSE OF THE NOTICE OF RESTRICTION IS TO GIVE CONSTRUCTIVE NOTICE OF THIS DEVELOPMENT LIMITATION."

OWNER
EDH 52
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 332-2500

RSC ENGINEERING
2250 DOUGLAS BLVD., SUITE 150
ROSEVILLE, CA 95661
PH: 916.782.2554 FAX: 916.780.4628

PROJECT NO: 104-0039
DRAWN BY: RSC Eng
CHECKED BY: RSC Eng
DESIGNED BY: RSC Eng

TENTATIVE PARCEL MAP
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95762
EL DORADO COUNTY

SHEET TITLE
TENTATIVE PARCEL MAP

SHEET NO.
TM
OF 1

DATE: SEPTEMBER 8, 2017

COMMUNITY DEVELOPMENT SERVICES
PLANNING AND BUILDING DEPARTMENT
http://www.planning.building@edcgov.us

PLACERVILLE OFFICE:
2850 Fairlane Court, Placerville, CA 95667
BUILDING
(530) 621-5315 / (530) 622-1708 Fax
bldgdept@edcgov.us
PLANNING
(530) 621-5355 / (530) 642-0508 Fax
planning@edcgov.us

LAKE TAHOE OFFICE:
924 B Emerald Bay Rd.
South Lake Tahoe, CA 96150
(530) 573-3330
(530) 542-9082 Fax

October 9, 2017

Tiffany Wilson
RSC Engineering, Inc
2250 Douglas Blvd., Suite 150
Roseville, CA 95661

RE: Application Completeness Determination
File No. P17-0004

Dear Tiffany:

This office has completed review of the application file contents for Tentative Parcel Map P17-0004 (EDH 52 Tentative Parcel Map) and has determined the application to be **COMPLETE** for processing.

The application will be distributed to affected departments and agencies for review and comment. A Technical Advisory Committee (TAC) meeting may be scheduled to discuss the comments received and any project issues. One or more of the following actions may be taken:

1) Make an environmental determination,
2) Determine project conditions and/or,
3) Estimate a public hearing date.

TAC meetings are for agency discussion and it is recommended that you or your agent be present at the TAC meeting to discuss the progress of your application. Should you have any questions regarding the project or this notice, please feel free to contact me at (530) 621-5363 or email at Rommel.Pabalinas@edcgov.us.

Sincerely,

Rommel (Mel) Pabalinas

Cc: EDH 52 GP, 7700 College Town Drive Suite 101, Sacramento, CA 95826
Project File Copy

COMMUNITY DEVELOPMENT SERVICES
PLANNING AND BUILDING DEPARTMENT
http://www.edcgov.us/DevServices/

PLACERVILLE OFFICE:
2850 Fairlane Court, Placerville, CA 95667
BUILDING
(530) 621-5315 / (530) 622-1708 Fax
bldgdept@edcgov.us
PLANNING
(530) 621-5355 / (530) 642-0508 Fax
planning@edcgov.us

LAKE TAHOE OFFICE:
924 B Emerald Bay Rd
South Lake Tahoe, CA 96150
(530) 573-3330
(530) 542-9082 Fax

October 2, 2017

Ione Band of Miwok Indians
Randy Yonemura
Cultural Committee Chair
P.O. Box 699
Plymouth, CA 95668

CERTIFIED MAIL

RE: Assembly Bill 52 Consultation for **P17-0004/EDH 52 TENTATIVE PARCEL MAP** a Proposed Project within the County of El Dorado

Dear Mr. Yonemura,

This letter is in response to your request received on March 7, 2016 for formal notification of proposed projects within the Ione Band of Miwok Indians Geographic Area of Traditional and Cultural Affiliation.

P17-0004/EDH 52 TENTATIVE PARCEL MAP (EDH 52/RSC Engineering Inc.)
The proposed project will be located on property, identified by Assessor's Parcel Number 122-720-15, consists of 41.87 acres, and is located on the northeast corner of Silva Valley Road and U.S. Highway 50, **in the El Dorado Hills area**.

Project Documentation can be viewed:
http://edcapps.edcgov.us/Planning/ProjectInquiryDisplay.asp?ProjectID=21399

This project is subject to the cultural resources provisions of CEQA Assembly Bill 52 (AB52), which require Native American outreach. Pursuant to AB52, the County is soliciting input from Native American organizations and representatives listed with the Native American Heritage Commission to identify cultural resources and properties of concern to the Native American Community.

Please respond within 30 days of receipt of this letter to provide any information regarding archaeological sites, tribal cultural resources or areas of cultural importance known to occur within or near the project area and/or to request consultation with the County, if desired. In accordance with federal and state laws, information received in response to this letter will be kept confidential. If you have any questions regarding this project or require further information, please do not hesitate to contact us. We can be reached by phone 530-621-5355 or via email at planning@edcgov.us.

7016 0750 0000 4771 2544

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at *www.usps.com®*.

OFFICIAL USE

Certified Mail Fee
$

Extra Services & Fees *(check box, add fee as appropriate)*
- ☐ Return Receipt (hardcopy) $
- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

P17-0004

Postmark Here

Postage
$
Tot
$
Ser
Stre
City

Ione Band of Miwok Indians
Randy Yonemura
Cultural Committee Chair
P.O. Box 699
Plymouth, CA 95668

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ione Band of Miwok Indians
Randy Yonemura
Cultural Committee Chair
P.O. Box 699
Plymouth, CA 95668

9590 9402 2003 6123 4848 94

2. Article Number *(Transfer from service label)*
7016 0750 0000 4771 2544

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X
☐ Agent
☐ Addressee

B. Received by *(Printed Name)* Heather Baugh
C. Date of Delivery 10-4-17

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 P17-0004 RTP Domestic Return Receipt

USPS TRACKING #

9590 9402 2003 6123 4848 94

First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

United States Postal Service

• Sender: Please print your name, address, and ZIP+4® in this box•

County of El Dorado
Community Development Agency
2850 Fairlane Ct., Bldg. C
Placerville, CA 95667

Planning

2017 OCT -5 AM 11:32
RECEIVED
PLANNING DEPARTMENT

COMMUNITY DEVELOPMENT SERVICES
PLANNING AND BUILDING DEPARTMENT

http://www.edcgov.us/DevServices/

PLACERVILLE OFFICE:
2850 Fairlane Court, Placerville, CA 95667
BUILDING
(530) 621-5315 / (530) 622-1708 Fax
bldgdept@edcgov.us
PLANNING
(530) 621-5355 / (530) 642-0508 Fax
planning@edcgov.us

LAKE TAHOE OFFICE:
924 B Emerald Bay Rd
South Lake Tahoe, CA 96150
(530) 573-3330
(530) 542-9082 Fax

October 2, 2017

Nashville-El Dorado Miwok
Mr. Cosme Valdez
Interim Chief Executive Officer
P.O. Box 580986
Elk Grove, CA 95758

CERTIFIED MAIL

RE: Assembly Bill 52 Consultation for **P17-0004/EDH 52 TENTATIVE PARCEL MAP** a Proposed Project within the County of El Dorado

Dear Mr. Valdez,

This letter is in response to your request received on July 15, 2016 for formal notification of proposed projects within the Nashville-El Dorado Miwok Geographic Area of Traditional and Cultural Affiliation.

P17-0004/EDH 52 TENTATIVE PARCEL MAP (EDH 52/RSC Engineering Inc.)
The proposed project will be located on property, identified by Assessor's Parcel Number 122-720-15, consists of 41.87 acres, and is located on the northeast corner of Silva Valley Road and U.S. Highway 50, **in the El Dorado Hills area**.

Project Documentation can be viewed:
http://edcapps.edcgov.us/Planning/ProjectInquiryDisplay.asp?ProjectID=21399

This project is subject to the cultural resources provisions of CEQA Assembly Bill 52 (AB52), which require Native American outreach. Pursuant to AB52, the County is soliciting input from Native American organizations and representatives listed with the Native American Heritage Commission to identify cultural resources and properties of concern to the Native American Community.

Please respond within 30 days of receipt of this letter to provide any information regarding archaeological sites, tribal cultural resources or areas of cultural importance known to occur within or near the project area and/or to request consultation with the County, if desired. In accordance with federal and state laws, information received in response to this letter will be kept confidential. If you have any questions regarding this project or require further information, please do not hesitate to contact us. We can be reached by phone 530-621-5355 or via email at planning@edcgov.us.

7016 0750 0000 4771 2537

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at *www.usps.com®*.

OFFICIAL USE

Certified Mail Fee
$

Extra Services & Fees *(check box, add fee as appropriate)*
- ☐ Return Receipt (hardcopy) $
- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage
$

Total
$

Sent To
Nashville-El Dorado Miwok
Mr. Cosme Valdez
Interim Chief Executive Officer

Street, Apt. No., or PO Box No.
P.O. Box 580986

City, State, ZIP+4®
Elk Grove, CA 95758

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

P17-0004

Postmark Here

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
Nashville-El Dorado Miwok
Mr. Cosme Valdez
Interim Chief Executive Officer
P.O. Box 580986
Elk Grove, CA 95758

9590 9402 2003 6123 4848 87

2. Article Number *(Transfer from service label)*
7016 0750 0000 4771 2537

PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X
☐ Agent
☐ Addressee

B. Received by *(Printed Name)*

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

580976

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

P17-0004 RTP

Domestic Return Receipt

USPS TRACKING#

9590 9402 2003 6123 4848 87

First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

United States Postal Service

• Sender: Please print your name, address, and ZIP+4® in this box•

County of El Dorado
Community Development Agency
2850 Fairlane Ct., Bldg. C
Placerville, CA 95667

Planning

2017 OCT -5 AM 11:32
RECEIVED
PLANNING DEPARTMENT

-410050

COMMUNITY DEVELOPMENT SERVICES
PLANNING AND BUILDING DEPARTMENT

http://www.edcgov.us/DevServices/

PLACERVILLE OFFICE:
2850 Fairlane Court, Placerville, CA 95667
BUILDING
(530) 621-5315 / (530) 622-1708 Fax
bldgdept@edcgov.us
PLANNING
(530) 621-5355 / (530) 642-0508 Fax
planning@edcgov.us

LAKE TAHOE OFFICE:
924 B Emerald Bay Rd
South Lake Tahoe, CA 96150
(530) 573-3330
(530) 542-9082 Fax

October 2, 2017

Shingle Springs Band of Miwok Indians
Mr. Nicholas Fonseca, Chairperson
P.O. Box 1340
Shingle Springs, CA 95682

CERTIFIED MAIL

RE: Assembly Bill 52 Consultation for **P17-0004/EDH 52 TENTATIVE PARCEL MAP** a Proposed Project within the County of El Dorado

Dear Mr. Fonseca,

This letter is in response to your request received on July 15, 2016 for formal notification of proposed projects within the Shingle Springs Band of Miwok Indians Geographic Area of Traditional and Cultural Affiliation.

P17-0004/EDH 52 TENTATIVE PARCEL MAP (EDH 52/RSC Engineering Inc.)
The proposed project will be located on property, identified by Assessor's Parcel Number 122-720-15, consists of 41.87 acres, and is located on the northeast corner of Silva Valley Road and U.S. Highway 50, **in the El Dorado Hills area**.

Project Documentation can be viewed:
http://edcapps.edcgov.us/Planning/ProjectInquiryDisplay.asp?ProjectID=21399

This project is subject to the cultural resources provisions of CEQA Assembly Bill 52 (AB52), which require Native American outreach. Pursuant to AB52, the County is soliciting input from Native American organizations and representatives listed with the Native American Heritage Commission to identify cultural resources and properties of concern to the Native American Community.

Please respond within 30 days of receipt of this letter to provide any information regarding archaeological sites, tribal cultural resources or areas of cultural importance known to occur within or near the project area and/or to request consultation with the County, if desired. In accordance with federal and state laws, information received in response to this letter will be kept confidential. If you have any questions regarding this project or require further information, please do not hesitate to contact us. We can be reached by phone 530-621-5355 or via email at planning@edcgov.us.

7016 0750 0000 4771 2520

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at *www.usps.com®*.

OFFICIAL USE

Certified Mail Fee
$

Extra Services & Fees *(check box, add fee as appropriate)*
- ☐ Return Receipt (hardcopy) $
- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

P17-0004

Postmark Here

Postage
$

Total P
$

Sent To Shingle Springs Band of Miwok Indians
Mr. Nicholas Fonseca, Chairperson
P.O. Box 1340
Street a Shingle Springs, CA 95682

City, St

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

---

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
Shingle Springs Band of Miwok Indians
Mr. Nicholas Fonseca, Chairperson
P.O. Box 1340
Shingle Springs, CA 95682

9590 9402 2003 6123 4848 70

2. Article Number *(Transfer from service label)*
7016 0750 0000 4771 2520

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* Jeffrey E. Murray Sr. C. Date of Delivery 10/5/17

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 P17-0004 RTP Domestic Return Receipt

---

USPS TRACKING #

9590 9402 2003 6123 4848 70

First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

United States Postal Service

Sender: Please print your name, address, and ZIP+4® in this box®

County of El Dorado
Community Development Agency
2850 Fairlane Ct., Bldg. C
Placerville, CA 95667

Planning

2017 OCT 10 AM 11:42
RECEIVED
PLANNING DEPARTMENT

COMMUNITY DEVELOPMENT SERVICES

PLANNING AND BUILDING DEPARTMENT

http://www.edcgov.us/DevServices/

PLACERVILLE OFFICE:
2850 Fairlane Court, Placerville, CA 95667
BUILDING
(530) 621-5315 / (530) 622-1708 Fax
bldgdept@edcgov.us
PLANNING
(530) 621-5355 / (530) 642-0508 Fax
planning@edcgov.us

LAKE TAHOE OFFICE:
924 B Emerald Bay Rd
South Lake Tahoe, CA 96150
(530) 573-3330
(530) 542-9082 Fax

October 2, 2017

T'si-Akim Maidu
Mr. Grayson Coney, Cultural Director
P.O. Box 1316
Colfax, CA 95713

CERTIFIED MAIL

RE: Assembly Bill 52 Consultation for **P17-0004/EDH 52 TENTATIVE PARCEL MAP** a Proposed Project within the County of El Dorado

Dear Mr. Coney,

This letter is in response to your request received on July 15, 2016 for formal notification of proposed projects within the T'si-Akim Maidu-Colfax Geographic Area of Traditional and Cultural Affiliation.

P17-0004/EDH 52 TENTATIVE PARCEL MAP (EDH 52/RSC Engineering Inc.)
The proposed project will be located on property, identified by Assessor's Parcel Number 122-720-15, consists of 41.87 acres, and is located on the northeast corner of Silva Valley Road and U.S. Highway 50, **in the El Dorado Hills area**.

Project Documentation can be viewed:
http://edcapps.edcgov.us/Planning/ProjectInquiryDisplay.asp?ProjectID=21399

This project is subject to the cultural resources provisions of CEQA Assembly Bill 52 (AB52), which require Native American outreach. Pursuant to AB52, the County is soliciting input from Native American organizations and representatives listed with the Native American Heritage Commission to identify cultural resources and properties of concern to the Native American Community.

Please respond within 30 days of receipt of this letter to provide any information regarding archaeological sites, tribal cultural resources or areas of cultural importance known to occur within or near the project area and/or to request consultation with the County, if desired. In accordance with federal and state laws, information received in response to this letter will be kept confidential. If you have any questions regarding this project or require further information, please do not hesitate to contact us. We can be reached by phone 530-621-5355 or via email at planning@edcgov.us.

7014 0750 0000 4771 2513

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at *www.usps.com®*.

OFFICIAL USE

Certified Mail Fee
$

Extra Services & Fees *(check box, add fee as appropriate)*
- ☐ Return Receipt (hardcopy) $
- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

P17-0004

Postmark Here

Postage
$
Total
$
Sent
Street
City,

T'si-Akim Maidu
Mr. Grayson Coney, Cultural Director
P.O. Box 1316
Colfax, CA 95713

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

COMMUNITY DEVELOPMENT SERVICES
PLANNING AND BUILDING DEPARTMENT
http://www.edcgov.us/DevServices/

PLACERVILLE OFFICE:
2850 Fairlane Court, Placerville, CA 95667
BUILDING
(530) 621-5315 / (530) 622-1708 Fax
bldgdept@edcgov.us
PLANNING
(530) 621-5355 / (530) 642-0508 Fax
planning@edcgov.us

LAKE TAHOE OFFICE:
924 B Emerald Bay Rd
South Lake Tahoe, CA 96150
(530) 573-3330
(530) 542-9082 Fax

October 2, 2017

Washoe Tribe of Nevada and California
Darrel Cruz, Director
Washoe Tribal Historic Preservation Office
919 Highway 395 South
Gardnerville, NV 89410

CERTIFIED MAIL

RE: Assembly Bill 52 Consultation for **P17-0004/EDH 52 TENTATIVE PARCEL MAP** a Proposed Project within the County of El Dorado

Dear Mr. Cruz,

This letter is in response to your request received on May 2, 2016 for formal notification of proposed projeets within the Washoe Tribe of Nevada and California Geographic Area of Traditional and Cultural Affiliation.

P17-0004/EDH 52 TENTATIVE PARCEL MAP (EDH 52/RSC Engineering Inc.)
The proposed project will be located on property, identified by Assessor's Parcel Number 122-720-15, consists of 41.87 acres, and is located on the northeast corner of Silva Valley Road and U.S. Highway 50, **in the El Dorado Hills area**.

Project Documentation can be viewed:
http://edcapps.edcgov.us/Planning/ProjectInquiryDisplay.asp?ProjectID=21399

This project is subject to the cultural resources provisions of CEQA Assembly Bill 52 (AB52), which require Native American outreach. Pursuant to AB52, the County is soliciting input from Native American organizations and representatives listed with the Native American Heritage Commission to identify cultural resources and properties of concern to the Native American Community.

Please respond within 30 days of reeeipt of this letter to provide any information regarding archaeological sites, tribal cultural resources or areas of cultural importance known to occur within or near the project arca and/or to request consultation with the County, if desired. In accordance with federal and state laws, information received in response to this letter will be kept confidential. If you have any questions regarding this project or require further information, pleasc do not hesitate to contact us. We can be reached by phone 530-621-5355 or via email at planning@edcgov.us.

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at *www.usps.com®*.

OFFICIAL USE

Certified Mail Fee
$

Extra Services & Fees *(check box, add fee as appropriate)*
- ☐ Return Receipt (hardcopy) $
- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

P17-0004

Postmark Here

Postage
$
Total Postage and Fees
$
Sent To
Street and Apt. No., or PO Box No.
City, State, ZIP+4®

Washoe Tribe of Nevada and California
Darrel Cruz, Director
Washoe Tribal Historic Preservation Office
919 Highway 395 South
Gardnerville, NV 89410

7016 0750 0000 4771 2476

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

---

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
Washoe Tribe of Nevada and California
Darrel Cruz, Director
Washoe Tribal Historic Preservation Office
919 Highway 395 South
Gardnerville, NV 89410

9590 9402 2003 6123 4848 25

2. Article Number *(Transfer from service label)*
7016 0750 0000 4771 2476

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Sheila Crawford ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* Sheila Crawford
C. Date of Delivery 10/4/17

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 P17-0004 RTP Domestic Return Receipt

---

USPS TRACKING #

9590 9402 2003 6123 4848 25

First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

United States Postal Service

2017 OCT 10 AM 11:42
RECEIVED
PLANNING DEPARTMENT

• Sender: Please print your name, address, and ZIP+4® in this box•

County of El Dorado
Community Development Agency
2850 Fairlane Ct., Bldg. C
Placerville, CA 95667

Planning

COMMUNITY DEVELOPMENT SERVICES
PLANNING AND BUILDING DEPARTMENT

http://www.edcgov.us/DevServices/

PLACERVILLE OFFICE:
2850 Fairlane Court, Placerville, CA 95667
BUILDING
(530) 621-5315 / (530) 622-1708 Fax
bldgdept@edcgov.us
PLANNING
(530) 621-5355 / (530) 642-0508 Fax
planning@edcgov.us

LAKE TAHOE OFFICE:
924 B Emerald Bay Rd
South Lake Tahoe, CA 96150
(530) 573-3330
(530) 542-9082 Fax

October 2, 2017

Mr. Antonio Ruiz Jr.
Cultural Resources Officer
Cultural Preservation Department
Wilton Rancheria
9728 Kent Street
Elk Grove, CA 95624

CERTIFIED MAIL
EMAIL
tribaloffice@wiltonrancheria-nsn.gov

RE: Assembly Bill 52 Consultation for **P17-0004/EDH 52 TENTATIVE PARCEL MAP** a Proposed Project within the County of El Dorado

Dear Mr. Ruiz,

This letter is in response to your request received on January 18, 2017 for formal notification of proposed projects within the Wilton Rancheria Tribe's Geographic Area of Traditional and Cultural Affiliation.

P17-0004/EDH 52 TENTATIVE PARCEL MAP (EDH 52/RSC Engineering Inc.)
The proposed project will be located on property, identified by Assessor's Parcel Number 122-720-15, consists of 41.87 acres, and is located on the northeast corner of Silva Valley Road and U.S. Highway 50, **in the El Dorado Hills area**.

Project Documentation can be viewed:
http://edcapps.edcgov.us/Planning/ProjectInquiryDisplay.asp?ProjectID=21399

This project is subject to the cultural resources provisions of CEQA Assembly Bill 52 (AB52), which require Native American outreach. Pursuant to AB52, the County is soliciting input from Native American organizations and representatives listed with the Native American Heritage Commission to identify cultural resources and properties of concern to the Native American Community.

Please respond within 30 days of receipt of this letter to provide any information regarding archaeological sites, tribal cultural resources or areas of cultural importance known to occur within or near the project area and/or to request consultation with the County, if desired. In accordance with federal and state laws, information received in response to this letter will be kept confidential. If you have any questions regarding this project or require further information, please do not hesitate to contact us. We can be reached by phone 530-621-5355 or via email at planning@edcgov.us.

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at *www.usps.com®*.

OFFICIAL USE

Certified Mail Fee
$

Extra Services & Fees *(check box, add fee as appropriate)*
- ☐ Return Receipt (hardcopy) $
- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

P17-0004

Postmark Here

Postage
$

Total P
$

Sent To
Mr. Antonio Ruiz Jr.
Cultural Preservation Department
Wilton Rancheria

Street
9728 Kent Street

City, St
Elk Grove, CA 95624

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7016 0750 0000 4771 2469

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
Mr. Antonio Ruiz Jr.
Cultural Preservation Department
Wilton Rancheria
9728 Kent Street
Elk Grove, CA 95624

9590 9402 2003 6123 4848 18

2. Article Number *(Transfer from service label)*
7016 0750 0000 4771 2469

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X
☐ Agent
☐ Addressee

B. Received by *(Printed Name)* Alicia Valles
C. Date of Delivery 10/5/17

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 P17-0004 RTP Domestic Return Receipt

---

USPS TRACKING #

9590 9402 2003 6123 4848 18

First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

United States Postal Service

• Sender: Please print your name, address, and ZIP+4® in this box•

County of El Dorado
Community Development Agency
2850 Fairlane Ct., Bldg. C
Placerville, CA 95667

Planning

2017 OCT -5 AM 11:32
RECEIVED
PLANNING DEPARTMENT

COMMUNITY DEVELOPMENT SERVICES
PLANNING AND BUILDING DEPARTMENT

http://www.edcgov.us/DevServices/

PLACERVILLE OFFICE:
2850 Fairlane Court, Placerville, CA 95667
BUILDING
(530) 621-5315 / (530) 622-1708 Fax
bldgdept@edcgov.us
PLANNING
(530) 621-5355 / (530) 642-0508 Fax
planning@edcgov.us

LAKE TAHOE OFFICE:
924 B Emerald Bay Rd
South Lake Tahoe, CA 96150
(530) 573-3330
(530) 542-9082 Fax

October 2, 2017

United Auburn Indian Community of the Auburn Rancheria — CERTIFIED MAIL
Gene Whitehouse, Chairman
10720 Indian Hill Road
Auburn, CA 95603

RE: Assembly Bill 52 Consultation for **P17-0004/EDH 52 TENTATIVE PARCEL MAP** a Proposed Project within the County of El Dorado

Dear Mr. Whitehouse,

This letter is in response to your request received on December 3, 2015 for formal notification of proposed projects within the United Auburn Indian Community of the Auburn Rancheria's Geographic Area of Traditional and Cultural Affiliation.

P17-0004/EDH 52 TENTATIVE PARCEL MAP (EDH 52/RSC Engineering Inc.)
The proposed project will be located on property, identified by Assessor's Parcel Number 122-720-15, consists of 41.87 acres, and is located on the northeast corner of Silva Valley Road and U.S. Highway 50, **in the El Dorado Hills area**.

Project Documentation can be viewed:
http://edcapps.edcgov.us/Planning/ProjectInquiryDisplay.asp?ProjectID=21399

This project is subject to the cultural resources provisions of CEQA Assembly Bill 52 (AB52), which require Native American outreach. Pursuant to AB52, the County is soliciting input from Native American organizations and representatives listed with the Native American Heritage Commission to identify cultural resources and properties of concern to the Native American Community.

Please respond within 30 days of receipt of this letter to provide any information regarding archaeological sites, tribal cultural resources or areas of cultural importance known to occur within or near the project area and/or to request consultation with the County, if desired. In accordance with federal and state laws, information received in response to this letter will be kept confidential. If you have any questions regarding this project or require further information, please do not hesitate to contact us. We can be reached by phone 530-621-5355 or via email at planning@edcgov.us.

cc:
Jason Camp, Tribal Historic Preservation Officer
Marco Guerrero, Cultural Resources Manager

7016 0750 0000 4771 2506

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee
$

Extra Services & Fees (check box, add fee as appropriate)
- ☐ Return Receipt (hardcopy) $
- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage
$

Total P
$

Sent To United Auburn Indian Community of the Auburn Rancheria
Gene Whitehouse, Chairman

Street a 10720 Indian Hill Road

City, St Auburn, CA 95603

P17-0004

Postmark Here

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7016 0750 0000 4771 2490

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee
$

Extra Services & Fees (check box, add fee as appropriate)
- ☐ Return Receipt (hardcopy) $
- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage
$

Total I
$

United Auburn Indian Community of the Auburn Rancheria

Sent T Jason Camp, Tribal Historic Preservation Officer

Street 10720 Indian Hill Road

City, S Auburn, CA 95603

P17-0004

Postmark Here

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7016 0750 0000 4771 2483

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee
$

Extra Services & Fees (check box, add fee as appropriate)
- ☐ Return Receipt (hardcopy) $
- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage
$

Total
$

United Auburn Indian Community of the Auburn Rancheria

Sent Marco Guerrero, Cultural Resources Manager

Street 10720 Indian Hill Road

City, S Auburn, CA 95603

P17-0004

Postmark Here

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

United Auburn Indian Community of the Auburn Rancheria
Gene Whitehouse, Chairman
10720 Indian Hill Road
Auburn, CA 95603

9590 9402 2003 6123 4848 56

2. Article Number *(Transfer from service label)*

7016 0750 0000 4771 2506

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* C. Date of Delivery 10/4

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 P17-0004 RTP Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

United Auburn Indian Community of the Auburn Rancheria
Jason Camp, Tribal Historic Preservation Officer
10720 Indian Hill Road
Auburn, CA 95603

9590 9402 2003 6123 4848 49

2. Article Number *(Transfer from service label)*

7016 0750 0000 4771 2490

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* C. Date of Delivery 10/4

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 P17-0004 RTP Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

United Auburn Indian Community of the Auburn Rancheria
Marco Guerrero, Cultural Resources Manager
10720 Indian Hill Road
Auburn, CA 95603

9590 9402 2003 6123 4848 32

2. Article Number *(Transfer from service label)*

7016 0750 0000 4771 2483

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* C. Date of Delivery 10/4

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 P17-0004 RTP Domestic Return Receipt

USPS TRACKING #

9590 9402 2003 6123 4848 56

First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

United States
Postal Service

• Sender: Please print your name, address, and ZIP+4® in this box•

County of El Dorado
Community Development Agency
2850 Fairlane Ct., Bldg. C
Placerville, CA 95667

Planning

RECEIVED
PLANNING DEPARTMENT
2017 OCT -5 AM 11: 32

USPS TRACKING #

9590 9402 2003 6123 4848 49

First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

United States
Postal Service

• Sender: Please print your name, address, and ZIP+4® in this box•

County of El Dorado
Community Development Agency
2850 Fairlane Ct., Bldg. C
Placerville, CA 95667

Planning

RECEIVED
PLANNING DEPARTMENT
2017 OCT -5 AM 11: 32

USPS TRACKING #

9590 9402 2003 6123 4848 32

First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

United States
Postal Service

• Sender: Please print your name, address, and ZIP+4® in this box•

County of El Dorado
Community Development Agency
2850 Fairlane Ct., Bldg. C
Placerville, CA 95667

Planning

RECEIVED
PLANNING DEPARTMENT
2017 OCT -5 AM 11: 32

2017 SEP 20 AM 11:33
RECEIVED
PLANNING DEPARTMENT

RESULTANT PARCEL 1
1.38± AC
(PORTION)

BOOK 121:12

APN:
122-720-15

OLD SILVA VALLEY ROAD

EXISTING PARCEL LINE

(E) SLOPE EASEMENT

(E) TEMPORARY CONSTRUCTION EASEMENT

(E) SEWER EASEMENT

APN:
122-720-02
N.A.P.

EL DORADO HILLS INVESTORS

RESULTANT PARCEL 1
15.73± AC
(PORTION)

SILVA VALLEY PARKWAY

(E) SLOPE AND DRAIN EASEMENT

(E) P.T.T EASEMENT PER 396-508

EXISTING PARCEL LINE

ON-RAMP

HIGHWAY 50

EXISTING SIGNAL

OFF-RAMP

COUNTY OF EL DORADO

APN:
122-720-04

SERRANO ASSOCIATES LLC
BOOK 122:59

SERRANO ASSOCIATES LLC
122-110-42

BOOK 122:04

OAK MEADOWS ELEMENTARY SCHOOL (BUCKEYE UNION SCHOOL DISTRICT)

RESULTANT PARCEL 4
7.69± AC

RESULTANT PARCEL 2
8.00± AC

PROPOSED PARCEL LINE

EXISTING PARCEL 1
41.87± AC

RESULTANT PARCEL 3
9.07± AC

BOOK 122:10

SERRANO EL DORADO OWNERS ASSOCIATION

SERRANO ASSOCIATES LLC

BOOK 122:58

WEBB (22)
BRINSLEY (23)
SKAGGS (24)
SOBCZAK (30)
SORIA (31)
VAN NIEUWBURG (32)
WHITMORE (33)
BOHALL (34)
WILSON (35)
VAN DOOREN (36)
BLAIR (37)
JUSTICE (38)
FANELLI (1)
FRIEDRICH (2)
COX (3)

LEGEND

EXISTING BOUNDARY
PROPOSED PARCEL LINE
PROPOSED SETBACK
EXISTING EASEMENT
EXISTING WETLANDS

APPROVED
EL DORADO COUNTY
ZONING ADMINISTRATOR
DATE June 20, 2018
BY Roger Trout/sic
ZONING ADMINISTRATOR

1 inch = 100 ft.

Zoning Administrator: _____
Approval/Denial Date: _____
Board of Supervisors: _____
Approval/Denial Date: _____

FILE COPY

P 17-0004



VICINITY MAP

OWNER:
EDH 52
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

OWNER
EDH 52
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826

APPLICANT/ENGINEER
RSC ENGINEERING, INC.
2250 DOUGLAS BLVD., SUITE 150
ROSEVILLE, CA 95661

SCALE
1" = 100'

CONTOUR INTERVAL
5'

SOURCE OF TOPOGRAPHY
CTA ENGINEERING & SURVEYING, JULY 2007

SECTION, TOWNSHIP AND RANGE
1, 9N, 8E M.D.M.

ASSESSORS PARCEL NUMBER
122-720-15

PRESENT ZONING
PLANNED DEVELOPMENT COMMERCIAL (PD-CR)

UTILITY PROVIDERS

WATER	EL DORADO IRRIGATION DISTRICT
SANITARY SEWER	EL DORADO IRRIGATION DISTRICT
STORM DRAIN	EL DORADO COUNTY
FIRE	EL DORADO FIRE PROTECTION DISTRICT
ELECTRIC	PG&E
GAS	PG&E
TELEPHONE	AT&T
CABLE	AT&T
FIRE PROTECTION	EL DORADO HILLS FIRE DEPARTMENT

EXISTING ACREAGE SUMMARY

PARCEL 1: 41.87± AC

PROPOSED ACREAGE SUMMARY

PARCEL 1:	17.11± AC
PARCEL 2:	8.00± AC
PARCEL 3:	9.07± AC
PARCEL 4:	7.69± AC
TOTAL:	41.87± AC

NUMBER OF PARCELS: 4
MINIMUM PARCEL SIZE: 7.69± AC

NOTES

1. REFER TO FINAL PARCEL MAP FOR EXACT DIMENSIONS
2. FLOOD ZONE R1, FEMA NO. 060040 0700D, DATED 10/18/1995
3. WIDTH OF EXISTING EASEMENTS VARIES.
4. NOTICE IS HEREBY GIVEN THAT A DEVELOPMENT LIMITATION IS IMPOSED ON THE LOTS DESIGNATED AS PARCELS 1 THROUGH 4, MAP BOOK_____PAGE____OF THE OFFICIAL RECORDS OF THE COUNTY OF EL DORADO. PARCEL 1 THROUGH 4 ARE PHASING LOTS ONLY. NO BUILDING PERMITS SHALL BE ISSUED UNTIL FUTURE DISCRETIONARY APPROVALS, INCLUDING BUT NOT LIMITED TO, A PLANNED DEVELOPMENT ("PD") PERMIT, HAVE BEEN APPROVED BY EL DORADO COUNTY. SAID RESTRICTION SHALL BE BINDING UPON THE HEIRS, ASSIGNS AND SUCCESSORS IN INTEREST OF THE GRANTORS, AND SHALL REMAIN IN EFFECT UNTIL RESCINDED BY EL DORADO COUNTY. THE PURPOSE OF THE NOTICE OF RESTRICTION IS TO GIVE CONSTRUCTIVE NOTICE OF THIS DEVELOPMENT LIMITATION."

NO.	DESCRIPTION	BY	DATE
		ENG	CITY APPROVED

REGISTERED PROFESSIONAL ENGINEER
RICHARD S. CRAVEZ
No.29033
Mar. 31, 2019
CIVIL
STATE OF CALIFORNIA

RSC ENGINEERING
2250 Douglas Blvd. Suite 150
Roseville, CA 95661
Ph: 916.788.2884 Fax: 916.788.4408

PROJECT NO:	104-003B
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

TENTATIVE PARCEL MAP
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95762
EL DORADO COUNTY

SHEET TITLE
TENTATIVE PARCEL MAP

SHEET NO.
TM
OF **1**

DATE: SEPTEMBER 8, 2017

Xrefs: P:\104-003A\Planning\Conceptual\104003A_XTOP02.dwg
P:\104-003A\Planning\Conceptual\104003A_XBASE-SHP2.dwg
P:\104-003A\Planning\Conceptual\104003A_XBASE.dwg
P:\104-003A\Planning\Conceptual\104003A_XBASE-DD2.dwg

DRAWING: P:\104-003B\Planning\Conceptual\104003B_TM.dwg
LAST SAVED: Aug. 15, 17 - 13:20
LAST PLOTTED: Sep. 15, 2017 - 13:22
PLOT SAVE: Sep. 15, 2017 - 13:22 PM

EDH 52 TENTATIVE PARCEL MAP

Applicant/Agent/Engineer: RSC Engineering, Inc.
Owner: EDH 52

P 17-0004

APPROVED
EL DORADO COUNTY
ZONING ADMINISTRATOR

DATE June 20, 2018

BY Roger Trout/sc
ZONING ADMINISTRATOR

Web upload 7-9-18
Supervisor 7-9-18

2017 SEP 20 AM 11:30

RECEIVED
PLANNING DEPARTMENT

FILE # P17-0004

EL DORADO COUNTY PLANNING SERVICES

TENTATIVE PARCEL MAP APPLICATION

2017 SEP 20 AM 11:30

RECEIVED
PLANNING DEPARTMENT

ASSESSOR'S PARCEL NUMBER(s) 122-720-15

PROJECT NAME/REQUEST: (Describe proposed use)

Four lot tentative parcel map to subdivide single parcel into 4 parcels due to the bifurcation of the property with the Silva Valley Parkway and interchange project. The northern parcel will be subdivided into 3 parcels, one for the future Country Club Dr. extension and 2 additional parcels for finance purposes.

IF SUBDIVISION/PARCEL MAP: Create 4 lots, ranging in size from 7.65 to 17.11 acre(s) / square feet

IF ZONE CHANGE: From _____ to _____ IF GENERAL PLAN AMENDMENT: From _____ to _____

IF TIME EXTENSION, REVISION, or CORRECTION: Original approval date _____ Expiration date _____

APPLICANT/AGENT RSC Engineering, Inc.

Mailing Address 2250 Douglas Blvd., Ste.150 (P.O. Box or Street) Roseville (City) California (State) 95661 (ZIP)

Phone (916) 788-2884 FAX (916) 788-4408

PROPERTY OWNER EDH 52 GP

Mailing Address 7700 College Town Dr. #101 (P.O. Box or Street) Sacramento (City) California (State) 95826 (ZIP)

Phone (916) 383-2550 FAX ( )

LIST ADDITIONAL PROPERTY OWNERS ON SEPARATE SHEET IF APPLICABLE

ENGINEER/ARCHITECT RSC Engineering, Inc. Same as above

Mailing Address _____ (P.O. Box or Street) <pick from list> (City) (State) (ZIP)

Phone ( ) FAX ( )

LOCATION: The property is located on the East (N/E/W/S) side of Old Silva Valley Road (Street or Road)

0 feet/miles North (N/E/W/S) of the intersection with Tong Road (Major Street or Road)

in the El Dorado Hills area. PROPERTY SIZE 41.87 (Acreage / Square Feet)

Angelo K — 9-13-17

Signature of property owner or authorized agent — Date

FOR OFFICE USE ONLY

Date 9/20/17 Fee $ 13,581.00 Receipt # 30541 Rec'd by mel Census —

Zoning C GPD CC-PD Supervisor District 1 Sec 1 Twn 9N Rng 8E

ACTION BY: ☐ PLANNING COMMISSION ☒ ZONING ADMINISTRATOR

Hearing Date June 20, 2018

Approved X Denied _____ (Findings and/or conditions attached)

Roger Trout / SEC

Executive Secretary

(Revised 06/07)

ACTION BY BOARD OF SUPERVISORS

Hearing Date _____

Approved _____ Denied _____ (Findings and/or conditions attached)

APPEAL:

Approved _____ Denied _____

RESET

P 17-0004

EL DORADO COUNTY PLANNING SERVICES

2017 SEP 20 AM 11:30
RECEIVED
PLANNING DEPARTMENT

REQUIRED SUBMITTAL INFORMATION
for
Tentative Parcel Map

The following information must be provided with all applications. **If all the information is not provided, the application will be deemed incomplete and will not be accepted**. For your convenience, please use the check (√) column on the left to be sure you have all the required information. **All plans and maps MUST be folded to 8½" x 11".**

FORMS AND MAPS REQUIRED

Check (√)

	Applicant	County		
	☑	☐	1.	Application Form **and** Agreement for Payment of Processing Fees, completed and signed.
	☑	☐	2.	Letter of authorization from all property owners authorizing agent to act as applicant, when applicable.
N/A	☐	☐	3.	Proof of ownership (Grant Deed), if the property has changed title since the last tax roll.
	☑	☐	4.	A copy of official Assessor's map, showing the property outlined in red.
	☑	☐	5.	An 8 ½" x 11" vicinity map showing the location of the project in relation to the distance to major roads, intersections, and town sites.
	☑	☐	6.	Environmental Questionnaire form, completed and signed.
	☑	☐	7.	Provide name, mailing address and phone number of all property owners and their agents.
N/A	☐	☐	8.	If public sewer or water service is proposed, obtain and provide a Facilities Improvement Letter if the project is located within the EID service area, or a similar letter if located in another sewer/water district.
N/A	☐	☐	9.	If off-site sewer or water facilities are proposed to serve the project, provide four (4) copies of a map showing location and size of proposed facilities. If groundwater is to be used for domestic water, submit a report noting well production data for adjacent parcels, or submit a hydrological report prepared by a geologist noting the potential for water based on the nature of project site geology.
N/A	☐	☐	10.	Four (4) copies of a tree preservation plan. The tree plan shall accurately include the following:
	☐	☐		a) General identification of the tree canopy noting significant tree types (pine, oak, etc.) where such groups are clearly distinguishable. Identification of the tree canopy shall either be determined from base aerial photographs or by an on-site survey performed by a qualified licensed arborist or botanist.

P 17-0004

FORMS AND MAPS REQUIRED

Check (√)

	Applicant	County		
N/A	☐	☐	b)	Parcels having canopy cover of at least ten percent (10%) are subject to canopy coverage retention or replacement standards as follows:

Existing Canopy Cover	Percent of Canopy Cover to be Retained or Replaced
80 - 100 percent	60 percent of existing canopy
60 - 79 percent	70 percent of existing canopy
40 - 59 percent	80 percent of existing canopy
20 - 39 percent	85 percent of existing canopy
19 percent or less	90 percent of existing canopy

N/A	☐	☐	c)	Where item (b) above applies and trees will be removed as the result of project improvements, a replacement plan shall be included with application submittal. The replacement plan shall include a mitigation monitoring plan to ensure that proposed replacement trees survive.
N/A	☐	☐	d)	Identify on the tree canopy map the location and size of all trees with a diameter of twenty inches or greater diameter at breast height, in all of the following situations where trees would likely be removed:
	☐	☐	i)	Within building envelope areas when such are proposed, or on any lot less than twenty thousand (20,000) square feet in area when building envelopes are not proposed.
	☐	☐	ii)	In any situation where the tree or its drip line lie within any proposed road, driveway, leach field area, or cut or fill slope area:
	☐	☐	1)	Provide a count of the total number of trees eight (8) inches or greater in diameter at breast height, that will likely be removed due to proposed construction
	☐	☐	2)	Any provisions for tree preservation, transplanting, or replacement, shall also be noted on the plan.
	☑	☐	11.	Preceding parcel map, final map, or record of survey, if any exists.
N/A	☐	☐	12.	If located within one of the five Ecological Preserve - EP overlay zones (Mitigation Area 0), rare plants may exist on-site. The State Department of Fish & Game will require an on-site biological plant survey to determine the extent and location of rare plants on the project site. Such a survey can only occur from March 15 through August 15 when plants are readily visible. Therefore, if the State Department of Fish & Game requires the plant survey, a substantial delay in the processing of your application could result. To avoid potential delays, you may choose to provide this survey with application submittal. (A list of possible Botanical Consultants is available at Planning Services.)
N/A	☐	☐	13.	Name and address of Homeowners' Association, CSA 9 Zone of Benefit, or other road maintenance entity if it exists in the project area.

FORMS AND MAPS REQUIRED

Check (√)

	Applicant	County		
N/A	☐	☐	14.	Preliminary grading, drainage plan, and report. The plan should be of sufficient detail to identify the scope of grading, including quantities, depths of cut and fills (for roads and driveways where cuts/fills exceed 6 feet, and mass pad graded lots), location of existing drainage, proposed modifications, and impacts to downstream facilities. (See Section 15.14.240 of County Grading Ordinance for submittal detail.)
	N/A		15.	In an accompanying report, provide the following data for area on each proposed parcel which is to be used for sewage disposal:
	☐	☐		a) The percolation rate and location of test on 4.5 acres or smaller
	☐	☐		b) The depth of soil and location of test
	☐	☐		c) The depth of groundwater and location of test
	☐	☐		d) The direction and percent of slope of the ground
	☐	☐		e) The location, if present, of rivers, streams, springs, areas subject to inundation, rock outcropping, lava caps, cuts, fills, and easements
	☐	☐		f) Identify the area to be used for sewage disposal
	☐	☐		g) Such additional data and information as may be required by the Director of Environmental Health to assess the source of potable water, the disposal of sewage and other liquid wastes, the disposal of solid wastes, drainage, and erosion control
	☐	☐		h) In circumstances where there are steep slopes, streams or other constraints as determined by staff, these must be noted on the tentative parcel map
N/A	☐	☐	16.	A record search for archaeological resources shall be conducted through the North Central Information Center located at CSU-Sacramento, 6000 J Street, Adams Building, Suite #103, Sacramento, CA 95819-6100, phone number (916) 278-6217. If the record search identifies a need for a field survey, a survey shall be required. (A list of Archaeological Consultants and survey requirements is available at Planning Services.) Archaeological surveys shall meet the "Guidelines for Cultural Resource Studies" approved by the Board of Supervisors, available at Planning Services.
N/A	☐	☐	17.	A site-specific wetland investigation shall be required on projects with identified wetlands on the Important Biological Resources Map (located in Planning Services), when proposed improvements will directly impact the wetland (reduce the size of the wetland area) or lie near the wetlands. (Available from Planning Services are the U.S. Corps of Engineers requirements for a wetlands delineation study. A list of qualified consultants is also available.)

FORMS AND MAPS REQUIRED

Check (√)

Applicant	County		
N/A ☐	☐	18.	An acoustical analysis shall be provided whenever a noise-sensitive land use (residences, hospitals, churches, libraries) are proposed adjacent to a major transportation source, or adjacent or near existing stationary noise sources. Such study shall define the existing and projected (2015) noise levels and define how the project will comply with standards set forth in the General Plan.
N/A ☐	☐	19.	Where special status plants and animals are identified on the Important Biological Resources Map located in Planning Services, an on-site biological study shall be required to determine if the site contains special status plant or animal species or natural communities and habitats.
N/A ☐	☐	20.	An air quality impact analysis shall be provided utilizing the El Dorado County Air Pollution Control District's "Guide to Air Quality Assessment."
N/A ☐	☐	21.	A traffic study shall be provided utilizing El Dorado County Department of Transportation's "Generic Traffic Study Scope of Work."
		22.	Required maps on 24" x 36" sheets or smaller, drawn to scale, and of sufficient size to clearly show all details and required data. **All maps MUST be folded to 8 ½" inches x 11" prior to submittal. NO ROLLED DRAWINGS WILL BE ACCEPTED.**
☑	☐		a) ~~Twenty-five (25)~~ copies of the tentative map, folded with signature block showing (including one 8½" x 11" reduction). 5 COPIES
☑	☐		b) Four (4) copies of a slope map noting the following slope range categories: 0 to 10%, 11 to 20%, 21 to 29%, 30% to 39%, 40% and over.
N/A ☐	☐		c) Four (4) copies of preliminary grading and drainage plan.

REQUIRED INFORMATION ON TENTATIVE MAP

Check (√)

Applicant	County		
☑	☐	1.	North point and scale
☑	☐	2.	Project boundaries with dimensions
☑	☐	3.	Approximate dimensions and area of all lots
☑	☐	4.	Adjacent ownership with book and page number of recorded deeds or parcel map references
☑	☐	5.	Location, names and right-of-way width of adjacent streets, highways, and alleys. Show access easements to a connection with a public road, together with deed or map reference documenting such access. Also, note all existing encroachments to the public road on adjacent parcels. If a new access is proposed through adjacent parcels, provide letter of authorization and a description of the access easement.

REQUIRED INFORMATION ON TENTATIVE MAP

Check (√)

Applicant	County		
☑	☐	6.	Purpose, width, and approximate location of all proposed and existing easements (other than roads)
☑	☐	7.	Approximate radii of centerline on all street curves
☑	☐	8.	Grades and width of proposed and existing roads or road easements, with typical improvement cross-section
☑	☐	9.	Names of adjacent subdivisions
☑	☐	10.	All structures, buildings, utility, transmission lines and dirt roads, and distances to existing and proposed property lines
N/A ☐	☐	11.	The location of all structures for residential, commercial, industrial or recreational use for which permits have either been applied for or granted, but not yet constructed
N/A ☐	☐	12.	Fire hydrant location, existing and/or proposed
N/A ☐	☐	13.	Existing water and sewer line locations
☑	☐	14.	Contour lines shown at 5-foot intervals if any slopes on the property exceed 10% (contours not required if all slopes are 10% or less). Contours may be shown at 10-foot or 20-foot intervals on parcels of 10 acres or larger (using USGS interpolation or field survey), <u>if said contours reasonably identify significant site features</u>; i.e., benches or abrupt topographical changes, etc.
☑	☐	15.	The location, if present, of rock outcropping, lava caps, drainage courses, lakes, canals, reservoirs, rivers, streams, spring areas subject to inundation, and wetlands, and show respective 100-foot and 50-foot septic system setbacks when a septic system is proposed.
☑	☐	16.	Note any proposed trails within the project, and where applicable, connection to existing or proposed trail systems.
☑	☐	17.	Location, general type (pine, oak, etc.) and size of all existing trees, 8" DBH (Diameter at Breast Height) or greater in those areas that are subject to grading or otherwise may be removed/affected by proposed improvements. Note quantity of trees to be removed.
☑	☐	18.	Identify areas subject to a 100-year flood, perennial streams or creeks, and show high water level (100-year) on map. Where this data is not readily available, January 1997 flood level can be shown if known.
		19.	The following information is to be listed on the tentative parcel map in the following consecutive order:
☑	☐		a) Owner of record (name and address)
☑	☐		b) Name of applicant (name and address)
☑	☐		c) Map prepared by (name and address)
☑	☐		d) Scale
☑	☐		e) Contour interval (if any)

REQUIRED INFORMATION ON TENTATIVE MAP

Check (√)

Applicant	County		
☑	☐	f)	Source of topography
☑	☐	g)	Section, Township and Range
☑	☐	h)	Assessor's Parcel Number(s)
☑	☐	i)	Present zoning
☑	☐	j)	Total area
☑	☐	k)	Total number of parcels
☑	☐	l)	Minimum parcel area
☑	☐	m)	Water supply
☑	☐	n)	Sewage disposal
☑	☐	o)	Proposed structural fire protection
☑	☐	p)	Date of preparation
☑	☐	q)	In the lower right-hand corner of each map a signature block should be shown, giving space for:

Zoning Administrator: _____

Approval/Denial Date: _____

Board of Supervisors: _____

Approval/Denial Date: _____

Planning Services reserves the right to require additional project information as provided by Section 15060 of the California Environment Quality Act, or as required by the General Plan development policies, when such is necessary to complete the environmental assessment.

NOTE: APPLICATION WILL BE ACCEPTED BY APPOINTMENT ONLY. MAKE YOUR APPOINTMENT IN ADVANCE BY CALLING (530) 621-5355.

RECEIPT #: 30541

DATE PAID: 09/20/2017

RECEIVED FROM: EDH 52 GP

PARCEL MAP	P -17-0004			
PARCEL MAP	CUR PLAN-PVL-FLAT	8,311.00		
	ENV MGMT	270.00		
PARCEL MAP/COM	COUNTY ENGINEER/D	5,000.00		
	TOTAL		$	13,581.00

FOR: EDH 52 TENATIVE PARCEL MAP

RECEIVED BY: ROMMEL PABALINAS

INITIALS

TOTAL: $ 13,581.00

CHECK# 11359 $ 13,581.00

CASH $ 0.00

RECEIVED
2017 SEP 20 AM 11:30
PLANNING DEPARTMENT

PLCTR-09/20/17-10:21:56 FILE COPY

P 17-0004

EL DORADO COUNTY
COMMUNITY DEVELOPMENT AGENCY

AGREEMENT FOR PAYMENT OF PROCESSING FEES

2017 SEP 20 AM 11:30
RECEIVED
PLANNING DEPARTMENT

EDH 52, GP

Business or Name of Financially Responsible Party

P17-0004

Project/Facility Number

the FINANCIALLY RESPONSIBLE PARTY (hereinafter FRP), agrees as follows:

1. This project/facility is subject to time and materials method of billing or raises issues that may require significant staff and/or consultant time which might not be covered by the initial processing deposit/fee detailed in the approved Board of Supervisors Community Development Agency Consolidated Fee Schedule, and other County department fee schedules as applicable, as amended from time to time. Therefore, the FRP for this project will be billed at the approved rate for time and materials for the processing of this project. The fee initially collected will be a deposit toward subsequent billings.

2. Accounting of time spent on the project and/or applicable fees will be detailed in a statement/invoice sent to the FRP.

3. The FRP is responsible for payment of all permit processing costs and/or applicable fees associated with this project/facility. If payment is not received within 90 days of the date of an invoice, the County may elect to stop work and close the file. The County may require a new application and/or new deposit before resuming processing of the project. Projects with an outstanding balance due on their account that are not paid in full by the scheduled appearance on the Planning Commission, Zoning Administrator, or Board of Supervisors agenda will not proceed until after any balance due is paid.

4. If during the course of processing, the FRP changes, the new FRP must complete an Agreement for Payment, which will release the previous FRP from further financial obligations and designate the new FRP.

5. The FRP understands and agrees that if the FRP owes any overdue balance for processing a project/permit of more than 90 days, Community Development Agency will not accept any subsequent applications from the FRP until the outstanding balance due is paid.

6. FRP agrees to pay any and all remaining fees applicable under the approved Board of Supervisors Community Development Agency Consolidated Fee Schedule, and any other fees associated with the processing of the project that may be charged by County Departments outside of the Community Development Agency, prior to map clearance for recordation or clearance for record of survey or issuance of any building or grading permits or any other permits under authority of the Community Development Agency. No clearances or permits will be issued without receipt of full payment of fees applicable under the approved Board of Supervisors Community Development Agency Consolidated Fee Schedule, or any other fees associated with the processing of the project that may be charged by County Departments outside of the Community Development Agency, unless waived or adjusted in accordance with County Board of Supervisors Policy B-2.

P 17-0004

Project/Facility No._____

7. If the FRP appeals a decision on this project/facility, the costs of processing the appeal will be charged to the FRP pursuant to the fees applicable under the approved Board of Supervisors Community Development Agency Consolidated Fee Schedule, and other County department fee schedules as applicable, at the time of Appeal.

8. If payment is not received within 90 days of said statement/invoice, collection will be initiated. Unpaid balances turned over to County Revenue Recovery will be assessed an additional fourteen percent (14%).

9. A processing fee will be charged for any check returned for insufficient funds, up to the maximum allowed by the State of California.

Executed this 13 day of September 20 17

FINANCIALLY RESPONSIBLE PARTY

Business/ Name EDH 52, GP ANGELO K. TSAKOPOULOS

Representative Name Angelo K. Tsakopoulos

7700 COLLEGE TOWN DRIVE, SUITE 101
Street Address

SACRAMENTO, CA 95826
City State Zip

FINANCIALLY RESPONSIBLE PARTY/Representative: _____
Signature

Reviewed by: _____
CDA Representative

CHANGE OF FINANCIALLY RESPONSIBLE PARTY (FRP)

If this document supersedes a previous Agreement for Payment, due to change in financial responsibility, the previous FRP must also sign to acknowledge release of responsibilities. Upon project completion, any remaining deposit will be refunded to the FRP currently on record.

PREVIOUS FINANCIALLY RESPONSIBLE PARTY:

_____ _____
Print Name Signature

_____
Street City State Zip

Date of release of financial responsibility: _____

Owner

2017 SEP 20 AM 11:31
RECEIVED
PLANNING DEPARTMENT

EDH 52 GP

7700 College Town Drive, Suite 101

Sacramento, CA 95826

(916) 383-2500

Applicant/Engineer

RSC Engineering, Inc.

2250 Douglas Blvd., Suite 150

Roseville, CA 95661

(916) 788-2884

P 17-0004

File Number _____
Date Filed _____

2017 SEP 20 AM 11:31
RECEIVED
PLANNING DEPARTMENT

EL DORADO COUNTY PLANNING SERVICES
ENVIRONMENTAL QUESTIONNAIRE

Project Title	EDH 52	Lead Agency	El Dorado County
Name of Owner	EDH 52 GP	Telephone	(916) 383-2500
Address	7700 College Town Drive, Ste. 101 Sacramento, CA 95826		
Name of Applicant	RSC Engineering, Inc.	Telephone	(916) 788-2884
Address	2250 Douglas Blvd., Ste. 150 Roseville, CA 95661		
Project Location	NE Corner of old Silva Valley Road and Highway 50		
Assessor's Parcel Number(s)	122-720-15	Acreage 41.87	Zoning PD-CR

Please answer all of the following questions as completely as possible. Subdivisions and other major projects will require a Technical Supplement to be filed together with this form.

1. Type of project and description:
   Four lot tentative parcel map to subdivide single parcel into 4 parcels due to the bifurcation of the property with the Silva Valley Parkway and interchange project. The northern parcel will be subdivided into 3 parcels, one for the future Country Club Dr. extension and 2 additional parcels for finance purpos
2. What is the number of units/parcels proposed? 4

GEOLOGY AND SOILS

3. Identify the percentage of land in the following slope categories:

   ☑ 0 to 10% ☑ 11 to 15% ☑ 16 to 20% ☑ 21 to 29% ☑ over 30%

4. Have you observed any building or soil settlement, landslides, rock falls or avalanches on this property or in the nearby surrounding area? No
5. Could the project affect any existing agriculture uses or result in the loss of agricultural land? No

DRAINAGE AND HYDROLOGY

6. Is the project located within the flood plain of any stream or river? No
   If so, which one? _____
7. What is the distance to the nearest body of water, river, stream or year-round drainage channel? 2/3 miles +/- Name of the water body? Carson Creek

P 17-0004

8. Will the project result in the direct or indirect discharge of silt or any other particles in noticeable amount into any lakes, rivers or streams? No

9. Will the project result in the physical alteration of a natural body of water or drainage way? If so, in what way? not with the map

10. Does the project area contain any wet meadows, marshes or other perennially wet areas? Yes, some wetlands

VEGETATION AND WILDLIFE

11. What is the predominant vegetative cover on the site (trees, brush, grass, etc.)? Estimate percentage of each:
98% grasses, 2% oak woodland

12. How many trees of 6-inch diameter will be removed when this project is implemented? 0 with the map

FIRE PROTECTION

13. In what structural fire protection district (if any) is the project located? El Dorado Hills

14. What is the nearest emergency source of water for fire protection purposes (hydrant, pond, etc.)? Hydrant at Silva Valley Parkway

15. What is the distance to the nearest fire station? 2.25 miles +/- Bass Lake Station

16. Will the project create any dead-end roads greater than 500 feet in length? No

17. Will the project involve the burning of any material including brush, trees and construction materials? No

NOISE QUALITY

18. Is the project near an industrial area, freeway, major highway or airport? Yes
If so, how far? 150' from Highway 50

19. What types of noise would be created by the establishment of this land use, both during and after construction? None with map

AIR QUALITY

20. Would any noticeable amounts of air pollution, such as smoke, dust or odors, be produced by this project? None with map

WATER QUALITY

21. Is the proposed water source ☑ public or ☐ private, ☐ treated or ☐ untreated?
Name the system: EID

22. What is the water use (residential, agricultural, industrial or commercial)? Commercial

AESTHETICS

23. Will the project obstruct scenic views from existing residential areas, public lands, and/or public bodies of water or roads? No

ARCHAEOLOGY/HISTORY

24. Do you know of any archaeological or historical areas within the boundaries or adjacent to the project? (e.g., Indian burial grounds, gold mines, etc.) Yes

SEWAGE

25. What is the proposed method of sewage disposal? ☐ septic system ☑ sanitation district
Name of district: EID

26. Would the project require a change in sewage disposal methods from those currently used in the vicinity? No

TRANSPORTATION

27. Will the project create any traffic problems or change any existing roads, highways or existing traffic patterns? None with map

28. Will the project reduce or restrict access to public lands, parks or any public facilities?
No

GROWTH-INDUCING IMPACTS

29. Will the project result in the introduction of activities not currently found within the community? No

30. Would the project serve to encourage development of presently undeveloped areas, or increases in development intensity of already developed areas (include the introduction of new or expanded public utilities, new industry, commercial facilities or recreation activities)?
N/A

31. Will the project require the extension of existing public utility lines? No
If so, identify and give distances: _____

GENERAL

32. Does the project involve lands currently protected under the Williamson Act or an Open Space Agreement? No

33. Will the project involve the application, use or disposal of potentially hazardous materials, including pesticides, herbicides, other toxic substances or radioactive material?
No

34. Will the proposed project result in the removal of a natural resource for commercial purposes (including rock, sand, gravel, trees, minerals or top soil)?
None with map

35. Could the project create new, or aggravate existing health problems (including, but not limited to, flies, mosquitoes, rodents and other disease vectors)? No

36. Will the project displace any community residents? No

DISCUSS ANY YES ANSWERS TO THE PREVIOUS QUESTIONS (attached additional sheets if necessary)

24. See cultural report from April 2013 by Ric Windmiller previously provided for the overall PD project.

MITIGATION MEASURES (attached additional sheets if necessary)

Proposed mitigation measures for any of the above questions where there will be an adverse impact:

Form completed by: Jeffrey Wilson
RSC Engineering, Inc.

Date: 9/13/17

(Revised 06/07)

AFFIDAVIT OF PREVIOUS LAND DIVISION ACTIVITY (*)

THE UNDERSIGNED hereby certifies that he is the person who executed the following statements, that he has read the same and knows the contents thereof, and that the facts stated herein are true and correct:

1. Have you at any time owned or held any interest whatsoever in any land which included the parcel proposed for division in this application, or which was contiguous to the parcel proposed for subdivision.

☐ **Yes** ☑ **No**

If "yes", explain and attach copies of the deeds to such property, if available, the Assessor's Parcel Number, and period of ownership.

2. Have you ever proposed, participated in, or been involved in any manner whatsoever in the subdivision or splitting of a parcel of which the present parcel proposed to be subdivided in this application, was a part or contiguous thereto?

☐ **Yes** ☑ **No**

If so, give the relevant details, including date, parcel map number, and your role in the subdivision.

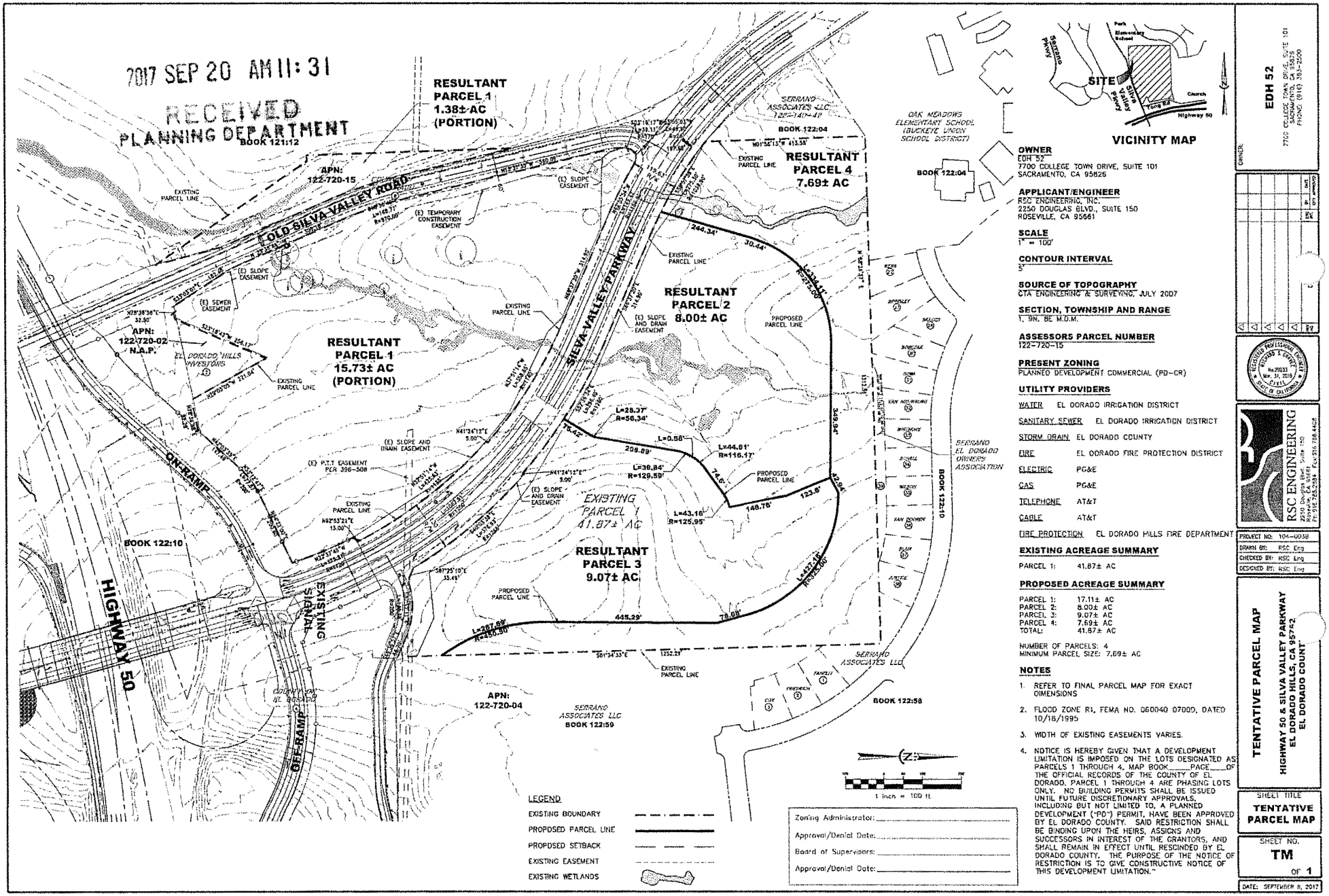
OWNER'S SIGNATURE _____ DATE 9-13-17

APPLICANT'S SIGNATURE DATE Tiffany Wilson RSC Engineering, Inc.

(*) THIS FORM MUST BE COMPLETED BY BOTH THE APPLICANT AND RECORD OWNER(S)

RECEIVED
2017 SEP 20 AM 11:31
PLANNING DEPARTMENT

P 17-0004



OWNER
EDH 52
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826

APPLICANT/ENGINEER
RSC ENGINEERING, INC.
2250 DOUGLAS BLVD., SUITE 150
ROSEVILLE, CA 95661

SCALE
1" = 100'

CONTOUR INTERVAL
5'

SOURCE OF TOPOGRAPHY
CTA ENGINEERING & SURVEYING, JULY 2007

SECTION, TOWNSHIP AND RANGE
1, 9N, 8E M.D.M.

ASSESSORS PARCEL NUMBER
122-720-15

PRESENT ZONING
PLANNED DEVELOPMENT COMMERCIAL (PD-CR)

UTILITY PROVIDERS

WATER	EL DORADO IRRIGATION DISTRICT
SANITARY SEWER	EL DORADO IRRIGATION DISTRICT
STORM DRAIN	EL DORADO COUNTY
FIRE	EL DORADO FIRE PROTECTION DISTRICT
ELECTRIC	PG&E
GAS	PG&E
TELEPHONE	AT&T
CABLE	AT&T
FIRE PROTECTION	EL DORADO HILLS FIRE DEPARTMENT

EXISTING ACREAGE SUMMARY

PARCEL 1: 41.87± AC

PROPOSED ACREAGE SUMMARY

PARCEL 1:	17.11± AC
PARCEL 2:	8.00± AC
PARCEL 3:	9.07± AC
PARCEL 4:	7.69± AC
TOTAL:	41.87± AC

NUMBER OF PARCELS: 4
MINIMUM PARCEL SIZE: 7.69± AC

NOTES

1. REFER TO FINAL PARCEL MAP FOR EXACT DIMENSIONS
2. FLOOD ZONE R1, FEMA NO. 060040 0700D, DATED 10/18/1995
3. WIDTH OF EXISTING EASEMENTS VARIES.
4. NOTICE IS HEREBY GIVEN THAT A DEVELOPMENT LIMITATION IS IMPOSED ON THE LOTS DESIGNATED AS PARCELS 1 THROUGH 4, MAP BOOK____PAGE____OF THE OFFICIAL RECORDS OF THE COUNTY OF EL DORADO. PARCEL 1 THROUGH 4 ARE PHASING LOTS ONLY. NO BUILDING PERMITS SHALL BE ISSUED UNTIL FUTURE DISCRETIONARY APPROVALS, INCLUDING BUT NOT LIMITED TO, A PLANNED DEVELOPMENT ("PD") PERMIT, HAVE BEEN APPROVED BY EL DORADO COUNTY. SAID RESTRICTION SHALL BE BINDING UPON THE HEIRS, ASSIGNS AND SUCCESSORS IN INTEREST OF THE GRANTORS, AND SHALL REMAIN IN EFFECT UNTIL RESCINDED BY EL DORADO COUNTY. THE PURPOSE OF THE NOTICE OF RESTRICTION IS TO GIVE CONSTRUCTIVE NOTICE OF THIS DEVELOPMENT LIMITATION."

OWNER:
EDH 52
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

NO.	DATE	BY
1	10/17	RSC
2	11/17	RSC
3	12/17	RSC
4	1/18	RSC
5	2/18	RSC
6	3/18	RSC

REGISTERED PROFESSIONAL ENGINEER — No. 29033 — Exp. 31, 2019 — STATE OF CALIFORNIA

RSC ENGINEERING
2250 Douglas Blvd Suite 150
Roseville, CA 95661
Phone: 916.786.0488 Fax: 916.786.4468

PROJECT NO:	104-0038
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

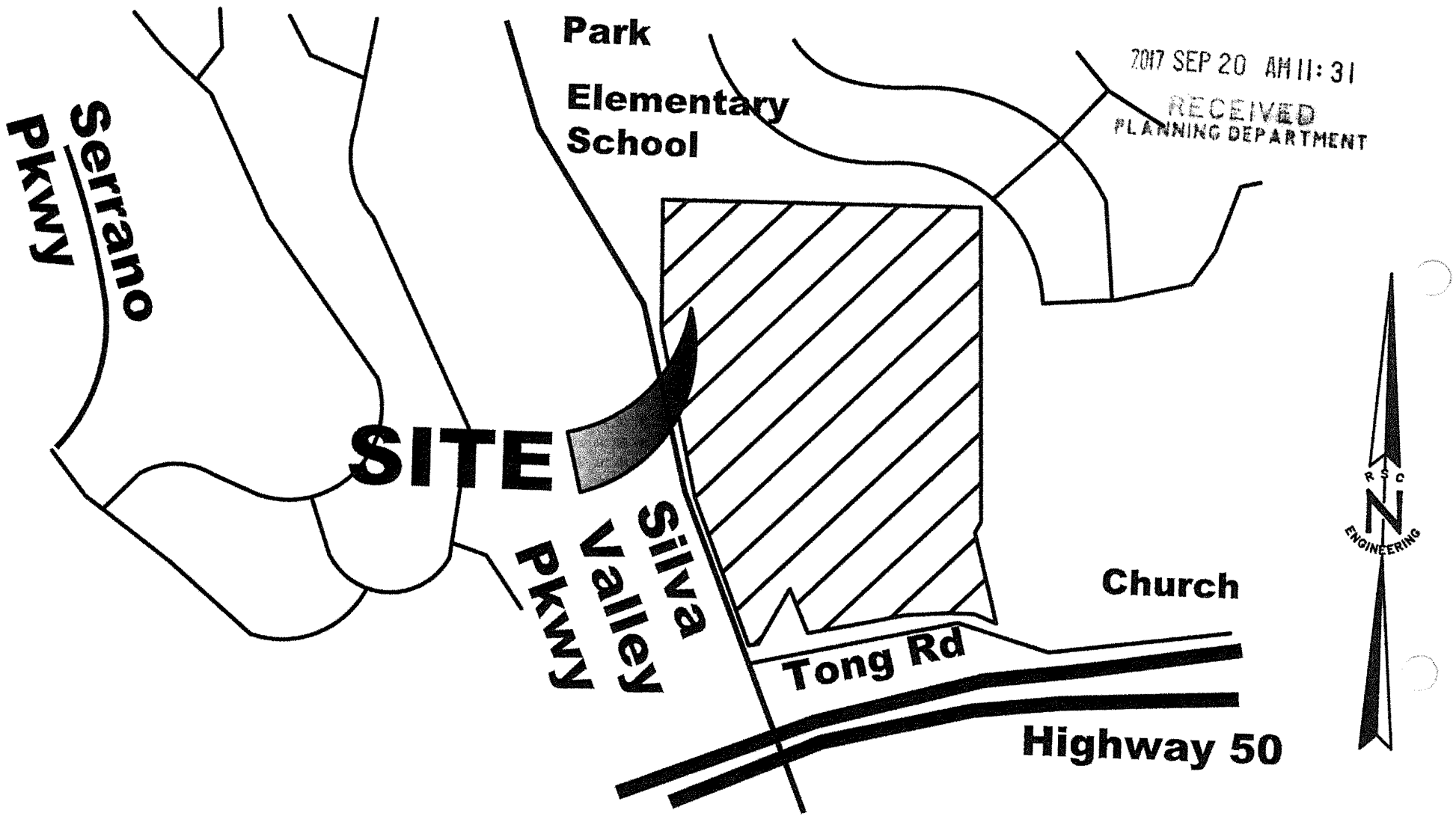
TENTATIVE PARCEL MAP
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95762
EL DORADO COUNTY

SHEET TITLE
TENTATIVE PARCEL MAP

SHEET NO.
TM
OF 1

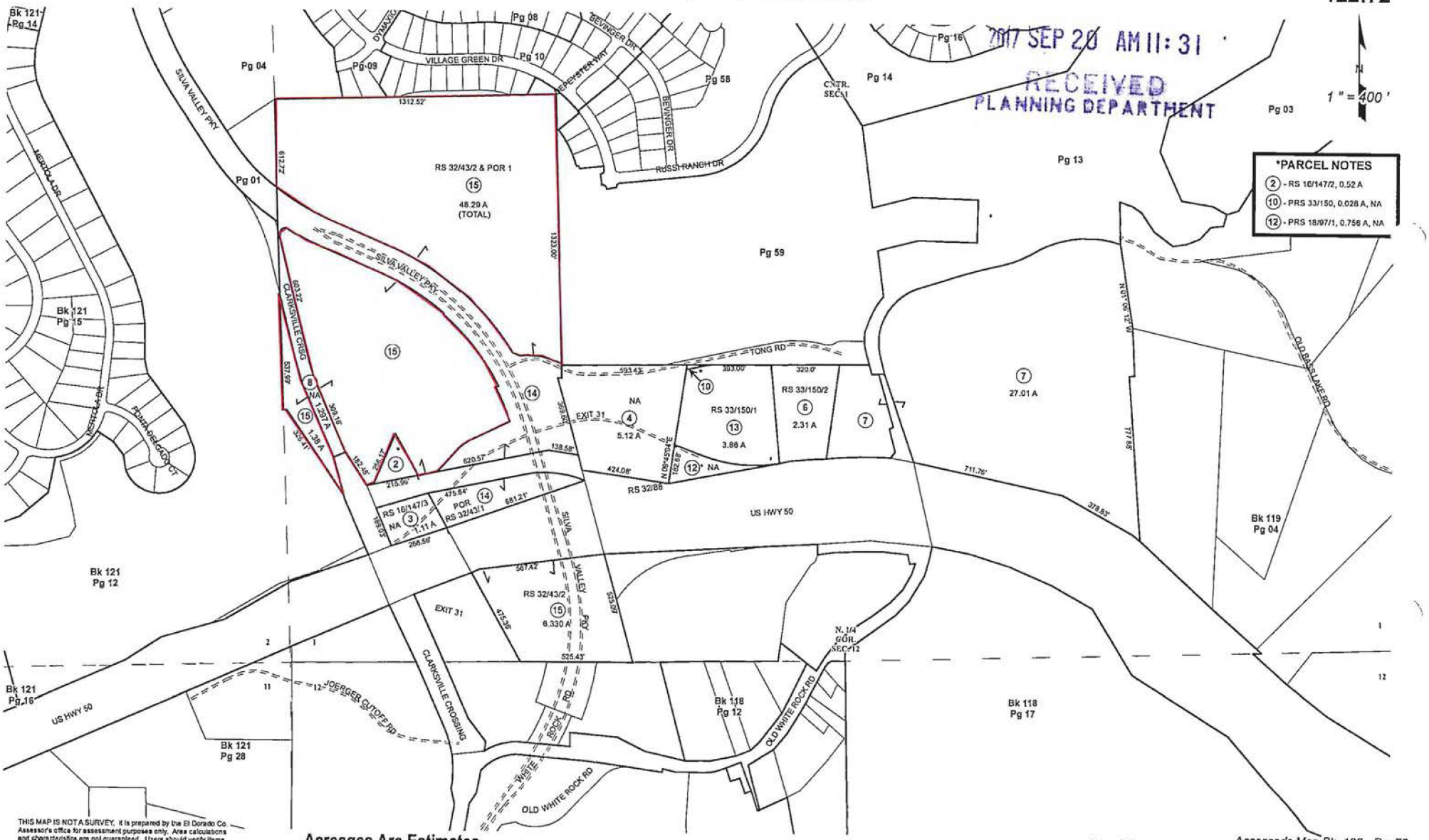
DATE: SEPTEMBER 5, 2017

P 17-0004



2017 SEP 20 AM 11:31
RECEIVED
PLANNING DEPARTMENT

P 17-0004


POR. SEC. 1, T.9N., R.8E., M.D.M.
122:72
2017 SEP 20 AM 11:31
RECEIVED
PLANNING DEPARTMENT
1" = 400'
*PARCEL NOTES
(2) - RS 10/147/2, 0.52 A
(10) - PRS 33/150, 0.028 A, NA
(12) - PRS 18/07/1, 0.756 A, NA
RS 32/43/2 & POR 1
(15)
48.29 A
(TOTAL)
RS 33/150/1
(13)
3.86 A
RS 33/150/2
(6)
2.31 A
27.01 A
5.12 A
RS 32/88
RS 16/147/3
(3)
1.11 A
POR RS 32/43/1
RS 32/43/2
(15)
6.330 A
SILVA VALLEY PKY
CLARKSVILLE CRSG
TONG RD
OLD BASSLAKE RD
US HWY 50
EXIT 31
JOERGER CUTOFF RD
OLD WHITE ROCK RD
WHITE ROCK RD
VILLAGE GREEN DR
BEVINGER DR
RUSSI RANCH DR
HERCULA DR
PERUA DEL GADO ST
Bk 121 Pg 14
Bk 121 Pg 15
Bk 121 Pg 12
Bk 121 Pg 16
Bk 121 Pg 28
Bk 118 Pg 12
Bk 118 Pg 17
Bk 119 Pg 04
Pg 01
Pg 03
Pg 04
Pg 08
Pg 09
Pg 10
Pg 13
Pg 14
Pg 16
Pg 58
Pg 59
N. 1/4 COR. SEC. 12
CNTR. SEC. 1
THIS MAP IS NOT A SURVEY. It is prepared by the El Dorado Co. Assessor's office for assessment purposes only. Area calculations and characteristics are not guaranteed. Users should verify items such as dimensions and acreage
Acreages Are Estimates
Adjacent Map Pages Shown in Grey Text
Assessor's Parcel Numbers Shown in Circles
Rev. JUL 28, 2016
Assessor's Map Bk. 122 - Pg. 72
County of El Dorado, CA

P 17-0004

Slopes Table				
Number	Minimum Slope	Maximum Slope	Color	
1	0.00%	10.00%		1,453,413
2	11.00%	15.00%		296,78
3	16.00%	20.00%		118,068
4	21.00%	29.00%		47 396
5	30.00%	980 10%		22,876

2017 SEP 20 AM 11:32
RECEIVED
PLANNING DEPARTMENT

P 17-0004

32-43

2017 SEP 20 AM 11:32

RECEIVED
PLANNING DEPARTMENT

RECORD OF SURVEY

A PORTION OF THE SW 1/4 SECTION 1, T. 9 N., R. 8 E., M.D.M.
County of El Dorado, State of California
APRIL, 2010 PAGE 1 OF 1 SCALE: 1"=200'

cta Engineering & Surveying
Civil Engineering • Land Surveying • Land Planning
3233 Mercer Circle, Ramona Company, CA 95742

BASIS OF BEARINGS

THE BASIS OF BEARING FOR THIS SURVEY IS IDENTICAL TO THAT CERTAIN RECORD OF SURVEY FILED IN THE OFFICE OF THE COUNTY RECORDER OF EL DORADO COUNTY IN BOOK 16 OF SURVEYS, PAGE 147, WHICH IS THE CALIFORNIA COORDINATE SYSTEM, ZONE II. ALL DISTANCES ARE GROUND DISTANCES. MULTIPLY DISTANCE SHOWN BY 0.99991 TO OBTAIN GRID DISTANCE.

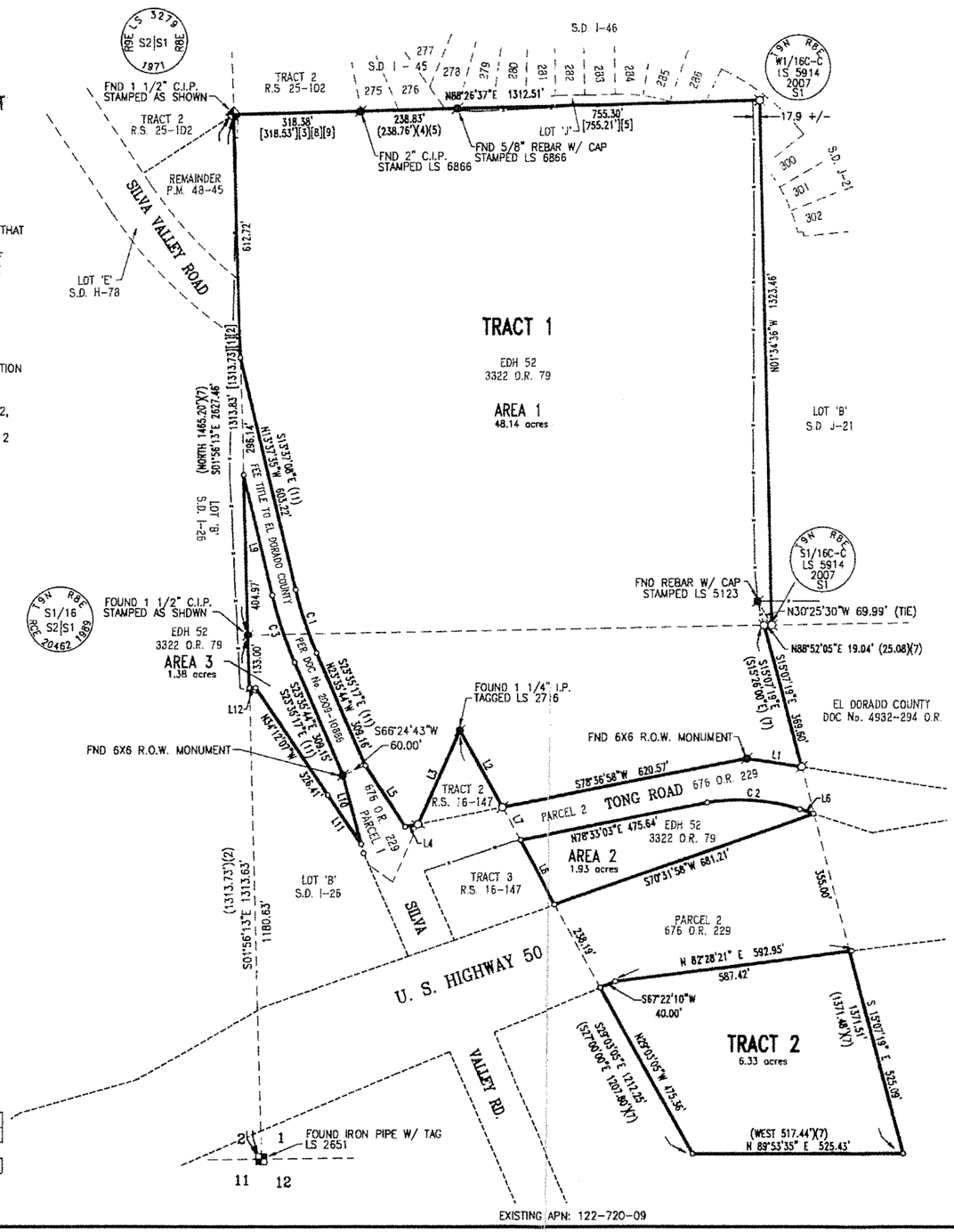
NOTE

1) THE PURPOSE OF THIS SURVEY IS TO COMPLY WITH SECTION 8762(B)(4) OF THE PROFESSIONAL LAND SURVEYORS ACT.

2) TRACT 1 INCLUDES THE LANDS DESCRIBED IN BOOK 3322, PAGE 79, EXCEPTING THOSE PORTIONS GRANTED TO THE COUNTY OF EL DORADO IN DOC. NO. 2009-10886. TRACT 2 REFLECTS THE BALANCE OF ASSESSOR'S PARCEL NO. 122-720-09. IT IS NOT THE INTENT OF THIS SURVEY TO REFLECT LINES OF ACTUAL OWNERSHIP.

REFERENCES

1) RS 16-147
2) SD H-78
3) SD I-19
4) SD I-45
5) SD I-46
6) SD J-21
7) OR 3322-79
8) PM 47-18
9) RS 25-102
10) PM 48-45
11) DOC No. 2009-10886



LINE DATA TABLE				
LINE	BEARING	DISTANCE	RECORD DATA	
L1	S81°22'06"E	138.58'		
L2	N29°03'05"W	221.04'	N29°15'23"W[1]	220.67'[1]
L3	S23°18'42"W	256.17'	S16°00'00"W[7]	255.66'[1]
L4	N78°36'58"E	32.50'		
L5	S33°03'01"E	182.48'		
L6	N72°08'58"W	36.48'		
L7	N29°03'05"W	93.86'		
L8	N29°03'05"W	183.80'	S29°15'23"W[1]	183.69'[1]
L9	N13°37'35"W	313.22'	S13°37'08"E[1]	
L10	N15°03'26"W	178.51'		
L11	S34°24'52"E	148.30'		
L12	N89°03'27"E	15.56'	WEST[7]	52.80'[7]

CURVE DATA TABLE					
CURVE	RADIUS	DELTA	CH. BEARING	CH.DISTANCE	RECORD DATA
C1	970.00'	09°58'08"	S18°36'40"E	168.56'	S18°36'13"E [11]
C2	500.00'	26°44'25"	N85°48'45"W	231.24'	
C3	1030.00'	09°58'08"	S18°36'40"E	178.98'	S18°36'13"E [11]

LEGEND

- ○ DIMENSION POINT
- ● FOUND MONUMENT AS NOTED
- ⌀ SET 5/8" REBAR WITH ALUMINUM CAP
- ⌑ SET 1-1/2" C.I.P. STAMPED LS 5914 AS NOTED
- ■ SECTION CORNER, FOUND AS NOTED
- ◆ QUARTER SECTION CORNER, FOUND/SET AS NOTED
- —+—+— EXISTING FENCE

SURVEYOR'S STATEMENT

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE PROFESSIONAL LAND SURVEYOR'S ACT AT THE REQUEST OF EDH 52 IN JUNE, 20D7

04-01-2010

KEVIN A. HEENEY, L.S. 5914

LICENSED LAND SURVEYOR KEVIN A. HEENEY NO 5914 Exp.12-31-2010 STATE of CALIFORNIA

COUNTY SURVEYOR'S STATEMENT

THIS MAP HAS BEEN EXAMINED IN ACCORDANCE WITH SECTION 8766 OF THE PROFESSIONAL LAND SURVEYOR'S ACT THIS 2nd DAY OF APRIL, 2010.

DANIEL S. RUSSELL

DANIEL S. RUSSELL, L.S. 5017
COUNTY SURVEYOR
COUNTY OF EL DORADO, CALIFORNIA

BY:
RICHARD L. BRINER, L.S. 5084
DEPUTY SURVEYOR
COUNTY OF EL DORADO, CALIFORNIA

LICENSED LAND SURVEYOR RICHARD L. BRINER No. 5084 Exp. 6-30-11 STATE OF CALIFORNIA

RECORDER'S STATEMENT

FILED THIS 6 DAY OF April, 2010 AT 11:36:36
IN BOOK 32 OF RECORD OF SURVEYS AT PAGE 43, AT THE REQUEST OF CTA ENGINEERING AND SURVEYING.

DOC. No. 2010-14986

William E. Schultz
WILLIAM E. SCHULTZ
COUNTY RECORDER, CLERK
COUNTY OF EL DORADO, CALIFORNIA

BY: DEPUTY

P 17-0004

32-43

32-43

32-43

M:\03-023-002\EDH 52_ROS.dwg ROS, 3/31/2010 11:55:41 AM, kheeney

EDH 52 MAP CORRECTION
Owner/Applicant: EDH 52

Z16-0008

COMMUNITY DEVELOPMENT AGENCY
DEVELOPMENT SERVICES DIVISION
http://www.edcgov.us/DevServices/

PLACERVILLE OFFICE:
2850 Fairlane Court, Placerville, CA 95667
BUILDING
(530) 621-5315 / (530) 622-1708 Fax
bldgdept@edcgov.us
PLANNING
(530) 621-5355 / (530) 642-0508 Fax
planning@edcgov.us

LAKE TAHOE OFFICE:
3368 Lake Tahoe Blvd., Suite 302
South Lake Tahoe, CA 96150
(530) 573-3330
(530) 542-9082 Fax
tahoebuild@edcgov.us

October 3, 2016

Jose Crummett, El Dorado County GIS Manager
360 Fair Lane
Placerville, CA 95667

RE: Approval of Administrative Zoning Map Correction for APN: 122-720-15
File references: Z04-0016 and Z16-0008 (EDH 52 Property)

Mr. Crummett:

This letter is to notify you that the Planning Director has approved on this date the Administrative Zoning Map Correction to add the Planned Development (PD) combining zone to APN 122-720-15.

Please amend the County GIS Zoning maps accordingly.

The PD combining zone for APN 122-720-15 (formerly 122-720-09) was erroneously removed during the Zoning Ordinance Update approved on December 15, 2015. The PD combining zone was approved by Board of Supervisors through Ordinance 4975 on March 13, 2012 and implements General Plan Policy 2.2.6.1, specifically requiring that this property have the PD zone.

The approval of this Zoning Map Correction is based on the following Findings of Approval:

FINDINGS FOR APPROVAL

1. The Administrative Zoning Map Correction is authorized by and complies with Zoning Ordinance Section 130.10.030.D.5 (Map Corrections) (Attachment 1). Approval of the zoning map correction is based on historical data, prior zoning maps, and clear legislative intent.

2. The applicant initiated rezone of the property (Z04-0016) was approved by the Board of Supervisors on March 13, 2012 through Ordinance 4975 which rezoned the property from One-Family Residential-Planned Development (R1) to Commercial-Planned Development (C-PD) (Attachment 2).

3. General Plan Policy 2.2.6.1 provides clear legislative intent in that the lot, identified as Village P of the El Dorado Hills Specific Plan, was to be rezoned to include the Planned Development Overlay (-PD): "Those lands within the El Dorado Hills Specific Plan known as Villages P, Q, and V shall be rezoned to include the Planned Development Overlay (-PD) as part of any development application."

4. The Board's adoption of the Zoning Maps on December 15, 2015 did not intend to remove the PD combining zone because:

    a. there was no specific direction to remove the PD combining zone,
    b. Planning staff had no reason for the removal of the zone, and
    c. the removal of the combining zone conflicts with General Plan Policy 2.2.6.1.

5. Approval of the rezone from R1 to C-PD included adoption of a Negative Declaration. It has been determined that pursuant to the California Environmental Quality Act (CEQA) Guidelines Sections 15162 and 15164, there is no substantial evidence requiring the preparation of a Subsequent Negative Declaration or an Addendum to the existing Negative Declaration, adopted by the Board of Supervisors on March 13, 2012.

Sincerely,

Roger Trout

ROGER P. TROUT
Development Services Director

Attachments: Attachment 1: Zoning Ordinance Section 130.10.030.D.5
Attachment 2: Fully Executed Ordinance No. 4975

Cc: Tiffany Wilson, RSC Engineering, Inc., 2250 Douglas Boulevard, Suite 150, Roseville, CA 95661
AKT Investments, Inc., Mark Enes, 7700 College Town Drive, Ste. 101, Sacramento, CA 95826
Tiffany Schmid, Principal Planner
Rich Briner, County Surveyor
Shawna Purvines, Acting Assistant Community Development Agency Director

County to correct any such mapping error within 180 days from the date the inconsistency is discovered. The correction of a mapping error shall be exempt from the County's customary application and processing fees. To ensure timely resolution of mapping errors, the County shall schedule hearings for amendments to the Zoning Ordinance at least quarterly.

130.10.030 Responsibility for Administration

A. Responsible Bodies and Individuals. This Title shall be administered by:

1. The El Dorado County Board of Supervisors, hereafter referred to as the Board;
2. The Planning Commission, hereafter referred to as the Commission;
3. The County Zoning Administrator, hereafter referred to as the Zoning Administrator;
4. The County Agricultural Commission, hereafter referred to as the Ag Commission;
5. The Director of the Development Services Department or designee, hereafter referred to as the Director; and
6. The Development Services Department hereafter referred to as the Department.

B. Advisory Committees. The Board may appoint Advisory Committees to review design review applications, or provide input on other issues of concern to the Board or the Commission. These Advisory Committees include, but are not necessarily limited to, the following:

1. Cameron Park Design Review Committee
2. El Dorado Hills Design Review Committee
3. Pollock Pines Design Review Committee
4. The County's Economic Development Advisory Committee ("EDAC")
5. Diamond Springs-El Dorado Community Advisory Committee
6. Meyers Area Plan Advisory Committee

C. Responsibility and Authority of the Director. The duties and responsibilities of the Director are those enumerated in Article 6 (Zoning Ordinance Administration), in this Title and in other Titles of the County Code of Ordinances. Whenever this Title refers to the Director, it is expressly understood to include Department staff acting under the

direction and control of the Director, and whenever this Title refers to the Department it is expressly understood to describe Department staff acting under the direction and control of the Director.

D. Rules of Application. This Title shall be applied in the following manner:

1. **Minimum Requirements.** The provisions of this Title shall be deemed to be the minimum standards unless stated otherwise (for example, maximum building height or maximum density). These standards shall apply to all buildings, structures and uses, except where this Title provides for the exercise of discretion or where a Variance is granted.

2. **Conflicting Provisions.** If conflicts occur between different requirements of this Title, or between provisions of this Title and requirements imposed by other provisions of the County Code of Ordinances or other laws, and regulations adopted by the County, the more stringent development requirement or greater restriction on the use of land or buildings shall apply.

3. **Single Lot Containing Multiple Zones.** Where the boundaries of the zone designation are not coterminous with the property line boundaries, a single lot will contain multiple zones. In that event, the County shall first determine if the zone boundary appears to be the result of a mapping error. In that case, the mapping error shall be resolved as provided in Subsection D.5 (Map Corrections) below.

   Where the County determines that a mapping error has not occurred, the uses of the lot shall be consistent with the zone as shown for the portion of the lot on which the use is proposed. Multiple uses of a lot with multiple zones are expressly allowed consistent with the requirements of each zone. The precise location of the uses may be modified by a planned development or specific plan. Any uncertainty as to the boundaries of each zone within the lot shall be determined pursuant to Subsection D.4 (Map Boundaries) below.

4. **Map Boundaries.** Where the boundaries of any zone shown on the zoning maps are uncertain, the following rules shall apply to resolve the uncertainty:

   a. Where a zone boundary approximately follows a lot line, or road or street, such lot line or the centerline of the road or street shall be construed to be the boundary.

   b. Where a zone boundary approximately follows a stream or river, ridge line or other distinct geographic or topographic feature, such stream or geographic feature shall be construed to be the boundary.

   c. If a zone divides a lot, and the boundary line location is not otherwise designated, the location of the boundary shall be determined by the use of the scale appearing on the zoning map.

5. **Map Corrections.** Where a zone boundary appears to be in error, the Director may make the correction based on historical data, prior zoning maps, clear legislative intent, and other available information. Where the record is unclear, the zoning shall be reviewed by the Commission to determine if the map is in error. If, after review of the record, the Commission finds that the map is in error, they shall direct the Director to correct said error by revising the official maps accordingly within 30 days of the Commission's review.

130.10.040 Applicability of Zoning Ordinance

A. **Area of Applicability.** The provisions of this Title shall apply to all lands within the unincorporated area of the County of El Dorado except as provided in Subsection B (Exemptions from Zone Ordinance Requirements) below.

B. **Exemptions from Zone Ordinance Requirements.** The provisions of this Title do not apply to the following activities, uses, and structures, except where provisions of a memorandum of understanding between the County and another governmental agency provide for County regulatory authority or otherwise provided by law:

1. Activities of the Federal Government on federally owned or leased land.

2. Activities of the State of California or any agency of the state on state owned or leased land.

3. Activities of a local agency, as defined in California Government Code Section 53090, as provided in Section 53091 et seq.

4. The location and construction of facilities for water and electrical energy as provided in California Government Code Section 53091.

5. Tribal lands which are not subject to the jurisdiction of the County.

6. Existing and future preemptions of local land use authority resulting from State Law.

C. **Effect of Zoning Ordinance Changes on Projects in Progress.** The enactment of this Title or amendments hereto may have the effect of imposing different standards on development or new uses from that which previously applied. Following the effective date of this Title the following provisions shall apply:

1. **Pending Applications.** Applications which have been determined by the Department to be complete and in compliance with California Government Code Section 65943 before the effective date of this Title, or any amendment hereto, shall comply with the provisions of this Title in effect on the date that the application is deemed complete.

PFF:km
EDH52Rez
03/05/12

ORDINANCE NO. 4975

THE BOARD OF SUPERVISORS OF THE COUNTY OF EL DORADO DOES ORDAIN AS FOLLOWS:

RELATED TO REZONING IN THE EL DORADO HILLS AREA
PETITIONED BY EDH 52 PARTNERS

Section 1. The Official Zoning Map for the El Dorado Hills Area is hereby amended to rezone the following described lands from One-Family Residential (R1) zone to Commercial-Planned Development (C-PD) zone:

El Dorado Hills Area

A portion of Assessor's Parcel No. 122-720-09, being described as a portion of Section 1, Township 9 North, Range 8 East, M.D.M., consisting of 57.78 acres (see Exhibit A Attached hereto)

Section 2. This ordinance shall take effect and shall become effective thirty (30) days following the adoption hereof.

PASSED AND ADOPTED by the Board of Supervisors of the County of El Dorado at a regular meeting of said Board, held on the 13 day of MARCH, 2012, by the following vote of said Board:

Ayes: Ron Briggs, Raymond J. Nutting
John R. Knight, James R. Sweeney

Noes: None
Absent: Norma Santiago

ATTEST
SUZANNE ALLEN DE SANCHEZ
Clerk of the Board of Supervisors
By _____
Deputy Clerk

_____
Chairman, Board of Supervisors
John R. Knight

APPROVED AS TO FORM
LOUIS B. GREEN
COUNTY COUNSEL
By _____
Name Paula Frantz
Title Deputy County Counsel

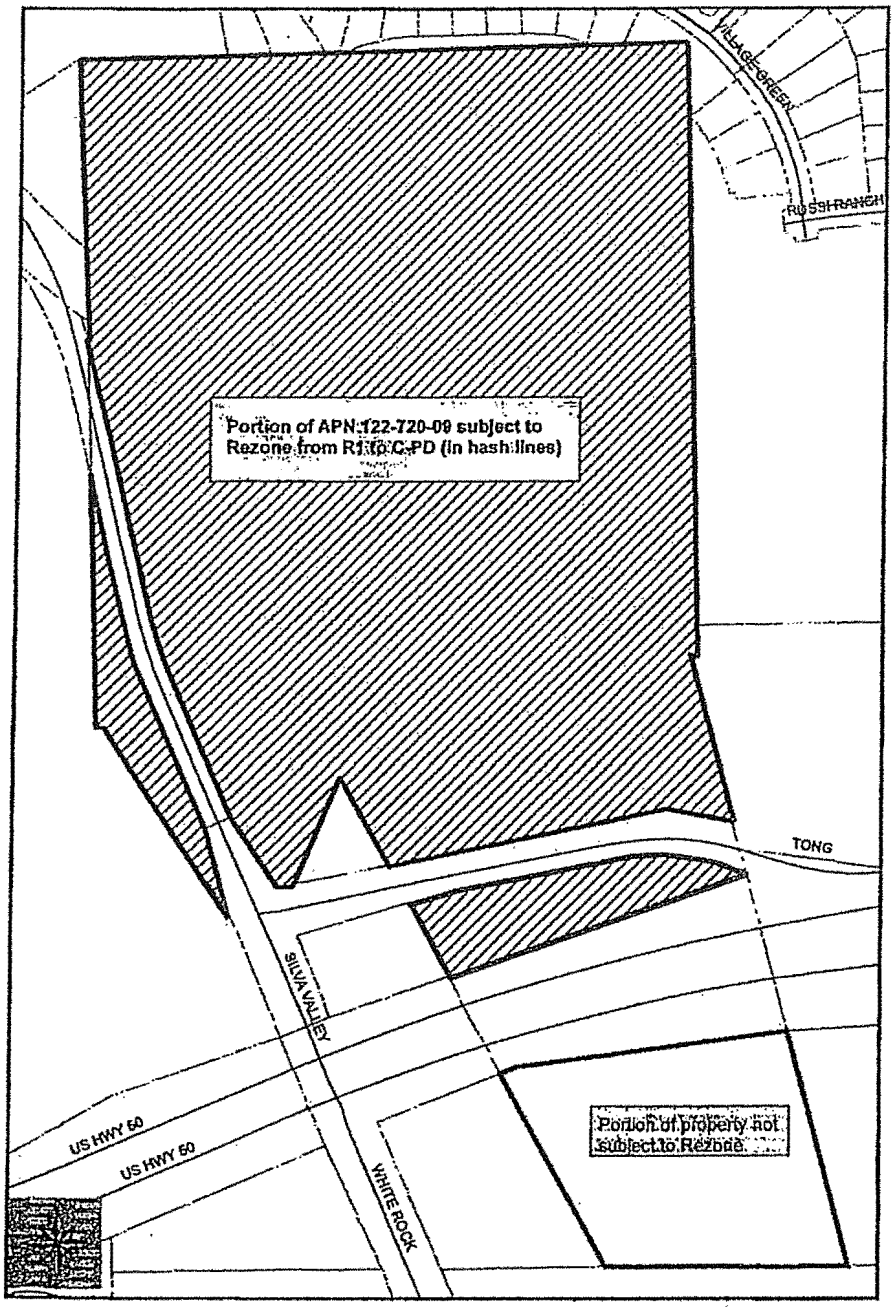
I CERTIFY THAT:
THE FOREGOING INSTRUMENT IS A CORRECT COPY OF THE ORIGINAL ON FILE IN THIS OFFICE

Date _____
ATTEST: SUZANNE ALLEN DE SANCHEZ, Clerk of the Board of Supervisors
of the County of El Dorado, State of California.

By _____
Deputy Clerk

Attachment 2

EXHIBIT A


VILLAGE GREEN
ROSSI RANCH
Portion of APN 122-720-09 subject to Rezone from R1 to C-PD (in hash lines)
TONG
SILVA VALLEY
US HWY 50
US HWY 50
WHITE ROCK
Portion of property not subject to Rezone

PROJECT CHECKLIST

Z16-0008	EDH 52 MAP CORRECTION Owner/Applicant: EDH 52
Project Number(s)	Project Name

Assigned Planner: Rob Peters Assignment Date: _____

Type of Review: ☑ Staff Level (Admin) ☐ ZA ☐ PC ☐ BOS

☑ LMIS J08 information added

LEGISTAR ITEM # 12-0283 (If previously heard by PC or BOS; Including all project-related items.)

PUBLIC HEARING NOTIFICATION REQUIREMENTS: ☐ 500 feet ☐ 1,000 feet ☐ ½ mile ☐ 1 mile N/A

TYPE OF PROJECT: ☐ Flat Fee ☐ Time & Materials N/A

EARLY CONSULTATION AND TAC

Design Committee Review Needed? ☐ No ☐ Yes *(Identify one)*
- ☐ *Cameron Park DRC*
- ☐ *Diamond Springs-El Dorado CAC*
- ☐ *Pollock Pines DRC*

- ☐ EPR (Early Project Review)
- ☐ Agency Distribution List
- ☐ Project Description
- ☐ AB52 Consultation
- ☐ Physical Sign Posting
- ☐ Public Outreach

Distribution Period: ☐ 15 Days ☐ 30 Days Ends: _____

TAC Meeting Required? ☐ No ☐ Yes Time Needed: _____

NEGATIVE DECLARATION

State Clearinghouse? ☑ No ☐ Yes *(Include NOC Form; Notify Admin)*

LAFCO Annexation Required? ☑ No ☐ Yes *(Circulate to LAFCO)*

- ☑ Staff Report / Letter
- ☑ Exhibits (Labeled)
- ☑ Negative Declaration Form and Initial Study (Signed by Planner and Principal Planner)
  - Previously Adopted

APPROVALS: [signature] 10/03/16 [signature] 10-3-16
Principal Planner (Date) Director (Date)

Comments:

CATEGORICALLY EXEMPT

- ☐ Staff Report
- ☐ Exhibits (Labeled)

APPROVALS: _____ _____
Principal Planner (Date) Director (Date)

Comments:

FILE # Z17-0004

EL DORADO COUNTY PLANNING SERVICES

ZONE CHANGE & GENERAL PLAN AMENDMENT APPLICATION

ASSESSOR'S PARCEL NO.(S) 122-720-15

PROJECT NAME/REQUEST: (Describe proposed use) Rezone the property from PD-CR to PD-CC to allow more uses that align with the tenant mix proposed in a shopping center. This will also allow the approval of a mini storage with a CUP.

IF SUBDIVISION/PARCEL MAP: Create 10 lots, ranging in size from _____ to _____ acre(s) / SF

IF ZONE CHANGE: From PD-CR to PD-CC IF GENERAL PLAN AMENDMENT: From - _____ to - _____

IF TIME EXTENSION, REVISION, CORRECTION: Original approval date - _____ Expiration date - _____

APPLICANT/AGENT RSC Engineering, Inc.

Mailing Address 2250 Douglas Blvd., Ste. 150 Roseville, CA 95661

Phone (916) 788-2884 FAX (916) 788-4408

PROPERTY OWNER EDH 52, GP

Mailing Address 7700 College Town Drive, Ste. 101 Sacramento, CA 95826

Phone (916) 383-2500 FAX _____

LIST ADDITIONAL PROPERTY OWNERS ON SEPARATE SHEET IF APPLICABLE

ENGINEER/ARCHITECT RSC Engineering, Inc.

Mailing Address Same as above

Phone _____ FAX _____

LOCATION: The property is located on the East (N/E/W/S) side of Old Silva Valley Road (street or road)

0 feet/miles North (N/E/W/S) of the intersection with Tong Road (major street or road)

in the El Dorado Hills area. PROPERTY SIZE 41.87 acres (acreage / square footage)

X _____ Date 9-11-17
Signature of property owner or authorized agent

FOR OFFICE USE ONLY

Date_____ Fee $_____ Receipt #_____ Rec'd by_____ Census_____

Zoning_____ GPD_____ Supervisor Dist _____ Sec/Twn/Rng _____

ACTION BY: ☐ **PLANNING COMMISSION**

Hearing Date_____

☐ Approved ☐ Denied (Findings and/or conditions attached)

_____
Executive Secretary

ACTION BY BOARD OF SUPERVISORS

Hearing Date_____

☐ Approved ☐ Denied (Findings and/or conditions attached)

_____
Executive Secretary

(Revised 07/07)

FILE # PD15-0001

EL DORADO COUNTY PLANNING DEPARTMENT

APPLICATION FOR Planned Development

ASSESSOR'S PARCEL NO.(s) 122-720-~~09~~ 15

PROJECT NAME/REQUEST: (Describe proposed use) EDH 52 Retail Shopping Center

IF SUBDIVISION/PARCEL MAP: Create _____ lots, ranging in size from _____ to _____ acre(s) / SF

IF ZONE CHANGE: From _____ to _____ IF GENERAL PLAN AMENDMENT: From _____ to _____

IF TIME EXTENSION, REVISION, CORRECTION: Original approval date _____ Expiration date _____

APPLICANT/AGENT RSC Engineering, Inc.

Mailing Address 2250 Douglas Blvd., Ste. 150 Roseville, CA 95661

Phone (916) 788-2884 FAX (916) 788-4408

PROPERTY OWNER EDH 52 GP

Mailing Address 7700 College Town Drive, Ste. 101 Sacramento, CA 95826

Phone (916) 383-2500 FAX (916) 383-0552

RECEIVED
PLANNING DEPARTMENT
2015 JAN -5 PM 3:01

LIST ADDITIONAL PROPERTY OWNERS ON SEPARATE SHEET IF APPLICABLE

ENGINEER/ARCHITECT RSC Engineering, Inc.

Mailing Address 2250 Douglas Blvd., Ste. 150 Roseville, CA 95661

Phone (916) 788-2884 FAX (916) 788-4408

LOCATION: The property is located on the E (N/E/W/S) side of Silva Valley Road (street or road)

0 feet feet/miles N (N/E/W/S) of the intersection with Tong Road (major street or road)

in the El Dorado Hills area. PROPERTY SIZE 48.14 ac. (acreage / square footage)

X _____ Date 12/22/14
signature of property owner or authorized agent

FOR OFFICE USE ONLY

Date 1/5/15 Fee $ 6,417.00 Receipt # _____ Rec'd by JMP Census —

Zoning C GPD C Supervisor Dist 1/2 Sec/Twn/Rng 1/9N/8E

ACTION BY:
- ☐ PLANNING COMMISSION
- ☐ ZONING ADMINISTRATOR
- ☐ PLANNING DIRECTOR

Hearing Date _____

☐ Approved ☐ Denied (findings and/or conditions attached)

_____
Executive Secretary

ACTION BY BOARD OF SUPERVISORS

Hearing Date _____

☐ Approved ☐ Denied (findings and/or conditions attached)

APPEAL: ☐ Approved ☐ Denied

_____
Executive Secretary

Revised 07/02)

Z17-0004/P17-0007/S17-0017 **PD 15-0001**

EL DORADO COUNTY PLANNING SERVICES

2850 Fairlane Court, Placerville, CA 95667 (530) 621-5355 http://edcgov.us/Planning/

CONDITIONAL/MINOR USE PERMIT

FILE # S17-0007

ASSESSOR'S PARCEL NO.(s) 122-720-15

PROJECT NAME/REQUEST: (Describe proposed use) Conditional Use Permit for self storage

APPLICANT/AGENT RSC Engineering, inc. Tiffany Wilson

Mailing Address 2250 Douglas Blvd., Ste. 150 (P.O. Box or Street) Roseville (City) CA 95661 (State & Zip)

Phone (916) 788-2884 EMAIL: t.wilson@rsc-engr.com

PROPERTY OWNER EDH 52, GP

Mailing Address 7700 College Town Drive, Suite 101 (P.O. Box or Street) Sacramento (City) CA 95826 (State & Zip)

Phone (916) 383-2500 EMAIL: angeloc@aktdev.com

LIST ADDITIONAL PROPERTY OWNERS ON SEPARATE SHEET IF APPLICABLE

ENGINEER/ARCHITECT RSC Engineering, Inc. Jai Singh

Mailing Address 2250 Douglas Blvd., Ste. 150 (P.O. Box or Street) Roseville (City) CA 95661 (State & Zip)

Phone (916) 788-2884 EMAIL: j.singh@rsc-engr.com

LOCATION: The property is located on the East (N/E/W/S) side of Old Silva Valley Road (street or road)

0 feet/miles North (N/E/W/S) of the intersection with Tong Road (major street or road)

in the El Dorado Hills area. PROPERTY SIZE 41.87 acres (acreage / square footage)

X [signature] Date 9-11-17

signature of property owner or authorized agent

FOR OFFICE USE ONLY

Date_____ Fee $_____ Receipt #_____ Rec'd by_____ Census _____

Zoning_____ GPD_____ Supervisor Dist_____ Sec_____ Twn_____ Rng_____

ACTION BY _____PLANNING COMMISSION _____ZONING ADMINISTRATOR

Hearing Date _____

Approved _____ Denied _____
findings and/or conditions attached

_____
Executive Secretary

ACTION BY BOARD OF SUPERVISORS

Hearing Date _____

Approved _____ Denied _____
findings and/or conditions attached

APPEAL:
Approved _____ Denied _____

(Application Revised 4/2016)

FILE # P17-0007

EL DORADO COUNTY PLANNING SERVICES

TENTATIVE PARCEL MAP APPLICATION

ASSESSOR'S PARCEL NUMBER(s) 122-720-15

PROJECT NAME/REQUEST: (Describe proposed use)

To subdivide the southern parcel into 8 smaller lots for retail use and the northern side into 2 additional lots for a total of 10 lots. See attached project description.

IF SUBDIVISION/PARCEL MAP: Create 10 lots, ranging in size from _____ to _____ acre(s) / square feet

IF ZONE CHANGE: From PD-CR to PD-CC IF GENERAL PLAN AMENDMENT: From - _____ to - _____

IF TIME EXTENSION, REVISION, or CORRECTION: Original approval date - _____ Expiration date - _____

APPLICANT/AGENT RSC Engineering, Inc.

Mailing Address 2250 Douglas Blvd., Ste.150 (P.O. Box or Street) Roseville (City) California (State) 95661 (ZIP)

Phone (916) 788-2884 FAX (916) 788-4408

PROPERTY OWNER EDH 52 GP

Mailing Address 7700 College Town Dr. #101 (P.O. Box or Street) Sacramento (City) California (State) 95826 (ZIP)

Phone (916) 383-2500 FAX ( )

LIST ADDITIONAL PROPERTY OWNERS ON SEPARATE SHEET IF APPLICABLE

ENGINEER/ARCHITECT RSC Engineering, Inc. Same as above

Mailing Address _____ (P.O. Box or Street) <pick from list> (City) (State) (ZIP)

Phone ( ) FAX ( )

LOCATION: The property is located on the East (N/E/W/S) side of Old Silva Valley Road (Street or Road)

0 feet/miles North (N/E/W/S) of the intersection with Tong Road (Major Street or Road)

in the El Dorado Hills area. PROPERTY SIZE 41.87 (Acreage / Square Feet)

Signature of property owner or authorized agent _____ Date 9-11-17

FOR OFFICE USE ONLY

Date _____ Fee $ _____ Receipt # _____ Rec'd by _____ Census _____

Zoning _____ GPD _____ Supervisor District _____ Sec _____ Twn _____ Rng _____

ACTION BY: ☐ PLANNING COMMISSION ☐ ZONING ADMINISTRATOR

Hearing Date _____

Approved _____ Denied _____ (Findings and/or conditions attached)

Executive Secretary

(Revised 06/07)

ACTION BY BOARD OF SUPERVISORS

Hearing Date _____

Approved _____ Denied _____ (Findings and/or conditions attached)

APPEAL:

Approved _____ Denied _____

RESET Z17-0004/P17-0007/S17-0017/PD15-0001

File # _____
Date Filed: _____

EL DORADO COUNTY PLANNING SERVICES

ENVIRONMENTAL QUESTIONNAIRE

Project Title EDH 52

Lead Agency EL DORADO COUNTY

Name of Owner EDH 52, GP Telephone (916) 383-2500

Address 7700 COLLEGE TOWN DR., STE. 101 SACRAMENTO, CA 95826

Name of Applicant RSC ENGINEERING, INC. Telephone (916) 788-2884

Address 2250 DOUGLAS BLVD., STE. 150 ROSEVILLE, CA 95661

Project Location NE CORNER OF OLD SILVA VALLEY ROAD & HIGHWAY 50

Assessor's Parcel Number(s) 122-720-15

Acreage 41.87 AC, Zoning PD-CR

Please answer all of the following questions as completely as possible. Subdivisions and other major projects will require a Technical Supplement to be filed together with this form.

1. Type of project and description: _____

2. What is the number of units/parcels proposed? 11

GEOLOGY AND SOILS

3. Identify the percentage of land in the following slope categories:

X 0 to 10% X 11 to 15% X 16 to 20% X 21 to 29% X over 30%

4. Have you observed any building or soil settlement, landslides, rock falls or avalanches on this property or in the nearby surrounding area? No

5. Could the project affect any existing agriculture uses or result in the loss of agricultural land?
No

DRAINAGE AND HYDROLOGY

6. Is the project located within the flood plain of any stream or river? If so, which one?
No

7. What is the distance to the nearest body of water, river, stream or year-round drainage channel?
2/3 miles Name of the water body? Carson Creek

8. Will the project result in the direct or indirect discharge of silt or any other particles in noticeable amount into any lakes, rivers or streams? No

9. Will the project result in the physical alteration of a natural body of water or drainage way?
If so, in what way? No

10. Does the project area contain any wet meadows, marshes or other perennially wet areas?
Yes, wetlands

VEGETATION AND WILDLIFE

11. What is the predominant vegetative cover on the site (trees, brush, grass, etc.)? Estimate percentage of each: 98% grasses, 2% oak woodland

12. How many trees of 6-inch diameter will be removed when this project is implemented?

FIRE PROTECTION

13. In what structural fire protection district (if any) is the project located? El Dorado Hills

14. What is the nearest emergency source of water for fire protection purposes (hydrant, pond, etc.)?
hydrant on Silva Valley Parkway

15. What is the distance to the nearest fire station? 2.25 miles at Bass Lake Station

16. Will the project create any dead-end roads greater than 500 feet in length?
No

17. Will the project involve the burning of any material including brush, trees and construction materials?
No

NOISE QUALITY

18. Is the project near an industrial area, freeway, major highway or airport? If so, how far?
Freeway approximately 150' south

19. What types of noise would be created by the establishment of this land use, both during and after construction? typical construction of a retail center and typical operation noises like truck traffic and HVAC units during operation

AIR QUALITY

20. Would any noticeable amounts of air pollution, such as smoke, dust or odors, be produced by this project? No

WATER QUALITY

21. Is the proposed water source: X public or ___private, X treated or ___untreated?
Name the system: EID

22. What is the water use (residential, agricultural, industrial or commercial)?
Commercial

AESTHETICS

23. Will the project obstruct scenic views from existing residential areas, public lands, public bodies of water or roads? No

ARCHAEOLOGY/HISTORY

24. Do you know of any archaeological or historical areas within the boundaries or adjacent to the project? (e.g., Indian burial grounds, gold mines, etc.) Yes.

SEWAGE

25. What is the proposed method of sewage disposal? ____ septic system X sanitation district
Name of district: EID

26. Would the project require a change in sewage disposal methods from those currently used in the vicinity? No

TRANSPORTATION

27. Will the project create any traffic problems or change any existing roads, highways or existing traffic patterns? None expected. A traffic study will be prepared.

28. Will the project reduce or restrict access to public lands, parks or any public facilities?
No

GROWTH-INDUCING IMPACTS

29. Will the project result in the introduction of activities not currently found within the community?
No

30. Would the project serve to encourage development of presently undeveloped areas, or increases in development intensity of already developed areas (include the introduction of new or expanded public utilities, new industry, commercial facilities or recreation activities)? No

31. Will the project require the extension of existing public utility lines? If so, identify and give distances:
Yes.

GENERAL

32. Does the project involve lands currently protected under the Williamson Act or an Open Space Agreement? No

33. Will the project involve the application, use or disposal of potentially hazardous materials, including pesticides, herbicides, other toxic substances or radioactive material?
No

34. Will the proposed project result in the removal of a natural resource for commercial purposes (including rock, sand, gravel, trees, minerals or top soil)?
No

35. Could the project create new, or aggravate existing health problems (including, but not limited to, flies, mosquitos, rodents and other disease vectors)?
No

36. Will the project displace any community residents? No

DISCUSS ANY YES ANSWERS TO THE PREVIOUS QUESTIONS (attach additional sheets if necessary)

MITIGATION MEASURES (attach additional sheets if necessary)

Proposed mitigation measures for any of the above questions where there will be an adverse impact:

Form completed by: RSC Engineering, Inc **Date:** 9-13-17

Owner

EDH 52 GP

7700 College Town Drive, Suite 101

Sacramento, CA 95826

(916) 383-2500

Applicant/Engineer

RSC Engineering, Inc.

2250 Douglas Blvd., Suite 150

Roseville, CA 95661

(916) 788-2884

RSC ENGINEERING

October 9, 2017 104-003A

County of El Dorado
Development Services Department-Planning Division
2850 Fairlane Court
Placerville, CA 95667

Attention: Mel Pabalinas

Subject: EDH 52 (PD15-0001)

Dear Mel,

As you are aware this project was put on hold for some time until such time that more specific details could be provided regarding the proposed project. We are resubmitting the PD application package based on the incomplete letter dated August 12, 2015. We also have added 3 new entitlements to the project which include a rezone, tentative parcel map, and conditional use permit. We also prepared an annotated response to your letter, which is attached, explaining how each of the items was addressed.

Forms and Maps (F&M) Required

1. Four copies of a tree preservation plan is provided with this submittal.
2. A preliminary drainage report is included with the submittal.
3. We understand a noise analysis will be prepared as part of the EIR document and will not be required to continue moving the project forward.
4. We understand an air quality impact analysis will be prepared as part of the EIR document and will not be required to continue moving the project forward.
5. We understand a traffic analysis will be prepared as part of the EIR document and will not be required to continue moving the project forward.

Site Plan Requirements

1. The entire parcel of land along with perimeter dimensions are shown on the updated site plan detail sheets.
2. A note has been added on the site plan stating that all existing easements have widths that vary. All existing easements are shown on the site plan

RSC Engineering, Inc.
Consulting Engineers

2250 Douglas Blvd.
Suite 150
Roseville, CA 95661
916.788.2884
Fax 916.788.4408
rsc-engr.com

with their purpose. Proposed easements are not known at this time and will be determined during the improvements plan preparation.

3. Typical parking stall and loading stall dimensions are shown on the site plan. Compact stalls and standard stall depths and widths are also noted in the notes section.
4. Retaining walls are proposed along the roadways due to grade differences. The walls are shown on the site plan and grading plan.
5. Monument signs are proposed at each entry. See project description for details on the proposed freestanding signage.
6. Please see the preliminary utility plan for the proposed fire hydrant locations.
7. All adjacent parcels including parcel owners and APN's are shown on the site plan detail sheets.
8. Location of neighboring school is shown on Sheet SP3.

Plan of Building Elevations

1. Typical elevations for all sides of the proposed building types are provided.
2. Proposed highway signs and monument sign locations are shown on the proposed site plan. See project description for details on the proposed freestanding signage.

Advisories

1. This project will mitigate for oak trees removed as part of the project. A preserve area is available for a portion of the mitigation at the northern corner of the south site. An offsite preserve area will be needed for the remaining mitigation oak trees. A total of 1.18 acres of mitigation planting or 236 oak trees will be planted.
2. Deleted.
3. It is our understanding a FIA is not required with this submittal. A modified scope will be coordinated with the County at a late date.
4. The project description has been updated to reflect the comments listed in the letter.
5. The new project description will be the one used by the EIR Consultant when selected.
6. The site plan and landscape plan have been adjusted to have a single overall sheet and subsequent details sheets for better clarity. The grading and utility plans have one sheet for each project site (north and south)

The project is proposing a rezone from PD-CR to PD-CC. A rezone exhibit and application is provided with this submittal. The project will also include a tentative parcel map to subdivide the property into 12 lots. This will include 8 on the south side and 4 on the north side. This tentative parcel map assumes a large lot 4 parcel map has recorded that separates the north and south lots and creates a

lot of the mini-storage use and future Country Club Drive extension roadway. Finally, a conditional use permit is being requested to allow the mini-storage use as a conditional use within the proposed PD-CC zone.

We look forward to your review of our third submittal and moving forward with the EIR. Please call if there are any questions.

Sincerely,

Tiffany Ann Wilson, AICP
Managing Planner

Cc: Mark Enes
Angelo Christie

EDH 52

OVERALL COMMERCIAL CENTER

PROJECT DESCRIPTION

October 5, 2017

DESCRIPTION AND PURPOSE OF THE REQUEST

The owner is requesting approval to construct two (2) new commercial centers (collectively, the "Project") in El Dorado County on APN 122-720-15. The property is located north of Highway 50 and Tong Road, east of Old Silva Valley Parkway, and is bisected by Silva Valley Parkway. The northern portion of the property is approximately 17.07 acres (North Site) and the southern portion is approximately 15.73 acres (South Site), net of the right of way for roads. There is a 7.69-acre area on the North Site for the right of way associated with the future extension of Country Club Drive. There is a 1.38-acre open space area west of Old Silva Valley Road that will not be developed.

The County is reviewing the owner's request as a single application and project for local entitlement and California Environmental Quality Act purposes. However, the owner views the North Site and the South Site as two distinct projects, and each constitutes a separate "integrated development" pursuant to El Dorado County Code Section 130.16.120. Accordingly, the owner will seek separate wetlands permits from the Army Corps of Engineers for each. The maximum building area for the South Site will be approximately 110,000 square feet and may include the following uses: hotel, drive through uses, gas station with car wash, grocery, pharmacy, retail, food uses, outdoor patio, medical office, surgery center, office, technical school, outdoor storage and outdoor sales. The maximum building area for the North Site will be approximately 180,000 square feet and may include self-storage, grocery, and other commercial uses.

The Project requires a Planned Development application because the property is zoned PD-CR. A rezone is proposed to PD-CC to allow more uses primarily seen in a shopping center setting and to allow a self-storage use with the approval of a conditional use permit. In addition, a design review permit will be required for signage and a tentative parcel map is proposed to subdivide the parcels further for purposes of sale, lease or financing of the property.

PROJECT OBJECTIVES

- Develop two high-quality planned commercial developments on currently vacant and underutilized land adjacent to Highway 50 adequately served by public services and utilities.
- Promote economic growth and diverse new employment and retail/service opportunities for County residents.
- Develop architectural and landscaping designs that soften the scale and mass of the buildings, create a pleasant and attractive appearance, and complement the surrounding area.

- Develop site plans that minimize potential access and circulation conflicts between automobiles and pedestrians, provide adequate off-street parking for store customers and employees, and minimize impacts to the surrounding area.

SITE INFORMATION

Location

The proposed Project is located in El Dorado County. The Project site is on the north side of Highway 50 and is bisected by Silva Valley Parkway. It is bordered by existing residences and an elementary school to the north, vacant land to the east, Old Silva Valley Road to the west, and Highway 50 to the south.

Site Description

The Project site is currently vacant. The site consists of annual grassland with small oak woodlands throughout the Project. Slivers of wetlands and riparian areas are located on site.

DESCRIPTION OF THE PROPOSED PROJECT

The maximum building area for the South Site will be approximately 110,000 square feet and may include the following uses: hotel, drive through uses, gas station with car wash, grocery, pharmacy, retail, food uses, outdoor patio, medical office, surgery center, office, technical school, outdoor storage and outdoor sales. The maximum building area for the North Site will be approximately 180,000 square feet and may include self-storage, grocery, and other community-serving commercial uses.

Design

The design theme for the Project is based on the existing building design theme of the Serrano area which is a California/Mediterranean style, examples of which are included in the design guidelines proposed for this project.

Where single tenant types (hotel and retail shops) occur, the guidelines contain specific architectural design for these buildings. Where multiple tenant types (drive-thru restaurants and fuel stations) occur, the guidelines contain a typical example of the design intent for that tenant type. Each of these specific tenants will use the typical example shown and vary their design to add individuality and yet maintain a common thread of colors, materials, and design elements as shown in the guidelines. No building design for any tenant type shall be repeated.

Each building shall vary in building height to achieve more visual interest and distinct building character, avoiding the monotony of continuous building height. Each building shall combine horizontal and vertical elements to provide variation, interest and rhythm within and among the buildings. In no case shall any roof mounted equipment be higher than the lowest parapet height of the building.

The color and material palette for the project contains multiple options for color and materials. The intent is for these options to occur in various combinations throughout the project so that each building is unique in its design and materials while maintaining design continuity among the buildings. The proposed colors and materials of the palette must be maintained throughout the development.

Within the development all sides of all buildings will be visible from adjacent roadways and properties. The architecture of all sides of all buildings must, therefore, be of equal quality and attention. Screening is required for loading and storage areas, utilities meters and boxes by the use of landscaping, walls, fences in combination.

The use of colored concrete, concrete pavers, accent patterns, etc. shall be encouraged in the flatwork areas around the buildings. Provisions for gathering and resting areas shall be accomplished by the use of intimate seating areas in near proximity of the building.

Sustainability Features

The proposed Project will incorporate sustainability features per the California Title 24 energy requirements.

SIGNAGE

Proposed highway-oriented and monument sign locations are depicted on the proposed site plan.

One highway-oriented sign is proposed on the South Site within 100 feet of the freeway right of way and therefore requires a Design Review Permit. A second highway-oriented sign is proposed on the North Site greater than 100 feet from the freeway right of way. The owner is requesting certain deviations from Chapter 130.16 of the County Code for the proposed highway-oriented signs, including a reduction in the minimum separation between highway-oriented signs, a reduction in the minimum setback from the adjacent residential district (North Site only), an increase in the maximum allowed area, and an increase in the maximum allowed height. Each highway-oriented sign will be a 75 foot tenant pylon sign allowing advertising from either commercial center and will include one (1) major tenant panel, one (1) junior tenant panel, and eight (8) shop tenant panels. The proposed sign area for each highway-oriented sign is 652 square feet. The highway-oriented signs will have a stone veneer base, fabricated aluminum panels, and texcote finish to compliment the color scheme of the commercial centers. Tenant names and logos will be fabricated aluminum, pan channel construction. Tenant names and logos will be flush mounted to the panel background and internally illuminated with white LED lights. Colors will comply with tenant specifications.

The owner is also requesting certain deviations from Chapter 130.16 of the County Code for the proposed monument signs, including a reduction in the minimum separation between monument signs, an increase in the maximum number of signs allowed per street frontage, an increase in the maximum allowed area, and an increase in the maximum allowed height. The developer is proposing six (6) 28 foot tenant monument signs allowing advertising from either commercial center. Each monument sign will have one (1) featured tenant panel and six (6) shop tenant panels. The proposed area for each monument sign is 242 square feet. The monument signs

will have a stone veneer base, fabricated aluminum panels, and texcote finish to compliment the color scheme of the commercial centers. Tenant names and logos will be routed out with acrylic push-through graphics and vinyl film overlays. Tenant names will be internally illuminated with white LED lights. Colors will comply with tenant specifications.

Building signs will be a part of a separate sign permit and are not proposed at this time.

SITE ACCESS

It is anticipated that the Project site will have multiple points of access. A traffic signal is proposed at the main driveway and Silva Valley Parkway to provide access to both the South Site and the North Site. A right in and right out access driveway is proposed on Silva Valley Parkway north of the signalized driveway and at the old Tong Road location to provide access to the North Site. Two full access driveways are proposed on Old Silva Valley Road to provide additional points of access to the South Site.

LOADING

The North Site includes the potential for a truck dock with up to 4 loading spaces located at the rear of the proposed stores.

PARKING LOT

The North Site proposes a main parking lot area in front of the buildings. The parking lot will provide approximately 204 parking spaces, proposed at 90 degrees to maximize the number of stalls on the site. This number includes 9 accessible parking stalls and 29 compact stalls (14%).

The South Site proposes a main parking lot area in front of the buildings. The parking lot will provide approximately 521 parking spaces, proposed at 90 degrees to maximize the number of stalls on the site. This number includes 16 accessible parking stalls, 24 compact stalls (5%), and 10 RV stalls.

ADA parking will comply with the County Code and Title 24 requirements.

BICYCLE PARKING

The Project will provide bicycle parking spaces (lockers and racks) throughout the site that will meet County and Title 24 requirements.

PEDESTRIAN CIRCULATION

A pedestrian walkway for each portion of the Project will connect the buildings to Silva Valley Parkway.

LANDSCAPING

The Project will include a variety of drought tolerant landscaping options. The landscaping will provide screening along the boundary which will consist of evergreen trees and shrub rows. Shade trees with large canopy coverage will be planted in the parking lot for shade. Planting at the entries will be highlighted and defined by seasonal accented trees and shrubs with the use of colorful plant material. Shrubs will be low growing to maintain line of sight to the street. Along the streets, plantings will incorporate shade trees and mixed species and forms of shrubs to create interest, color, and buffering from the shopping center.

In addition to the proposed shopping center landscaping, this Project will mitigate for oak trees removed as part of the Project. A preserve area is available for a portion of the mitigation oak trees. The preserve area is located at the northwest corner of the southern site. An offsite preserve area will be needed for the remaining mitigation oak trees. Based on the Tree Survey, Preservation, and Replacement Plan dated September 18, 2017 by Foothill Associates, a total of 1.18 acres of mitigation planting or 236 oak trees will be planted. Planting will be according to the planting details provided in the plan.

LIGHTING

The Project will provide various single, two- or four-light fixtures throughout the parking areas and driveways. The overall height of the lighting, including the lighting fixtures and a three foot base, will be 33 feet in the parking lot and 25 feet along the perimeter and main drive aisles. LED luminaires will be used for the parking lot lights.

GRADING

A preliminary grading plan has been prepared for review as part of the application submittals. Each site is designed to balance independently and it is the intent of this application to allow for mass grading of both sites individually.

ON-SITE IMPROVEMENTS

The Project is designed to allow either the North Site or the South Site to develop independent from the other. Mass grading of each site to accommodate future development will occur in the first phase of development, including filling of the permitted wetlands and permitted tree removal. In the event the South Site develops first, utility crossings under Silva Valley Parkway will be constructed as part of the South Site infrastructure work to serve the North Site. In the event the North Site develops first, interim facilities will be constructed on the North Site.

The second phase will include construction of the parking, landscaping, lighting, utility infrastructure, and driveways designed to support the buildings. Site improvements will be constructed in various phases depending on the extent of development occurring at any given time. Buildings can be started once site improvements are sufficiently completed to allow construction and emergency fire access.

As preservation of 90% of the existing oak tree canopy is not feasible, this Project will be requesting relief from General Plan Policy 7.4.4.4 due to topographic constraints and the need to grade the site in relation to Silva Valley Parkway.

OFF-SITE IMPROVEMENTS

A proposed traffic signal and appurtenant facilities will be located on Silva Valley Parkway at the center of the Project to provide a connection to both the South Site and the North Site.

A right in and right out access driveway is proposed on Silva Valley Parkway north of the signalized driveway and at the old Tong Road location to provide access to the North Site. Two full access driveways are proposed on Old Silva Valley Road to provide additional points of access to the South Site. A reservation for 7.65 acres of future right of way is proposed along the outer boundary of the North Site.

UTILITY INFRASTRUCTURE

The property will need to annex into El Dorado Irrigation District (EID) in order to acquire sanitary sewer and water service. EID stated in its August 29, 2014 Facilities Improvement Letter that there should be adequate water supply and sewer capacity available to serve the Project. The Project will tie into the existing 18-inch potable water main and the 21-inch gravity sewer line in Old Silva Valley Road. An updated Facilities Improvement Letter will be requested through EID at the appropriate time.

The property will also annex into the El Dorado Hills County Water District (Fire Protection) prior to building permit issuance.

Sanitary service and potable water for the North Site will be provided by public (EID) sanitary sewer and water lines that cross the South Site. Reclaimed water is available for non-potable irrigation use and will be provided by extending an existing reclaimed line in Silva Valley Parkway north of the Project site.

Dry utilities (electric, gas, telephone and cable TV) will be provided from existing infrastructure located to the north of the Project site in Silva Valley Parkway. Dry utilities will need to be extended along the frontage of both the North Site and the South Site.

STORM DRAINAGE DESCRIPTION

The on-site drainage system will connect to El Dorado County's storm drain infrastructure in Old Silva Valley Road. The Project has typical pollutant sources from parking lot runoff, loading/unloading areas, outdoor storage areas, and a trash compactor. This Project proposes underground water quality vaults as the form of treatment for the site.

A proposed detention basin is located at the southwest corner of the property. It will be sized to serve both the South Site and the North Site. As with sanitary sewer and water, drainage facilities will be constructed on the South Site to transmit storm water runoff from the North Site to the detention basin.

TRUCK CIRCULATION

Truck access will be allowed at all driveway locations depending on the size of the delivery truck and direction of travel.

OTHER GOVERNMENTAL AGENCY APPROVALS

Additional subsequent approvals and permits that may be required from local, regional, state, and federal agencies are identified below.

- El Dorado Irrigation District -Water and Sewer-Annexation and Utility Approval
- El Dorado County Resource Conservation District-Onsite Plan Approval
- El Dorado Hills County Water District (Fire Protection)-Annexation and Fire Approval
- El Dorado County Air Quality Management District-Air Quality Permit
- El Dorado County Department of Transportation -Encroachment Permit/Grading Permit/Onsite Plan Approval
- El Dorado County Building Services-Building Permit/Sign Permit
- Central Valley Regional Water Quality Control Board-NPDES General Permit for Stormwater Discharge
- California Department of Fish and Wildlife-Wetland Approval
- Army Corps-Wetland Approval
- LAFCO-Annexation approval for EID and El Dorado Fire Protection District

STAFFORD
KING
WIESE
ARCHITECTS

Design Guidelines

ARCHITECTURE

PLANNING

INTERIORS

These Guidelines will serve to further define the design theme and its application to the multiple project buildings. The design theme for the project is based on the existing building design theme of the Serrano area which is a California/Mediterranean style, examples of which are contained in this guideline.

Where single tenant types (hotel and retail shops) occur, the guidelines contain specific architectural design for these buildings. Where multiple tenant types (drive-thru restaurants and fuel stations) occur, the guidelines contain a typical example of the design intent for that tenant type. Each of these specific tenants will use the typical example shown and vary their design to add individuality and yet maintain a common thread of colors, materials, and design elements as shown in this guideline. No building design for any tenant type shall be repeated.

Each building shall vary in building height to achieve more visual interest and distinct building character, avoiding the monotony of continuous building height. Each building shall combine horizontal and vertical elements to provide variation, interest and rhythm within and among the buildings. In no case shall any roof mounted equipment be higher than the lowest parapet height of the building.

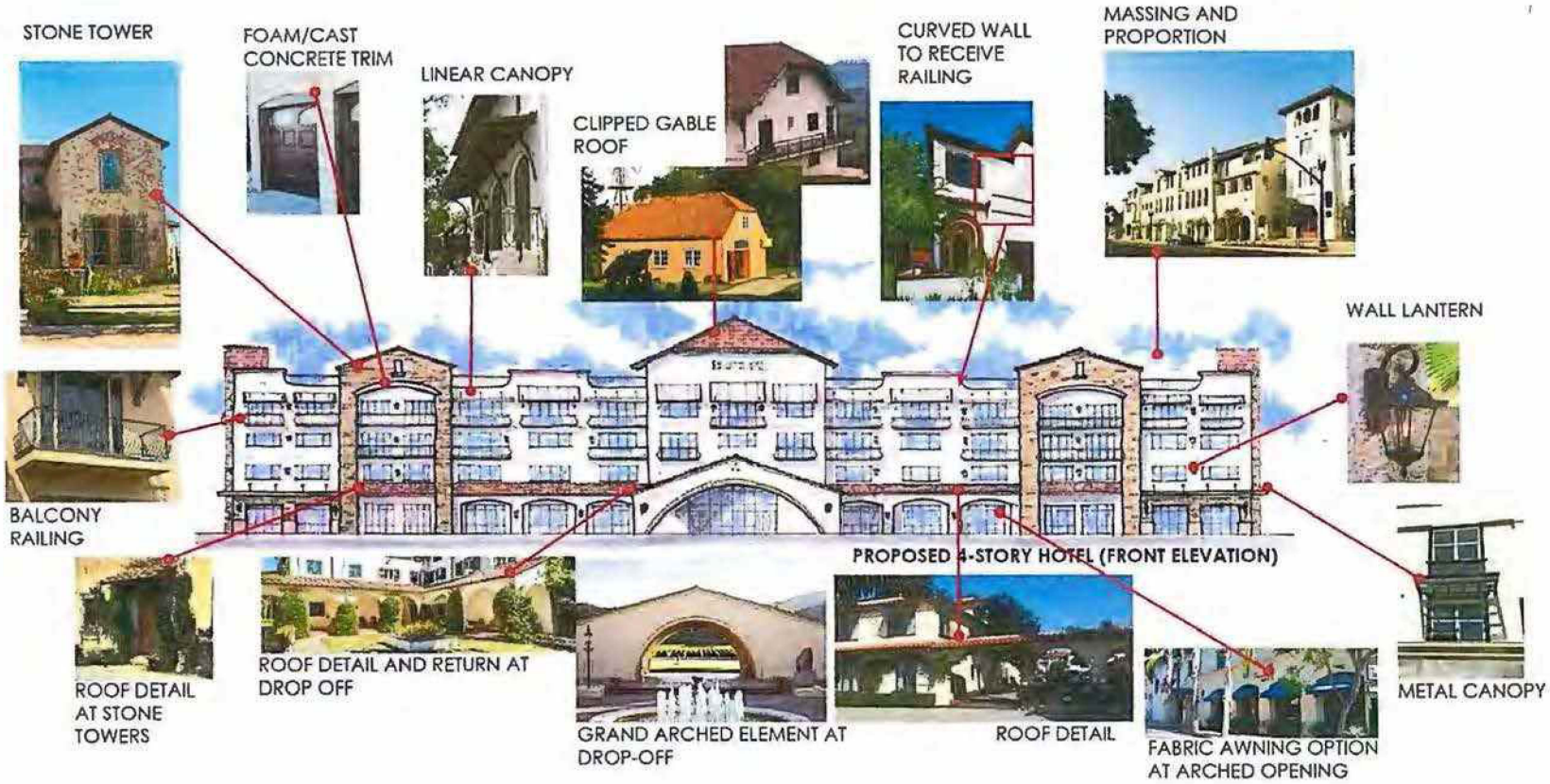
The color and material palette for the project contains multiple options for color and materials. The intent is for these options to occur in various combinations throughout the project so that each building is unique in its design and materials while maintaining design continuity among the buildings. The proposed colors and materials of the palette must be maintained throughout the development.

Within the development all sides of all buildings will be visible from adjacent roadways and properties. The architecture of all sides of all buildings must, therefore, be of equal quality and attention. Screening is required for loading and storage areas, utilities meters and boxes by the use of landscaping, walls, fences in combination.

The use of colored concrete, concrete pavers, accent patterns, etc. shall be encouraged in the flatwork areas around the buildings. Provisions for gathering and resting areas shall be accomplished by the use of intimate seating areas in near proximity of the building.

622 20th Street Sacramento, CA 95811 916.930.5900 SKWAIA.COM

622 20th Street Sacramento, CA 95811 916.930.5900 SKWAIA.COM



EDH 52

EDH 52 - SOUTH

EL DORADO HILLS, CA **June 9, 2017**

STAFFORD KING WIESE
ARCHITECTS

SKW #04999.00

622 20th Street Sacramento, CA 95811 916.930.5900 SKWAIA.COM



PROPOSED SHOPS BUILDING (FRONT ELEVATION)

EDH 52

EDH 52 - SOUTH

EL DORADO HILLS, CA **June 9, 2017**

STAFFORD KING WIESE
ARCHITECTS

SKW #04999.00

622 20th Street Sacramento, CA 95811 916.930.5900 SKWAIA.COM



EDH 52

EDH 52 - SOUTH

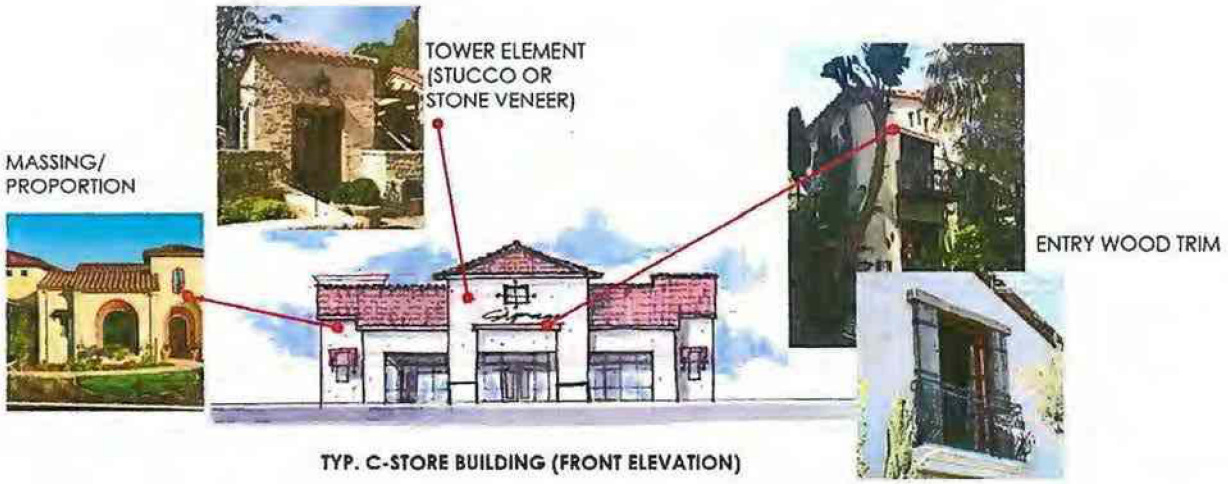
EL DORADO HILLS, CA

June 9, 2017

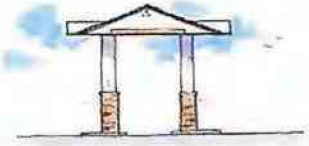
STAFFORD KING WIESE
ARCHITECTS

SKW #04999.00

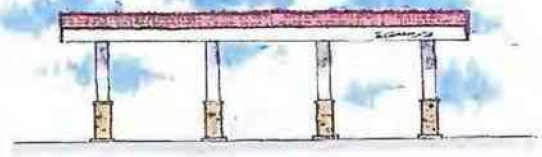
622 20th Street Sacramento, CA 95811 916.930.5900 SKWAIA.COM



TYP. C-STORE BUILDING (FRONT ELEVATION)



TYP. END ELEVATION



TYP. SIDE ELEVATION

GAS CANOPY ELEVATIONS

EDH 52

EDH 52 - SOUTH

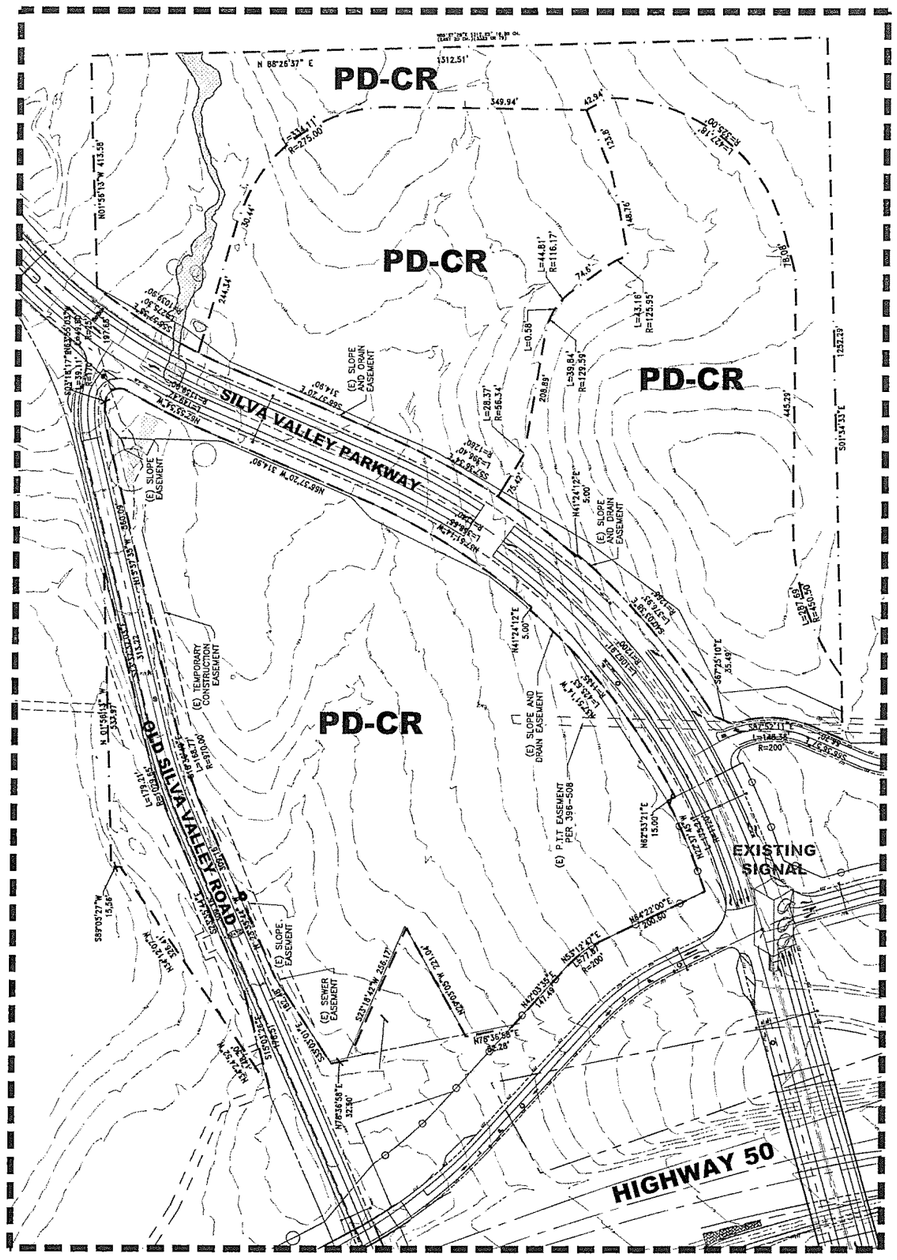
EL DORADO HILLS, CA

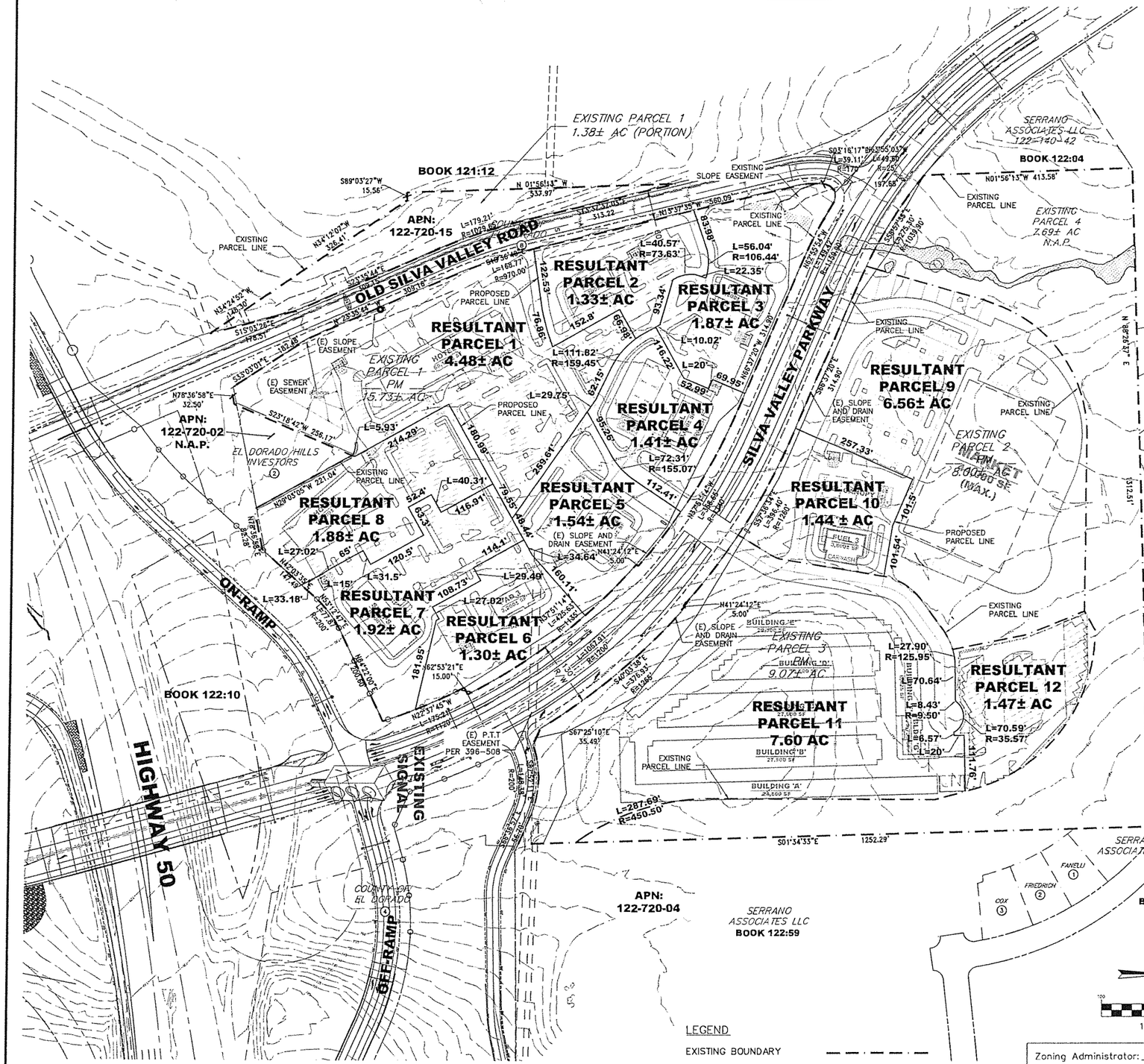
June 9, 2017

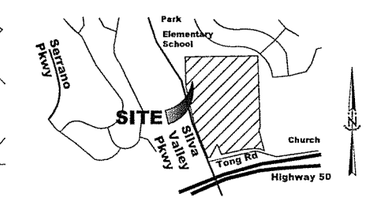
STAFFORD KING WIESE
ARCHITECTS

SKW #04999.00

Z17-0004/P17-0007/S17-0017/PD15-0001


PD-CR
PD-CR
PD-CR
PD-CR
SILVA VALLEY PARKWAY
OLD SILVA VALLEY ROAD
HIGHWAY 50
EXISTING SIGNAL
(E) SLOPE AND DRAIN EASEMENT
(E) SLOPE EASEMENT
(E) TEMPORARY CONSTRUCTION EASEMENT
(E) P.I.T. EASEMENT PER 398-508
(E) SEWER EASEMENT
N 88°26'37" E 1312.51'
S 89°05'27" W 15.58'
N 01°35'15" W 413.55'
S 01°34'33" E 1252.23'
S 01°34'33" E 1255.29'
N 89°22'00" E 200.00'
S 52°18'42" E 256.07'
N 37°41'18" E 50.00'
N 52°18'42" W 256.07'
S 37°41'18" W 50.00'
N 78°16'48" E 66.28'
N 11°43'12" E 5.00'
S 67°16'48" W 66.28'
S 37°41'18" W 50.00'
N 67°16'48" E 66.28'
N 52°18'42" W 256.07'
N 37°41'18" E 50.00'
S 52°18'42" E 256.07'
N 89°22'00" E 200.00'
N 67°16'48" E 66.28'
N 11°43'12" E 5.00'
S 67°16'48" W 66.28'
S 37°41'18" W 50.00





VICINITY MAP

OWNER:
EDH 52
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

NO.	DESCRIPTION	DRN WC	BY	DATE CITY APPROVED

REGISTERED PROFESSIONAL ENGINEER
RICHARD S. CRAIG
No.29051
Mar. 31, 2019
CIVIL
STATE OF CALIFORNIA

RSC ENGINEERING
2250 Douglas Blvd. Suite 150
Roseville, CA 95661
Ph:916.788.2884 Fax:916.788.4408

OWNER
EDH 52 GP
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826

APPLICANT/ENGINEER
RSC ENGINEERING, INC.
2250 DOUGLAS BLVD., SUITE 150
ROSEVILLE, CA 95661

SCALE
1" = 100'

CONTOUR INTERVAL
5'

SOURCE OF TOPOGRAPHY
CTA ENGINEERING & SURVEYING, JULY 2007

SECTION, TOWNSHIP AND RANGE
1, 9N, 8E M.D.M.

ASSESSORS PARCEL NUMBER
122-720-15-100

PRESENT ZONING
PLANNED DEVELOPMENT COMMERCIAL (PD-CR)

UTILITY PROVIDERS

WATER	EL DORADO IRRIGATION DISTRICT
SANITARY SEWER	EL DORADO IRRIGATION DISTRICT
STORM DRAIN	EL DORADO COUNTY
FIRE	EL DORADO FIRE PROTECTION DISTRICT
ELECTRIC	PG&E
GAS	PG&E
TELEPHONE	AT&T
CABLE	AT&T
FIRE PROTECTION	EL DORADO HILLS FIRE DEPARTMENT

EXISTING ACREAGE SUMMARY

PARCEL 1:	17.11± AC
PARCEL 2:	8.00± AC
PARCEL 3:	9.07± AC
TOTAL:	34.18± AC

PROPOSED ACREAGE SUMMARY

PARCEL 1:	4.48± AC
PARCEL 2:	1.33± AC
PARCEL 3:	1.87± AC
PARCEL 4:	1.41± AC
PARCEL 5:	1.54± AC
PARCEL 6:	1.30± AC
PARCEL 7:	1.92± AC
PARCEL 8:	1.88± AC
PARCEL 9:	6.56± AC
PARCEL 10:	1.44± AC
PARCEL 11:	7.60± AC
PARCEL 12:	1.47± AC
TOTAL:	34.18± AC

NUMBER OF PARCELS: 12
MINIMUM PARCEL SIZE: 1.30± AC

NOTES

1. REFER TO FINAL PARCEL MAP FOR EXACT DIMENSIONS
2. FLOOD ZONE R1, FEMA NO. 060040 0700D, DATED 10/18/1995
3. WIDTH OF EXISTING EASEMENTS VARIES.

1 inch = 100 ft.

LEGEND
EXISTING BOUNDARY
PROPOSED PARCEL LINE
PROPOSED SETBACK
EXISTING EASEMENT
EXISTING WETLANDS

Zoning Administrator: _____
Approval/Denial Date: _____
Board of Supervisors: _____
Approval/Denial Date: _____

PROJECT NO:	104-003A
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

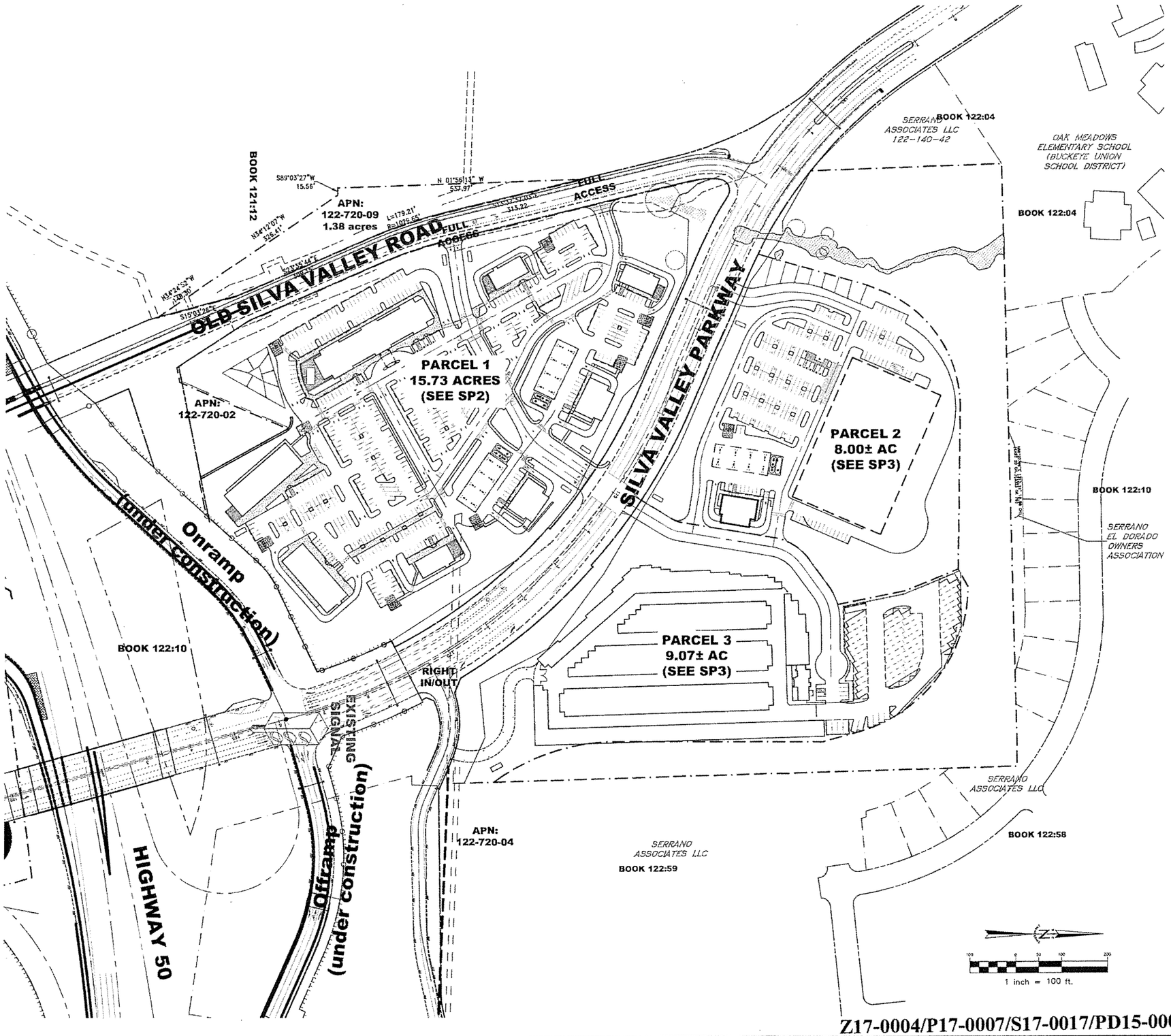
TENTATIVE PARCEL MAP FOR EDH52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95762
EL DORADO COUNTY

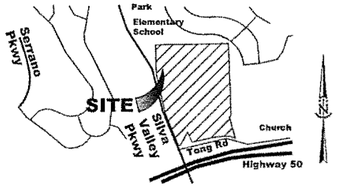
SHEET TITLE
TENTATIVE PARCEL MAP

SHEET NO.
TM
OF 1

DATE: SEPTEMBER 18, 2017

Z17-0004/P17-0007/S17-0017/PD15-0001





OWNER

EDH 52 G.P.
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826

APPLICANT/ENGINEER

RSC ENGINEERING, INC.
2250 DOUGLAS BLVD., SUITE 150
ROSEVILLE, CA 95661

SITE DATA

NORTH AREA	17.07± ACRES
SOUTH AREA	15.73± ACRES
TOTAL SITE:	32.80± ACRES
TOTAL BUILDING AREA:	273,378± S.F
LOT COVERAGE:	19.1%
LAND USE CLASSIFICATION:	COMMERCIAL
ZONING CLASSIFICATION:	PLANNED DEVELOPMENT COMMERCIAL (PD-R)

APN: 122-720-15-100

UTILITY PROVIDERS

WATER	EL DORADO IRRIGATION DISTRICT
SANITARY SEWER	EL DORADO IRRIGATION DISTRICT
STORM DRAIN	EL DORADO COUNTY
FIRE	EL DORADO FIRE PROTECTION DISTRICT
ELECTRIC	PG&E
GAS	PG&E
TELEPHONE	AT&T
CABLE	AT&T

NOTES

1. PARKING SHOWN CONTAINS 90° PARKING SPACES.
2. TYPICAL PARKING STALL DIMENSIONS:
   STANDARD STALLS WIDTH: 9.0' DEPTH: 19.0'
   COMPACT STALLS WIDTH: 9.0' DEPTH: 15.0'
   TWO WAY AISLES: 25'
3. TREES AND WETLANDS NOT SHOWN ON SITE PLAN ARE PROPOSED TO BE REMOVED AND FILLED PER COUNTY MITIGATION AND ARMY CORP PERMIT.
4. BOUNDARY INFORMATION IS SHOWN ON SUBSEQUENT SHEETS.
5. OFFSITE PROPERTY OWNER AND APN IS SHOWN ON SUBSEQUENT SHEETS.
6. EXISTING EASEMENT WIDTHS VARY. PROPOSED EASEMENTS ARE UNKNOWN AT THIS TIME.

OVERALL SITE ANALYSIS

BUILDINGS:

NORTH AREA:	177,958	SF
SOUTH AREA:	105,420	SF
TOTAL:	273,378	SF

PARKING STALLS:

NORTH AREA:	256 (INC. 9 ADA SPACES, 29 COMPACT SPACES AND 52 RV SPACES)
SOUTH AREA:	521 (INC. 16 ADA SPACES, 24 COMPACT AND 10 RV SPACES)
TOTAL PARKING:	726 SPACES
OVERALL PARKING RATIO:	4.87 SPACES/1,000 SF

Z17-0004/P17-0007/S17-0017/PD15-0001

OWNER:
EDH 52
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

REV NO.	DESCRIPTION	DRN BY	DATE APPROVED

REGISTERED PROFESSIONAL ENGINEER
RICHARD S. CRANE
No. 25013
Mar. 31, 2019
CIVIL
STATE OF CALIFORNIA

RSC ENGINEERING
2250 Douglas Blvd. Suite 150
Roseville, CA 95661
Ph:916.788.2884 Fax:916.788.4408

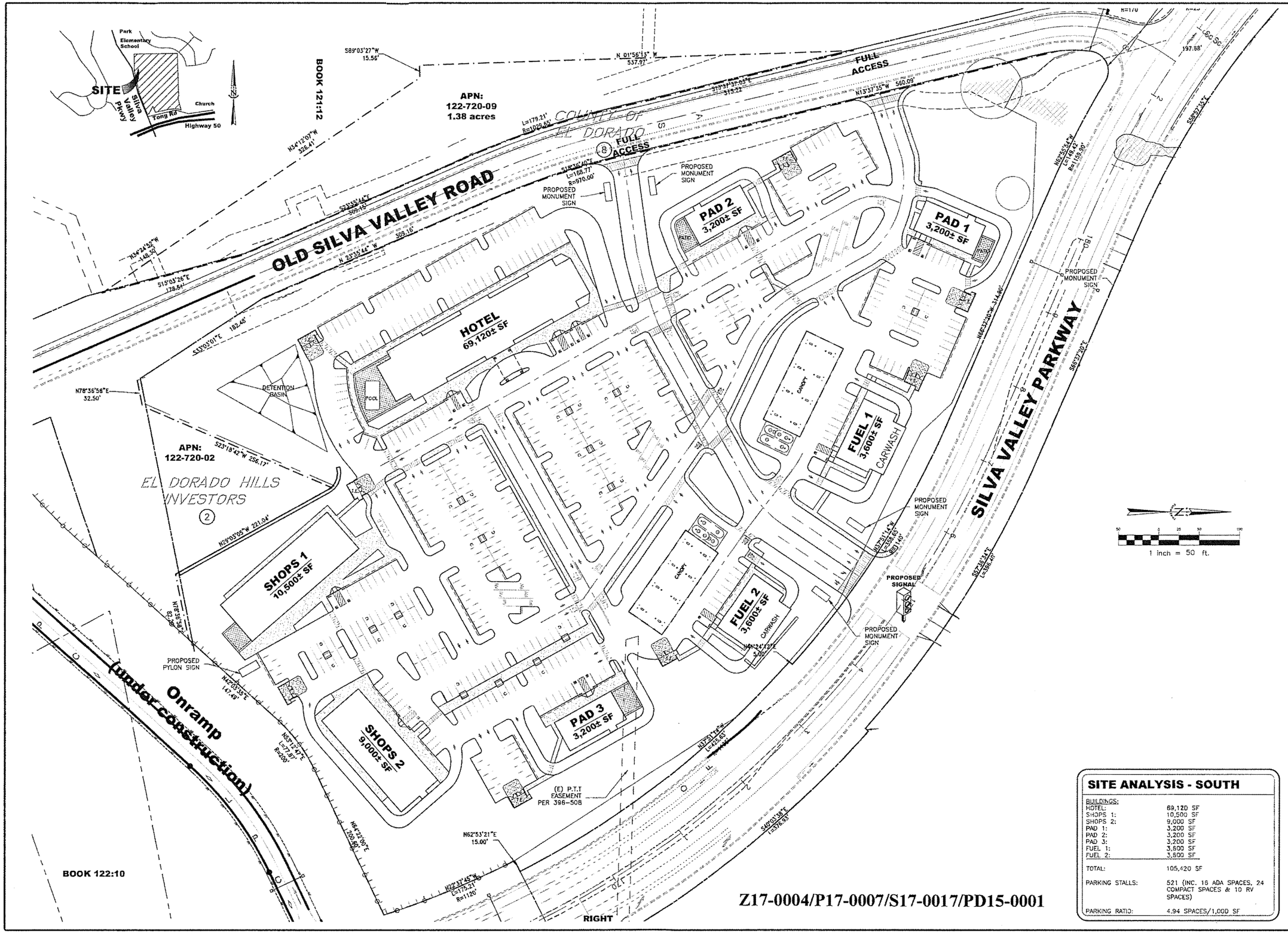
PROJECT NO:	104-003
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

PLANNED DEVELOPMENT APPLICATION FOR EDH 52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

SHEET TITLE
PRELIMINARY OVERALL SITE PLAN

SHEET NO.
SP1
OF 8

DATE: OCTOBER 2, 2017



Z17-0004/P17-0007/S17-0017/PD15-0001

SITE ANALYSIS - SOUTH

BUILDINGS:	
HOTEL:	69,120 SF
SHOPS 1:	10,500 SF
SHOPS 2:	9,000 SF
PAD 1:	3,200 SF
PAD 2:	3,200 SF
PAD 3:	3,200 SF
FUEL 1:	3,600 SF
FUEL 2:	3,600 SF
TOTAL:	105,420 SF
PARKING STALLS:	521 (INC. 16 ADA SPACES, 24 COMPACT SPACES & 10 RV SPACES)
PARKING RATIO:	4.94 SPACES/1,000 SF

OWNER:
EDH 52
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 383-2300

NO.	DESCRIPTION	DRC MTG	BY	DATE CITY APPROVED
1				
2				
3				
4				
5				

REGISTERED PROFESSIONAL ENGINEER RICHARD S. CRANSTON No. 25053 Mar. 31, 2019 CIVIL STATE OF CALIFORNIA

RSC ENGINEERING
2250 Douglas Blvd. Suite 150
Roseville, CA 95661
Ph: 916.788.2864 Fax: 916.788.4408

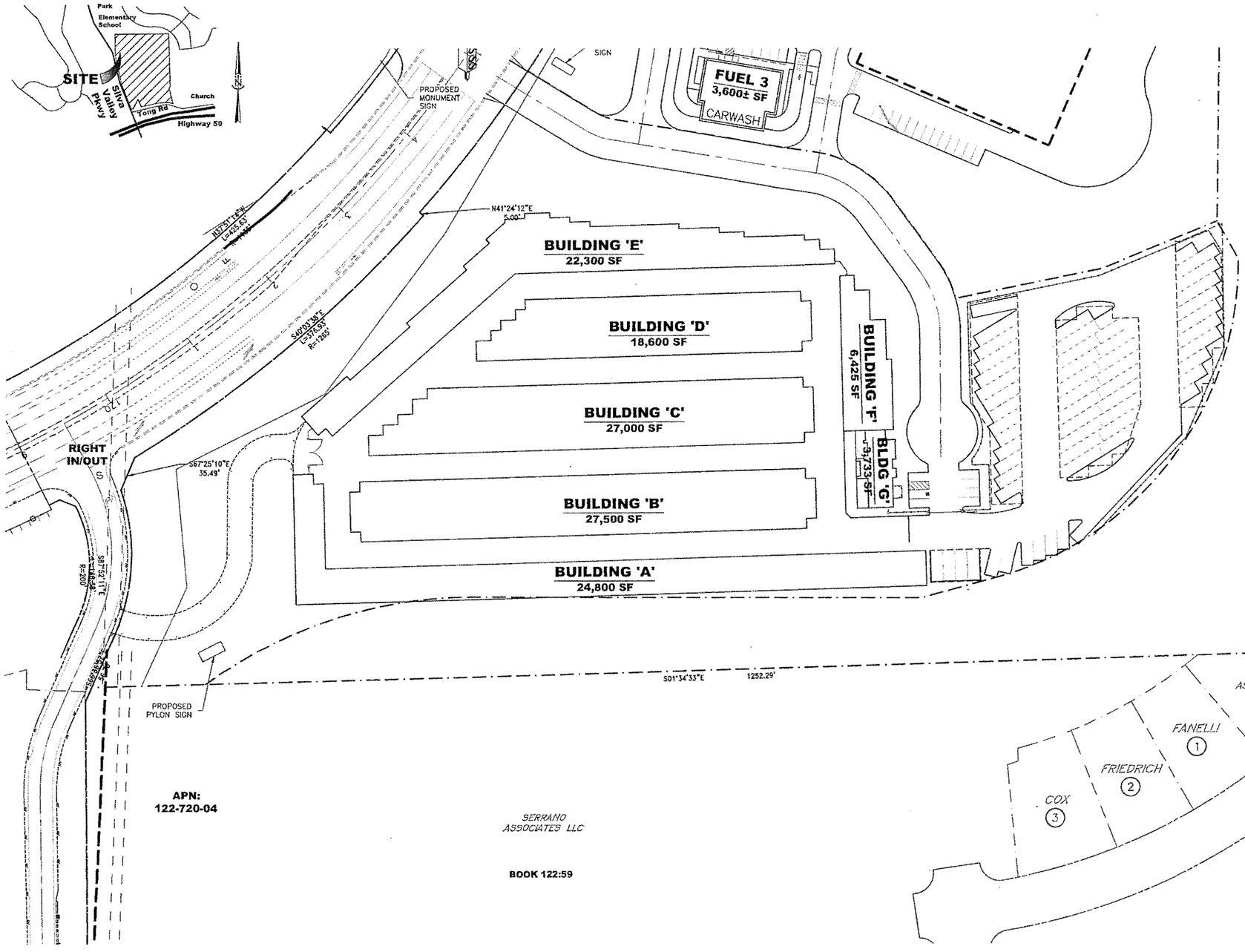
PROJECT NO:	104-003
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

PLANNED DEVELOPMENT APPLICATION FOR EDH 52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

SHEET TITLE
PRELIMINARY SOUTH SITE PLAN

SHEET NO.
SP2
OF 8

DATE: OCTOBER 2, 2017



SITE ANALYSIS - NORTH

STORAGE FACILITY:	
PROPOSED BUILDING "A"	24,800 SF
PROPOSED BUILDING "B"	27,500 SF
PROPOSED BUILDING "C"	27,000 SF
PROPOSED BUILDING "D"	18,600 SF
PROPOSED BUILDING "E"	22,300 SF
PROPOSED BUILDING "F"	6,425 SF
PROPOSED BUILDING "G"	3,733 SF
TOTAL	177,558 SF
PARKING:	
STANDARD:	6 SPACES
HANDICAP:	1 SPACES
RV:	51 SPACES
TOTAL:	58 SPACES

Z17-0004/P17-0007/S17-0017/PD15-0001

OWNER:
EDH 52
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 383-2300

NO.	DESCRIPTION	DWG INT.	BY	DATE CITY APPROVED
1				
2				
3				
4				
5				

REGISTERED PROFESSIONAL ENGINEER
WILLIAM S. CRAVEN
No. 29033
Rev. 11, 2019
CIVIL
STATE OF CALIFORNIA

RSC ENGINEERING
2250 Douglas Blvd, Suite 150
Roseville, CA 95661
Ph: 916.788.2884 Fax: 916.788.4408

PROJECT NO: 104-003
DRAWN BY: RSC Eng
CHECKED BY: RSC Eng
DESIGNED BY: RSC Eng

PLANNED DEVELOPMENT APPLICATION FOR EDH 52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

SHEET TITLE
PRELIMINARY OVERALL SITE PLAN

SHEET NO.
SP4
OF **8**

DATE: OCTOBER 2, 2017

DRAWINGS OR CONTENTS IN ANY FORM OR MANNER WHATSOEVER WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION OF FUHRMAN LEAMY LAND GROUP. YOUR USE, TITLE TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING WRITTEN PERMISSION AND CONSENT.
FUHRMAN LEAMY LAND GROUP HEREBY EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS. THESE PLANS AND DRAWINGS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN

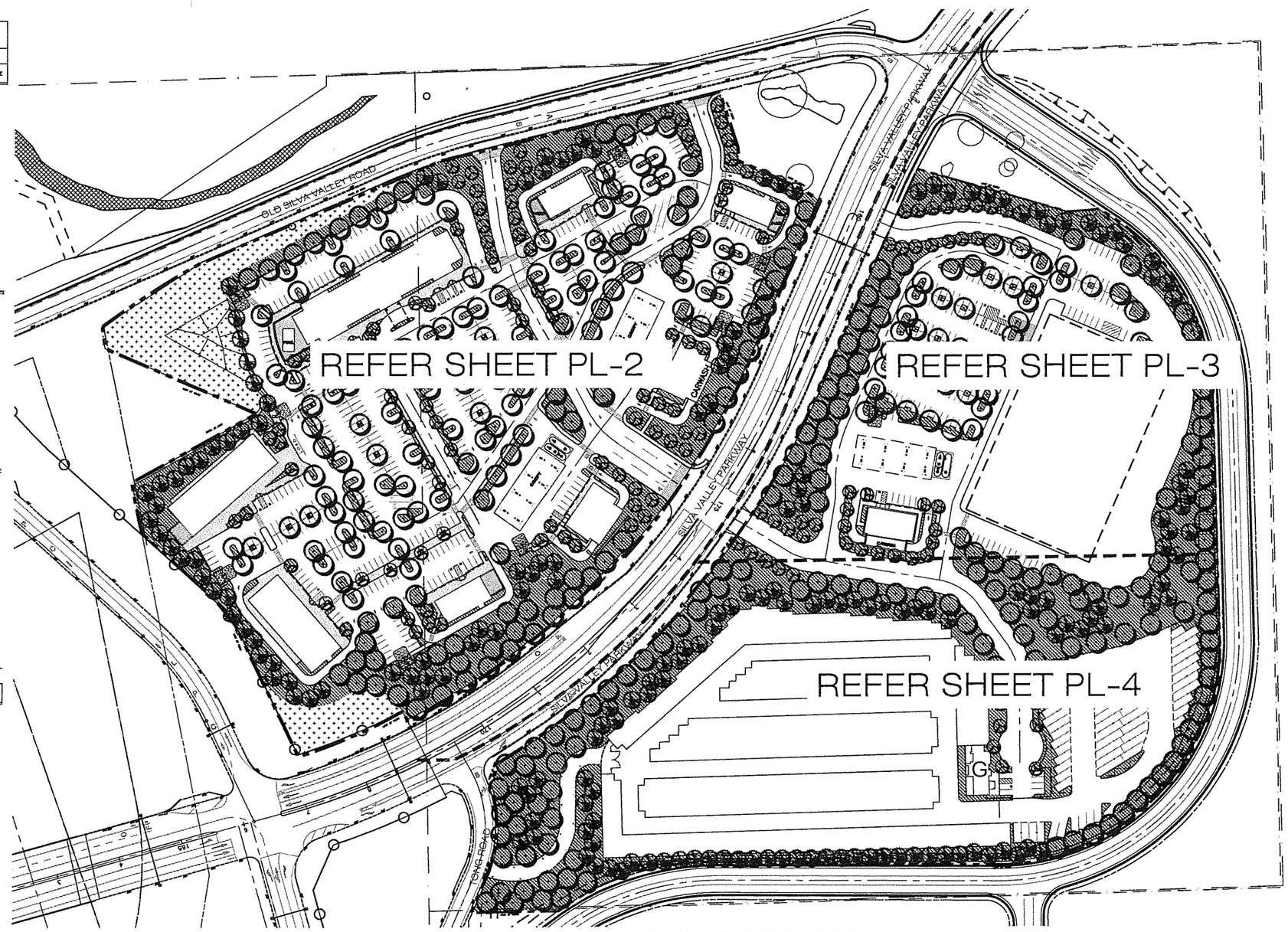
EDH 52 PRELIMINARY PLANT MATERIAL LIST AND LEGEND

TREES

SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE	REMARKS	WATER USE
	CANOPY/SHADE TREES LARGE EVERGREEN OR DECIDUOUS 30' TO 35' DIAMETER TREES USED TO PROVIDE SHADE			
	CELTIS SINENSIS CHINESE HACKBERRY	15 G	40'H x 30'W	MED
	ELAEOCARPUS DECIPIENS JAPANESE BLUEBERRY TREE	15 G	40'H x 28'W	MED
	LIRIODENDRON TULIPIFERA TULIP TREE	15 G	80'H x 35'W	MED
	MAGNOLIA GRANDIFLORA 'D.D. BLANCHARD' SOUTHERN MAGNOLIA	15 G	45'H x 30'W	MED
	PISTACIA CHINENSIS 'KEITH DAVEY' CHINESE PISTACHE	15 G	40'H x 35'W	LOW
	PLATANUS ACERIFOLIA 'BLOODGOOD' LONDON PLANE TREE	15 G	40'H x 30'W	MED
	TILIA CORDATA 'GREENSPIRE' LITTLE-LEAF LINDEN	15 G	35'H x 25'W	MED
	ULMUS PARVIFOLIA 'ALLEE' ALLEE CHINESE EVERGREEN ELM	15 G	50'H x 30'W	MED
	ZELKOVA SERRATA 'VILLAGE GREEN' SAWLEAF ZELKOVA	15 G	45'H x 35'W	MED
	SCREEN TREES EVERGREEN TREES USED TO SCREEN THE PROJECT FROM THE SURROUNDING DEVELOPMENTS			
	ARBUTUS 'MARINA' MARINA STRAWBERRY TREE	15 G	30'H x 25'W	LOW
	CEDRUS DEODARA DEODAR CEDAR	15 G	50'H x 25'W	LOW
	CUPRESSOCYPARIS LEYLANDII LEYLAND CYPRESS	15 G	50'H x 12'W	MED
	CUPRESSUS GLABRA 'BLUE ICE' BLUE ICE ARIZONA CYPRESS	15 G	25'H x 12'W	LOW
	LAURUS 'SARATOGA' SARATOGA SWEET BAY	15 G	25'H x 25'W	LOW
	PINUS ELDARICA MONDELL PINE	15 G	30'H x 20'W	LOW
	PRUNUS CAROLINIANA CAROLINA CHERRY LAUREL	15 G	25'H x 20'W	LOW
	QUERCUS SUBER CORK OAK	15 G	45'H x 45'W	LOW
	QUERCUS WISLIZENII INTERIOR LIVE OAK	15 G	40'H x 40'	LOW
	ACCENT TREES EVERGREEN OR DECIDUOUS TREES USED TO PROVIDE COLOR, DENOTE ENTRIES AND CREATE PEDESTRIAN SCALE			
	CARPINUS BETULUS 'FASTIGIATA' EUROPEAN HORNBEAM	15 G	30'H x 20'W	MED
	CERCIS CANADENSIS 'FOREST PANSY' FOREST PANSY REDBUD	15 G	20'H x 25'W	MED
	CERCIS OCCIDENTALIS WESTERN REDBUD	15 G	15'H x 12'W	LOW
	LAGERSTROEMIA INDICA x FAURIEI 'MUSKOGEE' LAVENDER CRAPE MYRTLE	15 G	25'H x 15'W MULTI-TRUNK	LOW
	LAGERSTROEMIA INDICA x FAURIEI 'NATCHEZ' WHITE CRAPE MYRTLE	15 G	22'H x 12'W MULTI-TRUNK	LOW
	MAGNOLIA GRANDIFLORA 'LITTLE GEM' COMPACT SOUTHERN MAGNOLIA	15 G	22'H x 12'W	MED
	NYSSA SYLVATICA TUPELO	15 G	40'H x 16'W	MED
	PRUNUS CERASIFERA 'KRAUTER VESUVIUS' PURPLE-LEAF FLOWERING PLUM	15 G	18'H x 15'W	MED
	PYRUS CALLERYANA 'RED SPIRE' RED SPIRE PEAR	15 G	30'H x 20'W	MED
	VITEX AGNUS-CASTUS BLUE CHASTE TREE	15 G	15'H x 15'W	LOW

SHRUBS & GROUNDCOVERS

SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE	REMARKS	WATER USE
	BACKGROUND OR FOUNDATION SHRUBS LARGE EVERGREEN SHRUBS USED FOR REDUCING BUILDING MASS OR SCREENING			
	ARBUTUS UNEDO 'COMPACTA' DWARF STRAWBERRY TREE	5 G	8'H x 8'W	LOW
	CEANOTHUS SPP. WILD LILAC	5 G	8'H x 8'W	LOW
	CHOISYA TERNATA MEXICAN ORANGE	5 G	6'H x 6'W	MED
	LEUCOPHYLLUM FRUTESCENS TEXAS RANGER	5 G	7'H x 7'W	LOW
	NERIUM OLEANDER 'RED' RED OLEANDER	5 G	10'H x 10'W	LOW
	RHAMNUS CALIFORNICA 'EVE CASE' COFFEEBERRY	5 G	6'H x 6'W	LOW
	RHAPHIOLEPIS INDICA SPP. INDIAN HAWTHORN	5 G	5'H x 6'W	MED
	XYLOSMA CONGESTUM 'COMPACTA' COMPACT SHINY XYLOSMA	5 G	7'H x 7'W	LOW
	FACER SHRUBS EVERGREEN OR DECIDUOUS SHRUBS USED FOR LAYERING OF PLANT MATERIAL, SEASONAL COLOR, AND SOFTENING OF BUILDING EDGE AND FOUNDATION SHRUBS.			
	AZALEA SPP. AZALEA	5 G	3'H x 3'W	MED
	CALLISTEMON VIMINALIS 'LITTLE JOHN' DWARF BOTTLEBRUSH	5 G	3'H x 3'W	LOW
	CISTUS SP. ROCKROSE	5 G	3'H x 5'W	LOW
	LOROPETALUM CHINENSES 'MONRAZ' RAZZLEBERRIE FRINGE FLOWER	5 G	6'H x 4'W	MED
	LEUCOPHYLLUM ZYGOPHYLLUM BLUE RANGER	5 G	3'H x 3'W	LOW
	PITTOSPORUM TOBIRA 'WHEELDI'S DWARF' DWARF MOCK ORANGE	5 G	3'H w 4'W	MED
	RHAPHIOLEPIS UMBELLATA 'MINOR' DWARF YEDDO HAWTHORN	5 G	3'H x 3'W	LOW
	WESTRINGIA ROSMARINIFORMIS 'MORNING LIGHT' VARIEGATED COAST ROSEMARY	5 G	3'H x 3'W	LOW
	ACCENT SHRUBS EVERGREEN OR PERENNIAL SHRUBS USED FOR AESTHETIC VALUE IN LANDSCAPE THROUGH BLOOM, COLOR, OR OVERALL CHARACTER.			
	AGAVE SPP. AGAVE	5 G	VARIES	LOW
	BERBERIS THUNBERGII 'CRIMSON PYGMY' RED DWARF JAPANESE BARBERRY	5 G	1.5'H x 2.5'W	MED
	BOUTELOUA GRACILIS 'BLOND AMBITION' BLUE GRAMA GRASS	1 G	3'H x 3'W	LOW
	CALAMAGROSTIS x ACUTIFLORA 'KARL FOERSTER' FEATHER REED GRASS	1 G	2.5'H x 2.5'W	LOW
	HEMEROCALLIS HYBRIDS EVERGREEN DAYLILY	1 G	VARIES X 2'W	MED
	KNIPHOFIA UVARIA RED HOT POKER	1 G	3'H x 3'W	LOW
	LAVANDULA SPP. LAVENDER	1 G	VARIES	LOW
	MUHLENBERGIA CAPILLARIS PINK MUHLY	5 G	3'H x6'W	LOW
	NANDINA DOMESTICA 'COMPACTA' COMPACT HEAVENLY BAMBOO	1 G/5 G	4'H x 3'W	LOW
	PHORMIUM HYBRIDS NEW ZEALAND FLAX	1 G/5 G	VARIES	MED/LOW
	GROUNDCOVER MATERIAL EVERGREEN OR PERENNIAL SHRUBS TO 30" HIGH, USED TO BLANKET LARGER AREAS AND AS A FILLER BETWEEN SITE WORK EDGES AND FACER SHRUBS.			
	BACCHARIS PILULARIS 'PIGEON POINT' DWARF COYOTE BUSH	1 G	2.5'H x 7'W	LOW
	COPROSMA KIRKII KIRK'S COPROSMA	1 G	2'H x 5'W	LOW
	FESTUCA GLAUCA 'SEISKYOU BLUE' BLUE FESCUE	1 G	1'H x 1'W	MED
	HYPERICUM CALYCINUM CREEPING ST. JOHN'S WORT	1 G	1'H x 3'W	MED
	LANTANA MONTEVIDENSIS PURPLE TRAILING LANTANA	1 G	2'H x 6'W	LOW
	LONICERA JAPONICA 'HALLIANA' HALL'S HONEYSUCKLE	1 G	1.5'H x 4.5'W	MED
	ROSA BANKSIAE 'LUTEA' YELLOW LADY BANKS ROSE	1 G	4'H x 8'W	LOW
	ROSA FLOWER CARPET FLOWER CARPET ROSE	1 G/5 G	2'H x 3'W	MED
	ROSMARINUS OFFICINALIS 'PROSTRATUS' DWARF ROSEMARY	1 G	2'H x 6'W	LOW
	TRACHELOSPERMUM JASMINOIDES STAR JASMINE	1 G	1.5'H x 6'W	MED
	VINCA MINOR DWARF PERIWINKLE	1 G	0.5'H x 3'W	MED
	BUFFER PLANTING MIX OF NATIVE PLANT MATERIAL USED AS A NATURAL TRANSITION FROM THE EDGES OF THE SITE TO ADJACENT PROPERTIES. PLANT MATERIAL TO BE USED AS A NATURAL FILLER WILL BE HYDROSEEDED.			
	ARTEMISIA CALIFORNICA CALIFORNIA SAGEBRUSH	---	---	LOW
	CEANOTHUS SPP. CALIFORNIA LILAC	---	---	LOW
	ERIOPHYLLUM CONFERTIFLORUM 'DANA GOLD' GOLDEN YARROW	---	---	LOW
	ESCHSCHOLZIA CALIFORNICA CALIFORNIA POPPY	---	---	LOW
	ROMNEYA COULTERI MATILIJA POPPY	---	---	LOW
	MIMULUS SPP. MONKEY FLOWER	---	---	LOW
	NASSELLA PULCHRA PURPLE NEEDLE GRASS	---	---	LOW
	WATER QUALITY BASIN PLANTS ADAPTABLE TO WET CONDITIONS.			
	JUNCUS PATENS GREY RUSH	---	---	HIGH
	JUNCUS EFFUSUS SOFT RUSH	---	---	HIGH
	NASELLA PULCHERS PURPLE NEEDLE GRASS	---	---	MED
	BIOSWALE SOD NATIVE BLEND FOR SWALE BOTTOM	---	---	MED



GENERAL PLANTING NOTES

1. ALL PLANTING AREAS SHALL BE IRRIGATED WITH AN AUTOMATIC IRRIGATION SYSTEM.
2. ALL SHRUB AND GROUNDCOVER AREAS SHALL RECEIVE A 2" LAYER OF BARK CHIP MULCH TOP DRESSING.
3. REDWOOD HEADERBOARD SHALL BE INSTALLED BETWEEN LAWN AND SHRUB AREAS.
4. ALL GROUND MOUNTED HVAC UNITS, GAS & ELECTRICAL METERS, AND EQUIPMENT ETC. SHALL RECEIVE SHRUB SCREENING IN SHRUB AND GROUNDCOVER AREAS AROUND BUILDINGS.
5. TRASH ENCLOSURES SHALL BE SCREENED WITH TREES AND SHRUB PLANTING.

SCALE: 1" = 80' - 0"

0' 40' 80' 160' 320'

UNDERGROUND SERVICE ALERT
CALL TOLL FREE
1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG

Z17-0004/P17-0007/S17-0017/PD15-0001

FUHRMAN LEAMY
LAND GROUP
DESIGN · SERVICE · SOLUTIONS
2140 PROFESSIONAL DRIVE, SUITE 115
ROSEVILLE, CALIFORNIA 95661
916.783.5263 · FLLANDGROUP.COM

JOB NO. : RSC 17080

CONSULTANT

PROJECT:

EDH 52

HWY 50 & SILVA VALLEY
EL DORADO HILLS, CA

CLIENT:

RSC ENGINEERING, INC

REVISIONS	DATE
1	
2	
3	
4	
5	

ISSUE		DATE
1	1ST SUBMITTAL	09.15.2017
2		
3		
4		
5		

REGISTERED LANDSCAPE ARCHITECT
KEVIN C. FOSTER
No. 5196
EXP. 12-31-18
STATE OF CALIFORNIA

DRAWN : JM
CHECKED : KCL
SCALE: : 1" = 80'-0"

SHEET TITLE:

PRELIMINARY LANDSCAPE PLAN: OVERALL

SHEET

PL-1

1 OF 4 SHEETS

STREETSCAPE INTENT

AREAS FRONTING THE STREETS WILL INCORPORATE SHADE TREES ALONG WITH MIXED SPECIES AND FORMS OF SHRUBS FOR INTEREST, COLOR, AND BUFFERING OF THE SHOPPING CENTER FROM THE STREETS. SHRUB MASSES WILL UTILIZE DROUGHT TOLERANT SPECIES WHERE APPROPRIATE.

PARKING LOT INTENT

THE PRIMARY TREES WILL PROVIDE A CANOPY OF SHADE. UNDERSTORY PLANTINGS WITHIN THE PARKING LOT WILL CONSIST OF LOW SHRUBS AND/OR GROUNDCOVERS.

SCREENING INTENT

PRIMARY PLANTING ALONG THE PROPERTY BOUNDARIES WILL CONSIST OF EVERGREEN TREES AND SHRUB ROWS TO SCREEN ADJACENT PROPERTIES.

ENTRY TREATMENT INTENT

PLANTING AT THE ENTRIES WILL BE HIGHLIGHTED & DEFINED BY SEASONAL ACCENTED TREES & SHRUBS WITH THE USE OF COLORFUL PLANT MATERIAL. SHRUBS WILL BE LOW TO MAINTAIN SIGHT LINES.

OLD SILVA VALLEY ROAD

SILVA VALLEY PARKWAY

HOTEL 69,120± SF

PAD 1 3,200± SF

PAD 2 3,200± SF

PAD 3 3,200± SF

FUEL 1 3,600± SF CARWASH

FUEL 2 3,600± SF CARWASH

SHOPS 1 10,500± SF

SHOPS 2 9,000± SF

DETENTION BASIN

POOL

PATIO

MATCHLINE A - SEE SHEET PL-3

MATCHLINE B - SEE SHEET PL-4

MATCHLINE C - SEE SHEET PL-3

MATCHLINE C - SEE SHEET PL-4

UNDERGROUND SERVICE ALERT
CALL TOLL FREE
1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG

SCALE: 1" = 50' - 0"

0' 25' 50' 100' 200'

Z17-0004/P17-0007/S17-0017/PD15-0001

FUHRMAN LEAMY LAND GROUP, HAS AND SHALL HEREBY EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS. THESE PLANS AND DRAWINGS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER, NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING WRITTEN PERMISSION AND CONSENT OF FUHRMAN LEAMY LAND GROUP.

FUHRMAN LEAMY
LAND GROUP
DESIGN • SERVICE • SOLUTIONS
2140 PROFESSIONAL DRIVE, SUITE 115
ROSEVILLE, CALIFORNIA 95661
916.783.5263 • FLLANDGROUP.COM

JOB NO. : RSC.17080

CONSULTANT

PROJECT:
EDH 52

HWY 50 & SILVA VALLEY
EL DORADO HILLS, CA

CLIENT:
RSC ENGINEERING, INC

REVISIONS	DATE
1	
2	
3	
4	
5	

ISSUE		DATE
1	1ST SUBMITTAL	09.15.2017
2		
3		
4		
5		

REGISTERED LANDSCAPE ARCHITECT
KEVIN C. LEAMY
No. 5461
12-31-18
Date
STATE OF CALIFORNIA

DRAWN : XX
CHECKED : KCL
SCALE: : 1" = 50'-0"

SHEET TITLE:
PRELIMINARY LANDSCAPE PLAN

SHEET
PL-2
OF 4 SHEETS

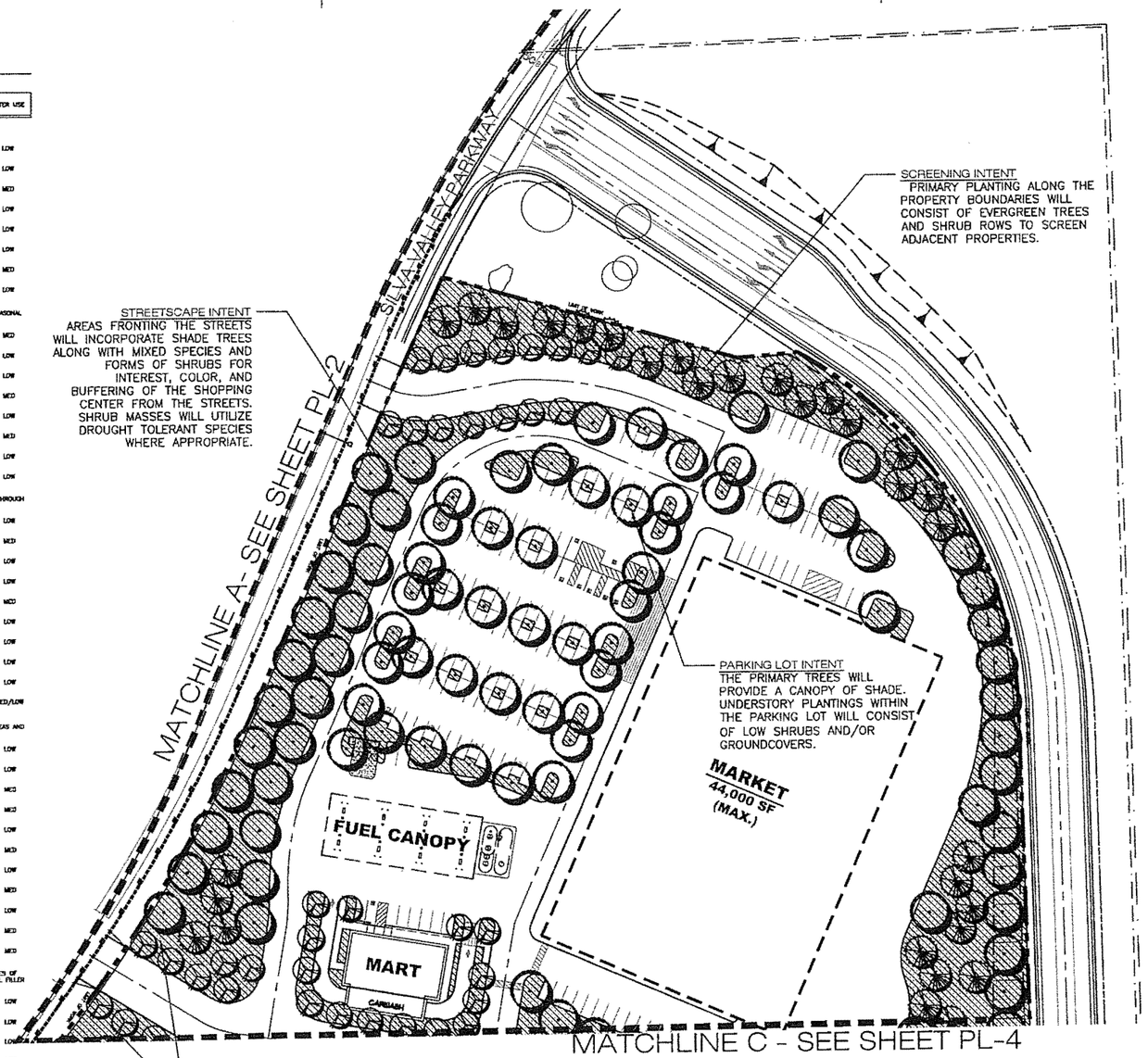
EDH 52 PRELIMINARY PLANT MATERIAL LIST AND LEGEND

TREES

SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE	REMARKS	WATER USE
	CANOPY/SHADE TREES LARGE EVERGREEN OR DECIDUOUS 30' TO 35' DIAMETER TREES USED TO PROVIDE SHADE			
	CELTIS SINENSIS CHINESE HACKBERRY	15 G	40'H x 30'W	MED
	ELAEOCARPUS DECIPIENS JAPANESE BLUEBERRY TREE	15 G	40'H x 28'W	MED
	LIRIODENDRON TULIPIFERA TULIP TREE	15 G	60'H x 35'W	MED
	MAGNOLIA GRANDIFLORA 'D.D. BLANCHARD' SOUTHERN MAGNOLIA	15 G	45'H x 30'W	MED
	PISTACIA CHINENSIS 'KEITH DAVEY' CHINESE PISTACHE	15 G	40'H x 35'W	LOW
	PLATANUS ACERIFOLIA 'BLOODGOOD' LONDON PLANE TREE	15 G	40'H x 36'W	MED
	TILIA CORDATA 'GREENSPIRE' LITTLE-LEAF LINDEN	15 G	35'H x 25'W	MED
	ULMUS PARVIFOLIA 'ALLEE' ALLEE CHINESE EVERGREEN ELM	15 G	50'H x 30'W	MED
	ZELKOVA SERRATA 'VILLAGE GREEN' SAWLEAF ZELKOVA	15 G	45'H x 35'W	MED
	SCREEN TREES EVERGREEN TREES USED TO SCREEN THE PROJECT FROM THE SURROUNDING DEVELOPMENTS			
	ARBUTUS 'MARINA' MARINA STRAWBERRY TREE	15 G	30'H x 25'W	LOW
	CEDRUS DEODARA DEODAR CEDAR	15 G	60'H x 25'W	LOW
	CUPRESSOCYPARIS LEYLANDII LEYLAND CYPRESS	15 G	50'H x 12'W	MED
	CUPRESSUS GLABRA 'BLUE ICE' BLUE ICE ARIZONA CYPRESS	15 G	25'H x 12'W	LOW
	LAURUS 'SARATOGA' SARATOGA SWEET BAY	15 G	25'H x 25'W	LOW
	PINUS ELDARICA MONDELL PINE	15 G	50'H x 20'W	LOW
	PRUNUS CAROLINIANA CAROLINA CHERRY LAUREL	15 G	25'H x 20'W	LOW
	QUERCUS SUBER CORK OAK	15 G	45'H x 45'W	LOW
	QUERCUS WISLIZENII INTERIOR LIVE OAK	15 G	40'H x 40'	LOW
	ACCENT TREES EVERGREEN OR DECIDUOUS TREES USED TO PROVIDE COLOR, DEMOTE ENTRIES AND CREATE PEDESTRIAN SCALE			
	CARPINUS BETULUS 'FASTIGIATA' EUROPEAN HORNBEAM	15 G	30'H x 20'W	MED
	CERCIS CANADENSIS 'FOREST PANSY' FOREST PANSY REDBUD	15 G	20'H x 25'W	MED
	CERCIS OCCIDENTALIS WESTERN REDBUD	15 G	15'H x 12'W	LOW
	LAGERSTROEMIA INDICA x FAURIEI 'MUSKOGEE' LAVENDER CRAPE MYRTLE	15 G	25'H x 15'W MULTI-TRUNK	LOW
	LAGERSTROEMIA INDICA x FAURIEI 'NATCHEZ' WHITE CRAPE MYRTLE	15 G	30'H x 15'W MULTI-TRUNK	LOW
	MAGNOLIA GRANDIFLORA 'LITTLE GEM' COMPACT SOUTHERN MAGNOLIA	15 G	25'H x 12'W	MED
	NYSSA SYLVATICA TUPELO	15 G	40'H x 18'W	MED
	PRUNUS CERASIFERA 'KRAUTER VESUVIUS' PURPLE-LEAF FLOWERING PLUM	15 G	18'H x 15'W	MED
	PYRUS CALLERYANA 'RED SPIRE' RED SPIRE PEAR	15 G	30'H x 20'W	MED
	VITEX AGNUS-CASTUS BLUE CHASTE TREE	15 G	15'H x 15'W	LOW

SHRUBS & GROUNDCOVERS

SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE	REMARKS	WATER USE
	BACKGROUND OR FOUNDATION SHRUBS LARGE EVERGREEN SHRUBS USED FOR REDUCING BUILDING MASS OR SCREENING			
	ARBUTUS UNEDO 'COMPACTA' DWARF STRAWBERRY TREE	5 G	8'H x 6'W	LOW
	CEANOTHUS SPP. WILD LILAC	5 G	8'H x 6'W	LOW
	CHOISYA TERNATA MEXICAN ORANGE	5 G	6'H x 6'W	MED
	LEUCOPHYLLUM FRUTESCENS TEXAS RANGER	5 G	7'H x 7'W	LOW
	NERIUM OLEANDER 'RED' RED OLEANDER	5 G	10'H x 10'W	LOW
	RHAMNUS CALIFORNICA 'EVE CASE' COFFEEBERRY	5 G	8'H x 6'W	LOW
	RHAPHIOLEPIS INDICA SPP. INDIAN HAWTHORN	5 G	5'H x 5'W	MED
	XYLOSMA CONGESTUM 'COMPACTA' COMPACT SHINY XYLOSMA	5 G	7'H x 7'W	LOW
	FACER SHRUBS EVERGREEN OR DECIDUOUS SHRUBS USED FOR LAYERING OF PLANT MATERIAL, SEASONAL COLOR AND SOFTENING OF BUILDING EDGE AND FOUNDATION SHRUBS.			
	AZALEA SPP. AZALEA	5 G	3'H x 3'W	MED
	CALLISTEMON VIMINALIS 'LITTLE JOHN' DWARF BOTTLEBRUSH	5 G	3'H x 3'W	LOW
	CISTUS SP. ROCKROSE	5 G	3'H x 5'W	LOW
	LOROPETALUM CHINENSIS 'NOMAS' RAZZLEBERRY FRINGE FLOWER	5 G	3'H x 4'W	MED
	LEUCOPHYLLUM ZYGOPHYLLUM BLUE RANGER	5 G	3'H x 3'W	LOW
	PITTOSPORUM TOBIRA 'WHEELER'S DWARF' DWARF MOCK ORANGE	5 G	3'H x 4'W	MED
	RHAPHIOLEPIS UMBELLATA 'MINOR' DWARF YEDDO HAWTHORN	5 G	3'H x 3'W	LOW
	WESTRINGIA ROSMARINIFORMIS 'MORNING LIGHT' VARIEGATED COAST ROSEMARY	5 G	3'H x 3'W	LOW
	ACCENT SHRUBS EVERGREEN OR PERENNIAL SHRUBS USED FOR AESTHETIC VALUE IN LANDSCAPE THROUGH BLOOM, COLOR, OR OVERALL CHARACTER.			
	AGAVE SPP. AGAVE	5 G	VARIES	LOW
	BERBERIS THUNBERGII 'CRIMSON PYGMY' RED DWARF JAPANESE BARBERRY	5 G	1.5'H x 2.5'W	MED
	BOUTELOUA GRACILIS 'BLOND AMBITION' BLUE GRAMA GRASS	1 G	3'H x 3'W	LOW
	CALAMAGROSTIS x ACUTIFLORA 'KARL FOERSTER' FEATHER REED GRASS	1 G	2.5'H x 2.5'W	LOW
	HEMEROCALLIS HYBRIDS EVERGREEN DAYLILY	1 G	VARIES X 2'W	MED
	KNIPHOFIA UVARIA RED HOT POKER	1 G	3'H x 3'W	LOW
	LAVANDULA SPP. LAVENDER	1 G	VARIES	LOW
	MUHLENBERGIA CAPILLARIS PINK MUHLY	5 G	3'H x6'W	LOW
	NANDINA DOMESTICA 'COMPACTA' COMPACT HEAVENLY BAMBOO	1 G/5 G	4'H x 3'W	LOW
	PHORMIUM HYBRIDS NEW ZEALAND FLAX	1 G/5 G	VARIES	MED/LOW
	GROUNDCOVER MATERIAL EVERGREEN OR PERENNIAL SHRUBS TO 30" HIGH, USED TO BLANKET LARGER AREAS AND AS A FILLER BETWEEN SITE WORK EDGES AND FACER SHRUBS.			
	BACCHARIS PILULARIS 'PIGEON POINT' DWARF COYOTE BUSH	1 G	2.5'H x 7'W	LOW
	COPROSMA KIRKII KIRK'S COPROSMA	1 G	2'H x 5'W	LOW
	FESTUCA GLAUCA 'SEASYOU BLUE' BLUE FESCUE	1 G	1'H x 1'W	MED
	HYPERICUM CALYCINUM CREEPING ST. JOHNS WORT	1 G	1'H x 3'W	MED
	LANTANA MONTEVIDENSIS PURPLE TRAILING LANTANA	1 G	2'H x 8'W	LOW
	LONICERA JAPONICA 'HALLIANA' HALL'S HONEYSUCKLE	1 G	1.5'H x 4.5'W	MED
	ROSA BANKSIAE 'LUTEA' YELLOW LADY BANKS ROSE	1 G	4'H x 8'W	LOW
	ROSA FLOWER CARPET FLOWER CARPET ROSE	1 G/5 G	2'H x 3'W	MED
	ROSMARINUS OFFICINALIS 'PROSTRATUS' DWARF ROSEMARY	1 G	2'H x 6'W	LOW
	TRACHELOSPERMUM JASMINOIDES STAR JASMINE	1 G	1.5'H x 6'W	MED
	VINCA MINOR DWARF PERIWINKLE	1 G	0.5'H x 3'W	MED
	BUFFER PLANTING MIX OF NATIVE PLANT MATERIAL USED AS A NATURAL TRANSITION FROM THE EDGES OF THE SITE TO ADJACENT PROPERTIES. PLANT MATERIAL TO BE USED AS A NATURAL FILLER WILL BE HYDROSEEDED.			
	ARTEMISIA CALIFORNICA CALIFORNIA SAGEBRUSH	---	---	LOW
	CEANOTHUS SPP. CALIFORNIA LILAC	---	---	LOW
	FREMONTODENDRON 'DARA GOLD' FLANNEL BUSH	---	---	LOW
	ESCHSCHOLZIA CALIFORNICA CALIFORNIA POPPY	---	---	LOW
	ROMNEYA COULTERI MATILIJA POPPY	---	---	LOW
	MIMULUS SPP. MONKEY FLOWER	---	---	LOW
	NASSELLA PULCHRA PURPLE NEEDLE GRASS	---	---	LOW
	WATER QUALITY BASIN PLANTS ADAPTABLE TO WET CONDITIONS.			
	JUNCUS PATENS GREY RUSH	---	---	HIGH
	JUNCUS EFFUSUS SOFT RUSH	---	---	HIGH
	NASSELLA PULCHRA PURPLE NEEDLE GRASS	---	---	MED
	BIOSWALE SOD NATIVE BLEND FOR SWALE BOTTOM	---	---	MED



SCALE: 1" = 50' - 0"

0' 25' 50' 100' 200'

UNDERGROUND SERVICE ALERT
CALL TOLL FREE
1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG

Z17-0004/P17-0007/S17-0017/PD15-0001

FUHRMAN LEAMY LAND GROUP
DESIGN • SERVICE • SOLUTIONS
2140 PROFESSIONAL DRIVE, SUITE 115
ROSEVILLE, CALIFORNIA 95661
916.783.5263 • FLLANDGROUP.COM

JOB NO. : RSC17080

CONSULTANT

PROJECT:
EDH 52

HWY 50 & SILVA VALLEY
EL DORADO HILLS, CA

CLIENT:
RSC ENGINEERING, INC

REVISIONS	DATE
△	
△	
△	
△	

ISSUE		DATE
1	1ST SUBMITTAL	09.15.2017
2		
3		
4		
5		

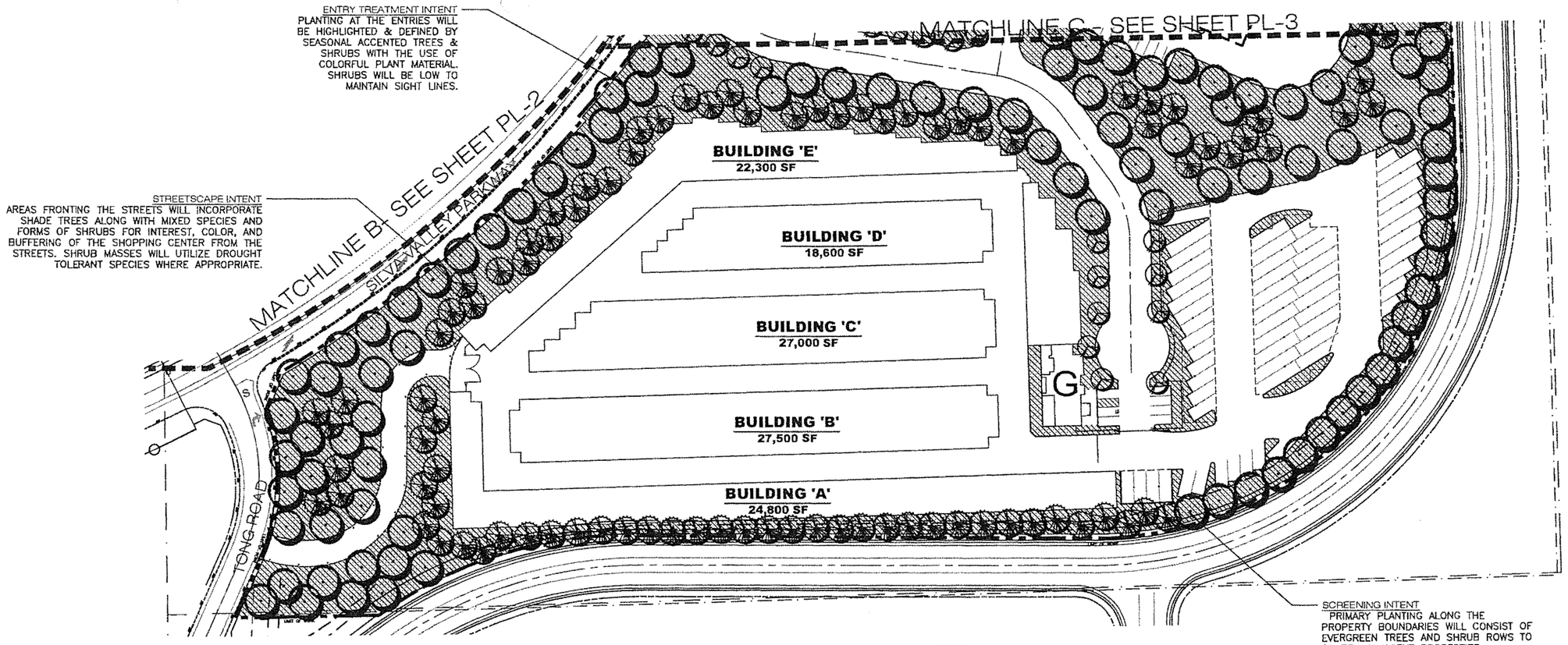
REGISTERED LANDSCAPE ARCHITECT
KEVIN C. LEAMY
No. 5641
07-18
STATE OF CALIFORNIA
NOT VALID FOR CONSTRUCTION

DRAWN : JM
CHECKED : KCL
SCALE: : 1" = 50'-0"

SHEET TITLE:
PRELIMINARY LANDSCAPE PLAN

SHEET
PL-3
3 OF 4 SHEETS

FUHRMAN LEAMY LAND GROUP HEREBY EXPRESSLY RESERVES TO ITSELF ANY COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS. THESE PLANS AND DRAWINGS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF FUHRMAN LEAMY LAND GROUP, NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT.



EDH 52 PRELIMINARY PLANT MATERIAL LIST AND LEGEND

TREES

SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE	REMARKS	WATER USE

CANOPY/SHADE TREES
LARGE EVERGREEN OR DECIDUOUS 30' TO 35' DIAMETER TREES USED TO PROVIDE SHADE

CELTIS SINENSIS CHINESE HACKBERRY	15 G	40'H x 30'W	MED
ELAEOCARPUS DECIPIENS JAPANESE BLUEBERRY TREE	15 G	40'H x 28'W	MED
LIRIODENDRON TULIPIFERA TULIP TREE	15 G	60'H x 35'W	MED
MAGNOLIA GRANDIFLORA 'D.D. BLANCHARD' SOUTHERN MAGNOLIA	15 G	45'H x 30'W	MED
PISTACIA CHINENSIS 'KEITH DAVEY' CHINESE PISTACHE	15 G	40'H x 35'W	LOW
PLATANUS ACERIFOLIA 'BLOODGOOD' LONDON PLANE TREE	15 G	40'H x 30'W	MED
TILIA CORDATA 'GREENSPIRE' LITTLE-LEAF LINDEN	15 G	35'H x 25'W	MED
ULMUS PARVIFOLIA 'ALLEE' ALLEE CHINESE EVERGREEN ELM	15 G	50'H x 30'W	MED
ZELKOVA SERRATA 'VILLAGE GREEN' SAWLEAF ZELKOVA	15 G	45'H x 35'W	MED

SCREEN TREES
EVERGREEN TREES USED TO SCREEN THE PROJECT FROM THE SURROUNDING DEVELOPMENTS

ARBUTUS 'MARINA' MARINA STRAWBERRY TREE	15 G	30'H x 25'W	LOW
CEDRUS DEODARA DEODAR CEDAR	15 G	50'H x 25'W	LOW
CUPRESSOCYPARIS LEYLANDII LEYLAND CYPRESS	15 G	60'H x 12'W	MED
CUPRESSUS GLABRA 'BLUE ICE' BLUE ICE ARIZONA CYPRESS	15 G	25'H x 12'W	LOW
LAURUS 'SARATOGA' SARATOGA SWEET BAY	15 G	25'H x 25'W	LOW
PINUS ELDARICA MONDELL PINE	15 G	30'H x 20'W	LOW
PRUNUS CAROLINIANA CAROLINA CHERRY LAUREL	15 G	25'H x 20'W	LOW
QUERCUS SUBER CORK OAK	15 G	45'H x 45'W	LOW
QUERCUS WISLIZENI INTERIOR LIVE OAK	15 G	40'H x 45'	LOW

ACCENT TREES
EVERGREEN OR DECIDUOUS TREES USED TO PROVIDE COLOR, DENOTE ENTRIES AND CREATE PEDESTRIAN SCALE

CARPINUS BETULUS 'FASTIGIATA' EUROPEAN HORNBEAM	15 G	30'H x 20'W	MED
CERCIS CANADENSIS 'FOREST PANSY' FOREST PANSY REDBUD	15 G	20'H x 25'W	MED
CERCIS OCCIDENTALIS WESTERN REDBUD	15 G	15'H x 12'W	LOW
LAGERSTROEMIA INDICA x FAURIEI 'MUSKOGEE' LAVENDER CRAPE MYRTLE	15 G	25'H x 15'W MULTI-TRUNK	LOW
LAGERSTROEMIA INDICA x FAURIEI 'NATCHEZ' WHITE CRAPE MYRTLE	15 G	25'H x 12'W MULTI-TRUNK	LOW
MAGNOLIA GRANDIFLORA 'LITTLE GEM' COMPACT SOUTHERN MAGNOLIA	15 G	25'H x 12'W	MED
NYSSA SYLVATICA TUPELO	15 G	40'H x 15'W	MED
PRUNUS CERASIFERA 'KRAUTER VESUVIUS' PURPLE-LEAF FLOWERING PLUM	15 G	15'H x 15'W	MED
PYRUS CALLERYANA 'RED SPIRE' RED SPIRE PEAR	15 G	30'H x 20'W	MED
VITEX AGNUS-CASTUS BLUE CHASTE TREE	15 G	15'H x 15'W	LOW

SHRUBS & GROUNDCOVERS

SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE	REMARKS	WATER USE

BACKGROUND OR FOUNDATION SHRUBS
LARGE EVERGREEN SHRUBS USED FOR REDUCING BUILDING MASS OR SCREENING

ARBUTUS UNEDO 'COMPACTA' DWARF STRAWBERRY TREE	5 G	8'H x 8'W	LOW
CEANOTHUS SPP. WILD LILAC	5 G	6'H x 6'W	LOW
CHOISYA TERNATA MEXICAN ORANGE	5 G	6'H x 6'W	MED
LEUCOPHYLLUM FRUTESCENS TEXAS RANGER	5 G	7'H x 7'W	LOW
NERIUM OLEANDER 'PETITE' RED OLEANDER	5 G	10'H x 10'W	LOW
PRUNUS CALIFORNICA 'ONE CASE' COFFEEBERRY	5 G	8'H x 8'W	LOW
RHAPHIOLEPIS INDICA SPP. INDIAN HAWTHORN	5 G	5'H x 5'W	MED
XYLOSMA CONGESTUM 'COMPACTA' COMPACT SHINY XYLOSMA	5 G	7'H x 7'W	LOW

FACER SHRUBS
EVERGREEN OR DECIDUOUS SHRUBS USED FOR LAYERING OF PLANT MATERIAL, SEASONAL COLOR AND SOFTENING OF BUILDING EDGE AND FOUNDATION SHRUBS.

AZALEA SPP. AZALEA	5 G	3'H x 3'W	MED
CALLISTEMON VIMINALIS 'LITTLE JOHN' DWARF BOTTLEBRUSH	5 G	3'H x 3'W	LOW
CISTUS SP. ROCKROSE	5 G	3'H x 5'W	LOW
LORIOPETALUM CHINENSIS 'MONRAZ' RAZZLEBERRY FRINGE FLOWER	5 G	5'H x 4'W	MED
LEUCOPHYLLUM ZYGOPHYLLUM BLUE RANGER	5 G	3'H x 3'W	LOW
PITTOSPORUM TOBIRA 'WHEELER'S DWARF' DWARF MOCK ORANGE	5 G	3'H x 4'W	MED
RHAPHIOLEPIS UMBELLATA 'MINOR' DWARF YEDDO HAWTHORN	5 G	3'H x 3'W	LOW
WESTRINGIA ROSMARINIFORMIS 'MORNING LIGHT' VARIEGATED COAST ROSEMARY	5 G	3'H x 3'W	LOW

ACCENT SHRUBS
EVERGREEN OR PERENNIAL SHRUBS USED FOR AESTHETIC VALUE IN LANDSCAPE THROUGH BLOOM, COLOR, OR OVERALL CHARACTER.

AGAVE SPP. AGAVE	5 G	VARIES	LOW
BERBERIS THUNBERGII 'CRIMSON PYGMY' RED DWARF JAPANESE BARBERRY	5 G	1.5'H x 2.5'W	MED
BOUTELOUA GRACILIS 'BLOND AMBITION' BLUE GRAMA GRASS	1 G	3'H x 3'W	LOW
CALAMAGROSTIS x ACUTIFLORA 'KARL FOERSTER' FEATHER REED GRASS	1 G	2.5'H x 2.5'W	LOW
HEMEROCALLIS HYBRIDS EVERGREEN DAYLILY	1 G	VARIES X 2'W	MED
KNEPHOFIA UVARIA RED HOT POKER	1 G	3'H x 3'W	LOW
LAVANDULA SPP. LAVENDER	1 G	VARIES	LOW
MUHLENBERGIA CAPILLARIS PINK MUHLY	5 G	3'H x6'W	LOW
NANDINA DOMESTICA 'COMPACTA' COMPACT HEAVENLY BAMBOO	1 G/5 G	4'H x 3'W	LOW
PHORMIUM HYBRIDS NEW ZEALAND FLAX	1 G/5 G	VARIES	MED/LOW

GROUNDCOVER MATERIAL
EVERGREEN OR PERENNIAL SHRUBS TO 30" HIGH, USED TO BLANKET LARGER AREAS AND AS A FILLER BETWEEN SITE WORK EDGES AND FACER SHRUBS.

BACCHARIS PILULARIS 'PIGEON POINT' DWARF COYOTE BUSH	1 G	2.5'H x 7'W	LOW
COPROSMA KIRKII KIRK'S COPROSMA	1 G	2'H x 5'W	LOW
FESTUCA GLAUCA 'SEASIDE BLUE' BLUE FESCUE	1 G	1'H x 1'W	MED
HYPERICUM CALYCINUM GROWING ST. JOHN'S WORT	1 G	1'H x 3'W	MED
LANTANA MONTEVIDENSIS PURPLE TRAILING LANTANA	1 G	2'H x 6'W	LOW
LONICERA JAPONICA 'HALLIANA' HALL'S HONEYSUCKLE	1 G	1.5'H x 6.5'W	MED
ROSA BANKSIAE 'LUTEA' YELLOW LADY BANKS ROSE	1 G	4'H x 6'W	LOW
ROSA FLOWER CARPET FLOWER CARPET ROSE	1 G/5 G	2'H x 3'W	MED
ROSMARINUS OFFICINALIS 'PROSTRATUS' DWARF ROSEMARY	1 G	2'H x 6'W	LOW
TRACHELOSPERMUM JASMINOIDES STAR JASMINE	1 G	1.5'H x 6'W	MED
VINCA MINOR DWARF PERIWINKLE	1 G	0.5'H x 3'W	MED

BUFFER PLANTING
MIX OF NATIVE PLANT MATERIAL USED AS A NATURAL TRANSITION FROM THE EDGES OF THE SITE TO ADJACENT PROPERTIES. PLANT MATERIAL TO BE USED AS A NATURAL FILLER WILL BE HYDROSEEDED.

ARTEMISIA CALIFORNICA CALIFORNIA SAGEBRUSH	---	---	LOW
CEANOTHUS SPP. CALIFORNIA LILAC	---	---	LOW
FREMONTODENDRON 'DARA GOLD' FLANNEL BUSH	---	---	LOW
ESCHSCHOLZIA CALIFORNICA CALIFORNIA POPPY	---	---	LOW
ROMNEYA COULTERI MATILIJA POPPY	---	---	LOW
MIMULUS SPP. MONKEY FLOWER	---	---	LOW
NASSELLA PULCHRA PURPLE NEEDLE GRASS	---	---	LOW

WATER QUALITY BASIN
PLANTS ADAPTABLE TO WET CONDITIONS.

JUNCUS PATENS GREY RUSH	---	---	HIGH
JUNCUS EFFUSUS SOFT RUSH	---	---	HIGH
NASSELLA PULCHRA PURPLE NEEDLE GRASS	---	---	MED
BIOSWALE SOD NATIVE BLEND FOR SWALE BOTTOM	---	---	MED

SCALE: 1" = 50' - 0"
0' 25' 50' 100' 200'

UNDERGROUND SERVICE ALERT
CALL TOLL FREE
1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG

Z17-0004/P17-0007/S17-0017/PD15-0001

FURNISHED OR CREATED IN ANY FORM OR MANNER WHATSOEVER WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION OF FUHRMAN LEAMY LAND GROUP. NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING WRITTEN PERMISSION AND CONSENT.
FUHRMAN LEAMY LAND GROUP HEREBY EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS. THESE PLANS AND DRAWINGS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN

FUHRMAN LEAMY
LAND GROUP
DESIGN • SERVICE • SOLUTIONS
2140 PROFESSIONAL DRIVE, SUITE 115
ROSEVILLE, CALIFORNIA 95661
916.783.5263 • FLLANDGROUP.COM
JOB NO. : RSC.17080
CONSULTANT

PROJECT:
EDH 52

HWY 50 & SILVA VALLEY
EL DORADO HILLS, CA
CLIENT:
RSC ENGINEERING, INC

REVISIONS	DATE
1	
2	
3	
4	
5	

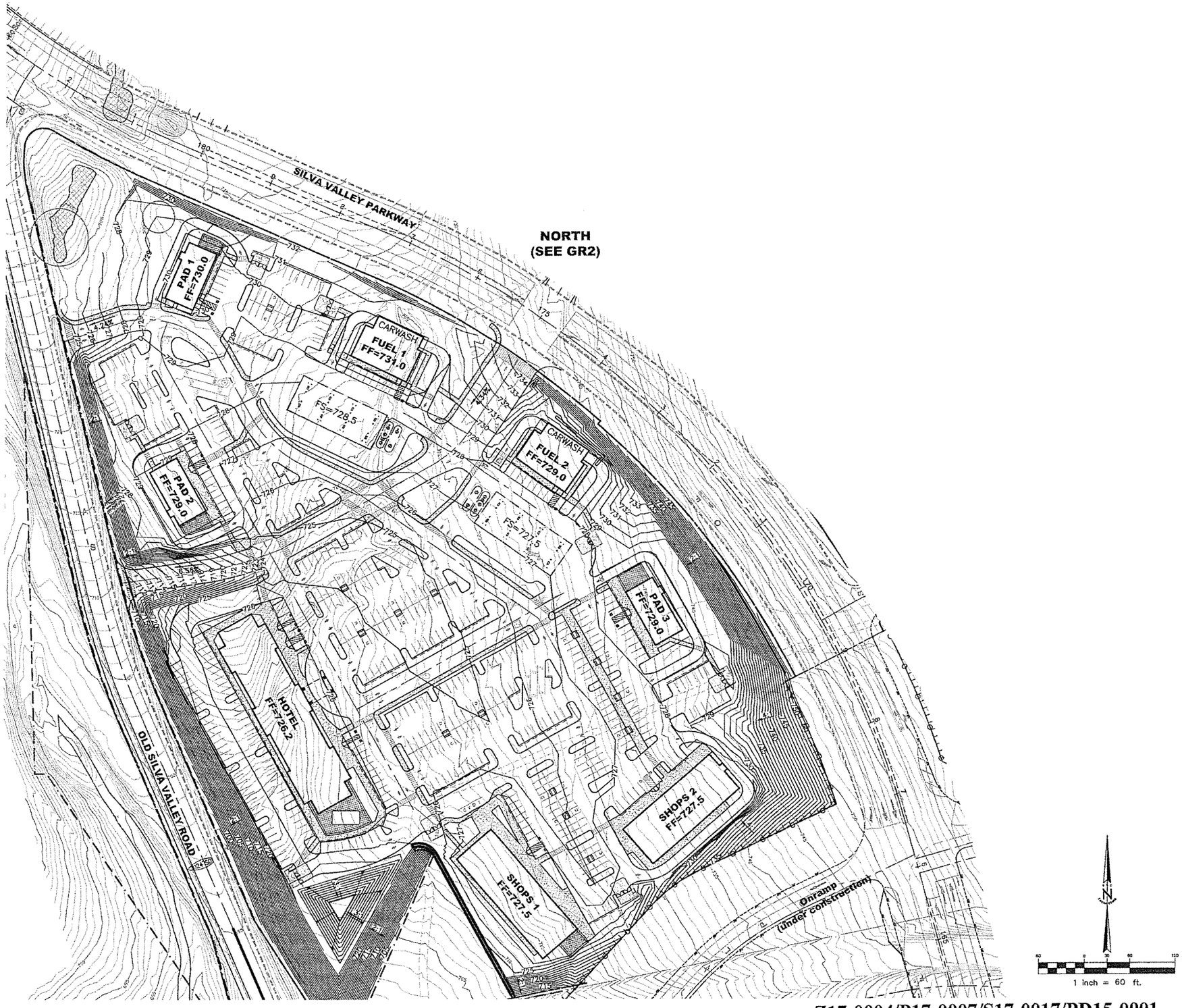
ISSUE		DATE
1	1ST SUBMITTAL	09.15.2017
2		
3		
4		
5		

REGISTERED LANDSCAPE ARCHITECT
KEITH C. LEAMY
No. 5107
06-01-18
RENEWAL DATE
STATE OF CALIFORNIA
NOT FOR CONSTRUCTION

DRAWN : JM
CHECKED : KCL
SCALE : 1" = 50'-0"

SHEET TITLE:
PRELIMINARY LANDSCAPE PLAN

SHEET
PL-4
4 OF 4 SHEETS



Z17-0004/P17-0007/S17-0017/PD15-0001

OWNER:

EDH 52
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

NO.	DESCRIPTION	DRN. BY	DATE CITY APPROVED
1			
2			
3			
4			
5			
6			

REGISTERED PROFESSIONAL ENGINEER
RICHARD S. CAMPBELL
No. 29033
Mar. 31, 2019
CIVIL
STATE OF CALIFORNIA

RSC ENGINEERING
2250 Douglas Blvd. Suite 150
Roseville, CA 95661
Ph: 916.788.2864 Fax: 916.788.4408

PROJECT NO: 104-003
DRAWN BY: RSC Eng
CHECKED BY: RSC Eng
DESIGNED BY: RSC Eng

PLANNED DEVELOPMENT APPLICATION FOR EDH 52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

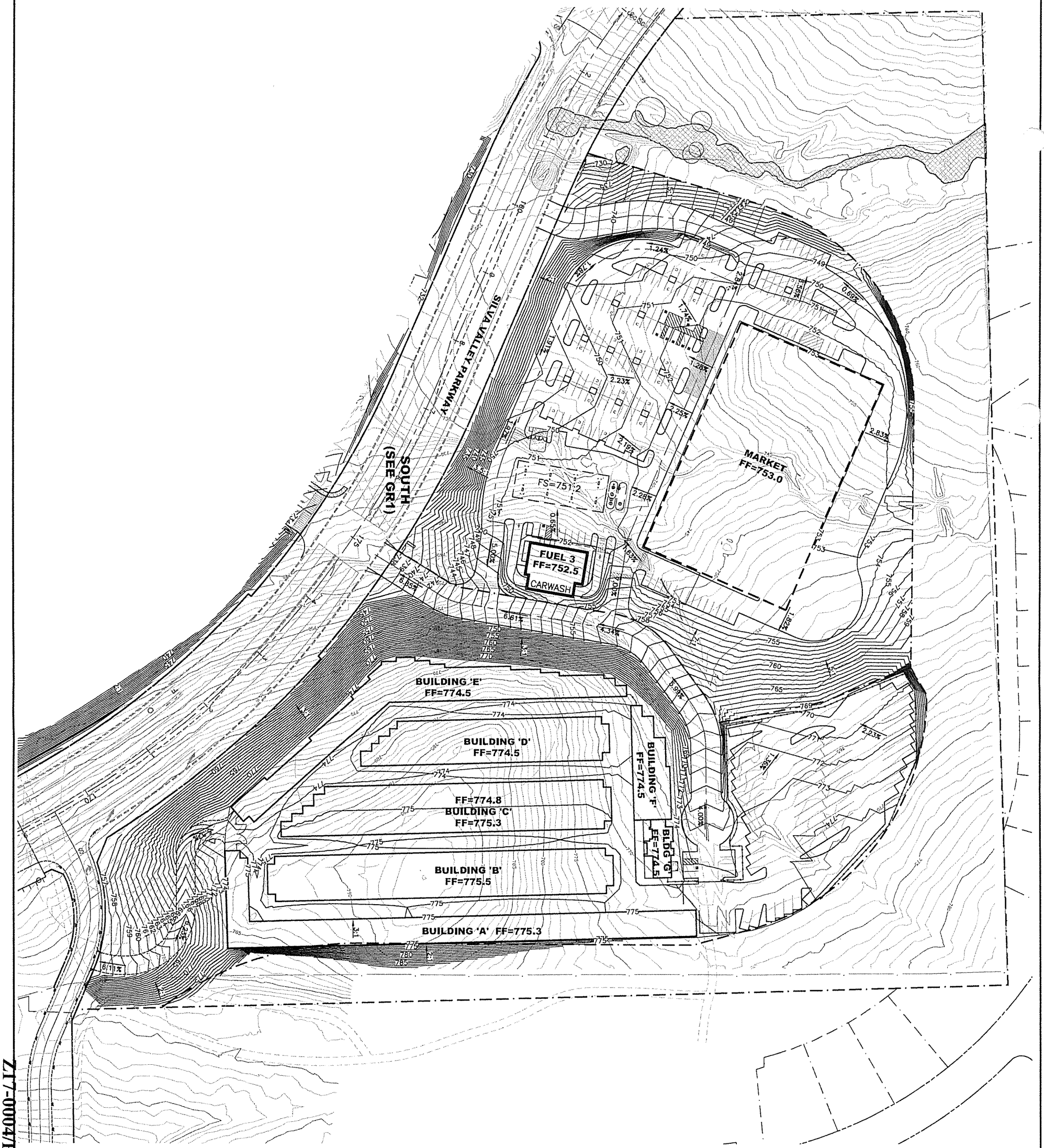
SHEET TITLE
PRELIMINARY GRADING PLAN SOUTH

SHEET NO.
GR1
OF 8

DATE: SEPTEMBER 18, 2017

LAST MODIFIED: Sep 13, 17 - 13:38
PLOT DATE: Sep 13, 2017 - 13:38 PM

P:\104-003A\Planning\Conceptual\104003A_XSUPER.XU.dwg
P:\104-003A\Planning\Conceptual\104003A_XADJLOT03.dwg
P:\104-003A\Planning\Conceptual\104003A_XPRPH2.dwg
P:\104-003A\Planning\Conceptual\104003A_XBOAD-GD09.dwg
P:\104-003A\Planning\Conceptual\104003A_XPOAD-SHP3.dwg
P:\104-003A\Planning\Conceptual\104003A_XLOT6.dwg
P:\104-003A\Planning\Conceptual\104003A_XTOPO-PROP.dwg



ZI7-0004/PI7-0007/SI7-0017/PD15-0001

PLANNED DEVELOPMENT APPLICATION FOR EDH 52

HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

SHEET TITLE
PRELIMINARY GRADING PLAN NORTH

SHEET NO.
GR2
OF 8

DATE: SEPTEMBER 18, 2017

DESIGNED BY: RSC Eng
CHECKED BY: RSC Eng
DRAWN BY: RSC Eng
PROJECT NO: 104-003

RSC ENGINEERING
2250 Douglas Blvd. Suite 150
Roseville, CA 95661
Ph: 916.788.2884 Fax: 916.788.4408

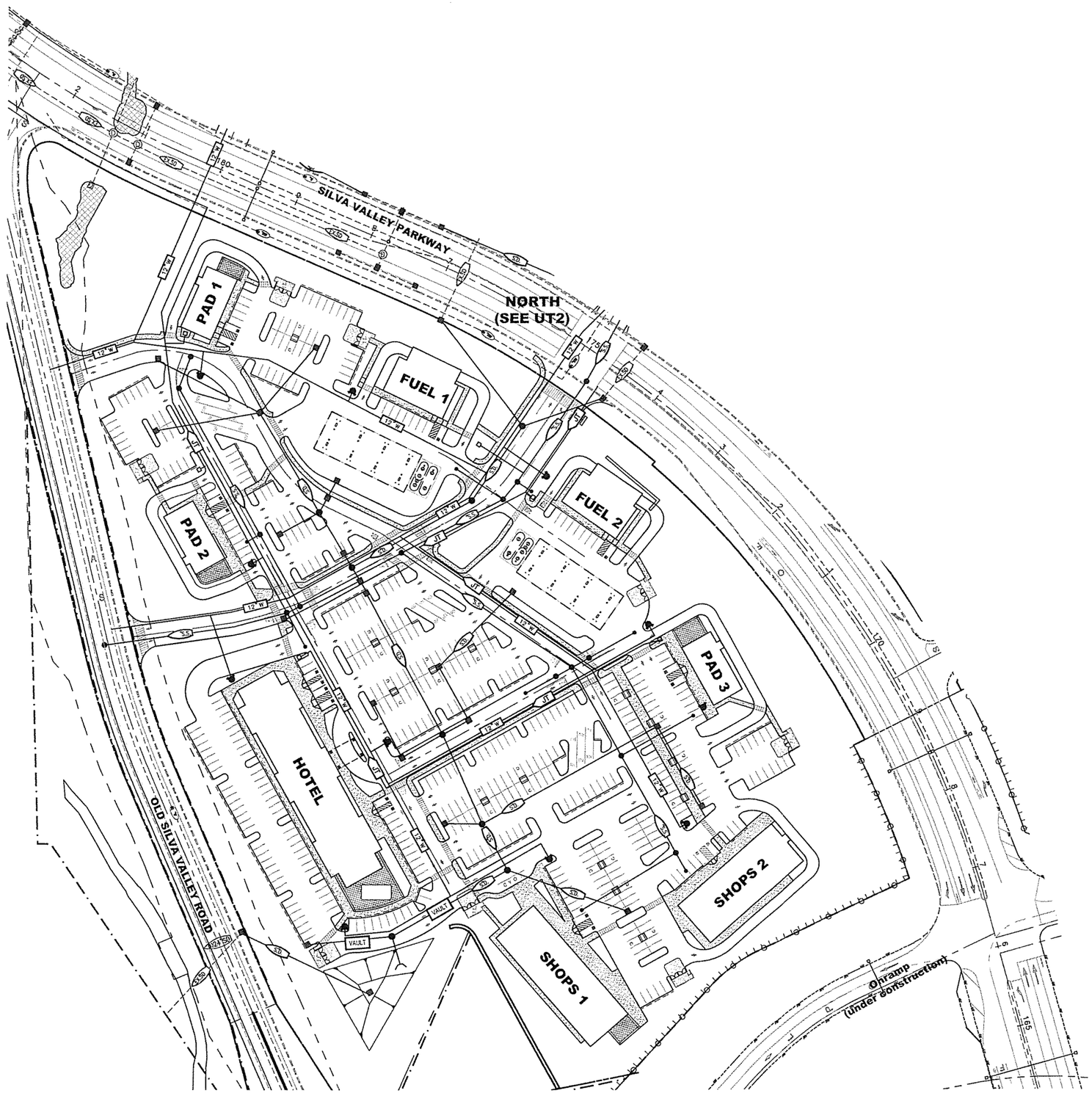
REGISTERED PROFESSIONAL ENGINEER
RICHARD S. CRAVEZ
No. 28033
Exp. 11/17/17
STATE OF CALIFORNIA

REV NO.	DESCRIPTION	ENG INT.	BY CITY	DATE APPROVED
1				
2				
3				
4				
5				

OWNER:

EDH 52

7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 383-2500



LEGEND

- VAULT — STORM WATER QUALITY TREATMENT DEVICE
- STORM WATER QUALITY INLETS
- PROPOSED FIRE HYDRANT
- EXISTING DOMESTIC WATER
- EXISTING RECLAIMED WATER
- EXISTING SANITARY SEWER
- EXISTING STORM DRAIN
- PROPOSED DOMESTIC WATER
- PROPOSED RECLAIMED WATER
- PROPOSED SANITARY SEWER
- PROPOSED STORM DRAIN
- JT — PROPOSED JOINT TRENCH

N

60 0 30 60 120

1 inch = 60 ft.

Z17-0004/P17-0007/S17-0017/PD15-0001

OWNER:

EDH 52
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

REV NO	DESCRIPTION	DRN BY	BY	DATE
			CITY	APPROVED

REGISTERED PROFESSIONAL ENGINEER
RICHARD S. CRAVEN
No. 29033
Mar. 31, 2019
CIVIL
STATE OF CALIFORNIA

RSC ENGINEERING
2250 Douglas Blvd. Suite 150
Roseville, CA 95661
Ph: 916.788.2864 Fax: 916.788.4408

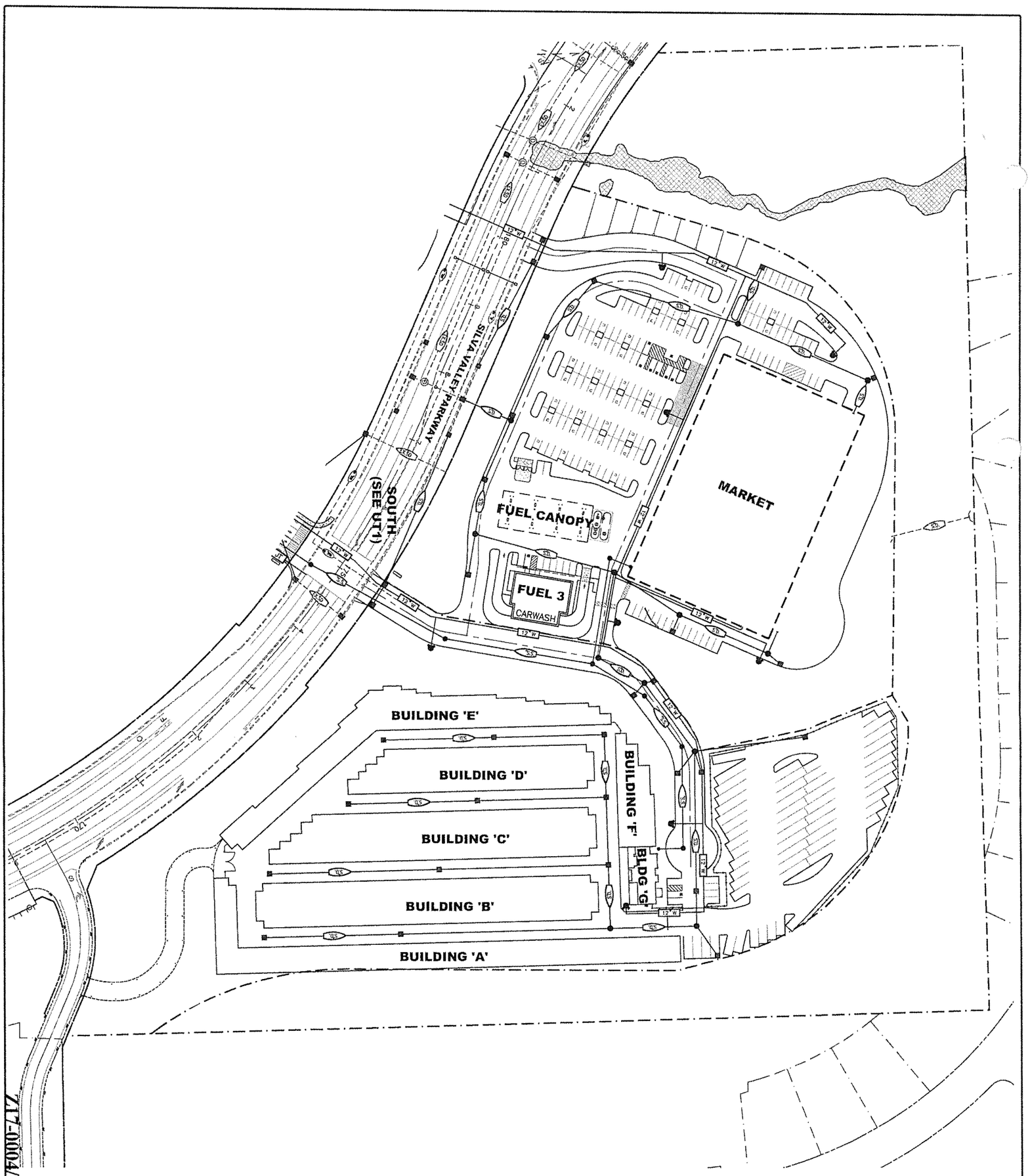
PROJECT NO:	104-003
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

PLANNED DEVELOPMENT APPLICATION FOR EDH 52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

SHEET TITLE
PRELIMINARY UTILITY PLAN SOUTH

SHEET NO.
UT1
OF **8**

DATE: SEPTEMBER 18, 2017



LEGEND

- STORM WATER QUALITY TREATMENT DEVICE (VAULT)
- STORM WATER QUALITY INLETS
- PROPOSED FIRE HYDRANT
- EXISTING DOMESTIC WATER
- EXISTING RECLAIMED WATER
- EXISTING SANITARY SEWER
- EXISTING STORM DRAIN
- PROPOSED DOMESTIC WATER
- PROPOSED RECLAIMED WATER
- PROPOSED SANITARY SEWER
- PROPOSED STORM DRAIN
- PROPOSED JOINT TRENCH

1 inch = 60 ft.

Z17-0004/P17-0007/S17-0017/PD15-000

DATE: SEPTEMBER 18, 2017

SHEET NO. UT2 OF 8

SHEET TITLE: PRELIMINARY UTILITY PLAN NORTH

PLANNED DEVELOPMENT APPLICATION FOR EDH 52

HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

PROJECT NO: 104-003
DRAWN BY: RSC Eng
CHECKED BY: RSC Eng
DESIGNED BY: RSC Eng

RSC ENGINEERING
2250 Douglas Blvd. Suite 150
Roseville, CA 95661
Ph:916.788.2884 Fax:916.788.4408

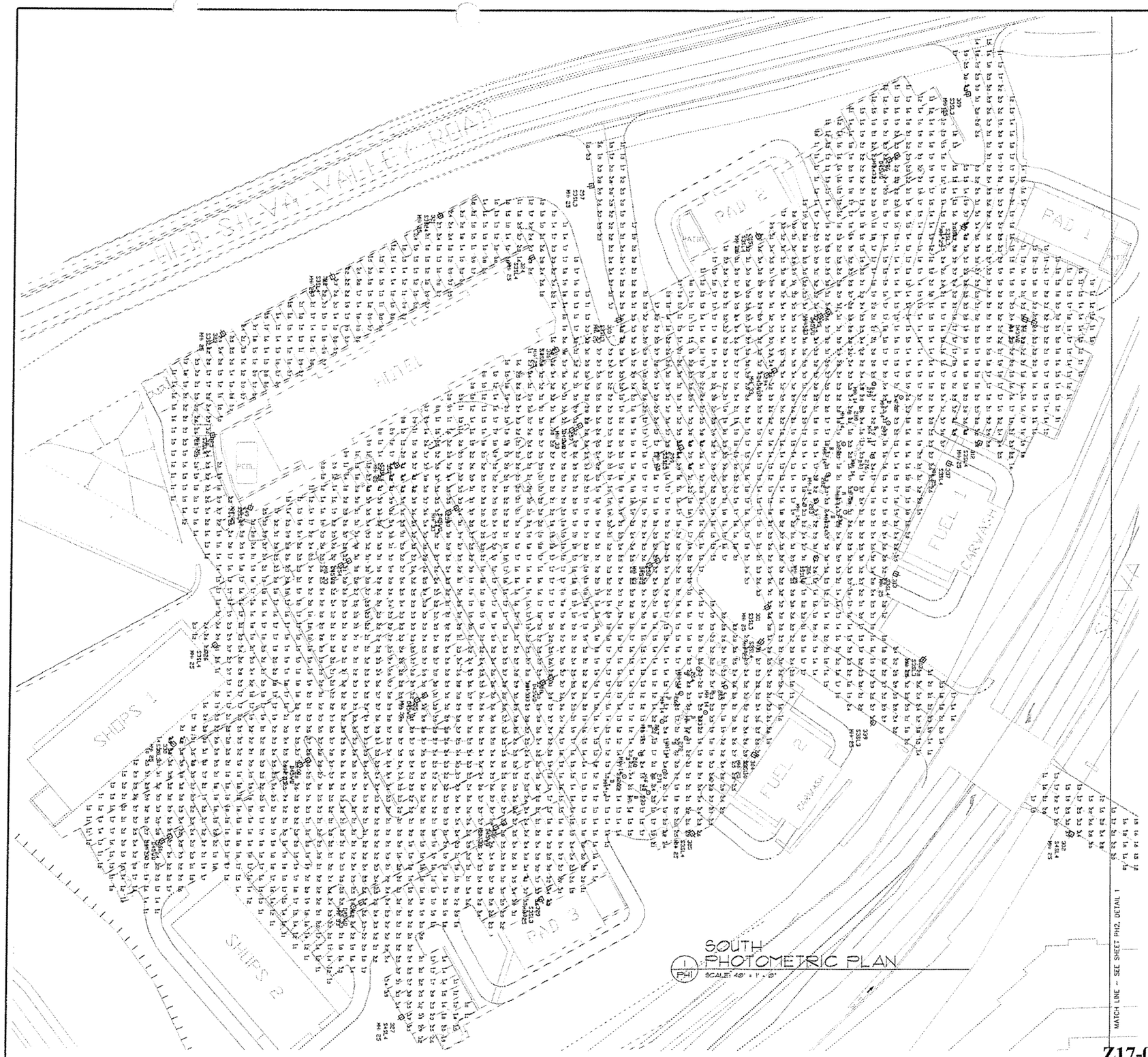
REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA — MICHAEL J. CASTRO

REV BY.	DESCRIPTION	CHD INT.	BY	DATE CITY APPROVED
△				
△				
△				
△				
△				

OWNER:

EDH 52

7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 383-2500



1 PH1 SOUTH PHOTOMETRIC PLAN
SCALE: 40' = 1'-0"

FIXTURE KEY

355 — FIXTURE NUMBER FOR REFERENCE
S35L4H — FIXTURE TYPE – SEE SCHEDULE
MH: 25 — MOUNTING HEIGHT OF LIGHT SOURCE EQUAL TO POLE HEIGHT PLUS BASE

N

40 0 20 40 80
1 inch = 40 ft.

Z17-0004/P17-0007/S17-0017/PD15-0001

OWNER:

EDH 52
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 383-2560

NO.	DESCRIPTION	BY	DATE APPROVED
△			
△			
△			
△			
△			

RSC ENGINEERING
2250 Douglas Blvd, Suite 150
Roseville, CA 95661
Ph: 916.782.2834 Fax: 916.788.1408

No. 9668 Exp. 9-19 — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

9/18/17

PROJECT NO:	104-003
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

PLANNED DEVELOPMENT APPLICATION FOR EDH 52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

SHEET TITLE
PHOTOMETRIC SITE PLAN SOUTH

SHEET NO.
PH1
1 OF 2

DATE: SEPTEMBER 18, 2017

Calculation Summary					
Label	CalcType	Max	Min	Max/Min	Avg
CalcPts	Illuminance	6.4	0.5	12.80	2.15

Luminaire Schedule						
Symbol	Label	Arrangement	LLF	Lum. Watts	Qty	Description
	B	SINGLE	1.000	16.52	30	Lithonia - DLCFM 15 WH
	S3SL3	SINGLE	0.850	157	11	McGraw Edison - GLEON-AE-03-LED-E1-SL3
	S3SL4	SINGLE	0.850	157	32	McGraw Edison - GLEON-AE-03-LED-E1-SL4
	S3SL4H	SINGLE	0.850	157	4	McGraw Edison - GLEON-AE-03-LED-E1-SL4-HSS
	S4SL4	SINGLE	0.850	213	4	McGraw Edison - GLEON-AE-04-LED-E1-SL4
	S4SL4H	SINGLE	0.850	213	3	McGraw Edison - GLEON-AE-04-LED-E1-SL4-HSS
	D45WQ	BACK-BACK	0.920	213	24	McGraw Edison - GLEON-AE-04-LED-E1-SWQ



1 PH2 NORTH PHOTOMETRIC PLAN
SCALE: 40' x 1' - 0"



2 PH2 NORTH-EAST PHOTOMETRIC PLAN
SCALE: 40' x 1' - 0"

Z17-0004/P17-0007/S17-0017/PD15-0001

OWNER:
EDH 52
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

REV NO	DESCRIPTION	DES BY	DATE
			CITY APPROVED

RSC ENGINEERING
2250 Douglas Blvd, Suite 150
Roseville, CA 95661
Ph: 916.788.2884 Fax: 916.788.4408

PROJECT NO:	104-003
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

PLANNED DEVELOPMENT APPLICATION FOR EDH 52

HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95751
EL DORADO COUNTY

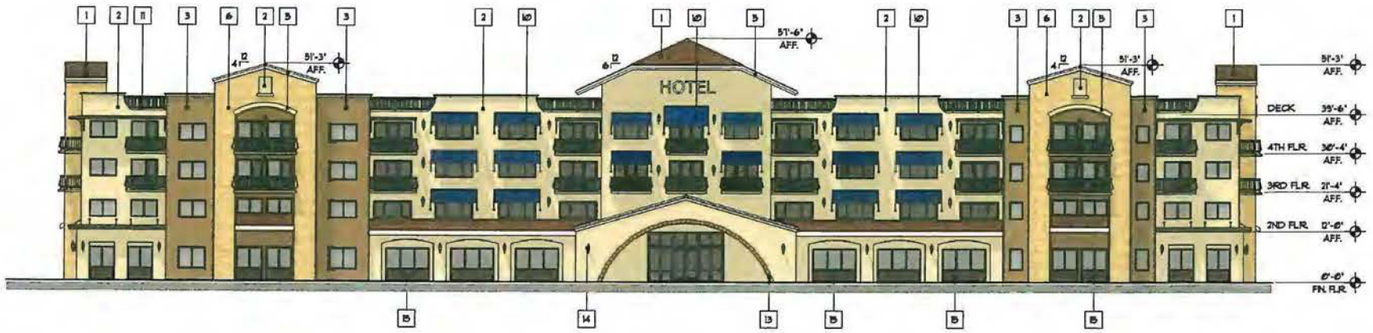
SHEET TITLE
PHOTOMETRIC SITE PLAN NORTH

SHEET NO.
PH2
2 OF 2

DATE: SEPTEMBER 18, 2017

STAFFORD
KING
WIESE
ARCHITECTS

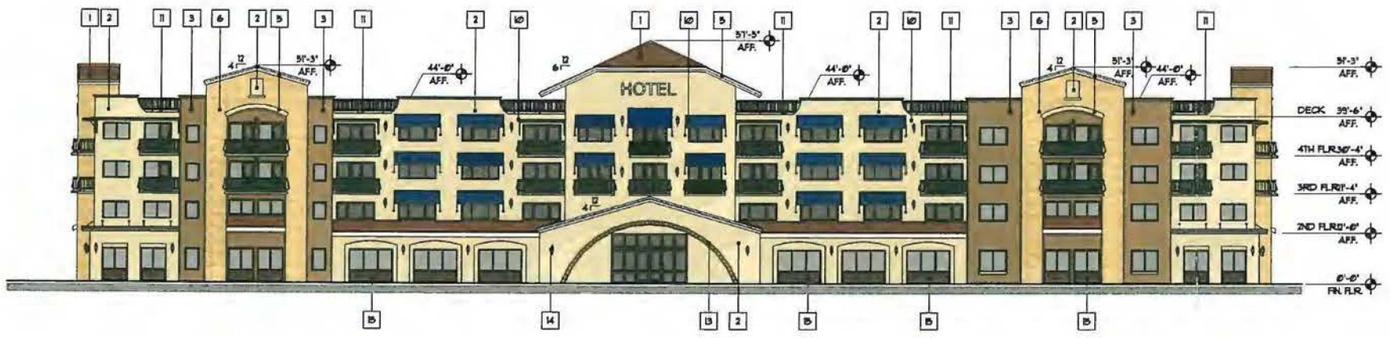
622 20TH STREET
SACRAMENTO, CALIFORNIA 95811
916.930.5900
www.skwarchitects.com



FRONT ELEVATION (EAST)



RIGHT ELEVATION (NORTH)



REAR ELEVATION (WEST)



LEFT ELEVATION (SOUTH)

MATERIAL AND COLOR SCHEDULE

	MATERIAL	MANUFACTURER	COLOR/STYLE
1	ROOF TILE	EAGLE ROOFING	STANDARD SELECT-3723 ADOBE BLEND OR DESIGNER SELECT- 8HC 8111 FUESTA DEL SOL BLEND
2	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6143 ALMOND LATTE
3	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6144 GRAHAM CRACKER
4	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6368 WALRUS
5	PAINT-CORNICE/FASCIA TRIMS	DUNN EDWARDS PAINTS	DE6211 LIGHT BEIGE
6	STONE VENEER	CREATIVE MINES	COYOTE CRAFT FARMHOUSE LEDGE
7	STONE VENEER	CREATIVE MINES	BISON CRAFT FOOTHILL RUBBLE
8	METAL CANOPY	PRE-FABRICATED	PAINT TO MATCH DARK BRONZE
9	FABRIC AWNING	SUNBRELLA	BURGUNDY PLUS 8431-0000
10	FABRIC AWNING	SUNBRELLA	MEDITERRANEAN BLUE TWEED 6053-0000
11	WROUGHT IRON RAILING & ORNAMENTS	PRE-FABRICATED	PRE-FINISHED FLAT BLACK
12	WOOD STAIN AT HEADERS	PPG-FLOOD STAIN	713 OXFORD BROWN (SEMI-OPAQUE ON PRESSURE TREATED WOOD
13	DECORATIVE TILES	TBD	MEDITERRANEAN INSPIRED PAINTED TILES
14	ARCHITECTURAL LIGHTING	FEMCO LIGHTING (SOLID STATE LIGHTING)	CARLSBAD RADIANT-WALL MOUNT SMALL SIZE-(DARK BRONZE)
15	STOREFRONT	TBD	DARK BRONZE ANODIZED

Z17-0004/P17-0007/S17-0017/PD15-0001

CLIENT AND PROJECT

EDH 52
7700 College Town Drive, Suite 101
Sacramento, CA 95826
(P) 916.383.2500

EDH 52

Highway 50 & Silva Valley Parkway
El Dorado Hills, CA 95751
El Dorado County

SCALE 1/16" = 1'-0"

8' 0' 16' 32' 48'

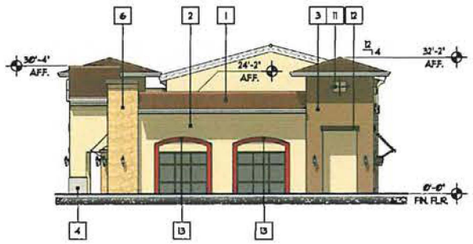
SHEET TITLE

BUILDING ELEVATION
HOTEL

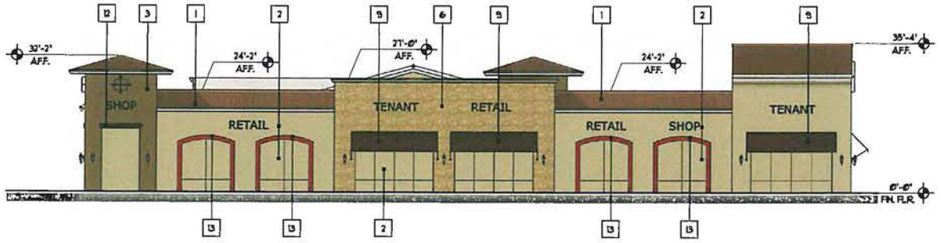
PROJECT NO.	SHEET NO.
04999.00	A1
DRAWN BY: RC	CHECKED BY: MM
ISSUE DATE: SEPTEMBER 12, 2017	



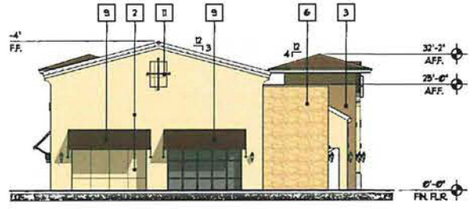
FRONT ELEVATION (EAST)



RIGHT ELEVATION (NORTH)



REAR ELEVATION (WEST)



LEFT ELEVATION (SOUTH)

MATERIAL AND COLOR SCHEDULE

	MATERIAL	MANUFACTURER	COLOR/STYLE
1	ROOF TILE	EAGLE ROOFING	STANDARD SELECT-3723 ADOBE BLEND OR DESIGNER SELECT- 8HC 811 FIESTA DEL SOL BLEND
2	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6143 ALMOND LATTE
3	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6144 GRAHAM CRACKER
4	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6368 WALRUS
5	PAINT-CORNICE/FASCIA TRIMS	DUNN EDWARDS PAINTS	DE6211 LIGHT BEIGE
6	STONE VENEER	CREATIVE MINES	COYOTE CRAFT FARMHOUSE LEDGE
7	STONE VENEER	CREATIVE MINES	BISON CRAFT FOOTHILL RUBBLE
8	METAL CANOPY	PRE-FABRICATED	PAINT TO MATCH DARK BRONZE

	MATERIAL	MANUFACTURER	COLOR/STYLE
9	FABRIC AWNING	SUNBRELLA	BURGUNDY PLUS 8431-0000
10	FABRIC AWNING	SUNBRELLA	MEDITERRANEAN BLUE TWEED 6053-0000
11	WROUGHT IRON RAILING & ORNAMENTS	PRE-FABRICATED	PRE-FINISHED FLAT BLACK
12	WOOD STAIN AT HEADERS	PPG-FLOOD STAIN	TB OXFORD BROWN (SEMI-OPAQUE ON PRESSURE TREATED WOOD
13	DECORATIVE TILES	TBD	MEDITERRANEAN INSPIRED PAINTED TILES
14	ARCHITECTURAL LIGHTING	PEMCO LIGHTING (SOLID STATE LIGHTING)	CARLSBAD RADIANT-WALL MOUNT SMALL SIZE-(DARK BRONZE)
15	STOREFRONT	TBD	DARK BRONZE ANODIZED

Z17-0004/P17-0007/S17-0017/PD15-0001

STAFFORD KING WIESE ARCHITECTS

622 20TH STREET
SACRAMENTO, CALIFORNIA 95811
916.930.5900
www.skwarchitects.com

CLIENT AND PROJECT

EDH 52
7700 College Town Drive, Suite 101
Sacramento, CA 95826
(P) 916.383.2500

EDH 52

Highway 50 & Silva Valley Parkway
El Dorado Hills, CA 95751
El Dorado County

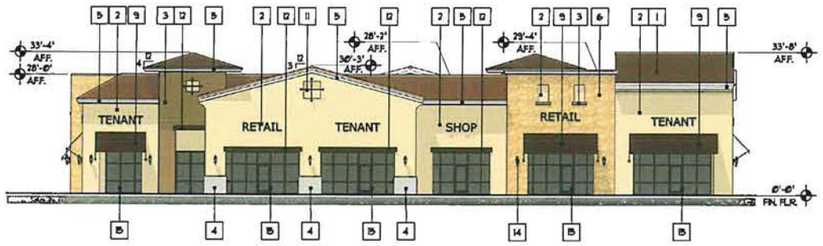
SCALE 1/16" = 1'-0"

8'
0' 16' 32' 48'

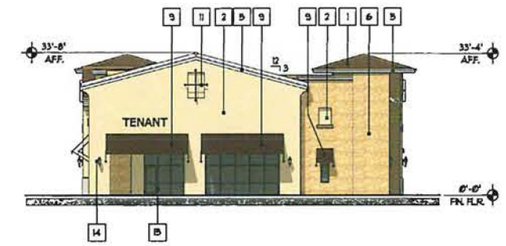
SHEET TITLE

BUILDING ELEVATION
RETAIL S-1

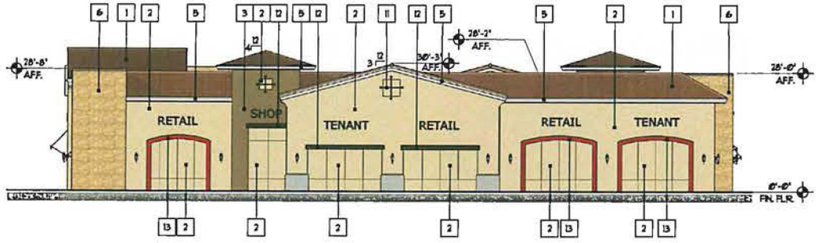
PROJECT NO. 04999.00	SHEET NO A2
DRAWN BY RC	CHECKED BY MM
ISSUE DATE SEPTEMBER 12, 2017	



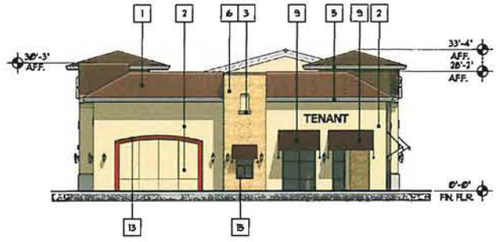
FRONT ELEVATION (NORTH)



RIGHT ELEVATION (WEST)



REAR ELEVATION (SOUTH)



LEFT ELEVATION (EAST)

MATERIAL AND COLOR SCHEDULE

	MATERIAL	MANUFACTURER	COLOR/STYLE
1	ROOF TILE	EAGLE ROOFING	STANDARD SELECT-3723 ADOBE BLEND OR DESIGNER SELECT- SHC 8111 PUEBTA DEL SOL BLEND
2	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6143 ALMOND LATTE
3	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6144 GRAHAM CRACKER
4	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6368 WALRUS
5	PAINT-CORNICE/FASCIA TRIMS	DUNN EDWARDS PAINTS	DE6211 LIGHT BEIGE
6	STONE VENEER	CREATIVE MINES	COYOTE CRAFT FARMHOUSE LEDGE
7	STONE VENEER	CREATIVE MINES	BISON CRAFT FOOTHILL RUBBLE
8	METAL CANOPY	PRE-FABRICATED	PAINT TO MATCH DARK BRONZE
9	FABRIC AWNING	SUNBRELLA	BURGUNDY PLUS 8431-0000
10	FABRIC AWNING	SUNBRELLA	MEDITERRANEAN BLUE TWEED 6053-0000
11	WROUGHT IRON RAILING & ORNAMENTS	PRE-FABRICATED	PRE-FINISHED FLAT BLACK
12	WOOD STAIN AT HEADERS	PPG-FLOOD STAIN	713 OXFORD BROWN (SEMI-OPAQUE ON PRESSURE TREATED WOOD
13	DECORATIVE TILES	TBD	MEDITERRANEAN INSPIRED PAINTED TILES
14	ARCHITECTURAL LIGHTING	PEMCO LIGHTING (SOLID STATE LIGHTING)	CARLSBAD RADIANT-WALL MOUNT SMALL SIZE-(DARK BRONZE)
15	STOREFRONT	TBD	DARK BRONZE ANODIZED

Z17-0004/P17-0007/S17-0017/PD15-0001

STAFFORD KING WIESE ARCHITECTS

622 20TH STREET
SACRAMENTO, CALIFORNIA 95811
916.930.5900
www.skwarchitects.com

CLIENT AND PROJECT

EDH 52
7700 College Town Drive, Suite 101
Sacramento, CA 95826
(P) 916.383.2500

EDH 52

Highway 50 & Silva Valley Parkway
El Dorado Hills, CA 95751
El Dorado County

SCALE 1/16" = 1'-0"

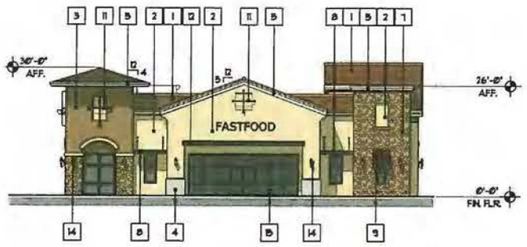
8' 0' 16' 32' 48'

SHEET TITLE

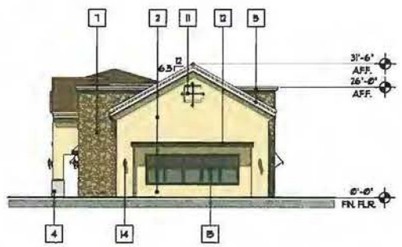
BUILDING ELEVATION
RETAIL S-2

PROJECT NO. 04999.00	SHEET NO. A3
DRAWN BY RC	CHECKED BY MM
ISSUE DATE SEPTEMBER 12, 2017	

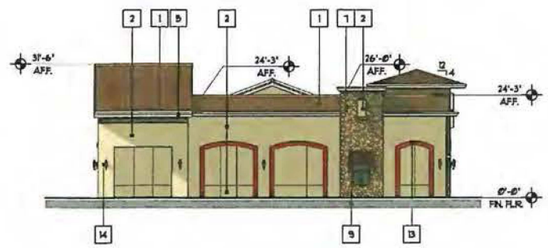
RESTAURANT / FASTFOOD PAD



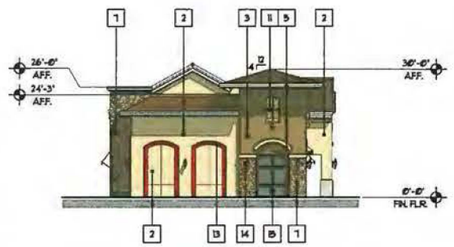
FRONT ELEVATION (TYPICAL)



RIGHT ELEVATION (TYPICAL)

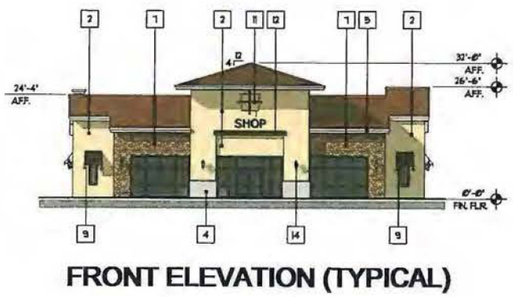


REAR ELEVATION (TYPICAL)



LEFT ELEVATION (TYPICAL)

FUEL STATION / CONVENIENCE STORE



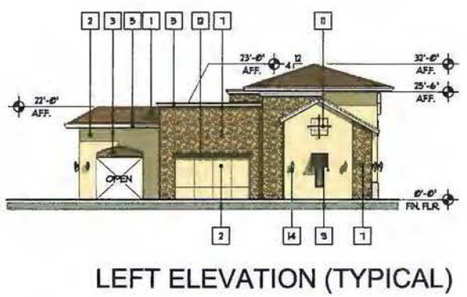
FRONT ELEVATION (TYPICAL)



RIGHT ELEVATION (TYPICAL)

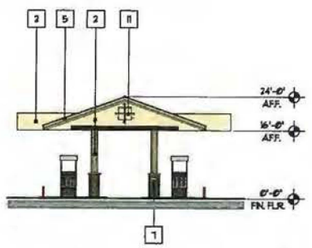


REAR ELEVATION (TYPICAL)

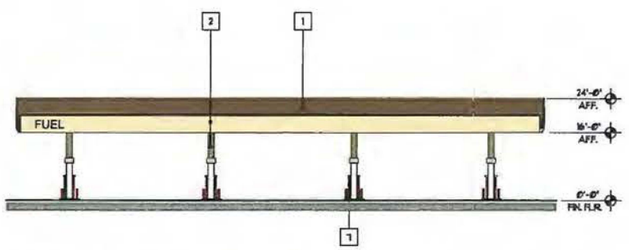


LEFT ELEVATION (TYPICAL)

GAS PUMP CANOPY



FRONT/REAR ELEVATION



SIDE ELEVATION (TYPICAL)

MATERIAL AND COLOR SCHEDULE

	MATERIAL	MANUFACTURER	COLOR/STYLE
1	ROOF TILE	EAGLE ROOFING	STANDARD SELECT-3723 ADOBE BLEND OR DESIGNER SELECT- 8HC 811 FUESTA DEL SOL BLEND
2	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6143 ALMOND LATTE
3	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6144 GRAHAM CRACKER
4	PAINT-CEMENT PLASTER	DUNN EDWARDS PAINTS	DE6368 WALRUS
5	PAINT-CORNICE/FASCIA TRIMS	DUNN EDWARDS PAINTS	DE6211 LIGHT BEIGE
6	STONE VENEER	CREATIVE MINES	COYOTE CRAFT FARMHOUSE LEDGE
7	STONE VENEER	CREATIVE MINES	BISON CRAFT FOOTHILL RUBBLE
8	METAL CANOPY	PRE-FABRICATED	PAINT TO MATCH DARK BRONZE
9	FABRIC AWNING	SUNBRELLA	BURGUNDY PLUS 8431-0000
10	FABRIC AWNING	SUNBRELLA	MEDITERRANEAN BLUE TWEED 6053-0000
11	WROUGHT IRON RAILING & ORNAMENTS	PRE-FABRICATED	PRE-FINISHED FLAT BLACK
12	WOOD STAIN AT HEADERS	PPG-FLOOD STAIN	713 OXFORD BROWN (SEMI-OPAQUE ON PRESSURE TREATED WOOD
13	DECORATIVE TILES	TBD	MEDITERRANEAN INSPIRED PAINTED TILES
14	ARCHITECTURAL LIGHTING	PEMCO LIGHTING (SOLID STATE LIGHTING)	CARLSBAD RADIANT-WALL MOUNT SMALL SIZE-(DARK BRONZE)
15	STOREFRONT	TBD	DARK BRONZE ANODIZED

Z17-0004/P17-0007/S17-0017/PD15-0001

STAFFORD KING WIESE ARCHITECTS

622 20TH STREET
SACRAMENTO, CALIFORNIA 95811
916.930.5900
www.skwarchitects.com

CLIENT AND PROJECT

EDH 52
7700 College Town Drive, Suite 101
Sacramento, CA 95826
(P) 916.383.2500

EDH 52

Highway 50 & Silva Valley Parkway
El Dorado Hills, CA 95751
El Dorado County

SCALE 1/16" = 1'-0"

8' 0' 16' 32' 48'

SHEET TITLE

BUILDING ELEVATION

FASTFOOD, C-STORE, GAS
TYPICAL ELEVATIONS

PROJECT NO.	SHEET NO.
04999.00	A4
DRAWN BY: RC	CHECKED BY: MM
ISSUE DATE: SEPTEMBER 12, 2017	

32-43

RECORD OF SURVEY

A PORTION OF THE SW 1/4 SECTION 1, T. 9 N., R. 8 E., M.D.M.
County of El Dorado, State of California
APRIL, 2010 PAGE 1 OF 1 SCALE: 1"=200'

cta Engineering & Surveying
Civil Engineering • Land Surveying • Land Planning
3233 Monier Circle, Rancho Cordova, CA 95742

BASIS OF BEARINGS

THE BASIS OF BEARING FOR THIS SURVEY IS IDENTICAL TO THAT CERTAIN RECORD OF SURVEY FILED IN THE OFFICE OF THE COUNTY RECORDER OF EL DORADO COUNTY IN BOOK 16 OF SURVEYS, PAGE 147, WHICH IS THE CALIFORNIA COORDINATE SYSTEM, ZONE II. ALL DISTANCES ARE GROUND DISTANCES. MULTIPLY DISTANCE SHOWN BY 0.99991 TO OBTAIN GRID DISTANCE.

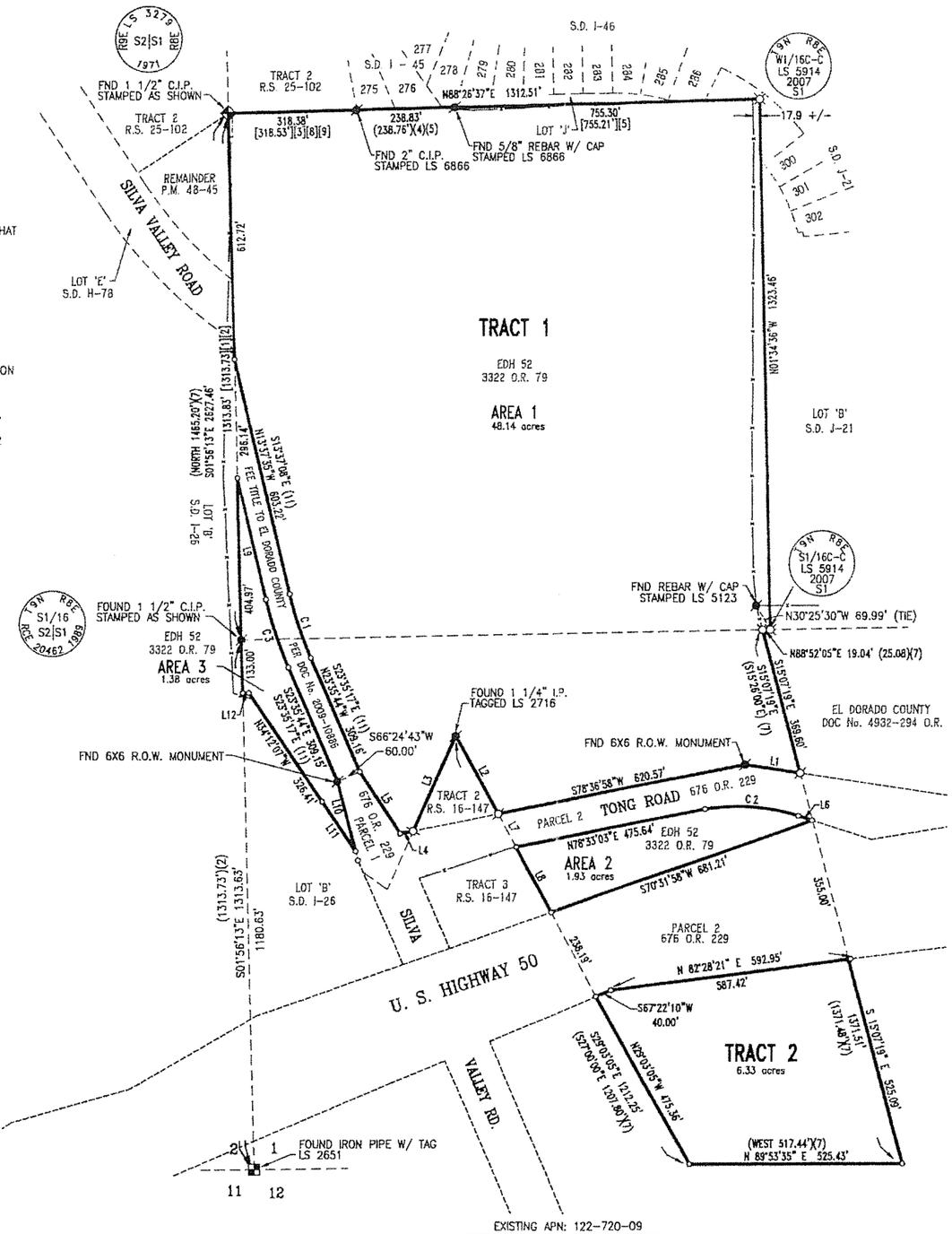
NOTE

1) THE PURPOSE OF THIS SURVEY IS TO COMPLY WITH SECTION 8762(B)(4) OF THE PROFESSIONAL LAND SURVEYORS ACT.

2) TRACT 1 INCLUDES THE LANDS DESCRIBED IN BOOK 3322, PAGE 79, EXCEPTING THOSE PORTIONS GRANTED TO THE COUNTY OF EL DORADO IN DOC. NO. 2009-10886. TRACT 2 REFLECTS THE BALANCE OF ASSESSOR'S PARCEL NO. 122-720-09. IT IS NOT THE INTENT OF THIS SURVEY TO REFLECT LINES OF ACTUAL OWNERSHIP.

REFERENCES

1) RS 16-147
2) SD H-78
3) SD I-19
4) SD I-45
5) SD I-46
6) SD J-21
7) OR 3322-79
8) PM 47-18
9) RS 25-102
10) PM 48-45
11) DOC No. 2009-10886



LINE DATA TABLE				
LINE	BEARING	DISTANCE	RECORD DATA	
L1	S81°22'06"E	138.58'		
L2	N29°03'05"W	221.04'	N29°15'23"W[1]	220.67'[1]
L3	S23°18'42"W	256.17'	S16°00'00"W[7]	255.66'[1]
L4	N78°36'58"E	32.50'		
L5	S33°03'01"E	182.48'		
L6	N72°08'58"W	36.48'		
L7	N29°03'05"W	93.86'		
L8	N29°03'05"W	183.80'	S29°15'23"W[1]	183.69'[1]
L9	N13°37'35"W	313.22'	S13°37'08"E[1]	
L10	N15°03'26"W	178.51'		
L11	S34°24'52"E	148.30'		
L12	N89°03'27"E	15.56'	WEST[7]	52.80'[7]

CURVE DATA TABLE					
CURVE	RADIUS	DELTA	CH. BEARING	CH.DISTANCE	RECORD DATA
C1	970.00'	09°58'08"	S18°36'40"E	168.56'	S18°36'13"E [11]
C2	500.00'	26°44'25"	N85°48'45"W	231.24'	
C3	1030.00'	09°58'08"	S18°36'40"E	178.98'	S18°36'13"E [11]

LEGEND

- DIMENSION POINT
- FOUND MONUMENT AS NOTED
- SET 5/8" REBAR WITH ALUMINUM CAP
- SET 1-1/2" C.I.P. STAMPED LS 5914 AS NOTED
- SECTION CORNER, FOUND AS NOTED
- QUARTER SECTION CORNER, FOUND/SET AS NOTED
- EXISTING FENCE

SURVEYOR'S STATEMENT

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE PROFESSIONAL LAND SURVEYOR'S ACT AT THE REQUEST OF EDH 52 IN JUNE, 2007

04-01-2010

KEVIN A. HEENEY, L.S. 5914

LICENSED LAND SURVEYOR KEVIN A. HEENEY NO. 5914 Exp. 12-31-2010 STATE OF CALIFORNIA

COUNTY SURVEYOR'S STATEMENT

THIS MAP HAS BEEN EXAMINED IN ACCORDANCE WITH SECTION 8766 OF THE PROFESSIONAL LAND SURVEYOR'S ACT THIS 2ND DAY OF APRIL, 2010.

DANIEL S. RUSSELL

DANIEL S. RUSSELL, L.S. 5017
COUNTY SURVEYOR
COUNTY OF EL DORADO, CALIFORNIA

BY: _____
RICHARD L. BRINER, L.S. 5084
DEPUTY SURVEYOR
COUNTY OF EL DORADO, CALIFORNIA

LICENSED LAND SURVEYOR RICHARD L. BRINER No. 5084 Exp. 6-30-11 STATE OF CALIFORNIA

RECORDER'S STATEMENT

FILED THIS 6 DAY OF April, 2010 AT 11:36:36
IN BOOK 32 OF RECORD OF SURVEYS AT PAGE 43, AT THE REQUEST OF CTA ENGINEERING AND SURVEYING.

DOC. No. 2010-14985

William E. Schultz
WILLIAM E. SCHULTZ
COUNTY RECORDER, CLERK
COUNTY OF EL DORADO, CALIFORNIA

BY: _____ DEPUTY

32-43

Z17-0004/P17-0007/S17-0017/PD15-0001

32-43

M:\03-023-002\EDH 52_RDS.dwg, RDS, 3/31/2010 11:55:41 AM, kheeney

POR. SEC. 1, T.9N., R.8E., M.D.M.

122:72

N

1 " = 400 '

Bk 121 Pg 14

Pg 04

Pg 08

Pg 09

Pg 10

Pg 58

Pg 16

Pg 14

Pg 03

Pg 01

Pg 13

Pg 59

SILVA VALLEY PKY

DYMAXIC

VILLAGE GREEN DR

BEEKSTER WAY

BEVINGER DR

RUSSI RANCH DR

CNTR. SEC. 1

MERIDIAN DR

PONTA DELGADO CT

1312.52'

612.72'

RS 32/43/2 & POR 1

15

48.29 A (TOTAL)

1323.00'

603.22'

CLARKSVILLE CRSG

537.99'

8 NA

15 1.257 A

309.16'

326.41'

1.38 A

192.46'

266.17'

2

215.96'

620.57'

138.58'

369.60'

EXIT 31

4 5.12 A

593.43'

14

TONG RD

393.00'

10

320.0'

RS 33/150/2

6 2.31 A

RS 33/150/1

13 3.86 A

7

27.01 A

N 09°45'04" E

182.68'

12 NA

424.08'

RS 32/88

711.76'

378.83'

N 01°06'12" W

777.88'

OLD BASS LAKE RD

Bk 119 Pg 04

*PARCEL NOTES

2 - RS 16/147/2, 0.52 A

10 - PRS 33/150, 0.028 A, NA

12 - PRS 18/97/1, 0.756 A, NA

Bk 121 Pg 15

Bk 121 Pg 12

Bk 121 Pg 16

Bk 121 Pg 28

RS 16/147/3

NA 3 1.11 A

169.03'

268.56'

475.64'

POR RS 32/43/1

14

681.21'

SILVA VALLEY PKY

587.42'

RS 32/43/2

15 6.330 A

475.96'

525.09'

525.43'

EXIT 31

CLARKSVILLE CROSSING

ROCK RD

WHITE

OLD WHITE ROCK RD

US HWY 50

JOERGER CUTOFF RD

Bk 118 Pg 12

Bk 118 Pg 17

OLD WHITE ROCK RD

N. 1/4 COR. SEC. 12

1

2

11

12

THIS MAP IS NOT A SURVEY, it is prepared by the El Dorado Co. Assessor's office for assessment purposes only. Area calculations and characteristics are not guaranteed. Users should verify items such as dimensions and acreage.

Acreages Are Estimates

Adjacent Map Pages Shown in Grey Text
Assessor's Parcel Numbers Shown in Circles

Rev. JUL 28, 2016

Z17-0004/P17-0007/S17-0017/PD15-0001

Assessor's Map Bk. 122 - Pg. 72
County of El Dorado, CA

COMMUNITY DEVELOPMENT SERVICES
PLANNING AND BUILDING DEPARTMENT

http://www.edcgov.us/DevServices/

PLACERVILLE OFFICE:
2850 Fairlane Court, Placerville, CA 95667
BUILDING
(530) 621-5315 / (530) 622-1708 Fax
bldgdept@edcgov.us
PLANNING
(530) 621-5355 / (530) 642-0508 Fax
planning@edcgov.us

LAKE TAHOE OFFICE:
924 B Emerald Bay Rd
South Lake Tahoe, CA 96150
(530) 573-3330
(530) 542-9082 Fax

July 9, 2018

RSC Engineering, Inc
2250 Douglas Blvd., Suite 150
Roseville, CA 95661

Re: Zoning Administrator Approval of P17-0004/EDH 52

Dear Sir or Madam:

On June 20, 2018, the Zoning Administrator considered your project at a publicly noticed hearing and the 10-day appeal period has since ended. The project was approved with the attached Findings and Conditions of Approval. This document is also available on-line at https://edcgov.trakit.net/eTRAKiT/Search/project.aspx.

If you have Conditions of Approval from other departments, please contact your representative in that department to determine the next step in the process.

If you have any questions, please contact Mel Pabalinas in Planning Services at (530) 621-5363.

Sincerely,

Serena Carter

Serena Carter
Planning and Building Department

Enclosures: Final Findings/Conditions of Approval

cc: EDH 52 GP

COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT SERVICES
Planning and Building Department (Planning)
2850 Fairlane Court, Building C
Placerville, CA 95667

U.S. POSTAGE PITNEY BOWES
ZIP 95667 $ 000.47⁰
02 4W
0000341755 MAY 21 2018

2018 JUN -8 AM 10:59
RECEIVED
PLANNING DEPARTMENT

24 6-20-18
P17-04 EDH52

9029015
BURLESON SUZANNE M
4260 FRENCH CREEK RD
SHINGLE SPRINGS , CA 95682

NIXIE 957 FE 1 0006/05/18
RETURN TO SENDER
NOT DELIVERABLE AS ADDRESSED
UNABLE TO FORWARD
BC: 95667410050 *0641-03454-21-42

COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT SERVICES
Planning and Building Department (Planning)
2850 Fairlane Court, Building C
Placerville, CA 95667

U.S. POSTAGE PITNEY BOWES
ZIP 956 $ 000.47⁰
02 4W
0000341755 MAY 21 2018

2018 JUN -5 AM 10:57
RECEIVED
PLANNING DEPARTMENT

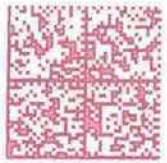
24 6-20-18
P17-04

9033001
COPLEY KATHLEEN M
4670 FRENCH CREEK RD
SHINGLE SPRINGS , CA 95682

NIXIE 957 FE 1 0006/01/18
RETURN TO SENDER
NOT DELIVERABLE AS ADDRESSED
UNABLE TO FORWARD
BC: 95667410050 *0641-03450-21-42

COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT SERVICES
Planning and Building Department (Planning)
2850 Fairlane Court, Building C
Placerville, CA 95667

P17-04
24 6-20-18



U.S. POSTAGE PITNEY BOWES
ZIP 95667 $ 000.47⁰
02 4W
0000341 MAY 21 2018

RECEIVED
2018 MAY 30 AM 10:49
PLANNING DEPARTMENT

9107009
FRENCHTOWN CEMETERY
SHINGLE SPRINGS , CA 95682

NIXIE 957 DE 1 0005/25/18
RETURN TO SENDER
INSUFFICIENT ADDRESS
UNABLE TO FORWARD
IA BC: 95667410050 *0641-03428-21-42

COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT SERVICES
Planning and Building Department (Planning)
2850 Fairlane Court, Building C
Placerville, CA 95667

P17-04
24 6-20-18



U.S. POSTAGE PITNEY BOWES
ZIP 95667 $ 000.47⁰
02 4W
0000341 MAY 21 2018

RECEIVED
2018 MAY 30 AM 10:49
PLANNING DEPARTMENT

9030006
KATZ ELLEN V
4575 HILLWOOD DR
SHINGLE SPRINGS , CA 95682

NIXIE 957 DE 1 0005/25/18
RETURN TO SENDER
NO SUCH NUMBER
UNABLE TO FORWARD
NSN BC: 95667410050 *0641-03414-21-42

COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT SERVICES
Planning and Building Department (Planning)
2850 Fairlane Court, Building C
Placerville, CA 95667

ZA 6-20-18
P17-04

U.S. POSTAGE PITNEY BOWES
ZIP 95667 $ 000.47⁰
02 4W
0000341755 MAY 23 2018

12209001
DELLEPERE GARY TR
250 BICENTENNIAL WAY APT 722
SANTA ROSA , CA 95403

RECEIVED
PLANNING DEPARTMENT
2018 MAY 30 AM 10:49

957 NFE 1 51 05/23/18
FORWARD TIME EXP RTN TO SE
DELLEPERE GARY
4775 VILLAGE GREEN DR
EL DORADO HLS CA 95762-7675

RETURN TO SENDER

UR1: 932609690001523 9540987421 007
95667>4100

PROJECT CHECKLIST

P 17-0004
Project Number(s)

EDH 52 TENTATIVE PARCEL MAP
Applicant/Agent/Engineer: RSC Engineering, Inc.
Owner: EDH 52
Project Name

Assigned Planner: Mel Pabalinas **Assignment Date:** 9-25-2017

Type of Review: ☐ Staff Level ☑ ZA ☐ PC ☐ BOS

☑ **LMIS J08 information added**

LEGISTAR ITEM #_____ (If previously heard by PC or BOS; Including all project-related items.)

PUBLIC HEARING NOTIFICATION REQUIREMENTS:
☑ **500 feet** ☐ **1,000 feet** ☐ **½ mile** ☐ **1 mile** ☐ **Physical Sign Posting**
TYPE OF PROJECT: ☐ **Flat Fee** ☑ **Time & Materials**

EARLY CONSULTATION AND TAC

Design Committee Review Needed? ☐ No ☐ Yes *(Identify one)*
☐ *Cameron Park DRC*
☐ *Diamond Springs-El Dorado CAC*
☐ *Pollock Pines DRC*

☐ **EPR (Early Project Review)**
☐ **Agency Distribution List**
☐ **Project Description**
☒ **AB52 Consultation** 10-2-2017/dre
☐ **Public Outreach**

Distribution Period: ☐ 15 Days ☐ 30 Days Ends: _____

TAC Meeting Required? ☐ No ☐ Yes Time Needed: _____

NEGATIVE DECLARATION

State Clearinghouse? ☐ No ☐ Yes *(Include NOC Form; Notify Admin)*

LAFCO Annexation Required? ☐ No ☐ Yes *(Circulate to LAFCO)*

☐ **Staff Report**
☐ **Exhibits** (Labeled)
☐ **Negative Declaration Form and Initial Study** (Signed by Planner and Principal Planner)
☐ **Legal Ad Information** (Staff Level Only)

APPROVALS: _____ _____
Principal Planner **(Date)** **Director** **(Date)**

Comments:

CATEGORICALLY EXEMPT

☐ **Staff Report**
☐ **Exhibits** (Labeled)
☐ **Legal Ad Information** (Staff Level Only)

APPROVALS: _____ 5/14/18 _____ 5-14-18
Principal Planner **(Date)** **Director** **(Date)**

Comments:

EL DORADO COUNTY PLANNING AND BUILDING DEPARTMENT
ZONING ADMINISTRATOR
STAFF REPORT

Agenda of:	June 20, 2018
Item:	4.c.
Staff:	Mel Pabalinas

TENTATIVE PARCEL MAP

FILE NO.: P17-0004/EDH 52

APPLICANT: RSC Engineering

OWNER: EDH 52 G.P.

REQUEST: Tentative Parcel Map subdividing 41.87-acre property into four commercial parcels ranging in size from 7.69 acres to 17.11 acres for phasing and financing purposes only.

LOCATION: Northeast area of U.S. Highway 50 and Silva Valley Parkway, in El Dorado Hills (Exhibit A); Supervisorial District 1.

APN: 122-720-15 (Exhibit B)

ACREAGE: 41.87 acres

GENERAL PLAN: Commercial (C) (Exhibit C)

ZONING: Commercial, Regional-Planned Development (CR-PD) (Exhibit D)

ENVIRONMENTAL DOCUMENT: Categorical Exemption under California Environmental Quality Act (CEQA) Section 15315 (Minor Land Division)

RECOMMENDATION: Staff recommends the Zoning Administrator take the following actions:

1. Deem Tentative Parcel Map P17-0004 to be Categorically Exempt from CEQA based on Section 15315 (Minor Land Division); and

2. Approve Tentative Parcel Map P17-0004 based on the Findings and subject to the Conditions of Approval as presented.

BACKGROUND

The subject 42-acre property is part of a larger 58-acre parcel that was subject of an acquisition and subsequent construction of the Silva Valley Parkway Interchange project. Following an extended right-of-way negotiation and settlement for portions of the original parcel north of US Highway 50 and a separate condemnation of the portion south of U.S. Highway 50, construction of the interchange project began in 2012, subsequently opening for operation in June 2016.

ANALYSIS

Setting: The vacant property contains moderate topography, sparse tree vegetation, and limited wetland areas. Silva Valley Parkway traverses property diagonally from the southeast to the northwest, while U.S. Highway 50 borders the property along the southern perimeter. Exhibit E depicts the existing uses surrounding the property.

Project Description: This large lot tentative parcel map would divide the property creating a total of four commercial parcels for phasing and financing purposes only. The resulting parcel sizes, which exceed the minimum lot area of 100,000 square feet required by the CR zoning consists of the following: Parcel 1: 17.11 acres, Parcel 2: 8.00 acres, Parcel 3: 9.07, and Parcel 4: 7.69 acres (Exhibit F). Parcels 2 through 4 are located north of the road, while Parcel 1 is located on the south side. No development is proposed with this tentative parcel map application and no development will be allowed until a Development Plan is approved by the Planning Commission. A separate commercial development application is currently in process and is filed under applications Planned Development Permit PD15-0001, Tentative Parcel Map P17-0007, Conditional Use Permit S17-0017, and Rezone Z17-0004.

Consistency: As discussed in further detail in the Findings section below, the proposed tentative parcel map is consistent with the applicable standards General Plan, Zoning Ordinance, and Subdivision Ordinance.

Environmental Review: The tentative parcel map qualifies for a Categorical Exemption status under Section 15315 (Minor Land Division) as the division would result in four commercial parcels consistent with the Commercial General Plan and Commercial Regional zoning. The tentative parcel map application does not include any variances, modifications, or exceptions. The subject property contains an average slope gradient below 20 percent and site access and public services would be available for future development. The property has not been involved in a division of a larger parcel within the past two years. No further environmental analysis is necessary.

In accordance with CEQA, a Notice of Exemption (NOE) is required to be filed, subject to a $50.00 filing fee submitted to Planning Department.

Conditions of Approval: Project conditions of approval are recommended based on the review of the agencies and department. Future access onto Silva Valley Road has been addressed through conditions recommended by the El Dorado County Transportation Department. The conditions involve development restrictions to be included as notes on the Tentative Parcel Map that ensure future access will meet County standards.

SUPPORT INFORMATION

Attachments to Staff Report:

Findings
Conditions of Approval

Exhibit A.....Location Map
Exhibit B.....Assessor's Parcel Map
Exhibit C.....General Plan Land Use Map
Exhibit D.....Zoning Map
Exhibit E.....Aerial Map
Exhibit F.....Proposed EDH 52Tentative Parcel Map

FINDINGS

Tentative Parcel Map Time P17-0004/EDH 52
Zoning Administrator/June 20, 2018

1.0 CEQA FINDINGS

1.1 The EDH 52 Tentative Parcel Map qualifies for a Categorical Exemption status under Section 15315 (Minor Land Division) as the division would result in four commercial parcels consistent with the underlying General Plan and zoning. No variances, modifications, or exceptions have been requested. The average slope gradient of the property is below 20% and site access and services would be available if the property is developed. The property has not been involved in a division of a larger parcel within the past two years. No further environmental analysis is necessary.

1.2 The documents and other materials which constitute the record of proceedings upon which this decision is based are in the custody of the Community Development Services-Planning and Building Department-Planning Services Division at 2850 Fairlane Court, Placerville, CA, 95667.

2.0 PARCEL MAP FINDINGS

2.1 **The proposed tentative map, including design and improvements, is consistent with the General Plan.**

The EDH 52 Tentative Parcel Map would result in the creation of four commercial parcels for financing and phasing purposes. The project is compatible with the land use designation.

2.2 **The proposed Parcel Map conforms to the applicable standards and requirements of the County zoning regulations and Minor Land Division Ordinance.**

The EDH 52 Tentative Parcel Map would result in the creation of four commercial parcels consistent with the Zoning Ordinance standards under Chapter 130.22 (Commercial Zones) for the underlying Commercial, Regional (CR) zone district.

2.3 **The site is physically suitable for the proposed type and density of development.**

The resultant commercial parcels are physically suitable for future commercial development. The sizes of the parcels exceed the minimum required lot size, which would enable future development design and improvement to be accommodated through application of Planned Development concepts. The parcels would have direct access along Silva Valley Parkway, a major arterial road in the El Dorado Hills area. The subject is property is surrounded by existing development, where necessary public utilities exists and can be accessed readily.

2.4 **The proposed subdivision is not likely to cause substantial environmental damage.**

The map is consistent with the General Plan and Zoning and no variances, modifications, or exceptions has been requested with this application. The vacant property has average slope gradient below 20%, would have direct access to public infrastructures necessary for subsequent development, and is surrounded by existing residential development and areas identified for future commercial and residential development, and. Though sensitive resources exist on the property, no physical change will occur as a result of this tentative parcel map. The property has not been involved in a division of a larger parcel within the past two years. Therefore, the project is exempt from CEQA pursuant to Section 15315 of the CEQA Guidelines.

CONDITIONS OF APPROVAL

Tentative Parcel Map Time P17-0004/EDH 52
Zoning Administrator/June 20, 2018

1. **Project Description**

This Tentative Parcel Map is based upon and limited to compliance with the project description, Conditions of Approval set forth below, and the hearing exhibits marked:

Exhibit F - EDH 52 Tentative Parcel Map, May 3, 2018

Tentative Parcel Map subdividing a 41.87-acre property into four commercial parcels ranging in size from 7.69 acres to 17.11 acres for phasing and financing purposes only.

The development, use, and maintenance of the property, the size, shape and the protection and preservation of resources shall conform to the project description above and the hearing exhibits and conditions of approval below. The property and any portions thereof shall be sold, leased or financed in compliance with this project description and the approved hearing exhibits and conditions of approval hereto. All plans must be submitted for review and approval and shall be implemented as approved by the County.

Any deviations from the project description, exhibits, or conditions must be reviewed and approved by the County for conformity with this approval. Deviations may require approved changes to the permit and/or further environmental review. Deviations without the above described approval would constitute a violation of permit approval.

Planning Department

2. **Permit Time Limits:** This Tentative Parcel Map shall expire 36 months from the date of approval unless a timely extension has been filed.

3. **Development Restrictions:** The applicant shall record the following note against the Parcel Map imposing development restrictions on the lots designated as Parcels 1 through 4:

"Parcels 1 through 4 are phasing lots only. No building permits shall be issued until future discretionary approvals, including but not limited to, a Planned Development (PD) Permit, have been approved by El Dorado County. Said restrictions shall be binding upon the heirs, assigns, and successors in interest of the grantors, and shall remain in effect until rescinded by El Dorado County. The purpose of the notice is to give constructive notice of the development limitation."

4. **Indemnity:** In the event of any legal action instituted by a third party challenging the validity of any provision of this approval, the developer and landowner agree to be responsible for the costs of defending such suit and shall hold County harmless from any legal fees or costs County may incur as a result of such action.

The developer and land owner shall defend, indemnify, and hold harmless El Dorado County and its agents, officers, and employees from any claim, action, or proceeding against El Dorado County or its agents, officers, or employees to attack, set aside, void, or annul an approval of El Dorado County concerning a Parcel Map.

The County shall notify the applicant of any claim, action, or proceeding, and the County shall cooperate fully in the defense.

Office of County Surveyor

5. All survey monuments shall be set prior to filing the Parcel Map.

6. Situs addressing for the project shall be coordinated the County Surveyors Office prior to filling the Final Map.

7. Prior to filing the Parcel Map, a letter will be required from all agencies that have placed conditions on the map. The letter will state that "all conditions placed on P17-0004 by (that agency) have been satisfied." The letter is to be sent to the County Surveyor and copied to the Consultant and the Applicant.

Transportation Department

8. Prior to filing of Parcel Map, the following note shall be added and verified:

   Parcels 1, 2 and 3 will each be allowed one (1) right-in, right-out only access point onto Silva Valley Parkway at locations determined by the Department of Transportation. Reciprocal access rights shall be provided mutually between Parcels 2, 3 and 4, with an easement shown on the final map from lot 3, through lot 2 to lot 4.

   This condition may be modified to provide enhanced coordinated access to Silva Valley Parkway by a Future Planned Development (PD) approval.

EDH 52 Tentative Parcel Map
File No. P17-0004

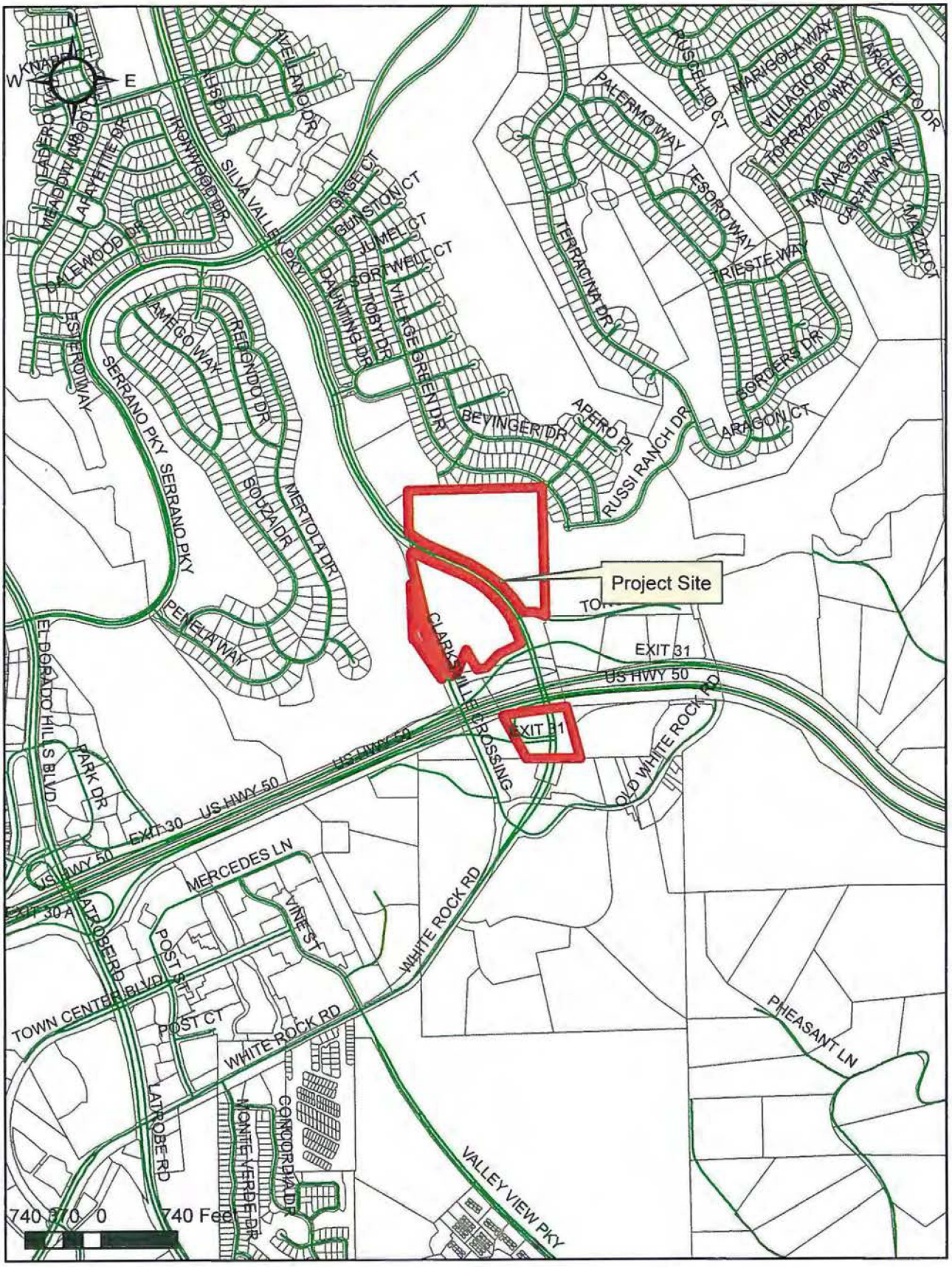
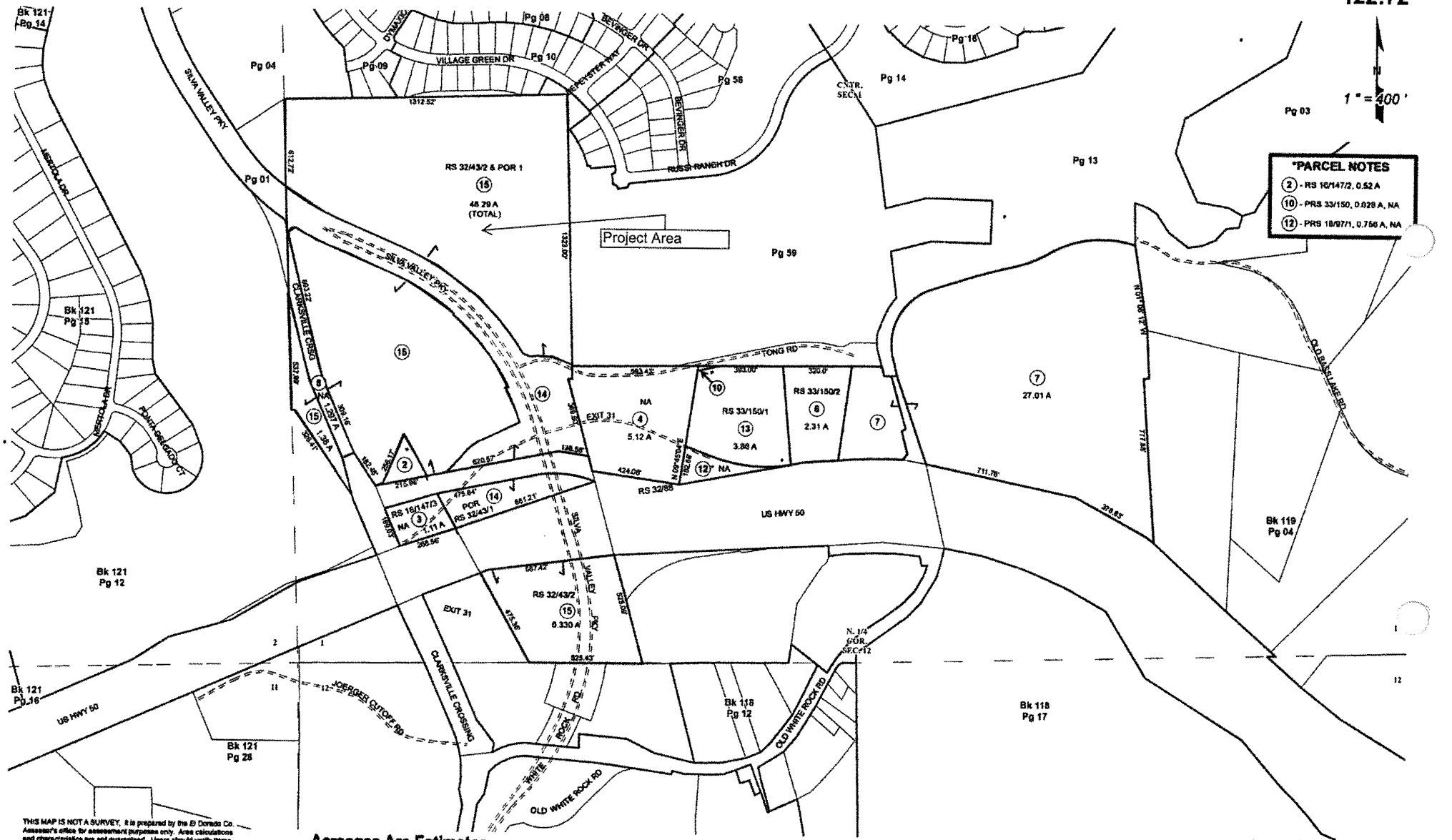


Exhibit A: Location Map


POR. SEC. 1, T.9N., R.8E., M.D.M.
122:72
1" = 400'
N
*PARCEL NOTES
(2) - RS 16/147/2, 0.52 A
(10) - PRS 33/150, 0.028 A, NA
(12) - PRS 18/97/1, 0.756 A, NA
Project Area
RS 32/43/2 & POR 1
(15)
46.29 A
(TOTAL)
RS 33/150/1
(13)
3.86 A
RS 33/150/2
(6)
2.31 A
27.01 A
5.12 A
(4)
NA
(10)
(12)
RS 16/147/3
(3)
1.11 A
POR
RS 32/43/1
(14)
RS 32/43/2
(15)
6.330 A
RS 32/88
US HWY 50
TONG RD
SILVA VALLEY PKY
CLARKSVILLE CROSSING
JOERGER CUTOFF RD
OLD WHITE ROCK RD
OLD KELSEY LAKE RD
RUSSI RANCH DR
VILLAGE GREEN DR
BEVINGER DR
DYLAN CT
HERCULA DR
ADARA GREEN CT
EXIT 31
Pg 01
Pg 04
Pg 08
Pg 09
Pg 10
Pg 13
Pg 14
Pg 16
Pg 58
Pg 59
Bk 121 Pg 14
Bk 121 Pg 15
Bk 121 Pg 12
Bk 121 Pg 16
Bk 121 Pg 28
Bk 118 Pg 12
Bk 118 Pg 17
Bk 118 Pg 04
Pg 03
THIS MAP IS NOT A SURVEY. It is prepared by the El Dorado Co. Assessor's office for assessment purposes only. Area calculations and characteristics are not guaranteed. Users should verify items such as dimensions and acreage.
Acreages Are Estimates
Adjacent Map Pages Shown in Gray Text
Assessor's Parcel Numbers Shown in Circles
EXHIBIT B
Rev. JUL 28, 2016
Assessor's Map Bk. 122 - Pg. 72
County of El Dorado, CA

EDH 52 Tentative Parcel Map
File No. P17-0004

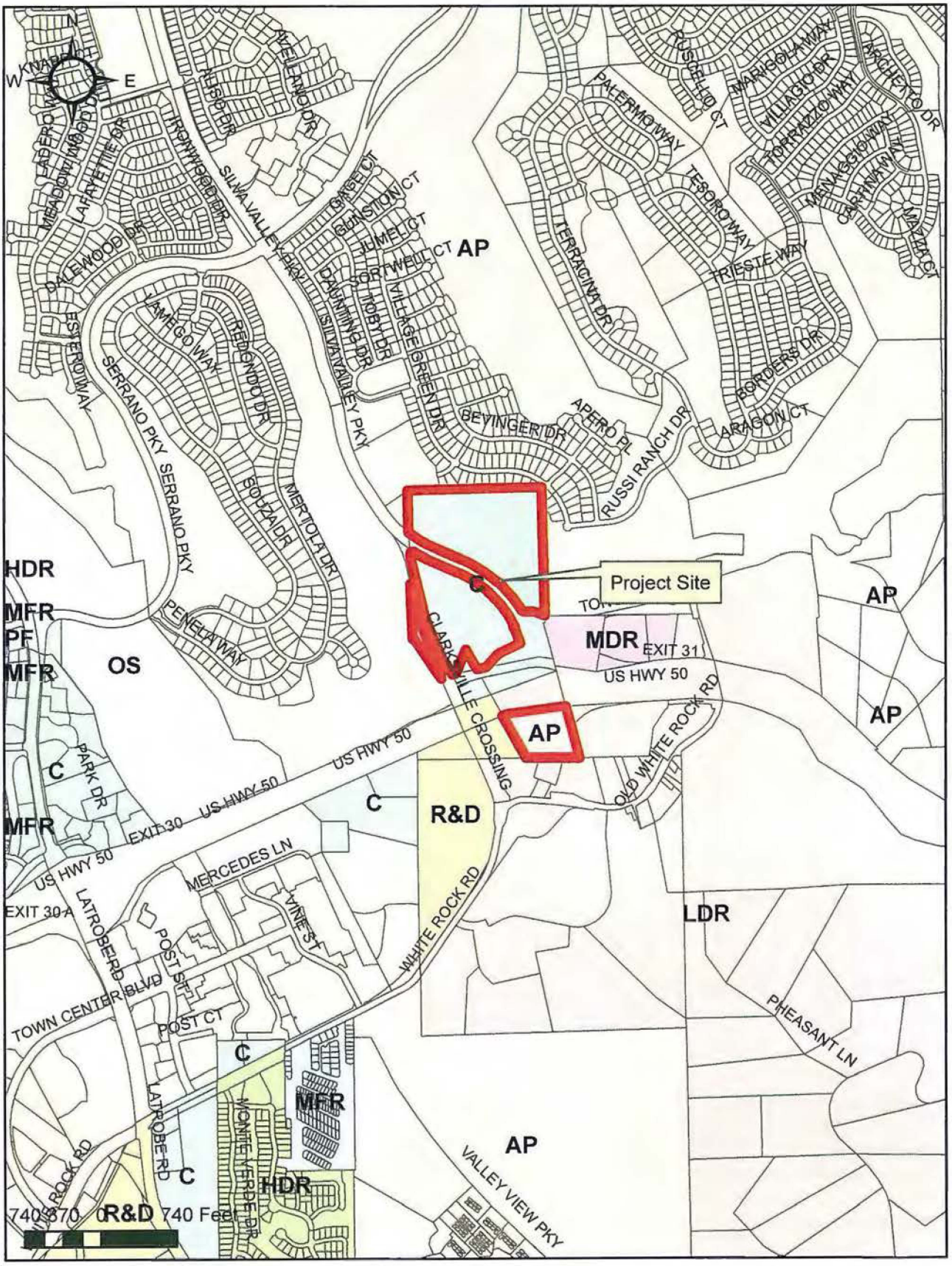


Exhibit C: General Plan Land Use Map

EDH 52 Tentative Parcel Map
File No. P17-0004

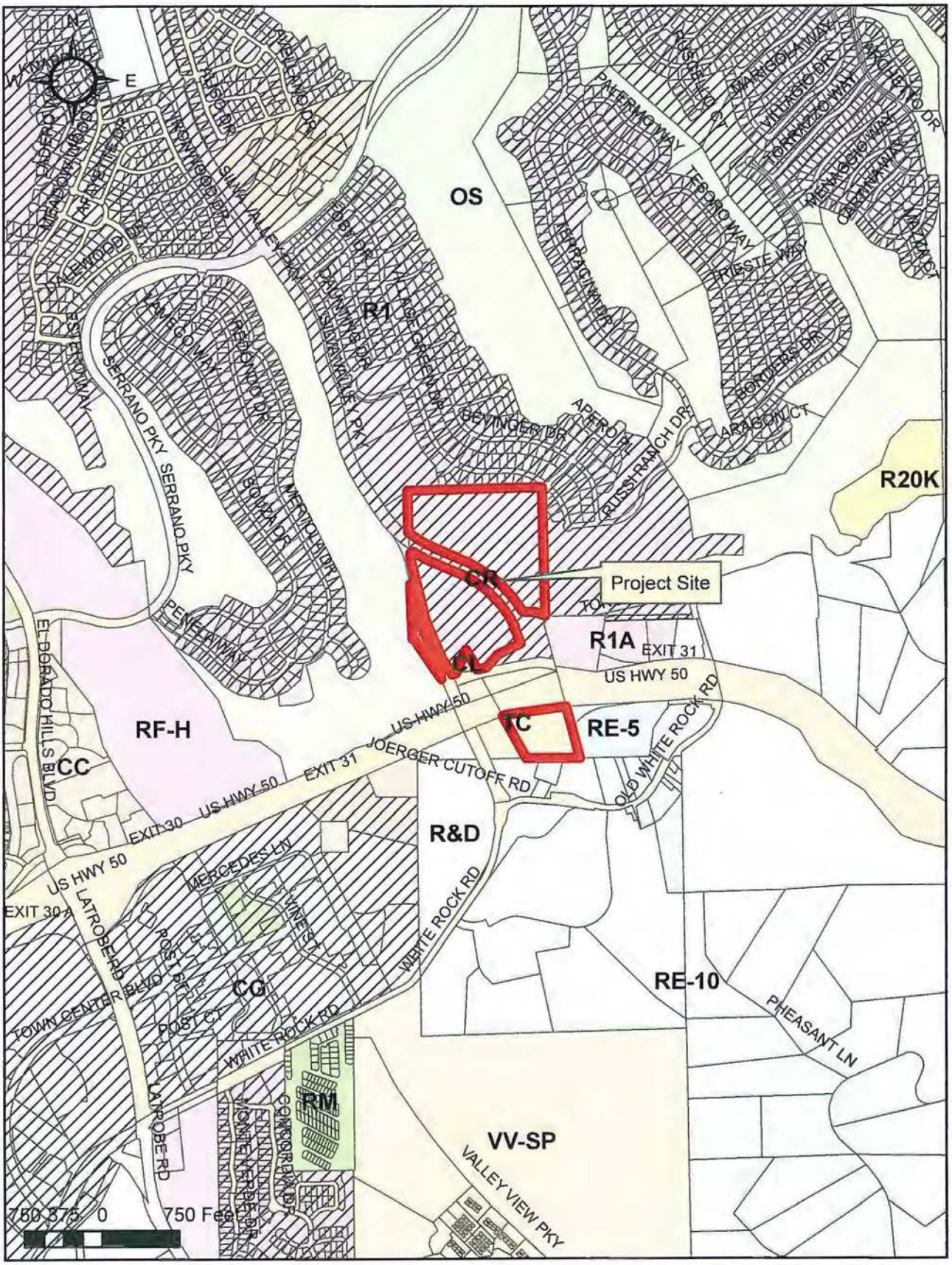


Exhibit D: Zoning Map

EDH 2 Tentative Parcel Map
File No. P17-0004

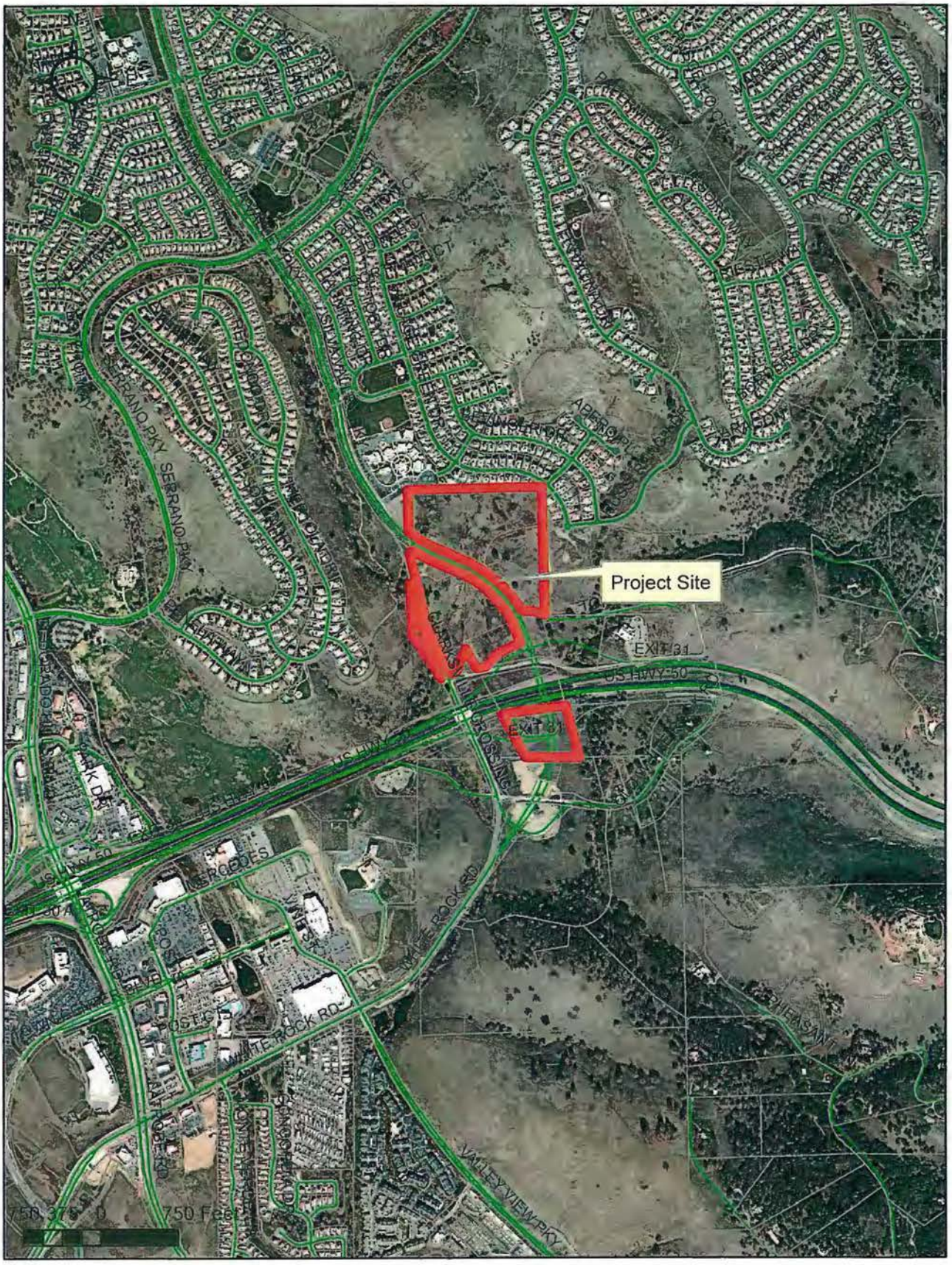
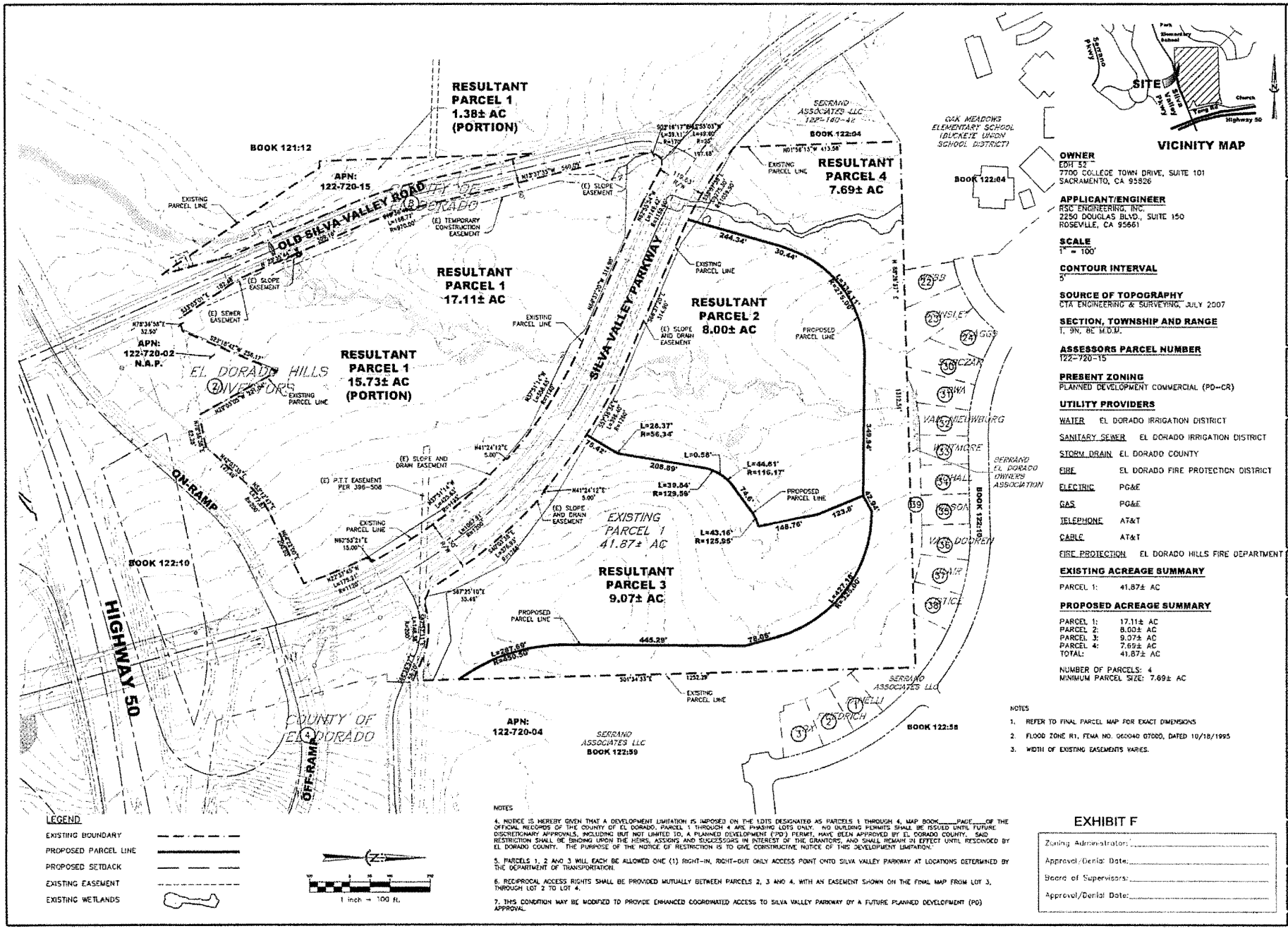


Exhibit E: Aerial Map



VICINITY MAP

OWNER
EDH 52
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826

APPLICANT/ENGINEER
RSC ENGINEERING, INC.
2250 DOUGLAS BLVD., SUITE 150
ROSEVILLE, CA 95661

SCALE
1" = 100'

CONTOUR INTERVAL
5'

SOURCE OF TOPOGRAPHY
CTA ENGINEERING & SURVEYING, JULY 2007

SECTION, TOWNSHIP AND RANGE
1, 9N, 8E, M.D.M.

ASSESSORS PARCEL NUMBER
122-720-15

PRESENT ZONING
PLANNED DEVELOPMENT COMMERCIAL (PD-CR)

UTILITY PROVIDERS

WATER	EL DORADO IRRIGATION DISTRICT
SANITARY SEWER	EL DORADO IRRIGATION DISTRICT
STORM DRAIN	EL DORADO COUNTY
FIRE	EL DORADO FIRE PROTECTION DISTRICT
ELECTRIC	PG&E
GAS	PG&E
TELEPHONE	AT&T
CABLE	AT&T
FIRE PROTECTION	EL DORADO HILLS FIRE DEPARTMENT

EXISTING ACREAGE SUMMARY

PARCEL 1: 41.87± AC

PROPOSED ACREAGE SUMMARY

PARCEL 1:	17.11± AC
PARCEL 2:	8.00± AC
PARCEL 3:	9.07± AC
PARCEL 4:	7.69± AC
TOTAL:	41.87± AC

NUMBER OF PARCELS: 4
MINIMUM PARCEL SIZE: 7.69± AC

NOTES

1. REFER TO FINAL PARCEL MAP FOR EXACT DIMENSIONS
2. FLOOD ZONE R1, FEMA NO. 060040 0700D, DATED 10/18/1995
3. WIDTH OF EXISTING EASEMENTS VARIES.

NOTES

4. NOTICE IS HEREBY GIVEN THAT A DEVELOPMENT LIMITATION IS IMPOSED ON THE LOTS DESIGNATED AS PARCELS 1 THROUGH 4, MAP BOOK_____PAGE_____OF THE OFFICIAL RECORDS OF THE COUNTY OF EL DORADO. PARCEL 1 THROUGH 4 ARE PHASING LOTS ONLY. NO BUILDING PERMITS SHALL BE ISSUED UNTIL FUTURE DISCRETIONARY APPROVALS, INCLUDING BUT NOT LIMITED TO, A PLANNED DEVELOPMENT ("PD") PERMIT, HAVE BEEN APPROVED BY EL DORADO COUNTY. SAID RESTRICTION SHALL BE BINDING UPON THE HEIRS, ASSIGNS AND SUCCESSORS IN INTEREST OF THE GRANTORS, AND SHALL REMAIN IN EFFECT UNTIL RESCINDED BY EL DORADO COUNTY. THE PURPOSE OF THE NOTICE OF RESTRICTION IS TO GIVE CONSTRUCTIVE NOTICE OF THIS DEVELOPMENT LIMITATION."
5. PARCELS 1, 2 AND 3 WILL EACH BE ALLOWED ONE (1) RIGHT-IN, RIGHT-OUT ONLY ACCESS POINT ONTO SILVA VALLEY PARKWAY AT LOCATIONS DETERMINED BY THE DEPARTMENT OF TRANSPORTATION.
6. RECIPROCAL ACCESS RIGHTS SHALL BE PROVIDED MUTUALLY BETWEEN PARCELS 2, 3 AND 4, WITH AN EASEMENT SHOWN ON THE FINAL MAP FROM LOT 3, THROUGH LOT 2 TO LOT 4.
7. THIS CONDITION MAY BE MODIFIED TO PROVIDE ENHANCED COORDINATED ACCESS TO SILVA VALLEY PARKWAY BY A FUTURE PLANNED DEVELOPMENT (PD) APPROVAL.

EXHIBIT F

Zoning Administrator: _____
Approval/Denial Date: _____
Board of Supervisors: _____
Approval/Denial Date: _____

OWNER
EDH 52
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 383-2400

NO.	BY	DESCRIPTION
1	JDH	1ST SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER RICHARD E. CARLETT No. 29033 Exp. 31, 2018 CIVIL STATE OF CALIFORNIA

RSC ENGINEERING
2250 Douglas Blvd., Suite 150
Roseville, CA 95661
Phone: (916) 782-9344 Fax: 916.789.4409

PROJECT NO:	104-0038
DRAWN BY:	RSC Eng
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

TENTATIVE PARCEL MAP

HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA
EL DORADO COUNTY

SHEET TITLE
TENTATIVE PARCEL MAP

SHEET NO.
TM
OF 1

DATE: MAY 3, 2018

COMMUNITY DEVELOPMENT SERVICES
PLANNING AND BUILDING DEPARTMENT

http://www.edcgov.us/DevServices/

PLACERVILLE OFFICE:
2850 Fairlane Court, Placerville, CA 95667
BUILDING
(530) 621-5315 / (530) 622-1708 Fax
bldgdept@edcgov.us
PLANNING
(530) 621-5355 / (530) 642-0508 Fax
planning@edcgov.us

LAKE TAHOE OFFICE:
924 B Emerald Bay Rd
South Lake Tahoe, CA 96150
(530) 573-3330
(530) 542-9082 Fax

NOTICE OF PUBLIC HEARING

The **County of El Dorado Zoning Administrator** will hold a public hearing in the **Building C Hearing Room**, 2850 Fairlane Court, Placerville, CA 95667 on **June 20, 2018** at **3:00 p.m.**, to consider the following: **Tentative Parcel Map P17-0004/EDH 52** submitted by RSC ENGINEERING to subdivide 41.87-acre property into four commercial parcels ranging in size from 7.69 acres to 17.11 acres for phasing and financing purposes only. The property, identified by Assessor's Parcel Number 122-720-15, consisting of 41.87 acres, is located in the northeast area of U.S. Highway 50 and Silva Valley Parkway, in the El Dorado Hills area, Supervisorial District 1. (County Planner: Mel Pabalinas) (Categorical Exemption pursuant to Section 15315 of the CEQA Guidelines)*

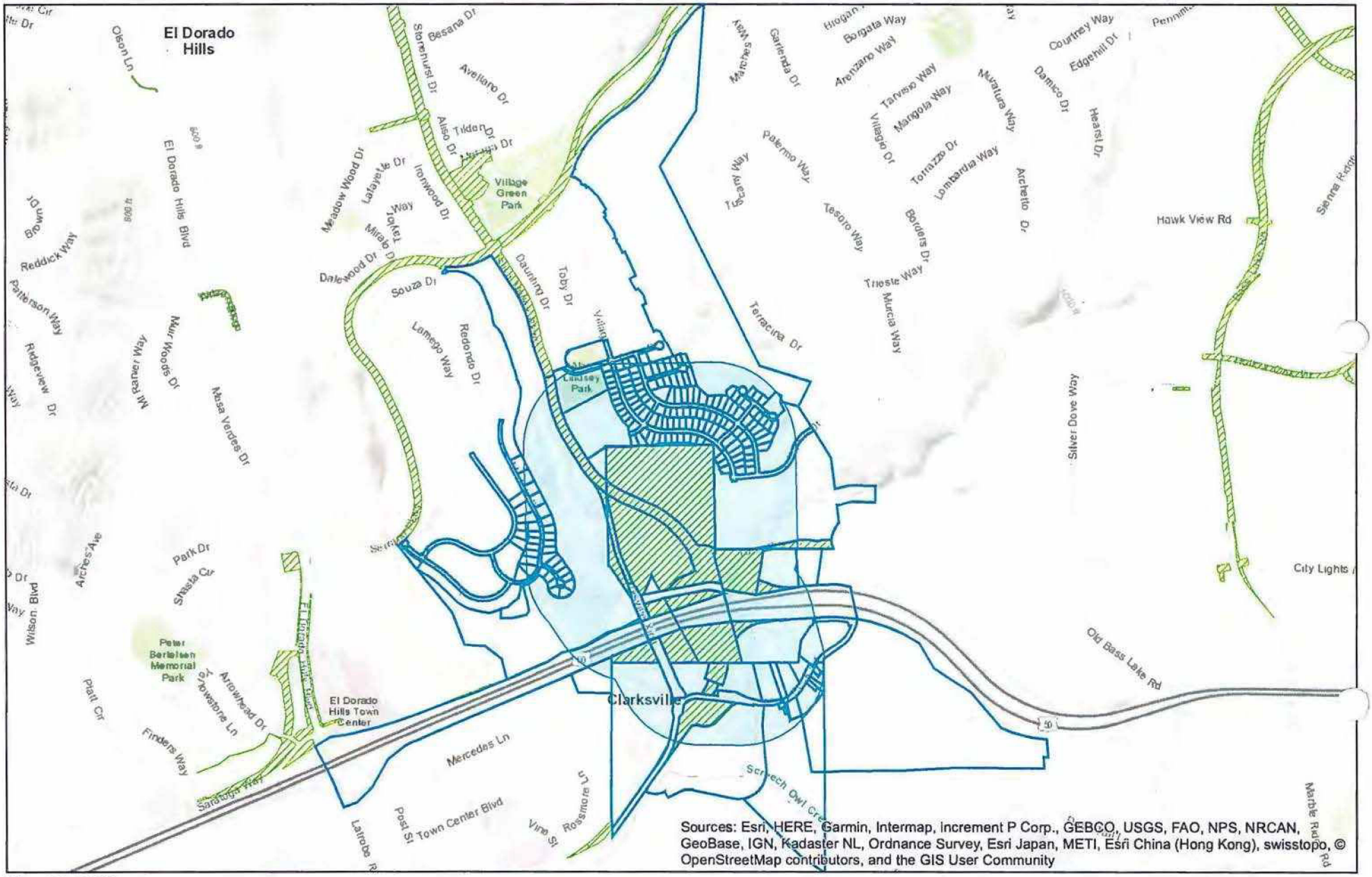
Staff Reports are available two weeks prior at
Staff or at http://edcgov.us/Government/Planning/Zoning_Administrator.aspx

All persons interested are invited to attend and be heard or to write their comments. If you challenge the application in court, you may be limited to raising only those items you or someone else raised at the public hearing described in this notice, or in written correspondence submitted at, or prior to, the public hearing. Any written correspondence should be directed to County of El Dorado, Planning and Building Department, 2850 Fairlane Court, Placerville, CA 95667 or via e-mail: planning@edcgov.us.

*This project is exempt from the California Environmental Quality Act (CEQA) pursuant to the above-referenced section, and it is not subject to any further environmental review.

To ensure delivery prior to the hearing, written information from the public is encouraged to be submitted to Planning Services by Friday the week prior to the meeting. Planning Services cannot guarantee that any FAX or mail received the day of the meeting will be delivered to the Zoning Administrator prior to any action.

COUNTY OF EL DORADO ZONING ADMINISTRATOR
ROGER TROUT, Planning and Building Department Director
Date: May 21, 2018



May 22, 2018

EDH52 (1000 feet) ZA 06-20-18

Search Results: Parcels

Override 1

County Outline

Highway Labels

Highways

Major Roads

Major Roads

Minor Roads

Cities

Parcels, County Owned

N W E S

0 570 1,140 1,710 2,280 Feet

12272006
ABEL JEFFREY S
PO BOX 95
DIAMOND SPRINGS , CA 95619

12208024
ADRAGNA DAVID P TR
1109 BEVINGER DR
EL DORADO HILLS , CA 95762

12208018
ANGELINI DENNIS TR
1075 BEVINGER DR
EL DORADO HILLS , CA 95762

12210002
ARTEMENKO YURIY
923 APERO WAY
EL DORADO HILLS , CA 95762

12115123
BALL DONALD J JR TR
726 PONTA DELGADO CT
EL DORADO HILLS , CA 95762

12210041
BARNHART JASON S
900 APERO CT
EL DORADO HILLS , CA 95762

12115215
BARSTAD TIMOTHY
1391 SOUZA DR
EL DORADO HILLS , CA 95762

12258015
BASTIAN STANTON J
P O BOX 4244
EL DORADO HILLS , CA 95762

12207029
BEFFA DAVID
708 ANNA PL
EL DORADO HILLS , CA 95762

12210020
BELANGER KEVIN
4897 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12208009
BELGAL HANMANT
834 BRYCE CT
EL DORADO HILLS , CA 95762

12210027
BENTZ DAVID E
4855 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12208031
BETTENCOURT PAUL
1070 BEVINGER DR
EL DORADO HILLS , CA 95762

12210034
BOHALL PAMELA A
4866 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12208030
BOWIK DAVID D
1076 BEVINGER DR
EL DORADO HILLS , CA 95762

12209023
BRINSLEY DAVID E
2037 DYMAXION WAY
EL DORADO HILLS , CA 95762

12204035
BUCKEYE UNION ELEM SCHOOL DIST
P O BOX 547
SHINGLE SPRINGS , CA 95682

12209013
BUDMARK JACK JEFFRY TR
4784 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12210015
CAIN GAMIL A TR
1126 BEVINGER DR
EL DORADO HILLS , CA 95762

12209003
CALLAN ANGELA
4789 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12258010
CAMPANILE GLENN
1152 BEVINGER DR
EL DORADO HILLS , CA 95762

12209020
CLICHE THOMAS
4820 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12208020
COLES FRED
1085 BEVINGER DR
EL DORADO HILLS , CA 95762

12207030
CONKLIN RODNEY DEAN TR
702 ANNA PL
EL DORADO HILLS , CA 95762

12115114
CROFOOT JANE T TR
5237 MERTOLA DR
EL DORADO HILLS , CA 95762

12208004
CROOK DANIEL F
825 BRYCE CT
EL DORADO HILLS , CA 95762

12208029
CURTIS KATHLEEN M TR
1084 BEVINGER DR
EL DORADO HILLS , CA 95762

12115118
DAM DAVID
715 PONTA DELGADO CT
EL DORADO HILLS , CA 95762

12258022
DANIEL MARCY L
938 APERO PL
EL DORADO HILLS , CA 95762

12208027
DASTMALCHI FATOHLLAH TR
1098 BEVINGER DR
EL DORADO HILLS , CA 95762

12209005
DAVENPORT BLAINE N TR
4801 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12209018
DE JONAGE FRANCOIS BEAU YON
75 WEST END AVE #P2I
NEW YORK , NY 10023

12115216
DE LA ROSA JOE G TR
1385 SOUZA DR
EL DORADO HILLS , CA 95762

12258007
DE LOS ANGELES VIRGINIA
4929 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12115202
DEFAZIO JOSEPH R TR
5228 MERTOLA DR
EL DORADO HILLS , CA 95762

12210022
DEL MAR RICKY
4887 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12209001
DELLEPERE GARY TR
250 BICENTENNIAL WAY APT 722
SANTA ROSA , CA 95403

12210028
DEPT OF VETERANS AFFAIRS %
4847 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12210010
DI MARCO JAMES F
1139 BEVINGER DR
EL DORADO HILLS , CA 95762

12208039
DOMINGUEZ JASON T
1024 BEVINGER DR
EL DORADO HILLS , CA 95762

12208002
DUTTA SANJAY
811 BRYCE CT
EL DORADO HILLS , CA 95762

12208034
EHTESHAMUDDIN SYED J
1054 BEVINGER DR
EL DORADO HILLS , CA 95762

12204037
EL DORADO HILLS COMM SERV DIST
1021 HARVARD WY
EL DORADO HILLS , CA 95762

12272002
EL DORADO HILLS INVESTORS LTD
4364 TOWN CENTER BLVD STE 310
EL DORADO HILLS , CA 95762

12258021
FAIRCHILD SHELBY
934 APERO PLACE
EL DORADO HILLS , CA 95762

12210038
FALK EARLY
4894 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12258001
FANELLI JOSEPH
3820 BRITTON PL
WEST SACRAMENTO , CA 95691

12115206
FANTE THOMAS M TR
5254 MERTOLA DR
EL DORADO HILLS , CA 95762

12115109
FERESHTEHNEJAD REZA TR
5197 MERTOLA DR
EL DORADO HILLS , CA 95762

12209021
FEUERBACH ADAM R TR
4826 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12210017
FOSTER STEVEN J TR
4917 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12115119
FRANK ERNEST W JR
721 PONTA DELGADO CT
EL DORADO HILLS , CA 95762

12115113
FRAZIER GRUBBS DEMITROUS TR
5229 MERTOLA DR
EL DORADO HILLS , CA 95762

12115125
FREDERES MATTHEW
716 PONTA DELGADO CT
EL DORADO HILLS , CA 95762

12258002
FRIEDRICH MAIC CO TR
4930 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12115201
FRITH STEVEN
5220 MERTOLA DR
EL DORADO HILLS , CA 95762

12258005
FU ANDREW C
4937 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12209011
GABRIAL MAHA K TR
4772 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12210007
GEHRKE CHRISTOPHER
908 APERO CT
EL DORADO HILLS , CA 95762

12210018
GIAUDRONE AARON PAUL TR
4907 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12115107
GODAVARTHI VINUPAMA
5171 MERTOLA DR
EL DORADO HILLS , CA 95762

12209009
GONZALEZ MICHAELLE
4825 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12115110
GV HOMES A NV LLC
PO BOX 10989
ZEPHYR COVE , NV 89448

12258016
HABRA HENRY CO TR
1155 BEVINGER DR
EL DORADO HILLS , CA 95762

12210035
HAGE LARRY D TR
95728 SAUNDERS CREEK RD
GOLD BEACH , OR 97444

12208033
HALL PATRICK W TR
1060 BEVINGER DR
EL DORADO HILLS , CA 95762

11817003
HARDY ROBERT STEPHEN TR
PO BOX 12429
ZEPHYR COVE , NV 89448

12210011
HERNANDEZ RAYMOND
3300 KORDES WAY
SACRAMENTO , CA 95826

12115204
HERRERA IVAN R
5240 MERTOLA DR
EL DORADO HILLS , CA 95762

12210014
HIGDON KEVIN R
1118 BEVINGER DR
EL DORADO HILLS , CA 95762

12210013
HILL JOAN CAROL SURV TR
1115 BEVINGER DR
EL DORADO HILLS , CA 95762

12210032
HORWATH FRANK WERNER
4854 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12128024
HUDDINGE PARTNERS
%B ROTTER 634A PROSPECT ROW
SAN MATEO , CA 94401

12209010
JAMES JENNIFER LYNNE
4766 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12115214
JARRETT JOHN
1397 SOUZA DR
EL DORADO HILLS , CA 95762

12258013
JONES CLIFTON
1174 BEVINGER DR
EL DORADO HILLS , CA 95762

12209004
KADIDAL INDRADEV J
4795 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12208028
KAMALIAN REZA CO TR
1090 BEVINGER DR
EL DORADO HILLS , CA 95762

12209014
KAZEMIRAD SAHAR
4790 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

11812215
KFRD INVESTMENTS INC
%3350 COUNTRY CLUB DR #202
SHINGLE SPRINGS , CA 95682

12115126
KLEIN CALLIE M
708 PONTA DELGADO CT
EL DORADO HILLS , CA 95762

12115106
KOZICKI DAVID J
5157 MERTOLA DR
EL DORADO HILLS , CA 95762

12115112
KUMAR DEVINDER
6068 PENELA WAY
EL DORADO HILLS , CA 95762

12210021
LANGE MICHAEL TR
4893 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12115120
LEE ANDREW H TR
725 PONTA DELGADO CT
EL DORADO HILLS , CA 95762

12208012
LEE GREGORY
818 BRYCE CT
EL DORADO HILLS , CA 95762

11812104
LESTER MICHAEL THOMAS
1481 WHITE ROCK RD
EL DORADO HILLS , CA 95762

12210024
LOENNEKER FRANCES ABAD TR
4875 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12209015
LOWRY MICHAEL
4796 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12210016
LU SHENGHUI TR
1138 BEVINGER DR
EL DORADO HILLS , CA 95762

12258028
MADASSERY LIJO
929 APERO PL
EL DORADO HILLS , CA 95762

12115205
MAHVI JOHN A TR
5246 MERTOLA DR
EL DORADO HILLS , CA 95762

12210026
MANON JAIME RABELL
4863 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12210004
MCCANN MICHAEL B
911 APERO CT
EL DORADO HILLS , CA 95762

12209007
MCGRATH WENDY M
4813 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12115203
MCGRAW CAROL L TR
5234 MERTOLA DR
EL DORADO HILLS , CA 95762

12258008
METZGER PAUL K
P O BOX 503
SUTTER CREEK , CA 95685

12208032
MOLLOY PATRICK J
1064 BEVINGER DR
EL DORADO HILLS , CA 95762

12210037
MOSS CHARLES W TR
4886 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12115219
NONIS PRIYANKARA
1367 SOUZA DR
EL DORADO HILLS , CA 95762

12115108
O ROURKE JOHN C
5185 MERTOLA DR
EL DORADO HILLS , CA 95762

12128002
PACIFIC GAS & ELECTRIC CO
245 MARKET ST
SAN FRANCISCO , CA 94100

12208006
PALMER DANIEL M
835 BRYCE CT
EL DORADO HILLS , CA 95762

12208038
PATEL NIRAJ
1030 BEVINGER DR
EL DORADO HILLS , CA 95762

12208021
PATEL REENA
1091 BEVINGER DR
EL DORADO HILLS , CA 95762

12208003
PATRICIO JOHN M
819 BRYCE CT
EL DORADO HILLS , CA 95762

12258023
PEARSON RYAN
942 APERO WAY
EL DORADO HILLS , CA 95762

12208013
PERRY DONALD E TR
810 BRYCE CT
EL DORADO HILLS , CA 95762

12258009
PILLILLI BHARAT TR
1144 BEVINGER DR
EL DORADO HILLS , CA 95762

12210012
POP STEPHAN
1121 BEVINGER DR
EL DORADO HILLS , CA 95762

12208015
POTTER ELLEN D
1047 BEVINGER DR
EL DORADO HILLS , CA 95762

12272013
PRESBYTERY OF SACRAMENTO
1441 TONG RD
EL DORADO HILLS , CA 95762

12208014
PREVOST CHARLES ANDREW
802 BRYCE CT
EL DORADO HILLS , CA 95762

12115116
QUAIN MAURICE J TR
5251 MERTOLA DR
EL DORADO HILLS , CA 95762

12210029
RADLEY CHRISTOPHER JAMES TR
4841 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12208036
RAMADOSS HARIHARAN
1040 BEVINGER DR
EL DORADO HILLS , CA 95762

12115122
RAMIREZ ROBERT
728 PONTA DELGADO CT
EL DORADO HILLS , CA 95762

12208022
RASHIDI SAEID
1099 BEVINGER DR
EL DORADO HILLS , CA 95762

12209019
REESE MILES ADDIE P
4816 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12210019
ROBERTS STACEY L
4901 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12258003
RODENSPIEL JON JR
4938 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12209016
RUDRARAJU RAVINDRA
4800 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12115111
RUIZ SALVADOR M
5217 MERTOLA DR
EL DORADO HILLS , CA 95762

11812103
RUSSLER JOANNA F SURV TR
4675 CHICAGO AVE
FAIR OAKS , CA 95628

12115117
RUSSO JASON E CO TR
PO BOX 5119
EL DORADO HILLS , CA 95762

12258004
SAEED AJMAL CO TR
4943 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12115208
SALE KEVITT D
5280 MERTOLA DR
EL DORADO HILLS , CA 95762

12115207
SANTOS AMADO R TR
5264 MERTOLA DR
EL DORADO HILLS , CA 95762

12208040
SARRESHTEH KAMRAN
1020 BEVINGER DR
EL DORADO HILLS , CA 95762

12210006
SCHMIDT TIMOTHY PATRICK
904 APERO CT
EL DORADO HILLS , CA 95762

12209017
SCHMIEDER WAYNE R
4806 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12208035
SCOTT DONALD L TR
1046 BEVINGER DR
EL DORADO HILLS , CA 95762

12208041
SENDINO GREGORIO S TR
1012 BEVINGER DR
EL DORADO HILLS , CA 95762

12112024
SERRANO ASSOCIATES LLC
4525 SERRANO PKWY
EL DORADO HILLS , CA 95762

12208042
SERRANO EL DORADO OWNERS ASSN
4525 SERRANO PARKWAY
EL DORADO HILLS , CA 95762

12115003
SERRANO EL DORADO OWNERS ASSOC
4525 SERRANO PARKWAY
EL DORADO HILLS , CA 95762

12115218
SEXTON WILLIAM T
1375 SOUZA DR
EL DORADO HILLS , CA 95762

12258017
SHARMA SAURABH
1151 BEVINGER DR
EL DORADO HILLS , CA 95762

12258011
SHIHABI KAREME C
1160 BEVINGER DR
EL DORADO HILLS , CA 95762

12115217
SHIM MOON BO
5620 PONY EXPRESS TRL
CAMINO , CA 95709

12210008
SHULL ROBERT B
912 APERO PL
EL DORADO HILLS , CA 95762

12258020
SIKDER MOHAMMAD S
930 APERO PL
EL DORADO HILLS , CA 95762

12208010
SILVA DARREN
830 BRYCE CT
EL DORADO HILLS , CA 95762

12209012
SINGH AMRIT
1358 VAN GOGH DR
EL DORADO HILLS , CA 95762

12207028
SINGHAI MRUGENDRA
716 ANNA PL
EL DORADO HILLS , CA 95762

12209024
SKAGGS JON E
4836 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12115115
SMITH GARY KEVIN
5243 MERTOLA DR
EL DORADO HILLS , CA 95762

12210030
SOBCZAK JAMES J TR
4842 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12209002
STELMACH ANNA G TR
P O BOX 4481
EL DORADO HILLS , CA 95762

12208037
STEPHENS DARIN JAMES
1036 BEVINGER DR
EL DORADO HILLS , CA 95762

12258014
SUN YANG
1180 BEVINGER DR
EL DORADO HILLS , CA 95762

12258018
TAK DICK TR
1147 BEVINGER DR
EL DORADO HILLS , CA 95762

12258019
TAK PURA B SURV TR
1143 BEVINGER DR
EL DORADO HILLS , CA 95762

12208005
TANDA JOSEPH R TR
831 BRYCE CT
EL DORADO HILLS , CA 95762

12258012
TANG DANIEL ZHIXIN TR
1168 BEVINGER DR
EL DORADO HILLS , CA 95762

12115121
TARR JEREMIAH TR
727 PONTA DELGADO CT
EL DORADO HILLS , CA 95762

12208019
TATE LAWRENCE J
1081 BEVINGER DR
EL DORADO HILLS , CA 95762

12208017
THOMAS SIMON
PO BOX 5076
EL DORADO HILLS , CA 95762

12258006
THURAU ELISE M
4933 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

11812204
TONG HARVEY
P O BOX 2654
TRUCKEE , CA 96160

12208011
TREXLER JEFFREY B
824 BRYCE CT
EL DORADO HILLS , CA 95762

12208008
TRZCINSKI JACOB ALAN
838 BRYCE CT
EL DORADO HILLS , CA 95762

12208001
TYLER PAULA K TR
803 BRYCE CT
EL DORADO HILLS , CA 95762

12208007
VALENTINO MARK S TR
839 BRYCE CT
EL DORADO HILLS , CA 95762

12210036
VAN DOOREN JOHANNES TR
4880 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

11817011
VAN NOORD THOMAS R TR
3350 COUNTRY CLUB DR #202
CAMERON PARK , CA 95682

12210025
VAVRA ANDREA R
4869 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12210009
WANG ERIC CHUAN
321 ENDLESS CT
EL DORADO HILLS , CA 95762

12209022
WEBB RICHARD M
2041 DYMAXION WAY
EL DORADO HILLS , CA 95762

12115124
WELLS JOHN R CO TR
724 PONTA DELGADO CT
EL DORADO HILLS , CA 95762

12210033
WHITMORE FUJIMURA ERIKA LESLIE
4860 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12208016
WILHELM HARALD
1061 BEVINGER DR
EL DORADO HILLS , CA 95762

12210023
WILHELMY JOHN J
4881 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12207027
WILLIAMS DAMON MATHEW
3578 PARK DR
EL DORADO HILLS , CA 95762

12208026
WILLIAMSON DAVID A TR
1104 BEVINGER DR
EL DORADO HILLS , CA 95762

12208023
YANG YONGGANG
1105 BEVINGER DR
EL DORADO HILLS , CA 95762

12208025
YAO MIN
1110 BEVINGER DR
EL DORADO HILLS , CA 95762

12210031
YBARRA ERICK
4848 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12210003
YOSHII DON Y TR
2762 WEXFORD DR
SAN JOSE , CA 95132

12209006
YOUNG LORAL
4807 VILLAGE GREEN DR
EL DORADO HILLS , CA 95762

12209008
ZANG YIXIAO
4218 RIMINI WAY
EL DORADO HILLS , CA 95762

\\dsfs0\DS-Shared\DISCRETIONARY\P\2017\P17-0004 (EDH 52 TPM)_ZA\Parceling\P17-0004 Mailing Labels Ran 05-21-18 ZA 06-20-18 (1000 feet).docx

Original Planner request was for 500 ft notification, on 5-21-18 corrected to 1,000 ft notification. 500ft mailing Senton 5-21-18; Remaining mailing sent on 5-23-18. Current list is 1,000 ft notification.

Serena

181

Mountain Democrat

PROOF OF PUBLICATION
(2015.5 C.C.P.)

Proof of Publication of
NOTICE OF PUBLIC HEARING

STATE OF CALIFORNIA
County of El Dorado

I am a citizen of the United States and a resident of the County aforesaid; I'm over the age of eighteen years, and not a party to or interested in the above-entitled matter. I am principal clerk of the printer at the Mountain Democrat, 2889 Ray Lawyer Drive, a newspaper of general circulation, printed and published Monday, Wednesday, and Friday, in the City of Placerville, County of El Dorado, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court to the County of El Dorado, State of California, under the date of March 7, 1952, Case Number 7258; that the notice, of which the annexed is a printed copy (set in type no smaller than non-pareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

5/21

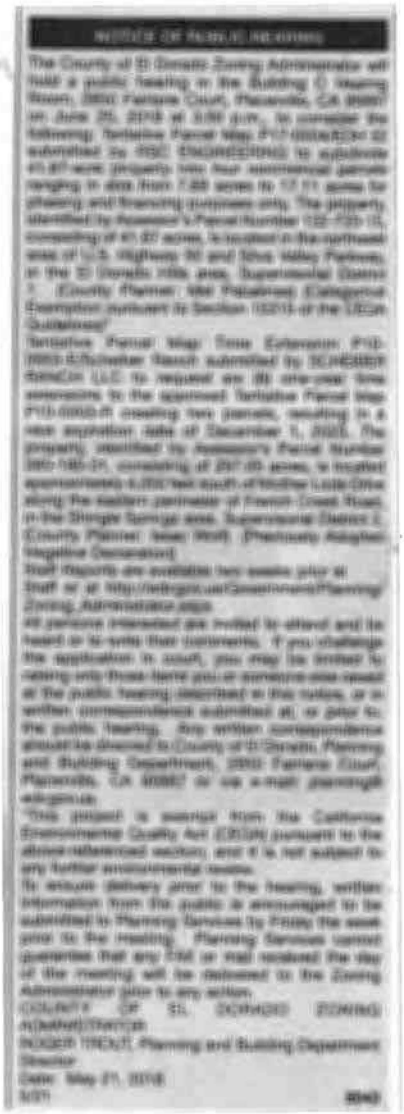
All in the year 2018.

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Dated at Placerville, California, this **21st** day of **MAY, 2018**

Allison Rains

Signature



FOR AQMD USE ONLY:
AQMD S/R NUMBER: 7486
BLDG/GRADING: 226704

County of El Dorado
Air Quality Management District (AQMD)
330 Fair Lane, Placerville, CA 95667
Phone: 530-621-6662/ Fax: 530-295-2774
www.edcgov.us/AirQualityManagement

Asbestos Dust Mitigation Plan (ADMP) Application

(For projects greater than 20 yd³ and located in NOA(*) designated areas, or where NOA had been discovered)

Please complete every section and initial each page – incomplete applications will be returned.

1. ADMINISTRATIVE INFORMATION

Size of Project

Estimated Size of DISTURBED area (acres) *(Round up to nearest acre)*: 2

NOTE: If size of DISTURBED area exceeds 50 acres, the project is designated as a "Large Operation" and additional requirements apply.

Estimated VOLUME (cubic yards) of graded Material: 20,000

NOTE: If VOLUME of graded material exceeds 20 cubic yards, ADMP must be prepared and submitted.

Will Export Soils be Generated? ☐ YES ☑ NO

If "YES": (1) Exported soil management MUST comply with Rule 223-2.6.D.3. (2) Address of the receiving site MUST be provided in Section 16.

Fees and Checklist

Fees due:

$363.00 ADMP Review Fee

+ 48.00 $24 x DISTURBED Acres (minimum = $24)

$ 411.00 **Total Fees Due**

Checklist:

☑ Fees submitted with ADMP Application

☑ Application signed and initialed by a Responsible Party

☑ Project Map (must be included)

☑ NOA(*) Sampling Reports (if applicable)

2A. OWNER INFORMATION		2B. CONTRACTOR INFORMATION ☐ N/A	
Name: AKT, EDH 52 Partnership		Name: DeSilva Gates Construction	
Mailing Address: 7700 College Town Drive, #101		Mailing Address: PO Box 2909	
City/State: Sacramento, CA	Zip: 95826	City/State: Dublin/CA	Zip: 94568
Contact Name: Larry Ito		Site Contact Name: Michael Bailey	
Phone: 916-941-1411	Fax/email: 916-941-1474	Site Phone: 916-386-9708	Fax/email: 916-383-8426

3. PROJECT INFORMATION – Part I

Address: Silva Valley Parkway @ US 50	Project Description: Permanent Stockpile
City/State/Zip: El Dorado Hills, CA	Est. Project Start Date: 5-21-2012
Parcel (APN) Number: 122-720-09	Est. Completion Date of Soil Disturbing Activities: 10-01-2012

CKodetCdesilvagates.com

*: NOA(*) – Naturally Occurring Asbestos (see "Western El Dorado County Asbestos Review Areas" Map)

ASBESTOS DUST MITIGATION PLAN APPLICATION

EL DORADO COUNTY AIR QUALITY MANAGEMENT DISTRICT

4. PROJECT NOA(*) INFORMATION – Part II

Is Project Located In Asbestos Review Area? ☑ YES ☐ NO	Professional Geologist Report Attached? ☑ YES ☐ NO
If "NO", Provide Date of NOA(*) Discovery:	Laboratory Report/Data Sheets Attached? ☑ YES ☐ NO
Has Professional Geologist Evaluated the Site for NOA? ☑ YES ☐ NO (If "NO" Proceed to # 6)	Map Showing Location(s) of NOA(*) (≥ 0.25%) Attached? ☑ YES ☐ NO

5. PROFESSIONAL GEOLOGIST INFORMATION ☐ N/A

Name Geocon Consultants, Inc.		
Address 3160 Gold Valley Dr., Ste #800	City/State Rancho Cordova, CA	Zip 95742
Contact David Bieber	Phone 916-852-9118	Fax 916-852-9132

6. MAP INFORMATION

(11x17 format or smaller preferred)

Map(s) clearly indicating the following MUST be included:

- ☑ Property lines / boundaries
- ☑ Adjacent streets / easements
- ☑ Areas to be disturbed or graded
- ☐ Trenching areas
- ☐ Excavation sites
- ☐ Storage areas / piles
- ☐ Staging areas for removal
- ☐ Truck routes
- ☐ On-site parking lots
- ☑ Landmarks and roads
- ☐ NOA Sampling locations *(Indicate if ≥ 0.25% NOA(*))*
- ☑ Location(s) of placement of NOA(*) containing excavated soils

7. PROJECT TYPE

Activity: (Check all that apply)

- ☐ Residential Construction
- ☐ Grading
- ☐ Road Construction
- ☐ Road Maintenance
- ☐ Housing Development
- ☐ Commercial Property Development
- ☐ Pool Construction
- ☐ Trenching / Utilities Work
- ☐ Landscaping
- ☑ Other (please describe): Permanent Stockpile

Initial: MB
Responsible Person

*: NOA(*) – Naturally Occurring Asbestos (see "Western El Dorado County Asbestos Review Areas" Map)

ASBESTOS DUST MITIGATION PLAN APPLICATION

EL DORADO COUNTY AIR QUALITY MANAGEMENT DISTRICT

8. LARGE OPERATIONS (> 50 acres of DISTURBED surface) ☑ N/A

Additional requirements (Rule 223-2.7):

- Large Operations must include Dust Controls Measures specified in Tables 5-6 of Rule 223-2.
  - ☐ Maintain daily records to document the specific dust control actions taken
  - ☐ Onsite Dust Control Supervisor (available within 30 minutes during working hours):

Name: _____ Phone/Mobile Number: _____

9. POTENTIAL SOURCES OF FUGITIVE DUST EMISSIONS

- There shall be no visible emissions (0% opacity as determined in accordance with US EPA Method 9) at 25 feet from the point-of-origin and at the property line. Visible emissions shall not exceed 20% opacity as determined in accordance with US EPA Method 9 at the point-of-origin. Applicable Best Management Practices included in Table 1 - 4 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A.
- Asbestos Warning Signs must be posted at main entrances to the project (Rule 223-2.4.D)

Activity: (Check all that apply)

- ☑ Disturbing Soil
- ☐ Clearing and Grubbing
- ☐ Grading
- ☐ Backfilling
- ☐ Clearing Forms, Foundations and Slabs
- ☐ Demolition – Mechanical/Manual
- ✓ Large Earth-moving Equipment Operations
- ✓ Importing/Exporting of Bulk Materials
- ☐ Landscaping
- ✓ Road Construction / Maintenance
- ✓ Stockpiles/Bulk Material Handling
- ☐ Traffic Areas for Construction Activities
- ☐ Trenching
- ☐ Truck Loading
- ☐ Unpaved Road/Parking Lots
- ☐ Blasting
- ☐ Other: _____

Initial: MD
Responsible Person

*: NOA(*) – Naturally Occurring Asbestos (see "Western El Dorado County Asbestos Review Areas" Map)

ASBESTOS DUST MITIGATION PLAN APPLICATION

EL DORADO COUNTY AIR QUALITY MANAGEMENT DISTRICT

10. SOIL DISTURBANCE ACTIVITIES

- There shall be no visible emissions (0% opacity as determined in accordance with US EPA Method 9) at 25 feet from the point-of-origin and at the property line. Visible emissions shall not exceed 20% opacity as determined in accordance with US EPA Method 9 at the point-of-origin. Applicable Best Management Practices included in Table 1 - 4 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A.
- Suspend soil disturbing activities when wind speeds are high enough to result in dust emissions in excess of standards in Rule 223-2.4.A, despite the application of dust mitigation measures

Controls for soil distrurbing activities: (Check all that apply)

- ☑ Application of water, as necessary, prior and during earthmoving or land clearing activities (maintain live perennial vegetation where possible)
- ☐ Pre-wetting the ground to the depth of the anticipated cuts
- ☑ Stabilize soils once soils disturbing activities are complete
- ☑ Any other measure(s) as effective as the measures listed above (please describe)

Permanent erosion control measures.

11. ACTIVE STORAGE PILES ☐ N/A

- There shall be no visible emissions (0% opacity as determined in accordance with US EPA Method 9) at 25 feet from the point-of-origin and at the property line. Visible emissions shall not exceed 20% opacity as determined in accordance with US EPA Method 9 at the point-of-origin. Applicable Best Management Practices included in Table 1 - 4 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A.

The following control measure MUST be addressed:

- ☑ Keep active storage piles adequately wetted or covered with tarps (please describe):

Stockpile will be watered to control dust

- ☑ When handling bulk material apply water or chemical/organic stabilizers/suppressants
- ☐ Any other measure(s) as effective as the measures listed above (please describe)

Initial: MB

Responsible Person

*: NOA(*) – Naturally Occurring Asbestos (see "Western El Dorado County Asbestos Review Areas" Map)

ASBESTOS DUST MITIGATION PLAN APPLICATION

EL DORADO COUNTY AIR QUALITY MANAGEMENT DISTRICT

12. INACTIVE STORAGE PILES ☐ N/A

(not disturbed for more than 7 consecutive days)

- There shall be no visible emissions (0% opacity as determined in accordance with US EPA Method 9) at 25 feet from the point-of-origin and at the property line. Visible emissions shall not exceed 20% opacity as determined in accordance with US EPA Method 9 at the point-of-origin. Applicable Best Management Practices included in Table 1 - 4 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A.

Control for disturbed surface areas and storage piles that will remain inactive for more than seven (7) days shall include one or more of the following: (Check all that apply)

- ☑ Keep the surface adequately wetted
- ☐ Establish and maintenance of surface crusting sufficient to satisfy the test in Rule 223-2.10.C or Title 14 subsection §93105(h)(6)
- ☐ Application of chemical dust suppressants or chemical stabilizers according to the manufacturer's recommendations
- ☑ Covering with tarp(s) or vegetative cover
- ☐ Installation of wind barriers of fifty (50) percent porosity around three (3) sides of a storage pile
- ☐ Installation of wind barriers across open areas
- ☐ Any other measure(s) as effective as the measures listed above (please describe)

_____

_____

13. TRACK-OUT PREVENTION

- Any visible track-out on a paved public road where vehicles enter and exit the work area must be **IMMEDIATELY** removed from paved public roads. Removal shall be accomplished by using wet sweeping or a HEPA filter equipped vacuum device or flushing with water (if not in violation of any National Pollutant Discharge Elimination System permit program). Applicable Best Management Practices included in Table 3 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A. ***Note: The use blower devices, or dry rotary brushes, is expressly prohibited!***

Other control measures: (Check all that apply)

- ☑ A gravel pad designed using good engineering practices to clean the tires of exiting vehicles
- ☐ Grizzlies, or similar devices designed to remove mud/dirt from tires
- ☐ A tire shaker
- ☐ A wheel wash system (mechanical or manual)
- ☐ Paving of interior roads
- ☐ Any other measure(s) as effective as the measures listed above (please describe)

_____

_____

_____

Initial: MB

Responsible Person

*: NOA(*) – Naturally Occurring Asbestos (see "Western El Dorado County Asbestos Review Areas" Map)

ASBESTOS DUST MITIGATION PLAN APPLICATION

EL DORADO COUNTY AIR QUALITY MANAGEMENT DISTRICT

14. BLASTING ACTIVITIES ☑ N/A

Must notify AQMD two (2) hours prior to blast!

- There shall be no visible emissions (0% opacity as determined in accordance with US EPA Method 9) at 25 feet from the point-of-origin and at the property line. Visible emissions shall not exceed 20% opacity as determined in accordance with US EPA Method 9 at the point-of-origin. Applicable Best Management Practices included in Table 1 - 4 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A.
- Suspend blasting activities when wind speeds are high enough to result in dust emissions in excess of standards in Rule 223-2.4.A, despite the application of dust mitigation measures. Consider wind direction with respect to property line and nearby residences

Controls for blasting activities: (Check all that apply)

- ☐ Pre-wetting blast area
- ☐ Place blast mats or soil mounds over charges
- ☐ Stabilize soils once blasting activities are complete
- ☐ Any other measure(s) as effective as the measures listed above (please describe)

_____

_____

_____

15. TRAFFIC CONTROL ON ON-SITE UNPAVED ROADS, PARKING LOTS AND STAGING AREAS ☐ N/A

The following control measure MUST be addressed:

- A maximum speed limit of fifteen (15) miles per hour (mph) or less

Additional control measures: (Check all that apply)

- ☑ Water every two hours of active operation or sufficiently often to keep the area adequately wetted
- ☐ Apply chemical dust suppressants consistent with manufacturer's directions
- ☐ Maintain a gravel cover with a silt content that is less than five (5) percent and asbestos content that is less than 0.25 percent, as determined using an approved asbestos bulk test method, to a depth of three (3) inches on the surface being used for travel
- ☑ Direct construction traffic over established haul routes
- ☐ Any other measure(s) as effective as the measures listed above (please describe)

_____

_____

_____

Initial: MB
Responsible Person

*: NOA(*) – Naturally Occurring Asbestos (see "Western El Dorado County Asbestos Review Areas" Map)

ASBESTOS DUST MITIGATION PLAN APPLICATION

EL DORADO COUNTY AIR QUALITY MANAGEMENT DISTRICT

16. MANAGEMENT OF EXCAVATED SOILS

The owner and/or operator MUST ensure that procedures and documentation per Rule 223-2.6.D. are obtained and retained.

☑ **On-Site Disposition**. Where feasible, excavated soils should be placed into fills elsewhere on the project.

- **Location**(s) of removal and placement quantities and location(s) of fills must be documented **and records retained for a period of ten (10) years.**
- Fills, with a NOA(*) content ≥ 1.0% or when visually evident fibrous materials likely to be NOA(*) are present, located in residential landscaping areas shall be covered by at least two feet (24 inches) of non-asbestiform cover soil material, or by concrete or asphalt paving.

☐ **Off-Site Disposition**. For any **soils** transported off-site the following information must be documented and retained for a period of at least 3 years (Rule 223-2.6.D.3).

- Originating project information (name, address, location)
- Laboratory results/report for NOA(*) soil testing done at the project location
- Date(s) of off-site transport(s) of excavated soils
- Location(s) where excavated soils were transported to
- Total quantity transported to each location
- Intended usage (fill, surface application), if the final destination is other than Class II or Class III landfill disposal
- **Location to receive exported soils**: _____

_____

NOTE: It is the owner/operator responsibility that final disposition (usage or disposal) and transport of excavated materials from the project are in compliance with pertinent federal, state and local rules and regulations, including CA Title 17, Section 93106, Asbestos Airborne Toxic Control Measure for Surfacing Applications.

17. OFF-SITE TRANSPORT ☑ N/A

The owner and/or operator must ensure that no trucks are allowed to transport excavated material off-site unless:

- Trucks are maintained such that no spillage can occur from holes or other openings in cargo compartments
- Loads are adequately wetted

☑ Water applied, if necessary, to the top of load

AND either: (Check all that apply)

☐ Covered with tarps or other suitable cover

☐ Trucks loaded such that the freeboard is not less than six (6) inches (material does not touch the front, back or sides of the cargo compartment at any point less than six inches from the top)

☐ Any other measure(s) as effective as the measures listed above (please describe)

_____

_____

_____

NOTE: It is the owner/operator responsibility that final disposition (usage or disposal) and transport of excavated materials from the project are in compliance with pertinent federal, state and local rules and regulations, including CA Title 17, Section 93106, Asbestos Airborne Toxic Control Measure for Surfacing Applications.

Initial: MB
Responsible Person

*: NOA(*) – Naturally Occurring Asbestos (see "Western El Dorado County Asbestos Review Areas" Map)

ASBESTOS DUST MITIGATION PLAN APPLICATION

EL DORADO COUNTY AIR QUALITY MANAGEMENT DISTRICT

18. POST CONSTRUCTION STABLIZATION OF DISTURBED AREAS

■ Upon completion of all phases of the project, but **no later than 30 days following the end of soil disturbing activities**, all disturbed surfaces with naturally occurring asbestos content of equal to or greater than 0.25% shall be stabilized using one or more of the following methods:

- [x] Establish a vegetative cover (less than 30% of disturbed ground exposed within 90 days of planting, and at all times thereafter):
- [ ] Placement of at least three (3.0) inches of non-asbestos containing material on disturbed soil areas in residential and nonresidential areas;
- [ ] Placement of a total of at least twelve (12) inches or the maximum depth of irrigation improvements, whichever is higher, of non-asbestos containing material on disturbed soil areas in residential landscaping areas with NOA(*) content greater than 0.25% or when visually evident fibrous materials likely to be asbestos are present;
- [ ] Paving, decking, building foundations, swimming pool structure, flatwork or retaining walls;
- [ ] Other measures approved by the APCO: _____

19. STATEMENT OF PROJECT'S RESPONSIBLE PERSON (Owner or Licensed Contractor acting on behalf of the Owner)

"I am familiar with the Rules and Regulations of the El Dorado County AQMD that are applicable to my project and I certify that the information and the data submitted with the application are true with regards to the project activities and/or equipment which are the subjects of this application". **A copy of this plan must be provided to all contractors and be available on site at all times.**
NOTE: Any changes to this plan MUST be pre-approved by the AQMD.

Michael Bailey/DeSilva Gates Construction	[signature]
Name (print)	Name (sign)
Senior Project Manager	5-15-12
Title	Date
7700 College Town Dr., Suite 230, Sacramento, CA 95826	916-386-9708
Address	Phone Number

FOR AQMD USE ONLY

DATE STAMP

RECEIVED
MAY 16 2012
AQMD

[X] APPLICATION APPROVED [ ] APPLICATION **NOT** APPROVED

DATE: 5/18/2012
REVIEWER NAME: Candice Thomas
REVIEWER SIGNATURE: Candice Thomas
COMMENTS: NOA report from March 2008 by Geocon Post mill 2.90 - 8.79 in NOA files

Reset

*: NOA(*) – Naturally Occurring Asbestos (see "Western El Dorado County Asbestos Review Areas" Map)

Air Quality Management District

Receipt ~ Customer Copy

Invoice ID	Date Printed	Receipt ID
IN0072396	5/17/2012	AB0163324

Applied Date	Program / Element	Description / Permit Type	Permit Number:	Amount
5/17/2012	0951	ASBESTOS DUST MITIGATION PLANS		$ 411.00
5/17/2012	9999	PAYMENT		$ -411.00

PAYOR: DeSILVA GATES CONSTRUCTION **TOTAL OUTSTANDING: $ 0.00**

POSTED BY: MARICELA ZAMORA

Questions?
Call Air Quality Management District at (530) 621-6662

72396

DeSILVA GATES
CONSTRUCTION
P.O. Box 2909 • Dublin, California 94568 • 925/829-9220

WELLS FARGO BANK
ONE KAISER PLAZA, SUITE 850
OAKLAND, CALIFORNIA 94612

11-24
1210 (8)

007293

CHECK NO.
7293

SPECIAL IMPREST CHECK

PAY ***** FOUR HUNDRED AND ELEVEN DOLLARS *****

DATE **5/15/2012**

AMOUNT *****411.00*****

TO THE ORDER OF

COUNTY OF EL DORADO
2850 FAIRLANE COURT
PLACERVILLE, CA 95667

⑈007293⑈ ⑆121000248⑆4122525124⑈



COPY original in cabinet

PREPARED FOR:

CALIFORNIA DEPARTMENT OF TRANSPORTATION
DISTRICT 3
703 B STREET, P.0. BOX 911
MARYSVILLE, CALIFORNIA

Caltrans

PREPARED BY:

GEOCON CONSULTANTS, INC.
3160 GOLD VALLEY DRIVE, SUITE 800
RANCHO CORDOVA, CALIFORNIA 95742

GEOCON

GEOCON PROJECT NO. S9300-06-22
TASK ORDER NO. 22, CONTRACT NO. 03A1368

MARCH 2008

Sample Population 'A'
(Borings B16 through B20, B50 through B91, B134 through B155 and B161 through B182 - Median)

SAMPLE INTERVAL (feet)	90% TOTAL LEAD UCL (mg/kg)	95% TOTAL LEAD UCL (mg/kg)	TOTAL LEAD MEAN (mg/kg)	MINIMUM VALUE (mg/kg)	MAXIMUM VALUE (mg/kg)
0.0 to 1.0	47.5	49.5	39.1	3.1	150
1.0 to 2.0	4.1	4.4	3.1	0.5	20
2.0 to 3.0	7.0	7.8	4.0	0.5	56

Sample Population B
(Borings B46 through B49 and B187 through B194 – Soundwall)

SAMPLE INTERVAL (feet)	90% TOTAL LEAD UCL * (mg/kg)	95% TOTAL LEAD UCL * (mg/kg)	TOTAL LEAD MEAN (mg/kg)	MINIMUM VALUE (mg/kg)	MAXIMUM VALUE (mg/kg)
0.0 to 3.0	35.6	38.7	21.7	0.9	95

* UCLs could not be calculated for each sample interval due to insufficient number of data, thus UCLs were calculated using all samples collected from this area.

5.4 NOA Results

Thirty composite soil samples were analyzed by EMSL for asbestos by the PLM method using the CARB 435 sample preparation method. An additional rock chip sample was analyzed by the PLM method and CARB 435 sample preparation. A summary of asbestos analytical results is presented in Table 4. Laboratory reports and COC documentation are presented in Appendix B.

One sample (NOA24) was reported to contain asbestos below the CARB regulatory action limit of 0.25% and the rest were reported as non-detect. TEM analysis was not performed on sample NOA24 because of the low percentage of asbestos reported. Additionally, TEM analysis is primarily used to determine the type of asbestos present and was not deemed necessary for this study.

5.5 Lead-containing Paint Sample Analytical Results

Five paint-chip samples were collected from the yellow median traffic stripe within the project boundaries. Paint-chip samples were analyzed for total lead and chromium. The analytical results of the LCP samples are summarized in Table 5. Laboratory reports and COC documentation are presented in Appendix B.

Total lead and chromium were detected in each sample submitted for analysis. Total lead was reported to range from 290 to 1,000 mg/kg, at or less than the California hazardous waste threshold (TTLC) for lead of 1,000 mg/kg. Total chromium was reported to range from 90 to 240 mg/kg, less than the California hazardous waste threshold (TTLC) for chromium of 2,500 mg/kg. Since the samples were only collected for screening purposes, WET analysis was not performed.

TABLE 4
SUMMARY OF ASBESTOS ANALYTICAL RESULTS
CALTRANS TASK ORDER NO. 22
HIGHWAY 50 POST MILE 2.90 TO 8.79
EL DORADO COUNTY, CALIFORNIA

SAMPLE I.D.	SAMPLE LOCATION	SAMPLE TYPE	ANALYTICAL METHOD	ASBESTOS %	ASBESTOS TYPE
NOA25	NOA46-0, NOA47-0, NOA48-0, NOA49-0	COMPOSITE	PLM	ND	ND
NOA26	NOA46-2, NOA47-2, NOA48-2, NOA49-2	COMPOSITE	PLM	ND	ND
NOA27	NOA187-0, NOA188-0, NOA189-0, NOA190-0	COMPOSITE	PLM	ND	ND
NOA28	NOA187-2, NOA188-2, NOA189-2, NOA190-2	COMPOSITE	PLM	ND	ND
NOA29	NOA191-0, NOA192-0, NOA193-0,NOA194-0	COMPOSITE	PLM	ND	ND
NOA30	NOA191-2, NOA192-2, NOA193-2,NOA194-2	COMPOSITE	PLM	ND	ND
NOA 183	West of Bass Lake Road	ROCK CHIP	PLM	ND	ND

Notes:

PLM = Polarized Light Microscopy

ND = None Detected

<0.25 = Less than the laboratory method reporting limit

TABLE 4
SUMMARY OF ASBESTOS ANALYTICAL RESULTS
CALTRANS TASK ORDER NO. 22
HIGHWAY 50 POST MILE 2.90 TO 8.79
EL DORADO COUNTY, CALIFORNIA

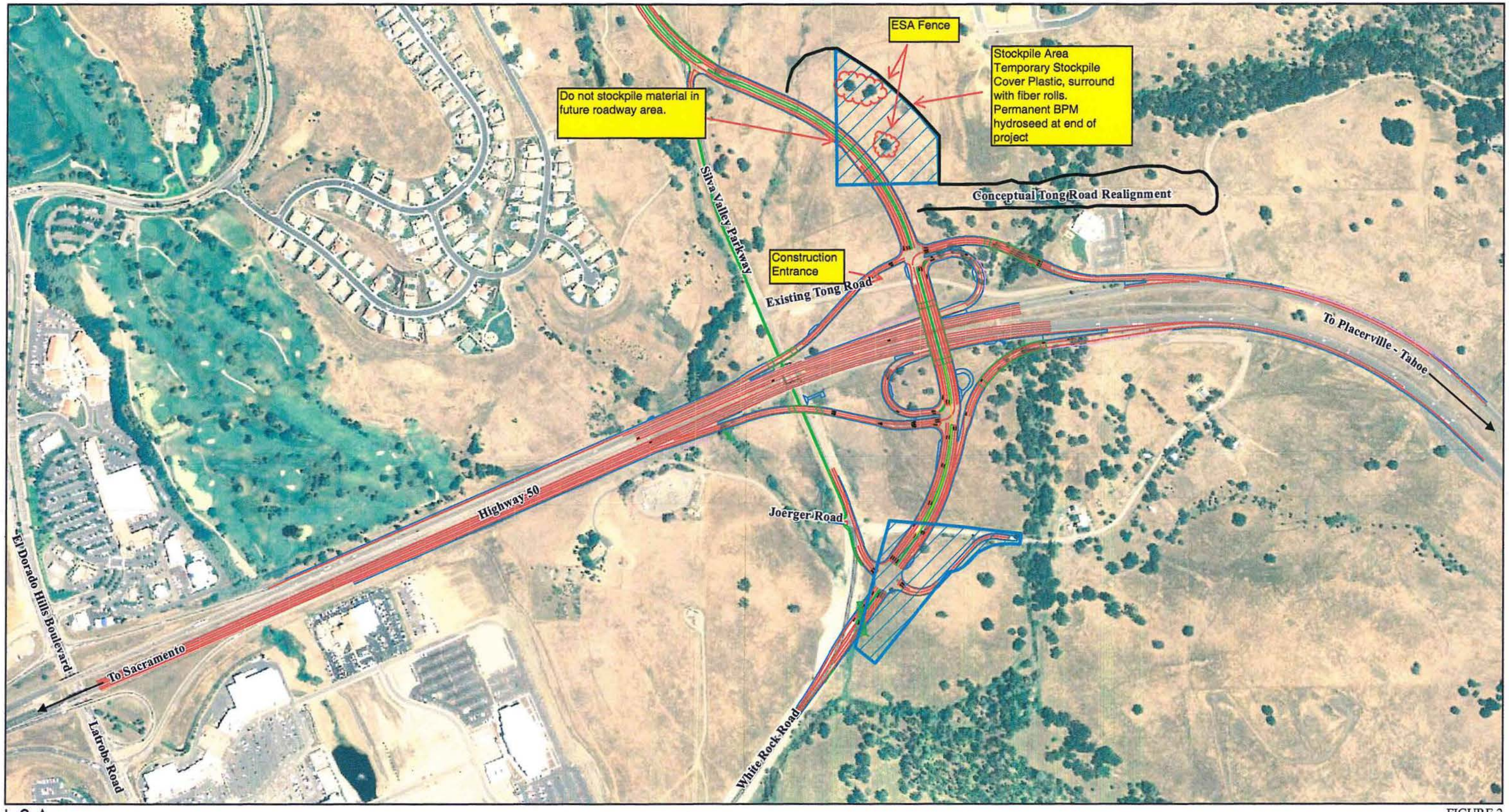
SAMPLE I.D.	SAMPLE LOCATION	SAMPLE TYPE	ANALYTICAL METHOD	ASBESTOS %	ASBESTOS TYPE
NOA17	NOA77-0, NOA78-0, NOA79-0, NOA80-0, NOA147-0, NOA148-0, NOA149-0, NOA150-0	COMPOSITE	PLM	ND	ND
NOA18	NOA77-2, NOA78-2, NOA79-2, NOA80-2, NOA147-2, NOA148-2, NOA149-2, NOA150-2	COMPOSITE	PLM	ND	ND
NOA19	NOA81-0, NOA82-0, NOA83-0, NOA84-0, NOA142-0, NOA143-0, NOA144-0, NOA146-0	COMPOSITE	PLM	ND	ND
NOA20	NOA81-2, NOA82-2, NOA83-2, NOA84-2, NOA142-2, NOA143-2, NOA144-2, NOA146-2	COMPOSITE	PLM	ND	ND
NOA2I	NOA85-0, NOA86-0, NOA87-0, NOA88-0, NOA138-0, NOA139-0, NOA140-0, NOA141-0	COMPOSITE	PLM	ND	ND
NOA22	NOA85-2, NOA86-2, NOA87-2, NOA88-2, NOA138-0, NOA139-2, NOA140-2, NOA141-2	COMPOSITE	PLM	ND	ND
NOA23	NOA89-0, NOA90-0, NOA91-0, NOA134-0, NOA135-0, NOA136-0, NOA137-0	COMPOSITE	PLM	ND	ND
NOA24	NOA89-2, NOA91-2, NOA134-2, NOA136-2, NOA137-2	COMPOSITE	PLM	<0.25%	CHRYSOTILE

TABLE 4
SUMMARY OF ASBESTOS ANALYTICAL RESULTS
CALTRANS TASK ORDER NO. 22
HIGHWAY 50 POST MILE 2.90 TO 8.79
EL DORADO COUNTY, CALIFORNIA

SAMPLE I.D.	SAMPLE LOCATION	SAMPLE TYPE	ANALYTICAL METHOD	ASBESTOS %	ASBESTOS TYPE
NOA9	NOA62-0, NOA63-0, NOA64-0, NOA167-0, NOA168-0, NOA169-0	COMPOSITE	PLM	ND	ND
NOA10	NOA62-2, NOA63-2, NOA64-2, NOA167-2, NOA168-2, NOA169-2	COMPOSITE	PLM	ND	ND
NOA11	NOA65-0, NOA66-0, NOA67-0, NOA68-0, NOA162-0, NOA163-0, NOA164-0, NOA165-0, NOA166-0	COMPOSITE	PLM	ND	ND
NOA12	NOA66-2, NOA67-2, NOA68-2, NOA162-2, NOA163-2, NOA164-2, NOA165-2, NOA166-2	COMPOSITE	PLM	ND	ND
NOA13	NOA69-0, NOA70-0, NOA71-0, NOA72-0, NOA154-0, NOA155-0, NOA160-0, NOA161-0	COMPOSITE	PLM	ND	ND
NOA14	NOA69-2, NOA70-2, NOA71-2, NOA72-2, NOA154-2, NOA155-2, NOA161-2	COMPOSITE	PLM	ND	ND
NOA15	NOA73-0, NOA74-0, NOA75-0, NOA76-0, NOA151-0, NOA152-0, NOA153-0	COMPOSITE	PLM	ND	ND
NOA16	NOA73-2, NOA74-2, NOA75-2, NOA76-2, NOA151-2, NOA153-2	COMPOSITE	PLM	ND	ND

TABLE 4
SUMMARY OF ASBESTOS ANALYTICAL RESULTS
CALTRANS TASK ORDER NO. 22
HIGHWAY 50 POST MILE 2.90 TO 8.79
EL DORADO COUNTY, CALIFORNIA

SAMPLE I.D.	SAMPLE LOCATION	SAMPLE TYPE	ANALYTICAL METHOD	ASBESTOS %	ASBESTOS TYPE
NOA 1	NOA16-0, NOA17-0, NOA18-0, NOA19-0, NOA20-0, NOA181-0, NOA182-0	COMPOSITE	PLM	ND	ND
NOA 2	NOA18-2, NOA20-2, NOA181-2, NOA182-2	COMPOSITE	PLM	ND	ND
NOA 3	NOA50-0, NOA51-0, NOA52-0, NOA177-0, NOA178-0, NOA179-0, NOA180-0	COMPOSITE	PLM	ND	ND
NOA 4	NOA50-2, NOA51-2, NOA52-2, NOA177-2, NOA178-2, NOA179-2, NOA180-2	COMPOSITE	PLM	ND	ND
NOA 5	NOA53-0, NOA54-0, NOA55-0, NOA56-0, NOA174-0, NOA175-0, NOA176-0	COMPOSITE	PLM	ND	ND
NOA 6	NOA55-2, NOA176-2	COMPOSITE	PLM	ND	ND
NOA 7	NOA57-0, NOA58-0, NOA59-0, NOA60-0, NOA61-0, NOA170-0, NOA171-0, NOA172-0	ROCK CHIP	PLM	ND	ND
NOA8	NOA57-2, NOA58-2, NOA170-2, NOA171-2, NOA172-2, NOA173-2	COMPOSITE	PLM	ND	ND



LSA

FIGURE 2

LEGEND

Potential Borrow Sites

N

0 250 500
FEET

SOURCE: Basemap - El Dorado County NIAP (5/2005); Mapping - Mark Thomas Engineering (2010)

I:\MKT530\GIS\prj_design4.mxd (12/8/10)

Silva Valley Parkway Interchange

Project Design

FOR AQMD USE ONLY:
AQMD S/R NUMBER: 8242
BLDG/GRADING: 219819

El Dorado County
Air Quality Management District (AQMD)
330 Fair Lane, Placerville, CA 95667
Phone: 530-621-7501 / Fax: 530-295-2774
www.edcgov.us/AirQualityManagement

RECEIVED
OCT 25 2013
AQMD

Asbestos Dust Mitigation Plan (ADMP) Application

(For projects greater than 20 yd³ and located in Naturally Occurring Asbestos (NOA) designated areas as shown on the Western El Dorado County Asbestos Review Map, or where NOA had been discovered)

Please complete every section and initial each page – incomplete applications will be returned.

1. ADMINISTRATIVE INFORMATION

Size of Project

Estimated Size of DISTURBED area (acres) *(Round up to nearest acre)*: 5.0 ACRES

NOTE: If size of DISTURBED area exceeds 50 acres, the project is designated as a "Large Operation" and additional requirements apply.

Estimated VOLUME (cubic yards) of graded Material: 120,000 CY

NOTE: If VOLUME of graded material exceeds 20 cubic yards, ADMP must be prepared and submitted.

Will Export Soils be Generated? ☒ YES ☐ NO

If "YES": (1) Exported soil management MUST comply with Rule 223-2.6.D.3.
(2) Address of the receiving site MUST be provided in Section 16.

Fees and Checklist

Fees due:

$380.00 (5) ADMP Review Fee

+ 130.00 $26 x DISTURBED Acres (minimum = $26)

$510.00 **Total Fees Due**

Checklist:

- ☒ Fees submitted with ADMP Application
- ☒ Application signed and initialed by a Responsible Party
- ☒ Project Map (must be included)
- ☐ NOA Sampling Reports (if applicable)

2A. OWNER INFORMATION

Name: EDH 52, GENERAL PARTNERSHIP		
Mailing Address: 7700 COLLEGE TOWN DRIVE, Suite 101		
City/State: SACRAMENTO, CA	Zip: 95826	
Contact Name: ANGELO K. TSAKOPOULOS		
Phone: 916-383-2500	Email/Fax: angelo@aktinvestments.com	

2B. CONTRACTOR INFORMATION

☐ N/A

Name: TBD		
Mailing Address:		
City/State:	Zip:	
Site Contact Name:		
Site Phone:	Email/Fax:	

3. PROJECT INFORMATION – Part I

Address: HWY 50 & SILVA VALLEY PARKWAY	Project Description: BORROW SITE FOR HIGHWAY INTX
City/State/Zip: EL DORADO HILLS, CA 95762	Est. Project Start Date: TBD
Parcel (APN) Number: 122-720-09	Est. Completion Date of Soil Disturbing Activities: TBD

ADMP MUST BE AVAILABLE ON SITE AT ALL TIMES

ASBESTOS DUST MITIGATION PLAN APPLICATION

COUNTY OF EL DORADO AIR QUALITY MANAGEMENT DISTRICT

4. PROJECT NOA INFORMATION – Part II

Is Project Located In Asbestos Review Area? ☐ YES ☒ NO	Professional Geologist Report Attached? ☒ YES ☐ NO
If "NO", Provide Date of NOA Discovery: See Geotech Report dated 3/11/13; pg 4	Laboratory Report/Data Sheets Attached? ☒ YES ☐ NO
Has Professional Geologist Evaluated the Site for NOA? ☐ YES ☐ NO (If "NO" Proceed to # 6)	Map Showing Location(s) of NOA (≥ 0.25%) Attached? ☒ YES ☐ NO

5. PROFESSIONAL GEOLOGIST INFORMATION ☐ N/A

Name Blackburn Consulting		
Address 11521 Blocker Dr. Ste 110	City/State Auburn, CA	Zip 95603
Contact Patrick Fischer	Phone (530) 887-1494	Fax

6. MAP INFORMATION

(11x17 format or smaller preferred)

Map(s) clearly indicating the following MUST be included:

- ☑ Property lines / boundaries
- ☑ Adjacent streets / easements
- ☑ Areas to be disturbed or graded
- ☐ Trenching areas
- ☒ Excavation sites
- ☐ Storage areas / piles
- ☐ Staging areas for removal
- ☐ Truck routes
- ☐ On-site parking lots
- ☐ Landmarks and roads
- ☐ NOA Sampling locations *(Indicate if ≥ 0.25% NOA)*
- ☐ Location(s) of placement of NOA containing excavated soils

7. PROJECT TYPE

Activity: (Check all that apply)

- ☐ Residential Construction
- ☒ Grading
- ☐ Road Construction
- ☐ Road Maintenance
- ☐ Housing Development
- ☐ Commercial Property Development
- ☐ Pool Construction
- ☐ Trenching / Utilities Work
- ☐ Landscaping
- ☐ Other (please describe): _____

Initial: _____

Responsible Person

ASBESTOS DUST MITIGATION PLAN APPLICATION

COUNTY OF EL DORADO AIR QUALITY MANAGEMENT DISTRICT

8. LARGE OPERATIONS (> 50 acres of DISTURBED surface) ☒ N/A

Additional requirements (Rule 223-2.7):

- Large Operations must include Dust Control Measures specified in Tables 5-6 of Rule 223-2.
  - ☐ Maintain daily records to document the specific dust control actions taken
  - ☐ Onsite Dust Control Supervisor (available within 30 minutes during working hours):

Name: _____ Phone/Mobile Number: _____

9. POTENTIAL SOURCES OF FUGITIVE DUST EMISSIONS

- There shall be no visible emissions (0% opacity as determined in accordance with US EPA Method 9) at 25 feet from the point-of-origin and at the property line. Visible emissions shall not exceed 20% opacity as determined in accordance with US EPA Method 9 at the point-of-origin. Applicable Best Management Practices included in Tables 1 - 4 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A.
- Asbestos Warning Signs must be posted at main entrances to the project (Rule 223-2.4.D)

Activity: (Check all that apply)

- ☑ Disturbing Soil
- ☒ Clearing and Grubbing
- ☒ Grading
- ☐ Backfilling
- ☐ Clearing Forms, Foundations and Slabs
- ☐ Demolition – Mechanical/Manual
- ☒ Large Earth-moving Equipment Operations
- ☒ Importing/Exporting of Bulk Materials
- ☐ Landscaping
- ☐ Road Construction / Maintenance
- ☒ Stockpiles/Bulk Material Handling
- ☒ Traffic Areas for Construction Activities
- ☐ Trenching
- ☒ Truck Loading
- ☒ Unpaved Road/Parking Lots
- ☒ Blasting
- ☐ Other: _____

Initial: _____
Responsible Person

ASBESTOS DUST MITIGATION PLAN APPLICATION

COUNTY OF EL DORADO AIR QUALITY MANAGEMENT DISTRICT

10. SOIL DISTURBANCE ACTIVITIES

- There shall be no visible emissions (0% opacity as determined in accordance with US EPA Method 9) at 25 feet from the point-of-origin and at the property line. Visible emissions shall not exceed 20% opacity as determined in accordance with US EPA Method 9 at the point-of-origin. Applicable Best Management Practices included in Table 1 - 4 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A.
- Suspend soil disturbing activities when wind speeds are high enough to result in dust emissions in excess of standards in Rule 223-2.4.A, despite the application of dust mitigation measures

Controls for soil distrurbing activities: (Check all that apply)

- [☑] Application of water, as necessary, prior and during earthmoving or land clearing activities (maintain live perennial vegetation where possible)
- [ ] Pre-wetting the ground to the depth of the anticipated cuts
- [x] Stabilize soils once soils disturbing activities are complete
- [ ] Any other measure(s) as effective as the measures listed above (please describe)

_____

_____

_____

11. ACTIVE STORAGE PILES ☐ N/A

- There shall be no visible emissions (0% opacity as determined in accordance with US EPA Method 9) at 25 feet from the point-of-origin and at the property line. Visible emissions shall not exceed 20% opacity as determined in accordance with US EPA Method 9 at the point-of-origin. Applicable Best Management Practices included in Table 1 - 4 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A.

The following control measure MUST be addressed:

- [X] Keep active storage piles adequately wetted or covered with tarps (please describe):

_____

_____

- [ ] When handling bulk material apply water or chemical/organic stabilizers/suppressants
- [ ] Any other measure(s) as effective as the measures listed above (please describe)

_____

_____

_____

Initial: _____

Responsible Person

ASBESTOS DUST MITIGATION PLAN APPLICATION

COUNTY OF EL DORADO AIR QUALITY MANAGEMENT DISTRICT

12. INACTIVE STORAGE PILES ☐ N/A

(not disturbed for more than 7 consecutive days)

- There shall be no visible emissions (0% opacity as determined in accordance with US EPA Method 9) at 25 feet from the point-of-origin and at the property line. Visible emissions shall not exceed 20% opacity as determined in accordance with US EPA Method 9 at the point-of-origin. Applicable Best Management Practices included in Table 1 - 4 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A.

Control for disturbed surface areas and storage piles that will remain inactive for more than seven (7) days shall include one or more of the following: (Check all that apply)

- [X] Keep the surface adequately wetted OR
- [X] Establish and maintenance of surface crusting sufficient to satisfy the test in Rule 223-2.10.C or Title 14 subsection §93105(h)(6) OR
- [X] Application of chemical dust suppressants or chemical stabilizers according to the manufacturer's recommendations OR
- [X] Covering with tarp(s) or vegetative cover
- [ ] Installation of wind barriers of fifty (50) percent porosity around three (3) sides of a storage pile
- [ ] Installation of wind barriers across open areas
- [ ] Any other measure(s) as effective as the measures listed above (please describe)

_____

_____

13. TRACK-OUT PREVENTION

- Any visible track-out on a paved public road where vehicles enter and exit the work area must be **IMMEDIATELY** removed from paved public roads. Removal shall be accomplished by using wet sweeping or a HEPA filter equipped vacuum device or flushing with water (if not in violation of any National Pollutant Discharge Elimination System permit program). Applicable Best Management Practices included in Table 3 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A. ***Note: The use of blower devices, or dry rotary brushes, is expressly prohibited!***

Other control measures: (Check all that apply)

- [X] A gravel pad designed using good engineering practices to clean the tires of exiting vehicles OR
- [X] Grizzlies, or similar devices designed to remove mud/dirt from tires OR
- [X] A tire shaker OR
- [X] A wheel wash system (mechanical or manual)
- [ ] Paving of interior roads
- [ ] Any other measure(s) as effective as the measures listed above (please describe)

_____

_____

_____

Initial: _____

Responsible Person

ASBESTOS DUST MITIGATION PLAN APPLICATION

COUNTY OF EL DORADO AIR QUALITY MANAGEMENT DISTRICT

14. BLASTING ACTIVITIES ☐ N/A

Must notify AQMD two (2) hours prior to blast!

- There shall be no visible emissions (0% opacity as determined in accordance with US EPA Method 9) at 25 feet from the point-of-origin and at the property line. Visible emissions shall not exceed 20% opacity as determined in accordance with US EPA Method 9 at the point-of-origin. Applicable Best Management Practices included in Table 1 - 4 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A.
- Suspend blasting activities when wind speeds are high enough to result in dust emissions in excess of standards in Rule 223-2.4.A, despite the application of dust mitigation measures. Consider wind direction with respect to property line and nearby residences

Controls for blasting activities: (Check all that apply)

- [x] Pre-wetting blast area
- [x] Place blast mats or soil mounds over charges
- [ ] Stabilize soils once blasting activities are complete
- [ ] Any other measure(s) as effective as the measures listed above (please describe)

_____

_____

_____

15. TRAFFIC CONTROL OF ON-SITE UNPAVED ROADS, PARKING LOTS AND STAGING AREAS ☐ N/A

The following control measure MUST be addressed:

- A maximum speed limit of fifteen (15) miles per hour (mph) or less

Additional control measures: (Check all that apply)

- [x] Water every two hours of active operation or sufficiently often to keep the area adequately wetted OR
- [x] Apply chemical dust suppressants consistent with manufacturer's directions OR
- [ ] Maintain a gravel cover with a silt content that is less than five (5) percent and asbestos content that is less than 0.25 percent, as determined using an approved asbestos bulk test method, to a depth of three (3) inches on the surface being used for travel
- [x] Direct construction traffic over established haul routes
- [ ] Any other measure(s) as effective as the measures listed above (please describe)

_____

_____

_____

Initial: _____

Responsible Person

ASBESTOS DUST MITIGATION PLAN APPLICATION

COUNTY OF EL DORADO AIR QUALITY MANAGEMENT DISTRICT

16. MANAGEMENT OF EXCAVATED SOILS

The owner and/or operator MUST ensure that procedures and documentation per Rule 223-2.6.D. are obtained and retained.

☒ **On-Site Disposition**. Where feasible, excavated soils should be placed into fills elsewhere on the project.

- **Location**(s) of removal and placement quantities and location(s) of fills must be documented **and records retained for a period of ten (10) years.**
- Fills, with a NOA content ≥ 1.0% or when visually evident fibrous materials likely to be NOA are present, located in residential landscaping areas shall be covered by at least two feet (24 inches) of non-asbestiform cover soil material, or by concrete or asphalt paving.

☒ **Off-Site Disposition**. For any **soils** transported off-site the following information must be documented and retained for a period of at least 3 years (Rule 223-2.6.D.3).

- Originating project information (name, address, location)
- Laboratory results/report for NOA soil testing done at the project location
- Date(s) of off-site transport(s) of excavated soils
- Location(s) of transported soil
- Total quantity transported to each location
- Intended usage (fill, surface application), if the final destination is other than Class II or Class III landfill disposal
- **Location to receive exported soils**: HIGHWAY 50 INTERCHANGE AT SILVA VALLEY PARKWAY AREA POTENTIALLY AREAS WITHIN 122-720-09 & 118-170-01,13,14,16,17 & 121-280-01, 24

NOTE: It is the owner/operator responsibility that final disposition (usage or disposal) and transport of excavated materials from the project are in compliance with pertinent federal, state and local rules and regulations, including CA Title 17, Section 93106, Asbestos Airborne Toxic Control Measure for Surfacing Applications.

17. OFF-SITE TRANSPORT ☐ N/A

The owner and/or operator must ensure that no trucks are allowed to transport excavated material off-site unless:

- Trucks are maintained such that no spillage can occur from holes or other openings in cargo compartments
- Loads are adequately wetted

☑ Water applied, if necessary, to the top of load

AND either: (Check all that apply)

☐ Covered with tarps or other suitable cover

☐ Trucks loaded such that the freeboard is not less than six (6) inches (material does not touch the front, back or sides of the cargo compartment at any point less than six inches from the top)

☐ Any other measure(s) as effective as the measures listed above (please describe)

_____

_____

_____

NOTE: It is the owner/operator responsibility that final disposition (usage or disposal) and transport of excavated materials from the project are in compliance with pertinent federal, state and local rules and regulations, including CA Title 17, Section 93106, Asbestos Airborne Toxic Control Measure for Surfacing Applications.

Initial: _____

Responsible Person

ASBESTOS DUST MITIGATION PLAN APPLICATION

COUNTY OF EL DORADO AIR QUALITY MANAGEMENT DISTRICT

18. POST CONSTRUCTION STABLIZATION OF DISTURBED AREAS

- Upon completion of all phases of the project, but **no later than 30 days following the end of soil disturbing activities**, all disturbed surfaces with naturally occurring asbestos content of equal to or greater than 0.25% shall be stabilized using one or more of the following methods:

  - [X] Establish a vegetative cover (less than 30% of disturbed ground exposed within 90 days of planting, and at all times thereafter):
  - [ ] Placement of at least three (3.0) inches of non-asbestos containing material on disturbed soil areas in residential and nonresidential areas;
  - [ ] Placement of a total of at least twelve (12) inches or the maximum depth of irrigation improvements, whichever is higher, of non-asbestos containing material on disturbed soil areas in residential landscaping areas with NOA content greater than 0.25% or when visually evident fibrous materials likely to be asbestos are present;
  - [ ] Paving, decking, building foundations, swimming pool structure, flatwork or retaining walls;
  - [ ] Other measures approved by the APCO: _____

19. STATEMENT OF PROJECT'S RESPONSIBLE PARTY
(Owner or Licensed Contractor acting on behalf of the Owner)

"I am familiar with the Rules and Regulations of the County of El Dorado AQMD that are applicable to my project and I certify that the information and the data submitted with the application are true with regards to the project activities and/or equipment which are the subjects of this application". **A copy of this plan must be provided to all contractors and be available on site at all times.**
NOTE: Any changes to this plan MUST be pre-approved by the AQMD.

ANGELO K. TSAKOPOULOS	Angelo K.
Name (print)	Name (sign)
MANAGING PARTNER	OCTOBER 23, 2013
Title	Date
7700 COLLEGE TOWN DR. SUITE 101, SACRAMENTO, CA 95826	916-383-2500
Address	Phone Number

FOR AQMD USE ONLY

DATE STAMP

RECEIVED
OCT 28 2013
AQMD

[X] APPLICATION APPROVED [ ] APPLICATION **NOT** APPROVED

DATE: 11/6/2013

REVIEWER NAME: Candice Thomas

REVIEWER SIGNATURE: Candice Thomas

COMMENTS: The export soil must be tested for asbestos or taken to a class II or III landfill as hazardous waste if it is being exported to a location other than The Hwy 50 interchange.

RSC ENGINEERING

Letter of Transmittal

Date:	October 25, 2013	**Job No.:**	104-001
Attn:		**Job Name:**	**EDH 52**
Company:	El Dorado County (AQMD)		
Street, Suite:	330 Fair Lane		
City, State, Zip:	Placerville, CA 95667		
From:	Richard S. Chavez		

Re:

Via:

☐ Hand Delivery ☐ Mail ☐ Overnight Delivery Service ☐ Will Call

These are transmitted as checked below:

☒ For Approval ☐ As Requested ☐ For Your Information ☐ For Review/Comment

We are sending you: Geotechnical Report EDH 52 Silva Valley Parkway @ US50
ADMP Application
Check # 6587 in the amount of $510.00

RSC Engineering, Inc.
Consulting Engineers

2250 Douglas Blvd.
Suite 150
Roseville, CA 95661
916.788.2884
Fax 916.788.4408
info@rsc-engr.com

ROUGH GRADING PLANS FOR
EDH 52
HIGHWAY 50 AND SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95762
EL DORADO COUNTY
APN: 122-720-09

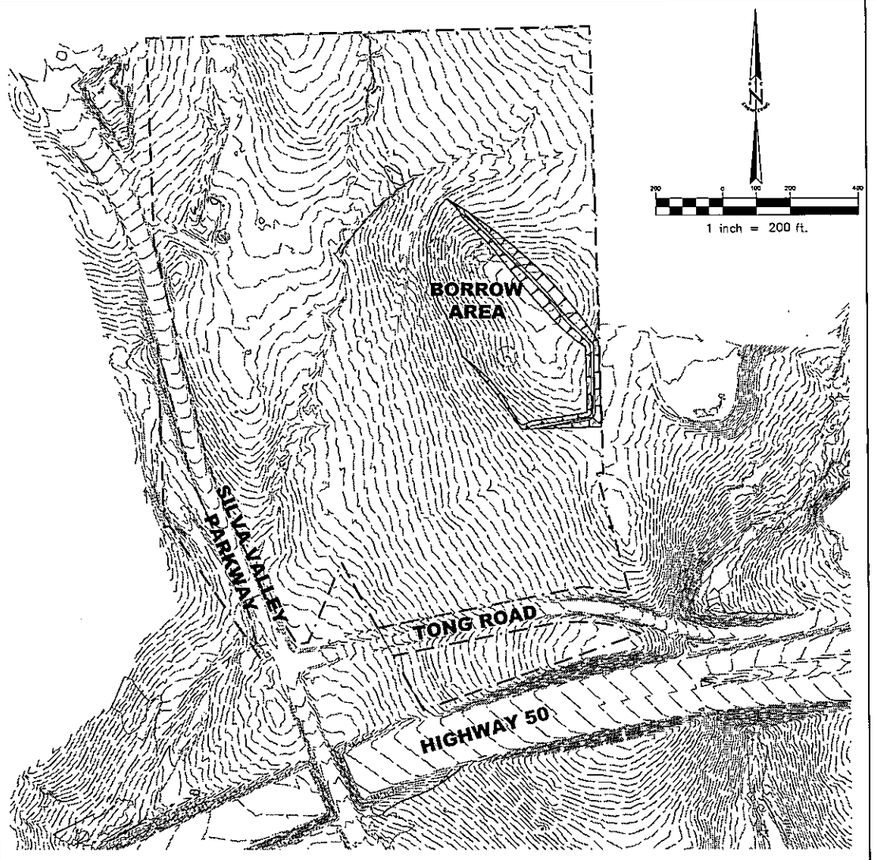
SYMBOL LEGEND

- PROPOSED SANITARY SEWER
- EXISTING SANITARY SEWER
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- PROPOSED WATER LINE
- EXISTING WATER LINE
- PROPOSED UNDERGROUND ELECTRIC
- EXISTING UNDERGROUND ELECTRIC
- PROPOSED UNDERGROUND TELEPHONE
- EXISTING UNDERGROUND TELEPHONE
- PROPOSED JOINT UTILITY TRENCH
- EXISTING JOINT UTILITY TRENCH
- PROPOSED GAS LINE
- EXISTING GAS LINE
- EXISTING OVERHEAD ELECTRIC
- PROPOSED MAJOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED FLOWLINE
- PROPOSED GRADE BREAK
- PROPOSED FENCE
- EXISTING FENCE
- EXISTING EDGE OF PAVEMENT
- EXISTING METAL BEAM GUARDRAIL
- PROPERTY BOUNDARY LINE
- RIGHT OF WAY LINE
- LOT LINE
- UTILITY EASEMENT LINE
- ADA PATH OF TRAVEL
- PROPOSED GATE VALVE
- EXISTING GATE VALVE
- PROPOSED BUTTERFLY VALVE
- EXISTING BUTTERFLY VALVE
- PROPOSED BLOW-OFF VALVE
- EXISTING BLOW-OFF VALVE
- PROPOSED AIR RELEASE VALVE
- EXISTING AIR RELEASE VALVE
- PROPOSED WATER METER
- PROPOSED FIRE HYDRANT
- EXISTING FIRE HYDRANT
- PROPOSED R.P. BACKFLOW PREVENTOR
- PROPOSED SANITARY SEWER MANHOLE
- EXISTING SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER CLEANOUT
- EXISTING SANITARY SEWER CLEANOUT
- PROPOSED STORM DRAIN MANHOLE
- EXISTING STORM DRAIN MANHOLE
- PROPOSED STORM DRAIN INLET
- PROPOSED STORM DRAIN CURB INLET
- EXISTING STORM DRAIN INLET
- PROPOSED TELEPHONE MANHOLE
- EXISTING TELEPHONE MANHOLE
- PROPOSED MANHOLE AS INDICATED
- EXISTING ELECTRIC VAULT
- PROPOSED ELECTRIC TRANSFORMER
- EXISTING JOINT UTILITY POLE
- EXISTING UTILITY POLE GUY ANCHOR
- EXISTING TRAFFIC SIGNAL LIGHT
- EXISTING STREET LIGHT
- PROPOSED SPOT ELEVATION
- EXISTING SPOT ELEVATION
- GRADE SLOPE AS INDICATED
- OVERLAND RELEASE PATH

ABBREVIATIONS

AB	AGGREGATE BASE
AC	ASPHALTIC CONCRETE OR ACRE
BC	BACK OF CURB
BFP	BACKFLOW PREVENTER
BLDG.	BUILDING
BM	BENCHMARK
BW	BOTTOM OF WALL
C	CONDUIT
C&G	CURB AND GUTTER
CONC.	CONCRETE
C/L, ℄	CENTERLINE
CMP	CORRUGATED METAL PIPE
CO.	CLEANOUT
CONST.	CONSTRUCT
COTG	CLEANOUT TO GRADE
CR	CURB RETURN
Δ	DELTA
DI	STORM DRAIN INLET
DIA, ⌀	DIAMETER
DWG	DRAWING
DWY	DRIVEWAY
EX. (E)	EXISTING
EC	END HORIZONTAL CURVE
ELEC.	ELECTRIC
EP	EDGE OF PAVEMENT
ESMT.	EASEMENT
FDC	FIRE DEPARTMENT CONNECTION
FF	FINISH FLOOR
FG	FINISH GRADE
FP	FINISH PAVEMENT
FS	FINISH SURFACE
FL	FLOWLINE
G	GAS
GB	GRADE BREAK
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HGL	HYDRAULIC GRADE LINE
IE	INVERT ELEVATION
INTX	INTERSECTION
INV	PIPE INVERT
IR	IRRIGATION
JP	JOINT UTILITY POLE
L	LENGTH
MAX.	MAXIMUM
MH	MANHOLE
MIN.	MINIMUM
O.C.	ON CENTERS
OH	OVERHEAD
PB	PULL BOX
PCC, PC	PORTLAND CEMENT CONCRETE
PE	POLYETHYLENE PIPE
PI	POINT OF INTERSECTION
PIV	POST INDICATOR VALVE
PL, ℙ	PROPERTY LINE
PP	POWER POLE
PRC	POINT OF REVERSE CURVE
PT	POINT OF TANGENCY
PVC	POLYVINYLCHLORIDE PIPE
PVMT	PAVEMENT
R	RADIUS
RAD	RADIAL
RCP	REINFORCED CONCRETE PIPE
RPDCA	REDUCED PRESS. DETECTOR CHECK ASSY.
R.O.W.	RIGHT OF WAY
S	SLOPE
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SS	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE
S.	STATION
SW	SIDEWALK
TB	TOP OF BANK
TC	TOP OF CURB
TEL.	TELEPHONE
TBC	TOP BACK OF CURB
TP	TELEPHONE POLE
TW	TOP OF WALL
TS	TAMPER SWITCH
TEMP.	TYPICAL
UG	UNDERGROUND
VCP	VITRIFIED CLAY PIPE
W	WATER

SITE LOCATION MAP



SHEET INDEX

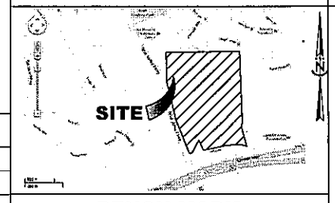
CIVIL IMPROVEMENT PLANS

C1.0	COVER SHEET
C1.1	NOTES SHEET
C1.2	MITIGATION MEASURES
C1.3	MITIGATION MEASURES
C2.0	EXISTING CONDITIONS
C3.0	BORROW AREA PLAN
C4.0	EROSION CONTROL PLAN
C4.1	EROSION CONTROL NOTES AND DETAILS

AVALABLE QUANTITIES

EXISTING STOCKPILE:	20,000 CY
BORROW AREA:	100,000 CY
TOTAL	120,000 CY

VICINITY MAP



BENCH MARK

DESCRIPTION: ELEV: 673.08

BRASS DISC STAMPED "T-127 1932", SET IN THE TOP OF THE WESTERLY END OF THE NORTHERLY RAIL OF BRIDGE #2502 OVER CARSON CREEK EASTERLY OF WHITE ROCK ROAD AND SOUTHERLY OF U.S. HIGHWAY 50.

NOTES

BASIS OF BEARING: THE BASIS OF BEARING FOR THIS SURVEY IS IDENTICAL TO THAT CERTAIN RECORD OF SURVEY FILED IN THE OFFICE OF THE COUNTY RECORDER OF EL DORADO COUNTY IN BOOK 16 OF SURVEYS, PAGE 147, WHICH IS THE CALIFORNIA COORDINATE SYSTEM, ZONE II. ALL DISTANCES ARE GROUND DISTANCES. MULTIPLY DISTANCE SHOWN BY 0.99991 TO OBTAIN GRID DISTANCE.

DEVELOPER:
EDH 52
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

CIVIL ENGINEERING:
RSC ENGINEERING, INC.
2250 DOUGLAS BLVD SUITE 150
ROSEVILLE, CA 95661
PHONE: (916) 788-2884

AGENCY APPROVALS

COUNTY OF EL DORADO DEPARTMENT OF TRANSPORTATION

By: _____ COUNTY ENGINEER, R.C.E. _____ DATE

DOT'S signature is founded on the premise that the owner and engineer of record have provided accurate information to DOT. If any of the information is found to be erroneous, then DOT may require the owner, engineer of record and contractor to stop all non-erosion control related work until the discrepancy is rectified to the satisfaction of DOT.

UTILITY REPRESENTATIVES

USA			800-227-2600
GAS	PACIFIC GAS & ELECTRIC	JENNIFER DONOVAN	530-383-0973
ELECTRICITY	PACIFIC GAS & ELECTRIC	JENNIFER DONOVAN	530-383-0973
TELEPHONE	AT&T	MATTHEW COCHRANE	530-621-6928
WATER	E.I.D.	KIM NETHERCOTT	530-642-4037
SEWER	E.I.D.	KIM NETHERCOTT	530-642-4037
DRAINAGE	EL DORADO COUNTY	D.O.T.	530-624-5900
FIRE	EL DORADO HILLS FIRE DEPARTMENT		530-626-3190
CABLE TV	-	-	-

OWNER:
EDH 52
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

NO.	DESCRIPTION	DWG INIT.	BY	DATE

REGISTERED PROFESSIONAL ENGINEER
RICHARD S. CHRISTY
No. 29033
Mar. 31, 2015
CIVIL
STATE OF CALIFORNIA

RSC ENGINEERING
2250 Douglas Blvd. Suite 150
Roseville, CA 95661
Ph: 916.788.2884 Fax: 916.788.4408

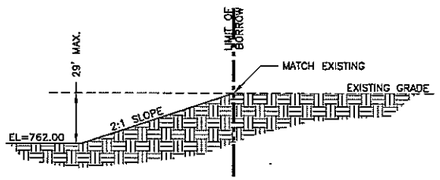
PROJECT NO:	104-001
DRAWN BY:	K. BAXTER
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

ROUGH GRADING PLANS FOR
EDH 52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95762
EL DORADO COUNTY

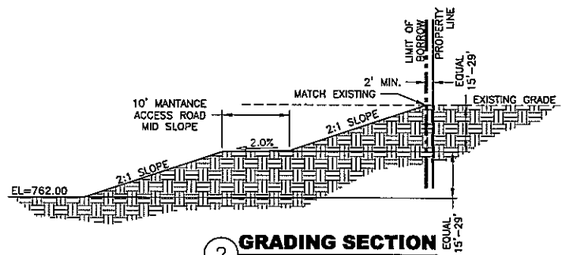
SHEET TITLE
COVER SHEET

SHEET NO.
C1.0
OF **8**

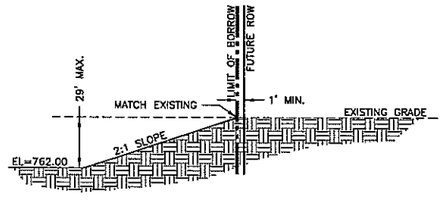
DATE: AUGUST 2013



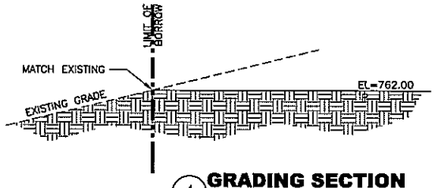
1 **GRADING SECTION**
NOT TO SCALE



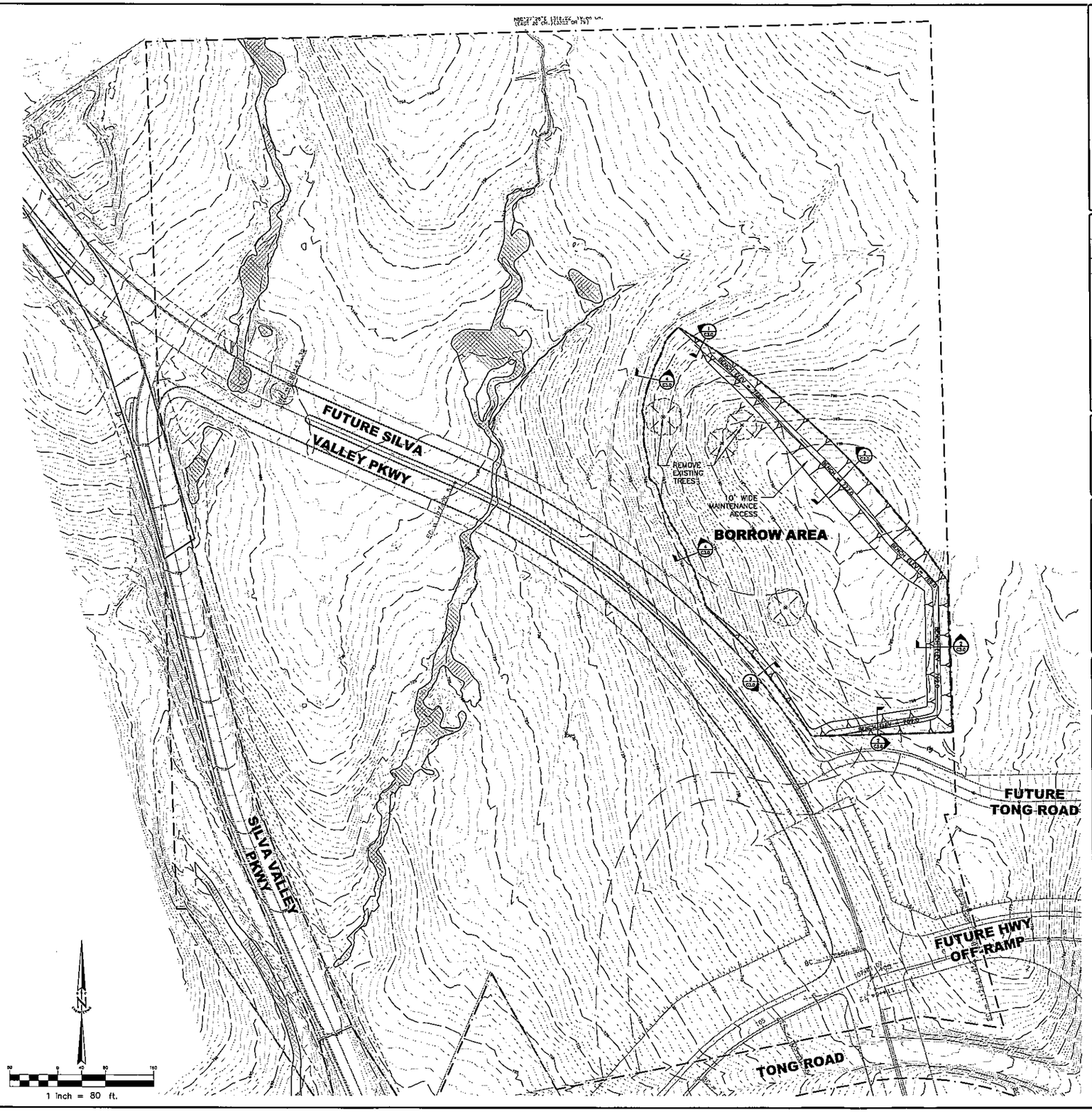
2 **GRADING SECTION**
NOT TO SCALE



3 **GRADING SECTION**
NOT TO SCALE



4 **GRADING SECTION**
NOT TO SCALE



OWNER:
EDH 52
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 353-2500

NO	DESCRIPTION	BY	DATE
			CITY APPROVED

REGISTERED PROFESSIONAL ENGINEER
RICHARD S. CRAVEN
No.29033
Mar. 31, 2015
CIVIL
STATE OF CALIFORNIA

RSC ENGINEERING
2250 Douglas Blvd. Suite 150
Roseville, CA 95661
Ph:916.786.2884 Fax:916.786.4408

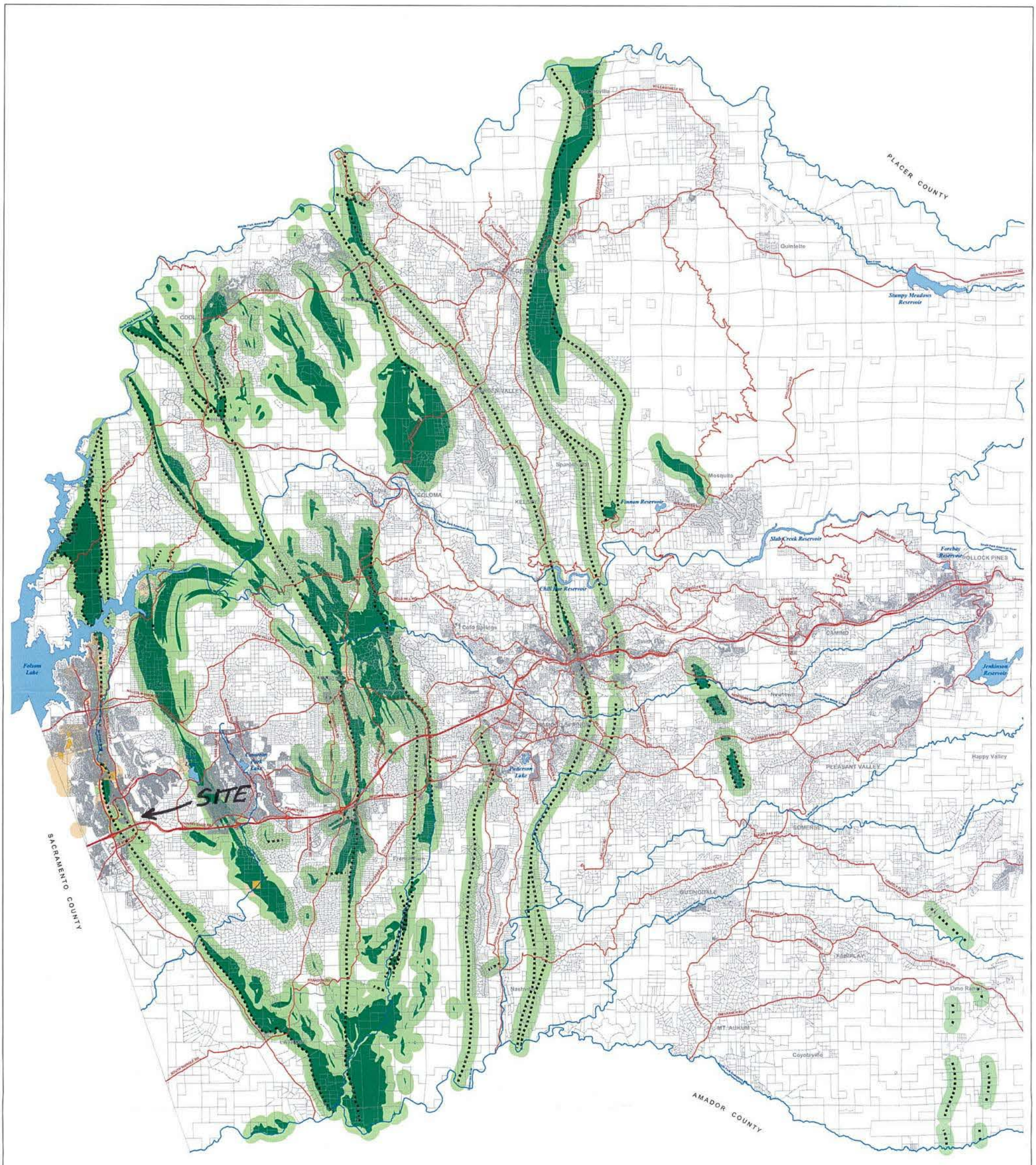
PROJECT NO: 104-001
DRAWN BY: K. BAXTER
CHECKED BY: RSC Eng
DESIGNED BY: RSC Eng

ROUGH GRADING PLANS FOR
EDH 52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95761
EL DORADO COUNTY

SHEET TITLE
ROUGH GRADING PLAN

SHEET NO.
C3.0
OF **6**

DATE: AUGUST 2013



Legend

- Found Area of NOA
- Quarter Mile Buffer for Found Area of NOA
- More Likely To Contain Asbestos (Dept of Conservation Mines & Geology OPEN-FILE REPORT 2000-002)
- Quarter Mile Buffer for More Likely To Contain Asbestos or Fault Line
- Fault Line (Dept of Conservation Mines & Geology OPEN-FILE REPORT 2000-002)
- Parcel Base
- Major Roads
- Rivers & Creeks

0 0.5 1 2 3 4 Miles

Map displayed in State Plane Coordinate System (NAD 1983 California Zone 2, feet)

ASBESTOS REVIEW AREAS
Western Slope
County of El Dorado
State of California

DISCLAIMER

THIS DEPICTION WAS COMPILED FROM UNVERIFIED PUBLIC AND PRIVATE SOURCES AND IS ILLUSTRATIVE ONLY. NO REPRESENTATION IS MADE AS TO ACCURACY OF THAT INFORMATION AND NONE MAY BE INFERRED. THEREFORE USERS MAKE USE TO THAT INFORMATION AT THEIR OWN RISK.

NOTES:

LAYER INFORMATION MAY COVER ADDITIONAL AREAS OUTSIDE OF THE DISPLAYED AREA.

PREPARED AT THE REQUEST OF: Environmental Management, DATE: 07/21/2005

MAP PREPARED BY: Frank Bruyn, DATE: 07/21/2005

G.I.S. PROJECT ID: 3089a, RELATED REPORT: na

EL DORADO COUNTY SURVEYOR/G.I.S. DIVISION
PHONE (530) 621-6511 FAX (530) 626-8731

FOR AQMD USE ONLY:
AQMD S/R NUMBER: 7819
BLDG/GRADING:

County of El Dorado
Air Quality Management District (AQMD)
330 Fair Lane, Placerville, CA 95667
Phone: 530-621-7501/ Fax: 530-295-2774
www.edcgov.us/AirQualityManagement

Asbestos Dust Mitigation Plan (ADMP) Application

(For projects greater than 20 yd^3 and located in NOA(*) designated areas, or where NOA had been discovered)

Please complete every section and initial each page – incomplete applications will be returned.

1. ADMINISTRATIVE INFORMATION

Size of Project

Estimated Size of DISTURBED area (acres) *(Round up to nearest acre)*: 2.0

NOTE: If size of DISTURBED area exceeds 50 acres, the project is designated as a "Large Operation" and additional requirements apply.

Estimated VOLUME (cubic yards) of graded Material: 400

NOTE: If VOLUME of graded material exceeds 20 cubic yards, ADMP must be prepared and submitted. Should be NO - jw

Will Export Soils be Generated? ☑ YES ☑ NO

If "YES": (1) Exported soil management MUST comply with Rule 223-2.6.D.3. (2) Address of the receiving site MUST be provided in Section 16.

Fees and Checklist

Fees due:

$372.00 ADMP Review Fee

+ 50.00 $25 x DISTURBED Acres (minimum = $25)

$ 422.00 **Total Fees Due**

Checklist:

☑ Fees submitted with ADMP Application

☑ Application signed and initialed by a Responsible Party

☑ Project Map (must be included)

☐ NOA(*) Sampling Reports (if applicable)

2A. OWNER INFORMATION		2B. CONTRACTOR INFORMATION ☑ N/A	
Name: Pacific Gas and Electric Company		Name:	
Mailing Address: 3401 Crow Canyon Rd		Mailing Address:	
City/State: San Ramon, CA	Zip: 94583	City/State:	Zip:
Contact Name: John Woodruff		Site Contact Name:	
Phone: 925.719.4797	Email/Fax: jxwf@pge.com	Site Phone:	Email/Fax:

3. PROJECT INFORMATION – Part I

Address: Highway 50 and Silva Valley Pkwy	Project Description: Electric Utility Relocation (30855164)
City/State/Zip: El Dorado Hills, CA 95762	Est. Project Start Date: March 18, 2013
Parcel (APN) Number: N/A	Est. Completion Date of Soil Disturbing Activities: July 01, 2013

*: NOA(*) – Naturally Occurring Asbestos (see "Western El Dorado County Asbestos Review Areas" Map)

ASBESTOS DUST MITIGATION PLAN APPLICATION

EL DORADO COUNTY AIR QUALITY MANAGEMENT DISTRICT

4. PROJECT NOA(*) INFORMATION – Part II

Is Project Located In Asbestos Review Area? ☑ YES ☐ NO	Professional Geologist Report Attached? ☐ YES ☑ NO
If "NO", Provide Date of NOA(*) Discovery:	Laboratory Report/Data Sheets Attached? ☐ YES ☑ NO
Has Professional Geologist Evaluated the Site for NOA? ☐ YES ☑ NO (If "NO" Proceed to # 6)	Map Showing Location(s) of NOA(*) (≥ 0.25%) Attached? ☐ YES ☐ NO

5. PROFESSIONAL GEOLOGIST INFORMATION ☑ N/A

Name N/A		
Address	City/State	Zip
Contact	Phone	Fax

6. MAP INFORMATION

(11x17 format or smaller preferred)

Map(s) clearly indicating the following MUST be included:

- ☑ Property lines / boundaries
- ☑ Adjacent streets / easements
- ☑ Areas to be disturbed or graded
- ☑ Trenching areas
- ☐ Excavation sites
- ☐ Storage areas / piles
- ☐ Staging areas for removal
- ☐ Truck routes
- ☐ On-site parking lots
- ☐ Landmarks and roads
- ☐ NOA Sampling locations *(Indicate if ≥ 0.25% NOA(*))*
- ☐ Location(s) of placement of NOA(*) containing excavated soils

7. PROJECT TYPE

Activity: (Check all that apply)

- ☐ Residential Construction
- ☐ Grading
- ☐ Road Construction
- ☐ Road Maintenance
- ☐ Housing Development
- ☐ Commercial Property Development
- ☐ Pool Construction
- ☑ Trenching / Utilities Work
- ☐ Landscaping
- ☑ Other (please describe): Some utility pole installations also

Initial: JW

Responsible Person

*: NOA(*) – Naturally Occurring Asbestos (see "Western El Dorado County Asbestos Review Areas" Map)

ASBESTOS DUST MITIGATION PLAN APPLICATION

EL DORADO COUNTY AIR QUALITY MANAGEMENT DISTRICT

8. LARGE OPERATIONS (> 50 acres of DISTURBED surface) ☑ N/A

Additional requirements (Rule 223-2.7):

- Large Operations must include Dust Controls Measures specified in Tables 5-6 of Rule 223-2.
  - ☐ Maintain daily records to document the specific dust control actions taken
  - ☐ Onsite Dust Control Supervisor (available within 30 minutes during working hours):

Name: _____ Phone/Mobile Number: _____

9. POTENTIAL SOURCES OF FUGITIVE DUST EMISSIONS

- There shall be no visible emissions (0% opacity as determined in accordance with US EPA Method 9) at 25 feet from the point-of-origin and at the property line. Visible emissions shall not exceed 20% opacity as determined in accordance with US EPA Method 9 at the point-of-origin. Applicable Best Management Practices included in Table 1 - 4 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A.
- Asbestos Warning Signs must be posted at main entrances to the project (Rule 223-2.4.D)

Activity: (Check all that apply)

☑ Disturbing Soil	☐ Road Construction / Maintenance
☐ Clearing and Grubbing	☑ Stockpiles/Bulk Material Handling
☐ Grading	☐ Traffic Areas for Construction Activities
☑ Backfilling	☑ Trenching
☐ Clearing Forms, Foundations and Slabs	☐ Truck Loading
☐ Demolition – Mechanical/Manual	☐ Unpaved Road/Parking Lots
☐ Large Earth-moving Equipment Operations	☐ Blasting
☑ Importing/Exporting of Bulk Materials	☑ Other: Most excavation will be trenching, but some drilling for utility poles
☐ Landscaping	

Initial: JW

Responsible Person

*: NOA(1) – Naturally Occurring Asbestos (see "Western El Dorado County Asbestos Review Areas" Map)

ASBESTOS DUST MITIGATION PLAN APPLICATION

EL DORADO COUNTY AIR QUALITY MANAGEMENT DISTRICT

10. SOIL DISTURBANCE ACTIVITIES

- There shall be no visible emissions (0% opacity as determined in accordance with US EPA Method 9) at 25 feet from the point-of-origin and at the property line. Visible emissions shall not exceed 20% opacity as determined in accordance with US EPA Method 9 at the point-of-origin. Applicable Best Management Practices included in Table 1 - 4 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A.
- Suspend soil disturbing activities when wind speeds are high enough to result in dust emissions in excess of standards in Rule 223-2.4.A, despite the application of dust mitigation measures

Controls for soil distrurbing activities: (Check all that apply)

- [x] Application of water, as necessary, prior and during earthmoving or land clearing activities (maintain live perennial vegetation where possible)
- [ ] Pre-wetting the ground to the depth of the anticipated cuts
- [x] Stabilize soils once soils disturbing activities are complete
- [x] Any other measure(s) as effective as the measures listed above (please describe)

Excavated spoils that are placed back into the trenches will be sufficiently compacted to stabilize them

11. ACTIVE STORAGE PILES [ ] N/A

- There shall be no visible emissions (0% opacity as determined in accordance with US EPA Method 9) at 25 feet from the point-of-origin and at the property line. Visible emissions shall not exceed 20% opacity as determined in accordance with US EPA Method 9 at the point-of-origin. Applicable Best Management Practices included in Table 1 - 4 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A.

The following control measure MUST be addressed:

- [x] Keep active storage piles adequately wetted or covered with tarps (please describe):

Precautions such as these will be taken if conditions are such that fugitive dust is being generated.

- [ ] When handling bulk material apply water or chemical/organic stabilizers/suppressants
- [ ] Any other measure(s) as effective as the measures listed above (please describe)

Initial: JW

Responsible Person

*: NOA(*) – Naturally Occurring Asbestos (see "Western El Dorado County Asbestos Review Areas" Map)

ASBESTOS DUST MITIGATION PLAN APPLICATION

EL DORADO COUNTY AIR QUALITY MANAGEMENT DISTRICT

12. INACTIVE STORAGE PILES ☑ N/A

(not disturbed for more than 7 consecutive days)

- There shall be no visible emissions (0% opacity as determined in accordance with US EPA Method 9) at 25 feet from the point-of-origin and at the property line. Visible emissions shall not exceed 20% opacity as determined in accordance with US EPA Method 9 at the point-of-origin. Applicable Best Management Practices included in Table 1 - 4 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A.

Control for disturbed surface areas and storage piles that will remain inactive for more than seven (7) days shall include one or more of the following: (Check all that apply)

- ☐ Keep the surface adequately wetted
- ☐ Establish and maintenance of surface crusting sufficient to satisfy the test in Rule 223-2.10.C or Title 14 subsection §93105(h)(6)
- ☐ Application of chemical dust suppressants or chemical stabilizers according to the manufacturer's recommendations
- ☐ Covering with tarp(s) or vegetative cover
- ☐ Installation of wind barriers of fifty (50) percent porosity around three (3) sides of a storage pile
- ☐ Installation of wind barriers across open areas
- ☐ Any other measure(s) as effective as the measures listed above (please describe)

_____

_____

13. TRACK-OUT PREVENTION

- Any visible track-out on a paved public road where vehicles enter and exit the work area must be **IMMEDIATELY** removed from paved public roads. Removal shall be accomplished by using wet sweeping or a HEPA filter equipped vacuum device or flushing with water (if not in violation of any National Pollutant Discharge Elimination System permit program). Applicable Best Management Practices included in Table 3 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A. ***Note: The use blower devices, or dry rotary brushes, is expressly prohibited!***

Other control measures: (Check all that apply)

- ☐ A gravel pad designed using good engineering practices to clean the tires of exiting vehicles
- ☐ Grizzlies, or similar devices designed to remove mud/dirt from tires
- ☐ A tire shaker
- ☐ A wheel wash system (mechanical or manual)
- ☐ Paving of interior roads
- ☑ Any other measure(s) as effective as the measures listed above (please describe)

The exact control measure(s) have not been developed, but will be determined in the field based on field conditions and specific equipment

_____

_____

Initial: JW

Responsible Person

*: NOA(') – Naturally Occurring Asbestos (see "Western El Dorado County Asbestos Review Areas" Map)

ASBESTOS DUST MITIGATION PLAN APPLICATION

EL DORADO COUNTY AIR QUALITY MANAGEMENT DISTRICT

14. BLASTING ACTIVITIES ☑ N/A

Must notify AQMD two (2) hours prior to blast!

- There shall be no visible emissions (0% opacity as determined in accordance with US EPA Method 9) at 25 feet from the point-of-origin and at the property line. Visible emissions shall not exceed 20% opacity as determined in accordance with US EPA Method 9 at the point-of-origin. Applicable Best Management Practices included in Table 1 - 4 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A.
- Suspend blasting activities when wind speeds are high enough to result in dust emissions in excess of standards in Rule 223-2.4.A, despite the application of dust mitigation measures. Consider wind direction with respect to property line and nearby residences

Controls for blasting activities: (Check all that apply)

- ☐ Pre-wetting blast area
- ☐ Place blast mats or soil mounds over charges
- ☐ Stabilize soils once blasting activities are complete
- ☐ Any other measure(s) as effective as the measures listed above (please describe)

_____

_____

_____

15. TRAFFIC CONTROL ON ON-SITE UNPAVED ROADS, PARKING LOTS AND STAGING AREAS ☐ N/A

The following control measure MUST be addressed:

- A maximum speed limit of fifteen (15) miles per hour (mph) or less

Additional control measures: (Check all that apply)

- ☐ Water every two hours of active operation or sufficiently often to keep the area adequately wetted
- ☐ Apply chemical dust suppressants consistent with manufacturer's directions
- ☐ Maintain a gravel cover with a silt content that is less than five (5) percent and asbestos content that is less than 0.25 percent, as determined using an approved asbestos bulk test method, to a depth of three (3) inches on the surface being used for travel
- ☐ Direct construction traffic over established haul routes
- ☑ Any other measure(s) as effective as the measures listed above (please describe)

Water or dust suppressants shall be sprayed on unpaved traffic as needed if fugitive dust is generated.

_____

_____

Initial: JW

Responsible Person

*. NOA[1] – Naturally Occurring Asbestos (see "Western El Dorado County Asbestos Review Areas" Map)

ASBESTOS DUST MITIGATION PLAN APPLICATION

EL DORADO COUNTY AIR QUALITY MANAGEMENT DISTRICT

16. MANAGEMENT OF EXCAVATED SOILS

The owner and/or operator MUST ensure that procedures and documentation per Rule 223-2.6.D. are obtained and retained.

☑ **On-Site Disposition**. Where feasible, excavated soils should be placed into fills elsewhere on the project.

- **Location**(s) of removal and placement quantities and location(s) of fills must be documented **and records retained for a period of ten (10) years.**
- Fills, with a NOA(*) content ≥ 1.0% or when visually evident fibrous materials likely to be NOA(*) are present, located in residential landscaping areas shall be covered by at least two feet (24 inches) of non-asbestiform cover soil material, or by concrete or asphalt paving.

Should not be checked ? JW

☑ **Off-Site Disposition**. For any **soils** transported off-site the following information must be documented and retained for a period of at least 3 years (Rule 223-2.6.D.3).

- Originating project information (name, address, location)
- Laboratory results/report for NOA(*) soil testing done at the project location
- Date(s) of off-site transport(s) of excavated soils
- Location(s) where excavated soils were transported to
- Total quantity transported to each location
- Intended usage (fill, surface application), if the final destination is other than Class II or Class III landfill disposal
- **Location to receive exported soils:** Excess spoils shall be disposed of at a location or locations that have not yet been determined. X JW

Fallback location is Recology Hay Rd Landfill, 6426 Hay Rd., Vacaville, CA X JW

NOTE: It is the owner/operator responsibility that final disposition (usage or disposal) and transport of excavated materials from the project are in compliance with pertinent federal, state and local rules and regulations, including CA Title 17, Section 93106, Asbestos Airborne Toxic Control Measure for Surfacing Applications.

17. OFF-SITE TRANSPORT ☑ N/A

The owner and/or operator must ensure that no trucks are allowed to transport excavated material off-site unless:

- Trucks are maintained such that no spillage can occur from holes or other openings in cargo compartments
- Loads are adequately wetted

☑ Water applied, if necessary, to the top of load

AND either: (Check all that apply)

☐ Covered with tarps or other suitable cover

☑ Trucks loaded such that the freeboard is not less than six (6) inches (material does not touch the front, back or sides of the cargo compartment at any point less than six inches from the top)

☑ Any other measure(s) as effective as the measures listed above (please describe)

Excavated material in trucks shall be wetted and covered as necessary to prevent fugitive dust.

NOTE: It is the owner/operator responsibility that final disposition (usage or disposal) and transport of excavated materials from the project are in compliance with pertinent federal, state and local rules and regulations, including CA Title 17, Section 93106, Asbestos Airborne Toxic Control Measure for Surfacing Applications.

Initial: JW JW

Responsible Person

*: NOA(*) – Naturally Occurring Asbestos (see "Western El Dorado County Asbestos Review Areas" Map)

ASBESTOS DUST MITIGATION PLAN APPLICATION

EL DORADO COUNTY AIR QUALITY MANAGEMENT DISTRICT

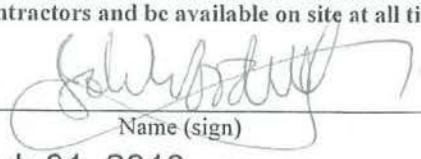
18. POST CONSTRUCTION STABLIZATION OF DISTURBED AREAS

■ Upon completion of all phases of the project, but **no later than 30 days following the end of soil disturbing activities**, all disturbed surfaces with naturally occurring asbestos content of equal to or greater than 0.25% shall be stabilized using one or more of the following methods:

- ☐ Establish a vegetative cover (less than 30% of disturbed ground exposed within 90 days of planting, and at all times thereafter):
- ☑ Placement of at least three (3.0) inches of non-asbestos containing material on disturbed soil areas in residential and nonresidential areas;
- ☐ Placement of a total of at least twelve (12) inches or the maximum depth of irrigation improvements, whichever is higher, of non-asbestos containing material on disturbed soil areas in residential landscaping areas with NOA(*) content greater than 0.25% or when visually evident fibrous materials likely to be asbestos are present;
- ☐ Paving, decking, building foundations, swimming pool structure, flatwork or retaining walls;
- ☐ Other measures approved by the APCO: _____

19. STATEMENT OF PROJECT'S RESPONSIBLE PERSON
(Owner or Licensed Contractor acting on behalf of the Owner)

"I am familiar with the Rules and Regulations of the El Dorado County AQMD that are applicable to my project and I certify that the information and the data submitted with the application are true with regards to the project activities and/or equipment which are the subjects of this application". **A copy of this plan must be provided to all contractors and be available on site at all times.**
NOTE: Any changes to this plan MUST be pre-approved by the AQMD.

John Woodruff	
Name (print)	Name (sign)
CA Professional Geologist 6098	March 01, 2013
Title	Date
3401 Crow Canyon Rd San Ramon, CA 94583	925.719.4797
Address	Phone Number

FOR AQMD USE ONLY

DATE STAMP

☒ APPLICATION APPROVED ☐ APPLICATION **NOT** APPROVED

DATE: 03/07/2013

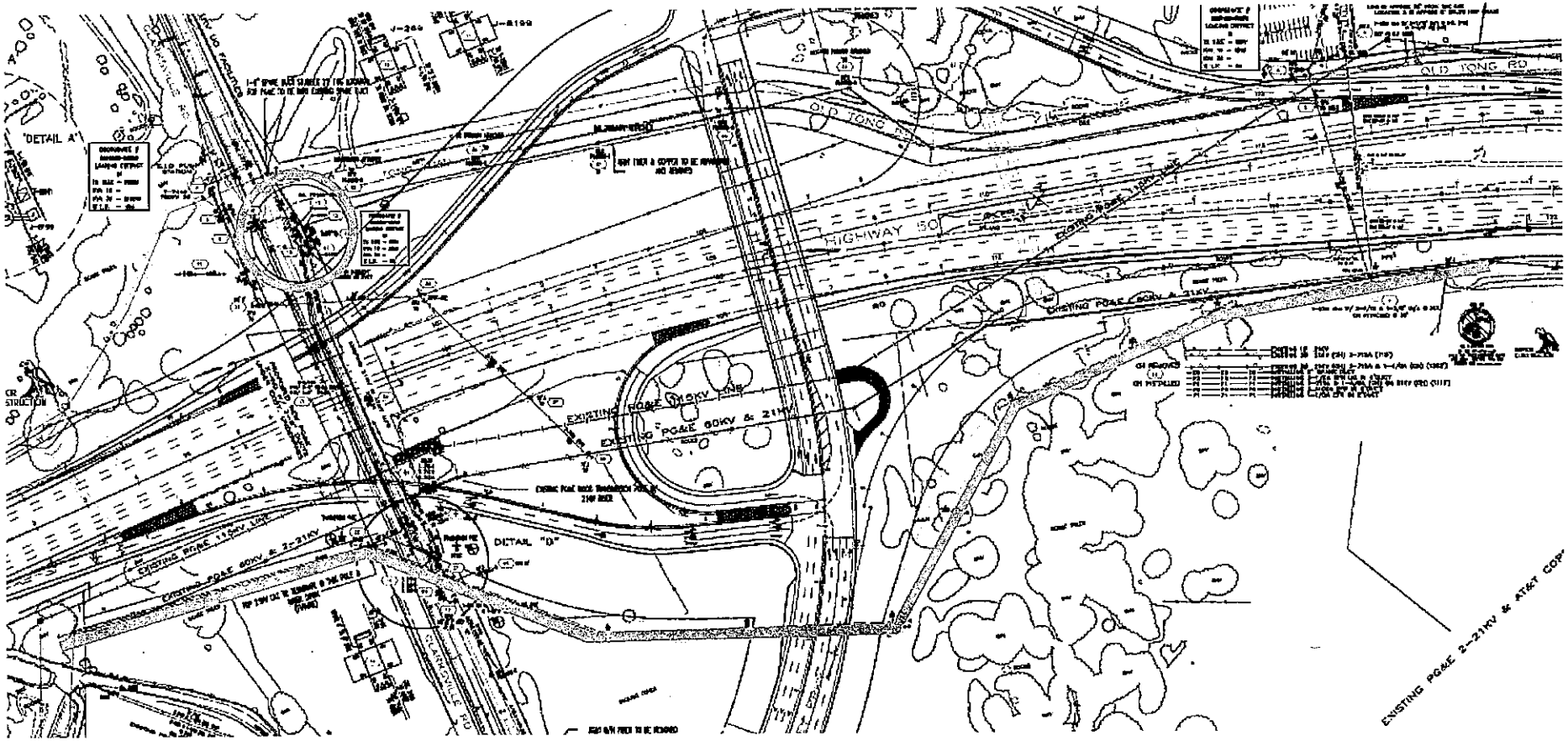
REVIEWER NAME: levi Ford

REVIEWER SIGNATURE: Levi Ford

COMMENTS:
All soil to remain on-Site

Reset

*: NOA(*) – Naturally Occurring Asbestos (see "Western El Dorado County Asbestos Review Areas" Map)



Project Location Map
PG&E WRO Electric Transmission and Distribution Relocation Project
PG&E Order 30855164
El Dorado Hills, California

LEGEND

Conduit Trench

Area of short conduit trenches

FOR AQMD USE ONLY:
AQMD S/R NUMBER: 8294
BLDG/GRADING:

El Dorado County
Air Quality Management District (AQMD)
330 Fair Lane, Placerville, CA 95667
Phone: 530-621-7501 / Fax: 530-295-2774
www.edcgov.us/AirQualityManagement

Asbestos Dust Mitigation Plan (ADMP) Application

(For projects greater than 20 yd³ and located in Naturally Occurring Asbestos (NOA) designated areas as shown on the Western El Dorado County Asbestos Review Map, or where NOA had been discovered)

Please complete every section and initial each page – incomplete applications will be returned.

1. ADMINISTRATIVE INFORMATION

Size of Project

Estimated Size of DISTURBED area (acres) *(Round up to nearest acre)*: 20

NOTE: If size of DISTURBED area exceeds 50 acres, the project is designated as a "Large Operation" and additional requirements apply.

Estimated VOLUME (cubic yards) of graded Material: 115,000

NOTE: If VOLUME of graded material exceeds 20 cubic yards, ADMP must be prepared and submitted.

Will Export Soils be Generated? ☐ YES ☒ NO

If "YES": (1) Exported soil management MUST comply with Rule 223-2.6.D.3.
(2) Address of the receiving site MUST be provided in Section 16.

Fees and Checklist

Fees due:

$380.00 ADMP Review Fee

+ $520.00 $26 x DISTURBED Acres (minimum = $26)

$ 900.00 **Total Fees Due**

Checklist:

- ☐ Fees submitted with ADMP Application
- ☒ Application signed and initialed by a Responsible Party
- ☒ Project Map (must be included)
- ☐ NOA Sampling Reports (if applicable) N/A

2A. OWNER INFORMATION

Name: EL DORADO COUNTY
Mailing Address: 2441 HEADINGTON ROAD
City/State: PLACERVILLE, CA Zip: 95667
Contact Name: ARADHANA KOCHAR
Phone: (916) 599-5673 Email/Fax: ARADHANA.KOCHAR@EDCGOV.US

2B. CONTRACTOR INFORMATION

☐ N/A

Name: MYERS & SONS CONSTRUCTION, LP
Mailing Address: 4600 NORTHGATE BLVD., SUITE 100
City/State: SACRAMENTO, CA Zip: 95834
Site Contact Name: QUINN HOFFMANN
Site Phone: (916) 202-6766 Email/Fax: QHOFFMANN@MYERS-SONS.COM

3. PROJECT INFORMATION – Part I

Address: SILVA VALLEY PARKWAY @ US HWY 50
City/State/Zip: EL DORADO HILLS, CA
Parcel (APN) Number: N/A

Project Description: EARTHWORK, ROAD WIDENING, BRIDGE WORK, UTILITIES, PAVING
Est. Project Start Date: 1/1/2014
Est. Completion Date of Soil Disturbing Activities: 8/3/2015

ADMP MUST BE AVAILABLE ON SITE AT ALL TIMES

ASBESTOS DUST MITIGATION PLAN APPLICATION

COUNTY OF EL DORADO AIR QUALITY MANAGEMENT DISTRICT

4. PROJECT NOA INFORMATION – Part II

Is Project Located In Asbestos Review Area? ☒ YES ☐ NO	Professional Geologist Report Attached? ☐ YES ☒ NO
If "NO", Provide Date of NOA Discovery:	Laboratory Report/Data Sheets Attached? ☐ YES ☒ NO
Has Professional Geologist Evaluated the Site for NOA? ☐ YES ☒ NO (If "NO" Proceed to # 6)	Map Showing Location(s) of NOA (≥ 0.25%) Attached? ☒ YES ☐ NO

5. PROFESSIONAL GEOLOGIST INFORMATION ☒ N/A

Name		
Address	City/State	Zip
Contact	Phone	Fax

6. MAP INFORMATION
(11x17 format or smaller preferred)

Map(s) clearly indicating the following MUST be included:

- ☑ Property lines / boundaries
- ☑ Adjacent streets / easements
- ☑ Areas to be disturbed or graded
- ☑ Trenching areas
- ☑ Excavation sites
- ☑ Storage areas / piles
- ☐ Staging areas for removal
- ☐ Truck routes
- ☐ On-site parking lots
- ☐ Landmarks and roads
- ☐ NOA Sampling locations *(Indicate if ≥ 0.25% NOA)*
- ☑ Location(s) of placement of NOA containing excavated soils WITHIN FOOTPRINT OF GRADING SHOWN ON PLANS

7. PROJECT TYPE

Activity: (Check all that apply)

- ☐ Residential Construction
- ☑ Grading
- ☑ Road Construction
- ☐ Road Maintenance
- ☐ Housing Development
- ☐ Commercial Property Development
- ☐ Pool Construction
- ☑ Trenching / Utilities Work
- ☐ Landscaping
- ☐ Other (please describe): _____

Initial: _____

Responsible Person

ASBESTOS DUST MITIGATION PLAN APPLICATION

COUNTY OF EL DORADO AIR QUALITY MANAGEMENT DISTRICT

8. LARGE OPERATIONS (> 50 acres of DISTURBED surface)

☒ N/A

Additional requirements (Rule 223-2.7):

- Large Operations must include Dust Control Measures specified in Tables 5-6 of Rule 223-2.
  - ☐ Maintain daily records to document the specific dust control actions taken
  - ☐ Onsite Dust Control Supervisor (available within 30 minutes during working hours):

Name: _____ Phone/Mobile Number: _____

9. POTENTIAL SOURCES OF FUGITIVE DUST EMISSIONS

- There shall be no visible emissions (0% opacity as determined in accordance with US EPA Method 9) at 25 feet from the point-of-origin and at the property line. Visible emissions shall not exceed 20% opacity as determined in accordance with US EPA Method 9 at the point-of-origin. Applicable Best Management Practices included in Tables 1 - 4 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A.
- Asbestos Warning Signs must be posted at main entrances to the project (Rule 223-2.4.D)

Activity: (Check all that apply)

- ☑ Disturbing Soil
- ☑ Clearing and Grubbing
- ☑ Grading
- ☑ Backfilling
- ☑ Clearing Forms, Foundations and Slabs
- ☐ Demolition – Mechanical/Manual
- ☐ Large Earth-moving Equipment Operations
- ☐ Importing/Exporting of Bulk Materials
- ☐ Landscaping
- ☑ Road Construction / Maintenance
- ☑ Stockpiles/Bulk Material Handling
- ☑ Traffic Areas for Construction Activities
- ☑ Trenching
- ☑ Truck Loading
- ☑ Unpaved Road/Parking Lots
- ☑ Blasting
- ☐ Other: _____

Initial: _____

Responsible Person

ASBESTOS DUST MITIGATION PLAN APPLICATION

COUNTY OF EL DORADO AIR QUALITY MANAGEMENT DISTRICT

10. SOIL DISTURBANCE ACTIVITIES

- There shall be no visible emissions (0% opacity as determined in accordance with US EPA Method 9) at 25 feet from the point-of-origin and at the property line. Visible emissions shall not exceed 20% opacity as determined in accordance with US EPA Method 9 at the point-of-origin. Applicable Best Management Practices included in Table 1 - 4 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A.
- Suspend soil disturbing activities when wind speeds are high enough to result in dust emissions in excess of standards in Rule 223-2.4.A, despite the application of dust mitigation measures

Controls for soil distrurbing activities: (Check all that apply)

- ☑ Application of water, as necessary, prior and during earthmoving or land clearing activities (maintain live perennial vegetation where possible)
- ☐ Pre-wetting the ground to the depth of the anticipated cuts
- ☒ Stabilize soils once soils disturbing activities are complete
- ☒ Any other measure(s) as effective as the measures listed above (please describe)

SWEEP ROADS AS NECESSARY

11. ACTIVE STORAGE PILES ☐ N/A

- There shall be no visible emissions (0% opacity as determined in accordance with US EPA Method 9) at 25 feet from the point-of-origin and at the property line. Visible emissions shall not exceed 20% opacity as determined in accordance with US EPA Method 9 at the point-of-origin. Applicable Best Management Practices included in Table 1 - 4 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A.

The following control measure MUST be addressed:

- ☒ Keep active storage piles adequatelv wetted or covered with tarps (please describe):

ROCK OR SAND DELIVERED AND STOCKPILED AS NECESSARY

- ☒ When handling bulk material apply water or chemical/organic stabilizers/suppressants
- ☐ Any other measure(s) as effective as the measures listed above (please describe)

Initial: _____

Responsible Person

ASBESTOS DUST MITIGATION PLAN APPLICATION

COUNTY OF EL DORADO AIR QUALITY MANAGEMENT DISTRICT

12. INACTIVE STORAGE PILES ☐ N/A

(not disturbed for more than 7 consecutive days)

- There shall be no visible emissions (0% opacity as determined in accordance with US EPA Method 9) at 25 feet from the point-of-origin and at the property line. Visible emissions shall not exceed 20% opacity as determined in accordance with US EPA Method 9 at the point-of-origin. Applicable Best Management Practices included in Table 1 - 4 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A.

Control for disturbed surface areas and storage piles that will remain inactive for more than seven (7) days shall include one or more of the following: (Check all that apply)

- ☒ Keep the surface adequately wetted
- ☐ Establish and maintenance of surface crusting sufficient to satisfy the test in Rule 223-2.10.C or Title 14 subsection §93105(h)(6)
- ☐ Application of chemical dust suppressants or chemical stabilizers according to the manufacturer's recommendations
- ☒ Covering with tarp(s) or vegetative cover
- ☐ Installation of wind barriers of fifty (50) percent porosity around three (3) sides of a storage pile
- ☐ Installation of wind barriers across open areas
- ☐ Any other measure(s) as effective as the measures listed above (please describe)

13. TRACK-OUT PREVENTION

- Any visible track-out on a paved public road where vehicles enter and exit the work area must be **IMMEDIATELY** removed from paved public roads. Removal shall be accomplished by using wet sweeping or a HEPA filter equipped vacuum device or flushing with water (if not in violation of any National Pollutant Discharge Elimination System permit program). Applicable Best Management Practices included in Table 3 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A. ***Note: The use of blower devices, or dry rotary brushes, is expressly prohibited!***

Other control measures: (Check all that apply)

- ☐ A gravel pad designed using good engineering practices to clean the tires of exiting vehicles
- ☐ Grizzlies, or similar devices designed to remove mud/dirt from tires
- ☐ A tire shaker
- ☐ A wheel wash system (mechanical or manual)
- ☐ Paving of interior roads
- ☒ Any other measure(s) as effective as the measures listed above (please describe)

SWEEP ROADS AS NECESSARY

Initial: _____

Responsible Person

ASBESTOS DUST MITIGATION PLAN APPLICATION

COUNTY OF EL DORADO AIR QUALITY MANAGEMENT DISTRICT

14. BLASTING ACTIVITIES ☐ N/A

Must notify AQMD two (2) hours prior to blast!

- There shall be no visible emissions (0% opacity as determined in accordance with US EPA Method 9) at 25 feet from the point-of-origin and at the property line. Visible emissions shall not exceed 20% opacity as determined in accordance with US EPA Method 9 at the point-of-origin. Applicable Best Management Practices included in Table 1 - 4 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A.
- Suspend blasting activities when wind speeds are high enough to result in dust emissions in excess of standards in Rule 223-2.4.A, despite the application of dust mitigation measures. Consider wind direction with respect to property line and nearby residences

Controls for blasting activities: (Check all that apply)

- ☐ Pre-wetting blast area
- ☒ Place blast mats or soil mounds over charges
- ☐ Stabilize soils once blasting activities are complete
- ☐ Any other measure(s) as effective as the measures listed above (please describe)

_____

_____

_____

15. TRAFFIC CONTROL OF ON-SITE UNPAVED ROADS, PARKING LOTS AND STAGING AREAS ☐ N/A

The following control measure MUST be addressed:

- A maximum speed limit of fifteen (15) miles per hour (mph) or less

Additional control measures: (Check all that apply)

- ☒ Water every two hours of active operation or sufficiently often to keep the area adequately wetted
- ☐ Apply chemical dust suppressants consistent with manufacturer's directions
- ☐ Maintain a gravel cover with a silt content that is less than five (5) percent and asbestos content that is less than 0.25 percent, as determined using an approved asbestos bulk test method, to a depth of three (3) inches on the surface being used for travel
- ☒ Direct construction traffic over established haul routes
- ☐ Any other measure(s) as effective as the measures listed above (please describe)

_____

_____

_____

Initial: _____

Responsible Person

ASBESTOS DUST MITIGATION PLAN APPLICATION

COUNTY OF EL DORADO AIR QUALITY MANAGEMENT DISTRICT

16. MANAGEMENT OF EXCAVATED SOILS

The owner and/or operator MUST ensure that procedures and documentation per Rule 223-2.6.D. are obtained and retained.

☒ N/A **On-Site Disposition**. Where feasible, excavated soils should be placed into fills elsewhere on the project.

- **Location**(s) of removal and placement quantities and location(s) of fills must be documented **and records retained for a period of ten (10) years.**
- Fills, with a NOA content ≥ 1.0% or when visually evident fibrous materials likely to be NOA are present, located in residential landscaping areas shall be covered by at least two feet (24 inches) of non-asbestiform cover soil material, or by concrete or asphalt paving.

N/A ☐ **Off-Site Disposition**. For any **soils** transported off-site the following information must be documented and retained for a period of at least 3 years (Rule 223-2.6.D.3). (THIS IS AN IMPORT PROJECT)

- Originating project information (name, address, location)
- Laboratory results/report for NOA soil testing done at the project location
- Date(s) of off-site transport(s) of excavated soils
- Location(s) of transported soil
- Total quantity transported to each location
- Intended usage (fill, surface application), if the final destination is other than Class II or Class III landfill disposal
- **Location to receive exported soils**: _____

N/A

NOTE: It is the owner/operator responsibility that final disposition (usage or disposal) and transport of excavated materials from the project are in compliance with pertinent federal, state and local rules and regulations, including CA Title 17, Section 93106, Asbestos Airborne Toxic Control Measure for Surfacing Applications.

17. OFF-SITE TRANSPORT ☐ N/A

DEMOLITION DEBRIS

The owner and/or operator must ensure that no trucks are allowed to transport excavated material off-site unless:

- Trucks are maintained such that no spillage can occur from holes or other openings in cargo compartments
- Loads are adequately wetted

☑ Water applied, if necessary, to the top of load

AND either: (Check all that apply)

☐ Covered with tarps or other suitable cover

N/A ☐ Trucks loaded such that the freeboard is not less than six (6) inches (material does not touch the front, back or sides of the cargo compartment at any point less than six inches from the top)

☐ Any other measure(s) as effective as the measures listed above (please describe)

_____

_____

_____

NOTE: It is the owner/operator responsibility that final disposition (usage or disposal) and transport of excavated materials from the project are in compliance with pertinent federal, state and local rules and regulations, including CA Title 17, Section 93106, Asbestos Airborne Toxic Control Measure for Surfacing Applications.

Initial: CH

Responsible Person

ASBESTOS DUST MITIGATION PLAN APPLICATION

COUNTY OF EL DORADO AIR QUALITY MANAGEMENT DISTRICT

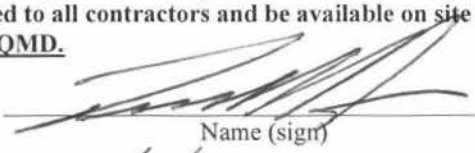
18. POST CONSTRUCTION STABLIZATION OF DISTURBED AREAS

■ Upon completion of all phases of the project, but **no later than 30 days following the end of soil disturbing activities**, all disturbed surfaces with naturally occurring asbestos content of equal to or greater than 0.25% shall be stabilized using one or more of the following methods:

- ☐ Establish a vegetative cover (less than 30% of disturbed ground exposed within 90 days of planting, and at all times thereafter):
- ☐ Placement of at least three (3.0) inches of non-asbestos containing material on disturbed soil areas in residential and nonresidential areas;
- ☐ Placement of a total of at least twelve (12) inches or the maximum depth of irrigation improvements, whichever is higher, of non-asbestos containing material on disturbed soil areas in residential landscaping areas with NOA content greater than 0.25% or when visually evident fibrous materials likely to be asbestos are present;
- ☐ Paving, decking, building foundations, swimming pool structure, flatwork or retaining walls;
- ☒ N Other measures approved by the APCO: PERMANENT EROSION CONTROL PER PROJECT PLANS

19. STATEMENT OF PROJECT'S RESPONSIBLE PARTY
(Owner or Licensed Contractor acting on behalf of the Owner)

"I am familiar with the Rules and Regulations of the County of El Dorado AQMD that are applicable to my project and I certify that the information and the data submitted with the application are true with regards to the project activities and/or equipment which are the subjects of this application". **A copy of this plan must be provided to all contractors and be available on site at all times.**
NOTE: Any changes to this plan MUST be pre-approved by the AQMD.

QUINN HOFMANN Name (print)	 Name (sign)
PROJECT ENGINEER Title	12/18/13 Date
4600 NORTHGATE BLVD., SUITE 100, NATOMAS, CA 95834 Address	(916) 202-6766 Phone Number

FOR AQMD USE ONLY

DATE STAMP

RECEIVED
DEC 20 2013
AQMD

☒ APPLICATION APPROVED ☐ APPLICATION **NOT** APPROVED

DATE: 12/20/13

REVIEWER NAME: Rania Serieh

REVIEWER SIGNATURE: Rania Serieh

COMMENTS:

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	ED	50	1.02/R2.40	174	371

REGISTERED CIVIL ENGINEER — 1/4/13 DATE

ROBERT A. HIMES
No 45787
Exp 12/31/14
CIVIL
STATE OF CALIFORNIA

JANUARY 28, 2013
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED OR ELECTRONIC COPIES OF THIS PLAN SHEET.

MARK THOMAS & CO. INC.
7300 FOLSOM BLVD STE 203
SACRAMENTO, CA 95826

COUNTY OF EL DORADO
DEPT. OF TRANSPORTATION
2850 FAIRLANE COURT
PLACERVILLE, CA 95667

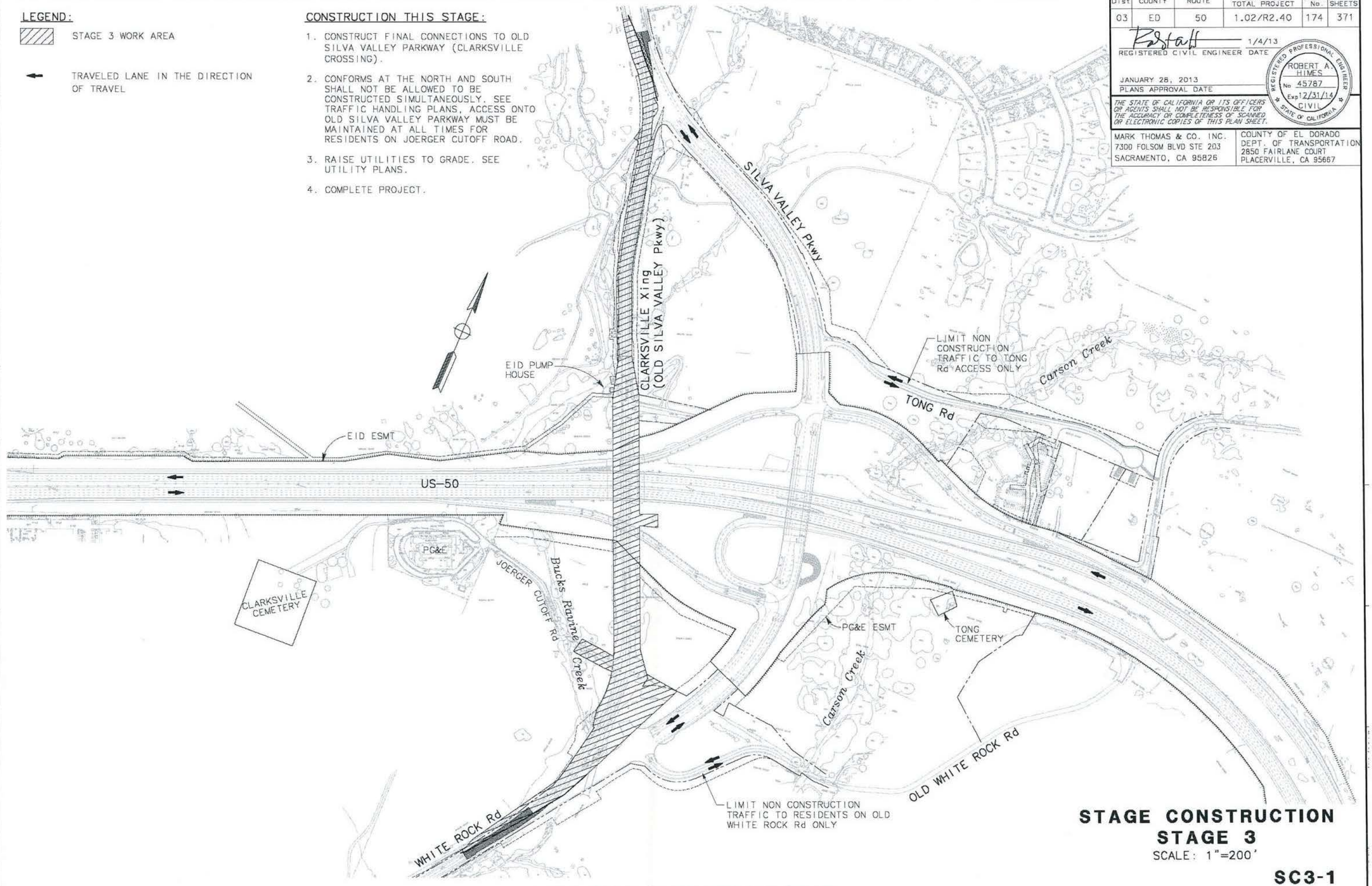
LEGEND:

STAGE 3 WORK AREA

TRAVELED LANE IN THE DIRECTION OF TRAVEL

CONSTRUCTION THIS STAGE:

1. CONSTRUCT FINAL CONNECTIONS TO OLD SILVA VALLEY PARKWAY (CLARKSVILLE CROSSING).
2. CONFORMS AT THE NORTH AND SOUTH SHALL NOT BE ALLOWED TO BE CONSTRUCTED SIMULTANEOUSLY. SEE TRAFFIC HANDLING PLANS, ACCESS ONTO OLD SILVA VALLEY PARKWAY MUST BE MAINTAINED AT ALL TIMES FOR RESIDENTS ON JOERGER CUTOFF ROAD.
3. RAISE UTILITIES TO GRADE. SEE UTILITY PLANS.
4. COMPLETE PROJECT.



STAGE CONSTRUCTION
STAGE 3

SCALE: 1"=200'

SC3-1

THIS PLAN ACCURATE FOR STAGE CONSTRUCTION WORK ONLY

STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION
Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR: ROBERT A. HIMES

CALCULATED–DESIGNED BY: JEFF NETTLETON
CHECKED BY: DEREK W. MINNEMA

REVISED BY | DATE REVISED

USERNAME => TNGUYEN



Legend

- Found Area of NOA
- Quarter Mile Buffer for Found Area of NOA
- More Likely To Contain Asbestos (Dept of Conservation Mines & Geology OPEN-FILE REPORT 2000-002)
- Quarter Mile Buffer for More Likely To Contain Asbestos or Fault Line
- Fault Line (Dept of Conservation Mines & Geology OPEN-FILE REPORT 2000-002)
- Parcel Base
- Major Roads
- Rivers & Creeks

0 0.5 1 2 3 4 Miles

Map displayed in State Plane Coordinate System (NAD 1983 California Zone 2, feet)

ASBESTOS REVIEW AREAS
Western Slope
County of El Dorado
State of California

DISCLAIMER

THIS DEPICTION WAS COMPILED FROM UNVERIFIED PUBLIC AND PRIVATE SOURCES AND IS ILLUSTRATIVE ONLY. NO REPRESENTATION IS MADE AS TO ACCURACY OF THAT INFORMATION AND NONE MAY BE INFERRED. THEREFORE USERS MAKE USE TO THAT INFORMATION AT THEIR OWN RISK.

NOTES

LAYER INFORMATION MAY COVER ADDITIONAL AREAS OUTSIDE OF THE DISPLAYED AREA.

PREPARED AT THE REQUEST OF: Environmental Management DATE: 07/21/2005

MAP PREPARED BY: Frank Bravo DATE: 07/21/2005

G I S PROJECT ID: 3080a RELATED REPORT: na

EL DORADO COUNTY SURVEY/GIS DIVISION
PHONE (530) 621-5537 FAX (530) 621-8711

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	ED	50	1.02/R2.40	172	371

1/4/13
REGISTERED CIVIL ENGINEER DATE

JANUARY 28, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
ROBERT A. HIMES
No 45787
Exp 12/31/14
CIVIL
STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED OR ELECTRONIC COPIES OF THIS PLAN SHEET.

MARK THOMAS & CO. INC.
7300 FOLSOM BLVD STE 203
SACRAMENTO, CA 95826

COUNTY OF EL DORADO
DEPT. OF TRANSPORTATION
2850 FAIRLANE COURT
PLACERVILLE, CA 95667

LEGEND:

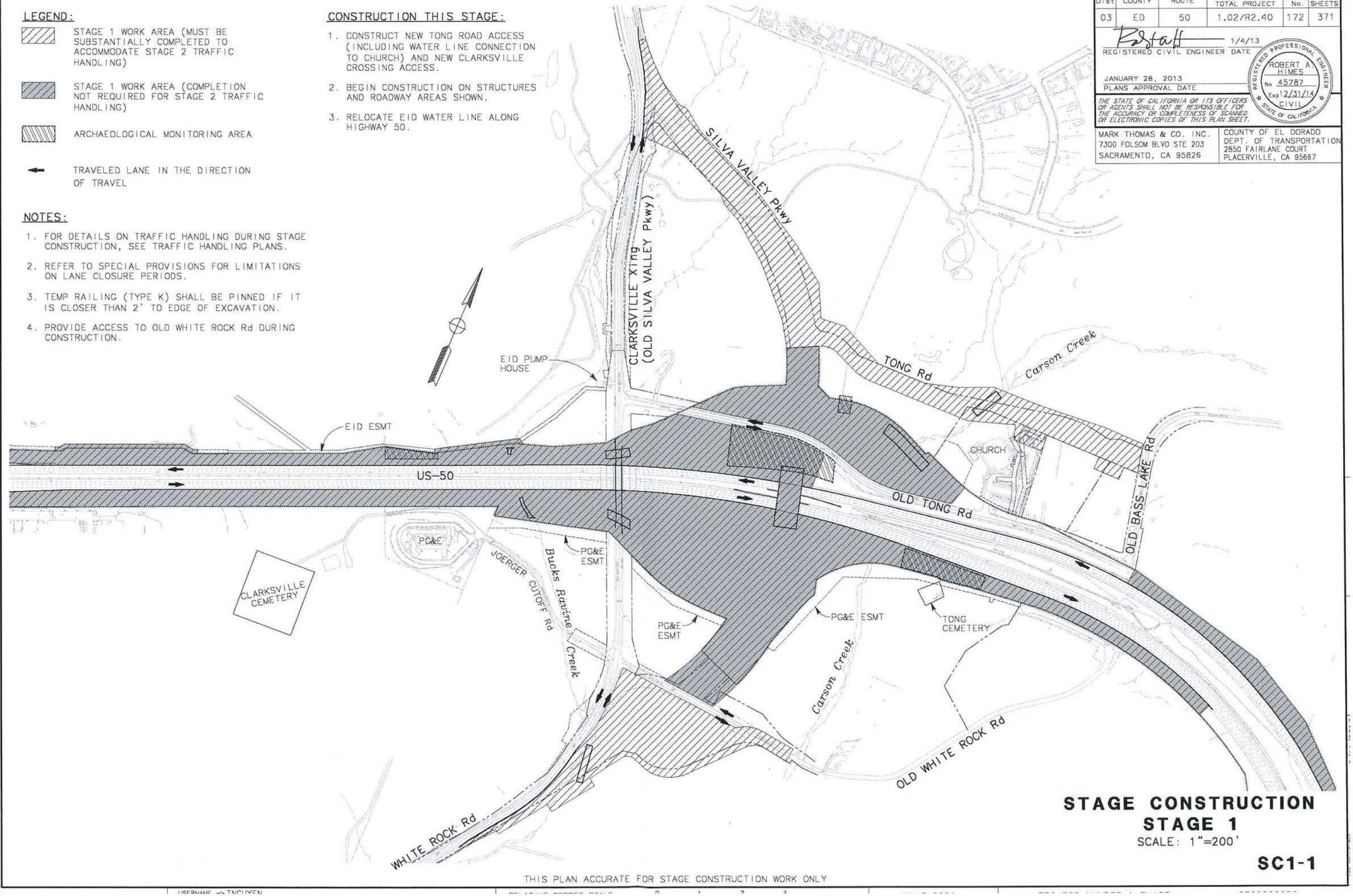
- STAGE 1 WORK AREA (MUST BE SUBSTANTIALLY COMPLETED TO ACCOMMODATE STAGE 2 TRAFFIC HANDLING)
- STAGE 1 WORK AREA (COMPLETION NOT REQUIRED FOR STAGE 2 TRAFFIC HANDLING)
- ARCHAEOLOGICAL MONITORING AREA
- TRAVELED LANE IN THE DIRECTION OF TRAVEL

NOTES:

1. FOR DETAILS ON TRAFFIC HANDLING DURING STAGE CONSTRUCTION, SEE TRAFFIC HANDLING PLANS.
2. REFER TO SPECIAL PROVISIONS FOR LIMITATIONS ON LANE CLOSURE PERIODS.
3. TEMP RAILING (TYPE K) SHALL BE PINNED IF IT IS CLOSER THAN 2' TO EDGE OF EXCAVATION.
4. PROVIDE ACCESS TO OLD WHITE ROCK Rd DURING CONSTRUCTION.

CONSTRUCTION THIS STAGE:

1. CONSTRUCT NEW TONG ROAD ACCESS (INCLUDING WATER LINE CONNECTION TO CHURCH) AND NEW CLARKSVILLE CROSSING ACCESS.
2. BEGIN CONSTRUCTION ON STRUCTURES AND ROADWAY AREAS SHOWN.
3. RELOCATE EID WATER LINE ALONG HIGHWAY 50.



STAGE CONSTRUCTION
STAGE 1
SCALE: 1"=200'

SC1-1

THIS PLAN ACCURATE FOR STAGE CONSTRUCTION WORK ONLY

REVISED BY	DATE REVISED
JEFF NETTLETON	DEREK W. MINNEMA

CALCULATED-DESIGNED BY | CHECKED BY

CONSULTANT FUNCTIONAL SUPERVISOR: ROBERT A. HIMES

STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION
Caltrans

USERNAME => TNGUYEN

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	ED	50	1.02/R2.40	173	371

REGISTERED CIVIL ENGINEER — 1/4/13 DATE

JANUARY 28, 2013
PLANS APPROVAL DATE

ROBERT A. HIMES No 45787 Exp 12/31/14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED OR ELECTRONIC COPIES OF THIS PLAN SHEET.

MARK THOMAS & CO. INC.
7300 FOLSOM BLVD STE 203
SACRAMENTO, CA 95826

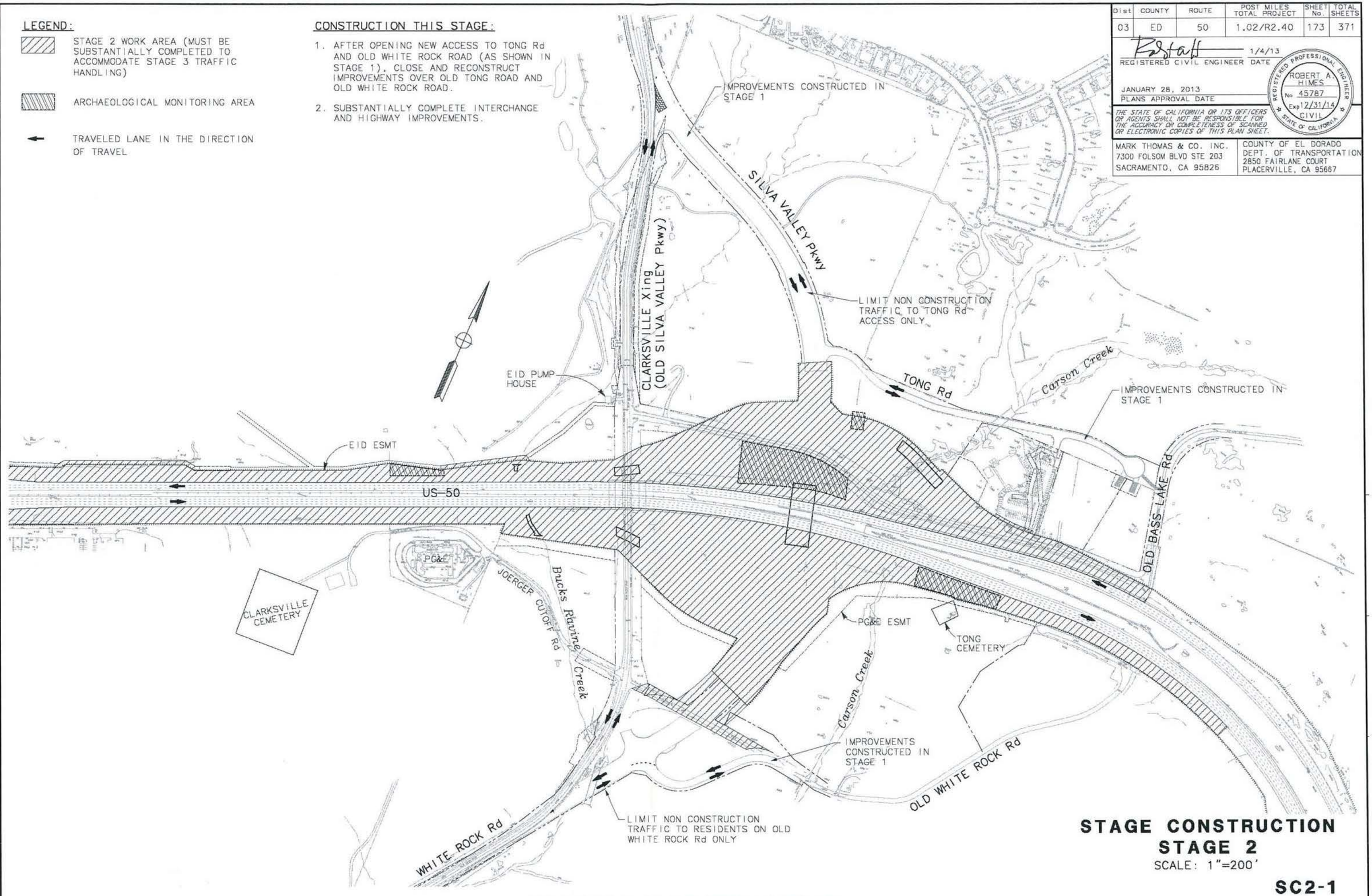
COUNTY OF EL DORADO
DEPT. OF TRANSPORTATION
2850 FAIRLANE COURT
PLACERVILLE, CA 95667

LEGEND:

- STAGE 2 WORK AREA (MUST BE SUBSTANTIALLY COMPLETED TO ACCOMMODATE STAGE 3 TRAFFIC HANDLING)
- ARCHAEOLOGICAL MONITORING AREA
- TRAVELED LANE IN THE DIRECTION OF TRAVEL

CONSTRUCTION THIS STAGE:

1. AFTER OPENING NEW ACCESS TO TONG Rd AND OLD WHITE ROCK ROAD (AS SHOWN IN STAGE 1), CLOSE AND RECONSTRUCT IMPROVEMENTS OVER OLD TONG ROAD AND OLD WHITE ROCK ROAD.
2. SUBSTANTIALLY COMPLETE INTERCHANGE AND HIGHWAY IMPROVEMENTS.



STAGE CONSTRUCTION
STAGE 2
SCALE: 1"=200'

SC2-1

THIS PLAN ACCURATE FOR STAGE CONSTRUCTION WORK ONLY

STATE OF CALIFORNIA — DEPARTMENT OF TRANSPORTATION — Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR: ROBERT A. HIMES

CALCULATED— DESIGNED BY: JEFF NETTLETON

CHECKED BY: DEREK W. MINNEMA

REVISED BY | DATE REVISED

USERNAME => TNGUYEN

ASBESTOS REVIEW AREAS
Western Slope
County of El Dorado
State of California

Legend

- Asbestos Review Parcel
- Removed By Geologic Evaluation
- Found Area of NOA (August 22, 2018)
- Quarter Mile Buffer for Found Area of NOA
- More Likely To Contain Asbestos (Dept of Conservation Mines & Geology OPEN-FILE REPORT 2000-002)
- Quarter Mile Buffer for More Likely To Contain Asbestos or Fault Line
- Fault Line (Dept of Conservation Mines & Geology OPEN-FILE REPORT 2000-002)
- Parcel Base
- Major Roads
- Rivers & Creeks

0 0.5 1 2 3 4 Miles

N W E S

Map displayed in State Plane Coordinate System (NAD 1983 California Zone 2, feet)

DISCLAIMER

THIS DEPICTION WAS COMPILED FROM UNVERIFIED PUBLIC AND PRIVATE SOURCES AND IS ILLUSTRATIVE ONLY. NO REPRESENTATION IS MADE AS TO ACCURACY OF THIS INFORMATION. PARCEL BOUNDARIES ARE PARTICULARLY UNRELIABLE. USERS MAKE USE TO THIS DEPICTIO AT THEIR OWN RISK.

NOTES:

LAYER INFORMATION MAY COVER ADDITIONAL AREAS OUTSIDE OF THE DISPLAYED AREA.

PREPARED AT THE REQUEST OF: Air Quality Management, DATE: 08/22/2018

MAP PREPARED BY: Frank Bruijn, DATE: 08/24/2018

G.I.S. PROJECT ID: 73523, RELATED REPORT: na

EL DORADO COUNTY SURVEYOR/G.I.S. DIVISION
PHONE (530) 621-6511 FAX (530) 626-8731

PLACER COUNTY
SACRAMENTO COUNTY
AMADOR COUNTY
Rubicon River
Middle Fork American River
North Fork American River
South Fork American River
Volcanoville
Greenwood
COOL
PILOT HILL
GEORGETOWN
GARDEN VALLEY
Spanish Flat
Mosquito
Lotus
COLOMA
KELSEY
Finnon Reservoir
Slab Creek Reservoir
Chili Bar Reservoir
Forebay Reservoir
POLLOCK PINES
Cold Springs
PLACERVILLE
Smith Flat
CAMINO
Folsom Lake
RESCUE
Newtown
DIAMOND SPRINGS
EL DORADO HILLS
CAMERON PARK
SHINGLE SPRINGS
EL DORADO
Cameron Park Lake
Bass Lake
Patterson Lake
Martinez Creek
PLEASANT VALLEY
Happy Valle
SOMERSET
Frenchtown
OUTINGDALE
FAIRPLAY
Omo Ranch
Nashville
MT. AUKUM
Coyoteville
LATROBE
Rock Creek Rd
Mosquito Rd
Volcanoville Rd
Slige Mine Rd
Spanish Dry Diggins Rd
Georgia Slide Rd
Marshland Rd
Greenwood Rd
Cherry Acres Rd
Garden Valley Rd
State Hwy 193
Lotus Rd
Basin Rd
State Hwy 49
Thompson Hill Rd
Lineman Rd
Gold Hill Rd
Union Rd
Deer Valley Rd
Cold Springs Rd
Missouri Flat Rd
US Hwy 50
Exit 43
Exit 41
Exit 40
Exit 39
Exit 37
Exit 36
Exit 34
Exit 32
Exit 30
Exit 29
Exit 28
Exit 26
Exit 25
Exit 23
Exit 22
Exit 21
Exit 20
Exit 19
Exit 18
Exit 17
Exit 16
Exit 15
Exit 14
Exit 13
Exit 12
Exit 11
Exit 10
Exit 9
Exit 8
Exit 7
Exit 6
Exit 5
Exit 4
Exit 3
Exit 2
Exit 1
Exit 60
Exit 54
Exit 51
Exit 49 A
Exit 48
Exit 47
Exit 46
Exit 45
Exit 44
Exit 43
Exit 41
Exit 40
Exit 39
Exit 37
Exit 36
Exit 34
Exit 32
Exit 30
Exit 29
Exit 28
Exit 26
Exit 25
Exit 23
Exit 22
Exit 21
Exit 20
Exit 19
Exit 18
Exit 17
Exit 16
Exit 15
Exit 14
Exit 13
Exit 12
Exit 11
Exit 10
Exit 9
Exit 8
Exit 7
Exit 6
Exit 5
Exit 4
Exit 3
Exit 2
Exit 1

Lindsey Dandridge-Perry

From: El Dorado County Public Records Center <eldoradocountyca@mycusthelp.net>
Sent: Monday, July 22, 2019 8:47 AM
To: Lindsey Dandridge-Perry
Subject: Public Records Request :: P002245-071919

External Email.

--- Please respond above this line ---

County of El Dorado

The Gold Standard in Public Service

Public Records

Dear Ms. Dandridge-Perry,

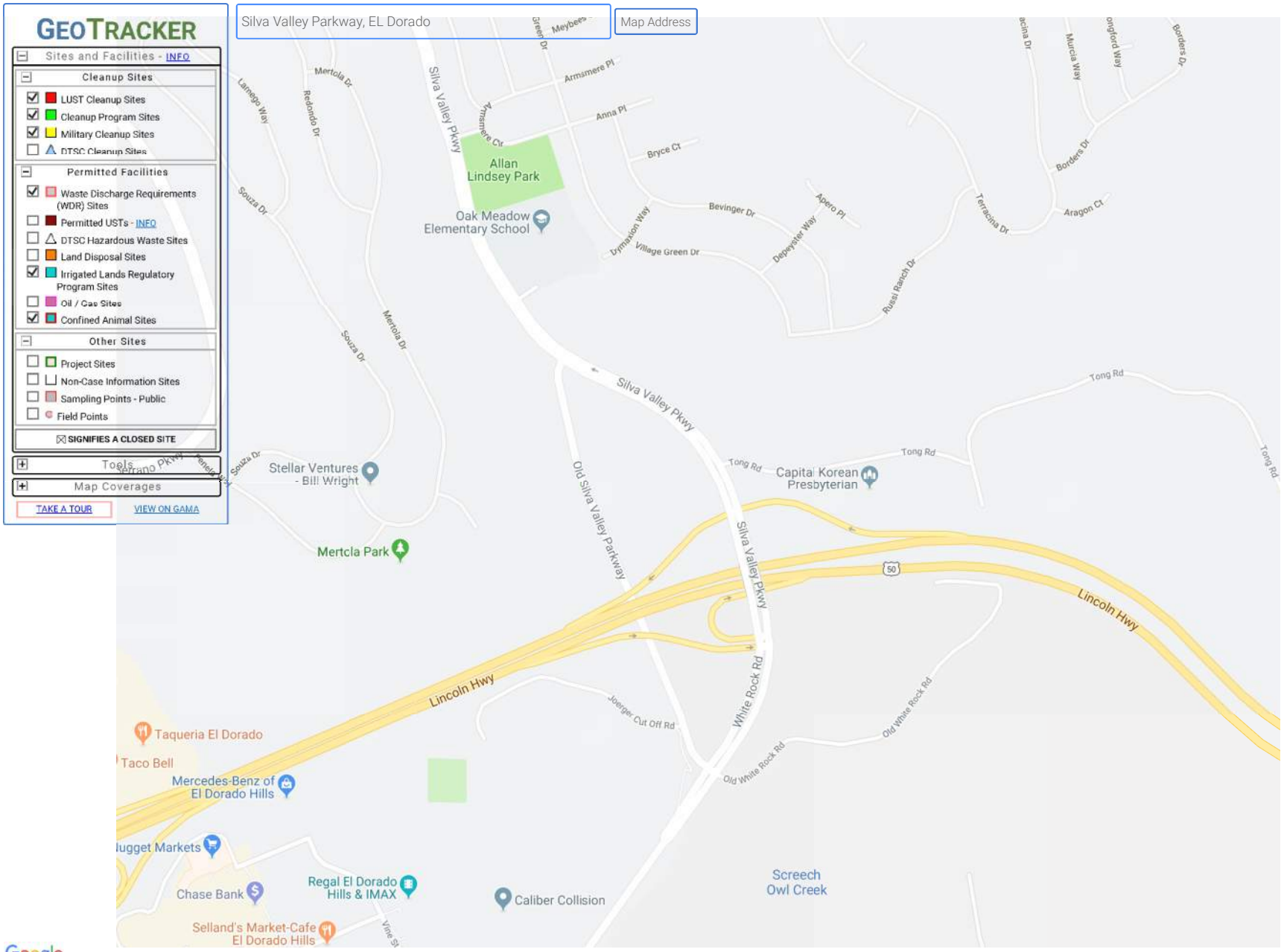
The Environmental Management Department has concluded its search and has determined that there are no records available responsive to your public records request P002246-071919 for the vacant properties identified in El Dorado Hills.

This confirms closure of your request. Thank you for using the County's WebQA system.

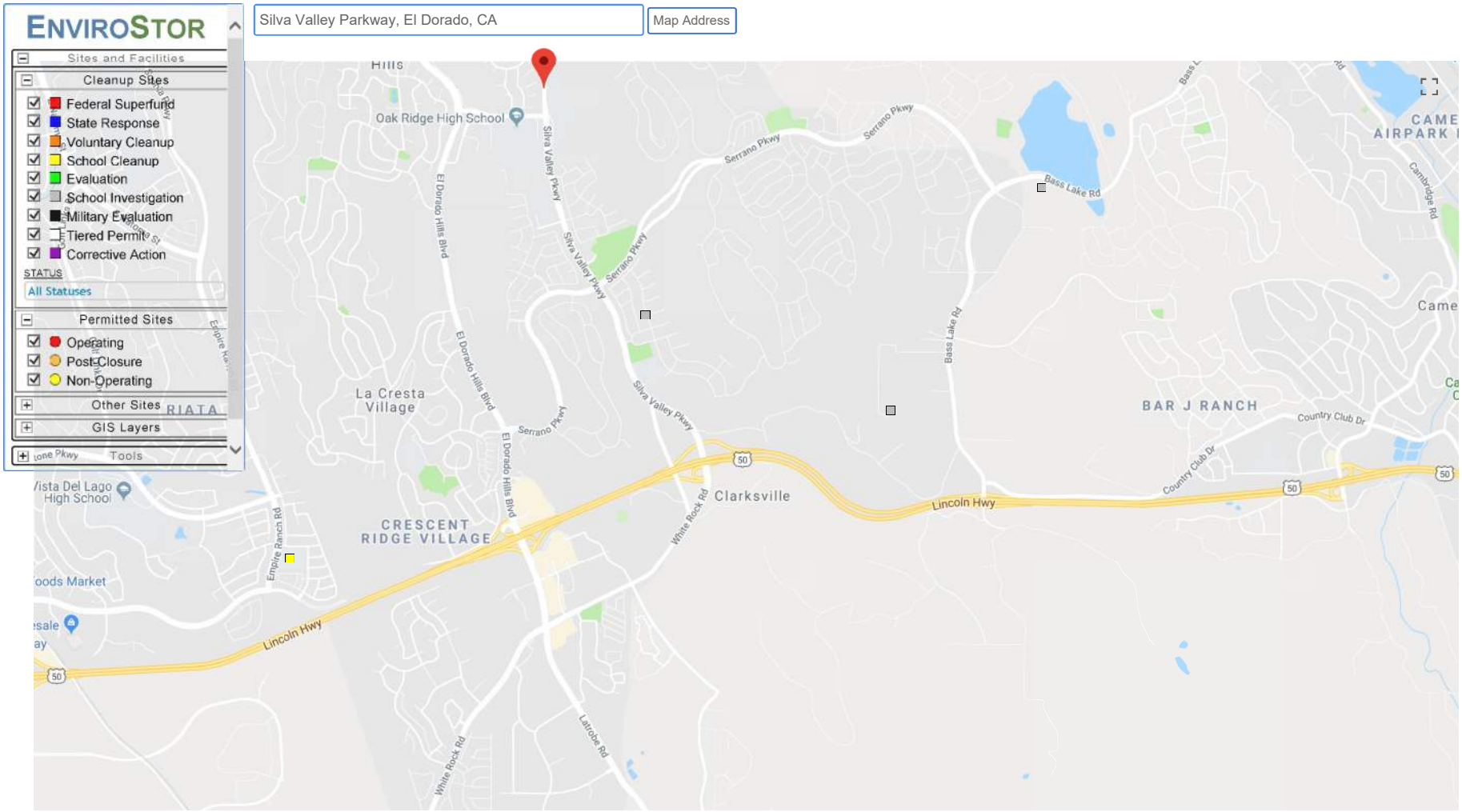
Regards,

Tom Meyer
Administrative Analyst
Environmental Management Department

To monitor the progress or update this request please log into the El Dorado County Public Records Center.



SITES CURRENTLY VISIBLE ON MAP



SITES CURRENTLY VISIBLE ON MAP — 4 SITES LISTED — EXPORT THIS LIST TO EXCEL

PROJECT NAME	STATUS	PROJECT TYPE	ADDRESS	CITY
RUSSELL RANCH ELEMENTARY SCHOOL	CERTIFIED / OPERATION & MAINTENANCE	SCHOOL CLEANUP	375 DRY CREEK ROAD	FOLSOM
SERRANO ELEMENTARY SCHOOL	NO FURTHER ACTION	SCHOOL INVESTIGATION	SERRANO PARKWAY/SILVA VALLEY PARKWAY	EL DORADO HILLS
SIENNA RIDGE ELEMENTARY SCHOOL	INACTIVE - NEEDS EVALUATION	SCHOOL INVESTIGATION	BASS LAKE ROAD	EL DORADO HILLS
SILVER DOVE ELEMENTARY	NO FURTHER ACTION	SCHOOL INVESTIGATION	SILVER DOVE WAY/BASS LAKE ROAD	EL DORADO HILLS

VACANT LAND
SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95762

Inquiry Number: 5722759.1S
JULY 26, 2019

EDR Environmental Lien and AUL Search

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Environmental Lien and AUL Search

The EDR Environmental Lien Search Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering controls and institutional controls.

A network of professional, trained researchers, following established procedures, uses client supplied address information to:

- search for parcel information and/or legal description;
- search for ownership information;
- research official land title documents recorded at jurisdictional agencies such as recorders' offices, registries of deeds, county clerks' offices, etc.;
- access a copy of the deed;
- search for environmental encumbering instrument(s) associated with the deed;
- provide a copy of any environmental encumbrance(s) based upon a review of key words in the instrument(s) (title, parties involved, and description); and
- provide a copy of the deed or cite documents reviewed.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This report was prepared for the use of Environmental Data Resources, Inc., and AFX Research, LLC. (AFX) exclusively. This report is neither a guarantee of title, a commitment to insure, or a policy of title insurance. **NO WARRANTY, EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WTH THIS REPORT**. Environmental Data Resources, Inc. (EDR) and AFX exclusively specifically disclaim the making of any such warranties, including without limitation, merchantability or fitness for a particular use or purpose. The information contained in this report is retrieved as it is recorded from the various agencies that make it available. The total liability is limited to the fee paid for this report.

Copyright 2016 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EDR Environmental Lien and AUL Search

TARGET PROPERTY INFORMATION

ADDRESS

VACANT LAND
SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95762

RESEARCH SOURCE

Source 1: EL DORADO COUNTY RECORDER'S OFFICE

Source 2: CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

Source 3: UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

PROPERTY INFORMATION

Deed 1

Type of Deed:	GRANT DEED
Title is vested in:	MEE CAPITAL INVESTMENTS, LLC
Title received from:	EL DORADO HILLS INVESTORS
Date Executed:	05/04/2019
Date Recorded:	05/08/2019
Book:	NA
Page:	NA
Volume:	NA
Instrument#:	2019-0017292-00
Docket:	NA
Land Record Comments:	NA
Miscellaneous Comments:	NA

Legal Description: AS RECORDED IN THE DEED ATTACHED.

Current Owner: MEE CAPITAL INVESTMENTS, LLC

Property Identifiers: 122-720-002-000

Comments: NA

EDR Environmental Lien and AUL Search

ENVIRONMENTAL LIEN

Environmental Lien: Found ☐ Not Found ☒

If Found:

1st Party:	NA
2nd Party:	NA
Dated:	NA
Recorded:	NA
Book:	NA
Page:	NA
Docket:	NA
Volume:	NA
Instrument #:	NA
Comments:	NA
Miscellaneous:	NA

OTHER ACTIVITY AND USE LIMITATIONS (AULS)

Other AUL's: Found ☐ Not Found ☒

If Found:

1st Party:	NA
2nd Party:	NA
Dated:	NA
Recorded:	NA
Book:	NA
Page:	NA
Docket:	NA
Volume:	NA
Instrument #:	NA
Comments:	NA
Miscellaneous:	NA

EDR Environmental Lien and AUL Search

MISCELLANEOUS

Type of Instrument: NONE IDENTIFIED
First Party:
Second Party:
Date Executed:
Date Recorded:
Instrument #:
Book:
Page:
Comments:

EDR Environmental Lien and AUL Search

DEED EXHIBIT

RECORDING REQUESTED BY:
Stewart Title of Sacramento

AND WHEN RECORDED MAIL TO:

MEE CAPITAL INVESTMENTS LLC
7700 College Town Drive, Suite 118
Sacramento, CA 95826

El Dorado, County Recorder
Janelle K. Horne Co Recorder Office
DOC- 2019-0017292-00
Check Number 15847
Wednesday, MAY 08, 2019 08:39:50
Ttl Pd $262.00 Nbr-0002007298
RAB / C1 / 1-3

THIS SPACE FOR RECORDER'S USE ONLY:

Title Order No.: **Escrow No.:** CM-15017345-RA
AP#: 122-720-002

GRANT DEED

THE UNDERSIGNED GRANTOR(S) DECLARE(S)

PCOS
FILED

DOCUMENTARY TRANSFER TAX is $242.00

[X] computed on full value of property conveyed, or
[ ] computed on full value less value of liens or encumbrances remaining at time of sale.
[X] Unincorporated area [ ] City of **AND**

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

EL DORADO HILLS INVESTORS, LTD. a California limited partnership

hereby GRANT(s) to:

MEE CAPITAL INVESTMENTS, LLC, a California Limited Liability Company

the real property in the County of El Dorado, State of California, described as:

LEGAL DESCRIPTION ATTACHED HERETO AS EXHIBIT "A" AND MADE A PART HEREOF

Also Known as: 0.52 Acres Unimproved Land, El Dorado Hills, CA

DATED: May 4, 2019

Signature Page attached hereto and made a part hereof

MAIL TAX STATEMENTS TO PARTY SHOWN ABOVE:

Title Order No.: Escrow No.: CM-15017345-RA AP#: 122-720-002

SIGNATURE PAGE

Title of Document: GRANT DEED

Date of Document: May 4, 2019

EL DORADO HILLS INVESTORS, LTD. a California limited partnership

By: The Mansour Company, a California corporation, its General Partner

By: Anthony Mansour, Chief Executive Officer

ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF LOS ANGELES

On 4th MAY, 2019 before me, JULIE AUYEUNG LEVTOW A Notary Public

personally appeared Anthony Mansour

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

JULIE AUYEUNG LEVTOW
Commission #2164201
Notary Public • California
Los Angeles County
My Comm. Expires October 2, 2020

Signature _____ (Seal)

Title No.: 34-252896

Exhibit "A"
Legal Description

All that portion of Section 1, Township 9 North, Range 8 East, M.D.B. & M., described as follows:

Beginning at a point located in said Section 1 from which the Southwest corner thereof bears the following two courses and distances: South 29°50'05" East 979.85 feet and South 83°31'06" West 1078.13 feet; thence from said point of beginning South 78°35'53' West 215.96 feet; thence North 23°17'10" East 256.12 feet; thence South 29°50'05" East 221.99 feet to the point of beginning.

Said Parcel is also shown as Tract 2 on that certain record of Survey filed October 10, 1989 in the office of the County Recorder of El Dorado County, in book 16 of Survey, Page 147.

Apn: 122-720-002

VACANT LAND
SILVA VALLEY PARKWAY
EL DORADO HILLS, CA

Inquiry Number: 5722759.1S
JULY 26, 2019

EDR Environmental Lien and AUL Search

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Environmental Lien and AUL Search

The EDR Environmental Lien Search Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering controls and institutional controls.

A network of professional, trained researchers, following established procedures, uses client supplied address information to:

- search for parcel information and/or legal description;
- search for ownership information;
- research official land title documents recorded at jurisdictional agencies such as recorders' offices, registries of deeds, county clerks' offices, etc.;
- access a copy of the deed;
- search for environmental encumbering instrument(s) associated with the deed;
- provide a copy of any environmental encumbrance(s) based upon a review of key words in the instrument(s) (title, parties involved, and description); and
- provide a copy of the deed or cite documents reviewed.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This report was prepared for the use of Environmental Data Resources, Inc., and AFX Research, LLC. (AFX) exclusively. This report is neither a guarantee of title, a commitment to insure, or a policy of title insurance. **NO WARRANTY, EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WTH THIS REPORT**. Environmental Data Resources, Inc. (EDR) and AFX exclusively specifically disclaim the making of any such warranties, including without limitation, merchantability or fitness for a particular use or purpose. The information contained in this report is retrieved as it is recorded from the various agencies that make it available. The total liability is limited to the fee paid for this report.

Copyright 2016 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EDR Environmental Lien and AUL Search

TARGET PROPERTY INFORMATION

ADDRESS

VACANT LAND
SILVA VALLEY PARKWAY
EL DORADO HILLS, CA

RESEARCH SOURCE

Source 1: EL DORADO COUNTY RECORDER'S OFFICE

Source 2: CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

Source 3: UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

PROPERTY INFORMATION

Deed 1

Type of Deed:	GRANT DEED
Title is vested in:	EDH 52, A CALIFORNIA GENERAL PARTNERSHIP
Title received from:	SKK EXCHANGE, INC.
Date Executed:	03/29/1990
Date Recorded:	03/30/1990
Book:	NA
Page:	NA
Volume:	NA
Instrument#:	20226
Docket:	NA
Land Record Comments:	AFFECTS THIS AND OTHER PROPERTY
Miscellaneous Comments:	NA

Deed 2

Type of Deed:	GRANT DEED
Title is vested in:	EDH 52, A CALIFORNIA GENERAL PARTNERSHIP
Title received from:	JOHN K. TSAKOPOULOS
Date Executed:	03/29/1990
Date Recorded:	03/30/1990
Book:	NA
Page:	NA
Volume:	NA
Instrument#:	20229
Docket:	NA
Land Record Comments:	AFFECTS THIS AND OTHER PROPERTY
Miscellaneous Comments:	NA

EDR Environmental Lien and AUL Search

Legal Description:	PORTION OF THE SW 1/4 SECTION 1, T9N, R8E, MDM. EL DORADO COUNTY.
Current Owner:	EDH 52, A CALIFORNIA GENERAL PARTNERSHIP
Property Identifiers:	122-720-018-000
Comments:	NA

EDR Environmental Lien and AUL Search

ENVIRONMENTAL LIEN

Environmental Lien: Found ☐ Not Found ☒

If Found:

1st Party:	NA
2nd Party:	NA
Dated:	NA
Recorded:	NA
Book:	NA
Page:	NA
Docket:	NA
Volume:	NA
Instrument #:	NA
Comments:	NA
Miscellaneous:	NA

OTHER ACTIVITY AND USE LIMITATIONS (AULS)

Other AUL's: Found ☐ Not Found ☒

If Found:

1st Party:	NA
2nd Party:	NA
Dated:	NA
Recorded:	NA
Book:	NA
Page:	NA
Docket:	NA
Volume:	NA
Instrument #:	NA
Comments:	NA
Miscellaneous:	NA

EDR Environmental Lien and AUL Search

MISCELLANEOUS

Type of Instrument: NONE IDENTIFIED
First Party:
Second Party:
Date Executed:
Date Recorded:
Instrument #:
Book:
Page:
Comments:

EDR Environmental Lien and AUL Search

DEED EXHIBIT

EL DORADO COUNTY

20226

OFFICIAL RECORDS
EL DORADO CO., CALIF.
RECORDED BY:

Placer Title Company

MAR 30 2 47 PM '90

DOROTHY CARR
COUNTY RECORDER

7420 (2)

4

RECORDING REQUESTED BY

And When Recorded Mail This Deed and, Unless Otherwise Shown Below, Mail Tax Statements To:

NAME EDH 52 PARTNERSHIP
STREET ADDRESS 7700 College Town Dr.,#101
CITY, STATE ZIP Sacramento, CA 95826

SPACE ABOVE THIS LINE FOR RECORDER'S USE

Title Order No. 60582 / Escrow No. _____

PCOS FILED

A.P.#86-070-02

DOCUMENTARY TRANSFER TAX $ XXXXXXX0 1,731.40

X COMPUTED ON FULL VALUE OF PROPERTY CONVEYED.

_____ OR COMPUTED ON FULL VALUE LESS LIENS AND ENCUMBRANCES REMAINING AT TIME OF SALE.

THE UNDERSIGNED GRANTOR DECLARES

Signature of Declarant or Agent determining tax. Firm Name

GRANT DEED

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

SKK EXCHANGE, INC., a California corporation

hereby GRANT(S) to

EDH 52, a California General Partnership

as to an undivided 84.20% interest in and to the following described real property in the county of EL DORADO, state of California:

SEE EXHIBIT "A" ATTACHED HERETO FOR LEGAL DESCRIPTION

Dated March 29, 1990

SKK EXCHANGE, INC.,
a California corporation

By _____

STATE of CALIFORNIA ss.

COUNTY of.....

On this _____ day of _____ in the year _____

_____ before me,

_____ a Notary Public, State of California, duly commissioned and sworn, personally appeared _____

_____ personally known to me (or proved to me on the basis of satisfactory evidence) to be the person.... whose name _____ subscribed to this instrument, and acknowledged that.... he.... executed it.

IN WITNESS WHEREOF I have hereunto set my hand and affixed my official seal in the _____ County of _____ on the date set forth above in this certificate.

_____
Notary Public, State of California

My commission expires _____

(Space above for official notarial seal)

MAIL TAX STATEMENTS TO PARTY SHOWN ON FOLLOWING LINE; IF NO PARTY SO SHOWN, MAIL AS DIRECTED ABOVE

Name | Street Address | City & State

FORM 100

EXHIBIT "A"

BEGINNING at the West quarter corner of Section 1, Township 9 North, Range 8 East, M.D.B.&M.; running thence East along the North boundary of the Northwest quarter of Southwest quarter of said Section to the Northeast corner thereof; thence South 20 chains to the Southeast corner of the Northwest quarter of the Southwest quarter of said Section1; thence along the boundary of the land claimed by F.S. Tong, with the following courses and distances: West along the North boundary of the Southwest quarter of Southwest quarter of said Section 1, .38 chains; thence South 15° 26' East 20.78 chains to an intersection with the South boundary of said Section 1 at a point 24.20 chains East of the Southwest corner of said Section which measured along the South line thereof; thence West along the Southerly boundary of said Section 1, 7.84 chains to the Southeast corner of the land claimed by Martha Ella Joerger in said Section 1; thence along the boundary of the land claimed by said Martha Ella Joerger with the following courses and distances: North 27 West 18.30 chains; thence South 16 West 6.20 chains; thence North 54 West 1.20 chains; thence North 31 West 7.80 chains; thence West .80 chains to an intersection with the Westerly boundary of said Section 1; thence North along said Westerly boundary of said Section 1, 22.20 chains to the point of beginning.

EXCEPTING THEREFROM those portions conveyed to the State of California for freeway purposes by deeds recorded North 8, 1939 in book 175 page 12 Official Records for the old highway and recorded February 11, 1964 in book 676 page 229 Official Records for the new highway.

FURTHER EXCEPTING THEREFROM all that portion of said parcel lying Southerly of the North line of U.S. Highway 50, as granted to The State of California in deed recorded North 8, 1939 in Book 175 of Official Records, page 12.

CORPORATE ACKNOWLEDGMENT NO. 202

State of California } ss.
County of Sacramento }

On this the 27th day of March 19 90 before me,

Re Mapes

the undersigned Notary Public, personally appeared

EL DORADO COUNTY

20229

RECORDING REQUESTED BY

Placer Title Company

And When Recorded Mail This Deed and, Unless Otherwise Shown Below, Mail Tax Statements To:

NAME
STREET ADDRESS EDH 52 PARTNERSHIP
CITY, STATE ZIP 7700 College Town Dr.,#101
Sacramento, CA 95826

OFFICIAL RECORDS EL DORADO COUNTY, CALIF.
RECORDED BY

MAR 30 4 07 PM '90

DOROTHY CARR
COUNTY RECORDER
7.00

SPACE ABOVE THIS LINE FOR RECORDER'S USE

Title Order No. _____ Escrow No. _____

DOCUMENTARY TRANSFER TAX $ 330.00
-X- COMPUTED ON FULL VALUE OF PROPERTY CONVEYED,
_____ OR COMPUTED ON FULL VALUE LESS LIENS AND ENCUMBRANCES REMAINING AT TIME OF SALE.
THE UNDERSIGNED GRANTOR DECLARES
Signature of Declarant or Agent determining tax. Firm Name

PCOS FILED

A.P.#86-070-02

GRANT DEED

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

JOHN K. TSAKOPOULOS

hereby GRANT(S) to

EDH 52, a California General Partnership, as to all of Grantor's undivided 15.80% interest in and to

the following described real property in the county of EL DORADO, state of California:

SEE EXHIBIT "A" ATTACHED HERETO FOR LEGAL DESCRIPTION

Dated March 29, 1990

John K. Tsakopoulos
JOHN K. TSAKOPOULOS

STATE of CALIFORNIA
COUNTY of Sacramento ss.

On this 29th day of March, in the year 1990, before me, Sue Mapes, a Notary Public, State of California, duly commissioned and sworn, personally appeared John K. Tsakopoulos personally known to me (or proved to me on the basis of satisfactory evidence) to be the person.... whose name subscribed to this instrument, and acknowledged that.... he.... executed it.

IN WITNESS WHEREOF I have hereunto set my hand and affixed my official seal in the State of California County of Sacramento on the date set forth above in this certificate.

Sue Mapes
Notary Public, State of California

My commission expires 5-1990

OFFICIAL SEAL
SUE MAPES
NOTARY PUBLIC - CALIFORNIA
SACRAMENTO COUNTY
My Comm. Expires May 29, 1990

(Space above for official notarial seal)

MAIL TAX STATEMENTS TO PARTY SHOWN ON FOLLOWING LINE; IF NO PARTY SO SHOWN, MAIL AS DIRECTED ABOVE

Name | Street Address | City & State

FORM 100

EXHIBIT "A"

BEGINNING at the West quarter corner of Section 1, Township 9 North, Range 8 East, M.D.B.&M.; running thence East along the North boundary of the Northwest quarter of Southwest quarter of said Section to the Northeast corner thereof; thence South 20 chains to the Southeast corner of the Northwest quarter of the Southwest quarter of said Section1; thence along the boundary of the land claimed by F.S. Tong, with the following courses and distances: West along the North boundary of the Southwest quarter of Southwest quarter of said Section 1, .38 chains; thence South 15° 26' East 20.78 chains to an intersection with the South boundary of said Section 1 at a point 24.20 chains East of the Southwest corner of said Section which measured along the South line thereof; thence West along the Southerly boundary of said Section 1, 7.84 chains to the Southeast corner of the land claimed by Martha Ella Joerger in said Section 1; thence along the boundary of the land claimed by said Martha Ella Joerger with the following courses and distances: North 27 West 18.30 chains; thence South 16 West 6.20 chains; thence North 54 West 1.20 chains; thence North 31 West 7.80 chains; thence West .80 chains to an intersection with the Westerly boundary of said Section 1; thence North along said Westerly boundary of said Section 1, 22.20 chains to the point of beginning.

EXCEPTING THEREFROM those portions conveyed to the State of California for freeway purposes by deeds recorded North 8, 1939 in book 175 page 12 Official Records for the old highway and recorded February 11, 1964 in book 676 page 229 Official Records for the new highway.

FURTHER EXCEPTING THEREFROM all that portion of said parcel lying Southerly of the North line of U.S. Highway 50, as granted to The State of California in deed recorded North 8, 1939 in Book 175 of Official Records, page 12.

END DOCUMENT

INITIAL SITE ASSESSMENT

Silva Valley Pkwy/SR50 Interchange

03-ED-50, KP 3.1 (PM 1.7)

El Dorado Hills, California

April 2007

Prepared by:
BLACKBURN CONSULTING
BCI File Number 556.1

Prepared for:
Mark Thomas & Company

Auburn Office:
11521 Blocker Drive, Suite 110 ▪ Auburn, CA 95603
(530) 887-1494 ▪ Fax (530) 887-1495

blackburn consulting

Modesto Office: (209) 522-6273
West Sacramento Office: (916) 375-8706

Geotechnical ▪ Construction Services ▪ Forensics

BCI File 556.1
April 12, 2007

Dave Melis
Mark Thomas & Company, Inc.
7300 Folsom Blvd., Suite 203
Sacramento, CA 95826

Subject: **Initial Site Assessment**
Silva Valley Pkwy/SR50 Interchange
03-ED-50, KP 3.1 (PM 1.7)
El Dorado Hills, California

Dear Mr. Melis:

In accordance with our June 14, 2005, agreement, Blackburn Consulting, Inc. (BCI) prepared this Initial Site Assessment (ISA) for a proposed new interchange located east of the Silva Valley Road underpass on State Route 50 (SR50), near El Dorado Hills, California. The purpose of this assessment is to identify soil and groundwater contamination issues in the area of the proposed interchange.

Our investigation did not reveal the presence of significant hazardous materials impaets to the parcels located within the proposed project limits. Our report presents information about the minor hazardous materials issues noted in the project area.

Thank you for selecting BCI to assist you on this project. Please call if you have questions or require additional information.

Sincerely,

BLACKBURN CONSULTING

Prepared by:

Alfred P. Worcester, P.G.
Senior Project Geologist

Reviewed by:

Jeff Patton, P.E.
Principal Engineer

TABLE OF CONTENTS

INVESTIGATIVE SUMMARY 2

SITES WITH POTENTIAL CONTAMINATION/HAZARDOUS MATERIALS ISSUES 2

GENERAL CONTAMINATION/HAZARDOUS MATERIALS ISSUES 5

1 INTRODUCTION 7

1.1 SCOPE OF SERVICES 7

2 PROJECT DESCRIPTION AND LOCATION 8

2.1 PROJECT DESCRIPTION 8

2.1.1 Surrounding Area 12

2.2 SITE CONDITIONS AND LOCAL GEOLOGIC CHARACTERISTICS 12

2.3 CURRENT LAND USE 13

2.4 HISTORICAL LAND USE 13

2.4.1 Summary 13

2.4.2 Aerial Photograph Review 14

2.4.3 Topographic Map Review 20

3 RECORDS REVIEW 21

3.1 REVIEW OF COUNTY, STATE, AND FEDERAL RECORDS 21

3.2 SUMMARY OF RECORDS SEARCH 23

3.3 REVIEW OF TITLE DOCUMENTS 23

3.4 PRIOR ENVIRONMENTAL INVESTIGATIONS 23

3.5 WELL SEARCH 23

4 RECONNAISSANCE INFORMATION 23

4.1 VISUAL OBSERVATIONS 23

5 FINDINGS, CONCLUSIONS, & RECOMMENDATIONS 28

5.1 SITES WITH POTENTIAL CONTAMINATION/HAZARDOUS MATERIALS ISSUES 29

5.2 GENERAL CONTAMINATION/HAZARDOUS MATERIALS ISSUES 32

6 LIMITATIONS 34

FIGURES

Figure 1 – Vicinity Map
Figure 2 – Site Map

APPENDICES

Appendix A – EDR Records Check
Appendix B – Site Photos

INVESTIGATIVE SUMMARY

This section summarizes soil and groundwater contamination issues that could impact land acquisition and/or construction of the proposed improvements for the Silva Valley Parkway/SR50 Interchange project. Contamination and hazardous materials impacts along the proposed roadway widening corridor appear minimal, and are not expected to significantly affect the project. However, the following potential items of concern were identified. Parcels are identified by the Mark Thomas and Company (MTCo) assigned Parcel Number, ("Property Owner Information," Plan Sheet 1, March 22, 2006), followed by the business/owner name and the assessors parcel number (APN).

Sites with Potential Contamination/Hazardous Materials Issues

- PARCEL 10, "PG&E CLARKSVILLE ELECTRICAL SUBSTATION" – APN 107-130-06

Parcel is subject to partial acquisition. No site specific hazardous material issues were identified through the commercial database search. Based on use and age of the site, the substation is considered a potential risk for PCB contamination from older transformers and a risk for potential petroleum hydrocarbon contamination from leaking coolant oils and site maintentance activities. We recommend contacting PG&E and obtain a statement of fact addressing potential contamination/hazardous materials. PG&E needs to provide a "clean site" record. If a statement can not be provided, we recommend limited soil sampling and analysis within the potential acquisistion areas of the Parcel. Associated with Parcel 10 by proximity, we identified a former gas station/commercial structure along the old, two-lane SR50, as shown on the 1952 and 1961 airphotos. Although the structures were removed for the widening of SR50, we can not rule out the potential for petroleum hydrocarbon impacts to the subsurface, in the general area of Joeger Cutoff Rd, between the PG&E substation and SR50.

- PARCEL 5, "LAFONTSEE PROPERTY" – APN 108-070-0310

Parcel is subject to partial acquisition. No specific hazardous material issues were identified in the database search. The site's previous residential structure and outlying storage structures are removed, but many discarded objects, domestic-appearing waste, and smaller wooden-framed, delapidated structures remain. Historical aerial photos exhibited numerous automobiles, trucks, commercial truck trailers, boats, and farm vehicles on the site. Based on airphotos and our site reconnaissance, many of these items appear abandoned.

Common contamination/hazardous materials issues associated with the identified land use include: 1) potential petroleum hydrocarbon (oil) spillage, 2) leach fields and septic tanks, and 3) buried heating oil tanks, 4) asbestos containing building materials (ACM), and 5) lead-containing paint (LCP). Although none of these were positively identified in this ISA, plans for construction, and/or complete or partial site acquisition, should account for the potential of encountering one or more of these issues.

We recommend that the construction documents include specifications making the contractor aware of the possible presence of LCP and ACM, and his responsibility to respond accordingly. If potentially hazardous materials are encountered during grading operations, the local environmental health department and fire department should be notified.

- "SHELL", (ADJACENT TO PARCEL 32) - APN UNKNOWN

This is an active, petroleum fuel service station. No specific hazardous material issues were identified in the database and website searches. However, it appears that a Phase II investigation was recently conducted at the site, as indicated by the presence of at least ten, 55-gal drums, each mark as "hazardous waste". To determine the current status of possible clean-up activities, we recommend a review of existing regulatory documentation, which may be obtained from the local environmental health department, the RWQCB, and/or the site owner. Current plans do not include acquisition of this site; however groundwater and/or soil contamination could impact road widening or related project improvement activities at the adjacent properties, which includes Parcels 32 (APN 107-680-0910), 33 (APN 107-680-1010), and 34 (APN 107-680-0810).

- PARCEL 25, WILMINGTON TRUST/TOSCO TRUST" (UNION 76) - APN 107-120-0410

Parcel is subject to partial acquisition. This is an active, petroleum fuel service station. No specific hazardous material issues were identified in the database search. However, this site will require further assessment. Initially, further assessment should include a review of existing documentation from the local environmental health department, the RWQCB, and the site owner. If building demolition is planned, the existing structures need to be assessed for potential hazardous materials, such as LCP and ACM.

- PARCEL 21, "SERRANO ASSOCIATES" - APN 114-160-19

Parcel is subject to partial acquisition. No specific hazardous material issues were identified in the database search. Remnant structures were observed adjacent to the north (west-bound) side of SR50, approximately 600 feet west of the Silva Valley Parkway underpass. A house structure, barns, warehouse and associated improvements are observed in historical air photos. Common contamination/hazardous materials issues associated with the identified land use are: 1) ACM and LCP, 2) unidentified leach fields/septic tanks and buried heating oil tanks, and 3) ADL from the immediately adjacent SR50.

The presence of these one or more of these materials could affect the value of the parcel. If this project includes acquisition and demolition of any of the existing structures, then the structures should be assessed for potential ACM and LCP prior to acquisition. Assessment results will be used to estimate the financial impact to the project. Results of the assessment shall also be included in the plans and specifications (bid documents) so the contractors can plan for worker safety and material handling and disposal issues. Based on the proximity to SR50, some level of ADL may be present in the shallow subsurface soils adjacent to the freeway. ADL recommendations are presented in the section titled "General Contamination/Hazardous Materials Issues" of this report.

- PARCELS 13 AND 14, "KFRD INVESTORS INC. & TONG RANCH LLC" - APN 108-070-0510 AND 108-070-0610

Parcels are subject to partial or complete acquisition. No specific hazardous material issues were identified in the database search. During our site reconnnaissance, we noted poor housekeeping practices along Tong Road, where it passes through the two properties. We observed 55-gal drums, rusting machinery, trash and rubbish, and above ground fuel storage tanks (AST). Existing structures (large barn, mobile home, small sheds, etc.) may present an ACM and LCP issue if demolition is planned. Other issues include encountering unidentified items such as leach fields/septic tanks and buried heating oil tanks. An old cemetary is located in Parcel 13, close to SR50.

Existing structures subject to demolition need to be assessed for LCP and ACM, prior to preparation of construction documents. Additionally, we recommend that the construction documents include specifications making the contractor aware of the possible presence of LCP and ACM during grading operations, and his responsibility to respond accordingly.
Based on the proximity to SR50, some level of ADL may be present in the shallow subsurface soils adjaeent to the freeway. ADL may also be present adjacent to White Rock Road. ADL recommendations are presented in the section titled "General Contamination/Hazardous Materials Issues" of this report.

- PARCEL 31, "SYERS PROPERTIES, LLC" (VALERO SERVICE STATION) – APN 107-130-5010

Parcel does not appear to be subject to acquisition. The parcel is known as the "Town Center" shopping area. There is an active, petroleum fuel service station (Valero) located within the shopping center. We found no records of suspected soil and/or groundwater contamination from the searched database. Service stations are a principal concern for subsurface contamination. We recommend a local file search and review for additional environmental records at the EDCEHD and at the RWQCB and an interview with the current site owners.

- PARCEL 1, "EDH 52" - APN 108-030-1010

Parcel is subject to partial or complete acquisition. No specific hazardous material issues were identified at this site through the database search. The parcel consists of undeveloped grazing land that appears unused at the present. We observed remnant, concrete structures (ruins) and associated debris. We were unable to determine the past use of the concrete structure. These "ruins" are located east of Silva Valley Parkway, approximately 1,000 feet north of the existing underpass. The structure consists of a rectangular shaped, three-bin, concrete-walled basins, with concrete columns at the corners of each bin. Other outlying columns are located north and south of the described structure. Archeological research (LSA, 2006) indicates that this site was a ranch, and the owner had a fondness for constructing with concrete.

Issues associated with a former farm residence include leach fields/septic tanks and buried heating oil tanks. The remnant concrete structures need to be assessed for LCP and ACM, prior to demolition and preparation of construction documents. An assessment for the presenee of these materials may materially affect the purchase of the parcel. We recommend that the construction documents include specifications making the contractor aware of the possible presence of LCP and ACM during grading operations, and his responsibility to respond accordingly.

General Contamination/Hazardous Materials Issues

- PESTICIDES

The project includes acquisition of former cattle grazing and crop land; however, it appears that most of the open land in the project vicinity was used for grazing. Therefore, there is low to moderate potential for residual pesticides, herbicides, and fungicides. Based on the reviewed data, there is no obvious evidence of pesticide mixing, storage and/or misuse within the proposed right-of-way acquisition areas. Nonetheless, agricultural chemicals are typically used on farm lands. BCI considers it possible that pesticides, herbicides, and fungicides have been applied and used within the properties identified by MTCo as properties of interest.

Residual pesticides from normal agricultural application are generally exempt from mandatory assessment. This does not, however, preclude their existence. For roadway right-of-way acquisition projects, requirements for additional investigation are not clearly established. Therefore, it's important that the County of El Dorado understand the issue so they can make an informed decision on how to proceed. At a minimum, for sites with potential right-of-way acquisition, we recommend the County obtain a statement from the current property owner regarding past agricultural chemical use. If the statement is conclusive and suggests that usage would not result in significant residual pesticides concentrations, then no further action, such as sample collection and analysis, would be required.

- NATURALLY OCCURRING ASBESTOS

The project site is located in a geologic region identified as having at or near surface naturally occurring asbestos (NOA) bearing rocks and soils. Consequently, any development and/or construction in this area must comply with applicable rules and regulations, as written by El Dorado County Environmental Health Department. NOA-bearing rocks and soils potentially affect all parcels.

The contractor shall have experience implementing El Dorado County's special NOA grading requirements. An NOA monitoring plan will be required prior to grading. Some of the plan elements include: 1) a geologist trained in the recognition of NOA should be intermittently present during grading operations, 2) the geologist shall observe site conditions and implement special grading conditions when NOA is present. BMPs for dust control should be practiced during all grading operations in El Dorado County.

- AERIALLY DEPOSITED LEAD

The proposed interchange improvements will include grading within the existing SR50 shoulders and right-of-way (ROW). Caltrans is likely to require an aerially deposited lead (ADL) investigation prior to construction. Soil that is potentially impacted by ADL and disturbed during grading activities is subject to Department of Toxic Substances Control (DTSC) definition for handling hazardous waste. California currently defines material containing lead concentrations above 350 parts per million (ppm) as subject to Class I hazardous waste disposal. If ADL is detected at concentrations requiring hazardous waste handling and disposal, then we recommend that the local Caltrans district office be contacted to determine the applicability of reusing ADL-impacted soil under the terms of the DTSC-issued "Lead-impacted Soil Reuse

Variance". If the variance is not available to this district, then lead containing soils may require disposal at a Class I landfill.

ADL may also be present on privately-owned parcels adjacent to SR50. The potential ADL impact is likely limited to surface and shallow subsurface soils located within 2 feet of the existing ground surface (DTSC, 1995; Caltrans, 1998), and within 150 ft of the existing freeway right-of-way (Caltrans, 1995). The following Parcels are identified as potentially ADL-impacted: Parcels 1, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 22, 25, 26, 27, and 28. We recommend a minimum of one surface soil sample be obtained for ADL screening. The assessment should be performed on that portion of the parcel directly adjacent to and within 50 feet of the edge of pavement. Parcels with a long contiguaous portion of property adjacent to the freeway shall be sampled for ADL every 300 feet.

- TRANSFORMERS

The scope of this assessment did not include an inventory of past and present transformers along the alignment. However, BCI observed several pole-mounted transformers and high voltage power lines along the proposed SR 50 widening corridor, and along the existing Silva Valley Parkway, White Rock Road, Tong Road, and Joerger Cutoff Road. Many of these overhead electrical powerlines are located within the proposed right-of-way acquisition areas. The transmission lines and poles appear relatively new, and few of the transformers show signs of external rust or discoloration. The existing pole-mounted transfomers need to be considered potentially impacted if their removal or relocation is required during construction. Existing transformers should be checked for the presence of PCBs, and if present, they should be disposed of in accordance with current regulations. Surface mounted transformers and electrical switeh boxes were also observed within the project area, and may also constitute a potential PCB-impacted risk.

- YELLOW TRAFFIC STRIPES

Yellow traffic stripes are known to contain heavy metals such as lead and chromium at concentrations in excess of the hazardous waste thresholds established by the California Code of Regulations (CCR) and may produce toxic fumes when heated. Consequently, any yellow traffic striping removed from the existing surface streets and SR50 highway will require proper disposal, which may include disposal at a Class 1 disposal facility.

- UNDERGROUND PRODUCT DISTRIBUTION LINES

An assessment of utilities or buried petroleum product distribution lines is not within the scope of this ISA. We did not observe warning signs for petroleum product lines. We observed markings for gas, water, electric, sewer, and storm drain at various locations. A sewer lift-pump station is located along the west side of Silva Valley Road. These and other utilities are present throughout the proposed interchange improvement area. The database records do not indicate contamination resulting from utility spills; however, there is the potential for unidentified leaks.

1 INTRODUCTION

Mark Thomas & Company, Inc. retained Blackburn Consulting (BCI) to perform an Initial Site Assessment (ISA) for the El Dorado County Department of Transportation's proposed Silva Valley Parkway/SR50 Interchange project (03-ED-50, KP 3.1 (PM 1.7). The purpose of this assessment is to identify hazardous and potentially hazardous materials issues for parcels directly impacted by the proposed interchange project.

We show the general location of the project site on Figure 1. The proposed interchange improvements and identification of parcels impacted by the proposed project are shown on Figure 2.

1.1 Scope of Services

The purpose of this ISA is to:

- Identify known contamination as well as hazardous and potentially hazardous materials issues that may influence construction of the project, and
- Identify impacted parcels within the project area and assess the potential impacts to site acquisition and/or construction if all or a part of these must be acquired to facilitate the planned improvements.

To conduct this ISA, BCI:

- Received right-of-entry permits for the majority of parcels within the project area. Permits were obtained from the County of El Dorado, Department of Transportation (ELDOT) right-of-way staff. We provided ELDOT with 48-notice prior to parcel entry.
- Conducted a limited site reconnaissance to observe current land uses and indications of potential contamination on properties subject to partial or complete site acquisition, and to view publicly accessible portions of adjacent properties.
- Reviewed the site geology.
- Reviewed historical aerial photograph coverage and topographic map coverage of the project corridor and surrounding properties for indications of potential sources of contamination.
- Performed federal, state, and county records search for indications of the use, misuse, or storage of hazardous and/or potentially hazardous materials on or near the site. Environmental Data Resources, Inc. (EDR) of Southport, Connecticut, provided the federal, state, and county database search. We provide an electronic copy of EDR's report on a CD in Appendix A.
- Prepared this report to summarize the findings of our review, site reconnaissance, historical photographs, and regulatory records review. We identified potential contamination/hazardous materials impacts and provided recommendations for further investigation where necessary.

2 PROJECT DESCRIPTION AND LOCATION

2.1 Project Description

The interchange will eonnect Silva Valley Parkway, an arterial roadway linking approved development in El Dorado Hills, to State Route (SR) 50. The interchange will provide a needed eonnection, and relieve congestion at the existing El Dorado Hills/Latrobe Road interchange. There are several interchange configurations being evaluated, including variations on a Type L-9 partial cloverleaf interchange and a Type L-2 spread diamond interchange.

According to the preliminary site plan (MTCo, February 2006), this section describes parcels that may require partial or complete site acquisition to accommodate planned improvements. The current improvement plans also identifies parcels that are potentially impacted by the project, but which may not be subject to acquisition. We identify parcels by site name and APN. Each brief site description is followed by corresponding photo numbers. We provide a photograph of individual sites in Appendix B. We identify parcels by APN on Figure 2.

PARCEL 1, "EDH 52", APN 108-030-1010
Current interchange improvement plans require complete acquisition of this parcel. The parcel existing features include old foundations, pilasters, and concrete debris piles. The majority of the site is undeveloped barren land (Photos 15, 16, and 40 through 43).

PARCEL 2, "EL DORADO HILLS INVESTORS", APN 107-130-0110
Proposed for partial or complete site acquisition. Impact may be right-of-way acquisition along the property boundary with Tong Road. This parcel is currently undeveloped (Photo 13).

PARCEL 3, "COUNTY OF EL DORADO", APN 108-070-3210
Currently owned by the County. Proposed plans show an on- and off-ramp through the western part of the site. This parcel is currently undeveloped (Photo 17).

PARCEL 4, "CAPITAL KOREAN PRESBYTERIAN CHURCH", APN 108-070-0210
Proposed for partial site acquisition. Impact may be right-of-way acquisition along the south property boundary with Tong Road. This parcel is developed by a large church structure and parking area (Photo 21).

PARCEL 5, "LAFONTSEE BONNIE L & CHRIS L", APN 108-070-0310
Proposed for partial site acquisition. Impact may be right-of-way acquisition along the south property boundary. This parcel is undeveloped, with remnants of previous structures visible on the ground surface (Photo 21).

PARCEL 6, "TONG ARTHUR D & FAM REV 1999", APN 108-070-0410
Plans appear to indicate partial site acquisition, which shows possible improvements along Tong Road. Impacts may be along Tong Road, which bisects the property. This parcel is undeveloped (Photos 18 through 20).

PARCEL 7, "MOHANNA MOE & NASRIN", APN 108-070-2210
Plans appear to indicate partial site acquisition. Impacts may be along the south property boundary, where SR50 borders the parcel. This parcel is currently undeveloped along the freeway, but improved by a residence on the north side (Photos 69 and 72), away from the freeway.

PARCEL 8, "MOHANNA MOE & NASRIN", APN 108-070-2610
Plans appear to indicate partial site acquisition. Impacts may be along the south property boundary, where SR50 borders the parcel. This parcel is currently undeveloped along the freeway, but improved by a residence on the north side (Photos 69 and 70).

PARCEL 9, "EL DORADO HILLS INVESTORS", APN 107-130-0210
Current interchange improvement plans require complete acquisition of this parcel. This parcel is currently undeveloped and barren (Photo 14).

PARCEL 10, "PG&E CLARKSVILLE SUBSTATION", APN 107-130-0610
Proposed for partial site acquisition. Impacts may be along the north property boundary, where the pareel borders SR50. This parcel is currently used as an electrical transfer and substation (Photo 1).

PARCEL 11, "EL DORADO HILLS INVESTORS", APN 107-130-0510
Proposed for partial or complete site acquisition. Impacts are along the north property boundary, where the site borders SR50. This parcel is currently undeveloped, the majority of which is a marshy, wetland area (Photos 6 & 7).

PARCEL 12, "EL DORADO HILLS INVESTORS", APN 107-130-0410
The site is proposed for partial or complete site acquisition. Impacts may be along White Rock Road, which borders the site on the west, and where the property borders SR50 on the north. This parcel is currently undeveloped and barren (Photos 7 & 10).

PARCELS 13 & 14, "KFRD INVESTORS & TONG RANCH LLC", APN 108-070-0510 and -0610
Proposed for partial site acquisition along the northwest boundary of Parcel 13 with SR50, and partial acquisition where both properties border SR50 on the north. The parcels are mostly undeveloped; however a small residence, rusted farm equipment, debris piles, and a large barn are present along White Rock Road (Photos 30 through 39), which bisects Parcel 14. An old cemetery is also present on Parcel 13.

PARCELS 15 AND16, "HUDDRIDGE PARTNERS ", APN 108-780-0210 & 108-780-0110
Proposed for partial site acquisition. Impacts may occur along White Rock Road, which bisects between the parcels, and where the road is proposed to be re-aligned through both parcels as a part of the new interchange. The parcels are currently undeveloped and barren (Photos 8 & 9).

PARCEL 17, "PEERMAN, JACK & BETTY", APN 107-130-0710
Proposed for partial site acquisition along north boundary with SR50. The parcel is improved by a residential structure, garage, storage barn, pavement, and related improvements. The remainder of the parcel is mostly barren (Photo 3).

PARCEL 18, "EL DORADO HILLS INVESTORS", APN 107-130-0410
Proposed for partial site acquisition. Impacts are predominately along the north property line with SR50. This parcel is currently developed by a Mercedes dealership (Photos 2 and 4).

PARCEL 19, "PHOENIX PACIFIC COMPANY", APN 107-680-1310
May be proposed for partial acquisition. Impacts are likely located along the south property line with the west-bound off-ramp at the SR50/El Dorado Hills Boulevard interchange. This parcel is currently developed by a children's daycare facility (Photos 48 and 49) and associated paved parking improvements.

PARCEL 20, "SERRANO ASSOCIATES", APN 107-660-0310
Proposed for partial site acquisition. Impacts are located along the south property line with SR50. This parcel is currently developed by a country club and golf course (Photo 63).

PARCEL 21, "SERRANO ASSOCIATES", APN 114-160-1910
Proposed for partial site acquisition. Impacts are located along the south property line with SR50 and along the east property boundary with Silva Valley Parkway. This hilly parcel is currently undeveloped (Photos 62, 64, and 65). We note the presence of a former residence, exampled by old foundations.

PARCEL 22, "EL DORADO SAVINGS BANK", APN 107-680-0610
Similar to Parcel 19, may be proposed for partial acquisition. Impacts are likely along the south property line with the west-bound off-ramp at the SR50/El Dorado Hills Boulevard interchange. This parcel is developed by an El Dorado Savings Bank (Photos 49 and 50).

PARCEL 23, "SERRANO ASSOCIATES LLC", APN 114-780-0110
Proposed for partial site acquisition. Potential impacts are located near the west and south property lines, for the proposed Country Club Drive roadway improvements. The proposed road is located along the northern boundary of Parcels 3, 4, 5, and 6. This parcel is currently improved by a dirt road, but is otherwise barren (Photos 22 and 23), with some trees and imported gravel and soil stockpiles along the north boundary.

PARCEL 24, "SERRANO ASSOCIATES LLC", APN 114-150-42100
Proposed for partial site acquisition along the western property line with Silva Valley Parkway. The parcel is currently undeveloped (Photos 24 and 25). The parcel is located next to a sehool. We observed a soil stockpile, which may have been generated during grading for the recently completed, adjacent school.

PARCEL 25, "WILMINGTON TRUST / TOSCO TRUST", APN 107-120-0410
Parcel subject to partial site acquisition. Impacts located along south property line at the west-bound SR50 off-ramp. The site is currently developed by a Union 76 service station (Photo 25).

PARCEL 26, "AHART TRUST / JONES TRUST", APN 107-120-2610
Similar to Parcel 19, may be proposed for partial acquisition. Impact is likely located along the south property line with the west-bound off-ramp at the SR50/El Dorado Hills Boulevard interchange. This parcel is currently developed by a "Taco Bell" (Photo 51).

PARCEL 27, "TOWN CENTER EAST LP", APN 107-130-3610
Proposed for partial site acquisition. Impact is located along the north property line, adjacent to the SR50 eastbound on-ramp from the El Dorado Hills Blvd/Latrobe Road interchange. The parcel is developed as a shopping are and associated paved parking (Photos 56 and 57).

PARCEL 28, "EDH TOWN CNTR EAST OWNERS ASSOC", APN 107-130-4310
Proposed for partial site acquisition along the north property line with the SR50 eastbound on-ramp. This parcel is an undeveloped marshy area next to the "Town Center" (Photo 58).

PARCEL 29, "SYERS PROPERTIES III LLC", APN 107-130-4810
Possible partial site acquisition along western boundary with El Dorado Hills Boulevard. This parcel is developed as a landscaped area (no photo).

PARCEL 30, "SYERS PROPERTIES III LLC", APN 107-130-4910
Possible partial site acquisition along western boundary with El Dorado Hills Boulevard. This parcel is improved by a shopping center (no photo).

PARCEL 31, "SYERS PROPERTIES III LLC", APN 107-130-5010
Based on the current improvement plans, the parcel is identified within the project limits, but does not appear to be proposed for partial acquisition. This parcel is currently improved by a shopping center, which includes a gasoline service station (Photos 59, 60, and 61).

PARCEL 32, "COUNTY OF EL DORADO", APN 107-680-0910
Based on the current improvement plans, the parcel is identified within the project limits, but does not appear to be proposed for partial acquisition. The site is currently developed by a "Taco Bell", and is located adjacent to a "Shell" service station (Photos 53, 54 and 55).

PARCEL 33, "CRISP FAMILY TRUST", APN 107-680-1010
Based on the current improvement plans, the parcel is identified within the project limits, and may be subject to partial acquisition. The potential impact is located along the south boundary line with the paved entrance to the shopping center. The parcel is improved as a landscaped area (no photo) along El Dorado Hills Boulevard.

PARCEL 34, "MCNAN LLC", APN 107-680-0810
Based on the current improvement plans, the parcel is identified within the project limits, and may be subject to partial acquisition. The potential impact is located along the west boundary with El Dorado Hills Boulevard. This parcel is developed as a landscaped area (Photo 53).

2.1.1 Surrounding Area

Current land use surrounding the interchange is generally commercial, rural/urban residential, recreational. Historic uses are similar and include limited agricultural/ranching, and minor surface mining/dredging. In general, high-density residential and commercial uses are beginning to dominate the area. Low density, rural residential and ranch land are located to the south and east. Commercial development is located along El Dorado Hills Boulevard and Latrobe Road, southwest of the proposed Silva Valley interchange.

2.2 Site Conditions and Local Geologic Characteristics

The topography through the corridor is generally mild to moderately sloped, consisting of rolling hills of the western Sierra Nevada Foothills. The average elevation is between 610 to 825 feet above mean sea level (msl), with the proposed interchange at SR50 reaching Elev.736 feet near the Silva Valley/White Rock Road undercrossing. Elevations are based on the USGS 7.5 Minute Topographic Map, Clarksville, CA.

The region surrounding and including this project, is known to be potentially impacted by naturally occuring asbestos (NOA). Geologic maps of the project area (Churchill, 2001[1]) show ultramafic rock with the potential to contain NOA. NOA is typically present within local zones of ultramafic rock, typically serpentinite. In California, ultramafic rocks are often associated with fault complexes like the ones present in this portion of the Western Sierra Nevada Foothills. NOA is a known hazardous material. The following discussion is a summary of the geologic conditions related to the occurance of NOA in the project area.

Our site work and published geologic literature indicate that meta-volcanic, meta-sedimentary, granitic, and gabbroic (igneous) rocks underlie the site at shallow depth. Regionally, these rocks occur within an area that is predominately composed of a northwest trending belt of Mesozoic-age rock that extends along the western slopes of the Sierra Nevada, including most of western El Dorado County. This metamorphic belt is intruded by numerous small to moderately large bodies of mafic and ultra-mafic igneous rock, including the Pine Hills Intrusive complex composed predominately of gabbroic igneous rock. Published geologic literature indicates that the study area is underlain by Mesozoic age metavolcanic rocks of the Copper Hill Formation and metasedimentary rocks of the Salt Springs Slate Formation (CDMG, 1981).

The rock structure is dominated by a series of northwest trending faults and fault zones that mark the boundaries of various rock types. Wagner, 1987[2], and Busch, 2001[3], show the site approximately 1 mile east of the West Bear Mountains Fault Zone. The East Bear Mountains Fault Zone is located approximately 8 miles east of the site. The igneous rocks located between the west and east Bear Mountains Fault Zones are an ophiolitic terrain comprised of altered basic igneous rocks. Amphibolites and serpentinized ultramafic rocks are common alteration products and are present within selected areas of the Pine Hill intrusive complex. Amphibolites and

[1] Churchill, et al., 2001, Areas Most Likely to Contain Natural Occurrences of Asbestos in Western El Dorado County, California, California Geological Survey, OFR 2000-02

[2] Wagner, D.L. et al., 1987, The Geologic Map of the Sacramento Quadrangle, California Geological Survey, Map No. 1A

[3] Busch, 2001, Geologic Map of El Dorado County, California Geological Survey, OFR 2000-03

serpentine are silicate minerals that can occur as both asbestiform (fibrous) and non-asbestiform (platy or blocky) varieties. Exposed rock at the site consists predominantly of rocks identified as the Copper Hill Volcanics Formation. The rocks are moderately to intensely weathered, metamorphosed volcanics, with some metamorphosed sandstone and shale.

Occurrences of naturally occurring asbestos (NOA) are typically associated with local faulting and ultramafic rocks. We observed prominent shear zones along the western road-cut of El Dorado Hills Boulevard and along SR50 road cuts east and west of the El Dorado Hills Boulevard/SR50 interchange. The shear zones are related to faulting and/or compressional stresses from the west spur of the Bear Mountains Fault Zone. The fault trace, bearing approximately north-south, is located 500 feet east of the El Dorado Hills Interchange. Rocks associated with the faulting may contain talc-sericite schist or talc-chlorite schist.

2.3 Current Land Use

Land uses on parcels discussed in this report include:

- Retail gas and petroleum product sales
- Retail Convenience Stores
- "Strip Mall" - Grocers and Retail sales
- Auto Sales and Repair
- Restaurants
- State Route 50 (SR50)
- Dense, urban residential and rural residential
- Commercial Building Supplies
- Undeveloped land

Land use in the surrounding area includes commercial, urban and rural residential, and ranching (agricultural). The most notable surrounding land uses include a large commercial complex at the southeast corner of the El Dorado Hills Boulevard (EDHB) and SR50 interchange, and urban residential development to the north and west of the proposed new interchange. At the proposed interchange site, the predominant land use is rural residential, an electrical switching yard, ranch/farm land, a golf course, and a church. A marshy, wetland area borders two significant drainages that flow from northeast to southwest and beneath SR50, and are located east and west of the Silva Valley Parkway/White Rock Road undercrossing of SR50.

2.4 Historical Land Use

2.4.1 Summary

Prior to 1944, land use in the project area appears as rural residential, ranching, and agriculture. A 1944 topographic map shows SR50 as a two-lane road connecting Scotts Road to the Lake Tahoe area. This portion of the SR50 alignment appears similar to the present alignment of the four lane SR50 highway. The old road alignment passes through the community of Clarksville,

and connects eastward to the town of Shingle Springs. Based on the 1994 topographic map (Folsom Quad, USGS, 1944), Clarksville appears as the only significant residential community in the vicinity of the proposed new interchange.

The alignment of SR50 appears fixed between the years 1944 and 1952. Substantial residential and commercial development did not begin until around 1970, around the time of the improvements of SR50 to a four-lane highway. Residential development north of SR 50 started after construction of the freeway. Dense residential and commerical development north and south of SR50 began to flourish in the late 1990s.

2.4.2 Aerial Photograph Review

BCI's aerial photo review included photos from 1952, 1961, 1971, 1981, 1993, and 1998. For partial or complete acquisition parcels, the following summarizes noteworthy changes in each photo interval. We used the following photos:

1952 Photo by Pacific Air, Scale 1" = 555'
1961 Photo by Cartwright, Scale 1" = 555'
1971 Photo by Cartwright, Scale 1" = 333' and 1" = 666'
1981 Photo by Cartwright, Scale 1" = 333' and 1" = 666'
1993 Photo by USGS, Scale 1" = 666'
1998 Photo by USGS, Scale 1" = 666'

PARCEL 1, "EDH 52", APN 108-030-1010

1952 Predominately barren land, with a farm/ranch improvement at the center of property. The improvements are located on about one (1) acre of the site. Drainage flows from north to south across this site. SR50 borders the south side of the property. An access road connects the farm/ranch to SR50.
1961 The farm/ranch structures are partially removed, and site appears abandoned. A box shaped tower remains on site. Otherwise, the site is unchanged from the previous photograph.
1971 A box-shaped tower removed. SR50 is now a 4-lane freeway immediately adjacent to the south boundary of the site. The Silva Valley undercrossing (UC) of SR50 is present to the southwest of the parcel, and a golf course is present to the west. Residential development begins on the east side of El Dorado Hills Boulevard, directly west of this parcel.
1981 The site is essentially unchanged from the previous photograph.
1993 An east-west oriented dirt access road crosses the middle property. Otherwise, the parcel is essentially unchanged from the previous photograph.
1998 Essentially unchanged from previous photograph.

PARCEL 2, "EL DORADO HILLS INVESTORS", APN 107-130-0110

1952 Bare, unimproved parcel. Site is essentially unchanged from 1952 to the present.

PARCEL 3, "COUNTY OF EL DORADO", APN 108-070-3210

1952 Bare, unimproved parcel. Site is essentially unchanged from 1952 to the present.

PARCEL 4, "CAPITAL KOREAN PRESBYTERIAN CHURCH", APN 108-070-0210

1952 Bare, unimproved parcel. Site is essentially unchanged from 1952 to 1998.

1998 Sometime after 1998, a church structure is built on the parcel.

PARCEL 5, "LAFONTSEE BONNIE L & CHRIS L", APN 108-070-0310

1952 Site appears improved by a rural residential structure. Ancillary storage/barn structures and numerous motor vehicles and farm-type equipment also appear on the site.

1961 Not visible in the photograph.

1971 Not visible in the photograph.

1981 Essentially unchanged from the 1952 photograph.

1993 Essentially unchanged from previous photograph.

1998 Essentially unchanged from previous photograph.

PARCELS 6, 13 & 14, "TONG ARTHUR D & KFRD INVESTORS/TONG RANCH LLC ", APN 108-070-0410, 108-070-0510 & 108-070-0610, (RESPECTIVELY)

1952 White Rock Road/Tong Road bisects the Tong properties along a north-south orientation, and SR50 bisects the Tong properties from east to west. The majority of this large property is barren, unimproved land.

1961 Sometime between 1961 and 1998, residential/farm structure are built along White Rock Road, south of SR50.

1971 Property further bisected by the construction of the 4-lanes of SR50. The site is not visible in the photographs between 1971 and 1998.

1998 Essentially no change in the site from 1971 to 1998.

PARCELS 7 & 8, "MOHANNA MOE & NASRIN", APN 108-070-2210 & 108-070-2610

1952 Barren, undeveloped land in 1952. Essentially no site change from 1952 to 1993.

1993 A residence is present near the north property lines. Except for the construction of SR50, the properties are essentially unchanged.

1998 Essentially unchanged from previous aerial photograph.

PARCELS 9, 11, & 12, "EL DORADO HILLS INVESTORS", APN 107-130-0210, 107-130-0510, & 107-130-0410, (RESPECTIVELY)

1952 Barren, fallow land, covered by grasses. A significant drainage bisects Parcel 11, flowing into a marshy, wetland area just south of SR50. The parcels appear as a single contiguous parcel bisected by the two-lane SR50 highway.

1961 Essentially unchanged from previous aerial photograph.

1971 The existing, individual parcels are formed because of the construction of the 4-lane section of SR50. The White Rock Road/Silva Valley Parkway and the Clarksville undercrossing are constructed between Parcels 11 and 12. A PG&E substation is constructed adjacent and west of Parcel 11.

1981 Essentially unchanged from previous aerial photograph.

1993 Essentially unchanged from previous aerial photograph.

1998 Essentially unchanged from previous aerial photograph.

PARCEL 10, "PG&E CLARKSVILLE SUBSTATION", APN 107-130-0610

1952 *The site is partially improved by structures that appear to be a gas station/commercial building adjacent to eastbound SR50, a 2-lane road at this time.*

1961 *Essentially unchanged from previous aerial photograph.*

1971 *Previously noted structures are removed, and the PG&E "Clarksville" substation constructed.*

1981 *Additional electrical equipment improvements constructed on the substation site. Open space is noted within the station. A single–family residence is present adjacent and west of the PG&E substation.*

1993 *The substation appears to be fully built-out with additional transformers and related electrical equipment occupying the previous open space.*

1998 *Essentially unchanged from previous aerial photograph.*

PARCELS 15 AND16, "HUDDRIDGE PARTNERS ", APN 108-780-0210 & 108-780-0110

1952 *These parcels are located near confluence of Screech Owl Creek, Carson Creek, and an un-named drainage located adjacent to the future White Rock Road. Grasses and a sparse amount of trees cover the parcels. White Rock Road bisects the two parcels in a north-south orientation.*

1998 *White Rock Road is realigned to meet Silva Valley Road at SR50, further bisecting the two parcels. There are no other changes between 1952 and 1998.*

PARCEL 17, "PEERMAN, JACK & BETTY", APN 107-130-0710

1952 *Barren, undeveloped land, covered by low grasses. The Clarksville cemetery is located immediately southwest of the parcel.*

1961 *Essentially unchanged from previous aerial photograph.*

1971 *Essentially unchanged from previous aerial photograph, except for a small unidentified-use structure constructed adjacent and west of the PG&E substation.*

1981 *A residential structure, garage, and small barn are present.*

1993 *Essentially unchanged from previous aerial photograph.*

1998 *Essentially unchanged from previous aerial photograph. The vegetation has matured around the house.*

PARCEL 18, "EL DORADO HILLS INVESTORS", APN 107-130-0410

1952 *Barren, unimproved land, covered by low grasses. Site borders old SR50 on the south.*

1961 *Essentially unchanged from previous aerial photograph.*

1971 *Except for the improvement of SR50 to a 4-lane highway, the site is essentially unchanged from previous aerial photograph.*

1981 *Essentially unchanged from previous aerial photograph.*

1993 *Unchanged from previous aerial photograph. There is some maturation of vegetation.*

1998 *Essentially unchanged from previous aerial photograph.*

PARCEL 19, "PHOENIX PACIFIC COMPANY", APN 107-680-1310

1952 *Barren, unimproved land, covered by grasses.*

1961 *Essentially unchanged from previous aerial photograph.*

1971 The El Dorado Hills Boulevard/SR50 interchange is constructed. Commercial developments begin at the strip mall, where the parcel is located.
1981 The parcel is not located within the boundaries of the photograph.
1993 Other parcels around Parcel 19 are commercially improved. Site is graded, but no structural improvements (buildings) begun.
1998 Unchanged from previous aerial photograph.

PARCEL 20, "SERRANO ASSOCIATES LLC", APN 107-660-0310

1952 Parcel borders old SR50 on the north, and consists of barren, grass-covered, unimproved land.
1961 Essentially unchanged from previous aerial photograph. Grading begun for the construction of the Parcel's golf course and for El Dorado Hills Boulevard (adjacent to the west.
1971 The El Dorado Hills Boulevard/SR50 interchange is complete, and the construction of the golf course is complete.
1981 Aside from general landscaping improvements, the site is essentially unchanged from previous aerial photograph.
1993 Essentially unchanged from previous aerial photograph.
1998 Some vegetation maturation. Otherwise, unchanged from previous photograph.

PARCELS 21 & 24, "SERRANO ASSOCIATES LLC", APN 114-160-1910 & 114-150-42100

1952 Predominately barren, grass-covered land. A single-family residence is present where the property borders old SR50 on the north. Few trees on site.
1961 Essentially unchanged from previous aerial photograph.
1971 The residential foundation is still present, but the house is removed for the widening of SR50.
1981 Essentially unchanged from previous aerial photograph.
1993 Except for some minor dirt roads across the parcels they appear unchanged from previous aerial photograph.
1998 Essentially unchanged from previous aerial photograph.

PARCEL 22, "EL DORADO SAVINGS BANK", APN 107-680-0610

1952 Barren, unimproved land, covered by grasses.
1961 Essentially unchanged from previous aerial photograph.
1971 The El Dorado Hills Boulevard/SR50 interchange is constructed, and the first improvements are started for the commercial development, of which this parcel is a part.
1981 Not located within the boundaries of the photograph.
1993 Commercial structures built around Parcel 22. However, there are no structural improvements (building) on site. Minor grading of parcel is evident.
1998 Essentially unchanged from the previous aerial photograph.

PARCEL 23, "SERRANO ASSOCIATES LLC", APN 114-780-0110

1952 Site consists of barren, unimproved land covered by low grasses.
1961 Essentially unchanged from previous aerial photograph.
1971 Site not visible in the photograph.

1981 The parcel is essentially unchanged from previous 1961 aerial photograph.
1993 Essentially unchanged.
1998 Except for the maturation of trees along existing drainages the site is essentially unchanged from the previous aerial photograph.

PARCEL 25, "WILMINGTON TRUST / TOSCO TRUST", APN 107-120-0410

1952 Barren, unimproved land, covered by grasses.
1961 The El Dorado Hills Boulevard/SR50 interchange is under construction. Otherwise, site is essentially unchanged from the previous aerial photograph.
1971 Not located within the boundaries of the photograph.
1981 Not located within the boundaries of the photograph.
1993 The Union 76 service station is constructed on the parcel.
1998 Essentially unchanged from the previous aerial photograph.

PARCEL 26, "AHART TRUST / JONES TRUST", APN 107-120-2610

1952 Parcel consists of barren, unimproved land, covered by grasses.
1961 The El Dorado Hills Boulevard/SR50 (EDHB/SR50) interchange is under construction. Otherwise, site is essentially unchanged from the previous aerial photograph.
1971 Not located within the boundaries of the photograph.
1981 Not located within the boundaries of the photograph.
1993 Site surrounded by commercial development. No structural improvements (building) on site.
1998 The current "Taco Bell" is constructed on the site.

PARCEL 27, "TOWN CENTER EAST LP", APN 107-130-3610

1952 Barren, unimproved land, covered by grasses.
1961 The El Dorado Hills Boulevard/SR50 interchange is under construction. Otherwise, site is essentially unchanged from the previous aerial photograph.
1971 Not located within the boundaries of the photograph.
1981 Not located within the boundaries of the photograph.
1993 The parcel is essentially unchanged from previous improvements to the interchange. Construction of the new "Town Center" commercial development has started to the south.
1998 Parcel 27 is included in the areas developed as the "Town Center" commercial development.

PARCEL 28, "EDH TOWN CNTR EAST OWNERS ASSOC. ", APN 107-130-4310

1952 Barren, unimproved land, covered by grasses. A major drainage runs through the site.
1961 The EDHB/SR50 interchange is under construction. Otherwise, site is essentially unchanged from the previous aerial photograph.
1971 The widening of SR50 to a 4-lane highway is complete. SR50 borders the site on the north.
1981 Property is virtually unchanged from the previous aerial photograph.

1993 *Construction of the new "Town Center" commercial development has begun to the south of the site.*

1998 *The drainage that previously flowed due south from the eastbound SR50 on-ramp has been rerouted, and flows eastward to connect with the drainage flowing through Parcel 28.*

PARCELS 29 & 30, "SYERS PROPERTIES III LLC", APN 107-130-4810 & 107-130-4910

1952 *Barren, unimproved land, covered by grasses.*

1961 *The EDHB/SR50 interchange is under construction. Otherwise, site is essentially unchanged from the previous aerial photograph.*

1971 *Not located within the boundaries of the photograph.*

1981 *Not located within the boundaries of the photograph.*

1993 *The parcels are rough-graded as a part of the improvements for the new "Town Center" commercial development, under construction.*

1998 *New buildings and landscaping are constructed on the Parcel.*

PARCEL 31, "SYERS PROPERTIES III LLC", APN 107-130-5010

1952 *Bare, unimproved land, covered by grasses.*

1961 *The El Dorado Hills Boulevard/SR50 interchange is under construction. Otherwise, site is essentially unchanged from the previous aerial photograph.*

1971 *Predominately unchanged from previous photograph.*

1981 *Not located within the boundaries of the photograph.*

1993 *Roads for the new "Town Center" shopping area are visible. The drainage from a new, south flowing channel crosses diagonally across the site.*

1998 *Drainage re-routed to the north and east of the parcel. Construction of the "Town Center" commercial development is underway, with a new gas station and other structures on the site.*

PARCEL 32, "COUNTY OF EL DORADO", APN 107-680-0910

1952 *Parcel consists of barren, unimproved land, covered by grasses.*

1961 *The EDHB/SR50 interchange is under construction. The entrance road to the future shopping area is rough graded. Otherwise, site is essentially unchanged from the previous aerial photograph.*

1971 *Not located within the boundaries of the photograph.*

1981 *Not located within the boundaries of the photograph.*

1993 *Parcel 32 is graded for new commercial development. No structural improvements (building) on site.*

1998 *A "Jack in the Box" restaurant is constructed on the parcel.*

Parcel 33, "CRISP FAMILY TRUST", APN 107-680-1010

1952 *Parcel consists of narrow strip of barren, unimproved land, covered by grasses.*

1961 *Unchanged from previous aerial photograph.*

1971 *Not located within the boundaries of the photograph.*

1981 *Not located within the boundaries of the photograph.*

1993 Parcel 33 is a part of an existing commercial development, consisting of landscaping and a curb area on the north side of the shopping center's entrance from EDHB.
1998 Unchanged from previous aerial photograph.

Parcel 34, "MCNAN LLC", APN 107-680-0810
1952 Parcel consists of narrow strip of barren, unimproved land, covered by grasses.
1961 Unchanged from previous aerial photograph.
1971 Not located within the boundaries of the photograph.
1981 Not located within the boundaries of the photograph.
1993 Parcel 34 is a part of an existing commercial development, consisting of landscaping and a curb area east of EDHB, and bordering the shopping center on the west.
1998 Unchanged from previous aerial photograph.

2.4.3 Topographic Map Review

BCI's topographic map review includes 7½-minute USGS quad maps from 1944, 1953, and 1973. This summary includes the noted changes within the project area as recorded on the maps:

1944 USGS Folsom Quad, Scale 1:62,500

- SR50 shown along nearly the same alignment it has today. However, it terminates at Scott's Road to the west, where that road runs parallels to the Southern Pacific Railroad tracks, then continues eastward towards Shingle Springs.
- Clarksville/White Rock Road is shown as it exists today. The preliminary alignment of Silva Valley Road is present, and comprises a dirt/gravel road that crosses old SR50 and proceeds in a northerly direction.
- The Tong Road alignment appears on the map as a dirt road. The road has a spur that goes to a cemetery. The Clarksville cemetery is observed on the map.
- We note no other improvements within a one-mile radius of the subject intersection.

1953 USGS Clarksville Quad, Scale 1:24,000

- SR50 exists as a single lane road in each direction. Embankment fill and roadway cuts are visible, based on contours shown on the topographic map.
- There are no significant changes to the topography and road alignments observed in the 1944 map. Clarksville appears as the only concentration of residential and/or commercial structures in the immediate area.

1973 USGS Clarksville Quad, Scale 1:24,000

- SR50 is widened to a 4-lane highway, with a new 2-lane road constructed to the south of the earlier 2-lane alignment.

- The White Rock Road at-grade intersection is converted to an underpass with a concrete deck bridge at SR50. The road continues north of the freeway, where it is renamed Silva Valley Parkway.
- The EDHB/SR50 interchange is constructed, and a new subdivision is present north of the freeway. The map shows the golf course. Between EDHB/SR50 and the Bass Lake/SR50 interchange, all prior at-grade connections of local roads with SR50 are gone.
- Residential subdivision development is present along El Dorado Hills Boulevard.

3 RECORDS REVIEW

3.1 Review of County, State, and Federal Records

We requested EDR to perform a "Radius Search Report" for the Silva Valley Interchange, from roughly west of the El Dorado Hills Boulevard/SR50 interchange to the Bass Lake/SR50 interchange. The study included a search and review of county, state, and federal databases. The following databases were searched:

- National Priorities List (NPL)
- NPL Proposed
- NPL Delisted
- Resource Conservation and Recovery Act information (RCRA-SQG)
- Unconfirmed Properties Referred to Another Agency (REF)
- School Property Evaluation Program (SCH)
- Properties Needing Further Evaluation (NFE)
- Statewide SLIC Cases
- Emissions inventory data (EMI)
- Voluntary Cleanup Program Properties (VCP)
- Indian LUST
- Calsites Database (CAL-SITES)
- Section 7 tracking systems (SSTS)
- Uranium Mill Tailings Sites (UMTRA)
- Open dump inventory (ODI)
- Formerly used deposit sites (FUDS)
- Biennial Reporting systems (BRS)
- Department of defense sites (DOD)
- Deed restriction listing (DEED)
- No further Action determination (NFA)
- Notify 65
- Toxic Pits
- Comprehensive Environmental Response, Compensation, And Liability Information (CERLCIS)

- Comprehensive Environmental Response, Compensation, And Liability Information, No Further Remedial Action Planned (CERC-NFRAP)
- Corrective Action Report (CORRACTS)
- Above Ground Petroleum Storage Tank Facilities (AST)
- Leaking Underground Storage Tank Information System (LUST)
- Hazardous Substance Storage Container Database (UST)
- Cal Sites-AWP
- California Hazardous RCRA Administrative Tracking System (RAATS)
- Hazardous Materials Information Reporting System (HMIRS)
- California State Landfills ((SWF/L)\(SWIS))
- Waste Management Unit Database (WMUDS/SWAT)
- California Hazardous Materials Information Reporting System (CHMIRS)
- PCB Activity Database System (PADS)
- Emergency Response Notification System (ERNS)
- Faeility Index System (FINDS)
- Toxic Chemical Release Inventory System (TRIS)
- Toxic Substances Control Act (TSCA)
- Material Licensing Tracking System (MLTS)
- Federal Superfund Liens (NPL liens)
- CA Bond Exp. Plan (Ca. BEP)
- Records Of Decision (ROD)
- Superfund Consent Decrees (CONSENT)
- Waste Discharge System (CA WDS)
- HAZNET
- Mines Master Index File (MINES)
- Indian RESERV
- FIFRA/TSCA Tracking System (FTTS)
- Historical UST Database
- CLEANERS Drycleaners (Department of Toxic Substance Control)

The EDR reports are included as Appendix A. We requested a two-point search along the a corridor encompasing SR50, from El Dorado Hills Boulevard to west of Bass Lake Road, using a search radius of 1 mile. Figures in the EDR reports shows the approximate search radius of the project. Sites with adequate address information are plotted on EDR's site plan "EDR Radius Map with GeoCheck, Silva Valley Parkway IC, SR50".

Sites with inadequate address information were listed as "orphan sites" and were not plotted on EDR's site plan. Instead of plotting the "orphan sites", EDR provided available address information. BCI reviewed the address infromation for the orphan sites and determined that, with one exception, none of the list sites are located within 1,000 feet of the proposed corridor. The exception is a listing for naturally occurring asbestos in El Dorado Hills. There is no specific address for El Dorado Hills.

3.2 Summary of Records Search

No sites with known contamination or hazardous material leaks, spills, or dumping were noted in the EDR database search.

3.3 Review of Title Documents

BCI's scope did not include a review of title documents for this assessment.

3.4 Prior Environmental Investigations

We did not review any environmental assessment documents conducted for this or other nearby projects. If applicable documents are discovered, they should be reviewed relative to the conclusion and recommendations provided in this report. When available, submit these documents for BCI review during the next phase of the study.

3.5 Well Search

The well search portion of the EDR report did not identify any wells within 1-mile of the proposed interchange improvements. Our review of the Department of Water Resources website did not reveal known, recorded groundwater wells. However, based on our site reconnaissance and historic photo review, we believe that domestic water wells associated with former and current ranch properties are present within the former Clarksville rural residential area. Parcels where wells may be present include Parcels 1, 4, 5, 14, 17 and 21.

4 RECONNAISSANCE INFORMATION

4.1 Visual Observations

BCI staff performed reconnaissance observations from public streets, intersections, driveways, access roads, business parks, sidewalks and other public right-of-way. We also conducted a site inspection of all private properties, where El Dorado County Public Works, Department of Transportation staff, have obtained permission for entry. With the following qualifiers and/or exceptions, our observations generally support the described physical descriptions in Section 2.1 of this report.

PARCEL 1, "EDH 52", APN 108-030-1010
Low grasses, trees, and numerous shallow drainages and seasonal streams cover the majority of the site. Silva Valley Parkway borders the property on the west. Residential development borders the site on the north. Tong Road and SR50 bisect the southern one-third of the property.

Approximately 1,000 feet north of the freeway, and about 100 feet east of Silva Valley Parkway, we identified "ruins", including numerous columnar structures, masonry rubble, a portion of a concrete perimeter foundation, and a concrete box-basin with three separate bins. Over-grown landscaping (trees and brush) surround the "ruins." Our research did not identify specific structures associated with the ruins. It is our opinion that the "ruins" are most likely associated with the former agricultural use (farming and ranching) of the site.

PARCEL 2, "EL DORADO HILLS INVESTORS", APN 107-130-0110
A barbed wire fence borders this small triangular shaped parcel. We did not observe any obvious soil and/or groundwater contamination or hazardous materials issues on the site. However, a soil stockpile of unknown origin covers the majority of the parcel.

PARCEL 3, "COUNTY OF EL DORADO", APN 108-070-3210
Site is unimproved and covered by low grasses. The parcel is located immediately north of Tong Road. We did not identified obvious soil and/or groundwater contamination or hazardous materials issues on this site.

PARCEL 4, "CAPITAL KOREAN PRESBYTERIAN CHURCH", APN 108-070-0210
A two-story church is on the site. We observed a large parking area and two large propane tanks. We did not observe evidence of soil and/or groundwater contamination or hazardous materials issues on the site.

PARCEL 5, "LAFONTSEE BONNIE L & CHRIS L", PARCEL 5, APN 108-070-0310
We observed the "remains" of a prior residence and/or small business that we identified in air photos. The remains include a perimeter fence, a commercial advertising sign, a gravel access road, a small, abandoned wooden sheds, and similar dilapidated wooden structures. We did not have permission to enter the property. We were not granted site access; therefore, we made all observations from Tong Road.

PARCEL 6, "TONG ARTHUR", APN 108-070-0410
The site is located north of SR50. We were not granted access to this site. We made observations from Tong Road. It comprises bare, unimproved land, covered by low grasses and few trees. We did not observe evidence of soil and/or groundwater contamination or hazardous materials issues on the site.

PARCELS 7 & 8, "MOHANNA MOE & NASRIN", APN 108-070-2210 & 108-070-2610
We did not have permission to enter the properties. We made all observations from publicly accessible roads (SR50, Tong Road, and Bass Lake Road). The two parcels border SR50 on the north. Parcel 7 is improved by a single residential structure, driveway, and related improvements. Parcel 8 appears unimproved at this time. We did not observe evidence of soil and/or groundwater contamination or hazardous materials issues on the two parcels.

PARCEL 9, "EL DORADO HILLS INVESTORS", APN 107-130-0210
The site is unimproved and covered by low grasses. The parcel is located between Tong Road and SR50. We did not observe evidence of soil and/or groundwater contamination or hazardous materials issues on the site.

PARCEL 10, "PG&E CLARKSVILLE SUBSTATION", APN 107-130-0610
The site is an electrical substation located south of SR50, about 500 west of White Rock Road. Improvements include electrical transformers, circuit switchers, regulators, reclosers and control buildings. PG&E did not grant us access to the site. We observed the site from public roads and adjacent Parcel 17. We did not identify obvious soil and/or groundwater contamination or hazardous materials issues on this site.

PARCELS 11 & 12, "EL DORADO HILLS INVESTORS", PARCELS 11 & 12, APN 107-130-0510 & 107-130-0410
The two sites are bisected by Silva Valley Parkway, and are bordered by SR50 to the north. A perennial stream flows through Parcel 11, creating a marshy area over at least one-third of the parcel. Parcel 12 is east of Parcel 11 and covered by low grasses and a few trees. We did not identify obvious soil and/or groundwater contamination or hazardous materials issues on this site.

PARCELS 13 & 14, "KFRD INVESTORS & TONG RANCH LLC ", APN 108-070-0510 AND 108-070-0610
The two parcels are adjacent to each other, and are bordered by SR50 on the north. White Rock Road provides access and terminates at SR50. Along White Rock Road, we observed a large barn, fencing, and numerous small wooden storage sheds on Parcel 14. Two significant drainages flow from east to west across the eastern two-thirds of Parcel 14. The majority of Parcel 14 is open land, covered by low grasses. This parcel appears to be used for cattle grazing. Parcel 13 is immediately west of Parcel 14. The "Tong Cemetery" occupies the northwestern corner of Parcel 13, and is located within 100 feet of the freeway. Grasses cover the majority of the remainder of the site, and we observed its use as a horse pasture.

In general, we observed abandoned wooden sheds, miscellaneous trash, and related debris along the road through Parcel 14. The debris included household trash, discarded farm equipment, 55-gal drums, and rusting, above-ground, fuel storage tanks.

PARCELS 15 AND16, "HUDDRIDGE PARTNERS ", APN 108-780-0210 & 108-780-0110
These parcels are separated by White Rock Road. Similar to nearby parcels, they are covered by low grasses and a few trees. Previously described drainages to the north and east converge on Parcel 16, to become Carson Creek flowing south along White Rock Road. Some shrubs and bushes line the drainages, especially on Parcel 16, where the convergence of drainages forms a small wooded area in the north central portion of the parcel. We did not identify obvious soil and/or groundwater contamination or hazardous materials issues on this site.

PARCEL 17, "PEERMAN, JACK & BETTY", APN 107-130-0710
This parcel has a single family residence. Improvements include two small storage/barn structures, and a paved driveway and parking area. The property is bordered by Parcel 18 on the west, SR50 on the north, the Clarksville cemetery on the southwest, Parcel 15 on the east, and by Parcel 10(the PG&E site) on the northeast. We observed a "Mormon Tavern" historical marker located between Joerger Cutoff Road and SR50. The marker is placed east of the Parcel 17 property line and north of the PG&E substation.

Beyond the residence, the property is bare land covered with variable-height grasses. Overhead electrical lines are located along the north property line, parallel to SR50. We did not identify obvious soil and/or groundwater contamination or hazardous materials issues on this site.

PARCEL 18, "EL DORADO HILLS INVESTORS", APN 107-130-0410
The Von Hausen's Motors auto retail and repair facility occupies this site. Improvements include a large commercial structure and surrounding asphalt-paved parking area. We were able

to observe the site from publicly accessible locations within the shopping center. Access to the site was not granted; therefore, we did not observe any of the operations within the vehicle service area of the dealership. We did not observe evidence of soil and/or groundwater contamination or hazardous materials issues on the site.

PARCEL 19, "PHOENIX PACIFIC COMPANY LL", APN 107-680-1310
We were able to observe the site from public roads within the shopping center. Access to the site was not provided. The shopping center is located at the northeast corner of the El Dorado Hills Boulevard/SR50 interchange. The parcel is a part of the shopping center, and is improved by the "Kinder Kare Learning Center" building. A 10-foot masonry wall surrounds the building on the south and east. A paved parking area is located to the west of the building, and serves both the learning center and other commercial/retail businesses in the shopping center. We did not observe evidence of soil and/or groundwater contamination or hazardous materials issues exterior of the building.

PARCEL 20, "SERRANO ASSOCIATES LLC", APN 107-660-0310
A golf course occupies the parcel. Trees and shrubs line the parcel's south border with SR50. We did not observe significant contamination or hazardous materials issues on the site. We made all observations from public roads adjacent to the parcel, as we were not granted aecess at the time of our site visit.

PARCEL 21, "SERRANO ASSOCIATES LLC", APN 114-160-1910
SR50 borders the site on the south and Parcel 20 is located to the west. Silva Valley Parkway borders the site on the east. This sloping parcel is covered with moderately high grasses. Residential development occupies the top of the hill above the parcel. There is a minor drainage along the eastern property line, adjacent and west of Silva Valley Parkway. The "EID South Boost Pump Station" is located between the drainage and Silva Valley Parkway. We also observed remnant concrete foundations on the site. These structures are located adjacent and north of SR50, nearly opposite of the PG&E substation. Access to the parcel had not been granted at the time of our site visit; therefore, all observations were made from adjacent public roads. We did not observe evidence of soil and/or groundwater contamination or hazardous materials issues on the site.

PARCEL 22, "EL DORADO SAVINGS BANK", PARCEL 22, APN 107-680-0610
We were able to observe the site from publicly accessible locations within the shopping center. The parcel is developed with an "El Dorado Savings Bank," and surrounded by a paved parking lot. We did not observe evidence of soil and/or groundwater contamination or hazardous materials issues from the exterior of the parcel's building.

PARCEL 23, "SERRANO ASSOCIATES LLC", APN 114-780-0110
This is a large, undeveloped parcel located to the north of Parcels 3 through 6, and east of Parcel 1. A large, residential subdivision is located along the north property line. Access permission was not provided at the time of our site visit; therefore, we observed the parcel from Tong Road and Parcel 1. We observed imported, soil stockpiles at the northern portion of the site. The "spoils" are composed of processed rock (similar to aggregate baserock) and soil, and based on their location adjacent to the nearby residential streets, it appears that these "spoils" are derived

from recent construction activities at the adjacent residential area. Surface drainage from the residential subdivision (to the north) has created gullying and erosion in the north area of the parcel. The gully slopes to the southeast to a nearby stream channel that eventually becomes a part of Bass Lake Creek. Most of the parcel is gently to moderately sloping to the south and covered by low grasses. A moderate cover of trees is located adjacent to the stream channel. We did not observe evidence of soil and/or groundwater contamination or hazardous materials issues on the site.

PARCEL 24, "SERRANO ASSOCIATES LLC", APN 114-150-42100
Access to the property was not granted; therefore, all observations were made from adjacent public roads. This parcel is relatively small, and bordered by Parcel 1 on the east and by Silva Valley Road on the west and south. A large soil stockpile covered by low grasses is present on the site. We did not observe evidence of soil and/or groundwater contamination or hazardous materials issues on the site.

PARCEL 25, "WILMINGTON TRUST / TOSCO TRUST", APN 107-120-0410
The parcel is located adjacent to the east side of El Dorado Hills Boulevard, and north of SR50. We observed the site from publicly accessible locations within the shopping center. A "Union 76" service station, with dispensing islands, a retail shop, and a service area, occupies the parcel. The station has a paved parking area for both its customers and customers of other commercial/retail businesses in the shopping center. We did not observe evidence of soil and/or groundwater contamination or hazardous materials issues on the site.

PARCEL 26, "AHART TRUST / JONES TRUST", APN 107-120-2610
Parcel 26 is located in the northeast quadrant of the El Dorado Hills Boulevard/SR50 interchange. We were able to observe the site from publicly accessible locations within the shopping center. The parcel is improved by a "Taco Bell" restaurant. A paved parking area with modest landscaping surrounds the building. We did not observe significant contamination or hazardous materials issues on the site.

PARCEL 27, "TOWN CENTER EAST LP", APN 107-130-3610
Parcel 27 is a narrow (less than 100 ft wide) strip of land located north of Parcel 31 and south of the eastbound SR50 on-ramp. Improvements on the parcel consist of several commercial buildings occupied by retail businesses. We were able to observe the site from publicly accessible locations within the shopping center. We did not observe evidence of soil and/or groundwater contamination or hazardous materials issues on the site.

PARCEL 28, "EDH TOWN CNTR EAST OWNERS ASSOC. ", APN 107-130-4310
Parcel 28 is a marshy area partially modified into a pond and fountain surrounded by landscaping and sidewalks. The pond is located between Parcels 18 and 27, and bordered by SR50 on the north. Carson Creek flows from the north side of SR50 and through this parcel. We were able to observe the site from publicly accessible locations within the shopping center. We did not observe evidence of soil and/or groundwater contamination or hazardous materials issues on the site.

PARCEL 29, "SYERS PROPERTIES III LLC", PARCEL 29, APN 107-130-4810
Parcel 29 is a small, less than 1-acre, parcel located east of Latrobe Road, and is a part of the "Town Center" development. The site is used for landscaping, and is located near the entrance to the "Town Center". We were able to observe the site from adjacent El Dorado Hills Boulevard. We did not observe evidence of soil and/or groundwater contamination or hazardous materials issues on the site.

PARCELS 30 & 31, "SYERS PROPERTIES III LLC", APN 107-130-4910 AND 107-130-5010
Parcels 30 and 31 are improved properties for the "Town Center" shopping development. Improvements include a "Valero" service station, paved parking, 2-story shopping structures (strip-mall), and related improvements. A "Chevron" service station is located immediately adjacent to the south side of Parcel 31, just south of the entrance to the shopping center. We were able to observe the development from publicly accessible locations within the "Town Center". We did not observe activities that would indicate that subsurface contamination and/or remediation is occurring at either service station.

PARCEL 32, "COUNTY OF EL DORADO", APN 107-680-0910
A "Jack in the Box" restaurant is present on Parcel 32. The site appeared clean and well maintained. A "Shell" service station occupies the property immediately adjacent and west of the parcel. We observed approximately ten (10), 55-gal drums, marked as hazardous waste on the "Shell" site. We did not observe any monitoring wells. We observe evidence that may indicate an investigation for subsurface soil and/or groundwater contamination or hazardous materials issues is occurring at the "Shell" service station.

Parcel 33, "CRISP FAMILY TRUST", APN 107-680-1010
Parcel 33 is a small, narrow strip of land located along the north curb of the entrance to the shopping center. The shopping cneter is located at the northeast quadrant of the EDHB/SR50 interchange. Parcel 33 is currently used for landscaping along the west side of the previously described "Shell" service station. We were able to observe the site from publicly accessible locations within the shopping center. We did not observe evidence of soil and/or groundwater contamination or hazardous materials issues on the site.

Parcel 34, "MCNAN LLC", APN 107-680-0810
Parcel 34 is a small, narrow strip of land adjacent to El Dorado Hill Boulevard, north of the entrance to the shopping center. It is currently used for landscaping purposes adjacent to the above described "Shell" service station. We were able to observe the site from publicly accessible locations within the shopping center. We did not observe evidence of soil and/or groundwater contamination or hazardous materials issues on the site.

5 FINDINGS, CONCLUSIONS, & RECOMMENDATIONS

BCI performed an Initial Site Assessment for the Silva Valley Interchange project. Typieal of an Initial Site Assessment, the scope of this assessment was directed at:

- Determining whether there may be hazardous materials on, or near, proposed roadway improvements at levels likely to warrant mitigation pursuant to regulations, and to,

- Identify sites with hazardous material issues that may impact property acquisition and redevelopment, or that will be a significant consideration in determining the final alignment.

Our assessment identified the following environmental conditions that should be considered in present and future planning for the roadway alignment.

5.1 Sites with Potential Contamination/Hazardous Materials Issues

Following is a description of specific parcels within the proposed roadway widening that are identified as having potential soil and/or groundwater contamination or hazardous materials issues that could impact project related land acquisition and/or construction.

- PARCEL 10, "PG&E CLARKSVILLE ELECTRICAL SUBSTATION" – APN 107-130-06

Parcel is subject to partial acquisition. No site specific hazardous material issues were identified through the commercial database search. Based on use and age of the site, the substation is considered a potential risk for PCB contamination from older transformers and a risk for potential petroleum hydrocarbon contamination from leaking coolant oils and site maintentance activities. We recommend contacting PG&E and obtain a statement of fact addressing potential contamination/hazardous materials. PG&E needs to provide a "clean site" record. If a statement can not be provided, we recommend limited soil sampling and analysis within the potential acquisistion areas of the Parcel.

Associated with Parcel 10 by proximity, we identified a former gas station/commercial structure along the old, two-lane SR50, as shown on the 1952 and 1961 airphotos. Although the structures were removed for the widening of SR50, we can not rule out the potential for petroleum hydrocarbon impacts to the subsurface, in the general area of Joeger Cutoff Rd, between the PG&E substation and SR50.

- PARCEL 5, "LAFONTSEE PROPERTY" – APN 108-070-0310

Parcel is subject to partial acquisition. No specific hazardous material issues were identified in the database search. The site's previous residential structure and outlying storage structures are removed, but many discarded objects, domestic-appearing waste, and smaller wooden-framed, delapidated structures remain. Historical aerial photos exhibited numerous automobiles, trucks, commercial truck trailers, boats, and farm vehicles on the site. Based on airphotos and our site reconnaissance, many of these items appear abandoned.

Common contamination/hazardous materials issues associated with the identified land use include: 1) potential petroleum hydrocarbon (oil) spillage, 2) leach fields and septic tanks, and 3) buried heating oil tanks, 4) asbestos containing building materials (ACM), and 5) lead-containing paint (LCP). Although none of these were positively identified in this ISA, plans for construction, and/or complete or partial site acquisition, should account for the potential of encountering one or more of these issues.

We recommend that the construction documents include specifications making the contractor aware of the possible presence of LCP and ACM, and his responsibility to respond accordingly. If potentially hazardous materials are encountered during grading operations, the local environmental health department and fire department should be notified.

- "SHELL", (ADJACENT TO PARCEL 32) - APN UNKNOWN

This is an active, petroleum fuel service station. No specific hazardous material issues were identified in the database and website searches. However, it appears that a Phase II investigation was recently conducted at the site, as indicated by the presence of at least ten, 55-gal drums, each mark as "hazardous waste". To determine the current status of possible clean-up activities, we recommend a review of existing regulatory documentation, which may be obtained from the local environmental health department, the RWQCB, and/or the site owner. Current plans do not inelude acquisition of this site; however groundwater and/or soil contamination could impact road widening or related project improvement activities at the adjacent properties, which includes Parcels 32 (APN 107-680-0910), 33 (APN 107-680-1010), and 34 (APN 107-680-0810).

- PARCEL 25, WILMINGTON TRUST/TOSCO TRUST" (UNION 76) - APN 107-120-0410

Pareel is subject to partial acquisition. This is an active, petroleum fuel service station. No specific hazardous material issues were identified in the database search. However, this site will require further assessment. Initially, further assessment should include a review of existing documentation from the local environmental health department, the RWQCB, and the site owner. If building demolition is planned, the existing structures need to be assessed for potential hazardous materials, such as LCP and ACM.

- PARCEL 21, "SERRANO ASSOCIATES" - APN 114-160-19

Parcel is subject to partial acquisition. No specific hazardous material issues were identified in the database search. Remnant structures were observed adjacent to the north (west-bound) side of SR50, approximately 600 feet west of the Silva Valley Parkway underpass. A house structure, barns, warehouse and associated improvements are observed in historical air photos. Common contamination/hazardous materials issues associated with the identified land use are: 1) ACM and LCP, 2) unidentified leach fields/septic tanks and buried heating oil tanks, and 3) ADL from the immediately adjacent SR50.

The presence of these one or more of these materials could affect the value of the parcel. If this project includes acquisition and demolition of any of the existing structures, then the structures should be assessed for potential ACM and LCP prior to acquisition. Assessment results will be used to estimate the financial impact to the project. Results of the assessment shall also be included in the plans and specifications (bid documents) so the contractors can plan for worker safety and material handling and disposal issues.

Based on the proximity to SR50, some level of ADL may be present in the shallow subsurface soils adjacent to the freeway. ADL recommendations are presented in the section titled "General Contamination/Hazardous Materials Issues" of this report.

- PARCELS 13 AND 14, "KFRD INVESTORS INC. & TONG RANCH LLC" - APN 108-070-0510 AND 108-070-0610

Parcels are subject to partial or complete acquisition. No specific hazardous material issues were identified in the database search. During our site reconnnaissance, we noted poor housekeeping practices along Tong Road, where it passes through the two properties. We observed 55-gal drums, rusting machinery, trash and rubbish, and above ground storage tanks (AST). Existing structures (large barn, mobile home, small sheds, etc.) may present an ACM and LCP issue if demolition is planned. Other issues include encountering unidentified items such as leach fields/septic tanks and buried heating oil tanks. An old cemetary is located in Parcel 13, close to SR50.

Existing structures subject to demolition need to be assessed for LCP and ACM, prior to preparation of construction documents. Additionally, we recommend that the construction documents include specifications making the contractor aware of the possible presence of LCP and ACM during grading operations, and his responsibility to respond accordingly.
Based on the proximity to SR50, some level of ADL may be present in the shallow subsurface soils adjacent to the freeway. ADL may also be present adjacent to White Rock Road. ADL recommendations are presented in the section titled "General Contamination/Hazardous Materials Issues" of this report.

- PARCEL 31, "SYERS PROPERTIES, LLC" (VALERO SERVICE STATION) – APN 107-130-5010

Parcel does not appear to be subject to acquisition. The parcel is known as the "Town Center" shopping area. There is an active, petroleum fuel service station (Valero) located within the shopping center. We found no records of suspected soil and/or groundwater contamination from the searched database. Service stations are a principal concern for subsurface contamination. We recommend a local file search and review for additional environmental records at the EDCEHD and at the RWQCB and an interview with the current site owners.

- PARCEL 1, "EDH 52" - APN 108-030-1010

Parcel is subject to partial or complete acquisition. No specific hazardous material issues were identified at this site through the database search. The parcel consists of undeveloped grazing land that appears unused at the present. We observed remnant, concrete structures (ruins) and associated debris. We were unable to determine the past use of the concrete structure. These "ruins" are located east of Silva Valley Parkway, approximately 1,000 feet north of the existing underpass. The structure consists of a rectangular shaped, three-bin, concrete-walled basins, with concrete columns at the corners of each bin. Other outlying columns are located north and south of the described structure. Archeological research (LSA, 2006) indicates that this site was a ranch, and the owner had a fondness for constructing with concrete.

Issues associated with a former farm residence include leach fields/septic tanks and buried heating oil tanks. The remnant concrete structures need to be assessed for LCP and ACM, prior to demolition and preparation of construction documents. An assessment for the presence of these materials may materially affect the purchase of the parcel. We recommend that the construction documents include specifications making the contractor aware of the possible presence of LCP and ACM during grading operations, and his responsibility to respond accordingly.

5.2 General Contamination/Hazardous Materials Issues

- PESTICIDES

The project includes acquisition of former cattle grazing and crop land; however, it appears that most of the open land in the project vicinity was used for grazing. Therefore, there is low to moderate potential for residual pesticides, herbicides, and fungicides. Based on the reviewed data, there is no obvious evidence of pesticide mixing, storage and/or misuse within the proposed right-of-way acquisition areas. Nonetheless, agricultural chemicals are typically used on farm lands. BCI considers it possible that pesticides, herbicides, and fungicides have been applied and used within the properties identified by MTCo as properties of interest.

Residual pesticides from normal agricultural application are generally exempt from mandatory assessment. This does not, however, preclude their existence. For roadway right-of-way acquisition projects, requirements for additional investigation are not clearly established. Therefore, it's important that the County of El Dorado understand the issue so they can make an informed decision on how to proceed. At a minimum, for sites with potential right-of-way acquisition, we recommend the County obtain a statement from the current property owner regarding past agricultural chemical use. If the statement is conclusive and suggests that usage would not result in significant residual pesticides concentrations, then no further action, such as sample collection and analysis, would be required.

- NATURALLY OCCURRING ASBESTOS

The project site is located in a geologic region identified as having at or near surface naturally occurring asbestos (NOA) bearing rocks and soils. Consequently, any development and/or construction in this area must comply with applicable rules and regulations, as written by El Dorado County Environmental Health Department. NOA-bearing rocks and soils potentially affect all parcels.

The contractor shall have experience implementing El Dorado County's special NOA grading requirements. An NOA monitoring plan will be required prior to grading. Some of the plan elements include: 1) a geologist trained in the recognition of NOA should be intermittently present during grading operations, 2) the geologist shall observe site conditions and implement special grading conditions when NOA is present. BMPs for dust control should be practiced during all grading operations in El Dorado County.

- AERIALLY DEPOSITED LEAD

The proposed interchange improvements will include grading within the existing SR50 shoulders and right-of-way (ROW). Caltrans is likely to require an aerially deposited lead (ADL) investigation prior to construction. Soil that is potentially impacted by ADL and disturbed during grading activities is subject to Department of Toxic Substances Control (DTSC) definition for handling hazardous waste. California currently defines material containing lead concentrations above 350 parts per million (ppm) as subject to Class I hazardous waste disposal. If ADL is detected at concentrations requiring hazardous waste handling and disposal, then we

recommend that the local Caltrans district office be contacted to determine the applicability of reusing ADL-impacted soil under the terms of the DTSC-issued "Lead-impacted Soil Reuse Variance". If the variance is not available to this district, then lead containing soils may require disposal at a Class I landfill.

ADL may also be present on privately-owned parcels adjacent to SR50. The potential ADL impact is likely limited to surface and shallow subsurface soils located within 2 feet of the existing ground surface (DTSC, 1995; Caltrans, 1998), and within 150 ft of the existing freeway right-of-way (Caltrans, 1995). The following Parcels are identified as potentially ADL-impacted: Parcels 1, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 22, 25, 26, 27, and 28. We recommend a minimum of one surface soil sample be obtained for ADL screening. The assessment should be performed on that portion of the parcel directly adjacent to and within 50 feet of the edge of pavement. Parcels with a long contiguaous portion of property adjacent to the freeway shall be sampled for ADL every 300 feet.

- TRANSFORMERS

The scope of this assessment did not include an inventory of past and present transformers along the alignment. However, BCI observed several pole-mounted transformers and high voltage power lines along the proposed SR 50 widening corridor, and along the existing Silva Valley Parkway, White Rock Road, Tong Road, and Joerger Cutoff Road. Many of these overhead electrical powerlines are located within the proposed right-of-way acquisition areas. The transmission lines and poles appear relatively new, and few of the transformers show signs of external rust or discoloration. The existing pole-mounted transfomers need to be considered potentially impacted if their removal or relocation is required during construction. Existing transformers should be checked for the presence of PCBs, and if present, they should be disposed of in accordance with current regulations. Surface mounted transformers and electrical switch boxes were also observed within the project area, and may also constitute a potential PCB-impacted risk.

- YELLOW TRAFFIC STRIPES

Yellow traffic stripes are known to contain heavy metals such as lead and chromium at concentrations in excess of the hazardous waste thresholds established by the California Code of Regulations (CCR) and may produce toxic fumes when heated. Consequently, any yellow traffic striping removed from the existing surface streets and SR50 highway will require proper disposal, which may include disposal at a Class 1 disposal facility.

- UNDERGROUND PRODUCT DISTRIBUTION LINES

An assessment of utilities or buried petroleum product distribution lines is not within the seope of this ISA. We did not observe warning signs for petroleum product lines. We observed markings for gas, water, electric, sewer, and storm drain at various locations. A sewer lift-pump station is located along the west side of Silva Valley Road. These and other utilities are present throughout the proposed interchange improvement area. The database records do not indieate contamination resulting from utility spills; however, there is the potential for unidentified leaks.

6 LIMITATIONS

This report summarizes the findings and opinions of Blackburn Consulting, Inc. (BCI), with regard to the potential for contamination/hazardous materials to be present on the subject parcels at concentrations likely to warrant mitigation under current statutes and guidelines. Our findings and opinions are based on information obtained on given dates or provided by specified individuals, through records review, site review, and related activities. Our information is only as good as the information provided to us. Conditions can change after we have made our observations. We cannot warrant or guarantee that hazardous materials do not exist within the study area. To further reduce your risk, an invasive exploration program may be necessary.

Site assessment activities performed, our findings obtained, and our recommendations prepared in accordance with currently and generally accepted principles and practices for this type of Initial Site Assessment. Information in this report does not confirm the presence or absence of hazardous materials within the MTCo-defined project boundaries, but indicates whether the possibility of such materials exists. We performed our on-site observations by reconnaissance of visible surface features only. Site conditions are subject to change. Certain indicators of the presence of hazardous materials may have been latent at the time of our site reconnaissance and may have subsequently become observable. In a similar manner, the research effort conducted for an ISA is limited. Accordingly, it is possible that our research, while fully appropriate, failed to indicate the existence of important information sources. Assuming such sources actually exists, their information is not considered in the formulation of our findings and opinions.

Environmental issues not specifically addressed in the proposal or this report, are beyond the scope of services, and are not included in our evaluation. We base our report upon various selected information sources available to us at the time of our investigation. These sources may not have accurate or complete information. We base our conclusions and recommendations on the information available and our interpretation of this information.
Our communications with selected agency personnel are limited to the information kept on file at the various offices we contacted. Some agencies may not maintain accurate or complete records. Many agencies have only recently developed hazardous materials programs and so historical information may be incomplete. We did not contact owners, property renters, or operators. Our on-site study was limited to a general observation of the property and use. Evidence of hazardous material use or misuse, not observed during our site visit, and may be present.

This report was prepared for the specific use of our client and applies only to the subject project. We are not responsible for interpretations by others of data presented in this report. This report does not represent a legal opinion. No warranty is expressed or implied. We base our conclusions in this report on judgment and experience. This report is not intended to follow the Phase I site assessment guidelines provided by ASTM. Instead, the scope of this report addresses the needs of the project.

The scope of our investigation does not include determining the presence of naturally-occurring asbestos (NOA), radon, lead based paint, or asbestos containing building products. However, this report does identify parcels where these items may be present. Identification of endangered

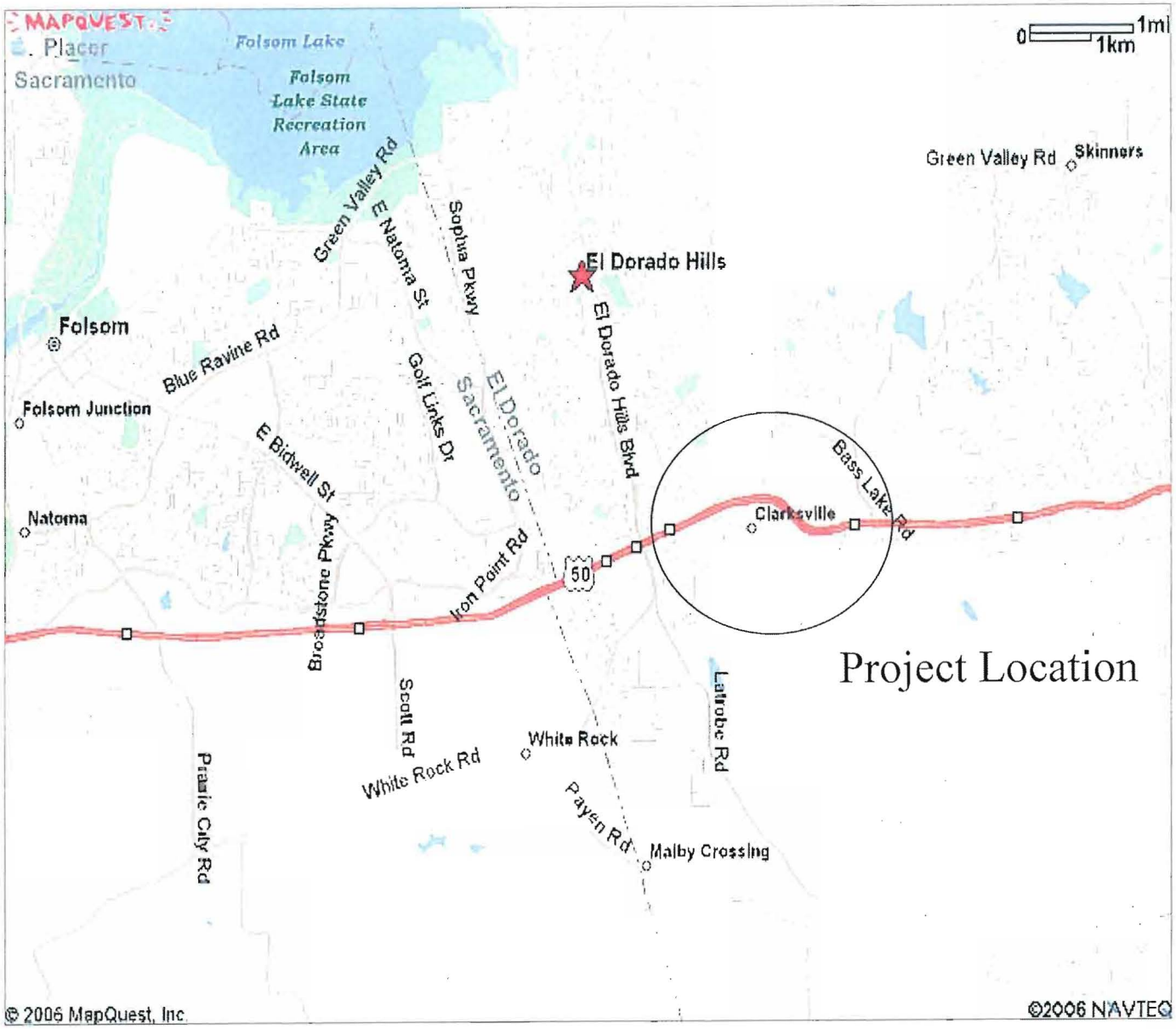
speeies, geologic hazards, wetlands habitat, archeological sites, or ecologically sensitive areas is also beyond the scope of this assessment. Our site reconnaissance did not include evaluation of possible hidden/buried dumps or pits within the property.

The governmental records portion of this report is derived from public records. The governmental records are updated on a continual basis. For this reason, we do not advise you to use this information to base a decision after 180 days of the issue date of this report. Also, conditions at the site can and will change over time. Please contact BCI to revise this report to reflect new information.

Figures

Figure 1 – Vicinity Map

Figure 2 – Site Map



N

blackburn consulting

11521 Blocker Drive, Suite 110
Auburn, CA 95603
(530) 887-1494
(530) 887-1495-Fax
www.blackburnconsulting.com

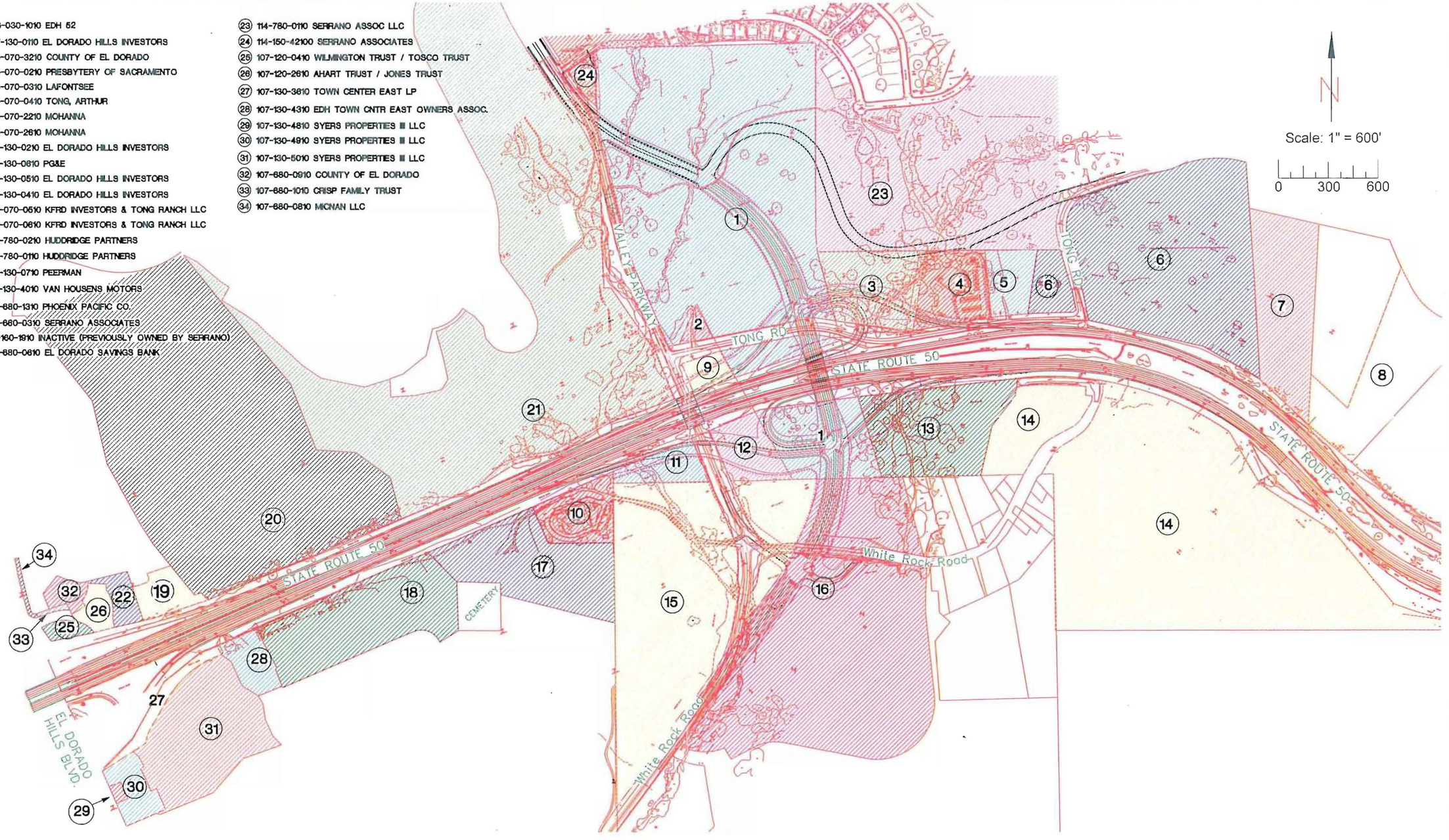
VICINITY MAP
Silva Valley Parkway ISA
Silva Valley/SR50 Interchange Project
El Dorado Hills, California

Job No. 556.1

April 2007

Figure 1

1. 108-030-1010 EDH 52
2. 107-130-0110 EL DORADO HILLS INVESTORS
3. 108-070-3210 COUNTY OF EL DORADO
4. 108-070-0210 PRESBYTERY OF SACRAMENTO
5. 108-070-0310 LAFONTSEE
6. 108-070-0410 TONG, ARTHUR
7. 108-070-2210 MOHANNA
8. 108-070-2610 MOHANNA
9. 107-130-0210 EL DORADO HILLS INVESTORS
10. 107-130-0610 PG&E
11. 107-130-0510 EL DORADO HILLS INVESTORS
12. 107-130-0410 EL DORADO HILLS INVESTORS
13. 108-070-0510 KFRD INVESTORS & TONG RANCH LLC
14. 108-070-0610 KFRD INVESTORS & TONG RANCH LLC
15. 108-780-0210 HUDDRIDGE PARTNERS
16. 108-780-0110 HUDDRIDGE PARTNERS
17. 108-130-0710 PEERMAN
18. 107-130-4010 VAN HOUSENS MOTORS
19. 107-680-1310 PHOENIX PACIFIC CO.
20. 107-680-0310 SERRANO ASSOCIATES
21. 114-160-1910 INACTIVE (PREVIOUSLY OWNED BY SERRANO)
22. 107-680-0610 EL DORADO SAVINGS BANK
23. 114-780-0110 SERRANO ASSOC LLC
24. 114-150-42100 SERRANO ASSOCIATES
25. 107-120-0410 WILMINGTON TRUST / TOSCO TRUST
26. 107-120-2610 AHART TRUST / JONES TRUST
27. 107-130-3610 TOWN CENTER EAST LP
28. 107-130-4310 EDH TOWN CNTR EAST OWNERS ASSOC.
29. 107-130-4810 SYERS PROPERTIES III LLC
30. 107-130-4910 SYERS PROPERTIES III LLC
31. 107-130-5010 SYERS PROPERTIES III LLC
32. 107-680-0910 COUNTY OF EL DORADO
33. 107-680-1010 CRISP FAMILY TRUST
34. 107-680-0810 MCNAN LLC



Adapted from: "Property Owner Information" by: Mark Thomas and Company, 2006

blackburn consulting

Blackburn Consulting, Inc.
11521 Blocker Drive, Ste 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495
www.blackburnconsulting.com

Site Plan
Silva Valley Parkway ISA
Silva Valley/SR50 Interchange Project
El Dorado Hills, California

File No. 556.1

April 2007

Figure 2

APPENDIX



EDR Records Check

The EDR Radius Map
with GeoCheck®

Silva Valley Parkway IC
SR 50
El Dorado Hills, CA 95762

Inquiry Number: 1594857.7s

January 17, 2006

EDR® Environmental
Data Resources Inc

The Standard in Environmental Risk Management Information

440 Wheelers Farms Road
Milford, Connecticut 06461

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

TABLE OF CONTENTS

SECTION	PAGE
Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	6
Orphan Summary	7
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting Source Map	A-7
Physical Setting Source Map Findings	A-8
Physical Setting Source Records Searched	A-9

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2006 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

SR 50
EL DORADO HILLS, CA 95762

COORDINATES

Latitude (North):	38.657700 - 38° 39' 27.7"
Longitude (West):	121.055200 - 121° 3' 18.7"
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	669223.6
UTM Y (Meters):	4280379.5
Elevation:	721 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property:	38121-F1 CLARKSVILLE, CA
Source:	USGS 7.5 min quad index

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

FEDERAL RECORDS

NPL---------- National Priority List
Proposed NPL---------- Proposed National Priority List Sites
Delisted NPL---------- National Priority List Deletions
NPL Liens---------- Federal Superfund Liens
CERCLIS---------- Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP---------- CERCLIS No Further Remedial Action Planned
CORRACTS---------- Corrective Action Report
RCRA-TSDF---------- Resource Conservation and Recovery Act Information
RCRA-LQG---------- Resource Conservation and Recovery Act Information

RCRA-SQG..... Resource Conservation and Recovery Act Information
ERNS..... Emergency Response Notification System
HMIRS..... Hazardous Materials Information Reporting System
US ENG CONTROLS..... Engineering Controls Sites List
US INST CONTROL..... Sites with Institutional Controls
DOD..... Department of Defense Sites
FUDS..... Formerly Used Defense Sites
US BROWNFIELDS..... A Listing of Brownfields Sites
CONSENT..... Superfund (CERCLA) Consent Decrees
ROD..... Records Of Decision
UMTRA..... Uranium Mill Tailings Sites
ODI..... Open Dump Inventory
TRIS..... Toxic Chemical Release Inventory System
TSCA..... Toxic Substances Control Act
FTTS..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
SSTS..... Section 7 Tracking Systems
PADS..... PCB Activity Database System
MLTS..... Material Licensing Tracking System
MINES..... Mines Master Index File
FINDS..... Facility Index System/Facility Registry System
RAATS..... RCRA Administrative Action Tracking System

STATE AND LOCAL RECORDS

AWP..... Annual Workplan Sites
Cal-Sites..... Calsites Database
CA BOND EXP. PLAN..... Bond Expenditure Plan
NFA..... No Further Action Determination
NFE..... Properties Needing Further Evaluation
REF..... Unconfirmed Properties Referred to Another Agency
SCH..... School Property Evaluation Program
Toxic Pits..... Toxic Pits Cleanup Act Sites
SWF/LF..... Solid Waste Information System
CA WDS..... Waste Discharge System
WMUDS/SWAT..... Waste Management Unit Database
Cortese..... "Cortese" Hazardous Waste & Substances Sites List
SWRCY..... Recycler Database
LUST..... Geotracker's Leaking Underground Fuel Tank Report
CA FID UST..... Facility Inventory Database
SLIC..... Statewide SLIC Cases
UST..... Active UST Facilities
HIST UST..... Hazardous Substance Storage Container Database
AST..... Aboveground Petroleum Storage Tank Facilities
SWEEPS UST..... SWEEPS UST Listing
CHMIRS..... California Hazardous Material Incident Report System
Notify 65..... Proposition 65 Records
DEED..... Deed Restriction Listing
VCP..... Voluntary Cleanup Program Properties
CLEANERS..... Cleaner Facilities
WIP..... Well Investigation Program Case List
HAZNET..... Facility and Manifest Data
EMI..... Emissions Inventory Data

TRIBAL RECORDS

INDIAN RESERV..... Indian Reservations

EXECUTIVE SUMMARY

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land
INDIAN UST..... Underground Storage Tanks on Indian Land

EDR PROPRIETARY RECORDS

Manufactured Gas Plants... EDR Proprietary Manufactured Gas Plants

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were not identified.

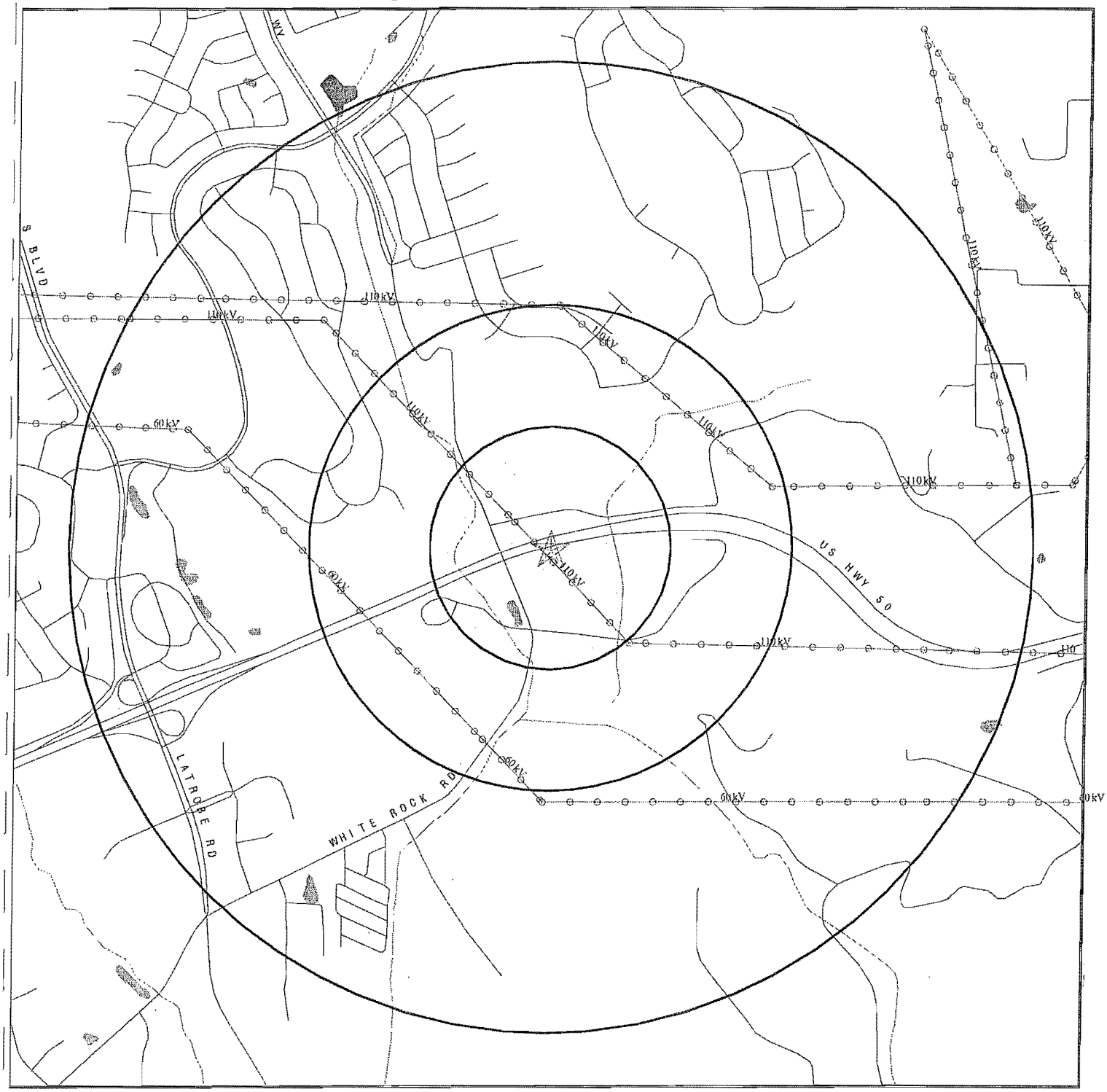
Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
T-2 LIFT STATION	SWEEPS UST
EL DORADO HILLS BUSINESS PARK	SWEEPS UST
T-1 LIFT STATION	SWEEPS UST
HILLTOP MARKET DELI	SWEEPS UST
HIGHLANDS VILLAGE LIFT STATION	SWEEPS UST
WETSEL-OVIATT LUMBER CO.	SWEEPS UST
EL DORADO HILLS W.T.P.	SWEEPS UST
NEW YORK CREEK LIFT STATION	SWEEPS UST
MARINA VILLAGE LIFT STA.	HIST UST, SWEEPS UST
RIDGE VIEW LIFT STATION	SWEEPS UST
ST. ANDREWS LIFT STATION	SWEEPS UST
FOLSOM LAKE MARINA/BROWN'S RAVINE	SWEEPS UST
PLATINUM AVIATION GROUP INC	CLEANERS
EL DORADO HILLS NATURALLY OCCURRING ASBESTOS	CERCLIS
EDH BUSINESS PARK	UST
HILLTOP MARKET & DELI	UST
HIGHLANDS VILLAGE LIFT	UST
T-2 LIFT STATION	HIST UST
T-1 LIFT STATION	HIST UST
HIGHLANDS VILLAGE LIFT	HIST UST
WETSEL-OVIATT LUMBER CO.	HIST UST
EL DORADO HILLS W.T.P.	HIST UST
NEW YORK CREEK LIFT STA.	HIST UST
RIDGE VIEW LIFT STATION	HIST UST
ST. ANDREWS LIFT STATION	HIST UST
BROWN'S RAVINE, FOLSOM LAKE	AST
EL DORADO HILLS WWTP-1	AST, CA WDS
MORMON ISLAND LIFT STATION OFF OF GREEN VALLEY RD	ERNS
MORMON ISLAND LIFT STATION OFF OF GREEN VALLEY RD	ERNS
WETSEL-OVIATT LUMBER COMPANY	REF
PROMONTORY ELEMENTARY SCHOOL	SCH
WEIS RECYCLE CENTERS INC/RALEYS 424	SWRCY

OVERVIEW MAP - 1594857.7s



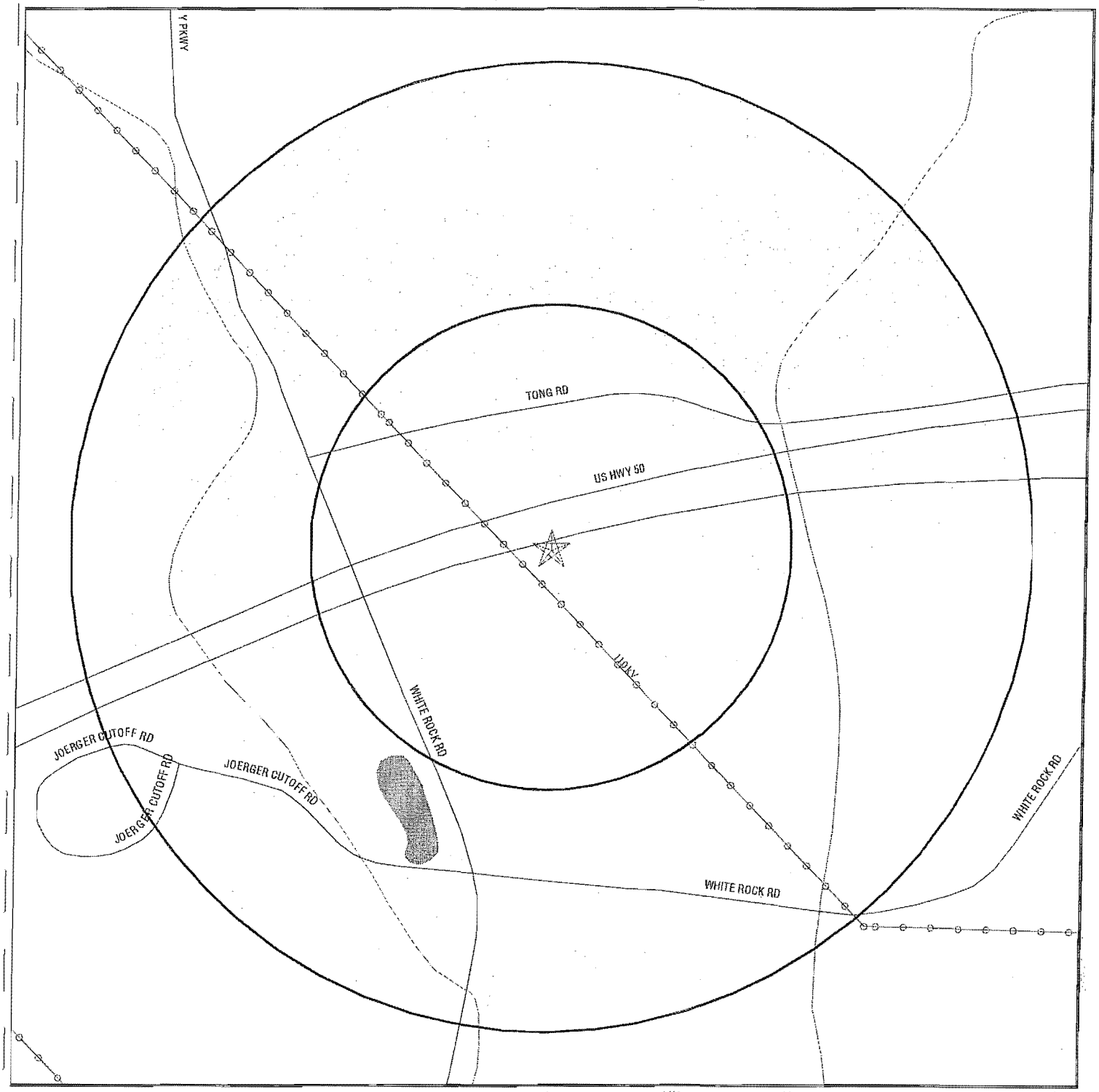
- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Federal Wetlands
- Areas of Concern

0 1/4 1/2 1 Miles

SITE NAME: Silva Valley Parkway IC ADDRESS: SR 50 El Dorado Hills CA 95762 LAT/LONG: 38.6577 / 121.0552	CLIENT: Blackburn Consulting CONTACT: Alfred P. Worcester INQUIRY #: 1594857.7s DATE: January 17, 2006

Copyright © 2006 EDR, Inc. © 2004 GDT, Inc. Rel. 07/2004. All Rights Reserved.

DETAIL MAP - 1594857.7S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Federal Wetlands
- Areas of Concern

SITE NAME: Silva Valley Parkway IC	CLIENT: Blackburn Consulting
ADDRESS: SR 50	CONTACT: Alfred P. Worcester
El Dorado Hills CA 95762	INQUIRY #: 1594857.7s
LAT/LONG: 38.6577 / 121.0552	DATE: January 17, 2006

Copyright © 2006 EDR, Inc. © 2004 GDT, Inc. Rel. 07/2004. All Rights Reserved.

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL RECORDS								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
Delisted NPL		1.000	0	0	0	0	NR	0
NPL Liens		TP	NR	NR	NR	NR	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		0.500	0	0	0	NR	NR	0
CORRACTS		1.000	0	0	0	0	NR	0
RCRA TSD		0.500	0	0	0	NR	NR	0
RCRA Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRA Sm. Quan. Gen.		0.250	0	0	NR	NR	NR	0
ERNS		TP	NR	NR	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
US ENG CONTROLS		0.500	0	0	0	NR	NR	0
US INST CONTROL		0.500	0	0	0	NR	NR	0
DOD		1.000	0	0	0	0	NR	0
FUDS		1.000	0	0	0	0	NR	0
US BROWNFIELDS		0.500	0	0	0	NR	NR	0
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
UMTRA		0.500	0	0	0	NR	NR	0
ODI		0.500	0	0	0	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
SSTS		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
STATE AND LOCAL RECORDS								
AWP		1.000	0	0	0	0	NR	0
Cal-Sites		1.000	0	0	0	0	NR	0
CA Bond Exp. Plan		1.000	0	0	0	0	NR	0
NFA		0.250	0	0	NR	NR	NR	0
NFE		0.250	0	0	NR	NR	NR	0
REF		0.250	0	0	NR	NR	NR	0
SCH		0.250	0	0	NR	NR	NR	0
Toxic Pits		1.000	0	0	0	0	NR	0
State Landfill		0.500	0	0	0	NR	NR	0
CA WDS		TP	NR	NR	NR	NR	NR	0
WMUDS/SWAT		0.500	0	0	0	NR	NR	0
Cortese		0.500	0	0	0	NR	NR	0
SWRCY		0.500	0	0	0	NR	NR	0
LUST		0.500	0	0	0	NR	NR	0
CA FID UST		0.250	0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
SLIC		0.500	0	0	0	NR	NR	0
UST		0.250	0	0	NR	NR	NR	0
HIST UST		0.250	0	0	NR	NR	NR	0
AST		0.250	0	0	NR	NR	NR	0
SWEEPS UST		0.250	0	0	NR	NR	NR	0
CHMIRS		TP	NR	NR	NR	NR	NR	0
Notify 65		1.000	0	0	0	0	NR	0
DEED		0.500	0	0	0	NR	NR	0
VCP		0.500	0	0	0	NR	NR	0
CLEANERS		0.250	0	0	NR	NR	NR	0
WIP		0.250	0	0	NR	NR	NR	0
HAZNET		TP	NR	NR	NR	NR	NR	0
EMI		TP	NR	NR	NR	NR	NR	0
TRIBAL RECORDS								
INDIAN RESERV		1.000	0	0	0	0	NR	0
INDIAN LUST		0.500	0	0	0	NR	NR	0
INDIAN UST		0.250	0	0	NR	NR	NR	0
EDR PROPRIETARY RECORDS								
Manufactured Gas Plants		1.000	0	0	0	0	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID Direction Distance Distance (ft.) Elevation	Site	Database(s)	EDR ID Number EPA ID Number

NO SITES FOUND

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
EL DORADO HILLS	S105954489	PROMONTORY ELEMENTARY SCHOOL	3371 BRITTANY WAY	95762	SCH
EL DORADO HILLS	A100115649	BROWN'S RAVINE, FOLSOM LAKE	BROWN'S RAVINE-FOLSOM LAKE	95762	AST
EL DORADO HILLS	U001612933	T-2 LIFT STATION	CROWN DRIVE	95762	HIST UST
EL DORADO HILLS	S106932756	T-2 LIFT STATION	CROWN DR	95762	SWEEPS UST
EL DORADO HILLS	1007490845	EL DORADO HILLS NATURALLY OCCURRING ASBESTOS	EL DORADO HILLS BOULEVARD	95762	CERCLIS
EL DORADO HILLS	U003982035	EDH BUSINESS PARK	FOOTHILL & HILLSDALE PKWY	95762	UST
EL DORADO HILLS	S106925769	EL DORADO HILLS BUSINESS PARK	FOOTHILL PKY HILLDLE	95762	SWEEPS UST
EL DORADO HILLS	U003940048	HILLTOP MARKET & DELI	2222 FRANCISCO DR	95762	UST
EL DORADO HILLS	U001612932	T-1 LIFT STATION	FRANCISCO DRIVE	95762	HIST UST
EL DORADO HILLS	S106932755	T-1 LIFT STATION	FRANCISCO DR	95762	SWEEPS UST
EL DORADO HILLS	S106927307	HILLTOP MARKET DELI	2222 FRANCISCO DR 600	95762	SWEEPS UST
EL DORADO HILLS	U003895494	HIGHLANDS VILLAGE LIFT	LAKERIDGE DR	95762	UST
EL DORADO HILLS	S106927286	HIGHLANDS VILLAGE LIFT STATION	LAKERIDGE DR	95762	SWEEPS UST
EL DORADO HILLS	S105799364	HIGHLANDS VILLAGE LIFT	LAKERIDGE DRIVE	95762	HIST UST
EL DORADO HILLS	U001612938	WETSEL-OVIATT LUMBER CO.	LATROBE ROAD	95762	HIST UST
EL DORADO HILLS	U001612912	EL DORADO HILLS W.T.P.	LATROBE ROAD	95762	HIST UST
EL DORADO HILLS	S106934420	WETSEL-OVIATT LUMBER CO.	LATROBE RD	95762	SWEEPS UST
EL DORADO HILLS	S106925771	EL DORADO HILLS W.T.P.	LATROBE RD	95762	SWEEPS UST
EL DORADO HILLS	S105255307	EL DORADO HILLS WWTP-1	LATROBE RD	95762	AST, CA WDS
EL DORADO HILLS	S100714128	WETSEL-OVIATT LUMBER COMPANY	6000 LATROBE ROAD	95762	REF
EL DORADO HILLS	U001612924	NEW YORK CREEK LIFT STA.	MALCOM DIXON ROAD	95762	HIST UST
EL DORADO HILLS	S106929874	NEW YORK CREEK LIFT STATION	MALCOM DIXON RD	95762	SWEEPS UST
EL DORADO HILLS	U001612923	MARINA VILLAGE LIFT STA.	MARINA LIFT ACCESS	95762	HIST UST, SWEEPS UST
EL DORADO HILLS	99634237	MORMON ISLAND LIFT STATION OFF OF GREEN VALLEY RD	MORMON ISLAND LIFT STATION OFF OF GREEN VALLEY RD		ERNS
EL DORADO HILLS	99634756	MORMON ISLAND LIFT STATION OFF OF GREEN VALLEY RD	MORMON ISLAND LIFT STATION OFF OF GREEN VALLEY RD		ERNS
EL DORADO HILLS	S107138334	WEIS RECYCLE CENTERS INC/RALEYS 424	3935 PARK DR STE A	95762	SWRCY
EL DORADO HILLS	U001612929	RIDGE VIEW LIFT STATION	POWERS DRIVE	95762	HIST UST
EL DORADO HILLS	S106931375	RIDGE VIEW LIFT STATION	POWERS DR	95762	SWEEPS UST
EL DORADO HILLS	S106661436	PLATINUM AVIATION GROUP INC	3920 SANDSTONE DR STE 100	95762	CLEANERS
EL DORADO HILLS	U001612930	ST. ANDREWS LIFT STATION	TAM O'SHANTER	95762	HIST UST
EL DORADO HILLS	S106932498	ST. ANDREWS LIFT STATION	TAM O'SHANTER DR	95762	SWEEPS UST
FOLSOM	S106926291	FOLSOM LAKE MARINA/BROWN'S RAVINE	FOLSOM LAKE	95762	SWEEPS UST

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

FEDERAL RECORDS

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 10/14/05
Date Data Arrived at EDR: 11/02/05
Date Made Active in Reports: 12/07/05
Number of Days to Update: 35

Source: EPA
Telephone: N/A
Last EDR Contact: 11/02/05
Next Scheduled EDR Contact: 01/30/06
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 8
Telephone: 303-312-6774

EPA Region 4
Telephone 404-562-8033

Proposed NPL: Proposed National Priority List Sites

Date of Government Version: 10/14/05
Date Data Arrived at EDR: 11/02/05
Date Made Active in Reports: 12/07/05
Number of Days to Update: 35

Source: EPA
Telephone: N/A
Last EDR Contact: 11/02/05
Next Scheduled EDR Contact: 01/30/06
Data Release Frequency: Quarterly

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 10/14/05
Date Data Arrived at EDR: 11/02/05
Date Made Active in Reports: 12/07/05
Number of Days to Update: 35

Source: EPA
Telephone: N/A
Last EDR Contact: 11/02/05
Next Scheduled EDR Contact: 01/30/06
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/91
Date Data Arrived at EDR: 02/02/94
Date Made Active in Reports: 03/30/94
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 11/21/05
Next Scheduled EDR Contact: 02/20/06
Data Release Frequency: No Update Planned

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 09/19/05
Date Data Arrived at EDR: 10/21/05
Date Made Active in Reports: 10/27/05
Number of Days to Update: 6

Source: EPA
Telephone: 703-413-0223
Last EDR Contact: 12/21/05
Next Scheduled EDR Contact: 03/20/06
Data Release Frequency: Quarterly

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

Date of Government Version: 08/22/05
Date Data Arrived at EDR: 09/20/05
Date Made Active in Reports: 10/27/05
Number of Days to Update: 37

Source: EPA
Telephone: 703-413-0223
Last EDR Contact: 12/21/05
Next Scheduled EDR Contact: 03/20/06
Data Release Frequency: Quarterly

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 10/13/05
Date Data Arrived at EDR: 10/27/05
Date Made Active in Reports: 12/07/05
Number of Days to Update: 41

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/06/05
Next Scheduled EDR Contact: 03/06/06
Data Release Frequency: Quarterly

RCRA: Resource Conservation and Recovery Act Information

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS). The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month. Transporters are individuals or entities that move hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 10/14/05
Date Data Arrived at EDR: 10/27/05
Date Made Active in Reports: 12/07/05
Number of Days to Update: 41

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/28/05
Next Scheduled EDR Contact: 02/27/06
Data Release Frequency: Quarterly

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/04
Date Data Arrived at EDR: 01/27/05
Date Made Active in Reports: 03/24/05
Number of Days to Update: 56

Source: National Response Center, United States Coast Guard
Telephone: 202-260-2342
Last EDR Contact: 01/12/06
Next Scheduled EDR Contact: 04/24/06
Data Release Frequency: Annually

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 08/17/05
Date Data Arrived at EDR: 10/18/05
Date Made Active in Reports: 12/07/05
Number of Days to Update: 50

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 01/16/06
Next Scheduled EDR Contact: 04/17/06
Data Release Frequency: Annually

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 08/02/05
Date Data Arrived at EDR: 08/12/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 55

Source: Environmental Protection Agency
Telephone: 703-603-8867
Last EDR Contact: 01/03/06
Next Scheduled EDR Contact: 04/03/06
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 01/10/05
Date Data Arrived at EDR: 02/11/05
Date Made Active in Reports: 04/06/05
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 703-603-8867
Last EDR Contact: 01/03/06
Next Scheduled EDR Contact: 04/03/06
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/04
Date Data Arrived at EDR: 02/08/05
Date Made Active in Reports: 08/04/05
Number of Days to Update: 177

Source: USGS
Telephone: 703-692-8801
Last EDR Contact: 11/11/05
Next Scheduled EDR Contact: 02/06/06
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/04
Date Data Arrived at EDR: 06/29/05
Date Made Active in Reports: 08/08/05
Number of Days to Update: 40

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 10/03/05
Next Scheduled EDR Contact: 12/26/05
Data Release Frequency: Varies

US BROWNFIELDS: A Listing of Brownfields Sites

Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 08/18/05
Date Data Arrived at EDR: 08/18/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 49

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 11/30/05
Next Scheduled EDR Contact: 03/13/06
Data Release Frequency: Semi-Annually

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/14/04
Date Data Arrived at EDR: 02/15/05
Date Made Active in Reports: 04/25/05
Number of Days to Update: 69

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 10/31/05
Next Scheduled EDR Contact: 01/23/06
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 10/07/05
Date Data Arrived at EDR: 10/20/05
Date Made Active in Reports: 12/07/05
Number of Days to Update: 48

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 01/04/06
Next Scheduled EDR Contact: 04/03/06
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized. In 1978, 24 inactive uranium mill tailings sites in Oregon, Idaho, Wyoming, Utah, Colorado, New Mexico, Texas, North Dakota, South Dakota, Pennsylvania, and on Navajo and Hopi tribal lands, were targeted for cleanup by the Department of Energy.

Date of Government Version: 12/29/04
Date Data Arrived at EDR: 01/07/05
Date Made Active in Reports: 03/14/05
Number of Days to Update: 66

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 10/28/05
Next Scheduled EDR Contact: 12/19/05
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/85
Date Data Arrived at EDR: 08/09/04
Date Made Active in Reports: 09/17/04
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/04
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/03
Date Data Arrived at EDR: 07/13/05
Date Made Active in Reports: 08/17/05
Number of Days to Update: 35

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 12/21/05
Next Scheduled EDR Contact: 03/20/06
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/02
Date Data Arrived at EDR: 04/27/04
Date Made Active in Reports: 05/21/04
Number of Days to Update: 24

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 01/16/06
Next Scheduled EDR Contact: 04/17/06
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/12/05
Date Data Arrived at EDR: 10/31/05
Date Made Active in Reports: 12/20/05
Number of Days to Update: 50

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 09/19/05
Next Scheduled EDR Contact: 12/19/05
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

Date of Government Version: 10/12/05
Date Data Arrived at EDR: 10/31/05
Date Made Active in Reports: 12/20/05
Number of Days to Update: 50

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 09/19/05
Next Scheduled EDR Contact: 12/19/05
Data Release Frequency: Quarterly

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/03
Date Data Arrived at EDR: 01/03/05
Date Made Active in Reports: 01/25/05
Number of Days to Update: 22

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 01/16/06
Next Scheduled EDR Contact: 04/17/06
Data Release Frequency: Annually

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 08/30/05
Date Data Arrived at EDR: 09/13/05
Date Made Active in Reports: 10/27/05
Number of Days to Update: 44

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 12/29/05
Next Scheduled EDR Contact: 02/06/06
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/18/05
Date Data Arrived at EDR: 10/31/05
Date Made Active in Reports: 12/20/05
Number of Days to Update: 50

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 01/03/06
Next Scheduled EDR Contact: 04/03/06
Data Release Frequency: Quarterly

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/12/05
Date Data Arrived at EDR: 09/27/05
Date Made Active in Reports: 11/14/05
Number of Days to Update: 48

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 12/27/05
Next Scheduled EDR Contact: 03/27/06
Data Release Frequency: Semi-Annually

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 09/29/05
Date Data Arrived at EDR: 10/04/05
Date Made Active in Reports: 11/14/05
Number of Days to Update: 41

Source: EPA
Telephone: N/A
Last EDR Contact: 01/03/06
Next Scheduled EDR Contact: 04/03/06
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/95
Date Data Arrived at EDR: 07/03/95
Date Made Active in Reports: 08/07/95
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 12/05/05
Next Scheduled EDR Contact: 03/06/06
Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/03
Date Data Arrived at EDR: 06/17/05
Date Made Active in Reports: 08/04/05
Number of Days to Update: 48

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 09/12/05
Next Scheduled EDR Contact: 12/12/05
Data Release Frequency: Biennially

STATE AND LOCAL RECORDS

AWP: Annual Workplan Sites

Known Hazardous Waste Sites. California DTSC's Annual Workplan (AWP), formerly BEP, identifies known hazardous substance sites targeted for cleanup.

Date of Government Version: 08/08/05
Date Data Arrived at EDR: 08/29/05
Date Made Active in Reports: 09/21/05
Number of Days to Update: 23

Source: California Environmental Protection Agency
Telephone: 916-323-3400
Last EDR Contact: 11/30/05
Next Scheduled EDR Contact: 02/27/06
Data Release Frequency: Annually

CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database.

Date of Government Version: 08/08/05
Date Data Arrived at EDR: 08/29/05
Date Made Active in Reports: 09/21/05
Number of Days to Update: 23

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 11/30/05
Next Scheduled EDR Contact: 01/30/06
Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/89
Date Data Arrived at EDR: 07/27/94
Date Made Active in Reports: 08/02/94
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/94
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

NFA: No Further Action Determination

This category contains properties at which DTSC has made a clear determination that the property does not pose a problem to the environment or to public health.

Date of Government Version: 08/08/05
Date Data Arrived at EDR: 08/29/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 38

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/30/05
Next Scheduled EDR Contact: 02/27/06
Data Release Frequency: Quarterly

NFE: Properties Needing Further Evaluation

This category contains properties that are suspected of being contaminated. These are unconfirmed contaminated properties that need to be assessed using the PEA process. PEA in Progress indicates properties where DTSC is currently conducting a PEA. PEA Required indicates properties where DTSC has determined a PEA is required, but not currently underway.

Date of Government Version: 08/08/05
Date Data Arrived at EDR: 08/29/05
Date Made Active in Reports: 09/21/05
Number of Days to Update: 23

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/30/05
Next Scheduled EDR Contact: 02/27/06
Data Release Frequency: Quarterly

REF: Unconfirmed Properties Referred to Another Agency

This category contains properties where contamination has not been confirmed and which were determined as not requiring direct DTSC Site Mitigation Program action or oversight. Accordingly, these sites have been referred to another state or local regulatory agency.

Date of Government Version: 08/08/05
Date Data Arrived at EDR: 08/29/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 38

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/30/05
Next Scheduled EDR Contact: 02/27/06
Data Release Frequency: Quarterly

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 08/08/05
Date Data Arrived at EDR: 08/29/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 38

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/30/05
Next Scheduled EDR Contact: 02/27/06
Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/95
Date Data Arrived at EDR: 08/30/95
Date Made Active in Reports: 09/26/95
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 10/31/05
Next Scheduled EDR Contact: 01/30/06
Data Release Frequency: No Update Planned

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 09/12/05
Date Data Arrived at EDR: 09/13/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 23

Source: Integrated Waste Management Board
Telephone: 916-341-6320
Last EDR Contact: 12/13/05
Next Scheduled EDR Contact: 03/13/06
Data Release Frequency: Quarterly

CA WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 09/19/05
Date Data Arrived at EDR: 09/20/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 16

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 12/21/05
Next Scheduled EDR Contact: 03/20/06
Data Release Frequency: Quarterly

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/00
Date Data Arrived at EDR: 04/10/00
Date Made Active in Reports: 05/10/00
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 12/05/05
Next Scheduled EDR Contact: 12/19/05
Data Release Frequency: Quarterly

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites). This listing is no longer updated by the state agency.

Date of Government Version: 04/01/01
Date Data Arrived at EDR: 05/29/01
Date Made Active in Reports: 07/26/01
Number of Days to Update: 58

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-9100
Last EDR Contact: 10/26/05
Next Scheduled EDR Contact: 01/23/06
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 10/03/05
Date Data Arrived at EDR: 10/10/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 21

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 01/09/06
Next Scheduled EDR Contact: 04/10/06
Data Release Frequency: Quarterly

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/03
Date Data Arrived at EDR: 09/10/03
Date Made Active in Reports: 10/07/03
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 916-542-5424
Last EDR Contact: 12/05/05
Next Scheduled EDR Contact: 03/06/06
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Date of Government Version: 10/01/05
Date Data Arrived at EDR: 10/20/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 11

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 01/16/06
Next Scheduled EDR Contact: 04/03/06
Data Release Frequency: Quarterly

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/04
Date Data Arrived at EDR: 09/07/04
Date Made Active in Reports: 10/12/04
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 12/27/05
Next Scheduled EDR Contact: 03/27/06
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database

Date of Government Version: 05/19/03
Date Data Arrived at EDR: 05/19/03
Date Made Active in Reports: 06/02/03
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 11/14/05
Next Scheduled EDR Contact: 02/13/06
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Date of Government Version: 09/30/04
Date Data Arrived at EDR: 10/20/04
Date Made Active in Reports: 11/19/04
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 01/09/06
Next Scheduled EDR Contact: 04/10/06
Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/01
Date Data Arrived at EDR: 02/28/01
Date Made Active in Reports: 03/29/01
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-576-2220
Last EDR Contact: 11/21/05
Next Scheduled EDR Contact: 02/20/06
Data Release Frequency: No Update Planned

LUST: Geotracker's Leaking Underground Fuel Tank Report

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 10/10/05
Date Data Arrived at EDR: 10/10/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 21

Source: State Water Resources Control Board
Contact: El Dorado County Environmental Health, (530) 621-6654
Last EDR Contact: 01/09/06
Next Scheduled EDR Contact: 04/10/06
Data Release Frequency: Quarterly

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Date of Government Version: 06/07/05
Date Data Arrived at EDR: 06/07/05
Date Made Active in Reports: 06/29/05
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-346-7491
Last EDR Contact: 01/04/06
Next Scheduled EDR Contact: 04/03/06
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing

Date of Government Version: 02/26/04
Date Data Arrived at EDR: 02/26/04
Date Made Active in Reports: 03/24/04
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-346-7491
Last EDR Contact: 12/27/05
Next Scheduled EDR Contact: 03/27/06
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks
California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/05
Date Data Arrived at EDR: 02/15/05
Date Made Active in Reports: 03/28/05
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-4130
Last EDR Contact: 11/07/05
Next Scheduled EDR Contact: 11/07/05
Data Release Frequency: Varies

LUST REG 9: Leaking Underground Storage Tank Report
Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/01
Date Data Arrived at EDR: 04/23/01
Date Made Active in Reports: 05/21/01
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 01/16/06
Next Scheduled EDR Contact: 04/17/06
Data Release Frequency: No Update Planned

CA FID UST: Facility Inventory Database
The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/94
Date Data Arrived at EDR: 09/05/95
Date Made Active in Reports: 09/29/95
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/98
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SLIC: Statewide SLIC Cases
The Spills, Leaks, Investigations, and Cleanups (SLIC) listings includes unauthorized discharges from spills and leaks, other than from underground storage tanks or other regulated sites.

Date of Government Version: 10/10/05
Date Data Arrived at EDR: 10/10/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 21

Source: State Water Resources Control Board
Contact: El Dorado County Environmental Health, (530) 621-6654
Last EDR Contact: 01/09/06
Next Scheduled EDR Contact: 04/10/06
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

Date of Government Version: 04/03/03
Date Data Arrived at EDR: 04/07/03
Date Made Active in Reports: 04/25/03
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 11/21/05
Next Scheduled EDR Contact: 02/20/06
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
Any contaminated site that impacts groundwater or has the potential to impact groundwater.

Date of Government Version: 09/30/04
Date Data Arrived at EDR: 10/20/04
Date Made Active in Reports: 11/19/04
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 01/09/06
Next Scheduled EDR Contact: 04/10/06
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
Any contaminated site that impacts groundwater or has the potential to impact groundwater.

Date of Government Version: 11/16/05
Date Data Arrived at EDR: 11/16/05
Date Made Active in Reports: 12/12/05
Number of Days to Update: 26

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 11/14/05
Next Scheduled EDR Contact: 02/13/06
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
Any contaminated site that impacts groundwater or has the potential to impact groundwater.

Date of Government Version: 11/17/04
Date Data Arrived at EDR: 11/18/04
Date Made Active in Reports: 01/04/05
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 10/24/05
Next Scheduled EDR Contact: 01/23/06
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
Unregulated sites that impact groundwater or have the potential to impact groundwater.

Date of Government Version: 04/01/05
Date Data Arrived at EDR: 04/05/05
Date Made Active in Reports: 04/21/05
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 01/16/06
Next Scheduled EDR Contact: 04/03/06
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

Date of Government Version: 05/24/05
Date Data Arrived at EDR: 05/25/05
Date Made Active in Reports: 06/16/05
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 01/06/06
Next Scheduled EDR Contact: 04/03/06
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites

Date of Government Version: 09/07/04
Date Data Arrived at EDR: 09/07/04
Date Made Active in Reports: 10/12/04
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 12/05/05
Next Scheduled EDR Contact: 03/06/06
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List

Date of Government Version: 11/24/04
Date Data Arrived at EDR: 11/29/04
Date Made Active in Reports: 01/04/05
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 11/21/05
Next Scheduled EDR Contact: 02/20/06
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

Date of Government Version: 07/01/04
Date Data Arrived at EDR: 08/10/04
Date Made Active in Reports: 09/08/04
Number of Days to Update: 29

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 01/17/06
Next Scheduled EDR Contact: 04/03/06
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

Date of Government Version: 09/28/05
Date Data Arrived at EDR: 09/29/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 32

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 12/12/05
Next Scheduled EDR Contact: 02/27/06
Data Release Frequency: Annually

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 10/10/05
Date Data Arrived at EDR: 10/10/05
Date Made Active in Reports: 11/18/05
Number of Days to Update: 39

Source: SWRCB
Contact: El Dorado County Environmental Health, (530) 621-6654
Last EDR Contact: 01/09/06
Next Scheduled EDR Contact: 04/10/06
Data Release Frequency: Semi-Annually

HIST UST: Hazardous Substance Storage Container Database
The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/90
Date Data Arrived at EDR: 01/25/91
Date Made Active in Reports: 02/12/91
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/01
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

AST: Aboveground Petroleum Storage Tank Facilities
Registered Aboveground Storage Tanks.

Date of Government Version: 11/01/05
Date Data Arrived at EDR: 11/23/05
Date Made Active in Reports: 12/15/05
Number of Days to Update: 22

Source: State Water Resources Control Board
Telephone: 916-341-5712
Last EDR Contact: 11/22/05
Next Scheduled EDR Contact: 01/30/06
Data Release Frequency: Quarterly

SWEEPS UST: SWEEPS UST Listing
Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1980?s. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/94
Date Data Arrived at EDR: 07/07/05
Date Made Active in Reports: 08/11/05
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/05
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CHMIRS: California Hazardous Material Incident Report System
California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 12/31/03
Date Data Arrived at EDR: 05/18/04
Date Made Active in Reports: 06/25/04
Number of Days to Update: 38

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 10/26/05
Next Scheduled EDR Contact: 02/20/06
Data Release Frequency: Varies

NOTIFY 65: Proposition 65 Records
Proposition 65 Notification Records. NOTIFY 65 contains facility notifications about any release which could impact drinking water and thereby expose the public to a potential health risk.

Date of Government Version: 10/21/93
Date Data Arrived at EDR: 11/01/93
Date Made Active in Reports: 11/19/93
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 01/16/06
Next Scheduled EDR Contact: 04/17/06
Data Release Frequency: No Update Planned

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 10/03/05
Date Data Arrived at EDR: 10/03/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 28

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/03/06
Next Scheduled EDR Contact: 04/03/06
Data Release Frequency: Semi-Annually

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 08/08/05
Date Data Arrived at EDR: 08/29/05
Date Made Active in Reports: 09/21/05
Number of Days to Update: 23

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/30/05
Next Scheduled EDR Contact: 02/27/06
Data Release Frequency: Quarterly

CLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 04/18/05
Date Data Arrived at EDR: 04/18/05
Date Made Active in Reports: 05/06/05
Number of Days to Update: 18

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 01/04/06
Next Scheduled EDR Contact: 04/03/06
Data Release Frequency: Annually

WIP: Well Investigation Program Case List

Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 11/07/05
Date Data Arrived at EDR: 11/07/05
Date Made Active in Reports: 11/29/05
Number of Days to Update: 22

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 11/07/05
Next Scheduled EDR Contact: 01/23/06
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method.

Date of Government Version: 12/31/03
Date Data Arrived at EDR: 10/11/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 20

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 11/07/05
Next Scheduled EDR Contact: 02/06/06
Data Release Frequency: Annually

EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/03
Date Data Arrived at EDR: 07/19/05
Date Made Active in Reports: 08/11/05
Number of Days to Update: 23

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 01/16/06
Next Scheduled EDR Contact: 04/17/06
Data Release Frequency: Varies

TRIBAL RECORDS

INDIAN RESERV: Indian Reservations
This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/04
Date Data Arrived at EDR: 02/08/05
Date Made Active in Reports: 08/04/05
Number of Days to Update: 177

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 11/11/05
Next Scheduled EDR Contact: 02/06/06
Data Release Frequency: Semi-Annually

INDIAN LUST: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 09/07/05
Date Data Arrived at EDR: 09/08/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 53

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/10/06
Next Scheduled EDR Contact: 05/22/06
Data Release Frequency: Varies

INDIAN LUST: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 06/02/05
Date Data Arrived at EDR: 06/03/05
Date Made Active in Reports: 07/01/05
Number of Days to Update: 28

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 11/21/05
Next Scheduled EDR Contact: 02/20/06
Data Release Frequency: Varies

INDIAN UST: Underground Storage Tanks on Indian Land

Date of Government Version: 11/08/05
Date Data Arrived at EDR: 11/09/05
Date Made Active in Reports: 12/12/05
Number of Days to Update: 33

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 10/21/05
Next Scheduled EDR Contact: 02/20/06
Data Release Frequency: Varies

EDR PROPRIETARY RECORDS

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants

Date of Government Version: 11/15/05
Date Data Arrived at EDR: 12/05/05
Date Made Active in Reports: 12/28/05
Number of Days to Update: 23

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: 12/05/05
Next Scheduled EDR Contact: 03/13/06
Data Release Frequency: No Update Planned

COUNTY RECORDS

ALAMEDA COUNTY:

Underground Tanks

Date of Government Version: 11/08/05
Date Data Arrived at EDR: 11/10/05
Date Made Active in Reports: 12/08/05
Number of Days to Update: 28

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 10/24/05
Next Scheduled EDR Contact: 01/23/06
Data Release Frequency: Semi-Annually

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 11/08/05
Date Data Arrived at EDR: 11/15/05
Date Made Active in Reports: 12/12/05
Number of Days to Update: 27

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 10/24/05
Next Scheduled EDR Contact: 01/23/06
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

Site List

List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 08/29/05
Date Data Arrived at EDR: 08/30/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 37

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 12/09/05
Next Scheduled EDR Contact: 02/27/06
Data Release Frequency: Semi-Annually

FRESNO COUNTY:

CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 10/17/05
Date Data Arrived at EDR: 10/18/05
Date Made Active in Reports: 11/29/05
Number of Days to Update: 42

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 10/18/05
Next Scheduled EDR Contact: 02/06/06
Data Release Frequency: Semi-Annually

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing

Kern County Sites and Tanks Listing.

Date of Government Version: 12/09/05
Date Data Arrived at EDR: 12/09/05
Date Made Active in Reports: 01/11/06
Number of Days to Update: 33

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 12/05/05
Next Scheduled EDR Contact: 02/27/06
Data Release Frequency: Quarterly

LOS ANGELES COUNTY:

List of Solid Waste Facilities

Date of Government Version: 02/01/05
Date Data Arrived at EDR: 02/18/05
Date Made Active in Reports: 03/28/05
Number of Days to Update: 38

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 11/23/05
Next Scheduled EDR Contact: 02/13/06
Data Release Frequency: Varies

City of El Segundo Underground Storage Tank

Date of Government Version: 11/14/05
Date Data Arrived at EDR: 11/14/05
Date Made Active in Reports: 12/08/05
Number of Days to Update: 24

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 11/14/05
Next Scheduled EDR Contact: 02/13/06
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank

Date of Government Version: 03/28/03
Date Data Arrived at EDR: 10/23/03
Date Made Active in Reports: 11/26/03
Number of Days to Update: 34

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 11/22/05
Next Scheduled EDR Contact: 02/20/06
Data Release Frequency: Annually

City of Torrance Underground Storage Tank

Date of Government Version: 11/29/05
Date Data Arrived at EDR: 12/01/05
Date Made Active in Reports: 12/16/05
Number of Days to Update: 15

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 11/28/05
Next Scheduled EDR Contact: 02/13/06
Data Release Frequency: Semi-Annually

City of Los Angeles Landfills

Date of Government Version: 03/01/05
Date Data Arrived at EDR: 03/18/05
Date Made Active in Reports: 04/08/05
Number of Days to Update: 21

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 12/13/05
Next Scheduled EDR Contact: 03/13/06
Data Release Frequency: Varies

HMS: Street Number List

Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 08/31/05
Date Data Arrived at EDR: 10/26/05
Date Made Active in Reports: 11/29/05
Number of Days to Update: 34

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 11/14/05
Next Scheduled EDR Contact: 02/13/06
Data Release Frequency: Semi-Annually

Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 05/25/05
Date Data Arrived at EDR: 05/27/05
Date Made Active in Reports: 07/01/05
Number of Days to Update: 35

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 11/14/05
Next Scheduled EDR Contact: 02/13/06
Data Release Frequency: Annually

San Gabriel Valley Areas of Concern

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 12/31/98
Date Data Arrived at EDR: 07/07/99
Date Made Active in Reports: N/A
Number of Days to Update: 35

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 07/06/99
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

MARIN COUNTY:

Underground Storage Tank Sites

Currently permitted USTs in Marin County.

Date of Government Version: 08/08/05
Date Data Arrived at EDR: 08/26/05
Date Made Active in Reports: 09/28/05
Number of Days to Update: 33

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 10/31/05
Next Scheduled EDR Contact: 01/30/06
Data Release Frequency: Semi-Annually

NAPA COUNTY:

Sites With Reported Contamination

Date of Government Version: 09/28/05
Date Data Arrived at EDR: 09/29/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 32

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 12/27/05
Next Scheduled EDR Contact: 03/27/06
Data Release Frequency: Semi-Annually

Closed and Operating Underground Storage Tank Sites

Date of Government Version: 12/27/05
Date Data Arrived at EDR: 12/28/05
Date Made Active in Reports: 01/11/06
Number of Days to Update: 14

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 12/27/05
Next Scheduled EDR Contact: 03/27/06
Data Release Frequency: Annually

ORANGE COUNTY:

List of Underground Storage Tank Cleanups

Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 09/01/05
Date Data Arrived at EDR: 09/19/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 17

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 12/07/05
Next Scheduled EDR Contact: 03/06/06
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities

Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 12/01/05
Date Data Arrived at EDR: 12/16/05
Date Made Active in Reports: 01/11/06
Number of Days to Update: 26

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 12/07/05
Next Scheduled EDR Contact: 03/06/06
Data Release Frequency: Quarterly

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 09/01/05
Date Data Arrived at EDR: 09/19/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 17

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 12/07/05
Next Scheduled EDR Contact: 03/06/06
Data Release Frequency: Annually

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 10/12/05
Date Data Arrived at EDR: 10/12/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 19

Source: Placer County Health and Human Services
Telephone: 530-889-7312
Last EDR Contact: 12/20/05
Next Scheduled EDR Contact: 03/20/06
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 11/22/05
Date Data Arrived at EDR: 11/23/05
Date Made Active in Reports: 12/12/05
Number of Days to Update: 19

Source: Department of Public Health
Telephone: 951-358-5055
Last EDR Contact: 01/16/06
Next Scheduled EDR Contact: 04/17/06
Data Release Frequency: Quarterly

Underground Storage Tank Tank List

Date of Government Version: 11/22/05
Date Data Arrived at EDR: 11/23/05
Date Made Active in Reports: 12/16/05
Number of Days to Update: 23

Source: Health Services Agency
Telephone: 951-358-5055
Last EDR Contact: 01/16/06
Next Scheduled EDR Contact: 04/17/06
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS - Contaminated Sites

Date of Government Version: 08/19/05
Date Data Arrived at EDR: 09/02/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 34

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 12/02/05
Next Scheduled EDR Contact: 01/30/06
Data Release Frequency: Quarterly

ML - Regulatory Compliance Master List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 07/25/05
Date Data Arrived at EDR: 08/19/05
Date Made Active in Reports: 09/13/05
Number of Days to Update: 25

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 12/02/05
Next Scheduled EDR Contact: 01/30/06
Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 09/20/05
Date Data Arrived at EDR: 09/20/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 16

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 12/05/05
Next Scheduled EDR Contact: 03/06/06
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 08/01/00
Date Data Arrived at EDR: 12/13/01
Date Made Active in Reports: 01/15/02
Number of Days to Update: 33

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 12/12/05
Next Scheduled EDR Contact: 02/20/06
Data Release Frequency: Varies

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 05/16/05
Date Data Arrived at EDR: 05/18/05
Date Made Active in Reports: 06/16/05
Number of Days to Update: 29

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 01/06/06
Next Scheduled EDR Contact: 04/03/06
Data Release Frequency: Quarterly

SAN FRANCISCO COUNTY:

Local Oversite Facilities

Date of Government Version: 09/07/05
Date Data Arrived at EDR: 09/08/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 28

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 12/05/05
Next Scheduled EDR Contact: 03/06/06
Data Release Frequency: Quarterly

Underground Storage Tank Information

Date of Government Version: 12/07/05
Date Data Arrived at EDR: 12/07/05
Date Made Active in Reports: 01/11/06
Number of Days to Update: 35

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 12/05/05
Next Scheduled EDR Contact: 03/06/06
Data Release Frequency: Quarterly

SAN MATEO COUNTY:

Fuel Leak List

Date of Government Version: 11/28/05
Date Data Arrived at EDR: 11/28/05
Date Made Active in Reports: 12/12/05
Number of Days to Update: 14

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 01/09/06
Next Scheduled EDR Contact: 04/10/06
Data Release Frequency: Semi-Annually

Business Inventory

List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 08/17/05
Date Data Arrived at EDR: 08/17/05
Date Made Active in Reports: 09/21/05
Number of Days to Update: 35

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 01/09/06
Next Scheduled EDR Contact: 04/10/06
Data Release Frequency: Annually

SANTA CLARA COUNTY:

LOP Listing

A listing of open leaking underground storage tanks.

Date of Government Version: 10/24/05
Date Data Arrived at EDR: 11/28/05
Date Made Active in Reports: 12/12/05
Number of Days to Update: 14

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 12/27/05
Next Scheduled EDR Contact: 03/27/06
Data Release Frequency: No Update Planned

Fuel Leak Site Activity Report

A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/05
Date Data Arrived at EDR: 03/30/05
Date Made Active in Reports: 04/21/05
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 12/27/05
Next Scheduled EDR Contact: 03/27/06
Data Release Frequency: Semi-Annually

Hazardous Material Facilities

Date of Government Version: 09/13/05
Date Data Arrived at EDR: 09/13/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 23

Source: City of San Jose Fire Department
Telephone: 408-277-4659
Last EDR Contact: 12/05/05
Next Scheduled EDR Contact: 12/19/05
Data Release Frequency: Annually

SOLANO COUNTY:

Leaking Underground Storage Tanks

Date of Government Version: 10/13/05
Date Data Arrived at EDR: 10/31/05
Date Made Active in Reports: 11/29/05
Number of Days to Update: 29

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 12/12/05
Next Scheduled EDR Contact: 03/13/06
Data Release Frequency: Quarterly

Underground Storage Tanks

Date of Government Version: 10/13/05
Date Data Arrived at EDR: 10/31/05
Date Made Active in Reports: 12/08/05
Number of Days to Update: 38

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 12/12/05
Next Scheduled EDR Contact: 03/13/06
Data Release Frequency: Quarterly

SONOMA COUNTY:

Leaking Underground Storage Tank Sites

Date of Government Version: 10/01/05
Date Data Arrived at EDR: 10/24/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 7

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 10/24/05
Next Scheduled EDR Contact: 01/23/06
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks

Date of Government Version: 01/29/04
Date Data Arrived at EDR: 01/29/04
Date Made Active in Reports: 02/23/04
Number of Days to Update: 25

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 01/03/06
Next Scheduled EDR Contact: 04/03/06
Data Release Frequency: Semi-Annually

VENTURA COUNTY:

Inventory of Illegal Abandoned and Inactive Sites

Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 08/01/05
Date Data Arrived at EDR: 09/20/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 16

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 11/21/05
Next Scheduled EDR Contact: 02/20/06
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites

Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 08/30/05
Date Data Arrived at EDR: 09/26/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 35

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 12/14/05
Next Scheduled EDR Contact: 03/13/06
Data Release Frequency: Quarterly

Underground Tank Closed Sites List

Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 09/28/05
Date Data Arrived at EDR: 10/27/05
Date Made Active in Reports: 11/18/05
Number of Days to Update: 22

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 01/11/06
Next Scheduled EDR Contact: 04/10/06
Data Release Frequency: Quarterly

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks

The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 08/30/05
Date Data Arrived at EDR: 09/29/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 32

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 12/14/05
Next Scheduled EDR Contact: 03/13/06
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report

Date of Government Version: 10/18/05
Date Data Arrived at EDR: 11/16/05
Date Made Active in Reports: 12/08/05
Number of Days to Update: 22

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 01/16/06
Next Scheduled EDR Contact: 04/17/06
Data Release Frequency: Annually

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data

Source: PennWell Corporation
Telephone: (800) 823-6277
This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

STREET AND ADDRESS INFORMATION

© 2004 Geographic Data Technology, Inc., Rel. 07/2004. This product contains proprietary and confidential property of Geographic Data Technology, Inc. Unauthorized use, including copying for other than testing and standard backup procedures, of this product is expressly prohibited.

GEOCHECK®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

SILVA VALLEY PARKWAY IC
SR 50
EL DORADO HILLS, CA 95762

TARGET PROPERTY COORDINATES

Latitude (North):	38.657700 - 38° 39' 27.7"
Longitude (West):	121.055199 - 121° 3' 18.7"
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	669223.6
UTM Y (Meters):	4280379.5
Elevation:	721 ft. above sea level

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

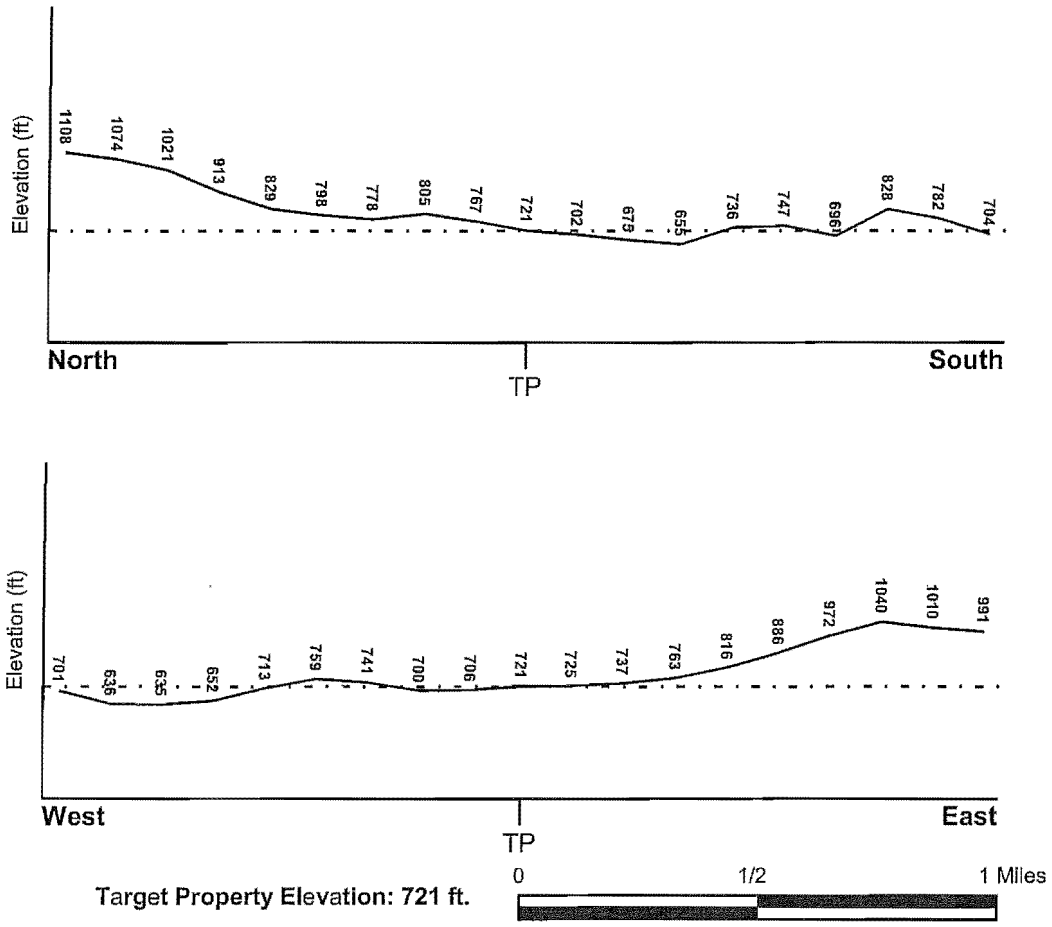
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

USGS Topographic Map:	38121-F1 CLARKSVILLE, CA
General Topographic Gradient:	General South
Source:	USGS 7.5 min quad index

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Target Property Elevation: 721 ft.

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
EL DORADO, CA	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 0600400700C

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
CLARKSVILLE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius: 1.25 miles
Status: Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site-specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT **GEOLOGIC AGE IDENTIFICATION**

Era:	Mesozoic	Category:	Eugeosynclinal Deposits
System:	Lower Jurassic and Upper Triassic		
Series:	Lower Mesozoic		
Code:	IMze *(decoded above as Era, System & Series)*		

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name:	AUBURN
Soil Surface Texture:	loam
Hydrologic Group:	Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.
Soil Drainage Class:	Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: MODERATE

Depth to Bedrock Min: > 10 inches

Depth to Bedrock Max: > 28 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	14 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 2.00 Min: 0.60	Max: 7.30 Min: 5.60
2	14 inches	18 inches	unweathered bedrock	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: silt loam
unweathered bedrock
gravelly - loam
gravelly - silt loam

Surficial Soil Types: silt loam
unweathered bedrock
gravelly - loam
gravelly - silt loam

Shallow Soil Types: clay loam
gravelly - loam
gravelly - clay loam
gravelly - sandy clay loam
sandy clay loam

Deeper Soil Types: weathered bedrock
stratified

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

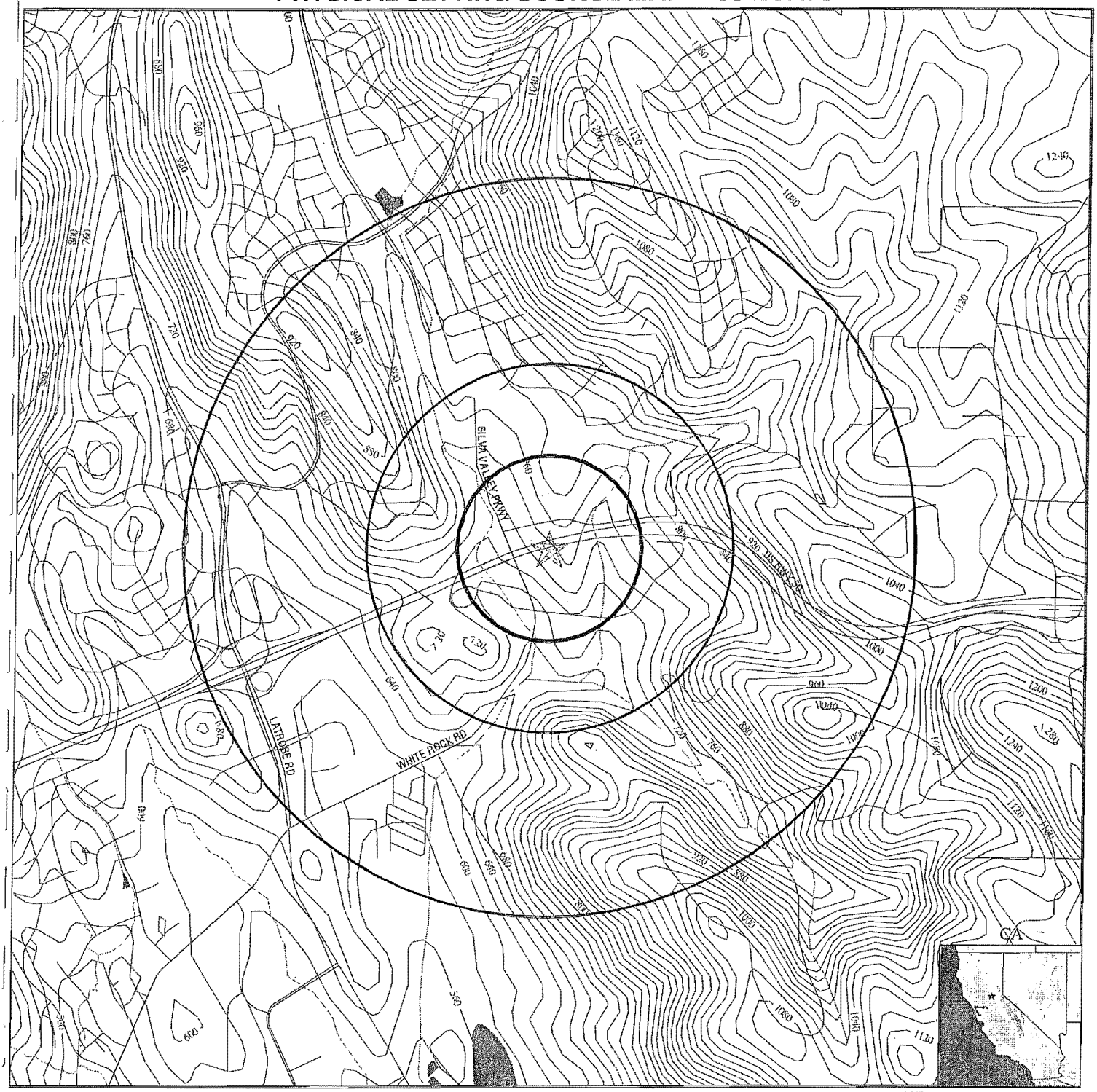
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 1594857.7s



0 1/4 1/2 1 Miles

- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME: Silva Valley Parkway IC	CLIENT: Blackburn Consulting
ADDRESS: SR 50	CONTACT: Alfred P. Worcester
El Dorado Hills CA 95762	INQUIRY #: 1594857.7s
LAT/LONG: 38.6577 / 121.0552	DATE: January 17, 2006

Copyright © 2006 EDR, Inc. © 2004 GDT, Inc. Rel. 07/2004 All Rights Reserved

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zip	Total Sites	> 4 Pci/L	Pct. > 4 Pci/L
95762	10	0	0.00

Federal EPA Radon Zone for EL DORADO County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for EL DORADO COUNTY, CA

Number of sites tested: 27

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.844 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	3.400 pCi/L	50%	50%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002. 7.5-Minute DEMs correspond to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STATE RECORDS

California Drinking Water Quality Database
Source: Department of Health Services
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations for District 2, 3, 5 and 6
Source: Department of Conservation
Telephone: 916-323-1779

RADON

State Database: CA Radon
Source: Department of Health Services
Telephone: 916-324-2208
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

EDR® Environmental
Data Resources Inc

"Linking Technology with Tradition"®

Sanborn® Map Report

hip To: Alfred P. Worcester
Blackburn Consulting
11521 Blocker Drive
Auburn, CA 95603

Order Date: 1/17/2006 **Completion Date:** 1/17/2006
Inquiry #: 1594857.15
P.O. #: Cameron Park IC
Site Name: Cameron Park IC
Address: SR 50
City/State: Cameron Park, CA 95682
Cross Streets:

ustomer Project: Cameron Park IC
)10132VLA 530-887-1494

This document reports that the largest and most complete collection of Sanborn fire insurance maps has been reviewed based on client supplied information, and fire insurance maps depicting the target property at the specified address were not identified.

NO COVERAGE

is Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this port that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN ONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT MITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA ESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF AMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA ESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report AS IS. Any analyses, estimates, ratings, vironmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any fact jarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide ormation regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

pyright 2006 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, ., or its affiliates, is prohibited without prior written permission. EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its iliates. All other trademarks used herein are the property of their respective owners.



The EDR Aerial Photo Decade Package

Silva Valley Parkway IC
SR 50
El Dorado Hills, CA 95630

Inquiry Number: 1594857.4

January 18, 2006

The Standard in Environmental Risk Management Information

440 Wheelers Farms Road
Milford, Connecticut 06460

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

VLA

THE EDR AERIAL PHOTO DECADE PACKAGE

Environmental Data Resources, Inc.s (EDR) Aerial Photography Print Service is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDRs professional researchers provide digitally reproduced historical aerial photographs at one photo per decade.

References
EPAs Standards and Practices for All Appropriate Inquiries (AAI), section 312.24, identifies the historical sources of information necessary to achieve the objectives and performance factors of section 312.20. According to AAI, *"historical documents and records may include, but are not limited to, aerial photographs, fire insurance maps, building department records, chain of title documents, and land use records."*

To meet the prior use requirements of ASTM E 1527-05, Section 8.3.2, the following standard *historical sources* may be used: aerial photographs, fire insurance maps, property tax files, land title records (although these cannot be the sole historical source consulted), topographic maps, city directories, building department records, or zoning/land use records. ASTM E 1527-05, Section 8.3 on Historical Use Information, identifies the prior use requirements for a Phase I environmental site assessment. ASTM E 1527-05 requires *"All obvious uses of the property shall be identified from the present, back to the property's first developed use, or back to 1940, whichever is earlier. This task requires reviewing only as many of the standard historcal sources as are necessary and both reasonably ascertainable and likely to be useful."* (ASTM E 1527-05, Section 8.3.2) *Reasonably ascertainable means information that is publicly available, obtainable from a source within reasonable time and cost constraints, and practically reviewable.*

Data Gaps
In order to address *data gaps*, additional sources of information may be consulted. According the AAI, Section 312.20 (g), *"to the extent there are data gaps (as defined in section 312.10) in the information developed...that affect the ability of persons (including the environmental professional) conducting the all appropriate inquiries to identify conditions indicative of releases or threatened releases...such persons should identify such data gaps, identify the sources of information consulted to address such data gaps, and comment upon the significance of such data gaps."* According to ASTM E 1527-05, Section 8.3.2.3, *"historical research is complete when either: (1) the objectives in 8.3.1 through 8.3.2.2 are achieved; or (2) data failure is encountered. Data failure occurs when all of the standard historical sources that are reasonably ascertainable and likely to be useful have been reviewed and yet the objectives have not been met....If data failure is encountered, the report shall document the failure and, if any of the standard historical sources were excluded, give the reasons for their exclusion."*

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account executive.

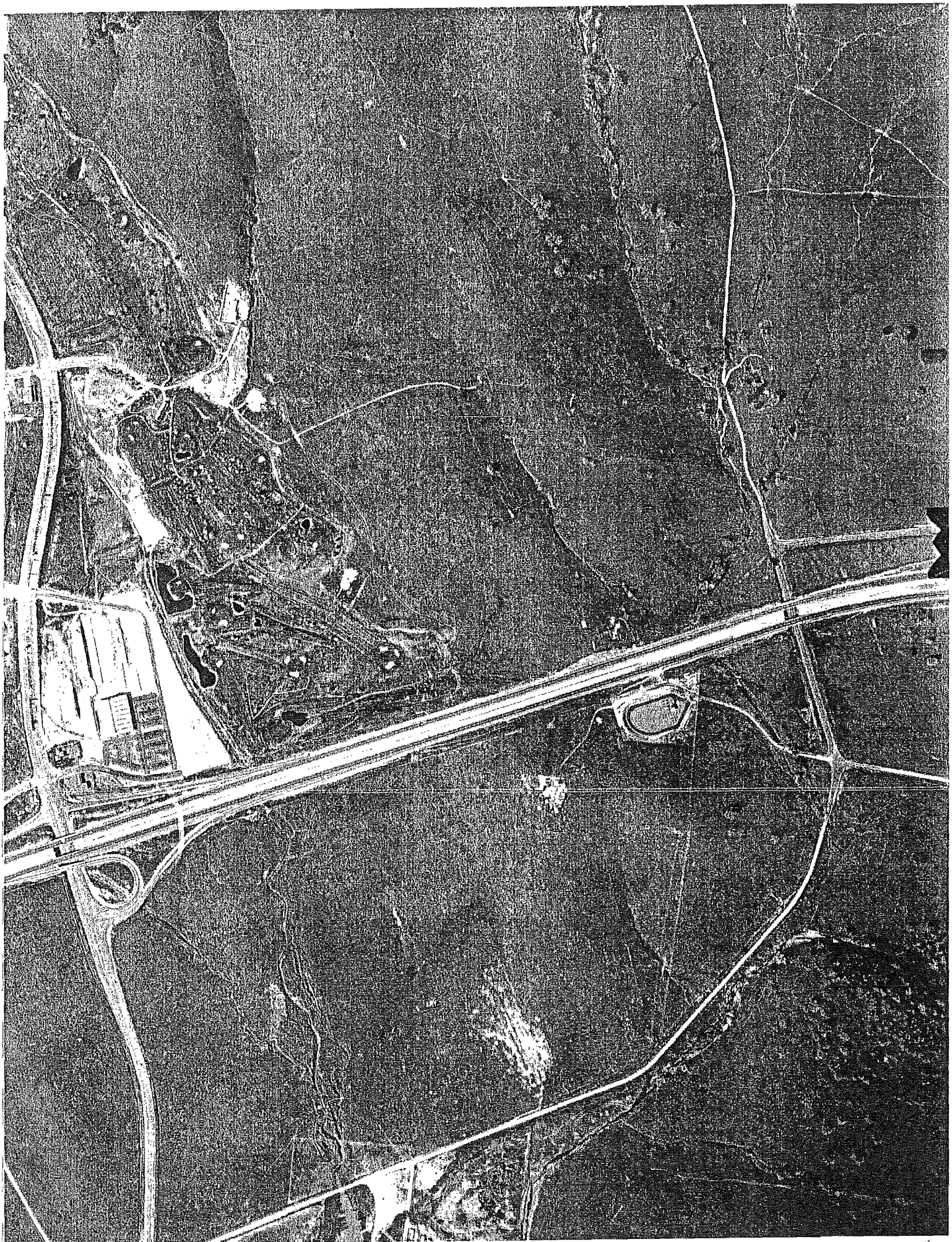
Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

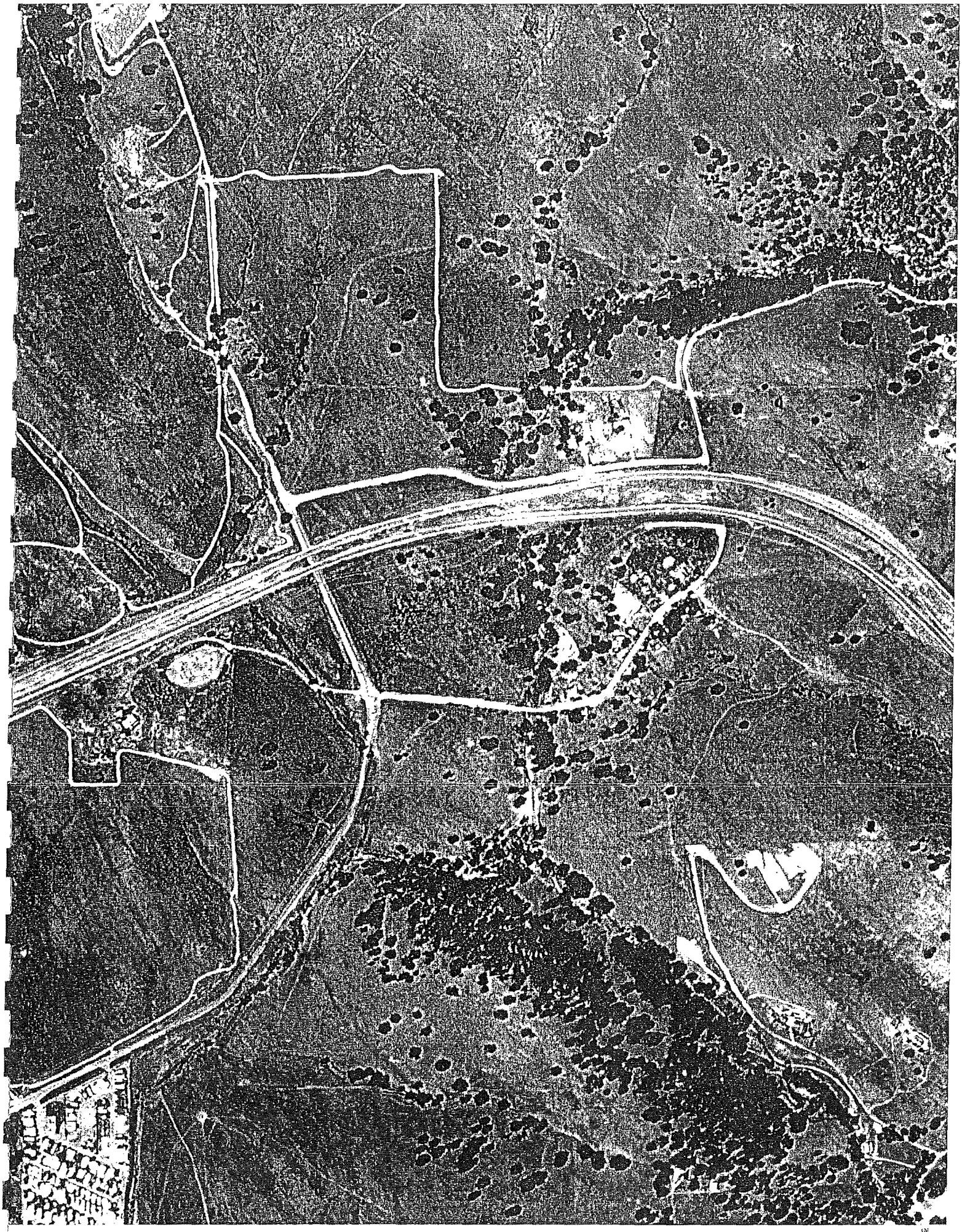
This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report AS IS. Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2005 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

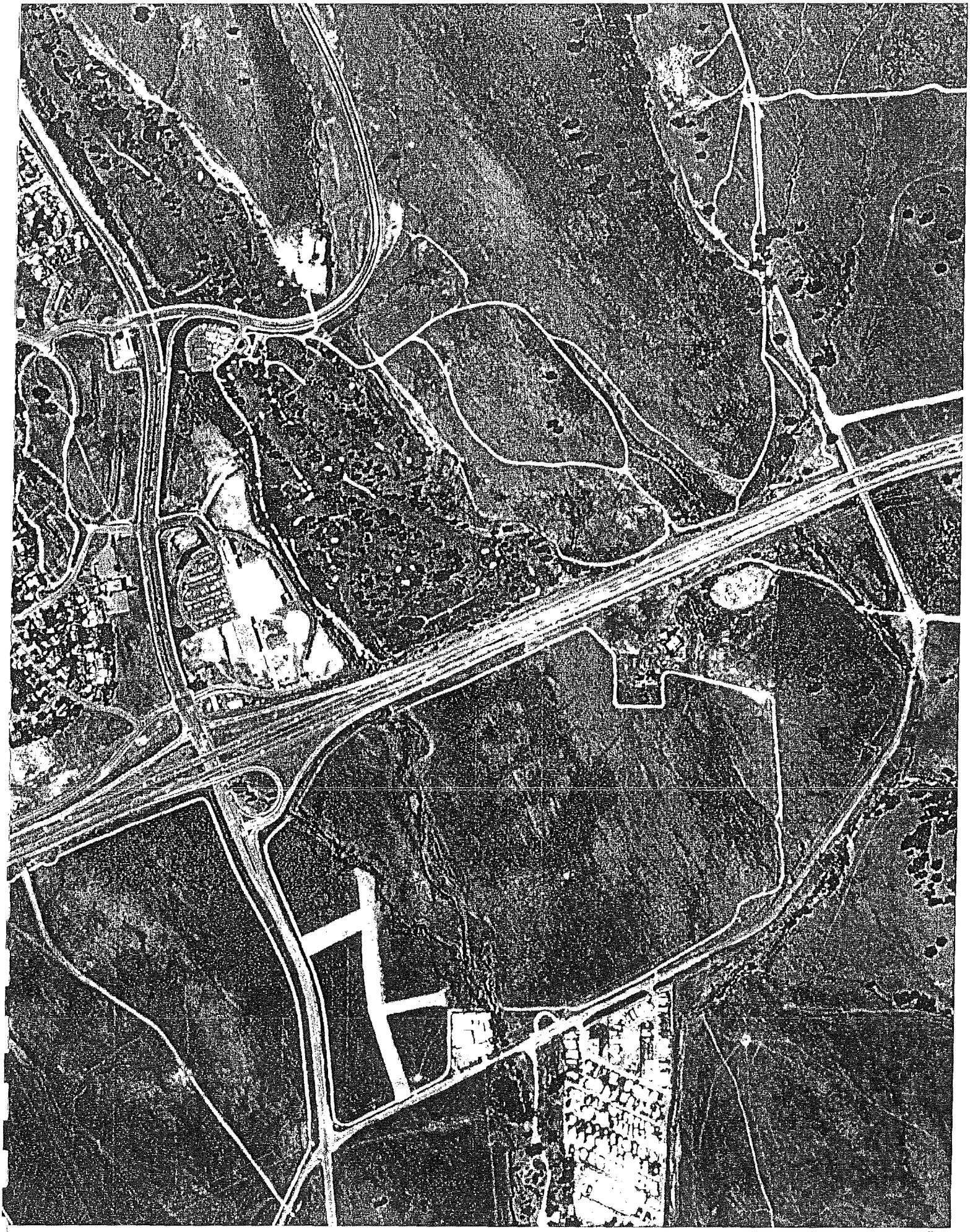
EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.



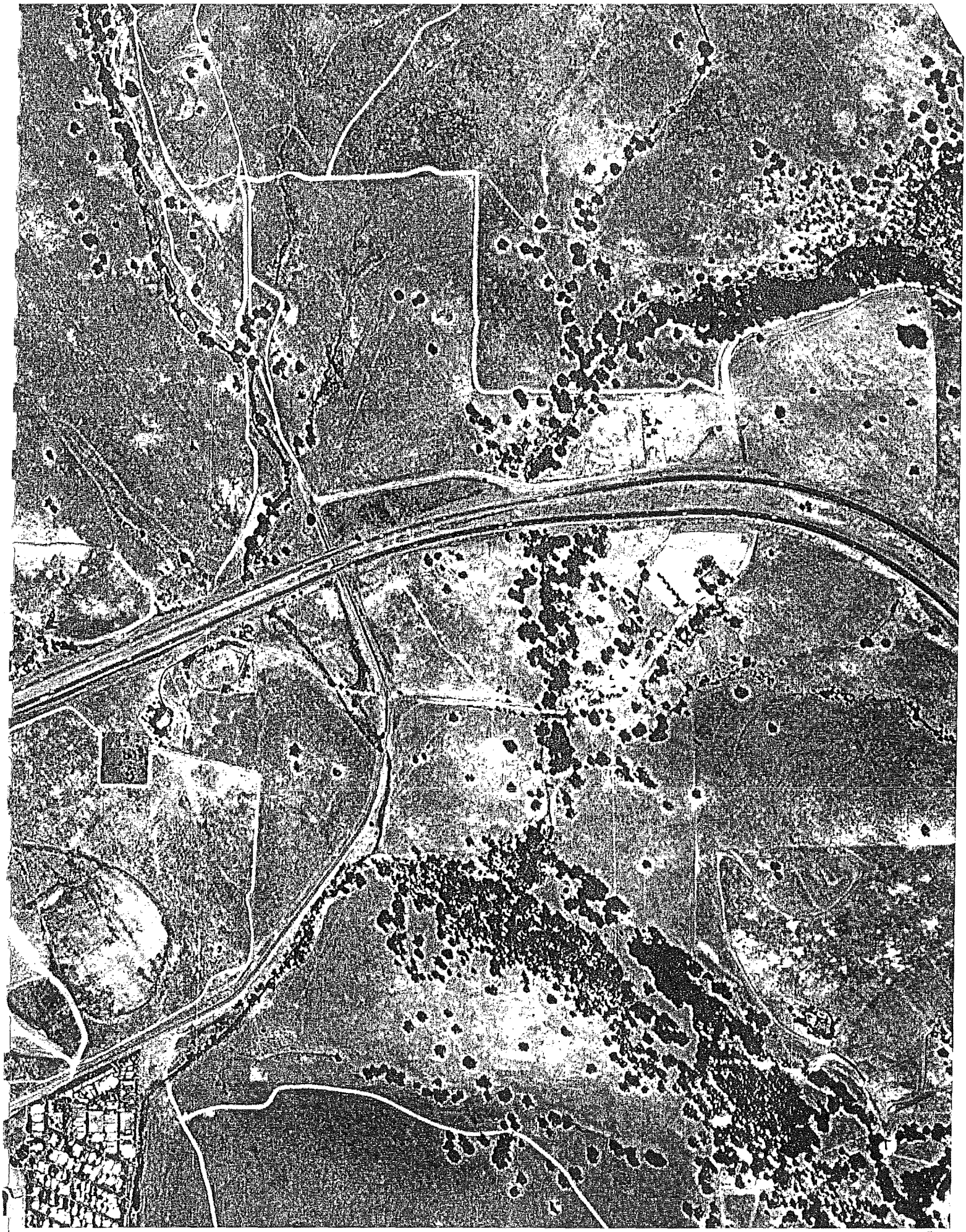
Inquiry: 1699371.1 Year: 1971 Flyer: Cartwright best copy available Scale: 1"=666'



Inquiry: 159485711 Year: 1993 Flyer: USGS Scale: 1"=666'



Inquiry: 1594857.4 Year: 1993 Flyer: USGS Scale: 1"=666'



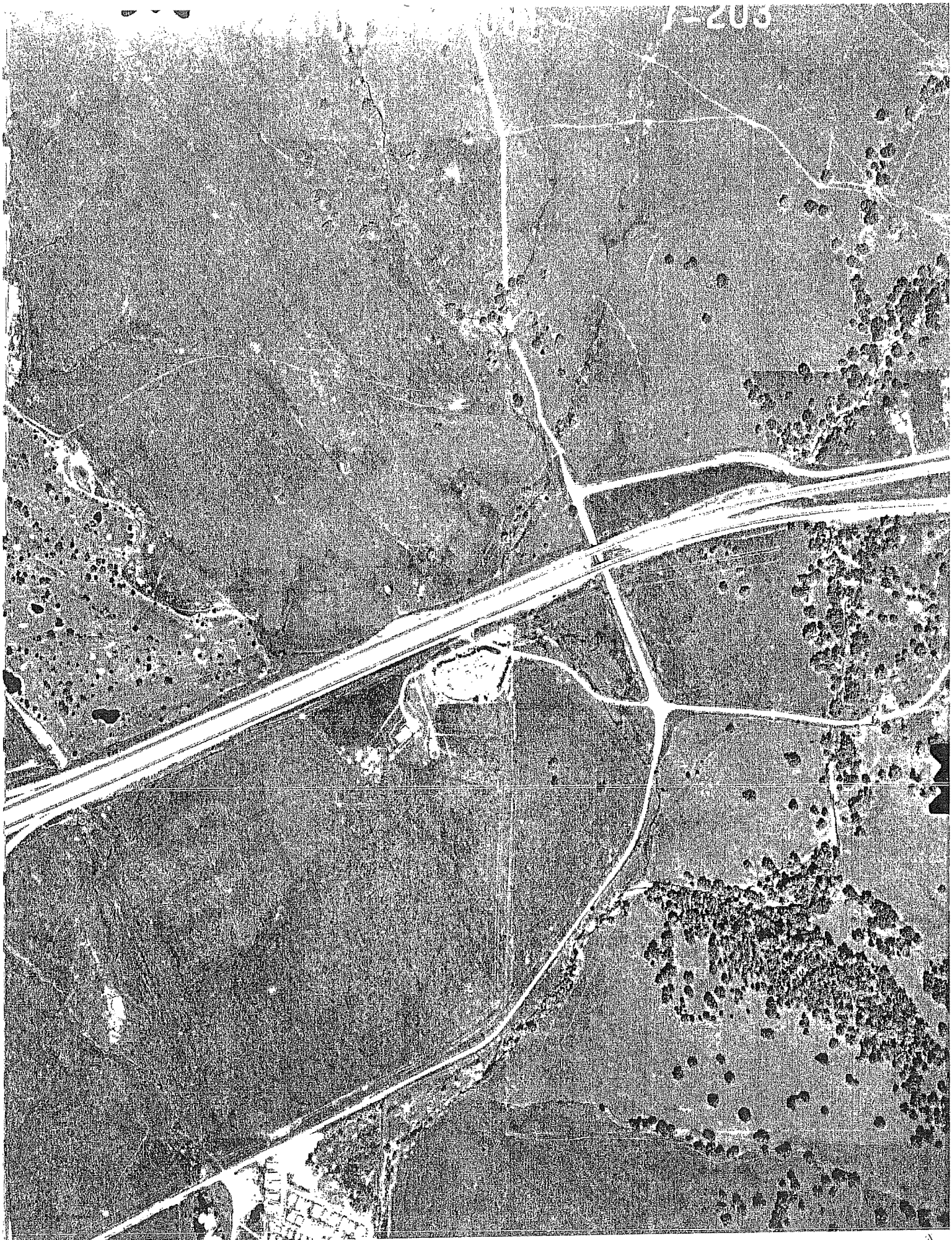
Inquiry: 1594857.11 Year: 1998 Flyer: USGS Scale: 1″=666′



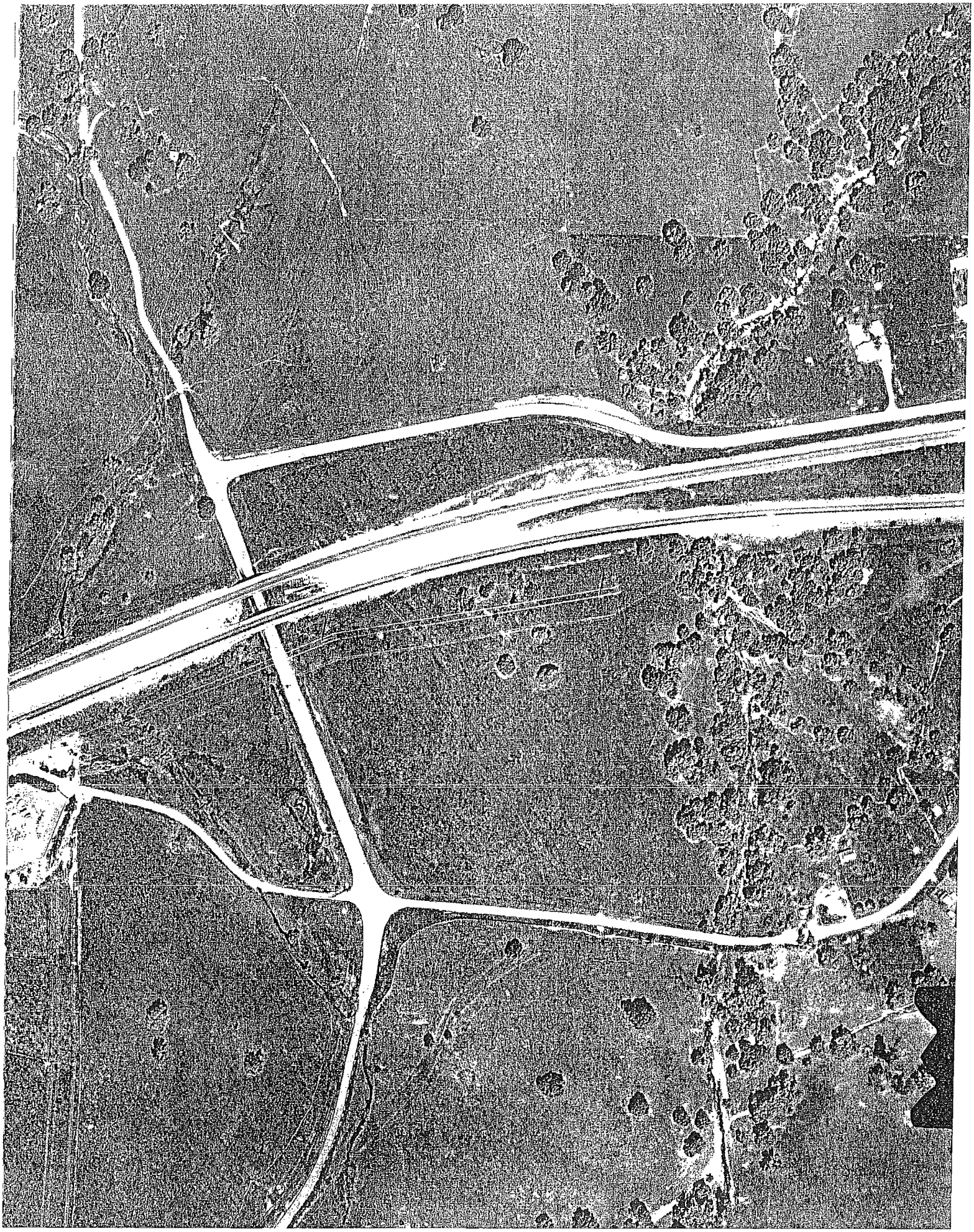
uiry: 1594857.4 Year: 1998 Flyer: USGS Scale: 1″=666′



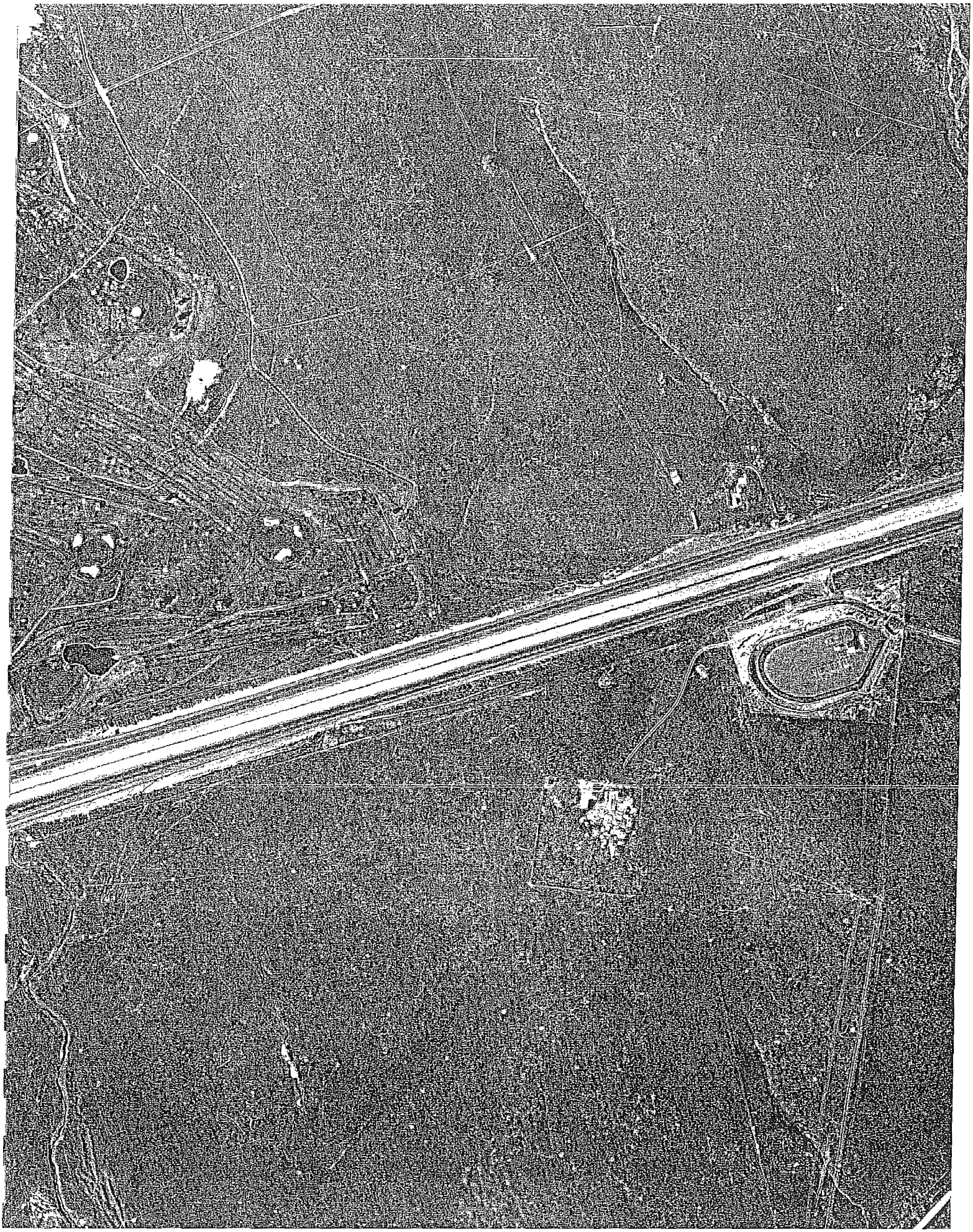
uiry:1594857.4 Year:1981 Flyer: Cartwright Scale: 1"=333'



Inquiry: 1699371.1 Year: 1981 Flyer: Cartwright Scale: 1″=666′



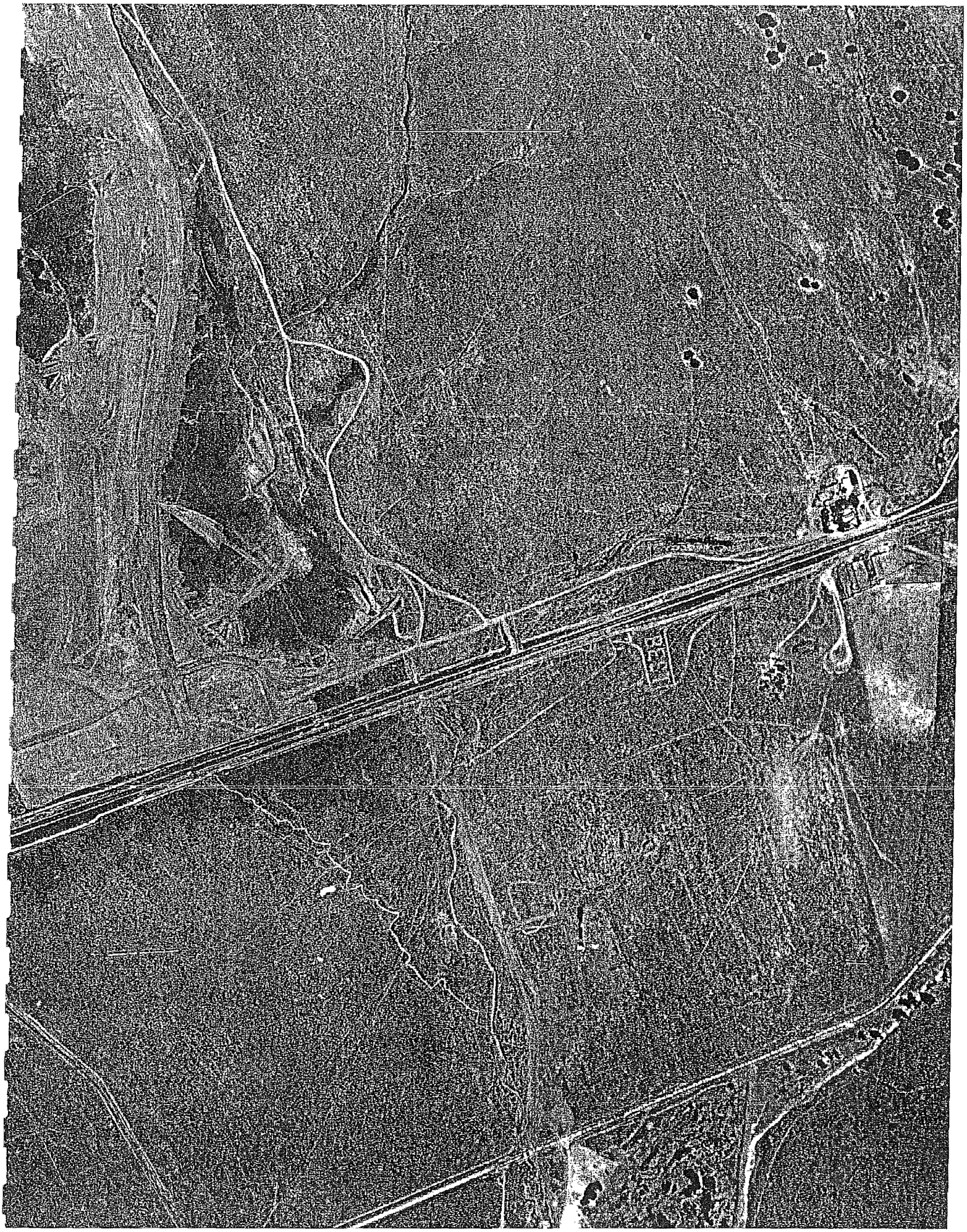
Inquiry: 1594857.11 Year: 1981 Flyer: Cartwright Scale: 1"=333'



Inquiry: 1594857.4 Year: 1971 Flyer: Cartwright Scale: 1"=333'



Inquiry: 1594857.4 Year: 1952 Flyer: Pacific Air Scale: 1″=555′



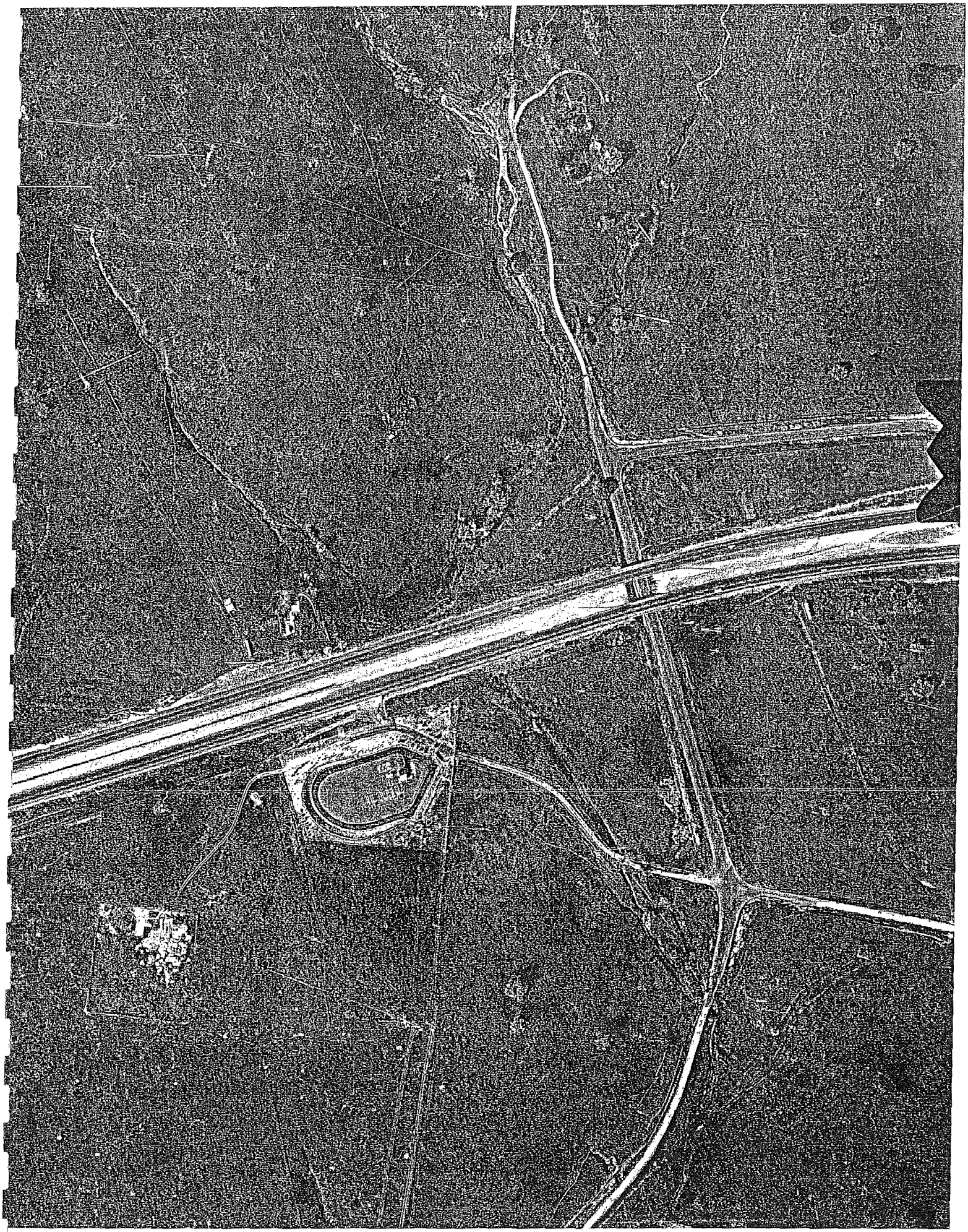
Inquiry: 1594857.4 Year: 1961 Flyer: Cartwright Scale: 1″=555′



Inquiry: 1594857.11 Year: 1961 Flyer: Cartwright Photo East Not Avail. Scale: 1"=555'



Inquiry: 1594857.11 Year: 1952 Flyer: Pacific Air Scale: 1"=555'



Inquiry: 1594857.11 Year: 1971 Flyer: Cartwright Photo East Not Avail. Scale: 1"=333'



EDR Historical Topographic Map Report

Silva Valley Parkway IC
SR 50
El Dorado Hills, CA 95762

Inquiry Number: 1594857.9

January 18, 2006

The Standard in Environmental Risk Management Information

440 Wheelers Farms Road
Milford, Connecticut 06461

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

Form-VLA

EDR Historical Topographic Map Report

Environmental Data Resources, Inc.'s (EDR) Historical Topographic Map Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR Historical Topographic Map Report includes a search of available public and private color historical topographic map collections. For more than a century, the USGS has been creating and revising topographic maps for the entire country at a variety of scales. There are about 60,000 U.S. Geological Survey (USGS) produced topographic maps covering the United States.

References

To meet the prior use requirements of ASTM E 1527-05, Section 8.3.2, the following *standard historical sources* may be used: aerial photographs, fire insurance maps, property tax files, land title records (although these cannot be the sole historical source consulted), topographic maps, city directories, building department records, or zoning/land use records. ASTM E 1527-05, Section 8.3 on Historical Use Information, identifies the prior use requirements for a Phase I environmental site assessment. ASTM E 1527-05 requires *"All obvious uses of the property shall be identified from the present, back to the property's first developed use, or back to 1940, whichever is earlier. This task requires reviewing only as many of the standard historcal sources as are necessary and both reasonably ascertainable and likely to be useful."* (ASTM E 1527-05, Section 8.3.2) *Reasonably ascertainable means information that is publicly available, obtainable from a source within reasonable time and cost constraints,and practically reviewable.*

EPA's Standards and Practices for All Appropriate Inquiries (AAI), Section § 312.24, identifies the historical sourcesof information necessary to achieve the objectives and performance factors of § 312.20. According to AAI,*"historical documents and records may include, but are not limited to, aerial photographs, fire insurance maps,building department records, chain of title documents, and land use records."*

Data Gaps

In order to address data gaps, additional sources of information may be consulted. According the AAI, Section § 312.20 (g), *"to the extent there are data gaps (as defined in § 312.10) in the information developed...that affect the ability of persons (including the environmental professional) conducting the all appropriate inquiries to identify conditions indicative of releases or threatened releases...such persons should identify such data gaps, identify the sources of information consulted to address such data gaps, and comment upon the significance of such data gaps."* According to ASTM E 1527-05, Section 8.3.2.3, "historical research is complete when either: (1) the objectives in 8.3.1 through 8.3.2.2 are achieved; or (2) data failure is encountered. Data failure occurs when all of the standard historical sources that are reasonably ascertainable and likely to be useful have been reviewed and yet the objectives have not been met....If data failure is encountered, the report shall document the failure and, if any of the standard historical sources were excluded, give the reasons for their exclusion."

Disclaimer - Copyright and Trademark Notice

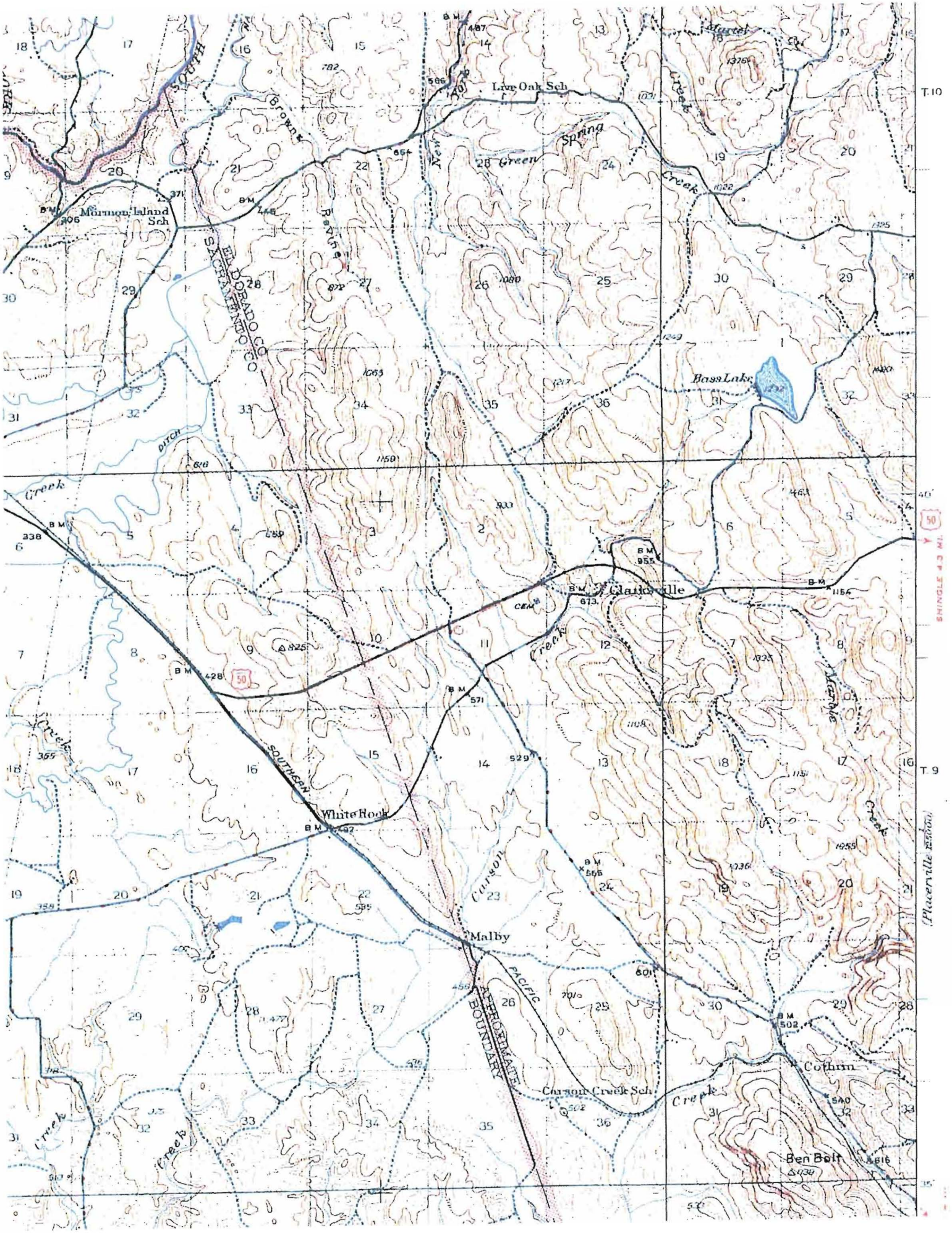
This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright © 2006 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

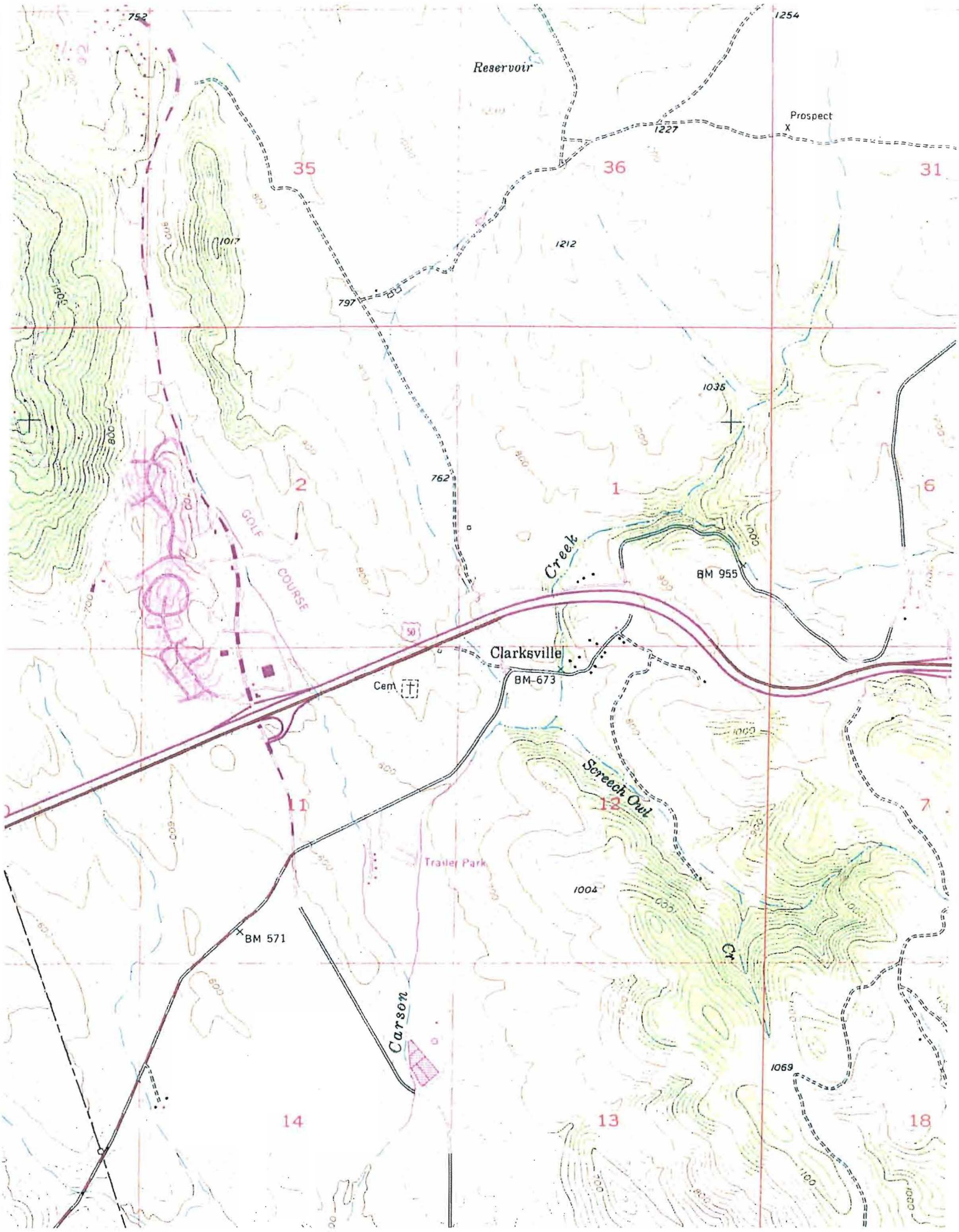
EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.



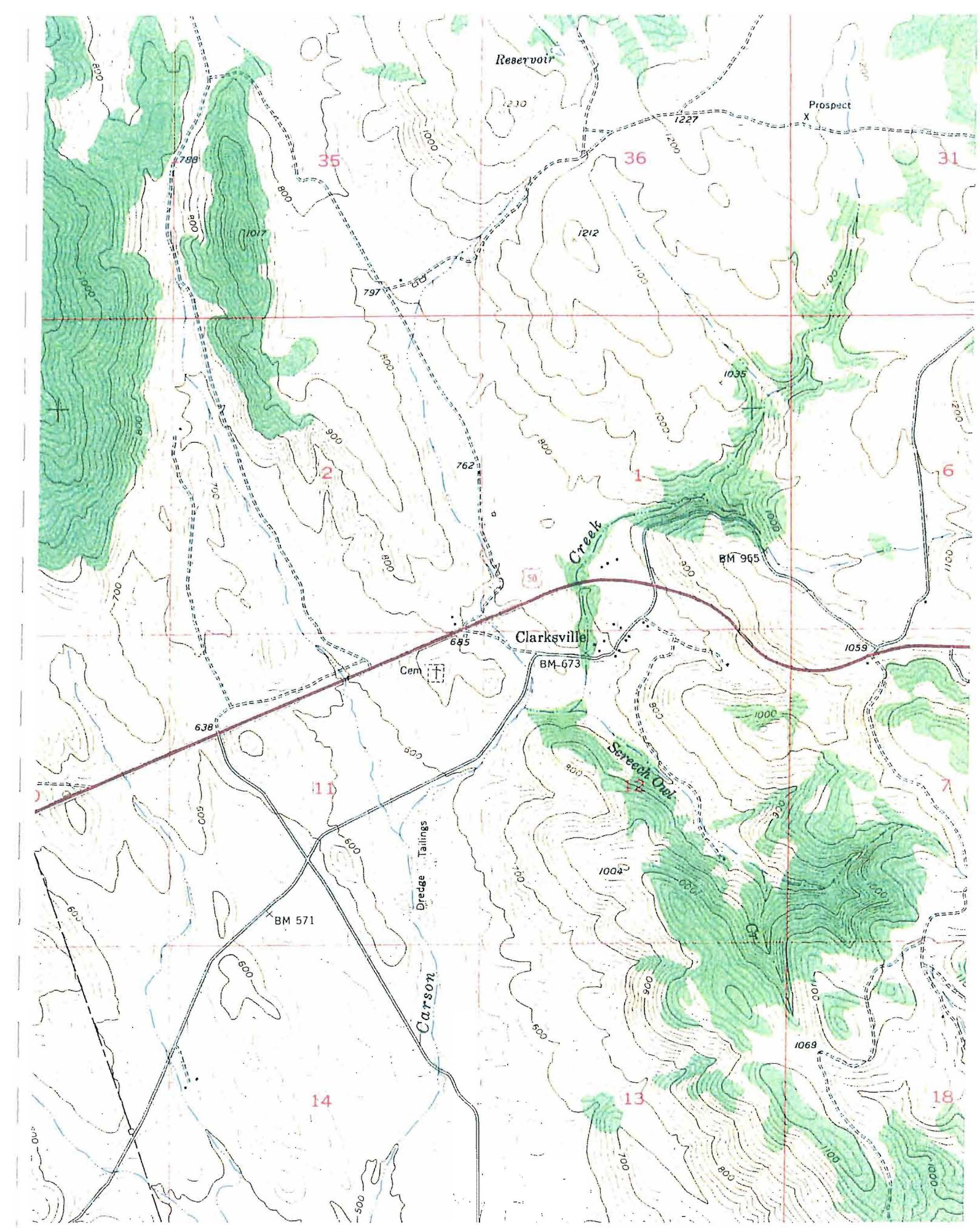
N ^ EDR INQUIRY# 1594857.3 TARGET QUAD: FOLSOM YEAR: 1944 Series: 15' Scale: 1:62,500



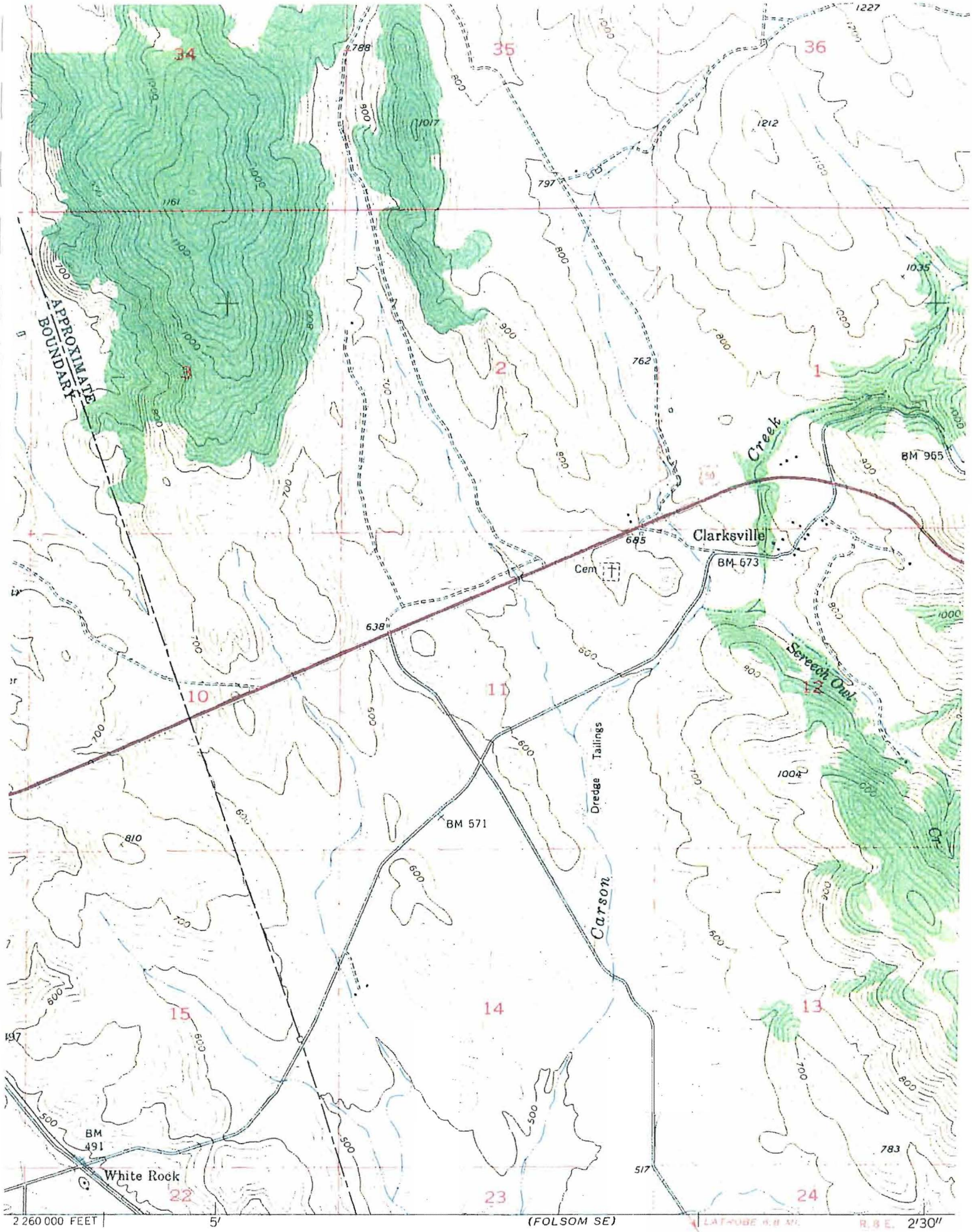
N ^ EDR INQUIRY# 1594857.9 TARGET QUAD: FOLSOM YEAR: 1944 Series: 15' Scale: 1:62,500



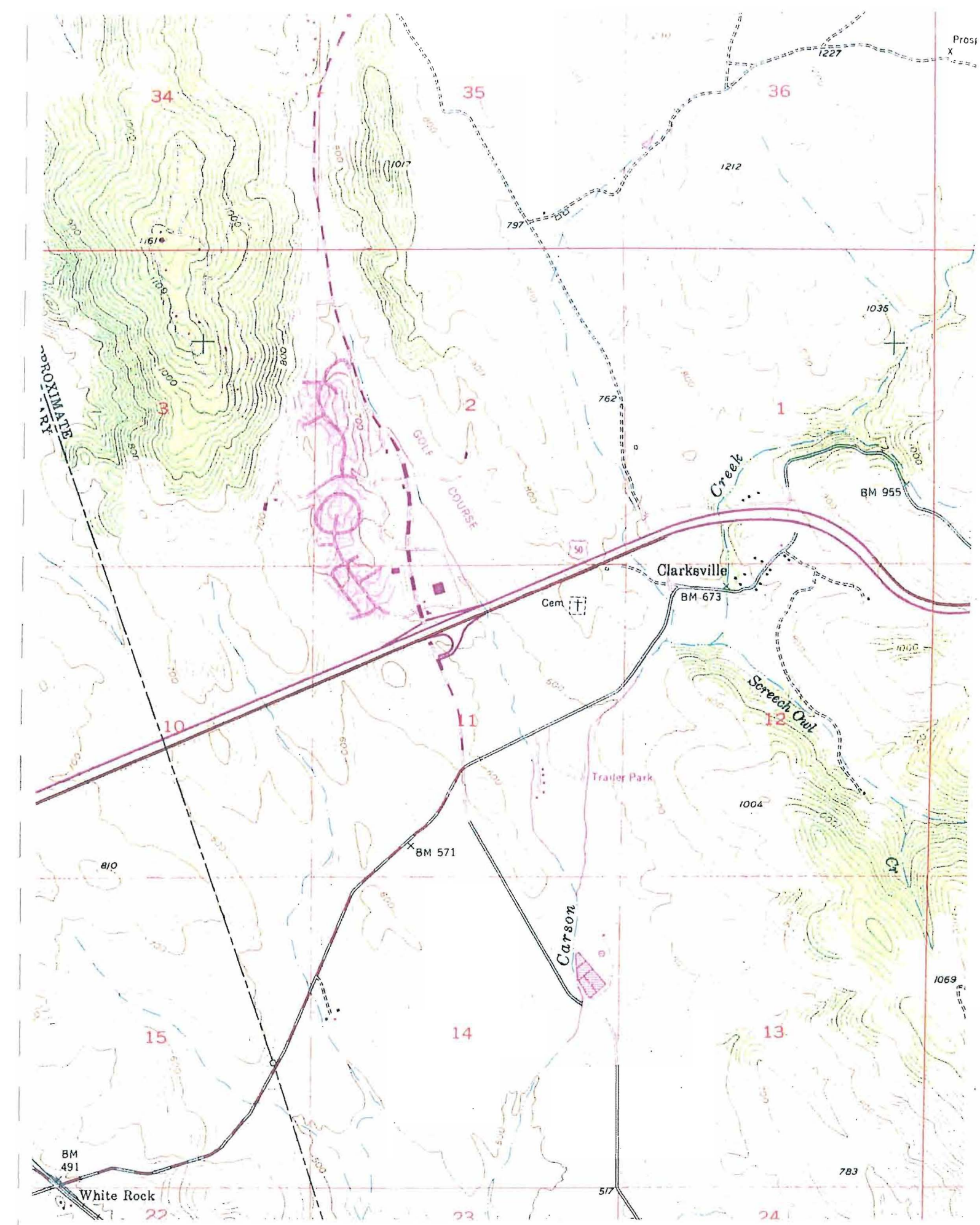
N ^ EDR INQUIRY# 1594857.9 TARGET QUAD: CLARKSVILLE PhotoRevised: 1953-1973 Series: 7.5' Scale: 1:24,000



N ^ EDR INQUIRY# 1594857.9 TARGET QUAD: CLARKSVILLE YEAR: 1953 Series: 7.5' Scale: 1:24,000



N ^ EDR INQUIRY# 1594857.3 TARGET QUAD: CLARKSVILLE YEAR: 1953 Series: 7.5' Scale: 1:24,000



N ^ EDR INQUIRY# 1594857.3 TARGET QUAD: CLARKSVILLE PhotoRevised: 1953-1973 Series: 7.5' Scale: 1:24,000

APPENDIX

B

Site Photos



Photo 1: Lot 10 – the PG&E Clarksville Substation; looking east.



Photo 2: Lot 18 – Von Hausen's Motors; looking west from Lot 17.



Photo 3: Lot 17 – Peerman Property; looking north at Lot 20. SR50 is between the hill in the foreground and the golf course.



Photo 4: - Looking west at Lot 18 and the SR50 right-of-way (fence in foreground).



Photo 5: "Mormon Tavern" - historical marker; located on Joerger Cutoff Road, between Lot 10 and SR50.



Photo 6: Lot 11 – El Dorado Hills Investors; wetlands area near Bass Lake Creek.



Photo 7: Lot 11 – Wetlands area; looking northeast from west of Silva Valley Parkway. Lot 12 and Lot 1 are in the background.



Photo 8: Lot 15 – Huddridge Partners; looking northeast from intersection of Silva Valley Pkwy. and White Rock Road.



Photo 9: Lot 16 – Huddridge Partners; looking southeast.



Photo 10: Lot 12 – El Dorado Hills Investors; looking north along Silva Valley Pkwy.



Photo 11: Lot 15 - Huddridge Partners; in foreground, Lot 1 in background; looking northeast from corner of White Rock Road and Silva Valley Pkwy.



Photo 12: Lot 16 - Huddridge Partners; looking north from White Rock Road at bridge over Carson Creek.



Photo 13: Lot 2 – El Dorado Hills Investors; looking north from Tong Road.



Photo 14: Lot 9 – El Dorado Hills Investors; Looking south with Tong Road in foreground and SR50 in background.



Photo 15: Lot 1 – EDH-52; looking southwest from Tong Road.



Photo 16: Lot 1- EDH-52; looking north from Tong Road.



Photo 17: Carson Creek, located between Lots 3 & 4. The creek flows south beneath the Tong Road embankment and then beneath SR50.



Photo 18: Lot 6 - Tong Ranch LLC; looking east along SR50, Lot 7 in right background.



Photo 19: Lot 6 – Looking north-northeast from Tong Road.



Photo 20: Lot 6 – Looking northwest from Tong Road, Lot 23 is in background.



Photo 21: Lot 6, Lot 5 (bare lot with signs) and Lot 4 (Presbyterian Church) – looking from foreground to background, respectively; WNW from Tong Road.



Photo 23: Lot 23; looking north from Lot 4.



Photo 22: Lot 23 – Serrano Associates, LLC; looking northeast from Lot 4.



Photo 24: Elementary school located north of Lot 24. Looking northeast from Silva Valley Parkway.



Photo 25: Lot 24 – Serrano Associates, LLC; looking southeast at soil stockpile, from Silva Valley Parkway.



Photo 26: Lot 14 – Tong Ranch LLC; looking east at SR50 in background.



Photo 27: Lot 14; looking northeast from White Rock Road (inside the Tong Ranch), with SR50 in background.



Photo 28: Lot 14; looking north from White Rock Road, across SR50. Lot 6 is in background.



Photo 29: Lot 14 in foreground, Lot 13 is to the left. Looking northwest across SR50 at the Presbyterian Church, located on Lot 4.



Photo 30: Lot 13 – Tong Ranch LLC; looking west at embankment fill of SR50, from dead-end of White Rock Road.



Photo 31: Lot 14; looking southwest from White Rock Road. Note the barn structure.



Photo 32: Lot 13; Looking west at the "Tong Cemetery" in background. SR50 is about 150 ft to the right in the photo.



Photo 33: Lot 13 (background) and 14 (foreground); looking west along south side of SR50.



Photo 34: Lot 14 – Tong Ranch LLC; trash and related waste materials along White Rock Road, looking south.



Photo 35: Lot 14; 55-gal drums on the Tong Ranch site (slightly out of focus).



Photo 35: Lot 14; above ground storage tanks, contents unknown. Looking south from White Rock Road.



Photo 37: Lot 14; more municipal-type "trash" on the Tong Ranch.



Photo 38: Lot 14; Chinese railroad laborers ("Coolie-built") historical rock walls along north side of White Rock Road.

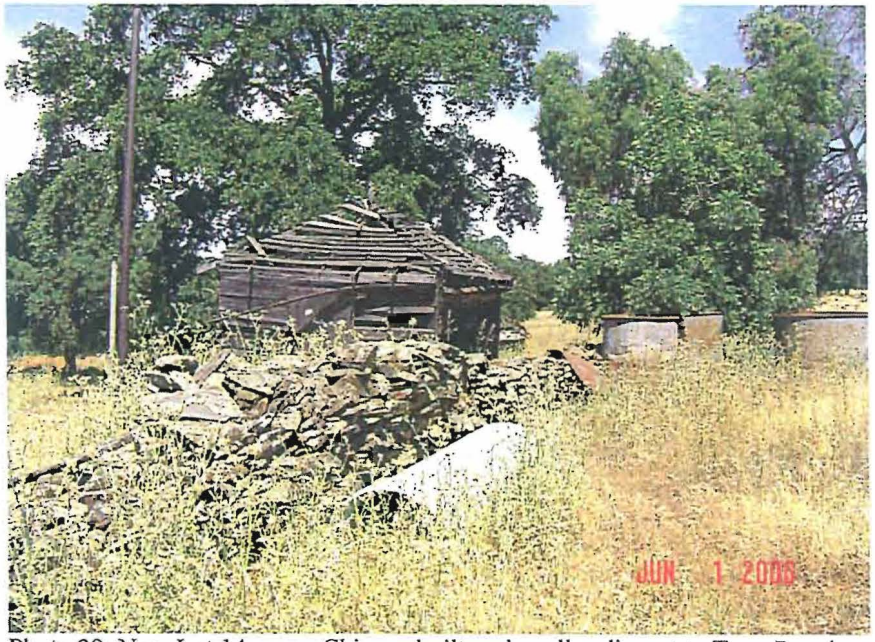


Photo 39: Near Lot 14; more Chinese-built rock walls adjacent to Tong Ranch entrance.



Photo 40: Lot 1 – EDH-52; Concrete column of an "older" structure, located north of SR50 and east of Silva Valley Parkway.



Photo 41: Lot 1; Remnant foundation structure(s); looking north. Concrete "basins" in background.



Photo 42: Lot 1; close-up of the "basin" structure. Looking north. Silva Valley Parkway can be seen on the left.



Photo 43: Lot 1; additional concrete columns, looking west along a dirt road through the site.



Photo 44: Lot 23 – Serrano Associates LLC; looking southeast from the corner of Russi Ranch Dr. and Village Green Dr. Soil stockpiles in background.



Photo 45: Lot 23, looking east. Small drainage from subdivision (to left) flows southeasterly through the lot, towards Bass Lake Creek.



Photo 47: Lot 21; looking southeast towards Silva Valley Pkwy and SR50. Tong Road is north of SR50, with adjacent Lots 1, 2, & 9. Lot 12 is in background.



Photo 46: Lot 21 – Serrano Associates LLC; looking south towards SR50, with the adjacent PG&E substation (barely visisble). Near Ponta Delgado Court (to right).



Photo 48: Lot 19 – Phoenix Pacific Co.; "Kinder Kare Learning Center" located north and adjacent of the westbound SR50 off-ramp to El Dorado Hills Boulevard.



Photo 49: Lot 19, with Lots 22 & 26 in background. Looking west, with SR50 adjacent and south.



Photo 50: Lot 22 – El Dorado Savings Bank; adjacent and west of Lot 19.



Photo 51: Lot 26 – Ahart Trust/Jones Trust; "Taco Bell" and paved parking. Located west of Lot 22



Photo 52: Lot 25 – Wilmington Trust/Tosco Trust; "Union 76" gasoline service station, located adjacent and west of Lot 22.



Photo 53: Lots 33 and 34 – Lots 33 & 34 consist of narrow strips of landscaping between the roads and the station.



Photo 54: Lot 32 – County of El Dorado with "Jack in the Box" on right. Entrance to "Shopping" area is in foreground. "Shell" service station is to left of Lot 32.



Photo 55: "Shell" service station; located between Lots 32 and 34 (the landscape area). Note the 55-gal drums, with El Dorado Hills Blvd. in background.



Photo 56: Lot 27, 30 & 31 – Town Center East LP & Syers Properties LLC; looking south across SR50 from near Lot 22.



Photo 57: Lot 27 and 31 – Town Center East LP & Syers Properties LLC; looking south across SR50 from near Lot 22.



Photo 58: Lot 28 – EDH Town Center East Owners Association; looking southeast across SR50.



Photo 59: Lot 31; Stores within the Town East Shopping Center, looking west.



Photo 60: Lot 31; "Valero" service station, looking south.



Photo 61: "Chevron" service station looking south across entrance road to the shopping center. The gas station is located south and adjacent to Lot 31.



Photo 62: Lot 21; looking northwest from SR50. Old building foundations are located to the west (left) of view shown in the photograph.



Photo 63: Lot 20 – Serrano Associates; looking north from SR50 at the golf course.



Photo 64: Road cut on SR50 looking north at Lot 21.



Photo 65: Looking west from intersection of Tong Road and Silva Valley Parkway, showing an EID-owned pump station (PS). Lot 21 in background.



Photo 66: County right-of-way along west side of Silva Valley Pkwy., showing an EID PS with above ground electrical transformers and in-ground sewer vaults.



Photo 67: EID-owned South Booster Pump Station.



Photo 68: Lot 6 - Tong Ranch, with Lot 23 in background. Looking north from the a dead-end on Tong Road (fenced gate).

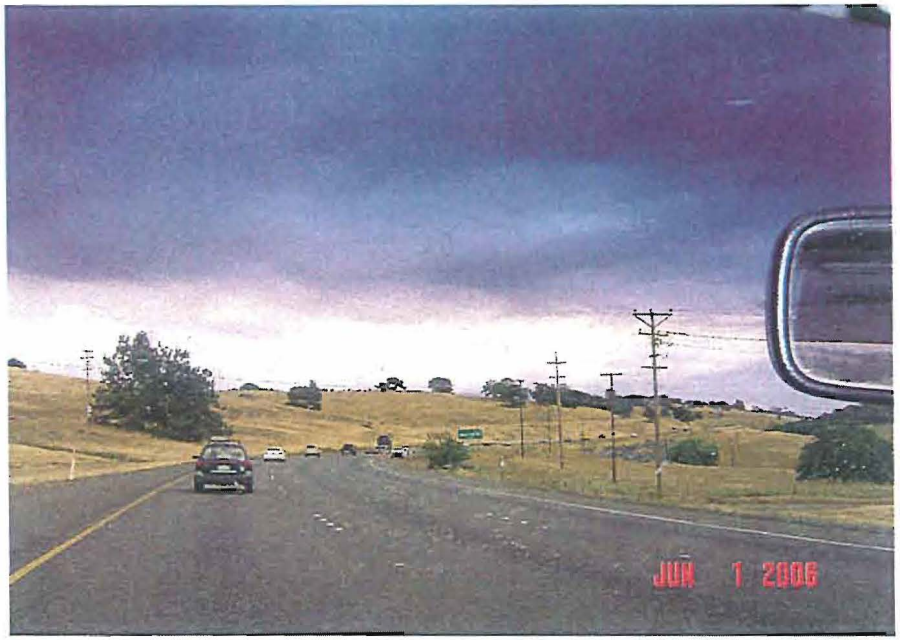


Photo 69: Looking east along SR50, with Lots 6, 7, & 8 in background (left side of SR50) and Lots 13 & 14 in background (right side of SR50).



Photo 71: Right shoulder of SR50; Lot 8 to right, and Lot 7 in background (right).



Photo 70: LOT 8 - Mohanna Property; looking west along SR 50, Lot 8 is on the north (right) shoulder.



Photo 72: Lot 7 – Mohanna property; looking west-northwest along SR50. Lot 7 is on the north (right) shoulder.

West Sacramento Office:
2491 Boatman Avenue • West Sacramento, CA 95691
(916) 375-8706 • Fax (916) 375-8709

blackburn consulting

Main Office: (530) 887-1494
11521 Blocker Drive, Suite 110 • Auburn, CA 95603
Modesto Office: (209) 522-6273

Geotechnical • Construction Services • Forensics

BCI File No. 556.1
February 23, 2010

Mr. Derek Minnema
Mark Thomas & Company, Inc.
7300 Folsom Boulevard, Suite 203
Sacramento, CA 95826

Subject: **UPDATED INITIAL SITE ASSESSMENT (ISA)**
Silva Valley Parkway/State Route 50 Interchange (03-ED-50, KP 3.1, PM 1.7)
El Dorado County, California

Dear Mr. Minnema,

Blackburn Consulting (BCI) has prepared this Update of the Initial Site Assessment dated April 2007 for the Silva Valley Parkway/Route 50 Interchange (03-ED-50, KP 3.1, PM 1.7) Project in El Dorado County, California. BCI prepared this update per your request and includes the following:

- Current Database Search. Environmental Data Resources, Inc. (EDR), a commercial data base search firm performed a radius search for the study area on February 16, 2010.
- Review of BCI's Initial Site Assessment for US 50/El Dorado Hills Boulevard Interchange (EA 03-2E5100) and Pedestrian Overcrossing Project (EA 03-2E4700) El Dorado Hills, CA, BCI File No. 1072.5 dated May 2009.
- Review of Geocon's Aerially Deposited Lead, Naturally Occurring Asbestos, and Lead Containing Paint Site Investigation and Bridge Survey/Highway 50 Report, dated March 10, 2008.
- Site Visit conducted on February 18, 2010.

The purpose of this update is to identify and discuss significant changes in site use and/or facilities that may indicate the potential for hazardous materials and/or petroleum hydrocarbon contamination within or adjacent to the project area. It is understood that the project scope includes the original thirty-four (34) parcels as identified in the 2007 Initial Site Assessment.

Based on this review, no significant changes in site use were identified. Supplemental information for several parcels was obtained and is presented below:

Parcel 25, *Wilmington Trust/Tosco Trust (Union 76) – APN 107-120-0410, El Dorado Hills Union 76, 1020 Saratoga Way*

Our recommendations regarding risks associated with this active petroleum fuel service station have not changed. Records review, however, provided the following updated information:

This service station appears to have been operating since 1971. A leaking underground storage tank (LUST) was discovered in 1987 during tank closure. The release is estimated at five hundred (500) gallons of gasoline. Following tank removal, contaminated soil was excavated and disposed of at an approved facility. Contamination was reported as "soil only" and the case was closed in 1991. Currently, four registered Underground Fuel Storage Tanks (USTs) installed in 1993 exist at the site.

Parcel 31, "*Syers Properties, LLC" (Valero Service Station) – APN 107-130-5010*

Our recommendations regarding the exiting Valero service station have not changed. Site reconnaissance, however, identified a second service station, El Dorado Hills Chevron at this parcel. We found no records of suspected soil and/or ground water contamination from the searched database. Service stations are a principal concern for subsurface contamination. If acquisition is to occur at this site we recommend further review and investigation of potential petroleum hydrocarbon impacts including an in depth records review, site inspection, and interviews with the property owner and county environmental health department.

Parcel 32 *(Adjacent) "Shell" - APN 121-180-08, 1021 Saratoga Way*

Our recommendations regarding the existing Shell service station have not changed; however, the records review (1985 City Directory) identified a dry cleaning facility (Swanson Cleaners Store 67) at this parcel where the Shell service station is now located. The records search did not indicate if underground product storage tanks were utilized for material storage, or if any releases were indicated. Dry cleaners have been associated with releases of hazardous materials, such as perchloroethylene (PCE). If acquisition occurs on this property we recommend further review and investigation of potential contaminant impacts.

AERIALLY DEPOSITED LEAD

Geocon Consultants performed ADL Testing along US 50 (PM 0.16/2.90) for the California Department of Transportation (Caltrans). In their report, titled Aerially Deposited Lead, Naturally Occurring Asbestos, and Lead Containing Paint Site Investigation and Bridge Survey Report, dated March 10, 2008, Geocon concluded that soil generated from excavations to depths between 0.0 and 3.0 feet would not be classified as California hazardous waste. Sampling, however, was conducted in the center median and not the shoulder area, therefore we recommend that Caltrans verify that the Geocon Report results are valid for this project.

NATURALLY OCCURRING ASBESTOS

Our recommendations regarding naturally occurring asbestos (NOA) have not changed. Additional supporting information is provided in Geocon's Aerially Deposited Lead, Naturally Occurring Asbestos, and Lead Containing Paint Site Investigation and Bridge Survey Report, dated March 10, 2008.

ASBESTOS CONTAINING MATERIALS (ACM)

In Geocon's Aerially Deposited Lead, Naturally Occurring Asbestos, and Lead Containing Paint Site Investigation and Bridge Survey Report, dated March 10, 2008, Geocon concluded that ACM is present in the Clarkesville Road bridge guardrail shim. The guardrail shims are classified as Category I ACM (nonfriable/nonhazardous material). National Emissions Standards for Hazardous Air Pollutants regulations do not require that the Category I material be removed prior to demolition or treated as hazardous waste; however, the disturbance of the material is still covered by the Cal-OSHA asbestos standard.

Please contact us if you have any questions concerning this report update or if we may be of further service.

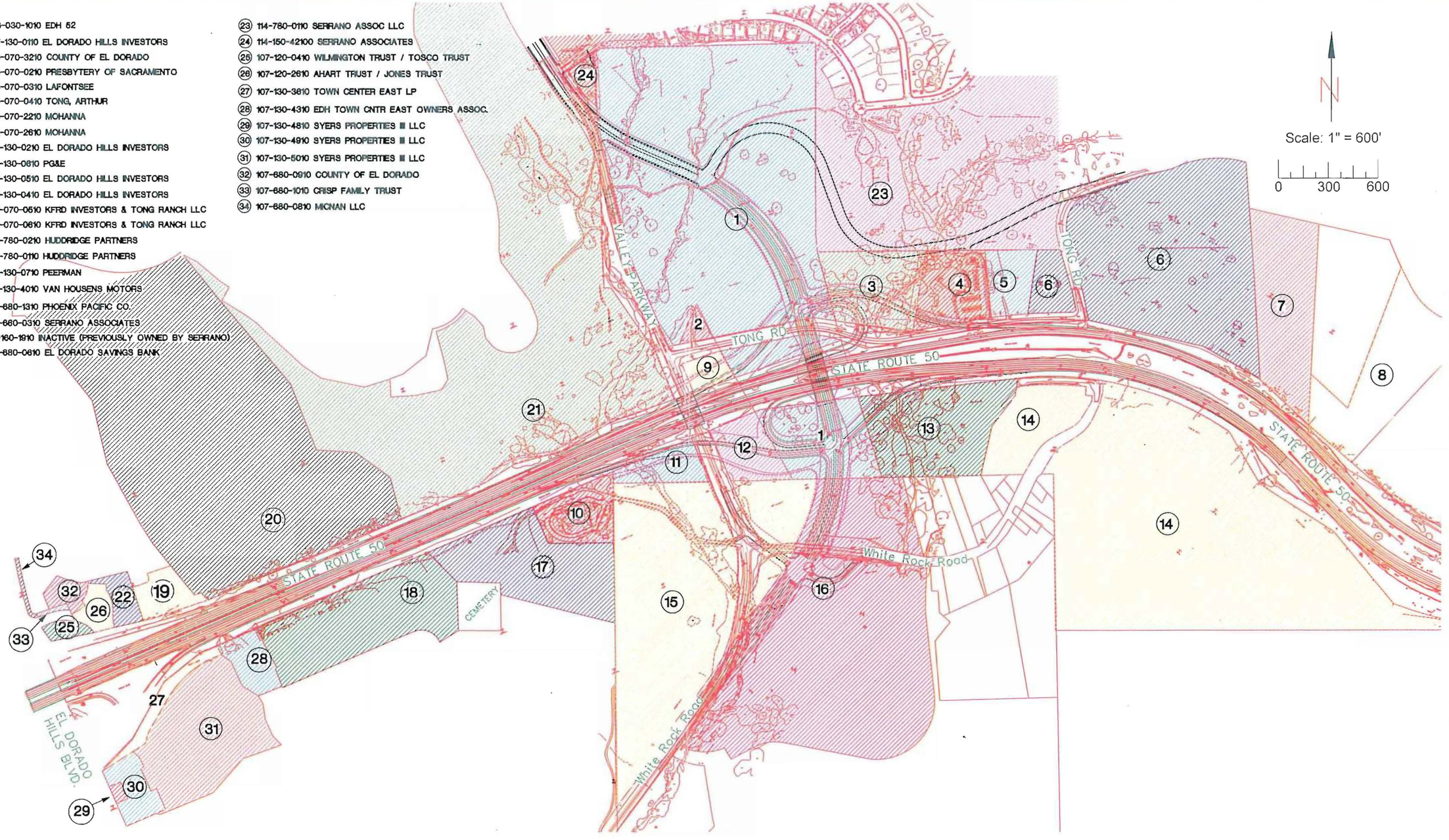
Sincerely,

BLACKBURN CONSULTING

Laura Long
Environmental Engineer

Laura Long for
Jeff Patton, P.E.
Principal Engineer

1. 108-030-1010 EDH 52
2. 107-130-0110 EL DORADO HILLS INVESTORS
3. 108-070-3210 COUNTY OF EL DORADO
4. 108-070-0210 PRESBYTERY OF SACRAMENTO
5. 108-070-0310 LAFONTSEE
6. 108-070-0410 TONG, ARTHUR
7. 108-070-2210 MOHANNA
8. 108-070-2610 MOHANNA
9. 107-130-0210 EL DORADO HILLS INVESTORS
10. 107-130-0610 PG&E
11. 107-130-0510 EL DORADO HILLS INVESTORS
12. 107-130-0410 EL DORADO HILLS INVESTORS
13. 108-070-0510 KFRD INVESTORS & TONG RANCH LLC
14. 108-070-0610 KFRD INVESTORS & TONG RANCH LLC
15. 108-780-0210 HUDDRIDGE PARTNERS
16. 108-780-0110 HUDDRIDGE PARTNERS
17. 108-130-0710 PEERMAN
18. 107-130-4010 VAN HOUSENS MOTORS
19. 107-680-1310 PHOENIX PACIFIC CO.
20. 107-680-0310 SERRANO ASSOCIATES
21. 114-160-1910 INACTIVE (PREVIOUSLY OWNED BY SERRANO)
22. 107-680-0610 EL DORADO SAVINGS BANK
23. 114-780-0110 SERRANO ASSOC LLC
24. 114-150-42100 SERRANO ASSOCIATES
25. 107-120-0410 WILMINGTON TRUST / TOSCO TRUST
26. 107-120-2610 AHART TRUST / JONES TRUST
27. 107-130-3610 TOWN CENTER EAST LP
28. 107-130-4310 EDH TOWN CNTR EAST OWNERS ASSOC.
29. 107-130-4810 SYERS PROPERTIES III LLC
30. 107-130-4910 SYERS PROPERTIES III LLC
31. 107-130-5010 SYERS PROPERTIES III LLC
32. 107-680-0910 COUNTY OF EL DORADO
33. 107-680-1010 CRISP FAMILY TRUST
34. 107-680-0810 MCNAN LLC



Adapted from: "Property Owner Information" by: Mark Thomas and Company, 2006

blackburn consulting

Blackburn Consulting, Inc.
11521 Blocker Drive, Ste 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495
www.blackburnconsulting.com

Site Plan
Silva Valley Parkway ISA
Silva Valley/SR50 Interchange Project
El Dorado Hills, California

File No. 556.1

April 2007

Figure 2

GEOTECHNICAL REPORT
EDH 52, Silva Valley Parkway at US 50
Rough Site Grading and Preliminary Foundation Design
El Dorado Hills, CA

Prepared by:

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
(530) 887-1494

March 2013

Prepared for

EDH 52 LLC
Sacramento, CA

Auburn Office:
11521 Blocker Drive, Suite 110 ▪ Auburn, CA 95603
(530) 887-1494

blackburn consulting

Fresno Office: (559) 438-8411
Modesto Office: (209) 522-6273
West Sacramento Office: (916) 375-8706

Geotechnical ▪ Geo-Environmental ▪ Construction Services ▪ Forensics

File No. 556.6
March 11, 2013

Mr. Yanni Verrios
EDH 52 LLC
7700 College Town Drive, Suite 101
Sacramento, CA 95826

Subject: Geotechnical Report
EDH 52, Silva Valley Parkway at US 50
Rough Site Grading and Preliminary Foundation Design
El Dorado Hills, California

Dear Mr. Verrios,

Blackburn Consulting (BCI) prepared this Geotechnical Report for the EDH 52 site rough grading in accordance with our proposal dated January 15, 2013. Below, we present a summary of site conditions and recommendations for rough site grading and preliminary foundation design.

Thank you for selecting us to be on the design team. Please call if you have questions.

Sincerely,

BLACKBURN CONSULTING

Patrick Fischer, P.E., C.E.G.
Engineering Geologist, Principal

PROFESSIONAL GEOLOGIST
PATRICK F. FISCHER
No. 1739
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

Thomas Blackburn, P.E., G.E.
Geotechnical Engineer, President

REGISTERED PROFESSIONAL ENGINEER
THOMAS W. BLACKBURN
No. 2311
Exp. 6/14
GEOTECHNICAL
STATE OF CALIFORNIA

GEOTECHNICAL REPORT

EDH 52, Silva Valley Parkway at US 50

Rough Site Grading and Preliminary Foundation Design

El Dorado Hills, California

TABLE OF CONTENTS

INTRODUCTION **1**
Purpose 1
Scope of Services 1
PROJECT LOCATION AND DESCRIPTION **1**
Project Location 1
Project Description 1
GEOLOGIC CONDITIONS **2**
General Geology 2
Faulting 3
Naturally Occurring Asbestos Minerals 4
FIELD INVESTIGATION AND LABORATORY TESTING **4**
Exploratory Borings 4
Exploratory Test Pits 4
Laboratory Tests 5
Seismic Refraction Survey 5
Existing Subsurface Information 6
SITE CONDITIONS **6**
Surface Conditions 6
Subsurface Soil and Rock Conditions 7
Groundwater 8
Seismic Refraction Profiling 8
CONCLUSIONS AND RECOMMENDATIONS **8**
General Site Suitability 8
Slope Stability and Slope Construction 9
Grading 9
FOUNDATIONS **15**
Bearing Capacity 15
Settlement 15
Seismic Design 16
CONCRETE SLABS-ON-GRADE **17**
Design Recommendations for Geotechnical Support 17
Design Considerations for Moisture 18
PRELIMINARY PAVEMENT DESIGN **18**
Preliminary Structural Sections 18
Pavement Subgrade Preparation 19
UNDERGROUND UTILITY CONSTRUCTION **19**
PRELIMINARY SOIL CORROSIVITY **20**
NATURALLY OCCURRING ASBESTOS **21**
RISK MANAGEMENT **21**
LIMITATIONS **22**

TABLE OF CONTENTS (continued)

FIGURES

Figure 1 – Vicinity Map
Figure 2 – Site Map
Figure 3 – Geologic Map
Figure 4 – Subdrain Detail

APPENDIX A

Exploration Notes
Boring and Test Pit Logs
Rock Core and Test Pit Photographs

APPENDIX B

Laboratory Test Results

APPENDIX C

Seismic Refraction Notes
Seismic Refraction Profiles (SR1 to SR5)

APPENDIX D

Silva Valley Parkway Interchange Investigation Logs (excerpt from BCI, 2012)

INTRODUCTION

Purpose

This report is for rough grading and preliminary foundation design, pavement, and utility installation considerations; final geotechnical design recommendations will be necessary following rough grading and determination of actual improvements. Do not rely upon this report for different locations or improvements without the written consent of BCI.

Scope of Services

To prepare this report, BCI:

- Reviewed our previously obtained subsurface data and analyses for the Silva Valley Parkway Interchange project
- Drilled, sampled, and logged four borings
- Excavated, sampled, and logged 11 test pits
- Performed a site review and reconnaissance
- Performed laboratory tests including a compaction curve, direct shear, moisture density, and rock compression testing
- Compiled existing and new subsurface data
- Performed engineering analyses.

PROJECT LOCATION AND DESCRIPTION

Project Location

The EDH 52 site is a roughly rectangular parcel of land located at the northeast corner of the intersection of Silva Valley Parkway and Tong Road (just north of Highway 50), in El Dorado Hills, California. Figure 1 (attached) shows the approximate site location.

Project Description

Based on the rough grading plans dated January 2013, the EDH 52 site will be split diagonally by the new Silva Valley Parkway which will be constructed as part of the new interchange. Two large commercial lots, Area 1 in the southwest portion and Area 2 in the northeast portion, will be created by the split. The Site Map, attached as Figure 2, shows the general site layout.

Rough grading will create a flat building pad along the south side of Area 1 that will then slope gently up to the north. A flat building pad will also be created along the east side of Area 2 that will then slope gently down to the west. Significant cut and fill are proposed for rough grading in each area.

In Area 1, cuts will generally occur along the east and north sides and fills along the west side. Rough Grading Plans provided by RSC Engineering (1/23/2013) show planned cuts along the east side are up to a maximum of approximately 28 feet in height and fills along the west side are up to approximately 30 feet deep. In general, cut slopes will be created along the east side of Area 1 (below the new Silva Valley Parkway) and fill slopes along the south and west sides (along the existing Silva Valley Parkway). Cut slopes are proposed at gradients of 2:1 to 4:1 (horizontal to vertical) and fill slopes at 2:1 or flatter with most slopes at a gradient of 2:1. Drainages cross the central portion and north end of Area 1 in a southwesterly direction; the central drainage will likely be filled and the other may be filled depending on the final rough grading alternative selected.

In Area 2, cuts will generally occur along the east side and fills in the central and west side. Planned cuts along the east side are up to a maximum of approximately 35 feet in height and fills are up to approximately 25 feet deep. Cut slopes will be created along the south, east, and north sides of Area 2 and fill slopes along the south and west sides. Cut and fill slopes are proposed at a gradient of 2:1. Drainages cross the central and western portion of Area 2 in a southwesterly direction; the central drainage may be filled depending on the final rough grading alternative selected and the western drainage will not be filled.

Structure and foundation details are not known at this time but we assume conventional slab-on-grade commercial/retail structures, likely concrete tilt-up, with light to moderate loads on shallow spread and strip footing foundations.

GEOLOGIC CONDITIONS

General Geology

The project site is located within the foothills of the Sierra Nevada Geomorphic Province of California. The Sierra Nevada has a general northwest topographic/structural trend and is on the order of 430 miles long and 40 to 80 miles wide. The mountain ranges of the Sierra Nevada were created roughly 120 to 130 million years ago when sediments as thick as 30,000 feet along with volcanic rocks were buckled and warped resulting in a series of low mountain ranges. The roots of these mountain ranges were then intruded by granitic rock.

The Sierra Nevada was tilted upward along faulting at the eastern edge. In the higher elevations, much of the younger sedimentary material and older metamorphic rock has been eroded and exposes the granitic rock. In the lower foothills of the Sierra Nevada, the older metamorphic rocks remain and are exposed at the surface.

Much of El Dorado County is underlain by Mesozoic-age metavolcanic and metasedimentary rocks and metavolcanic rock occurs at relatively shallow depths throughout the project site. Published geologic mapping by Wagner[1] and Busch[2] shows Jurassic-age metavolcanic rock at the project site. Our site review and subsurface work confirm the presence of shallow, metavolcanic rock. The Geologic Map, attached as Figure 3, shows the local site geology.

Regional rock structure is dominated by northwest trending foliation and northwest trending faults and fault zones that mark the boundaries of major rock types. Rock structure that we mapped within the project area has a predominant foliation with a general strike of north, 35° to 40° west, and a steep dip of 70°-90° to the northeast.

Rock is exposed intermittently on the surface of the site. We did not observe indications of slope instability on the natural slopes in the area.

Faulting

Active or potentially active faults have not been mapped on or near the site. In general, faults with Historic or Holocene (last 10,000 to 11,000 years) rupture are often considered "active." Late Quaternary or Quaternary age faults are often referred to as "potentially active."

Our review of published geologic mapping and site review did not reveal the presence of Late Quaternary (displacement within the last 700,000 years) or younger faults within or adjacent to the project site.

The site does not lie within or adjacent to an Alquist–Priolo Earthquake Fault Zone for fault rupture hazard (Bryant and Hart, 2007)[3], and no known active faults are mapped with the project area. Busch (2001) shows the main trace of the West Bear Mountains Fault crossing US 50 approximately 3,100 feet west of the existing Silva Valley Parkway and a north-south trending splay associated with this fault crossing US 50 approximately 1,200 feet to the west. Jennings (2010)[4] shows the West Bear Mountains Fault as Pre-Quaternary in age and is not considered as an active seismic source. We consider the potential for fault rupture at the site to be low.

---

[1] Wagner, D.L. et al, "Geologic Map of the Sacramento Quadrangle, California", California Geological Survey, Map No. 1A, 1981, revised 1987.
[2] Busch, "Generalized Geologic Map of El Dorado County, California", June, 2001, California Geological Survey, OFR 2000-03.
[3] Fault Rupture Hazard Zones in California, Special Publication 42, Interim Revision; California Geological Survey
[4] Jennings, C.W. and Bryant, W.A., 2010 Fault Activity Map of California, Geologic Data Map No. 6; California Geological Survey

Naturally Occurring Asbestos Minerals

Published mapping and our site review does not indicate that the project is within an ultramafic rock area which is typical host rock for naturally occurring asbestos (NOA) minerals; however, ultramafic rock and faulting are mapped nearby and NOA can potentially occur in the area.

Geologic mapping by Churchill[5] shows an "area more likely to contain naturally occurring asbestos" (NOA) about one mile north of the existing Silva Valley Parkway and also east of Bass Lake Road (over 1 mile east of the site). The map shows the project area to be within an area "that probably does not contain asbestos." Mapping by Bruyn[6], shows the western third of Area 1 (along the existing Silva Valley Parkway) as within an Asbestos Review Area identified as "Quarter Mile Buffer for More Likely to Contain Asbestos or Fault Line".

FIELD INVESTIGATION AND LABORATORY TESTING

To characterize the subsurface soil and rock conditions at the site, BCI observed and logged four borings (B1-B4) and 11 test pits (TP1-TP11). We field located exploration locations by taping and pacing from features shown on the topographic map; therefore, consider exploration locations and elevations shown as approximate.

Exploratory Borings

Taber Drilling drilled and sampled four exploratory borings in February 2013. Boring depths range from 24.2 to 40 feet below ground surface (bgs). BCI planned the general location of the borings based on existing data, planned rough grade, and site accessibility. The depth of the borings is based on the proposed rough grade elevation (excavation depths). Figure 2 shows the approximate boring locations and Appendix A has a discussion of drilling and sampling procedures, logs of the borings, and photographs of rock core.

Exploratory Test Pits

Burke Backhoe excavated 11 test pits with a Caterpillar 430D backhoe equipped with a 2-foot wide bucket in February 2013. The backhoe weighs approximately 14,500 pounds. Typical trenches were 2 to 3 feet wide, 8 to 12 feet long, and 3 to 8 feet deep. Figure 2 shows the approximate test pit locations and Appendix A has a discussion of excavation details and logs and photographs of the test pits.

[5] Churchill, 2000, Areas More Likely to Contain Natural Occurrences of Asbestos in Western El Dorado County, California; California Geological Survey, OFR 2000-002.
[6] Bruyn, 2005, Asbestos Review Areas, Western Slope, County of El Dorado, State of California; El Dorado County, Environmental Management

Laboratory Tests

In addition to the field penetration tests and pocket penetrometer field testing, we completed the following laboratory tests on representative soil samples from our borings and test pits:

- Moisture Content (ASTM D 2216) and Unit Weight (ASTM D 2937) for soil classification and in-place soil characteristics.
- Direct Shear (ASTM D 3080) for soil strength.
- Unconfined Compression (ASTM D 2938) for rock strength.
- Liquid and Plastic (Atterberg) Limits (ASTM D 4318) for soil classification and characteristics
- Maximum Dry Density (ASTM D 1557) for compaction characteristics.

Moisture and density tests indicate that the dry density of the shallow soils and weathered rock generally range from 100 to 108 pounds per cubic foot (pcf) with moisture contents generally in the range of 18% to 22%.

A direct shear test on a mix of soil and weathered rock (clayey sand with gravel) indicates an internal friction angle of 36 degrees and cohesion of 219 pounds per square foot (psf) at normal loads of 1000, 2000, and 3000 psf.

Unconfined compressive strength tests on rock resulted in values that range from 3,200 pounds per square inch (psi) to 17,370 psi. The unit weight of the rock varies from 174 pcf to 184 pcf.

Liquid and Plastic Limit tests confirm the presence of low plasticity silts, with a Plasticity Index of 3, in the upper 1 to 2 feet of soil.

Maximum dry density tests on mixed surface soils and weathered rock is 134.1 to 135.4 pcf at an optimum moisture content of 8.7% and 8.0%.

We attach complete laboratory test results in Appendix B and show selected results on the boring logs in Appendix A.

Seismic Refraction Survey

Seismic refraction profiling is the process by which seismic waves are produced, recorded and analyzed to determine the seismic velocity of subsurface materials. The seismic velocity of the subsurface materials can be correlated to soil and rock types, and rock weathering and competency.

We performed our seismic refraction fieldwork in January 2013. Refraction work consisted of 5 survey lines (SR1 to SR5), each 110 feet in length. The location of our refraction work is based on the rough grading plan and where significant cuts are proposed.

Our Professional Geologist led the field exercises, monitored the data acquisition, and used the computer program SeisImager by Geometrics, Inc. to analyze the acquired data. Figure 2 shows the approximate location of each seismic refraction survey. Appendix C contains a discussion of data retrieval procedures and the interpreted seismic profiles.

Existing Subsurface Information

BCI completed subsurface exploration (borings and test pits) in the project area for the planned Silva Valley Parkway Interchange[7]. Some of this information was collected within or adjacent to the EDH 52 project site. We use the information from these additional exploration points to supplement this evaluation. Figure 2 shows the location of these additional borings and test pits and we include the logs in Appendix D.

SITE CONDITIONS

Surface Conditions

In general, the site is located along the westerly flank of a northwest trending ridge with south-southwest flowing drainages. Natural slope gradients range from a low of approximately 3% (within the drainage areas) to as steep as 25% (4:1, horizontal to vertical) in the northeastern portion of the site. Elevations across the site range from a low of approximately 695 feet in the southwestern portion of the site to a high of approximately 793 feet in the northeast. Figure 1 shows the regional topography and Figure 2, Site Map, shows site details.

The site is covered with moderately dense grasses with scattered oak on knoll tops. Oak and other brush occurs along the drainages particularly in the northwest corner of the site. A thin (1 to 3 inch) layer of organic debris typically covers the ground surface.

Two well-defined drainages are present along the western half of the site (in Area 1 and Area 2, see Figure 2). The drainages flow south-southwest and across Silva Valley Parkway. At the time of our fieldwork, only the more westerly drainage had water in it (several inches with low flow). Flow in this drainage appears to emanate from piping (covered in dense vegetation) below an off-site fill at the north end.

Other surface features of significance include the following (see Figure 2 for approximate locations):

- Soil stockpile in the east-central portion of the site (southeast corner of Area 2)
- Old excavated wells or cisterns. One in the northwestern corner of the site (west end of Area 2 along the drainage) that is approximately 5.5 ft in diameter, and one in the north-central portion of the site (center of Area 2) that is approximately 4 ft in diameter. Depths are unknown.
- Structure remnants on the knoll top in the west-central portion (north end of Area 1)
- Old dam in the drainage at the west central portion (central portion of Area 1)

[7] BCI, 2012, Geotechnical Design Report, US50, Silva Valley Parkway Interchange, Phase 1, El Dorado County, California, 03-ED-50, PM 1.07/R2.40, EA 03-1E2901; Consultants Report to Mark Thomas & Co., Inc.

Tong Road, which will be realigned with the interchange project, traverses the southwest corner of the site. Minor cut slopes exist along Tong Road and along Silva Valley Parkway at the south end of the site. The soil and rock exposed in these slopes stands without significant sloughing or erosion issues (except where water has been directed down a dirt road).

In general, most of the site is undisturbed and we did not observe significant amounts of existing fill or cut area on site. We did observe some existing fill where the new Silva Valley Parkway will cross the most westerly drainage (primarily within the road right-of-way). Also, areas of disturbed ground (minor excavated areas and mounds of soil) occur in and adjacent to the drainage located east of the remnant structures in Area 1.

Subsurface Soil and Rock Conditions

Soil and rock conditions are relatively uniform across the site. In general, we observed 1 to 3 feet of stiff, sandy silt (ML) over weathered metavolcanic rock. We briefly describe the soil and rock conditions below. Refer to the Boring and Test Pit Logs in Appendix A for more specific subsurface conditions in each area.

In Area 1(southwest portion of the site) we typically encountered the following profile:

- 1 to 2 feet of soil that consists of brown, stiff sandy silt with gravel, over
- 1.5 to 5 feet of decomposed to intensely weathered, metavolcanic rock, over
- Intensely to moderately weathered rock to depths of 5.5 to 8 feet where refusal to excavation with the backhoe was encountered. Our borings and seismic refraction work show that rock below this depth becomes progressively less weathered and harder with depth.

In Area 2(northeast portion of the site) we typically encountered the following profile:

- 0.5 to 2 feet of soil that consists of brown to reddish brown, stiff sandy silt, over
- 0 to 7 feet of decomposed to intensely weathered, metavolcanic rock, over
- Intensely to moderately weathered rock to depths of 2 to 15 feet. Refusal to excavation with the backhoe was encountered at depths of 2.5 to 7.5 feet. Our borings and seismic refraction work show that rock below these depths becomes progressively less weathered and harder with depth.

We observed the rock to be intensely to moderately fractured with a predominant/pervasive foliation fracture that has a north-northwest strike and steep dip to the east. Other fracturing we observed appears to be mostly random (no preferred or repeated orientation observed).

Probing of the drainages with a rod indicates that generally 1 to 3 feet of soft or loose soil is present at the surface. Saturated soil conditions can (and do) occur within the drainages.

Groundwater

We did not encounter groundwater in any of our borings or test pits. The borings were cored below augerable depths and the presence of groundwater could not be confirmed at core depths because water is used in the coring process. We did not observe active springs or seeps within the site; however, water was standing in the drainage in the northwest corner of the site at the time of our field investigation.

Based on our experience in the area, groundwater can occur at isolated locations within the fractured rock, and an accumulation of water often occurs near the soil rock interface during and for several months following the rainy season.

Seismic Refraction Profiling

We completed seismic refraction surveys at 5 locations across the site and recorded seismic velocities from ±2,000 to over ±20,000 feet per second (fps). Based on mapped ground conditions and the materials encountered in our borings, we estimate that residual soils have a seismic velocity of 2,000 to 3,000 fps, or less. The underlying metavolcanic rock has velocities ranging from 3,000 to 20,000 fps or higher, depending on the depth, general weathering conditions, and rock fracturing. In general, the less weathered and less fractured the underlying rock, the greater the seismic velocity.

For profiles at each seismic refraction location, refer to the Seismic Refraction Profiles in Appendix C. The refraction surveys reflect average rock conditions; harder or softer rock can occur at depths different than that shown on the profiles.

CONCLUSIONS AND RECOMMENDATIONS

General Site Suitability

We did not observe areas of significant ground instability or unsuitable soil conditions at the site. The site should be suitable for the planned improvements when graded in accordance with the project plans, industry standards, and our geotechnical recommendations. Significant geotechnical challenges for site development include the following:

- Hard rock excavation especially below depths of 10 to 15 feet below existing grade
- Generation of rocky fill material from deeper cuts
- Presence of perched groundwater and/or saturated surface soil conditions during the winter and spring and at low drainage areas throughout the year
- Construction of utilities and foundations in areas cut down to hard rock

Slope Stability and Slope Construction

Fill slopes

Fill slopes are proposed at gradients of 2:1 (horizontal to vertical) or flatter. Maximum fill slope heights are 25 to 30 feet. Fill slopes constructed at a gradient of 2:1 or flatter will be stable when constructed in accordance with our grading recommendations.

Cut Slopes

Cut slopes are proposed at gradients of 2:1 or flatter. Cuts will expose surficial soils and rock that is weathered/fractured to varying degrees. Rock slope stability is commonly controlled by failure along discontinuities within the rock mass; however, weak rock masses can also fail through general shear. At the proposed slope gradients, we do not expect potential for failure through general shear.

We recorded prominent/pervasive discontinuities within test pits and at rock outcrop and reviewed the potential for failure at the proposed cut slopes. In general, most pervasive discontinuities are foliation fracture that has a steep dip (greater than 70° to the northeast) and, therefore, do not create planes or wedges out of proposed slopes with a gradient of 2:1 or flatter. We consider the proposed cut slopes to be stable.

Retain BCI to review cut slopes upon completion to confirm anticipated conditions and evaluate potential for rockfall (and mitigation methods if necessary). Some removal of loose rock blocks may be necessary upon completion of slope cuts. While slopes at a gradient of 2:1 or flatter do not typically present a rockfall hazard, it is possible that some rockfall protection (such as fencing at the base of slope) may be necessary in some areas where the rock has been disturbed. The west facing slopes are more likely to have rock pieces that can roll downslope due to foliation fracture that approximately parallels the slope and the potential for some intersecting fractures that can create larger loose rock pieces following grading (particularly in the upper 10 feet where weathering and fracture is more intense).

Grading

Soil and Rock Excavatability

Our trenching and drilling work can provide insight into rock excavation characteristics. Refer to the logs of the Borings and Test Pits in Appendix A for auger drilling and excavation results.

Based on the soil and rock conditions in our test pits, borings, and existing cuts in the vicinity, the soil and rock should be excavatable with conventional grading equipment such as scrapers, dozers, backhoes and excavators to the depth of refusal encountered in our test pits. This typically occurred at a depth of approximately 5.5 to 8 feet below existing grade in Area 1 and 2.5 to 7 feet in Area 2.

We drilled borings to auger refusal prior to coring. Generally, when auger refusal is encountered using a small diameter auger and a moderate sized drill rig, it's an indication that conventional excavation can be difficult below those depths. Table 1 summarizes the depth of auger refusal at each boring location. At depths greater than these (auger refusal depths), we expect difficult excavation when using equipment such as a D8 to D11 and blasting may be required to facilitate excavation at some locations.

TABLE 1

AUGER REFUSAL DEPTH		
Boring No.	**General Location (see Figure 2)**	**Auger Refusal Depth (bgs)**
B1	Area 1, southeast corner	10 feet
B2	Area 2, southeast corner	20 feet
B3	Area 2, northeast corner	13 feet
B4	Area 2, north side, central	4.5 feet

To further evaluate rock conditions and excavation characteristics, BCI completed seismic refraction surveys. The seismic refraction survey provides an estimate of rock rippability based on compression wave velocities in the underlying soil and rock.

Based on our review of cuts and the results of our seismic refraction survey, we present an estimate of general material rippability in Table 2.

TABLE 2

GENERAL RIPPABILITY		
Seismic Velocity (feet per second, fps)	**Material Type**	**Estimated Rippability**
$\leq 3{,}000$	Soil and decomposed to intensely weathered rock	Rippable with common construction equipment
3,000 to 8,000	Intensely to moderately weathered rock, with local less weathered blocks	Rippable, with local resistant blocks that may require blasting or alternative excavation methods
$\geq 8{,}000$	Slightly weathered to fresh rock	Blasting or alternative excavation methods, with local blocks rippable along natural discontinuities

Seismic velocities we interpret within the site range from ±2,000 to greater than ±20,000 fps. In general, we find a velocity of approximately 4,000 fps or higher indicate material (rock) that is expected to present difficulty to conventional trenching equipment (large backhoe to moderate size excavator). Additionally, Caterpillar publishes the "Caterpillar Performance Handbook (2009)," which relates the performance of various tractors to the seismic velocity of various rock types. According to the handbook, metamorphic rock with seismic velocities less than ±6,000 fps should be rippable using a D8 with a multi or single shank No. 8 ripper. Rock with velocities greater than ±8,000 fps are likely non-rippable with a D8. For a D10, these values are about ±8,000 and ±10,000 fps. Table 3 shows the approximate depth to the 4,000 fps and 8,000 fps horizon at each of our survey locations.

TABLE 3

SEISMIC REFRACTION SUMMARY			
Seismic Profile No.	**General Location (see Figure 2)**	**Approx. Depth to 4000 fps horizon (ft bgs)[1]**	**Approx. Depth to 8000 fps horizon (ft bgs)[2]**
SR1	Area 2, southeast corner	3 to 5	10 to 15
SR2	Area 2, northeast corner	3 to 5	12 to 15
SR3	Area 1, east side	4 to 7	> 25*
SR4	Area 1, southeast corner	4 to 6	8 to 28
SR5	Area 2, north side	3 to 5	12 to 18

[1]Approximate seismic velocity expected to present difficulty to conventional trenching equipment
[2]Approximate seismic velocity expected to present difficulty to conventional excavation equipment (D8)
*Possible more deeply weathered zone

In general, it appears blasting may be required to facilitate excavation at depths greater than approximately 15 to 20 feet. The refraction surveys reflect average rock conditions; harder or softer rock can occur at depths different than that shown on the profiles. For profiles at each seismic refraction location, refer to the Seismic Refraction Profiles in Appendix C.

Competent rock and large boulders may also be present at shallower depths at other locations within the project, which may require alternative excavation methods and/or localized controlled blasting.

To facilitate foundation and utility trench excavation, consider overexcavation of hard rock where building pads will be cut down to this material.

Site Clearing and Original Ground Preparation

Prior to making cuts and fills complete the following:

1. Remove any debris and boulders from the surface of the site.
2. Completely remove all structures and associated foundations, pits, and piping. Structure remnants occur on the knoll top in the west-central portion of Area 1.
3. Remove the dam and accumulated loose/soft soils behind the dam where located in the drainage at the west central portion of Area 1.
4. Remove pavement at Tong Road where new fill will be placed across the old road.
5. Strip vegetation to a minimum depth of 2 inches below the ground surface, and remove brush and trees including the roots. Do not use strippings within engineered fill. Remove strippings from the site or place in landscape areas if approved by the landscape architect. As an alternative to stripping, if vegetation is thin at the time of grading based on review and approval of BCI, thin vegetation may be disced to mix with the upper soils.
6. Widen excavations resulting from tree, foundation, and other buried features to provide access for self-propelled compaction equipment.
7. Remove concentrations of organic material and loose/soft soils from the two drainages located in the western portion of the site. In general, we expect 1 to 3 feet of overexcavation within the drainages.
8. Two open wells or cisterns are present in Area 2. Probe these features to determine depth, completely remove any backfill materials, and backfill with concrete slurry or other approved backfill based on the conditions exposed.
9. Completely remove the soil stockpile in the east-central portion of the site (southeast corner of Area 2). This stockpile is expected to be completely removed when the area is cut down to planned grade.

Prior to placing fill on stripped or cut ground surfaces, scarify the ground surface to a minimum depth of 8 inches. Moisture condition the scarified soil to within 2% of optimum and compact it to a minimum of 90% relative compaction based on ASTM D 1557 test procedure. Scarification and recompaction may not be necessary if fresh to moderately weathered rock is present as determined by a BCI representative.

Subdrainage

Drainages tend to accumulate water even after they have been filled. To reduce the potential for detrimental accumulations of subsurface water along buried drainage locations, install subdrains where the existing drainages will be filled with more than 6 feet of cover (to avoid interference with utilities). We expect this to occur at the southwest trending drainage that crosses the central portion of Area 1 and Area 2, and possibly the drainage crossing the northwest corner of Area 2 (if filled).

Excavate subdrains into the prepared ground surface (surface following removal of organics and loose/soft soils). Refer to the subdrain detail on Figure 4 and construct as follows:

- Minimum depth of 3 feet below the prepared surface
- Minimum width of 2 feet
- Fill the trench with ¾-inch washed, crushed drain rock wrapped with a non-woven filtration geotextile (Mirafi 180N or equivalent)
- Place 6-inch diameter perforated plastic pipe 4 to 6 inches above the trench base (pipe strength must be adequate to support the load of the overlying drain rock and fill)
- Use a minimum gradient of 1% for trench base and pipe
- Provide cleanouts at regular intervals (200 to 300 feet)

Taper off drain rock and filter fabric approximately 15 feet upstream of the subdrain outlet to collect water within the trench. Use solid drain pipe for the last 15 feet and outlet to suitable drainage facilities at the toe of the fill slope or into the storm drain system. Accurately record subdrain and cleanout locations so that future underground installations do not damage them.

Fill Placement and Compaction

On-site soil and weathered rock excavated from proposed cut areas may be used as fill. Fill must be free of debris and concentrations of organic material.

Based on our exploratory work and experience in the area, fill material generated from cuts will predominantly consist of a mixture of sandy silt with gravel and rock fragments up to about 8 inches in greatest dimension. Fill material generated from cuts deeper than about 15 to 20 feet will likely have a relatively small amount of soil or decomposed rock mixed with the rock fragments, and may require mixing with less rocky material to generate suitable fill material. Large rock, several feet in diameter, will be generated at isolated locations during general excavation.

Unless otherwise approved by BCI and the project engineer, limit rock dimensions as follows:

- Upper 4 feet of fill in pavement and structural areas should not contain rock larger than 4 inches in greatest dimension
- Upper 10 feet of fill should not contain rock larger than 12 inches in greatest dimension
- Place rock greater than 12 inches but less than 36 inches in greatest dimension in fills deeper than 10 feet below finish grade. Disperse the large rock throughout the fill and compact soil around the rocks as necessary to prevent voids and nesting.
- Rock larger than 36 inches should be broken down or disposed of at pre-designated locations. Large rock may be placed at the toe of slopes or other locations specifically designated for rock disposal if approved by BCI and the project engineer.

Thoroughly mix soil and rock to prevent nesting and voids.

To reduce the potential for damaging differential settlement, where structures will be located across a cut/fill transition, maintain a maximum fill depth differential of 10 feet within a horizontal length of 50 feet (average fill depth gradient of 1ft of depth over 5ft horizontally). It appears that this condition may need to be addressed at the west central and southwest sides of the Area 2 pad. Overexcavation and recompaction on the cut side of the building pad will reduce fill depth differential.

Construct fill as follows:

- Place fill in maximum 8-inch-thick loose lifts (excluding large rock placement).
- Moisture condition to within 2% of optimum moisture content.
- Compact all fill below planned structure areas and 10 feet beyond to a minimum of 95% relative compaction up to subgrade elevation.
- Compact areas outside of structure locations to a minimum 90% relative compaction within 5 feet of finish subgrade, and a minimum 95% relative compaction when deeper than 5 feet below finish subgrade.
- Fill placed on or against existing slopes with a gradient steeper than 6H:1V must be benched into the existing slope a minimum of 2 feet (or into competent soil/weathered rock as determined by BCI's field representative) so that surficial soils are removed and stepped benches are created.
- Base relative compaction and optimum moisture content on the current ASTM D 1557 test procedure.
- Restrict maximum rock size as indicated above.

If the fill is untestable because of the quantity of rock; moisture condition thoroughly as recommended by BCI, and compact each 8-inch lift with 5 to 7 passes of a Caterpillar 825 sheepsfoot compactor or the equivalent. BCI may modify the number of passes and lift thickness during construction based on the compaction equipment used and material types.

Fill Slope Construction

Where fill slopes will be more than 5 feet high, construct a key at the base of the slope prior to fill placement. The base key excavation must be a minimum of 8 feet wide and extend a minimum of 2 feet below the ground surface or to weathered rock as determined by a BCI representative. Backfill the base key excavation and place fill as recommended above. Construct fill slopes at gradients no steeper than those indicated in the "Slope Stability and Slope Construction" section of this report.

Grading Factors

It is very difficult to assess overall shrink and swell for grading volume in rocky materials due to variation in soil cover, rock weathering and presence of bouldery materials; only rough estimates for general guidance are possible. We expect very little shrinkage (cut to compacted fill) for materials in the upper 10 to 15 feet (say approximately 0% to 5%). Excavations below that depth will likely result in swell (bulking) on the order of 10% to 20% (considering some loss due to oversize material).

The amount of oversize material (large boulders) generated from deeper cuts could significantly reduce the amount of useable fill. Other considerations in shrink/swell estimates include material loss during transport and site work, potential for variability within the weathered/fractured rock, survey errors, and import used for pavement construction and trench backfill.

FOUNDATIONS

Shallow, continuous strip and spread footings will be suitable for structure foundations when the ground surface is prepped and fills are placed in accordance with our recommendations. Structure plans are not available at this time but wood frame, masonry, or concrete tilt-up structures are anticipated. We expect light to moderate loads on the order of 75 to 85 kips for columns and 2 to 6 kips per lineal foot for strip footings.

Bearing Capacity

When building pads are prepared in accordance with these recommendations, the site will be suitable for conventional foundations (i.e., continuously reinforced perimeter wall footings and isolated interior column footings) and slab-on-grade floors.

For preliminary foundation sizing considerations, embed foundations a minimum of 18 inches into the prepared subgrade. Footings must be a minimum of 24 inches wide for continuous and 36 inches for isolated columns, and sized not to exceed an allowable bearing capacity of 5,000 psf. The allowable bearing capacity may be increased by one-third if transient loads are included.

To resist lateral movement, use a coefficient of friction of 0.45 and passive earth pressure of 300 psf per foot of embedment depth or up to 440 psf per foot of embedment if lateral movements of up to 2% of the foundation embedment depth can be tolerated.

Settlement

If the design and construction team follow the recommendations in this report, we expect that total settlement at foundation locations will not exceed 1-inch. Differential settlement between column loads and along strip footings (over a distance of approximately 50 feet) are expected to be less than ½ -inch.

Foundations and slabs-on-grade underlain by fill can experience greater magnitudes of total and differential settlement when the underlying fill thickness is significant (greater than 5 feet) even when properly compacted. Modified fill placement and compaction recommendations are provided in the "Grading Recommendations" section of this report to minimize differential settlement in areas of deep fill.

Seismic Design

The building pads will be underlain by weathered rock to fresh rock that would be classified as Site Class "B" (California Building Code (CBC), 2010). Based on the rough grading plan, portions of the building pad in Area 1 (west side of pad) will have fill and soil in excess of 10 feet deep between the foundations and the underlying rock; therefore, the Site Class must be adjusted to "C" for that location. For design in accordance with current California Building Code (CBC) procedures, we provide parameters in Table 4a and 4b below.

TABLE 4a

Seismic Design Parameters (CBC 2010) EDH 52 (Area 1) – Site Class C	
S_s – Mapped Acceleration Parameter	0.384
S_1 – Mapped Acceleration Parameter	0.191
F_a – Site Coefficient	1.2
F_v – Site Coefficient	1.609
S_{MS} – MCE* Spectral Response Acceleration, Short Period	0.461
S_{M1} – MCE* Spectral Response Acceleration, 1-Second Period	0.308
S_{DS} – 5% Damped Design Spectral Response Acceleration, Short Period	0.307
S_{D1} – 5% Damped Design Spectral Response Acceleration, 1-Second	0.205
T_L – Long-Period Transition Period**	12
Peak Horizontal Ground Acceleration (PGA) – estimated from S_{DS} /2.5	0.12

*Maximum Considered Earthquake
** From Figure 22-12, ASCE 7-10

TABLE 4b

Seismic Design Parameters (CBC 2010) EDH 52 (Area 2) – Site Class B	
S_s – Mapped Acceleration Parameter	0.384
S_1 – Mapped Acceleration Parameter	0.191
F_a – Site Coefficient	1.0
F_v – Site Coefficient	1.0
S_{MS} – MCE* Spectral Response Acceleration, Short Period	0.384
S_{M1} – MCE* Spectral Response Acceleration, 1-Second Period	0.191
S_{DS} – 5% Damped Design Spectral Response Acceleration, Short Period	0.256
S_{D1} – 5% Damped Design Spectral Response Acceleration, 1-Second	0.127
T_L – Long-Period Transition Period**	12
Peak Horizontal Ground Acceleration (PGA) – estimated from S_{DS} /2.5	0.10

*Maximum Considered Earthquake
** From Figure 22-12, ASCE 7-10

CONCRETE SLABS-ON-GRADE

Design Recommendations for Geotechnical Support

Provided the contractor(s) prepares the building pads in accordance with our grading recommendations and any addendums by BCI, slab-on-grade floors may be used to support normal floor loads. Underlay the concrete slabs with a minimum of 4 inches of washed, crushed, and compacted rock to provide uniform support. Crushed rock used beneath floor slabs should be graded so that 100% passes the ¾ inch sieve and less than 5% passes the No. 4 sieve. Compact crushed rock with at least two passes of a vibratory type compactor.

For building pads Concrete floor slabs with crushed rock underlayment may be designed using a Modulus of Subgrade Reaction, k, of 200 psi per inch in cut or fill locations.

Exterior flatwork such as sidewalks, etc. may be placed directly on the prepared subgrade without the use of rock underlayment. The subgrade should be free of debris, uniformly compacted, and thoroughly wetted before the concrete is placed.

Design Considerations for Moisture

Construction of the building pads will require deep cuts into intensely to slightly weathered rock. BCI did not observe seepage in our exploratory borings or test pits. However, after development, irrigation and rainwater may access deep excavations in rock via seepage and/or from the ground surface. While we don't expect this seepage to be significant enough to require underfloor drainage systems, water will travel on relatively impermeable rock surfaces and could be enough to cause higher than normal moisture vapor to pass through the concrete floor slabs. Excessive vapor can cause floor covering damage and mold.

The designer must consider the potential for excessive water vapor and design the slabs and underlayment accordingly. References providing guidelines for vapor mitigation and slab underlayment include ASTM E 1643, ACI 302.1R, PCA, and flooring manufacturer requirements for the intended use.

No matter how extensive the vapor mitigation design, some vapor will pass through the slabs and, the slabs themselves will absorb and release some moisture. Therefore, consult with floor covering and mold specialists, and include a contingency to replace some floor coverings and mitigate some mold growth.

PRELIMINARY PAVEMENT DESIGN

For this report, we provide preliminary pavement design recommendations based on the anticipated soil conditions in subgrade areas and Resistance (R) values we obtained during our work on the Silva Valley Parkway Interchange project. Base final pavement design on the subgrade conditions present after rough grading.

Preliminary Structural Sections

In general, we find that shallow soils in the area have R-Values on the order of 20 to 30, and mixtures of soil and rock have R-Values on the order of 40 to 60. In-place rock that has been ripped and prepped for subgrade is expected to have an R-Value in excess of 50.

The site has a relatively thin soil horizon that overlies weathered rock. We expect pavement subgrade to be composed of either fill that consists of a mixture of minor amounts of silt soil with excavated rock, or cut locations where the rock is exposed at subgrade elevation. For preliminary pavement considerations, an R-Value of 40 is applicable.

Based on an R-value of 40 and the Caltrans Flexible Pavement Design method, we recommend the preliminary asphalt concrete pavement sections in Table 5 for the Traffic Index (TI) shown. The TI is a measure of wheel load, frequency, and intensity. Our experience is that TI's of 4.0–5.0 are often used for automobile parking, and TI's of 6.0-7.0 are often used for fire truck access, channelized flow, and bus traffic. Use of the proper TI should be confirmed by the project designers.

TABLE 5

Preliminary Pavement Structural Sections (Based on an R-Value = 40)					
Material	**TI = 4**	**TI = 5**	**TI = 6**	**TI = 7**	**TI= 8**
Asphalt Concrete (ft)	0.20	0.20	0.25	0.30	0.40
Class 2 Agg. Baserock* (ft)	0.35	0.40	0.50	0.65	0.65

* ¾–inch or 1½-inch maximum

To develop these pavement sections we assume that the native subgrade soil (minimum of upper 1 foot) is uniformly compacted to 95% or higher relative compaction and that the baserock is uniformly compacted to 95% or higher relative compaction. BCI should provide design R-Value testing prior to final design.

Pavement Subgrade Preparation

Prior to placing aggregate base, check for subgrade stability by running a loaded water truck over the subgrade. Mitigate unstable areas as recommended by BCI.

Design the pavement areas to allow for positive surface drainage. Adequate surface slope, subgrade crown, and uniform compaction contribute to long-term pavement performance.

It is important to design the drainage of pavement areas so that water is not allowed under the paved areas. If water is trapped under paving the water can saturate the base course and soil subgrade, which results in premature pavement failures.

To reduce the amount of water that can seep beneath the pavement, install cutoff curbs where pavement abuts landscaped areas. Extend cutoff curbs a minimum depth of 4 inches below the pavement subgrade or to in-place rock, whichever depth is less. Where cutoff curbs are undesirable, subgrade drains can be constructed to remove excess water from landscape areas or an impermeable barrier, such as 20 mil HDPE, could be placed at the back of curb to a depth of approximately 1 foot below subgrade.

UNDERGROUND UTILITY CONSTRUCTION

Excavation of the exploratory trenches was difficult when we encountered moderately weathered rock. Trenching in moderately weathered to fresh rock will require heavy trenching equipment and or excavation facilitated by chiseling, pre-drilling, and/or blasting. The depth to moderately weathered rock varies throughout the site but it generally occurs at depths of 5 to 15 feet below the existing ground surface.

Trenches should be sloped or braced in accordance with current Cal/OSHA requirements.

With the exception of trenches that cross the existing drainages, we do not anticipate the need for significant dewatering during installation of utility lines (assuming construction takes place in the drier months of the year when the surface soil is not saturated and there is no surface water on the site).

Backfill utility trenches with approved on site soil and/or broken down rock mixed with soil. Use a maximum material size of 4 inches. Some excavated materials will have to be crushed and/or screened to a maximum size of 4 inches for use as trench backfill. Trench backfill materials should be approved by the geotechnical engineer prior to use. Due to the potentially rocky nature of trench backfill on the site, extend bedding materials at least 6-12 inches above the pipe before general trench backfill proceeds to reduce the potential for pipe damage.

Compact trench backfill as follows:

- Maximum uncompacted lift thickness of 1 foot unless field performance testing can demonstrate adequate compaction of thicker lifts
- Base compaction on ASTM D 1557 test specifications
- Minimum of 95% relative compaction in structural areas and 10 feet beyond
- Minimum of 90% relative compaction in pavement areas
- Minimum of 95% relative compaction where trench backfill exceeds a depth of 10 feet
- Minimum of 85% relative compaction in landscape areas
- Use mechanical methods of compaction
- Jetting is not an acceptable means of compaction
- Base compaction of untestable (rocky fill) on performance specifications determined to be adequate by the project geotechnical engineer at the time of backfilling

PRELIMINARY SOIL CORROSIVITY

For the adjacent Silva Valley Parkway Interchange project (BCI, 2012), we completed corrosion tests (pH, resistivity, chlorides, and sulfates) on soil and weathered rock samples retrieved from exploratory borings and trenches. Tests indicate maximum chloride and sulfate concentrations of 24 and 68 part per million (ppm), respectively. The soil pH ranged from 5.3 to 7.6 and the minimum resistivity ranged from 1,420 to 10,724 ohm-cm (most greater than 2,000 ohm-cm). In general, our tests indicate that the surface soils have a relatively low pH ranging from 5.3 to 6.1 and the underlying, weathered rock has a relatively neutral pH ranging from 7.1 to 7.6.

Based on our tests in the area and site conditions, we expect mild to moderate corrosion potential for iron pipe along the alignment and a generally non-corrosive environment for concrete. To further define site specific potential for corrosive soil and rock, additional testing should be completed.

NATURALLY OCCURRING ASBESTOS

We did not observe rock likely to contain NOA (serpentinite or ultramafic rock) within the site and our rock cores show no indication of fibrous minerals. However, the western third of Area 1 (along the existing Silva Valley Parkway) falls within area identified by El Dorado County Environmental Management as being within an "Asbestos Review Area".

El Dorado County Air Quality Management rule 223-2 requires that an Asbestos Dust Mitigation Plan be prepared, submitted, approved and implemented when more than 20 cubic yards of earth will be moved at sites identified as being in an "Asbestos Review Area". If desired, it is possible that an exemption to the rule may be obtained with further geologic evaluation for NOA. Since preliminary rough grading plans indicate that the portion of the site that falls within the "Asbestos Review Area" will only be filled above, discussion with the County regarding exemption on this basis could be considered.

RISK MANAGEMENT

Our experience and that of our profession clearly indicates that the risks of costly design, construction, and maintenance problems can be significantly lowered by retaining the geotechnical engineer of record to provide additional services during design and construction. For this project, BCI should be retained to:

- Review and provide comments on the civil plans, foundation plans, and specifications prior to construction.
- Monitor construction to check and document our report assumptions. At a minimum, BCI should monitor/test grading, cut slope excavation, foundation excavation, pavement subgrade, aggregate baserock and asphalt compaction.
- Update this report if design changes occur, 2 years or more lapses between this report and construction, and/or site conditions have changed.

If we are not retained to perform the above applicable services, we are not responsible for any other party's interpretation of our report, and subsequent addendums, letters, and discussions.

LIMITATIONS

BCI performed services in accordance with generally accepted geotechnical engineering principles and practices currently used in this area. We do not warranty our services.

This is report and preliminary foundation recommendations are based on rough grading plans. Final geotechnical recommendations will be necessary for final improvements.

BCI based this report on the current site conditions. We assumed the soil, rock and groundwater conditions are representative of the subsurface conditions on the site. Actual conditions between probes could be different.

Our scope did not include evaluation of on-site hazardous materials, soil corrosion potential, or flooding.

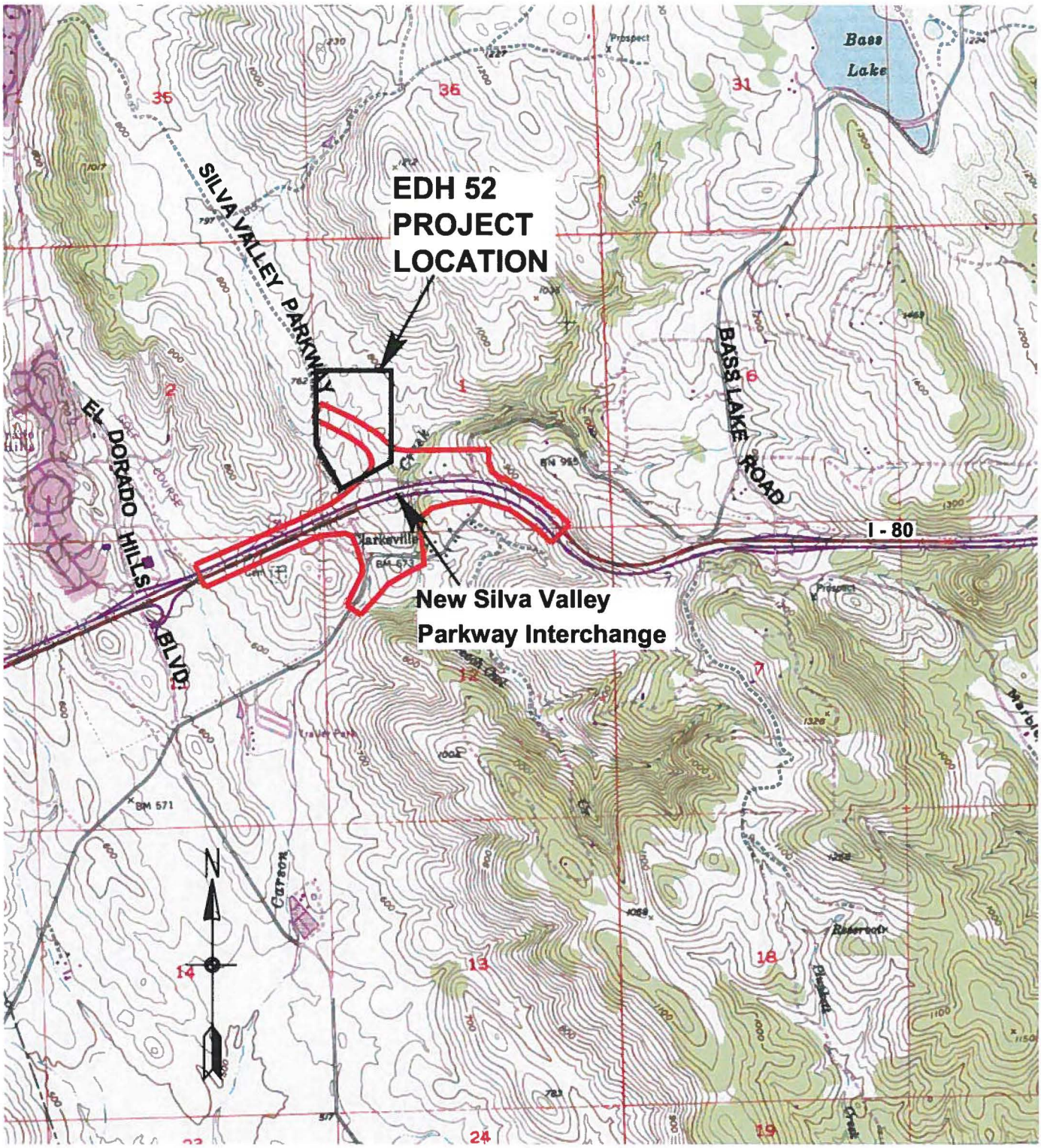
Modern design and construction are complex, with many regulatory sources/restrictions, involved parties, construction alternatives, etc. It is common to experience changes and delays. The owner should set aside a reasonable contingency fund based on complexities and cost estimates to cover changes and delays.

Logs of our borings and test pits are presented in Appendix A. The lines designating the interface between soil and rock types are approximate. The transition between soil types may be abrupt or gradual. Our recommendations are based on the final logs, which represent our interpretation of the field logs and general knowledge of the site and geological conditions.

Boring, test pit, and seismic refraction survey locations and elevations are approximate (locations were not surveyed).

FIGURES

Figure 1 – Vicinity Map
Figure 2 – Site Map
Figure 3 – Geologic Map
Figure 4 – Subdrain Detail



Source: MAPTECH Terrain Navigator Pro, v. 7.01, USGS topographic map, 7.5 minute quadrangle, 1:24000, Clarksville 1953 (revised 1980).

SCALE: 1"=0.5 Miles

blackburn consulting

11521 Blocker Drive, Suite 110
Auburn,CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495
www.blackburnconsulting.com

VICINITY MAP

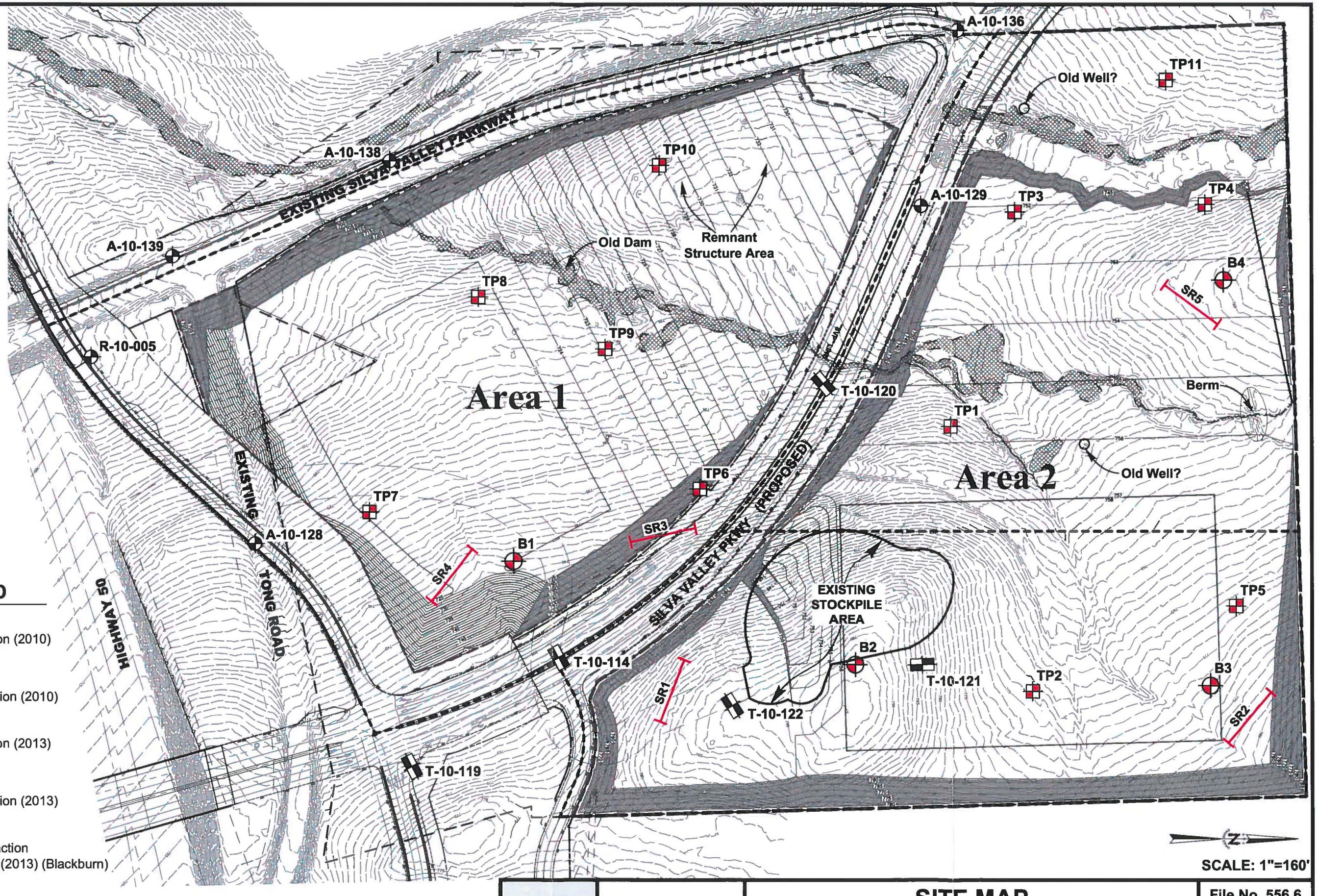
EDH 52
Highway 50 & Silva Valley Parkway
El Dorado Hills, California

File No. 556.6

March 2013

Figure 1

3/8/2013 556.6 Fig 1 EDH 52.dwg



LEGEND

X-10-001 Boring Location (2010) (Blackburn)

T-10-005 Test Pit Location (2010) (Blackburn)

B2 Boring Location (2013) (Blackburn)

TP3 Test Pit Location (2013) (Blackburn)

SR3 Seismic Refraction Line Location (2013) (Blackburn)

WETLANDS AREA

EXISTING STOCKPILE AREA

LIMITS OF GRADING ACTIVITY

Source: Rough Grading Plans for EDH 52 by RSC Engineering, Sheet C2.0, dated January 23, 2013.

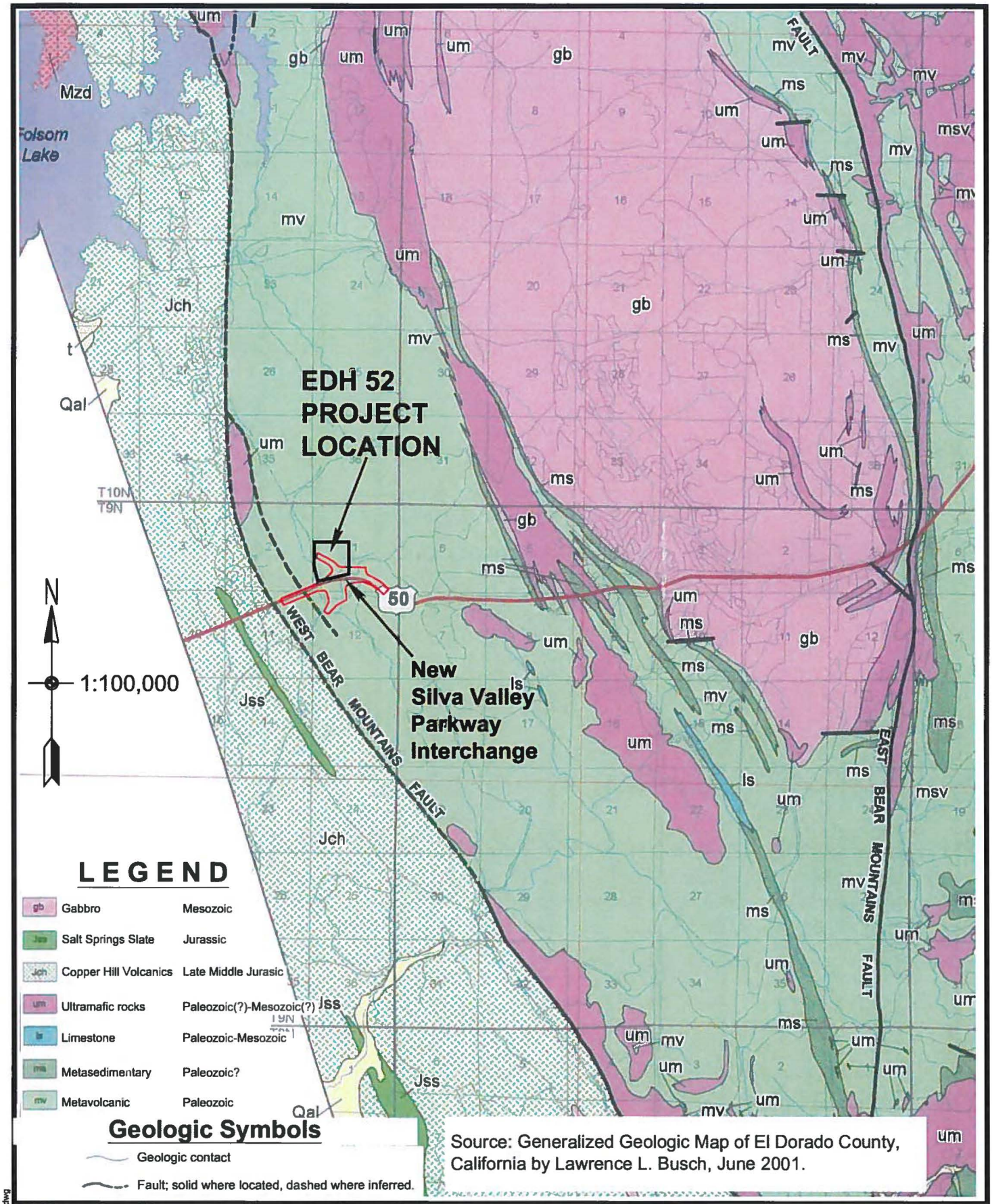
blackburn consulting
11521 Blocker Drive, Ste 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495
www.blackburnconsulting.com

SITE MAP

EDH 52
Highway 50 & Silva Valley Parkway
El Dorado Hills, California

File No. 556.6
March 2013
Figure 2

3/8/2013 556.6 Fig 2 EDH 52.dwg



3/8/2013 556 6 Fig 3 EDH 52.dwg

blackburn consulting
11521 Blocker Drive, Suite 110
Auburn,CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495
www.blackburnconsulting.com

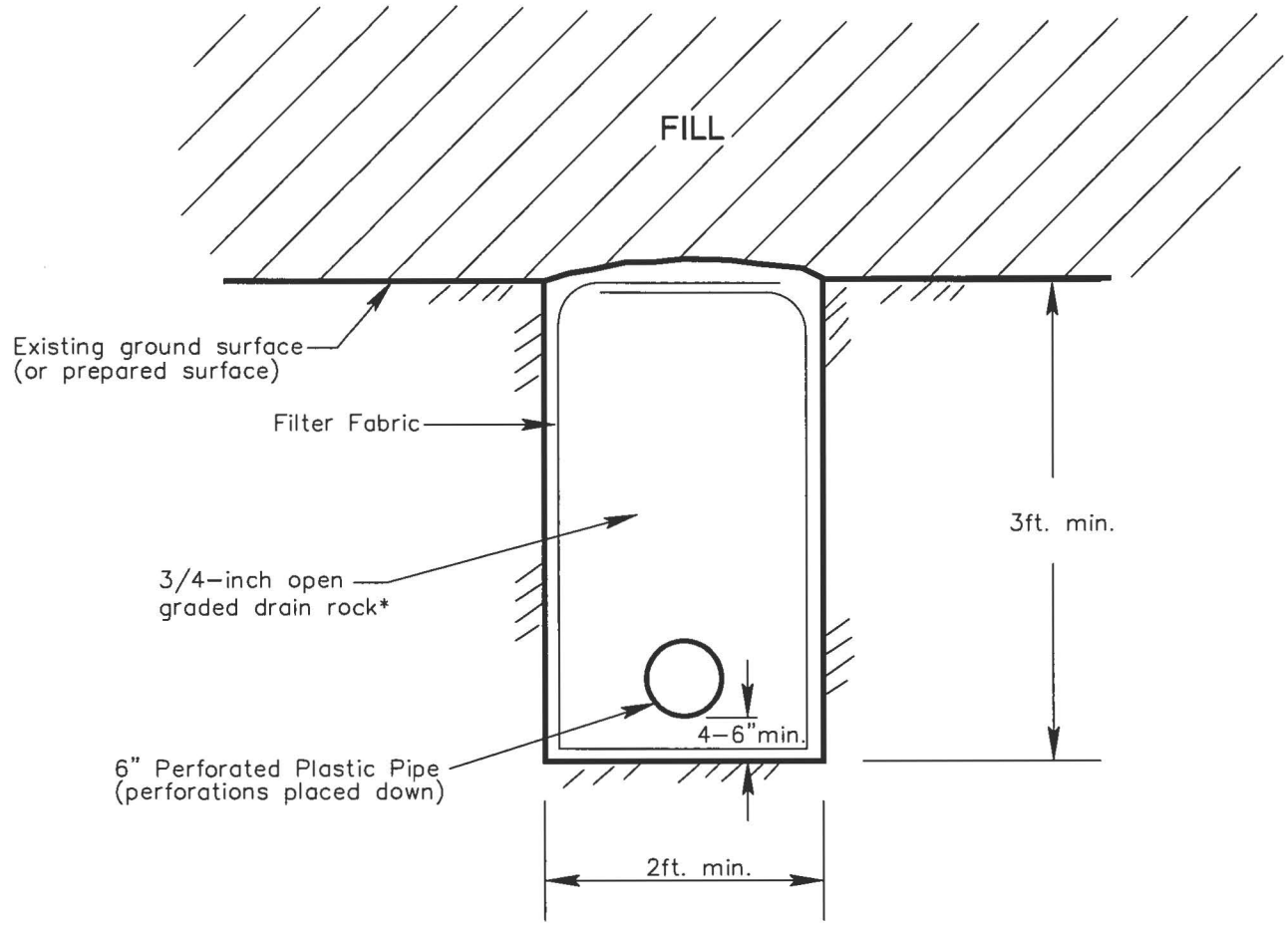
GEOLOGIC MAP

EDH 52
Highway 50 & Silva Valley Parkway
El Dorado Hills, California

File No. 556.6

March 2013

Figure 3



* Class II permeable filter mix (per Caltrans Standards, Section 68–1) may be substituted for drain rock and filter fabric.

NOT TO SCALE

blackburn consulting

11521 Blocker Drive, Suite 110
Auburn,CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495
www.blackburnconsulting.com

SUBDRAIN DETAIL

EDH 52

Highway 50 & Silva Valley Parkway

El Dorado Hills, California

File No. 556.6

March 2013

Figure 4

3/8/2013 556.6 Fig 4 EDH 52.dwg

APPENDIX A

Exploration Notes
Boring and Test Pit Logs
Rock Core and Test Pit Photographs

APPENDIX A – Logs of Borings and Test Pits

Field Exploration Notes

BCI drilled and sampled 4 exploratory borings and excavated 11 test pits in February 2013. The Site Map, Figure 2, shows boring and test pit locations. Logs of the borings and test pits are attached.

Our drilling subcontractor (Taber Drilling) drilled the borings using a CME 55 crawler and solid-stem (4-inch diameter) auger techniques in soil and weathered/fractured, penetrable rock. Harder, more competent rock was drilled and sampled using HQ wire-line coring techniques. Boring depths range from 24.2 to 40 feet below the ground surface (bgs). We obtained soil samples at various intervals using a 3.0-inch O.D. Modified California (MC) sampler (equipped with 2.4-inch diameter brass liners) and a Standard Penetration Test (SPT) sampler driven with an automatic hammer, weighing 140-pounds and falling approximately 30 inches.

Burke Backhoe excavated the test pits with a Caterpillar 430D backhoe equipped with a 2-foot wide bucket. The backhoe weighs approximately 14,500 pounds. Typical trenches were 2 to 3 feet wide, 8 to 12 feet long, and 3 to 8 feet deep. We obtained both hand-driven and bulk soil samples at various intervals.

BCI's project engineer logged the borings and test pits, retrieved samples for laboratory testing, and used plastic caps to seal and label the 2.4-inch diameter, 6-inch long brass tubes retrieved from MC sampling and hand-driven samples. We also retrieved bulk soil samples from soil/rock cuttings, placed this material in large cloth bags, and labeled for laboratory identification. We placed continuous core samples (rock) in labeled core boxes.

During drilling and trench excavation, BCI performed field strength testing with a pocket penetrometer on select cohesive and/or cemented soil samples. The logs include field test results.

LOGGED BY	BEGIN DATE	COMPLETION DATE	BOREHOLE LOCATION (Lat/Long or North/East and Datum)	HOLE ID
RCP	2-4-13	2-4-13	38.65985° / -121.05578°	B1
DRILLING CONTRACTOR			BOREHOLE LOCATION (Offset, Station, Line)	SURFACE ELEVATION
Taber				~744.0 ft
DRILLING METHOD			DRILL RIG	BOREHOLE DIAMETER
HQ Core			CME 55 Crawler	4 in
SAMPLER TYPE(S) AND SIZE(S) (ID)			HAMMER TYPE	HAMMER EFFICIENCY, ERi
2.5" ID CAL MOD, SPT, HQ Core			Safety semi-automatic drop (140#/ 30")	85%
BOREHOLE BACKFILL AND COMPLETION			GROUNDWATER READINGS DURING DRILLING	AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
Grout backfilled 2/4/2013			None		31.0 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION/REMARKS	Sample Type	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	% <200 Sieve	Plasticity Index	Phi Angle (°)	Shear Strength (psf)	Unconfined Compressive Strength (psi)	Additional Lab Tests	Drilling Method	Casing Depth
	0																		
	1		SANDY SILT; ML; (stiff); brown; moist		Bag A			100											
742.00	2		METAVOLCANIC ROCK; fine grained; massive; dusky yellow brown; decomposed to very intensely weathered; soft to moderately soft; very intensely fractured; excavates as silty sand																
740.00	4																		
	5				1	50/1"	REF	0											
738.00	6		METAVOLCANIC ROCK; fine grained; massive; medium to dark olive gray; intensely to moderately weathered; moderately soft; very intensely fractured																
	7		Drilling becomes difficult																
736.00	8																		
	9																		
734.00	10		Near refusal to auger drilling		2	50/2"	REF	100/100											
	11				Run 1				0										
732.00	12																		
	13		METAVOLCANIC ROCK; fine grained; massive; medium greenish gray; slightly to moderately weathered; hard to very hard; intensely to moderately fractured		Run 2			88	0										
730.00	14																		
	15																		
728.00	16		Some low angle fractures (10-15 degrees), moderately spaced, to a depth of approximately 15 ft																
	17																		
726.00	18				Run 3			100	38										
	19																		
724.00	20																		
	21		Foliation dips at approximately 70 degrees																
722.00	22				Run 4			100	60										
	23										180					UC =17370	UC		
720.00	24																		
	25																		

(continued)

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

PROJECT NAME		FILE NO.	HOLE ID
El Dorado Hills EDH 52		556.6	B1
COUNTY	ROUTE	POSTMILE	
ED			
CLIENT			
EDH 52 LLC.			
PREPARED BY	CHECKED BY	SHEET	
RCP	PFF	1 of 2	

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION/REMARKS	Sample Type	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	% <200 Sieve	Plasticity Index	Phi Angle (°)	Shear Strength (psf)	Unconfined Compressive Strength (psi)	Additional Lab Tests	Drilling Method	Casing Depth
	25																		
718.00	26		METAVOLCANIC ROCK; fine grained; massive; medium greenish gray; slightly to moderately weathered; hard to very hard; moderately fractured		Run 4			100	60										
	27				Run 5			100	80										
716.00	28																		
	29																		
714.00	30																		
	31																		
712.00	32		Bottom of borehole at 31.0 ft bgs																
	33		Grout backfilled 2/4/2013																
710.00	34																		
	35																		
708.00	36																		
	37																		
706.00	38																		
	39																		
704.00	40																		
	41																		
702.00	42																		
	43																		
700.00	44																		
	45																		
698.00	46																		
	47																		
696.00	48																		
	49																		
694.00	50																		
	51																		
692.00	52																		
	53																		
690.00	54																		
	55																		

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

PROJECT NAME: El Dorado Hills EDH 52		FILE NO.: 556.6	HOLE ID: B1
COUNTY: ED	ROUTE:	POSTMILE:	
CLIENT: EDH 52 LLC.			
PREPARED BY: RCP	CHECKED BY: PFF	SHEET: 2 of 2	

LOGGED BY	BEGIN DATE	COMPLETION DATE	BOREHOLE LOCATION (Lat/Long or North/East and Datum)	HOLE ID
RCP	2-1-13	2-1-13	38.66145° / -121.05513°	B2
DRILLING CONTRACTOR			BOREHOLE LOCATION (Offset, Station, Line)	SURFACE ELEVATION
Taber				~792.0 ft
DRILLING METHOD			DRILL RIG	BOREHOLE DIAMETER
HQ Core			CME 55 Crawler	4 in
SAMPLER TYPE(S) AND SIZE(S) (ID)			HAMMER TYPE	HAMMER EFFICIENCY, ERi
2.5" ID CAL MOD, SPT, HQ Core			Safety semi-automatic drop (140#/ 30")	85%
BOREHOLE BACKFILL AND COMPLETION			GROUNDWATER READINGS DURING DRILLING	AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
Grout backfilled 2/1/2013			None		40.0 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION/REMARKS	Sample Type	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	% <200 Sieve	Plasticity Index	Phi Angle (°)	Shear Strength (psf)	Unconfined Compressive Strength (psi)	Additional Lab Tests	Drilling Method	Casing Depth
	0																		
	1		SANDY SILT; ML; (soft); brown; moist		Bag B			100											
790.00	2																		
	3		METAVOLCANIC ROCK; fine grained; massive; olive brown; decomposed to very intensely weathered; very soft to soft; very intensely fractured; excavates as silty sand																
788.00	4																		
	5				1	50		100											
786.00	6																		
	7																		
784.00	8		METAVOLCANIC ROCK; fine grained; massive; light greenish gray; intensely weathered; moderately soft to moderately hard; very intensely fractured																
	9																		
782.00	10				2	50/3"	REF	100											
	11																		
780.00	12																		
	13																		
778.00	14																		
	15				3	50/5"	REF	100											
776.00	16		Becomes intensely to moderately weathered																
	17																		
774.00	18		Drilling becomes difficult																
	19										176					UC =3200	UC		
772.00	20				4	50/2"	REF	100											
	21		Refusal to auger drilling		Run 1			100	81										
770.00	22		METAVOLCANIC ROCK; fine grained; massive; medium greenish gray; moderately weathered; moderately hard to hard; intensely fractured		Run 2			100	40										
	23																		
768.00	24																		
	25																		

(continued)

blackburn consulting
Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

PROJECT NAME		FILE NO.	HOLE ID
El Dorado Hills EDH 52		556.6	B2
COUNTY	ROUTE	POSTMILE	
ED			
CLIENT			
EDH 52 LLC.			
PREPARED BY	CHECKED BY	SHEET	
RCP	PFF	1 of 2	

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION/REMARKS	Sample Type	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	% <200 Sieve	Plasticity Index	Phi Angle (°)	Shear Strength (psf)	Unconfined Compressive Strength (psi)	Additional Lab Tests	Drilling Method	Casing Depth
766.00	26		METAVOLCANIC ROCK; fine grained; massive; medium greenish gray; slightly weathered to fresh; hard to very hard; moderately to slightly fractured		Run 3			100	82										
764.00	28		Foliation dips at approximately 80 degrees																
762.00	30				Run 4			74	36										
760.00	32																		
758.00	34																		
756.00	36				Run 5			100	100										
754.00	38				Run 6			100	100		184					UC =12030	UC		
752.00	40		Bottom of borehole at 40.0 ft bgs Grout backfilled 2/1/2013																
750.00	42																		
748.00	44																		
746.00	46																		
744.00	48																		
742.00	50																		
740.00	52																		
738.00	54																		

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

PROJECT NAME: El Dorado Hills EDH 52		FILE NO.: 556.6	HOLE ID: B2
COUNTY: ED	ROUTE:	POSTMILE:	
CLIENT: EDH 52 LLC.			
PREPARED BY: RCP	CHECKED BY: PFF	SHEET: 2 of 2	

LOGGED BY	BEGIN DATE	COMPLETION DATE	BOREHOLE LOCATION (Lat/Long or North/East and Datum)	HOLE ID
RCP	2-1-13	2-1-13	38.66312° / -121.05495°	B3
DRILLING CONTRACTOR			BOREHOLE LOCATION (Offset, Station, Line)	SURFACE ELEVATION
Taber				~772.0 ft
DRILLING METHOD			DRILL RIG	BOREHOLE DIAMETER
HQ Core			CME 55 Crawler	4 in
SAMPLER TYPE(S) AND SIZE(S) (ID)			HAMMER TYPE	HAMMER EFFICIENCY, ERi
2.5" ID CAL MOD, SPT, HQ Core			Safety semi-automatic drop (140#/ 30")	85%
BOREHOLE BACKFILL AND COMPLETION			GROUNDWATER READINGS DURING DRILLING / AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
Grout backfilled 2/1/2013			None	30.1 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION/REMARKS	Sample Type	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	% <200 Sieve	Plasticity Index	Phi Angle (°)	Shear Strength (psf)	Unconfined Compressive Strength (psi)	Additional Lab Tests	Drilling Method	Casing Depth
	0																		
	1		SANDY lean CLAY; CL; (stiff); brown; moist	Bag	C			100											
770.00	2																		
	3		METAVOLCANIC ROCK; fine grained; massive; light olive gray to brown; decomposed; very soft to soft; very intensely fractured; excavates as clayey sand																
768.00	4																		
	5																		
					1	16 50/5"	50/5	100		22	101								
766.00	6																		
	7																		
764.00	8																		
	9		METAVOLCANIC ROCK; fine grained; massive; light olive gray to brown; very intensely to intensely weathered; moderately soft to moderately hard; very intensely fractured																
762.00	10				2	50/4"	REF	100											
	11																		
760.00	12																		
	13																		
758.00	14		Refusal to auger drilling		Run 1			98											
	15		METAVOLCANIC ROCK; fine grained; massive; medium greenish gray; slightly weathered to fresh; hard to very hard; slightly fractured																
756.00	16																		
	17																		
754.00	18				Run 2			100			175					UC =7060	UC		
	19																		
752.00	20																		
	21																		
750.00	22																		
	23				Run 3			100											
748.00	24																		
	25																		

(continued)

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

PROJECT NAME		FILE NO.	HOLE ID
El Dorado Hills EDH 52		556.6	B3
COUNTY	ROUTE	POSTMILE	
ED			
CLIENT			
EDH 52 LLC.			
PREPARED BY	CHECKED BY	SHEET	
RCP	PFF	1 of 2	

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION/REMARKS	Sample Type	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	% <200 Sieve	Plasticity Index	Phi Angle (°)	Shear Strength (psf)	Unconfined Compressive Strength (psi)	Additional Lab Tests	Drilling Method	Casing Depth
746.00	26		METAVOLCANIC ROCK; fine grained; massive; medium greenish gray; slightly weathered to fresh; hard to very hard; slightly fractured		Run 4			100			174					UC =5080	UC		
744.00	28																		
742.00	30																		
	31		Bottom of borehole at 30.1 ft bgs																
740.00	32		Grout backfilled 2/1/2013																
738.00	34																		
736.00	36																		
734.00	38																		
732.00	40																		
730.00	42																		
728.00	44																		
726.00	46																		
724.00	48																		
722.00	50																		
720.00	52																		
718.00	54																		
	55																		

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

PROJECT NAME		FILE NO.	HOLE ID
El Dorado Hills EDH 52		556.6	B3
COUNTY	ROUTE	POSTMILE	
ED			
CLIENT			
EDH 52 LLC.			
PREPARED BY	CHECKED BY	SHEET	
RCP	PFF	2 of 2	

LOGGED BY	BEGIN DATE	COMPLETION DATE	BOREHOLE LOCATION (Lat/Long or North/East and Datum)	HOLE ID
RCP	2-4-13	2-4-13	38.66322° / -121.05738°	B4
DRILLING CONTRACTOR			BOREHOLE LOCATION (Offset, Station, Line)	SURFACE ELEVATION
Taber				~760.0 ft
DRILLING METHOD			DRILL RIG	BOREHOLE DIAMETER
HQ Core			CME 55 Crawler	4 in
SAMPLER TYPE(S) AND SIZE(S) (ID)			HAMMER TYPE	HAMMER EFFICIENCY, ERi
2.5" ID CAL MOD, SPT, HQ Core			Safety semi-automatic drop (140#/ 30")	85%
BOREHOLE BACKFILL AND COMPLETION			GROUNDWATER READINGS DURING DRILLING	AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
Grout backfilled 2/4/2013			None		24.2 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION/REMARKS	Sample Type	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	% <200 Sieve	Plasticity Index	Phi Angle (°)	Shear Strength (psf)	Unconfined Compressive Strength (psi)	Additional Lab Tests	Drilling Method	Casing Depth
	0																		
	1		SANDY SILT; ML; (stiff); brown; moist																
758.00	2																		
	3		METAVOLCANIC ROCK; fine grained; massive; yellowish brown; decomposed to very intensely weathered; very soft to soft; very intensely fractured; excavates as silty sand																
756.00	4																		
	5		Refusal to auger drilling		1 Run 1	50/1"	REF	0 81	0										
754.00	6																		
	7		METAVOLCANIC ROCK; fine grained; massive; medium greenish gray; moderately weathered; moderately hard to hard; very intensely to intensely fractured																
752.00	8				Run 2			100	0										
	9		Foliation dips approximately at 80-85 degrees																
750.00	10				Run 3			37	0										
	11																		
748.00	12																		
	13																		
746.00	14				Run 4			91	26										
	15																		
744.00	16																		
	17																		
742.00	18				Run 5			100	43										
	19																		
740.00	20																		
	21																		
738.00	22				Run 6			94	12										
	23																		
736.00	24																		
	25																		
734.00	26		Bottom of borehole at 24.2 ft bgs																
	27		Grout backfilled 2/4/2013																
732.00	28																		
	29																		
	30																		

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

PROJECT NAME		FILE NO.	HOLE ID
El Dorado Hills EDH 52		556.6	B4
COUNTY	ROUTE	POSTMILE	
ED			
CLIENT			
EDH 52 LLC.			
PREPARED BY	CHECKED BY	SHEET	
RCP	PFF	1 of 1	

LOG OF TEST PIT TP01

Date Excavated: 2/5/13 Logged by: PFF Depth to Water (ft): None

Equipment: CAT 430D Backhoe Surface Elevation(ft): ~768 Time of Reading: 2/5/2013

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE	HAND PEN. (tsf)	MOISTURE (%)	DRY UNIT WT. (pcf)	LAB TESTS
		Sandy Silt, ML, stiff, moist, reddish brown					
		Metavolcanic Rock, fine grained, yellowish brown, intensely to moderately weathered, moderately to intensely fractured, moderately hard. Breaks out into pieces generally 3 to 10 inches in diameter. Some up to 10 to 14 inches.					
		Metavolcanic Rock, fine to medium grained, becomes moderately to slightly weathered, moderately fractured and hard. Predominate Fracture - foliation N35W, 80NE					
		Total Depth = 2.5 ft Refusal to excavation No groundwater					
5							

blackburn consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: 530-887-1494 Fax: 530-887-1495
E-Mail: bcistaff@blackburnconsulting.com

1LOGPERPAGE TEST PIT LOGS.GPJ BLACKBRN.GDT 3/11/13

LOG OF TEST PIT TP02

Date Excavated: 2/5/13 Logged by: PFF Depth to Water (ft): None

Equipment: CAT 430D Backhoe Surface Elevation(ft): ~768 Time of Reading: 2/5/2013

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE	HAND PEN. (tsf)	MOISTURE (%)	DRY UNIT WT. (pcf)	LAB TESTS
		Sandy Silt, ML, stiff, moist, brown		1.0	22	107	
		Metavolcanic Rock, fine grained, yellowish brown, moderately weathered, moderately to intensely fractured, soft to moderately hard.		4.5+			
		Foliation: N35-40W, 75-80NE Joint: N40E, 65NW					
		Total Depth = 3.5 ft Refusal to excavation No groundwater					
5							

blackburn consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: 530-887-1494 Fax: 530-887-1495
E-Mail: bcistaff@blackburnconsulting.com

1LOGPERPAGE TEST PIT LOGS.GPJ BLACKBRN.GDT 3/11/13

LOG OF TEST PIT TP03

Date Excavated: 2/5/13 Logged by: PFF Depth to Water (ft): None

Equipment: CAT 430D Backhoe Surface Elevation(ft): ~768 Time of Reading: 2/5/2013

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE	HAND PEN. (tsf)	MOISTURE (%)	DRY UNIT WT. (pcf)	LAB TESTS
		Sandy Silt, ML, stiff, moist, brown, some clay		1.0	18	108	
		Sandy Clay with gravel, CL, stiff, yellowish brown (decomposed rock)		1.5			
		Metavolcanic Rock, yellowish brown, intensely weathered, intensely fractured, soft.					
		Excavates as a very stiff to hard, sandy silt with gravel.		3.5			
5							
		Total Depth = 7.5 ft Slow to excavate No groundwater					

blackburn consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: 530-887-1494 Fax: 530-887-1495
E-Mail: bcistaff@blackburnconsulting.com

1LOGPERPAGE TEST PIT LOGS.GPJ BLACKBRN.GDT 3/11/13

LOG OF TEST PIT TP04

Date Excavated: 2/5/13 Logged by: PFF Depth to Water (ft): None

Equipment: CAT 430D Backhoe Surface Elevation(ft): ~768 Time of Reading: 2/5/2013

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE	HAND PEN. (tsf)	MOISTURE (%)	DRY UNIT WT. (pcf)	LAB TESTS
		Sandy Silt, ML, stiff, moist, reddish brown		1.0			
		Sandy Clay with gravel, CL, hard, moist, gray to yellowish brown (decomposed rock).		4.5+			
		Metavolcanic Rock, yellowish brown, intensely weathered, intensely fractured, soft. Excavates out as a sandy silt with gravel. Foliation: N42W, 80NE		4.5+			
5		Total Depth = 5.0 ft Near refusal to excavation No groundwater					

blackburn consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: 530-887-1494 Fax: 530-887-1495
E-Mail: bcistaff@blackburnconsulting.com

1LOGPERPAGE TEST PIT LOGS.GPJ BLACKBRN.GDT 3/11/13

LOG OF TEST PIT TP05

Date Excavated: 2/5/13 Logged by: PFF Depth to Water (ft): None

Equipment: CAT 430D Backhoe Surface Elevation(ft): ~768 Time of Reading: 2/5/2013

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE	HAND PEN. (tsf)	MOISTURE (%)	DRY UNIT WT. (pcf)	LAB TESTS
		Sandy Silt with gravel, ML, stiff, moist, reddish brown.		1.5			PA, CP (1557)
		Metavolcanic Rock, yellowish brown and gray, intensely weathered, intensely fractured, soft.		4.5+			
5		Metavolcanic Rock, fine to medium grained, yellowish brown and gray, moderately weathered, moderately fractured, moderately hard. Foliation: N40W, 75NE Joint: N75W, 35SW (within upper 5 feet) Excavates in pieces generally 3 to 8 inches in diameter with some pieces up to 8 to 12 inches.					
		Total Depth = 7.0 ft Refusal to excavation No groundwater					

blackburn consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: 530-887-1494 Fax: 530-887-1495
E-Mail: bcistaff@blackburnconsulting.com

1LOGPERPAGE TEST PIT LOGS.GPJ BLACKBRN.GDT 3/11/13

LOG OF TEST PIT TP06

Date Excavated: 2/5/13 Logged by: PFF Depth to Water (ft): None

Equipment: CAT 430D Backhoe Surface Elevation(ft): ~768 Time of Reading: 2/5/2013

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE	HAND PEN. (tsf)	MOISTURE (%)	DRY UNIT WT. (pcf)	LAB TESTS
		Sandy Silt with gravel, ML, stiff, moist, brown to reddish brown.		1.0	20	108	
		Metavolcanic Rock, yellowish brown and gray, intensely weathered, intensely fractured, soft.		4.5+			
5		Metavolcanic Rock, fine grained, brown and gray, moderately weathered, moderately fractured, moderately hard to hard. Foliation: N38W, 90 Excavates as sandy gravel/cobble with pieces generally 3 to 8 inches in diameter					
		Total Depth = 8.0 ft Refusal to excavation No groundwater					

blackburn consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: 530-887-1494 Fax: 530-887-1495
E-Mail: bcistaff@blackburnconsulting.com

1LOGPERPAGE TEST PIT LOGS.GPJ BLACKBRN.GDT 3/11/13

LOG OF TEST PIT TP07

Date Excavated: 2/5/13 Logged by: PFF Depth to Water (ft): None

Equipment: CAT 430D Backhoe Surface Elevation(ft): ~768 Time of Reading: 2/5/2013

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE	HAND PEN. (tsf)	MOISTURE (%)	DRY UNIT WT. (pcf)	LAB TESTS
		Sandy Silt, ML, stiff, moist, reddish brown.					
		Metavolcanic Rock, olive brown to dark gray, intensely weathered, intensely fractured, soft to moderately hard.		1.5			PA, CP (1557), DS
5		Metavolcanic Rock, fine grained, olive brown and dark gray, moderately weathered, moderately fractured, moderately hard. Foliation: N35W, 85NE Excavates as sandy gravel/cobble with pieces generally 3 to 6 inches in diameter and some 6 to 12 inches.					
		Total Depth = 8.0 ft Near refusal to excavation No groundwater					

blackburn consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: 530-887-1494 Fax: 530-887-1495
E-Mail: bcistaff@blackburnconsulting.com

1LOGPERPAGE TEST PIT LOGS.GPJ BLACKBRN.GDT 3/11/13

LOG OF TEST PIT TP08

Date Excavated: 2/5/13 Logged by: PFF Depth to Water (ft): None

Equipment: CAT 430D Backhoe Surface Elevation(ft): ~768 Time of Reading: 2/5/2013

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE	HAND PEN. (tsf)	MOISTURE (%)	DRY UNIT WT. (pcf)	LAB TESTS
		Sandy Silt, ML, stiff, moist, brown.		1.5			
		Metavolcanic Rock, olive to gray, intensely weathered, intensely fractured, soft.		4.0			
5		Metavolcanic Rock, olive to gray, fine to medium grained, intensely to moderately weathered, moderately fractured, moderately hard. Excavates as Gravelly silt with sand and cobbles with pieces generally 2 to 6 inches in diameter and some 8 to 14 inches.		4.5+			
		Total Depth = 5.5 ft Near refusal to excavation No groundwater					

blackburn consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: 530-887-1494 Fax: 530-887-1495
E-Mail: bcistaff@blackburnconsulting.com

1LOGPERPAGE TEST PIT LOGS.GPJ BLACKBRN.GDT 3/11/13

LOG OF TEST PIT TP09

Date Excavated: 2/5/13 Logged by: PFF Depth to Water (ft): None

Equipment: CAT 430D Backhoe Surface Elevation(ft): ~768 Time of Reading: 2/5/2013

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE	HAND PEN. (tsf)	MOISTURE (%)	DRY UNIT WT. (pcf)	LAB TESTS
		Sandy Silt with clay, ML, stiff, moist, reddish brown		1.5	19	100	
		Sandy Clay with gravel, CL, stiff to very stiff, moist, yellowish brown (decomposed rock).		1.75			
		Metavolcanic Rock, yellowish brown, intensely weathered, intensely fractured, soft. Excavates out as a sandy gravel with clay.					
5							
		Total Depth = 7.0 ft Slow to excavatable No groundwater					

blackburn consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: 530-887-1494 Fax: 530-887-1495
E-Mail: bcistaff@blackburnconsulting.com

1LOGPERPAGE TEST PIT LOGS.GPJ BLACKBRN.GDT 3/11/13

LOG OF TEST PIT TP10

Date Excavated: 2/5/13 Logged by: PFF Depth to Water (ft): None

Equipment: CAT 430D Backhoe Surface Elevation(ft): ~768 Time of Reading: 2/5/2013

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE	HAND PEN. (tsf)	MOISTURE (%)	DRY UNIT WT. (pcf)	LAB TESTS
		Sandy Silt with gravel, ML, soft to stiff, moist, reddish brown		1.0			
		Metavolcanic Rock, yellowish brown, intensely weathered, intensely fractured, soft. Foliation: N48W, 85NE		4.5+			
5		Metavolcanic Rock, fine grained, yellowish brown, intensely to moderately weathered, moderately fractured, soft. Excavates out with pieces generally less than 4 inches in diameter with some 6 to 12 inches.					
		Total Depth = 7.0 ft Refusal to excavation but on an irregularly weathered surface No groundwater					

blackburn consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: 530-887-1494 Fax: 530-887-1495
E-Mail: bcistaff@blackburnconsulting.com

1LOGPERPAGE TEST PIT LOGS.GPJ BLACKBRN.GDT 3/11/13

LOG OF TEST PIT TP11

Date Excavated: 2/5/13 Logged by: PFF Depth to Water (ft): None

Equipment: CAT 430D Backhoe Surface Elevation(ft): ~768 Time of Reading: 2/5/2013

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE	HAND PEN. (tsf)	MOISTURE (%)	DRY UNIT WT. (pcf)	LAB TESTS
		Sandy Silt, ML, stiff, moist, reddish brown.					PI
		Metavolcanic Rock, fine grained, yellowish brown to gray, moderately weathered, intensely fractured, moderately hard. Foliation: N38W, 70NE					
5		Total Depth = 3.0 ft Refusal to excavation No groundwater					

blackburn consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: 530-887-1494 Fax: 530-887-1495
E-Mail: bcistaff@blackburnconsulting.com

1LOGPERPAGE TEST PIT LOGS.GPJ BLACKBRN.GDT 3/11/13

GROUP SYMBOLS AND NAMES

Graphic / Symbol	Group Names
GW	Well-graded GRAVEL Well-graded GRAVEL with SAND
GP	Poorly graded GRAVEL Poorly graded GRAVEL with SAND
GW-GM	Well-graded GRAVEL with SILT Well-graded GRAVEL with SILT and SAND
GW-GC	Well-graded GRAVEL with CLAY (or SILTY CLAY) Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)
GP-GM	Poorly graded GRAVEL with SILT Poorly graded GRAVEL with SILT and SAND
GP-GC	Poorly graded GRAVEL with CLAY (or SILTY CLAY) Poorly graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)
GP	SILTY GRAVEL SILTY GRAVEL with SAND
GC	CLAYEY GRAVEL CLAYEY GRAVEL with SAND
GC-GM	SILTY, CLAYEY GRAVEL SILTY, CLAYEY GRAVEL with SAND
SW	Well-graded SAND Well-graded SAND with GRAVEL
SP	Poorly graded SAND Poorly graded SAND with GRAVEL
SW-SM	Well-graded SAND with SILT Well-graded SAND with SILT and GRAVEL
SW-SC	Well-graded SAND with CLAY (or SILTY CLAY) Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)
SP-SM	Poorly graded SAND with SILT Poorly graded SAND with SILT and GRAVEL
SP-SC	Poorly graded SAND with CLAY (or SILTY CLAY) Poorly graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)
SP	SILTY SAND SILTY SAND with GRAVEL
SP	CLAYEY SAND CLAYEY SAND with GRAVEL
SC-SM	SILTY, CLAYEY SAND SILTY, CLAYEY SAND with GRAVEL
PT	PEAT
	COBBLES COBBLES and BOULDERS BOULDERS

Graphic / Symbol	Group Names
CL	Lean CLAY Lean CLAY with SAND Lean CLAY with GRAVEL SANDY lean CLAY SANDY lean CLAY with GRAVEL GRAVELLY lean CLAY GRAVELLY lean CLAY with SAND
CL-ML	SILTY CLAY SILTY CLAY with SAND SILTY CLAY with GRAVEL SANDY SILTY CLAY SANDY SILTY CLAY with GRAVEL GRAVELLY SILTY CLAY GRAVELLY SILTY CLAY with SAND
ML	SILT SILT with SAND SILT with GRAVEL SANDY SILT SANDY SILT with GRAVEL GRAVELLY SILT GRAVELLY SILT with SAND
OL	ORGANIC lean CLAY ORGANIC lean CLAY with SAND ORGANIC lean CLAY with GRAVEL SANDY ORGANIC lean CLAY SANDY ORGANIC lean CLAY with GRAVEL GRAVELLY ORGANIC lean CLAY GRAVELLY ORGANIC lean CLAY with SAND
OL	ORGANIC SILT ORGANIC SILT with SAND ORGANIC SILT with GRAVEL SANDY ORGANIC SILT SANDY ORGANIC SILT with GRAVEL GRAVELLY ORGANIC SILT GRAVELLY ORGANIC SILT with SAND
CH	Fat CLAY Fat CLAY with SAND Fat CLAY with GRAVEL SANDY fat CLAY SANDY fat CLAY with GRAVEL GRAVELLY fat CLAY GRAVELLY fat CLAY with SAND
MH	Elastic SILT Elastic SILT with SAND Elastic SILT with GRAVEL SANDY elastic SILT SANDY elastic SILT with GRAVEL GRAVELLY elastic SILT GRAVELLY elastic SILT with SAND
OH	ORGANIC fat CLAY ORGANIC fat CLAY with SAND ORGANIC fat CLAY with GRAVEL SANDY ORGANIC fat CLAY SANDY ORGANIC fat CLAY with GRAVEL GRAVELLY ORGANIC fat CLAY GRAVELLY ORGANIC fat CLAY with SAND
OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL SANDY elastic ELASTIC SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
OL/OH	ORGANIC SOIL ORGANIC SOIL with SAND ORGANIC SOIL with GRAVEL SANDY ORGANIC SOIL SANDY ORGANIC SOIL with GRAVEL GRAVELLY ORGANIC SOIL GRAVELLY ORGANIC SOIL with SAND

FIELD AND LABORATORY TESTS

C	Consolidation (ASTM D 2435-04)
CL	Collapse Potential (ASTM D 5333-03)
CP	Compaction Curve (CTM 216 - 06)
CR	Corrosion, Sulfates, Chlorides (CTM 643 - 99; CTM 417 - 06; CTM 422 - 06)
CU	Consolidated Undrained Triaxial (ASTM D 4767-02)
DS	Direct Shear (ASTM D 3080-04)
EI	Expansion Index (ASTM D 4829-03)
M	Moisture Content (ASTM D 2216-05)
OC	Organic Content (ASTM D 2974-07)
P	Permeability (CTM 220 - 05)
PA	Particle Size Analysis (ASTM D 422-63 [2002])
PI	Liquid Limit, Plastic Limit, Plasticity Index (AASHTO T 89-02, AASHTO T 90-00)
PL	Point Load Index (ASTM D 5731-05)
PM	Pressure Meter
PP	Pocket Penetrometer
R	R-Value (CTM 301 - 00)
SE	Sand Equivalent (CTM 217 - 99)
SG	Specific Gravity (AASHTO T 100-06)
SL	Shrinkage Limit (ASTM D 427-04)
SW	Swell Potential (ASTM D 4546-03)
TV	Pocket Torvane
UC	Unconfined Compression - Soil (ASTM D 2166-06) Unconfined Compression - Rock (ASTM D 2938-95)
UU	Unconsolidated Undrained Triaxial (ASTM D 2850-03)
UW	Unit Weight (ASTM D 4767-04)
VS	Vane Shear (AASHTO T 223-96 [2004])

SAMPLER GRAPHIC SYMBOLS

- Standard Penetration Test (SPT)
- 2.5" ID Sampler
- 2" ID Sampler
- Shelby Tube
- Piston Sampler
- NX Rock Core
- HQ Rock Core
- Bulk Sample
- Other (see remarks)

DRILLING METHOD SYMBOLS

- Auger Drilling
- Rotary Drilling
- Dynamic Cone or Hand Driven
- Diamond Core

WATER LEVEL SYMBOLS

- First Water Level Reading (during drilling)
- Static Water Level Reading (short-term)
- Static Water Level Reading (long-term)

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

BORING RECORD LEGEND

COUNTY	ROUTE	POSTMILE
El Dorado		

PROJECT NAME
El Dorado Hills EDH 52

File No.	PREPARED BY	DATE	SHEET
556.6	**RCP**		**1 of 3**

CONSISTENCY OF COHESIVE SOILS				
Descriptor	**Unconfined Compressive Strength (tsf)**	**Pocket Penetrometer (tsf)**	**Torvane (tsf)**	**Field Approximation**
Very Soft	< 0.25	< 0.25	< 0.12	Easily penetrated several inches by fist
Soft	0.25 - 0.50	0.25 - 0.50	0.12 - 0.25	Easily penetrated several inches by thumb
Medium Stiff	0.50 - 1.0	0.50 - 1.0	0.25 - 0.50	Can be penetrated several inches by thumb with moderate effort
Stiff	1.0 - 2.0	1.0 - 2.0	0.50 - 1.0	Readily indented by thumb but penetrated only with great effort
Very Stiff	2.0 - 4.0	2.0 - 4.0	1.0 - 2.0	Readily indented by thumbnail
Hard	> 4.0	> 4.0	> 2.0	Indented by thumbnail with difficulty

APPARENT DENSITY OF COHESIONLESS SOILS	
Descriptor	**SPT N_{60} - Value (blows / foot)**
Very Loose	0 - 4
Loose	5 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	> 50

MOISTURE	
Descriptor	**Criteria**
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

PERCENT OR PROPORTION OF SOILS	
Descriptor	**Criteria**
Trace	Particles are present but estimated to be less than 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

SOIL PARTICLE SIZE		
Descriptor		**Size**
Boulder		> 12 inches
Cobble		3 to 12 inches
Gravel	Coarse	3/4 inch to 3 inches
	Fine	No. 4 Sieve to 3/4 inch
Sand	Coarse	No. 10 Sieve to No. 4 Sieve
	Medium	No. 40 Sieve to No. 10 Sieve
	Fine	No. 200 Sieve to No. 40 Sieve
Silt and Clay		Passing No. 200 Sieve

PLASTICITY OF FINE-GRAINED SOILS	
Descriptor	**Criteria**
Nonplastic	A 1/8-inch thread cannot be rolled at any water content.
Low	The thread can barely be rolled, and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll, and not much time is required to reach the plastic limit; it cannot be rerolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit.
High	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit.

CEMENTATION	
Descriptor	**Criteria**
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

NOTE: This legend sheet provides descriptors and associated criteria for required soil description components only. Refer to Caltrans Soil and Rock Logging, Classification, and Presentation Manual (July 2007), Section 2, for tables of additional soil description components and discussion of soil description and identification.

blackburn consulting
Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

BORING RECORD LEGEND

COUNTY	ROUTE	POSTMILE
El Dorado		

PROJECT NAME: **El Dorado Hills EDH 52**

File No.	PREPARED BY	DATE	SHEET
556.6	**RCP**		**2 of 3**

ROCK GRAPHIC SYMBOLS


IGNEOUS ROCK


SEDIMENTARY ROCK


METAMORPHIC ROCK

BEDDING SPACING

Descriptor	Thickness or Spacing
Massive	> 10 ft
Very thickly bedded	3 to 10 ft
Thickly bedded	1 to 3 ft
Moderately bedded	3-5/8 inches to 1 ft
Thinly bedded	1-1/4 to 3-5/8 inches
Very thinly bedded	3/8 inch to 1-1/4 inches
Laminated	< 3/8 inch

WEATHERING DESCRIPTORS FOR INTACT ROCK

	Diagnostic Features					
	Chemical Weathering-Discoloration-Oxidation		Mechanical Weathering and Grain Boundary Conditions	Texture and Solutioning		
Descriptor	Body of Rock	Fracture Surfaces		Texture	Solutioning	General Characteristics
Fresh	No discoloration, not oxidized	No discoloration or oxidation	No separation, intact (tight)	No change	No solutioning	Hammer rings when crystalline rocks are struck.
Slightly Weathered	Discoloration or oxidation is limited to surface of, or short distance from, fractures; some feldspar crystals are dull	Minor to complete discoloration or oxidation of most surfaces	No visible separation, intact (tight)	Preserved	Minor leaching of some soluble minerals may be noted	Hammer rings when crystalline rocks are struck. Body of rock not weakened.
Moderately Weathered	Discoloration or oxidation extends from fractures usually throughout; Fe-Mg minerals are "rusty"; feldspar crystals are "cloudy"	All fracture surfaces are discolored or oxidized	Partial separation of boundaries visible	Generally preserved	Soluble minerals may be mostly leached	Hammer does not ring when rock is struck. Body of rock is slightly weakened.
Intensely Weathered	Discoloration or oxidation throughout; all feldspars and Fe-Mg minerals are altered to clay to some extent; or chemical alteration produces in situ disaggregation (refer to grain boundary conditions)	All fracture surfaces are discolored or oxidized; surfaces are friable	Partial separation, rock is friable; in semi-arid conditions, granitics are disaggregated	Altered by chemical disintegration such as via hydration or argillation	Leaching of soluble minerals may be complete	Dull sound when struck with hammer; usually can be broken with moderate to heavy manual pressure or by light hammer blow without reference to planes of weakness such as incipient or hairline fractures or veinlets. Rock is significantly weakened.
Decomposed	Discolored of oxidized throughout, but resistant minerals such as quartz may be unaltered; all feldspars and Fe-Mg minerals are completely altered to clay		Complete separation of grain boundaries (disaggregated)	Resembles a soil; partial or complete remnant rock structure may be preserved; leaching of soluble minerals usually complete		Can be granulated by hand. Resistant minerals such as quartz may be present as "stringers" or "dikes".

Note: Combination descriptors (such as "slightly weathered to fresh") are used where equal distribution of both weathering characteristics is present over significant intervals or where characteristics present are "in between" the diagnostic feature. However, combination descriptors should not be used where significant identifiable zones can be delineated. Only two adjacent descriptors shall be combined. "Very intensely weathered" is the combination descriptor for "decomposed to intensely weathered".

RELATIVE STRENGTH OF INTACT ROCK

Descriptor	Uniaxial Compressive Strength (psi)
Extremely Strong	> 30,000
Very Strong	14,500 - 30,000
Strong	7,000 - 14,500
Medium Strong	3,500 - 7,000
Weak	700 - 3,500
Very Weak	150 - 700
Extremely Weak	< 150

ROCK HARDNESS

Descriptor	Criteria
Extremely Hard	Specimen cannot be scratched with pocket knife or sharp pick; can only be chipped with repeated heavy hammer blows
Very hard	Specimen cannot be scratched with pocket knife or sharp pick; breaks with repeated heavy hammer blows
Hard	Specimen can be scratched with pocket knife or sharp pick with heavy pressure; heavy hammer blows required to break specimen
Moderately Hard	Specimen can be scratched with pocket knife or sharp pick with light or moderate pressure; breaks with moderate hammer blows
Moderately Soft	Specimen can be grooved 1/6 in. with pocket knife or sharp pick with moderate or heavy pressure; breaks with light hammer blow or heavy hand pressure
Soft	Specimen can be grooved or gouged with pocket knife or sharp pick with light pressure, breaks with light to moderate hand pressure
Very Soft	Specimen can be readily indented, grooved, or gouged with fingernail, or carved with pocket knife; breaks with light hand pressure

CORE RECOVERY CALCULATION (%)

$$\frac{\Sigma \text{ Length of the recovered core pieces (in.)}}{\text{Total length of core run (in.)}} \times 100$$

RQD CALCULATION (%)

$$\frac{\Sigma \text{ Length of intact core pieces} > 4 \text{ in.}}{\text{Total length of core run (in.)}} \times 100$$

FRACTURE DENSITY

Descriptor	Criteria
Unfractured	No fractures
Very Slightly Fractured	Lengths greater 3 ft
Slightly Fractured	Lengths from 1 to 3 ft, few lengths outside that range
Moderately Fractured	Lengths mostly in range of 4 in. to 1 ft, with most lengths about 8 in.
Intensely Fractured	Lengths average from 1 in. to 4 in. with scattered fragmented intervals with lengths less than 4 in.
Very Intensely Fractured	Mostly chips and fragments with few scattered short core lengths

blackburn consulting
Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

BORING RECORD LEGEND

COUNTY	ROUTE	POSTMILE
El Dorado		

PROJECT NAME: El Dorado Hills EDH 52

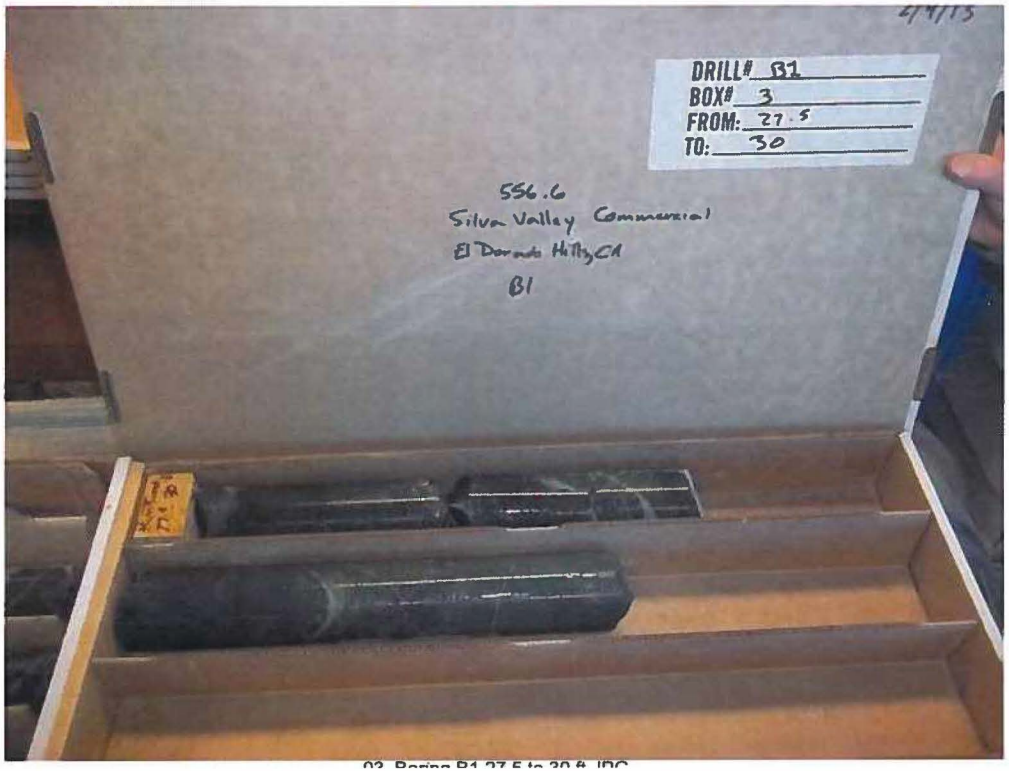
File No.	PREPARED BY	DATE	SHEET
556.6	RCP		3 of 3



01. Boring B1 10.2 to 19.2 ft.JPG



02. Boring B1 19.2 to 27.5 ft.JPG



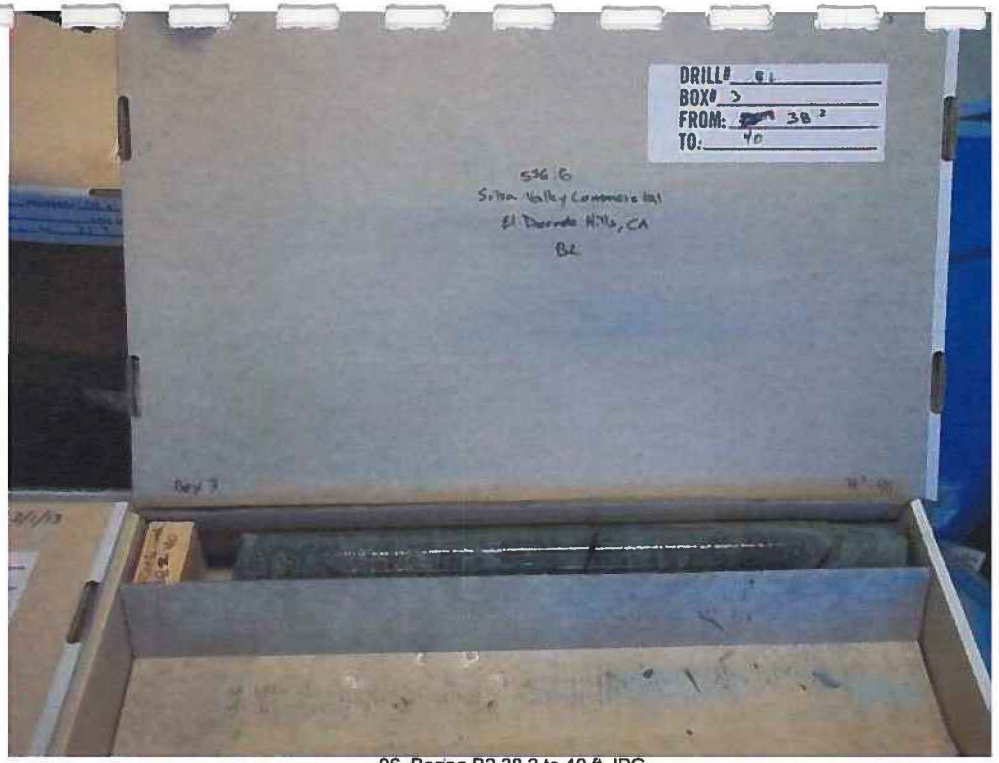
03. Boring B1 27.5 to 30 ft.JPG



04. Boring B2 20.5 to 29.8 ft.JPG



05. Boring B2 28.8 to 38.2 ft.JPG



06. Boring B2 38.2 to 40 ft.JPG



07. Boring B3 13.0 to 21.7 ft.JPG



08. Boring B3 21.7 to 30.1 ft.JPG



09. Boring B4 4.6 to 16.8 ft.JPG



10. Boring B4 16.8 to 24.2 ft.JPG



01. Test Pit TP 1.jpg
02/04/2013



02. Test Pit TP 1.jpg
02/04/2013



03. Test Pit TP 2.jpg
02/04/2013



04. Test Pit TP 2.jpg
02/04/2013



05. Test Pit TP 3.jpg
02/04/2013



06. Test Pit TP 3.jpg
02/04/2013



07. Test Pit TP 4.jpg
02/04/2013



08. Test Pit TP 4.jpg
02/04/2013



09. Test Pit TP 5.jpg
02/04/2013



10. Test Pit TP 5.jpg
02/04/2013



11. Test Pit TP 6.jpg
02/04/2013



12. Test Pit TP 6.jpg
02/04/2013



13. Test Pit TP 7.jpg
02/04/2013



14. Test Pit TP 7.jpg
02/04/2013



15. Test Pit TP 8.jpg
02/04/2013



16. Test Pit TP 8.jpg
02/04/2013



17. Test Pit TP 9.jpg
02/04/2013



18. Test Pit TP 9.jpg
02/04/2013



19. Test Pit TP 10.jpg
02/04/2013



20. Test Pit TP 10.jpg
02/04/2013



21. Test Pit TP 11.jpg
02/04/2013



22. Test Pit TP 11.jpg
02/04/2013

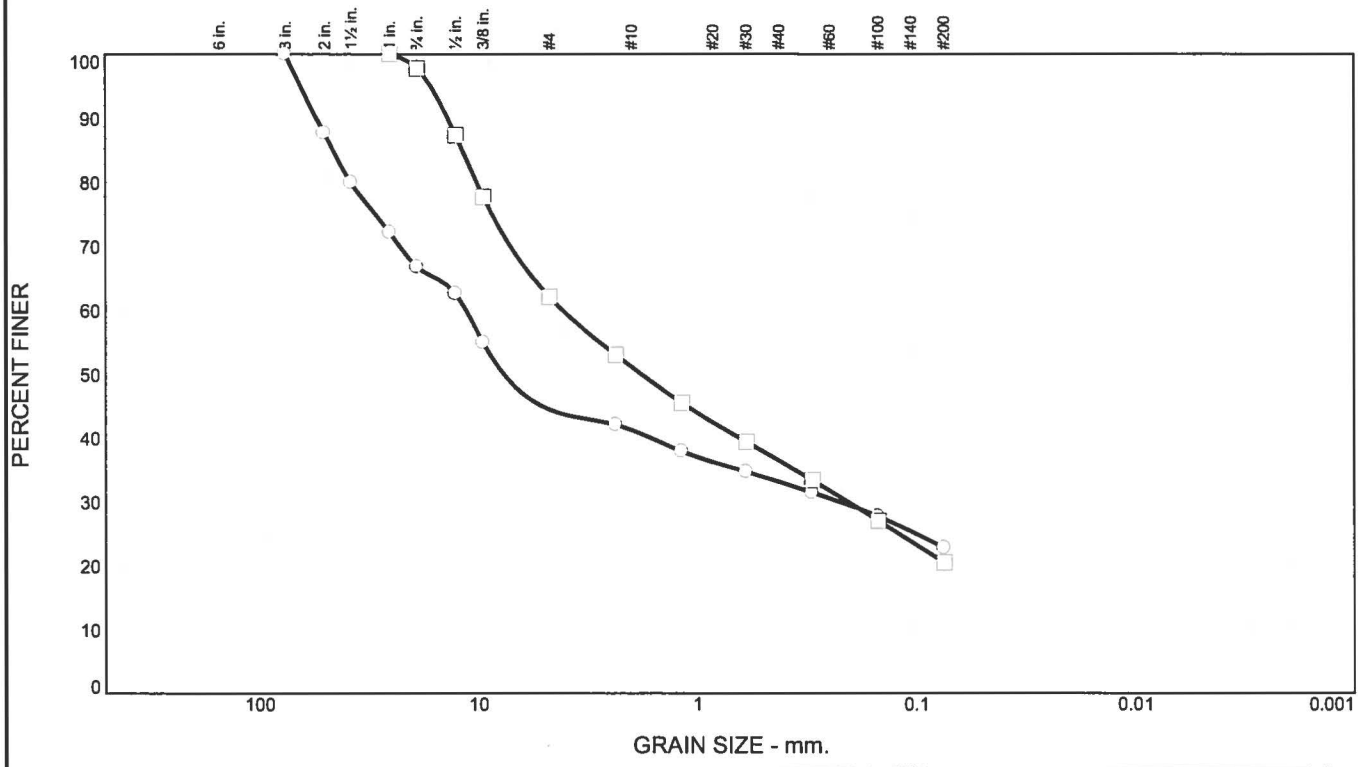


Remnant Structure, Area 1.jpg

APPENDIX B

Laboratory Test Results

Particle Size Distribution Report



	+3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PL	PI
○	0.0	55.5	21.7	22.8		GM			
□	0.0	37.9	41.7	20.4		SC			

SIEVE inches size	○	□
3.0"	100.0	
2.0"	87.7	
1.5"	79.9	
1.0"	72.1	100.0
3/4"	66.8	97.7
1/2"	62.6	87.3
3/8"	54.9	77.7
GRAIN SIZE		
D_{60}	11.3834	4.1397
D_{30}	0.2248	0.2075
D_{10}		
COEFFICIENTS		
C_c		
C_u		

SIEVE number size	○	□
#4		62.1
#8	42.1	53.0
#16	37.9	45.5
#30	34.7	39.4
#50	31.5	33.4
#100	27.7	27.0
#200	22.8	20.4

Material Description

○ Reddish Brown Silty Gravel

□ Brown Clayey SAND with Gravel

REMARKS:

○ Depth: 1.0'-5.0' Sample Number: T5-1 & T10-1

□ Depth: 2.0'-4.0' Sample Number: T7-1

Blackburn Consulting

Auburn, CA

Client: EDH 52 LLC

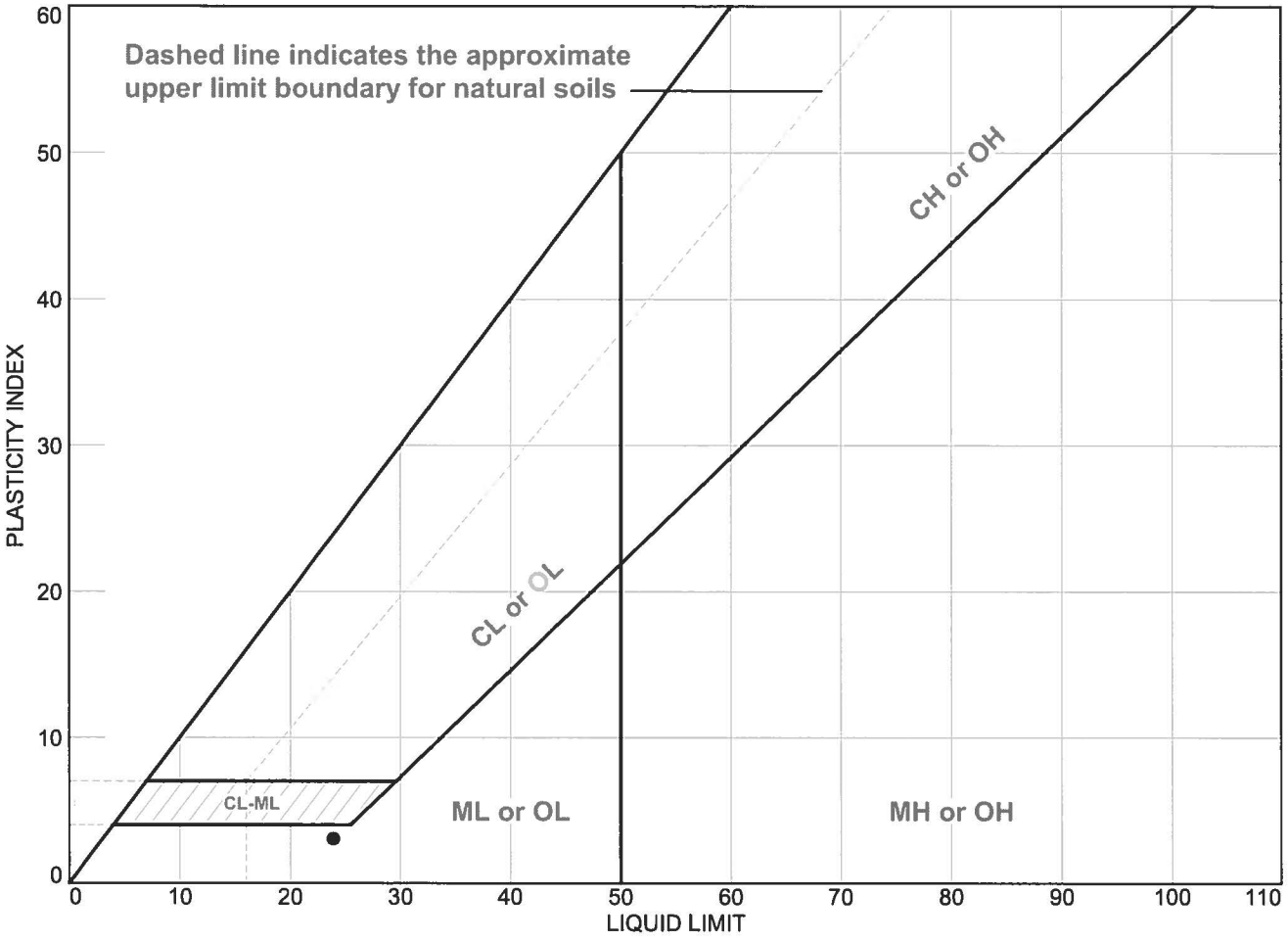
Project: EDH 52

Project No.: 556.6

Figure

Tested By: KLC **Checked By:** PFF

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●		T11-1	0.5'-1.0'		21	24	3	ML

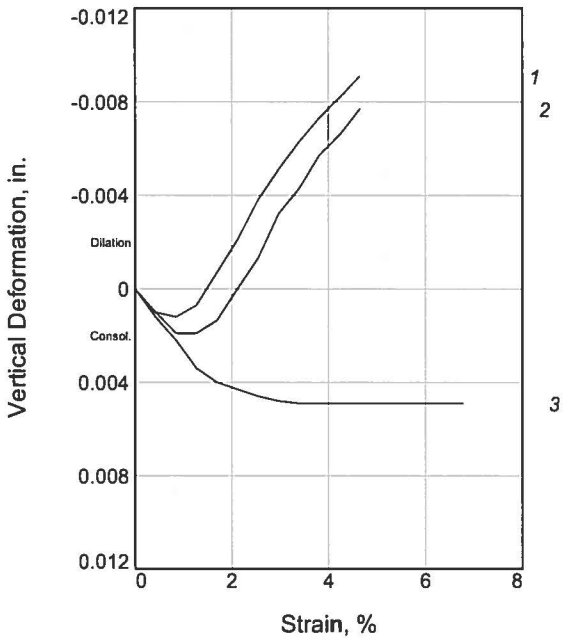
Blackburn Consulting

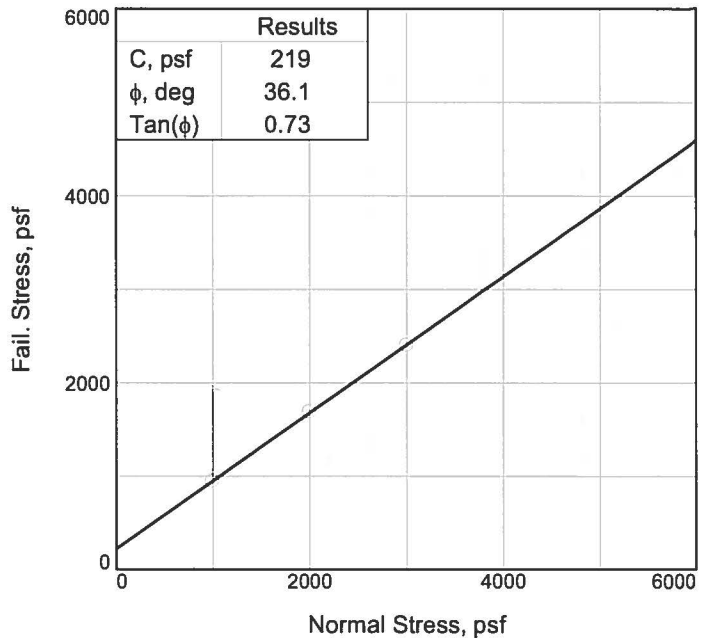
Auburn, CA

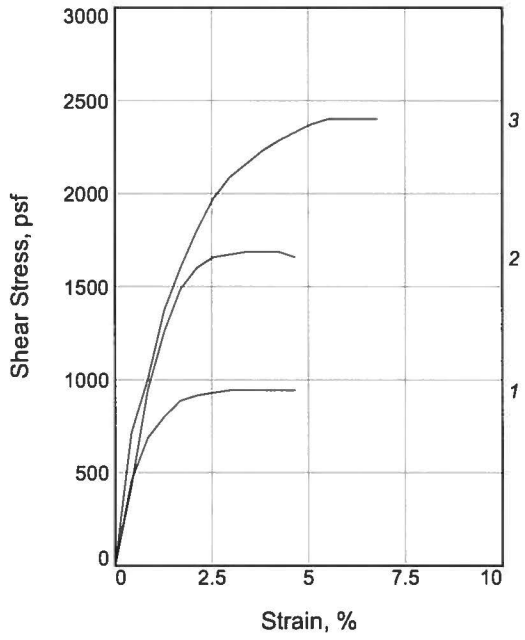
Client: EDH 52 LLC
Project: EDH 52
Project No.: 556.6

Figure

Tested By: KLC **Checked By:** PFF







Sample No.		1	2	3
Initial	Water Content, %	11.5	11.4	11.3
	Dry Density, pcf	116.0	116.0	116.3
	Saturation, %	65.9	65.5	65.3
	Void Ratio	0.4798	0.4798	0.4763
	Diameter, in.	2.36	2.36	2.36
	Height, in.	0.94	0.94	0.94
At Test	Water Content, %	16.4	15.0	16.9
	Dry Density, pcf	118.4	121.5	117.1
	Saturation, %	100.0	100.0	100.0
	Void Ratio	0.4497	0.4132	0.4660
	Diameter, in.	2.36	2.36	2.36
	Height, in.	0.93	0.90	0.94
Normal Stress, psf		1000	2000	3000
Fail. Stress, psf		944	1687	2402
Strain, %		3.0	3.4	5.5
Ult. Stress, psf				
Strain, %				
Strain rate, in./min.		0.10	0.10	0.10

Sample Type: remolded
Description: Brown Clayey SAND with Gravel

Assumed Specific Gravity= 2.75
Remarks: Material screened on 3/8" sieve, and remolded to aprroximately 92% of maximum dry denisity near optimum moisture.

Figure _____

Client: EDH 52 LLC

Project: EDH 52

Sample Number: T7-1 **Depth:** 2.0'-4.0'

Proj. No.: 556.6 **Date Sampled:**

DIRECT SHEAR TEST REPORT

Blackburn Consulting

Tested By: KLC **Checked By:** Pff

Auburn Office:
11521 Blocker Drive, Suite 110 • Auburn, CA 95603
(530) 887-1494 • Fax (530) 887-1495

blackburn consulting

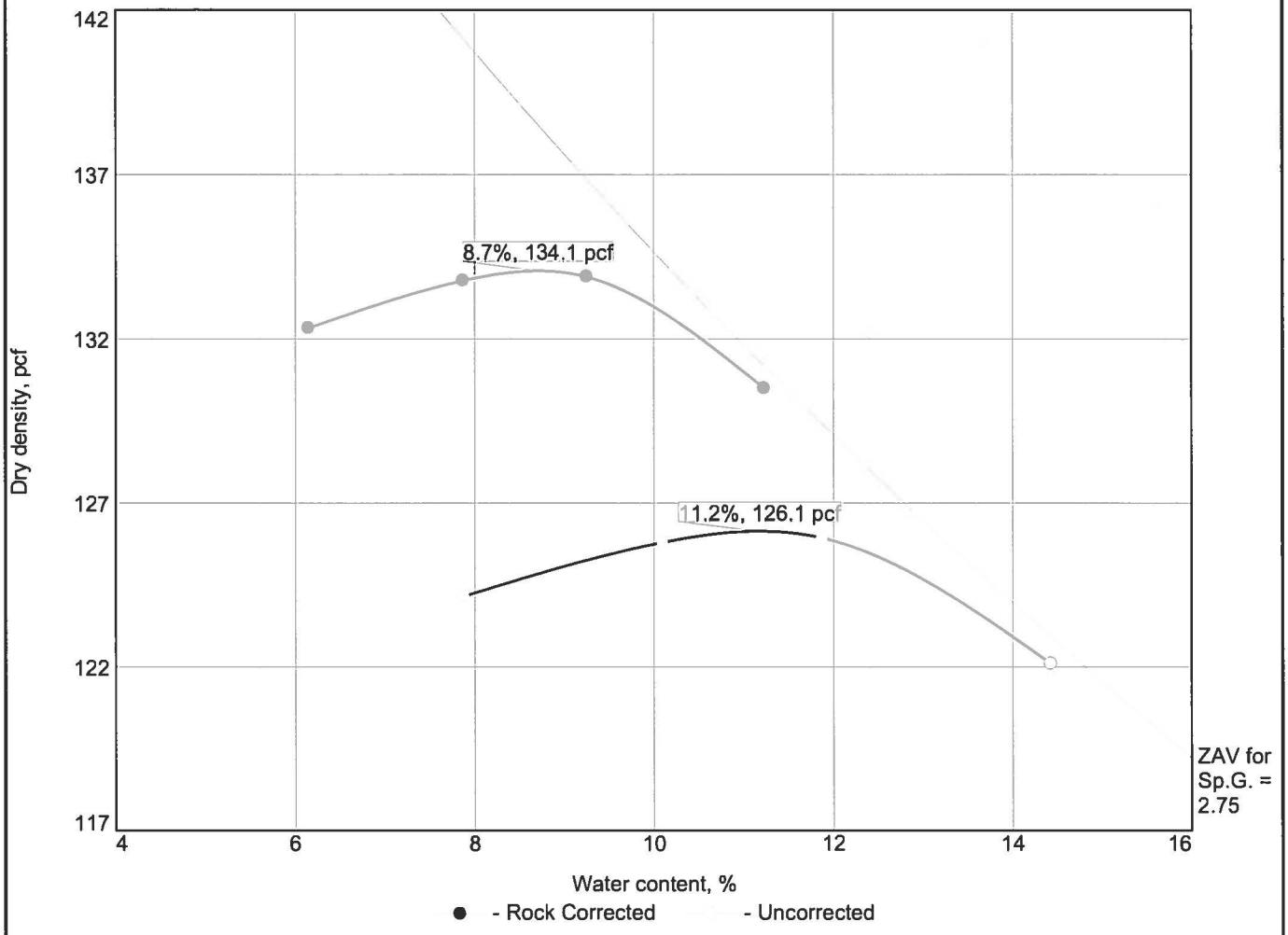
Modesto Office: (209) 522-6273
West Sacramento Office: (916) 375-8706

Rock Core Compression Test

BCI File No.: 556.6
Project Name: EDH 52

Specimen	Depth (ft)	FINAL TRIM LENGTH (In.)	Trim Length (In.)	ORIGINAL LENGTH	DIAMETER (In.)	AREA ($In.^2$)	TOTAL LOAD (lbs.)	COMP STRENGTH (psi)	L/D RATIO	CORR. FACTOR	CORR. COMP. STRENGTH (psi)	WET CORE WEIGHT	UNIT WEIGHT (pcf)
B1 Run 4	22.5	5.112	5.123	10.81	2.340	4.30	74685	17,370	2.18	1	**17370**	1037.2	179.8
B2 Run 3	22.0	5.136	5.176	10.82	2.394	4.50	14385	3,200	2.15	1	**3200**	1067.1	175.9
B2 Run 5	35.0	5.121	5.126	13.14	2.393	4.50	54085	12,030	2.14	1	**12030**	1113.2	184.2
B3 Run 2	18.3	5.147	5.154	13.25	2.389	4.48	31635	7,060	2.15	1	**7060**	1059.0	174.9
B3 Run4	28.0	5.033	5.062	23.25	2.390	4.49	22775	5,080	2.11	1	**5080**	1029.3	173.7

COMPACTION CURVE REPORT



Test specification: ASTM D 1557-00 Method B Modified
ASTM D 4718-87 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
2.0'-4.0'	SC			2.75			22.3	20.4

ROCK CORRECTED TEST RESULTS	UNCORRECTED
Maximum dry density = 134.1 pcf	126.1 pcf
Optimum moisture = 8.7 %	11.2 %

MATERIAL DESCRIPTION
Brown Clayey SAND with Gravel

Project No. 556.6 **Client:** EDH 52 LLC
Project: EDH 52

○ **Depth:** 2.0'-4.0' **Sample Number:** T7-1

Remarks:

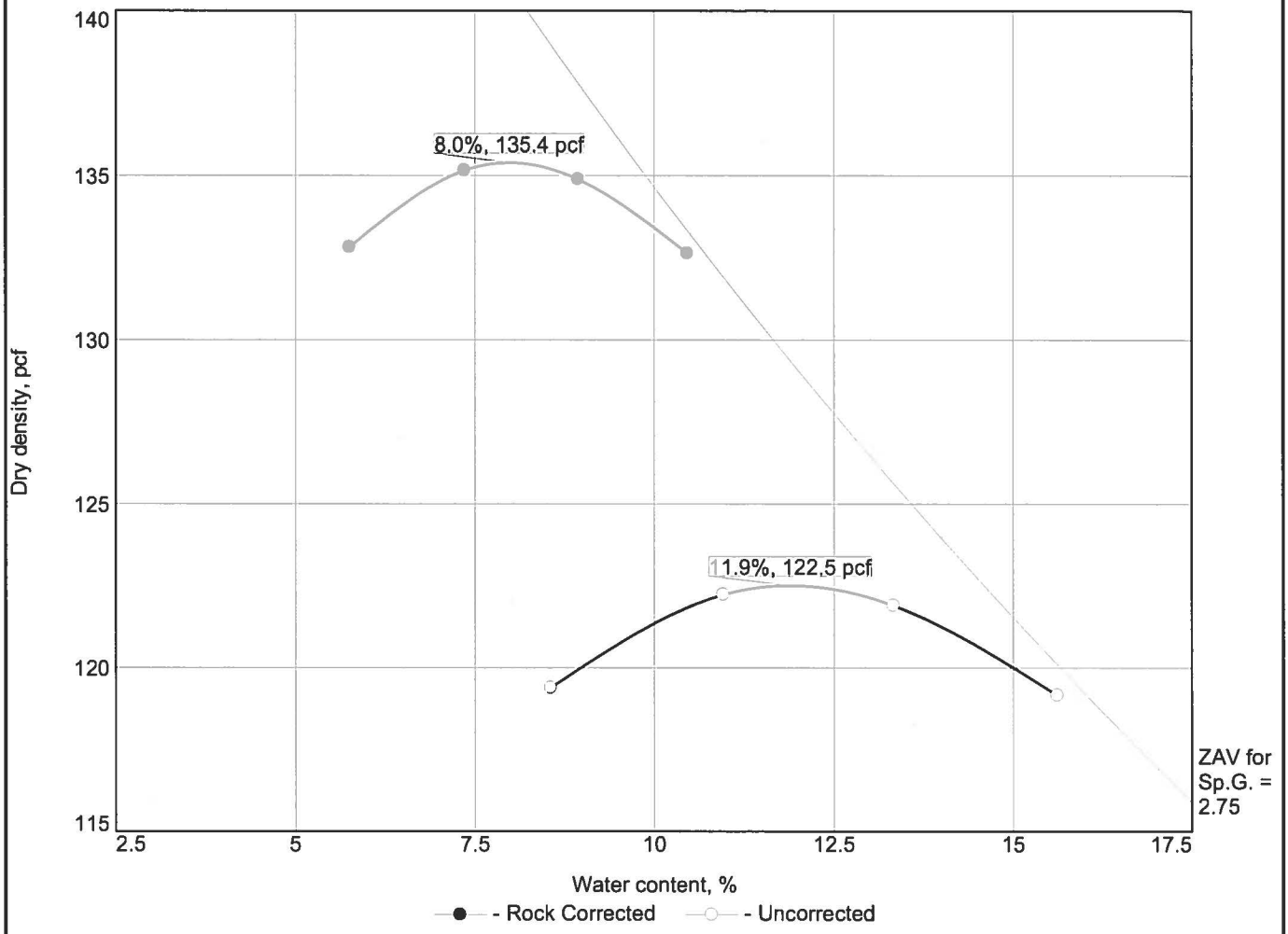
Blackburn Consulting

Auburn, CA

Figure

Tested By: KLC **Checked By:** PFF

COMPACTION CURVE REPORT



Test specification: ASTM D 1557-07 Method C Modified
ASTM D 4718-87 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
1.0'-5.0'	GM			2.70			33.2	22.8

ROCK CORRECTED TEST RESULTS	UNCORRECTED
Maximum dry density = 135.4 pcf	122.5 pcf
Optimum moisture = 8.0 %	11.9 %

MATERIAL DESCRIPTION
Reddish Brown Silty Gravel

Project No. 556.6 **Client:** EDH 52 LLC
Project: EDH 52

○ **Depth:** 1.0'-5.0' **Sample Number:** T5-1 & T10-1

Blackburn Consulting

Auburn, CA

Remarks:

Figure

Tested By: KLC **Checked By:** PFF

APPENDIX C

Seismic Refraction Notes
Seismic Refraction Profiles (SR1 to SR5)

APPENDIX C – Seismic Refraction Survey Notes and Profiles

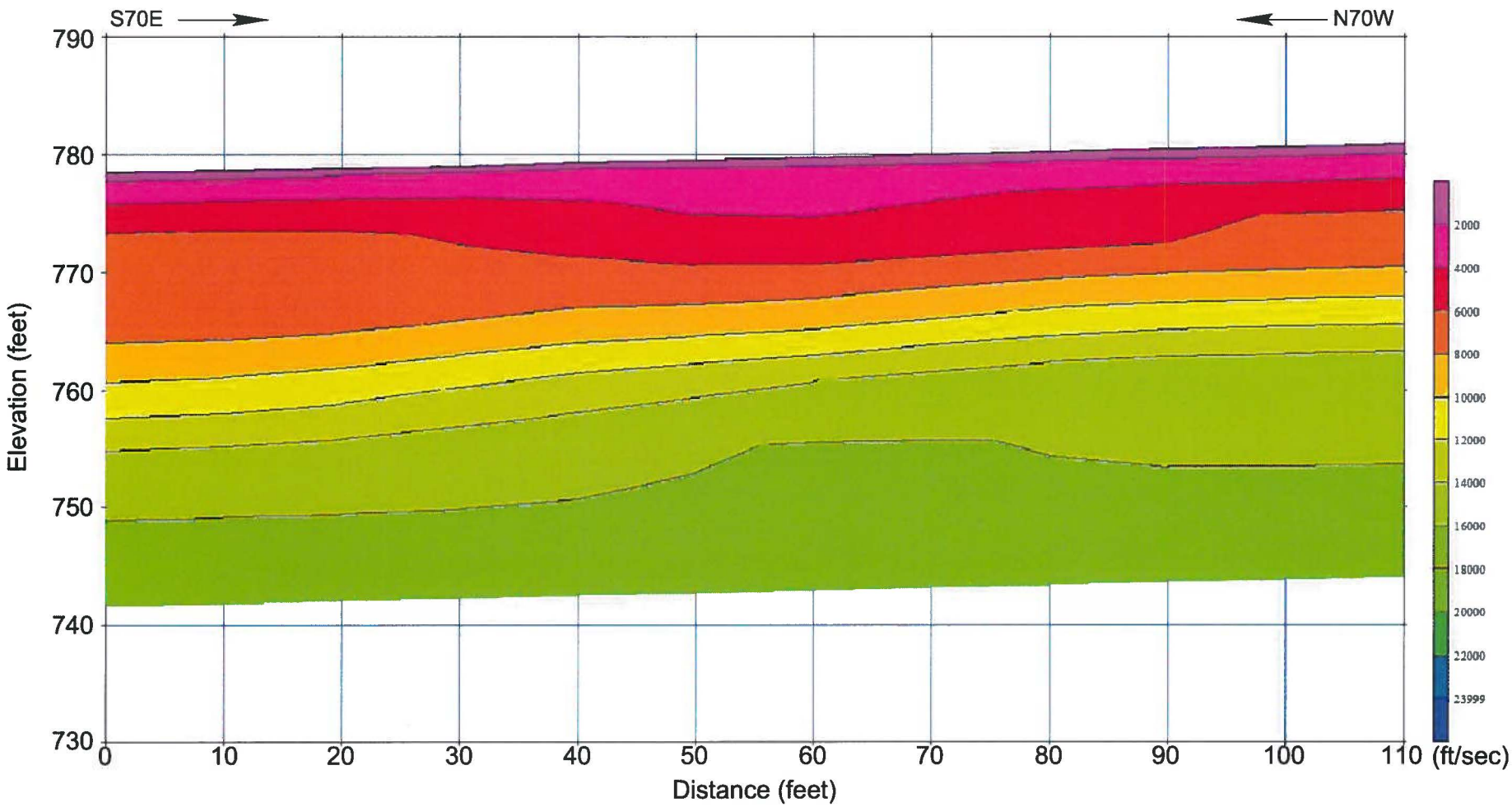
Seismic Refraction Survey Notes

Seismic refraction profiling is the process by which seismic waves are produced, recorded and analyzed to determine the seismic velocity of subsurface materials. In general terms, the seismic velocity of the subsurface is derived from the travel time of compressional wave (P-wave) energy over the distance from the source to recording devices. P-wave energy is generated at the surface by an impulsive source. The P-wave energy propagates into the subsurface and is refracted along subsurface interfaces (likely layers) representing an increase in velocity. P-wave energy returns to the surface where it is detected by an array of geophones and recorded by a seismograph. Analysis of this data produces the theoretical depth, thickness, and seismic velocity of the subsurface layers. The seismic velocity of the subsurface materials can be correlated to soil and rock types, and rock weathering and competency.

We performed our seismic refraction fieldwork in January 2013. Refraction work consisted of 5 survey lines, each 110 feet in length. Location of the refraction work is based on the proposed rough grade elevations and location of significant cuts. Our Professional Geologist led the field exercises and monitored the data acquisition. Figure 2 shows the approximate location of each seismic survey. Seismic line locations are based on measurement from features shown on the project base map and are considered approximate.

Each seismic refraction line consists of 5 shot points distributed along a linear array of 12 geophones placed at 10-foot intervals along the array. A multi-channel receiver (seismograph) is located at one end of the array to collect the data. Compressional wave energy (P-wave) is generated at each shot point using multiple impacts with a 20-pound sledge hammer striking a steel and/or aluminum plate placed on the ground surface. A Strataview R48 Seismograph is used to detect, digitize, and record the P-waves.

BCI used the computer program SeisImager by Geometrics, Inc. to analyze the acquired data. The profile of the ground surface at each seismic line location, as seen in the Seismic Profiles, is based on our interpretation of the topography shown on the project topography. Interpreted seismic profiles (subsurface) are attached.



blackburn consulting

11521 Blocker Drive, Ste 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495
www.blackburnconsulting.com

SR1 SEISMIC PROFILE

EDH 52

Highway 50 & Silva Valley Parkway

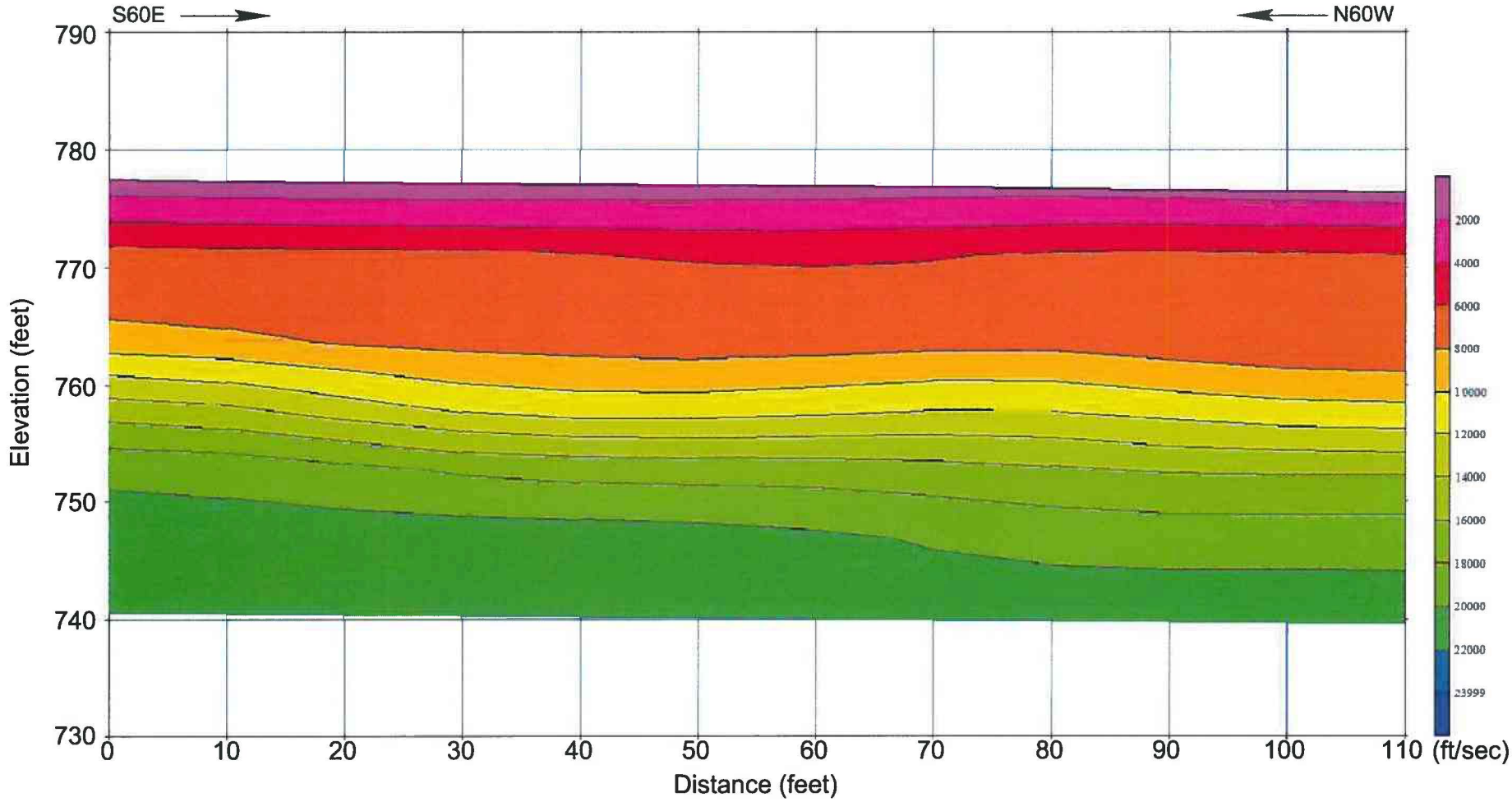
El Dorado Hills, California

File No. 556.6

March 2013

Appendix C

2/28/2013 556.6 App C EDH 52.dwg



SR2 SEISMIC PROFILE

EDH 52

Highway 50 & Silva Valley Parkway

El Dorado Hills, California

blackburn consulting

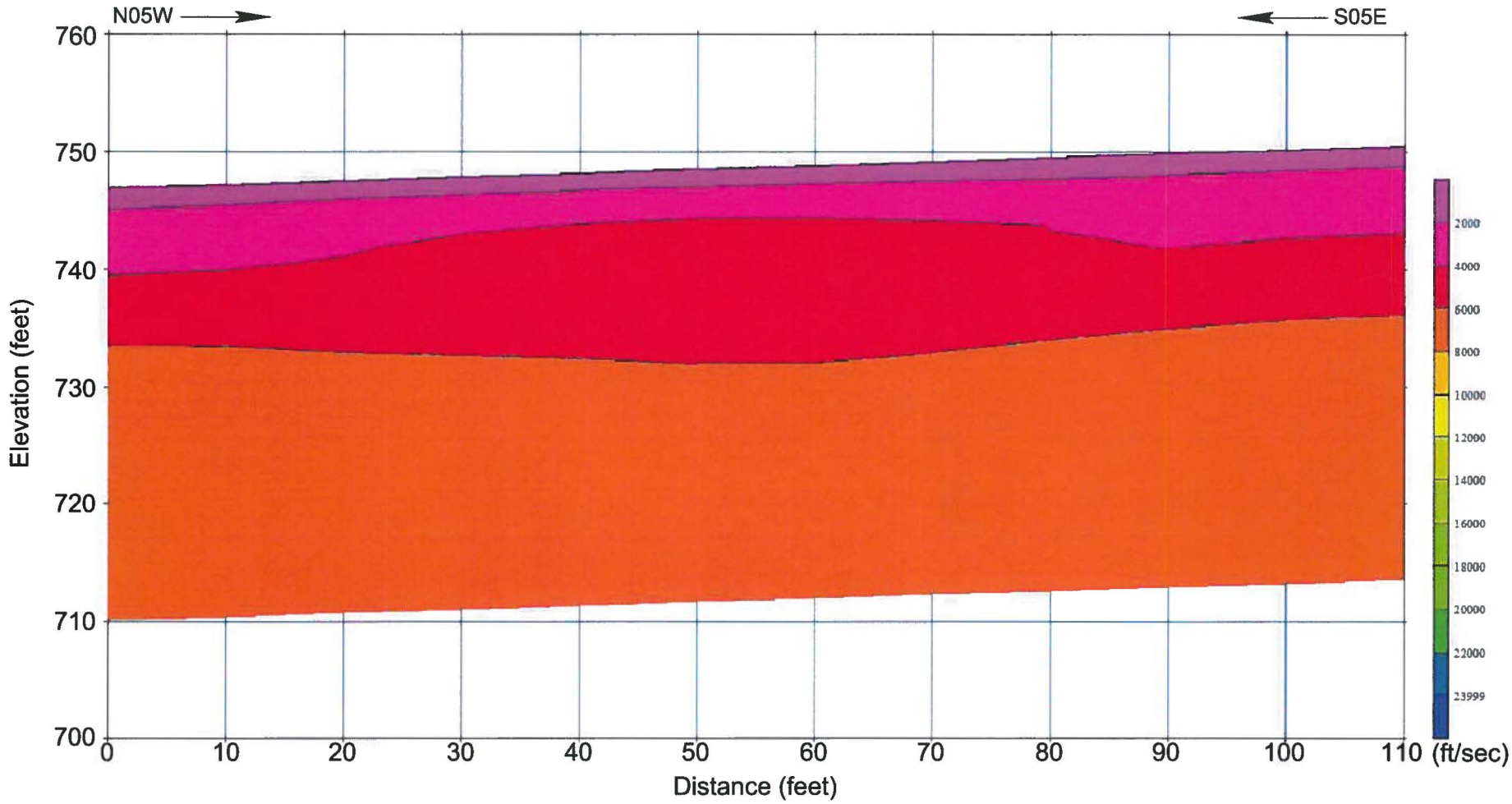
11521 Blocker Drive, Ste 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495
www.blackburnconsulting.com

File No. 556.6

March 2013

Appendix C

2/28/2013 556.6 App C EDH 52.dwg



SR3 SEISMIC PROFILE

EDH 52

Highway 50 & Silva Valley Parkway

El Dorado Hills, California

blackburn consulting

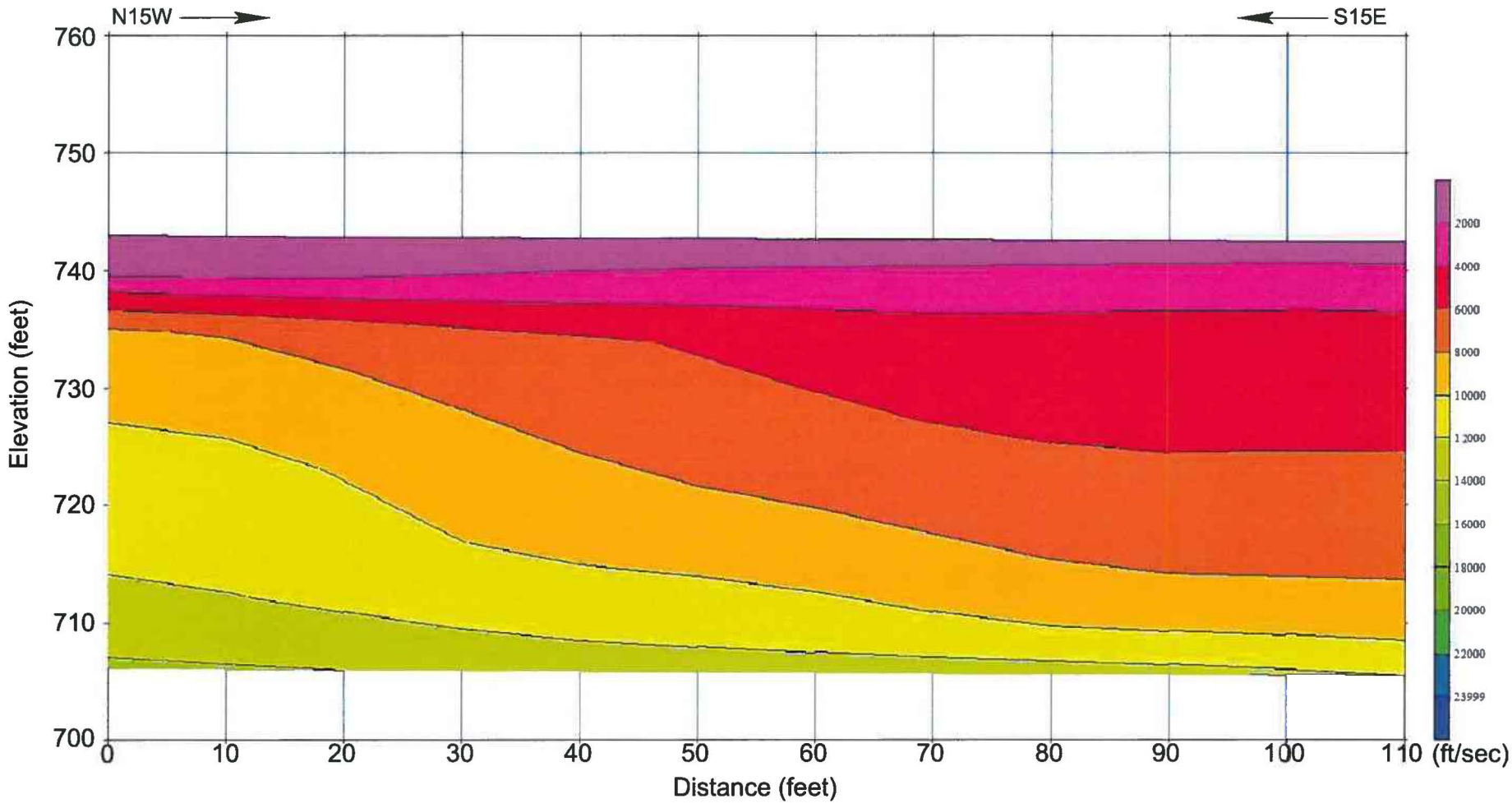
11521 Blocker Drive, Ste 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495
www.blackburnconsulting.com

File No. 556.6

March 2013

Appendix C

2/28/2013 556.6 App C EDH 52.dwg



blackburn consulting

11521 Blocker Drive, Ste 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495
www.blackburnconsulting.com

SR4 SEISMIC PROFILE

EDH 52

Highway 50 & Silva Valley Parkway

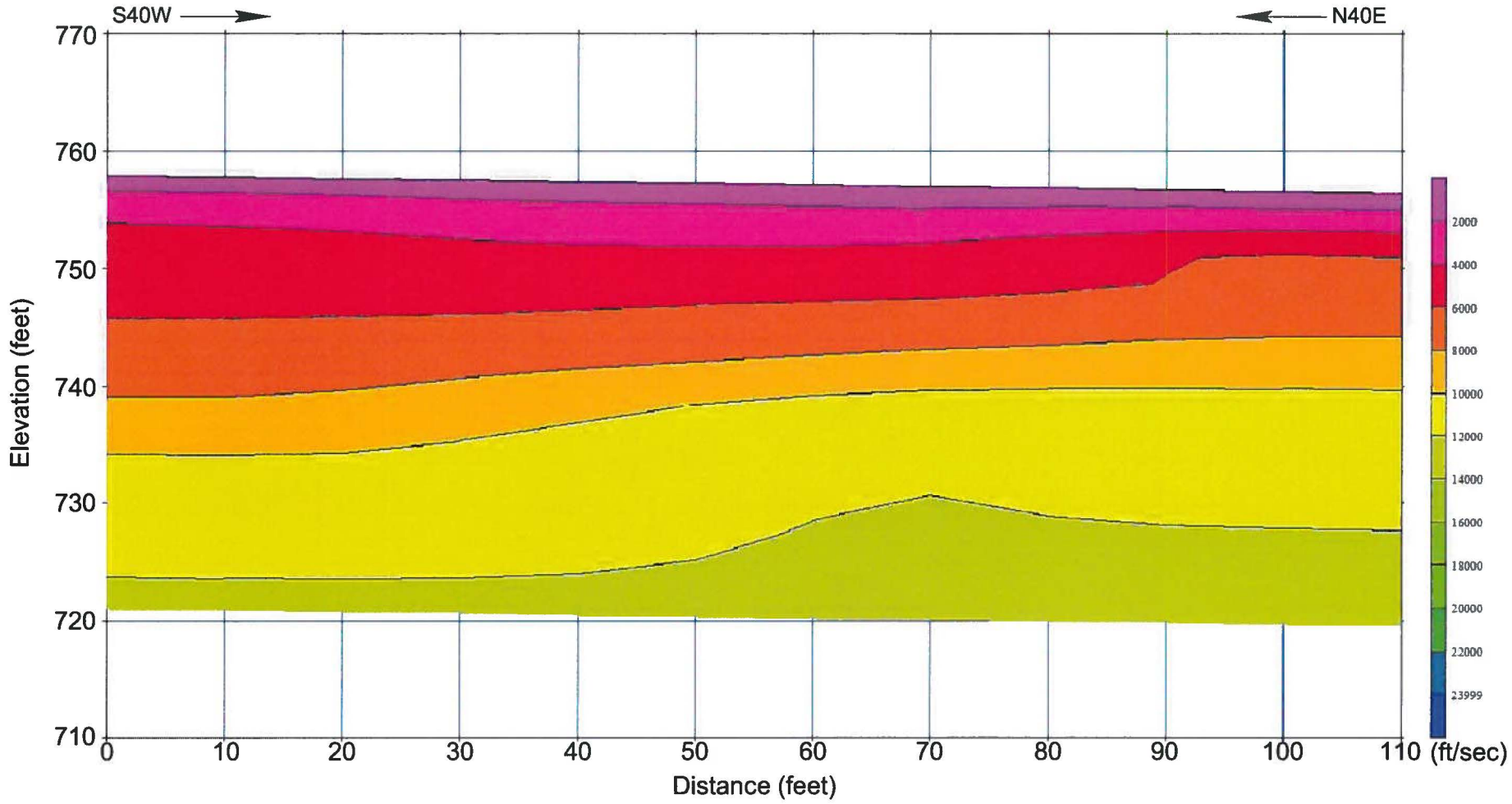
El Dorado Hills, California

File No. 556.6

March 2013

Appendix C

2/28/2013 556 6 App C EDH 52.dwg



SR5 SEISMIC PROFILE

EDH 52

Highway 50 & Silva Valley Parkway

El Dorado Hills, California

blackburn consulting

11521 Blocker Drive, Ste 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495
www.blackburnconsulting.com

File No. 556.6

March 2013

Appendix C

2/28/2013 556.6 App C EDH 52.dwg

APPENDIX D

Silva Valley Parkway Interchange Investigation Logs (Excerpt from BCI, 2012)

LOGGED BY	BEGIN DATE	COMPLETION DATE	BOREHOLE LOCATION (Lat/Long or North/East and Datum)	HOLE ID
PFF	7-2-10	7-2-10		T-10-114
DRILLING CONTRACTOR			BOREHOLE LOCATION (Offset, Station, Line)	SURFACE ELEVATION
Monte Rickey Excavating				~757.5 ft
DRILLING METHOD			DRILL RIG	BOREHOLE DIAMETER
Backhoe			CAT 430D	
SAMPLER TYPE(S) AND SIZE(S) (ID)			SPT HAMMER TYPE	HAMMER EFFICIENCY, ERi
bucket cuttings				
BOREHOLE BACKFILL AND COMPLETION			GROUNDWATER READINGS DURING DRILLING not encountered AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING 2.8 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	0		SANDY SILT (ML); stiff; reddish brown; dry.		D01			100							PA, PI
	1		METAMORPHIC ROCK, Metavolcanic, fine-grained to medium-grained, massive, grayish brown, decomposed, soft, intensely fractured, (Sandy Clay), with clay lenses 4-6" thick.												
755.50	2		METAMORPHIC ROCK, Metavolcanic, fine-grained to medium-grained, massive, medium gray, intensely to moderately weathered, moderately hard, intensely fractured, Predominate fracture (foliation) N35W, 80-85N and random..												
	3		Bottom of borehole at 2.8 ft bgs Essential Refusal at 2.8 ft. This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (June 2007) except as noted on the Soil or Rock Legend or below.												
753.50	4														
	5														
751.50	6														
	7														
749.50	8														
	9														
747.50	10														
	11														
	12														

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

REPORT TITLE				HOLE ID
BORING RECORD				T-10-114
DIST.	COUNTY	ROUTE	POSTMILE	EA
03	ED	50	1.1/R2.4	03-1E2901
PROJECT OR BRIDGE NAME				
Silva Valley Parkway Interchange				
BRIDGE NUMBER	PREPARED BY		DATE	SHEET
	RCP			1 of 1

LOGGED BY	BEGIN DATE	COMPLETION DATE	BOREHOLE LOCATION (Lat/Long or North/East and Datum)	HOLE ID
PFF	7-2-10	7-2-10		T-10-119
DRILLING CONTRACTOR			BOREHOLE LOCATION (Offset, Station, Line)	SURFACE ELEVATION
Monte Rickey Excavating				~762.6 ft
DRILLING METHOD			DRILL RIG	BOREHOLE DIAMETER
Backhoe			CAT 430D	
SAMPLER TYPE(S) AND SIZE(S) (ID)			SPT HAMMER TYPE	HAMMER EFFICIENCY, ERi
bucket cuttings				
BOREHOLE BACKFILL AND COMPLETION			GROUNDWATER READINGS DURING DRILLING not encountered AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING 2.8 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	0		SANDY SILT with GRAVEL (ML); stiff; reddish brown; dry.		D01			100							
	1		METAMORPHIC ROCK, Metavolcanic, fine-grained to medium-grained, massive, moderate reddish brown, intensely weathered, moderately hard, intensely fractured, (Silty Gravel).												
760.60	2		METAMORPHIC ROCK, Metavolcanic, fine-grained to medium-grained, massive, medium gray, moderately weathered, hard, intensely fractured, Predominate fractures (foliation) at N30W, 80-85 N.												
	3		Bottom of borehole at 2.8 ft bgs Essential Refusal at 2.8 ft. This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (June 2007) except as noted on the Soil or Rock Legend or below.												
758.60	4														
	5														
756.60	6														
	7														
754.60	8														
	9														
752.60	10														
	11														
	12														

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

REPORT TITLE				HOLE ID
BORING RECORD				T-10-119
DIST.	COUNTY	ROUTE	POSTMILE	EA
03	ED	50	1.1/R2.4	03-1E2901
PROJECT OR BRIDGE NAME				
Silva Valley Parkway Interchange				
BRIDGE NUMBER	PREPARED BY		DATE	SHEET
	RCP			1 of 1

LOGGED BY	BEGIN DATE	COMPLETION DATE	BOREHOLE LOCATION (Lat/Long or North/East and Datum)	HOLE ID
PFF	7-2-10	7-2-10		T-10-120
DRILLING CONTRACTOR			BOREHOLE LOCATION (Offset, Station, Line)	SURFACE ELEVATION
Monte Rickey Excavating				~730.3 ft
DRILLING METHOD			DRILL RIG	BOREHOLE DIAMETER
Backhoe			CAT 430D	
SAMPLER TYPE(S) AND SIZE(S) (ID)			SPT HAMMER TYPE	HAMMER EFFICIENCY, ERi
bucket cuttings				
BOREHOLE BACKFILL AND COMPLETION			GROUNDWATER READINGS DURING DRILLING not encountered AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING 6.5 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	0		SANDY SILTY CLAY (CL-ML); stiff to very stiff; brown; dry.												
	1				D01			100				PP = 2.0			
728.30	2														
	3		METAMORPHIC ROCK, Metavolcanic, fine-grained to medium-grained, massive, light olive gray, intensely to moderately weathered, soft to moderately soft, intensely fractured, (Clayey Gravel).									PP = 1.0			
726.30	4		METAMORPHIC ROCK, Metavolcanic, fine-grained to medium-grained, massive, light olive brown, decomposed, soft to moderately soft, intensely fractured, (Clayey Silt).		D02			100				PP = 3.0			
	5														
724.30	6														
	7		Bottom of borehole at 6.5 ft bgs Essential Refusal at 6.5 ft. This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (June 2007) except as noted on the Soil or Rock Legend or below.												
722.30	8														
	9														
720.30	10														
	11														
	12														

5 BR - STANDARD LOGS.GPJ BCI 2010 LOG.GLB 3/15/12

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

REPORT TITLE				HOLE ID
BORING RECORD				T-10-120
DIST.	COUNTY	ROUTE	POSTMILE	EA
03	ED	50	1.1/R2.4	03-1E2901
PROJECT OR BRIDGE NAME				
Silva Valley Parkway Interchange				
BRIDGE NUMBER	PREPARED BY		DATE	SHEET
	RCP			1 of 1

LOGGED BY	BEGIN DATE	COMPLETION DATE	BOREHOLE LOCATION (Lat/Long or North/East and Datum)	HOLE ID
PFF	7-2-10	7-2-10		T-10-121
DRILLING CONTRACTOR			BOREHOLE LOCATION (Offset, Station, Line)	SURFACE ELEVATION
Monte Rickey Excavating				~784.0 ft
DRILLING METHOD			DRILL RIG	BOREHOLE DIAMETER
Backhoe			CAT 430D	
SAMPLER TYPE(S) AND SIZE(S) (ID)			SPT HAMMER TYPE	HAMMER EFFICIENCY, ERi
bucket cuttings				
BOREHOLE BACKFILL AND COMPLETION			GROUNDWATER READINGS DURING DRILLING not encountered AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING 6.5 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	0		SANDY SILT (ML); stiff; reddish brown; dry.												
					D01			100							PA
	1				S02			100		14	89				
782.00	2		METAMORPHIC ROCK, Metavolcanic, fine-grained to medium-grained, massive, olive gray, intensely weathered, moderately soft to moderately hard, intensely fractured.												
	3														
780.00	4														
	5														
778.00	6		METAMORPHIC ROCK, Metavolcanic, fine-grained to medium-grained, massive, olive gray, moderately weathered, hard, intensely fractured, Predominate fractures (foliation) N30W, 90.												
	7		Bottom of borehole at 6.5 ft bgs Essential Refusal at 6.5 ft. This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (June 2007) except as noted on the Soil or Rock Legend or below.												
776.00	8														
	9														
774.00	10														
	11														
	12														

5 BR - STANDARD LOGS.GPJ BCI 2010.LOG.GLB 3/15/12

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

REPORT TITLE				HOLE ID
BORING RECORD				T-10-121
DIST.	COUNTY	ROUTE	POSTMILE	EA
03	ED	50	1.1/R2.4	03-1E2901
PROJECT OR BRIDGE NAME				
Silva Valley Parkway Interchange				
BRIDGE NUMBER	PREPARED BY		DATE	SHEET
	RCP			1 of 1

LOGGED BY	BEGIN DATE	COMPLETION DATE	BOREHOLE LOCATION (Lat/Long or North/East and Datum)	HOLE ID
PFF	7-2-10	7-2-10		T-10-122
DRILLING CONTRACTOR			BOREHOLE LOCATION (Offset, Station, Line)	SURFACE ELEVATION
Monte Rickey Excavating				~788.0 ft
DRILLING METHOD			DRILL RIG	BOREHOLE DIAMETER
Backhoe			CAT 430D	
SAMPLER TYPE(S) AND SIZE(S) (ID)			SPT HAMMER TYPE	HAMMER EFFICIENCY, ERi
bucket cuttings				
BOREHOLE BACKFILL AND COMPLETION			GROUNDWATER READINGS DURING DRILLING not encountered AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING 4.5 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	0		SANDY SILT (ML); stiff; reddish brown; dry.		D01			100							
	1		METAMORPHIC ROCK, Metavolcanic, fine-grained to medium-grained, massive, light gray, intensely to moderately weathered, moderately hard to hard, intensely fractured.												
786.00	2														
	3														
784.00	4		METAMORPHIC ROCK, Metavolcanic, fine-grained to medium-grained, massive, olive gray, moderately weathered, hard, intensely fractured, Breaks into 2-8" pieces, up to 16" in length.												
	5		Bottom of borehole at 4.5 ft bgs Essential Refusal at 4.5 ft. This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (June 2007) except as noted on the Soil or Rock Legend or below.												
782.00	6														
	7														
780.00	8														
	9														
778.00	10														
	11														
	12														

5 BR - STANDARD LOGS.GPJ BCI 2010 LOG.GLB 3/15/12

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

REPORT TITLE				HOLE ID
BORING RECORD				T-10-122
DIST.	COUNTY	ROUTE	POSTMILE	EA
03	ED	50	1.1/R2.4	03-1E2901
PROJECT OR BRIDGE NAME				
Silva Valley Parkway Interchange				
BRIDGE NUMBER	PREPARED BY		DATE	SHEET
	RCP			1 of 1

LOGGED BY	BEGIN DATE	COMPLETION DATE	BOREHOLE LOCATION (Lat/Long or North/East and Datum)	HOLE ID
RCP	7-14-10	7-14-10		A-10-128
DRILLING CONTRACTOR			BOREHOLE LOCATION (Offset, Station, Line)	SURFACE ELEVATION
PC Exploration				~723.0 ft
DRILLING METHOD			DRILL RIG	BOREHOLE DIAMETER
Solid-Stem Auger			CME 75	6 in
SAMPLER TYPE(S) AND SIZE(S) (ID)			SPT HAMMER TYPE	HAMMER EFFICIENCY, ERi
split spoon			Automatic	80%
BOREHOLE BACKFILL AND COMPLETION			GROUNDWATER READINGS DURING DRILLING	AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
Backfilled with native cuttings			not encountered		2.7 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	0		ASPHALT.												
			Well-graded GRAVEL (GW); (AB)..												
	1		METAMORPHIC ROCK, Metavolcanic, fine-grained to medium-grained, massive, grayish green, moderately to slightly weathered, hard, intensely fractured.		S01	22 50/5"	50/5	100		10	107				
721.00	2														
	3		Bottom of borehole at 2.7 ft bgs Essential refusal at 2.7 ft. This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (June 2007) except as noted on the Soil or Rock Legend or below.		S02	50/0"	REF								
719.00	4														
	5														
717.00	6														
	7														
715.00	8														
	9														
713.00	10														
	11														
	12														

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

REPORT TITLE				HOLE ID
BORING RECORD				A-10-128
DIST.	COUNTY	ROUTE	POSTMILE	EA
03	ED	50	1.1/R2.4	03-1E2901
PROJECT OR BRIDGE NAME				
Silva Valley Parkway Interchange				
BRIDGE NUMBER	PREPARED BY		DATE	SHEET
	RCP			1 of 1

5 BR - STANDARD LOGS.GPJ BCI 2010 LOG.GLB 3/15/12

LOGGED BY	BEGIN DATE	COMPLETION DATE	BOREHOLE LOCATION (Lat/Long or North/East and Datum)	HOLE ID
RCP	7-14-10	7-14-10		A-10-129
DRILLING CONTRACTOR			BOREHOLE LOCATION (Offset, Station, Line)	SURFACE ELEVATION
PC Exploration				~736.5 ft
DRILLING METHOD			DRILL RIG	BOREHOLE DIAMETER
Solid-Stem Auger			CME 75	6 in
SAMPLER TYPE(S) AND SIZE(S) (ID)			SPT HAMMER TYPE	HAMMER EFFICIENCY, ERi
split spoon			Automatic	80%
BOREHOLE BACKFILL AND COMPLETION			GROUNDWATER READINGS DURING DRILLING / AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
Backfilled with native cuttings			not encountered	5.1 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	0		SANDY SILT (ML); stiff; reddish brown; dry.		S01	7	40	100							
					D02	14		100							
	1					26									
734.50	2		METAMORPHIC ROCK, Metavolcanic, fine-grained to medium-grained, massive, moderate yellowish brown, intensely weathered, soft, intensely fractured, (Silty Gravel)..												
	3														
732.50	4														
	5				S03	50/1"	REF	100							
			Bottom of borehole at 5.1 ft bgs												
			Terminated at 5.1 ft.												
730.50	6		This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (June 2007) except as noted on the Soil or Rock Legend or below.												
	7														
728.50	8														
	9														
726.50	10														
	11														
	12														

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

REPORT TITLE				HOLE ID
BORING RECORD				A-10-129
DIST.	COUNTY	ROUTE	POSTMILE	EA
03	ED	50	1.1/R2.4	03-1E2901
PROJECT OR BRIDGE NAME				
Silva Valley Parkway Interchange				
BRIDGE NUMBER	PREPARED BY		DATE	SHEET
	RCP			1 of 1

5 BR - STANDARD LOGS.GPJ BCI 2010 LOG.GLB 3/15/12

LOGGED BY	BEGIN DATE	COMPLETION DATE	BOREHOLE LOCATION (Lat/Long or North/East and Datum)	HOLE ID
RCP	7-20-10	7-20-10		A-10-136
DRILLING CONTRACTOR			BOREHOLE LOCATION (Offset, Station, Line)	SURFACE ELEVATION
PC Exploration				~736.0 ft
DRILLING METHOD			DRILL RIG	BOREHOLE DIAMETER
Solid-Stem Auger			CME 75	6 in
SAMPLER TYPE(S) AND SIZE(S) (ID)			SPT HAMMER TYPE	HAMMER EFFICIENCY, ERi
split spoon			Automatic	80%
BOREHOLE BACKFILL AND COMPLETION			GROUNDWATER READINGS DURING DRILLING not encountered AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
Backfilled with native cuttings and concrete				6.3 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	0		ASPHALT.												
	1		Poorly graded GRAVEL (GP); dense; yellowish brown; dry.		S01	19 32	51	100							
734.00	2		SILTY GRAVEL (GM); dense; brown; dry to moist; (fill).		D02	19		100		5	122				
	3		SILTY GRAVEL (GM); dense; reddish brown; dry.												
732.00	4														
	5				S03	5 30	80/9	100							
730.00	6		METAMORPHIC ROCK, Metavolcanic, fine-grained to medium-grained, massive, dusky yellowish brown, very intensely weathered, soft, intensely fractured, (Silty Gravel).			50/3"									
	7		Bottom of borehole at 6.3 ft bgs Terminated at 6.3 ft. This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (June 2007) except as noted on the Soil or Rock Legend or below.												
728.00	8														
	9														
726.00	10														
	11														
	12														

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

REPORT TITLE				HOLE ID
BORING RECORD				A-10-136
DIST.	COUNTY	ROUTE	POSTMILE	EA
03	ED	50	1.1/R2.4	03-1E2901
PROJECT OR BRIDGE NAME				
Silva Valley Parkway Interchange				
BRIDGE NUMBER	PREPARED BY		DATE	SHEET
	RCP			1 of 1

LOGGED BY	BEGIN DATE	COMPLETION DATE	BOREHOLE LOCATION (Lat/Long or North/East and Datum)	HOLE ID
RCP	7-20-10	7-20-10		A-10-138
DRILLING CONTRACTOR			BOREHOLE LOCATION (Offset, Station, Line)	SURFACE ELEVATION
PC Exploration				~697.0 ft
DRILLING METHOD			DRILL RIG	BOREHOLE DIAMETER
Solid-Stem Auger			CME 75	6 in
SAMPLER TYPE(S) AND SIZE(S) (ID)			SPT HAMMER TYPE	HAMMER EFFICIENCY, ERi
split spoon			Automatic	80%
BOREHOLE BACKFILL AND COMPLETION			GROUNDWATER READINGS DURING DRILLING not encountered AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
Backfilled with native cuttings				6.5 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	0		Poorly graded GRAVEL (GP); dense; yellowish brown; dry.												
			SILTY GRAVEL (GM); dense; olive brown; dry to moist.												
	1				S01	8	42	100							
						13									
695.00	2					29				9	122				
	3														
693.00	4														
	5				S02	10	26	100							
			SANDY SILT (ML); stiff; reddish brown; moist.			11									
691.00	6		METAMORPHIC ROCK, Metavolcanic, fine-grained to medium-grained, massive, dusky yellowish brown, very intensely weathered, soft, very intensely to intensely fractured, (Silty Sand with Gravel).			15									
			Bottom of borehole at 6.5 ft bgs												
	7		Terminated at 6.5 ft.												
			This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (June 2007) except as noted on the Soil or Rock Legend or below.												
689.00	8														
	9														
687.00	10														
	11														
	12														

5 BR - STANDARD LOGS.GPJ BCI 2010 LOG.GLB 3/15/12

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

REPORT TITLE				HOLE ID
BORING RECORD				A-10-138
DIST.	COUNTY	ROUTE	POSTMILE	EA
03	ED	50	1.1/R2.4	03-1E2901
PROJECT OR BRIDGE NAME				
Silva Valley Parkway Interchange				
BRIDGE NUMBER	PREPARED BY		DATE	SHEET
	RCP			1 of 1

LOGGED BY	BEGIN DATE	COMPLETION DATE	BOREHOLE LOCATION (Lat/Long or North/East and Datum)	HOLE ID
RCP	7-20-10	7-20-10		A-10-139
DRILLING CONTRACTOR			BOREHOLE LOCATION (Offset, Station, Line)	SURFACE ELEVATION
PC Exploration				~693.5 ft
DRILLING METHOD			DRILL RIG	BOREHOLE DIAMETER
Solid-Stem Auger			CME 75	6 in
SAMPLER TYPE(S) AND SIZE(S) (ID)			SPT HAMMER TYPE	HAMMER EFFICIENCY, ERi
split spoon			Automatic	80%
BOREHOLE BACKFILL AND COMPLETION			GROUNDWATER READINGS DURING DRILLING not encountered AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
Backfilled with native cuttings and concrete				3.5 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	0		ASPHALT.												
	1		Poorly graded GRAVEL (GP); dense; dark yellowish brown; dry.												
			SILTY GRAVEL (GM); dense; olive brown; moist.		S01	32		100							
					D02	50		100		6	132				
691.50	2														
	3		METAMORPHIC ROCK, Metavolcanic, fine-grained to medium-grained, massive, grayish green, moderately weathered, moderately hard, intensely fractured.		S03	50/3"	REF	100							
689.50	4		Bottom of borehole at 3.5 ft bgs Essential refusal at 3.5 ft. This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (June 2007) except as noted on the Soil or Rock Legend or below.												
	5														
687.50	6														
	7														
685.50	8														
	9														
683.50	10														
	11														
	12														

5 BR - STANDARD LOGS.GPJ BCI 2010 LOG.GLB 3/15/12

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

REPORT TITLE				HOLE ID
BORING RECORD				A-10-139
DIST.	COUNTY	ROUTE	POSTMILE	EA
03	ED	50	1.1/R2.4	03-1E2901
PROJECT OR BRIDGE NAME				
Silva Valley Parkway Interchange				
BRIDGE NUMBER	PREPARED BY		DATE	SHEET
	RCP			1 of 1

GROUP SYMBOLS AND NAMES

Graphic / Symbol	Group Names
GW	Well-graded GRAVEL Well-graded GRAVEL with SAND
GP	Poorly graded GRAVEL Poorly graded GRAVEL with SAND
GW-GM	Well-graded GRAVEL with SILT Well-graded GRAVEL with SILT and SAND
GW-GC	Well-graded GRAVEL with CLAY (or SILTY CLAY) Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)
GP-GM	Poorly graded GRAVEL with SILT Poorly graded GRAVEL with SILT and SAND
GP-GC	Poorly graded GRAVEL with CLAY (or SILTY CLAY) Poorly graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)
GM	SILTY GRAVEL SILTY GRAVEL with SAND
GC	CLAYEY GRAVEL CLAYEY GRAVEL with SAND
GC-GM	SILTY, CLAYEY GRAVEL SILTY, CLAYEY GRAVEL with SAND
SW	Well-graded SAND Well-graded SAND with GRAVEL
SP	Poorly graded SAND Poorly graded SAND with GRAVEL
SW-SM	Well-graded SAND with SILT Well-graded SAND with SILT and GRAVEL
SW-SC	Well-graded SAND with CLAY (or SILTY CLAY) Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)
SP-SM	Poorly graded SAND with SILT Poorly graded SAND with SILT and GRAVEL
SP-SC	Poorly graded SAND with CLAY (or SILTY CLAY) Poorly graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)
SM	SILTY SAND SILTY SAND with GRAVEL
SC	CLAYEY SAND CLAYEY SAND with GRAVEL
SC-SM	SILTY, CLAYEY SAND SILTY, CLAYEY SAND with GRAVEL
PT	PEAT
	COBBLES COBBLES and BOULDERS BOULDERS

Graphic / Symbol	Group Names
CL	Lean CLAY Lean CLAY with SAND Lean CLAY with GRAVEL SANDY lean CLAY SANDY lean CLAY with GRAVEL GRAVELLY lean CLAY GRAVELLY lean CLAY with SAND
CL-ML	SILTY CLAY SILTY CLAY with SAND SILTY CLAY with GRAVEL SANDY SILTY CLAY SANDY SILTY CLAY with GRAVEL GRAVELLY SILTY CLAY GRAVELLY SILTY CLAY with SAND
ML	SILT SILT with SAND SILT with GRAVEL SANDY SILT SANDY SILT with GRAVEL GRAVELLY SILT GRAVELLY SILT with SAND
OL	ORGANIC lean CLAY ORGANIC lean CLAY with SAND ORGANIC lean CLAY with GRAVEL SANDY ORGANIC lean CLAY SANDY ORGANIC lean CLAY with GRAVEL GRAVELLY ORGANIC lean CLAY GRAVELLY ORGANIC lean CLAY with SAND
OL	ORGANIC SILT ORGANIC SILT with SAND ORGANIC SILT with GRAVEL SANDY ORGANIC SILT SANDY ORGANIC SILT with GRAVEL GRAVELLY ORGANIC SILT GRAVELLY ORGANIC SILT with SAND
CH	Fat CLAY Fat CLAY with SAND Fat CLAY with GRAVEL SANDY fat CLAY SANDY fat CLAY with GRAVEL GRAVELLY fat CLAY GRAVELLY fat CLAY with SAND
MH	Elastic SILT Elastic SILT with SAND Elastic SILT with GRAVEL SANDY elastic SILT SANDY elastic SILT with GRAVEL GRAVELLY elastic SILT GRAVELLY elastic SILT with SAND
OH	ORGANIC fat CLAY ORGANIC fat CLAY with SAND ORGANIC fat CLAY with GRAVEL SANDY ORGANIC fat CLAY SANDY ORGANIC fat CLAY with GRAVEL GRAVELLY ORGANIC fat CLAY GRAVELLY ORGANIC fat CLAY with SAND
OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL SANDY elastic ELASTIC SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
OL/OH	ORGANIC SOIL ORGANIC SOIL with SAND ORGANIC SOIL with GRAVEL SANDY ORGANIC SOIL SANDY ORGANIC SOIL with GRAVEL GRAVELLY ORGANIC SOIL GRAVELLY ORGANIC SOIL with SAND

FIELD AND LABORATORY TESTS

C	Consolidation (ASTM D 2435-04)
CL	Collapse Potential (ASTM D 5333-03)
CP	Compaction Curve (CTM 216 - 06)
CR	Corrosion, Sulfates, Chlorides (CTM 643 - 99; CTM 417 - 06; CTM 422 - 06)
CU	Consolidated Undrained Triaxial (ASTM D 4767-02)
DS	Direct Shear (ASTM D 3080-04)
EI	Expansion Index (ASTM D 4829-03)
M	Moisture Content (ASTM D 2216-05)
OC	Organic Content (ASTM D 2974-07)
P	Permeability (CTM 220 - 05)
PA	Particle Size Analysis (ASTM D 422-63 [2002])
PI	Liquid Limit, Plastic Limit, Plasticity Index (AASHTO T 89-02, AASHTO T 90-00)
PL	Point Load Index (ASTM D 5731-05)
PM	Pressure Meter
PP	Pocket Penetrometer
R	R-Value (CTM 301 - 00)
SE	Sand Equivalent (CTM 217 - 99)
SG	Specific Gravity (AASHTO T 100-06)
SL	Shrinkage Limit (ASTM D 427-04)
SW	Swell Potential (ASTM D 4546-03)
TV	Pocket Torvane
UC	Unconfined Compression - Soil (ASTM D 2166-06) Unconfined Compression - Rock (ASTM D 2938-95)
UU	Unconsolidated Undrained Triaxial (ASTM D 2850-03)
UW	Unit Weight (ASTM D 4767-04)
VS	Vane Shear (AASHTO T 223-96 [2004])

SAMPLER GRAPHIC SYMBOLS

- Standard Penetration Test (SPT)
- 2.5" Split Spoon Sampler
- 2" Split Spoon Sampler
- Shelby Tube
- Piston Sampler
- NX Rock Core
- HQ Rock Core
- Bulk Sample
- Other (see remarks)

DRILLING METHOD SYMBOLS

- Auger Drilling
- Rotary Drilling
- Dynamic Cone or Hand Driven
- Diamond Core

WATER LEVEL SYMBOLS

- First Water Level Reading (during drilling)
- Static Water Level Reading (short-term)
- Static Water Level Reading (long-term)

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

BORING RECORD LEGEND

COUNTY	ROUTE	POSTMILE
El Dorado	50	1.1/R2.4

PROJECT OR BRIDGE NAME: **Silva Valley Parkway Interchange**

PREPARED BY	DATE	SHEET
RCP		1 of 3

CONSISTENCY OF COHESIVE SOILS				
Descriptor	**Unconfined Compressive Strength (tsf)**	**Pocket Penetrometer (tsf)**	**Torvane (tsf)**	**Field Approximation**
Very Soft	< 0.25	< 0.25	< 0.12	Easily penetrated several inches by fist
Soft	0.25 - 0.50	0.25 - 0.50	0.12 - 0.25	Easily penetrated several inches by thumb
Medium Stiff	0.50 - 1.0	0.50 - 1.0	0.25 - 0.50	Can be penetrated several inches by thumb with moderate effort
Stiff	1.0 - 2.0	1.0 - 2.0	0.50 - 1.0	Readily indented by thumb but penetrated only with great effort
Very Stiff	2.0 - 4.0	2.0 - 4.0	1.0 - 2.0	Readily indented by thumbnail
Hard	> 4.0	> 4.0	> 2.0	Indented by thumbnail with difficulty

APPARENT DENSITY OF COHESIONLESS SOILS	
Descriptor	**SPT N_{60} - Value (blows / foot)**
Very Loose	0 - 4
Loose	5 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	> 50

MOISTURE	
Descriptor	**Criteria**
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

PERCENT OR PROPORTION OF SOILS	
Descriptor	**Criteria**
Trace	Particles are present but estimated to be less than 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

SOIL PARTICLE SIZE		
Descriptor		**Size**
Boulder		> 12 inches
Cobble		3 to 12 inches
Gravel	Coarse	3/4 inch to 3 inches
	Fine	No. 4 Sieve to 3/4 inch
Sand	Coarse	No. 10 Sieve to No. 4 Sieve
	Medium	No. 40 Sieve to No. 10 Sieve
	Fine	No. 200 Sieve to No. 40 Sieve
Silt and Clay		Passing No. 200 Sieve

PLASTICITY OF FINE-GRAINED SOILS	
Descriptor	**Criteria**
Nonplastic	A 1/8-inch thread cannot be rolled at any water content.
Low	The thread can barely be rolled, and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll, and not much time is required to reach the plastic limit; it cannot be rerolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit.
High	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit.

CEMENTATION	
Descriptor	**Criteria**
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

blackburn consulting

Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

BORING RECORD LEGEND

COUNTY	ROUTE	POSTMILE
El Dorado	50	1.1/R2.4

PROJECT OR BRIDGE NAME: Silva Valley Parkway Interchange

PREPARED BY	DATE	SHEET
RCP		2 of 3

ROCK GRAPHIC SYMBOLS


IGNEOUS ROCK


SEDIMENTARY ROCK


METAMORPHIC ROCK

BEDDING SPACING

Descriptor	Thickness or Spacing
Massive	> 10 ft
Very thickly bedded	3 to 10 ft
Thickly bedded	1 to 3 ft
Moderately bedded	3-5/8 inches to 1 ft
Thinly bedded	1-1/4 to 3-5/8 inches
Very thinly bedded	3/8 inch to 1-1/4 inches
Laminated	< 3/8 inch

WEATHERING DESCRIPTORS FOR INTACT ROCK

	Diagnostic Features					
	Chemical Weathering-Discoloration-Oxidation		Mechanical Weathering and Grain Boundary Conditions	Texture and Solutioning		
Descriptor	Body of Rock	Fracture Surfaces		Texture	Solutioning	General Characteristics
Fresh	No discoloration, not oxidized	No discoloration or oxidation	No separation, intact (tight)	No change	No solutioning	Hammer rings when crystalline rocks are struck.
Slightly Weathered	Discoloration or oxidation is limited to surface of, or short distance from, fractures; some feldspar crystals are dull	Minor to complete discoloration or oxidation of most surfaces	No visible separation, intact (tight)	Preserved	Minor leaching of some soluble minerals may be noted	Hammer rings when crystalline rocks are struck. Body of rock not weakened.
Moderately Weathered	Discoloration or oxidation extends from fractures usually throughout; Fe-Mg minerals are "rusty"; feldspar crystals are "cloudy"	All fracture surfaces are discolored or oxidized	Partial separation of boundaries visible	Generally preserved	Soluble minerals may be mostly leached	Hammer does not ring when rock is struck. Body of rock is slightly weakened.
Intensely Weathered	Discoloration or oxidation throughout; all feldspars and Fe-Mg minerals are altered to clay to some extent; or chemical alteration produces in situ disaggregation (refer to grain boundary conditions)	All fracture surfaces are discolored or oxidized; surfaces are friable	Partial separation, rock is friable; in semi-arid conditions, granitics are disaggregated	Altered by chemical disintegration such as via hydration or argillation	Leaching of soluble minerals may be complete	Dull sound when struck with hammer; usually can be broken with moderate to heavy manual pressure or by light hammer blow without reference to planes of weakness such as incipient or hairline fractures or veinlets. Rock is significantly weakened.
Decomposed	Discolored of oxidized throughout, but resistant minerals such as quartz may be unaltered; all feldspars and Fe-Mg minerals are completely altered to clay		Complete separation of grain boundaries (disaggregated)	Resembles a soil; partial or complete remnant rock structure may be preserved; leaching of soluble minerals usually complete		Can be granulated by hand. Resistant minerals such as quartz may be present as "stringers" or "dikes".

Note: Combination descriptors (such as "slightly weathered to fresh") are used where equal distribution of both weathering characteristics is present over significant intervals or where characteristics present are "in between" the diagnostic feature. However, combination descriptors should not be used where significant identifiable zones can be delineated. Only two adjacent descriptors shall be combined. "Very intensely weathered" is the combination descriptor for "decomposed to intensely weathered".

RELATIVE STRENGTH OF INTACT ROCK

Descriptor	Uniaxial Compressive Strength (psi)
Extremely Strong	> 30,000
Very Strong	14,500 - 30,000
Strong	7,000 - 14,500
Medium Strong	3,500 - 7,000
Weak	700 - 3,500
Very Weak	150 - 700
Extremely Weak	< 150

ROCK HARDNESS

Descriptor	Criteria
Extremely Hard	Specimen cannot be scratched with pocket knife or sharp pick; can only be chipped with repeated heavy hammer blows
Very hard	Specimen cannot be scratched with pocket knife or sharp pick; breaks with repeated heavy hammer blows
Hard	Specimen can be scratched with pocket knife or sharp pick with heavy pressure; heavy hammer blows required to break specimen
Moderately Hard	Specimen can be scratched with pocket knife or sharp pick with light or moderate pressure; breaks with moderate hammer blows
Moderately Soft	Specimen can be grooved 1/6 in. with pocket knife or sharp pick with moderate or heavy pressure; breaks with light hammer blow or heavy hand pressure
Soft	Specimen can be grooved or gouged with pocket knife or sharp pick with light pressure, breaks with light to moderate hand pressure
Very Soft	Specimen can be readily indented, grooved, or gouged with fingernail, or carved with pocket knife; breaks with light hand pressure

CORE RECOVERY CALCULATION (%)

$$\frac{\Sigma \text{ Length of the recovered core pieces (in.)}}{\text{Total length of core run (in.)}} \times 100$$

RQD CALCULATION (%)

$$\frac{\Sigma \text{ Length of intact core pieces} > 4 \text{ in.}}{\text{Total length of core run (in.)}} \times 100$$

FRACTURE DENSITY

Descriptor	Criteria
Unfractured	No fractures
Very Slightly Fractured	Lengths greater 3 ft
Slightly Fractured	Lengths from 1 to 3 ft, few lengths outside that range
Moderately Fractured	Lengths mostly in range of 4 in. to 1 ft, with most lengths about 8 in.
Intensely Fractured	Lengths average from 1 in. to 4 in. with scattered fragmented intervals with lengths less than 4 in.
Very Intensely Fractured	Mostly chips and fragments with few scattered short core lengths

blackburn consulting
Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603
Phone: (530) 887-1494
Fax: (530) 887-1495

BORING RECORD LEGEND

COUNTY	ROUTE	POSTMILE
El Dorado	50	1.1/R2.4

PROJECT OR BRIDGE NAME: **Silva Valley Parkway Interchange**

PREPARED BY	DATE	SHEET
RCP		3 of 3

El Dorado Hills

KLEINFELDER
Bright People. Right Solutions.

ASTM E1527-13
Phase I Environmental Site Assessment
User Questionnaire

INTRODUCTION

In order to qualify for one of the *Landowner Liability Protections (LLPs)*[1] offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the "*Brownfields Amendments*"),[2] the *user* must conduct the following inquiries required by 40 CFR 312.25, 312.28, 312.29, 312.30, and 312.31. These inquiries must also be conducted by EPA Brownfield Assessment and Characterization grantees. The *user* should provide the following information to the *environmental professional*. Failure to conduct these inquiries could result in a determination that "*all appropriate inquiries*" is not complete.

(1.) Environmental liens that are filed or recorded against the *property* (40 CFR 312.25).

Did a search of *recorded land title records* (or judicial records where appropriate, see *Note 1* below) identify any environmental liens filed or recorded against the *property* under federal, tribal, state or local law?

No

Note 1—In certain jurisdictions, federal, tribal, state, or local statutes, or regulations specify that environmental liens and AULs be filed in judicial records rather than in land title records. In such cases judicial records must be searched for environmental liens and AULs.

(2.) Activity and use limitations that are in place on the *property* or that have been filed or recorded against the *property* (40 CFR 312.26(a)(1)(v) and vi)).

Did a search of *recorded land title records* (or judicial records where appropriate, see *Note 1* above) identify any AULs, such as *engineering controls*, land use restrictions or *institutional controls* that are in place at the *property* and/or have been filed or recorded against the *property* under federal, tribal, state or local law?

No

(3.) Specialized knowledge or experience of the person seeking to qualify for the LLP (40 CFR 312.28).

Do you have any specialized knowledge or experience related to the *property* or nearby properties? For example, are you involved in the same line of business as the current or former *occupants* of the *property* or an *adjoining property* so that you would have specialized knowledge of the chemicals and processes used by this type of business?

No

---

[1] *Landowner Liability Protections*, or *LLPs*, is the term used to describe the three types of potential defenses to Superfund liability in EPA's *Interim Guidance Regarding Criteria Landowners Must Meet in Order to Qualify for Bona Fide Prospective Purchaser, Contiguous Property Owner, or Innocent Landowner Limitations on CERCLA Liability* ("*Common Elements*" Guide) issued on March 6, 2003.

[2] P.L. 107-118.

(4.) Relationship of the purchase price to the fair market value of the *property* if it were not contaminated (40 CFR 312.29).

Does the purchase price being paid for this *property* reasonably reflect the fair market value of the *property*? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the *property*?

Yes

(5.) Commonly known or *reasonably ascertainable* information about the *property* (40 CFR 312.30).

Are you aware of commonly known or *reasonably ascertainable* information about the *property* that would help the *environmental professional* to identify conditions indicative of releases or threatened releases?

No

For example,

(a.) Do you know the past uses of the *property*?

No

(b.) Do you know of specific chemicals that are present or once were present at the *property*?

No

(c.) Do you know of spills or other chemical releases that have taken place at the *property*?

No

(d.) Do you know of any environmental cleanups that have taken place at the *property*?

No

(6.) The degree of obviousness of the presence or likely presence of contamination at the *property*, and the ability to detect the contamination by appropriate investigation (40 CFR 312.31).

Based on your knowledge and experience related to the *property* are there any *obvious* indicators that point to the presence or likely presence of releases at the *property*?

No

In addition, certain information should be collected, if available, and provided to the *environmental professional* conducting the *Phase I Environmental Site Assessment*. This information is intended to assist the *environmental professional*, but is not necessarily required to qualify for one of the *LLPs*. The information includes:

(a) the reason why the Phase I is being performed,

(b) the type of *property* and type of *property* transaction, for example, sale, purchase, exchange, etc.,

(c) the complete and correct address for the *property* (a map or other documentation showing *property* location and boundaries is helpful),

(d) the scope of services desired for the Phase I ESA (including whether any parties to the *property* transaction may have a required standard scope of services or whether any considerations beyond the requirements of Practice E1527 are to be considered),

(e) identification of all parties who will rely on the Phase I *report* ,

(f) identification of the site contact and how the contact can be reached,

(g) any special terms and conditions which must be agreed upon by the *environmental professional*, and

(h) any other knowledge or experience with the *property* that may be pertinent to the *environmental professional* (for example, copies of any available prior *environmental site assessment reports*, documents, correspondence, etc., concerning the *property* and its environmental condition).

The *USER* QUESTIONNAIRE was completed by:

Name Michael Okamura

Title Dir Real Estate

Firm Costco

Address 9 Corp Park

Irvine Ca

Phone Number (office)_____

(cell)_____

User represents that to the best of the *user's* knowledge the above statements and facts are true and correct, and, to the best of the *user's* knowledge, no material facts have been suppressed or misstated.

_____ 07/22/19

User's Signature Date

APPENDIX D
HISTORICAL RESEARCH DOCUMENTATION

Copyright 2019 Kleinfelder

Vacant Land

Not Reported

El Dorado Hills, CA 95762

Inquiry Number: 5537129.3

January 17, 2019

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

01/17/19

Site Name:

Vacant Land
Not Reported
El Dorado Hills, CA 95762
EDR Inquiry # 5537129.3

Client Name:

Kleinfelder, Inc.
24411 Ridge Rte Dr Suite 225
Laguna Hills, CA 92653
Contact: Lindsey Dandridge-Perry

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Kleinfelder, Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 78E9-4E57-9CC0

PO # 20193180.001A

Project Vacant Land

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: 78E9-4E57-9CC0

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

Limited Permission To Make Copies

Kleinfelder, Inc. (the client) is permitted to make up to FIVE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2019 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

Vacant Land

Not Reported

El Dorado Hills, CA 95762

Inquiry Number: 5537129.11

January 18, 2019

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

01/18/19

Site Name:

Vacant Land
Not Reported
El Dorado Hills, CA 95762
EDR Inquiry # 5537129.11

Client Name:

Kleinfelder, Inc.
24411 Ridge Rte Dr Suite 225
Laguna Hills, CA 92653
Contact: Lindsey Dandridge-Perry

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	Scale	Details	Source
2016	1"=500'	Flight Year: 2016	USDA/NAIP
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2006	1"=500'	Flight Year: 2006	USDA/NAIP
1993	1"=500'	Acquisition Date: May 09, 1993	USGS/DOQQ
1984	1"=500'	Flight Date: June 29, 1984	USDA
1972	1"=500'	Flight Date: June 28, 1972	USDA
1966	1"=500'	Flight Date: August 04, 1966	USGS
1962	1"=500'	Flight Date: July 29, 1962	USDA
1952	1"=500'	Flight Date: July 24, 1952	USGS
1940	1"=500'	Flight Date: June 30, 1940	USDA

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

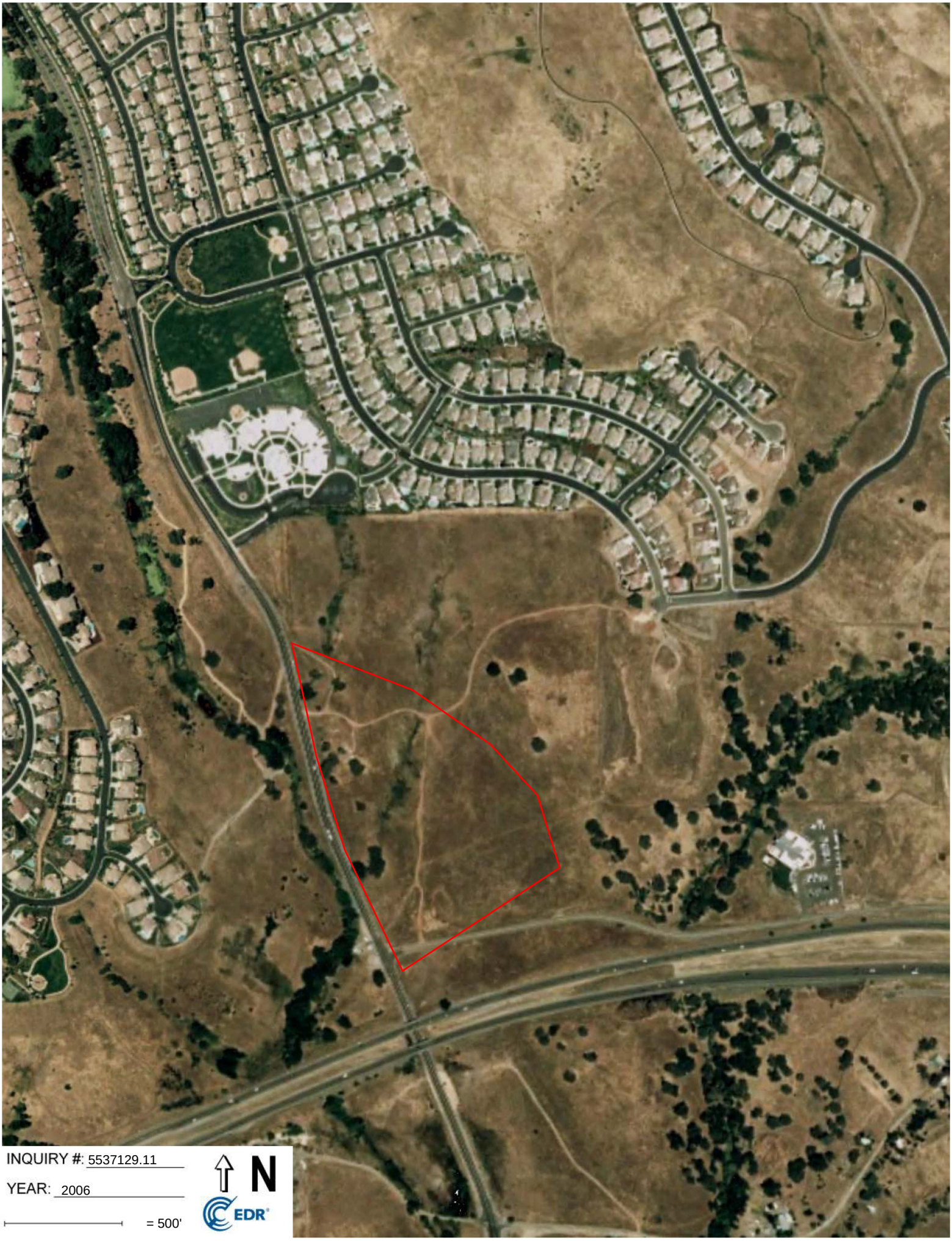
Copyright 2019 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.


INQUIRY #: 5537129.11
YEAR: 2016
= 500'
N
EDR


INQUIRY #: 5537129.11
YEAR: 2012
= 500'
N
EDR


INQUIRY #: 5537129.11
YEAR: 2009
= 500'
N
EDR


INQUIRY #: 5537129.11
YEAR: 2006
= 500'
N
EDR


INQUIRY #: 5537129.11
YEAR: 1993
= 500'
N
EDR


INQUIRY #: 5537129.11
YEAR: 1984
= 500'
N
EDR



INQUIRY #: 5537129.11

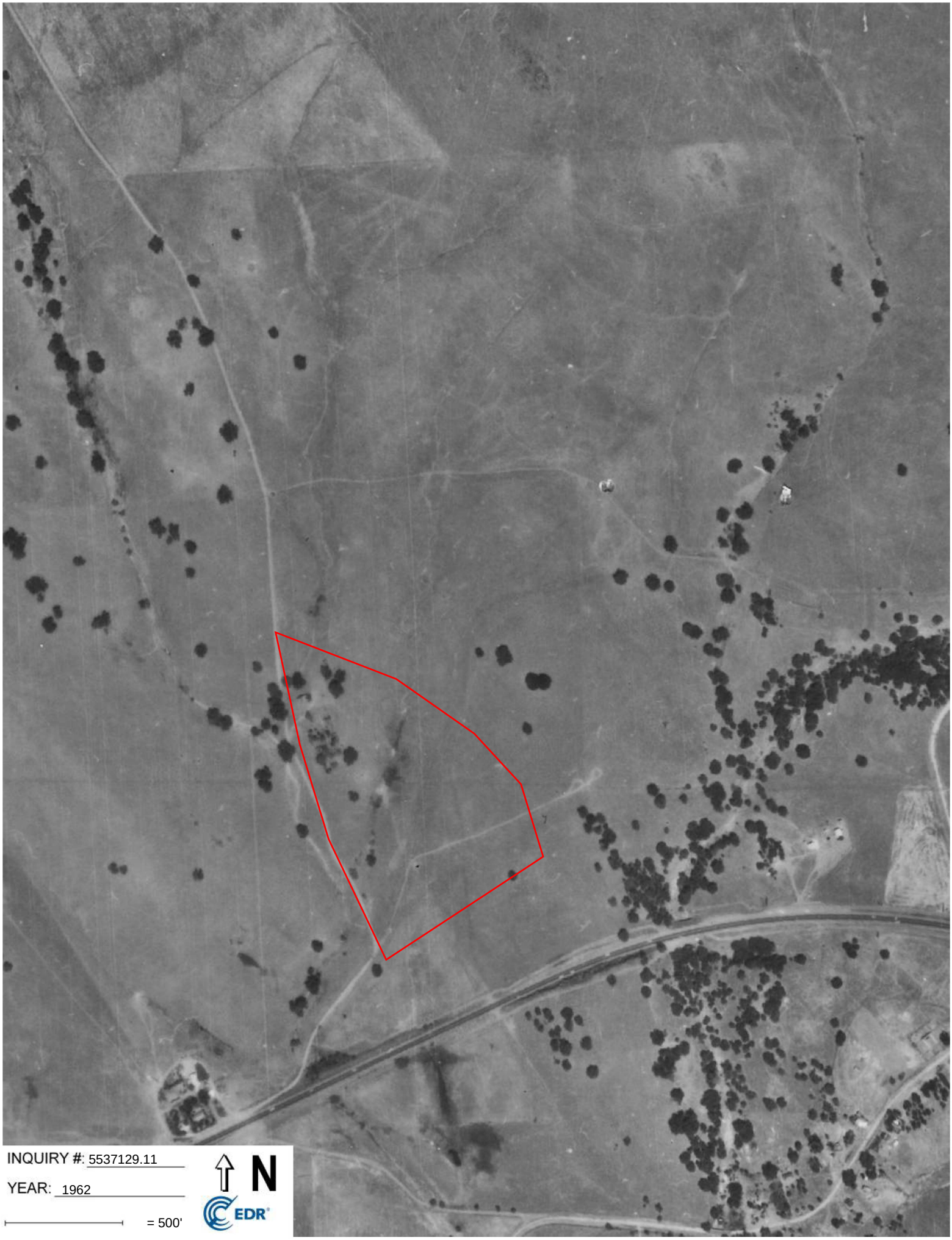
YEAR: 1972

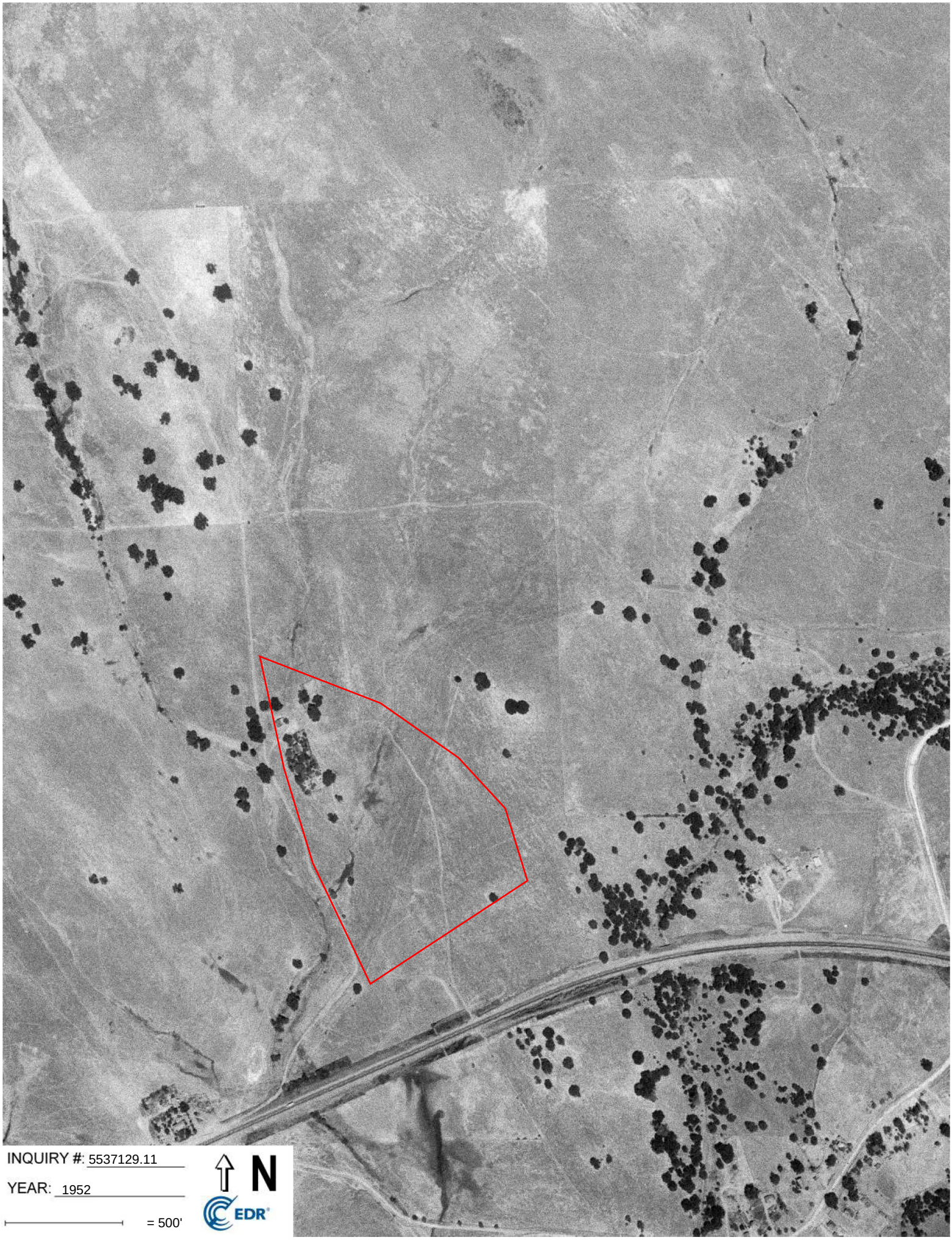
= 500'

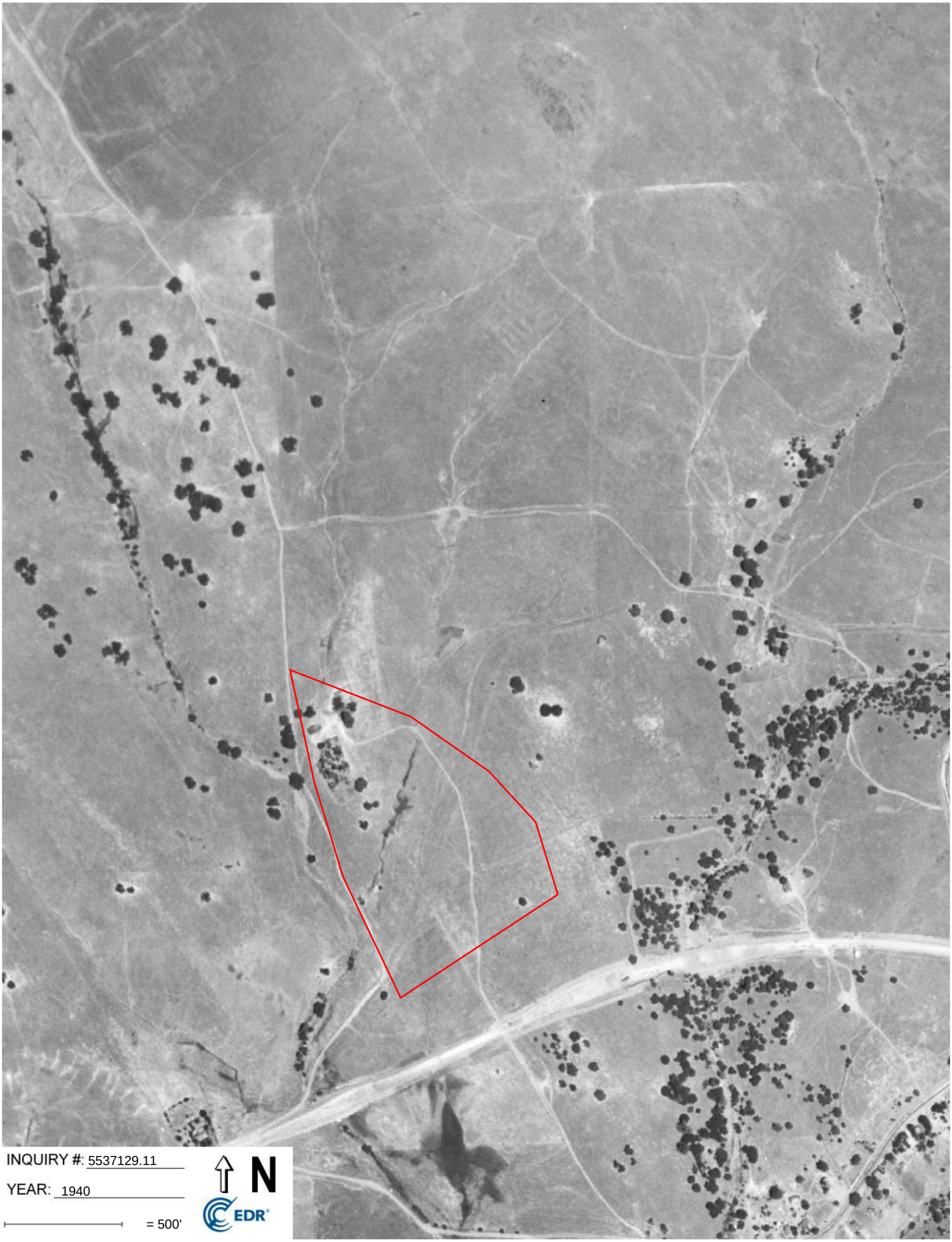
N

EDR


INQUIRY #: 5537129.11
YEAR: 1966
= 500'
N
EDR


INQUIRY #: 5537129.11
YEAR: 1962
= 500'
N
EDR


INQUIRY #: 5537129.11
YEAR: 1952
= 500'
N
EDR


INQUIRY #: 5537129.11
YEAR: 1940
= 500'
N
EDR

Vacant Land
Not Reported
El Dorado Hills, CA 95762

Inquiry Number: 5537129.5
January 18, 2019

The EDR-City Directory Image Report

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Executive Summary

Findings

City Directory Images

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OR DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction orforecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2017 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc. or its affiliates is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EXECUTIVE SUMMARY

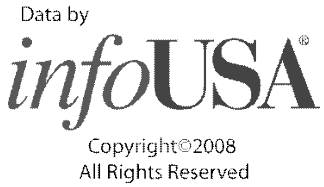
DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

EDR is licensed to reproduce certain City Directory works by the copyright holders of those works. The purchaser of this EDR City Directory Report may include it in report(s) delivered to a customer. Reproduction of City Directories without permission of the publisher or licensed vendor may be a violation of copyright.



RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	Target Street	Cross Street	Source
2014	☑	☐	EDR Digital Archive
2010	☑	☐	EDR Digital Archive
2005	☑	☐	EDR Digital Archive
1999	☐	☐	Haines Criss-Cross Directory
1994	☐	☐	Haines Criss-Cross Directory
1989	☐	☐	Haines Criss-Cross Directory
1985	☐	☐	Haines Criss-Cross Directory
1980	☐	☐	Haines Criss-Cross Directory
1974	☐	☐	Haines Criss-Cross Directory
1970	☐	☐	Haines Criss-Cross Directory

FINDINGS

TARGET PROPERTY STREET

Not Reported
El Dorado Hills, CA 95762

Year	CD Image	Source	

SILVA VALLEY PKWY

2014	pg A1	EDR Digital Archive	
2010	pg A2	EDR Digital Archive	
2005	pg A3	EDR Digital Archive	
1999	-	Haines Criss-Cross Directory	Street not listed in Source
1994	-	Haines Criss-Cross Directory	Street not listed in Source
1989	-	Haines Criss-Cross Directory	Street not listed in Source
1985	-	Haines Criss-Cross Directory	Street not listed in Source
1980	-	Haines Criss-Cross Directory	Street not listed in Source
1974	-	Haines Criss-Cross Directory	Street not listed in Source
1970	-	Haines Criss-Cross Directory	Street not listed in Source

FINDINGS

CROSS STREETS

No Cross Streets Identified

City Directory Images

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

SILVA VALLEY PKWY 2014

7141 BUCKEYE UNION SCHOOL DISTRICT
FRIENDS RLLING HLLS MDDLE SCHL
HANDS 4 HOPE
7455 ELDORADO PUBLIC LIBRARY
7701 BUCKEYE UNION SCHOOL DISTRICT
PTA CA CONGRESS OF PARENTS OAK

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

SILVA VALLEY PKWY 2010

7141 BUCKEYE UNION SCHOOL DISTRICT
FRIENDS RLLING HLLS MDDLE SCHL
7455 EL DORADO COUNTY OF LIBRARY EL
7701 BUCKEYE UNION SCHOOL DISTRICT
PTA CA CONGRESS OF PARENTS OAK

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

SILVA VALLEY PKWY 2005

7141 BUCKEYE UNION SCHOOL DISTRICT
7701 BUCKEYE UNION SCHOOL DISTRICT

Vacant Land

Not Reported

El Dorado Hills, CA 95762

Inquiry Number: 5537129.4

January 17, 2019

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

01/17/19

Site Name:	Client Name:
Vacant Land	Kleinfelder, Inc.
Not Reported	24411 Ridge Rte Dr Suite 225
El Dorado Hills, CA 95762	Laguna Hills, CA 92653
EDR Inquiry # 5537129.4	Contact: Lindsey Dandridge-Perry

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Kleinfelder, Inc. were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:		*Coordinates:*	
P.O.#	20193180.001A	**Latitude:**	38.662215 38° 39' 44" North
Project:	Vacant Land	**Longitude:**	-121.056446 -121° 3' 23" West
		UTM Zone:	Zone 10 North
		UTM X Meters:	669100.20
		UTM Y Meters:	4281085.45
		Elevation:	757.74' above sea level

Maps Provided:

2012	1891
1980	
1973	
1953	
1944	
1941	
1893	
1892	

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2019 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2012 Source Sheets



Clarksville
2012
7.5-minute, 24000

1980 Source Sheets



Clarksville
1980
7.5-minute, 24000
Aerial Photo Revised 1978

1973 Source Sheets



Clarksville
1973
7.5-minute, 24000
Aerial Photo Revised 1973

1953 Source Sheets

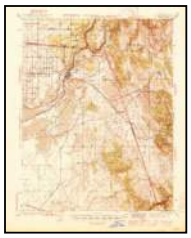


Clarksville
1953
7.5-minute, 24000
Aerial Photo Revised 1952

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1944 Source Sheets



Folsom
1944
15-minute, 62500

1941 Source Sheets



Folsom
1941
15-minute, 62500

1893 Source Sheets



Sacramento
1893
30-minute, 125000

1892 Source Sheets



Sacramento
1892
30-minute, 125000

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

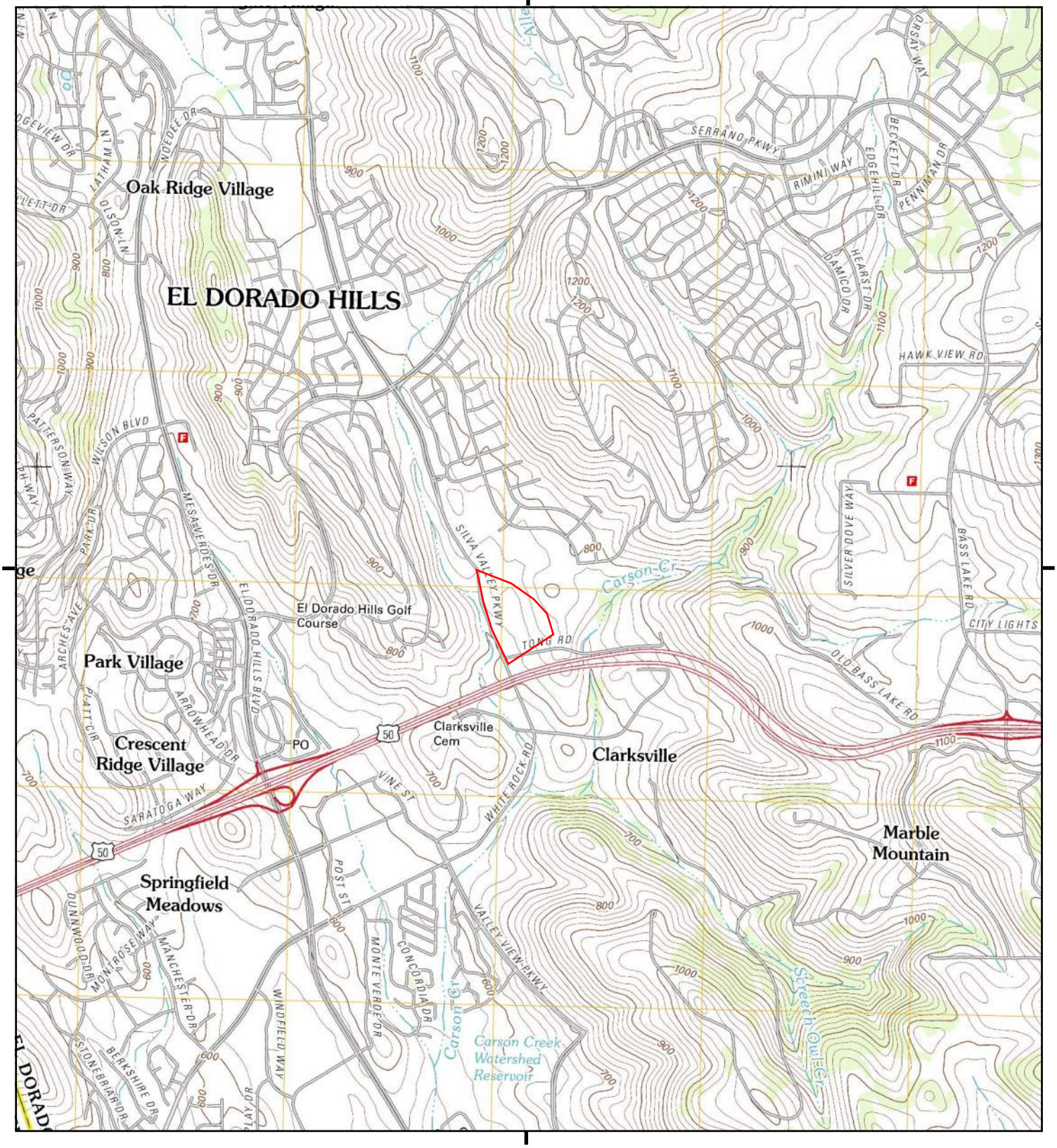
1891 Source Sheets



Sacramento
1891
30-minute, 125000

Historical Topo Map

2012



This report includes information from the following map sheet(s).

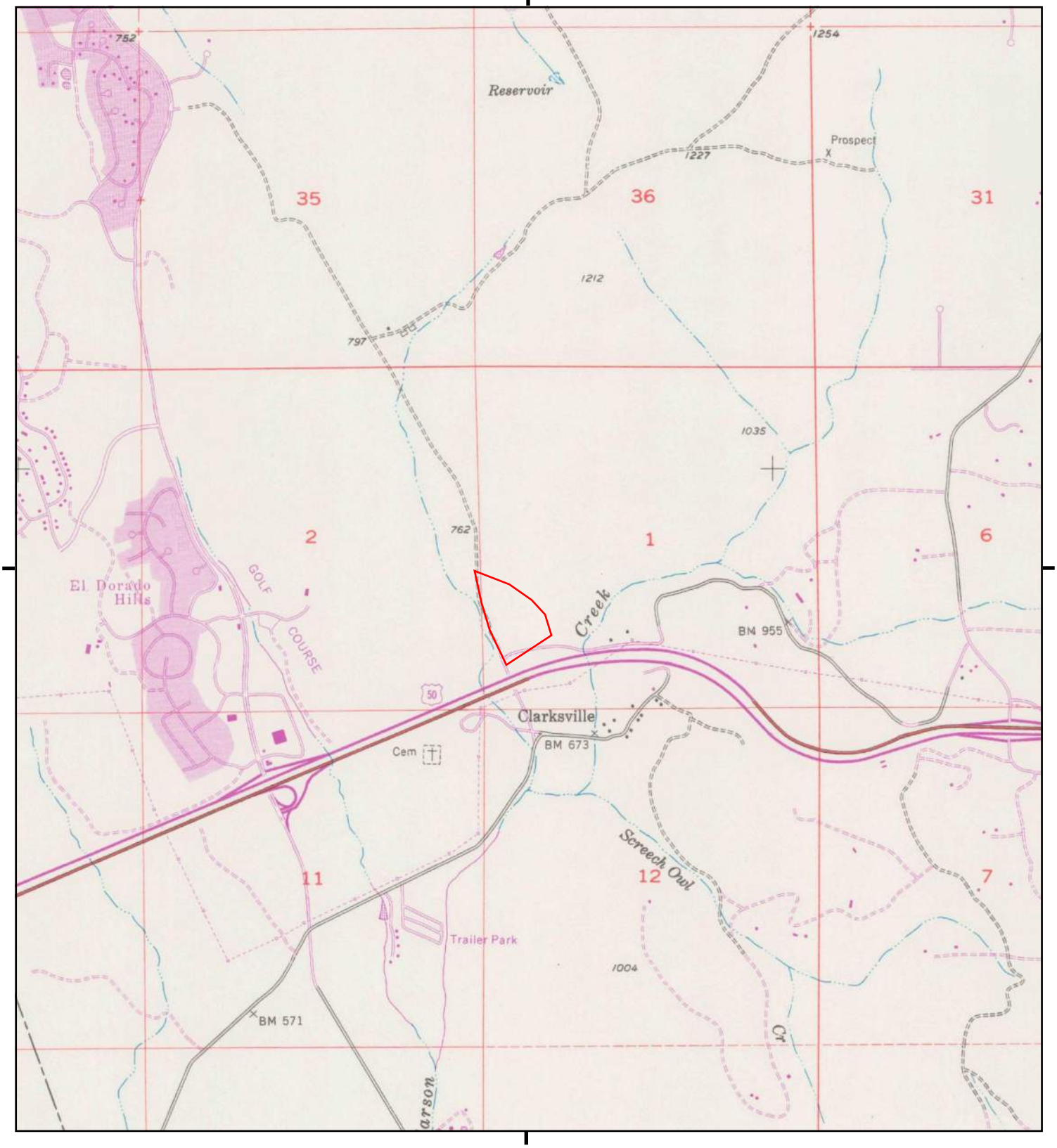
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Clarksville, 2012, 7.5-minute

SITE NAME: Vacant Land
ADDRESS: Not Reported
El Dorado Hills, CA 95762
CLIENT: Kleinfelder, Inc.

N



This report includes information from the following map sheet(s).

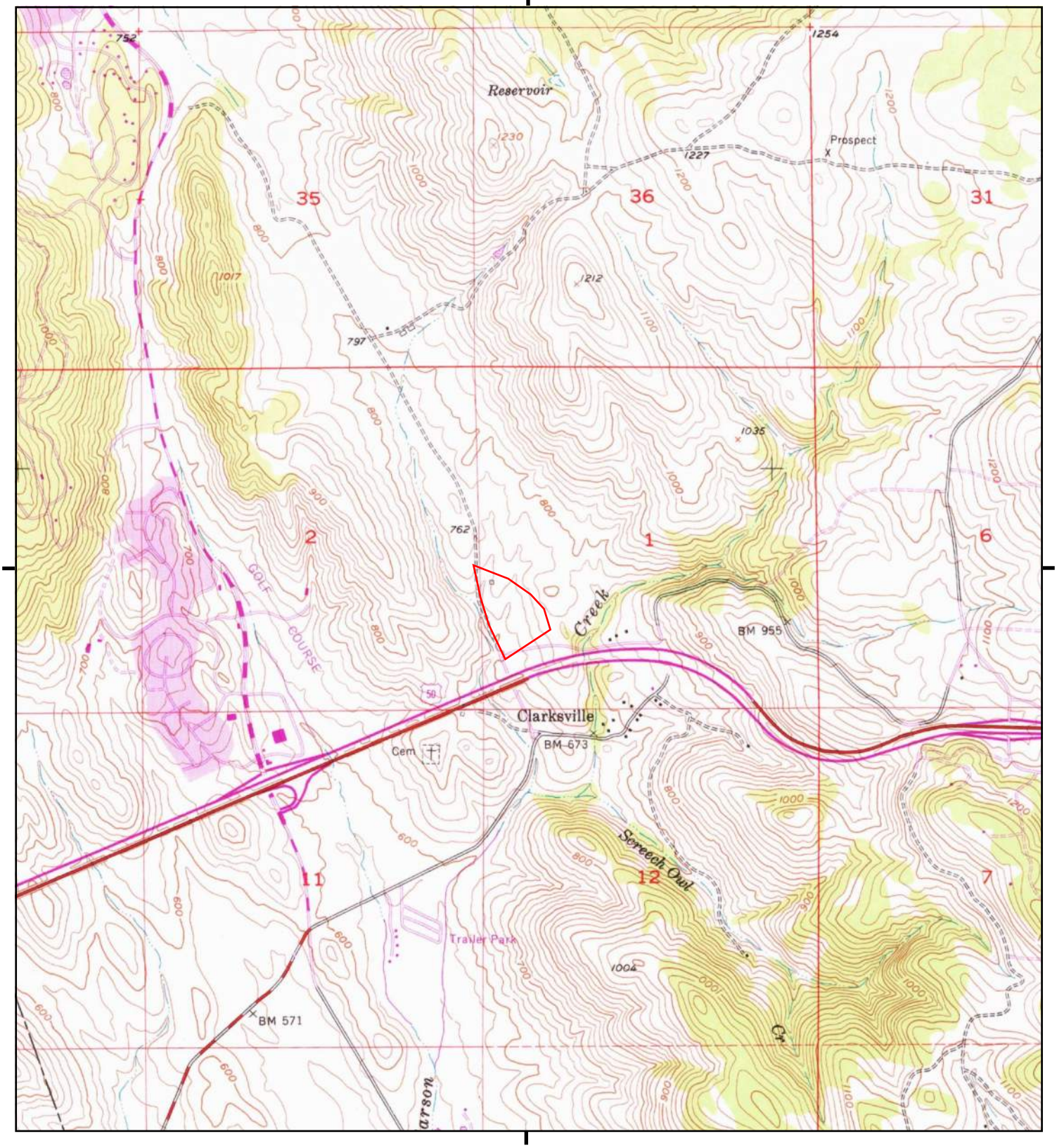
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Clarksville, 1980, 7.5-minute

SITE NAME: Vacant Land
ADDRESS: Not Reported
El Dorado Hills, CA 95762
CLIENT: Kleinfelder, Inc.

N



This report includes information from the following map sheet(s).

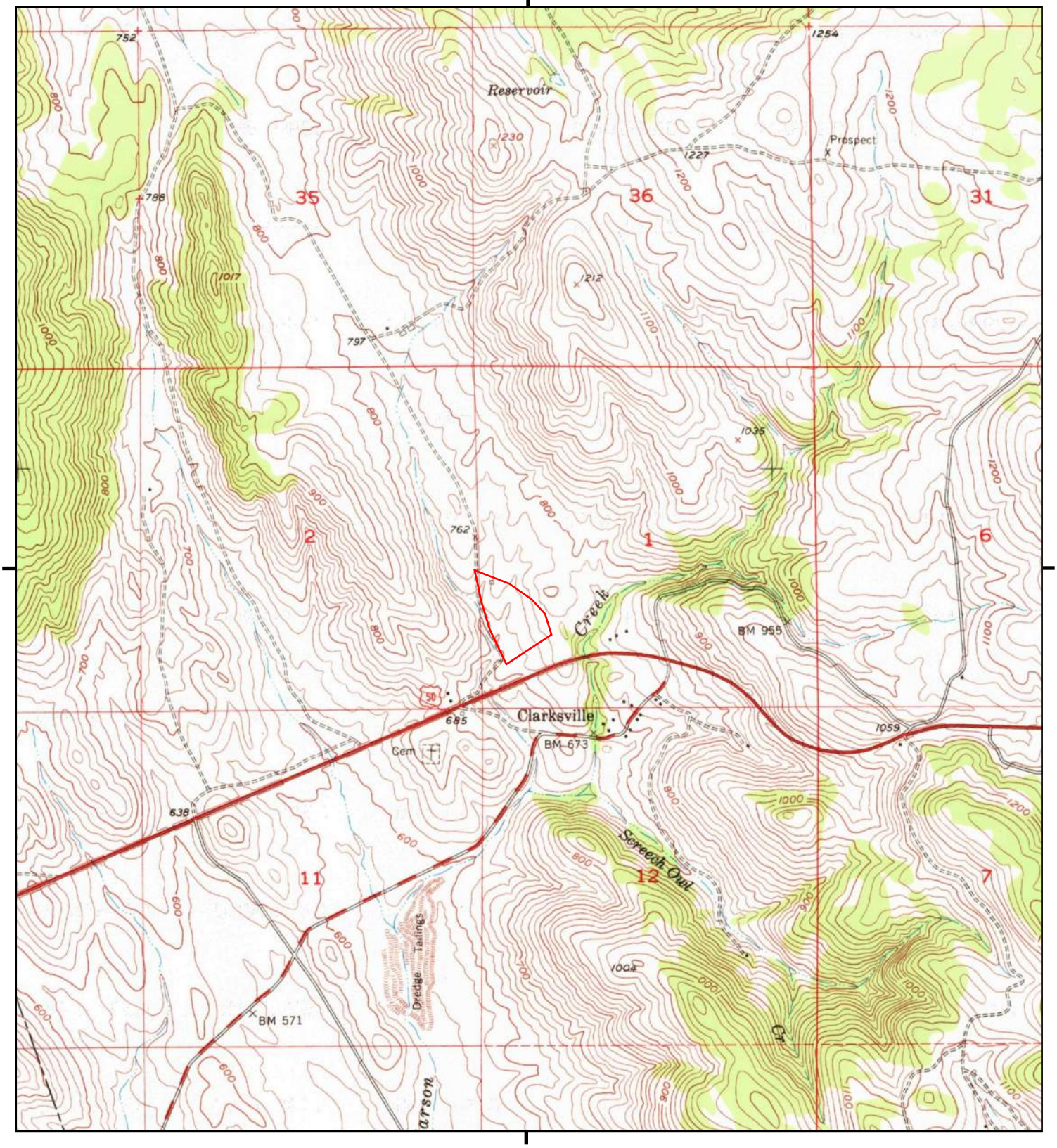
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Clarksville, 1973, 7.5-minute

SITE NAME: Vacant Land
ADDRESS: Not Reported
El Dorado Hills, CA 95762
CLIENT: Kleinfelder, Inc.

N



This report includes information from the following map sheet(s).

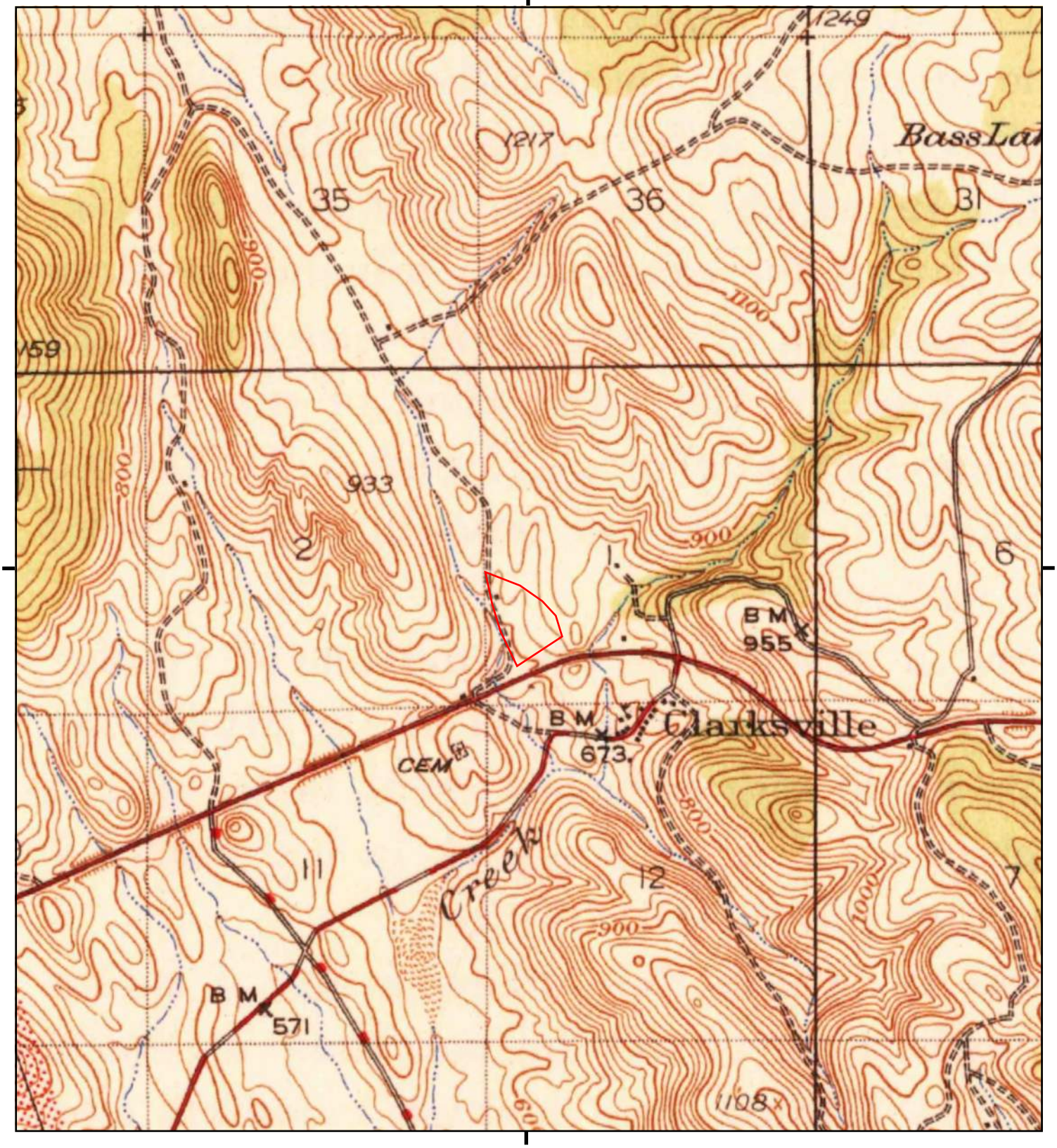
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Clarksville, 1953, 7.5-minute

SITE NAME: Vacant Land
ADDRESS: Not Reported
El Dorado Hills, CA 95762
CLIENT: Kleinfelder, Inc.

N



This report includes information from the following map sheet(s).

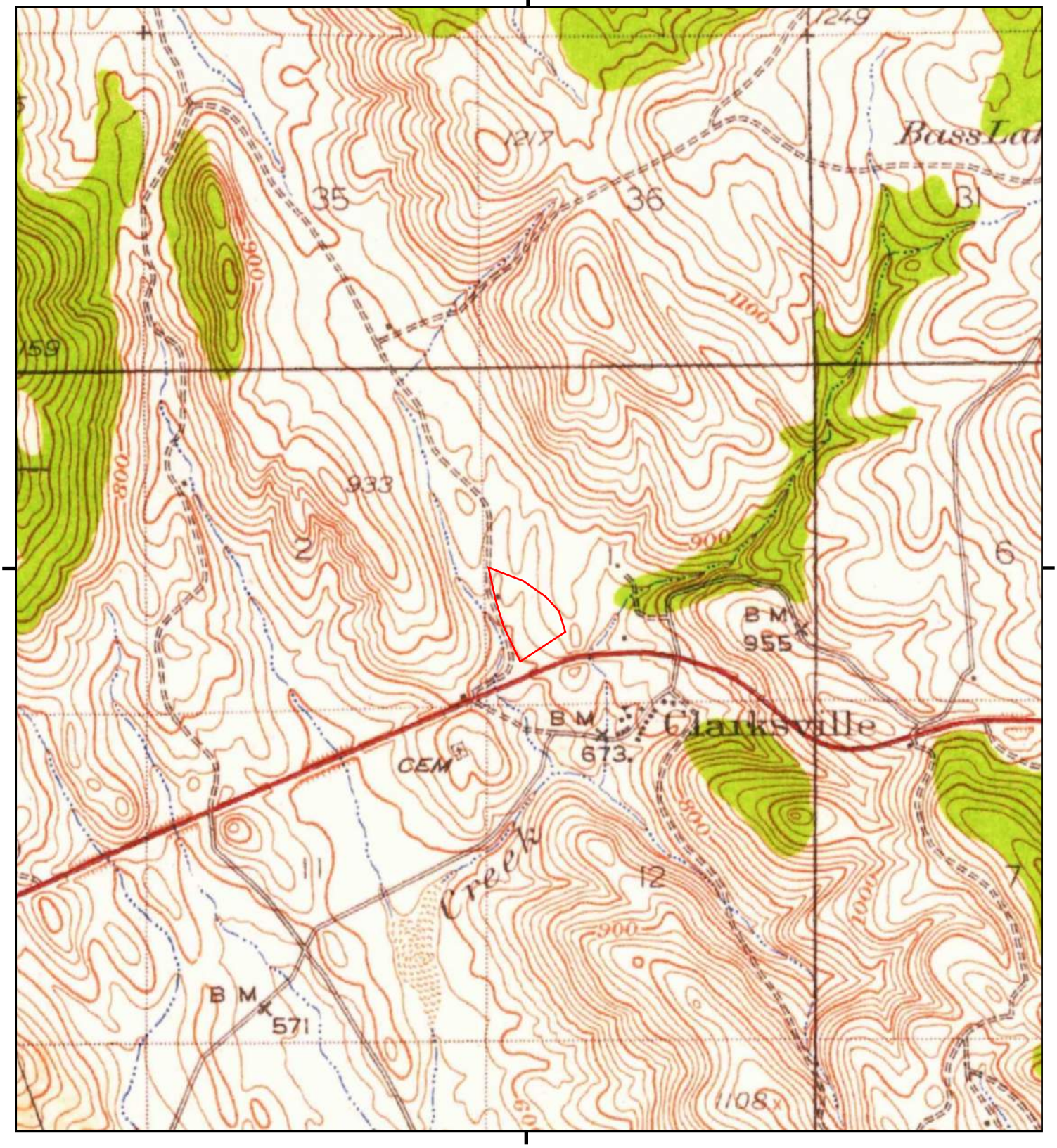
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Folsom, 1944, 15-minute

SITE NAME: Vacant Land
ADDRESS: Not Reported
El Dorado Hills, CA 95762
CLIENT: Kleinfelder, Inc.

N



This report includes information from the following map sheet(s).

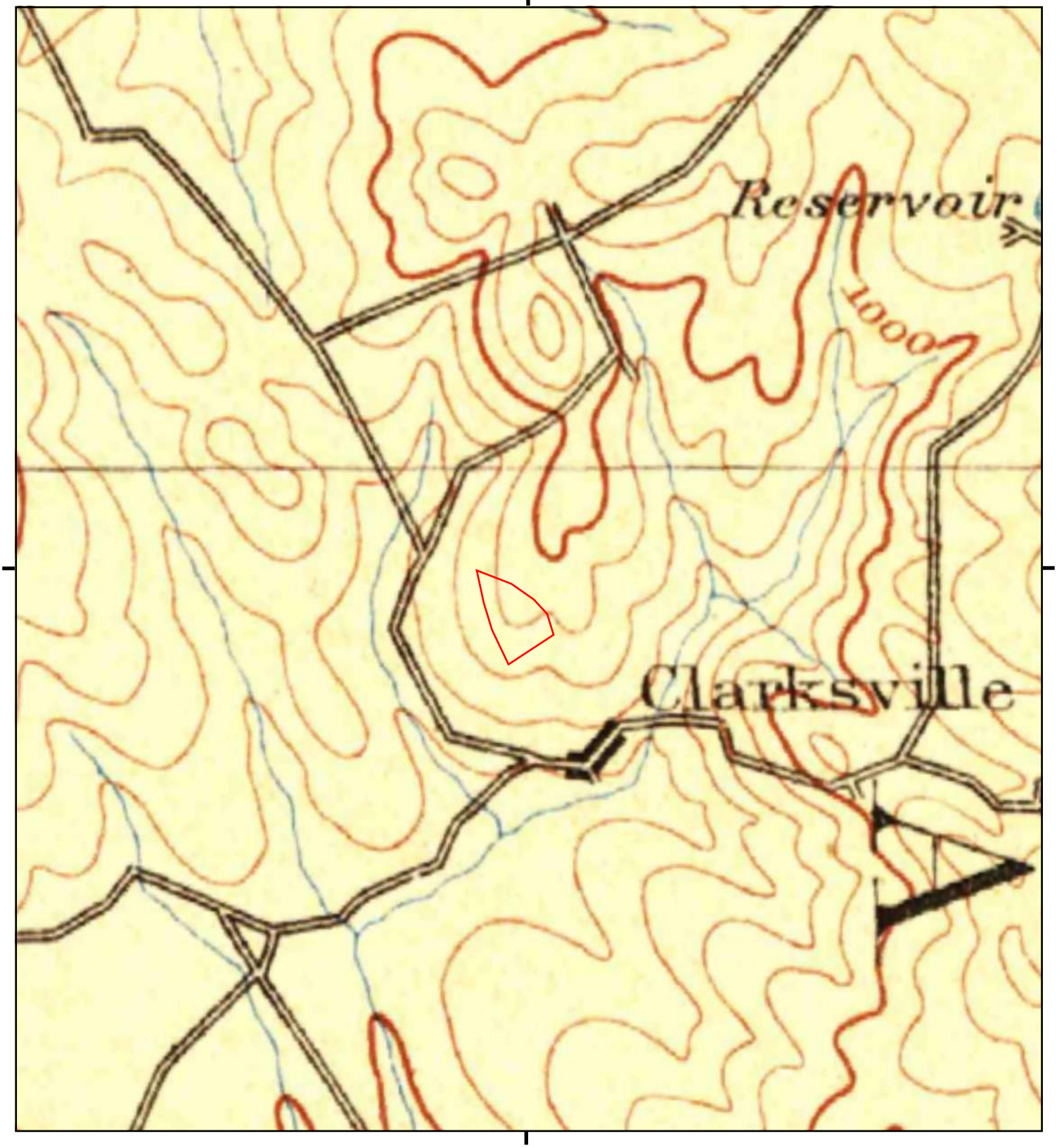
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Folsom, 1941, 15-minute

SITE NAME: Vacant Land
ADDRESS: Not Reported
El Dorado Hills, CA 95762
CLIENT: Kleinfelder, Inc.

N



This report includes information from the following map sheet(s).

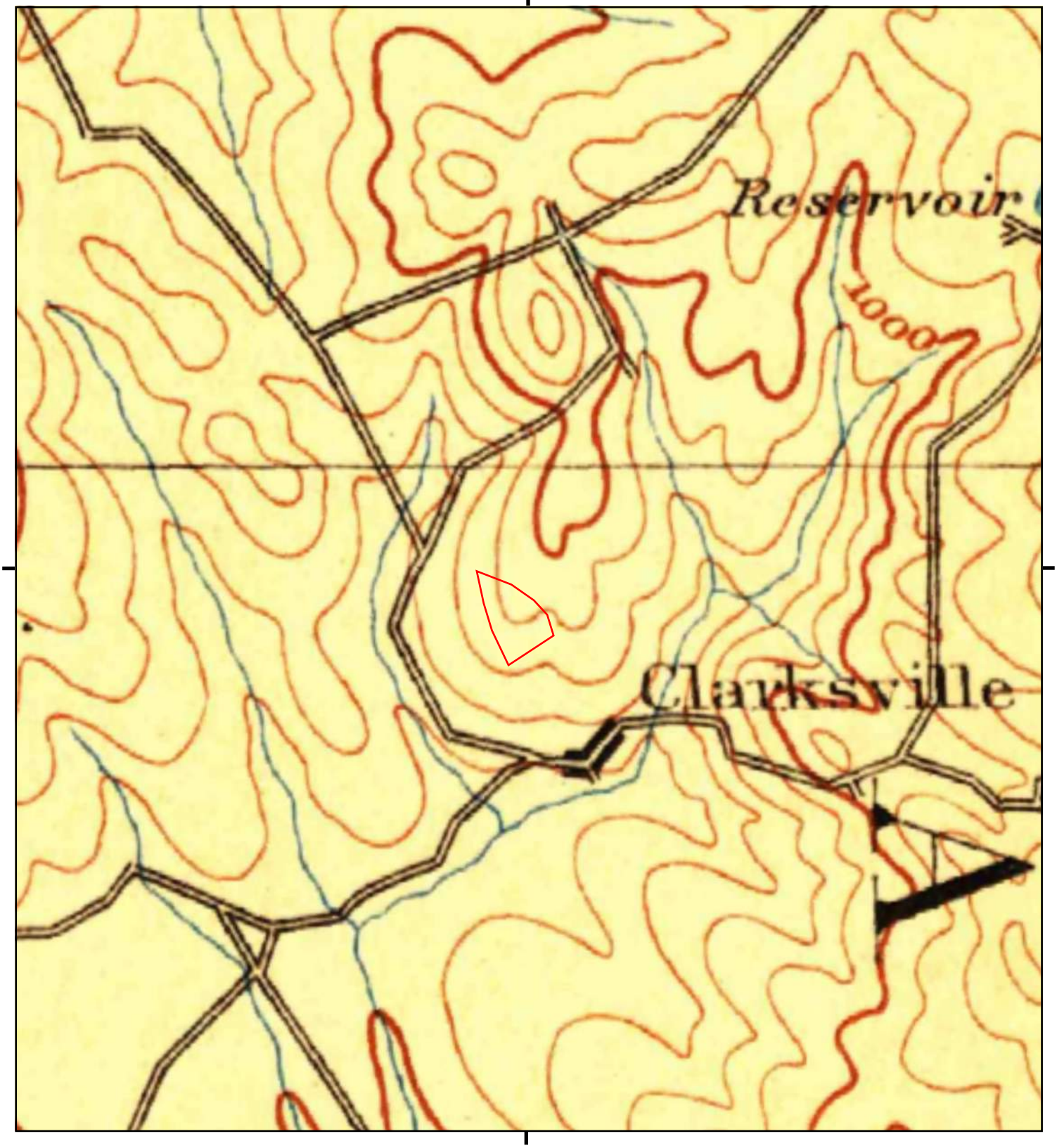
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Sacramento, 1893, 30-minute

SITE NAME: Vacant Land
ADDRESS: Not Reported
El Dorado Hills, CA 95762
CLIENT: Kleinfelder, Inc.

N



This report includes information from the following map sheet(s).

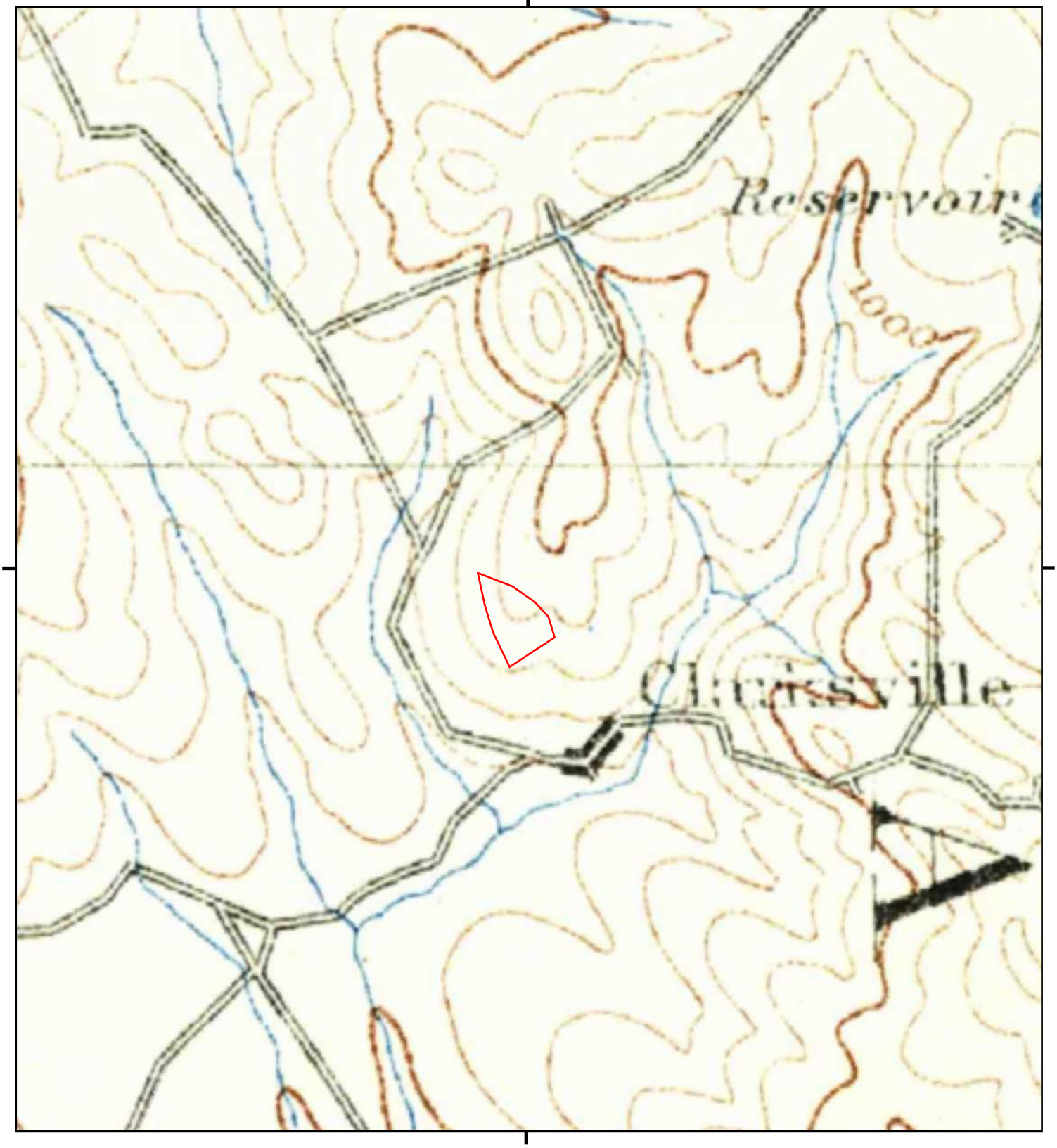
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Sacramento, 1892, 30-minute

SITE NAME: Vacant Land
ADDRESS: Not Reported
El Dorado Hills, CA 95762
CLIENT: Kleinfelder, Inc.

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Sacramento, 1891, 30-minute

SITE NAME: Vacant Land
ADDRESS: Not Reported
El Dorado Hills, CA 95762
CLIENT: Kleinfelder, Inc.

N

Vacant Land
Not Reported
El Dorado Hills, CA 95762

Inquiry Number: 5537129.8
January 17, 2019

EDR Building Permit Report

Target Property and Adjoining Properties

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

About This Report

Executive Summary

Findings

Glossary

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OR DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction orforecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2017 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc. or its affiliates is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EDR BUILDING PERMIT REPORT

About This Report

The EDR Building Permit Report provides a practical and efficient method to search building department records for indications of environmental conditions. Generated via a search of municipal building permit records gathered from more than 1,600 cities nationwide, this report will assist you in meeting the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

Building permit data can be used to identify current and/or former operations and structures/features of environmental concern. The data can provide information on a target property and adjoining properties such as the presence of underground storage tanks, pump islands, sumps, drywells, etc., as well as information regarding water, sewer, natural gas, electrical connection dates, and current/former septic tanks.

ASTM and EPA Requirements

ASTM E 1527-13 lists building department records as a "standard historical source," as detailed in § 8.3.4.7: "Building Department Records - The term building department records means those records of the local government in which the property is located indicating permission of the local government to construct, alter, or demolish improvements on the property." ASTM also states that "Uses in the area surrounding the property shall be identified in the report, but this task is required only to the extent that this information is revealed in the course of researching the property itself."

EPA's Standards and Practices for All Appropriate Inquires (AAI) states: "§312.24: Reviews of historical sources of information. (a) Historical documents and records must be reviewed for the purposes of achieving the objectives and performance factors of §312.20(e) and (f). Historical documents and records may include, but are not limited to, aerial photographs, fire insurance maps, building department records, chain of title documents, and land use records."

Methodology

EDR has developed the EDR Building Permit Report through our partnership with BuildFax, the nation's largest repository of building department records. BuildFax collects, updates, and manages building department records from local municipal governments. The database now includes 30 million permits, on more than 10 million properties across 1,600 cities in the United States.

The EDR Building Permit Report comprises local municipal building permit records, gathered directly from local jurisdictions, including both target property and adjoining properties. Years of coverage vary by municipality. Data reported includes (where available): date of permit, permit type, permit number, status, valuation, contractor company, contractor name, and description.

Incoming permit data is checked at seven stages in a regimented quality control process, from initial data source interview, to data preparation, through final auditing. To ensure the building department is accurate, each of the seven quality control stages contains, on average, 15 additional quality checks, resulting in a process of approximately 105 quality control "touch points."

For more information about the EDR Building Permit Report, please contact your EDR Account Executive at (800) 352-0050.

EDR® Environmental Data Resources Inc

BUILD FAX® PROPERTY HISTORY

EXECUTIVE SUMMARY: SEARCH DOCUMENTATION

A search of building department records was conducted by Environmental Data Resources, Inc (EDR) on behalf of Kleinfelder, Inc. on Jan 17, 2019.

TARGET PROPERTY

Not Reported
El Dorado Hills, CA 95762

SEARCH METHODS

EDR searches available lists for both the Target Property and Surrounding Properties.

RESEARCH SUMMARY

Building permits identified: **YES**

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

El Dorado County Unincorporated Area

Year	*Source*	*TP*	*Adjoining*
2018	El Dorado County, Building Services		
2017	El Dorado County, Building Services		X
2016	El Dorado County, Building Services		
2015	El Dorado County, Building Services		
2014	El Dorado County, Building Services		
2013	El Dorado County, Building Services		
2012	El Dorado County, Building Services		X
2011	El Dorado County, Building Services		
2010	El Dorado County, Building Services		
2009	El Dorado County, Building Services		
2008	El Dorado County, Building Services		
2007	El Dorado County, Building Services		
2006	El Dorado County, Building Services		
2005	El Dorado County, Building Services		
2004	El Dorado County, Building Services		
2003	El Dorado County, Building Services		X
2002	El Dorado County, Building Services		X
2001	El Dorado County, Building Services		X
2000	El Dorado County, Building Services		X
1999	El Dorado County, Building Services		X
1998	El Dorado County, Building Services		
1997	El Dorado County, Building Services		
1996	El Dorado County, Building Services		
1995	El Dorado County, Building Services		
1994	El Dorado County, Building Services		
1993	El Dorado County, Building Services		
1992	El Dorado County, Building Services		
1991	El Dorado County, Building Services		

EXECUTIVE SUMMARY: SEARCH DOCUMENTATION

Year	Source	TP	Adjoining
1990	El Dorado County, Building Services		
1989	El Dorado County, Building Services		
1988	El Dorado County, Building Services		
1987	El Dorado County, Building Services		
1986	El Dorado County, Building Services		
1985	El Dorado County, Building Services		
1984	El Dorado County, Building Services		
1983	El Dorado County, Building Services		
1982	El Dorado County, Building Services		
1981	El Dorado County, Building Services		
1980	El Dorado County, Building Services		

Name: JurisdictionName
Years: Years
Source: Source
Phone: Phone

BUILDING DEPARTMENT RECORDS SEARCHED

Name: El Dorado County Unincorporated Area
Years: 1980-2018
Source: El Dorado County, Building Services, EL DORADO HILLS, CA
Phone: (530) 621-5775

Name: Folsom
Years: 1997-2018
Source: City of Folsom, Building Safety Division, Folsom, CA
Phone: 916-351-3555

Name: Redding
Years: 1987-2018
Source: City of Redding, Development Services, Building Division, CHINO, CA
Phone: 530-225-4014

TARGET PROPERTY FINDINGS

TARGET PROPERTY DETAIL

Not Reported
El Dorado Hills, CA 95762

No Permits Found

ADJOINING PROPERTY FINDINGS

ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

DYMAXON WAY

2037 DYMAXON WAY

Date:	**9/9/2003**
Permit Type:	**POOLSP**
Description:	**GAS LI**
Permit Description:	**POOL/SPA**
Work Class:	NEW
Proposed Use:	SWIMMING POOL
Permit Number:	150165
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	WOLFE GREG |AQUARIUS POOLS

Date:	**2/26/2001**
Permit Type:	**BUILDG**
Description:	**COV PO**
Permit Description:	**BUILDING**
Work Class:	NEW
Proposed Use:	MSTRPLAN SNGL FMLY
Permit Number:	127344
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	LUCAS, THOMAS K, |LUCAS & MERCIER

ADJOINING PROPERTY FINDINGS

2041 DYMAXON WAY

Date:	**2/20/2003**
Permit Type:	**POOLSP**
Description:	**POOL**
Permit Description:	**POOL/SPA**
Work Class:	NEW
Proposed Use:	SWIMMING POOL
Permit Number:	145428
Status:	FINALED
Valuation:	$29,900.00
Contractor Company:	
Contractor Name:	HARBECK, KEITH |PREMIER POOLS

Date:	**2/26/2001**
Permit Type:	**BUILDG**
Description:	**DWELLG**
Permit Description:	**BUILDING**
Work Class:	NEW
Proposed Use:	MSTRPLAN SNGL FMLY
Permit Number:	127342
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	LUCAS, THOMAS K, |LUCAS & MERCIER

ADJOINING PROPERTY FINDINGS

VILLAGE GREEN DR

4842 VILLAGE GREEN DR

Date:	**9/7/2000**
Permit Type:	**POOLSP**
Description:	**GAS LI**
Permit Description:	**POOL/SPA**
Work Class:	NEW
Proposed Use:	SWIMMING POOL
Permit Number:	127865
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	HARBECK, KEITH |PREMIER POOLS

Date:	**11/8/1999**
Permit Type:	**BUILDG**
Description:	**COV PO**
Permit Description:	**BUILDING**
Work Class:	NEW
Proposed Use:	MSTRPLAN SNGL FMLY
Permit Number:	121993
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	LUCAS, THOMAS K, |LUCAS & MERCIER

ADJOINING PROPERTY FINDINGS

4848 VILLAGE GREEN DR

Date:	**8/17/2017**
Permit Type:	**PLUMBG**
Description:	
Permit Description:	**PLUMBING**
Work Class:	NEW
Proposed Use:	SINGLE FAMILY
Permit Number:	261924
Status:	ISSUED
Valuation:	$600.00
Contractor Company:	
Contractor Name:	ALWAYS AFORDABLE PLUMBING

Date:	**8/3/2017**
Permit Type:	**MECHAN**
Description:	
Permit Description:	**MECHANICAL**
Work Class:	NEW
Proposed Use:	SINGLE FAMILY
Permit Number:	261503
Status:	ISSUED
Valuation:	$21,210.00
Contractor Company:	
Contractor Name:	DBA: BEUTLER AIR CONDITIONING

Date:	**6/14/2002**
Permit Type:	**BUILDG**
Description:	**COVERE**
Permit Description:	**BUILDING**
Work Class:	NEW
Proposed Use:	DECK
Permit Number:	139206
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	PETKUS, DANIEL A. |PETKUS BROTHERS

ADJOINING PROPERTY FINDINGS

Date: **8/2/2001**
Permit Type: **POOLSP**
Description: **GAS LI**

Permit Description: **POOL/SPA**
Work Class: NEW
Proposed Use: SWIMMING POOL
Permit Number: 133965
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name: HARBECK, KEITH |PREMIER POOLS

Date: **11/8/1999**
Permit Type: **BUILDG**
Description: **COV PO**

Permit Description: **BUILDING**
Work Class: NEW
Proposed Use: MSTRPLAN SNGL FMLY
Permit Number: 121994
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name: LUCAS, THOMAS K, |LUCAS & MERCIER

4854 VILLAGE GREEN DR

Date: **8/20/2001**
Permit Type: **POOLSP**
Description: **POOL**

Permit Description: **POOL/SPA**
Work Class: NEW
Proposed Use: SWIMMING POOL
Permit Number: 134158
Status: FINALED
Valuation: $33,000.00
Contractor Company:
Contractor Name: O'CONNOR, KEVIN |AQUATIQUE POOLS

ADJOINING PROPERTY FINDINGS

Date: **11/8/1999**
Permit Type: **BUILDG**
Description: **DWELLG**

Permit Description: **BUILDING**
Work Class: NEW
Proposed Use: MSTRPLAN SNGL FMLY
Permit Number: 121995
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name: LUCAS, THOMAS K, |LUCAS & MERCIER

4860 VILLAGE GREEN DR

Date: **11/8/1999**
Permit Type: **BUILDG**
Description: **COV PO**

Permit Description: **BUILDING**
Work Class: NEW
Proposed Use: MSTRPLAN SNGL FMLY
Permit Number: 121997
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name: LUCAS, THOMAS K, |LUCAS & MERCIER

ADJOINING PROPERTY FINDINGS

4866 VILLAGE GREEN DR

Date:	**9/25/2012**
Permit Type:	**BUILDG**
Description:	**BATHRO**
Permit Description:	**BUILDING**
Work Class:	REMODEL
Proposed Use:	SINGLE FAMILY
Permit Number:	209114
Status:	FINALED
Valuation:	$15,500.00
Contractor Company:	
Contractor Name:	RUSSELL, MICHAEL |DREAM BUILDERS KITCHEN & BATH

Date:	**7/19/2001**
Permit Type:	**POOLSP**
Description:	**POOL**
Permit Description:	**POOL/SPA**
Work Class:	NEW
Proposed Use:	SWIMMING POOL
Permit Number:	133610
Status:	FINALED
Valuation:	$31,500.00
Contractor Company:	
Contractor Name:	WOLFE GREG |AQUARIUS POOLS

Date:	**11/8/1999**
Permit Type:	**BUILDG**
Description:	**COV PO**
Permit Description:	**BUILDING**
Work Class:	NEW
Proposed Use:	MSTRPLAN SNGL FMLY
Permit Number:	121998
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	LUCAS, THOMAS K, |LUCAS & MERCIER

ADJOINING PROPERTY FINDINGS

4872 VILLAGE GREEN DR

Date:	**11/8/1999**
Permit Type:	**BUILDG**
Description:	**COV PO**
Permit Description:	**BUILDING**
Work Class:	NEW
Proposed Use:	MSTRPLAN SNGL FMLY
Permit Number:	122000
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	LUCAS, THOMAS K, |LUCAS & MERCIER

4880 VILLAGE GREEN DR

Date:	**11/8/1999**
Permit Type:	**BUILDG**
Description:	**DWELLG**
Permit Description:	**BUILDING**
Work Class:	NEW
Proposed Use:	MSTRPLAN SNGL FMLY
Permit Number:	122001
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	LUCAS, THOMAS K, |LUCAS & MERCIER

ADJOINING PROPERTY FINDINGS

4886 VILLAGE GREEN DR

Date:	**8/28/2017**
Permit Type:	**PLUMBG**
Description:	
Permit Description:	**PLUMBING**
Work Class:	NEW
Proposed Use:	SINGLE FAMILY
Permit Number:	262258
Status:	ISSUED
Valuation:	$1,779.00
Contractor Company:	
Contractor Name:	MIKE JOHN LOZANO

Date:	**1/11/2000**
Permit Type:	**BUILDG**
Description:	**COV PO**
Permit Description:	**BUILDING**
Work Class:	NEW
Proposed Use:	MSTRPLAN SNGL FMLY
Permit Number:	122678
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	LUCAS, THOMAS K, |LUCAS & MERCIER

GLOSSARY

General Building Department concepts

- **ICC:** The International Code Council. The governing body for the building/development codes used by all jurisdictions who've adopted the ICC guidelines. MOST of the US has done this. Canada, Mexico, and other countries use ICC codes books and guides as well. There are a few states who have added guidelines to the ICC codes to better fit their needs. For example, California has added seismic retrofit requirements for most commercial structures.
- **Building Department (Permitting Authority, Building Codes, Inspections Department, Building and Inspections):** This is the department in a jurisdiction where an owner or contractor goes to obtain permits and inspections for building, tearing down, remodeling, adding to, re-roofing, moving or otherwise making changes to any structure, Residential or Commercial.
- **Jurisdiction:** This is the geographic area representing the properties over which a Permitting Authority has responsibility.
- **GC:** General Contractor. Usually the primary contractor hired for any Residential or Commercial construction work.
- **Sub:** Subordinate contracting companies or subcontractors. Usually a "trades" contractor working for the GC. These contractors generally have an area of expertise in which they are licensed like Plumbing, Electrical, Heating and Air systems, Gas Systems, Pools etc. (called "trades").
- **Journeymen:** Sub contractors who have their own personal licenses in one or more trades and work for different contracting companies, wherever they are needed or there is work.
- **HVAC (Mechanical, Heating & Air companies):** HVAC = Heating, Ventilation, and Air Conditioning.
- **ELEC (Electrical, TempPole, TPole, TPower, Temporary Power, Panel, AMP Change, Power Release):** Electrical permits can be pulled for many reasons. The most common reason is to increase the AMPs of power in an electrical power panel. This requires a permit in almost every jurisdiction. Other commons reason for Electrical permits is to insert a temporary power pole at a new construction site. Construction requires electricity, and in a new development, power has yet to be run to the lot. The temporary power pole is usually the very first permit pulled for new development. The power is released to the home owner when construction is complete and this sometimes takes the form of a Power Release permit or inspection.
- **"Pull" a permit:** To obtain and pay for a building permit.
- **CBO:** Chief Building Official
- **Planning Department:** The department in the development process where the building /structural plans are reviewed for their completeness and compliance with building codes
- **Zoning Department:** The department in the development process where the site plans are reviewed for their compliance with the regulations associated with the zoning district in which they are situated.
- **Zoning District:** A pre-determined geographic boundary within a jurisdiction where certain types of structures are permitted / prohibited. Examples are Residential structure, Commercial/Retail structures, Industrial/Manufacturing structures etc. Each zoning district has regulations associated with it like the sizes of the lots, the density of the structures on the lots, the number of parking spaces required for certain types of structures on the lots etc.
- **PIN (TMS, GIS ID, Parcel#):** Property Identification Number and Tax Map System number.
- **State Card (Business license):** A license card issued to a contractor to conduct business.
- **Building Inspector (Inspector):** The inspector is a building department employee that inspects building construction for compliance to codes.
- **C.O.:** Certificate of Occupancy. This is the end of the construction process and designates that the owners now have permission to occupy a structure after its building is complete. Sometimes also referred to as a Certificate of Compliance.

GLOSSARY

Permit Content Definitions

- Permit Number: The alphanumerical designation assigned to a permit for tracking within the building department system. Sometimes the permit number gives clues to its role, e.g. a "PL" prefix may designate a plumbing permit.
- Description: A field on the permit form that allows the building department to give a brief description of the work being done. More often than not, this is the most important field for EP's to find clues to the prior use(s) of the property.
- Permit Type: Generally a brief designation of the type of job being done. For example BLDG-RES, BLDG-COM, ELEC, MECH etc.

Sample Building Permit Data

Date: Nov 09, 2000
Permit Type: Bldg -
New Permit Number: 101000000405
Status: Valuation: $1,000,000.00
Contractor Company: OWNER-BUILDER
Contractor Name:

Description: New one store retail (SAV-ON) with drive-thru pharmacy. Certificate of Occupancy.

APPENDIX E
MOORE BIOLOGICAL CONSULTANTS – BIOLOGICAL ASSESSMENT

Copyright 2019 Kleinfelder

MOORE BIOLOGICAL CONSULTANTS

August 2, 2019

Ms. Lindsey Dandridge-Perry
Kleinfelder
24411 Ridge Route Drive
Laguna Hills, CA 92653

Subject: 17+/- ACRE COSTCO SITE, EL DORADO HILLS, CALIFORNIA: BIOLOGICAL ASSESSMENT

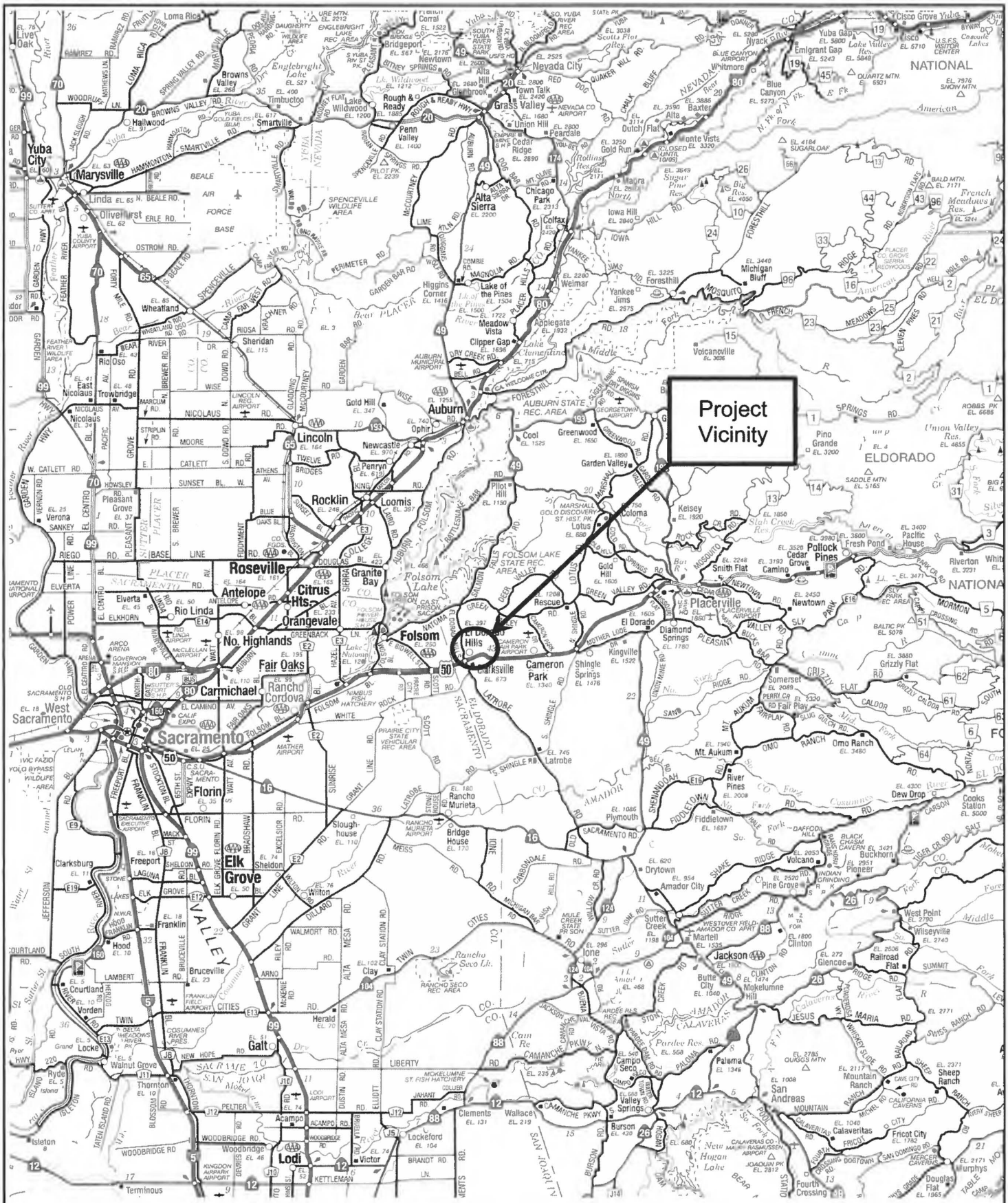
Dear Lindsey:

Thank you for asking Moore Biological Consultants to assist with this approximately 17+/- acre site in El Dorado Hills, El Dorado County, California (Figures 1 and 2 and Maps in Attachment A). The purpose of this assessment is to describe existing biological resources in the site, identify potentially significant impacts to biological resources from commercial development, and provide recommendations for how to reduce those impacts to a less-than-significant level. The work involved reviewing databases and aerial photographs, and conducting field surveys to document vegetation communities, potentially jurisdictional Waters of the U.S. and/or wetlands, and potentially suitable habitat for or presence of special-status species. This report details the methodology and results of our investigation.

Methods

Prior to the field surveys, we conducted a search of California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB, 2019). The CNDDB search included the USGS 7.5-minute Clarksville and Folsom SE topographic quadrangles, which encompass approximately 120 square miles surrounding the project site. The United States Fish and Wildlife Service

10330 Twin Cities Rd., Ste. 30 • Galt, CA 95632
(209) 745-1159 • Fax (209) 745-7513
e-mail: moorebio@softcom.net



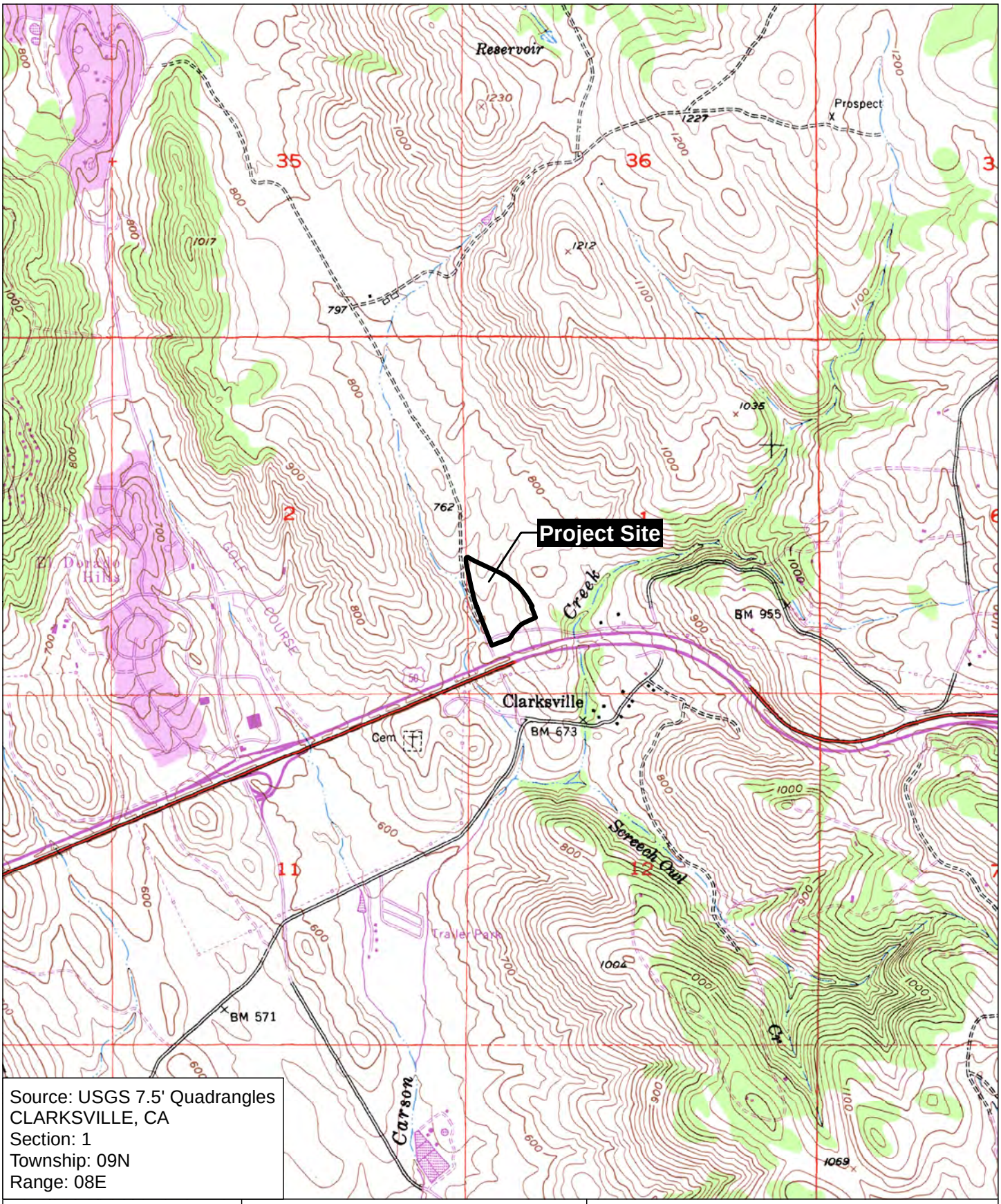
Source: Calif. State Automobile Association

Moore Biological Consultants

0 18 Miles

N W E S

FIGURE 1
PROJECT VICINITY



Source: USGS 7.5' Quadrangles
CLARKSVILLE, CA
Section: 1
Township: 09N
Range: 08E

Figure 2

Moore Biological Consultants

0 1,000 2,000
Feet

N
W E
S

Map Date: 07/29/19

USGS

17+/- Acre Costco El Dorado Hills

El Dorado Hills, El Dorado County, CA

C:\Users\owner\Documents\EEC - INC\Projects\Moore Biological\17_Acre_Costco_El_Dorado_Hills\MXD\17_acre_costco_usgs_figure_2.mxd

(USFWS) IPaC Trust Report of Federally Threatened and Endangered species that may occur in or be affected by projects in the project vicinity was also reviewed (Attachment B). This information was used to identify wildlife and plant species that have been previously documented in the project vicinity or have the potential to occur based on suitable habitat and geographical distribution. Additionally, the CNDDB depicts locations of sensitive habitats. The USFWS on-line maps of designated critical habitat were also downloaded.

Field surveys were conducted on July 26 and 29, 2019. The surveys consisted of walking throughout the site making observations of habitat conditions and noting surrounding land uses, vegetation types, and plant and wildlife species. The surveys included an assessment of the site for potentially jurisdictional Waters of the U.S. (a term that includes wetlands) as defined by the U.S. Army Corps of Engineers (ACOE, 1987; 2008), special-status species, and potentially suitable habitat for special-status species (e.g., blue elderberry shrubs, vernal pools). Additionally, trees in and near the site were assessed for the potential use by nesting raptors and the site was also searched for burrowing owls (*Athene cunicularia*) or ground squirrel burrows that could be utilized by burrowing owls.

Results

GENERAL SETTING: The 17+/- acre site is in El Dorado Hills, El Dorado County, California (Figure 1). The site is in within Section 1 in Township 9 North, Range 8 East of the USGS 7.5-minute Clarksville topographic quadrangle (Figure 2). The site consists of gently rolling hills and slopes down generally from the northeast to the southwest. Site elevations range from approximately 700 to 730 feet above mean sea level.

The site primarily consists of open hillsides supporting annual grassland vegetation (Figure 3 and photographs in Attachment C). The grasslands are



Figure 3

Moore Biological Consultants

0 150 300
Feet

N
W E
S

Map Date: 07/31/19
Aerial Source: Google Earth (08/2018)

AERIAL

17+/- Acre Costco El Dorado Hills

El Dorado Hills, El Dorado County, CA

moderately to highly disturbed from historic mining, prior development, grazing, grading related to construction of adjacent roads and on adjacent parcels, and periodic disking for weed abatement.

Silva Valley Parkway runs along the east side of the site and “Clarksville Crossing” (also named “Silva Valley Parkway” on some maps and signs) bounds the west edge of the site. An open grassland field bounds the south edge of the site, with Interstate 50+/- feet further to the south. There are residential areas further north and west of the site beyond strips of grassland and woodland areas. The site is surrounded by gently rolling hills of oak woodlands intermixed with annual grassland, similar to habitats in the site.

There are two intermittent creeks in the site that receive water via culverts under Silva Valley Parkway and flow generally southwest into culverts along Clarksville Crossing. These creeks convey water via their culverts into a tributary to Carson Creek, which is just off-site and to the west side of Clarksville Crossing. There are seepy areas within the larger creek where water was flowing out of the ground transitions into an area best described as a seasonal wetland swale. The smaller creek in the north part of the site was trickling with water flowing out of the culvert under Silva Valley Parkway.

There are some old concrete foundations and structural remains of what appears to have been a residence in the north part of the site (see photographs in Attachment C). There are remnant structures that appear to have been related to historic farming of the land in the site, including a concrete dam across one of the intermittent creeks.

VEGETATION: California annual grassland series (Sawyer and Keeler-Wolf, 1995) best describe vegetation found throughout the body of the site (Figure 3 and photographs in Attachment C). The grasslands are vegetated with native and non-native annual and perennial grassland species. Dominant grasses in the

site include oats (*Avena fatua*), foxtail barley (*Hordeum murinum*), soft chess brome (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), and perennial ryegrass (*Lolium perenne*). Other grassland species such as black mustard (*Brassica nigra*), annual fireweed (*Epilobium brachycarpum*), Italian thistle (*Carduus pycnocephalus*), rose clover (*Trifolium hirtum*), prickly lettuce (*Lactuca serriola*), yellow star thistle (*Centaurea solstitialis*) and filaree (*Erodium botrys*) are intermixed with the grasses. There are also some widely scattered coyote bush (*Baccharis pilularis*) shrubs in the on-site grasslands. Plant species observed in the site are listed in Table 1.

There are a few trees and shrubs growing along the intermittent creek that northeast to southwest through the body of the site. Dominant trees along the creek corridors include valley oak (*Quercus lobata*), blue oak (*Quercus douglasii*), willows (*Salix* sp.), and California black walnut (*Juglans californica*) (see photographs in Attachment C). Patches of coyote bush and Himalayan blackberry (*Rubus discolor*) are found near the edges of the creek. Vegetation in the bed of the larger intermittent creek includes cattails (*Typha* sp.), tules (*Scirpus acutus*), tall flat sedge (*Cyperus eragrostis*), annual rabbit's-foot grass (*Polypogon monspeliensis*), curly dock (*Rumex crispus*), and other hydrophytes. The smaller small creek in the north tip of the site supports a similar assemblage vegetation along its bed and banks.

No blue elderberry (*Sambucus mexicana*) shrubs were observed in or adjacent to the site.

WILDLIFE: only a few bird species typical to foothill annual grasslands were observed during the field surveys. Turkey vulture (*Cathartes aura*), American crow (*Corvus brachyrhynchos*), California scrub jay (*Aphelocoma californica*), Northern flicker (*Colaptes auratus*), and Brewer's blackbird (*Euphagus cyanocephalus*) were the only birds observed in the site.

TABLE 1

PLANT SPECIES OBSERVED IN THE SITE

Amsinckia menziesii	common fiddleneck
Avena sp.	oat
Baccharis pilularis	coyote brush
Brassica nigra	black mustard
Bromus diandrus	ripgut brome
Bromus hordeaceus	soft chess brome
Bromus madritensis	compact brome
Carduus pycnocephalus	Italian thistle
Centaurea solstitialis	yellow star-thistle
Cerastium glomeratum	mouse-eared chickweed
Cirsium vulgare	bull thistle
Cyperus eragrostis	tall flat-sedge
Epilobium brachycarpum	annual fireweed
Eremocarpus setigerus	turkey mullein
Erigeron canadensis	Canadian horseweed
Erodium botrys	long beak stork's bill
Erodium cicutarium	red stemmed filaree
Holocarpha virgata	tarweed
Hordeum murinum	wall barley
Juglans californica	California black walnut
Lactuca serriola	prickly lettuce
Leotondon taraxacoides	lesser hawkbit
Mentha pulegium	European pennyroyal
Phalaris aquatica	harding grass
Polypogon monspeliensis	annual rabbit's-foot grass
Quercus lobata	valley oak

TABLE 1 (continued)
PLANT SPECIES OBSERVED IN THE SITE

Quercus wislizenii	interior live oak
Rubus discolor	Himalayan blackberry
Rumex crispus	curly dock
Salix sp.	willow
Salsola iberica	Russian thistle
Scirpus acutus	tule
Sonchus asper	spiny-leaf sow-thistle
Taeniatherum caput-medusae	medusahead grass
Torilis arvensis	field hedge parsley
Trifolium hirtum	rose clover
Triteleia laxa	Ithuriel's spear
Typha sp.	cattail
Vicia sativa	common vetch

There are several large trees along the intermittent creek in the northwest part of the site and large trees in the open grasslands and developed areas surrounding the site that are suitable for nesting raptors. Given the presence of large trees near the site and raptor foraging habitat (i.e., open fields) in and near the site, it is possible raptors nest near the site. Smaller birds, such as songbirds, could potentially nest in shrubs, grasslands, and particularly in the riparian vegetation along the edges of the intermittent creek in the site.

While no mammals were observed in the site during the surveys, a few common mammals have potential to occur in the site. Coyote (*Canis latrans*), striped skunk (*Mephitis mephitis*), black-tailed hare (*Lepus californicus*), desert cottontail (*Sylvilagus audubonii*), and Virginia opossum (*Didelphis virginiana*) may occur in

the project site on occasion. A few California ground squirrel (*Spermophilus beecheyi*) burrows and Botta's pocket gopher (*Thomomys bottae*) burrows were observed in annual grasslands in the site. A number of species of small rodents including mice (*Mus musculus, Reithrodontomys megalotis,* and *Peromyscus maniculatus*) and voles (*Microtus californicus*) also likely occur in the site.

Based on habitats, only a few amphibians and reptiles have potential to occur in the site and only western fence lizard (*Sceloporus occidentalis*) was observed during the recent surveys. The site is within the range of Pacific chorus frog (*Pseudacris regilla*), bullfrog (*Rana catesbeiana*), western fence lizard (*Sceloporus occidentalis*), western terrestrial garter snake (*Thamnophis elegans*), and gopher snake (*Pituophis melanoleucus*); these and other common amphibian and reptile species may occur in the site.

WATERS OF THE U.S. AND WETLANDS: Waters of the U.S., including wetlands, are broadly defined under 33 Code of Federal Regulations (CFR) 328 to include navigable waterways, their tributaries, and adjacent wetlands. State and federal agencies regulate these habitats and Section 404 of the Clean Water Act requires that a permit be secured prior to the discharge of dredged or fill materials into any waters of the U.S., including wetlands. Both CDFW and ACOE have jurisdiction over modifications to riverbanks, lakes, stream channels and other wetland features.

"Waters of the U.S.", as defined in 33 CFR 328.4, encompasses Territorial Seas, Tidal Waters, and Non-Tidal Waters; Non-Tidal Waters includes interstate and intrastate rivers and streams, as well as their tributaries. The limit of federal jurisdiction of Non-Tidal Waters of the U.S. extends to the "ordinary high water mark". The ordinary high water mark is established by physical characteristics such as a natural water line impressed on the bank, presence of shelves, destruction of terrestrial vegetation, or the presence of litter and debris.

Jurisdictional wetlands are vegetated areas that meet specific vegetation, soil, and hydrologic criteria defined by the ACOE *Wetlands Delineation Manual* and Regional Supplement (ACOE, 1987; 2008). Jurisdictional wetlands are usually adjacent to or hydrologically associated with Waters of the U.S; isolated wetlands are outside federal jurisdiction.

Jurisdictional wetlands and Waters of the U.S. include, but are not limited to, perennial and intermittent creeks and drainages, lakes, seeps, and springs; emergent marshes; riparian wetlands; and seasonal wetlands. Wetlands and Waters of the U.S. provide critical habitat components, such as nest sites and a reliable source of water, for a wide variety of wildlife species.

On February 14, 2019, the Environmental Protection Agency (EPA) and ACOE proposed a new definition of "Waters of the United States" that is intended to clarify the limits of jurisdiction under the Clean Water Act; the Proposed Rule is currently out for public comment. The Proposed Rule proposes as a baseline concept that ''Waters of the U.S.'' are waters within the ordinary meaning of the term, such as oceans, rivers, streams, lakes, ponds, and wetlands. The Proposed Rule clarifies that "Waters of the U.S." encompass traditional navigable waters, including the territorial seas; tributaries that contribute perennial or intermittent flow to such waters; certain ditches; certain lakes and ponds; impoundments of otherwise jurisdictional waters; and wetlands adjacent to other jurisdictional waters. Under the Proposed Rule, not all waters are "Waters of the U.S.". For example, many ditches, constructed features (excavated basins), isolated waters and wetlands, and ephemeral tributaries would no longer meet the definition of "Waters of the U.S.".

WATERS OF THE STATE: Under the Porter-Cologne Water Quality Control Act, "Waters of the State" fall under the jurisdiction of the State Water Resource Control Board (SWRCB) and California Regional Water Quality Control Boards (RWQCBs). The RWQCBs are required to prepare and periodically update water

quality control basin plans, which set forth water quality standards for surface water and groundwater, as well as actions to control non-point and point sources of pollution to achieve and maintain these standards.

Projects that affect Waters of the State may also be required to meet waste discharge requirements (WDRs) of the RWQCBs. SWRCB's Resolution 2008-0026 identified a need to protect Waters of the State that are not subject to CWA Section 404 permitting and associated CWA Section 401 Water Quality Certification. In April 2019, the SWRCB adopted the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Materials to Waters of the State*. When the program is implemented, the Central Valley Regional Water Quality Board is expected to require WDRs for the fill of isolated wetlands that not subject to CWA Section 404 that authorize the impacts by issuing WDRs or in some cases, a WDR waiver.

There are two potentially jurisdictional Waters of the U.S. including wetlands in the site consisting of two intermittent creeks, and a seasonal wetland swale feature (Figure 4 and photographs in Attachment C). None of these features are mapped on the USGS topographic map (Figure 2) as "blue-line" streams, nor are they depicted on the National Wetland Inventory (Attachment D). While a formal wetland delineation would be need to prepared to map jurisdictional boundaries and calculate precise acreages, it is estimated the jurisdictional areas encompass approximately 0.2 acres.

The larger intermittent creek in the site flows from generally northeast to southwest and extends through the approximate center of the site. There is a culvert at the north end of the creek that receives water under Silva Valley Parkway. The upper section of the creek has a mean width of approximately 10 feet, and then it transitions further downstream into more of a seasonal wetland swale feature in the center of the site (Figure 4 and photographs in Attachment C). Groundwater seeping out of the ground supports the swale in this area where



Potential Waters of the U.S.

Seasonal Wetland Swale (0.1 +/- acres)

Intermittent Creek (0.1 +/- acres)

Figure 4

Moore Biological Consultants

0 150 300

Feet

N

W E

S

Map Date: 07/31/19
Aerial Source: Google Earth (08/2018)

Potential Waters of the U.S.

17+/- Acre Costco El Dorado Hills

El Dorado Hills, El Dorado County, CA

it is noticeably boggy and was trickling water during the recent survey; other portions of the creek are completely dry. There is an historic stone dam a bit further downstream of the wetland swale portion of the creek that does not contain a culvert, however, the creek continues on the other side of the dam, presumably by water seeping under and/or flowing around the ends of the rock dam. Downstream of the dam, the creek winds southwest through the site under oak woodland habitat until reaching the culvert. Downstream of the dam, the creek has a mean width of approximately 5 feet.

Although the intermittent creek in the north part of the site is much smaller, it shares similar characteristics to the larger creek, and supports the same assortment of trees, shrubs, and emergent wetland vegetation (Figure 4 and photographs in Attachment C). This creek has a mean width of approximately 5 feet and was trickling water via its culvert under Silva Valley Parkway during the survey.

The two creeks convey water during and after rain events. Additionally, the creeks convey water that seeps out of the ground in various places on the site, as well as from off-site areas to the northeast. The beds and banks of the creeks are moderately to well defined, and the limit of jurisdiction is the ordinary high water mark (OHWM) along the banks of the creeks. In the wetland swale portion of the larger intermittent creek, the limit of jurisdiction is the wetland edge, which is defined by the presence of the combination of wetland vegetation, hydric soils, and wetland hydrology.

Both of the creeks are tributaries to an un-named tributary to Carson Creek, which eventually flows in to the Cosumnes River. The Cosumnes River is a jurisdictional water of the U. S. and the tributary relationship of the on-site creeks to the Cosumnes River forms the basis for them being potentially jurisdictional Waters of the U.S. and under the jurisdiction of agencies including ACOE, CDFW, and the RWQCB.

SPECIAL-STATUS SPECIES: Special-status species are plants and animals that are legally protected under the state and/or federal Endangered Species Act or other regulations. The Federal Endangered Species Act (FESA) of 1973 declares that all federal departments and agencies shall utilize their authority to conserve endangered and threatened plant and animal species. The California Endangered Species Act (CESA) of 1984 parallels the policies of FESA and pertains to native California species.

Special-status species also include other species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or denning locations, communal roosts, and other essential habitat. The presence of species with legal protection under the Endangered Species Act often represents a major constraint to development, particularly when the species are wide-ranging or highly sensitive to habitat disturbance and where proposed development would result in a take of these species.

Special-status plants are those which are designated rare, threatened, or endangered and candidate species for listing by the USFWS. Special-status plants also include species considered rare or endangered under the conditions of Section 15380 of the California Environmental Quality Act Guidelines, such as those plant species identified on Lists 1A, 1B and 2 in the Inventory of Rare and Endangered Vascular Plants of California (CNPS, 2019). Finally, special-status plants may include other species that are considered sensitive or of special concern due to limited distribution or lack of adequate information to permit listing or rejection for state or federal status, such as those included on CNPS List 3.

The likelihood of occurrence of listed, candidate, and other special-status species in the site is generally low. Table 3 provides a summary of the listing status and habitat requirements of special-status species that have been documented in the greater project vicinity or for which there is potentially suitable habitat in the

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED IN THE GREATER PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[1]	CNPS List[2]	Habitat	Likeliness of Occurrence in the Project Site
PLANTS						
Stebbin's morning-glory	*Calystegia stebbinsii*	E	E	1B	Chaparral or cismontane woodland; red clay soils of the Pine Hill formation, or gabbroic or serpentine soils.	Unlikely: the annual grassland in the site does not provide suitable habitat for Stebbin's morning-glory; no gabbroic or serpentine soils were observed and the site is not in the Pine Hill formation. There are no recorded occurrences of this species in the CNDDB (2019) search area.
Pine Hill ceanothus	*Ceanothus roderickii*	E	R	1B	Chaparral or cismontane woodland; in gabbroic soils.	Unlikely: the annual grassland in the site does not provide suitable habitat for Pine Hill ceanothus; no gabbroic soils were observed in the site. The nearest occurrence of this species in the CNDDB (2019) search area is approximately 5 miles northeast of the site.
Red Hills soaproot	*Chlorogalum grandiflorum*	None	None	1B	Chaparral, cismontane woodland, or lower montane coniferous forest; in serpentine or gabbroic soils.	Unlikely: there is no suitable habitat within the site for Red Hills soaproot; no serpentine or gabbroic habitats were observed in or near the site. The nearest occurrence of this species in the CNDDB (2019) search area is approximately 4.5 miles northeast of the site.
Brandegee's clarkia	*Clarkia biloba ssp. brandegeeae*	None	None	1B	Chaparral, cismontane woodland, and lower montane coniferous forest; often on road cuts.	Unlikely: the annual grassland in the site does not provide suitable habitat for Brandegee's clarkia. The nearest occurrence of this species in the CNDDB (2019) search area is approximately 3.5 miles northwest of the site.
Tuolumne button celery	*Eryngium pinnatisectum*	None	None	1B	Vernal pools and other mesic habitats within cismontane woodland and lower montane coniferous forest; at elevations between 70 and 900 meters.	Unlikely: the annual grassland in the site does not provide suitable habitat for Tuolumne button celery. The nearest occurrence of this species in the CNDDB (2019) search area is approximately 11 miles southeast of the site.

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED IN THE GREATER PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[1]	CNPS List[2]	Habitat	Likeliness of Occurrence in the Project Site
Pine Hill flannelbush	*Fremontodendron decumbens*	E	R	1B	Chaparral, cismontane woodland, or openings in lower montane coniferous forest; in serpentine or gabbroic soils.	Unlikely: annual grassland in the site does not provide suitable habitat for Pine Hill flannelbush; no serpentine or gabbroic soils were observed in the site. The nearest occurrence of this species in the CNDDB (2019) search area is approximately 5 miles northeast of the site.
El Dorado bedstraw	*Galium californicum ssp. sierrae*	E	R	1B	Chaparral, cismontane woodland, or lower montane coniferous forest; gabbroic soils.	Unlikely: the annual grassland habitats in the site are not suitable for El Dorado bedstraw; no gabbroic soils were observed in the site. The nearest occurrence of this species in the CNDDB (2019) search area is approximately 6 miles northeast of the site.
Bisbee Peak rush-rose	*Helianthemum suffrutescens*	None	None	3	Serpentine, gabbroic, or Ione formation soils in Chaparral.	Unlikely: there is no chaparral habitat in the site and no areas of serpentine, gabbroic, or Ione formation soils were observed within the site. The nearest occurrence of Bisbee Peak rush-rose in the CNDDB (2019) search area is approximately 3.5 miles northeast of the site.
Layne's ragwort	*Packera layneae*	T	R	1B	Chaparral or cismontane woodland; serpentine or gabbroic soils	Unlikely the annual grassland habitats in the site are not suitable for Layne's ragwort; no serpentine or gabbroic soils were observed in the site. The nearest occurrence of this species in the CNDDB (2019) search area is approximately 3.5 miles northeast of the site.
Sanford's arrowhead	*Sagittaria sanfordii*	None	None	1B	Standing or slow moving freshwater ponds, marshes, and ditches.	Unlikely: the site does not provide suitable habitat for Sanford's arrowhead. The nearest occurrence of Sanford's arrowhead in the CNDDB (2019) search area is approximately 3.5 miles southwest of the site.
El Dorado County mule ears	*Wyethia reticulata*	None	None	1B	Chaparral, cismontane woodland, or lower montane coniferous forest; clay or gabbroic soils.	Unlikely: the ruderal grassland habitats in the site are not suitable for El Dorado County mule ears; no gabbroic or clay soils were observed in the site. The nearest occurrence of this species in the CNDDB (2019) search area is approximately 4 miles northeast of the site.

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED IN THE GREATER PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[1]	CNPS List[2]	Habitat	Likeliness of Occurrence in the Project Site
WILDLIFE						
BIRDS						
Swainson's hawk	*Buteo swainsoni*	None	T	N/A	Nesting: large trees, usually within riparian corridors. Foraging: agricultural fields and annual grasslands.	Unlikely: the open, annual grassland vegetation in the site provides marginally suitable foraging habitat for Swainson's hawks. There are several large trees in and in close proximity to the site that may be used for nesting. However, the site is on east edge of the nesting range of this species. There are only two records of nesting Swainson's hawks in the CNDDB (2019) search area; the nearest occurrence is approximately 4 miles southwest of the site.
Burrowing owl	*Athene cunicularia*	None	None	N/A	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation.	Unlikely: the annual grassland in the site provides limited burrow habitat for burrowing owls. No ground squirrels were observed in the site, but a few ground squirrel burrows were observed. The nearest occurrence of burrowing owl in the CNDDB (2019) search area is approximately 2 miles southwest of the site.
Tricolored blackbird	*Agelaius tricolor*	None	CE	N/A	Nests in dense brambles and emergent wetland vegetation associated with open water habitat.	Unlikely: the intermittent creeks in the site are very small and provide poor quality and only marginally suitable nesting habitat for tricolored blackbird. The nearest occurrence of tricolored blackbird in the CNDDB (2019) search area is approximately 3 miles southeast of the site.
Golden eagle	*Aquila chrysaetos*	None	FP	N/A	Nesting areas are associated with cliff-walled canyons and large trees. Forages in rolling hills and mountain areas	Unlikely: the large trees within and in close proximity to the site provide low quality nesting habitat for golden eagle, as they prefer ledges on cliff walls or very large trees isolated from any type of disturbance for nesting. The rolling hills in the site provides potential foraging habitat for this species. The nearest occurrence of golden eagle in the CNDDB (2019) search area is approximately 2 miles northwest of the site.

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED IN THE GREATER PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[1]	CNPS List[2]	Habitat	Likeliness of Occurrence in the Project Site
Bald eagle	*Haliaeetus leucocephalus*	None	E	N/A	Nests in large trees along rivers, ocean shores, and lake margins.	Unlikely: although there are large trees within and in close proximity to the site, bald eagles are known to nest near large bodies of water. Bald eagles could fly over or forage in the site on occasion. The nearest occurrence of this species in the CNDDB (2019) search area is approximately 2.5 miles northeast of the site.
California black rail	*Laterallus jamaicensis coturniculus*	None	T	N/A	Mainly inhabits salt marshes bordering larger bays.	Unlikely: the site does not provide suitable habitat for California black rail. The nearest occurrence of this species in the CNDDB (2019) search area is approximately 2 miles south of the site.
White-tailed kite	*Elanus leucurus*	None	FP	N/A	Herbaceous lowlands with variable tree growth and dense population of voles.	Unlikely: the site provides potentially suitable foraging habitat for white-tailed kite, and there are suitable nest trees in and near the site. The nearest occurrence of white-tailed kite in the CNDDB (2019) search area is approximately 2.5 miles northwest of the site.
Grasshopper sparrow	*Ammodramus savannum*	None	SC	N/A	Dense grasslands, lowland plains, and lower mountain slopes; prefers native grasses with scattered shrubs.	Unlikely: the site provide poor quality habitat for grasshopper sparrow. This species may occasionally fly over or forage in the area. The nearest occurrence of grasshopper sparrow in the CNDDB (2019) search area is approximately 9 miles southwest of the site.
REPTILES & AMPHIBIANS						
California red-legged frog	*Rana aurora draytonii*	T	SC	N/A	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	Unlikely: there is no suitable aquatic habitat for California red-legged frog in the project site. The nearest occurrence of this species in the CNDDB (2019) search area is approximately 5.5 miles northwest of the site. The site is not within designated critical habitat for California red-legged frog (USFWS, 2006).

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED IN THE GREATER PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[1]	CNPS List[2]	Habitat	Likeliness of Occurrence in the Project Site
Foothill yellow-legged frog	*Rana boylii*	None	SC	N/A	Perennial water bodies (i.e., streams and ponds) with abundant riparian vegetation; not found on Central Valley floor.	Unlikely: the site does not contain suitable aquatic habitat for foothill yellow-legged frog. The nearest occurrence of this species in the CNDDB (2019) search area is approximately 3.5 miles northwest of the site.
California tiger salamander	*Ambystoma californiense*	T	T	N/A	Breeds in seasonal water bodies such as deep vernal pools or stock ponds. Requires small mammal burrows for summer refugia.	Unlikely: there are no potentially suitable breeding ponds for California tiger salamander in or near the site. There are no occurrences of this species recorded in the CNDDB (2019) within the search area. The site is not within an area designated critical habitat for California tiger salamander (USFWS, 2005a).
Giant garter snake	*Thamnophis gigas*	T	T	N/A	Freshwater marsh and low gradient streams; uses drainage canals and irrigation ditches, primarily for dispersal or migration.	Unlikely: the site does not provide suitable habitat for giant garter snake. The nearest occurrence of this species in the CNDDB (2019) search area is approximately 11 miles southeast of the site.
Western pond turtle	*Emys marmorata*	None	SC	N/A	Permanent or semi-permanent water bodies; require basking sites such as logs.	Unlikely: the site does not provide suitable habitat for western pond turtle. The nearest occurrence of western pond turtle in the CNDDB (2019) search area is approximately 2 miles south of the site.
Western spadefoot	*Spea hammondii*	None	SC	N/A	Breeds and lays eggs in seasonal water bodies such as deep vernal pools or stock ponds	Unlikely: the intermittent creeks in the site are shallow and do not provide suitable habitat for western spadefoot. The nearest occurrence of western spadefoot in the CNDDB (2019) search area is approximately 4 miles northwest of the site.

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED IN THE GREATER PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[1]	CNPS List[2]	Habitat	Likeliness of Occurrence in the Project Site
Fish						
Delta smelt	*Hypomesus transpacificus*	T	T	N/A	Shallow lower delta waterways with submersed aquatic plants and other suitable refugia.	None: there is no suitable aquatic habitat for fish in the site. There are no occurrences of delta smelt recorded in the CNDDB (2019) within the search area. The site is not within designated critical habitat for delta smelt (USFWS, 1994).
Central Valley steelhead	*Oncorhynchus mykiss*	T	None	N/A	Riffle and pool complexes with adequate spawning substrates within Central Valley drainages.	None: there is no suitable aquatic habitat for fish in the site. The nearest occurrence of this species in the CNDDB (2019) search area is approximately 11 miles south of the site. The site is not within designated critical habitat for Central Valley steelhead (NOAA, 2005).
INVERTEBRATES						
Vernal pool fairy shrimp	*Branchinecta lynchi*	T	None	N/A	Vernal pools and seasonally inundated depressions in the Central Valley.	Unlikely: there are no vernal pools in the project site. The nearest occurrence of this species in the CNDDB (2019) search area is approximately 3.5 miles northwest of the site. The site is not within designated critical habitat for vernal pool fairy shrimp (USFWS, 2005b).
Vernal pool tadpole shrimp	Lepidurus packardi	E	None	N/A	Vernal pools	Unlikely: there are no vernal pools in the project site. There are no occurrences of vernal pool tadpole shrimp recorded in the CNDDB (2019) within the search area. The site is not within designated critical habitat for vernal pool tadpole shrimp (USFWS, 2005b).
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	T	None	N/A	Elderberry shrubs in the Central Valley and surrounding foothills	Unlikely: there are no blue elderberry shrubs in the project site. The nearest occurrence of valley elderberry longhorn beetle in the CNDDB (2019) search area is approximately 3.5 miles northwest of the site.

Notes:

1 T = Threatened; E = Endangered; R = Rare; CE = Candidate for Endangered Status; SC=State of California Species of Special Concern; FP = Fully Protected Species.

2 CNPS List 1B includes species that are rare, threatened, or endangered in California and elsewhere; List 3 includes plants about which more information is needed.

greater project vicinity. This table also includes an assessment of the likelihood of occurrence of each of these species in the site. The evaluation of the potential for occurrence of each species is based on the distribution of regional occurrences (if any), habitat suitability, and field observations.

SPECIAL-STATUS PLANTS: Ten (10) species of special-status plants were identified in the CNDDB (2019) search: Pine Hill ceanothus (*Ceanothus roderickii*), Red Hills soaproot (*Chlorogalum grandiflorum*), Brandegee's clarkia (*Clarkia biloba ssp. brandegeeae*), Tuolumne button celery (*Eryngium pinnatisectum*), Pine Hill flannelbush (*Fremontodendron decumbens*), El Dorado bedstraw (*Galium californicum ssp. sierrae*), Bisbee Peak rush-rose (*Helianthemum suffrutescens*), Layne's ragwort (*Packera layneae*), Sanford's arrowhead (*Sagittaria sanfordii*), and El Dorado County mule ears (*Wyethia reticulata*) (Table 3 and Attachment B). Stebbin's morning-glory (*Calystegia stebbinsii*) is not recorded in the CNDDB within the search area, but is on the USFWS IPaC Trust Report (Attachment B).

Special-status plants generally occur in relatively undisturbed areas in vegetation communities such as vernal pools, marshes and swamps, chenopod scrub, seasonal wetlands, riparian scrub, and areas with unusual soils. The grasslands in the site have been highly disturbed by historic mining, prior development, grazing, grading related to construction of adjacent roads and on adjacent parcels, and periodic disking for weed abatement, and off-road vehicle trespass. Due to lack of even moderately suitable habitat for special-status plants, it is unlikely special-status plants occur in the site.

SPECIAL-STATUS WILDLIFE: The potential for intensive use of the site by special-status wildlife species is also low. Fifteen (16) special-status wildlife species were recorded in project area in the CNDDB (2019) query: Swainson's hawk (*Buteo swainsonii*), burrowing owl, tricolored blackbird (*Agelaius tricolor*), golden eagle (*Aquila chrysaetos*), bald eagle (*Haliaeetus leucocephalus*), California black rail (*Laterallus jamaicensis coturniculus*), white-tailed kite (*Elanus leucurus*),

grasshopper sparrow (*Ammodramus savannum*), California red-legged frog (*Rana aurora draytonii*), foothill yellow-legged frog (*Rana boylii*), giant garter snake (*Thamnophis gigas*), western pond turtle (*Emys marmorata*), western spadefoot (*Spea hammondii*), Central Valley steelhead (*Oncorhynchus mykiss*), vernal pool fairy shrimp (*Branchinecta lynchi*) and valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*). California tiger salamander (*Ambystoma californiense*), Delta smelt (*Hypomesus transpacificus*), and vernal pool tadpole shrimp (*Lepidurus packardi*) are not recorded in the CNDDB within the search area, but are on the USFWS IPaC Trust Report (Attachment B).

While the project site may have provided habitat for special-status wildlife species at some time in the past, agriculture, mining, and development have substantially modified natural habitats in the greater project vicinity, including those within the site. Of the species in Table 3, Swainson's hawk and burrowing owl are the only species with more than a very low potential to occur in the project site on more than a transitory or very occasional basis and are discussed further below. Other special-status birds may fly over or forage in the area on occasion, but would not be expected to nest in or adjacent to the project site, primarily due to poor habitat quality.

SWAINSON'S HAWK: The Swainson's hawk is a migratory hawk listed by the State of California as a Threatened species. The Migratory Bird Treaty Act and Fish and Game Code of California protect Swainson's hawks year-round, as well as their nests during the nesting season (March 1 through September 15). Swainson's hawk are found in the Central Valley primarily during their breeding season, a population is known to winter in the San Joaquin Valley.

Swainson's hawks prefer nesting sites that provide sweeping views of nearby foraging grounds consisting of grasslands, irrigated pasture, hay, and wheat crops. Most Swainson's hawks are migratory, wintering in Mexico and breeding in California and elsewhere in the western United States. This raptor generally

arrives in the Central Valley in mid-March, and begins courtship and nest construction immediately upon arrival at the breeding sites. The young fledge in early July, and most Swainson's hawks leave their breeding territories by late August.

The site is within the nesting range of Swainson's hawks and the CNDDB (2019) contains a few records of nesting Swainson's hawks in the greater project vicinity (Attachment B). The nearest occurrence of Swainson's hawk in the CNDDB (2019) search area is approximately 4 miles southwest of the site.

The open, annual grasslands in the site provide marginal, yet potentially suitable Swainson's hawk foraging habitat. The large trees along the intermittent creek in the site and relatively large trees near the site could be used by nesting Swainson's hawks. No large stick nests were observed in any of the trees within the site and no Swainson's hawks were observed during the surveys. Due to the location of the site along the extreme east edge of the nesting range of this species, it is unlikely Swainson's hawks nest in or near the site, or forage in the site intensively, if at all.

BURROWING OWL: The Migratory Bird Treaty Act and Fish and Game Code of California protect burrowing owls year-round, as well as their nests during the nesting season (February 1 through August 31). Burrowing owls are a year-long resident in a variety of grasslands as well as scrub lands that have a low density of trees and shrubs with low growing vegetation; burrowing owls that nest in the Central Valley may winter elsewhere.

The primary habitat requirement of the burrowing owl is small mammal burrows for nesting. The owl usually nests in abandoned ground squirrel burrows, although they have been known to dig their own burrows in softer soils. In urban areas, burrowing owls often utilize artificial burrows including pipes, culverts, and piles of concrete pieces. This semi-colonial owl breeds from March through

August, and is most active while hunting during dawn and dusk. The nearest record of burrowing owls in the CNDDB (2019) is approximately 2 miles southwest of the site.

The absence of extensive burrow habitat, periodic disking and/or mowing of the on-site grasslands for weed abatement, and development in parcels surrounding the site reduces the likelihood of burrowing owls using the site for nesting. No burrowing owls were observed in the project site and only a few ground squirrel burrows were observed in the site. None of the burrows had any evidence of past or current use by owls. In its current condition, the site provides very limited potential nesting habitat for nesting burrowing owls. However, the site is within the species range and burrowing owls may fly over the site on an occasional basis, and may nest in the site in the future if burrow habitat becomes available.

OTHER SPECIAL-STATUS WILDLIFE SPECIES: The site does not provide highly suitable habitat for other special-status wildlife species. Special-status birds and may fly over the area on occasion, but few, if any, would be expected to use on-site habitats on more than an occasional or transitory basis. While there are shrubby willows and small amounts of emergent wetland vegetation in the intermittent creeks that are potentially suitable for nesting tricolored blackbirds, this vegetation is not near a large body of open water and the vegetation is not dense or extensive. There are no elderberry shrubs in the site, precluding the potential occurrence of valley elderberry longhorn beetle.

The site does not provide suitable aquatic habitat for any species of fish, California red-legged frog, California tiger salamander, giant garter snake, foothill yellow-legged frog, western spadefoot, or western pond turtle. There are no vernal pools or seasonal wetlands in the site for vernal pool branchiopods (i.e., fairy and tadpole shrimp).

CRITICAL HABITAT: The site is not in designated critical habitat of California red-legged frog (USFWS, 2006a), California tiger salamander (USFWS, 2005b), federally listed vernal pool shrimp or plants, such as Sacramento Orcutt grass (USFWS, 2005a), delta smelt (USFWS, 1994) Central Valley steelhead (NOAA, 2005) valley elderberry longhorn beetle (USFWS, 1980a) (Attachment E).

Conclusions and Recommendations

- The body of the site is an open field vegetated in upland grasses and weeds that has is routinely disked. The annual grassland habitats in the site are biologically unremarkable.

- Potentially jurisdictional Waters of the U.S. and wetlands in the site include, two ephemeral creeks, and a seasonal wetland swale; it is estimated these areas encompass approximately 0.2+/- acres. A formal wetland delineation would be need to prepared to map jurisdictional boundaries and calculate precise acreages.

- Avoidance of jurisdictional Waters of the U.S. and wetlands is recommended, if possible. If complete avoidance is infeasible (which appears likely), impacts should be minimized to the maximum extent practicable, and permits from ACOE, CDFW, RWQCB will be then be needed prior to the placement of any fill material (e.g., culverts, fill dirt, rock) within jurisdictional Waters of the U.S. As the acreage is under 0.5 acres, it is expected ACOE would authorize any fills under a Nationwide Permit. Securing permits for the fill of jurisdictional Waters of the U.S. and wetlands is usually time consuming, and it is expected it will take approximately 9 to 12 months to secure all of the needed permits.

- Due to a lack of suitable habitat, it is unlikely that special-status plants occur in the site.

- Swainson's hawk and burrowing owl are the only species with more than a very low potential to occur in the project site on more than a transitory or very occasional basis. Conversion of 17+/- acres of upland grassland habitat to development in the east part of the species' ranges is a less than significant reduction in potential foraging habitat for Swainson's hawk, burrowing owl, and other wildlife.

- A pre-construction survey for burrowing owls within 250 feet of the site are recommended if construction commences between February 1 and August 31. If occupied burrows are found, a qualified biologist should determine the need (if any) for temporal restrictions on construction. The determination should be pursuant to criteria set forth by CDFW (CDFG, 2012).

- A pre-construction survey for nesting Swainson's hawks within 0.25 miles of the project site is recommended if construction commences between March 1 and September 15. If active nests are found, a qualified biologist should determine the need (if any) for temporal restrictions on construction. The determination should utilize criteria set forth by CDFW (CDFG, 1994).

- The site is not within designated critical habitat for any federally listed species.

- Trees, shrubs, and grasslands in the site could be used by other birds protected by the Migratory Bird Treaty Act of 1918. If tree removal is scheduled during the nesting season of raptors (January 1 through July 31), a pre-construction survey for nesting raptors is recommended. If other vegetation removal or construction commences during the general avian nesting season (March 1 through July 31), a pre-construction survey for all species of nesting birds is recommended. If active nests are found, work in the vicinity of the nests should be delayed until the young fledge.

We hope this information is useful. Please call me at (209) 745-1159 with any questions.

Sincerely,



Diane S. Moore, M.S.
Principal Biologist

References and Literature Consulted

ACOE (U.S. Army Corps of Engineers). 1987. Technical Report Y87-1. U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, MI.

ACOE. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region. U.S. Army Engineer Research and Development Center, Vicksburg, MS. September.

CDFG (California Department of Fish and Game). 1994. Staff Report regarding Mitigation for Impacts to Swainson's Hawks (*Buteo Swainsoni*) in the Central Valley of California. November.

CDFG. 2012. Staff Report on Burrowing Owl Mitigation. California Department of Fish and Wildlife, Sacramento, California. March 7.

CNDDB (California Natural Diversity Database). 2019. California Department of Fish and Wildlife's Natural Heritage Program, Sacramento, California.

California Native Plant Society, Rare Plant Program. 2019. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.38). Website http://www.rareplants.cnps.org

National Oceanic and Atmospheric Administration (NOAA). 2005. Endangered and Threatened Species; Designation of Critical Habitat for Seven Evolutionarily Significant Units of Pacific Salmon and Steelhead in California; Final Rule. Federal Register 70 (170): 52488-52585. September 2, 2005.

Sawyer & Keeler-Wolf. 1995. A Manual of California Vegetation. California Native Plant Society, Sacramento. California.

USFWS (United States Fish and Wildlife Service). 1980. Part II, Department of the Interior, Fish and Wildlife Service. 50 CFR Part 17. Listing the Valley Elderberry Longhorn Beetle as a Threatened Species with Critical Habitat. Federal Register 45 No. 155, pp. 52803-52807, August 8.

USFWS. 1994. Final Critical Habitat for the Delta Smelt (*Hypomesus transpacificus*). Federal Register Vol. 59, No. 242, December 19, 1994, pp. 65256 – 65279.

USFWS. 2005a. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the California Tiger Salamander, Central Population; Final Rule. Federal Register Vol. 70, No. 162, August 23, 2005, pp. 49390 – 49458.

USFWS. 2005b. Part II, Department of the Interior, Fish and Wildlife Service. 50 CFR Part 17: Endangered and Threatened Wildlife and Plants; Final Designation of Critical Habitat for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants in California and Southern Oregon; Evaluation and Economic Exclusions from August 2003 Final Designation, Final Rule. Federal Register Vol. 70, No. 154, August 11.

USFWS. 2006. Part II, Department of the Interior, Fish and Wildlife Service. 50 CFR Part 17: Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for California Red-Legged Frog, and Special Rule Exemption Associated with Final Listing for Existing Routine Ranching Activities, Final Rule. Federal Register Vol. 71, No. 71, April 13.

USFWS. 2017. Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*). U.S. Fish and Wildlife Service; Sacramento, California. 28pp.

Attachment A

Site Boundary Map and Conceptual Site Plan



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

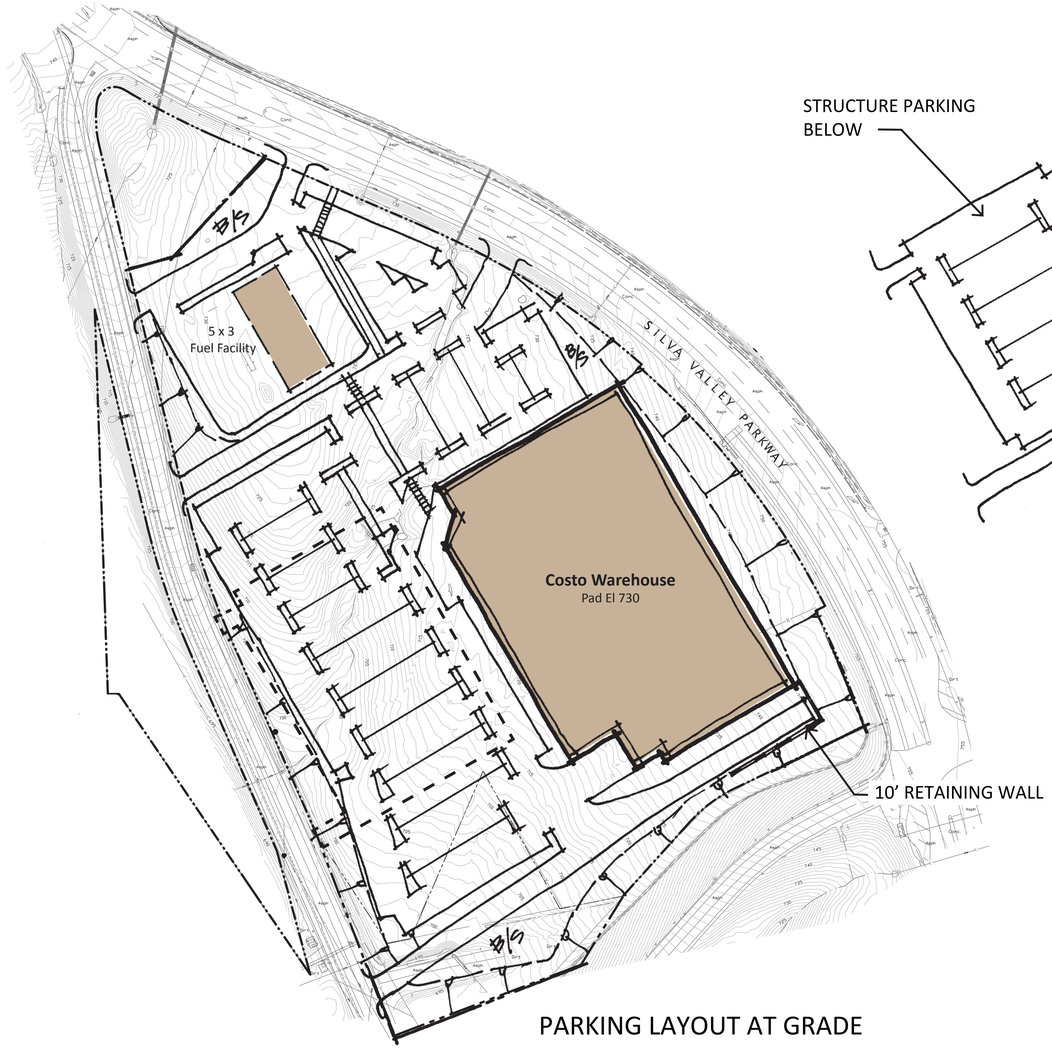
PROJECT:	20193180
DRAWN:	JUL 2019
DRAWN BY:	KFH
CHECKED BY:	LDP
FILE NAME:	Figure2_SW.mxd

SITE VICINITY MAP

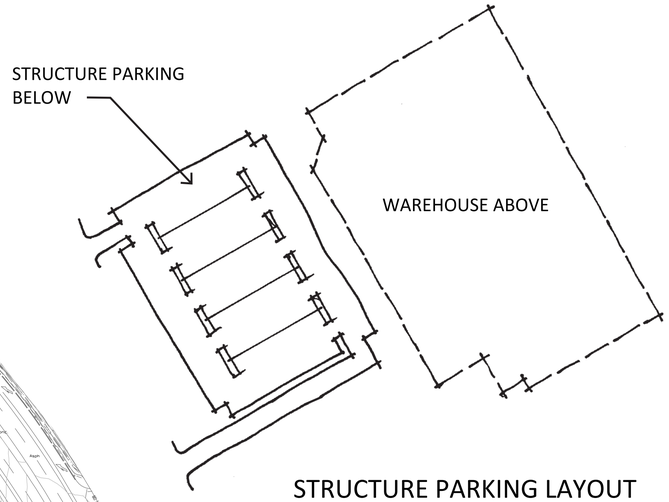
PHASE I ENVIRONMENTAL SITE ASSESSMENT
PROPOSED COSTCO WAREHOUSE AND GAS STATION
WEST-SOUTHWEST OF SILVA VALLEY PARKWAY
EL DORADO HILLS, EL DORADO COUNTY, CALIFORNIA
CW: 18-0487

FIGURE
2

PLOTTED: 7/23/2019 3:03:18 PM, KHagan
FILE: L:\2019\20193180.001A - CSM Costco El Dorado Hills CA Ph I -ENV\2.0 Technical Information\2.8 GIS
LAGUNA HILLS, CA



PARKING LAYOUT AT GRADE



STRUCTURE PARKING LAYOUT

Project Data

Client:	Costco Wholesale 999 Lake Drive Issaquah, WA 98027
Project Address:	Silva Valley Parkway, El Dorado, CA

Site Data

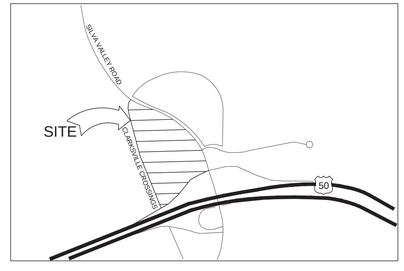
Warehouse Parcel Area:	± 17.04 AC (± 742,262 s.f.)
Jurisdiction:	El Dorado County
Existing Zoning:	PD-RC Planned Development Regional Commercial
Boundaries Information:	This plan has been prepared using Topographic Survey dated March 2019 prepared by Kier and Wright.

Building Data

Building Area:	±152,000 s.f.

Parking Data

At Grade 10'W Stalls:	561 stalls
Accessible stalls:	18 stalls
Below Grade 10'W Stalls:	219 stalls
Total Parking:	798 stalls (5.2 / 1,000)
Parking Required: (Per El Dorado County)	502 (3.3 / 1,000)



Vicinity Map
Scale: N.T.S.

DBA # P.290

DB+A
DAVID BABCOCK + ASSOCIATES
ARCHITECTURE LANDSCAPE PLANNING
3581 MT. DIABLO BLVD., SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

EL DORADO HILLS

CONCEPT SITE PLAN - OPTION 2.0

0 50' 100' 200'

SCALE 1"= 100'

APRIL 11, 2019

NORTH

SHEET 1 of 1

Attachment B

CNDDB Summary Report and Exhibits &

USFWS IPaC Trust Report

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Clarksville (3812161) OR Folsom SE (3812151))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
Ammodramus savannarum grasshopper sparrow	ABPBXA0020	None	None	G5	S3	SSC
Andrena blennospermatis Blennosperma vernal pool andrenid bee	IIHYM35030	None	None	G2	S2	
Aquila chrysaetos golden eagle	ABNKC22010	None	None	G5	S3	FP
Ardea alba great egret	ABNGA04040	None	None	G5	S4	
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Buteo regalis ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
Ceanothus roderickii Pine Hill ceanothus	PDRHA04190	Endangered	Rare	G1	S1	1B.1
Chlorogalum grandiflorum Red Hills soaproot	PMLIL0G020	None	None	G3	S3	1B.2
Clarkia biloba ssp. brandegeeae Brandegee's clarkia	PDONA05053	None	None	G4G5T4	S4	4.2
Crocanthemum suffrutescens Bisbee Peak rush-rose	PDCIS020F0	None	None	G2?Q	S2?	3.2
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S2	
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Erethizon dorsatum North American porcupine	AMAFJ01010	None	None	G5	S3	
Eryngium pinnatisectum Tuolumne button-celery	PDAPI0Z0P0	None	None	G2	S2	1B.2
Fremontodendron decumbens Pine Hill flannelbush	PDSTE03030	Endangered	Rare	G1	S1	1B.2

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Galium californicum ssp. sierrae El Dorado bedstraw	PDRUB0N0E7	Endangered	Rare	G5T1	S1	1B.2
Haliaeetus leucocephalus bald eagle	ABNKC10010	Delisted	Endangered	G5	S3	FP
Hydrochara rickseckeri Ricksecker's water scavenger beetle	IICOL5V010	None	None	G2?	S2?	
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
Packera layneae Layne's ragwort	PDAST8H1V0	Threatened	Rare	G2	S2	1B.2
Rana boylii foothill yellow-legged frog	AAABH01050	None	Candidate Threatened	G3	S3	SSC
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
Sagittaria sanfordii Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
Spea hammondii western spadefoot	AAABF02020	None	None	G3	S3	SSC
Thamnophis gigas giant gartersnake	ARADB36150	Threatened	Threatened	G2	S2	
Wyethia reticulata El Dorado County mule ears	PDAST9X0D0	None	None	G2	S2	1B.2

Record Count: 32

Stebbins' morning-glory
Bisbee Peak rush-rose
El Dorado County mule ears
Layne's ragwort
Bisbee Peak rush-rose
Pine Hill ceanothus
Layne's ragwort
El Dorado bedstraw
Red Hills soaproot
Brandegee's clarkia
El Dorado bedstraw
El Dorado County mule ears
Layne's ragwort
Layne's ragwort
Pine Hill flannelbush
Pine Hill ceanothus
El Dorado County mule ears
Layne's ragwort
Bisbee Peak rush-rose
Pine Hill ceanothus
Pine Hill flannelbush
El Dorado bedstraw
El Dorado County mule ears
El Dorado County mule ears
Layne's ragwort
Red Hills soaproot
Pine Hill ceanothus
Red Hills soaproot
Layne's ragwort
Layne's ragwort
Bisbee Peak rush-rose
Pine Hill flannelbush
Layne's ragwort
El Dorado County mule ears
chaparral sedge
Brandegee's clarkia
Pine Hill ceanothus
El Dorado County mule ears
Layne's ragwort
Layne's ragwort
El Dorado County mule ears
Layne's ragwort
El Dorado County mule ears
Pine Hill ceanothus
Bisbee Peak rush-rose
Red Hills soaproot
Layne's ragwort
Bisbee Peak rush-rose
El Dorado bedstraw
El Dorado County mule ears
El Dorado County mule ears
Bisbee Peak rush-rose
Stebbins' morning-glory
Layne's ragwort
Bisbee Peak rush-rose
Valley Needlegrass Grassland
Project Site
Pine Hill ceanothus
Red Hills soaproot
Layne's ragwort
Red Hills soaproot
Layne's ragwort
Brandegee's clarkia
Brandegee's clarkia
Boggs Lake hedge-hyssop
Northern Hardpan Vernal Pool
Sanford's arrowhead
Northern Hardpan Vernal Pool
Sacramento Orcutt grass
Northern Hardpan Vernal Pool
Sacramento Orcutt grass
legenere
legenere
Sanford's arrowhead
Sacramento Orcutt grass
Central Valley Drainage Hardhead/Squawfish Stream
Tuolumne-button-celery
Bisbee Peak rush-rose
Bisbee Peak rush-rose
legenere
Sanford's arrowhead
Northern Hardpan Vernal Pool

ROCKLIN
PILOT HILL
COLOMA
FOLSOM LAKE
STATE RECREATION AREA
FOLSOM
CLARKSVILLE
SHINGLE SPRINGS
El Dorado Hills
Natoma
Prairie City (Site)
White Rock
BUFFALO CREEK
FOLSOM SE
LATROBE
CARBONDALE
IRISH HILL

CNDDB PLANT

17+/- Acre Costco El Dorado Hills

El Dorado County, CA

Map Date: 07/31/2019 Source: CDFW

N
0 0.5 1
Miles



CNDDB WILDLIFE

17+/- Acre Costco El Dorado Hills

El Dorado County, CA

Map Date: 07/31/2019 Source: CDFW

N

0 0.5 1

Miles

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

NOT FOR CONSULTATION

Location

El Dorado County, California



Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

NOT FOR CONSULTATION

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Reptiles

NAME	STATUS

Giant Garter Snake Thamnophis gigas — Threatened
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/4482

Amphibians

NAME	STATUS

California Red-legged Frog Rana draytonii — Threatened
There is **final** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/2891

California Tiger Salamander Ambystoma californiense — Threatened
There is **final** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/2076

Fishes

NAME	STATUS

Delta Smelt Hypomesus transpacificus — Threatened
There is **final** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/321

Insects

NAME	STATUS

Valley Elderberry Longhorn Beetle Desmocerus californicus dimorphus — Threatened
There is **final** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/7850

Crustaceans

NAME	STATUS

Vernal Pool Fairy Shrimp Branchinecta lynchi — Threatened
There is **final** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/498

Vernal Pool Tadpole Shrimp Lepidurus packardi — Endangered
There is **final** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/2246

NOT FOR CONSULTATION

Flowering Plants

NAME	STATUS
El Dorado Bedstraw Galium californicum ssp. sierrae No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/5209	Endangered
Layne's Butterweed Senecio layneae No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4062	Threatened
Pine Hill Ceanothus Ceanothus roderickii No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/3293	Endangered
Pine Hill Flannelbush Fremontodendron californicum ssp. decumbens No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4818	Endangered
Stebbins' Morning-glory Calystegia stebbinsii No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/3991	Endangered

NOT FOR CONSULTATION

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NOT FOR CONSULTATION

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31
California Thrasher Toxostoma redivivum This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jan 1 to Jul 31

Clark's Grebe Aechmophorus clarkii — Breeds Jan 1 to Dec 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Lawrence's Goldfinch Carduelis lawrencei — Breeds Mar 20 to Sep 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Lewis's Woodpecker Melanerpes lewis — Breeds Apr 20 to Sep 30
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9408

Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Rufous Hummingbird selasphorus rufus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8002

Song Sparrow Melospiza melodia — Breeds Feb 20 to Sep 5
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Spotted Towhee Pipilo maculatus clementae — Breeds Apr 15 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/4243

NOT FOR CONSULTATION

Wrentit Chamaea fasciata — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Yellow-billed Magpie Pica nuttalli — Breeds Apr 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9726

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

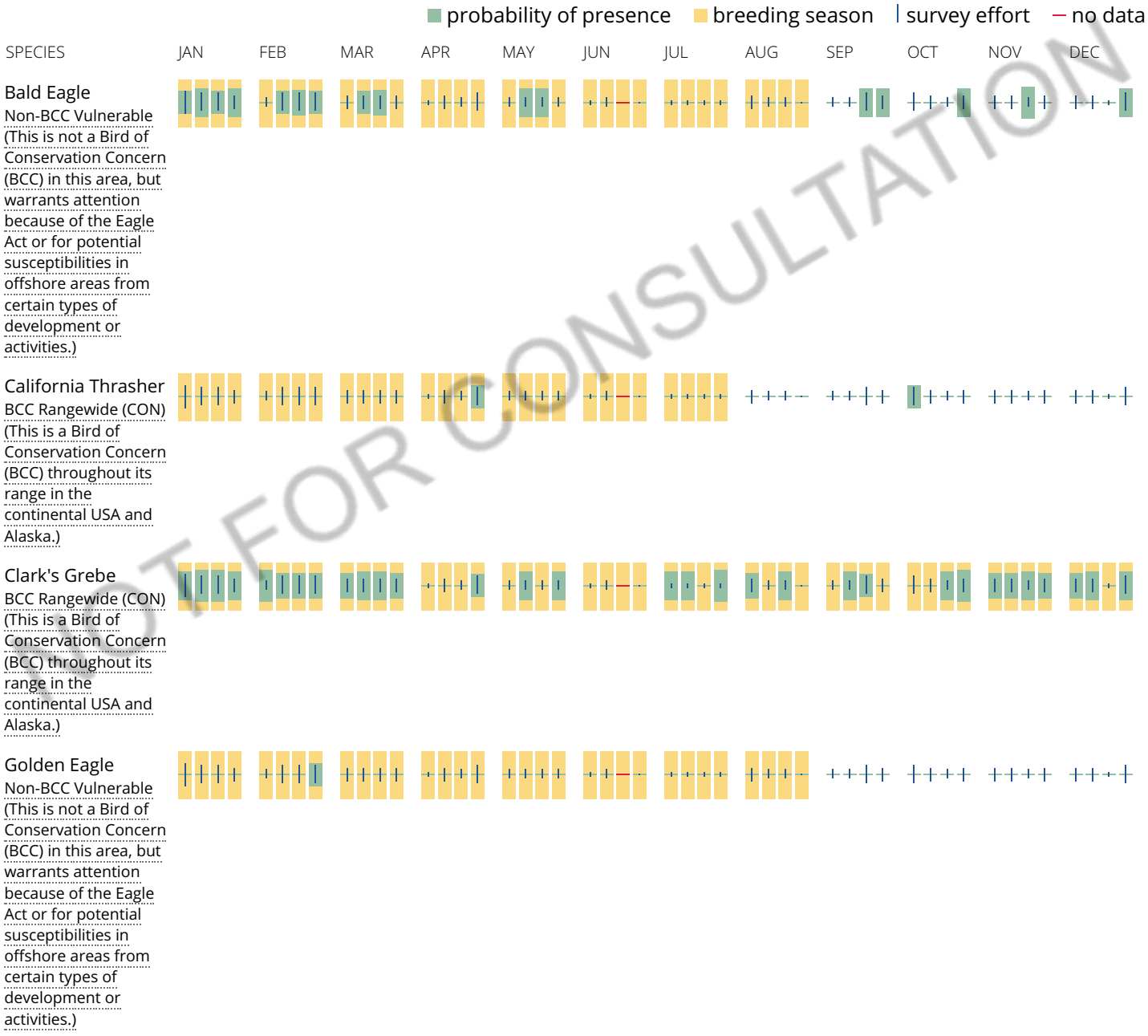
NOT FOR CONSULTATION

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

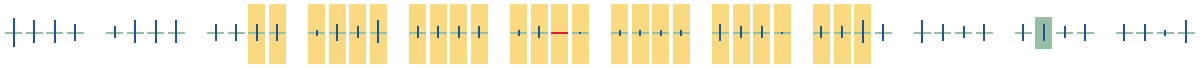
No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

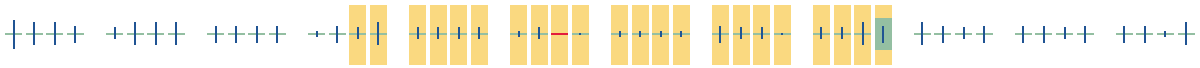


DRAFT FOR CONSULTATION

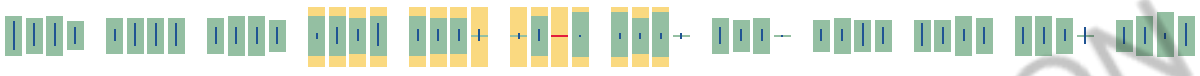
Lawrence's Goldfinch
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



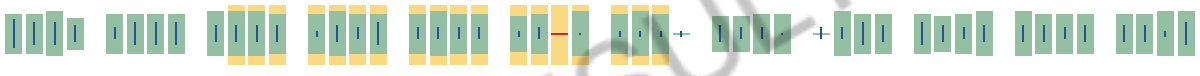
Lewis's Woodpecker
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Nuttall's Woodpecker
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



Oak Titmouse
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Rufous Hummingbird
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



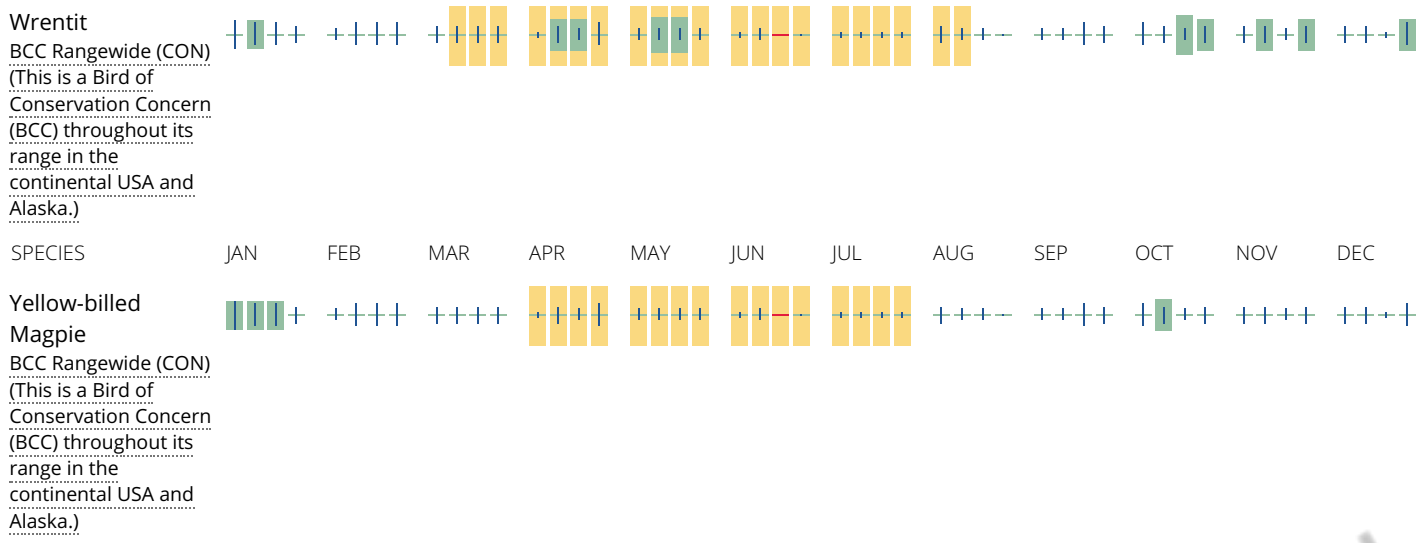
Song Sparrow
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



Spotted Towhee
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



NOT FOR CONSULTATION



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

NOT FOR CONSULTATION

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential

NOT FOR CONSULTATION

impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

- PEM1A
- PEM1Ch

RIVERINE

- R4SBC

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

NOT FOR CONSULTATION

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

Attachment C

Photographs



Annual grassland in the body of the site, looking west from the east edge of the site; 07/26/19.



Typical upland vegetation found throughout the majority of the site, looking north from the south edge of the site; 07/26/19.



West edge of the site, looking northwest along Clarksville Crossing; 07/26/19.



East edge of the site, looking northwest along Silva Valley Parkway; 07/26/19.



Former home site in the north part of the site, looking north 07/29/19. There is several pieces of large concrete debris likely associated with the former home site in the north part of the site.



South edge of the site, looking west from the southeast corner of the site; 07/26/19.



Large concrete structure in the north part of the site, looking north; 07/29/19. The purpose of this structure is not known, but is believed to be associated with a former residence just north of this location.



North end of the concrete structure mentioned above, looking southwest 07/29/19.



Cluster of trees around the smaller creek in the north tip of the site, looking southeast; 07/26/19.



Culvert associated with the small creek mentioned above, looking southwest; 07/26/19. This creek receives water from the adjacent parcel through a culvert under Silva Valley Parkway.



Roadside ditch along the east edge of the site, looking southeast along Silva Valley Parkway; 07/26/19. Further south this ditch connects with the culvert inlet into the main creek in the site.



Area where the main creek in the site receives water from the adjacent parcel under Silva Valley Parkway, looking south; 07/26/19. Although the creek was flowing further southwest, this area was dry.



East panhandle of the seasonal wetland swale within the body of the site, looking northwest from the north part of the swale; 07/29/19.



Another fork off of the seasonal wetland swale within the body of the site, looking southwest from the north part of the swale; 07/29/19.



Main seasonal wetland swale channel that extends through the body of the site, looking southwest from the north part of the swale. A little further south, the wetland swale branches off in two areas before a large blackberry stand.



Historic stone dam across the seasonal wetland swale, looking south from the center part of the swale; 07/29/19. The seasonal wetland swale bumps into this the dam, which does not contain a culvert.



Close-up of the historic dam, looking southwest (downstream); 07/29/19.



Close-up of the historic dam, looking northeast (upstream); 07/29/19. There is wetland vegetation on either side of the dam.



The west end of the small creek that runs northeast to southwest in the body of the site, looking north (upstream); 07/26/19.



Culvert inlet to the creek mentioned above, looking northwest along Crarksville Crossing; 07/26/19.



Riparian corridor along the west side of Clarksville Crossing; 07/26/19. The on-site creeks drain in to this relatively larger off-site creek.



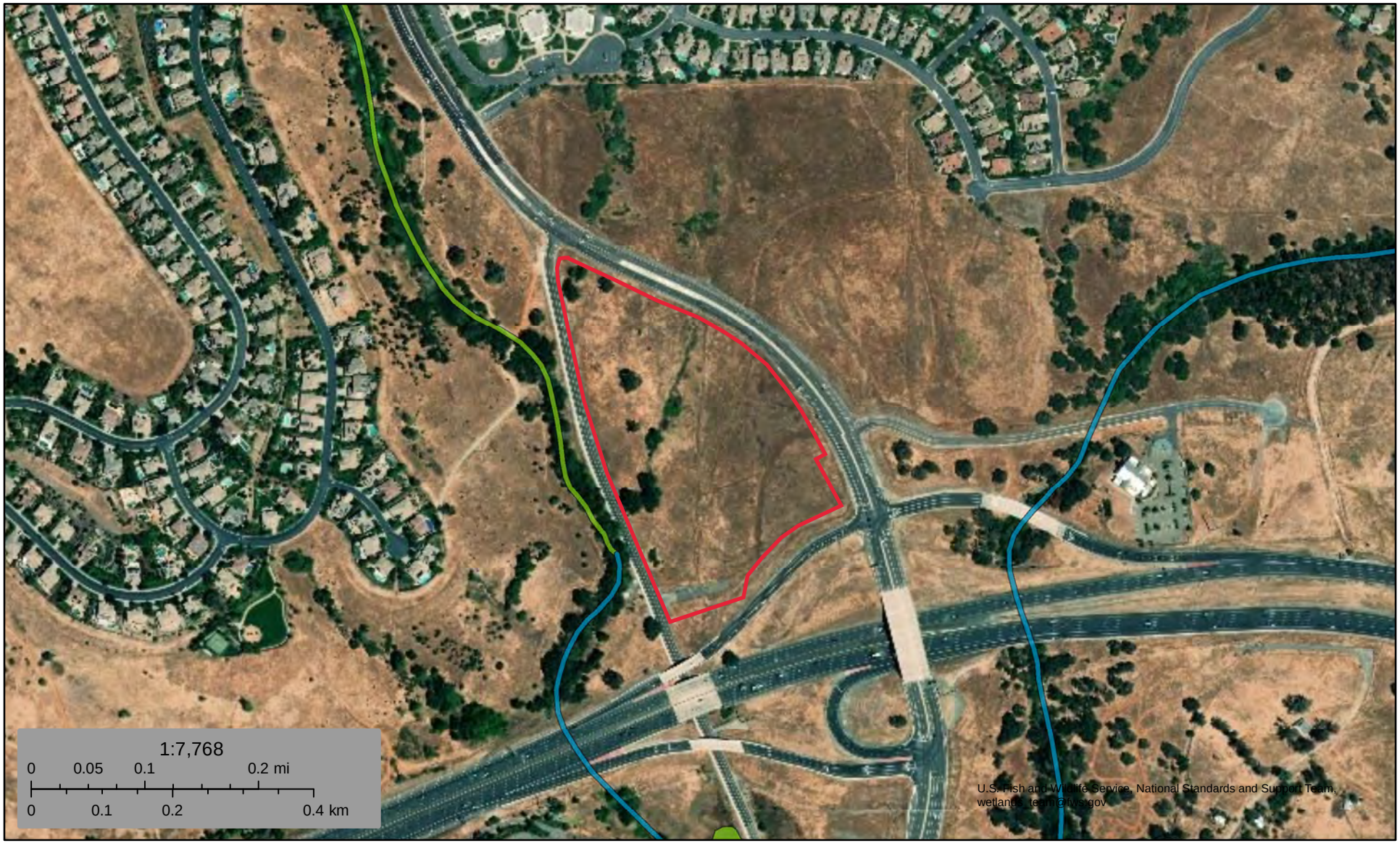
Intermittent creek just west of the site, looking south; 07/26/19.

Attachment D

National Wetland Inventory Map

U.S. Fish and Wildlife Service
National Wetlands Inventory

Costco - El Dorado Hills



July 31, 2019

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Attachment E

Designated Critical Habitat

Steelhead

California tiger Salamander

Sacramento Orcutt grass

Vernal pool fairy shrimp/Vernal pool tadpole shrimp

Project Site

CRITICAL HABITAT

17+/- Acre Costco El Dorado Hills

El Dorado County, CA

Map Date: 07/31/2019 Source: USFWS

N

0 0.5 1

Miles

September 27, 2019
Kleinfelder Project No. 20193180.001A

Costco Wholesale Corporation
9 Corporate, Suite 230
Irvine, California 92606

Attention: Ms. Michael Okuma, NCARB
Director of Real Estate Development

SUBJECT: Phase I Environmental Site Assessment
Proposed Costco Warehouse and Gas Station
Silva Valley Parkway
El Dorado Hills, El Dorado County, California
CW: 18-0487

Dear Mr. Okuma:

Enclosed is the Phase I Environmental Site Assessment (ESA) report for the above referenced property. We trust the information presented in this report meets your needs at this time.

An executive summary is provided. However, we recommend that the report be read in its entirety for a comprehensive understanding of the items contained therein.

We appreciate the opportunity to provide these services to Costco Wholesale Corporation. If you have questions regarding this report or if we can be of further service, please do not hesitate to contact Paolo Dizon at 949.727.4466 or Andy Franks, Kleinfelder's Client Account Manager for Costco, at 480.650.4905.

Sincerely,

KLEINFELDER

Paolo Dizon
Project Manager

Copyright 2019 Kleinfelder

PHASE I ENVIRONMENTAL SITE ASSESSMENT
PROPOSED COSTCO WAREHOUSE AND GAS STATION
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA
KLEINFELDER PROJECT NO. 20193180.001A

SEPTEMBER 27, 2019

Copyright 2019 Kleinfelder
All Rights Reserved

ONLY THE CLIENT OR ITS DESIGNATED REPRESENTATIVES MAY USE THIS DOCUMENT AND ONLY FOR THE SPECIFIC PROJECT FOR WHICH THIS REPORT WAS PREPARED.

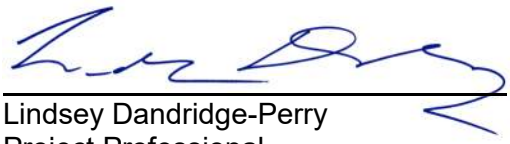
Copyright 2019 Kleinfelder

A Report Prepared for:

Costco Wholesale
999 Lake Drive
Issaquah, WA 98027

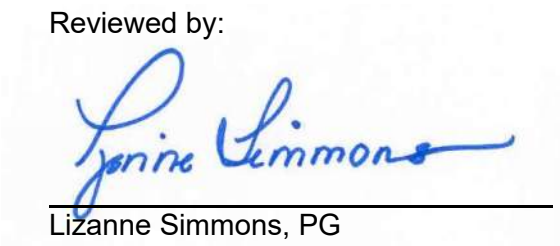
PHASE I ENVIRONMENTAL SITE ASSESSMENT
PROPOSED COSTCO WAREHOUSE AND
GAS STATION
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

Prepared by:



Lindsey Dandridge-Perry
Project Professional

Reviewed by:



Lizanne Simmons, PG
California Professional Geologist No. 7431

KLEINFELDER
24411 Ridge Route Drive, Suite 225
Laguna Hills, California 92653
Phone: 949.727.4466
Fax: 949.727.9242

September 27, 2019
Kleinfelder Project No. 20193180.001A

Copyright 2019 Kleinfelder

TABLE OF CONTENTS

Section			Page
1	**EXECUTIVE SUMMARY**		**1**
2	**INTRODUCTION**		**5**
	2.1	PURPOSE	5
	2.2	DETAILED SCOPE OF SERVICES	6
	2.3	ADDITIONAL SERVICES	7
	2.4	SIGNIFICANT ASSUMPTIONS	8
	2.5	LIMITATIONS AND EXCEPTIONS	8
	2.6	SPECIAL TERMS AND CONDITIONS	9
3	**SITE DESCRIPTION**		**10**
	3.1	LOCATION AND LEGAL DESCRIPTION	10
	3.2	CURRENT / PROPOSED USE OF THE PROPERTY	10
	3.3	DESCRIPTION OF STRUCTURES / IMPROVEMENTS	11
	3.4	CURRENT USES OF ADJOINING PROPERTIES	11
4	**RECORDS REVIEW**		**12**
	4.1	STANDARD ENVIRONMENTAL RECORD SOURCES	12
	4.2	RESULTS OF DATABASE SEARCH	13
		4.2.1 Site Listings	14
		4.2.2 Off-Site Listings	14
		4.2.3 Orphan List	14
	4.3	OTHER RECORDS REVIEWED / AGENCIES CONTACTED	14
		4.3.1 Pipeline and Hazardous Materials Safety Administration, National Pipeline Mapping System	15
		4.3.2 State of California Division of Oil, Gas and Geothermal Resources	15
		4.3.3 El Dorado County Planning and Building Services	15
		4.3.4 El Dorado County Air Quality Management District	16
		4.3.5 El Dorado County Environmental Management	16
		4.3.6 State Water Resources Control Board	17
		4.3.7 Department of Toxic Substances Control	17
	4.4	PHYSICAL SETTING SOURCE(S)	17
	4.5	USER PROVIDED INFORMATION	18
	4.6	TITLE RECORDS	19
	4.7	ENVIRONMENTAL LIENS AND USAGE LIMITATIONS	19
	4.8	VALUE REDUCTION	19
	4.9	OTHER INFORMATION / DOCUMENTS PROVIDED	19
5	**SITE HISTORY**		**20**
	5.1	SANBORN FIRE INSURANCE MAPS	20
	5.2	AERIAL PHOTOGRAPHS	20
	5.3	CITY DIRECTORIES	22
	5.4	HISTORICAL TOPOGRAPHIC MAP REVIEW	22
	5.5	BUILDING PERMITS	23
	5.6	PREVIOUS ASSESSMENTS	23
6	**SITE RECONNAISSANCE**		**24**

Copyright 2019 Kleinfelder

TABLE OF CONTENTS (Continued)

Section **Page**

6.1 METHODOLOGY AND LIMITING CONDITIONS 24
6.2 GENERAL SITE SETTING 24
6.3 SITE OBSERVATIONS 24
6.4 RESULTS OF SITE RECONNAISSANCE 28

7 **INTERVIEWS 29**
7.1 INTERVIEW WITH CLIENT/OWNER/MANAGER 29
7.2 INTERVIEW WITH OWNER/MANAGER 29
7.3 INTERVIEW WITH OCCUPANT(S) 29
7.4 INTERVIEWS WITH LOCAL GOVERNMENT OFFICIALS 30

8 **EVALUATION 31**
8.1 BACKGROUND 31
8.2 FINDINGS AND OPINIONS 31
8.3 DEVIATIONS AND ADDITIONAL SERVICES 33
8.3.1 Protected Plant/Wildlife Assessment 33
8.3.2 Wetland Assessment 34
8.4 CONCLUSIONS 35
8.5 RECOMMENDATIONS 35
8.6 DATA GAPS 36

9 **REFERENCES 37**

TABLES

3-1 Location and Legal Description
3-2 Current and Proposed Uses
3-3 Structures and Improvements
3-4 Adjoining Properties
4-1 Physical Setting
4-2 Regional Geology and Hydrogeology
4-3 Owner and Occupant Information
5-1 Historical Information Sources
5-2 Historical Aerial Photographs Reviewed
5-3 Historical Topographic Maps Reviewed
6-1 Site Observations

FIGURES

1 Site Location Map
2 Site Vicinity Map
3-15 Site Photographs

APPENDICES

A Statement of Qualifications
B Regulatory Agency Database Report
C User-Provided and Regulatory Agency Documentation
D Historical Research Documentation
E Moore Biological Consultants – Biological Assessment

Copyright 2019 Kleinfelder

1 EXECUTIVE SUMMARY

This report documents a Phase I Environmental Site Assessment (ESA) performed by Kleinfelder for Costco Wholesale Corporation (Costco / Client), of the location of a proposed Costco warehouse and gas station (Site) in the unincorporated El Dorado Hills community of El Dorado County, California (the Site). Kleinfelder understands the Client intends to purchase the Site.

This report was prepared using the ASTM International Designation E 1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (the "ASTM Standard Practice"), the All Appropriate Inquiry (AAI) section of the Small Business Liability Relief and Revitalization Act (the Federal Brownfields Law), and Costco's Development Requirements, Version 2018, dated October 26, 2018. The Phase I ESA findings include the following:

- The Site is located on vacant land east of Silva Valley Parkway and north of the intersection of Silva Valley Parkway and Tong Road, approximately 725 feet north of Highway 50 in the unincorporated El Dorado Hills community of El Dorado County, California (see Figure 1). It consists of approximately 25 acres of land, which is a portion of a larger parcel of land identified as El Dorado County Assessor's Parcel Number (APN) 122-720-15. This larger parcel consists of land on both the north and south sides of Silva Valley Parkway. The Site consists of the portion of the larger parcel located on the north side of Silva Valley Parkway.
- The Site was historically undeveloped, though some earthwork appears to have occurred in the southern portion of the Site between 2012 and 2016, based on aerial photographs from those years. This earthwork appears to be related to Highway 50 construction activities, and realignment of Silva Valley Parkway and Tong Road in 2012 and 2013 (see next bullet).
- Two Asbestos Dust Mitigation Plan Applications were approved by the El Dorado County Air Quality Management District (AQMD) in 2012 and 2013 for grading/excavation activities associated with construction of a Highway 50 off-ramp, south of the Site. A March 2008 Caltrans report, entitled *Aerially Deposited Lead, Naturally Occurring Asbestos and Lead Containing Paint Site Investigation and Bridge Survey Report*, prepared for the Highway 50 Site Investigation project, was included with one of the Asbestos Dust Mitigation Plan Applications. This report indicated that 30 composite soil samples collected from the median and proposed sound wall areas (sample locations were not identified)

Copyright 2019 Kleinfelder

were analyzed for the presence of naturally-occurring asbestos (NOA), total lead and chromium. One out of 24 composite soil samples contained 0.25 percent (%) chrysotile asbestos; remaining samples did not contain detectable NOA. Total lead and chromium were detected in soil samples analyzed, but at concentrations reported below California hazardous waste threshold levels. A figure presented in this report indicates that the southern portion of the Site was used to temporarily stockpile soil that was to be covered with plastic and surrounded by fiber rolls. Hydroseed was to be planted at the end of the project. A Rough Grading Plan dated August 2013 indicates that 20,000 cubic yards of existing stockpiled soil and an additional 100,000 cubic yards of soil from a "Borrow Area" would be used as part of the construction of a future Highway 50 off-ramp, and future alignments of Tong Road and Silva Valley Parkway. The "Borrow Area" was shown to be on the southern portion of the Site with a 10-foot wide maintenance access road to the area.

- A quarter-mile buffer zone pursuant to an *Asbestos Review Areas, Western Slope, County of El Dorado, State of California* map, dated August 22, 2018, is located adjacent to and extends into the westernmost portion of the Site. This buffer zone is considered "more likely to contain asbestos" in soil. Soil with asbestos greater than or equal to 0.25% asbestos would require approval of an Asbestos Dust Mitigation Plan through the AQMD prior to construction.

- The Site was vacant land at the time of the Site reconnaissance. Two streams were observed on the western half of the Site. A concrete structure with a basin in the middle (probably to provide water for grazing livestock) was observed in the north-central portion of the Site. A revetted pipe and an earthen embankment were observed in the north-central portion of the Site, possibly associated with drainage control on Site. An empty container of diesel exhaust fluid was observed along Silva Valley Parkway, and pet waste bags were observed in the northern portion of the Site adjoining the residential community located north of the Site.

- No off-Site facilities are considered likely to have affected soil, soil vapor or groundwater beneath the Site.

Kleinfelder's scope of services included Standard Practice non-scope evaluations of wetlands and surface water; and threatened, endangered, and other protected species that may be required for a Phase I ESA pursuant to Costco's Development Requirements, Version 2018,

Copyright 2019 Kleinfelder

dated October 26, 2018. Kleinfelder's subcontractor, Moore Biological Consultants (Moore), performed these Standard Practice non-scope evaluations. The findings include the following:

- During Moore's Site reconnaissance, an intermittent creek and ephemeral creek were observed flowing from north to south across the Site. Two seasonal wetland areas were observed near the southern ends of these waterways.

- No special status wildlife or plant species were observed during the Site reconnaissance. Ten special status plants were identified during database research as potentially occurring at the Site. Due to lack of habitat, it is unlikely these special status plants would occur at the Site. Fifteen special status species were documented in the Site vicinity; however, upon review of the available habitat and distribution of regional occurrences, in Moore's opinion, most of the species are unlikely to occur at the Site.

- A blue elderberry shrub was observed near the northern boundary of the Site. This shrub can be home to the blue elderberry beetle; however, no sign of the beetle was observed on this shrub and due to the elevation of the location of the shrub it is unlikely the beetle will occur at this location. However, presence of the blue elderberry shrub may require that one mitigation credit be purchased from the United States Fish and Wildlife Service (USFWS), and the shrub relocated. Based on the Site observations, in Moore's opinion, it is unlikely the beetle will occur at the Site.

- Burrowing owls, Swainson's Hawk, and migratory birds have the potential to occur on Site.

Further discussion of the non-scope evaluations is provided in Section 8.3.

This assessment has revealed no evidence of recognized environmental conditions (RECs), historical RECs (HRECs) or controlled RECs (CRECs) associated with the Site. Although not considered RECs pursuant to the Standard Practice, the following environmental conditions were noted because of potential impact to construction activity at the Site.

- NOA has been identified in the vicinity of the Site. Limited NOA soil sampling was performed for the construction of Highway 50 and roadways adjacent to the Site; however, since specific locations of those samples are not known, the collection and analysis of additional NOA samples is recommended if Costco desires a greater level of certainty of the potential presence of NOA in shallow soil at the Site. Additionally, preparation of an Asbestos Dust Mitigation Plan for AQMD is recommended prior to construction at the Site.

Copyright 2019 Kleinfelder

- A concrete structure (probably to provide water for grazing livestock) was observed on the Site. There is the potential for dumping in this structure, and though the former use is assumed to be associated with grazing livestock, that has not been confirmed. Therefore, Kleinfelder recommends environmental monitoring and observation of the removal of this structure and, if contamination is suspected, collection of soil samples from beneath this structure.

- Two seasonal wetlands were observed on the Site. Kleinfelder recommends that a wetland delineation be performed in the spring.
- Burrowing owls, Swainson's hawk, and migratory birds have the potential to occur on Site, therefore, pre-construction surveys for these species are recommended.
- A blue elderberry shrub, which can be home to the blue elderberry beetle, was observed near the northern boundary of the Site. A mitigation credit may need to be acquired to move the blue elderberry shrub in the northern portion of the Site.

Deviations, HRECs, and *de minimis* findings are discussed in Section 8 of this report. This report is subject to the limitations in Section 2.5.

Copyright 2019 Kleinfelder

2 INTRODUCTION

This report is a summary of work performed using the guidelines set forth in the Standard Practice, the AAI section of the Federal Brownfields Law, and Costco's Development Requirements, Version 2018, dated October 26, 2018. This report also generally conforms to the Standard Practice's suggested table of contents. Minor format modifications have been made to the Standard Practice's suggested table of contents to assist in better reading and understanding the report findings.

2.1 PURPOSE

The purpose of this Phase I ESA is to identify, to the extent feasible pursuant to the scope of services defined in our Proposal No. MPCOSTCO.001C/IRV19P89535, dated January 14, 2019, and limitations discussed in this report, RECs and other environmental issues related to the Site.

As defined in the Standard Practice, a REC is:

> *"The presence or likely presence of any hazardous substances or petroleum products in, on or at a property: (1) due to a release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not recognized environmental conditions."*

As defined in the Standard Practice, a *de minimis* condition is:

> *"A condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies."*

The 2013 Standard Practice also introduced the designation of CREC. As defined in the Standard Practice, a CREC is:

> *"… a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the*

Copyright 2019 Kleinfelder

implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).”

The 2013 Standard Practice defines an HREC as:

“…a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to environmental controls.”

The final decision regarding whether a past release is an HREC rests with the environmental professional (EP) and will be influenced by the current impact (if any) of the past release to the Site.

This report describes Kleinfelder’s assessment methodology and documents its findings, subject to the limitations presented in Section 2.5 of this report.

2.2 DETAILED SCOPE OF SERVICES

The following sections describe Kleinfelder’s work scope:

- Section 2, **Introduction**, includes a discussion of the purpose/reason for performing the Phase I ESA, additional services requested by the Client (e.g., an evaluation of business environmental risk factors associated with the Site), significant assumptions (e.g., property boundaries if not marked in the field), limitations, exceptions, special terms and conditions (e.g., contractual), and user reliance parameters.
- Section 3, **Site Description**, is a compilation of information concerning the Site location, legal description (if provided by the Client), current and proposed use of the Site, a description of structures and improvements on the Site at the time of Kleinfelder’s assessment, and adjoining property use.
- Section 4, **Records Review**, is a compilation of Kleinfelder’s review of several databases available from Federal, State, and local regulatory agencies regarding hazardous substance use, storage, or disposal at the Site; and for off-Site facilities within the search distances specified by the Standard Practice. Records provided by the Client are summarized, and copies of relevant documents are included in the appendices of this report. Physical setting sources (including topography and soil and groundwater

Copyright 2019 Kleinfelder

conditions) and typical Client-provided information (e.g., title records, environmental liens, specialized knowledge, valuation reduction for environmental issues, and owner, property manager, and occupant information) are also summarized. Other interviews with people knowledgeable about the Site (including the Client) are included in Section 7.

- Section 5, **History of the Site**, summarizes the history of the Site and adjoining properties. This Site history is based on various sources, which may include a review of historical aerial photographs, Sanborn Fire Insurance Maps, city or suburban directories, historical topographic maps, building department records, and results of previous Site assessments (if any and reasonably ascertainable).
- Section 6, **Site Reconnaissance**, describes Kleinfelder's observations during the Site reconnaissance. The methodology used and limiting conditions are also described.
- Section 7, **Interviews**, is a summary of telephone and personal interviews performed with "Key Site Managers" that may include the Site owner/manager, occupants/tenants, local government officials, and the Client. Additional interview sources may be contacted if Key Site Managers were not available prior to production of this report, and may include adjoining landowners and people with historical knowledge of the area.
- Section 8, **Evaluation**, is a presentation of findings and opinions regarding the information provided in Sections 3 through 7, and presents the conclusions regarding the presence of RECs connected with the Site, and Kleinfelder's recommendations.
- Section 9, **References**, is a summary listing of the resources used to compile this report.

A statement of qualifications of the signatories of this report is provided in Appendix A, and pertinent documentation regarding the Site is included in Appendices B through D.

2.3 ADDITIONAL SERVICES

Kleinfelder's scope of services as part of this Phase I ESA did not include Standard Practice non-scope evaluations of cultural, historic, and archaeological resources; and environmental regulatory compliance that may be required for a Phase I ESA pursuant to Costco's Development Requirements publication (revised October 26, 2018). In addition, the Phase I ESA did not include an assessment for asbestos-containing materials (ACMs), radon, lead-based paint (LBP), lead in drinking water, molds and mildews, indoor air quality, industrial hygiene, health and safety, and other Standard Practice non-scope considerations not described herein.

Copyright 2019 Kleinfelder

The Phase I ESA did, however, include evaluations of wetlands and surface water; and threatened, endangered, and other protected species that are required for a Phase I ESA pursuant to Costco's Development Requirements. No other additional services were provided by Kleinfelder for this Phase I ESA.

2.4 SIGNIFICANT ASSUMPTIONS

Kleinfelder does not guarantee the accuracy of information supplied by its sources, but reserves the right to rely on the information in forming a professional opinion regarding the potential for contamination at the Site. It is assumed the Client provided Kleinfelder all applicable and available environmental records and specialized knowledge in its possession regarding the Site. Kleinfelder has not made other significant assumptions during the performance of this Phase I ESA.

2.5 LIMITATIONS AND EXCEPTIONS

Phase I ESAs are non-comprehensive by nature and may not identify all environmental problems and will not eliminate all risk. This report is a qualitative assessment. Kleinfelder offers a range of investigative and engineering services to suit the needs of its clients, including more quantitative investigations. Although risk can never be eliminated, more detailed and extensive investigations yield more information, which may help the Client understand and better manage risks. Since such detailed services involve greater expense, Kleinfelder asks its clients to participate in identifying the level of service that will provide them with an acceptable level of risk. Please contact the signatories of this report if you would like to discuss this issue of risk further.

Kleinfelder performed this Phase I ESA consistent with the guidelines set forth in the Standard Practice; Costco's Development Requirements, Version 2018 publication (dated October 26, 2018); and the proposed scope of services subsequently approved by Costco. No other warranty, either express or implied, is made. Environmental issues not specifically addressed in this report were beyond the scope of Kleinfelder's services and not included in the evaluation.

This report may be used only by Costco and only for the purposes stated within a reasonable time from its issuance, but in no event later than one year from the date of the report. Land or facility use, on- and off-Site conditions, regulations, or other factors may change over time, and additional work may be required with the passage of time. Since Site activities and regulations beyond Kleinfelder's control may change at any time after the completion of this report, the observations, findings, and opinions provided herein are considered valid only as of the date of the Site visit. Pursuant to Section 4.6 of the Standard Practice, this report should not be relied upon after 180

Copyright 2019 Kleinfelder

days from the date of its oldest component. Any party other than the Client who wishes to use this report shall notify Kleinfelder of such intended use. Based on the intended use of the report, Kleinfelder may require that additional work be performed and that an updated report be issued. Non-compliance with any of these requirements by the Client or anyone else will release Kleinfelder from any liability resulting from the use of this report by any unauthorized party, but only to the extent of any such non-compliance by the Client.

The Phase I ESA has been conducted in accordance with, and conforms to the Costco Wholesale Development Requirements Document and the latest edition of ASTM E 1527. This assessment has been prepared for the sole use of Costco Wholesale Corporation. Its contents should not be relied upon by other parties without the express written consent of Costco Wholesale Corporation.

2.6 SPECIAL TERMS AND CONDITIONS

No special terms and conditions were agreed to by the Client and Kleinfelder.

Copyright 2019 Kleinfelder

3 SITE DESCRIPTION

The Site description is presented in this section and describes the condition of the Site at the time of the Phase I ESA. The Site location is shown on Figure 1. Tables 3-1 through 3-4 summarize the physical characteristics of the Site and adjoining properties.

3.1 LOCATION AND LEGAL DESCRIPTION

The information presented in Table 3-1 denotes the physical location and legal description of the Site. This information was obtained from review of various maps (such as topographic maps and tax assessor maps), aerial photographs, public records at City and/or County offices, interviews, and/or information provided by the Client.

TABLE 3-1

Location and Legal Description

PARAMETER	INFORMATION/COMMENTS
LOCATION	The Site is located east-northeast of Silva Valley Parkway, and north of Tong Road, in the unincorporated El Dorado Hills community of El Dorado County, California (see Figure 1).
LEGAL DESCRIPTION	A legal description for the larger Site parcel is presented in the *EDR Environmental Lien and AUL Search* report (EDR, 2019a) provided in Appendix C.
ASSESSOR'S PARCEL NUMBER	The Site is situated on the northeastern portion of a larger parcel of land identified as El Dorado County APN 122-720-15.
ADDRESS(ES)	No address is associated with the Site.
SECTION, TOWNSHIP, AND RANGE	Township 9 North, Range 8 East, Section 1, Mt. Diablo Meridian and Baseline.
ZONING	Based on zoning information provided by Costco, the Site is zoned "PD-CR", which indicates Planned Development Regional Commercial.

3.2 CURRENT / PROPOSED USE OF THE PROPERTY

Land use in the general vicinity appeared to be either residential or undeveloped at the time of Kleinfelder's assessment. Current and proposed Site uses are described in Table 3-2.

Copyright 2019 Kleinfelder

TABLE 3-2

Current and Proposed Uses

PARAMETER	GENERAL OBSERVATIONS
CURRENT USE	The Site is vacant land.
PROPOSED USE	Costco warehouse and gas station.

3.3 DESCRIPTION OF STRUCTURES / IMPROVEMENTS

Structures and/or improvements observed on the Site at the time of Kleinfelder's reconnaissance are described in Table 3-3.

TABLE 3-3

Structures and Improvements

PARAMETER	GENERAL OBSERVATIONS
STRUCTURES	No structures were present on Site.
IMPROVEMENTS	No improvements were present on Site.

3.4 CURRENT USES OF ADJOINING PROPERTIES

Kleinfelder performed a brief drive-by survey of the properties immediately adjoining to the Site on January 16, 2019. A summary of the observations regarding the surrounding properties is presented in Table 3-4 and shown on Figure 2, Site Vicinity Map.

TABLE 3-4

Adjoining Properties

DIRECTION	LAND USE DESCRIPTION
NORTH; NORTHWEST	The property north of the Site was mostly residential. Oak Meadow Elementary School was located north of the northwest portion of the Site.
NORTHEAST; EAST	The property east-northeast of the northeast portion of the Site was developed with residential housing. The property east of the Site was vacant.
SOUTH	Tong Road forms the southern border of the Site, beyond which is vacant land.
WEST; SOUTHWEST	Silva Valley Parkway forms most of the west-southwest boundary of the Site, beyond which is vacant land. Vacant land adjoins to the west of the northwest portion of the Site.

Hazardous materials and petroleum products were not directly observed to be stored on the properties adjoining the Site. No other environmental conditions were apparent on the adjoining properties at the time of Kleinfelder's Site reconnaissance.

Copyright 2019 Kleinfelder

4 RECORDS REVIEW

4.1 STANDARD ENVIRONMENTAL RECORD SOURCES

The purpose of the records review is to obtain and review records that would help to evaluate RECs in connection with the Site and bordering properties. Federal, State, and local regulatory agencies publish databases or “lists” of businesses and properties that handle hazardous materials or hazardous waste or are the known location of a release of hazardous substances to soil and/or groundwater. These databases are available for review and/or purchase at the regulatory agencies, or the information may be obtained through a commercial database service. Kleinfelder contracted a commercial database service, EDR, of Shelton, Connecticut, to perform the government database search for listings within the appropriate Standard Practice minimum search distance of the Site, and the distances set forth in Costco’s Development Requirements, Version 2018, dated October 26, 2018. Included in the EDR Radius Map™ Report with GeoCheck® (EDR, 2019b) is a listing of specific databases outlined by the Standard Practice. A listing of the search distances, databases evaluated, dates the databases were last updated, and types of information contained in each database are included in the regulatory database search report provided in Appendix B of this report.

EDR utilizes a geographical information system to plot the locations of reported spills, leaks, incidents, etc. Kleinfelder reviews this information to help establish if the Site or nearby properties are listed in the databases and lists. Each of the listings was reviewed by Kleinfelder to assess whether the corresponding property details included in EDR’s report revealed a potential environmental impact to the Site. Many listings in the report were concluded not to have the potential to impact the Site based on the following, or a combination thereof:

- The listed property is located at a distance where the facility is unlikely to impact the Site based on Kleinfelder’s evaluation of the relevant data in EDR’s report and knowledge of the Site vicinity.
- The listed property is located in a down-gradient or cross-gradient direction from the Site, based on the anticipated direction of groundwater flow at the property being evaluated, and is located at a distance such that it is unlikely to impact the Site. Judgements as to down- or cross-gradient direction are best made if groundwater flow direction information is available for a specific property.

Copyright 2019 Kleinfelder

- The listed property is identified in the underground storage tank (UST) or small quantity generator (SQG) databases and does not immediately adjoin the Site. The property is furthermore not listed in other databases that report a release of a hazardous substance or petroleum product and/or is not listed as having environmental violations. The listing of a facility in these databases alone is not indicative of an unauthorized release.
- The listing for the facility suggested a short-term release occurred (e.g., from incidental traffic accidents or involving limited quantities of chemicals from illegal drug labs found at residences), with associated response actions completed.
- The quantity of the hazardous substances or petroleum product released from an off-Site, non-adjoining facility was not judged to have resulted in contamination above the most stringent criteria requiring regulatory action. Therefore, no impact to the Site is anticipated.
- The listed property record indicates that the property was characterized, the reported release affected soil only, the listed property was not on or adjacent to the Site, and the release was not recognized as indicative of area-wide conditions or was characterized as a soil removal action only.
- The listed property record indicates that contamination on the property is limited to relatively non-mobile contaminants, including polyaromatic hydrocarbons (PAHs) and metals, in soil only, on a non-adjacent property.
- The listed property record indicates that the case for the property has been closed to the satisfaction of the designated lead regulatory agency, and residual contamination, if present, is not considered likely to affect the Site based on one or more of the criteria mentioned in the bulleted items above (a condition referred to by the Standard Practice as an HREC).

Based on these criteria indicating no material threat of a release that affected the Site and/or no release that could require future regulatory agency oversight, the listings concluded not to have the potential to impact the Site were not evaluated further and are not discussed in the following sections.

4.2 RESULTS OF DATABASE SEARCH

The remaining property listings, if applicable, were reviewed to assess whether these properties had environmental releases that may have resulted in RECs in connection with the Site. Listed

Copyright 2019 Kleinfelder

properties for which a reported release may have resulted in a REC in connection with the Site were further assessed by performing a review of agency files available through the GeoTracker™ website (https://geotracker.waterboards.ca.gov/) operated by the State Water Resources Control Board (SWRCB), and/or review of other relevant regulatory agency websites, to evaluate whether the listed release represents a potential impact to the Site.

4.2.1 Site Listings

The Site was not listed in local, state or federal databases searched by EDR.

4.2.2 Off-Site Listings

Five facilities in the Site vicinity are listed in various databases searched by EDR. Two of the five listings were further reviewed as to the potential to impact the Site as summarized below.

“Serrano Elementary School” (Serrano Parkway/Silva Valley Parkway) – The school is located approximately 1,640 north-northwest of the Site. This facility was listed in the Department of Toxic Substance Control’s (DTSC’s) Site Mitigation and Brownfields Reuse Program’s EnviroStor database. The listing indicates that there was the potential for naturally-occurring asbestos, arsenic and lead in soil, and that the former property use was agricultural (livestock). The status of the case was listed as requiring “No Further Action”. As no releases to soil or groundwater were reported and the case is closed; this facility is not considered a REC.

“Silver Dove Elementary School” (Silver Dove Way/Bass Lake Road) – This school is located approximately 4,675 east of the Site. This facility was listed in the DTSC EnviroStor database. The listing indicates that there was the potential for naturally-occurring asbestos in soil. The status of the case was listed as requiring “No Further Action”. As no releases to soil or groundwater were reported and the case is closed, this facility is not considered a REC.

4.2.3 Orphan List

Facilities not plotted by EDR due to poor or inadequate address information are referred to as orphan facilities. No orphan facilities were listed in the EDR database report.

4.3 OTHER RECORDS REVIEWED / AGENCIES CONTACTED

The following additional sources of environmental records were reviewed during this Phase I ESA for the purposes of meeting the Standard Practice. Local regulatory agencies were contacted for

Copyright 2019 Kleinfelder

reasonably ascertainable and practically reviewable documentation regarding RECs present at the Site and adjoining facilities. Summaries of interviews with local regulatory agency representatives, when performed, are included in Section 7 of this report (with interview documentation included in Appendix C). Information was obtained or reviewed from the following agencies:

☒ ..... Pipeline and Hazardous Materials Safety Administration (PHMSA), National Pipeline Mapping System (NPMS)
☒ ..... State of California, Division of Oil, Gas and Geothermal Resources (DOGGR)
☒ ..... El Dorado County Building Services
☒ ..... El Dorado County Air Quality Management District
☒ ..... El Dorado County Environmental Management (EDCEM)
☒ ..... State Water Resources Control Board, GeoTracker™ Database
☒ ..... State of California, Department of Toxic Substances Control, EnviroStor Database

Information/responses from the agencies contacted and agency databases reviewed is presented below:

4.3.1 Pipeline and Hazardous Materials Safety Administration, National Pipeline Mapping System

Pipeline information is available at the PHMSA's online NPMS website (https://www.npms.phmsa.dot.gov). Kleinfelder researched pipeline information on the website on January 25, 2019 for the Site and vicinity. Based on Kleinfelder's review of the NPMS website, no mapped natural gas transmission pipelines or hazardous liquid pipelines are located on Site or in the Site vicinity. A copy of the NPMS map is included in Appendix C.

4.3.2 State of California Division of Oil, Gas and Geothermal Resources

Kleinfelder searched the State of California DOGGR website (http://www.conservation.ca.gov/dog) for oil and gas wells at the Site or in the Site vicinity. No oil or gas wells are depicted in the immediate vicinity of the Site. A copy of the DOGGR map results is presented in Appendix C.

4.3.3 El Dorado County Planning and Building Services

Kleinfelder submitted a records request on January 22, 2019 to El Dorado County Planning and Building for current or historical records pertaining to the Site. El Dorado County responded in an

Copyright 2019 Kleinfelder

email on January 28, 2019 that there are no building permits available for the Site parcel. A copy of the El Dorado County response is presented in Appendix C.

4.3.4 El Dorado County Air Quality Management District

Kleinfelder submitted a records request to the AQMD on January 22, 2019 for available information pertaining to the Site. Tod from the AQMD responded via telephone on January 22, 2019. He indicated that the parcel appears to be in the process of being subdivided and was not listed. He indicated that Caltrans Asbestos Dust Control Plan Applications and a Caltrans soil sampling report from 2008 were available for Highway 50 just south of the Site. The available Asbestos Dust Control Plan Applications were uploaded to the El Dorado County Public Records Center for Kleinfelder to download. Based on Kleinfelder's review, an Asbestos Dust Control Plan for a permanent stockpile was issued in 2012 to "AKT, EDH 52 Partnership"; a 2008 Caltrans report entitled, *Aerially Deposited Lead, Naturally Occurring Asbestos and Lead Containing Paint Site Investigation and Bridge Survey Report, Highway 50 Site Investigation Post Mile 2.90 to 8.79, El Dorado County, California*, was attached to this plan. The Caltrans report showed the stockpile locations on the Site and summarized asbestos results for composite soil samples collected from medians and sound wall areas within the Silva Valley Parkway Interchange project area. The sample locations were not shown. Asbestos was not detected in samples collected except for one composite sample, which contained 0.25% chrysotile asbestos. A second Asbestos Dust Control Plan Application indicated that a 20,000 cubic yard soil stockpile, and approximately 120,000 cubic yards of soil to be excavated from a 5-acre section ("Borrow Area") on the Site, would be used as fill material for the highway interchange in 2013.

The AQMD regulates NOA in El Dorado County. Based on Kleinfelder's review of an El Dorado County *Asbestos Review Areas* Map dated August 22, 2018, a quarter mile buffer zone for areas more likely to contain asbestos is located adjacent to, and extends into the westernmost portion of the Site. The closest buffer is near a fault zone extending parallel to Silva Valley Parkway through the hills west of the Site. Based on the quarter-mile buffer zone extending onto the Site, and because at least one composite sample associated with nearby construction contained a 0.25% chrysotile asbestos concentration, the potential exists for NOA to be present in soil at the Site. Copies of the AQMD documents are included in Appendix C.

4.3.5 El Dorado County Environmental Management

Kleinfelder submitted a records request to the El Dorado County Environmental Management on January 22, 2019 for well, UST, aboveground storage tank (AST), hazardous materials, and site

Copyright 2019 Kleinfelder

mitigation documents pertaining to the Site. El Dorado County Environmental Management responded in an email on January 25, 2019 that no records exist for the provided parcel number. A copy of the email response is included in Appendix C.

4.3.6 State Water Resources Control Board

Kleinfelder reviewed the SWRCB GeoTracker™ database (http://geotracker.waterboards.ca.gov/) on January 21, 2019 for information pertaining to the Site and adjoining properties. The Site and adjoining properties are not listed in the GeoTracker™ database. A copy of the GeoTracker™ search results map is presented in Appendix C.

4.3.7 Department of Toxic Substances Control

Kleinfelder reviewed the DTSC's EnviroStor website (https://www.envirostor.dtsc.ca.gov/public/) on January 21, 2019, for available files pertaining to the Site and adjoining properties. The Site and adjoining properties are not listed. A copy of the EnviroStor search results is presented in Appendix C.

4.4 PHYSICAL SETTING SOURCE(S)

Table 4-1 presents information concerning the physical setting of the Site. The information was primarily obtained from published maps.

TABLE 4-1

Physical Setting

DATA	GENERAL INFORMATION
USGS TOPOGRAPHIC QUADRANGLE	Based on the United States Geological Survey (USGS) Clarksville Quadrangle 7.5-Minute Series (Topographic) Map, dated 2012, the Site elevation is between approximately 740 and 800 feet above mean sea level (msl). The Site has a general topographical slope towards the southwest. An elevated area (a hill) is located in the southeast corner of the Site.
SOIL TYPE	According to the soil composition information provided in the physical setting section of The EDR Radius Map™ Report with GeoCheck®, the soil components beneath the Site are identified as Auburn silt loam, which is underlain by unweathered bedrock at approximately 14 to 18 inches (EDR, 2019b).
OIL AND GAS WELLS	Information concerning oil and gas fields was obtained by Kleinfelder on January 18, 2019 from the DOGGR Well Finder online database (http://www.conservation.ca.gov/dog). Based on Kleinfelder's review, no oil or gas wells are located within the immediate vicinity of the Site. A copy of the Well Finder search results is presented in Appendix C.

Table 4-2 presents information concerning regional geology and hydrogeology. The information was obtained from published maps and other sources.

Copyright 2019 Kleinfelder

TABLE 4-2

Regional Geology and Hydrogeology

PHYSICAL PARAMETER	INFORMATION/COMMENTS
REGIONAL PHYSIOGRAPHY AND GEOLOGY	The Site is situated between the Great Valley and Sierra Nevada Geomorphic Provinces of California. The Great Valley Geomorphic Province is an alluvial plain about 50 miles wide and 400 miles long that includes the Sacramento Valley as its northern portion, and the San Joaquin Valley as its central and southern portion. The Great Valley is a trough in which sediments have been deposited almost continuously since the Jurassic. The Sierra Nevada Geomorphic Province is a tilted fault block characterized as a high multiple scarp mountain range that slopes gently to the west, and dips under the Great Valley (California Geological Survey [CGS], 2002). The Sierras are characterized by deep cut valleys that drain into the Great Valley. The high Sierras are granitic with the surrounding bedrock being metamorphic. The Site is located on Jurassic-Triassic metavolcanics rocks, which consist of basaltic and andesitic volcanic rocks, tuff, and volcanic breccia. The Bear Mountain Fault Zone is located approximately 1-mile west of the Site and extends northwest to southeast from Folsom Lake along the Sierra Nevada foothills (Strand and Koenig, 1965).
REGIONAL HYDROGEOLOGY	The Site is not located within a groundwater basin or subbasin recognized by the California Department of Water Resources (CDWR) Bulletin 118, last updated in July 2017. The closest groundwater basin is the Sacramento Valley-South American groundwater basin, located approximately 3 miles to the west-northwest of the Site (CDWR, https://gis.water.ca.gov/app/gicima/).
DEPTH TO GROUNDWATER DIRECTION OF ANTICIPATED FLOW [1]	Groundwater information was not available for the Site or Site vicinity.
REGIONAL GROUNDWATER QUALITY PROBLEMS	Groundwater information was not available for the Site or Site vicinity.
WATER SUPPLY	The Site is currently not connected to the municipal water system.
FLOOD ZONE DESIGNATION	According to *The EDR Radius Map™ Report with GeoCheck®*, the Site is not located within a 100-year or a 500-year flood zone (EDR, 2019b).

[1] Groundwater flow direction is based on regional information sources. Site-specific conditions may vary due to a variety of factors including geologic anomalies, utilities, nearby pumping wells (if present), and others.

4.5 USER PROVIDED INFORMATION

Kleinfelder understands that the Client intends to purchase the Site and develop it as a Costco Warehouse and gas station. Information regarding the current owners/occupants of the Site is summarized in Table 4-3.

Copyright 2019 Kleinfelder

TABLE 4-3

Owner and Occupant Information

ENTITY	NAME
OWNER	According to the *EDR Environmental Lien and AUL Search* report (EDR, 2019a), the current owner of the Site parcel (APN 122-720-015) is "EDH 52, a California General Partnership".
OCCUPANT(S)	The Site is currently vacant land.

Summaries of interviews of key individuals with knowledge of the Site ("Key Site Managers") are provided in Section 7. The following sections present information provided to Kleinfelder by the Client.

4.6 TITLE RECORDS

Chain-of-title information for the Site was not provided by the Client. Therefore, a review of a chain-of-title report was not reviewed as part of this Phase I ESA.

4.7 ENVIRONMENTAL LIENS AND USAGE LIMITATIONS

According to information provided in EDR's regulatory agency database search report (EDR, 2019b), no known recorded land-use environmental deed restrictions pertaining to the Site are listed in the State Liens Database. Kleinfelder's review of the *EDR Environmental Lien and AUL Search* report (EDR, 2019a) indicated no environmental liens or activity and use limitations (AULs) are associated with the Site (Appendix C).

4.8 VALUE REDUCTION

As part of the Standard Practice process, information is to be gathered regarding the prospective purchase price of the Site relative to its fair market value. If there appears to be a value reduction, that reduction must be identified with respect to whether the difference may be attributed to environmental degradation of the property. According to a questionnaire completed by Mr. Michael Okuma of Costco on February 5, 2019, the purchase price of the Site reflects the fair market value. A copy of the questionnaire is provided in Appendix C.

4.9 OTHER INFORMATION / DOCUMENTS PROVIDED

Other information and documents pertaining to the Site were not provided to Kleinfelder for review.

Copyright 2019 Kleinfelder

5 SITE HISTORY

The history of the Site was researched to identify obvious uses. Historical land use was researched to the first developed use, or back to 1940, whichever was earlier or readily available. Table 5-1 summarizes the availability of information reviewed during this assessment.

TABLE 5-1

Historical Information Sources

SOURCE	YEARS REVIEWED	SOURCE / AVAILABILITY
SANBORN FIRE INSURANCE MAPS	Not available	EDR, 2019c
AERIAL PHOTOGRAPHS	1940, 1952, 1962, 1966, 1972, 1984, 1993, 2006, 2009, 2012, and 2016	EDR, 2019d
CITY DIRECTORIES	1970 through 2014 (select years)	EDR, 2019e
HISTORICAL TOPOGRAPHIC MAP REPORT	1891, 1892, 1893, 1941, 1944, 1953, 1973, 1980, and 2012	EDR, 2019f
BUILDING DEPARTMENT	1980 - 2018	EDR, 2019g
PREVIOUS ASSESSMENT(S)	Not available	Not available

5.1 SANBORN FIRE INSURANCE MAPS

Sanborn Fire Insurance Maps provide historical land use information for some metropolitan areas and small, established towns. Kleinfelder requested EDR to search its library of Sanborn Fire Insurance Maps for maps of the Site. EDR responded that Sanborn Fire Insurance Maps were not available for the Site (EDR, 2019c) (Appendix D).

5.2 AERIAL PHOTOGRAPHS

A review of historical aerial photography may indicate past activities at a property that may not be documented by other means or observed during a reconnaissance visit. The effectiveness of this technique depends on the scale and quality of the photographs and the available coverage. Aerial photographs were obtained from several historical photograph collections through EDR (2019d) and span a period of 76 years. A tabulation of the aerial photographs reviewed by Kleinfelder is presented in Table 5-2. Copies of the aerial photographs provided by EDR are included in Appendix D.

Copyright 2019 Kleinfelder

TABLE 5-2

Historical Aerial Photographs Reviewed

YEAR	APPROXIMATE SCALE	SUMMARY
1940	1" = 500'	**Site:** The Site appears to be vacant grazing land. Two creeks appear to extend north to south across the western half of the Site and three trees are present on the southeastern portion of the Site. Dirt tracks extend across the Site, with one dirt track extending along the northern Site boundary. A possible haystack or stockpile appears to be present west of the southernmost tree. A dark area in the middle of Site may be a ponding area. **Surrounding Area:** The adjoining properties appear to also be grazing land. Dirt roads are present throughout the Site vicinity. Farm-type structures (or residential) are present southwest (not adjoining) and southeast (also not adjoining) of the Site.
1952 1962 1966	1" = 500' 1" = 500' 1" = 500'	**Site:** The Site appears generally the same. **Surrounding Area:** The adjoining properties appear generally the same. There appears to be a possible structure adjoining the northwest corner of the Site.
1972 1984	1" = 500' 1" = 500'	**Site:** The Site appears generally the same. **Surrounding Area:** The adjoining properties to the north, west, south, and east appear generally the same. The structure southwest of the Site is no longer clearly present, though there may be some smaller structures remaining.
1993	1" = 500'	**Site:** The Site appears generally the same. More developed dirt roads appear to extend along the northern, northwestern, and eastern Site boundaries. **Surrounding Area:** The adjoining properties appear generally the same, though there appears to be some grading northwest of the Site.
2006 2009	1" = 500' 1" = 500'	**Site:** The Site appears generally the same with a dirt track extending east to west across the Site. **Surrounding Area:** The properties adjoining to the north and northwest appear to match their existing configuration with residential housing present north and northeast of the Site, and Oak Meadow Elementary School present north-northwest of the Site. The properties to the west, southwest, south, and east-southeast remain vacant and undeveloped. The structures to the southwest of the Site appear to have been removed. The structure southeast of the Site appears to have been re-developed as a church and associated parking lot.

Copyright 2019 Kleinfelder

TABLE 5-2 (Continued)

Historical Aerial Photographs Reviewed

YEAR	APPROXIMATE SCALE	SUMMARY
2012	1" = 500'	**Site:** The Site appears generally the same, except that there appears to be a graded, raised (or cut) half-circle section in the southeastern portion of the Site. Dirt roads extend to this area from the south, northeast, and west. **Surrounding Area:** The adjoining properties to the north, west, and south remain generally the same.
2016	1" = 500'	**Site:** The Site appears generally the same, except that the trees are no longer present in the southeast portion of the Site, and the raised or cut section appears to have been graded. **Surrounding Area:** The adjoining properties to the north, northwest, east, and southeast remain generally the same. Silva Valley Parkway is now present along the west-southwest boundary of the Site, and Tong Road is now present along the southern Site boundary.
Note: Aerial photographs only provide information concerning indications of land use, and no conclusions regarding the release of hazardous substances or petroleum products can be drawn from the review of photographs alone.		

5.3 CITY DIRECTORIES

City directories provide information regarding property occupants by address. EDR provided a city directory image report (EDR, 2019e), which included a review of city directories for properties along Silva Valley Parkway for select years between 1970 and 2014. There were no listings reported for the Site. The adjoining property, 7701 Silva Valley Parkway located north of the Site, was listed as being occupied by Buckeye Union School District (2005, 2010, 2014) and PTA CA Congress of Parents OAK (2010, 2014). No other adjoining properties were listed. No RECs were identified based on the city directories listings review.

5.4 HISTORICAL TOPOGRAPHIC MAP REVIEW

Kleinfelder obtained information regarding historical topographic maps of the Site vicinity from EDR (2019f). The topographic maps reviewed for this assessment are listed in Table 5-3 and copies of the maps are included in Appendix D.

Copyright 2019 Kleinfelder

TABLE 5-3

Historical Topographic Maps Reviewed

YEAR	SCALE	SUMMARY
1891 1892 1893	1:125,000 1:125,000 1:125,000	**Site:** The Site is shown as undeveloped land consisting of a hill peaking in the northeast corner of the Site. **Surrounding Area:** The immediate Site vicinity is shown as undeveloped land.
1941 1944	1:62,500 1:62,500	**Site:** The Site remains as undeveloped land. An unimproved road is present along the western Site boundary. **Surrounding Area:** The adjoining properties to the Site remain as undeveloped land. A residential structure is shown southwest of the Site. A creek, with an additional residential structure beyond it, is shown southeast of the Site.
1953 1973	1:24,000 1:24,000	**Site:** The Site remains as undeveloped land with the unimproved road adjoining the western Site boundary. **Surrounding Area:** The adjoining properties to the Site remain as undeveloped land. The structure southwest of the Site appears to have changed from residential to a barn or equipment storage structure (unoccupied), as shown by the change in the topographic symbol.
1980	1:24,000	**Site:** The Site remains as undeveloped land with the unimproved road adjoining the western Site boundary. **Surrounding Area:** The adjoining properties to the Site remain as undeveloped land. The structure formerly southwest of the Site is no longer present.
2012	1:24,000	**Site:** The 2012 topographic map is similar in appearance and shows physical features (e.g., roads and surface water) with no structures. Therefore, no structures are shown on the Site. **Surrounding Area:** Off-Site roads (Silva Valley Parkway to the west, Tong Road to the south, and the residential roads to the north) are shown. However, Silva Valley Parkway and Tong Road do not match their current configurations.

No RECs were identified based on the historical topographic map review.

5.5 BUILDING PERMITS

EDR provided a Building Permit Report, included in Appendix D, (EDR, 2019g). No building permits were found for the Site. Permits for adjoining properties were listed in the EDR Building Permit Report. These permits included building and pool permits for the adjoining residential properties. No RECs were identified based on the EDR Building Permit Report review.

5.6 PREVIOUS ASSESSMENTS

No previous environmental assessments were available for the Site.

Copyright 2019 Kleinfelder

6 SITE RECONNAISSANCE

Kleinfelder's Phase I ESA activities included a Site reconnaissance. This section summarizes the findings from the Site reconnaissance.

6.1 METHODOLOGY AND LIMITING CONDITIONS

Mr. Anthony Wohletz of Kleinfelder performed a reconnaissance of the Site and vicinity on January 16, 2019. The Site reconnaissance included a visual inspection of the Site to assist in identifying the presence or likely presence of hazardous substances or petroleum hydrocarbons under conditions that indicate an existing release, a past release, or threat of release into structures, soil, groundwater, or surface water at the Site (i.e., RECs). Observations of readily-apparent environmental conditions are summarized in Table 6-1, and color photographs of the Site are presented on Figures 3 through 15. The approximate Site boundaries are shown on Figure 2.

6.2 GENERAL SITE SETTING

The Site is generally located east of Silva Valley Parkway and north of Tong Road in the unincorporated El Dorado Hills community of El Dorado County, California.

6.3 SITE OBSERVATIONS

Kleinfelder's Site observations are summarized in Table 6-1.

TABLE 6-1

Site Observations

GENERAL OBSERVATIONS	REMARKS	OBSERVED	NOT OBSERVED
Current use	Site is currently vacant land.	X	
Current use likely to indicate RECs			X
Past use			X
Past use likely to indicate RECs			X
Structures	An unknown concrete structure was observed on Site. The structure may be a guzzler to provide water for grazing animals.	X	

Copyright 2019 Kleinfelder

TABLE 6-1 (Continued)

Site Observations

GENERAL OBSERVATIONS	REMARKS	OBSERVED	NOT OBSERVED
Roads			X
Topography of Site and surrounding area	Hilly. Southern portion of Site is higher than northern portion.	X	
Interior and exterior observations or environmental conditions that may involve the use, storage, disposal or generation of hazardous substances or petroleum products.		**Observed**	**Not Observed**
ASTs			X
Below grade vaults			X
Burned or buried debris			X
Chemical storage			X
Chemical mixing areas			X
Discolored soil or water			X
Ditches, streams	Two streams noted flowing southward from northern Site boundary on the western half of the Site. Both streams were flowing during Site visit. Revetted, artificial drainage ditch noted flowing along eastern side of Silva Valley Parkway.	X	
Drains and piping	An approximately 36-inch diameter corrugated metal pipe noted in central northern portion of Site. Pipe is located in stream but does not appear to be related to drainage.	X	
Drums			X
Electrical or hydraulic equipment (polychlorinated biphenyls [PCBs])			X

Copyright 2019 Kleinfelder

TABLE 6-1 (Continued)

Site Observations

Interior and exterior observations or environmental conditions that may involve the use, storage, disposal or generation of hazardous substances or petroleum products.		Observed	Not Observed
Hazardous chemical and petroleum products in connection with unknown use			X
Fill dirt from an unknown source	Hilly topography appears natural; however, an earthern embankment was noted along a stream near the north-central portion of the Site. The embankment appears to be potentially artificial and now-breached dam associated with	X	
Fill dirt from a known source			X
Hazardous chemical and petroleum products in connection with known use	An empty 1-gallon jug of exhaust fluid noted in drainage ditch on eastern side of Silva Valley Parkway. No evidence of spill associated with jug. Appears likely that former spills associated with this jug would be considered *de minimis*.	X	
Non-hazardous containers with contents			X
Hazardous waste storage	.		X
Heating and cooling system and fuel source			X
Industrial waste treatment equipment			X
Loading and unloading areas			X
Odors			X
Pits, ponds, or lagoons	Portions of Site retained 0.5 to 2 inches of ponded water. Ponded water assumed related to recent rain.	X	
Pools of liquid	See above.	X	
Process waste water			X
Sanitary sewer system			X

Copyright 2019 Kleinfelder

TABLE 6-1 (Continued)

Site Observations

Interior and exterior observations or environmental conditions that may involve the use, storage, disposal or generation of hazardous substances or petroleum products.		Observed	Not Observed
Stressed vegetation			X
Septic system (e.g. tank and leach fields)			X
Soil piles			X
Solid waste/evidence of unauthorized dumping	Scattered debris noted infrequently throughout Site. Did not appear related to unauthorized dumping.	X	
Stained pavement, soil or concrete			X
Stains or corrosion (interior, non-water)			X
Storm drains/catch basins	Revetted, artificial drainage ditch noted along eastern side of Silva Valley Parkway.	X	
Sumps and clarifiers			X
Surface water	Portions of Site retained 0.5 to 2 inches of ponded water. Ponded water assumed related to recent rain.	X	
UST(s) (including heating oil tanks)			X
Unidentified substance containers	About 5 or 6 small, white tied-shut plastic bags noted along northern Site boundary. Appeared to be associated with pet waste.	X	
Waste water discharge			X
Water supplies (potable and process)			X
Wells (irrigation, monitoring, or domestic)			X
Wells (dry)			X
Wells (oil and gas)			X

Copyright 2019 Kleinfelder

6.4 RESULTS OF SITE RECONNAISSANCE

The Site currently consists of vacant, undeveloped land. The Site was hilly, with the highest point located in the southern portion of the Site. Two streams flowed southward from the northern Site boundary through the western half of the Site. A square, concrete structure with an 8-foot deep basin in the middle was located on the north-central portion of the Site. This structure may be a guzzler to provide water for grazing stock animals. A revetted pipe was present in the central portion of the Site in one of the streams. An earthern embankment was also located in the north-central portion of the Site. Both the revetted pipe and the earthern embankment appear to have been associated with controlling drainage, but have since been breached. A second revetted drainage pipe was located along Silva Valley Parkway, adjoining the Site. An empty container of exhaust fluid was present along Silva Valley Parkway. No staining or signs of a spill were visible. Little plastic bags likely containing pet waste were present along the northern border of the Site, which adjoins a residential community and elementary school. Surface water and ponding were observed on the Site, likely due to the recent rains. With the exception of the residential community and school to the north, and the adjoining roads (Silva Valley Parkway and Tong Road), the adjoining properties are vacant and similar to the Site. Evidence of stained soil, discolored water, stressed vegetation, USTs, wells, pits, ponds, or lagoons was not observed on the Site during the reconnaissance.

Copyright 2019 Kleinfelder

7 INTERVIEWS

Key Site Managers are contacted to obtain current and historical environmental information concerning the Site. The following sections highlight information revealed during the interviews.

7.1 INTERVIEW WITH CLIENT/OWNER/MANAGER

A questionnaire completed by Mr. Michael Okuma of Costco on February 5, 2019 indicated the following:

- He is unaware of environmental liens that are filed or recorded against the property.
- He is unaware of AULs that are in place on the property or that have been filed or recorded against the property.
- He has no specialized knowledge or experience related to the property or nearby properties unrelated to the Costco warehouse.
- He indicated that the purchase price of the property reasonably reflects the fair market value of the property.
- He is not aware of commonly known or reasonably ascertainable information about the property that would help Kleinfelder identify conditions indicative of releases or threatened releases.
- He is unaware of obvious indicators that point to the presence or likely presence of releases at the property. He indicated that this Phase I ESA was being performed for due diligence.

The completed questionnaire is included in Appendix C.

7.2 INTERVIEW WITH OWNER/MANAGER

Kleinfelder provided Costco an interview questionnaire to be delivered to the property owner for completion. A completed questionnaire from the property owner has not been received to date.

7.3 INTERVIEW WITH OCCUPANT(S)

The Site is vacant land with no occupants present. Therefore, interviews with occupants were not performed as part of this Phase I ESA.

Copyright 2019 Kleinfelder

7.4 INTERVIEWS WITH LOCAL GOVERNMENT OFFICIALS

Kleinfelder contacted the El Dorado County AQMD for records associated with the Site. Tod from the AQMD responded via telephone on January 22, 2019 that the parcel appears to be in the process of being subdivided and the parcel number is no longer listed in his database. He looked up the area after the Site location was described and he indicated that a Caltrans asbestos dust control plan with a soil sampling report from 2008 was available for Highway 50 just south of the Site. Tod uploaded the available dust control plans to the El Dorado County Public Records Center for Kleinfelder to download. A summary of Kleinfelder's review of the documents was included in Section 4.3.4.

Copyright 2019 Kleinfelder

8 EVALUATION

Kleinfelder performed this Phase I ESA of the Site in conformance with the scope and limitations of the Standard Practice, the scope of services in our Proposal No. MPCOSTCO.001C/IRV19P89535, dated January 14, 2019, and in accordance with Costco's Development Requirements, Version 2018, dated October 26, 2018. The following sections describe Kleinfelder's findings and provide general background information about the Site. Findings address RECs, HRECs, CRECs, and notation of *de minimis* quantities, as applicable to the Site. In summary, Kleinfelder's assessment revealed the following information concerning the Site:

8.1 BACKGROUND

The following is a summary of the Site background information:

- The Site is located on vacant land east of Silva Valley Parkway, and north of the intersection of Silva Valley Parkway and Tong Road, approximately 725 feet north of Highway 50 in the unincorporated El Dorado Hills community of El Dorado County, California. It consists of approximately 25 acres of land, which is a portion of a larger parcel of land identified as El Dorado County APN 122-720-15. This larger parcel consists of land on both the north and south sides of Silva Valley Parkway. The Site consists of the portion of the larger parcel located on the north side of Silva Valley Parkway.
- The Site was historically undeveloped, though some earthwork appears to have occurred in the southern portion of the Site between 2012 and 2016 based on aerial photographs from those years. This earthwork appears to be related to Highway 50 construction activities, and realignment of Silva Valley Parkway and Tong Road in 2012 and 2013.

8.2 FINDINGS AND OPINIONS

The following is a summary of findings and opinions for the Site:

- The Site was vacant land at the time of the Site reconnaissance. Two streams were observed on the western half of the Site. A concrete structure with a basin in the middle (probably to provide water for grazing livestock) was observed in the north-central portion of the Site. A revetted pipe and an earthen embankment were observed in the north-central portion of the Site, possibly associated with drainage control on Site. An empty container of exhaust fluid was observed along Silva Valley Parkway, and pet waste bags

Copyright 2019 Kleinfelder

were observed in the northern portion of the Site adjoining the residential community located north of the Site. No RECs were identified during the Site reconnaissance.

- Two Asbestos Dust Mitigation Plan Applications were approved by the El Dorado County AQMD in 2012 and 2013 for grading/excavation activities associated with construction of a Highway 50 off-ramp, south of the Site. A March 2008 Caltrans report, entitled *Aerially Deposited Lead, Naturally Occurring Asbestos and Lead Containing Paint Site Investigation and Bridge Survey Report*, prepared for the Highway 50 Site Investigation project, was included with one of the Asbestos Dust Mitigation Plan Applications. This report indicated that 30 composite soil samples collected from the median and proposed sound wall areas (sample locations were not identified) were analyzed for the presence of NOA, total lead and chromium. One out of 24 composite soil samples contained 0.25% chrysotile asbestos; remaining samples did not contain detectable NOA. Total lead and chromium were detected in soil samples analyzed, but at concentrations reported below California hazardous waste threshold levels. A figure presented in this report indicates that the southern portion of the Site was used to temporarily stockpile soil that was to be covered with plastic and surrounded by fiber rolls. Hydroseed was to be planted at the end of the project. A Rough Grading Plan dated August 2013 indicates that 20,000 cubic yards of existing stockpiled soil and an additional 100,000 cubic yards of soil from a "Borrow Area" would be used as part of the construction of a future Highway 50 off-ramp, and future alignments of Tong Road and Silva Valley Parkway. The "Borrow Area" was shown to be on the southern portion of the Site with a 10-inch wide maintenance access road to the area.
- A quarter-mile buffer zone pursuant to an *Asbestos Review Areas, Western Slope, County of El Dorado, State of California* map, dated August 22, 2018, is located adjacent to and extends into the westernmost portion of the Site. This buffer zone is considered "more likely to contain asbestos" in soil. Soil with asbestos greater than or equal to 0.25% asbestos would require approval of an Asbestos Dust Mitigation Plan through the AQMD prior to construction.
- No off-Site facilities are considered likely to have affected soil, soil vapor or groundwater beneath the Site.

Copyright 2019 Kleinfelder

8.3 DEVIATIONS AND ADDITIONAL SERVICES

Kleinfelder's scope of services did not include Standard Practice non-scope evaluations of cultural, historic, and archaeological resources and environmental regulatory compliance that may be required for a Phase I ESA pursuant to Costco's Development Requirements publication (revised October 26, 2018). In addition, the Phase I ESA did not include an assessment for ACMs, radon, LBP, lead in drinking water, molds and mildews, indoor air quality, industrial hygiene, health and safety, and other Standard Practice non-scope considerations not described herein.

Kleinfelder's scope of services included evaluations of wetlands and threatened, endangered, and other protected species pursuant to Development Requirements, Version 2018, revised October 26, 2018. Kleinfelder contracted with Moore to perform these evaluations. A copy of Moore's report is provided in Appendix E. A summary of the results of these evaluations is provided in Sections 8.3.1 and 8.3.2 below.

8.3.1 Protected Plant/Wildlife Assessment

Moore queried relevant agency databases to determine the potential biological constraints that could be imposed on the Site. Additionally, Moore performed visited the Site on December 18 and 29, 2018 to document existing biological conditions at the Site.

At the time of Moore's site visits, the Site was open hillsides supporting grassland vegetation. A notable hill and soil stockpile were present in the southern portion of the Site. The grassland appeared to be moderately to highly disturbed from historic mining, grazing, grading, and construction of adjoining parcels, discing for weed abatement, and off-road vehicle use. A riparian corridor is present along an intermittent stream in the western portion of the Site. Trees and shrubs are present in this area. One blue elderberry shrub was observed along the north edge of the Site, east of the riparian corridor. Several bird species were observed. The several large trees in the riparian corridor are suitable for nesting birds. The habitat is suitable for raptors and song birds. No mammals were observed, but the habitat is suitable for coyotes, black-tailed hares, desert cottontails, and Virginia opossum. Several ground squirrel burrows and gophers were observed in the grasslands. Mice and voles are also likely to occur in the grasslands. No amphibians or reptiles were observed, though there is the potential for the Pacific chorus frog, bullfrog, western fence lizard, western terrestrial garter snake, and gopher snake to occur.

Moore searched the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CBDDB, 2019) and the USFWS Information, Planning, and Consultation System (IPAC) Trust Report of Federally Threatened and Endangered species for plant and

Copyright 2019 Kleinfelder

wildlife species that have been documented in the Site vicinity, or have the potential to occur based on suitable habitat. Ten special status plants were identified as potentially occurring at the Site. Due to lack of habitat, it is unlikely these special status plants would occur at the Site. Fifteen special status species were documented in the Site vicinity; however, upon review of the available habitat and distribution of regional occurrences, in Moore's opinion, most of the species are unlikely to occur at the Site. The only species with a more than low potential to occur are Swainson's hawk and burrowing owls. Other special status species may forage or migrate through the area.

A preconstruction survey for burrowing owls within 250 feet of the Site is recommended if construction is scheduled between February 1 and August 31. A preconstruction survey for Swainson's hawk within 0.25-mile of the Site is recommended if construction is scheduled between March 1 and September 15.

Migratory birds are protected under the Migratory Bird Treaty Act (MBTA). If tree removal is scheduled between January 1 and July 31, a preconstruction survey for nesting raptors is recommended. If other vegetation is removed between March 1 and July 31, a pre-construction for any nesting birds is recommended. If active nests are observed, they are to be avoided until the young birds have been fledged.

The Valley elderberry longhorn beetle is listed as a federally threatened species and its hots is the blue elderberry shrub. The USFWS (2017) *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle* indicates that ground disturbance should be set back 165 feet from the shrub. Mitigation can be in the form of purchasing credits at the USFWS-approved mitigation bank and transplantation of the shrub to the bank. The Site has one elderberry shrub present along the northern boundary. The Framework recommends that, in the case of the presence of a single shrub, 2 credits be purchased, and the shrub transplanted. No evidence of the beetle on the shrub on Site was observed. The shrub is also at an elevation higher than the typically elevation where the beetle occurs. Based on the Site observations, in Moore's opinion it is unlikely the beetle will occur at the Site.

8.3.2 Wetland Assessment

During Moore's Site visits, an intermittent creek, two ephemeral creeks, and two seasonal wetlands were observed. These features were not mapped on the USGS topographic map or the National Wetland Inventory, but are potentially jurisdictional Waters of the United States and wetlands. Moore recommends a wetlands delineation later in the spring to when plants are in

Copyright 2019 Kleinfelder

bloom to confirm the actual wetland boundaries. The intermittent stream flows north to south in the western portion of the Site. The intermittent stream carries water during and after rain and is lined with trees and riparian vegetation. Wetland vegetation is present in the flat area near Silva Valley Parkway. The ephemeral creeks also flow north to south. These carry water only during and shortly after heavy rains. The seasonal wetlands include a historic stock pond and boggy area near the south end of one of the ephemeral creeks. The stock pond is approximately 2 feet deep and is fed by the creek and possibly a spring.

8.4 CONCLUSIONS

Kleinfelder has performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E 1527-13 of the location of a proposed Costco warehouse and gas station (Site) in the unincorporated El Dorado Hills community of El Dorado County, California. Any exceptions to, or deletions from, this practice are described in Section 8.3 of this report. This assessment has revealed no evidence of RECs or CRECs in connection with the Site.

8.5 RECOMMENDATIONS

Based on the findings and conclusions of this Phase I ESA, Kleinfelder has the following recommendations for further assessment.

- The Site is within the quarter-mile buffer zone for the likely presence of NOA extending into at least the westernmost portion of the Site, and at least one composite sample associated with nearby construction contained a 0.25% chrysotile asbestos concentration. Since specific locations of those samples are not known, the collection and analysis of NOA samples is recommended if Costco desires a greater level of certainty of the potential presence of NOA in shallow soil at the Site. Additionally, an Asbestos Dust Mitigation Plan for AQMD is recommended prior to construction at the Site.
- A wetland delineation in the spring is recommended.
- Pre-construction surveys for burrowing owls, Swainson’s hawk, and migratory birds is recommended.
- A mitigation credit may need to be acquired to move the blue elderberry shrub in the northern portion of the Site.

Copyright 2019 Kleinfelder

8.6 DATA GAPS

Data gaps, which may affect the identification of hazardous substances or petroleum products for the evaluation of RECs at the Site, include the following:

- A completed questionnaire from the current owner of the Site has not been received to date.

The absence of information from the property owner is not considered a significant data gap based on other information obtained as part of this Phase I ESA.

Copyright 2019 Kleinfelder

9 REFERENCES

California Department of Water Resources (CDWR), last updated 2017, Bulletin 118 Groundwater Basins, *https://gis.water.ca.gov/app/gicima/*.

California Geological Survey (CGS), 2002, California Geomorphic Provinces, Note 36.

California Natural Diversity Database (CNDDB), 2019, California Department of Fish and Wildlife's Natural Heritage Program, Sacramento, California.

Environmental Data Resources, Inc. (EDR), 2019a, *EDR Environmental Lien and AUL Search, Vacant Land, El Dorado Hills, CA 95762*, Inquiry Number: 5537129.7S, January 24.

_____, 2019b, *The EDR Radius Map™ Report with GeoCheck®, Vacant Land, El Dorado Hills, CA 95762*, Inquiry Number: 5537129.2s, January 17.

_____, 2019c, *Certified Sanborn® Map Report, Vacant Land, El Dorado Hills, CA 95762*, Inquiry Number: 5537129.3, January 17.

_____, 2019d, *The EDR Aerial Photo Decade Package, Vacant Land, El Dorado Hills, CA 95762*, Inquiry Number: 5537129.11, January 18.

_____, 2019e, *The EDR-City Directory Image Report, Vacant Land, El Dorado Hills, CA 95762*, Inquiry Number: 5537129.5, January 18.

_____, 2019f, *EDR Historical Topo Map Report with QuadMatch™, Vacant Land, El Dorado Hills, CA 95762*, Inquiry Number: 5537129.4, January 17.

_____, 2019g, *EDR Building Permit Report, Vacant Land, El Dorado Hills, CA 95762*, Inquiry Number: 5537129.8, January 17.

Strand, Rudolph G, and Koenig, James B., 1965, Geologic Map of California, Sacramento Sheet; 1:125,000.

United States Geologic Survey (USGS), 2012, 7.5-Minute Series (Topographic) Clarksville Quadrangle Map, 1:24,000.

Copyright 2019 Kleinfelder

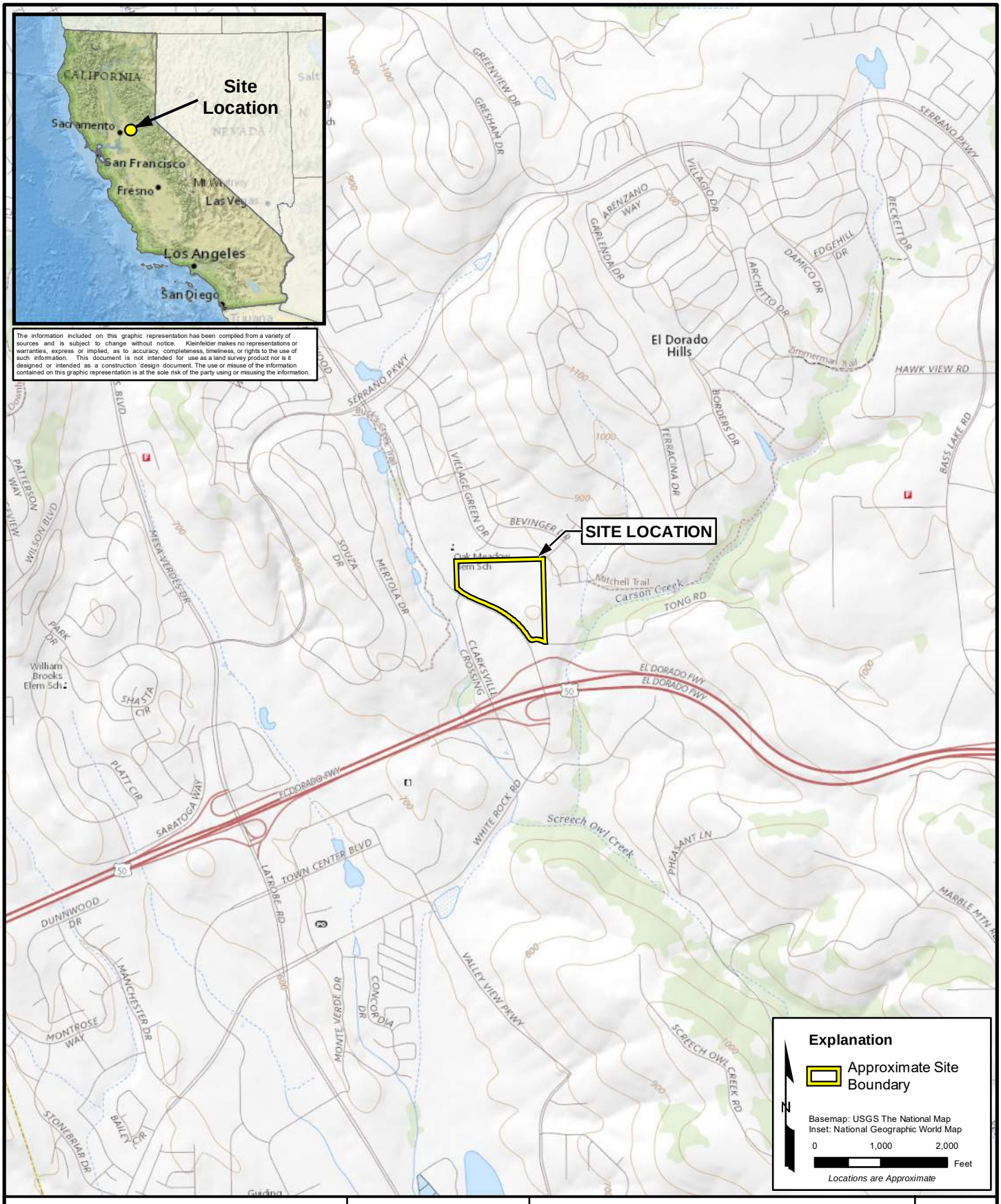
FIGURES

Copyright 2019 Kleinfelder

PLOTTED: 2/19/2019 7:24:08 AM, KHagan

FILE: L:\2019\20193180.001A - CSM Costco El Dorado Hills CA Ph I -ENV\2.0 Technical Information\2.8 GIS

LAGUNA HILLS, CA



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT:	20193180
DRAWN:	FEB 2019
DRAWN BY:	KFH
CHECKED BY:	LDP
FILE NAME:	Figure1.mxd

SITE LOCATION MAP

PHASE I ENVIRONMENTAL SITE ASSESSMENT
PROPOSED COSTCO WAREHOUSE AND GAS STATION
SILVA VALLEY PARKWAY
EL DORADO HILLS, EL DORADO COUNTY, CALIFORNIA
CW: 18-0487

FIGURE

1



PLOTTED: 2/22/2019 10:04:44 AM, KHagan

FILE: L:\2019\20193180.001A - CSM Costco El Dorado Hills CA Ph I -ENV\2.0 Technical Information\2.8 GIS

LAGUNA HILLS, CA

0 125 250 Feet

Locations are Approximate

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

PROJECT:	20193180
DRAWN:	FEB 2019
DRAWN BY:	KFH
CHECKED BY:	LDP
FILE NAME:	Figure2.mxd

SITE VICINITY MAP

PHASE I ENVIRONMENTAL SITE ASSESSMENT
PROPOSED COSTCO WAREHOUSE AND GAS STATION
SILVA VALLEY PARKWAY
EL DORADO HILLS, EL DORADO COUNTY, CALIFORNIA
CW: 18-0487

FIGURE
2



Photograph 1. Facing the intersection of Silva Valley Parkway and Tong Road from the southeast corner of the Site.



Photograph 2. Facing north along eastern border of the Site. Residential housing is in background.

KLEINFELDER Bright People. Right Solutions.	PROJECT NO. 20193180 DRAWN BY: LDP CHECKED BY: MC DATE: 01/2019 REVISED:	SITE PHOTOGRAPHS Proposed Costco Warehouse and Gas Station Silva Valley Parkway El Dorado Hills, El Dorado County, CA CW: 18-0487	FIGURE 3



Photograph 3. Facing northwest towards Silva Valley Parkway from middle of the Site.



Photograph 4. Trails extend through the Site from the residential properties.

KLEINFELDER Bright People. Right Solutions.	PROJECT NO. 20193180 DRAWN BY: LDP CHECKED BY: MC DATE: 01/2019 REVISED:	SITE PHOTOGRAPHS Proposed Costco Warehouse and Gas Station Silva Valley Parkway El Dorado Hills, El Dorado County, CA CW: 18-0487	FIGURE 4



Photograph 5. An unknown pipe was observed near the northern boundary.



Photograph 6. Pet waste left near residential properties on northern side of the Site.

KLEINFELDER Bright People. Right Solutions.	PROJECT NO. 20193180 DRAWN BY: LDP CHECKED BY: MC DATE: 01/2019 REVISED:	SITE PHOTOGRAPHS Proposed Costco Warehouse and Gas Station Silva Valley Parkway El Dorado Hills, El Dorado County, CA CW: 18-0487	FIGURE 5



Photograph 7. Facing west along northern Site boundary.



Photograph 8. Facing south from northern Site boundary. Revetted pipe in drainage area in background.

KLEINFELDER Bright People. Right Solutions.	PROJECT NO. 20193180 DRAWN BY: LDP CHECKED BY: MC DATE: 01/2019 REVISED:	SITE PHOTOGRAPHS Proposed Costco Warehouse and Gas Station Silva Valley Parkway El Dorado Hills, El Dorado County, CA CW: 18-0487	FIGURE 6



Photograph 9. Facing west-southwest across the Site. A stream drains across the Site.



Photograph 10. Pools are present along the stream

KLEINFELDER Bright People. Right Solutions.	PROJECT NO. 20193180 DRAWN BY: LDP CHECKED BY: MC DATE: 01/2019 REVISED:	SITE PHOTOGRAPHS Proposed Costco Warehouse and Gas Station Silva Valley Parkway El Dorado Hills, El Dorado County, CA CW: 18-0487	FIGURE 7



Photograph 11. A revetted pipe is present near the stream.



Photograph 12. Revetted pipe.

KLEINFELDER Bright People. Right Solutions.	PROJECT NO. 20193180 DRAWN BY: LDP CHECKED BY: MC DATE: 01/2019 REVISED:	SITE PHOTOGRAPHS Proposed Costco Warehouse and Gas Station Silva Valley Parkway El Dorado Hills, El Dorado County, CA CW: 18-0487	FIGURE 8



Photograph 13. Hill in southeast portion of the Site.



Photograph 14. Pond adjoining Silva Valley Parkway.

KLEINFELDER Bright People. Right Solutions.	PROJECT NO. 20193180 DRAWN BY: LDP CHECKED BY: MC DATE: 01/2019 REVISED:	SITE PHOTOGRAPHS Proposed Costco Warehouse and Gas Station Silva Valley Parkway El Dorado Hills, El Dorado County, CA CW: 18-0487	FIGURE 9



Photograph 15. Drain under Silva Valley Parkway.



Photograph 16. Metal piping in brush near Silva Valley Parkway.

KLEINFELDER Bright People. Right Solutions.	PROJECT NO. 20193180 DRAWN BY: LDP CHECKED BY: MC DATE: 01/2019 REVISED:	SITE PHOTOGRAPHS Proposed Costco Warehouse and Gas Station Silva Valley Parkway El Dorado Hills, El Dorado County, CA CW: 18-0487	FIGURE 10



Photograph 17. Drainage ditch along Silva Valley Parkway.



Photograph 18. Northwest Site boundary, facing off-Site towards elementary school.

KLEINFELDER Bright People. Right Solutions.	PROJECT NO. 20193180 DRAWN BY: LDP CHECKED BY: MC DATE: 01/2019 REVISED:	SITE PHOTOGRAPHS Proposed Costco Warehouse and Gas Station Silva Valley Parkway El Dorado Hills, El Dorado County, CA CW: 18-0487	FIGURE 11



Photograph 19. Northwest portion of the Site adjoining the elementary school.



Photograph 20. Northwest corner of the Site, facing Silva Valley Parkway.

KLEINFELDER Bright People. Right Solutions.	PROJECT NO. 20193180 DRAWN BY: LDP CHECKED BY: MC DATE: 01/2019 REVISED:	SITE PHOTOGRAPHS Proposed Costco Warehouse and Gas Station Silva Valley Parkway El Dorado Hills, El Dorado County, CA CW: 18-0487	FIGURE 12



Photograph 21. Facing southeast across Site. Silva Valley Parkway is on the right.



Photograph 22. Facing southeast along Silva Valley Parkway.

KLEINFELDER Bright People. Right Solutions.	PROJECT NO. 20193180 DRAWN BY: LDP CHECKED BY: MC DATE: 01/2019 REVISED:	SITE PHOTOGRAPHS Proposed Costco Warehouse and Gas Station Silva Valley Parkway El Dorado Hills, El Dorado County, CA CW: 18-0487	FIGURE 13



Photograph 23. Discarded diesel exaust fluid canister along Silva Valley Parkway.



Photograph 24. Ponding in drainage ditch along Sila Valley Parkway.

KLEINFELDER Bright People. Right Solutions.	PROJECT NO. 20193180 DRAWN BY: LDP CHECKED BY: MC DATE: 01/2019 REVISED:	SITE PHOTOGRAPHS Proposed Costco Warehouse and Gas Station Silva Valley Parkway El Dorado Hills, El Dorado County, CA CW: 18-0487	FIGURE 14



Photograph 25. Concrete-lined structure located in north-central portion of the Site. Probably for watering grazing stock.



Photograph 26. Same as above.

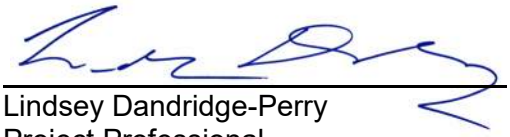
KLEINFELDER Bright People. Right Solutions.	PROJECT NO. 20193180 DRAWN BY: LDP CHECKED BY: MC DATE: 01/2019 REVISED:	SITE PHOTOGRAPHS Proposed Costco Warehouse and Gas Station Silva Valley Parkway El Dorado Hills, El Dorado County, CA CW: 18-0487	FIGURE 15

APPENDIX A
STATEMENT OF QUALIFICATIONS

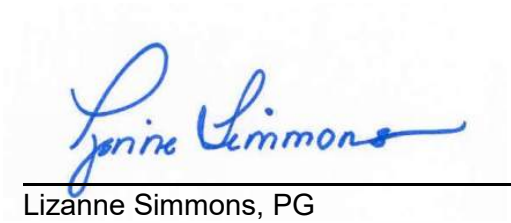
Copyright 2019 Kleinfelder

STATEMENT OF QUALIFICATIONS

We declare that to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in Section 312.10 of 40 CFR 312. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all-appropriate inquiries in conformance with the standards and practices set forth in CFR Part 312.



Lindsey Dandridge-Perry
Project Professional



Lizanne Simmons, PG
Senior Principal Geologist

The resumes of above-listed environmental professionals performing this Phase I ESA are on file at the Kleinfelder office and are available upon request.

Copyright 2019 Kleinfelder

APPENDIX B
REGULATORY AGENCY DATABASE REPORT

Copyright 2019 Kleinfelder

Vacant Land
Not Reported
El Dorado Hills, CA 95762

Inquiry Number: 5537129.2s
January 17, 2019

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION	PAGE
Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	8
Orphan Summary	15
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting SSURGO Soil Map	A-5
Physical Setting Source Map	A-8
Physical Setting Source Map Findings	A-10
Physical Setting Source Records Searched	PSGR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2018 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

NOT REPORTED
EL DORADO HILLS, CA 95762

COORDINATES

Latitude (North):	38.6622150 - 38° 39' 43.97''
Longitude (West):	121.0564460 - 121° 3' 23.20''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	669104.5
UTM Y (Meters):	4280878.5
Elevation:	758 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5629046 CLARKSVILLE, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140713, 20140621
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
NOT REPORTED
EL DORADO HILLS, CA 95762

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	SERRANO ELEMENTARY S	SERRANO PARKWAY/SILV	ENVIROSTOR, SCH	Higher	1640, 0.311, NNW
2	NEHEMIAH CONSTRUCTIO	1400 WHITE ROCK RD	CUPA Listings	Lower	1935, 0.366, South
3	PG&E: CLARKSVILLE SU	JOERGER RD	CUPA Listings	Lower	2051, 0.388, SSW
4	EL DORADO HILLS RECL	4525 SERRANO	ENF, CIWQS, CERS	Higher	3518, 0.666, NNW
5	SILVER DOVE ELEMENTA	SILVER DOVE WAY/BASS	ENVIROSTOR, SCH	Higher	4676, 0.886, East

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System
US ENG CONTROLS ---------- Engineering Controls Sites List

US INST CONTROL ---------- Sites with Institutional Controls

Federal ERNS list

ERNS ---------- Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE ---------- State Response Sites

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ---------- Solid Waste Information System

State and tribal leaking storage tank lists

LUST ---------- Geotracker's Leaking Underground Fuel Tank Report
INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land
CPS-SLIC ---------- Statewide SLIC Cases

State and tribal registered storage tank lists

FEMA UST ---------- Underground Storage Tank Listing
UST ---------- Active UST Facilities
AST ---------- Aboveground Petroleum Storage Tank Facilities
INDIAN UST ---------- Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

VCP ---------- Voluntary Cleanup Program Properties
INDIAN VCP ---------- Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS ---------- Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ---------- A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT ---------- Waste Management Unit Database
SWRCY ---------- Recycler Database
HAULERS ---------- Registered Waste Tire Haulers Listing
INDIAN ODI ---------- Report on the Status of Open Dumps on Indian Lands
ODI ---------- Open Dump Inventory
DEBRIS REGION 9 ---------- Torres Martinez Reservation Illegal Dump Site Locations
IHS OPEN DUMPS ---------- Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL ---------- Delisted National Clandestine Laboratory Register

HIST Cal-Sites ---- Historical Calsites Database
SCH ---- School Property Evaluation Program
CDL ---- Clandestine Drug Labs
Toxic Pits ---- Toxic Pits Cleanup Act Sites
CERS HAZ WASTE ---- CERS HAZ WASTE
US CDL ---- National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

SWEEPS UST ---- SWEEPS UST Listing
HIST UST ---- Hazardous Substance Storage Container Database
CERS TANKS ---- California Environmental Reporting System (CERS) Tanks
CA FID UST ---- Facility Inventory Database

Local Land Records

LIENS ---- Environmental Liens Listing
LIENS 2 ---- CERCLA Lien Information
DEED ---- Deed Restriction Listing

Records of Emergency Release Reports

HMIRS ---- Hazardous Materials Information Reporting System
CHMIRS ---- California Hazardous Material Incident Report System
LDS ---- Land Disposal Sites Listing
MCS ---- Military Cleanup Sites Listing
SPILLS 90 ---- SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR ---- RCRA - Non Generators / No Longer Regulated
FUDS ---- Formerly Used Defense Sites
DOD ---- Department of Defense Sites
SCRD DRYCLEANERS ---- State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR ---- Financial Assurance Information
EPA WATCH LIST ---- EPA WATCH LIST
2020 COR ACTION ---- 2020 Corrective Action Program List
TSCA ---- Toxic Substances Control Act
TRIS ---- Toxic Chemical Release Inventory System
SSTS ---- Section 7 Tracking Systems
ROD ---- Records Of Decision
RMP ---- Risk Management Plans
RAATS ---- RCRA Administrative Action Tracking System
PRP ---- Potentially Responsible Parties
PADS ---- PCB Activity Database System
ICIS ---- Integrated Compliance Information System
FTTS ---- FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS ---- Material Licensing Tracking System
COAL ASH DOE ---- Steam-Electric Plant Operation Data
COAL ASH EPA ---- Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER ---- PCB Transformer Registration Database
RADINFO ---- Radiation Information Database
HIST FTTS ---- FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS ---- Incident and Accident Data

CONSENT ---- Superfund (CERCLA) Consent Decrees
INDIAN RESERV ---- Indian Reservations
FUSRAP ---- Formerly Utilized Sites Remedial Action Program
UMTRA ---- Uranium Mill Tailings Sites
LEAD SMELTERS ---- Lead Smelter Sites
US AIRS ---- Aerometric Information Retrieval System Facility Subsystem
US MINES ---- Mines Master Index File
ABANDONED MINES ---- Abandoned Mines
FINDS ---- Facility Index System/Facility Registry System
ECHO ---- Enforcement & Compliance History Information
DOCKET HWC ---- Hazardous Waste Compliance Docket Listing
UXO ---- Unexploded Ordnance Sites
FUELS PROGRAM ---- EPA Fuels Program Registered Listing
CA BOND EXP. PLAN ---- Bond Expenditure Plan
Cortese ---- "Cortese" Hazardous Waste & Substances Sites List
DRYCLEANERS ---- Cleaner Facilities
EMI ---- Emissions Inventory Data
Financial Assurance ---- Financial Assurance Information Listing
HAZNET ---- Facility and Manifest Data
ICE ---- ICE
HIST CORTESE ---- Hazardous Waste & Substance Site List
HWP ---- EnviroStor Permitted Facilities Listing
HWT ---- Registered Hazardous Waste Transporter Database
MINES ---- Mines Site Location Listing
MWMP ---- Medical Waste Management Program Listing
NPDES ---- NPDES Permits Listing
PEST LIC ---- Pesticide Regulation Licenses Listing
PROC ---- Certified Processors Database
Notify 65 ---- Proposition 65 Records
UIC ---- UIC Listing
UIC GEO ---- UIC GEO (GEOTRACKER)
WASTEWATER PITS ---- Oil Wastewater Pits Listing
WDS ---- Waste Discharge System
MILITARY PRIV SITES ---- MILITARY PRIV SITES (GEOTRACKER)
PROJECT ---- PROJECT (GEOTRACKER)
CIWQS ---- California Integrated Water Quality System
CERS ---- CERS
WIP ---- Well Investigation Program Case List
NON-CASE INFO ---- NON-CASE INFO (GEOTRACKER)
OTHER OIL GAS ---- OTHER OIL & GAS (GEOTRACKER)
PROD WATER PONDS ---- PROD WATER PONDS (GEOTRACKER)
SAMPLING POINT ---- SAMPLING POINT (GEOTRACKER)
WELL STIM PROJ ---- Well Stimulation Project (GEOTRACKER)
WDR ---- Waste Discharge Requirements Listing

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP ---- EDR Proprietary Manufactured Gas Plants
EDR Hist Auto ---- EDR Exclusive Historical Auto Stations
EDR Hist Cleaner ---- EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF ---- Recovered Government Archive Solid Waste Facilities List

EXECUTIVE SUMMARY

RGA LUST---------- Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

State- and tribal - equivalent CERCLIS

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 10/29/2018 has revealed that there are 2 ENVIROSTOR sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SERRANO ELEMENTARY S Facility Id: 9020004 Status: No Further Action	***SERRANO PARKWAY/SILV***	***NNW 1/4 - 1/2 (0.311 mi.)***	***1***	***8***
SILVER DOVE ELEMENTA Facility Id: 9000003 Status: No Further Action	***SILVER DOVE WAY/BASS***	***E 1/2 - 1 (0.886 mi.)***	***5***	***13***

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

CUPA Listings: A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous

waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

A review of the CUPA Listings list, as provided by EDR, has revealed that there are 2 CUPA Listings sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
NEHEMIAH CONSTRUCTIO	1400 WHITE ROCK RD	S 1/4 - 1/2 (0.366 mi.)	2	9
Database: CUPA EL DORADO, Date of Government Version: 12/13/2018 Status: Inactive, non-billable				
PG&E: CLARKSVILLE SU	JOERGER RD	SSW 1/4 - 1/2 (0.388 mi.)	3	10
Database: CUPA EL DORADO, Date of Government Version: 12/13/2018 Status: Active, billable				

ENF: A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

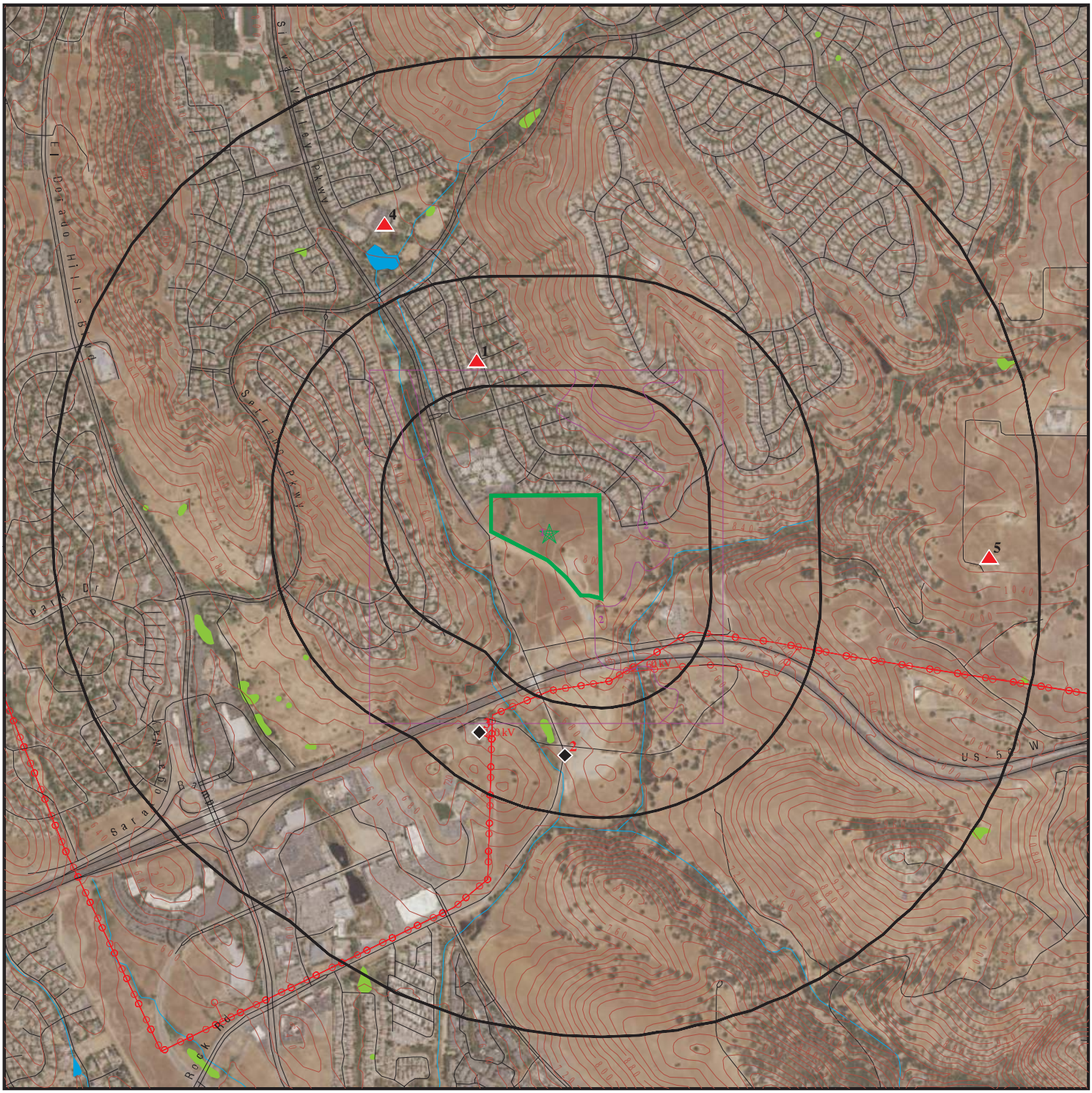
A review of the ENF list, as provided by EDR, and dated 11/01/2018 has revealed that there is 1 ENF site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
EL DORADO HILLS RECL	***4525 SERRANO***	***NNW 1/2 - 1 (0.666 mi.)***	***4***	***10***
Status: Historical Status: Historical Facility Id: 222432				

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 5537129.2S



0 1/4 1/2 1 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Vacant Land ADDRESS: Not Reported El Dorado Hills CA 95762 LAT/LONG: 38.662215 / 121.056446	CLIENT: Kleinfelder, Inc. CONTACT: Lindsey Dandridge-Perry INQUIRY #: 5537129.2s DATE: January 17, 2019 12:51 pm

Copyright © 2019 EDR, Inc. © 2015 TomTom Rel. 2015.

DETAIL MAP - 5537129.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

0 1/16 1/8 1/4 Miles

Indian Reservations BIA

Power transmission lines

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Areas of Concern

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Vacant Land	CLIENT:	Kleinfelder, Inc.
ADDRESS:	Not Reported El Dorado Hills CA 95762	CONTACT:	Lindsey Dandridge-Perry
		INQUIRY #:	5537129.2s
LAT/LONG:	38.662215 / 121.056446	DATE:	January 17, 2019 12:56 pm

Copyright © 2019 EDR, Inc. © 2015 TomTom Rel. 2015.

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	0.500		0	0	0	NR	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	1.000		0	0	0	0	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	TP		NR	NR	NR	NR	NR	0
US INST CONTROL	TP		NR	NR	NR	NR	NR	0
Federal ERNS list								
ERNS	0.250		0	0	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	1	1	NR	2
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	1.000		0	0	0	0	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.500		0	0	0	NR	NR	0
UST	0.500		0	0	0	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.500		0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.500		0	0	0	NR	NR	0
HIST UST	0.500		0	0	0	NR	NR	0
CERS TANKS	0.250		0	0	NR	NR	NR	0
CA FID UST	0.500		0	0	0	NR	NR	0
Local Land Records								
LIENS	TP		NR	NR	NR	NR	NR	0
LIENS 2	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
CHMIRS	TP		NR	NR	NR	NR	NR	0
LDS	TP		NR	NR	NR	NR	NR	0
MCS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	0.250		0	0	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	1.000		0	0	0	0	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	TP		NR	NR	NR	NR	NR	0
FINDS	0.250		0	0	NR	NR	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.500		0	0	2	NR	NR	2
DRYCLEANERS	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
EMI	TP		NR	NR	NR	NR	NR	0
ENF	1.000		0	0	0	1	NR	1
Financial Assurance	TP		NR	NR	NR	NR	NR	0
HAZNET	TP		NR	NR	NR	NR	NR	0
ICE	TP		NR	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	TP		NR	NR	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
PEST LIC	TP		NR	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
UIC GEO	TP		NR	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.500		0	0	0	NR	NR	0
MILITARY PRIV SITES	TP		NR	NR	NR	NR	NR	0
PROJECT	TP		NR	NR	NR	NR	NR	0
CIWQS	TP		NR	NR	NR	NR	NR	0
CERS	TP		NR	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
NON-CASE INFO	TP		NR	NR	NR	NR	NR	0
OTHER OIL GAS	TP		NR	NR	NR	NR	NR	0
PROD WATER PONDS	TP		NR	NR	NR	NR	NR	0
SAMPLING POINT	TP		NR	NR	NR	NR	NR	0
WELL STIM PROJ	TP		NR	NR	NR	NR	NR	0
WDR	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.250		0	0	NR	NR	NR	0
EDR Hist Cleaner	0.250		0	0	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		0	0	0	3	2	0	5

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

1
NNW
1/4-1/2
0.311 mi.
1640 ft.

SERRANO ELEMENTARY SCHOOL
SERRANO PARKWAY/SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95762

ENVIROSTOR
SCH

S116165442
N/A

Relative:
Higher

Actual:
801 ft.

ENVIROSTOR:

Facility ID:	9020004
Status:	No Further Action
Status Date:	06/29/2000
Site Code:	104061
Site Type:	School Investigation
Site Type Detailed:	School
Acres:	19
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Not reported
Supervisor:	Mark Malinowski
Division Branch:	Northern California Schools & Santa Susana
Assembly:	06
Senate:	01
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	38.668
Longitude:	-121.0595
APN:	NONE SPECIFIED
Past Use:	AGRICULTURAL - LIVESTOCK
Potential COC:	Naturally Occurring Asbestos (NOA Arsenic Lead
Confirmed COC:	NONE SPECIFIED
Potential Description:	SOIL
Alias Name:	Not reported
Alias Type:	Not reported

Completed Info:

Completed Area Name:	Not reported
Completed Sub Area Name:	Not reported
Completed Document Type:	Not reported
Completed Date:	Not reported
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

SCH:

Facility ID:	9020004
Site Type:	School Investigation
Site Type Detail:	School
Site Mgmt. Req.:	NONE SPECIFIED

SERRANO ELEMENTARY SCHOOL (Continued) **S116165442**

Acres:	19
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Not reported
Supervisor:	Mark Malinowski
Division Branch:	Northern California Schools & Santa Susana
Site Code:	104061
Assembly:	06
Senate:	01
Special Program Status:	Not reported
Status:	No Further Action
Status Date:	06/29/2000
Restricted Use:	NO
Funding:	School District
Latitude:	38.668
Longitude:	-121.0595
APN:	NONE SPECIFIED
Past Use:	AGRICULTURAL - LIVESTOCK
Potential COC:	Naturally Occurring Asbestos (NOA, Naturally Occurring Asbestos (NOA, Arsenic, Lead
Confirmed COC:	NONE SPECIFIED
Potential Description:	SOIL
Alias Name:	Not reported
Alias Type:	Not reported

Completed Info:

Completed Area Name:	Not reported
Completed Sub Area Name:	Not reported
Completed Document Type:	Not reported
Completed Date:	Not reported
Comments:	Not reported

Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

---

2 **NEHEMIAH CONSTRUCTION** **CUPA Listings** **S110983949**
South **1400 WHITE ROCK RD** **N/A**
1/4-1/2 **EL DORADO HILLS, CA 95762**
0.366 mi.
1935 ft.

Relative:
Lower

Actual:
665 ft.

CUPA EL DORADO:

PE:	BUSINESS PLANS/SMALL BUSINESS
Status:	Inactive, non-billable
Latitude:	38.6534
Longitude:	-121.0542
Name:	NEHEMIAH CONSTRUCTION
Email:	Not reported
Address2:	Not reported

NEHEMIAH CONSTRUCTION (Continued) **S110983949**

Permit:	PT0012827
Phone:	9166081500
Second Phone:	9166081500
APN:	11817004
RP Name:	Not reported
RP Care of:	Not reported
RP Phone:	0000000000
GIS Elevation:	Not reported
CERSID:	Not reported
Business Type:	OTHER
Current Inspection Date:	Not reported
Last Inspection Date:	Not reported

3
SSW
1/4-1/2
0.388 mi.
2051 ft.

PG&E: CLARKSVILLE SUBSTATION **CUPA Listings** **S122436176**
JOERGER RD **N/A**
CLARKSVILLE, CA 95630

Relative: Lower
Actual: 690 ft.

CUPA EL DORADO:

PE:	BUSINESS PLANS/LARGE BUSINESSES
Status:	Active, billable
Latitude:	38.6557
Longitude:	-121.0594
Name:	Pacific Gas & Electric Company
Email:	Not reported
Address2:	Joerger Road, West of White Rock Road
Permit:	PT0001633
Phone:	Not reported
Second Phone:	5308893314
APN:	Not reported
RP Name:	PG&E - CUPA Permits (REF: Clarksville Sub)
RP Care of:	CUPA
RP Phone:	7075511674
GIS Elevation:	Not reported
CERSID:	10136797
Business Type:	MOTOR VEHICLE FUEL
Current Inspection Date:	06/02/2018
Last Inspection Date:	12/02/2012

4
NNW
1/2-1
0.666 mi.
3518 ft.

EL DORADO HILLS RECLAMATION **ENF** **S109434785**
4525 SERRANO **CIWQS** **N/A**
EL DORADO HILLS, CA 95762 **CERS**

Relative: Higher
Actual: 812 ft.

ENF:

Region:	5S
Facility Id:	222432
Agency Name:	El Dorado Hills Development Company
Place Type:	Facility
Place Subtype:	Not reported
Facility Type:	Municipal/Domestic
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	38.670577

EL DORADO HILLS RECLAMATION (Continued) **S109434785**

Place Longitude:	-121.062962
SIC Code 1:	4952
SIC Desc 1:	Sewerage Systems
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	1.5
Threat To Water Quality:	2
Complexity:	A
Pretreatment:	N - POTW does not have EPA approved pretreatment prog.
Facility Waste Type:	Domestic wastewater
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	NPDMUNIOTH
Program Category1:	NPDESWW
Program Category2:	NPDESWW
# Of Programs:	1
WDID:	5A091107001
Reg Measure Id:	141719
Reg Measure Type:	NPDES Permits
Region:	5S
Order #:	94-090
Npdes# CA#:	CA0083305
Major-Minor:	Minor
Npdes Type:	MUN
Reclamation:	2 - Producer-User
Dredge Fill Fee:	Not reported
301H:	N
Application Fee Amt Received:	Not reported
Status:	Historical
Status Date:	04/22/1994
Effective Date:	04/22/1994
Expiration/Review Date:	04/01/1999
Termination Date:	06/13/2001
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	Not reported
Direction/Voice:	Passive
Enforcement Id(EID):	244253
Region:	5S
Order / Resolution Number:	R5-2000-0522

EL DORADO HILLS RECLAMATION (Continued) **S109434785**

Enforcement Action Type:	Admin Civil Liability
Effective Date:	10/10/2000
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	06/12/2003
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	ACLC R5-2000-0522 for El Dorado Hills Development Co
Description:	Violation of WDRs re: Reclamation requirements.
Program:	NPDMUNIOTH
Latest Milestone Completion Date:	2003-06-12
# Of Programs1:	1
Total Assessment Amount:	30000
Initial Assessed Amount:	0
Liability $ Amount:	30000
Project $ Amount:	0
Liability $ Paid:	30000
Project $ Completed:	0
Total $ Paid/Completed Amount:	30000

CIWQS:

Agency:	El Dorado Hills Development Company
Agency Address:	4525 Serrano Parkway, El Dorado Hills, CA 95762
Place/Project Type:	Other
SIC/NAICS:	4952
Region:	5S
Program:	NPDMUNIOTH
Regulatory Measure Status:	Historical
Regulatory Measure Type:	NPDES Permit
Order Number:	94-090
WDID:	5A091107001
NPDES Number:	CA0083305
Adoption Date:	04/22/1994
Effective Date:	04/22/1994
Termination Date:	06/13/2001
Expiration/Review Date:	04/01/1999
Design Flow:	1.5
Major/Minor:	Minor
Complexity:	A
TTWQ:	2
Enforcement Actions within 5 years:	0
Violations within 5 years:	0
Latitude:	38.670577
Longitude:	-121.062962

CERS TANKS:

Site ID:	313931
CERS ID:	222432
CERS Description:	NPDES Wastewater and Stormwater

Enforcement Action:

Site ID:	313931
Site Name:	El Dorado Hills Reclamation
Site Address:	4525 SERRANO
Site City:	EL DORADO HILLS
Site Zip:	95762

EL DORADO HILLS RECLAMATION (Continued) **S109434785**

Enf Action Date:	10-10-2000
Enf Action Type:	Administrative Enforcement with Penality
Enf Action Description:	Administrative Enforcement with Civil Liability (Penality)
Enf Action Notes:	Not reported
Enf Action Division:	Water Boards
Enf Action Program:	UNSPEC
Enf Action Source:	CIWQS

---

5 **SILVER DOVE ELEMENTARY** **ENVIROSTOR** **S116165440**
East **SILVER DOVE WAY/BASS LAKE ROAD** **SCH** **N/A**
1/2-1 **EL DORADO HILLS, CA 95762**
0.886 mi.
4676 ft.

Relative:
Higher

Actual:
1070 ft.

ENVIROSTOR:

Facility ID:	9000003
Status:	No Further Action
Status Date:	07/18/2006
Site Code:	104262
Site Type:	School Investigation
Site Type Detailed:	School
Acres:	10
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Not reported
Supervisor:	Mark Malinowski
Division Branch:	Northern California Schools & Santa Susana
Assembly:	06
Senate:	01
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	38.6615
Longitude:	-121.0379
APN:	NONE SPECIFIED
Past Use:	NONE
Potential COC:	Naturally Occurring Asbestos (NOA
Confirmed COC:	NONE SPECIFIED
Potential Description:	SOIL
Alias Name:	Not reported
Alias Type:	Not reported

Completed Info:

Completed Area Name:	Not reported
Completed Sub Area Name:	Not reported
Completed Document Type:	Not reported
Completed Date:	Not reported
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported

SILVER DOVE ELEMENTARY (Continued) **S116165440**

Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

SCH:

Facility ID: 9000003
Site Type: School Investigation
Site Type Detail: School
Site Mgmt. Req.: NONE SPECIFIED
Acres: 10
National Priorities List: NO
Cleanup Oversight Agencies: SMBRP
Lead Agency: SMBRP
Lead Agency Description: DTSC - Site Cleanup Program
Project Manager: Not reported
Supervisor: Mark Malinowski
Division Branch: Northern California Schools & Santa Susana
Site Code: 104262
Assembly: 06
Senate: 01
Special Program Status: Not reported
Status: No Further Action
Status Date: 07/18/2006
Restricted Use: NO
Funding: School District
Latitude: 38.6615
Longitude: -121.0379
APN: NONE SPECIFIED
Past Use: NONE
Potential COC: Naturally Occurring Asbestos (NOA
Confirmed COC: NONE SPECIFIED
Potential Description: SOIL
Alias Name: Not reported
Alias Type: Not reported

Completed Info:
Completed Area Name: Not reported
Completed Sub Area Name: Not reported
Completed Document Type: Not reported
Completed Date: Not reported
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

Count: 0 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
		NO SITES FOUND			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/12/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 14

Source: EPA
Telephone: N/A
Last EDR Contact: 12/28/2018
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/12/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 14

Source: EPA
Telephone: N/A
Last EDR Contact: 12/28/2018
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/12/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 14

Source: EPA
Telephone: N/A
Last EDR Contact: 12/28/2018
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 11/07/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 92

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 01/04/2019
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 12/12/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 14

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/28/2018
Next Scheduled EDR Contact: 01/28/2019
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 12/13/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 14

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/28/2018
Next Scheduled EDR Contact: 01/28/2019
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/03/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/03/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/03/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/03/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/03/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 10/17/2018
Date Data Arrived at EDR: 10/25/2018
Date Made Active in Reports: 12/07/2018
Number of Days to Update: 43

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 10/15/2018
Next Scheduled EDR Contact: 02/25/2019
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 07/31/2018
Date Data Arrived at EDR: 08/28/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 17

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 11/28/2018
Next Scheduled EDR Contact: 03/11/2019
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 07/31/2018
Date Data Arrived at EDR: 08/28/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 17

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 11/28/2018
Next Scheduled EDR Contact: 03/11/2019
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/24/2018
Date Data Arrived at EDR: 09/25/2018
Date Made Active in Reports: 11/09/2018
Number of Days to Update: 45

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 01/08/2019
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 10/29/2018
Date Data Arrived at EDR: 10/30/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 44

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/30/2018
Next Scheduled EDR Contact: 02/11/2019
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 10/29/2018
Date Data Arrived at EDR: 10/30/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 44

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/30/2018
Next Scheduled EDR Contact: 02/11/2019
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 11/12/2018
Date Data Arrived at EDR: 11/14/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 29

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 11/14/2018
Next Scheduled EDR Contact: 02/25/2019
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 9: Leaking Underground Storage Tank Report
Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)
Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 12/11/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List
Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST REG 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List
Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks
California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Varies

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/12/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/26/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/10/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 10/26/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 04/25/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 10/26/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/24/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/26/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/13/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/26/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 05/08/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 10/26/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/01/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 10/26/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/12/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 10/26/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)

Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 05/15/2017
Date Data Arrived at EDR: 05/30/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 136

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 01/08/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Varies

MILITARY UST SITES: Military UST Sites (GEOTRACKER)
Military ust sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases
UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/12/2018
Date Made Active in Reports: 01/16/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 12/11/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: Quarterly

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 04/25/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 10/26/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/13/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/26/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/10/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 10/26/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/24/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/26/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/12/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/26/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/12/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 10/26/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 05/08/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 10/26/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/01/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 10/26/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 10/29/2018
Date Data Arrived at EDR: 10/30/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 44

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/30/2018
Next Scheduled EDR Contact: 02/11/2019
Data Release Frequency: Quarterly

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 12/19/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfieds Sites Listing

A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 09/24/2018
Date Data Arrived at EDR: 09/25/2018
Date Made Active in Reports: 10/15/2018
Number of Days to Update: 20

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 12/21/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 12/17/2018
Date Data Arrived at EDR: 12/18/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 24

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 12/18/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 10/25/2018
Next Scheduled EDR Contact: 02/11/2019
Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/12/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 34

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 09/28/2018
Date Made Active in Reports: 11/01/2018
Number of Days to Update: 34

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 08/07/2018
Next Scheduled EDR Contact: 02/25/2019
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 10/25/2018
Next Scheduled EDR Contact: 02/11/2019
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 10/22/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 11/02/2018
Next Scheduled EDR Contact: 02/11/2019
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 09/21/2018
Date Data Arrived at EDR: 09/21/2018
Date Made Active in Reports: 11/09/2018
Number of Days to Update: 49

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/26/2018
Next Scheduled EDR Contact: 03/11/2019
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 10/29/2018
Date Data Arrived at EDR: 10/30/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 44

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/30/2018
Next Scheduled EDR Contact: 02/11/2019
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/12/2018
Date Made Active in Reports: 08/06/2018
Number of Days to Update: 55

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CERS HAZ WASTE: CERS HAZ WASTE

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

Date of Government Version: 10/22/2018
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/30/2018
Number of Days to Update: 38

Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 10/23/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Quarterly

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/21/2018
Date Data Arrived at EDR: 09/21/2018
Date Made Active in Reports: 11/09/2018
Number of Days to Update: 49

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/26/2018
Next Scheduled EDR Contact: 03/11/2019
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 12/04/2018
Date Data Arrived at EDR: 12/06/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 8

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 11/26/2018
Next Scheduled EDR Contact: 03/11/2019
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing

Aboveground storage tank sites

Date of Government Version: 09/11/2018
Date Data Arrived at EDR: 09/12/2018
Date Made Active in Reports: 10/11/2018
Number of Days to Update: 29

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 11/01/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Varies

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CERS TANKS: California Environmental Reporting System (CERS) Tanks

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 10/22/2018
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/30/2018
Number of Days to Update: 38

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 10/23/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Quarterly

Local Land Records

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 11/29/2018
Date Data Arrived at EDR: 12/04/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 38

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/29/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 12/12/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 12/28/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 12/03/2018
Date Data Arrived at EDR: 12/05/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 37

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 12/05/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 03/26/2018
Date Data Arrived at EDR: 03/27/2018
Date Made Active in Reports: 06/08/2018
Number of Days to Update: 73

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 01/08/2019
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 04/06/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 51

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/03/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015
Date Data Arrived at EDR: 07/08/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 97

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 11/19/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 01/11/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 01/11/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63
Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 11/16/2018
Next Scheduled EDR Contact: 02/25/2019
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 08/31/2018
Date Data Arrived at EDR: 09/25/2018
Date Made Active in Reports: 11/09/2018
Number of Days to Update: 45
Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 12/21/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88
Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 11/05/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73
Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 11/09/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/21/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 198
Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 12/21/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 01/10/2018
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 2

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 11/16/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 10/24/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 12/12/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 14

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 12/28/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 10/26/2018
Date Data Arrived at EDR: 11/06/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 66

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 10/23/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 08/13/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/09/2018
Number of Days to Update: 36
Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 12/28/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Quarterly

PADS: PCB Activity Database System
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 09/14/2018
Date Data Arrived at EDR: 10/11/2018
Date Made Active in Reports: 12/07/2018
Number of Days to Update: 57
Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 01/11/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/30/2016
Date Data Arrived at EDR: 09/08/2016
Date Made Active in Reports: 10/21/2016
Number of Days to Update: 43
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 10/11/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 12/05/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 12/03/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 05/24/2017
Date Data Arrived at EDR: 11/30/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 15
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 10/26/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 10/02/2018
Date Data Arrived at EDR: 10/03/2018
Date Made Active in Reports: 11/09/2018
Number of Days to Update: 37
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 01/03/2019
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 10/30/2018
Next Scheduled EDR Contact: 02/11/2019
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 09/30/2018
Date Data Arrived at EDR: 10/12/2018
Date Made Active in Reports: 12/07/2018
Number of Days to Update: 56

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 11/21/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 11/01/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 06/23/2017
Date Data Arrived at EDR: 10/11/2017
Date Made Active in Reports: 11/03/2017
Number of Days to Update: 23

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 12/14/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 12/12/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 12/28/2018
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/01/2018
Date Data Arrived at EDR: 08/29/2018
Date Made Active in Reports: 10/05/2018
Number of Days to Update: 37

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 11/30/2018
Next Scheduled EDR Contact: 03/11/2019
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/30/2018
Next Scheduled EDR Contact: 03/11/2019
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/30/2018
Next Scheduled EDR Contact: 03/11/2019
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 09/10/2018
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 12/19/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 11/15/2018
Date Data Arrived at EDR: 12/05/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 37

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 01/08/2019
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 09/02/2018
Date Data Arrived at EDR: 09/05/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 9

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 07/26/2018
Date Made Active in Reports: 10/05/2018
Number of Days to Update: 71

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 11/30/2018
Next Scheduled EDR Contact: 03/11/2019
Data Release Frequency: Varies

UXO: Unexploded Ordnance Sites
A listing of unexploded ordnance site locations

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 06/19/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 87
Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 01/14/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing
This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 08/22/2018
Date Data Arrived at EDR: 08/22/2018
Date Made Active in Reports: 10/05/2018
Number of Days to Update: 44
Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 11/19/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan
Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6
Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 09/24/2018
Date Data Arrived at EDR: 09/25/2018
Date Made Active in Reports: 10/16/2018
Number of Days to Update: 21
Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 12/21/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing
list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 08/28/2018
Date Data Arrived at EDR: 08/30/2018
Date Made Active in Reports: 11/01/2018
Number of Days to Update: 63
Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 02/25/2019
Data Release Frequency: Varies

CUPA SAN FRANCISCO CO: CUPA Facility Listing
Cupa facilities

Date of Government Version: 09/11/2018
Date Data Arrived at EDR: 09/12/2018
Date Made Active in Reports: 09/19/2018
Number of Days to Update: 7
Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 11/01/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Varies

DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 11/13/2018
Date Data Arrived at EDR: 12/04/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 42

Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 11/29/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Varies

DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 10/04/2018
Date Data Arrived at EDR: 10/05/2018
Date Made Active in Reports: 11/01/2018
Number of Days to Update: 27

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 11/26/2018
Next Scheduled EDR Contact: 03/11/2019
Data Release Frequency: Varies

DRYCLEANERS: Cleaner Facilities
A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 08/30/2018
Date Data Arrived at EDR: 09/27/2018
Date Made Active in Reports: 11/01/2018
Number of Days to Update: 35

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 11/29/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Annually

EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/20/2018
Date Made Active in Reports: 08/06/2018
Number of Days to Update: 47

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 12/21/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: Varies

ENF: Enforcement Action Listing
A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 11/01/2018
Date Data Arrived at EDR: 11/02/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 41

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 11/01/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 10/19/2018
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/30/2018
Number of Days to Update: 38

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 10/22/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing
A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 11/18/2018
Date Data Arrived at EDR: 11/19/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 53

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 11/07/2018
Next Scheduled EDR Contact: 02/25/2019
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 10/10/2018
Date Made Active in Reports: 11/16/2018
Number of Days to Update: 37

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Annually

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 11/19/2018
Date Data Arrived at EDR: 11/19/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 53

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 11/19/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 11/19/2018
Date Data Arrived at EDR: 11/19/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 53

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/19/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 10/09/2018
Date Data Arrived at EDR: 10/10/2018
Date Made Active in Reports: 11/16/2018
Number of Days to Update: 37

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 01/08/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing
A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/12/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 34
Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 11/09/2018
Date Data Arrived at EDR: 12/05/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 37
Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 12/05/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Varies

NPDES: NPDES Permits Listing
A listing of NPDES permits, including stormwater.

Date of Government Version: 11/12/2018
Date Data Arrived at EDR: 11/14/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 29
Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 11/14/2018
Next Scheduled EDR Contact: 02/25/2019
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing
A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 12/03/2018
Date Data Arrived at EDR: 12/05/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 37
Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 12/05/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Quarterly

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/12/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 34
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 09/19/2018
Date Data Arrived at EDR: 09/20/2018
Date Made Active in Reports: 10/19/2018
Number of Days to Update: 29
Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: No Update Planned

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 04/27/2018
Date Data Arrived at EDR: 06/13/2018
Date Made Active in Reports: 07/17/2018
Number of Days to Update: 34
Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 12/14/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

UIC GEO: Underground Injection Control Sites (GEOTRACKER)
Underground control injection sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35
Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 05/08/2018
Date Data Arrived at EDR: 07/11/2018
Date Made Active in Reports: 09/13/2018
Number of Days to Update: 64
Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 01/11/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Varies

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9
Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 11/14/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Quarterly

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)
Military privatized sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)
Projects sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

CIWQS: California Integrated Water Quality System
The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 12/03/2018
Date Data Arrived at EDR: 12/04/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 38

Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 12/04/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Varies

CERS: CalEPA Regulated Site Portal Data

The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 10/22/2018
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/30/2018
Number of Days to Update: 38

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 10/23/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

WIP: Well Investigation Program Case List

Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 12/19/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)

Non-Case Information sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)

Other Oil & Gas Projects sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)

Produced water ponds sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)

Sampling point - public sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)
Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

WDR: Waste Discharge Requirements Listing
In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Date of Government Version: 09/10/2018
Date Data Arrived at EDR: 09/12/2018
Date Made Active in Reports: 10/09/2018
Number of Days to Update: 27
Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Quarterly

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A
Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations
EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A
Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

CS ALAMEDA: Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 10/05/2018
Date Data Arrived at EDR: 10/10/2018
Date Made Active in Reports: 11/01/2018
Number of Days to Update: 22

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 10/05/2018
Date Data Arrived at EDR: 10/10/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 23

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/24/2047
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA AMADOR: CUPA Facility List
Cupa Facility List

Date of Government Version: 07/01/2018
Date Data Arrived at EDR: 07/24/2018
Date Made Active in Reports: 08/20/2018
Number of Days to Update: 27

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 01/04/2019
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA BUTTE: CUPA Facility Listing
Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 10/31/2018
Date Data Arrived at EDR: 12/04/2018
Date Made Active in Reports: 12/12/2018
Number of Days to Update: 8

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 12/21/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA COLUSA: CUPA Facility List
Cupa facility list.

Date of Government Version: 05/23/2018
Date Data Arrived at EDR: 05/24/2018
Date Made Active in Reports: 07/13/2018
Number of Days to Update: 50

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 11/14/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

SL CONTRA COSTA: Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 11/26/2018
Date Data Arrived at EDR: 11/30/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 46

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 10/29/2018
Next Scheduled EDR Contact: 02/11/2019
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA DEL NORTE: CUPA Facility List
Cupa Facility list

Date of Government Version: 08/16/2018
Date Data Arrived at EDR: 11/06/2018
Date Made Active in Reports: 11/14/2018
Number of Days to Update: 8

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 10/25/2018
Next Scheduled EDR Contact: 02/11/2019
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA EL DORADO: CUPA Facility List
CUPA facility list.

Date of Government Version: 12/13/2018
Date Data Arrived at EDR: 12/18/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 28

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 11/16/2018
Next Scheduled EDR Contact: 02/11/2019
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA FRESNO: CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 10/16/2018
Date Data Arrived at EDR: 10/18/2018
Date Made Active in Reports: 11/14/2018
Number of Days to Update: 27

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 12/26/2018
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA GLENN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 10/22/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

HUMBOLDT COUNTY:

CUPA HUMBOLDT: CUPA Facility List
CUPA facility list.

Date of Government Version: 12/11/2018
Date Data Arrived at EDR: 12/13/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 33

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 11/19/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA IMPERIAL: CUPA Facility List
Cupa facility list.

Date of Government Version: 10/22/2018
Date Data Arrived at EDR: 10/25/2018
Date Made Active in Reports: 11/14/2018
Number of Days to Update: 20

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 10/22/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

INYO COUNTY:

CUPA INYO: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 72

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 11/14/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Varies

KERN COUNTY:

UST KERN: Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 11/02/2018
Date Data Arrived at EDR: 11/07/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 37

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 11/01/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA KINGS: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 11/21/2018
Date Data Arrived at EDR: 11/27/2018
Date Made Active in Reports: 12/12/2018
Number of Days to Update: 15

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 11/14/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List
Cupa facility list

Date of Government Version: 11/07/2018
Date Data Arrived at EDR: 11/08/2018
Date Made Active in Reports: 11/14/2018
Number of Days to Update: 6

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 01/14/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA LASSEN: CUPA Facility List
Cupa facility list

Date of Government Version: 10/15/2018
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/14/2018
Number of Days to Update: 22

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 10/22/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

LOS ANGELES COUNTY:

AOCONCERN: Key Areas of Concerns in Los Angeles County
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office. Date of Government Version: 3/30/2009 Exide Site area is a cleanup plan of lead-impacted soil surrounding the former Exide Facility as designated by the DTSC. Date of Government Version: 7/17/2017

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: N/A
Telephone: N/A
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: No Update Planned

HMS LOS ANGELES: HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 09/20/2018
Date Data Arrived at EDR: 10/12/2018
Date Made Active in Reports: 11/16/2018
Number of Days to Update: 35

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Semi-Annually

LF LOS ANGELES: List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 10/15/2018
Date Data Arrived at EDR: 10/16/2018
Date Made Active in Reports: 11/16/2018
Number of Days to Update: 31

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 01/15/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Varies

LF LOS ANGELES CITY: City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2018
Date Data Arrived at EDR: 05/01/2018
Date Made Active in Reports: 05/14/2018
Number of Days to Update: 13

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 01/15/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Varies

SITE MIT LOS ANGELES: Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 07/01/2018
Date Data Arrived at EDR: 10/16/2018
Date Made Active in Reports: 11/16/2018
Number of Days to Update: 31

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 01/14/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Annually

UST EL SEGUNDO: City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 01/14/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Semi-Annually

UST LONG BEACH: City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/09/2017
Date Data Arrived at EDR: 03/10/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 54

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 10/22/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Annually

UST TORRANCE: City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 10/02/2018
Date Data Arrived at EDR: 10/05/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 28

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA MADERA: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 11/26/2018
Date Data Arrived at EDR: 11/27/2018
Date Made Active in Reports: 12/12/2018
Number of Days to Update: 15

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 11/14/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Varies

MARIN COUNTY:

UST MARIN: Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 29

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 01/14/2019
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

Date of Government Version: 08/29/2018
Date Data Arrived at EDR: 08/31/2018
Date Made Active in Reports: 09/19/2018
Number of Days to Update: 19

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 01/09/2019
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Varies

MONO COUNTY:

CUPA MONO: CUPA Facility List
CUPA Facility List

Date of Government Version: 07/18/2018
Date Data Arrived at EDR: 09/04/2018
Date Made Active in Reports: 09/19/2018
Number of Days to Update: 15

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 12/06/2018
Next Scheduled EDR Contact: 03/11/2019
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA MONTEREY: CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 10/29/2018
Date Data Arrived at EDR: 11/01/2018
Date Made Active in Reports: 11/16/2018
Number of Days to Update: 15

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 12/27/2018
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Varies

NAPA COUNTY:

LUST NAPA: Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 11/21/2018
Next Scheduled EDR Contact: 03/11/2019
Data Release Frequency: No Update Planned

UST NAPA: Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 11/28/2018
Date Data Arrived at EDR: 11/30/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 14

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 11/26/2018
Next Scheduled EDR Contact: 03/11/2019
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List
CUPA facility list.

Date of Government Version: 11/06/2018
Date Data Arrived at EDR: 11/08/2018
Date Made Active in Reports: 11/14/2018
Number of Days to Update: 6

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 10/25/2018
Next Scheduled EDR Contact: 02/11/2019
Data Release Frequency: Varies

ORANGE COUNTY:

IND_SITE ORANGE: List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 10/04/2018
Date Data Arrived at EDR: 11/14/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 29

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/05/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 10/04/2018
Date Data Arrived at EDR: 11/14/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 29

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/05/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Quarterly

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 10/04/2018
Date Data Arrived at EDR: 11/06/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 38

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/06/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Quarterly

PLACER COUNTY:

MS PLACER: Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 11/29/2018
Date Data Arrived at EDR: 12/04/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 38

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 11/29/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 07/19/2018
Date Data Arrived at EDR: 07/25/2018
Date Made Active in Reports: 09/05/2018
Number of Days to Update: 42

Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 10/22/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

RIVERSIDE COUNTY:

LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 10/10/2018
Date Data Arrived at EDR: 10/12/2018
Date Made Active in Reports: 10/16/2018
Number of Days to Update: 4

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/17/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: Quarterly

UST RIVERSIDE: Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 10/10/2018
Date Data Arrived at EDR: 10/12/2018
Date Made Active in Reports: 11/05/2018
Number of Days to Update: 24
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/17/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS SACRAMENTO: Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 08/03/2018
Date Data Arrived at EDR: 10/02/2018
Date Made Active in Reports: 11/01/2018
Number of Days to Update: 30
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 01/04/2019
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Quarterly

ML SACRAMENTO: Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 08/23/2018
Date Data Arrived at EDR: 10/02/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 31
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 12/28/2018
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA SAN BENITO: CUPA Facility List
Cupa facility list

Date of Government Version: 11/15/2018
Date Data Arrived at EDR: 11/16/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 27
Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 11/14/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

PERMITS SAN BERNARDINO: Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 11/28/2018
Date Data Arrived at EDR: 11/30/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 42
Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 11/05/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

HMMD SAN DIEGO: Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 12/03/2018
Date Data Arrived at EDR: 12/05/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 37

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 12/05/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Quarterly

LF SAN DIEGO: Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 04/18/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 56

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 10/22/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

SAN DIEGO CO LOP: Local Oversight Program Listing

A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 10/22/2018
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/30/2018
Number of Days to Update: 38

Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 10/22/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

SAN DIEGO CO. SAM: Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 11/29/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

LUST SAN FRANCISCO: Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 11/01/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Quarterly

UST SAN FRANCISCO: Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/05/2018
Date Data Arrived at EDR: 11/06/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 38

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 11/01/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

UST SAN JOAQUIN: San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 15

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA SAN LUIS OBISPO: CUPA Facility List
Cupa Facility List.

Date of Government Version: 11/14/2018
Date Data Arrived at EDR: 11/15/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 28

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 11/14/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Varies

SAN MATEO COUNTY:

BI SAN MATEO: Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 12/03/2018
Date Data Arrived at EDR: 12/12/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 34

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Annually

LUST SAN MATEO: Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 09/18/2018
Date Data Arrived at EDR: 09/20/2018
Date Made Active in Reports: 10/17/2018
Number of Days to Update: 27

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/10/2018
Next Scheduled EDR Contact: 12/24/2018
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA SANTA BARBARA: CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 11/14/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Varies

SANTA CLARA COUNTY:

CUPA SANTA CLARA: Cupa Facility List
Cupa facility list

Date of Government Version: 11/16/2018
Date Data Arrived at EDR: 11/16/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 27

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 11/14/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Varies

HIST LUST SANTA CLARA: HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LUST SANTA CLARA: LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 11/21/2018
Next Scheduled EDR Contact: 03/11/2019
Data Release Frequency: Annually

SAN JOSE HAZMAT: Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 11/01/2018
Date Data Arrived at EDR: 11/06/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 38

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 11/01/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA SANTA CRUZ: CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 11/14/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA SHASTA: CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 11/14/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Varies

SOLANO COUNTY:

LUST SOLANO: Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 11/29/2018
Date Data Arrived at EDR: 12/04/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 38

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 11/29/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Quarterly

UST SOLANO: Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 11/29/2018
Date Data Arrived at EDR: 12/04/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 10

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 11/29/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Quarterly

SONOMA COUNTY:

CUPA SONOMA: Cupa Facility List
Cupa Facility list

Date of Government Version: 12/21/2018
Date Data Arrived at EDR: 12/27/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 19

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 12/19/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Varies

LUST SONOMA: Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 10/02/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 10/25/2018
Number of Days to Update: 21

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA STANISLAUS: CUPA Facility List
Cupa facility list

Date of Government Version: 12/11/2018
Date Data Arrived at EDR: 12/13/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 33

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 12/13/2018
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Varies

SUTTER COUNTY:

UST SUTTER: Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 09/18/2018
Date Data Arrived at EDR: 09/20/2018
Date Made Active in Reports: 10/25/2018
Number of Days to Update: 35

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 11/29/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA TEHAMA: CUPA Facility List
Cupa facilities

Date of Government Version: 12/13/2018
Date Data Arrived at EDR: 12/18/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 28

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List
Cupa facility list

Date of Government Version: 10/22/2018
Date Data Arrived at EDR: 10/25/2018
Date Made Active in Reports: 11/14/2018
Number of Days to Update: 20

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 10/22/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

TULARE COUNTY:

CUPA TULARE: CUPA Facility List
Cupa program facilities

Date of Government Version: 12/26/2018
Date Data Arrived at EDR: 12/27/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 19

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 11/29/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA TUOLUMNE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 10/22/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

VENTURA COUNTY:

BWT VENTURA: Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 10/25/2018
Date Made Active in Reports: 11/30/2018
Number of Days to Update: 36

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 10/22/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Quarterly

LF VENTURA: Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 12/26/2018
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Annually

LUST VENTURA: Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 11/07/2018
Next Scheduled EDR Contact: 02/25/2019
Data Release Frequency: Quarterly

MED WASTE VENTURA: Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 09/25/2018
Date Data Arrived at EDR: 10/25/2018
Date Made Active in Reports: 11/30/2018
Number of Days to Update: 36
Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 10/22/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Quarterly

UST VENTURA: Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 11/26/2018
Date Data Arrived at EDR: 12/12/2018
Date Made Active in Reports: 01/16/2019
Number of Days to Update: 35
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Quarterly

YOLO COUNTY:

UST YOLO: Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 12/26/2018
Date Data Arrived at EDR: 01/03/2019
Date Made Active in Reports: 01/16/2019
Number of Days to Update: 13
Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 12/26/2018
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 11/05/2018
Date Data Arrived at EDR: 11/07/2018
Date Made Active in Reports: 11/14/2018
Number of Days to Update: 7
Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 10/25/2018
Next Scheduled EDR Contact: 02/11/2019
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 11/12/2018
Date Data Arrived at EDR: 11/14/2018
Date Made Active in Reports: 12/04/2018
Number of Days to Update: 20

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 11/14/2018
Next Scheduled EDR Contact: 02/25/2019
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 07/13/2018
Date Made Active in Reports: 08/01/2018
Number of Days to Update: 19

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 10/01/2018
Date Data Arrived at EDR: 10/31/2018
Date Made Active in Reports: 12/20/2018
Number of Days to Update: 50

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 10/31/2018
Next Scheduled EDR Contact: 02/11/2019
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/27/2018
Number of Days to Update: 35

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 01/11/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 02/23/2018
Date Made Active in Reports: 04/09/2018
Number of Days to Update: 45

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 11/16/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/15/2018
Date Made Active in Reports: 07/09/2018
Number of Days to Update: 24

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 12/07/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: PennWell Corporation
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data
Source: PennWell Corporation
This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

© 2015 TomTom North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

VACANT LAND
NOT REPORTED
EL DORADO HILLS, CA 95762

TARGET PROPERTY COORDINATES

Latitude (North):	38.662215 - 38° 39' 43.97''
Longitude (West):	121.056446 - 121° 3' 23.21''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	669104.5
UTM Y (Meters):	4280878.5
Elevation:	758 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5629046 CLARKSVILLE, CA
Version Date:	2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

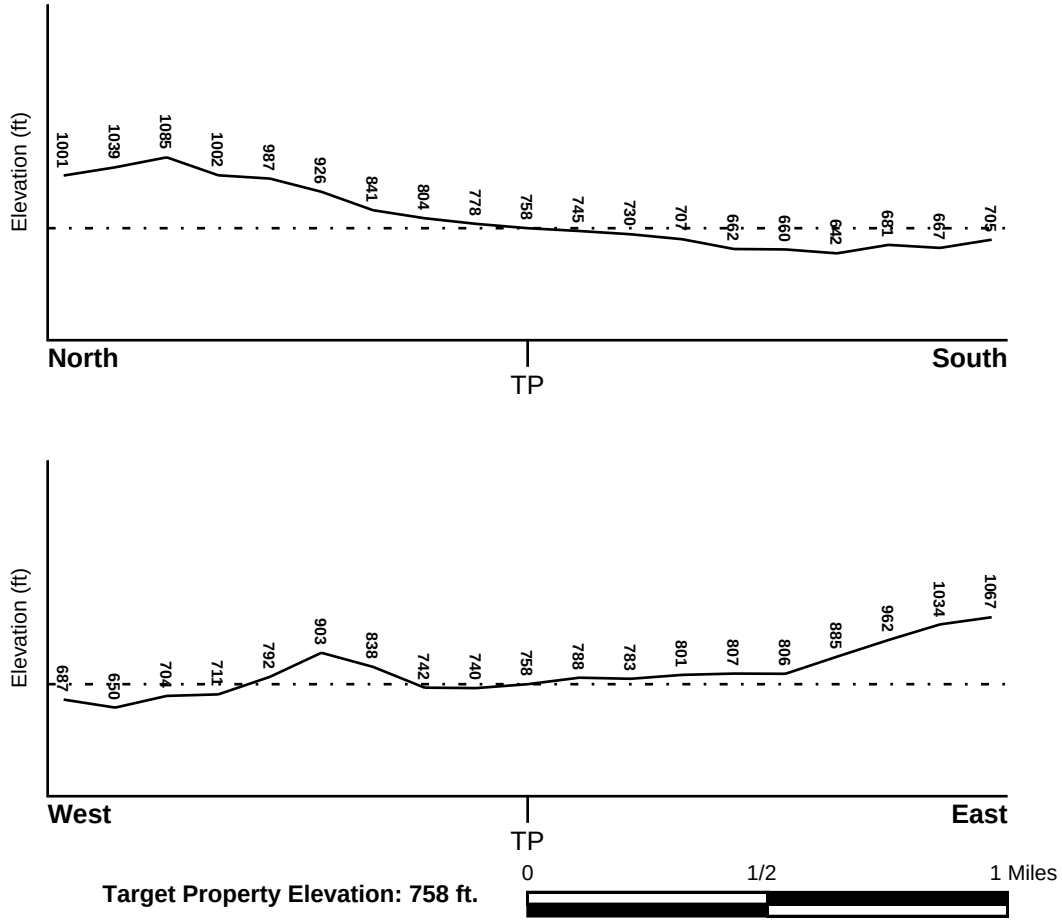
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06017C0725E	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
06067C0140H	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
CLARKSVILLE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

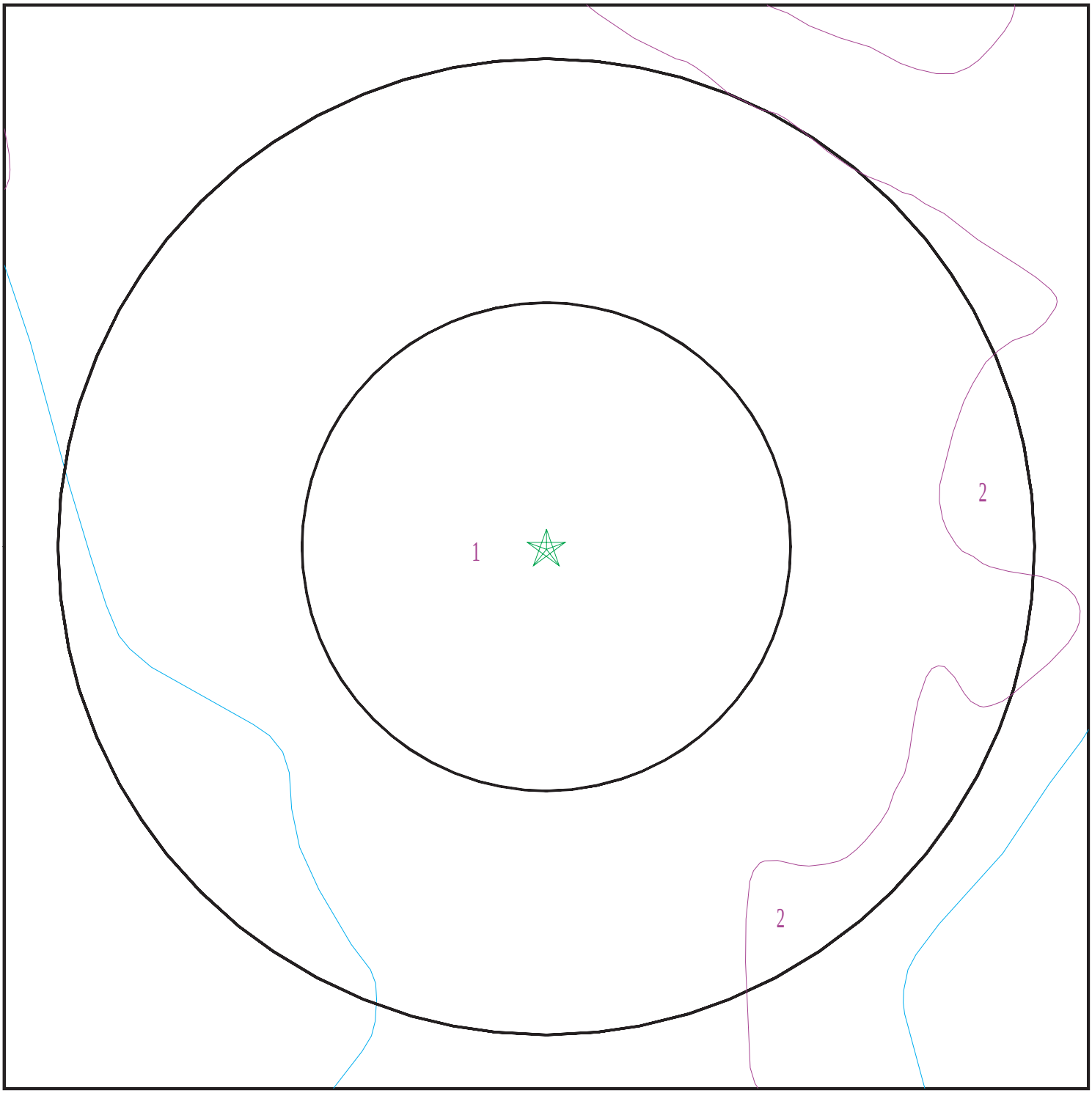
Era:	Mesozoic
System:	Lower Jurassic and Upper Triassic
Series:	Lower Mesozoic
Code:	lMze *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Eugeosynclinal Deposits

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 5537129.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Vacant Land	CLIENT:	Kleinfelder, Inc.
ADDRESS:	Not Reported El Dorado Hills CA 95762	CONTACT:	Lindsey Dandridge-Perry
LAT/LONG:	38.662215 / 121.056446	INQUIRY #:	5537129.2s
		DATE:	January 17, 2019 12:57 pm

Copyright © 2019 EDR, Inc. © 2015 TomTom Rel. 2015.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: AUBURN

Soil Surface Texture: silt loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 48 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	14 inches	silt loam	Not reported	Not reported	Max: Min:	Max: Min:
2	14 inches	18 inches	unweathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 2

Soil Component Name: AUBURN

Soil Surface Texture: silt loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 48 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	14 inches	silt loam	Not reported	Not reported	Max: Min:	Max: Min:
2	14 inches	18 inches	unweathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

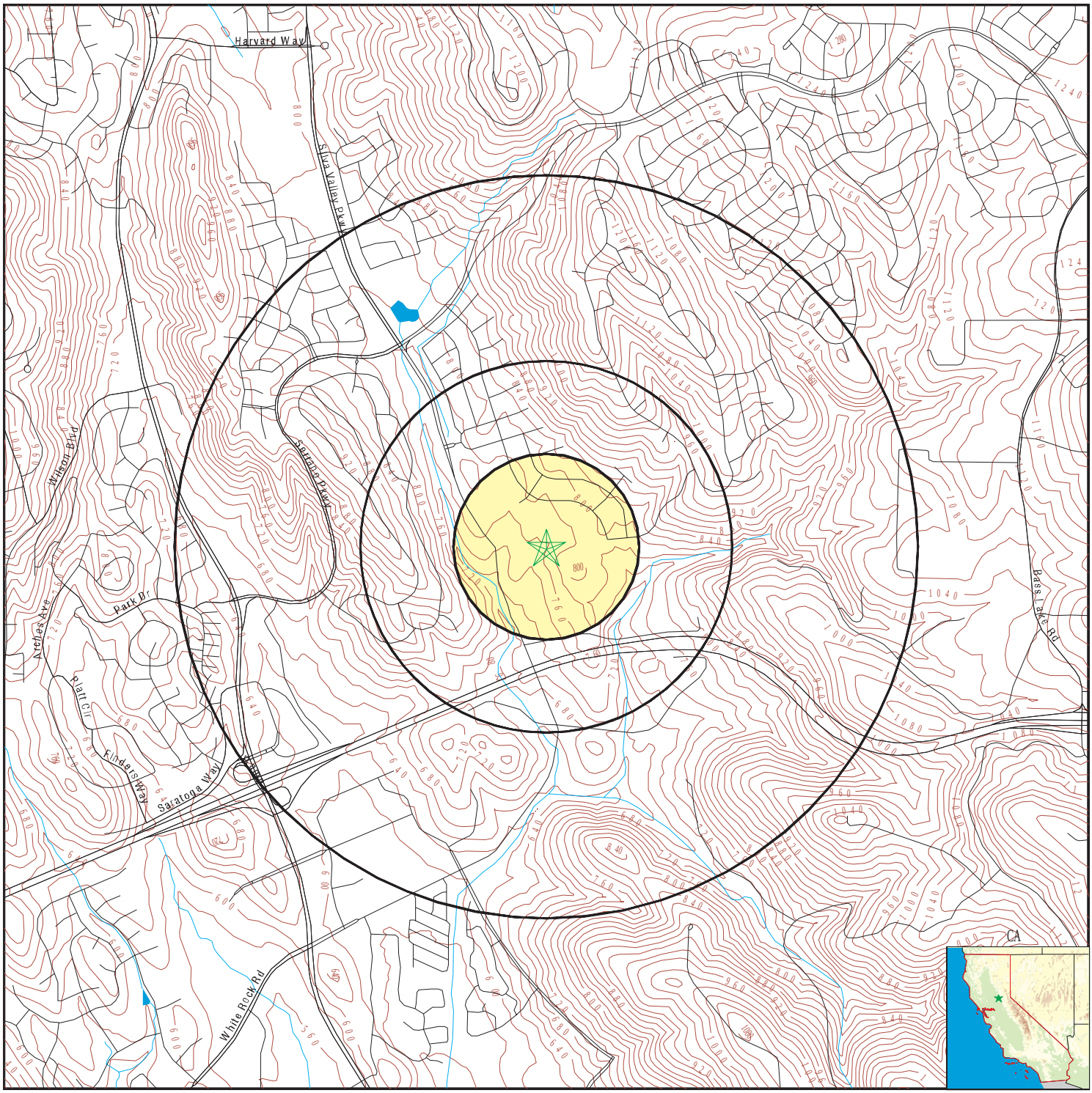
Note: PWS System location is not always the same as well location.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 5537129.2s



County Boundary
Major Roads
Contour Lines
Earthquake Fault Lines
Earthquake epicenter, Richter 5 or greater
Water Wells
Public Water Supply Wells
Cluster of Multiple Icons

0 1/4 1/2 1 Miles

Groundwater Flow Direction
GI Indeterminate Groundwater Flow at Location
GV Groundwater Flow Varies at Location
HD Closest Hydrogeological Data
Oil, gas or related wells

N

SITE NAME:	Vacant Land	CLIENT:	Kleinfelder, Inc.
ADDRESS:	Not Reported	CONTACT:	Lindsey Dandridge-Perry
	El Dorado Hills CA 95762	INQUIRY #:	5537129.2s
LAT/LONG:	38.662215 / 121.056446	DATE:	January 17, 2019 12:57 pm

Copyright © 2019 EDR, Inc. © 2015 TomTom Rel. 2015.

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
95762	31	3

Federal EPA Radon Zone for EL DORADO County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for EL DORADO COUNTY, CA

Number of sites tested: 27

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.844 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	3.400 pCi/L	50%	50%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779
Oil and Gas well locations in the state.

California Earthquake Fault Lines
Source: California Division of Mines and Geology
The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

RADON

State Database: CA Radon
Source: Department of Public Health
Telephone: 916-210-8558
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

© 2015 TomTom North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

APPENDIX C
USER PROVIDED AND REGULATORY AGENCY DOCUMENTATION

Copyright 2019 Kleinfelder

Vacant Land
Not Reported
El Dorado Hills, CA 95762

Inquiry Number: 5537129.7S
January 24, 2019

EDR Environmental Lien and AUL Search

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Environmental Lien and AUL Search

The EDR Environmental LienSearch Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering controls and institutional controls.

A network of professional, trained researchers, following established procedures, uses client supplied address information to:

- search for parcel information and/or legal description;
- search for ownership information;
- research official land title documents recorded at jurisdictional agencies such as recorders' offices, registries of deeds, county clerks' offices, etc.;
- access a copy of the deed;
- search for environmental encumbering instrument(s) associated with the deed;
- provide a copy of any environmental encumbrance(s) based upon a review of key words in the instrument(s) (title, parties involved, and description); and
- provide a copy of the deed or cite documents reviewed.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This report was prepared for the use of Environmental Data Resources, Inc., and Discovery Research Solutions, LLC exclusively. This report is neither a guarantee of title, a commitment to insure, or a policy of title insurance. **NO WARRANTY, EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WTH THIS REPORT**. Environmental Data Resources, Inc. (EDR) and Discovery Research Solutions, LLC exclusively specifically disclaim the making of any such warranties, including without limitation, merchantability or fitness for a particular use or purpose. The information contained in this report is retrieved as it is recorded from the various agencies that make it available. The total liability is limited to the fee paid for this report.

Copyright 2016 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EDR Environmental Lien and AUL Search

TARGET PROPERTY INFORMATION

ADDRESS

VACANT LAND
NOT REPORTED
EL DORADO HILLS, CA 95762

RESEARCH SOURCE

Source 1: Recorder
El Dorado County, California

Source 2: Assessor
El Dorado County, California

PROPERTY INFORMATION

Deed 1:

Type of Deed: Grant Deed

Title is vested in: EDH 52, a California General Partnership (as to an undivided 84.20% interest)

Title received from: SKK Exchange, Inc., a California corporation

Deed Dated: 03/29/1990

Deed Recorded: 03/30/1990

Book: 3322

Page: 73

Instrument: 20226

Deed 2:

Type of Deed: Grant Deed

Title is vested in: EDH 52, a California General Partnership (as to an undivided 15.80% interest)

Title received from: John K. Tsakopoulos

Deed Dated: 03/29/1990

Deed Recorded: 03/30/1990

Book: 3322

Page: 79

Instrument: 20229

Legal Description: All that certain piece or parcel of land containing 48.29 acres, more or less, being a portion of Section 1, Township 9 North, Range 8 East, M.D.M., situate and lying in the County of El Dorado, State of California.

Legal Current Owner: EDH 52, a California General Partnership

Property Identifiers: 122-720-015-000

EDR Environmental Lien and AUL Search

ENVIRONMENTAL LIEN

Environmental Lien: Found ☐ Not Found ☒

If found:

1st Party:

2nd Party:

Dated:

Recorded:

Book:

Page:

Docket:

Volume:

Instrument:

Comments:

Miscellaneous:

OTHER ACTIVITY AND USE LIMITATIONS (AULs)

Other AUL's: Found ☐ Not Found ☒

If found:

1st Party:

2nd Party:

Dated:

Recorded:

Book:

Page:

Docket:

Volume:

Instrument:

Comments:

Miscellaneous:

DEED EXHIBIT

EL DORADO COUNTY

20226

OFFICIAL RECORDS
ELDORADO CO. CALIF.
RECORDED BY:

Placer Title Company

MAR 30 2 47 PM '90

DOROTHY CARR
COUNTY RECORDER

7400 (2)

4

RECORDING REQUESTED BY

And When Recorded Mail This Deed and, Unless Otherwise Shown Below, Mail Tax Statements To:

NAME EDH 52 PARTNERSHIP
STREET ADDRESS 7700 College Town Dr.,#101
CITY, STATE ZIP Sacramento, CA 95826

Title Order No. 605821 Escrow No. _____

PCOS FILED

A.P.#86-070-02

SPACE ABOVE THIS LINE FOR RECORDER'S USE

DOCUMENTARY TRANSFER TAX $ XXXXXXXX 1,731.40

-X- COMPUTED ON FULL VALUE OF PROPERTY CONVEYED,

_____ OR COMPUTED ON FULL VALUE LESS LIENS AND ENCUMBRANCES REMAINING AT TIME OF SALE.

THE UNDERSIGNED GRANTOR DECLARES

Signature of Declarant or Agent determining tax. Firm Name

GRANT DEED

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

SKK EXCHANGE, INC., a California corporation

hereby GRANT(S) to

EDH 52, a California General Partnership

as to an undivided 84.20% interest in and to

the following described real property in the county of EL DORADO, state of California:

SEE EXHIBIT "A" ATTACHED HERETO FOR LEGAL DESCRIPTION

Dated March 29, 1990

SKK EXCHANGE, INC.,
a California corporation

By _____

STATE of CALIFORNIA ss.

COUNTY of.....

On this_____ day of_____, in the year_____

_____, before me,

_____, a Notary Public, State of California, duly commissioned and sworn, personally appeared_____

_____

personally known to me (or proved to me on the basis of satisfactory evidence) to be the person.... whose name_____

_____ subscribed to this instrument, and acknowledged that.... he.... executed it.

IN WITNESS WHEREOF I have hereunto set my hand and affixed my official seal in the_____County of _____ on the date set forth above in this certificate.

_____
Notary Public, State of California

My commission expires_____

(Space above for official notarial seal)

MAIL TAX STATEMENTS TO PARTY SHOWN ON FOLLOWING LINE; IF NO PARTY SO SHOWN, MAIL AS DIRECTED ABOVE

Name | Street Address | City & State

FORM 100

EL DORADO COUNTY

EXHIBIT "A"

BEGINNING at the West quarter corner of Section 1, Township 9 North, Range 8 East, M.D.B.&M.; running thence East along the North boundary of the Northwest quarter of Southwest quarter of said Section to the Northeast corner thereof; thence South 20 chains to the Southeast corner of the Northwest quarter of the Southwest quarter of said Section1; thence along the boundary of the land claimed by F.S. Tong, with the following courses and distances: West along the North boundary of the Southwest quarter of Southwest quarter of said Section 1, .38 chains; thence South 15° 26' East 20.78 chains to an intersection with the South boundary of said Section 1 at a point 24.20 chains East of the Southwest corner of said Section which measured along the South line thereof; thence West along the Southerly boundary of said Section 1, 7.84 chains to the Southeast corner of the land claimed by Martha Ella Joerger in said Section 1; thence along the boundary of the land claimed by said Martha Ella Joerger with the following courses and distances: North 27 West 18.30 chains; thence South 16 West 6.20 chains; thence North 54 West 1.20 chains; thence North 31 West 7.80 chains; thence West .80 chains to an intersection with the Westerly boundary of said Section 1; thence North along said Westerly boundary of said Section 1, 22.20 chains to the point of beginning.

EXCEPTING THEREFROM those portions conveyed to the State of California for freeway purposes by deeds recorded North 8, 1939 in book 175 page 12 Official Records for the old highway and recorded February 11, 1964 in book 676 page 229 Official Records for the new highway.

FURTHER EXCEPTING THEREFROM all that portion of said parcel lying Southerly of the North line of U.S. Highway 50, as granted to The State of California in deed recorded North 8, 1939 in Book 175 of Official Records, page 12.

CORPORATE ACKNOWLEDGMENT NO. 202

State of California } SS.
County of Sacramento

On this the 27th day of March 19 90, before me, [illegible],
the undersigned Notary Public, personally appeared

EL DORADO COUNTY

20229

RECORDING REQUESTED BY

OFFICIAL RECORDS
ELDORADO COUNTY, CALIF.
RECORDED BY

Placer Title Company

MAR 30 4 07 PM '90

And When Recorded Mail This Deed and, Unless Otherwise Shown Below, Mail Tax Statements To:

NAME
STREET ADDRESS EDH 52 PARTNERSHIP
7700 College Town Dr.,#101
CITY, STATE ZIP Sacramento, CA 95826

DOROTHY CARR
COUNTY RECORDER
7.00 (2)

Title Order No. _____ Escrow No. _____

SPACE ABOVE THIS LINE FOR RECORDER'S USE

A.P.#86-070-02

DOCUMENTARY TRANSFER TAX $330.00

X COMPUTED ON FULL VALUE OF PROPERTY CONVEYED,
_____ OR COMPUTED ON FULL VALUE LESS LIENS AND ENCUMBRANCES REMAINING AT TIME OF SALE.

PCOR FILED

THE UNDERSIGNED GRANTOR DECLARES

Signature of Declarant or Agent determining tax. Firm Name

GRANT DEED

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

JOHN K. TSAKOPOULOS

hereby GRANT(S) to

EDH 52, a California General Partnership, as to all of Grantor's undivided 15.80% interest in and to

the following described real property in the county of EL DORADO, state of California:

SEE EXHIBIT "A" ATTACHED HERETO FOR LEGAL DESCRIPTION

Dated March 29, 1990

STATE of CALIFORNIA
COUNTY of Sacramento ss.

On this 29th day of March, in the year 1990, before me, Sue Mapes, a Notary Public, State of California, duly commissioned and sworn, personally appeared John K. Tsakopoulos personally known to me (or proved to me on the basis of satisfactory evidence) to be the person.... whose name _____ subscribed to this instrument, and acknowledged that.... he.... executed it.

IN WITNESS WHEREOF I have hereunto set my hand and affixed my official seal in the State of California County of Sacramento on the date set forth above in this certificate.

Sue Mapes
Notary Public, State of California

My commission expires 5-29-90

John Tsakopoulos
JOHN K. TSAKOPOULOS

OFFICIAL SEAL
SUE MAPES
NOTARY PUBLIC - CALIFORNIA
SACRAMENTO COUNTY
My Comm. Expires May 29, 1990

(Space above for official notarial seal)

MAIL TAX STATEMENTS TO PARTY SHOWN ON FOLLOWING LINE; IF NO PARTY SO SHOWN, MAIL AS DIRECTED ABOVE

Name | Street Address | City & State

FORM 100

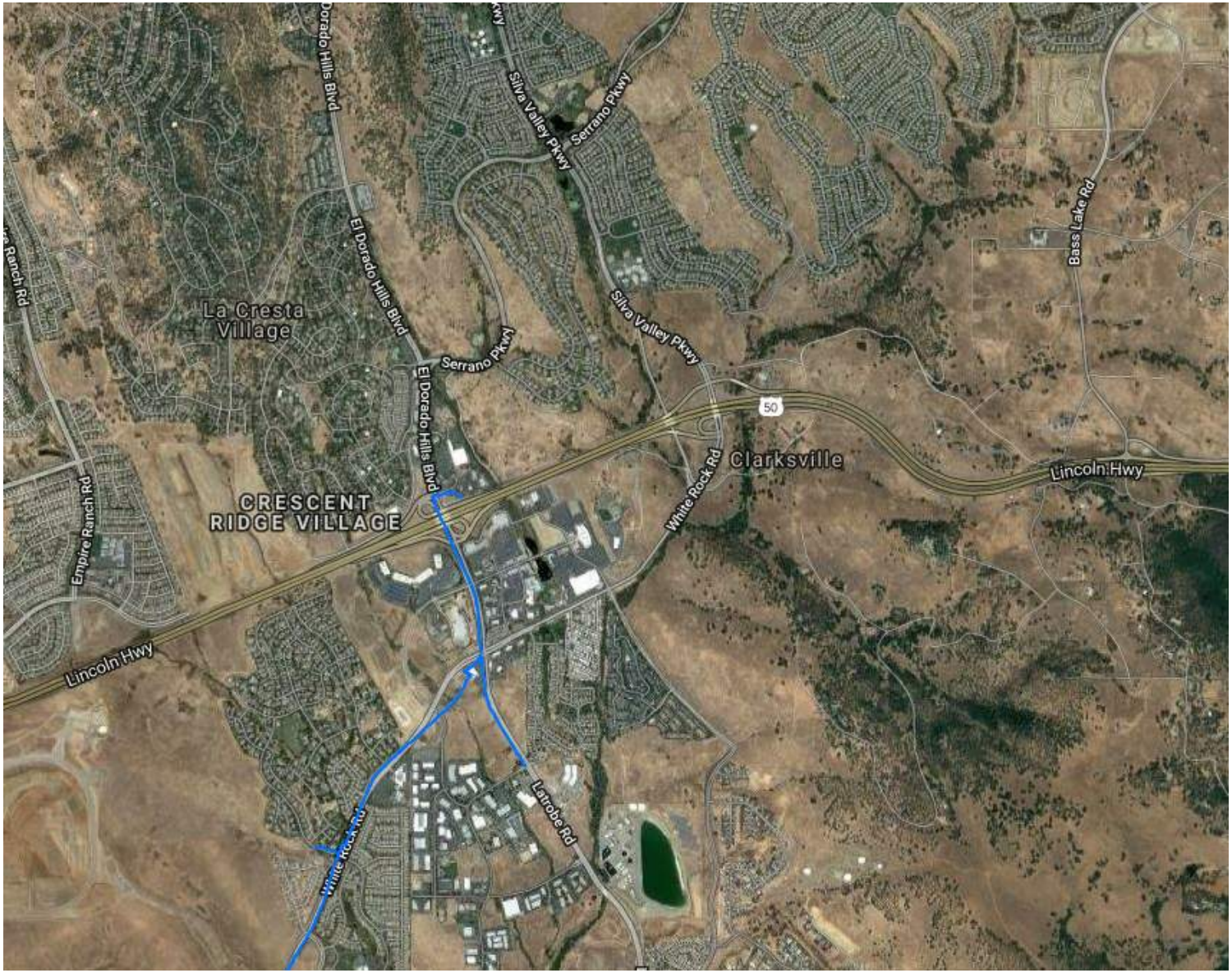
EXHIBIT "A"

BEGINNING at the West quarter corner of Section 1, Township 9 North, Range 8 East, M.D.B.&M.; running thence East along the North boundary of the Northwest quarter of Southwest quarter of said Section to the Northeast corner thereof; thence South 20 chains to the Southeast corner of the Northwest quarter of the Southwest quarter of said Section1; thence along the boundary of the land claimed by F.S. Tong, with the following courses and distances: West along the North boundary of the Southwest quarter of Southwest quarter of said Section 1, .38 chains; thence South 15° 26' East 20.78 chains to an intersection with the South boundary of said Section 1 at a point 24.20 chains East of the Southwest corner of said Section which measured along the South line thereof; thence West along the Southerly boundary of said Section 1, 7.84 chains to the Southeast corner of the land claimed by Martha Ella Joerger in said Section 1; thence along the boundary of the land claimed by said Martha Ella Joerger with the following courses and distances: North 27 West 18.30 chains; thence South 16 West 6.20 chains; thence North 54 West 1.20 chains; thence North 31 West 7.80 chains; thence West .80 chains to an intersection with the Westerly boundary of said Section 1; thence North along said Westerly boundary of said Section 1, 22.20 chains to the point of beginning.

EXCEPTING THEREFROM those portions conveyed to the State of California for freeway purposes by deeds recorded North 8, 1939 in book 175 page 12 Official Records for the old highway and recorded February 11, 1964 in book 676 page 229 Official Records for the new highway.

FURTHER EXCEPTING THEREFROM all that portion of said parcel lying Southerly of the North line of U.S. Highway 50, as granted to The State of California in deed recorded North 8, 1939 in Book 175 of Official Records, page 12.

END DOCUMENT



Legend

- Gas Transmission Pipelines
- Hazardous Liquid Pipelines

500 m
1000 ft

Pipelines depicted on this map represent gas transmission and hazardous liquid lines only. Gas gathering and gas distribution systems are not represented.

This map should never be used as a substitute for contacting a one-call center prior to excavation activities. Please call 811 before any digging occurs.

Questions regarding this map or its contents can be directed to npms@dot.gov.

Projection: Geographic

Datum: NAD83

Map produced by the Public Viewer application at www.npms.phmsa.dot.gov

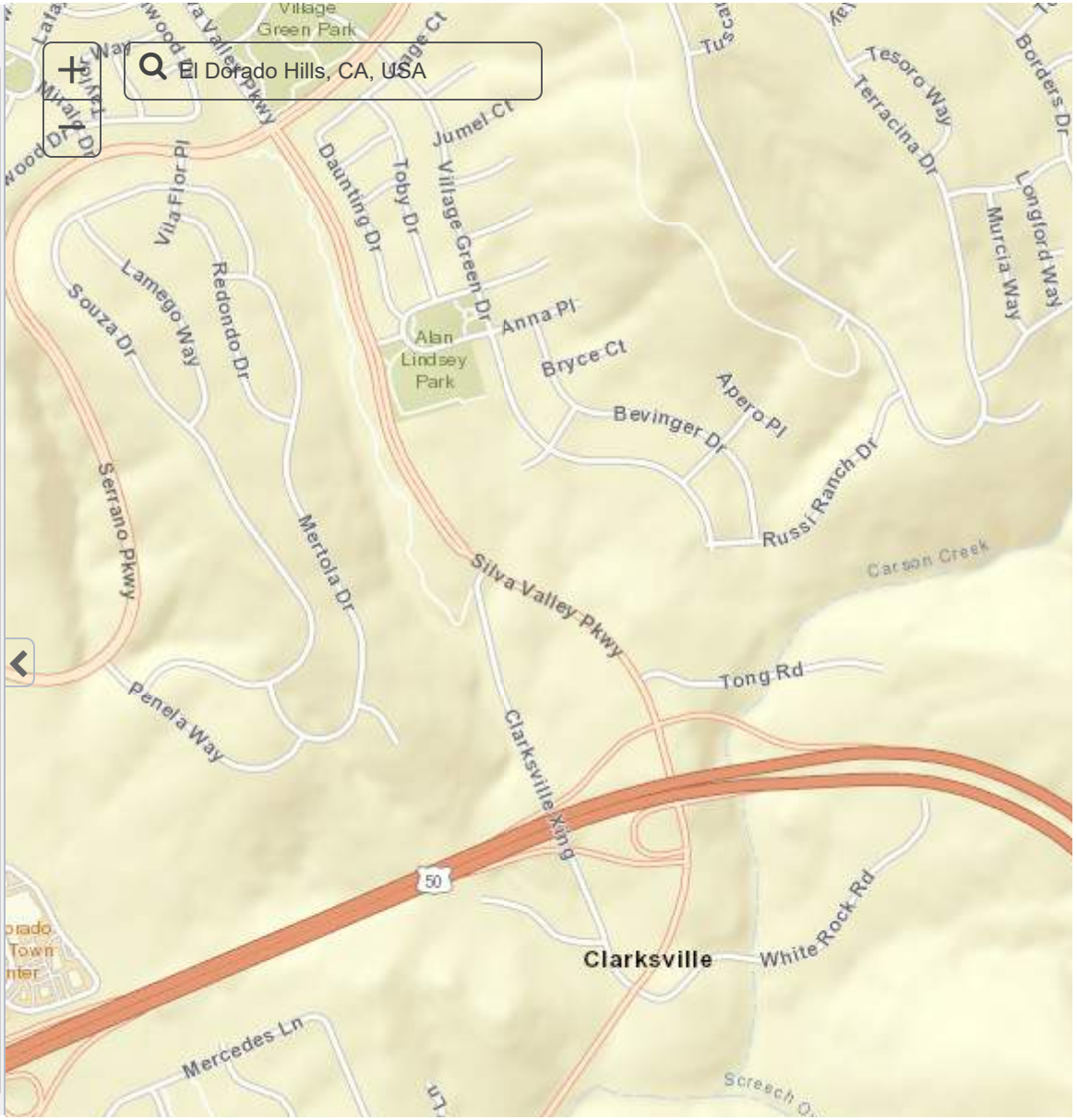
Date Printed: Jan 25, 2019

811 Know what's below. Call before you dig.

Well Finder
DOGGR GIS

More Info | Help | ©

- Well Status and Well Type Filter
- Search
- Zoom to Field
- Measurement
- Layers
  - Permit for Well
  - Well
    - Well
    - Geothermal Well
    - EPA Well for Aquifer Exemption Review
  - Facility
    - Tank
    - Pit/Sump
    - Setting
    - Facility Boundary (non-wellstar)
  - TR26 Onshore Seep Count
  - Oil/Gas Field
  - DOGGR District



Lindsey Dandridge-Perry

From: El Dorado County Public Records Center <eldoradocountyca@mycusthelp.net>
Sent: Monday, January 28, 2019 9:12 AM
To: Lindsey Dandridge-Perry
Subject: Public Records Request :: P002016-012219

Follow Up Flag: Follow up
Flag Status: Flagged

External Email.

--- Please respond above this line ---

County of El Dorado

The Gold Standard in Public Service

Public Records

Dear Lindsey Dandrige-Perry,
There are no building permit records for parcel 122-720-09.

To monitor the progress or update this request please log into the El Dorado County Public Records Center.

FOR AQMD USE ONLY:
AQMD S/R NUMBER: 7486
BLDG/GRADING: 226704

County of El Dorado
Air Quality Management District (AQMD)
330 Fair Lane, Placerville, CA 95667
Phone: 530-621-6662/ Fax: 530-295-2774
www.edcgov.us/AirQualityManagement

Asbestos Dust Mitigation Plan (ADMP) Application

(For projects greater than 20 yd³ and located in NOA(*) designated areas, or where NOA had been discovered)

Please complete every section and initial each page – incomplete applications will be returned.

1. ADMINISTRATIVE INFORMATION

Size of Project

Estimated Size of DISTURBED area (acres) *(Round up to nearest acre)*: 2

NOTE: If size of DISTURBED area exceeds 50 acres, the project is designated as a "Large Operation" and additional requirements apply.

Estimated VOLUME (cubic yards) of graded Material: 20,000

NOTE: If VOLUME of graded material exceeds 20 cubic yards, ADMP must be prepared and submitted.

Will Export Soils be Generated? ☐ YES ☑ NO

If "YES": (1) Exported soil management MUST comply with Rule 223-2.6.D.3. (2) Address of the receiving site MUST be provided in Section 16.

Fees and Checklist

Fees due:

$363.00 ADMP Review Fee

+ 48.00 $24 x DISTURBED Acres (minimum = $24)

$ 411.00 **Total Fees Due**

Checklist:

☑ Fees submitted with ADMP Application

☑ Application signed and initialed by a Responsible Party

☑ Project Map (must be included)

☑ NOA(*) Sampling Reports (if applicable)

2A. OWNER INFORMATION		2B. CONTRACTOR INFORMATION ☐ N/A	
Name: AKT, EDH 52 Partnership		Name: DeSilva Gates Construction	
Mailing Address: 7700 College Town Drive, #101		Mailing Address: PO Box 2909	
City/State: Sacramento, CA	Zip: 95826	City/State: Dublin/CA	Zip: 94568
Contact Name: Larry Ito		Site Contact Name: Michael Bailey	
Phone: 916-941-1411	Fax/email: 916-941-1474	Site Phone: 916-386-9708	Fax/email: 916-383-8426

3. PROJECT INFORMATION – Part I

Address: Silva Valley Parkway @ US 50	Project Description: Permanent Stockpile
City/State/Zip: El Dorado Hills, CA	Est. Project Start Date: 5-21-2012
Parcel (APN) Number: 122-720-09	Est. Completion Date of Soil Disturbing Activities: 10-01-2012

CKodetCdesilvagates.com

*: NOA(*) – Naturally Occurring Asbestos (see "Western El Dorado County Asbestos Review Areas" Map)

ASBESTOS DUST MITIGATION PLAN APPLICATION

EL DORADO COUNTY AIR QUALITY MANAGEMENT DISTRICT

4. PROJECT NOA(*) INFORMATION – Part II

Is Project Located In Asbestos Review Area? ☑ YES ☐ NO	Professional Geologist Report Attached? ☑ YES ☐ NO
If "NO", Provide Date of NOA(*) Discovery:	Laboratory Report/Data Sheets Attached? ☑ YES ☐ NO
Has Professional Geologist Evaluated the Site for NOA? ☑ YES ☐ NO (If "NO" Proceed to # 6)	Map Showing Location(s) of NOA(*) (≥ 0.25%) Attached? ☑ YES ☐ NO

5. PROFESSIONAL GEOLOGIST INFORMATION ☐ N/A

Name Geocon Consultants, Inc.		
Address 3160 Gold Valley Dr., Ste #800	City/State Rancho Cordova, CA	Zip 95742
Contact David Bieber	Phone 916-852-9118	Fax 916-852-9132

6. MAP INFORMATION

(11x17 format or smaller preferred)

Map(s) clearly indicating the following MUST be included:

- ☑ Property lines / boundaries
- ☑ Adjacent streets / easements
- ☑ Areas to be disturbed or graded
- ☐ Trenching areas
- ☐ Excavation sites
- ☐ Storage areas / piles
- ☐ Staging areas for removal
- ☐ Truck routes
- ☐ On-site parking lots
- ☑ Landmarks and roads
- ☐ NOA Sampling locations *(Indicate if ≥ 0.25% NOA(*))*
- ☑ Location(s) of placement of NOA(*) containing excavated soils

7. PROJECT TYPE

Activity: (Check all that apply)

- ☐ Residential Construction
- ☐ Grading
- ☐ Road Construction
- ☐ Road Maintenance
- ☐ Housing Development
- ☐ Commercial Property Development
- ☐ Pool Construction
- ☐ Trenching / Utilities Work
- ☐ Landscaping
- ☑ Other (please describe): Permanent Stockpile

Initial: MB
Responsible Person

*: NOA(*) – Naturally Occurring Asbestos (see "Western El Dorado County Asbestos Review Areas" Map)

ASBESTOS DUST MITIGATION PLAN APPLICATION

EL DORADO COUNTY AIR QUALITY MANAGEMENT DISTRICT

8. LARGE OPERATIONS (> 50 acres of DISTURBED surface) ☑ N/A

Additional requirements (Rule 223-2.7):

- Large Operations must include Dust Controls Measures specified in Tables 5-6 of Rule 223-2.
  - ☐ Maintain daily records to document the specific dust control actions taken
  - ☐ Onsite Dust Control Supervisor (available within 30 minutes during working hours):

Name: _____ Phone/Mobile Number: _____

9. POTENTIAL SOURCES OF FUGITIVE DUST EMISSIONS

- There shall be no visible emissions (0% opacity as determined in accordance with US EPA Method 9) at 25 feet from the point-of-origin and at the property line. Visible emissions shall not exceed 20% opacity as determined in accordance with US EPA Method 9 at the point-of-origin. Applicable Best Management Practices included in Table 1 - 4 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A.
- Asbestos Warning Signs must be posted at main entrances to the project (Rule 223-2.4.D)

Activity: (Check all that apply)

- ☑ Disturbing Soil
- ☐ Clearing and Grubbing
- ☐ Grading
- ☐ Backfilling
- ☐ Clearing Forms, Foundations and Slabs
- ☐ Demolition – Mechanical/Manual
- ✓ Large Earth-moving Equipment Operations
- ✓ Importing/Exporting of Bulk Materials
- ☐ Landscaping
- ✓ Road Construction / Maintenance
- ✓ Stockpiles/Bulk Material Handling
- ☐ Traffic Areas for Construction Activities
- ☐ Trenching
- ☐ Truck Loading
- ☐ Unpaved Road/Parking Lots
- ☐ Blasting
- ☐ Other: _____

Initial: MD
Responsible Person

*: NOA(*) – Naturally Occurring Asbestos (see "Western El Dorado County Asbestos Review Areas" Map)

ASBESTOS DUST MITIGATION PLAN APPLICATION

EL DORADO COUNTY AIR QUALITY MANAGEMENT DISTRICT

10. SOIL DISTURBANCE ACTIVITIES

- There shall be no visible emissions (0% opacity as determined in accordance with US EPA Method 9) at 25 feet from the point-of-origin and at the property line. Visible emissions shall not exceed 20% opacity as determined in accordance with US EPA Method 9 at the point-of-origin. Applicable Best Management Practices included in Table 1 - 4 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A.
- Suspend soil disturbing activities when wind speeds are high enough to result in dust emissions in excess of standards in Rule 223-2.4.A, despite the application of dust mitigation measures

Controls for soil distrurbing activities: (Check all that apply)

- ☑ Application of water, as necessary, prior and during earthmoving or land clearing activities (maintain live perennial vegetation where possible)
- ☐ Pre-wetting the ground to the depth of the anticipated cuts
- ☑ Stabilize soils once soils disturbing activities are complete
- ☑ Any other measure(s) as effective as the measures listed above (please describe)

Permanent erosion control measures.

11. ACTIVE STORAGE PILES ☐ N/A

- There shall be no visible emissions (0% opacity as determined in accordance with US EPA Method 9) at 25 feet from the point-of-origin and at the property line. Visible emissions shall not exceed 20% opacity as determined in accordance with US EPA Method 9 at the point-of-origin. Applicable Best Management Practices included in Table 1 - 4 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A.

The following control measure MUST be addressed:

- ☑ Keep active storage piles adequately wetted or covered with tarps (please describe):

Stockpile will be watered to control dust

- ☑ When handling bulk material apply water or chemical/organic stabilizers/suppressants
- ☐ Any other measure(s) as effective as the measures listed above (please describe)

Initial: MB

Responsible Person

*: NOA(*) – Naturally Occurring Asbestos (see "Western El Dorado County Asbestos Review Areas" Map)

ASBESTOS DUST MITIGATION PLAN APPLICATION

EL DORADO COUNTY AIR QUALITY MANAGEMENT DISTRICT

12. INACTIVE STORAGE PILES ☐ N/A

(not disturbed for more than 7 consecutive days)

- There shall be no visible emissions (0% opacity as determined in accordance with US EPA Method 9) at 25 feet from the point-of-origin and at the property line. Visible emissions shall not exceed 20% opacity as determined in accordance with US EPA Method 9 at the point-of-origin. Applicable Best Management Practices included in Table 1 - 4 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A.

Control for disturbed surface areas and storage piles that will remain inactive for more than seven (7) days shall include one or more of the following: (Check all that apply)

- ☑ Keep the surface adequately wetted
- ☐ Establish and maintenance of surface crusting sufficient to satisfy the test in Rule 223-2.10.C or Title 14 subsection §93105(h)(6)
- ☐ Application of chemical dust suppressants or chemical stabilizers according to the manufacturer's recommendations
- ☑ Covering with tarp(s) or vegetative cover
- ☐ Installation of wind barriers of fifty (50) percent porosity around three (3) sides of a storage pile
- ☐ Installation of wind barriers across open areas
- ☐ Any other measure(s) as effective as the measures listed above (please describe)

_____

_____

13. TRACK-OUT PREVENTION

- Any visible track-out on a paved public road where vehicles enter and exit the work area must be **IMMEDIATELY** removed from paved public roads. Removal shall be accomplished by using wet sweeping or a HEPA filter equipped vacuum device or flushing with water (if not in violation of any National Pollutant Discharge Elimination System permit program). Applicable Best Management Practices included in Table 3 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A. ***Note: The use blower devices, or dry rotary brushes, is expressly prohibited!***

Other control measures: (Check all that apply)

- ☑ A gravel pad designed using good engineering practices to clean the tires of exiting vehicles
- ☐ Grizzlies, or similar devices designed to remove mud/dirt from tires
- ☐ A tire shaker
- ☐ A wheel wash system (mechanical or manual)
- ☐ Paving of interior roads
- ☐ Any other measure(s) as effective as the measures listed above (please describe)

_____

_____

_____

Initial: MB

Responsible Person

*: NOA(*) – Naturally Occurring Asbestos (see "Western El Dorado County Asbestos Review Areas" Map)

ASBESTOS DUST MITIGATION PLAN APPLICATION

EL DORADO COUNTY AIR QUALITY MANAGEMENT DISTRICT

14. BLASTING ACTIVITIES ☑ N/A

Must notify AQMD two (2) hours prior to blast!

- There shall be no visible emissions (0% opacity as determined in accordance with US EPA Method 9) at 25 feet from the point-of-origin and at the property line. Visible emissions shall not exceed 20% opacity as determined in accordance with US EPA Method 9 at the point-of-origin. Applicable Best Management Practices included in Table 1 - 4 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A.
- Suspend blasting activities when wind speeds are high enough to result in dust emissions in excess of standards in Rule 223-2.4.A, despite the application of dust mitigation measures. Consider wind direction with respect to property line and nearby residences

Controls for blasting activities: (Check all that apply)

- ☐ Pre-wetting blast area
- ☐ Place blast mats or soil mounds over charges
- ☐ Stabilize soils once blasting activities are complete
- ☐ Any other measure(s) as effective as the measures listed above (please describe)

_____

_____

_____

15. TRAFFIC CONTROL ON ON-SITE UNPAVED ROADS, PARKING LOTS AND STAGING AREAS ☐ N/A

The following control measure MUST be addressed:

- A maximum speed limit of fifteen (15) miles per hour (mph) or less

Additional control measures: (Check all that apply)

- ☑ Water every two hours of active operation or sufficiently often to keep the area adequately wetted
- ☐ Apply chemical dust suppressants consistent with manufacturer's directions
- ☐ Maintain a gravel cover with a silt content that is less than five (5) percent and asbestos content that is less than 0.25 percent, as determined using an approved asbestos bulk test method, to a depth of three (3) inches on the surface being used for travel
- ☑ Direct construction traffic over established haul routes
- ☐ Any other measure(s) as effective as the measures listed above (please describe)

_____

_____

_____

Initial: MB
Responsible Person

*: NOA(*) – Naturally Occurring Asbestos (see "Western El Dorado County Asbestos Review Areas" Map)

ASBESTOS DUST MITIGATION PLAN APPLICATION

EL DORADO COUNTY AIR QUALITY MANAGEMENT DISTRICT

16. MANAGEMENT OF EXCAVATED SOILS

The owner and/or operator MUST ensure that procedures and documentation per Rule 223-2.6.D. are obtained and retained.

☑ **On-Site Disposition**. Where feasible, excavated soils should be placed into fills elsewhere on the project.

- **Location**(s) of removal and placement quantities and location(s) of fills must be documented **and records retained for a period of ten (10) years.**
- Fills, with a NOA(*) content ≥ 1.0% or when visually evident fibrous materials likely to be NOA(*) are present, located in residential landscaping areas shall be covered by at least two feet (24 inches) of non-asbestiform cover soil material, or by concrete or asphalt paving.

☐ **Off-Site Disposition**. For any **soils** transported off-site the following information must be documented and retained for a period of at least 3 years (Rule 223-2.6.D.3).

- Originating project information (name, address, location)
- Laboratory results/report for NOA(*) soil testing done at the project location
- Date(s) of off-site transport(s) of excavated soils
- Location(s) where excavated soils were transported to
- Total quantity transported to each location
- Intended usage (fill, surface application), if the final destination is other than Class II or Class III landfill disposal
- **Location to receive exported soils**: _____

_____

NOTE: It is the owner/operator responsibility that final disposition (usage or disposal) and transport of excavated materials from the project are in compliance with pertinent federal, state and local rules and regulations, including CA Title 17, Section 93106, Asbestos Airborne Toxic Control Measure for Surfacing Applications.

17. OFF-SITE TRANSPORT ☑ N/A

The owner and/or operator must ensure that no trucks are allowed to transport excavated material off-site unless:

- Trucks are maintained such that no spillage can occur from holes or other openings in cargo compartments
- Loads are adequately wetted

☑ Water applied, if necessary, to the top of load

AND either: (Check all that apply)

☐ Covered with tarps or other suitable cover

☐ Trucks loaded such that the freeboard is not less than six (6) inches (material does not touch the front, back or sides of the cargo compartment at any point less than six inches from the top)

☐ Any other measure(s) as effective as the measures listed above (please describe)

_____

_____

_____

NOTE: It is the owner/operator responsibility that final disposition (usage or disposal) and transport of excavated materials from the project are in compliance with pertinent federal, state and local rules and regulations, including CA Title 17, Section 93106, Asbestos Airborne Toxic Control Measure for Surfacing Applications.

Initial: MB
Responsible Person

*: NOA(*) – Naturally Occurring Asbestos (see "Western El Dorado County Asbestos Review Areas" Map)

ASBESTOS DUST MITIGATION PLAN APPLICATION

EL DORADO COUNTY AIR QUALITY MANAGEMENT DISTRICT

18. POST CONSTRUCTION STABLIZATION OF DISTURBED AREAS

■ Upon completion of all phases of the project, but **no later than 30 days following the end of soil disturbing activities**, all disturbed surfaces with naturally occurring asbestos content of equal to or greater than 0.25% shall be stabilized using one or more of the following methods:

- [x] Establish a vegetative cover (less than 30% of disturbed ground exposed within 90 days of planting, and at all times thereafter):
- [ ] Placement of at least three (3.0) inches of non-asbestos containing material on disturbed soil areas in residential and nonresidential areas;
- [ ] Placement of a total of at least twelve (12) inches or the maximum depth of irrigation improvements, whichever is higher, of non-asbestos containing material on disturbed soil areas in residential landscaping areas with NOA(*) content greater than 0.25% or when visually evident fibrous materials likely to be asbestos are present;
- [ ] Paving, decking, building foundations, swimming pool structure, flatwork or retaining walls;
- [ ] Other measures approved by the APCO: _____

19. STATEMENT OF PROJECT'S RESPONSIBLE PERSON (Owner or Licensed Contractor acting on behalf of the Owner)

"I am familiar with the Rules and Regulations of the El Dorado County AQMD that are applicable to my project and I certify that the information and the data submitted with the application are true with regards to the project activities and/or equipment which are the subjects of this application". **A copy of this plan must be provided to all contractors and be available on site at all times.**
NOTE: Any changes to this plan MUST be pre-approved by the AQMD.

Michael Bailey/DeSilva Gates Construction	[signature]
Name (print)	Name (sign)
Senior Project Manager	5-15-12
Title	Date
7700 College Town Dr., Suite 230, Sacramento, CA 95826	916-386-9708
Address	Phone Number

FOR AQMD USE ONLY

DATE STAMP

RECEIVED
MAY 16 2012
AQMD

[X] APPLICATION APPROVED [ ] APPLICATION **NOT** APPROVED

DATE: 5/18/2012
REVIEWER NAME: Candice Thomas
REVIEWER SIGNATURE: Candice Thomas
COMMENTS: NOA report from March 2008 by Geocon Post mill 2.90 - 8.79 in NOA files

Reset

*: NOA(*) – Naturally Occurring Asbestos (see "Western El Dorado County Asbestos Review Areas" Map)

Air Quality Management District

Receipt ~ Customer Copy

Invoice ID	Date Printed	Receipt ID
IN0072396	5/17/2012	AB0163324

Applied Date	Program / Element	Description / Permit Type	Permit Number:	Amount
5/17/2012	0951	ASBESTOS DUST MITIGATION PLANS		$ 411.00
5/17/2012	9999	PAYMENT		$ -411.00

PAYOR: DeSILVA GATES CONSTRUCTION **TOTAL OUTSTANDING: $ 0.00**

POSTED BY: MARICELA ZAMORA

Questions?
Call Air Quality Management District at (530) 621-6662

72396

DeSILVA GATES
CONSTRUCTION
P.O. Box 2909 • Dublin, California 94568 • 925/829-9220

WELLS FARGO BANK
ONE KAISER PLAZA, SUITE 850
OAKLAND, CALIFORNIA 94612

11-24
1210 (8)

007293

CHECK NO.
7293

SPECIAL IMPREST CHECK

PAY ***** FOUR HUNDRED AND ELEVEN DOLLARS *****

DATE **5/15/2012**

AMOUNT *****411.00*****

TO THE ORDER OF

COUNTY OF EL DORADO
2850 FAIRLANE COURT
PLACERVILLE, CA 95667

⑈007293⑈ ⑆121000248⑆4122525124⑈



COPY original in cabinet

PREPARED FOR:

CALIFORNIA DEPARTMENT OF TRANSPORTATION
DISTRICT 3
703 B STREET, P.0. BOX 911
MARYSVILLE, CALIFORNIA

Caltrans

PREPARED BY:

GEOCON CONSULTANTS, INC.
3160 GOLD VALLEY DRIVE, SUITE 800
RANCHO CORDOVA, CALIFORNIA 95742

GEOCON

GEOCON PROJECT NO. S9300-06-22
TASK ORDER NO. 22, CONTRACT NO. 03A1368

MARCH 2008

Sample Population 'A'
(Borings B16 through B20, B50 through B91, B134 through B155 and B161 through B182 - Median)

SAMPLE INTERVAL (feet)	90% TOTAL LEAD UCL (mg/kg)	95% TOTAL LEAD UCL (mg/kg)	TOTAL LEAD MEAN (mg/kg)	MINIMUM VALUE (mg/kg)	MAXIMUM VALUE (mg/kg)
0.0 to 1.0	47.5	49.5	39.1	3.1	150
1.0 to 2.0	4.1	4.4	3.1	0.5	20
2.0 to 3.0	7.0	7.8	4.0	0.5	56

Sample Population B
(Borings B46 through B49 and B187 through B194 – Soundwall)

SAMPLE INTERVAL (feet)	90% TOTAL LEAD UCL * (mg/kg)	95% TOTAL LEAD UCL * (mg/kg)	TOTAL LEAD MEAN (mg/kg)	MINIMUM VALUE (mg/kg)	MAXIMUM VALUE (mg/kg)
0.0 to 3.0	35.6	38.7	21.7	0.9	95

* UCLs could not be calculated for each sample interval due to insufficient number of data, thus UCLs were calculated using all samples collected from this area.

5.4 NOA Results

Thirty composite soil samples were analyzed by EMSL for asbestos by the PLM method using the CARB 435 sample preparation method. An additional rock chip sample was analyzed by the PLM method and CARB 435 sample preparation. A summary of asbestos analytical results is presented in Table 4. Laboratory reports and COC documentation are presented in Appendix B.

One sample (NOA24) was reported to contain asbestos below the CARB regulatory action limit of 0.25% and the rest were reported as non-detect. TEM analysis was not performed on sample NOA24 because of the low percentage of asbestos reported. Additionally, TEM analysis is primarily used to determine the type of asbestos present and was not deemed necessary for this study.

5.5 Lead-containing Paint Sample Analytical Results

Five paint-chip samples were collected from the yellow median traffic stripe within the project boundaries. Paint-chip samples were analyzed for total lead and chromium. The analytical results of the LCP samples are summarized in Table 5. Laboratory reports and COC documentation are presented in Appendix B.

Total lead and chromium were detected in each sample submitted for analysis. Total lead was reported to range from 290 to 1,000 mg/kg, at or less than the California hazardous waste threshold (TTLC) for lead of 1,000 mg/kg. Total chromium was reported to range from 90 to 240 mg/kg, less than the California hazardous waste threshold (TTLC) for chromium of 2,500 mg/kg. Since the samples were only collected for screening purposes, WET analysis was not performed.

TABLE 4
SUMMARY OF ASBESTOS ANALYTICAL RESULTS
CALTRANS TASK ORDER NO. 22
HIGHWAY 50 POST MILE 2.90 TO 8.79
EL DORADO COUNTY, CALIFORNIA

SAMPLE I.D.	SAMPLE LOCATION	SAMPLE TYPE	ANALYTICAL METHOD	ASBESTOS %	ASBESTOS TYPE
NOA25	NOA46-0, NOA47-0, NOA48-0, NOA49-0	COMPOSITE	PLM	ND	ND
NOA26	NOA46-2, NOA47-2, NOA48-2, NOA49-2	COMPOSITE	PLM	ND	ND
NOA27	NOA187-0, NOA188-0, NOA189-0, NOA190-0	COMPOSITE	PLM	ND	ND
NOA28	NOA187-2, NOA188-2, NOA189-2, NOA190-2	COMPOSITE	PLM	ND	ND
NOA29	NOA191-0, NOA192-0, NOA193-0,NOA194-0	COMPOSITE	PLM	ND	ND
NOA30	NOA191-2, NOA192-2, NOA193-2,NOA194-2	COMPOSITE	PLM	ND	ND
NOA 183	West of Bass Lake Road	ROCK CHIP	PLM	ND	ND

Notes:

PLM = Polarized Light Microscopy

ND = None Detected

<0.25 = Less than the laboratory method reporting limit

TABLE 4
SUMMARY OF ASBESTOS ANALYTICAL RESULTS
CALTRANS TASK ORDER NO. 22
HIGHWAY 50 POST MILE 2.90 TO 8.79
EL DORADO COUNTY, CALIFORNIA

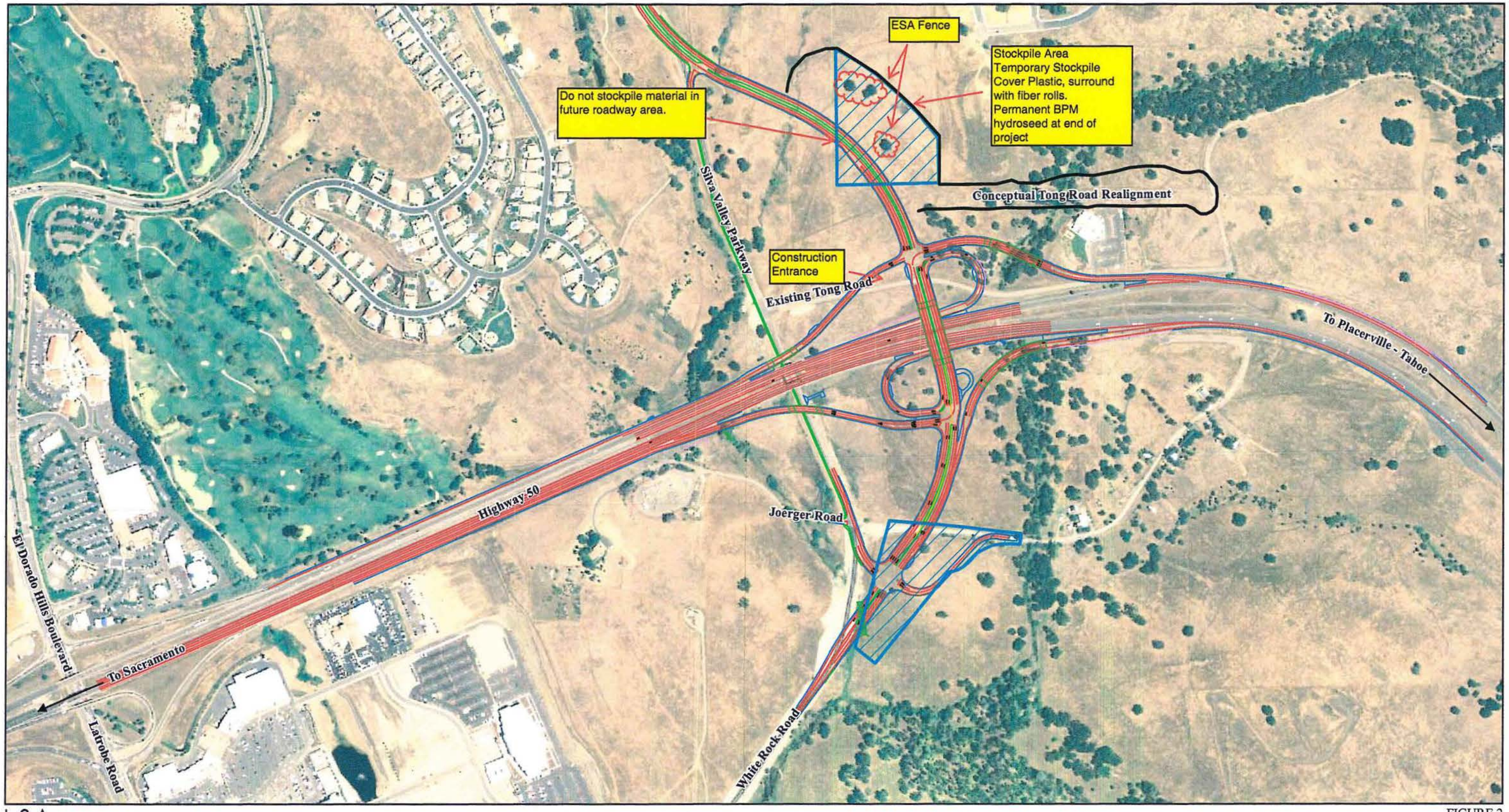
SAMPLE I.D.	SAMPLE LOCATION	SAMPLE TYPE	ANALYTICAL METHOD	ASBESTOS %	ASBESTOS TYPE
NOA17	NOA77-0, NOA78-0, NOA79-0, NOA80-0, NOA147-0, NOA148-0, NOA149-0, NOA150-0	COMPOSITE	PLM	ND	ND
NOA18	NOA77-2, NOA78-2, NOA79-2, NOA80-2, NOA147-2, NOA148-2, NOA149-2, NOA150-2	COMPOSITE	PLM	ND	ND
NOA19	NOA81-0, NOA82-0, NOA83-0, NOA84-0, NOA142-0, NOA143-0, NOA144-0, NOA146-0	COMPOSITE	PLM	ND	ND
NOA20	NOA81-2, NOA82-2, NOA83-2, NOA84-2, NOA142-2, NOA143-2, NOA144-2, NOA146-2	COMPOSITE	PLM	ND	ND
NOA2I	NOA85-0, NOA86-0, NOA87-0, NOA88-0, NOA138-0, NOA139-0, NOA140-0, NOA141-0	COMPOSITE	PLM	ND	ND
NOA22	NOA85-2, NOA86-2, NOA87-2, NOA88-2, NOA138-0, NOA139-2, NOA140-2, NOA141-2	COMPOSITE	PLM	ND	ND
NOA23	NOA89-0, NOA90-0, NOA91-0, NOA134-0, NOA135-0, NOA136-0, NOA137-0	COMPOSITE	PLM	ND	ND
NOA24	NOA89-2, NOA91-2, NOA134-2, NOA136-2, NOA137-2	COMPOSITE	PLM	<0.25%	CHRYSOTILE

TABLE 4
SUMMARY OF ASBESTOS ANALYTICAL RESULTS
CALTRANS TASK ORDER NO. 22
HIGHWAY 50 POST MILE 2.90 TO 8.79
EL DORADO COUNTY, CALIFORNIA

SAMPLE I.D.	SAMPLE LOCATION	SAMPLE TYPE	ANALYTICAL METHOD	ASBESTOS %	ASBESTOS TYPE
NOA9	NOA62-0, NOA63-0, NOA64-0, NOA167-0, NOA168-0, NOA169-0	COMPOSITE	PLM	ND	ND
NOA10	NOA62-2, NOA63-2, NOA64-2, NOA167-2, NOA168-2, NOA169-2	COMPOSITE	PLM	ND	ND
NOA11	NOA65-0, NOA66-0, NOA67-0, NOA68-0, NOA162-0, NOA163-0, NOA164-0, NOA165-0, NOA166-0	COMPOSITE	PLM	ND	ND
NOA12	NOA66-2, NOA67-2, NOA68-2, NOA162-2, NOA163-2, NOA164-2, NOA165-2, NOA166-2	COMPOSITE	PLM	ND	ND
NOA13	NOA69-0, NOA70-0, NOA71-0, NOA72-0, NOA154-0, NOA155-0, NOA160-0, NOA161-0	COMPOSITE	PLM	ND	ND
NOA14	NOA69-2, NOA70-2, NOA71-2, NOA72-2, NOA154-2, NOA155-2, NOA161-2	COMPOSITE	PLM	ND	ND
NOA15	NOA73-0, NOA74-0, NOA75-0, NOA76-0, NOA151-0, NOA152-0, NOA153-0	COMPOSITE	PLM	ND	ND
NOA16	NOA73-2, NOA74-2, NOA75-2, NOA76-2, NOA151-2, NOA153-2	COMPOSITE	PLM	ND	ND

TABLE 4
SUMMARY OF ASBESTOS ANALYTICAL RESULTS
CALTRANS TASK ORDER NO. 22
HIGHWAY 50 POST MILE 2.90 TO 8.79
EL DORADO COUNTY, CALIFORNIA

SAMPLE I.D.	SAMPLE LOCATION	SAMPLE TYPE	ANALYTICAL METHOD	ASBESTOS %	ASBESTOS TYPE
NOA 1	NOA16-0, NOA17-0, NOA18-0, NOA19-0, NOA20-0, NOA181-0, NOA182-0	COMPOSITE	PLM	ND	ND
NOA 2	NOA18-2, NOA20-2, NOA181-2, NOA182-2	COMPOSITE	PLM	ND	ND
NOA 3	NOA50-0, NOA51-0, NOA52-0, NOA177-0, NOA178-0, NOA179-0, NOA180-0	COMPOSITE	PLM	ND	ND
NOA 4	NOA50-2, NOA51-2, NOA52-2, NOA177-2, NOA178-2, NOA179-2, NOA180-2	COMPOSITE	PLM	ND	ND
NOA 5	NOA53-0, NOA54-0, NOA55-0, NOA56-0, NOA174-0, NOA175-0, NOA176-0	COMPOSITE	PLM	ND	ND
NOA 6	NOA55-2, NOA176-2	COMPOSITE	PLM	ND	ND
NOA 7	NOA57-0, NOA58-0, NOA59-0, NOA60-0, NOA61-0, NOA170-0, NOA171-0, NOA172-0	ROCK CHIP	PLM	ND	ND
NOA8	NOA57-2, NOA58-2, NOA170-2, NOA171-2, NOA172-2, NOA173-2	COMPOSITE	PLM	ND	ND



LSA

FIGURE 2

LEGEND

Potential Borrow Sites

N

0 250 500
FEET

SOURCE: Basemap - El Dorado County NIAP (5/2005); Mapping - Mark Thomas Engineering (2010)

I:\MKT530\GIS\prj_design4.mxd (12/8/10)

Silva Valley Parkway Interchange

Project Design

FOR AQMD USE ONLY:
AQMD S/R NUMBER: 8242
BLDG/GRADING: 219819

El Dorado County
Air Quality Management District (AQMD)
330 Fair Lane, Placerville, CA 95667
Phone: 530-621-7501 / Fax: 530-295-2774
www.edcgov.us/AirQualityManagement

RECEIVED
OCT 25 2013
AQMD

Asbestos Dust Mitigation Plan (ADMP) Application

(For projects greater than 20 yd³ and located in Naturally Occurring Asbestos (NOA) designated areas as shown on the Western El Dorado County Asbestos Review Map, or where NOA had been discovered)

Please complete every section and initial each page – incomplete applications will be returned.

1. ADMINISTRATIVE INFORMATION

Size of Project

Estimated Size of DISTURBED area (acres) *(Round up to nearest acre)*: 5.0 ACRES

NOTE: If size of DISTURBED area exceeds 50 acres, the project is designated as a "Large Operation" and additional requirements apply.

Estimated VOLUME (cubic yards) of graded Material: 120,000 CY

NOTE: If VOLUME of graded material exceeds 20 cubic yards, ADMP must be prepared and submitted.

Will Export Soils be Generated? ☒ YES ☐ NO

If "YES": (1) Exported soil management MUST comply with Rule 223-2.6.D.3.
(2) Address of the receiving site MUST be provided in Section 16.

Fees and Checklist

Fees due:

$380.00 (5) ADMP Review Fee

+ 130.00 $26 x DISTURBED Acres (minimum = $26)

$510.00 **Total Fees Due**

Checklist:

- ☒ Fees submitted with ADMP Application
- ☒ Application signed and initialed by a Responsible Party
- ☒ Project Map (must be included)
- ☐ NOA Sampling Reports (if applicable)

2A. OWNER INFORMATION

Name: EDH 52, GENERAL PARTNERSHIP		
Mailing Address: 7700 COLLEGE TOWN DRIVE, Suite 101		
City/State: SACRAMENTO, CA	Zip: 95826	
Contact Name: ANGELO K. TSAKOPOULOS		
Phone: 916-383-2500	Email/Fax: angelo@aktinvestments.com	

2B. CONTRACTOR INFORMATION

☐ N/A

Name: TBD		
Mailing Address:		
City/State:	Zip:	
Site Contact Name:		
Site Phone:	Email/Fax:	

3. PROJECT INFORMATION – Part I

Address: HWY 50 & SILVA VALLEY PARKWAY	Project Description: BORROW SITE FOR HIGHWAY INTX
City/State/Zip: EL DORADO HILLS, CA 95762	Est. Project Start Date: TBD
Parcel (APN) Number: 122-720-09	Est. Completion Date of Soil Disturbing Activities: TBD

ADMP MUST BE AVAILABLE ON SITE AT ALL TIMES

ASBESTOS DUST MITIGATION PLAN APPLICATION

COUNTY OF EL DORADO AIR QUALITY MANAGEMENT DISTRICT

4. PROJECT NOA INFORMATION – Part II

Is Project Located In Asbestos Review Area? ☐ YES ☒ NO	Professional Geologist Report Attached? ☒ YES ☐ NO
If "NO", Provide Date of NOA Discovery: See Geotech Report dated 3/11/13; pg 4	Laboratory Report/Data Sheets Attached? ☒ YES ☐ NO
Has Professional Geologist Evaluated the Site for NOA? ☐ YES ☐ NO (If "NO" Proceed to # 6)	Map Showing Location(s) of NOA (≥ 0.25%) Attached? ☒ YES ☐ NO

5. PROFESSIONAL GEOLOGIST INFORMATION ☐ N/A

Name Blackburn Consulting		
Address 11521 Blocker Dr. Ste 110	City/State Auburn, CA	Zip 95603
Contact Patrick Fischer	Phone (530) 887-1494	Fax

6. MAP INFORMATION

(11x17 format or smaller preferred)

Map(s) clearly indicating the following MUST be included:

- ☑ Property lines / boundaries
- ☑ Adjacent streets / easements
- ☑ Areas to be disturbed or graded
- ☐ Trenching areas
- ☒ Excavation sites
- ☐ Storage areas / piles
- ☐ Staging areas for removal
- ☐ Truck routes
- ☐ On-site parking lots
- ☐ Landmarks and roads
- ☐ NOA Sampling locations *(Indicate if ≥ 0.25% NOA)*
- ☐ Location(s) of placement of NOA containing excavated soils

7. PROJECT TYPE

Activity: (Check all that apply)

- ☐ Residential Construction
- ☒ Grading
- ☐ Road Construction
- ☐ Road Maintenance
- ☐ Housing Development
- ☐ Commercial Property Development
- ☐ Pool Construction
- ☐ Trenching / Utilities Work
- ☐ Landscaping
- ☐ Other (please describe): _____

Initial: _____

Responsible Person

ASBESTOS DUST MITIGATION PLAN APPLICATION

COUNTY OF EL DORADO AIR QUALITY MANAGEMENT DISTRICT

8. LARGE OPERATIONS (> 50 acres of DISTURBED surface) ☒ N/A

Additional requirements (Rule 223-2.7):

- Large Operations must include Dust Control Measures specified in Tables 5-6 of Rule 223-2.
  - ☐ Maintain daily records to document the specific dust control actions taken
  - ☐ Onsite Dust Control Supervisor (available within 30 minutes during working hours):

Name: _____ Phone/Mobile Number: _____

9. POTENTIAL SOURCES OF FUGITIVE DUST EMISSIONS

- There shall be no visible emissions (0% opacity as determined in accordance with US EPA Method 9) at 25 feet from the point-of-origin and at the property line. Visible emissions shall not exceed 20% opacity as determined in accordance with US EPA Method 9 at the point-of-origin. Applicable Best Management Practices included in Tables 1 - 4 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A.
- Asbestos Warning Signs must be posted at main entrances to the project (Rule 223-2.4.D)

Activity: (Check all that apply)

- ☑ Disturbing Soil
- ☒ Clearing and Grubbing
- ☒ Grading
- ☐ Backfilling
- ☐ Clearing Forms, Foundations and Slabs
- ☐ Demolition – Mechanical/Manual
- ☒ Large Earth-moving Equipment Operations
- ☒ Importing/Exporting of Bulk Materials
- ☐ Landscaping
- ☐ Road Construction / Maintenance
- ☒ Stockpiles/Bulk Material Handling
- ☒ Traffic Areas for Construction Activities
- ☐ Trenching
- ☒ Truck Loading
- ☒ Unpaved Road/Parking Lots
- ☒ Blasting
- ☐ Other: _____

Initial: _____
Responsible Person

ASBESTOS DUST MITIGATION PLAN APPLICATION

COUNTY OF EL DORADO AIR QUALITY MANAGEMENT DISTRICT

10. SOIL DISTURBANCE ACTIVITIES

- There shall be no visible emissions (0% opacity as determined in accordance with US EPA Method 9) at 25 feet from the point-of-origin and at the property line. Visible emissions shall not exceed 20% opacity as determined in accordance with US EPA Method 9 at the point-of-origin. Applicable Best Management Practices included in Table 1 - 4 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A.
- Suspend soil disturbing activities when wind speeds are high enough to result in dust emissions in excess of standards in Rule 223-2.4.A, despite the application of dust mitigation measures

Controls for soil distrurbing activities: (Check all that apply)

- [☑] Application of water, as necessary, prior and during earthmoving or land clearing activities (maintain live perennial vegetation where possible)
- [ ] Pre-wetting the ground to the depth of the anticipated cuts
- [x] Stabilize soils once soils disturbing activities are complete
- [ ] Any other measure(s) as effective as the measures listed above (please describe)

_____

_____

_____

11. ACTIVE STORAGE PILES ☐ N/A

- There shall be no visible emissions (0% opacity as determined in accordance with US EPA Method 9) at 25 feet from the point-of-origin and at the property line. Visible emissions shall not exceed 20% opacity as determined in accordance with US EPA Method 9 at the point-of-origin. Applicable Best Management Practices included in Table 1 - 4 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A.

The following control measure MUST be addressed:

- [X] Keep active storage piles adequately wetted or covered with tarps (please describe):

_____

_____

- [ ] When handling bulk material apply water or chemical/organic stabilizers/suppressants
- [ ] Any other measure(s) as effective as the measures listed above (please describe)

_____

_____

_____

Initial: _____

Responsible Person

ASBESTOS DUST MITIGATION PLAN APPLICATION

COUNTY OF EL DORADO AIR QUALITY MANAGEMENT DISTRICT

12. INACTIVE STORAGE PILES ☐ N/A

(not disturbed for more than 7 consecutive days)

- There shall be no visible emissions (0% opacity as determined in accordance with US EPA Method 9) at 25 feet from the point-of-origin and at the property line. Visible emissions shall not exceed 20% opacity as determined in accordance with US EPA Method 9 at the point-of-origin. Applicable Best Management Practices included in Table 1 - 4 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A.

Control for disturbed surface areas and storage piles that will remain inactive for more than seven (7) days shall include one or more of the following: (Check all that apply)

- [X] Keep the surface adequately wetted OR
- [X] Establish and maintenance of surface crusting sufficient to satisfy the test in Rule 223-2.10.C or Title 14 subsection §93105(h)(6) OR
- [X] Application of chemical dust suppressants or chemical stabilizers according to the manufacturer's recommendations OR
- [X] Covering with tarp(s) or vegetative cover
- [ ] Installation of wind barriers of fifty (50) percent porosity around three (3) sides of a storage pile
- [ ] Installation of wind barriers across open areas
- [ ] Any other measure(s) as effective as the measures listed above (please describe)

_____

_____

13. TRACK-OUT PREVENTION

- Any visible track-out on a paved public road where vehicles enter and exit the work area must be **IMMEDIATELY** removed from paved public roads. Removal shall be accomplished by using wet sweeping or a HEPA filter equipped vacuum device or flushing with water (if not in violation of any National Pollutant Discharge Elimination System permit program). Applicable Best Management Practices included in Table 3 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A. ***Note: The use of blower devices, or dry rotary brushes, is expressly prohibited!***

Other control measures: (Check all that apply)

- [X] A gravel pad designed using good engineering practices to clean the tires of exiting vehicles OR
- [X] Grizzlies, or similar devices designed to remove mud/dirt from tires OR
- [X] A tire shaker OR
- [X] A wheel wash system (mechanical or manual)
- [ ] Paving of interior roads
- [ ] Any other measure(s) as effective as the measures listed above (please describe)

_____

_____

_____

Initial: _____

Responsible Person

ASBESTOS DUST MITIGATION PLAN APPLICATION

COUNTY OF EL DORADO AIR QUALITY MANAGEMENT DISTRICT

14. BLASTING ACTIVITIES ☐ N/A

Must notify AQMD two (2) hours prior to blast!

- There shall be no visible emissions (0% opacity as determined in accordance with US EPA Method 9) at 25 feet from the point-of-origin and at the property line. Visible emissions shall not exceed 20% opacity as determined in accordance with US EPA Method 9 at the point-of-origin. Applicable Best Management Practices included in Table 1 - 4 of Rule 223-2 or similar effective measures shall be utilized to comply with standards per Rule 223-2.4.A.
- Suspend blasting activities when wind speeds are high enough to result in dust emissions in excess of standards in Rule 223-2.4.A, despite the application of dust mitigation measures. Consider wind direction with respect to property line and nearby residences

Controls for blasting activities: (Check all that apply)

- [x] Pre-wetting blast area
- [x] Place blast mats or soil mounds over charges
- [ ] Stabilize soils once blasting activities are complete
- [ ] Any other measure(s) as effective as the measures listed above (please describe)

_____

_____

_____

15. TRAFFIC CONTROL OF ON-SITE UNPAVED ROADS, PARKING LOTS AND STAGING AREAS ☐ N/A

The following control measure MUST be addressed:

- A maximum speed limit of fifteen (15) miles per hour (mph) or less

Additional control measures: (Check all that apply)

- [x] Water every two hours of active operation or sufficiently often to keep the area adequately wetted OR
- [x] Apply chemical dust suppressants consistent with manufacturer's directions OR
- [ ] Maintain a gravel cover with a silt content that is less than five (5) percent and asbestos content that is less than 0.25 percent, as determined using an approved asbestos bulk test method, to a depth of three (3) inches on the surface being used for travel
- [x] Direct construction traffic over established haul routes
- [ ] Any other measure(s) as effective as the measures listed above (please describe)

_____

_____

_____

Initial: _____

Responsible Person

ASBESTOS DUST MITIGATION PLAN APPLICATION

COUNTY OF EL DORADO AIR QUALITY MANAGEMENT DISTRICT

16. MANAGEMENT OF EXCAVATED SOILS

The owner and/or operator MUST ensure that procedures and documentation per Rule 223-2.6.D. are obtained and retained.

☒ **On-Site Disposition**. Where feasible, excavated soils should be placed into fills elsewhere on the project.

- **Location**(s) of removal and placement quantities and location(s) of fills must be documented **and records retained for a period of ten (10) years.**
- Fills, with a NOA content ≥ 1.0% or when visually evident fibrous materials likely to be NOA are present, located in residential landscaping areas shall be covered by at least two feet (24 inches) of non-asbestiform cover soil material, or by concrete or asphalt paving.

☒ **Off-Site Disposition**. For any **soils** transported off-site the following information must be documented and retained for a period of at least 3 years (Rule 223-2.6.D.3).

- Originating project information (name, address, location)
- Laboratory results/report for NOA soil testing done at the project location
- Date(s) of off-site transport(s) of excavated soils
- Location(s) of transported soil
- Total quantity transported to each location
- Intended usage (fill, surface application), if the final destination is other than Class II or Class III landfill disposal
- **Location to receive exported soils**: HIGHWAY 50 INTERCHANGE AT SILVA VALLEY PARKWAY AREA POTENTIALLY AREAS WITHIN 122-720-09 & 118-170-01,13,14,16,17 & 121-280-01, 24

NOTE: It is the owner/operator responsibility that final disposition (usage or disposal) and transport of excavated materials from the project are in compliance with pertinent federal, state and local rules and regulations, including CA Title 17, Section 93106, Asbestos Airborne Toxic Control Measure for Surfacing Applications.

17. OFF-SITE TRANSPORT ☐ N/A

The owner and/or operator must ensure that no trucks are allowed to transport excavated material off-site unless:

- Trucks are maintained such that no spillage can occur from holes or other openings in cargo compartments
- Loads are adequately wetted

☑ Water applied, if necessary, to the top of load

AND either: (Check all that apply)

☐ Covered with tarps or other suitable cover

☐ Trucks loaded such that the freeboard is not less than six (6) inches (material does not touch the front, back or sides of the cargo compartment at any point less than six inches from the top)

☐ Any other measure(s) as effective as the measures listed above (please describe)

_____

_____

_____

NOTE: It is the owner/operator responsibility that final disposition (usage or disposal) and transport of excavated materials from the project are in compliance with pertinent federal, state and local rules and regulations, including CA Title 17, Section 93106, Asbestos Airborne Toxic Control Measure for Surfacing Applications.

Initial: _____

Responsible Person

ASBESTOS DUST MITIGATION PLAN APPLICATION

COUNTY OF EL DORADO AIR QUALITY MANAGEMENT DISTRICT

18. POST CONSTRUCTION STABLIZATION OF DISTURBED AREAS

- Upon completion of all phases of the project, but **no later than 30 days following the end of soil disturbing activities**, all disturbed surfaces with naturally occurring asbestos content of equal to or greater than 0.25% shall be stabilized using one or more of the following methods:

  - [X] Establish a vegetative cover (less than 30% of disturbed ground exposed within 90 days of planting, and at all times thereafter):
  - [ ] Placement of at least three (3.0) inches of non-asbestos containing material on disturbed soil areas in residential and nonresidential areas;
  - [ ] Placement of a total of at least twelve (12) inches or the maximum depth of irrigation improvements, whichever is higher, of non-asbestos containing material on disturbed soil areas in residential landscaping areas with NOA content greater than 0.25% or when visually evident fibrous materials likely to be asbestos are present;
  - [ ] Paving, decking, building foundations, swimming pool structure, flatwork or retaining walls;
  - [ ] Other measures approved by the APCO: _____

19. STATEMENT OF PROJECT'S RESPONSIBLE PARTY
(Owner or Licensed Contractor acting on behalf of the Owner)

"I am familiar with the Rules and Regulations of the County of El Dorado AQMD that are applicable to my project and I certify that the information and the data submitted with the application are true with regards to the project activities and/or equipment which are the subjects of this application". **A copy of this plan must be provided to all contractors and be available on site at all times.**
NOTE: Any changes to this plan MUST be pre-approved by the AQMD.

ANGELO K. TSAKOPOULOS	Angelo K.
Name (print)	Name (sign)
MANAGING PARTNER	OCTOBER 23, 2013
Title	Date
7700 COLLEGE TOWN DR. SUITE 101, SACRAMENTO, CA 95826	916-383-2500
Address	Phone Number

FOR AQMD USE ONLY

DATE STAMP

RECEIVED
OCT 28 2013
AQMD

[X] APPLICATION APPROVED [ ] APPLICATION **NOT** APPROVED

DATE: 11/6/2013

REVIEWER NAME: Candice Thomas

REVIEWER SIGNATURE: Candice Thomas

COMMENTS: The export soil must be tested for asbestos or taken to a class II or III landfill as hazardous waste if it is being exported to a location other than The Hwy 50 interchange.

RSC ENGINEERING

Letter of Transmittal

Date:	October 25, 2013	**Job No.:**	104-001
Attn:		**Job Name:**	**EDH 52**
Company:	El Dorado County (AQMD)		
Street, Suite:	330 Fair Lane		
City, State, Zip:	Placerville, CA 95667		
From:	Richard S. Chavez		

Re:

Via:

☐ Hand Delivery ☐ Mail ☐ Overnight Delivery Service ☐ Will Call

These are transmitted as checked below:

☒ For Approval ☐ As Requested ☐ For Your Information ☐ For Review/Comment

We are sending you: Geotechnical Report EDH 52 Silva Valley Parkway @ US50
ADMP Application
Check # 6587 in the amount of $510.00

RSC Engineering, Inc.
Consulting Engineers

2250 Douglas Blvd.
Suite 150
Roseville, CA 95661
916.788.2884
Fax 916.788.4408
info@rsc-engr.com

ROUGH GRADING PLANS FOR
EDH 52
HIGHWAY 50 AND SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95762
EL DORADO COUNTY
APN: 122-720-09

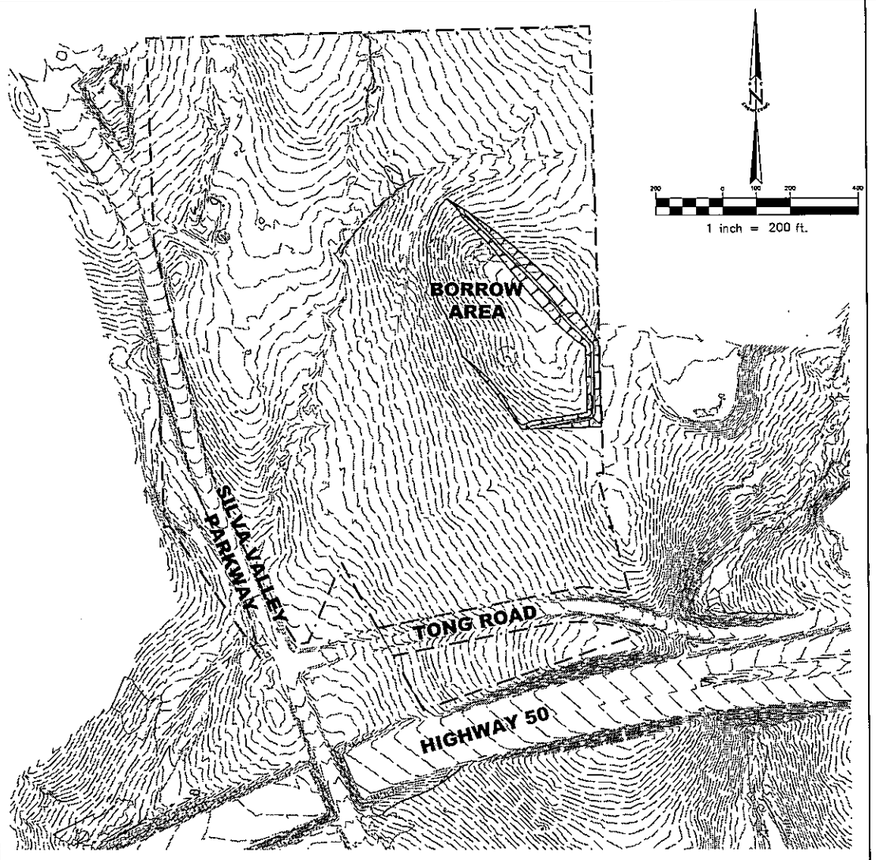
SYMBOL LEGEND

- PROPOSED SANITARY SEWER
- EXISTING SANITARY SEWER
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- PROPOSED WATER LINE
- EXISTING WATER LINE
- PROPOSED UNDERGROUND ELECTRIC
- EXISTING UNDERGROUND ELECTRIC
- PROPOSED UNDERGROUND TELEPHONE
- EXISTING UNDERGROUND TELEPHONE
- PROPOSED JOINT UTILITY TRENCH
- EXISTING JOINT UTILITY TRENCH
- PROPOSED GAS LINE
- EXISTING GAS LINE
- EXISTING OVERHEAD ELECTRIC
- PROPOSED MAJOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED FLOWLINE
- PROPOSED GRADE BREAK
- PROPOSED FENCE
- EXISTING FENCE
- EXISTING EDGE OF PAVEMENT
- EXISTING METAL BEAM GUARDRAIL
- PROPERTY BOUNDARY LINE
- RIGHT OF WAY LINE
- LOT LINE
- UTILITY EASEMENT LINE
- ADA PATH OF TRAVEL
- PROPOSED GATE VALVE
- EXISTING GATE VALVE
- PROPOSED BUTTERFLY VALVE
- EXISTING BUTTERFLY VALVE
- PROPOSED BLOW-OFF VALVE
- EXISTING BLOW-OFF VALVE
- PROPOSED AIR RELEASE VALVE
- EXISTING AIR RELEASE VALVE
- PROPOSED WATER METER
- PROPOSED FIRE HYDRANT
- EXISTING FIRE HYDRANT
- PROPOSED R.P. BACKFLOW PREVENTOR
- PROPOSED SANITARY SEWER MANHOLE
- EXISTING SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER CLEANOUT
- EXISTING SANITARY SEWER CLEANOUT
- PROPOSED STORM DRAIN MANHOLE
- EXISTING STORM DRAIN MANHOLE
- PROPOSED STORM DRAIN INLET
- PROPOSED STORM DRAIN CURB INLET
- EXISTING STORM DRAIN INLET
- PROPOSED TELEPHONE MANHOLE
- EXISTING TELEPHONE MANHOLE
- PROPOSED MANHOLE AS INDICATED
- EXISTING ELECTRIC VAULT
- PROPOSED ELECTRIC TRANSFORMER
- EXISTING JOINT UTILITY POLE
- EXISTING UTILITY POLE GUY ANCHOR
- EXISTING TRAFFIC SIGNAL LIGHT
- EXISTING STREET LIGHT
- PROPOSED SPOT ELEVATION
- EXISTING SPOT ELEVATION
- GRADE SLOPE AS INDICATED
- OVERLAND RELEASE PATH

ABBREVIATIONS

AB	AGGREGATE BASE
AC	ASPHALTIC CONCRETE OR ACRE
BC	BACK OF CURB
BFP	BACKFLOW PREVENTER
BLDG.	BUILDING
BM	BENCHMARK
BW	BOTTOM OF WALL
C	CONDUIT
C&G	CURB AND GUTTER
CONC.	CONCRETE
C/L, ℄	CENTERLINE
CMP	CORRUGATED METAL PIPE
CO.	CLEANOUT
CONST.	CONSTRUCT
COTG	CLEANOUT TO GRADE
CR	CURB RETURN
Δ	DELTA
DI	STORM DRAIN INLET
DIA, ⌀	DIAMETER
DWG	DRAWING
DWY	DRIVEWAY
EX. (E)	EXISTING
EC	END HORIZONTAL CURVE
ELEC.	ELECTRIC
EP	EDGE OF PAVEMENT
ESMT.	EASEMENT
FDC	FIRE DEPARTMENT CONNECTION
FF	FINISH FLOOR
FG	FINISH GRADE
FP	FINISH PAVEMENT
FS	FINISH SURFACE
FL	FLOWLINE
G	GAS
GB	GRADE BREAK
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HGL	HYDRAULIC GRADE LINE
IE	INVERT ELEVATION
INTX	INTERSECTION
INV	PIPE INVERT
IR	IRRIGATION
JP	JOINT UTILITY POLE
L	LENGTH
MAX.	MAXIMUM
MH	MANHOLE
MIN.	MINIMUM
O.C.	ON CENTERS
OH	OVERHEAD
PB	PULL BOX
PCC, PC	PORTLAND CEMENT CONCRETE
PE	POLYETHYLENE PIPE
PI	POINT OF INTERSECTION
PIV	POST INDICATOR VALVE
PL, ℙ	PROPERTY LINE
PP	POWER POLE
PRC	POINT OF REVERSE CURVE
PT	POINT OF TANGENCY
PVC	POLYVINYLCHLORIDE PIPE
PVMT	PAVEMENT
R	RADIUS
RAD	RADIAL
RCP	REINFORCED CONCRETE PIPE
RPDCA	REDUCED PRESS. DETECTOR CHECK ASSY.
R.O.W.	RIGHT OF WAY
S	SLOPE
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SS	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE
S.	STATION
SW	SIDEWALK
TB	TOP OF BANK
TC	TOP OF CURB
TEL.	TELEPHONE
TBC	TOP BACK OF CURB
TP	TELEPHONE POLE
TW	TOP OF WALL
TS	TAMPER SWITCH
TEMP.	TYPICAL
UG	UNDERGROUND
VCP	VITRIFIED CLAY PIPE
W	WATER

SITE LOCATION MAP



SHEET INDEX

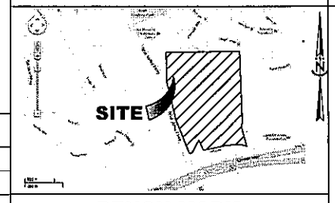
CIVIL IMPROVEMENT PLANS

C1.0	COVER SHEET
C1.1	NOTES SHEET
C1.2	MITIGATION MEASURES
C1.3	MITIGATION MEASURES
C2.0	EXISTING CONDITIONS
C3.0	BORROW AREA PLAN
C4.0	EROSION CONTROL PLAN
C4.1	EROSION CONTROL NOTES AND DETAILS

AVALABLE QUANTITIES

EXISTING STOCKPILE:	20,000 CY
BORROW AREA:	100,000 CY
TOTAL	120,000 CY

VICINITY MAP



BENCH MARK

DESCRIPTION: ELEV: 673.08

BRASS DISC STAMPED "T-127 1932", SET IN THE TOP OF THE WESTERLY END OF THE NORTHERLY RAIL OF BRIDGE #2502 OVER CARSON CREEK EASTERLY OF WHITE ROCK ROAD AND SOUTHERLY OF U.S. HIGHWAY 50.

NOTES

BASIS OF BEARING: THE BASIS OF BEARING FOR THIS SURVEY IS IDENTICAL TO THAT CERTAIN RECORD OF SURVEY FILED IN THE OFFICE OF THE COUNTY RECORDER OF EL DORADO COUNTY IN BOOK 16 OF SURVEYS, PAGE 147, WHICH IS THE CALIFORNIA COORDINATE SYSTEM, ZONE II. ALL DISTANCES ARE GROUND DISTANCES. MULTIPLY DISTANCE SHOWN BY 0.99991 TO OBTAIN GRID DISTANCE.

DEVELOPER:
EDH 52
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

CIVIL ENGINEERING:
RSC ENGINEERING, INC.
2250 DOUGLAS BLVD SUITE 150
ROSEVILLE, CA 95661
PHONE: (916) 788-2884

AGENCY APPROVALS

COUNTY OF EL DORADO DEPARTMENT OF TRANSPORTATION

By: _____ COUNTY ENGINEER, R.C.E. _____ DATE

DOT'S signature is founded on the premise that the owner and engineer of record have provided accurate information to DOT. If any of the information is found to be erroneous, then DOT may require the owner, engineer of record and contractor to stop all non-erosion control related work until the discrepancy is rectified to the satisfaction of DOT.

UTILITY REPRESENTATIVES

USA			800-227-2600
GAS	PACIFIC GAS & ELECTRIC	JENNIFER DONOVAN	530-383-0973
ELECTRICITY	PACIFIC GAS & ELECTRIC	JENNIFER DONOVAN	530-383-0973
TELEPHONE	AT&T	MATTHEW COCHRANE	530-621-6928
WATER	E.I.D.	KIM NETHERCOTT	530-642-4037
SEWER	E.I.D.	KIM NETHERCOTT	530-642-4037
DRAINAGE	EL DORADO COUNTY	D.O.T.	530-624-5900
FIRE	EL DORADO HILLS FIRE DEPARTMENT		530-626-3190
CABLE TV	-	-	-

OWNER:
EDH 52
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 383-2500

NO.	DESCRIPTION	DWG INIT.	BY	DATE

REGISTERED PROFESSIONAL ENGINEER
RICHARD S. CHRISTY
No. 29033
Mar. 31, 2015
CIVIL
STATE OF CALIFORNIA

RSC ENGINEERING
2250 Douglas Blvd. Suite 150
Roseville, CA 95661
Ph: 916.788.2884 Fax: 916.788.4408

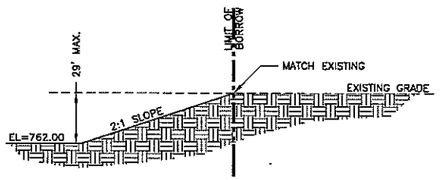
PROJECT NO:	104-001
DRAWN BY:	K. BAXTER
CHECKED BY:	RSC Eng
DESIGNED BY:	RSC Eng

ROUGH GRADING PLANS FOR
EDH 52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95762
EL DORADO COUNTY

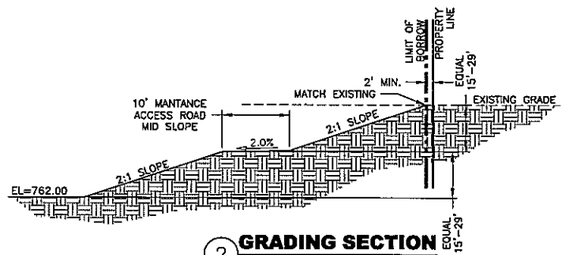
SHEET TITLE
COVER SHEET

SHEET NO.
C1.0
OF **8**

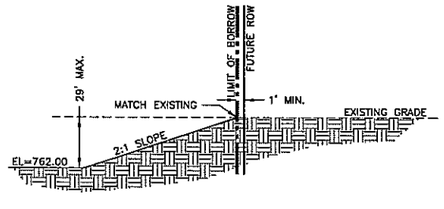
DATE: AUGUST 2013



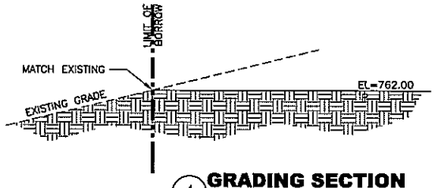
1 **GRADING SECTION**
NOT TO SCALE



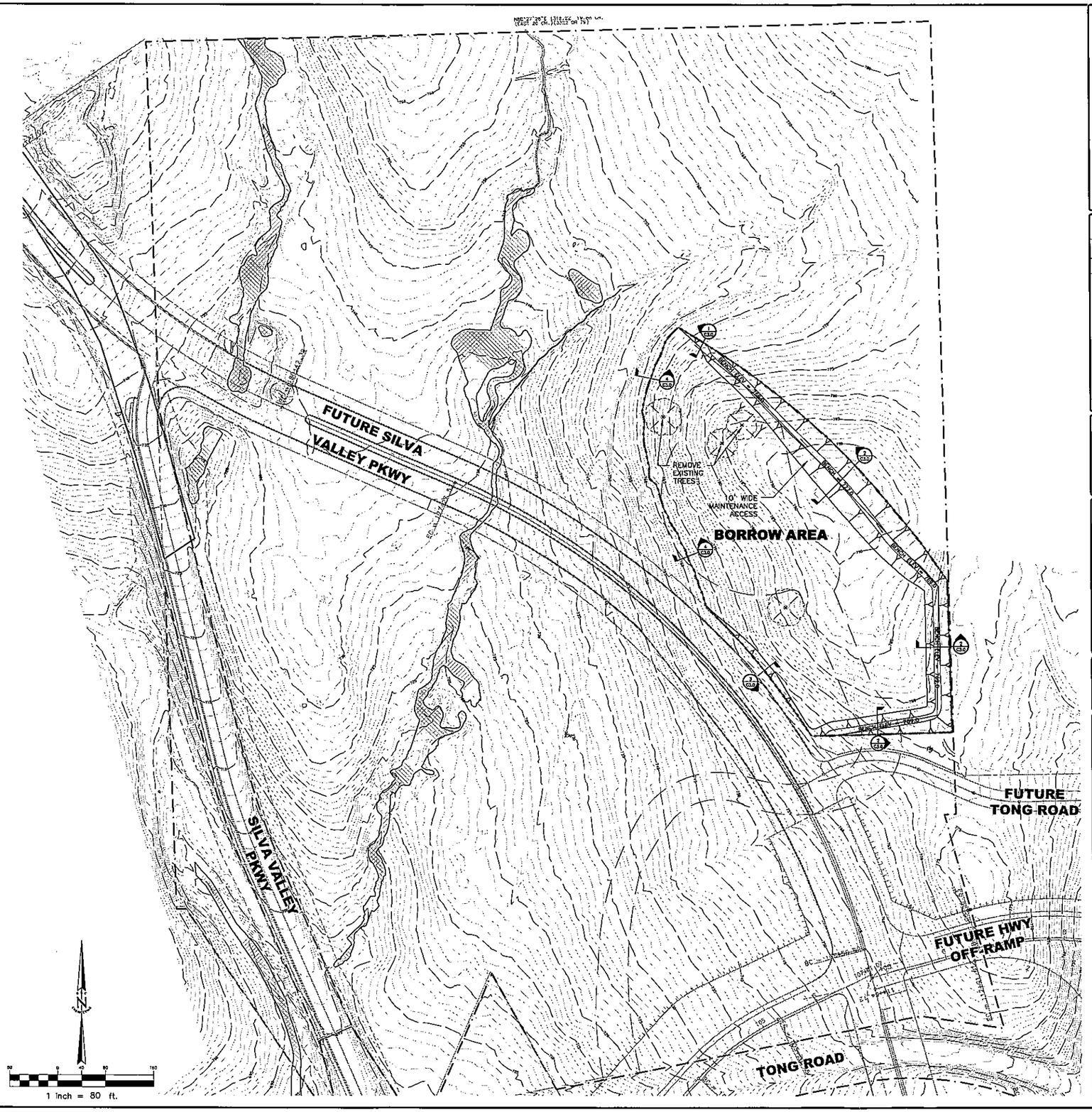
2 **GRADING SECTION**
NOT TO SCALE



3 **GRADING SECTION**
NOT TO SCALE



4 **GRADING SECTION**
NOT TO SCALE



OWNER:
EDH 52
7700 COLLEGE TOWN DRIVE, SUITE 101
SACRAMENTO, CA 95826
PHONE: (916) 353-2500

NO	DESCRIPTION	BY	DATE
			CITY APPROVED

REGISTERED PROFESSIONAL ENGINEER
RICHARD S. CRAVEN
No.29033
Mar. 31, 2015
CIVIL
STATE OF CALIFORNIA

RSC ENGINEERING
2250 Douglas Blvd. Suite 150
Roseville, CA 95661
Ph:916.786.2884 Fax:916.786.4408

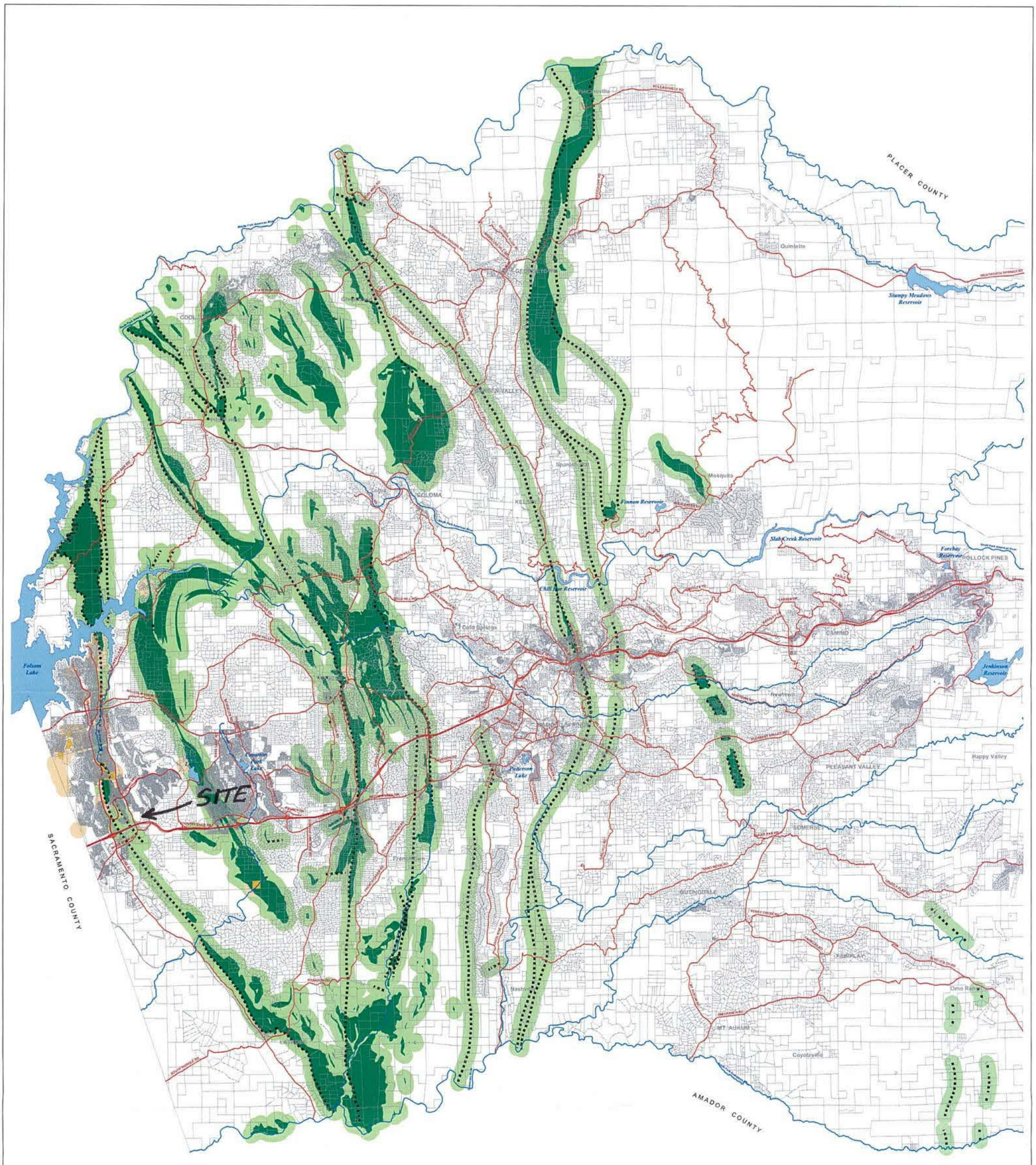
PROJECT NO: 104-001
DRAWN BY: K. BAXTER
CHECKED BY: RSC Eng
DESIGNED BY: RSC Eng

ROUGH GRADING PLANS FOR
EDH 52
HIGHWAY 50 & SILVA VALLEY PARKWAY
EL DORADO HILLS, CA 95761
EL DORADO COUNTY

SHEET TITLE
ROUGH GRADING PLAN

SHEET NO.
C3.0
OF **6**

DATE: AUGUST 2013



Legend

- Found Area of NOA
- Quarter Mile Buffer for Found Area of NOA
- More Likely To Contain Asbestos (Dept of Conservation Mines & Geology OPEN-FILE REPORT 2000-002)
- Quarter Mile Buffer for More Likely To Contain Asbestos or Fault Line
- Fault Line (Dept of Conservation Mines & Geology OPEN-FILE REPORT 2000-002)
- Parcel Base
- Major Roads
- Rivers & Creeks

0 0.5 1 2 3 4 Miles

Map displayed in State Plane Coordinate System (NAD 1983 California Zone 2, feet)

ASBESTOS REVIEW AREAS
Western Slope
County of El Dorado
State of California

DISCLAIMER

THIS DEPICTION WAS COMPILED FROM UNVERIFIED PUBLIC AND PRIVATE SOURCES AND IS ILLUSTRATIVE ONLY. NO REPRESENTATION IS MADE AS TO ACCURACY OF THAT INFORMATION AND NONE MAY BE INFERRED. THEREFORE USERS MAKE USE TO THAT INFORMATION AT THEIR OWN RISK.

NOTES:

LAYER INFORMATION MAY COVER ADDITIONAL AREAS OUTSIDE OF THE DISPLAYED AREA.

PREPARED AT THE REQUEST OF: Environmental Management, DATE: 07/21/2005

MAP PREPARED BY: Frank Bruyn, DATE: 07/21/2005

G.I.S. PROJECT ID: 3089a, RELATED REPORT: na

EL DORADO COUNTY SURVEYOR/G.I.S. DIVISION
PHONE (530) 621-6511 FAX (530) 626-8731

ASBESTOS REVIEW AREAS
Western Slope
County of El Dorado
State of California

APPROVED

Legend

- Asbestos Review Parcel
- Removed By Geologic Evaluation
- Found Area of NOA (August 22, 2018)
- Quarter Mile Buffer for Found Area of NOA
- More Likely To Contain Asbestos (Dept of Conservation Mines & Geology OPEN-FILE REPORT 2000-002)
- Quarter Mile Buffer for More Likely To Contain Asbestos or Fault Line
- Fault Line (Dept of Conservation Mines & Geology OPEN-FILE REPORT 2000-002)
- Parcel Base
- Major Roads
- Rivers & Creeks

N W E S

0 0.5 1 2 3 4 Miles

Map displayed in State Plane Coordinate System (NAD 1983 California Zone 2, feet)

DISCLAIMER

THIS DEPICTION WAS COMPILED FROM UNVERIFIED PUBLIC AND PRIVATE SOURCES AND IS ILLUSTRATIVE ONLY. NO REPRESENTATION IS MADE AS TO ACCURACY OF THIS INFORMATION. PARCEL BOUNDARIES ARE PARTICULARLY UNRELIABLE. USERS MAKE USE TO THIS DEPICTIO AT THEIR OWN RISK.

NOTES:

LAYER INFORMATION MAY COVER ADDITIONAL AREAS OUTSIDE OF THE DISPLAYED AREA.

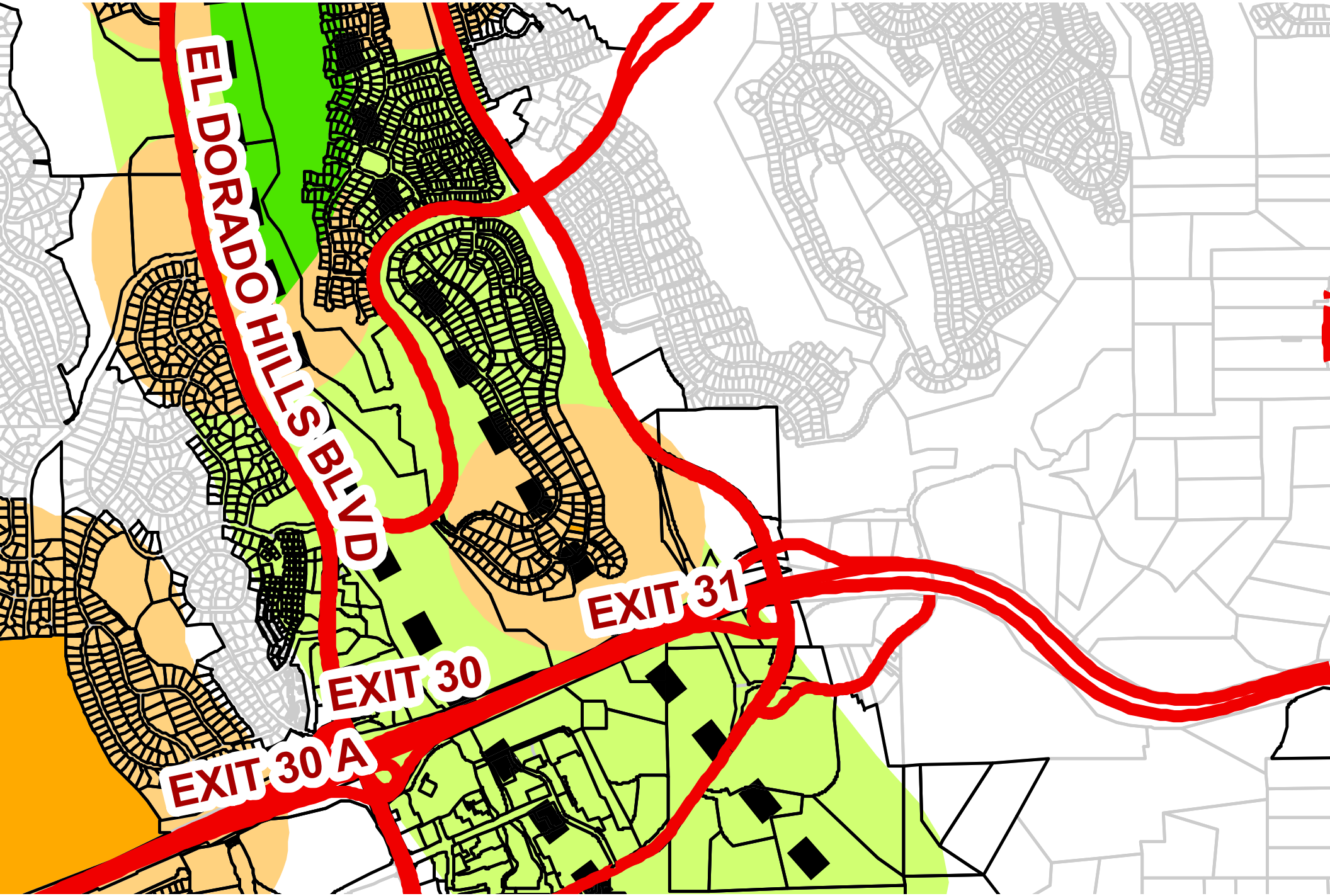
PREPARED AT THE REQUEST OF: Air Quality Management, DATE: 08/22/2018

MAP PREPARED BY: Frank Bruijn, DATE: 08/24/2018

G.I.S. PROJECT ID: 73523, RELATED REPORT: na

EL DORADO COUNTY SURVEYOR/G.I.S. DIVISION
PHONE (530) 621-6511 FAX (530) 626-8731

PLACER COUNTY
SACRAMENTO COUNTY
AMADOR COUNTY
Rubicon River
Middle Fork American River
North Fork American River
South Fork American River
Volcanoville
Greenwood
COOL
PILOT HILL
GEORGETOWN
GARDEN VALLEY
Spanish Flat
Mosquito
Lotus
COLOMA
KELSEY
Finnon Reservoir
Slab Creek Reservoir
Chili Bar Reservoir
Cold Springs
PLACERVILLE
Smith Flat
POLLOCK PINES
Foreboy Reservoir
CAMINO
North Fork Weber Creek
Folsom Lake
RESCUE
Newtown
South Fork Weber Creek
Jenkinson Res
DIAMOND SPRINGS
Happy Valle
EL DORADO HILLS
CAMERON PARK
SHINGLE SPRINGS
EL DORADO
Patterson Lake
Martinez Creek
PLEASANT VALLEY
Camp Creek
SOMERSET
Frenchtown
Nashville
OUTINGDALE
FAIRPLAY
Omo Ranch
MT. AUKUM
Coyoteville
LATROBE
Deer Creek
Cameron Park Lake
Bass Lake
Big Canyon Creek
Cosumnes River
Middle Fork Cosumnes River
South Fork Cosumnes River


EL DORADO HILLS BLVD
EXIT 31
EXIT 30
EXIT 30 A

Lindsey Dandridge-Perry

From: El Dorado County Public Records Center <eldoradocountyca@mycusthelp.net>
Sent: Thursday, January 24, 2019 1:43 PM
To: Lindsey Dandridge-Perry
Subject: Public Records Request :: P002014-012219

Follow Up Flag: Follow up
Flag Status: Flagged

External Email.

--- Please respond above this line ---

County of El Dorado

The Gold Standard in Public Service

Public Records

Dear Ms. Dandridge-Perry,

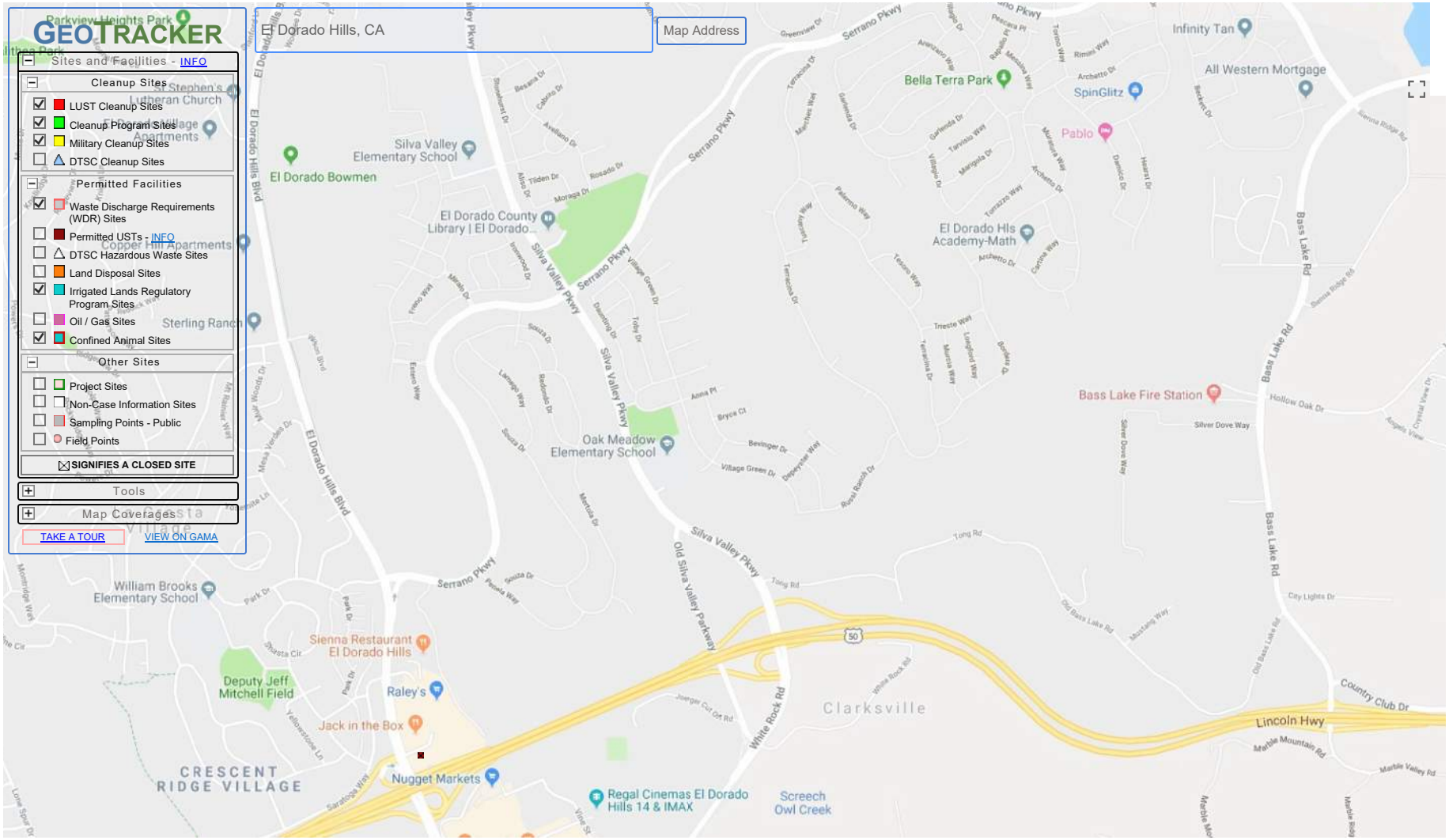
The Community Development Services, Environmental Management Department, has concluded its search and has determined that there are no records available responsive to your public records request for the property identified as APN 122-720-09 in El Dorado Hills.

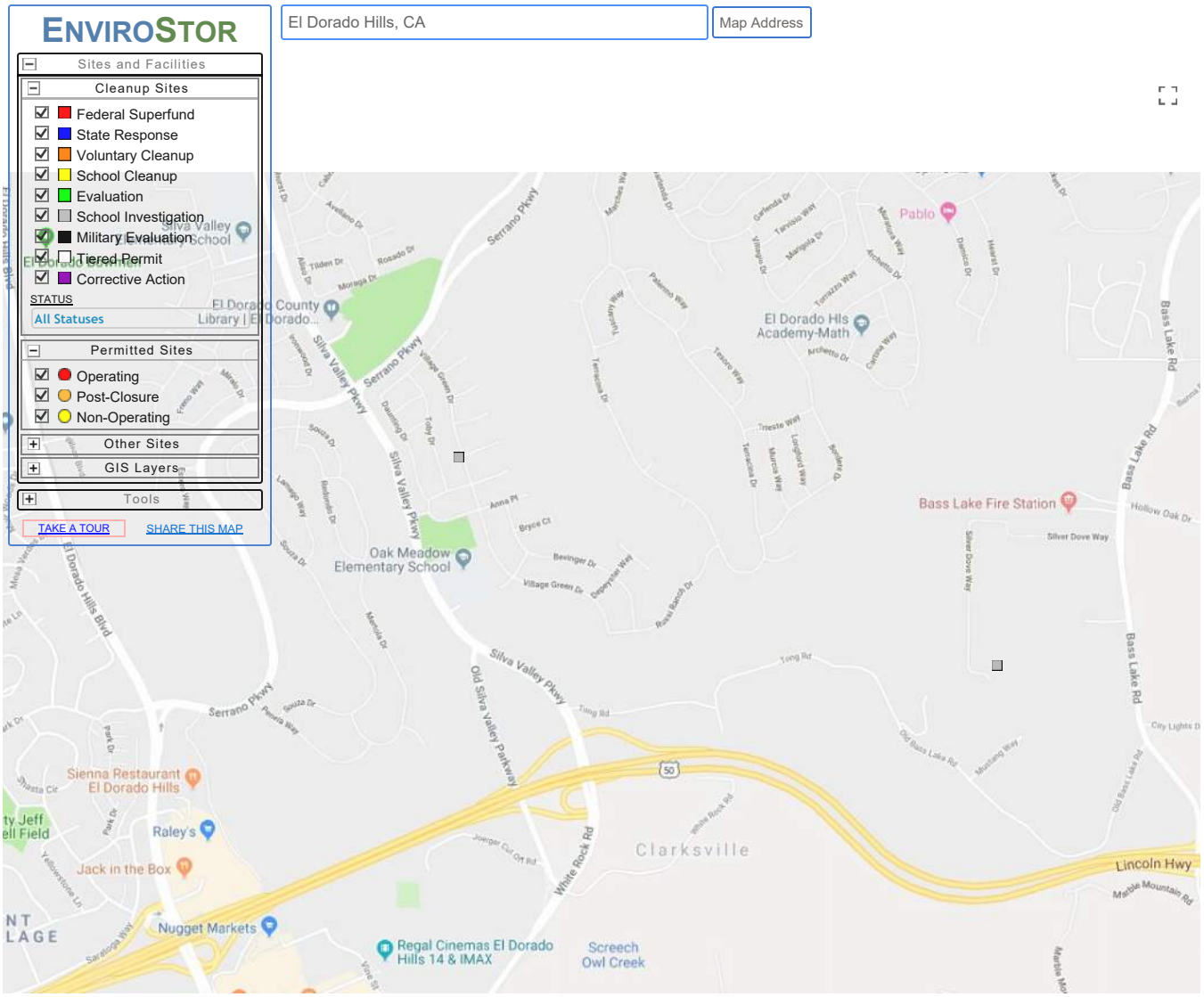
This email confirms closure of your request. Thank you for using the WebQA system.

Regards,

Tom Meyer
Administrative Analyst
Environmental Management Department

To monitor the progress or update this request please log into the El Dorado County Public Records Center.


GEOTRACKER
El Dorado Hills, CA
Map Address
Sites and Facilities - INFO
Cleanup Sites
LUST Cleanup Sites
Cleanup Program Sites
Military Cleanup Sites
DTSC Cleanup Sites
Permitted Facilities
Waste Discharge Requirements (WDR) Sites
Permitted USTs - INFO
DTSC Hazardous Waste Sites
Land Disposal Sites
Irrigated Lands Regulatory Program Sites
Oil / Gas Sites
Confined Animal Sites
Other Sites
Project Sites
Non-Case Information Sites
Sampling Points - Public
Field Points
SIGNIFIES A CLOSED SITE
Tools
Map Coverages
TAKE A TOUR
VIEW ON GAMA
Serrano Pkwy
Silva Valley Pkwy
El Dorado Hills Blvd
Bass Lake Rd
White Rock Rd
Old Silva Valley Parkway
Lincoln Hwy
Country Club Dr
Clarksville
Infinity Tan
All Western Mortgage
Bella Terra Park
SpinGlitz
Pablo
El Dorado Bowmen
Silva Valley Elementary School
El Dorado County Library | El Dorado...
El Dorado Hls Academy-Math
Bass Lake Fire Station
Oak Meadow Elementary School
William Brooks Elementary School
Sienna Restaurant El Dorado Hills
Deputy Jeff Mitchell Field
Raley's
Jack in the Box
Nugget Markets
CRESCENT RIDGE VILLAGE
Regal Cinemas El Dorado Hills 14 & IMAX
Screech Owl Creek
Google
200 m
Map data ©2019 Google
SITES CURRENTLY VISIBLE ON MAP



SITES CURRENTLY VISIBLE ON MAP — 2 SITES LISTED — EXPORT THIS LIST TO EXCEL

PROJECT NAME	STATUS	PROJECT TYPE	ADDRESS	CITY
SERRANO ELEMENTARY SCHOOL	NO FURTHER ACTION	SCHOOL INVESTIGATION	SERRANO PARKWAY/SILVA VALLEY PARKWAY	EL DORADO HILLS
SILVER DOVE ELEMENTARY	NO FURTHER ACTION	SCHOOL INVESTIGATION	SILVER DOVE WAY/BASS LAKE ROAD	EL DORADO HILLS

KLEINFELDER
Bright People. Right Solutions.

ASTM E1527-13
Phase I Environmental Site Assessment
User Questionnaire

INTRODUCTION

In order to qualify for one of the *Landowner Liability Protections (LLPs)*[1] offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the "*Brownfields Amendments*"),[2] the *user* must conduct the following inquiries required by 40 CFR 312.25, 312.28, 312.29, 312.30, and 312.31. These inquiries must also be conducted by EPA Brownfield Assessment and Characterization grantees. The *user* should provide the following information to the *environmental professional*. Failure to conduct these inquiries could result in a determination that "*all appropriate inquiries*" is not complete.

(1.) Environmental liens that are filed or recorded against the *property* (40 CFR 312.25).

Did a search of *recorded land title records* (or judicial records where appropriate, see *Note 1* below) identify any environmental liens filed or recorded against the *property* under federal, tribal, state or local law?

No

Note 1—In certain jurisdictions, federal, tribal, state, or local statutes, or regulations specify that environmental liens and AULs be filed in judicial records rather than in land title records. In such cases judicial records must be searched for environmental liens and AULs.

(2.) Activity and use limitations that are in place on the *property* or that have been filed or recorded against the *property* (40 CFR 312.26(a)(1)(v) and vi)).

Did a search of *recorded land title records* (or judicial records where appropriate, see *Note 1* above) identify any AULs, such as *engineering controls*, land use restrictions or *institutional controls* that are in place at the *property* and/or have been filed or recorded against the *property* under federal, tribal, state or local law?

No

(3.) Specialized knowledge or experience of the person seeking to qualify for the LLP (40 CFR 312.28).

Do you have any specialized knowledge or experience related to the *property* or nearby properties? For example, are you involved in the same line of business as the current or former *occupants* of the *property* or an *adjoining property* so that you would have specialized knowledge of the chemicals and processes used by this type of business?

No

[1] *Landowner Liability Protections*, or *LLPs*, is the term used to describe the three types of potential defenses to Superfund liability in EPA's *Interim Guidance Regarding Criteria Landowners Must Meet in Order to Qualify for Bona Fide Prospective Purchaser, Contiguous Property Owner, or Innocent Landowner Limitations on CERCLA Liability* ("*Common Elements*" Guide) issued on March 6, 2003.
[2] P.L. 107-118.

(4.) Relationship of the purchase price to the fair market value of the *property* if it were not contaminated (40 CFR 312.29).

Does the purchase price being paid for this *property* reasonably reflect the fair market value of the *property*? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the *property*?

Yes

(5.) Commonly known or *reasonably ascertainable* information about the *property* (40 CFR 312.30).

Are you aware of commonly known or *reasonably ascertainable* information about the *property* that would help the *environmental professional* to identify conditions indicative of releases or threatened releases?

No

For example,

(a.) Do you know the past uses of the *property*?

No

(b.) Do you know of specific chemicals that are present or once were present at the *property*?

No

(c.) Do you know of spills or other chemical releases that have taken place at the *property*?

No

(d.) Do you know of any environmental cleanups that have taken place at the *property*?

No

(6.) The degree of obviousness of the presence or likely presence of contamination at the *property*, and the ability to detect the contamination by appropriate investigation (40 CFR 312.31).

Based on your knowledge and experience related to the *property* are there any *obvious* indicators that point to the presence or likely presence of releases at the *property*?

No

In addition, certain information should be collected, if available, and provided to the *environmental professional* conducting the *Phase I Environmental Site Assessment*. This information is intended to assist the *environmental professional*, but is not necessarily required to qualify for one of the *LLPs*. The information includes:

(a) the reason why the Phase I is being performed,

(b) the type of *property* and type of *property* transaction, for example, sale, purchase, exchange, etc.,

(c) the complete and correct address for the *property* (a map or other documentation showing *property* location and boundaries is helpful),

(d) the scope of services desired for the Phase I ESA (including whether any parties to the *property* transaction may have a required standard scope of services or whether any considerations beyond the requirements of Practice E1527 are to be considered),

(e) identification of all parties who will rely on the Phase I *report* ,

(f) identification of the site contact and how the contact can be reached,

(g) any special terms and conditions which must be agreed upon by the *environmental professional*, and

(h) any other knowledge or experience with the *property* that may be pertinent to the *environmental professional* (for example, copies of any available prior *environmental site assessment reports*, documents, correspondence, etc., concerning the *property* and its environmental condition).

The *USER* QUESTIONNAIRE was completed by:

Name Michael Olsen.

Title Dir Real Estate Development

Firm Costco

Address 9 Corp Park

Irvine Ca

Phone Number (office) _____

(cell) _____

User represents that to the best of the *user's* knowledge the above statements and facts are true and correct, and, to the best of the *user's* knowledge, no material facts have been suppressed or misstated.

User's Signature

Date 02/05/19

APPENDIX D
HISTORICAL RESEARCH DOCUMENTATION

Copyright 2019 Kleinfelder

Vacant Land

Not Reported

El Dorado Hills, CA 95762

Inquiry Number: 5537129.3

January 17, 2019

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

01/17/19

Site Name:	Client Name:
Vacant Land	Kleinfelder, Inc.
Not Reported	24411 Ridge Rte Dr Suite 225
El Dorado Hills, CA 95762	Laguna Hills, CA 92653
EDR Inquiry # 5537129.3	Contact: Lindsey Dandridge-Perry

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Kleinfelder, Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 78E9-4E57-9CC0

PO # 20193180.001A

Project Vacant Land

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: 78E9-4E57-9CC0

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

Limited Permission To Make Copies

Kleinfelder, Inc. (the client) is permitted to make up to FIVE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2019 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

Vacant Land

Not Reported

El Dorado Hills, CA 95762

Inquiry Number: 5537129.11

January 18, 2019

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

01/18/19

Site Name:

Vacant Land
Not Reported
El Dorado Hills, CA 95762
EDR Inquiry # 5537129.11

Client Name:

Kleinfelder, Inc.
24411 Ridge Rte Dr Suite 225
Laguna Hills, CA 92653
Contact: Lindsey Dandridge-Perry

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	Scale	Details	Source
2016	1"=500'	Flight Year: 2016	USDA/NAIP
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2006	1"=500'	Flight Year: 2006	USDA/NAIP
1993	1"=500'	Acquisition Date: May 09, 1993	USGS/DOQQ
1984	1"=500'	Flight Date: June 29, 1984	USDA
1972	1"=500'	Flight Date: June 28, 1972	USDA
1966	1"=500'	Flight Date: August 04, 1966	USGS
1962	1"=500'	Flight Date: July 29, 1962	USDA
1952	1"=500'	Flight Date: July 24, 1952	USGS
1940	1"=500'	Flight Date: June 30, 1940	USDA

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

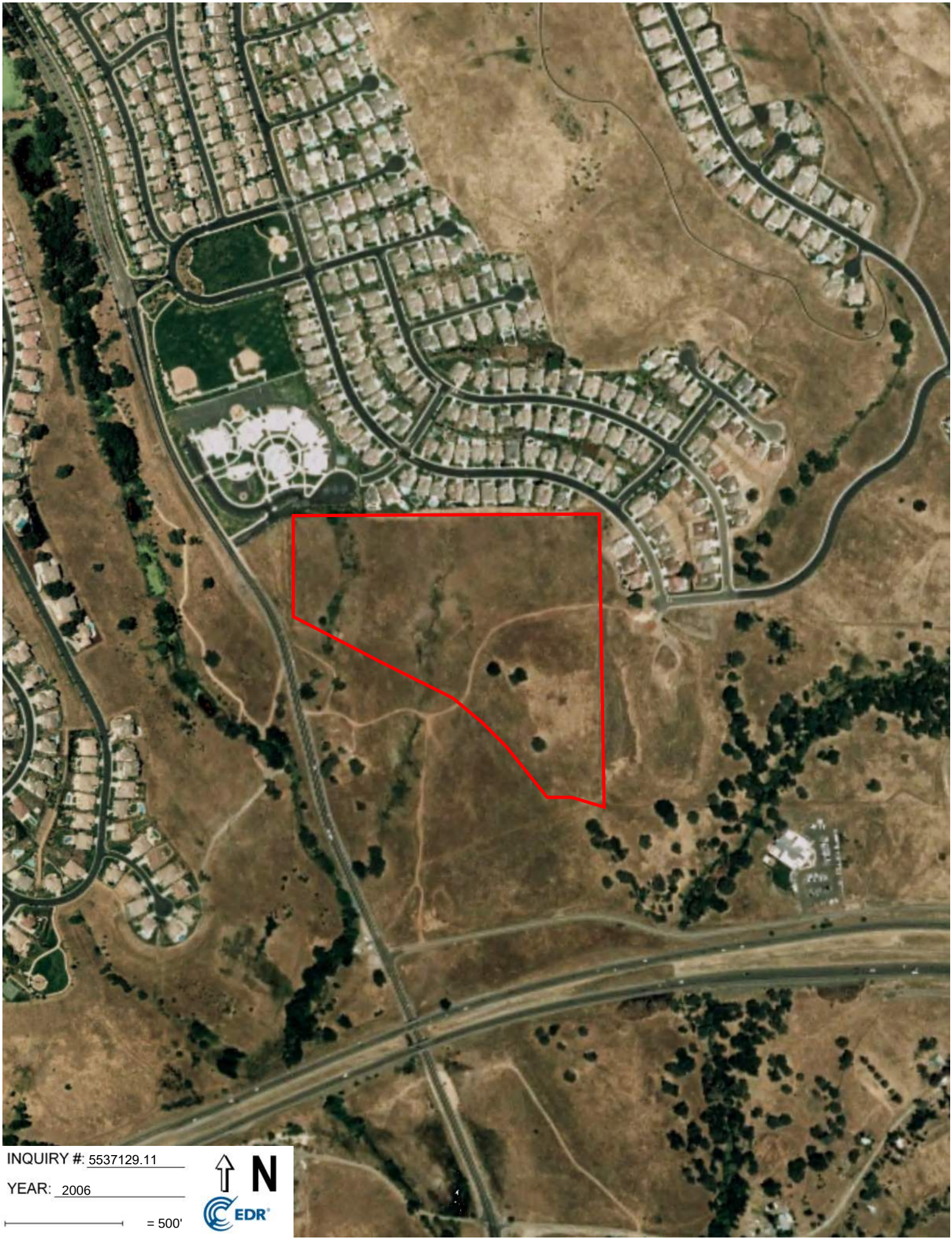
Copyright 2019 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.


INQUIRY #: 5537129.11
YEAR: 2016
= 500'
N
EDR


INQUIRY #: 5537129.11
YEAR: 2012
= 500'
N
EDR


INQUIRY #: 5537129.11
YEAR: 2009
= 500'
N
EDR


INQUIRY #: 5537129.11
YEAR: 2006
= 500'
N
EDR


INQUIRY #: 5537129.11
YEAR: 1993
= 500'
N
EDR



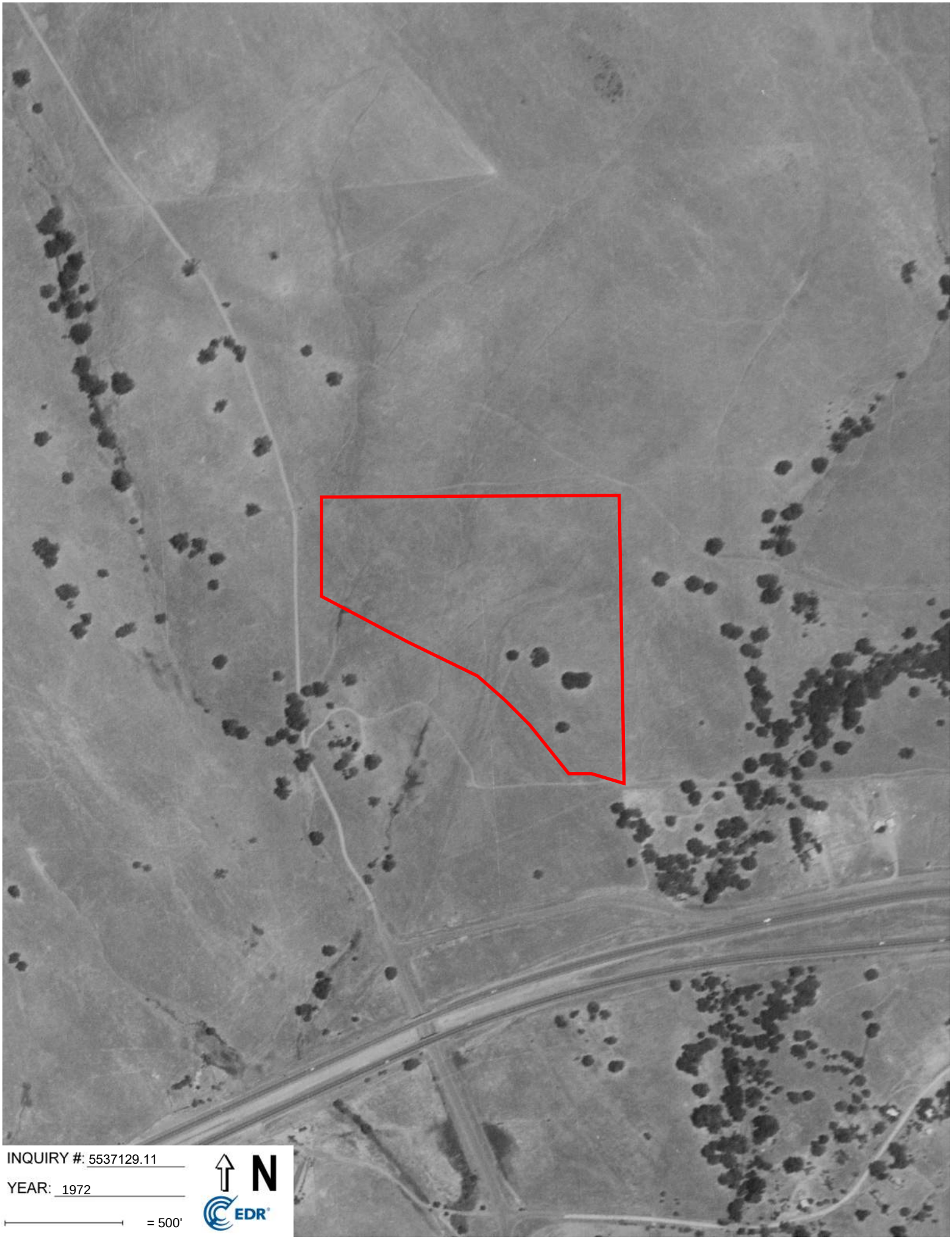
INQUIRY #: 5537129.11

YEAR: 1984

= 500'

N

EDR



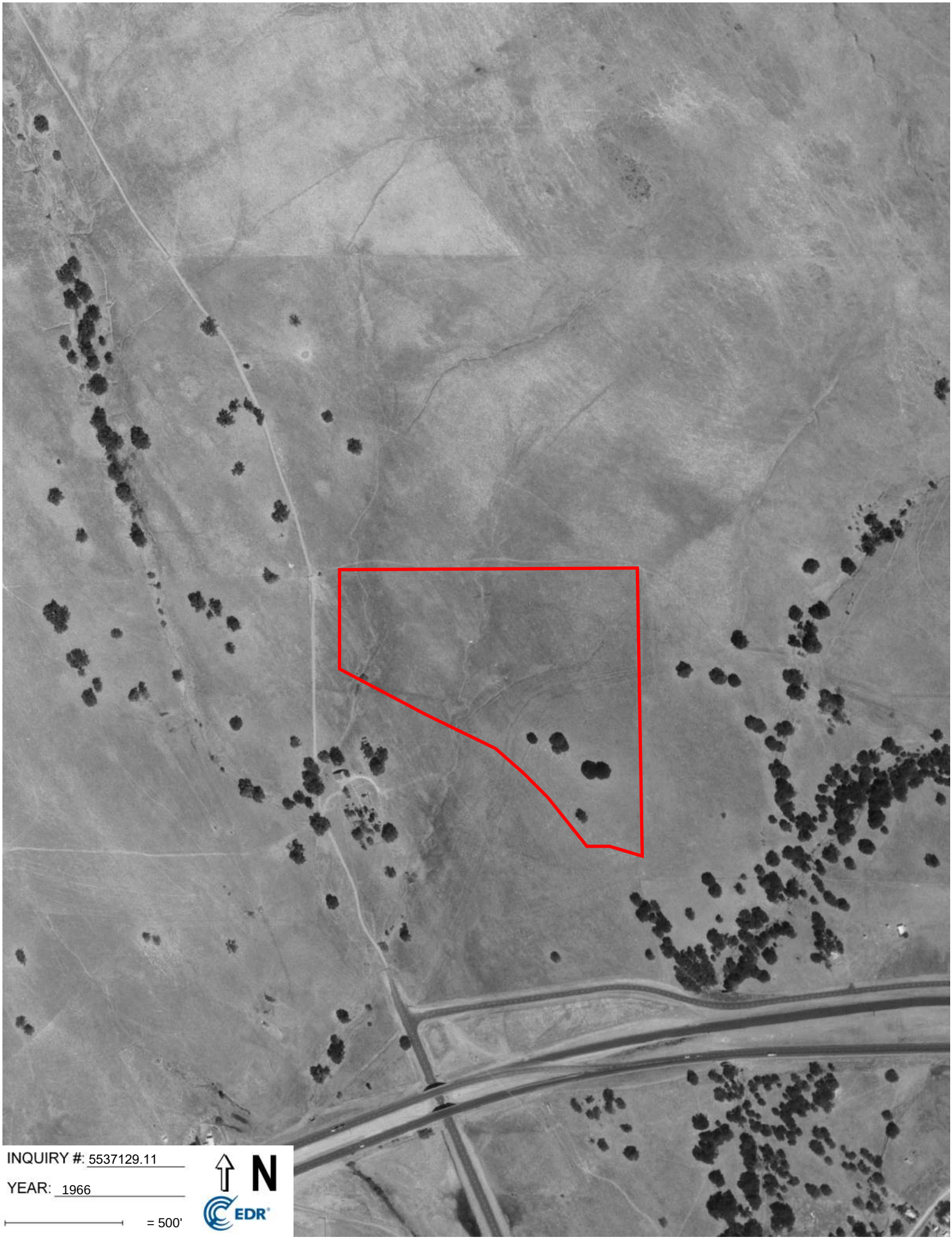
INQUIRY #: 5537129.11

YEAR: 1972

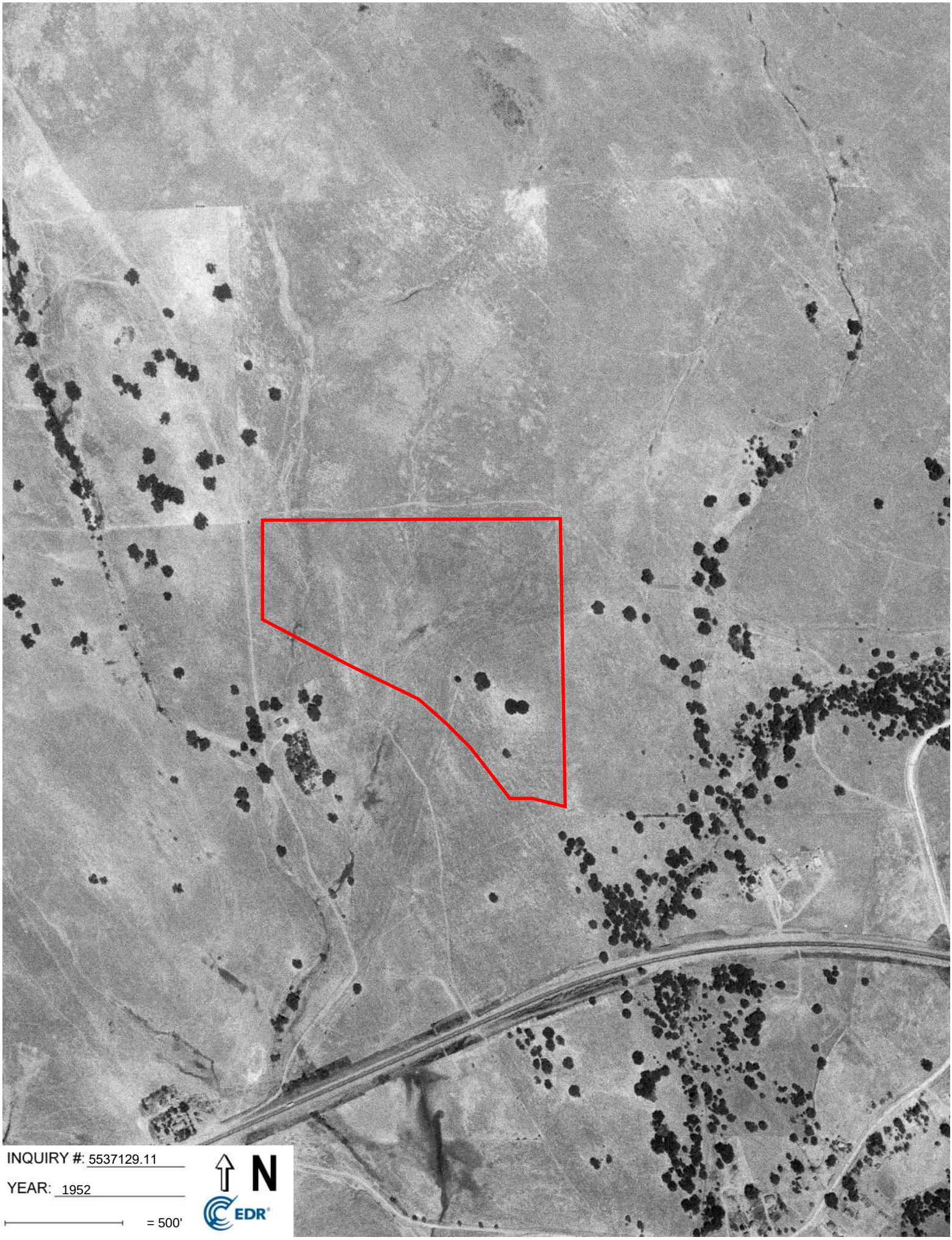
= 500'

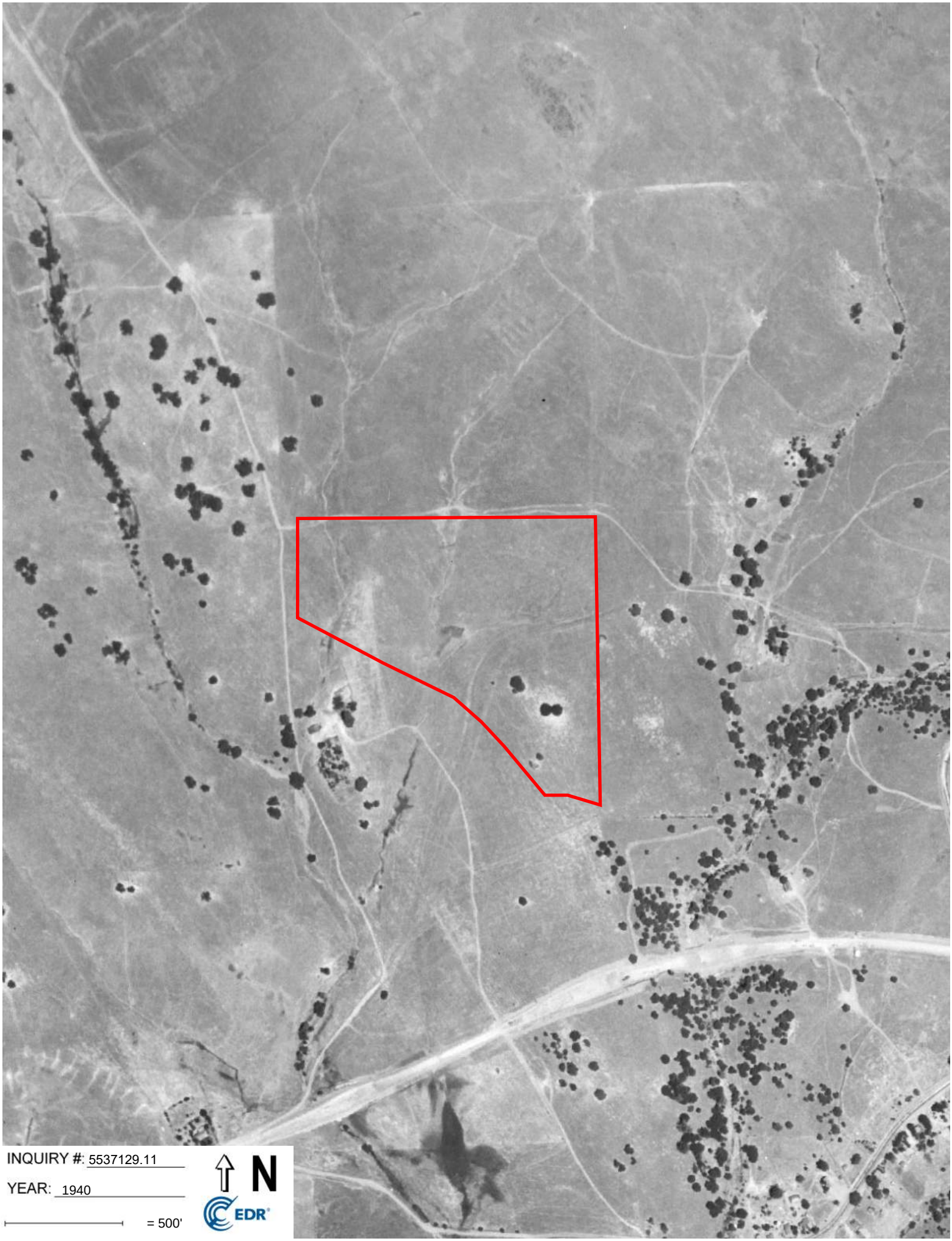
N

EDR


INQUIRY #: 5537129.11
YEAR: 1966
= 500'
N
EDR


INQUIRY #: 5537129.11
YEAR: 1962
= 500'
N
EDR


INQUIRY #: 5537129.11
YEAR: 1952
= 500'
N
EDR


INQUIRY #: 5537129.11
YEAR: 1940
= 500'
N
EDR

Vacant Land
Not Reported
El Dorado Hills, CA 95762

Inquiry Number: 5537129.5
January 18, 2019

The EDR-City Directory Image Report

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Executive Summary

Findings

City Directory Images

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OR DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction orforecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2017 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc. or its affiliates is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EXECUTIVE SUMMARY

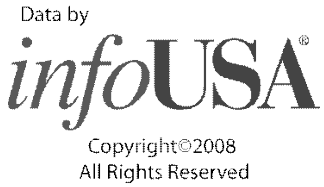
DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

EDR is licensed to reproduce certain City Directory works by the copyright holders of those works. The purchaser of this EDR City Directory Report may include it in report(s) delivered to a customer. Reproduction of City Directories without permission of the publisher or licensed vendor may be a violation of copyright.



RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	Target Street	Cross Street	Source
2014	☑	☐	EDR Digital Archive
2010	☑	☐	EDR Digital Archive
2005	☑	☐	EDR Digital Archive
1999	☐	☐	Haines Criss-Cross Directory
1994	☐	☐	Haines Criss-Cross Directory
1989	☐	☐	Haines Criss-Cross Directory
1985	☐	☐	Haines Criss-Cross Directory
1980	☐	☐	Haines Criss-Cross Directory
1974	☐	☐	Haines Criss-Cross Directory
1970	☐	☐	Haines Criss-Cross Directory

FINDINGS

TARGET PROPERTY STREET

Not Reported
El Dorado Hills, CA 95762

Year	CD Image	Source	

SILVA VALLEY PKWY

2014	pg A1	EDR Digital Archive	
2010	pg A2	EDR Digital Archive	
2005	pg A3	EDR Digital Archive	
1999	-	Haines Criss-Cross Directory	Street not listed in Source
1994	-	Haines Criss-Cross Directory	Street not listed in Source
1989	-	Haines Criss-Cross Directory	Street not listed in Source
1985	-	Haines Criss-Cross Directory	Street not listed in Source
1980	-	Haines Criss-Cross Directory	Street not listed in Source
1974	-	Haines Criss-Cross Directory	Street not listed in Source
1970	-	Haines Criss-Cross Directory	Street not listed in Source

FINDINGS

CROSS STREETS

No Cross Streets Identified

City Directory Images

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

SILVA VALLEY PKWY 2014

7141 BUCKEYE UNION SCHOOL DISTRICT
FRIENDS RLLING HLLS MDDLE SCHL
HANDS 4 HOPE
7455 ELDORADO PUBLIC LIBRARY
7701 BUCKEYE UNION SCHOOL DISTRICT
PTA CA CONGRESS OF PARENTS OAK

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

SILVA VALLEY PKWY 2010

7141 BUCKEYE UNION SCHOOL DISTRICT
FRIENDS RLLING HLLS MDDLE SCHL
7455 EL DORADO COUNTY OF LIBRARY EL
7701 BUCKEYE UNION SCHOOL DISTRICT
PTA CA CONGRESS OF PARENTS OAK

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

SILVA VALLEY PKWY 2005

7141 BUCKEYE UNION SCHOOL DISTRICT
7701 BUCKEYE UNION SCHOOL DISTRICT

Vacant Land

Not Reported

El Dorado Hills, CA 95762

Inquiry Number: 5537129.4

January 17, 2019

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

01/17/19

Site Name:	Client Name:
Vacant Land	Kleinfelder, Inc.
Not Reported	24411 Ridge Rte Dr Suite 225
El Dorado Hills, CA 95762	Laguna Hills, CA 92653
EDR Inquiry # 5537129.4	Contact: Lindsey Dandridge-Perry

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Kleinfelder, Inc. were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:		*Coordinates:*	
P.O.#	20193180.001A	**Latitude:**	38.662215 38° 39' 44" North
Project:	Vacant Land	**Longitude:**	-121.056446 -121° 3' 23" West
		UTM Zone:	Zone 10 North
		UTM X Meters:	669100.20
		UTM Y Meters:	4281085.45
		Elevation:	757.74' above sea level

Maps Provided:

2012	1891
1980	
1973	
1953	
1944	
1941	
1893	
1892	

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2019 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2012 Source Sheets



Clarksville
2012
7.5-minute, 24000

1980 Source Sheets



Clarksville
1980
7.5-minute, 24000
Aerial Photo Revised 1978

1973 Source Sheets



Clarksville
1973
7.5-minute, 24000
Aerial Photo Revised 1973

1953 Source Sheets

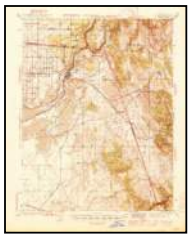


Clarksville
1953
7.5-minute, 24000
Aerial Photo Revised 1952

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1944 Source Sheets



Folsom
1944
15-minute, 62500

1941 Source Sheets



Folsom
1941
15-minute, 62500

1893 Source Sheets



Sacramento
1893
30-minute, 125000

1892 Source Sheets



Sacramento
1892
30-minute, 125000

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

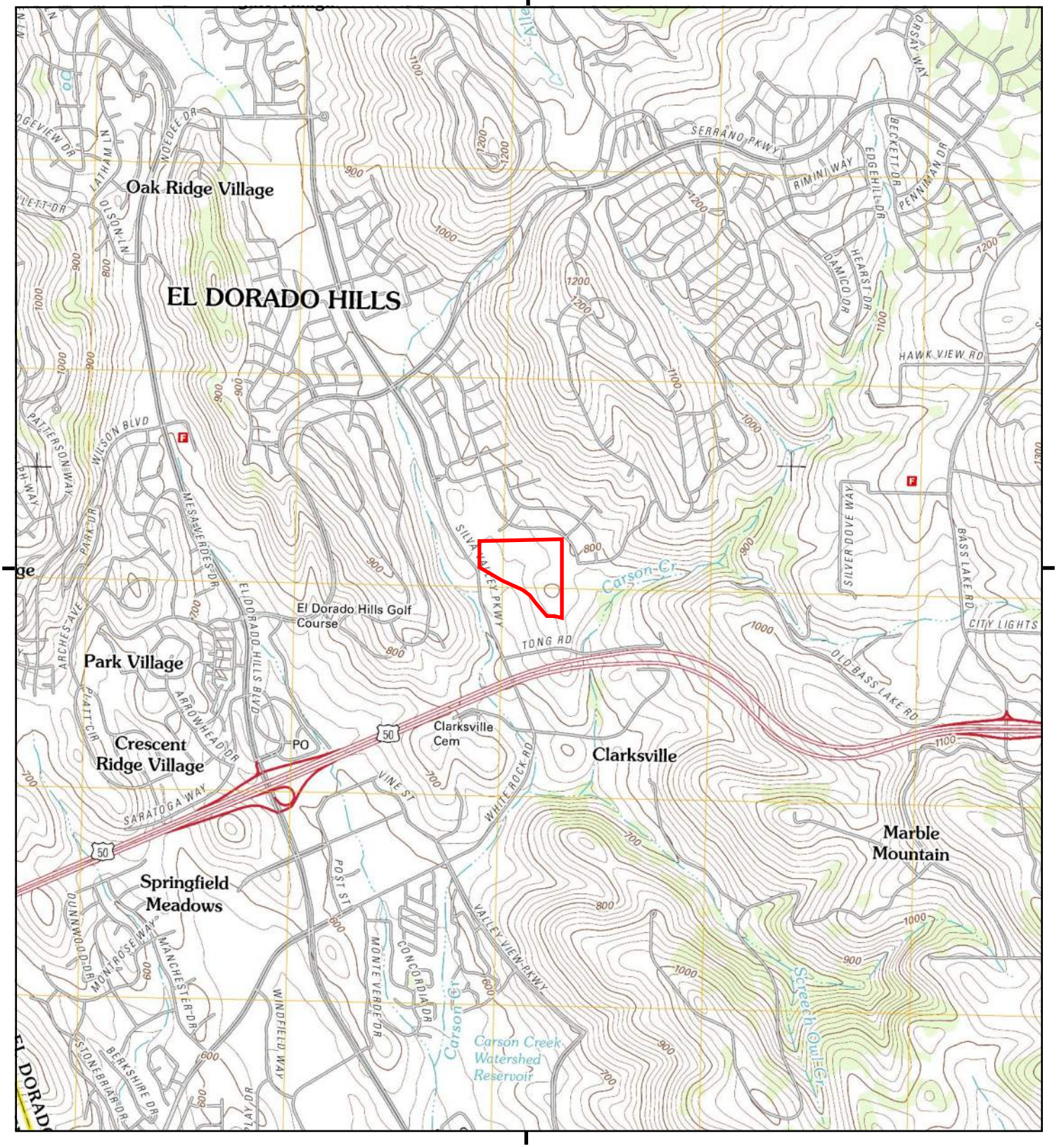
1891 Source Sheets



Sacramento
1891
30-minute, 125000

Historical Topo Map

2012



This report includes information from the following map sheet(s).

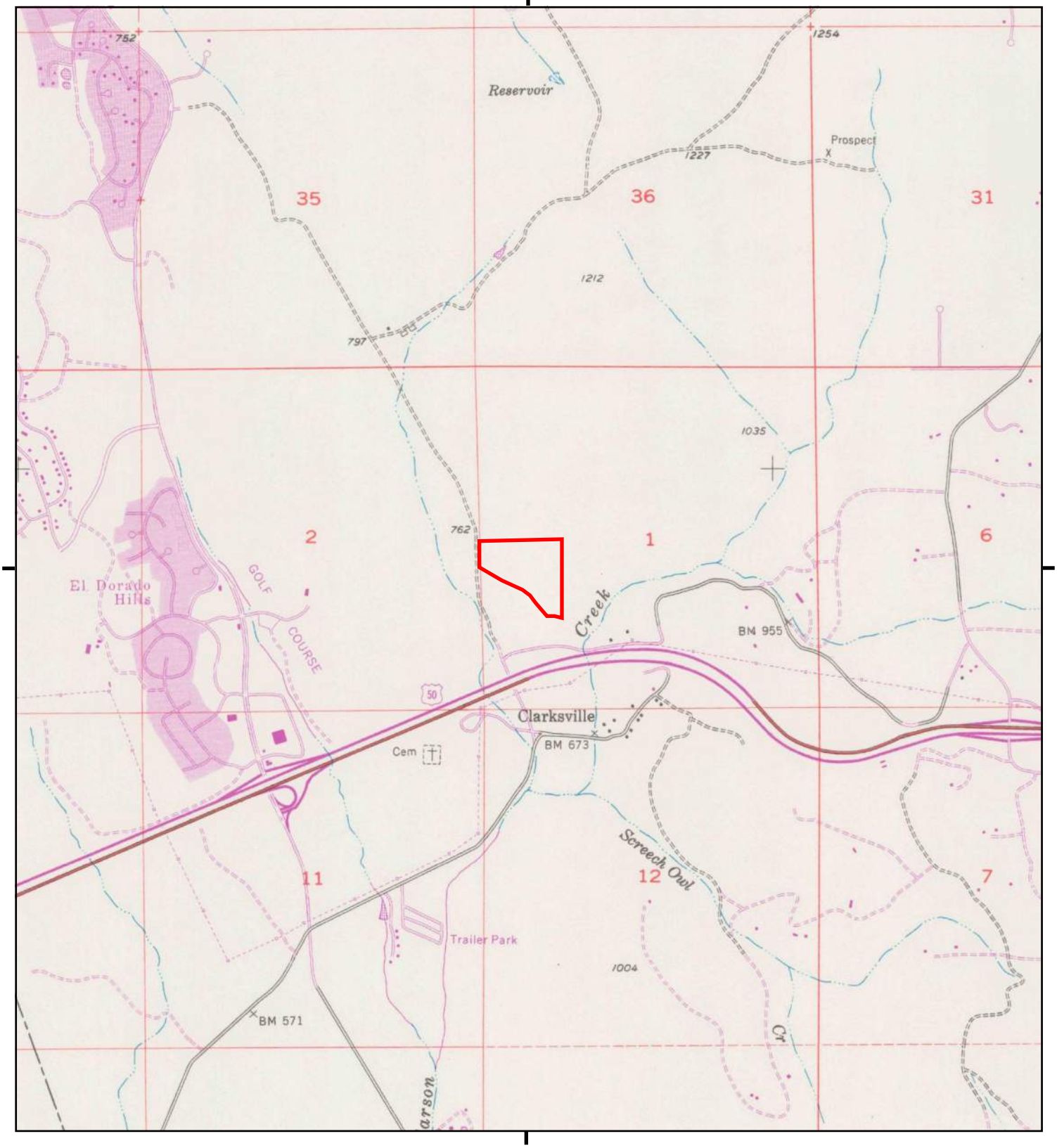
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Clarksville, 2012, 7.5-minute

SITE NAME: Vacant Land
ADDRESS: Not Reported
El Dorado Hills, CA 95762
CLIENT: Kleinfelder, Inc.

N



This report includes information from the following map sheet(s).

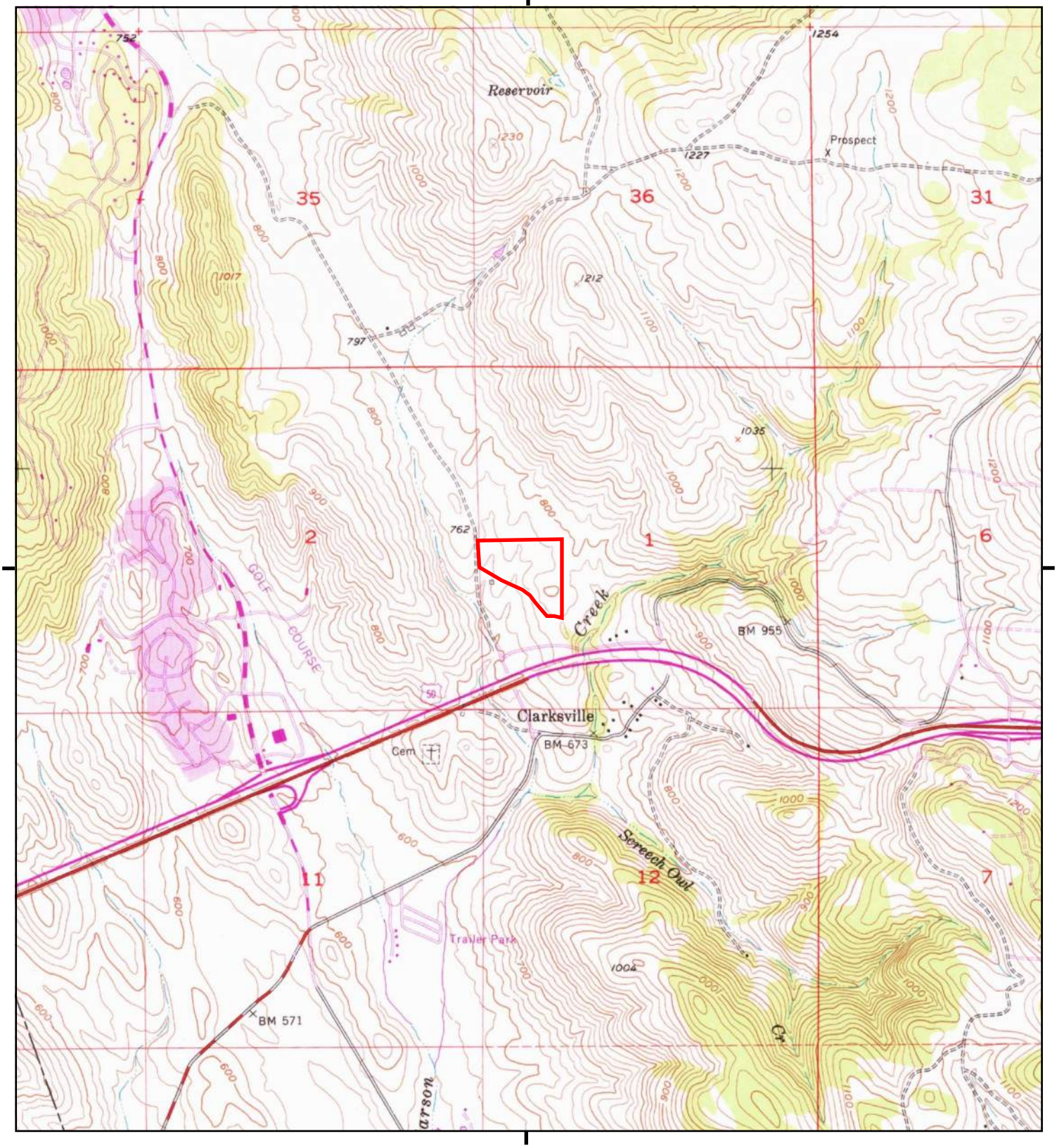
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Clarksville, 1980, 7.5-minute

SITE NAME: Vacant Land
ADDRESS: Not Reported
El Dorado Hills, CA 95762
CLIENT: Kleinfelder, Inc.

N



This report includes information from the following map sheet(s).

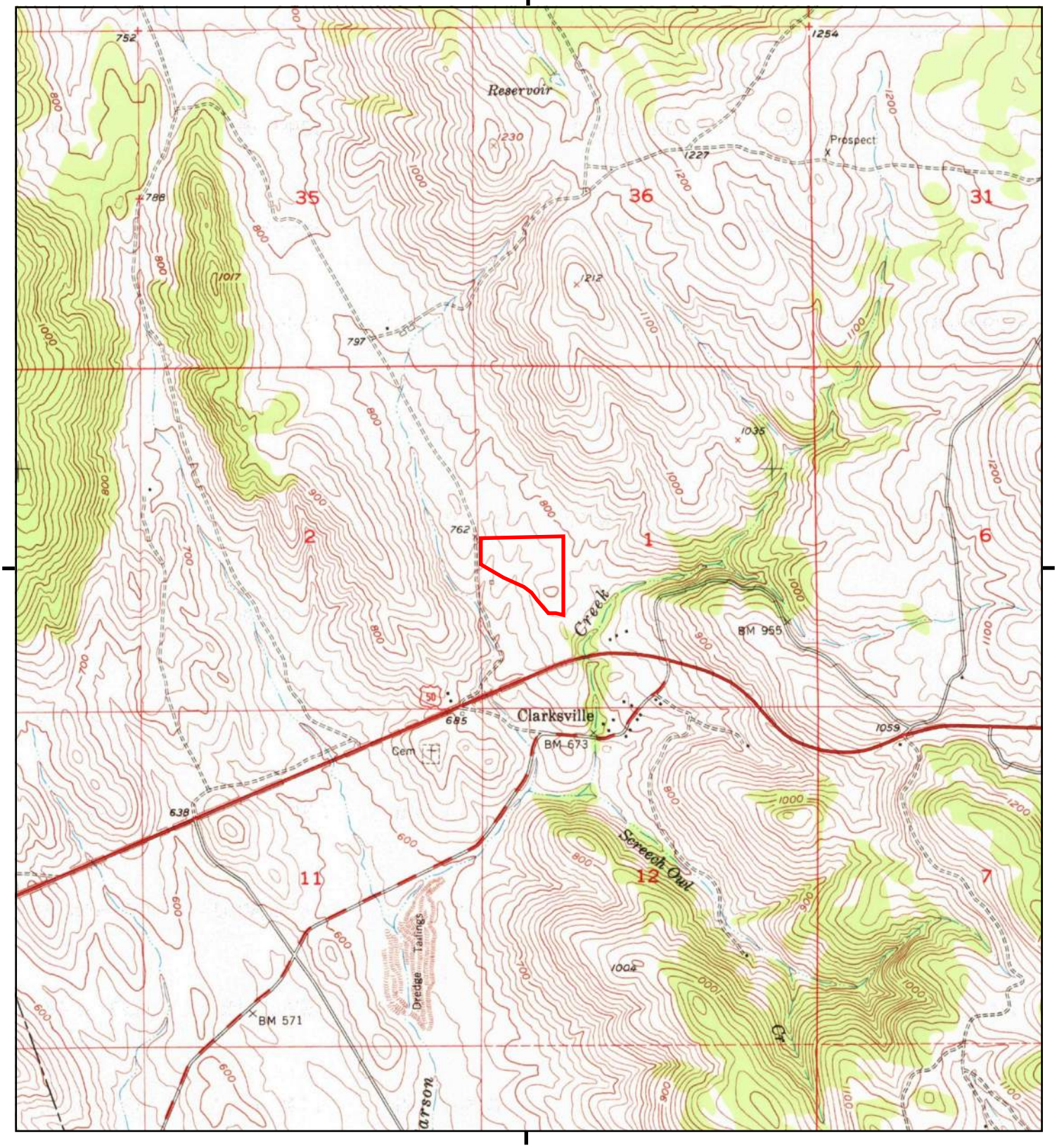
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Clarksville, 1973, 7.5-minute

SITE NAME: Vacant Land
ADDRESS: Not Reported
El Dorado Hills, CA 95762
CLIENT: Kleinfelder, Inc.

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

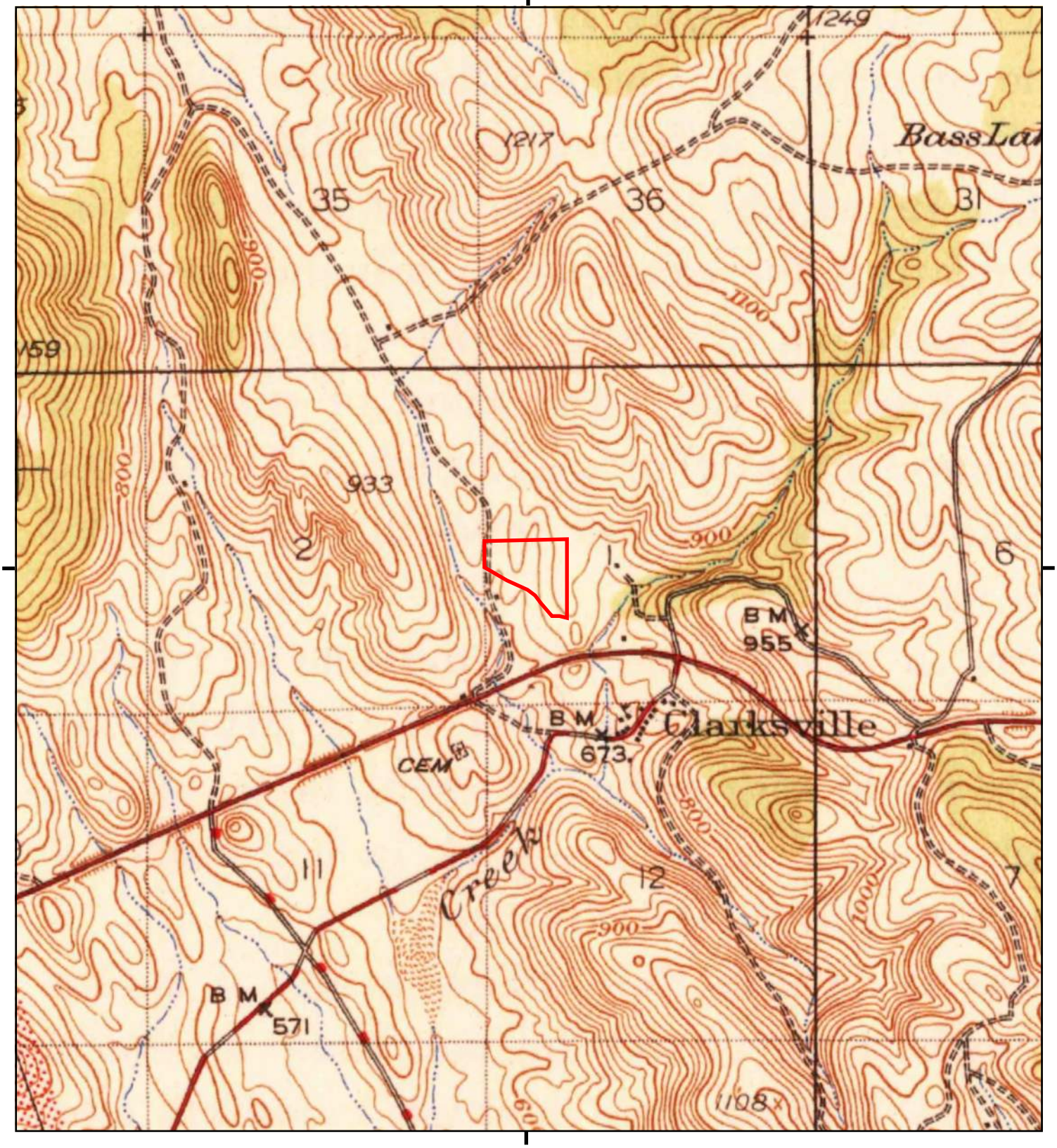
TP, Clarksville, 1953, 7.5-minute

SITE NAME: Vacant Land
ADDRESS: Not Reported
El Dorado Hills, CA 95762
CLIENT: Kleinfelder, Inc.

N

Historical Topo Map

1944



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

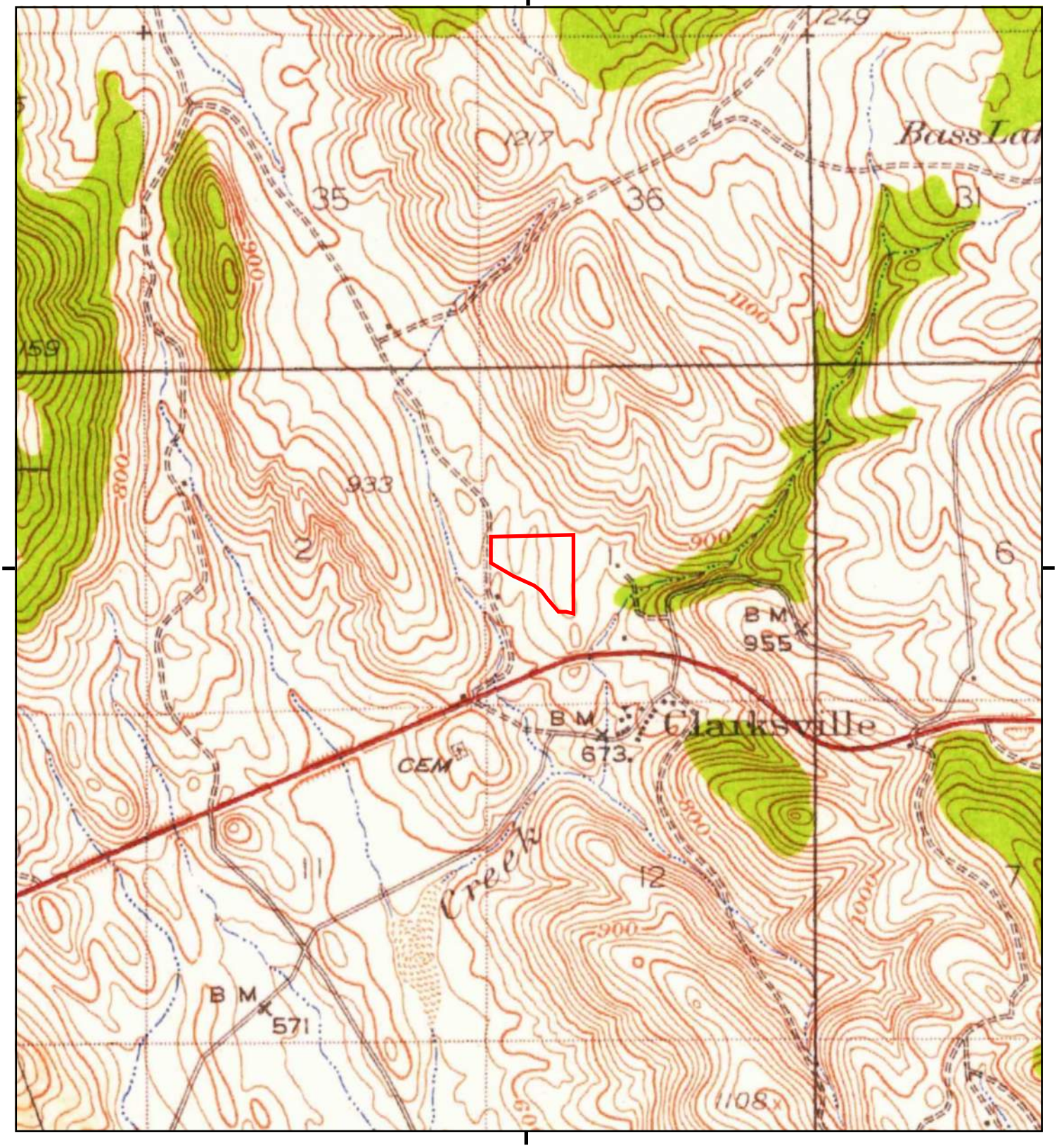
TP, Folsom, 1944, 15-minute

SITE NAME: Vacant Land
ADDRESS: Not Reported
El Dorado Hills, CA 95762
CLIENT: Kleinfelder, Inc.

N

Historical Topo Map

1941



This report includes information from the following map sheet(s).

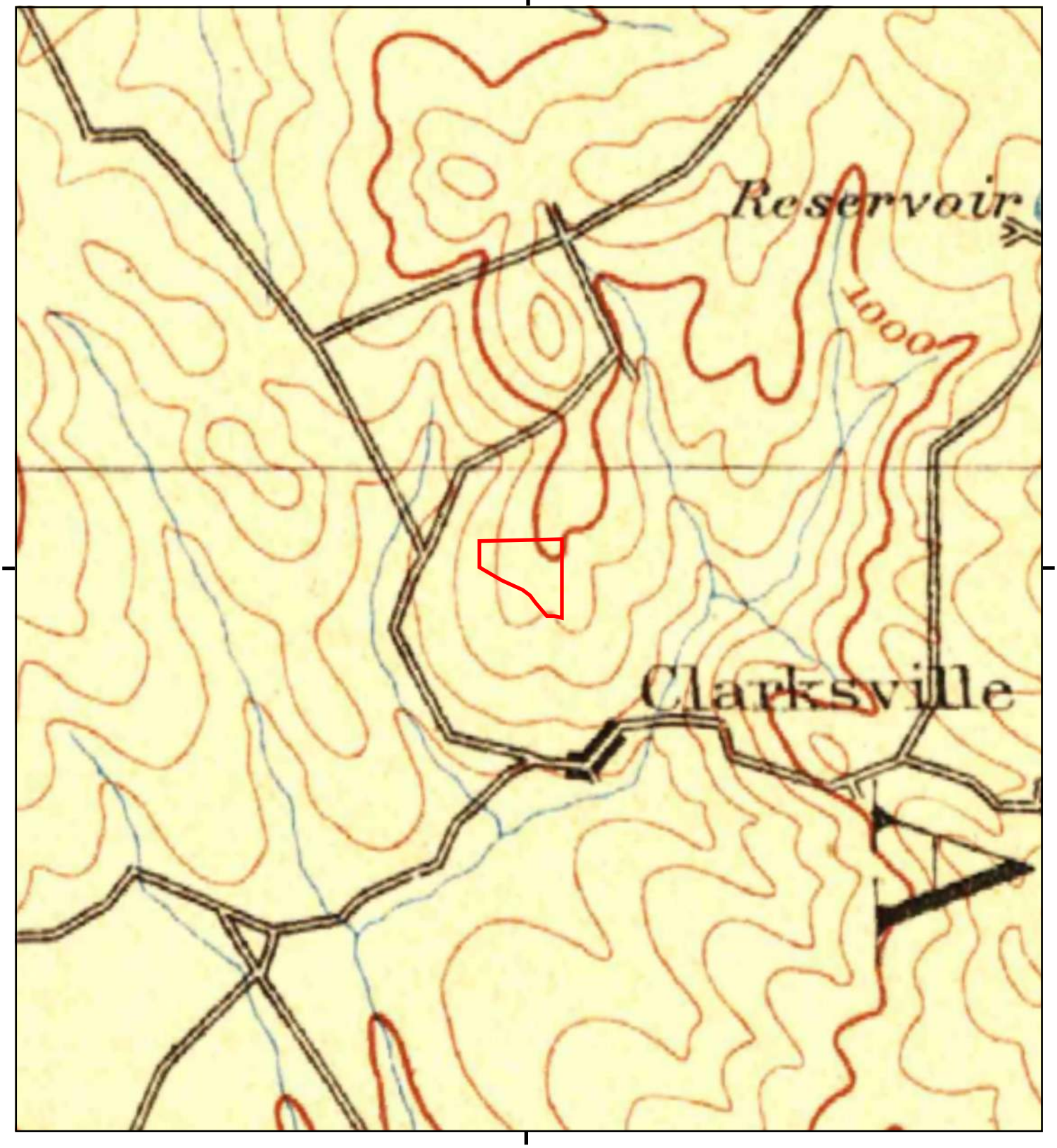
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Folsom, 1941, 15-minute

SITE NAME: Vacant Land
ADDRESS: Not Reported
El Dorado Hills, CA 95762
CLIENT: Kleinfelder, Inc.

N



This report includes information from the following map sheet(s).

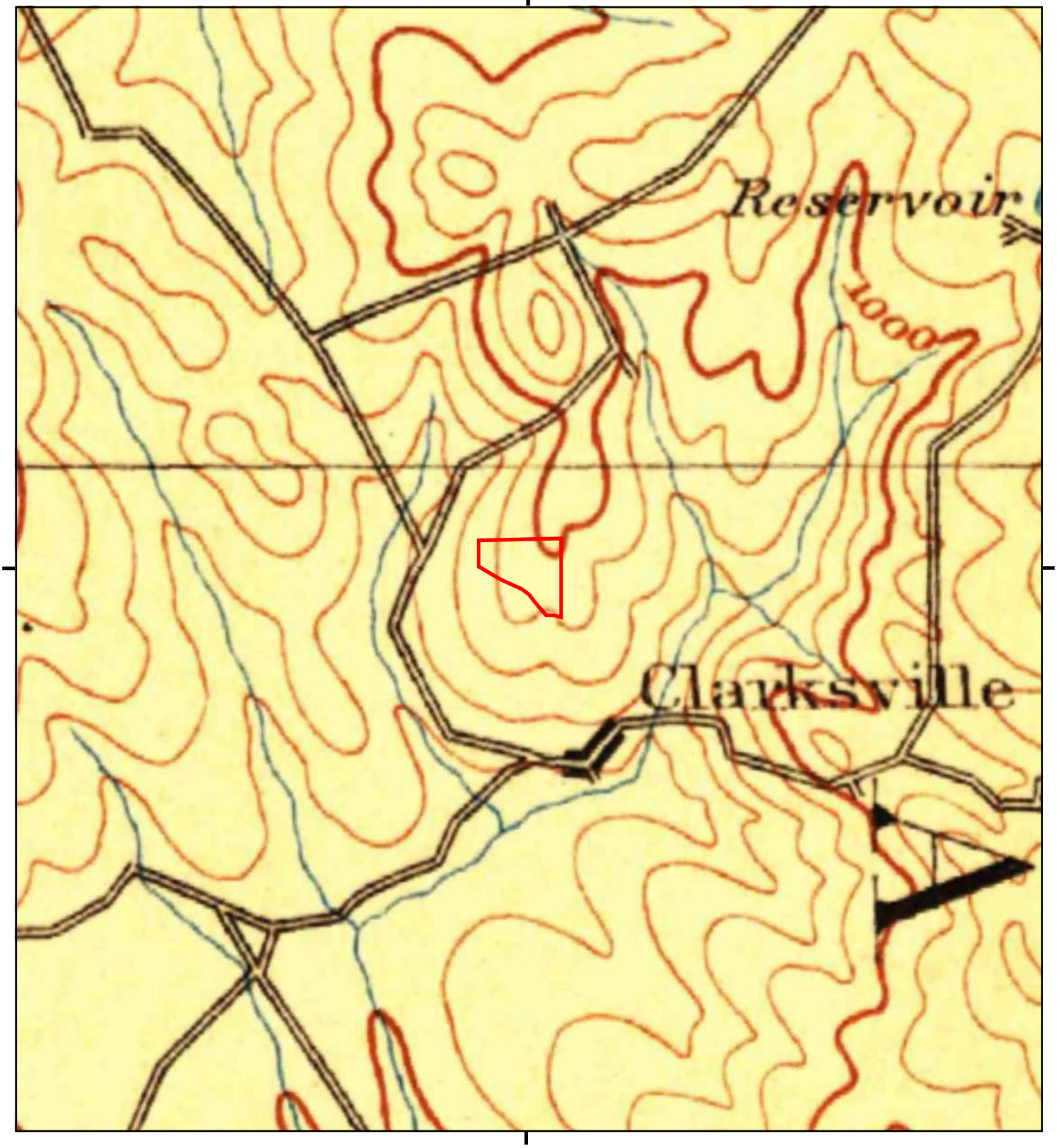
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Sacramento, 1893, 30-minute

SITE NAME: Vacant Land
ADDRESS: Not Reported
El Dorado Hills, CA 95762
CLIENT: Kleinfelder, Inc.

N



This report includes information from the following map sheet(s).

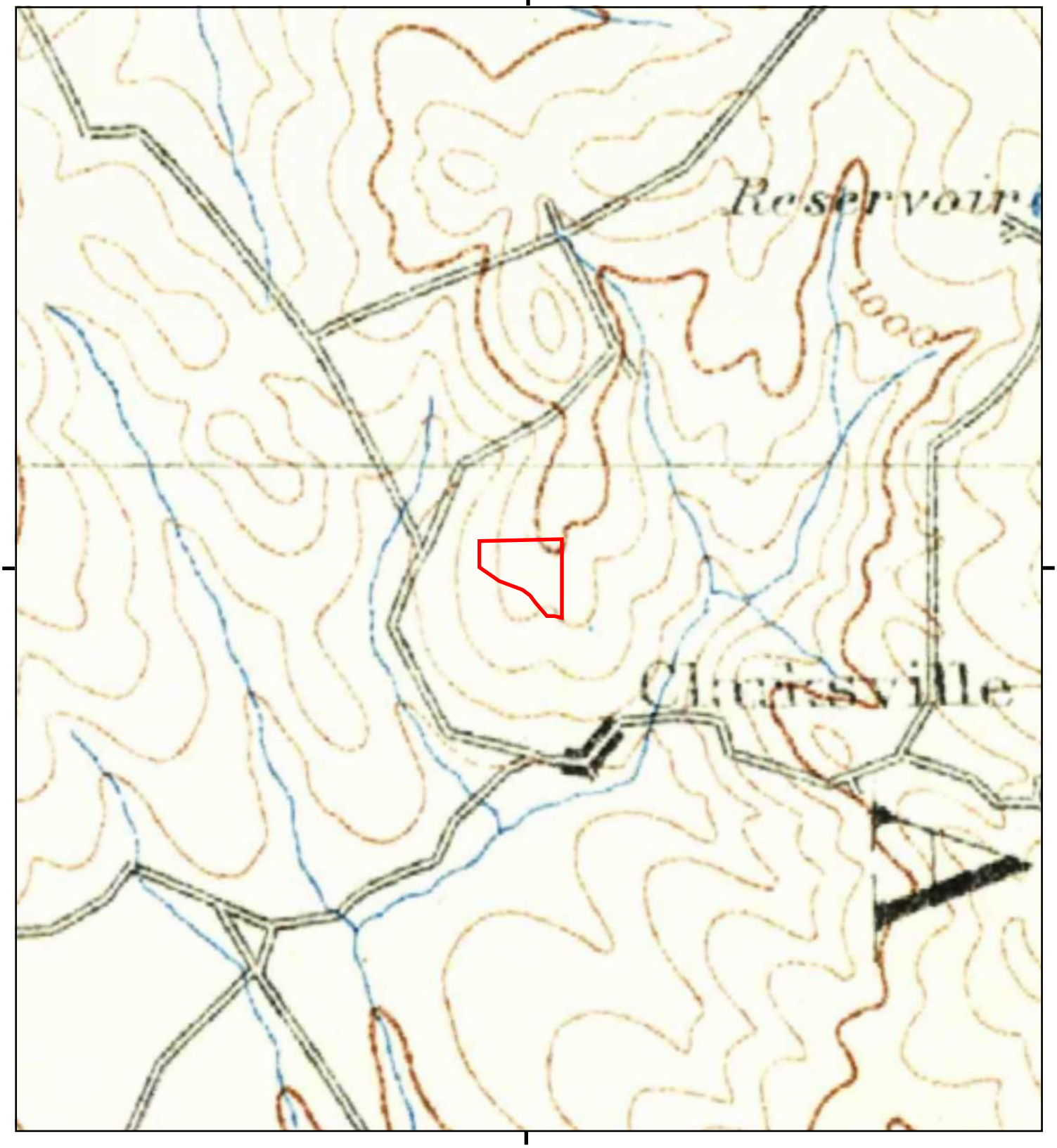
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Sacramento, 1892, 30-minute

SITE NAME: Vacant Land
ADDRESS: Not Reported
El Dorado Hills, CA 95762
CLIENT: Kleinfelder, Inc.

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Sacramento, 1891, 30-minute

SITE NAME: Vacant Land
ADDRESS: Not Reported
El Dorado Hills, CA 95762
CLIENT: Kleinfelder, Inc.

N

Vacant Land
Not Reported
El Dorado Hills, CA 95762

Inquiry Number: 5537129.8
January 17, 2019

EDR Building Permit Report

Target Property and Adjoining Properties

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

About This Report

Executive Summary

Findings

Glossary

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OR DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction orforecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2017 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc. or its affiliates is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EDR BUILDING PERMIT REPORT

About This Report

The EDR Building Permit Report provides a practical and efficient method to search building department records for indications of environmental conditions. Generated via a search of municipal building permit records gathered from more than 1,600 cities nationwide, this report will assist you in meeting the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

Building permit data can be used to identify current and/or former operations and structures/features of environmental concern. The data can provide information on a target property and adjoining properties such as the presence of underground storage tanks, pump islands, sumps, drywells, etc., as well as information regarding water, sewer, natural gas, electrical connection dates, and current/former septic tanks.

ASTM and EPA Requirements

ASTM E 1527-13 lists building department records as a "standard historical source," as detailed in § 8.3.4.7: "Building Department Records - The term building department records means those records of the local government in which the property is located indicating permission of the local government to construct, alter, or demolish improvements on the property." ASTM also states that "Uses in the area surrounding the property shall be identified in the report, but this task is required only to the extent that this information is revealed in the course of researching the property itself."

EPA's Standards and Practices for All Appropriate Inquires (AAI) states: "§312.24: Reviews of historical sources of information. (a) Historical documents and records must be reviewed for the purposes of achieving the objectives and performance factors of §312.20(e) and (f). Historical documents and records may include, but are not limited to, aerial photographs, fire insurance maps, building department records, chain of title documents, and land use records."

Methodology

EDR has developed the EDR Building Permit Report through our partnership with BuildFax, the nation's largest repository of building department records. BuildFax collects, updates, and manages building department records from local municipal governments. The database now includes 30 million permits, on more than 10 million properties across 1,600 cities in the United States.

The EDR Building Permit Report comprises local municipal building permit records, gathered directly from local jurisdictions, including both target property and adjoining properties. Years of coverage vary by municipality. Data reported includes (where available): date of permit, permit type, permit number, status, valuation, contractor company, contractor name, and description.

Incoming permit data is checked at seven stages in a regimented quality control process, from initial data source interview, to data preparation, through final auditing. To ensure the building department is accurate, each of the seven quality control stages contains, on average, 15 additional quality checks, resulting in a process of approximately 105 quality control "touch points."

For more information about the EDR Building Permit Report, please contact your EDR Account Executive at (800) 352-0050.

EDR® Environmental Data Resources Inc

BUILD FAX PROPERTY HISTORY

EXECUTIVE SUMMARY: SEARCH DOCUMENTATION

A search of building department records was conducted by Environmental Data Resources, Inc (EDR) on behalf of Kleinfelder, Inc. on Jan 17, 2019.

TARGET PROPERTY

Not Reported
El Dorado Hills, CA 95762

SEARCH METHODS

EDR searches available lists for both the Target Property and Surrounding Properties.

RESEARCH SUMMARY

Building permits identified: **YES**

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

El Dorado County Unincorporated Area

Year	*Source*	*TP*	*Adjoining*
2018	El Dorado County, Building Services		
2017	El Dorado County, Building Services		X
2016	El Dorado County, Building Services		
2015	El Dorado County, Building Services		
2014	El Dorado County, Building Services		
2013	El Dorado County, Building Services		
2012	El Dorado County, Building Services		X
2011	El Dorado County, Building Services		
2010	El Dorado County, Building Services		
2009	El Dorado County, Building Services		
2008	El Dorado County, Building Services		
2007	El Dorado County, Building Services		
2006	El Dorado County, Building Services		
2005	El Dorado County, Building Services		
2004	El Dorado County, Building Services		
2003	El Dorado County, Building Services		X
2002	El Dorado County, Building Services		X
2001	El Dorado County, Building Services		X
2000	El Dorado County, Building Services		X
1999	El Dorado County, Building Services		X
1998	El Dorado County, Building Services		
1997	El Dorado County, Building Services		
1996	El Dorado County, Building Services		
1995	El Dorado County, Building Services		
1994	El Dorado County, Building Services		
1993	El Dorado County, Building Services		
1992	El Dorado County, Building Services		
1991	El Dorado County, Building Services		

EXECUTIVE SUMMARY: SEARCH DOCUMENTATION

Year	Source	TP	Adjoining
1990	El Dorado County, Building Services		
1989	El Dorado County, Building Services		
1988	El Dorado County, Building Services		
1987	El Dorado County, Building Services		
1986	El Dorado County, Building Services		
1985	El Dorado County, Building Services		
1984	El Dorado County, Building Services		
1983	El Dorado County, Building Services		
1982	El Dorado County, Building Services		
1981	El Dorado County, Building Services		
1980	El Dorado County, Building Services		

Name: JurisdictionName
Years: Years
Source: Source
Phone: Phone

BUILDING DEPARTMENT RECORDS SEARCHED

Name: El Dorado County Unincorporated Area
Years: 1980-2018
Source: El Dorado County, Building Services, EL DORADO HILLS, CA
Phone: (530) 621-5775

Name: Folsom
Years: 1997-2018
Source: City of Folsom, Building Safety Division, Folsom, CA
Phone: 916-351-3555

Name: Redding
Years: 1987-2018
Source: City of Redding, Development Services, Building Division, CHINO, CA
Phone: 530-225-4014

TARGET PROPERTY FINDINGS

TARGET PROPERTY DETAIL

Not Reported
El Dorado Hills, CA 95762

No Permits Found

ADJOINING PROPERTY FINDINGS

ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

DYMAXON WAY

2037 DYMAXON WAY

Date:	**9/9/2003**
Permit Type:	**POOLSP**
Description:	**GAS LI**
Permit Description:	**POOL/SPA**
Work Class:	NEW
Proposed Use:	SWIMMING POOL
Permit Number:	150165
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	WOLFE GREG |AQUARIUS POOLS

Date:	**2/26/2001**
Permit Type:	**BUILDG**
Description:	**COV PO**
Permit Description:	**BUILDING**
Work Class:	NEW
Proposed Use:	MSTRPLAN SNGL FMLY
Permit Number:	127344
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	LUCAS, THOMAS K, |LUCAS & MERCIER

ADJOINING PROPERTY FINDINGS

2041 DYMAXON WAY

Date:	**2/20/2003**
Permit Type:	**POOLSP**
Description:	**POOL**
Permit Description:	**POOL/SPA**
Work Class:	NEW
Proposed Use:	SWIMMING POOL
Permit Number:	145428
Status:	FINALED
Valuation:	$29,900.00
Contractor Company:	
Contractor Name:	HARBECK, KEITH |PREMIER POOLS

Date:	**2/26/2001**
Permit Type:	**BUILDG**
Description:	**DWELLG**
Permit Description:	**BUILDING**
Work Class:	NEW
Proposed Use:	MSTRPLAN SNGL FMLY
Permit Number:	127342
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	LUCAS, THOMAS K, |LUCAS & MERCIER

ADJOINING PROPERTY FINDINGS

VILLAGE GREEN DR

4842 VILLAGE GREEN DR

Date:	**9/7/2000**
Permit Type:	**POOLSP**
Description:	**GAS LI**
Permit Description:	**POOL/SPA**
Work Class:	NEW
Proposed Use:	SWIMMING POOL
Permit Number:	127865
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	HARBECK, KEITH |PREMIER POOLS

Date:	**11/8/1999**
Permit Type:	**BUILDG**
Description:	**COV PO**
Permit Description:	**BUILDING**
Work Class:	NEW
Proposed Use:	MSTRPLAN SNGL FMLY
Permit Number:	121993
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	LUCAS, THOMAS K, |LUCAS & MERCIER

ADJOINING PROPERTY FINDINGS

4848 VILLAGE GREEN DR

Date:	**8/17/2017**
Permit Type:	**PLUMBG**
Description:	
Permit Description:	**PLUMBING**
Work Class:	NEW
Proposed Use:	SINGLE FAMILY
Permit Number:	261924
Status:	ISSUED
Valuation:	$600.00
Contractor Company:	
Contractor Name:	ALWAYS AFORDABLE PLUMBING

Date:	**8/3/2017**
Permit Type:	**MECHAN**
Description:	
Permit Description:	**MECHANICAL**
Work Class:	NEW
Proposed Use:	SINGLE FAMILY
Permit Number:	261503
Status:	ISSUED
Valuation:	$21,210.00
Contractor Company:	
Contractor Name:	DBA: BEUTLER AIR CONDITIONING

Date:	**6/14/2002**
Permit Type:	**BUILDG**
Description:	**COVERE**
Permit Description:	**BUILDING**
Work Class:	NEW
Proposed Use:	DECK
Permit Number:	139206
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	PETKUS, DANIEL A. |PETKUS BROTHERS

ADJOINING PROPERTY FINDINGS

Date: **8/2/2001**
Permit Type: **POOLSP**
Description: **GAS LI**

Permit Description: **POOL/SPA**
Work Class: NEW
Proposed Use: SWIMMING POOL
Permit Number: 133965
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name: HARBECK, KEITH |PREMIER POOLS

Date: **11/8/1999**
Permit Type: **BUILDG**
Description: **COV PO**

Permit Description: **BUILDING**
Work Class: NEW
Proposed Use: MSTRPLAN SNGL FMLY
Permit Number: 121994
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name: LUCAS, THOMAS K, |LUCAS & MERCIER

4854 VILLAGE GREEN DR

Date: **8/20/2001**
Permit Type: **POOLSP**
Description: **POOL**

Permit Description: **POOL/SPA**
Work Class: NEW
Proposed Use: SWIMMING POOL
Permit Number: 134158
Status: FINALED
Valuation: $33,000.00
Contractor Company:
Contractor Name: O'CONNOR, KEVIN |AQUATIQUE POOLS

ADJOINING PROPERTY FINDINGS

Date: **11/8/1999**
Permit Type: **BUILDG**
Description: **DWELLG**

Permit Description: **BUILDING**
Work Class: NEW
Proposed Use: MSTRPLAN SNGL FMLY
Permit Number: 121995
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name: LUCAS, THOMAS K, |LUCAS & MERCIER

4860 VILLAGE GREEN DR

Date: **11/8/1999**
Permit Type: **BUILDG**
Description: **COV PO**

Permit Description: **BUILDING**
Work Class: NEW
Proposed Use: MSTRPLAN SNGL FMLY
Permit Number: 121997
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name: LUCAS, THOMAS K, |LUCAS & MERCIER

ADJOINING PROPERTY FINDINGS

4866 VILLAGE GREEN DR

Date:	**9/25/2012**
Permit Type:	**BUILDG**
Description:	**BATHRO**
Permit Description:	**BUILDING**
Work Class:	REMODEL
Proposed Use:	SINGLE FAMILY
Permit Number:	209114
Status:	FINALED
Valuation:	$15,500.00
Contractor Company:	
Contractor Name:	RUSSELL, MICHAEL |DREAM BUILDERS KITCHEN & BATH

Date:	**7/19/2001**
Permit Type:	**POOLSP**
Description:	**POOL**
Permit Description:	**POOL/SPA**
Work Class:	NEW
Proposed Use:	SWIMMING POOL
Permit Number:	133610
Status:	FINALED
Valuation:	$31,500.00
Contractor Company:	
Contractor Name:	WOLFE GREG |AQUARIUS POOLS

Date:	**11/8/1999**
Permit Type:	**BUILDG**
Description:	**COV PO**
Permit Description:	**BUILDING**
Work Class:	NEW
Proposed Use:	MSTRPLAN SNGL FMLY
Permit Number:	121998
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	LUCAS, THOMAS K, |LUCAS & MERCIER

ADJOINING PROPERTY FINDINGS

4872 VILLAGE GREEN DR

Date:	**11/8/1999**
Permit Type:	**BUILDG**
Description:	**COV PO**
Permit Description:	**BUILDING**
Work Class:	NEW
Proposed Use:	MSTRPLAN SNGL FMLY
Permit Number:	122000
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	LUCAS, THOMAS K, |LUCAS & MERCIER

4880 VILLAGE GREEN DR

Date:	**11/8/1999**
Permit Type:	**BUILDG**
Description:	**DWELLG**
Permit Description:	**BUILDING**
Work Class:	NEW
Proposed Use:	MSTRPLAN SNGL FMLY
Permit Number:	122001
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	LUCAS, THOMAS K, |LUCAS & MERCIER

ADJOINING PROPERTY FINDINGS

4886 VILLAGE GREEN DR

Date:	**8/28/2017**
Permit Type:	**PLUMBG**
Description:	
Permit Description:	**PLUMBING**
Work Class:	NEW
Proposed Use:	SINGLE FAMILY
Permit Number:	262258
Status:	ISSUED
Valuation:	$1,779.00
Contractor Company:	
Contractor Name:	MIKE JOHN LOZANO

Date:	**1/11/2000**
Permit Type:	**BUILDG**
Description:	**COV PO**
Permit Description:	**BUILDING**
Work Class:	NEW
Proposed Use:	MSTRPLAN SNGL FMLY
Permit Number:	122678
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	LUCAS, THOMAS K, |LUCAS & MERCIER

GLOSSARY

General Building Department concepts

- **ICC:** The International Code Council. The governing body for the building/development codes used by all jurisdictions who've adopted the ICC guidelines. MOST of the US has done this. Canada, Mexico, and other countries use ICC codes books and guides as well. There are a few states who have added guidelines to the ICC codes to better fit their needs. For example, California has added seismic retrofit requirements for most commercial structures.
- **Building Department (Permitting Authority, Building Codes, Inspections Department, Building and Inspections):** This is the department in a jurisdiction where an owner or contractor goes to obtain permits and inspections for building, tearing down, remodeling, adding to, re-roofing, moving or otherwise making changes to any structure, Residential or Commercial.
- **Jurisdiction:** This is the geographic area representing the properties over which a Permitting Authority has responsibility.
- **GC:** General Contractor. Usually the primary contractor hired for any Residential or Commercial construction work.
- **Sub:** Subordinate contracting companies or subcontractors. Usually a "trades" contractor working for the GC. These contractors generally have an area of expertise in which they are licensed like Plumbing, Electrical, Heating and Air systems, Gas Systems, Pools etc. (called "trades").
- **Journeymen:** Sub contractors who have their own personal licenses in one or more trades and work for different contracting companies, wherever they are needed or there is work.
- **HVAC (Mechanical, Heating & Air companies):** HVAC = Heating, Ventilation, and Air Conditioning.
- **ELEC (Electrical, TempPole, TPole, TPower, Temporary Power, Panel, AMP Change, Power Release):** Electrical permits can be pulled for many reasons. The most common reason is to increase the AMPs of power in an electrical power panel. This requires a permit in almost every jurisdiction. Other commons reason for Electrical permits is to insert a temporary power pole at a new construction site. Construction requires electricity, and in a new development, power has yet to be run to the lot. The temporary power pole is usually the very first permit pulled for new development. The power is released to the home owner when construction is complete and this sometimes takes the form of a Power Release permit or inspection.
- **"Pull" a permit:** To obtain and pay for a building permit.
- **CBO:** Chief Building Official
- **Planning Department:** The department in the development process where the building /structural plans are reviewed for their completeness and compliance with building codes
- **Zoning Department:** The department in the development process where the site plans are reviewed for their compliance with the regulations associated with the zoning district in which they are situated.
- **Zoning District:** A pre-determined geographic boundary within a jurisdiction where certain types of structures are permitted / prohibited. Examples are Residential structure, Commercial/Retail structures, Industrial/Manufacturing structures etc. Each zoning district has regulations associated with it like the sizes of the lots, the density of the structures on the lots, the number of parking spaces required for certain types of structures on the lots etc.
- **PIN (TMS, GIS ID, Parcel#):** Property Identification Number and Tax Map System number.
- **State Card (Business license):** A license card issued to a contractor to conduct business.
- **Building Inspector (Inspector):** The inspector is a building department employee that inspects building construction for compliance to codes.
- **C.O.:** Certificate of Occupancy. This is the end of the construction process and designates that the owners now have permission to occupy a structure after its building is complete. Sometimes also referred to as a Certificate of Compliance.

GLOSSARY

Permit Content Definitions

- Permit Number: The alphanumerical designation assigned to a permit for tracking within the building department system. Sometimes the permit number gives clues to its role, e.g. a "PL" prefix may designate a plumbing permit.
- Description: A field on the permit form that allows the building department to give a brief description of the work being done. More often than not, this is the most important field for EP's to find clues to the prior use(s) of the property.
- Permit Type: Generally a brief designation of the type of job being done. For example BLDG-RES, BLDG-COM, ELEC, MECH etc.

Sample Building Permit Data

Date: Nov 09, 2000
Permit Type: Bldg -
New Permit Number: 101000000405
Status: Valuation: $1,000,000.00
Contractor Company: OWNER-BUILDER
Contractor Name:

Description: New one store retail (SAV-ON) with drive-thru pharmacy. Certificate of Occupancy.

APPENDIX E
MOORE BIOLOGICAL CONSULTANTS – BIOLOGICAL ASSESSMENT

Copyright 2019 Kleinfelder

MOORE BIOLOGICAL CONSULTANTS

February 6, 2019

Ms. Lindsey Dandridge-Perry
Kleinfelder
24411 Ridge Route Drive
Laguna Hills, CA 92653

Subject: 25+/- ACRE "SILVA PARKWAY" SITE, EL DORADO HILLS, CALIFORNIA: BIOLOGICAL ASSESSMENT

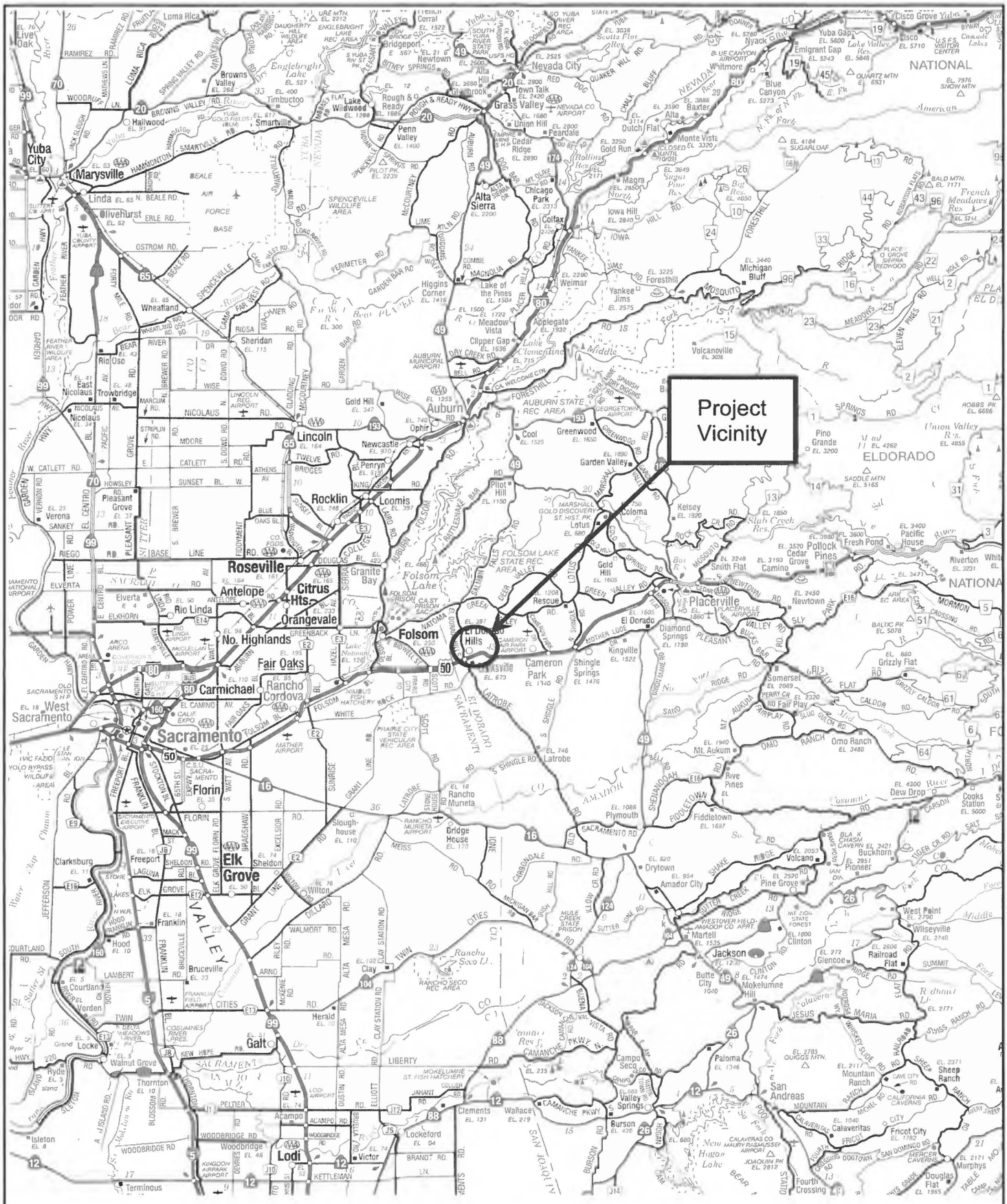
Dear Lindsey:

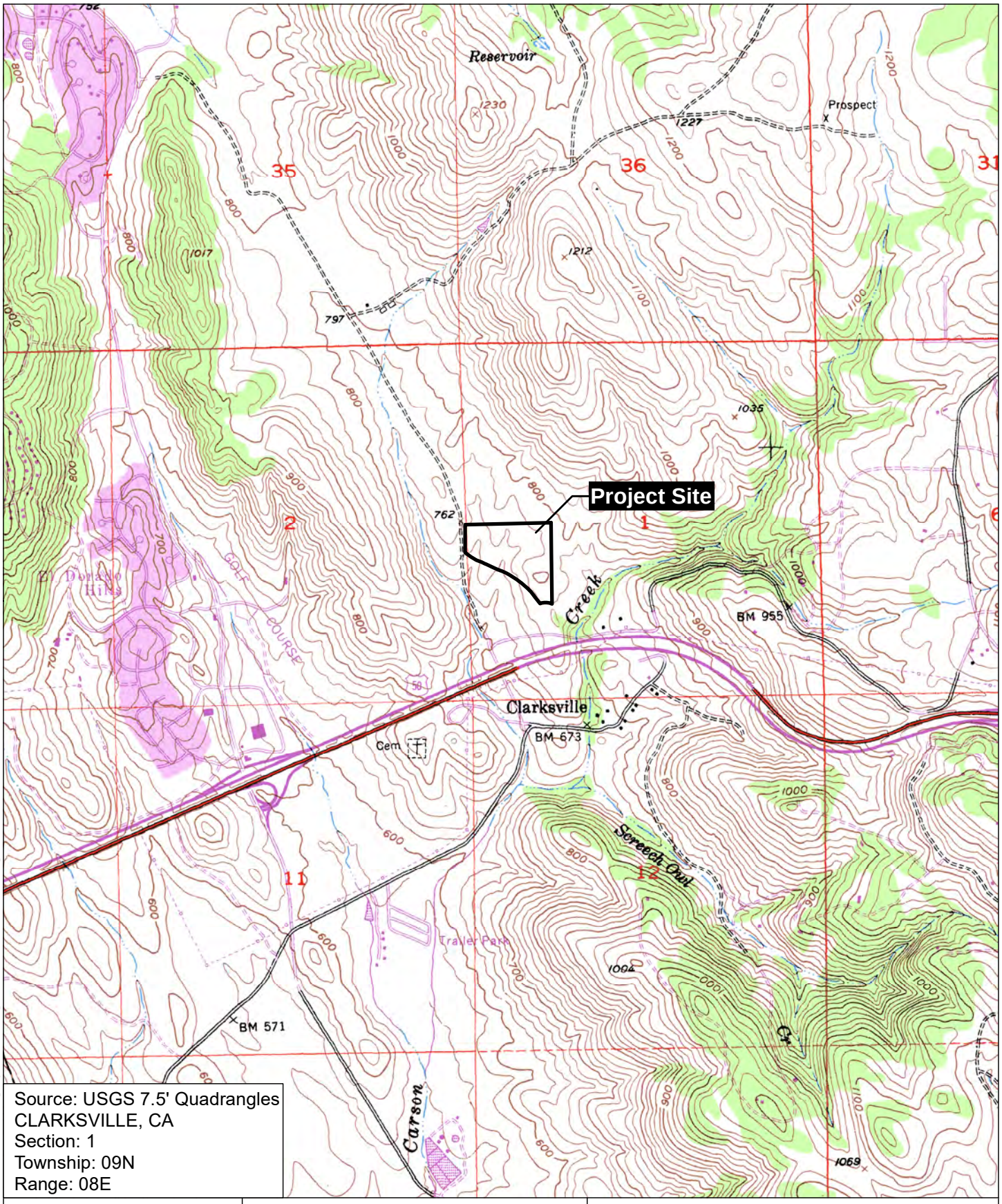
Thank you for asking Moore Biological Consultants to assist with this approximately 25+/- acre site in El Dorado Hills, El Dorado County, California (Figures 1 and 2 and Parcel Map in Attachment A). The purpose of this assessment is to describe existing biological resources in the site, identify potentially significant impacts to biological resources from commercial development, and provide recommendations for how to reduce those impacts to a less-than-significant level. The work involved reviewing databases and aerial photographs, and conducting field surveys to document vegetation communities, potentially jurisdictional Waters of the U.S. and/or wetlands, and potentially suitable habitat for or presence of special-status species. This report details the methodology and results of our investigation.

Methods

Prior to the field surveys, we conducted a search of California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB, 2019). The CNDDB search included the USGS 7.5-minute Clarksville and Folsom SE topographic quadrangles, which encompass approximately 120 square miles

10330 Twin Cities Rd., Ste. 30 • Galt, CA 95632
(209) 745-1159 • Fax (209) 745-7513
e-mail: moorebio@softcom.net


Project Vicinity
Folsom
Roseville
Rocklin
Loomis
Auburn
Lincoln
Citrus Hts.
Orangevale
Antelope
Granite Bay
No. Highlands
Fair Oaks
Carmichael
Rancho Cordova
Sacramento
West Sacramento
Elk Grove
Florin
Galt
Lodi
Placerville
El Dorado Hills
Cameron Park
Shingle Springs
Diamond Springs
Pollock Pines
Cool
Greenwood
Garden Valley
Coloma
Kelsey
Gold Hill
Pilot Hill
Meadow Vista
Penryn
Newcastle
Ophir
Sheridan
Wheatland
Olivehurst
Marysville
Yuba City
Linda
Browns Valley
Timbuctoo
Smartville
Hallwood
Lake Wildwood
Penn Valley
Grass Valley
Nevada City
Alta Sierra
Chicago Park
Colfax
Dutch Flat
Gold Run
Alta
Baxter
Emigrant Gap
Yuba Gap
Cisco Grove
Blue Canyon
Monte Vista
Magra
Iowa Hill
Michigan Bluff
Foresthill
Yankee Jims
Weimar
Applegate
Clipper Gap
Higgins Corner
Lake of the Pines
Volcanoville
Pino Grande
Pacific House
Fresh Pond
Cedar Grove
Smith Flat
Camino
Riverton
Newtown
Rescue
Gold Hill
Lotus
Kingsville
Somerset
Fair Play
Grizzly Flat
Omo Ranch
Mt. Aukum
Five Pines
Dew Drop
Cooks Station
Fiddletown
Plymouth
Latrobe
Rancho Murieta
Slough-house
Bridge House
Drytown
Amador City
Volcano
Pine Grove
Buckhorn
Pioneer
West Point
Wilseyville
Railroad Flat
Glencoe
Jackson
Martell
Clinton
Mokelumne Hill
Butte City
Campo Seco
Valley Springs
Paloma
San Andreas
Mountain Ranch
Sheep Ranch
Calaveritas
Fricot City
Murphys
Douglas Flat
Fourth Crossing
Burson
Clements
Wallace
Lockeford
Victor
Acampo
Woodbridge
Terminous
Isleton
Ryde
Thornton
Walnut Grove
Locke
Courtland
Hood
Franklin
Bruceville
Herald
Wilton
Sloughhouse
Freeport
Clarksburg
Yolo
Davis
Dixon
Vacaville
Fairfield
Suisun City
Rio Vista
Benicia
Vallejo
Napa
Sonoma
Petaluma
Santa Rosa
Healdsburg
Ukiah
Willits
Clear Lake
Lake Berryessa
Lake Sonoma
Lake Pillsbury
Lake Mendocino
Lake Pardee
Lake Amador
Lake Camanche
Lake Tulloch
Lake Don Pedro
Lake McClure
Lake Hennessey



Source: USGS 7.5' Quadrangles
CLARKSVILLE, CA
Section: 1
Township: 09N
Range: 08E

Figure 2

Moore Biological Consultants

0 1,000 2,000
Feet

N
W E
S

Map Date: 01/22/2019

USGS

Costco - El Dorado Hills

El Dorado County, CA

C:\Users\owner\Documents\Fremont Environmental Consulting\Projects\Moore Biological\Costco_EDH\MXD\costco_edh_figure_2.mxd

surrounding the project site. The United States Fish and Wildlife Service (USFWS) IPaC Trust Report of Federally Threatened and Endangered species that may occur in or be affected by projects in the project vicinity was also reviewed (Attachment B). This information was used to identify wildlife and plant species that have been previously documented in the project vicinity or have the potential to occur based on suitable habitat and geographical distribution. Additionally, the CNDDB depicts locations of sensitive habitats. The USFWS on-line maps of designated critical habitat were also downloaded.

Field surveys were conducted on December 18 and 29, 2018. The surveys consisted of walking throughout the site making observations of habitat conditions and noting surrounding land uses, vegetation types, and plant and wildlife species. The surveys included an assessment of the site for potentially jurisdictional Waters of the U.S. (a term that includes wetlands) as defined by the U.S. Army Corps of Engineers (ACOE, 1987; 2008), special-status species, and suitable habitat for special-status species (e.g., blue elderberry shrubs, vernal pools). Additionally, trees in and near the site were assessed for the potential use by nesting raptors and the site was also searched for burrowing owls (*Athene cunicularia*) or ground squirrel burrows that could be utilized by burrowing owls.

Results

GENERAL SETTING: The 25+/- acre site is in El Dorado Hills, El Dorado County, California (Figure 1). The site is in within Section 1, in Township 9 North, Range 8 East of the USGS 7.5-minute Clarksville topographic quadrangle (Figure 2). The site consists of gently rolling hills and slopes down generally from the northeast to the southwest. Site elevations range from approximately 720 to 800 feet above mean sea level. There is a notable hill and a notable soil stockpile in the south part of the site.

The site primarily consists of open hillsides supporting annual grassland vegetation (Figure 3 and photographs in Attachment C). The grasslands are moderately to highly disturbed from historic mining, grazing, grading, construction of adjacent parcels, disking for weed abatement, and off-road vehicle trespass.

Silva Valley Parkway runs along the west side of the site and Tong Road bounds the south edge of the site. Areas to the north and northeast of the site are primarily residential; there is also a school just north and northwest of the site (Figure 3). Areas to the west, south, and east of the site are similar habitats to those found in the site consisting of gently rolling hills of oak woodlands intermixed with annual grassland.

VEGETATION: California annual grassland series (Sawyer and Keeler-Wolf, 1995) best describe vegetation found throughout the body of the site (Figure 3 and photographs in Attachment C). The grasslands are vegetated with native and non-native annual and perennial grassland species. Dominant grasses in the site include oats (*Avena fatua*), foxtail barley (*Hordeum murinum*), soft chess brome (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), and perennial ryegrass (*Lolium perenne*). Other grassland species such as black mustard (*Brassica nigra*), annual fireweed (*Epilobium brachycarpum*), Italian thistle (*Carduus pycnocephalus*), rose clover (*Trifolium hirtum*), prickly lettuce (*Lactuca serriola*), yellow star thistle (*Centaurea solstitialis*) and filaree (*Erodium botrys*) are intermixed with the grasses. There are also some widely scattered coyote bush (*Baccharis pilularis*) shrubs in the on-site grasslands. Plant species observed in the site are listed in Table 1.

A riparian corridor along an intermittent creek in the west part of the site supports trees and shrubs. Dominant trees in the riparian corridor include valley oak (*Quercus lobata*), blue oak (*Quercus douglasii*), Fremont cottonwood (*Populus fremontii*), and Pacific willow (*Salix lasiandra*) (see photographs in Attachment C). Coyote bush, Himalayan blackberry (*Rubus discolor*), and California wild



Figure 3

Moore Biological Consultants

0 200 400
Feet

N
W E
S

Map Date: 02/04/2019
Aerial Source: NAIP (2017)

AERIAL

Costco - El Dorado Hills

El Dorado County, CA

C:\Users\owner\Documents\Fremont Environmental Consulting\Projects\Moore Biological\Costco_ED\HVM\Costco_edh_figure_3.mxd

TABLE 1

PLANT SPECIES OBSERVED IN THE SITE

Avena sp.	oat
Baccharis pilularis	coyote brush
Brassica nigra	black mustard
Bromus diandrus	ripgut brome
Bromus hordeaceus	soft chess brome
Carduus pycnocephalus	Italian thistle
Centaurea solstitialis	yellow star-thistle
Cerastium glomeratum	mouse-eared chickweed
Chlorogalum angustifolium	narrow-leaved soap plant
Cirsium vulgare	bull thistle
Conium maculatum	poison hemlock
Cyperus eragrostis	tall flat-sedge
Epilobium brachycarpum	annual fireweed
Eremocarpus setigerus	turkey mullein
Erodium botrys	long beak stork's bill
Erodium cicutarium	red stemmed filaree
Ficus carica	common fig
Geranium dissectum	dissected geranium
Holocarpha virgata	tarweed
Hordeum murinum	wall barley
Lactuca serriola	prickly lettuce
Montia perfoliata	miner's lettuce
Pinus sp.	ornamental pine
Populus fremontii	Fremont cottonwood
Quercus douglasii	blue oak
Quercus lobata	valley oak

TABLE 1 (continued)
PLANT SPECIES OBSERVED IN THE SITE

Quercus wislizeni	interior live oak
Rosa californica	California wild rose
Rubus discolor	Himalayan blackberry
Rumex crispus	curly dock
Salix lasiandra	Pacific willow
Sambucus mexicana	blue elderberry
Salsola iberica	Russian thistle
Scirpus acutus	tule
Sonchus asper	spiny-leaf sow-thistle
Taeniatherum caput-medusae	medusahead grass
Torilis arvensis	field hedge parsley
Trifolium hirtum	rose clover
Triteleia laxa	Ithuriel's spear
Typha sp.	cattail
Vicia sativa	common vetch

rose (*Rosa californica*) are the dominant shrubs and vines (see photographs in Attachment C). Vegetation in the bed of creek and a small stock pond near Silva Valley Parkway includes cattails (*Typha* sp.), tules (*Scirpus acutus*), tall flat sedge (*Cyperus eragrostis*), and other hydrophytes.

One blue elderberry (*Sambucus mexicana*) shrub was observed in the project site. This shrub is along the north edge of the site, along the east side of the riparian corridor along the intermittent creek (Figure 4 and photograph in Attachment C).

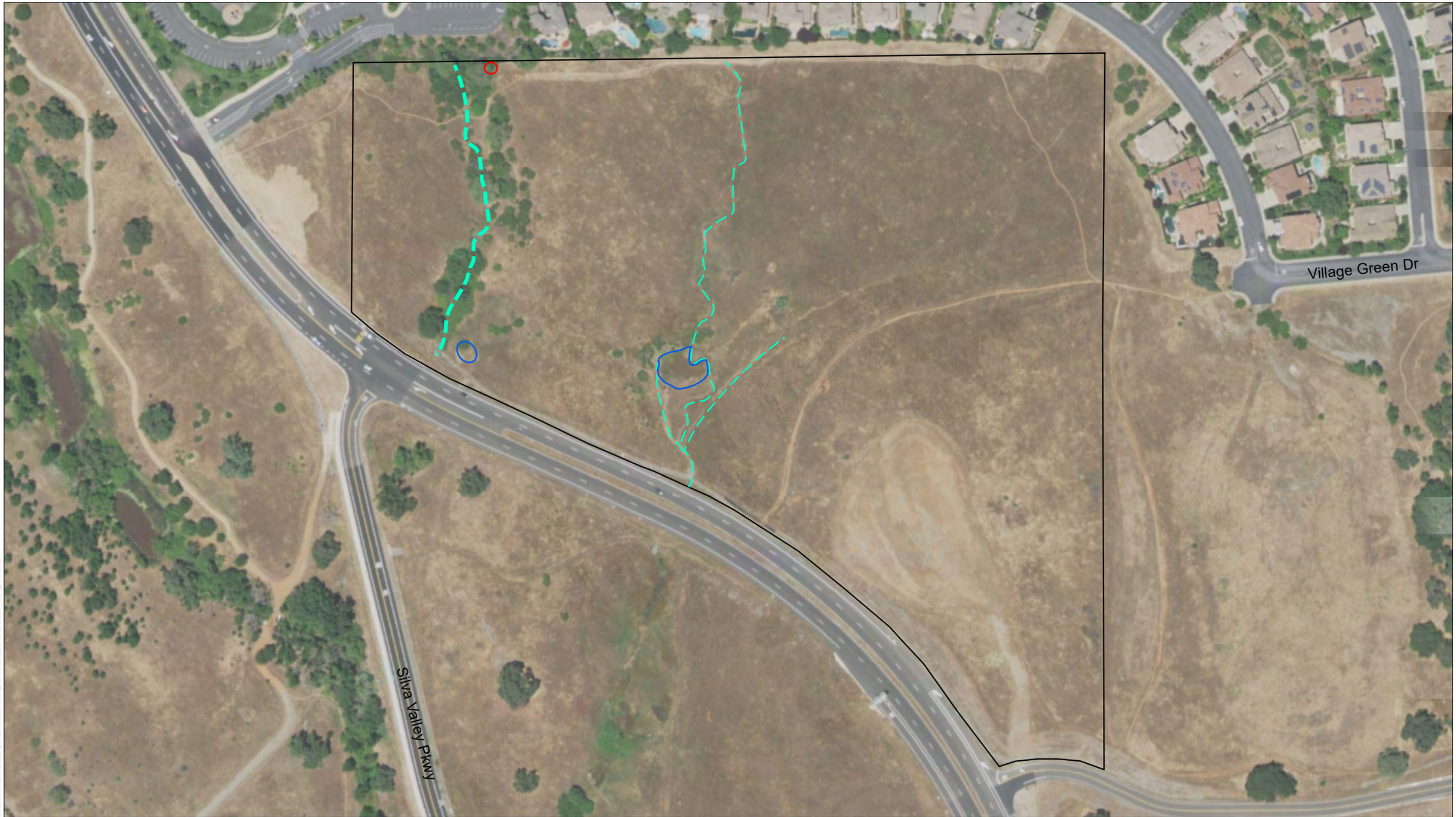


Figure 4

Moore Biological Consultants

Map Date: 02/04/2019
Aerial Source: NAIP (2017)

Project Site
Intermittent Creek (0.14 ac.)
Ephemeral Creek (0.13 ac.)
Seasonal Wetland (0.12 ac.)
Blue Elderberry Shrub

0 200 400
Feet

N W E S

Sensitive Habitats

Costco - El Dorado Hills

El Dorado County, CA

C:\Users\owner\Documents\Fremont Environmental Consulting\Projects\Moore Biological\Costco_ED\HVMD\costco_edh_figure_4.mxd

WILDLIFE: Several bird species typical to foothill annual grasslands were observed during the field surveys. Representative species include red-tailed hawk (*Buteo jamaicensis*), American crow (*Corvus brachyrhynchos*), California scrub jay (*Aphelocoma californica*), Nuttall's woodpecker (*Picoides nuttallii*), and red-winged black bird (*Agelaius phoeniceus*). A complete list of wildlife species are listed below in Table 2.

There are several large trees along the intermittent creek in the northwest part of the site and large trees in the open grasslands and developed areas surrounding the site that are suitable for nesting raptors. Given the presence of large trees near the site and raptor foraging habitat (i.e., open fields) in and near the site, it is possible raptors nest near the site. Smaller birds, such as songbirds, could potentially nest in shrubs, grasslands, and particularly in the riparian vegetation along the edges of the intermittent creek in the site.

While no mammals were observed in the site during the survey, a few common mammals have potential to occur in the site. Coyote (*Canis latrans*), striped skunk (*Mephitis mephitis*), black-tailed hare (*Lepus californicus*), desert cottontail (*Sylvilagus audubonii*), and Virginia opossum (*Didelphis virginiana*) may occur in the project site on occasion. A few California ground squirrel (*Spermophilus beecheyi*) burrows and several Botta's pocket gopher (*Thomomys bottae*) were observed in annual grasslands in the site. A number of species of small rodents including mice (*Mus musculus, Reithrodontomys megalotis,* and *Peromyscus maniculatus*) and voles (*Microtus californicus*) also likely occur in the site.

Based on habitats, only a few amphibians and reptiles have potential to occur in the site and none were observed during the recent surveys. The site is within the range of Pacific chorus frog (*Pseudacris regilla*), bullfrog (*Rana catesbeiana*), western fence lizard (*Sceloporus occidentalis*), western terrestrial garter snake (*Thamnophis elegans*), and gopher snake (*Pituophis melanoleucus*); these and other common amphibian and reptile species may occur in the site.

TABLE 2

WILDLIFE SPECIES DOCUMENTED IN THE SITE

Birds

Canada goose	*Branta canadensis*
Turkey vulture	*Cathartes aura*
Red-tailed hawk	*Buteo jamaicensis*
Killdeer	*Charadrius vociferous*
California gull	*Larus californicus*
Anna's hummingbird	*Calypte anna*
Nuttall's woodpecker	*Picoides nuttallii*
Northern flicker	*Colaptes auratus*
Black phoebe	*Sayornis nigricans*
Say's phoebe	*Sayornis saya*
California scrub jay	*Aphelocoma californica*
American crow	*Corvus brachyrhynchos*
European starling	*Sturnus vulgaris*
Yellow-rumped warbler	*Setophaga coronata*
White-crowned sparrow	*Zonotrichia leucophrys*
Red-winged blackbird	*Agelaius phoeniceus*
Brewer's blackbird	*Euphagus cyanocephalus*
House finch	*Haemorhous mexicanus*

Mammals

Botta's pocket gopher	*Thomomys bottae*
California ground squirrel	*Otospermophilus beecheyi*

WATERS OF THE U.S. AND WETLANDS: Waters of the U.S., including wetlands, are broadly defined under 33 Code of Federal Regulations (CFR) 328 to include navigable waterways, their tributaries, and adjacent wetlands. State and federal agencies regulate these habitats and Section 404 of the Clean Water Act requires that a permit be secured prior to the discharge of dredged or fill materials into any waters of the U.S., including wetlands. Both CDFW and ACOE have jurisdiction over modifications to riverbanks, lakes, stream channels and other wetland features.

"Waters of the U.S.", as defined in 33 CFR 328.4, encompasses Territorial Seas, Tidal Waters, and Non-Tidal Waters; Non-Tidal Waters includes interstate and intrastate rivers and streams, as well as their tributaries. The limit of federal jurisdiction of Non-Tidal Waters of the U.S. extends to the "ordinary high water mark". The ordinary high water mark is established by physical characteristics such as a natural water line impressed on the bank, presence of shelves, destruction of terrestrial vegetation, or the presence of litter and debris.

Jurisdictional wetlands are vegetated areas that meet specific vegetation, soil, and hydrologic criteria defined by the ACOE *Wetlands Delineation Manual* and Regional Supplement (ACOE, 1987; 2008). Jurisdictional wetlands are usually adjacent to or hydrologically associated with Waters of the U.S; isolated wetlands are outside federal jurisdiction.

Jurisdictional wetlands and Waters of the U.S. include, but are not limited to, perennial and intermittent creeks and drainages, lakes, seeps, and springs; emergent marshes; riparian wetlands; and seasonal wetlands. Wetlands and Waters of the U.S. provide critical habitat components, such as nest sites and a reliable source of water, for a wide variety of wildlife species.

The most notable potentially jurisdictional Waters of the U.S. and wetlands in the site include an intermittent creek, two ephemeral creeks, and two seasonal

wetlands (Figure 4 and photographs in Attachment C). None of these features are mapped on the USGS topographic map (Figure 2) or the National Wetland Inventory (Attachment D). While a wetland delineation would be need to confirm boundaries, it is estimated these areas encompass approximately 0.4+/- acres. There are also a few relatively small areas that were either very saturated or had flowing water during the field surveys. If these additional areas are in fact wetlands, they are estimated to encompass 0.1+/- acre. A wetland delineation later this spring when plants are blooming and recognizable is recommended.

The intermittent creek in the site flows from generally north to south. The intermittent creek carries water during and after rain events, has moderately to well-defined beds and banks, and the limit of jurisdiction is the ordinary high water mark (OHWM) along the banks. As described above, the banks of the intermittent creek are lined with willows, cottonwoods, and other woody riparian vegetation. The bed of the creek supports emergent wetland vegetation, especially in a flat area near the culvert under Silva Valley Parkway. This creek contained surface flows during the surveys.

The ephemeral creeks also flow from generally north to south. The ephemeral creeks carry water only during and shortly after heavy rain events and have poorly to well-defined beds and banks. The ephemeral creeks vary in width and depth along their lengths, with some sections narrow and the limit of jurisdiction being the OHWM. In other areas, the creeks are broader and more like seasonal wetland swales; in these areas, the limit of jurisdiction is the wetland edge.

Seasonal wetlands in the site include a historic stock pond and a boggy area near the south end of the longer ephemeral creek (see photographs in Attachment C). The historic stock pond holds water approximately 2 feet deep and supports cattails and a small willow. This seasonal wetland is adjacent to an ephemeral creek, and appears to be fed by a combination of creek flows and possibly a seep or spring.

SPECIAL-STATUS SPECIES: Special-status species are plants and animals that are legally protected under the state and/or federal Endangered Species Act or other regulations. The Federal Endangered Species Act (FESA) of 1973 declares that all federal departments and agencies shall utilize their authority to conserve endangered and threatened plant and animal species. The California Endangered Species Act (CESA) of 1984 parallels the policies of FESA and pertains to native California species.

Special-status species also include other species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or denning locations, communal roosts, and other essential habitat. The presence of species with legal protection under the Endangered Species Act often represents a major constraint to development, particularly when the species are wide-ranging or highly sensitive to habitat disturbance and where proposed development would result in a take of these species.

Special-status plants are those which are designated rare, threatened, or endangered and candidate species for listing by the USFWS. Special-status plants also include species considered rare or endangered under the conditions of Section 15380 of the California Environmental Quality Act Guidelines, such as those plant species identified on Lists 1A, 1B and 2 in the Inventory of Rare and Endangered Vascular Plants of California (CNPS, 2019). Finally, special-status plants may include other species that are considered sensitive or of special concern due to limited distribution or lack of adequate information to permit listing or rejection for state or federal status, such as those included on CNPS List 3.

The likelihood of occurrence of listed, candidate, and other special-status species in the site is generally low. Table 3 provides a summary of the listing status and habitat requirements of special-status species that have been documented in the greater project vicinity or for which there is potentially suitable habitat in the

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED IN THE GREATER PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[1]	CNPS List[2]	Habitat	Likeliness of Occurrence in the Project Site
PLANTS						
Stebbin's morning-glory	*Calystegia stebbinsii*	E	E	1B	Chaparral or cismontane woodland; red clay soils of the Pine Hill formation, or gabbroic or serpentine soils.	Unlikely: the annual grassland in the site does not provide suitable habitat for Stebbin's morning-glory; no gabbroic or serpentine soils were observed and the site is not in the Pine Hill formation. There are no recorded occurrences of this species in the CNDDB (2019) search area.
Pine Hill ceanothus	*Ceanothus roderickii*	E	R	1B	Chaparral or cismontane woodland; in gabbroic soils.	Unlikely: the annual grassland in the site does not provide suitable habitat for Pine Hill ceanothus; no gabbroic soils were observed in the site. The nearest occurrence of this species in the CNDDB (2019) search area is approximately 5 miles north of the site.
Red Hills soaproot	*Chlorogalum grandiflorum*	None	None	1B	Chaparral, cismontane woodland, or lower montane coniferous forest; in serpentine or gabbroic soils.	Unlikely: there is no suitable habitat within the site for Red Hills soaproot; no serpentine or gabbroic habitats were observed in or near the site. The nearest occurrence of this species in the CNDDB (2019) search area is approximately 4.5 miles northeast of the site.
Brandegee's clarkia	*Clarkia biloba ssp. brandegeeae*	None	None	1B	Chaparral, cismontane woodland, and lower montane coniferous forest; often on road cuts.	Unlikely: the annual grassland in the site does not provide suitable habitat for Brandegee's clarkia. The nearest occurrence of this species in the CNDDB (2019) search area is approximately 3.5 miles northwest of the site.
Tuolumne button celery	*Eryngium pinnatisectum*	None	None	1B	Vernal pools and other mesic habitats within cismontane woodland and lower montane coniferous forest; at elevations between 70 and 900 meters.	Unlikely: the annual grassland in the site does not provide suitable habitat for Tuolumne button celery. The nearest occurrence of this species in the CNDDB (2019) search area is approximately 11 miles south of the site.

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED IN THE GREATER PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[1]	CNPS List[2]	Habitat	Likeliness of Occurrence in the Project Site
Pine Hill flannelbush	*Fremontodendron decumbens*	E	R	1B	Chaparral, cismontane woodland, or openings in lower montane coniferous forest; in serpentine or gabbroic soils.	Unlikely: annual grassland in the site does not provide suitable habitat for Pine Hill flannelbush; no serpentine or gabbroic soils were observed in the site. The nearest occurrence of this species in the CNDDB (2019) search area is approximately 4.5 miles northeast of the site.
El Dorado bedstraw	*Galium californicum ssp. sierrae*	E	R	1B	Chaparral, cismontane woodland, or lower montane coniferous forest; gabbroic soils.	Unlikely: the annual grassland habitats in the site are not suitable for El Dorado bedstraw; no gabbroic soils were observed in the site. The nearest occurrence of this species in the CNDDB (2019) search area is approximately 6 miles northeast of the site.
Bisbee Peak rush-rose	*Helianthemum suffrutescens*	None	None	3	Serpentine, gabbroic, or Ione formation soils in Chaparral.	Unlikely: there is no developed chaparral habitat in the site and no areas of serpentine, gabbroic, or Ione formation soils were observed within the site. The nearest occurrence of Bisbee Peak rush-rose in the CNDDB (2019) search area is approximately 3 miles northeast of the site.
Layne's ragwort	*Packera layneae*	T	R	1B	Chaparral or cismontane woodland; serpentine or gabbroic soils	Unlikely the annual grassland habitats in the site are not suitable for Layne's ragwort; no serpentine or gabbroic soils were observed in the site. The nearest occurrence of this species in the CNDDB (2019) search area is approximately 3 miles northeast of the site.
Sanford's arrowhead	*Sagittaria sanfordii*	None	None	1B	Standing or slow moving freshwater ponds, marshes, and ditches.	Unlikely: the intermittent creeks and stock pond in the site provides marginal, yet potentially suitable habitat for Sanford's arrowhead. The nearest occurrence of Sanford's arrowhead in the CNDDB (2019) search area is approximately 4 miles southwest of the site.

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED IN THE GREATER PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[1]	CNPS List[2]	Habitat	Likeliness of Occurrence in the Project Site
El Dorado County mule ears	*Wyethia reticulata*	None	None	1B	Chaparral, cismontane woodland, or lower montane coniferous forest; clay or gabbroic soils.	Unlikely: the ruderal grassland habitats in the site are not suitable for El Dorado County mule ears; no gabbroic or clay soils were observed in the site. The nearest occurrence of this species in the CNDDB (2019) search area is approximately 3.5 miles northeast of the site.
WILDLIFE						
BIRDS						
Swainson's hawk	*Buteo swainsoni*	None	T	N/A	Nesting: large trees, usually within riparian corridors. Foraging: agricultural fields and annual grasslands.	Unlikely: the open, annual grassland vegetation in the site provides marginally suitable foraging habitat for Swainson's hawks. There are several large trees in and in close proximity to the site that may be used for nesting. However, the site is on east edge of the nesting range of this species. There are only two records of nesting Swainson's hawks in the CNDDB (2019) search area; the nearest occurrence is approximately 4 miles southwest of the site.
Burrowing owl	*Athene cunicularia*	None	None	N/A	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation.	Unlikely: the annual grassland in the site provides marginally suitable burrow habitat for burrowing owls. No ground squirrels were observed in the site during the survey, but a few ground squirrel burrows were observed. The nearest occurrence of burrowing owl in the CNDDB (2019) search area is approximately 2 miles southwest of the site.
Tricolored blackbird	*Agelaius tricolor*	None	SC	N/A	Nests in dense brambles and emergent wetland vegetation associated with open water habitat.	Unlikely: the intermittent creek is very small and provides marginally suitable nesting habitat for tricolored blackbird. This species may occasionally fly over or forage in the area, and may nest in the greater project vicinity. The nearest occurrence of tricolored blackbird in the CNDDB (2019) search area is approximately 3 miles southeast of the site.

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED IN THE GREATER PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[1]	CNPS List[2]	Habitat	Likeliness of Occurrence in the Project Site
Golden eagle	*Aquila chrysaetos*	None	FP	N/A	Nesting areas are associated with cliff-walled canyons and large trees. Forages in rolling hills and mountain areas	Unlikely: the large trees within and in close proximity to the site provide low quality nesting habitat for golden eagle, as they prefer ledges on cliff walls or very large trees isolated from any type of disturbance for nesting. The rolling hills in the site provides potential foraging habitat for this species. The nearest occurrence of golden eagle in the CNDDB (2019) search area is approximately 2 miles northwest of the site.
Bald eagle	*Haliaeetus leucocephalus*	None	E	N/A	Nests in large trees along rivers, ocean shores, and lake margins.	Unlikely: although there are large trees within and in close proximity to the site, bald eagles are known to nest near large bodies of water. Bald eagles could fly over or forage in the site on occasion. The nearest occurrence of this species in the CNDDB (2019) search area is approximately 2 miles northeast of the site.
California black rail	*Laterallus jamaicensis coturniculus*	None	T	N/A	Mainly inhabits salt marshes bordering larger bays.	Unlikely: the site does not provide suitable habitat for California black rail. The nearest occurrence of this species in the CNDDB (2019) search area is approximately 2.5 miles south of the site.
White-tailed kite	*Elanus leucurus*	None	FP	N/A	Herbaceous lowlands with variable tree growth and dense population of voles.	Unlikely: the site provides potentially suitable foraging habitat for white-tailed kite, and there are suitable nest trees in and near the site. The nearest occurrence of white-tailed kite in the CNDDB (2019) search area is approximately 2.5 miles northwest of the site.
Grasshopper sparrow	*Ammodramus savannum*	None	SC	N/A	Dense grasslands, lowland plains, and lower mountain slopes; prefers native grasses with scattered shrubs.	Unlikely: the site provide poor quality habitat for grasshopper sparrow. This species may occasionally fly over or forage in the area. The nearest occurrence of grasshopper sparrow in the CNDDB (2019) search area is approximately 9 miles southwest of the site.

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED IN THE GREATER PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[1]	CNPS List[2]	Habitat	Likeliness of Occurrence in the Project Site
REPTILES & AMPHIBIANS						
California red-legged frog	*Rana aurora draytonii*	T	SC	N/A	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	Unlikely: there is no suitable aquatic habitat for California red-legged frog in the project site. The nearest occurrence of this species in the CNDDB (2019) search area is approximately 5 miles northwest of the site. The site is not within designated critical habitat for California red-legged frog (USFWS, 2006).
Foothill yellow-legged frog	*Rana boylii*	None	SC	N/A	Perennial water bodies (i.e., streams and ponds) with abundant riparian vegetation; not found on Central Valley floor.	Unlikely: the site does not contain suitable aquatic habitat for foothill yellow-legged frog. The nearest occurrence of this species in the CNDDB (2019) search area is approximately 3.5 miles northwest of the site.
California tiger salamander	*Ambystoma californiense*	T	T	N/A	Breeds in seasonal water bodies such as deep vernal pools or stock ponds. Requires small mammal burrows for summer refugia.	Unlikely: there are no potentially suitable breeding ponds for California tiger salamander in or near the site. There are no occurrences of this species recorded in the CNDDB (2019) within the search area. The site is not within an area designated critical habitat for California tiger salamander (USFWS, 2005a).
Giant garter snake	*Thamnophis gigas*	T	T	N/A	Freshwater marsh and low gradient streams; uses drainage canals and irrigation ditches, primarily for dispersal or migration.	Unlikely: the site does not provide suitable habitat for giant garter snake. The nearest occurrence of this species in the CNDDB (2019) search area is approximately 11 miles south of the site.
Western pond turtle	*Emys marmorata*	None	SC	N/A	Permanent or semi-permanent water bodies; require basking sites such as logs.	Unlikely: the site does not provide suitable habitat for western pond turtle. The nearest occurrence of western pond turtle in the CNDDB (2019) search area is approximately 2 miles southwest of the site.

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED IN THE GREATER PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[1]	CNPS List[2]	Habitat	Likeliness of Occurrence in the Project Site
Fish						
Delta smelt	*Hypomesus transpacificus*	T	T	N/A	Shallow lower delta waterways with submersed aquatic plants and other suitable refugia.	Unlikely: there is no suitable aquatic habitat for fish in the site. There are no occurrences of delta smelt recorded in the CNDDB (2019) within the search area. The site is not within designated critical habitat for delta smelt (USFWS, 1994).
Central Valley steelhead	*Oncorhynchus mykiss*	T	None	N/A	Riffle and pool complexes with adequate spawning substrates within Central Valley drainages.	Unlikely: there is no suitable aquatic habitat for fish in the site. The nearest occurrence of this species in the CNDDB (2019) search area is approximately 11 miles south of the site. The site is not within designated critical habitat for Central Valley steelhead (NOAA, 2005).
INVERTEBRATES						
Vernal pool fairy shrimp	*Branchinecta lynchi*	T	None	N/A	Vernal pools and seasonally inundated depressions in the Central Valley.	Unlikely: there are no vernal pools in the project site. The nearest occurrence of this species in the CNDDB (2019) search area is approximately 3.5 miles northwest of the site. The site is not within designated critical habitat for vernal pool fairy shrimp (USFWS, 2005b).
Vernal pool tadpole shrimp	Lepidurus packardi	E	None	N/A	Vernal pools	Unlikely: there are no vernal pools in the project site. There are no occurrences of vernal pool tadpole shrimp recorded in the CNDDB (2019) within the search area. The site is not within designated critical habitat for vernal pool tadpole shrimp (USFWS, 2005b).
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	T	None	N/A	Elderberry shrubs in the Central Valley and surrounding foothills	Unlikely: while the blue elderberry shrub in the site may support this species, the stems showed no evidence of species' occupancy. The nearest occurrence of valley elderberry longhorn beetle in the CNDDB (2019) search area is approximately 4 miles northwest of the site.

Notes:

1 T= Threatened; E = Endangered; SC = Species of Special Concern per California Department of Fish and Wildlife.

2 CNPS List 1B includes species that are rare, threatened, or endangered in California and elsewhere; List 2 includes plants that are rare, threatened or endangered in California but are more common elsewhere.

greater project vicinity. This table also includes an assessment of the likelihood of occurrence of each of these species in the site. The evaluation of the potential for occurrence of each species is based on the distribution of regional occurrences (if any), habitat suitability, and field observations.

SPECIAL-STATUS PLANTS: Ten (10) species of special-status plants were identified in the CNDDB (2019) search: Pine Hill ceanothus (*Ceanothus roderickii*), Red Hills soaproot (*Chlorogalum grandiflorum*), Brandegee's clarkia (*Clarkia biloba ssp. brandegeeae*), Tuolumne button celery (*Eryngium pinnatisectum*), Pine Hill flannelbush (*Fremontodendron decumbens*), El Dorado bedstraw (*Galium californicum ssp. sierrae*), Bisbee Peak rush-rose (*Helianthemum suffrutescens*), Layne's ragwort (*Packera layneae*), Sanford's arrowhead (*Sagittaria sanfordii*), and El Dorado County mule ears (*Wyethia reticulata*)(Table 1 and Attachment B). Stebbin's morning-glory (*Calystegia stebbinsii*) is not recorded in the CNDDB within the search area, but is on the USFWS IPaC Trust Report (Attachment B).

Special-status plants generally occur in relatively undisturbed areas in vegetation communities such as vernal pools, marshes and swamps, chenopod scrub, seasonal wetlands, riparian scrub, and areas with unusual soils. The grasslands in the site have been highly disturbed by historic mining practices, grazing, construction of adjacent parcels, disking for weed abatement and off-road vehicle trespass. The intermittent creek in the site provides marginal, yet potentially suitable habitat for Sanford's arrowhead; the ephemeral creeks in the site do not provide suitable habitat for any special-status plants. Due to lack of even moderately suitable habitat for special-status plants, it is unlikely special-status plants occur in the site.

SPECIAL-STATUS WILDLIFE: The potential for intensive use of the site by special-status wildlife species is also low. Fifteen (15) special-status wildlife species were recorded in project area in the CNDDB (2019) query: Swainson's hawk (*Buteo swainsonii*), burrowing owl, tricolored blackbird (*Agelaius tricolor*), golden eagle

(*Aquila chrysaetos*), bald eagle (*Haliaeetus leucocephalus*), California black rail (*Laterallus jamaicensis coturniculus*), white-tailed kite (*Elanus leucurus*), grasshopper sparrow (*Ammodramus savannum*), California red-legged frog (*Rana aurora draytonii*), foothill yellow-legged frog (*Rana boylii*), giant garter snake (*Thamnophis gigas*), western pond turtle (*Emys marmorata*), Central Valley steelhead (*Oncorhynchus mykiss*), vernal pool fairy shrimp (*Branchinecta lynchi*) and valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*). California tiger salamander (*Ambystoma californiense*), Delta smelt (*Hypomesus transpacificus*), and vernal pool tadpole shrimp (*Lepidurus packardi*) are not recorded in the CNDDB within the search area, but are on the USFWS IPaC Trust Report (Attachment B).

While the project site may have provided habitat for special-status wildlife species at some time in the past, agriculture and development have substantially modified natural habitats in the greater project vicinity, including those within the site. Of the species in Table 3, Swainson's hawk and burrowing owl are the only species with more than a very low potential to occur in the project site on more than a transitory or very occasional basis and are discussed further below. Other special-status birds may fly over or forage in the area on occasion, but would not be expected to nest in or adjacent to the project site, primarily due to poor habitat quality. Valley elderberry longhorn beetle is not expected to occur in the site, but is discussed below due the presence on an elderberry shrub in the site.

SWAINSON'S HAWK: The Swainson's hawk is a migratory hawk listed by the State of California as a Threatened species. The Migratory Bird Treaty Act and Fish and Game Code of California protect Swainson's hawks year-round, as well as their nests during the nesting season (March 1 through September 15). Swainson's hawk are found in the Central Valley primarily during their breeding season, a population is known to winter in the San Joaquin Valley.

Swainson's hawks prefer nesting sites that provide sweeping views of nearby foraging grounds consisting of grasslands, irrigated pasture, hay, and wheat crops. Most Swainson's hawks are migratory, wintering in Mexico and breeding in California and elsewhere in the western United States. This raptor generally arrives in the Central Valley in mid-March, and begins courtship and nest construction immediately upon arrival at the breeding sites. The young fledge in early July, and most Swainson's hawks leave their breeding territories by late August.

The site is within the nesting range of Swainson's hawks and the CNDDB (2019) contains a few records of nesting Swainson's hawks in the greater project vicinity (Attachment B). The nearest occurrence of Swainson's hawk in the CNDDB (2019) search area is approximately 4 miles southwest of the site.

The open, annual grasslands in the site provide marginal, yet potentially suitable Swainson's hawk foraging habitat. The large trees along the intermittent creek in the site and relatively large trees near the site could be used by nesting Swainson's hawks. However, due to the location of the site along the extreme east edge of the nesting range of this species, it is unlikely Swainson's hawks nest in or near the site, or forage in the site intensively, if at all.

BURROWING OWL: The Migratory Bird Treaty Act and Fish and Game Code of California protect burrowing owls year-round, as well as their nests during the nesting season (February 1 through August 31). Burrowing owls are a year-long resident in a variety of grasslands as well as scrub lands that have a low density of trees and shrubs with low growing vegetation; burrowing owls that nest in the Central Valley may winter elsewhere.

The primary habitat requirement of the burrowing owl is small mammal burrows for nesting. The owl usually nests in abandoned ground squirrel burrows, although they have been known to dig their own burrows in softer soils. In urban

areas, burrowing owls often utilize artificial burrows including pipes, culverts, and piles of concrete pieces. This semi-colonial owl breeds from March through August, and is most active while hunting during dawn and dusk. The nearest record of burrowing owls in the CNDDB (2019) is approximately 2 mile southwest of the site.

The absence of extensive burrow habitat, periodic disking and/or mowing of the on-site grasslands for weed abatement, and development in parcels surrounding the site reduces the likelihood of burrowing owls using the site for nesting. No burrowing owls were observed in the project site and only a few ground squirrels burrows were observed in the site. None of the burrows had any evidence of past or current use by owls. In its current condition, the site provides very limited potential nesting habitat for nesting burrowing owls. However, the site is within the species range and burrowing owls may fly over the site on an occasional basis, and may nest in the site in the future if burrow habitat is available.

VALLEY ELDERBERRY LONGHORN BEETLE: The valley elderberry longhorn beetle (VELB) is listed as a federally threatened species and its host plant is the blue elderberry shrub. Eggs are laid on the leaves or stems of the shrubs and upon hatching, the larvae bore in to the stem where they remain for 2+/- years feeding on the interior portions of the stems. Following several larval instars, the larvae chews an exit hole in the stem, pupates, and emerges after approximately a month as an adult. The adults live only 4 to 5 days, mates, lays eggs, and dies.

The USFWS (2017) *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle* direct that, if possible, elderberry shrubs should be avoided by a ground disturbance set back of at least 165 feet from the drip line of each shrub. A number of measures are also recommended to avoid and minimize project impacts to VELB and/or its habitat including fencing, worker training, and timing of construction, among others. In cases where complete avoidance is not feasible, the Framework recommends compensatory mitigation for the loss of

actual or potential VELB habitat. Mitigation is usually achieved through the purchase of credits at a USFWS-approved mitigation bank, and transplantation of the impacted shrub to the bank, if feasible. In the case of a single shrub in a riparian setting such as at the project site, the Framework recommends the purchase of 2 credits at a USFWS-approved bank and transplantation of the impacted shrub to the bank, if feasible.

The nearest occurrence of valley elderberry longhorn beetle in the CNDDB (2019) search area is approximately 4 miles northwest of the site. There is a single blue elderberry shrub along the north edge of the site, along the east side of the riparian corridor surrounding the intermittent creek. No boreholes indicative of occupancy by VELB were observed on the stems of the shrubs. The shrub is also at an elevation of approximately 750 feet, whereas the species generally found at elevations at or below 500 feet. Due to lack of evidence of species' occupancy and elevation of the shrub, it is unlikely to support VELB.

OTHER SPECIAL-STATUS WILDLIFE SPECIES: The site does not provide highly suitable habitat for other special-status wildlife species. Special-status birds and may fly over the area on occasion, but few, if any, would be expected to use on-site habitats on more than an occasional or transitory basis. While there are shrubby willows and small amounts of emergent wetland vegetation in the intermittent creek that are potentially suitable for nesting tricolored blackbirds, this vegetation is not near a large body of open water.

The site does not provide suitable aquatic habitat for any species of fish, California red-legged frog, California tiger salamander, giant garter snake, foothill yellow-legged frog, or western pond turtle. There are no vernal pools or seasonal wetlands in the site for vernal pool branchiopods (i.e., fairy and tadpole shrimp).

CRITICAL HABITAT: The site is not in designated critical habitat of California red-legged frog (USFWS, 2006a), California tiger salamander (USFWS, 2005b),

federally listed vernal pool shrimp or plants, such as Sacramento Orcutt grass (USFWS, 2005a), delta smelt (USFWS, 1994) Central Valley steelhead (NOAA, 2005) valley elderberry longhorn beetle (USFWS, 1980a)(Attachment E).

Conclusions and Recommendations

- The body of the site is an open field vegetated in upland grasses and weeds that has is routinely disked and/or mowed. The annual grassland habitats in the site are biologically unremarkable.

- Potentially jurisdictional Waters of the U.S. and wetlands in the site include an intermittent creek, two ephemeral creeks, and two seasonal wetlands; it is estimated these areas encompass approximately 0.4+/- acres. There are also a few relatively small areas in the site that may be seasonal wetlands; these areas are estimated to encompass 0.1+/- acre. A wetland delineation would be need to confirm boundaries and is recommended for later this spring when plants are blooming and recognizable.

- Avoidance of jurisdictional Waters of the U.S. and wetlands is recommended, if possible. If complete avoidance is infeasible, impacts should be minimized to the maximum extent practicable, and permits from ACOE, CDFW, and the Regional Water Quality Control Board (RWQCB) will be then be needed prior to the placement of any fill material (e.g., culverts, fill dirt, rock) within jurisdictional Waters of the U.S. Securing permits for the fill of jurisdictional Waters of the U.S. and wetlands could be challenging and time consuming, likely taking approximately 12 months to secure.

- Due to a lack of suitable habitat, it is unlikely that special-status plants occur in the site.

- Swainson's hawk and burrowing owl are the only species with more than a very low potential to occur in the project site on more than a transitory or very occasional basis. Conversion of 25+/- acres of upland grassland habitat to development in the east part of the species' ranges is a less than significant reduction in potential foraging habitat for Swainson's hawk, burrowing owl, and other wildlife.

- A pre-construction survey for burrowing owls within 250 feet of the site are recommended if construction commences between February 1 and August 31. If occupied burrows are found, a qualified biologist should determine the need (if any) for temporal restrictions on construction. The determination should be pursuant to criteria set forth by CDFW (CDFG, 2012).

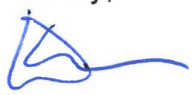
- A pre-construction survey for nesting Swainson's hawks within 0.25 miles of the project site is recommended if construction commences between March 1 and September 15. If active nests are found, a qualified biologist should determine the need (if any) for temporal restrictions on construction. The determination should utilize criteria set forth by CDFW (CDFG, 1994).

- The site is not within designated critical habitat for any federally listed species.

- Trees, shrubs, and grasslands in the site could be used by other birds protected by the Migratory Bird Treaty Act of 1918. If tree removal is scheduled during the nesting season of raptors (January 1 through July 31), a pre-construction survey for nesting raptors is recommended. If other vegetation removal or construction commences during the general avian nesting season (March 1 through July 31), a pre-construction survey for all species of nesting birds is recommended. If active nests are found, work in the vicinity of the nests should be delayed until the young fledge.

We hope this information is useful. Please call me at (209) 745-1159 with any questions.

Sincerely,



Diane S. Moore, M.S.
Principal Biologist

References and Literature Consulted

ACOE (U.S. Army Corps of Engineers). 1987. Technical Report Y87-1. U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, MI.

ACOE. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region. U.S. Army Engineer Research and Development Center, Vicksburg, MS. September.

CDFG (California Department of Fish and Game). 1994. Staff Report regarding Mitigation for Impacts to Swainson's Hawks (*Buteo Swainsoni*) in the Central Valley of California. November.

CDFG. 2012. Staff Report on Burrowing Owl Mitigation. California Department of Fish and Wildlife, Sacramento, California. March 7.

CNDDB (California Natural Diversity Database). 2019. California Department of Fish and Wildlife's Natural Heritage Program, Sacramento, California.

California Native Plant Society, Rare Plant Program. 2019. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.38). Website http://www.rareplants.cnps.org

National Oceanic and Atmospheric Administration (NOAA). 2005. Endangered and Threatened Species; Designation of Critical Habitat for Seven Evolutionarily Significant Units of Pacific Salmon and Steelhead in California; Final Rule. Federal Register 70 (170): 52488-52585. September 2, 2005.

Sawyer & Keeler-Wolf. 1995. A Manual of California Vegetation. California Native Plant Society, Sacramento. California.

USFWS (United States Fish and Wildlife Service). 1980. Part II, Department of the Interior, Fish and Wildlife Service. 50 CFR Part 17. Listing the Valley Elderberry Longhorn Beetle as a Threatened Species with Critical Habitat. Federal Register 45 No. 155, pp. 52803-52807, August 8.

USFWS. 1994. Final Critical Habitat for the Delta Smelt (*Hypomesus transpacificus*). Federal Register Vol. 59, No. 242, December 19, 1994, pp. 65256 – 65279.

USFWS. 2005a. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the California Tiger Salamander, Central Population; Final Rule. Federal Register Vol. 70, No. 162, August 23, 2005, pp. 49390 – 49458.

USFWS. 2005b. Part II, Department of the Interior, Fish and Wildlife Service. 50 CFR Part 17: Endangered and Threatened Wildlife and Plants; Final Designation of Critical Habitat for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants in California and Southern Oregon; Evaluation and Economic Exclusions from August 2003 Final Designation, Final Rule. Federal Register Vol. 70, No. 154, August 11.

USFWS. 2006. Part II, Department of the Interior, Fish and Wildlife Service. 50 CFR Part 17: Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for California Red-Legged Frog, and Special Rule Exemption Associated with Final Listing for Existing Routine Ranching Activities, Final Rule. Federal Register Vol. 71, No. 71, April 13.

USFWS. 2017. Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*). U.S. Fish and Wildlife Service; Sacramento, California. 28pp.

Attachment A

Parcel Map

V 01/25

TRACT 2, R.S. 25-102

S.D. I-45 LOT 275 | LOT 276 | LOT 278 | LOT 279 | LOT 280 | LOT 281 | S.D. I-46 LOT 282 | LOT 283 | LOT 284 | LOT J LOT 285 | LOT 286 | S.D. J-21 PORTON OF LOT B

FOUND 1-1/2" CAPPED IRON PIPE "LS 6866"(2)(4)(7)

318.38'(4) (318.53')(2)

FOUND 1-1/2" CAPPED IRON PIPE STAMPED: (1)(2)(3)(4)(5)(6)

N88°26'37"E)(1)(2)(4)(7)(8)

N88°27'28"E(5)

208.10'(7)

1-1/2" CAPPED IRON PIPE "LS 6866"(7)(8) FOUND 0.20' NORTH

30.66'(8)

5/8" REBAR W/ALUMINUM CAP "LS 6866"(4) (3/4" CAPPED IRON PIPE)(8) FOUND 0.20' NORTH

1312.34'(5) (1312.51')(1)(4)

755.30'(4) (755.21')(8)

FOUND 1-1/2" CAPPED IRON PIPE STAMPED: (4)(5)

PLS 5914 T9N R8E W 1/16 C-C 2007 S1

LS 3279 1/4 S-2 S-1 T9N R8E 1971

PARCEL 4
7.751± ACRES

REMAINDER PARCEL P.M. 48-45

N01°55'44"W (N01°36'13"W (1313.73')(1)(6)(14) (1313.83')(4)

415.59' 415.29')(15)

N89°19'59"W

N60°38'48"E 42.94'

349.94'

R=325.03' Δ=75°18'04"

N00°32'00"W(R)

N52°52'58"W 397.09'

N22°05'02"W 123.62'

N11°22'32"W 69.82'

N11°22'32"W 78.94'

N74°46'04"E(R)

N15°13'48"W 78.08'

1254.80'

R=275.00' Δ=69°36'37" N55°51'42"E 313.93'

N21°03'23"E 30.44'

5.21'

N66°38'11"W

PARCEL 2
8.009± ACRES

R=125.95' Δ=19°38'07" N64°05'14"E 42.95'

R=116.17' Δ=22°05'52" N43°30'10"E 44.53'

R=129.39' Δ=17°54'01" N22°41'57"E 40.26'

N53°53'11"E 74.60'

N35°43'49"W(R)

N35°26'54"W(R)

N57°32'46"W(R)

N76°15'04"W(R)

17.68'

587.63'

24' ACCESS EASEMENT RESERVED HEREON

3322 O.R. 79

N09°27'10"E 208.89'

N84°01'42"W(R)

N55°10'27"W(R)

R=56.34' Δ=28°51'14" N20°23'56"E 28.08'

N31°20'41"E 75.58'

445.29'

N00°14'51"E

1139.89'

PORTION OF LOT B S.D. J-21

S01°34'34"E (5)(12) (S01°34'33"E)(1)(9) (S01°34'36"E)(4) (SOUTH)(13)

1313.86'(5)

(Δ=113°40'59")(12) R=25.00'(12) Δ=113°41'13" N63°55'10"E 41.86'(12) (N63°55'03"E)(12)

C4 Δ=15°19'45" (N58°57'28"W 277.41') (N58°57'35"W 277.34')(12) R=1039.99'

C3 Δ=15°19'30"(12)

S.E. AND D.E. PER (12)

N66°37'20"W

345.68'

R=170.02' Δ=20°41'41" N03°16'17"W 61.08'(12)

S.E. AND D.E. PER (12) (SEE SHEET 3)

R=1160.00'(12) (Δ=07°22'52") (S62°55'47"E 149.41' Δ=07°23'06")(12) (S62°55'54"E 149.22')(12)

S66°37'20"E

N87°57'20"W 118.46'

N66°37'20"W 314.93'(12) 397.07'

120.01'

314.93'(12)

250.02'

148.06'(148.18)(3)(148.14')(5)

SILVA VALLEY PARKWAY

EDH 52

N43°43'31"W 52.16'

S.E. AND D.E. PER (12)

R=1140.10' Δ=18°01'32" S57°36'34"E 357.20'(12)

N64°11'58"W 234.82'

120.01'

320.59'

S41°24'12"W 5.00'(R)(12)

N53°15'36"W 199.00'

S.E. AND D.E. PER (12)

N26°54'00"W 166.05'

N8°00'10"W 282.83'

R=450.50' Δ=36°35'22"

N65°32'32"W 105.32'

N84°25'40"E 118.97'

N67°25'10"W 35.48'(12)

114.91'

R=200.02' Δ=42°30'28" N87°52'11"W 145.01'(12)

N66°36'57"W 53.98'(12)

TONG ROAD

PORTION OF TRACT 2 R.S. 25-148

(2627.77')(5) (2627.47')(14) (2627.46')(1)(4)(6) (2627.99')(3)

2627.83'

N01°55'44"W (NORTH)(13)

N13°37'08"W(3)(5) (N13°37'08"W (3)(5)(11) 457.62'(3)(11)

(S13°37'35"E 313.22')(4) S13°37'08"E(3)(5) 312.84' (312.51')(3)(5)

457.83' (457.66')(5)

533.79'

LEANING SOUTHWESTERLY

(R=1030.00' Δ=09°58'08" S18°36'40"E 178.98')(4)

R=1030.00' Δ=09°58'09" S18°36'13"E 178.99'(3)(5)

R=1000.00' Δ=09°58'09" N18°36'13"W 173.77'(3)(5)(11)

(R=970.00' Δ=09°58'08" N18°36'40"W 168.56')(4)

R=970.00' Δ=09°58'09" N18°36'13"W 168.56'(3)(5)

PORTION OF PARCEL 1
1.379± ACRES

404.52' (404.97')(4)

FOUND 1-1/2" CAPPED IRON PIPE STAMPED: (1)(4)(5)(6)

T9N R8E S 1/16 S2 • S1 RCE 20462 1989

133.00' (1)(4)(5)(6)

S23°35'17"E (S23°35'44"E 309.15')(4) 309.16'(3)(5)

S.E. PARCEL FOUR PER DOC-2005-0054184, O.R. (SEE SHEET 3)

60' FEE TITLE CONVEYANCE PER (11)

N23°35'17"W(3)(5)(11) 309.16'(11)

(N23°35'44"W 309.16')(4) N23°35'17"W 309.16'(3)(5)

SEWER EASEMENT PER DOC-2007-0074657, O.R. (SEE SHEET 3)

SEE SHEET 3

30.00'

30.00'

N66°24'43"E 60.00'(4)(10)

L1

L2

CLARKSVILLE CROSSING

PORTION OF PARCEL 1
15.734± ACRES

FOUND 1-1/4" IRON PIPE TAGGED "LS 2651"(1)(5) (TAGGED "LS 2716")(4)

(N27°W)(13) (N29°15'23"W (N29°03'05"W (N29°15'50"W(5) 220.57' (220.74')(5)

220.67')(1) 221.04')(4)

32.57'(32.50')(4)(10)

(S23°18'42"W)(4)(S16°W)(13) S23°23'01"W(1) (255.66')(1) 255.53' (256.17')(4)

TRACT 2 R.S. 16-147

213.44'(213.51')(1) (246.16')(5)

246.00' S78°36'58"W(1)(4) (S78°36'10"W)(5)

5/8" REBAR WITH ALUMINUM CAP STAMPED "LS 5914"(4) FOUND S11°23'02"E 0.42' (FOUND 0.2' S'LY)(5)

S.E. AND D.E. PER (12)

328.05'

423.18')(12) 423.17'

S62°53'21"W 15.00'(12)

R=1120.10' Δ=8°57'48" S22°37'45"E 175.05'(12)

S64°22'00"W 200.62'(12)

R=200.02' Δ=22°18'25"(12) S53°12'48"W 77.38' (S53°12'47"W 77.39')(12)

N42°03'35"E(12) 140.15'(140.34')(12)

89.24' 335.24'

U.S. HIGHWAY 50

5/8" REBAR WITH ALUMINUM CAP STAMPED "LS 5914"(4) FOUND S69°W 0.8' PER (5)

SEE DETAIL "A" ON SHEET 3

BASIS OF BEARINGS N01°56'13"W (1)(4)(5)(6)(14)

N34°10'42"W (N34°12'07"W (N34°12'09"W

326.44'(5) 326.41')(1)(4)(6)(14) (S34°24'54"E)(5) (S34°24'52"E)(1)(4)(6)(14) S34°22'28"E 148.24' (148.30')(5) (1)(4)(6)(14)

1313.98' (1180.92')(5) (1180.74')(14)

(1180.63')(4)

N01°56'42"W 1180.97'

100 50 0 100 200

SCALE: 1" = 100'

PARCEL MAP

BEING TRACT 1, AREA 3 AND PORTIONS OF TRACT 1 AREA 1, R.S. 32-43 AND BEING A PORTION OF THE S.W. 1/4 OF SECTION 1, T.9 N., R.8 E., M.D.M.

COUNTY OF EL DORADO
STATE OF CALIFORNIA
DECEMBER 2018

LINE TABLE		
LINE #	BEARING	LENGTH
L1	N33°08'15"W (N33°02'29"W)(3) (N33°03'01"W)(4)(10) (N33°06'07"W)(5)	182.36' (182.41')(3) (182.48')(4)(10) (182.46')(5)
L2	S15°03'26"E(4)(10) (S15°03'36"E)(3) (S15°06'39"E)(5)	178.49' (178.51')(4) (178.35')(5)

CURVE TABLE			
CURVE #	DELTA	RADIUS	CHORD BEARING & LENGTH
C1	08°13'05"	1260.11'	N52°42'20"W 180.59'
C2	09°48'27"	1260.11'	N61°43'06"W 215.43'
C3	03°26'56"	1039.99'	N64°53'52"W 62.59'
C4	11°52'49"	1039.99'	N57°13'59"W 215.25'

2 1 11 12 FOUND 1-1/2" IRON PIPE TAGGED "LS 2651"(1)(3)(4)(5)(6)

RSC ENGINEERING
2250 Douglas Blvd.
Suite 150
Roseville, CA 95661
Ph: 916.788.2884
Fax: 916.788.4408

52/10A

Attachment B

CNDDB Summary Report and Exhibits &

USFWS IPaC Trust Report

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Clarksville (3812161) OR Folsom SE (3812151))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Candidate Endangered	G2G3	S1S2	SSC
Ammodramus savannarum grasshopper sparrow	ABPBXA0020	None	None	G5	S3	SSC
Andrena blennospermatis Blennosperma vernal pool andrenid bee	IIHYM35030	None	None	G2	S2	
Aquila chrysaetos golden eagle	ABNKC22010	None	None	G5	S3	FP
Ardea alba great egret	ABNGA04040	None	None	G5	S4	
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Buteo regalis ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
Ceanothus roderickii Pine Hill ceanothus	PDRHA04190	Endangered	Rare	G1	S1	1B.1
Chlorogalum grandiflorum Red Hills soaproot	PMLIL0G020	None	None	G3	S3	1B.2
Clarkia biloba ssp. brandegeeae Brandegee's clarkia	PDONA05053	None	None	G4G5T4	S4	4.2
Crocanthemum suffrutescens Bisbee Peak rush-rose	PDCIS020F0	None	None	G2?Q	S2?	3.2
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S2	
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Erethizon dorsatum North American porcupine	AMAFJ01010	None	None	G5	S3	
Eryngium pinnatisectum Tuolumne button-celery	PDAPI0Z0P0	None	None	G2	S2	1B.2
Fremontodendron decumbens Pine Hill flannelbush	PDSTE03030	Endangered	Rare	G1	S1	1B.2

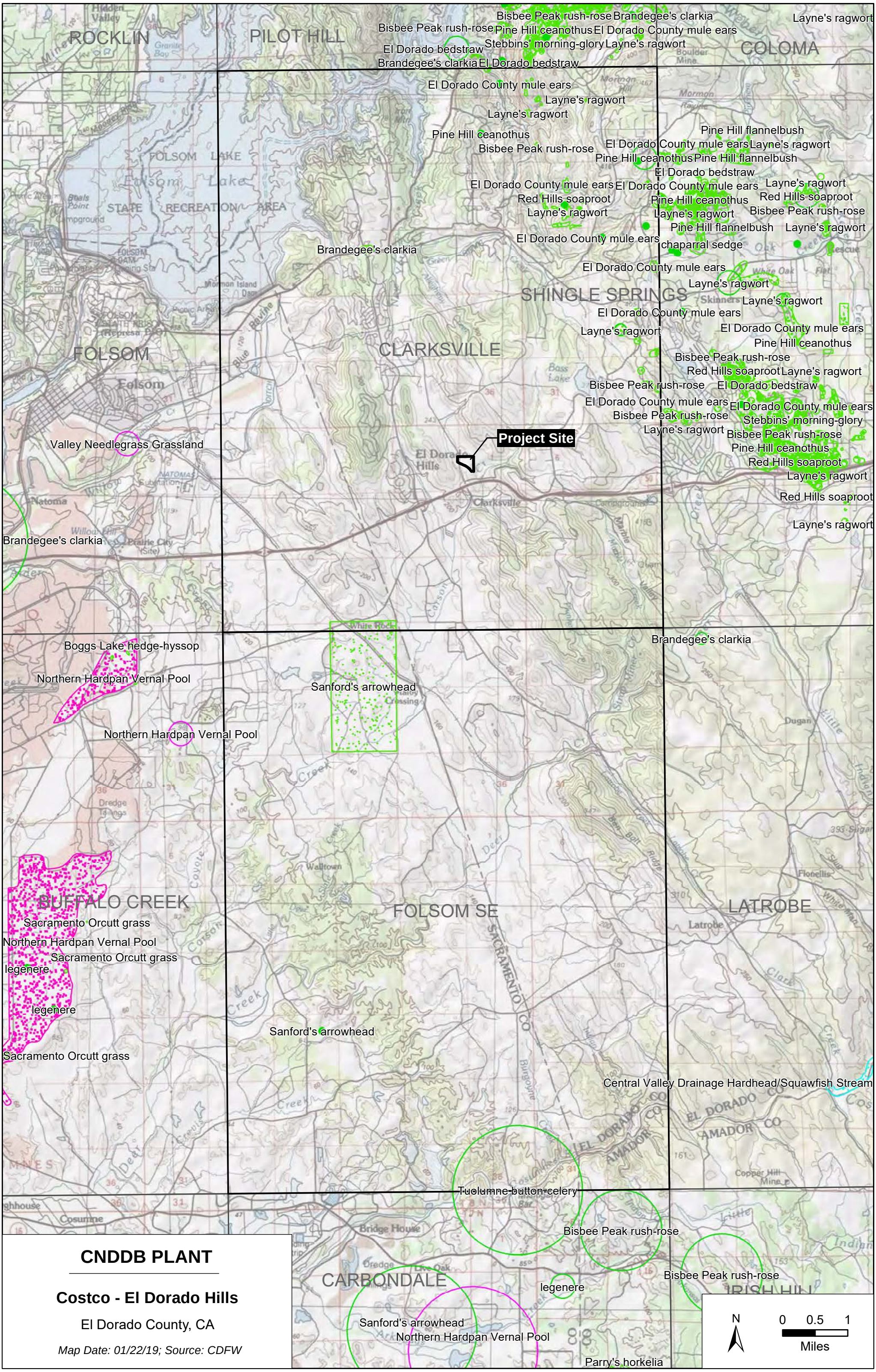
Selected Elements by Scientific Name

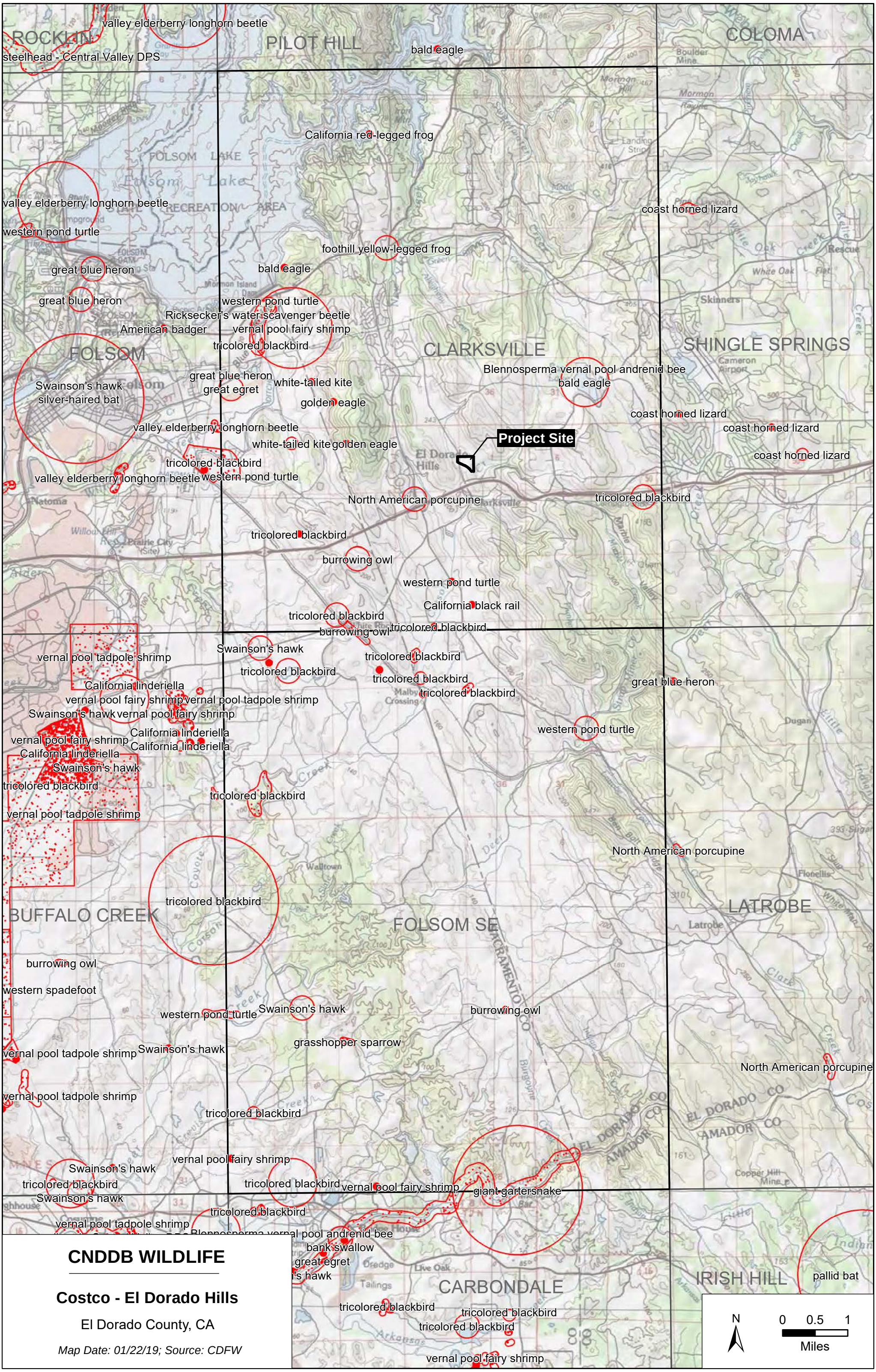
California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Galium californicum ssp. sierrae El Dorado bedstraw	PDRUB0N0E7	Endangered	Rare	G5T1	S1	1B.2
Haliaeetus leucocephalus bald eagle	ABNKC10010	Delisted	Endangered	G5	S3	FP
Hydrochara rickseckeri Ricksecker's water scavenger beetle	IICOL5V010	None	None	G2?	S2?	
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
Packera layneae Layne's ragwort	PDAST8H1V0	Threatened	Rare	G2	S2	1B.2
Rana boylii foothill yellow-legged frog	AAABH01050	None	Candidate Threatened	G3	S3	SSC
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
Sagittaria sanfordii Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
Thamnophis gigas giant gartersnake	ARADB36150	Threatened	Threatened	G2	S2	
Wyethia reticulata El Dorado County mule ears	PDAST9X0D0	None	None	G2	S2	1B.2

Record Count: 31


ROCKLIN
PILOT HILL
COLOMA
SHINGLE SPRINGS
CLARKSVILLE
FOLSOM
BUFFALO CREEK
FOLSOM SE
LATROBE
CARBONDALE
Project Site
Bisbee Peak rush-rose
Brandegee's clarkia
Layne's ragwort
El Dorado County mule ears
El Dorado bedstraw
Stebbins' morning-glory
Pine Hill ceanothus
Pine Hill flannelbush
Red Hills soaproot
chaparral sedge
Valley Needlegrass Grassland
Boggs Lake hedge-hyssop
Northern Hardpan Vernal Pool
Sanford's arrowhead
Sacramento Orcutt grass
legenere
Central Valley Drainage Hardhead/Squawfish Stream
Tuolumne-button-celery
CNDDB PLANT
Costco - El Dorado Hills
El Dorado County, CA
Map Date: 01/22/19; Source: CDFW
N
0 0.5 1
Miles


ROCKLIN
PILOT HILL
COLOMA
FOLSOM
CLARKSVILLE
SHINGLE SPRINGS
BUFFALO CREEK
FOLSOM SE
LATROBE
CARBONDALE
IRISH HILL
Project Site
valley elderberry longhorn beetle
steelhead - Central Valley DPS
bald eagle
California red-legged frog
coast horned lizard
western pond turtle
foothill yellow-legged frog
great blue heron
Ricksecker's water scavenger beetle
American badger
vernal pool fairy shrimp
tricolored blackbird
Blennosperma vernal pool andrenid bee
Swainson's hawk
silver-haired bat
great egret
white-tailed kite
golden eagle
North American porcupine
burrowing owl
California black rail
California linderiella
vernal pool tadpole shrimp
western spadefoot
grasshopper sparrow
giant gartersnake
bank swallow
pallid bat
CNDDB WILDLIFE
Costco - El Dorado Hills
El Dorado County, CA
Map Date: 01/22/19; Source: CDFW
N
0 0.5 1
Miles

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

NOT FOR CONSULTATION

Location

El Dorado County, California



Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

NOT FOR CONSULTATION

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Reptiles

NAME	STATUS

Giant Garter Snake Thamnophis gigas — Threatened
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/4482

Amphibians

NAME	STATUS
California Red-legged Frog Rana draytonii	Threatened
There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2891	
California Tiger Salamander Ambystoma californiense	Threatened
There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2076	

Fishes

NAME	STATUS
Delta Smelt Hypomesus transpacificus	Threatened
There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/321	

Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle Desmocerus californicus dimorphus	Threatened
There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/7850	

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp Branchinecta lynchi	Threatened
There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/498	
Vernal Pool Tadpole Shrimp Lepidurus packardi	Endangered
There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2246	

NOT FOR CONSULTATION

Flowering Plants

NAME	STATUS
El Dorado Bedstraw Galium californicum ssp. sierrae No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/5209	Endangered
Layne's Butterweed Senecio layneae No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4062	Threatened
Pine Hill Ceanothus Ceanothus roderickii No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/3293	Endangered
Pine Hill Flannelbush Fremontodendron californicum ssp. decumbens No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4818	Endangered
Stebbins' Morning-glory Calystegia stebbinsii No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/3991	Endangered

NOT FOR CONSULTATION

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NOT FOR CONSULTATION

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31

Burrowing Owl Athene cunicularia — Breeds Mar 15 to Aug 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9737

California Thrasher Toxostoma redivivum — Breeds Jan 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Clark's Grebe Aechmophorus clarkii — Breeds Jan 1 to Dec 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Common Yellowthroat Geothlypis trichas sinuosa — Breeds May 20 to Jul 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/2084

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Lawrence's Goldfinch Carduelis lawrencei — Breeds Mar 20 to Sep 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Lewis's Woodpecker Melanerpes lewis — Breeds Apr 20 to Sep 30
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9408

Marbled Godwit Limosa fedoa — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9481

Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

NOT FOR CONSULTATION

Oak Titmouse Baeolophus inornatus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9656	Breeds Mar 15 to Jul 15
Rufous Hummingbird selasphorus rufus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002	Breeds elsewhere
Song Sparrow Melospiza melodia This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Feb 20 to Sep 5
Spotted Towhee Pipilo maculatus clementae This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/4243	Breeds Apr 15 to Jul 20
Tricolored Blackbird Agelaius tricolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3910	Breeds Mar 15 to Aug 10
Wrentit Chamaea fasciata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10
Yellow-billed Magpie Pica nuttalli This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9726	Breeds Apr 1 to Jul 31

NOT FOR CONSULTATION

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

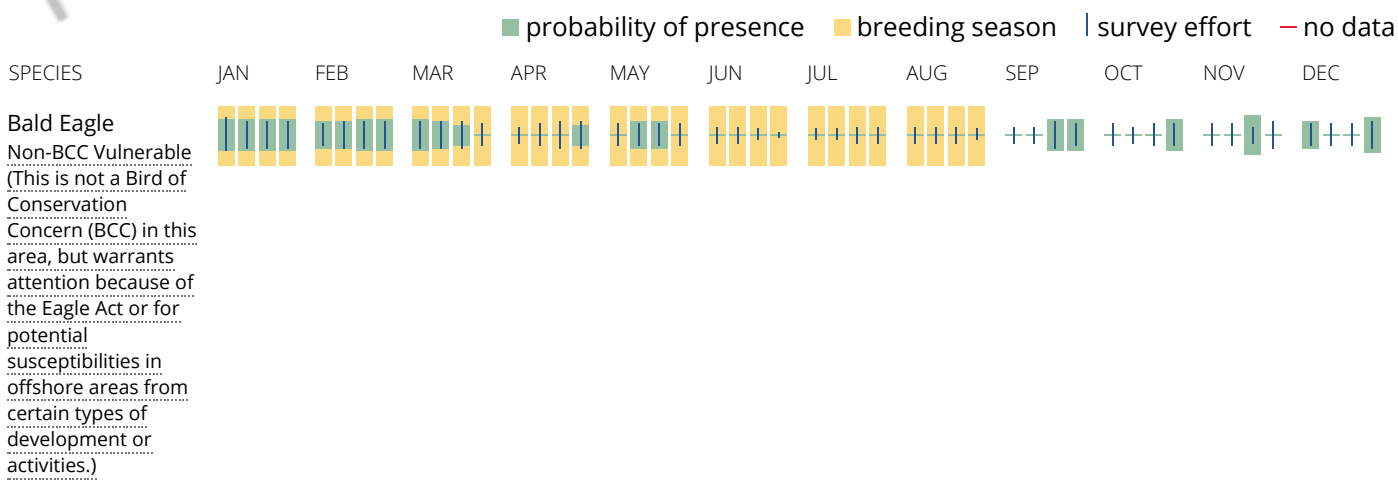
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

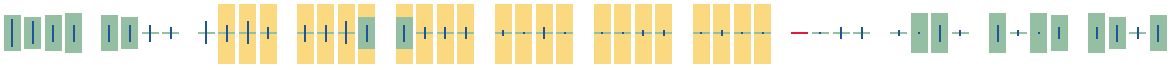
No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

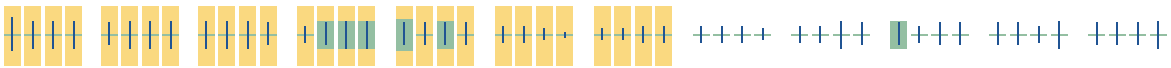
NOT FOR CONSULTATION



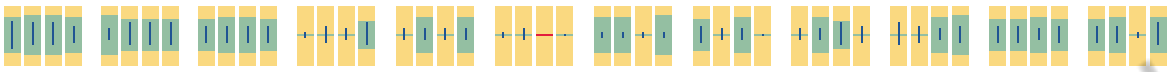
Burrowing Owl
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



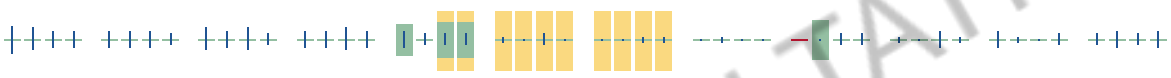
California Thrasher
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



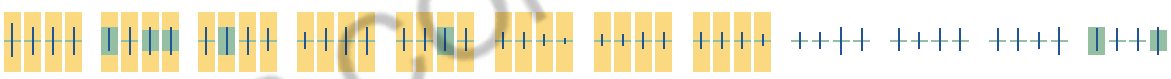
Clark's Grebe
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Common Yellowthroat
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



Golden Eagle
Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)



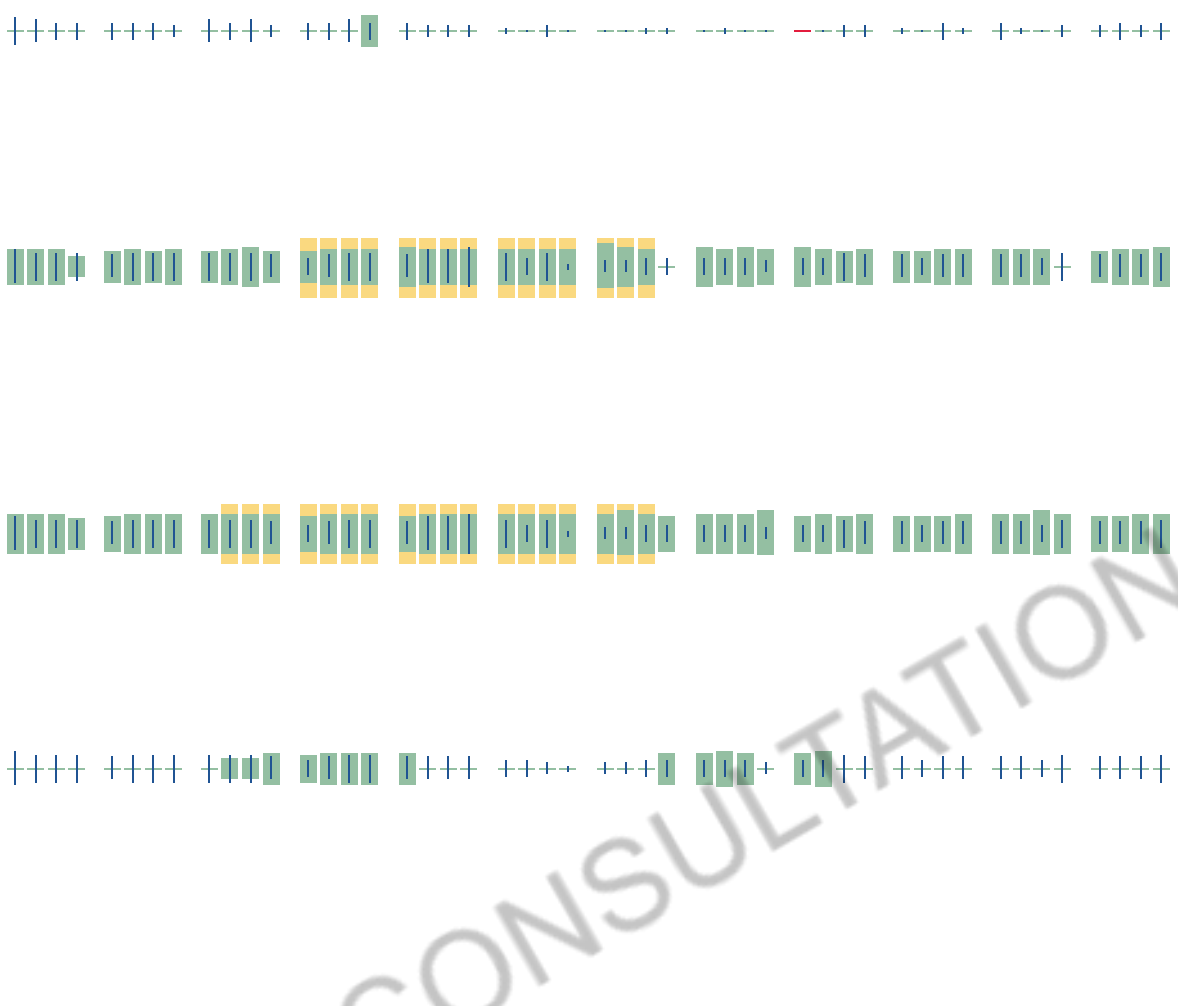
Lawrence's Goldfinch
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Lewis's Woodpecker
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

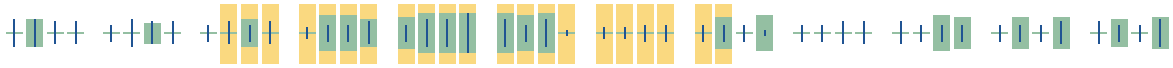


NOT FOR CONSULTATION

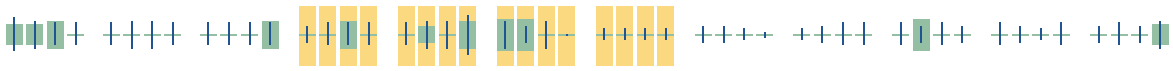


NOT FOR CONSULTATION

Wrentit
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Yellow-billed Magpie
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the E-bird Explore Data Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

NOT FOR CONSULTATION

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to

NOT FOR CONSULTATION

confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

- PEM1A
- PEM1Ch
- PEM1C

FRESHWATER FORESTED/SHRUB WETLAND

- PFOA
- PSSA

FRESHWATER POND

NOT FOR CONSULTATION

PUBHx
PUBFh

RIVERINE

R4SBC
R4SBA

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

Attachment C

Photographs



Upland grassland in the northeast part of the site, looking west along the north edge of the site from the northeast corner of the site; 01/18/19.



Upland grassland in the east part of the site, looking north along the fence that runs along the east edge of the site; 01/18/19.



South edge of the site, looking west from the top of a large soil stockpile; 01/18/19. Tong Road runs along the south edge of the site and intersects with Silva Valley Parkway at the stop sign.



Roadside ditch along Silva Valley Parkway, looking northwest toward an intermittent creek that flows through the west part of the site; 01/18/19. The trees and shrubs are along the creek.



Riparian corridor along the intermittent creek in the northwest part of the site, looking southeast from the northwest corner of the site; 01/18/19. The arrows point to the creek corridor.



Intermittent creek in the northwest part of the site, looking northeast; 01/18/19. The riparian corridor contains oaks, willows, cottonwoods, shrubs, berries, and a few patches of cattails.



Ephemeral creek that flows throught the central part of the site, looking north; 01/18/19.



Culvert under Silva Valley Parkway that conveys creek flows under the road, looking southwest; 01/18/19. This is the downstream part of the same creek depicted above.



Small stockpond (circled) near Silva Valley Parkway, looking west; 01/18/19. An old pipe located between the intermittent creek and the stockpond may have been used to fill the pond.



Ephemeral creek that flows through the center part of the site, looking south from the north edge of the site; 01/18/19. The berm (noted) appears to be the remnants of an old stock pond dam.



Ephemeral creek at the base of a hill, looking southwest; 01/29/19. This creek is just a few feet wide, and is tributary to a second ephemeral creek near Silva Valley Parkway.



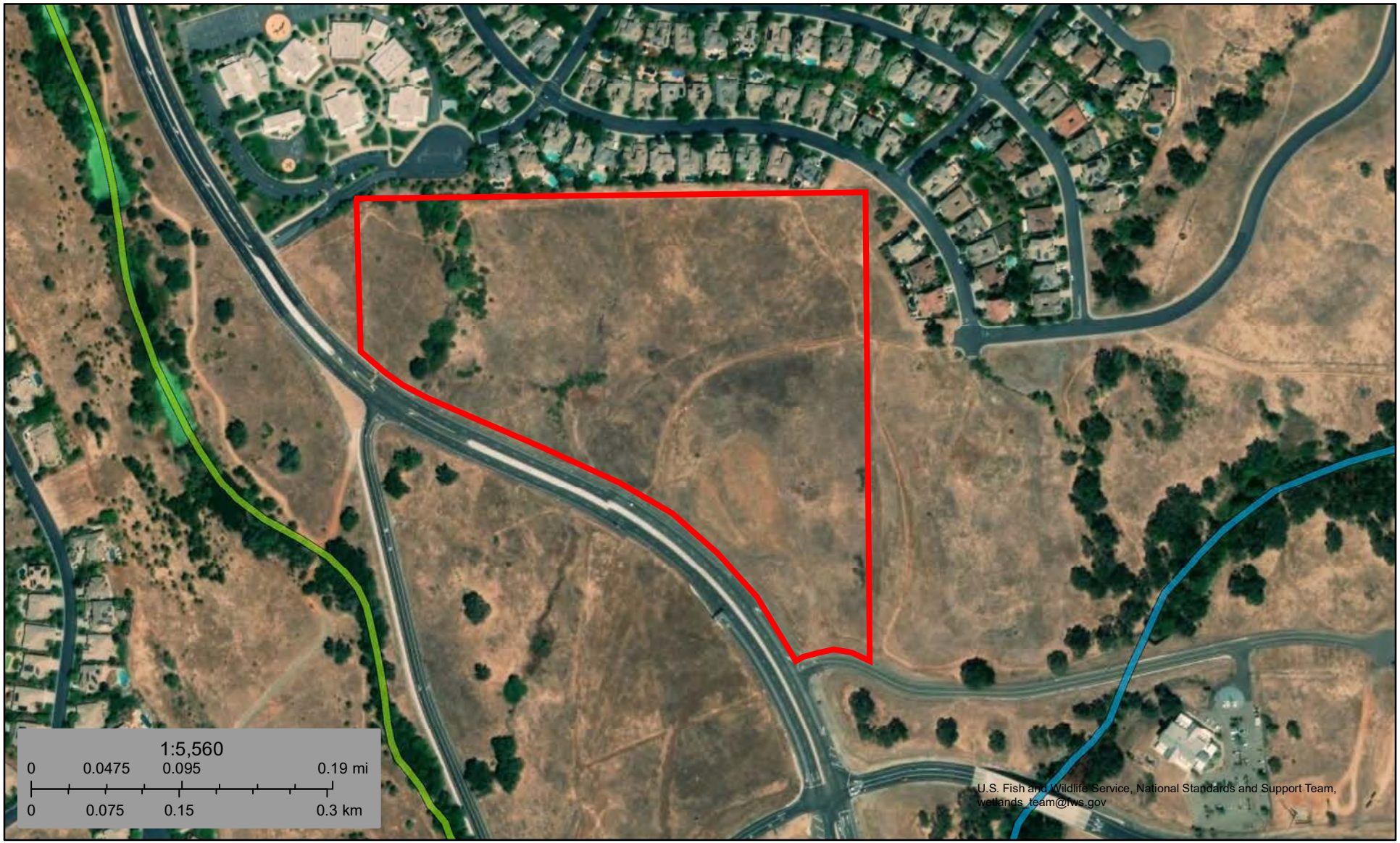
Blue elderberry shrub (noted with flagging) along the north edge of the site, looking west; 01/29/19.

Attachment D

National Wetland Inventory Map

U.S. Fish and Wildlife Service
National Wetlands Inventory

Costco El Dorado Hills



January 15, 2019

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Attachment E

Designated Critical Habitat

Steelhead

California tiger Salamander

Sacramento Orcutt grass

Vernal pool tadpole shrimp/Vernal pool fairy shrimp

Project Site

CITRUS HTS

FOLSOM

CLARKSVILLE

SHINGLE SPRINGS

COLOMA

BUFFALO CREEK

FOLSOM SE

LATROBE

ELK GROVE

SLOUGHHOUSE

CARBONDALE

IRISH HILL

GOOSE CREEK

IONE

CRITICAL HABITAT

Costco - El Dorado Hills

El Dorado County, CA

Map Date: 01/22/19; Source: USFWS

N

0 0.5 1

Miles

MEMORANDUM

DATE: October 31, 2019

TO: Mr. Michael Okuma, Costco Wholesale

FROM: Brian E. Crystal, PE, GE, Kleinfelder

CC: Andrea Traum, PE, Kleinfelder
Andy Franks, Kleinfelder

SUBJECT: Preliminary Site Preparation Recommendations
Proposed Costco Wholesale Warehouse and Fuel Facility
Silva Valley Parkway
El Dorado Hills, California
CW# 18-0487

This draft memorandum presents preliminary site preparation recommendations for the subject project in El Dorado Hills, California. Kleinfelder understands Costco plans to purchase an approximately 17-acre, commercially-zoned site on the south side of Silva Valley Parkway north of Highway 50 in El Dorado Hills, California and construct an approximately 152,000-square foot warehouse and fuel facility. The building will be a single-story, steel-framed structure (30 feet in height) with concrete-masonry unit and metal walls. In addition, immediately to the west of the warehouse facility, a two-level parking structure will be constructed, which service the majority of the parking at the site. Additional surface parking and landscape islands are also planned around the new fuel facility located on the northern portion of the property. Parking and drive areas will be paved with either Portland cement concrete or asphalt concrete pavements.

The site is undeveloped with rolling hills running from east to west with elevations between approximately 705 to 755 feet. At the time of our field exploration, much of the site was covered by low-lying vegetation (weeds and shrubs) and animal burrows. Additionally, a seasonal creek runs through the property running from east to west. Based on preliminary grading plans provided by Kier and Wright (Civil Engineer), we understand that the finished floor elevation for the warehouse building slab will be established at Elevation 729 feet. The upper level of the parking structure will match the surface grades surrounding the warehouse building at elevations ranging between 724 and 728 feet. The lower level of the parking structure will be set about 12 feet below the upper level. The warehouse building footprint is situated on a cut/fill transitional area with cuts up to approximately 20 feet in the eastern side of the building and fills up to approximately 10 to 15 feet along the western side of the building. Conversely, the proposed parking structure on the western side of the site is located mostly in fills of approximately 5 to 10 feet in depth. Retaining walls will be constructed on the southern and eastern sides of the warehouse building and west of the fuel facility. Retaining wall types have not been determined at this time; however, rockeries are being considered.

© 2019 Kleinfelder

Subsurface conditions at the site were explored by drilling 3 borings/rock cores, excavating 26 test pits and performing a seismic refraction survey. The seismic refraction survey was used to evaluate the excavatability (rippability) of the bedrock rock material. A total of 2 boring/rock cores and 15 test pits were drilled/excavated in the warehouse building area; 1 boring/rock core and 2 test pits were excavated within the fuel facility area, 5 test pits were excavated within the future parking structure; and 4 test pits were excavated in the proposed parking lot areas. The borings were drilled using track-mounted hollow-stem-auger drilling equipment with rock coring abilities to depths of between approximately 8½ to 30 feet below the existing ground surface (bgs). The proposed exploration plan also included a fourth rock coring location (KB-2) at the northeastern corner of the new warehouse location. This location was not drilled due to very hard drilling conditions throughout the course of the field exploration.

Soil materials encountered during the explorations consisted of colluvium/residual soil overlying bedrock. The colluvium/residual soil consisted primarily of clayey soils with varying amounts of silt and gravel and varied in depth from approximately 1.5 and 5.5 feet bgs. Below the colluvium/residual soil, bedrock comprised of weathered and fractured metavolcanic rock underlain by little-weathered, intact rock. The rock increased in strength and decreased in weathering and fracture amount with depth, as shown on the attached figure and seismic refraction survey report. Localized deposits of artificial fill were encountered in a few test pits. The fill consisted of sandy lean clays with variable amounts of gravel and cobbles. Perched groundwater was encountered in a few test pits between the depths of approximately 7 to 8 feet bgs. These test pits were located near a seasonal creek, which runs through the property. During Kleinfelder's investigation of the adjacent property in April of 2019, this creek had been flowing rapidly and all excavated test pits encountered perched water near bedrock contact.

Based on the results of our prior field exploration, and observations during this exploration, it is our professional opinion that the proposed project is geotechnically feasible, provided the recommendations presented in the geotechnical report are incorporated into the project design and construction. We identified the following key geotechnical considerations during our study.

- The primary geotechnical consideration for site development is the excavatability of the rock and the construction of fills to achieve the finished grades. The seismic refraction survey results (attached) indicate the initial weathered rock layer with compression wave velocities (Vp) ranging between 3,985 to 5,990 feet per second is located approximately 1 to 3 below existing grades and extends as deep as 30 feet below grade within the warehouse building cut. Based on Caterpillar's Handbook of Ripping (2000), rock exhibiting seismic velocities in this range are marginally rippable using a D9R dozer equipped with multi or single shank ripper(s). Underlying this layer is a less weathered rock zone with compression wave velocities ranging between 12,480 to 18,530 feet per second and is located as shallow as 5 to 10 feet below grade within eastern cut for the warehouse building and the fuel facility cut area on the northern portion of the site. Localized blasting will likely be needed to excavate less weathered rock. In addition, crushing and screening operations will likely be required to produce efficient rock fragmentation of the rock (both weathered and less weathered rock) for re-use onsite as structural fill.

© 2019 Kleinfelder

- Based on the preliminary grading plan, the warehouse building footprint is situated on a bedrock cut/fill transitional area with cuts up to approximately 20 feet in the eastern side of the building and fills up to approximately 10 to 15 feet along the western side of the building. To provide uniform support for the proposed warehouse building and to reduce the adverse effects of abrupt differential settlement due the cut/fill transition and variability in fill thickness across the building pad, we recommend the bedrock should be undercut by at least 6 feet below the finished floor elevation and backfilled with structural fill. In addition, cut/fill transitions are situated below small area of the parking structure's lower level. Beneath the parking structure, we recommend the bedrock should be undercut by at least 4 feet below the finished floor elevation and backfilled with structural fill.

- The residual soil/colluvial layer should excavated to underlying weathered rock contact and stockpiled on site for reuse as structural fill. An estimate of the residual soil/colluvial layer thickness is shown on the attached cross sections (Figures 5 through 10).

- Prior to grading and subgrade preparation, all vegetation should be cut and removed from the site. Roots and vegetative matter in excess of one inch should be removed by screening or raking soils to a minimum depth of 12 inches. Other than plant roots, organic matter in the topsoil is minimal based on our laboratory testing (between one and three percent). The topsoil can be re-used on site in fills.

- Due to the composition of the bedrock, it will not reduce to a soil-like material when excavated. The bedrock material may be crushed, processed and re-used onsite as structural fill. Rock fragments up to 12 inches in size may be used in structural fills 10 or more feet below finished subgrade elevation, but not within 10 feet of a slope face. Rock fragments greater than 6 inches in size should not be used in the upper 10 feet of site fills. Rock fragments greater than 3 inches in size should not be used in the upper 3 feet of fills below the Costco warehouse building. There may be an opportunity for larger sized rocks and boulders between 12 and 24 inches in size to be re-used at the base of slopes or in landscape areas. A rock that cannot be crushed or screened to above size criteria should be removed off site.

- Rocks up to 12 inches in size may be placed in the deeper portions of structural fills as noted above provided they are thoroughly mixed with soils to avoid excessive concentrations of rock fragments. Over-sized materials (between 6 and 12 inches) should be placed in windrows or otherwise be placed under the observation of the geotechnical engineer's representative in a manner to avoid nesting or voids. Fills should be placed in lifts slightly thicker than the largest particle size and proof-rolled with a D-9 or larger Caterpillar dozer making at least 5 complete passes over each lift. Periodic test pits should be excavated into each compacted lift to confirm the rock fill is being placed in a uniform, dense manner with no nesting or voids.

- After stripping the site and prior to filling in the seasonal creek, which runs from east to west through the site, subdrains should be installed within the creek bottom. This creek was observed to be flowing rapidly during our initial investigation of the adjacent site in April 2019.

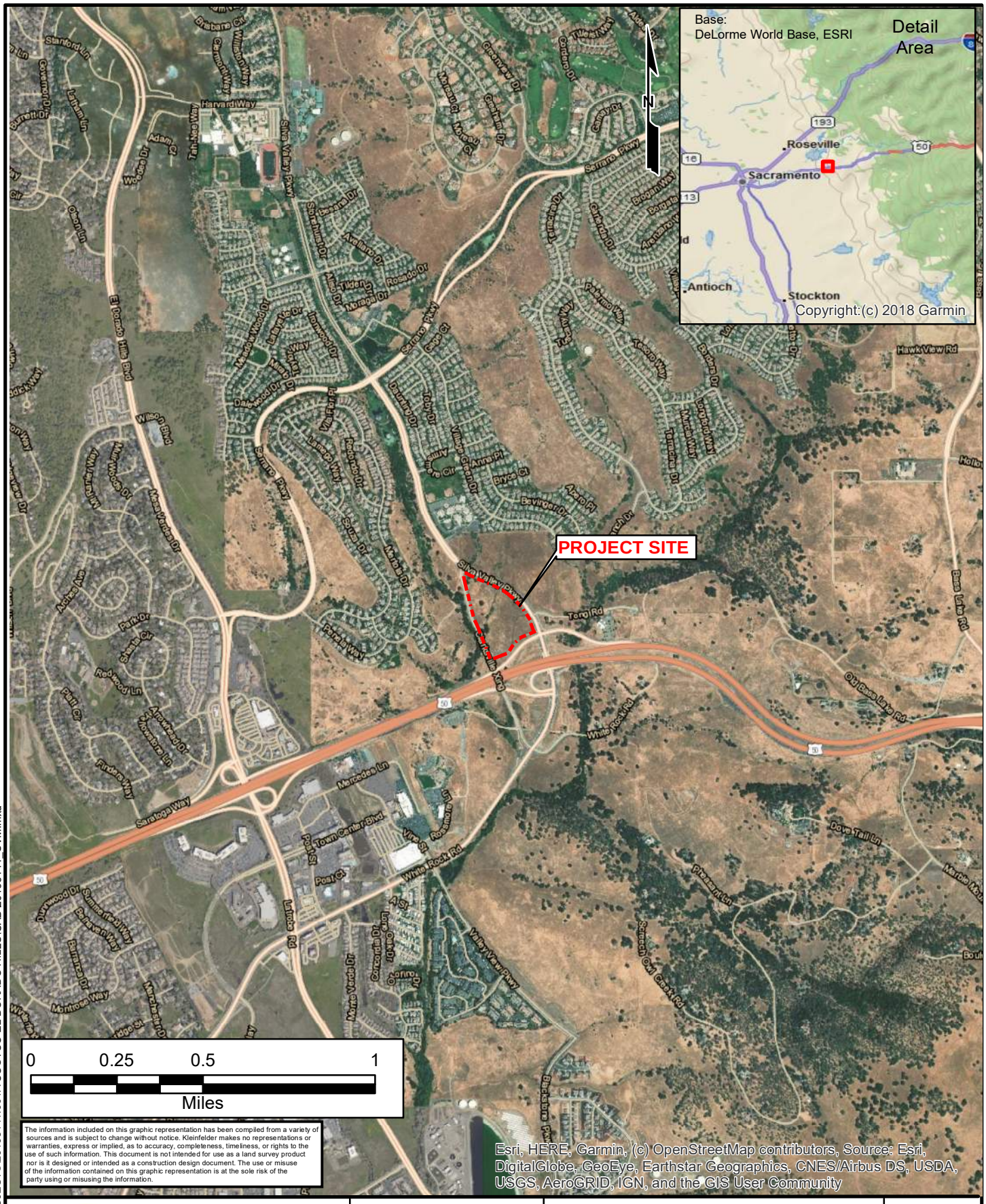
© 2019 Kleinfelder

- Although preliminary grading plans show that this site will be balanced, it is anticipated that crushing and processing the harder rock layers will prove challenging and may require soil to be imported onsite. Import materials, if required, should have a Plasticity Index of less than 10 with no less than 70 percent passing the No. 4 sieve, no more than 30 percent of the particles passing the No. 200 sieve, and no particles greater than 3 inches in maximum dimension. The maximum Plasticity Index for imported soils may be modified upon approval by Costco depending on its proposed use. The contractor should provide documentation to Costco that imported fill is free of hazardous materials, including petroleum or petroleum byproducts, chemicals and harmful minerals prior to its transportation and use on site.

Attachments: Figures
Appendix A – Field Exploration Results
Appendix B – Laboratory Results
Appendix C – Seismic Refraction Survey Results

© 2019 Kleinfelder

FIGURES



Date Saved: 9/17/2019 11:33:44 AM

Document Path: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\20193141_SVM.mxd

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

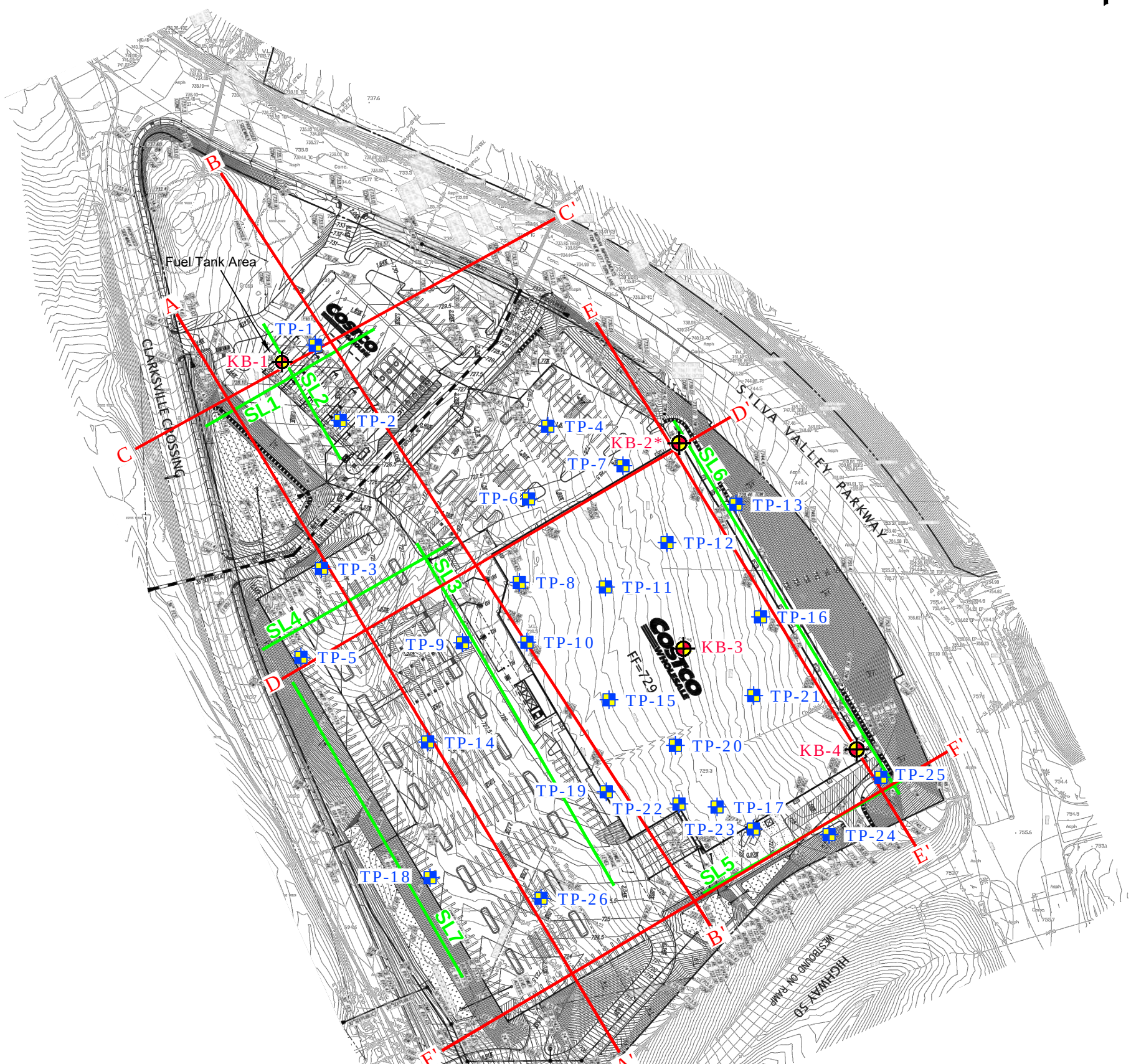
PROJECT NO.	20193141.001A
DRAWN:	9/17/2019
DRAWN BY:	D. Ross
CHECKED BY:	D .Dockendorf
FILE NAME:	20193141_SVM.mxd

SITE LOCATION MAP

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
1

PLOTTED: 23 Oct 2019, 10:25am, KHagan



LEGEND

- Rock Core Boring Location
- Test Pit Location
- SL1 — Seismic Refraction Lines
- A——A' Cross Section Lines

*Rock Core Boring Location KB-2 was not drilled due to very hard drilling conditions throughout the site.

160 0 80 160 320

APPROXIMATE SCALE: 1 inch = 160 feet

Site Plan Reference: ELDORADO HILLS CONCEPTUAL SITE PLAN - OPTION 2.0, by David Babcock & Associates, Sheet 1 of 1, dated April 11, 2019.

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

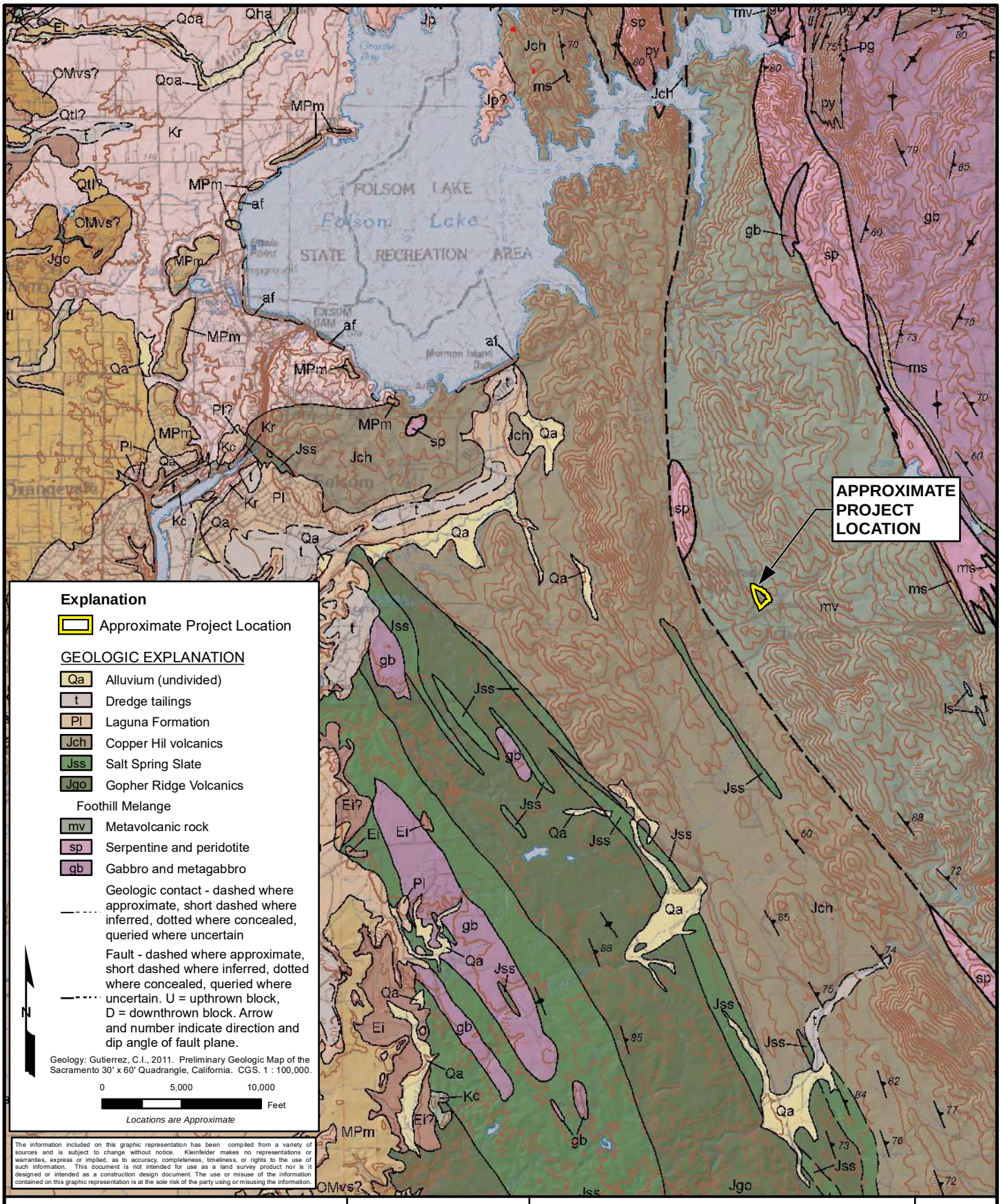
PROJECT:	20193141.001A
DRAWN:	10/23/2019
DRAWN BY:	D. Ross
CHECKED BY:	D .Dockendorf
FILE NAME:	20193141_2.dwg

EXPLORATION LOCATION MAP

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE 2

CAD FILE: \\sacramento\SACRAMENTO-DATA\DRAFTING\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: Layout1



PLOTTED: 10/23/2019 1:10:26 PM, KHagan

FILE: L:\2019\20193141.001A - CSM Costco El Dorado CA New WhseGas GEO\2.0 Technical Information\2.8 CAD GIS

SACRAMENTO, CA

KLEINFELDER
Bright People. Right Solutions.

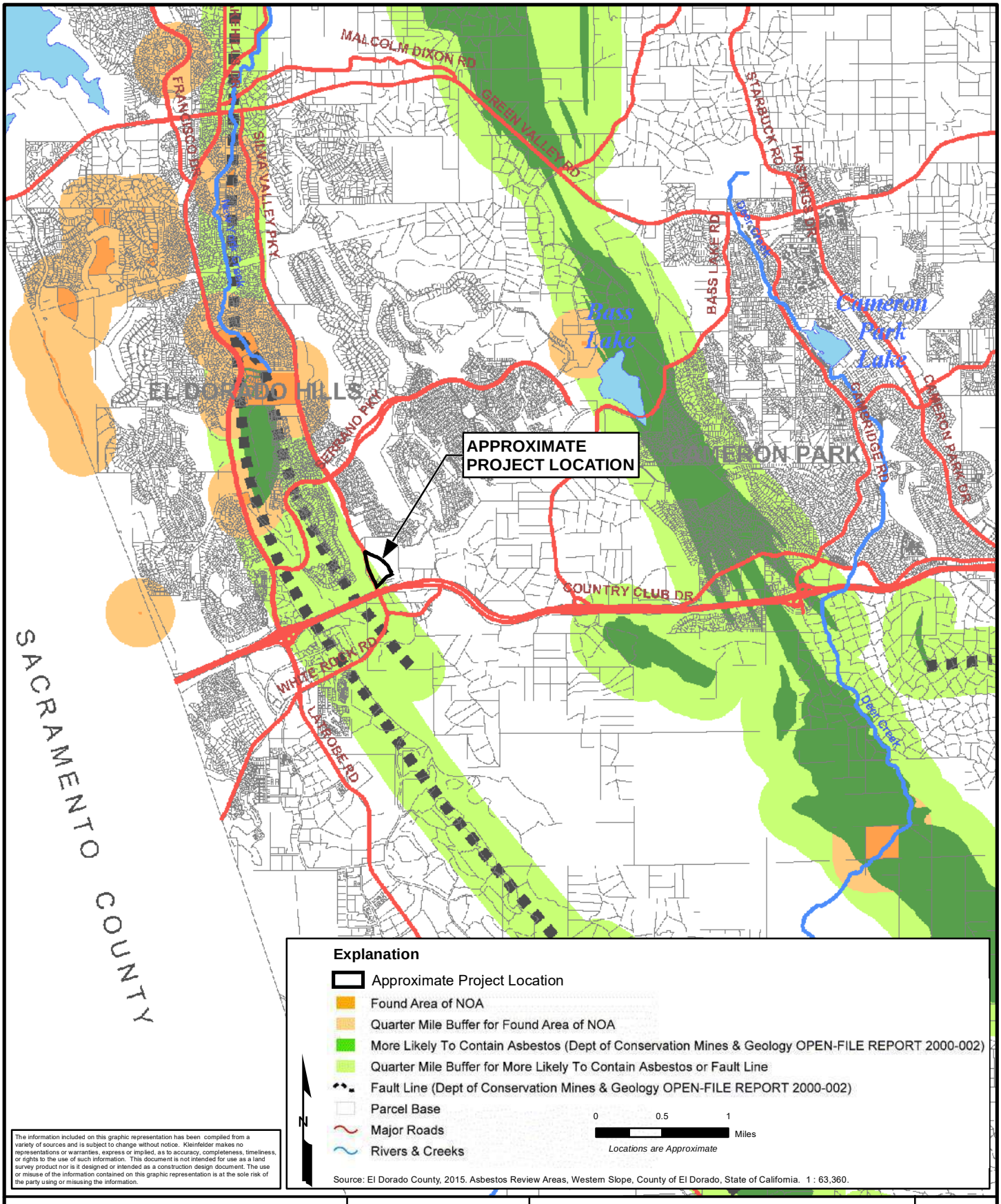
PROJECT:	20193141
DRAWN:	OCT 2019
DRAWN BY:	KFH
CHECKED BY:	DD
FILE NAME:	Fig3_Geo.mxd

REGIONA GEOLOGY MAP

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE

3



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

PLOTTED: 10/23/2019 2:26:39 PM, KHagan

FILE: L:\2019\20193141.001A - CSM Costco El Dorado CA New WhseGas GEO\2.0 Technical Information\2.8 CAD GIS

SACRAMENTO, CA

KLEINFELDER
Bright People. Right Solutions.

PROJECT:	20193141
DRAWN:	OCT 2019
DRAWN BY:	KFH
CHECKED BY:	DD
FILE NAME:	Fig4_NOA.mxd

NATURALLY OCCURING ASBESTOS MAP

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE

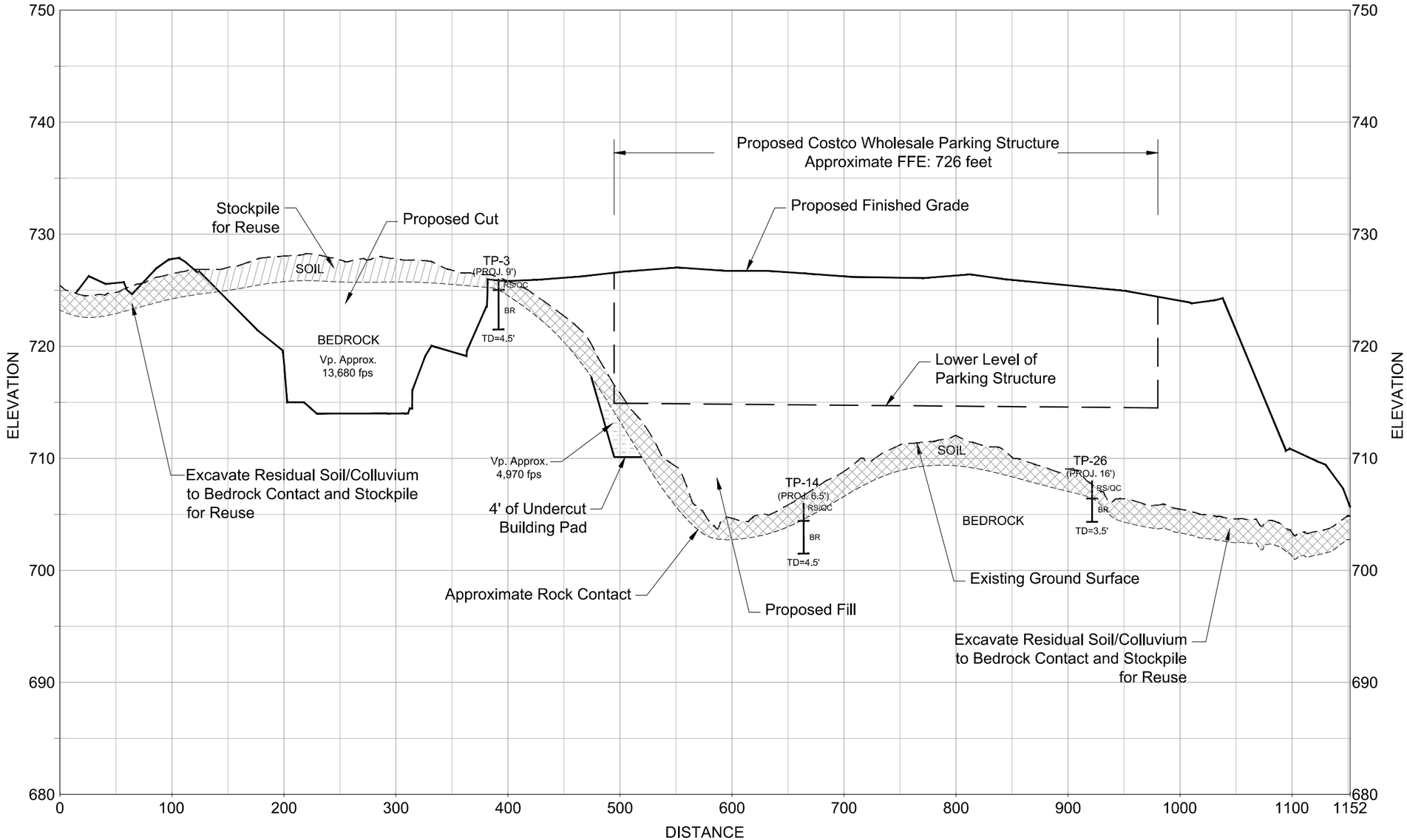
4

PLOTTED: 30 Oct 2019, 4:30pm, DFahrney

A

VIEW: NORTHEAST

A'



LEGEND

RS/QC Residual Soil and/or Colluvium

BR Bedrock

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

PROJECT NO.	20193141.001A
DRAWN:	10/24/2019
DRAWN BY:	D. Ross
CHECKED BY:	B. Anderson
FILE NAME:	CROSS SECTIONS.dwg

CROSS SECTION A - A'

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE

5

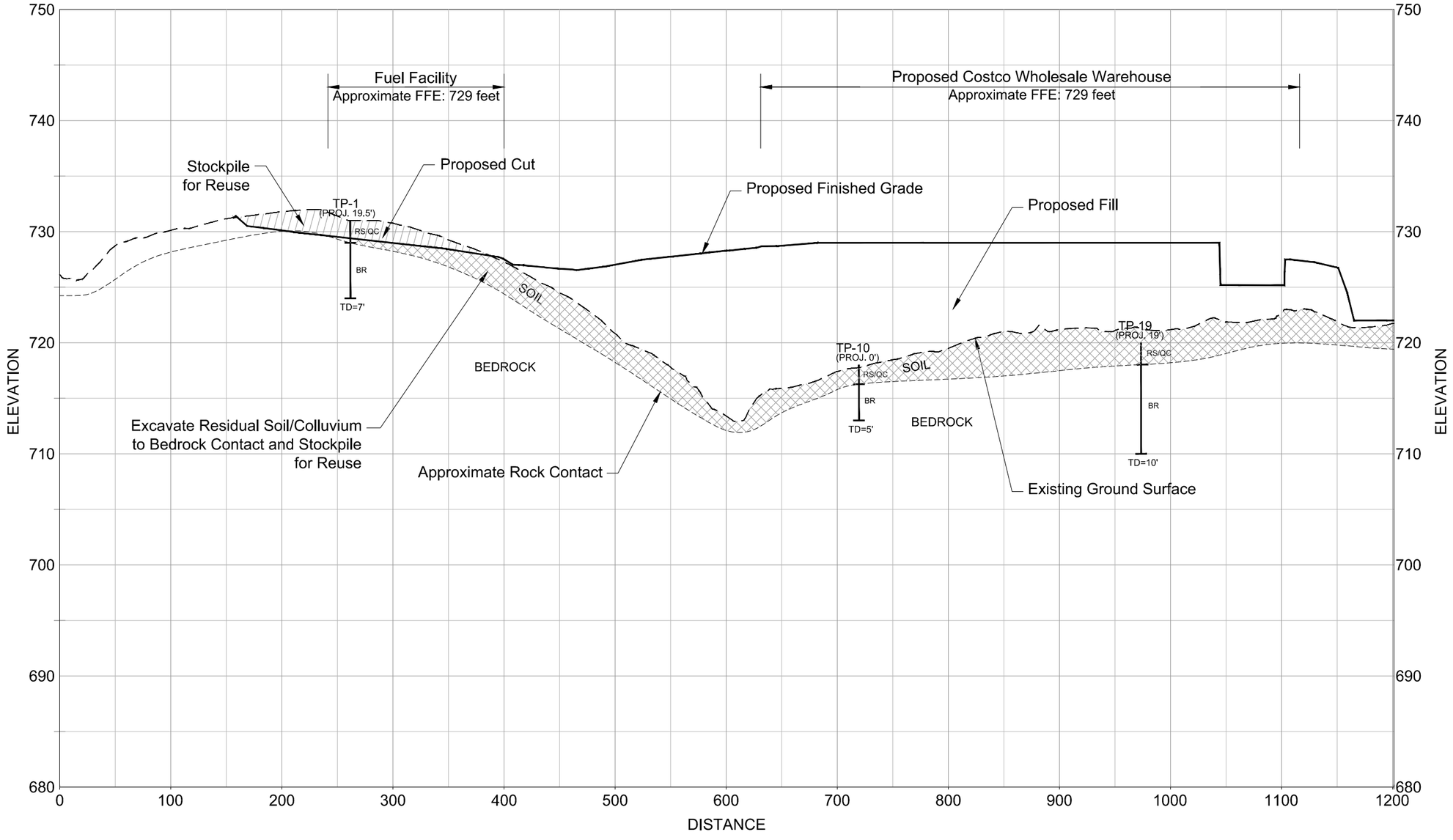
CAD FILE: U:\Projects\CADD\CADD 2019\20193141\ LAYOUT: A-A'

PLOTTED: 30 Oct 2019, 4:14pm, DFahrney

B

VIEW: NORTHEAST

B'



LEGEND

RS/QC Residual Soil and/or Colluvium

BR Bedrock

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

PROJECT NO.	20193141.001A
DRAWN:	10/24/2019
DRAWN BY:	D. Ross
CHECKED BY:	B. Anderson
FILE NAME:	CROSS SECTIONS.dwg

CROSS SECTION B - B'

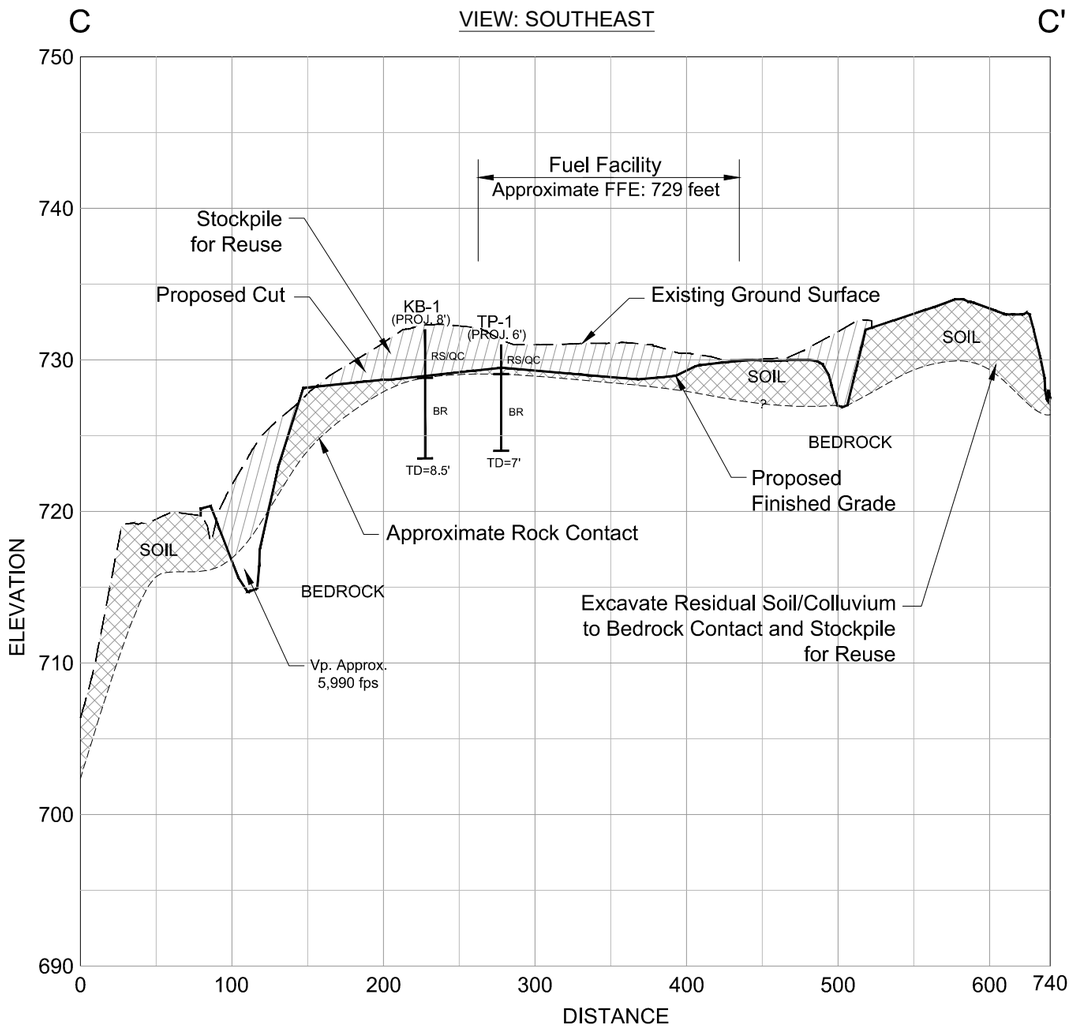
CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE

6

CAD FILE: U:\Projects\CADD\CADD 2019\20193141\ LAYOUT: B-B'

PLOTTED: 30 Oct 2019, 4:15pm, DFahmey



LEGEND

RS/QC Residual Soil and/or Colluvium

BR Bedrock

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

PROJECT NO.	20193141.001A
DRAWN:	10/24/2019
DRAWN BY:	D. Ross
CHECKED BY:	B. Anderson
FILE NAME:	CROSS SECTIONS.dwg

CROSS SECTION C - C'

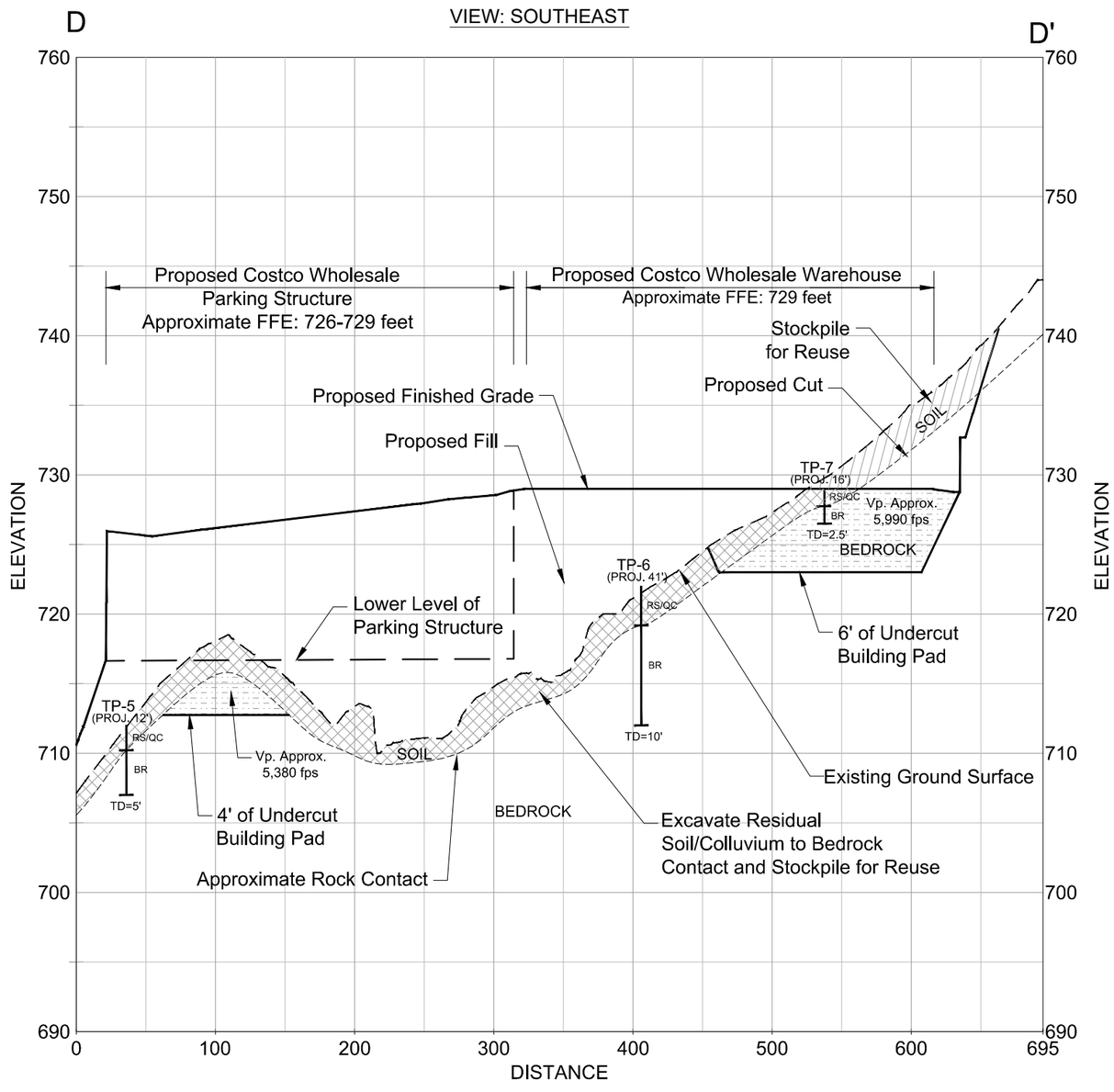
CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
7

CAD FILE: U:\Projects\CADD\CADD 2019\20193141\ LAYOUT: C-C'

PLOTTED: 30 Oct 2019, 4:30pm, DFahmey

VIEW: SOUTHEAST



LEGEND

RS/QC Residual Soil and/or Colluvium

BR Bedrock

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

PROJECT NO.	20193141.001A
DRAWN:	10/24/2019
DRAWN BY:	D. Ross
CHECKED BY:	B. Anderson
FILE NAME:	CROSS SECTIONS.dwg

CROSS SECTION D - D'

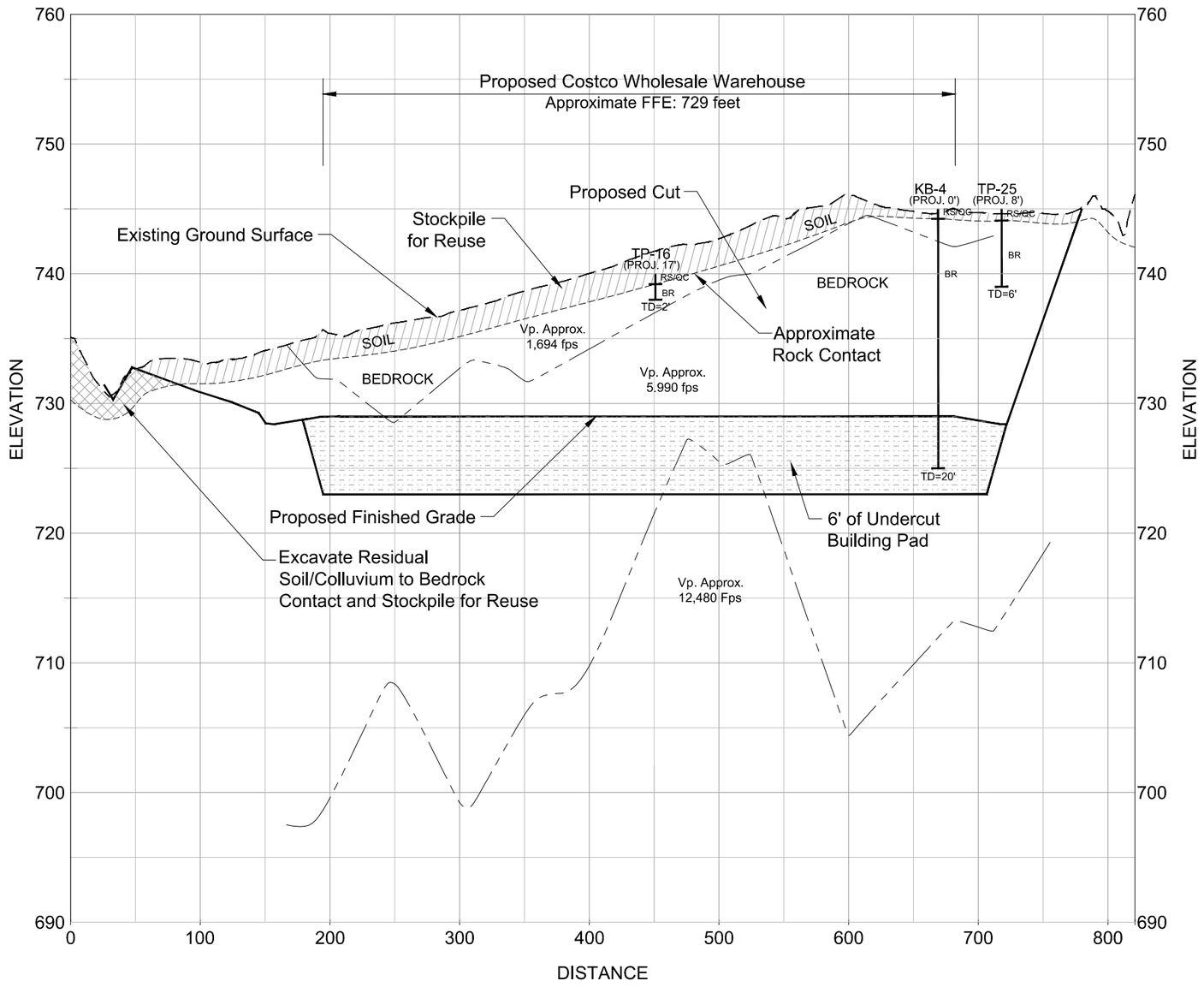
CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
8

CAD FILE: U:\Projects\CADD\CADD 2019\20193141\ LAYOUT: D-D'

PLOTTED: 30 Oct 2019, 4:16pm, DFahmey

E VIEW: SOUTHWEST E'



LEGEND

RS/QC	Residual Soil and/or Colluvium
BR	Bedrock
- - - -	Seismic Refraction Layer Contact with Layer Velocity

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

PROJECT NO.	20193141.001A
DRAWN:	10/24/2019
DRAWN BY:	D. Ross
CHECKED BY:	B. Anderson
FILE NAME:	CROSS SECTIONS.dwg

CROSS SECTION E - E'

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE 9

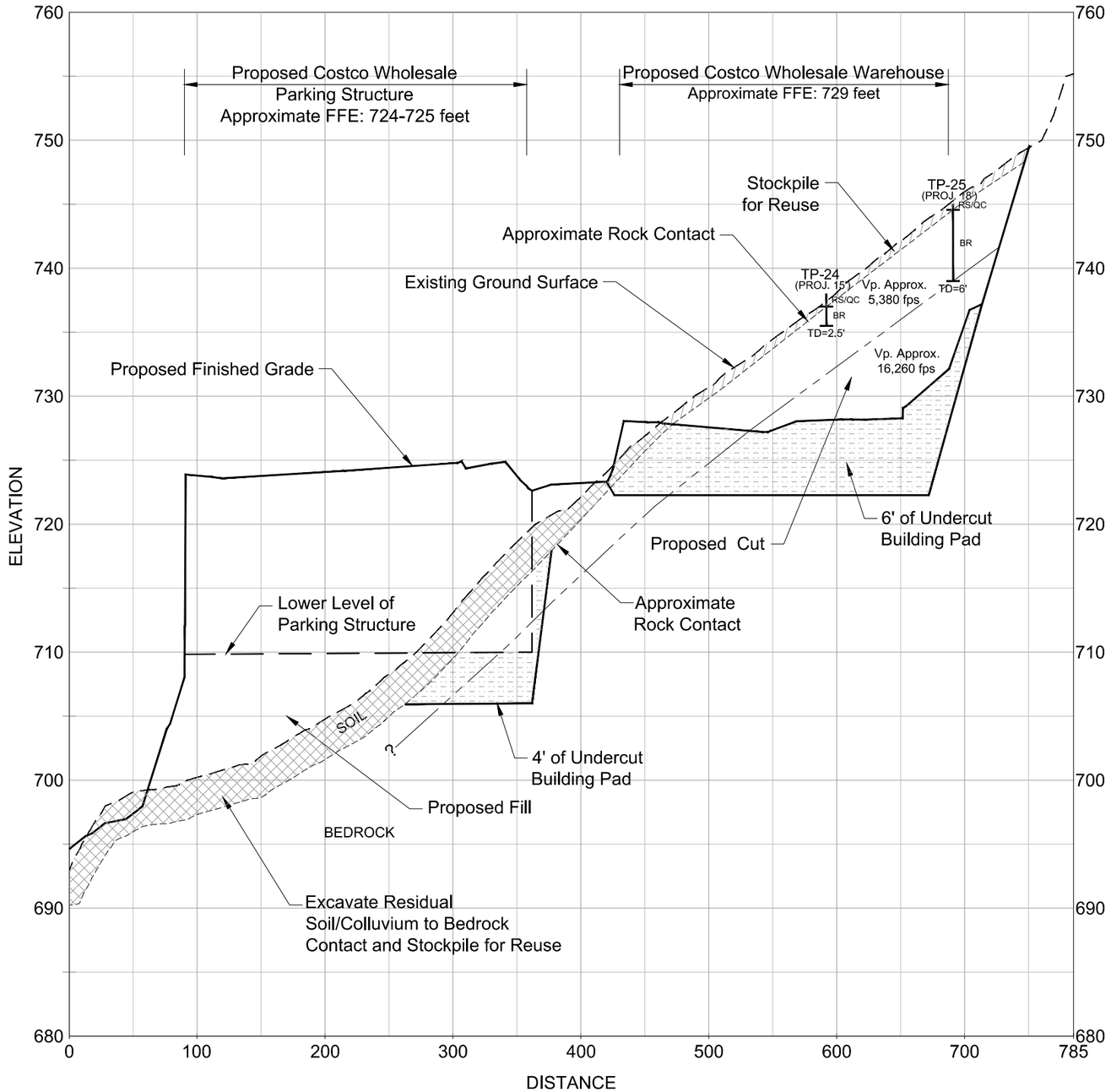
CAD FILE: U:\Projects\CADD\CADD 2019\20193141\ LAYOUT: E-E'

PLOTTED: 30 Oct 2019, 4:17pm, DFahmey

F

VIEW: NORTHWEST

F'



LEGEND

RS/QC Residual Soil and/or Colluvium

BR Bedrock

Seismic Refraction Layer with Layer Velocity

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

PROJECT NO.	20193141.001A
DRAWN:	10/24/2019
DRAWN BY:	D. Ross
CHECKED BY:	B. Anderson
FILE NAME:	CROSS SECTIONS.dwg

CROSS SECTION F - F'

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE

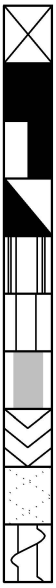
10

CAD FILE: U:\Projects\CADD\CADD 2019\20193141\ LAYOUT: F-F'

APPENDIX A

Field Exploration Results

SAMPLER AND DRILLING METHOD GRAPHICS



- BULK / GRAB / BAG SAMPLE
- MODIFIED CALIFORNIA SAMPLER (2 or 2-1/2 in. (50.8 or 63.5 mm.) outer diameter)
- CALIFORNIA SAMPLER (3 in. (76.2 mm.) outer diameter)
- STANDARD PENETRATION SPLIT SPOON SAMPLER (2 in. (50.8 mm.) outer diameter and 1-3/8 in. (34.9 mm.) inner diameter)
- HQ CORE SAMPLE (2.500 in. (63.5 mm.) core diameter)
- SHELBY TUBE SAMPLER
- PUSH TYPE SAMPLER
- SONIC CONTINUOUS SAMPLER
- HAND AUGER
- AUGER CUTTINGS

GROUND WATER GRAPHICS

- WATER LEVEL (level where first observed)
- WATER LEVEL (level after exploration completion)
- WATER LEVEL (additional levels after exploration)
- OBSERVED SEEPAGE

NOTES

- The report and graphics key are an integral part of these logs. All data and interpretations in this log are subject to the explanations and limitations stated in the report.
- Lines separating strata on the logs represent approximate boundaries only. Actual transitions may be gradual or differ from those shown.
- No warranty is provided as to the continuity of soil or rock conditions between individual sample locations.
- Logs represent general soil or rock conditions observed at the point of exploration on the date indicated.
- In general, Unified Soil Classification System designations presented on the logs were based on visual classification in the field and were modified where appropriate based on gradation and index property testing.
- Fine grained soils that plot within the hatched area on the Plasticity Chart, and coarse grained soils with between 5% and 12% passing the No. 200 sieve require dual USCS symbols, ie., GW-GM, GP-GM, GW-GC, GP-GC, GC-GM, SW-SM, SP-SM, SW-SC, SP-SC, SC-SM.
- If sampler is not able to be driven at least 6 inches then 50/X indicates number of blows required to drive the identified sampler X inches with a 140 pound hammer falling 30 inches.

ABBREVIATIONS
WOH - Weight of Hammer
WOR - Weight of Rod

UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D 2487)

COARSE GRAINED SOILS (More than half of material is larger than the #200 sieve)	**GRAVELS** (More than half of coarse fraction is larger than the #4 sieve)	CLEAN GRAVEL WITH <5% FINES	Cu≥4 and 1≤Cc≤3		**GW**	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES
			Cu<4 and/ or 1>Cc>3		**GP**	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES
		GRAVELS WITH 5% TO 12% FINES	Cu≥4 and 1≤Cc≤3		**GW-GM**	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE FINES
					GW-GC	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE CLAY FINES
			Cu<4 and/ or 1>Cc>3		**GP-GM**	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE FINES
					GP-GC	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE CLAY FINES
		GRAVELS WITH > 12% FINES			**GM**	SILTY GRAVELS, GRAVEL-SILT-SAND MIXTURES
					GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
					GC-GM	CLAYEY GRAVELS, GRAVEL-SAND-CLAY-SILT MIXTURES
	SANDS (Half or more of coarse fraction is smaller than the #4 sieve)	CLEAN SANDS WITH <5% FINES	Cu≥6 and 1≤Cc≤3		**SW**	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE OR NO FINES
			Cu<6 and/ or 1>Cc>3		**SP**	POORLY GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE OR NO FINES
		SANDS WITH 5% TO 12% FINES	Cu≥6 and 1≤Cc≤3		**SW-SM**	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE FINES
					SW-SC	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE CLAY FINES
			Cu<6 and/ or 1>Cc>3		**SP-SM**	POORLY GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE FINES
					SP-SC	POORLY GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE CLAY FINES
		SANDS WITH > 12% FINES			**SM**	SILTY SANDS, SAND-GRAVEL-SILT MIXTURES
					SC	CLAYEY SANDS, SAND-GRAVEL-CLAY MIXTURES
					SC-SM	CLAYEY SANDS, SAND-SILT-CLAY MIXTURES

FINE GRAINED SOILS (Half or more of material is smaller than the #200 sieve)	SILTS AND CLAYS (Liquid Limit less than 50)	**ML**	INORGANIC SILTS AND VERY FINE SANDS, SILTY OR CLAYEY FINE SANDS, SILTS WITH SLIGHT PLASTICITY
		CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
		CL-ML	INORGANIC CLAYS-SILTS OF LOW PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
		OL	ORGANIC SILTS & ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS (Liquid Limit 50 or greater)	**MH**	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILT
		CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
		OH	ORGANIC CLAYS & ORGANIC SILTS OF MEDIUM-TO-HIGH PLASTICITY

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	JDS
CHECKED BY:	DD
DATE:	9/11/2019
REVISED:	10/4/2019

GRAPHICS KEY

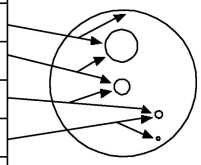
CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-1

PLOTTED: 10/04/2019 10:12 AM BY: DRoss
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.001A
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [LEGEND 1 (GRAPHICS KEY) USCS_NOR_CAL]

GRAIN SIZE

DESCRIPTION		SIEVE SIZE	GRAIN SIZE	APPROXIMATE SIZE
Boulders		>12 in. (304.8 mm.)	>12 in. (304.8 mm.)	Larger than basketball-sized
Cobbles		3 - 12 in. (76.2 - 304.8 mm.)	3 - 12 in. (76.2 - 304.8 mm.)	Fist-sized to basketball-sized
Gravel	coarse	3/4 -3 in. (19 - 76.2 mm.)	3/4 -3 in. (19 - 76.2 mm.)	Thumb-sized to fist-sized
	fine	#4 - 3/4 in. (#4 - 19 mm.)	0.19 - 0.75 in. (4.8 - 19 mm.)	Pea-sized to thumb-sized
Sand	coarse	#10 - #4	0.079 - 0.19 in. (2 - 4.9 mm.)	Rock salt-sized to pea-sized
	medium	#40 - #10	0.017 - 0.079 in. (0.43 - 2 mm.)	Sugar-sized to rock salt-sized
	fine	#200 - #40	0.0029 - 0.017 in. (0.07 - 0.43 mm.)	Flour-sized to sugar-sized
Fines		Passing #200	<0.0029 in. (<0.07 mm.)	Flour-sized and smaller



SECONDARY CONSTITUENT

	AMOUNT	
Term of Use	Secondary Constituent is Fine Grained	Secondary Constituent is Coarse Grained
Trace	<5%	<15%
With	≥5 to <15%	≥15 to <30%
Modifier	≥15%	≥30%

MOISTURE CONTENT

DESCRIPTION	FIELD TEST
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

CEMENTATION

DESCRIPTION	FIELD TEST
Weakly	Crumbles or breaks with handling or slight finger pressure
Moderately	Crumbles or breaks with considerable finger pressure
Strongly	Will not crumble or break with finger pressure

CONSISTENCY - FINE-GRAINED SOIL

CONSISTENCY	SPT - N_{60} (# blows / ft)	Pocket Pen (tsf)	UNCONFINED COMPRESSIVE STRENGTH (Q_u)(psf)	VISUAL / MANUAL CRITERIA
Very Soft	<2	PP < 0.25	<500	Thumb will penetrate more than 1 inch (25 mm). Extrudes between fingers when squeezed.
Soft	2 - 4	0.25 ≤ PP <0.5	500 - 1000	Thumb will penetrate soil about 1 inch (25 mm). Remolded by light finger pressure.
Medium Stiff	4 - 8	0.5 ≤ PP <1	1000 - 2000	Thumb will penetrate soil about 1/4 inch (6 mm). Remolded by strong finger pressure.
Stiff	8 - 15	1 ≤ PP <2	2000 - 4000	Can be imprinted with considerable pressure from thumb.
Very Stiff	15 - 30	2 ≤ PP <4	4000 - 8000	Thumb will not indent soil but readily indented with thumbnail.
Hard	>30	4 ≤ PP	>8000	Thumbnail will not indent soil.

FROM TERZAGHI AND PECK, 1948; LAMBE AND WHITMAN, 1969; FHWA, 2002; AND ASTM D2488

REACTION WITH HYDROCHLORIC ACID

DESCRIPTION	FIELD TEST
None	No visible reaction
Weak	Some reaction, with bubbles forming slowly
Strong	Violent reaction, with bubbles forming immediately

APPARENT / RELATIVE DENSITY - COARSE-GRAINED SOIL

APPARENT DENSITY	SPT-N_{60} (# blows/ft)	MODIFIED CA SAMPLER (# blows/ft)	CALIFORNIA SAMPLER (# blows/ft)	RELATIVE DENSITY (%)
Very Loose	<4	<4	<5	0 - 15
Loose	4 - 10	5 - 12	5 - 15	15 - 35
Medium Dense	10 - 30	12 - 35	15 - 40	35 - 65
Dense	30 - 50	35 - 60	40 - 70	65 - 85
Very Dense	>50	>60	>70	85 - 100

FROM TERZAGHI AND PECK, 1948

PLASTICITY

DESCRIPTION	LL	FIELD TEST
Non-plastic	NP	A 1/8-in. (3 mm.) thread cannot be rolled at any water content.
Low (L)	< 30	The thread can barely be rolled and the lump or thread cannot be formed when drier than the plastic limit.
Medium (M)	30 - 50	The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. The lump or thread crumbles when drier than the plastic limit.
High (H)	> 50	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump or thread can be formed without crumbling when drier than the plastic limit.

STRUCTURE

DESCRIPTION	CRITERIA
Stratified	Alternating layers of varying material or color with layers at least 1/4-in. thick, note thickness.
Laminated	Alternating layers of varying material or color with the layer less than 1/4-in. thick, note thickness.
Fissured	Breaks along definite planes of fracture with little resistance to fracturing.
Slickensided	Fracture planes appear polished or glossy, sometimes striated.
Blocky	Cohesive soil that can be broken down into small angular lumps which resist further breakdown.
Lensed	Inclusion of small pockets of different soils, such as small lenses of sand scattered through a mass of clay; note thickness.

ANGULARITY

DESCRIPTION	CRITERIA
Angular	Particles have sharp edges and relatively plane sides with unpolished surfaces.
Subangular	Particles are similar to angular description but have rounded edges.
Subrounded	Particles have nearly plane sides but have well-rounded corners and edges.
Rounded	Particles have smoothly curved sides and no edges.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	JDS
CHECKED BY:	DD
DATE:	9/11/2019
REVISED:	10/4/2019

SOIL DESCRIPTION KEY

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE

A-2

PLOTTED: 10/04/2019 10:11 AM BY: DRoss
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.001A
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [LEGEND 2 (SOIL DESC KEY)]

INFILLING TYPE

NAME	ABBR	NAME	ABBR
Albite	Al	Muscovite	Mus
Apatite	Ap	None	No
Biotite	Bi	Pyrite	Py
Clay	Cl	Quartz	Qz
Calcite	Ca	Sand	Sd
Chlorite	Ch	Sericite	Ser
Epidote	Ep	Silt	Si
Iron Oxide	Fe	Talc	Ta
Manganese	Mn	Unknown	Uk

DENSITY/SPACING OF DISCONTINUITIES

DESCRIPTION	SPACING CRITERIA
Unfractured	>6 ft. (>1.83 meters)
Slightly Fractured	2 - 6 ft. (0.061 - 1.83 meters)
Moderately Fractured	8 in - 2 ft. (203.20 - 609.60 mm)
Highly Fractured	2 - 8 in (50.80 - 203.30 mm)
Intensely Fractured	<2 in (<50.80 mm)

ADDITIONAL TEXTURAL ADJECTIVES

DESCRIPTION	RECOGNITION
Pit (Pitted)	Pinhole to 0.03 ft. (3/8 in.) (>1 to 10 mm.) openings
Vug (Vuggy)	Small openings (usually lined with crystals) ranging in diameter from 0.03 ft. (3/8 in.) to 0.33 ft. (4 in.) (10 to 100 mm.)
Cavity	An opening larger than 0.33 ft. (4 in.) (100 mm.), size descriptions are required, and adjectives such as small, large, etc., may be used
Honeycombed	If numerous enough that only thin walls separate individual pits or vugs, this term further describes the preceding nomenclature to indicate cell-like form.
Vesicle (Vesicular)	Small openings in volcanic rocks of variable shape and size formed by entrapped gas bubbles during solidification.

ADDITIONAL TEXTURAL ADJECTIVES

DESCRIPTION	CRITERIA
Unweathered	No evidence of chemical / mechanical alternation; rings with hammer blow.
Slightly Weathered	Slight discoloration on surface; slight alteration along discontinuities; <10% rock volume altered.
Moderately Weathered	Discoloring evident; surface pitted and alteration penetration well below surface; Weathering "halos" evident; 10-50% rock altered.
Highly Weathered	Entire mass discolored; Alteration pervading most rock, some slight weathering pockets; some minerals may be leached out.
Decomposed	Rock reduced to soil with relic rock texture/structure; Generally molded and crumbled by hand.

RELATIVE HARDNESS / STRENGTH DESCRIPTIONS

GRADE		UCS (Mpa)	FIELD TEST
R0	Extremely Weak	0.25 - 1.0	Indented by thumbnail
R1	Very Weak	1.0 - 5.0	Crumbles under firm blows of geological hammer, can be peeled by a pocket knife.
R2	Weak	5.0 - 25	Can be peeled by a pocket knife with difficulty, shallow indentations made by firm blow with point of geological hammer.
R3	Medium Strong	25 - 50	Cannot be scraped or peeled with a pocket knife, specimen can be fractured with a single firm blow of a geological hammer.
R4	Strong	50 - 100	Specimen requires more than one blow of geological hammer to fracture it.
R5	Very Strong	100 - 250	Specimen requires many blows of geological hammer to fracture it.
R6	Extremely Strong	> 250	Specimen can only be chipped with a geological hammer.

ROCK QUALITY DESIGNATION (RQD)

DESCRIPTION	RQD (%)
Very Poor	0 - 25
Poor	25 - 50
Fair	50 - 75
Good	75 - 90
Excellent	90 - 100

APERTURE

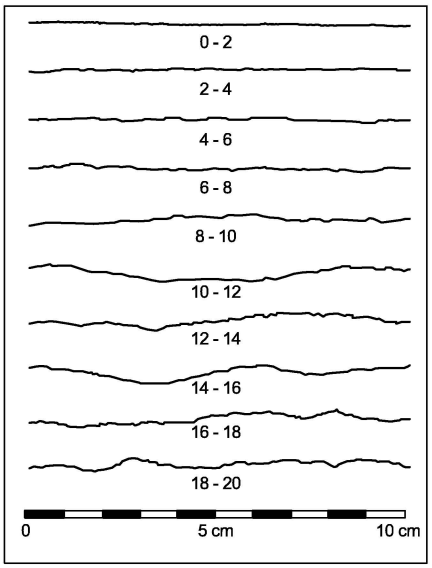
DESCRIPTION	CRITERIA [in (mm)]
Tight	<0.04 (<1)
Open	0.04 - 0.20 (1 - 5)
Wide	>0.20 (>5)

BEDDING CHARACTERISTICS

DESCRIPTION	Thickness [in (mm)]
Very Thick Bedded	>36 (>915)
Thick Bedded	12 - 36 (305 - 915)
Moderately Bedded	4 - 12 (102 - 305)
Thin Bedded	1 - 4 (25 - 102)
Very Thin Bedded	0.4 - 1 (10 - 25)
Laminated	0.1 - 0.4 (2.5 - 10)
Thinly Laminated	<0.1 (<2.5)

Bedding Planes	Planes dividing the individual layers, beds, or stratigraphy of rocks.
Joint	Fracture in rock, generally more or less vertical or traverse to bedding.
Seam	Applies to bedding plane with unspecified degree of weather.

JOINT ROUGHNESS COEFFICIENT (JRC)



From Barton and Choubey, 1977

RQD Rock-quality designation (RQD) Rough measure of the degree of jointing or fracture in a rock mass, measured as a percentage of the drill core in lengths of 10 cm. or more.

CORE SAMPLER TYPE GRAPHICS



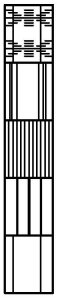
CORE SAMPLER

AQ CORE BARREL
(1.067 in. (27.1 mm.) core diameter)

AX CORE BARREL
(1.185 in. (30.1 mm.) core diameter)

BQ CORE BARREL
(1.433 in. (36.4 mm.) core diameter)

CONTINUOUS CORE SAMPLE
(2.000 in. (50.8 mm.) core diameter)



EX CORE BARREL
(0.846 in. (21.5 mm.) core diameter)

HQ CORE SAMPLE
(2.500 in. (63.5 mm.) core diameter)

NQ CORE SAMPLE
(1.874 in. (47.6 mm.) core diameter)

NO RECOVERY CORE SAMPLE

NX CORE SAMPLE
(2.154 in. (54.7 mm.) core diameter)

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	JDS
CHECKED BY:	DD
DATE:	9/11/2019
REVISED:	10/4/2019

ROCK DESCRIPTION KEY

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE

A-3

PLOTTED: 10/04/2019 10:11 AM BY: DRoss
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.001A
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [LEGEND 3 (ROCK DESC KEY)]

Date Begin - End:	9/13/2019	**Drilling Company:**	Gulf Shore	**BORING LOG KB-(1)**
Logged By:	R. Schmidt	**Drill Crew:**	Carlos, Raj	
Hor.-Vert. Datum:	Not Available	**Drilling Equipment:**	CME 75 LAR	
Plunge:	-90 degrees	**Coring Method:**	Coring	
Weather:	Sunny	**Core Bit Type:**	HQ Core	

ROCK CORING INFORMATION

Depth (feet)	Graphical Log	Latitude: 38.66101° Longitude: -121.05820° Ground Surface Elevation Not Available Formation and Rock Type, Color, Grain/Particle Size, Weathering, Bedding, Density or Spacing	Box Number	Run Number	Sample Type	Recovery (NR=No Recovery)	Drill Rate (min/ft)	RQD (%)	Relative Strength	Discontinuity Description Fracture#: (Depth), Type, Relative Dip, Density or Spacing. Degree of Infilling, Infilling Type, Aperture, Surface Weathering, JRC
		Sandy Lean CLAY (CL): reddish brown, moist medium plasticity, fine to medium grained sand, trace sub-angular gravels (Colluvium)				NR		0		
5		**METAVOLCANIC ROCK**: bluish gray, slightly to moderately weathered, r3-r4, moderately fractured				NR		0		
						2"		25		
10		The exploration was terminated at approximately 8.5 ft. below ground surface. The exploration was backfilled with grout on September 13, 2019. Rock was encountered at a depth of 3 ft. during this exploration.								
15										
20										

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	DR
CHECKED BY:	DD
DATE:	9/16/2019
REVISED:	10/4/2019

BORING LOG KB-(1)

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-4
PAGE: 1 of 1

PLOTTED: 10/04/2019 10:10 AM BY: DRoss
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.001A
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [_KLF_ROCK CORING LOG]

Date Begin - End:	9/11/2019 - 9/12/2019	**Drilling Company:**	Gulf Shore	**BORING LOG KB-(3)**
Logged By:	D. Stemberger	**Drill Crew:**	Carlos, Raj	
Hor.-Vert. Datum:	Not Available	**Drilling Equipment:**	CME 75 LAR	
Plunge:	-90 degrees	**Coring Method:**	Coring	
Weather:	Sunny	**Core Bit Type:**	HQ Core	

ROCK CORING INFORMATION

Latitude: 38.65994°
Longitude: -121.05633°
Ground Surface Elevation Not Available

Depth (feet)	Graphical Log	Formation and Rock Type, Color, Grain/Particle Size, Weathering, Bedding, Density or Spacing	Box Number	Run Number	Sample Type	Recovery (NR=No Recovery)	Drill Rate (min/ft)	RQD (%)	Relative Strength	Discontinuity Description Fracture#: (Depth), Type, Relative Dip, Density or Spacing. Degree of Infilling, Infilling Type, Aperture, Surface Weathering, JRC
		Sandy Lean CLAY (CL): brownish red, dry, medium plasticity, fine to medium grained sand, trace coarse gravels up to 1.5" (Colluvium)								
						66%	25.00	17		
5		**METAVOLCANIC ROCK**: bluish green, highly weathered, highly fractured, orange and black iron oxide							R2	1: (4.5'), joint, 0°, surface stain, Cl/Sd, open, JRC=0-2
						83%	16.00	48	R2	2: (5'), joint, 90°, surface stain, Cl/Sd, tight, JRC=10-12
										3: (6'), joint, 35°, partially filled, Sd, JRC=16-18
		Highly weathered to decomposed							R0-R1	4: (7'), joint, 15°, partially filled, Sd, JRC=0-2
10										5: (9.5'), joint, 10°, partially filled, Sd/Cl, JRC=0-2
						58%	19.00	43		
		Highly weathered, intensely fractured							R3	6: (13.5'), joint, 60°, partially filled, Sd
15										7: (14.5'), joint, 15°, filled, Sd
						33%	14.00	13	R2	8: (16'), joint, 70°, surface stain, Fe/Cl
20		Light bluish green with black								9: (20'), joint, 45°, partially filled, Sd/Fe, JRC=14-16
		Moderately weathered, highly fractured Moderately fractured				77%	21.25	18	R3 R4	10: (21'), joint, 55°, partially filled, Sd/Fe, JRC=8-10
		Intensely fractured								11: (23.5'), joint, 45°, surface stain, Fe, tight, JRC=0-2
25										12: (25'), joint, 45°, surface stain, Fe, tight, JRC=0-2

The exploration was terminated at approximately 25 ft. below ground surface. The boring was backfilled with grout on September 12, 2019. Rock was encountered at a depth of 4.5 ft. during this exploration.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	DR
CHECKED BY:	DD
DATE:	9/16/2019
REVISED:	10/4/2019

BORING LOG KB-(3)

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-5
PAGE: 1 of 1

PLOTTED: 10/04/2019 10:10 AM BY: DRoss
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.001A [_KLF_ROCK CORING LOG]
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:KLF_STANDARD_GINT_LIBRARY_2019.GLB

Date Begin - End:	9/10/2019	**Drilling Company:**	Gulf Shore	**BORING LOG KB-(4)**
Logged By:	J. Annand	**Drill Crew:**	Carlos, Raj	
Hor.-Vert. Datum:	Not Available	**Drilling Equipment:**	CME 75 LAR	
Plunge:	-90 degrees	**Coring Method:**	Coring	
Weather:	Sunny	**Core Bit Type:**	HQ Core	

ROCK CORING INFORMATION

Latitude: 38.65956°
Longitude: -121.05552°
Ground Surface Elevation Not Available

Depth (feet)	Graphical Log	Formation and Rock Type, Color, Grain/Particle Size, Weathering, Bedding, Density or Spacing	Box Number	Run Number	Sample Type	Recovery (NR=No Recovery)	Drill Rate (min/ft)	RQD (%)	Relative Strength	Discontinuity Description Fracture#: (Depth), Type, Relative Dip, Density or Spacing. Degree of Infilling, Infilling Type, Aperture, Surface Weathering, JRC
		Sandy Lean CLAY (CL): medium plasticity, brownish red, dry, fine to medium-grained sand, trace fine gravel, rootlets (Colluvium)		1		27%		0	R3	
		METAVOLCANIC ROCK: light bluish gray, fine to medium grained, highly weathered, highly fractured, slight foliation								
5				2		100%		30	R3	1: (4.5'), joint, 25°, surface stain, Cl/Fe, tight, JRC=12-14 2: (5.6'), joint, 50°, filled, Cl, open, JRC=2-4
		6.6-7.0 ft.: intensely fractured								3: (6.2'), joint, 65°, surface stain, Fe/Cl, tight, JRC=0-2 4: (7'), joint, 48°, filled, Cl, open, JRC=10-12
		7.7-8.3 ft.: intensely fractured								5: (8.2'), joint, 46°, filled, Fe/Cl, open, JRC=10-12
10				3		100%		29	R4	
		10.2-10.8 ft.: massive bedding, intensely fractured								6: (10.8'), joint, 25°, surface stain, Fe/Cl, open, JRC=12-14 7: (11.9'), joint, 40°, surface stain, Fe/Cl, open, JRC=6-8
		13.0-14.0 ft.: insensely fractured								8: (12.6'), joint, 40°, surface stain, Fe/Cl, open, JRC=6-8
		Moderately weathered, moderately fractured		4		100%		65	R5	9: (14'), joint, 50°, filled, Cl, open, JRC=6-8
15										10: (14.7'), joint, 65°, surface stain, Cl, tight, JRC=14-16 11: (15.6'), joint, 70°, healed
		16.3-16.6 ft.: intensely fractured								12: (16.6'), joint, 10°, surface stain, Cl, tight, JRC=2-4
		Moderately weathered, highly fractured		5		100%		38	R5	13: (17.5'), joint, 28°, surface stain, Fe/Cl, open, JRC=6-8 14: (18.5'), joint, 28°, surface stain, Fe/Cl, open, JRC=2-4
20										15: (19.1'), joint, 20°, filled, Cl, tight, JRC=16-18

The exploration was terminated at approximately 20 ft. below ground surface. The exploration was backfilled with grout on September 10, 2019. Rock was encountered at a depth of 1 ft. during this exploration.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	DR
CHECKED BY:	DD
DATE:	9/11/2019
REVISED:	10/4/2019

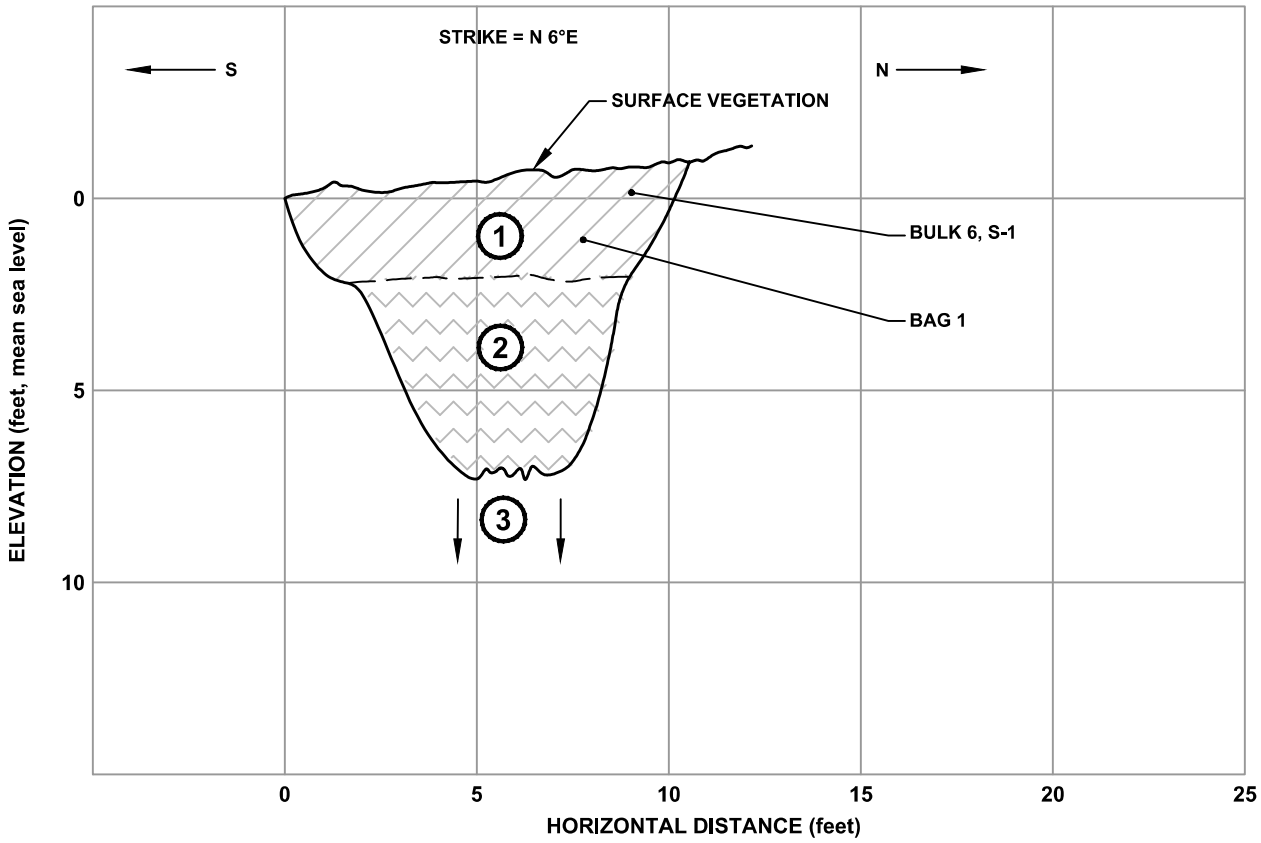
BORING LOG KB-(4)

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-6
PAGE: 1 of 1

PLOTTED: 10/04/2019 10:10 AM BY: DRoss
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.001A [_KLF_ROCK CORING LOG]
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:KLF_STANDARD_GINT_LIBRARY_2019.GLB

PLOTTED: 04 Oct 2019, 12:53pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace coarse sand, trace subangular gravel, rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray, dry, medium dense, highly weathered, medium strong to weak, slight foliation, similar to CLAYEY SAND with Gravel and Cobbles (SC); subangular METAVOLCANIC ROCK fragments up to 7"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong to medium strong, moderately to highly fractured, slight foliation, refusal at 7' depth
	Latitude: 38.661071 Longitude: -121.05804

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

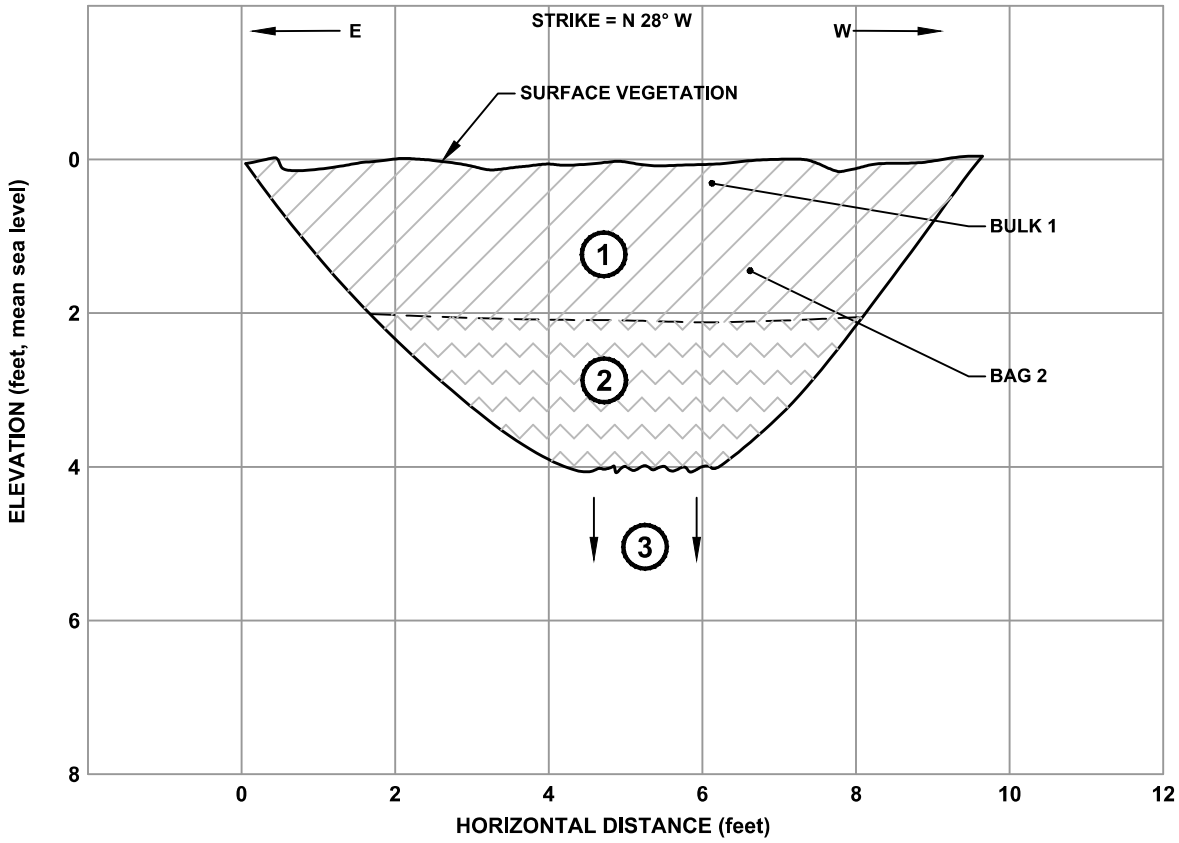
TEST PIT LOG
TP-1

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-7

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-1

PLOTTED: 04 Oct 2019, 12:53pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY with Gravel, Cobbles and Boulders (CL) - brownish red, dry, medium plasticity, fine to coarse sand, subangular gravel and boulders up to 14", rootlets (FILL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, hightly weathered, medium strong, highly fractured, well defined foliation, similar to CLAYEY SAND with Gravel and Cobbles (SC); fine to coarse sand, subangular METAVOLCANIC GRAVELS AND COBBLES up to 11"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, well defined foliation, refusal at 4' depth
	Latitude: 38.660793 Longitude: -121.057927

LOGGED BY: Jordan Annand **DATE:** 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

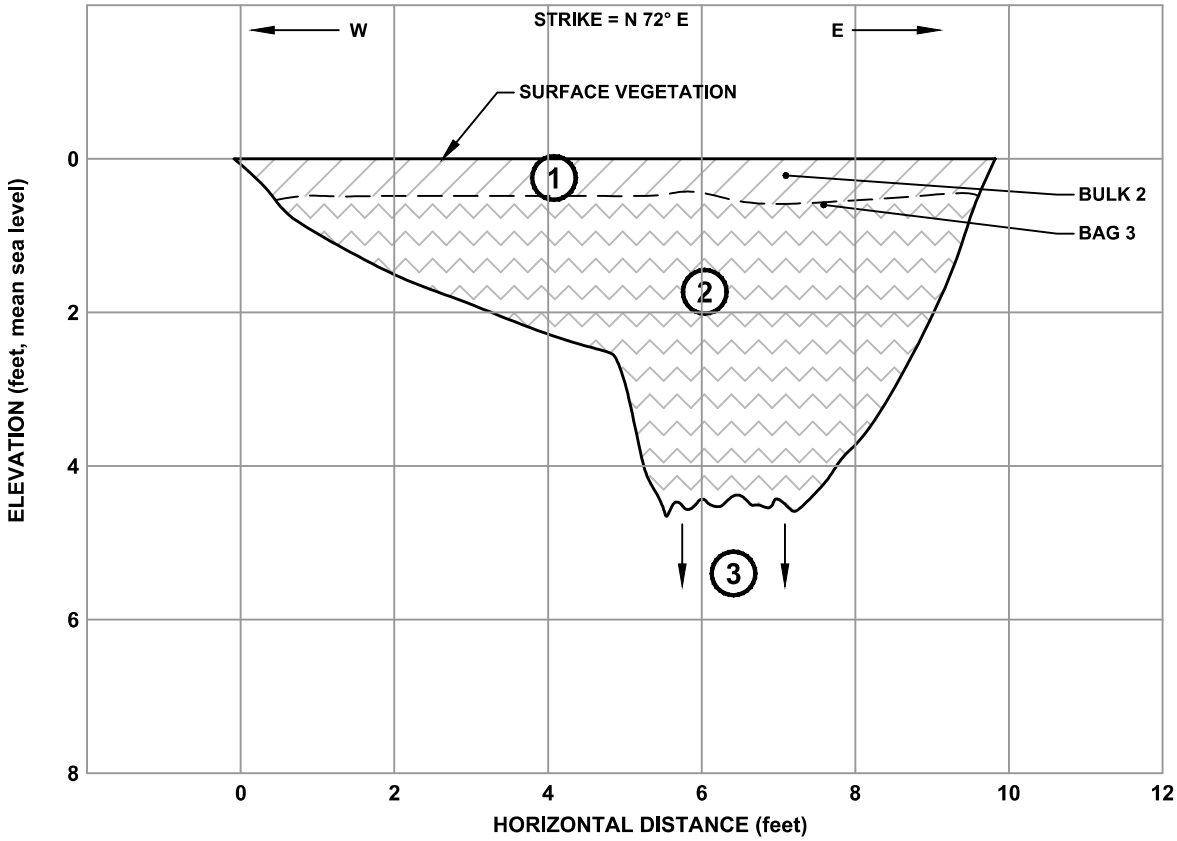
TEST PIT LOG
TP-2

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-8

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-2

PLOTTED: 04 Oct 2019, 12:52pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace fine gravel, rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered with moderately weathered sections, strong to medium strong/weak, highly to moderately fractured, well defined foliation, similar to CLAYEY SAND with Gravel, Cobbles, and Boulders (SC); fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 16"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, refusal at 4.5' depth
	Latitude: 38.660246 Longitude: -121.058017

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

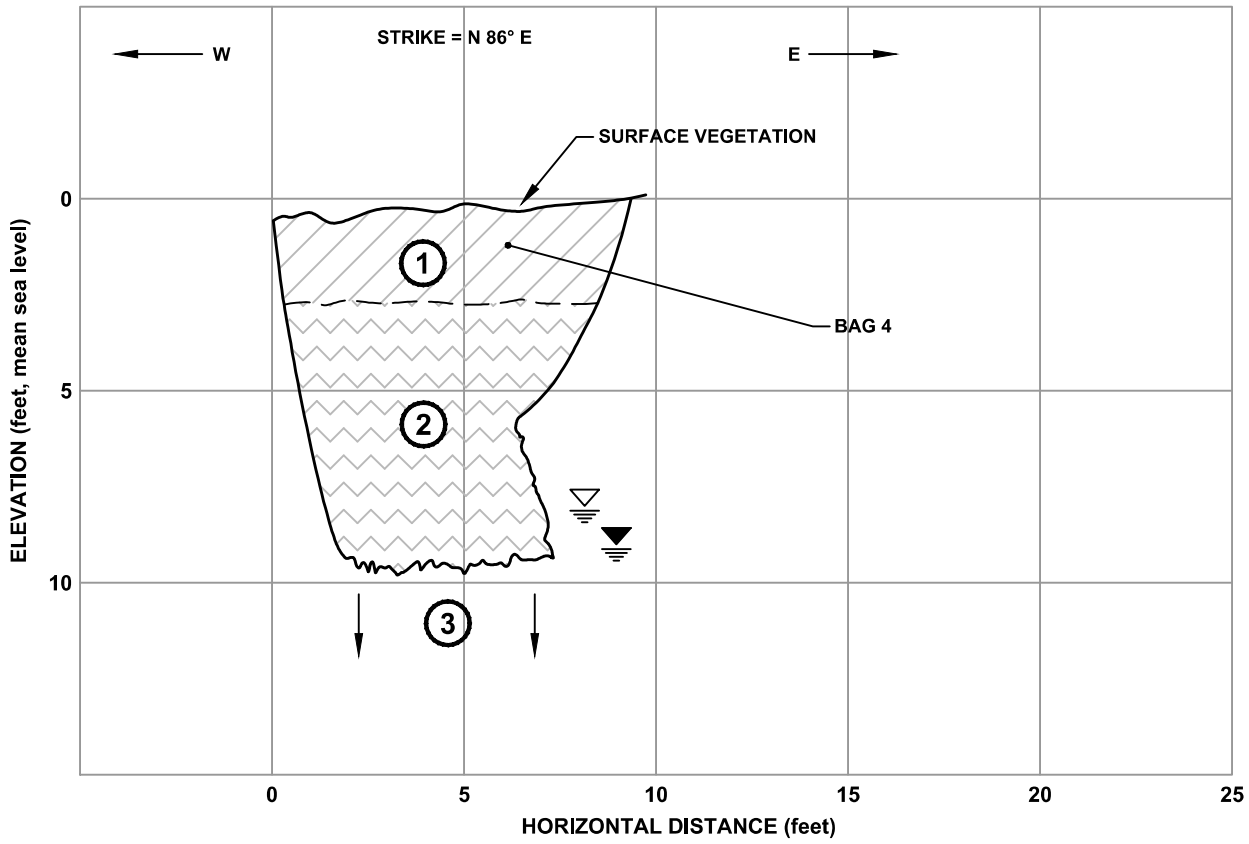
TEST PIT LOG
TP-3

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-9

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-3

PLOTTED: 04 Oct 2019, 12:52pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY (CL) - brownish red, dry, medium plasticity, fine to coarse sand, trace subangular gravels up to 1.5", rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, medium strong, highly fractured, slight foliation, similar to CLAYEY SAND with Gravels, Cobbles, and Boulders (SC); fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 13",
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, refusal at 9.5' depth
	(Perched Groundwater hit at 8 feet deep, settled at 9 feet deep after excavation)
	Latitude: 38.660756 Longitude: -121.056944

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

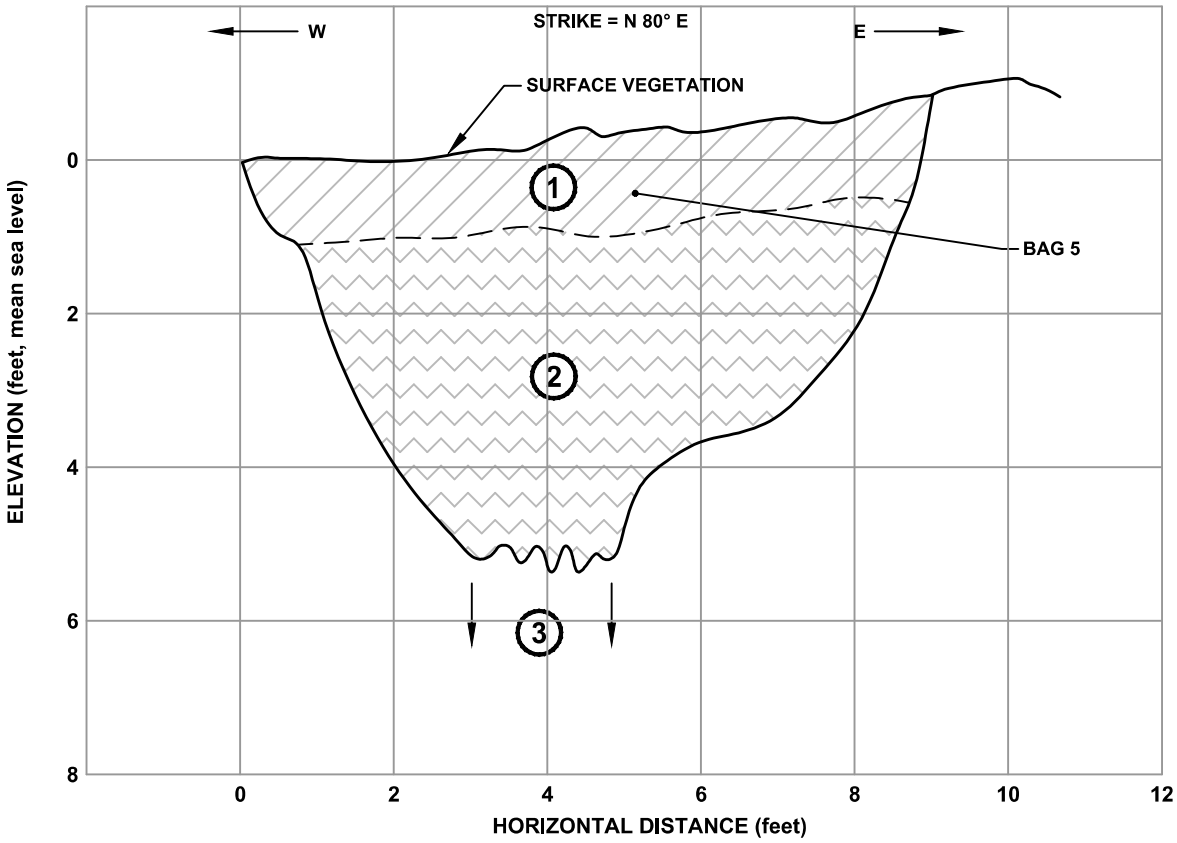
TEST PIT LOG
TP-4

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-10

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-4

PLOTTED: 04 Oct 2019, 12:51pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace gravel, rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, hightly weathered, medium strong to strong, highly fractured, well defined foliation, similar to CLAYEY SAND with Gravel and Cobbles (SC); fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 12"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, well defined foliation, refusal at 5' depth
	Latitude: 38.659916 Longitude: -121.058112

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

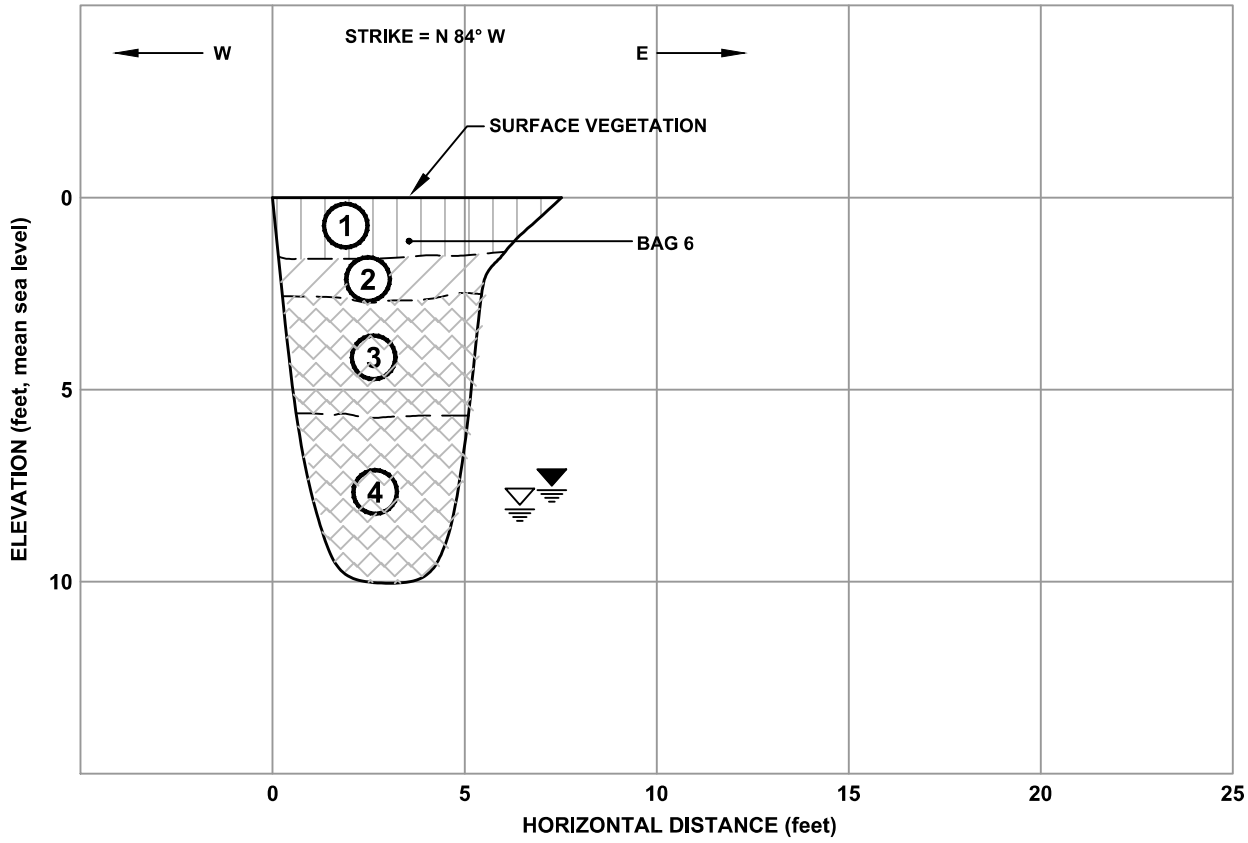
TEST PIT LOG
TP-5

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-11

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-5

PLOTTED: 04 Oct 2019, 12:51pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY SILT (ML) - dark brown, dry, non-plastic, subangular fine to coarse sand, trace gravels up to 1", rootlets (RESIDUAL SOIL)
2	LEAN CLAY with Sand (CL) - brownish red, dry, medium plasticity, fine to coarse sand, trace coarse gravels up to 2", rootlets (COLLUVIUM)
3	METAVOLCANIC ROCK - mottled dark olive, moist, dark reddish brown, and bluish gray, decomposed, similar to FAT CLAY (CH); high plasticity, trace fine sand
4	METAVOLCANIC ROCK - bluish gray, yellowish brown, and brownish red, moist, highly weathered, weak, highly to intensely fractured, slight foliation, similar to CLAYEY SAND with Gravel and Cobble (SC); fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 7"
	(Perched Groundwater hit at 8 feet deep, settled at 7.75 feet deep after excavation)
	Latitude: 38.660489 Longitude: -121.057038

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

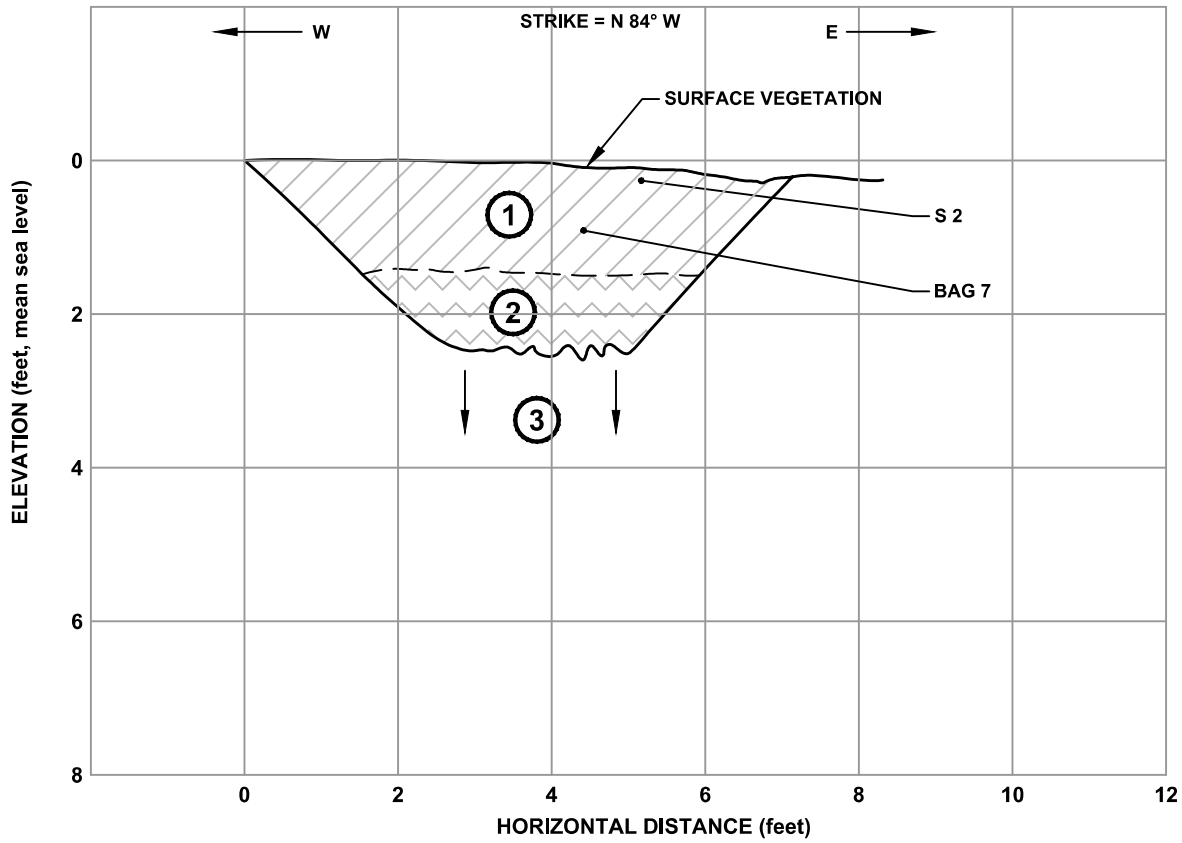
TEST PIT LOG
TP-6

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-12

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-6

PLOTTED: 04 Oct 2019, 12:49pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY with Gravel, Cobble and Boulders (CL) - brownish red, dry, medium plasticity, fine to coarse sand, subangular gravel and boulders up to 14", rootlets (FILL)
2	METAVOLCANIC ROCK - bluish gray and olive, moist, decomposed, similar to SAND LEAN CLAY (CL); fine to coarse sand, trace fine gravel, hard (PP = >4.5 tsf)
3	METAVOLCANIC ROCK - bluish gray, highly to mderately weathered, medium strong to strong, moderately fractured, slight foliation, refusal at 2.5' depth
	Latitude: 38.660608 Longitude: -121.056594

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

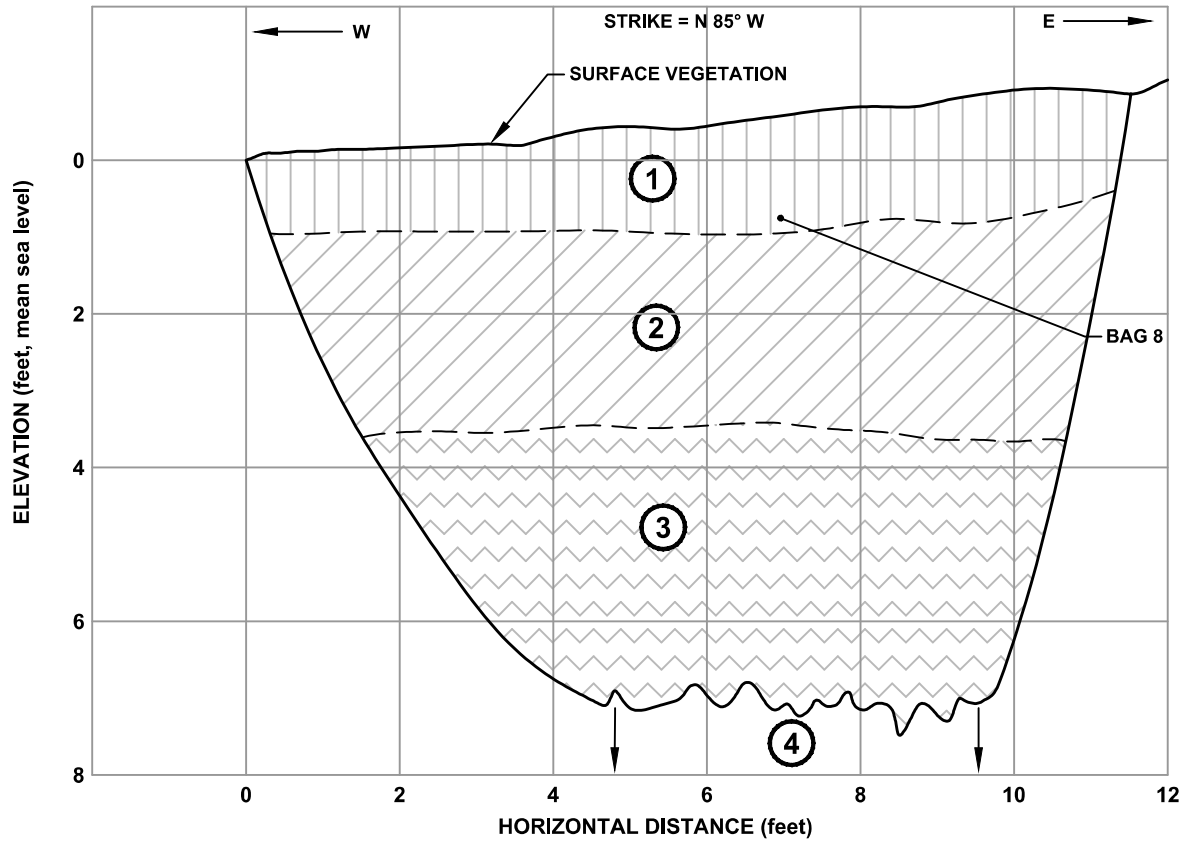
TEST PIT LOG
TP-7

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-13

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-7

PLOTTED: 04 Oct 2019, 12:49pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY SILT (ML) - dark brown, dry, non-plastic, fine to coarse sand, trace gravel up to 3/4", rootlets (COLLUVIUM)
2	LEAN CLAY with SAND (CL) - dark reddish brown, dry, medium plasticity, fine to coarse sand, subangular gravels up to 3", rootlets (COLLUVIUM)
3	METAVOLCANIC ROCK - bluish gray, yellowish brown, and brownish red, dry to moist, highly weathered, weak to medium strong, highly to intensely fractured, well defined foliation, similar to CLAYEY SAND with Gravel and Cobble (SC); fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 9"
4	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, refusal at 7' depth
	Latitude: 38.660183 Longitude: -121.057085

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

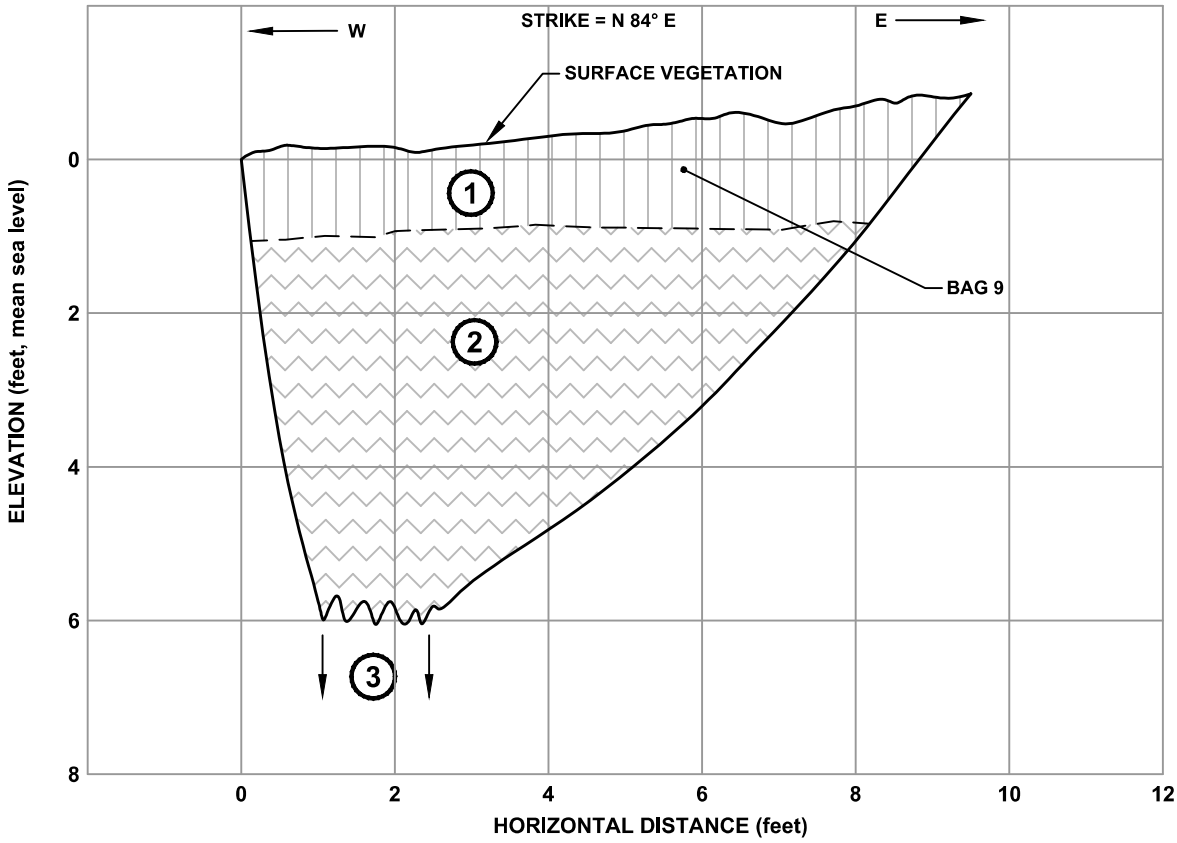
TEST PIT LOG
TP-8

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-14

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-8

PLOTTED: 04 Oct 2019, 12:49pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY SILT (ML) - dark brown and reddish brown, dry, non-plastic, fine to coarse sand, trace gravels up to 1", rootlets (COLLUVIUM)
2	METAVOLCANIC ROCK - bluish gray and olive, dry to moist, highly to moderately weathered, medium strong, highly fractured, slight foliation, similar to CLAYEY SAND with Gravel, Cobbles, and Boulders (SC); fine to coarse sand, subangular gravel, cobbles, and boulders up to 6"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, slight foliation, moderately fractured, refusal at 6' depth
	Latitude: 38.659967 Longitude: -121.057360

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

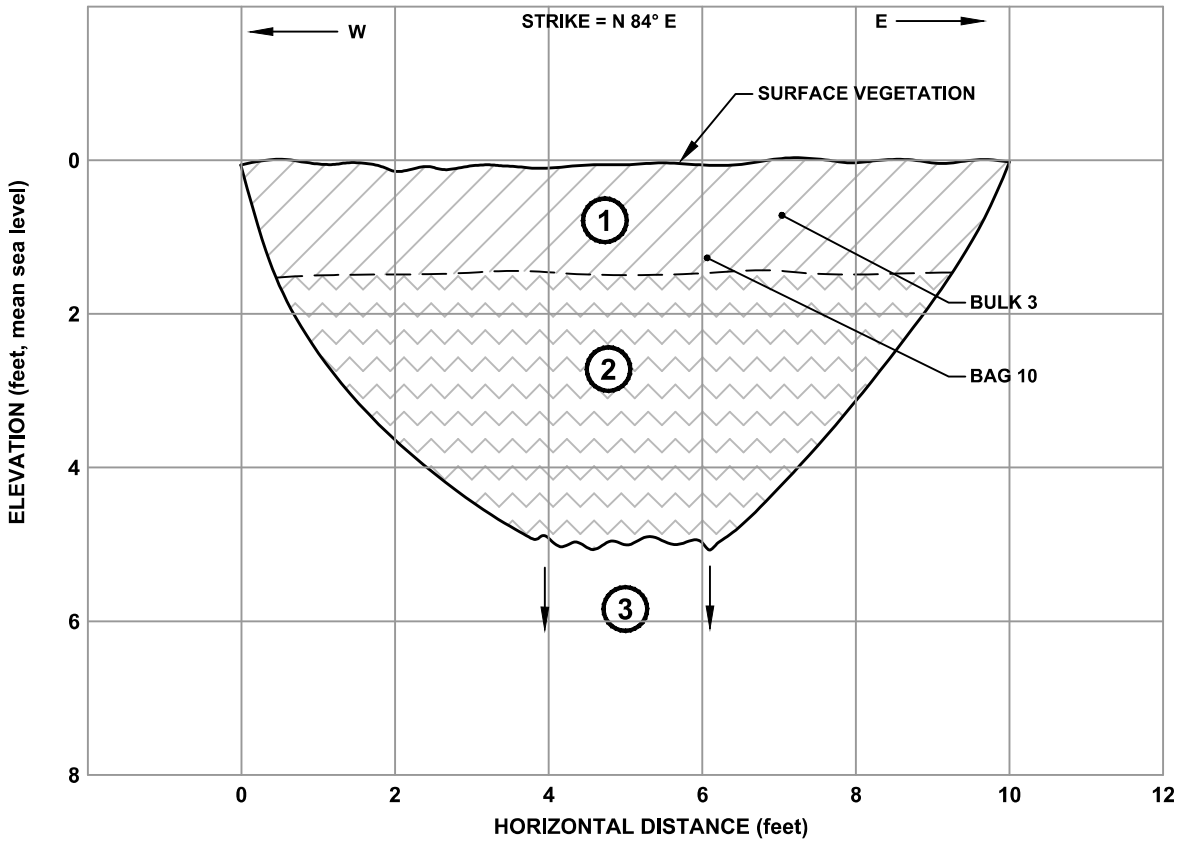
TEST PIT LOG
TP-9

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-15

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-9

PLOTTED: 04 Oct 2019, 12:48pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	LEAN CLAY with Sand (CL) - brownish red, dry, medium plasticity, fine to coarse sand, trace subangular fine gravel, rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, weak, highly fractured, slight foliation, similar to CLAYEY SAND with Gravel and Cobble (SC); fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 10"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, slight foliation, moderately fractured, refusal at 5' depth
	Latitude: 38.659963 Longitude: -121.057053

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

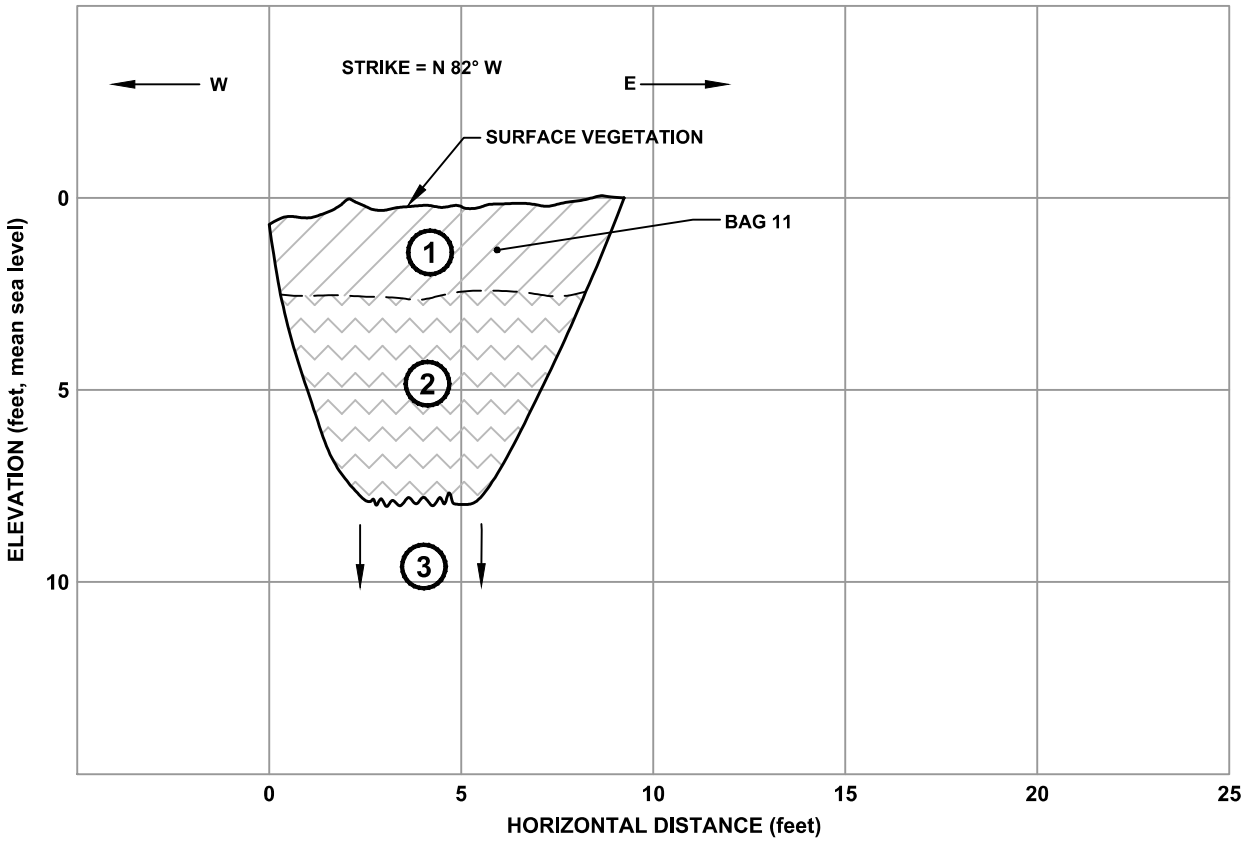
TEST PIT LOG
TP-10

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-16

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-10

PLOTTED: 04 Oct 2019, 12:48pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	LEAN CLAY with Sand (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace coarse sand and fine gravels, rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, medium strong to weak, highly fractured, slight foliation, similar to CLAYEY SAND with Gravel and Cobbles (SC); fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 11"
3	METAVOLCANIC ROCK - bluish gray, moist, moderately weathered, strong, moderately fractured, refusal at 8' depth
	Latitude: 38.660167 Longitude: -121.056687

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

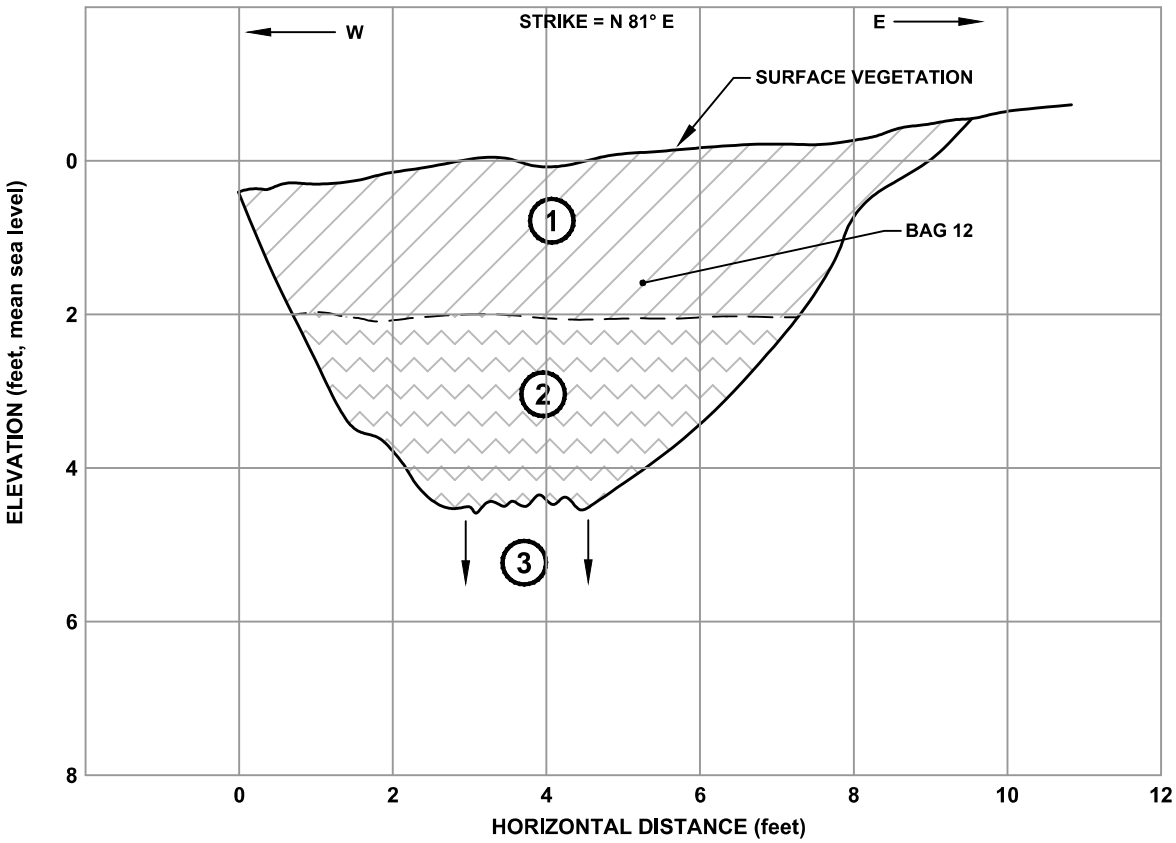
TEST PIT LOG
TP-11

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-17

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-11

PLOTTED: 04 Oct 2019, 12:48pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	LEAN CLAY with Sand (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace coarse sand and coarse gravels up to 1.75", rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, moist, decomposed, simialr to SANDY LEAN CLAY (CL); hard, medium plasticity, fine to coarse sand, trace fine gravels (PP = 4.0 tsf)
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, refusal at 4.5' depth
	Latitude: 38.660328 Longitude: -121.056397

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

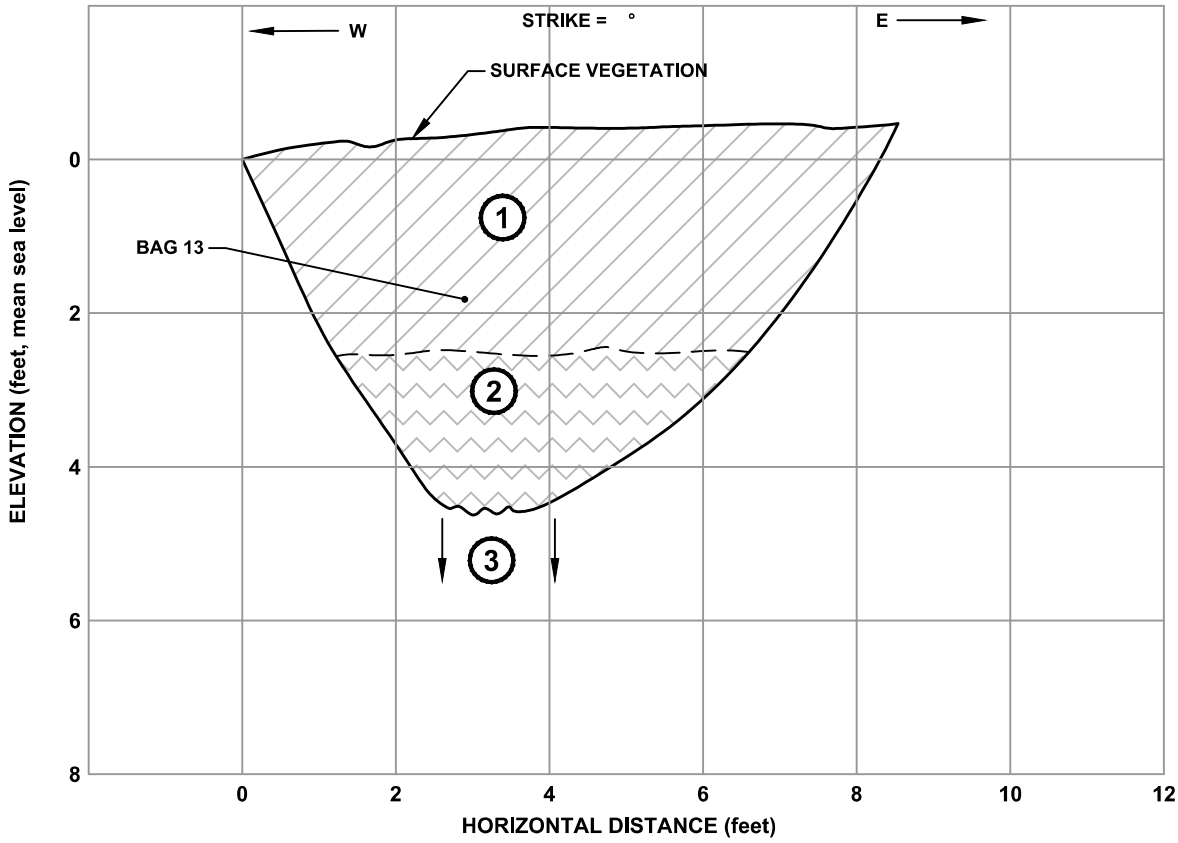
TEST PIT LOG
TP-12

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-18

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-12

PLOTTED: 04 Oct 2019, 12:47pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	LEAN CLAY with Sand (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace coarse sand, trace subangular gravels up to 1", rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, moist, highly weathered, medium strong to weak, highly fractured, well defined foliation, similar to CLAYEY SAND with Gravel and Cobble (SC); fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 10"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, medium strong, moderately fractured, well defined foliation, refusal at 4.5' depth
	Latitude: 38.660466 Longitude: -121.056072

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

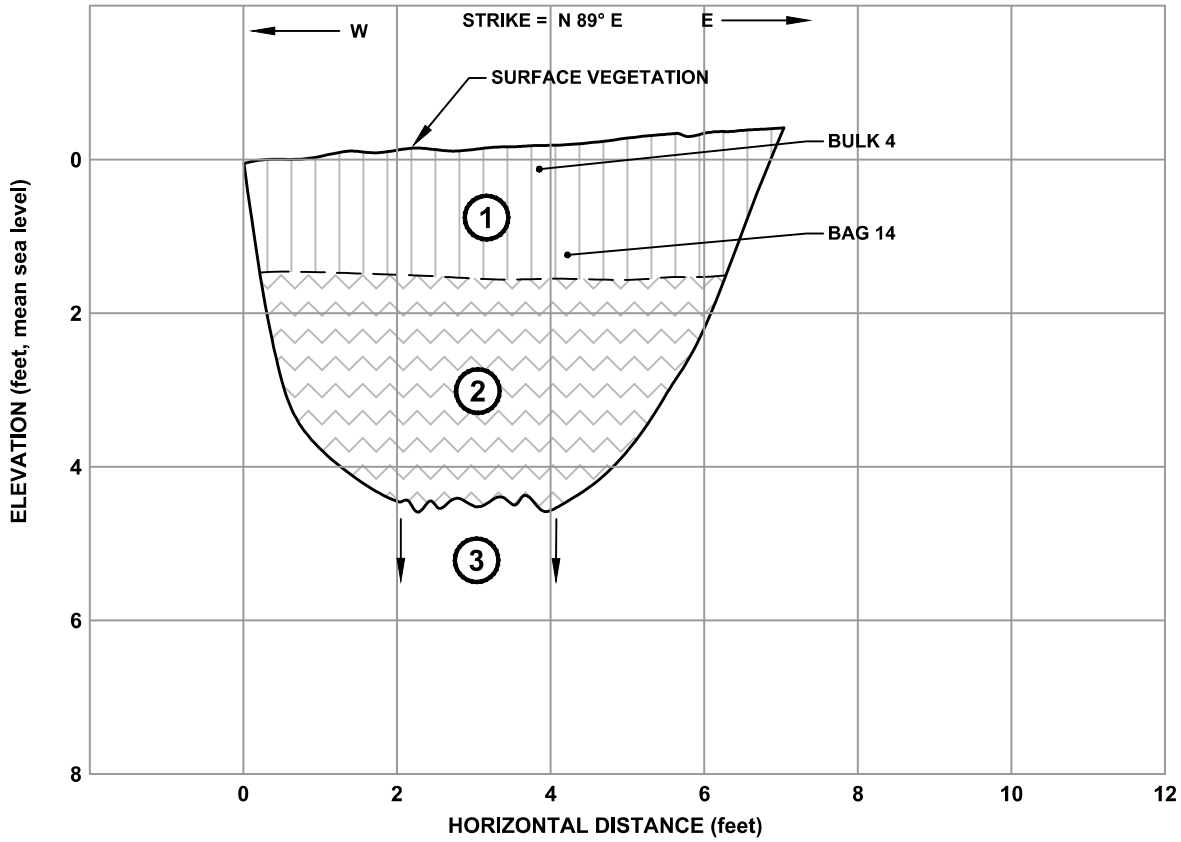
TEST PIT LOG
TP-13

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-19

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-13

PLOTTED: 04 Oct 2019, 12:47pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY SILT (ML) - dark brown, dry, low plasticity, fine to coarse sand, trace subangular gravels up to 1", rootlets (COLLUVIUM)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, weak to medium strong, highly fractured, well defined foliation, similar to CLAYEY SAND with Gravel, Cobble, and Boulders (SC); fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 12"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, refusal at 4.5' depth
	Latitude: 38.659608 Longitude: -121.057533

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

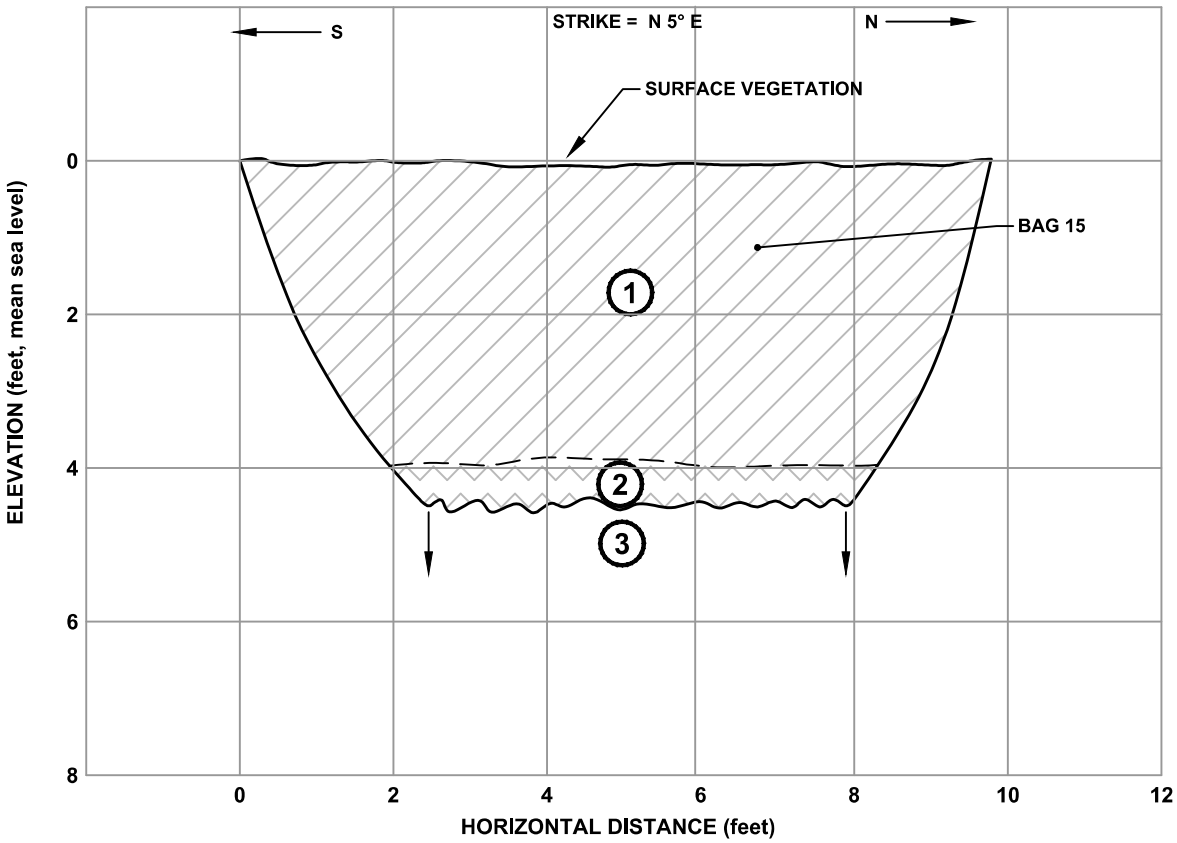
TEST PIT LOG
TP-14

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-20

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-14

PLOTTED: 04 Oct 2019, 12:47pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	LEAN CLAY with SAND (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace coarse sand, trace subangular gravels up to 4" (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry to moist, highly weathered, medium strong, highly fractured, similar to CLAYEY SAND with Gravel and Cobble (SC); fine to coarse sand, subangular to angular METAVOLCANIC ROCK fragments up to 10"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, refusal at 4.5' depth
	Latitude: 38.659756 Longitude: -121.056681

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

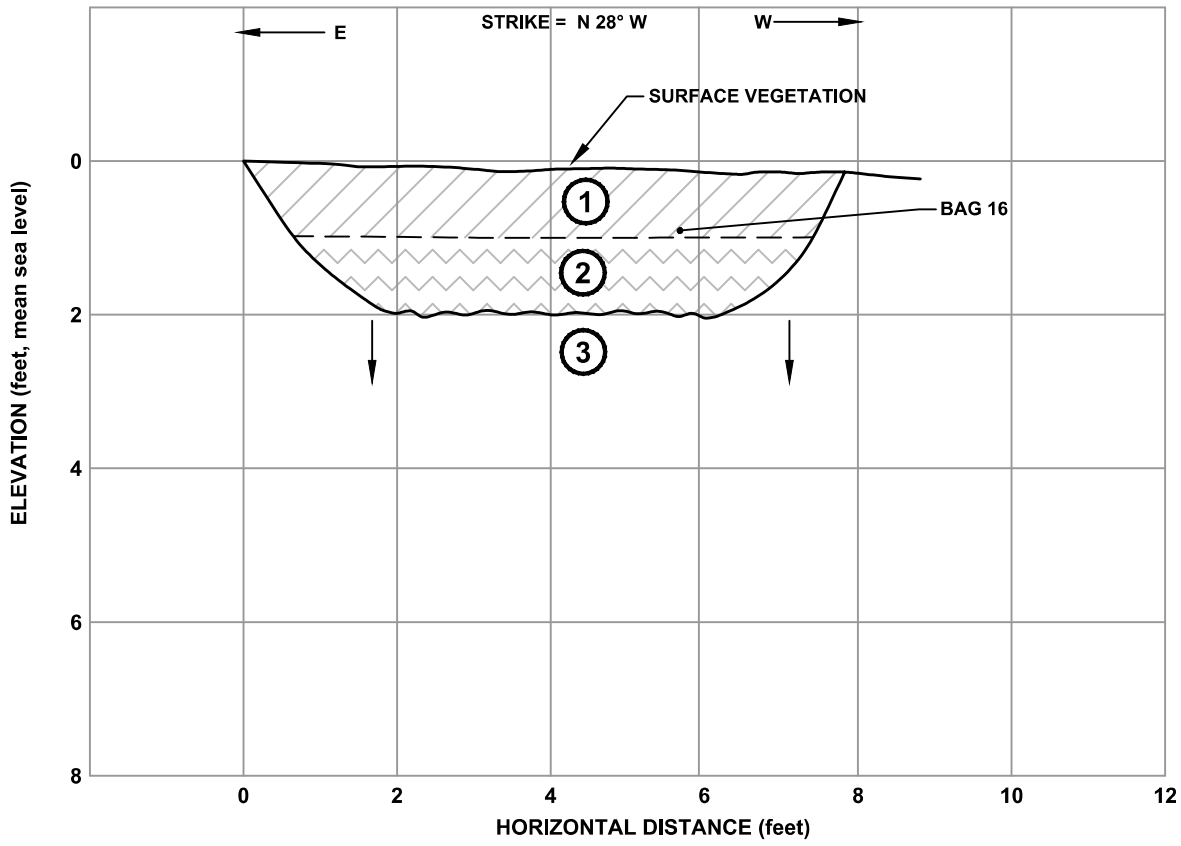
TEST PIT LOG
TP-15

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-21

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-15

PLOTTED: 04 Oct 2019, 12:46pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	LEAN CLAY with SAND (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace coarse sand, trace coarse gravels up to 1.5", rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, medium strong, highly fractured, slight foliation, similar to CLAYEY SAND with Gravel and Cobble (SC); fine to coarse sand, METAVOLCANIC COBBLES up to 8"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, refusal at 2' depth
	Latitude: 38.660051 Longitude: -121.055962

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

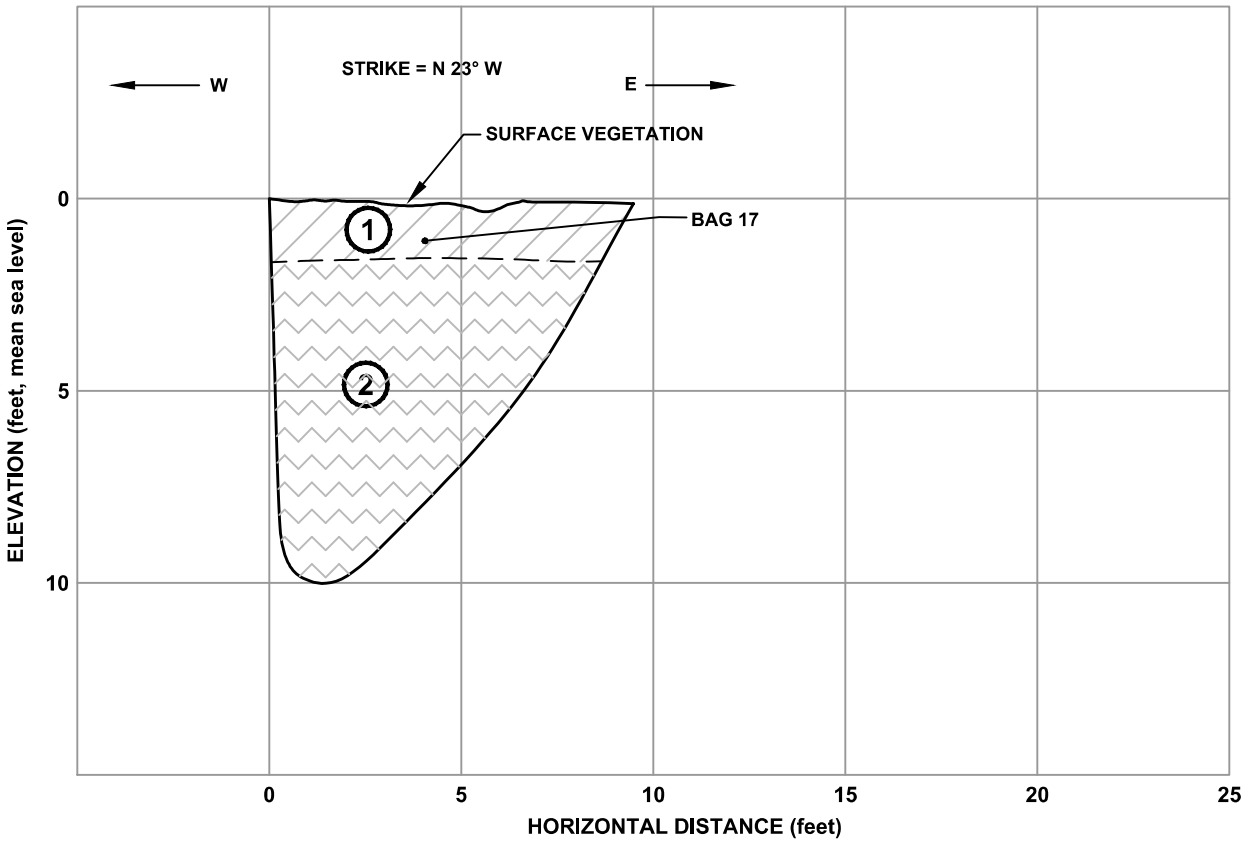
TEST PIT LOG
TP-16

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-22

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-16

PLOTTED: 04 Oct 2019, 12:46pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY with Gravel and Cobble (CL) - brownish red, dry, medium plasticity, fine to coarse sand, subangular gravel/cobble up to 4", rootlets (FILL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, medium strong, highly fractured, well defined foliation, similar to CLAYEY SAND with Gravel and Cobbles (SC); fine to coarse sand, subangular METAVOLCANIC GRAVELS and COBBLES up to 6"
	Latitude: 38.659358 Longitude: -121.056180

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

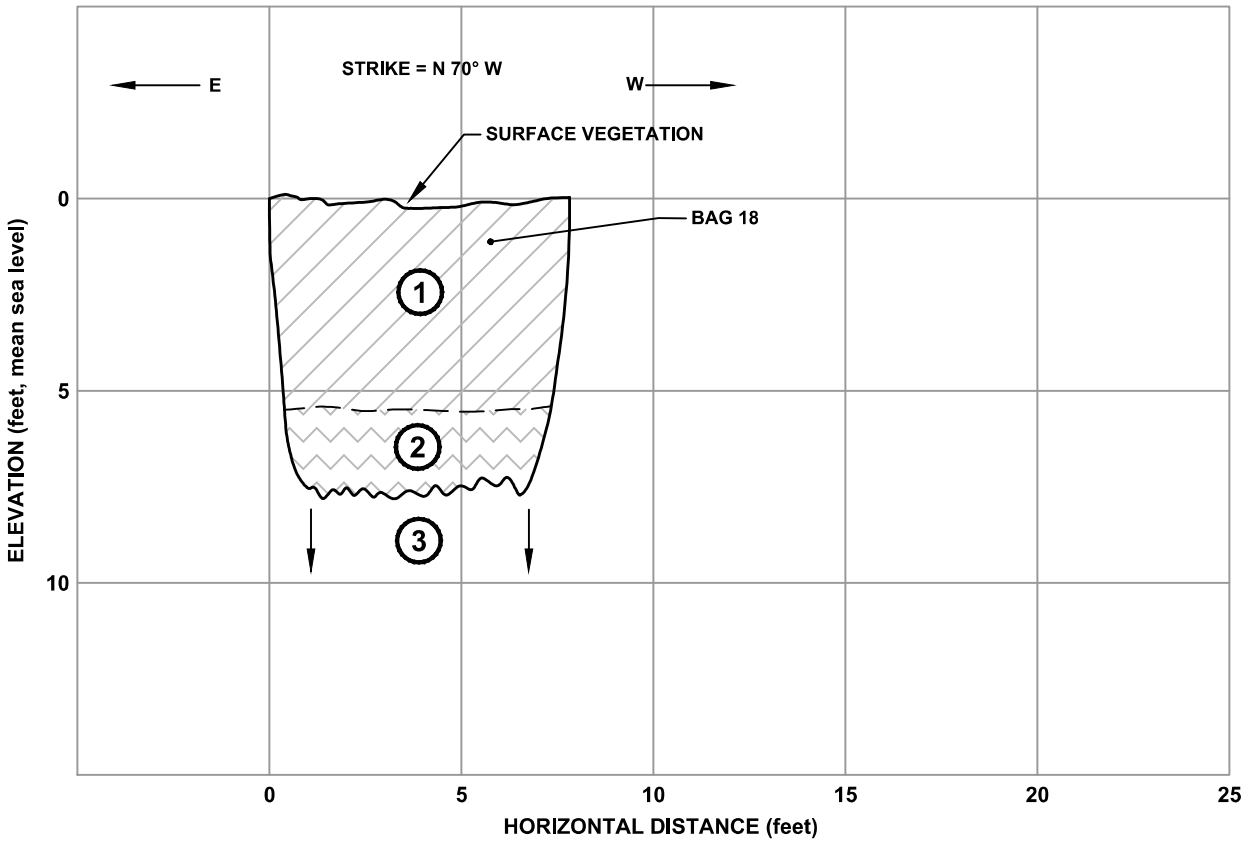
TEST PIT LOG
TP-17

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-23

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-17

PLOTTED: 04 Oct 2019, 12:45pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY with Gravel, Cobble, and Boulders (CL) - reddish brown, dry, medium plasticity, subangular to rounded fine sand to boulder sized particles up to 2' (FILL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, medium strong, highly fraactured, similar to CLAYEY SAND with Gravel and Cobbles (SC); fine to coarse sand, subangular METAVOLCANIC COBBLES up to 8"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, well defined foliation, refusal at 7.3' depth
	Latitude: 38.659105 Longitude: -121.057523

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

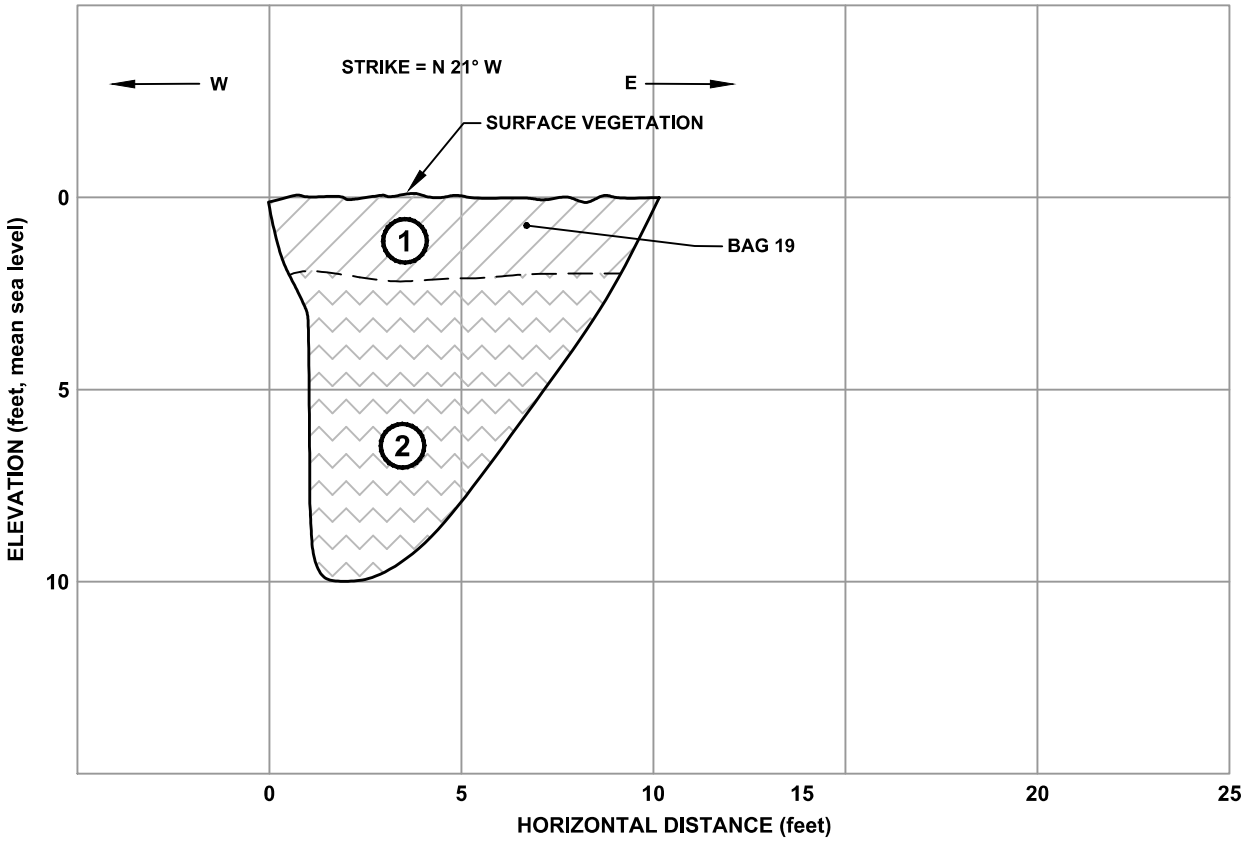
TEST PIT LOG
TP-18

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-24

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-18

PLOTTED: 04 Oct 2019, 12:45pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	LEAN CLAY with Sand (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace subangular gravels up to 2", rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry to moist, highly weathered, weak to medium strong, highly fractured, slight foliation, similar to CLAYEY SAND with Gravel and Cobble(SC); fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 5"
	Latitude: 38.659418 Longitude: -121.056699

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

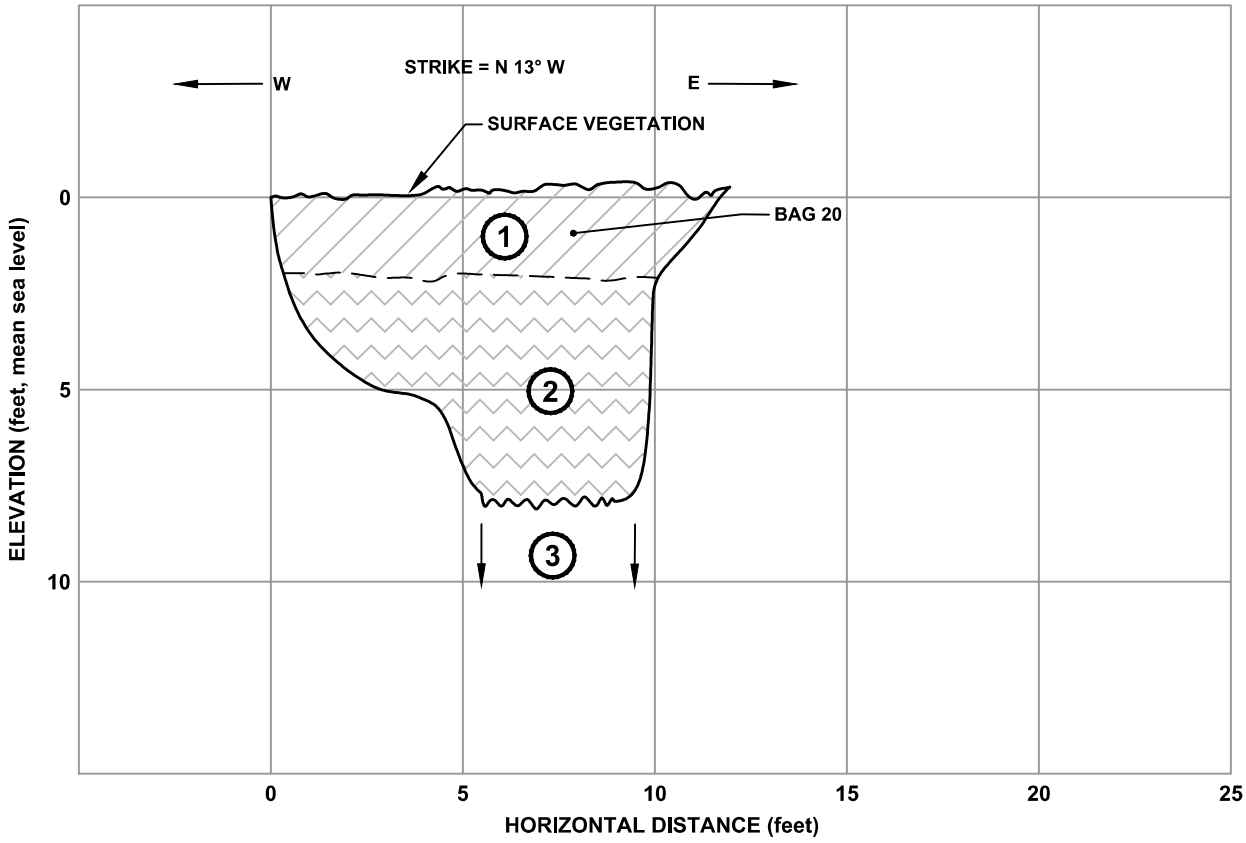
TEST PIT LOG
TP-19

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-25

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-19

PLOTTED: 04 Oct 2019, 12:45pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	LEAN CLAY with Sand (CL) - brownish red, dry, medium plasticity, fine to medium subangular sand, trace fine gravels, rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - light bluish gray, dry, highly weathered, medium strong, highly fractured, well defined foliation, similar to CLAYEY SAND with Gravel, Cobble, and Boulders (SC); fine to coarse sand, subangular ROCK fragments up to 13"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, well defined foliation, refusal at 7.5' depth
	Latitude: 38.659582 Longitude: -121.056399

LOGGED BY: Jordan Annand **DATE:** 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

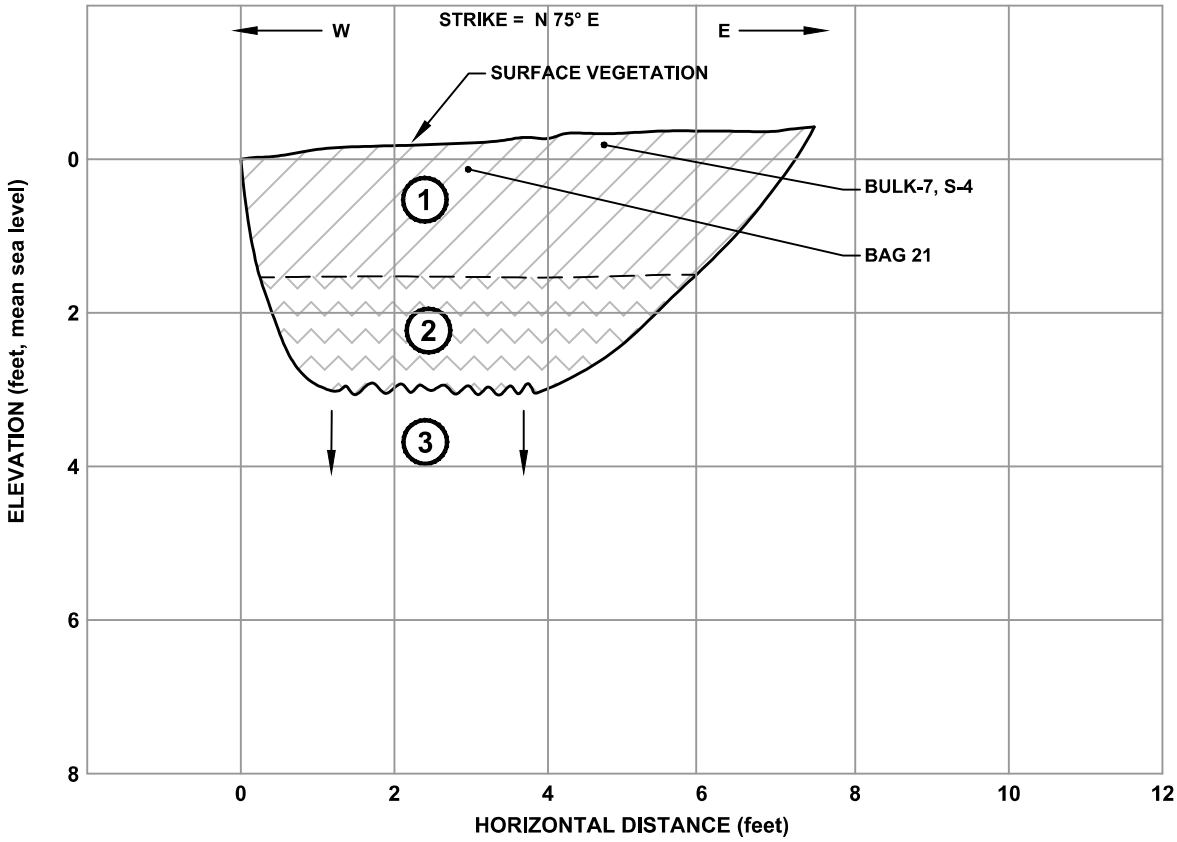
TEST PIT LOG
TP-20

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-26

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-20

PLOTTED: 04 Oct 2019, 12:44pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	LEAN CLAY with SAND (CL) - brownish red, dry, medium plasticity, subangular fine to medium sand, trace fine gravels, rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, medium strong, highly fractured, similar to POORLY GRADED SAND with Clay, Gravel, and Cobble (SP-SC); fine to coarse sand and gravel subrounded cobbles up to 6"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, highly fractured, slight foliation, refusal at 3' depth
	Latitude: 38.659766 Longitude: -121.056003

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

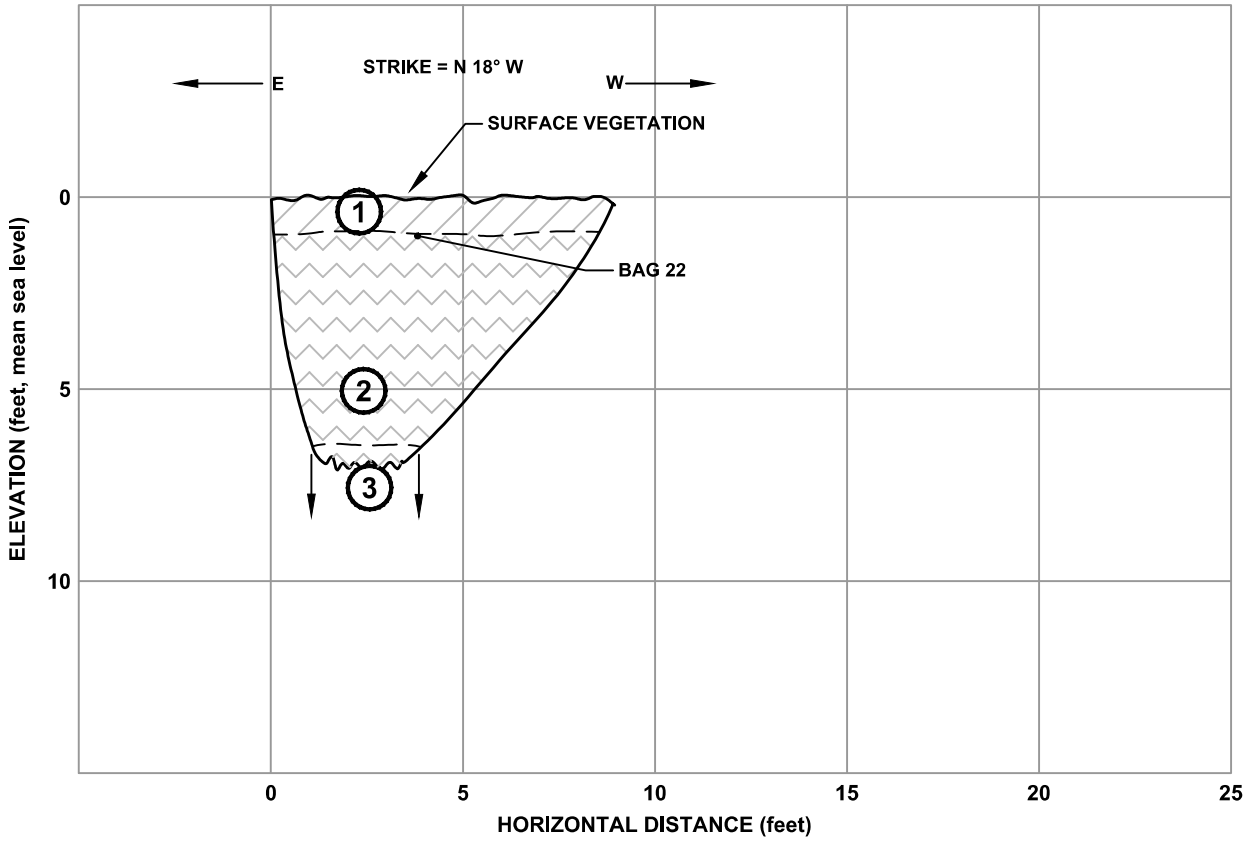
TEST PIT LOG
TP-21

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-27

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-21

PLOTTED: 04 Oct 2019, 12:44pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace subangular gravels up to 1", rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry to moist, highly weathered, medium strong, highly fractured, slight foliation, similar to CLAYEY SAND with Gravel, Cobble, and Boulders (SC); fine to coarse sand, subangular gravel, cobbles, and boulders up to 15"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, slight foliation, refusal at 7' depth
	Latitude: 38.659371 Longitude: -121.056358

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

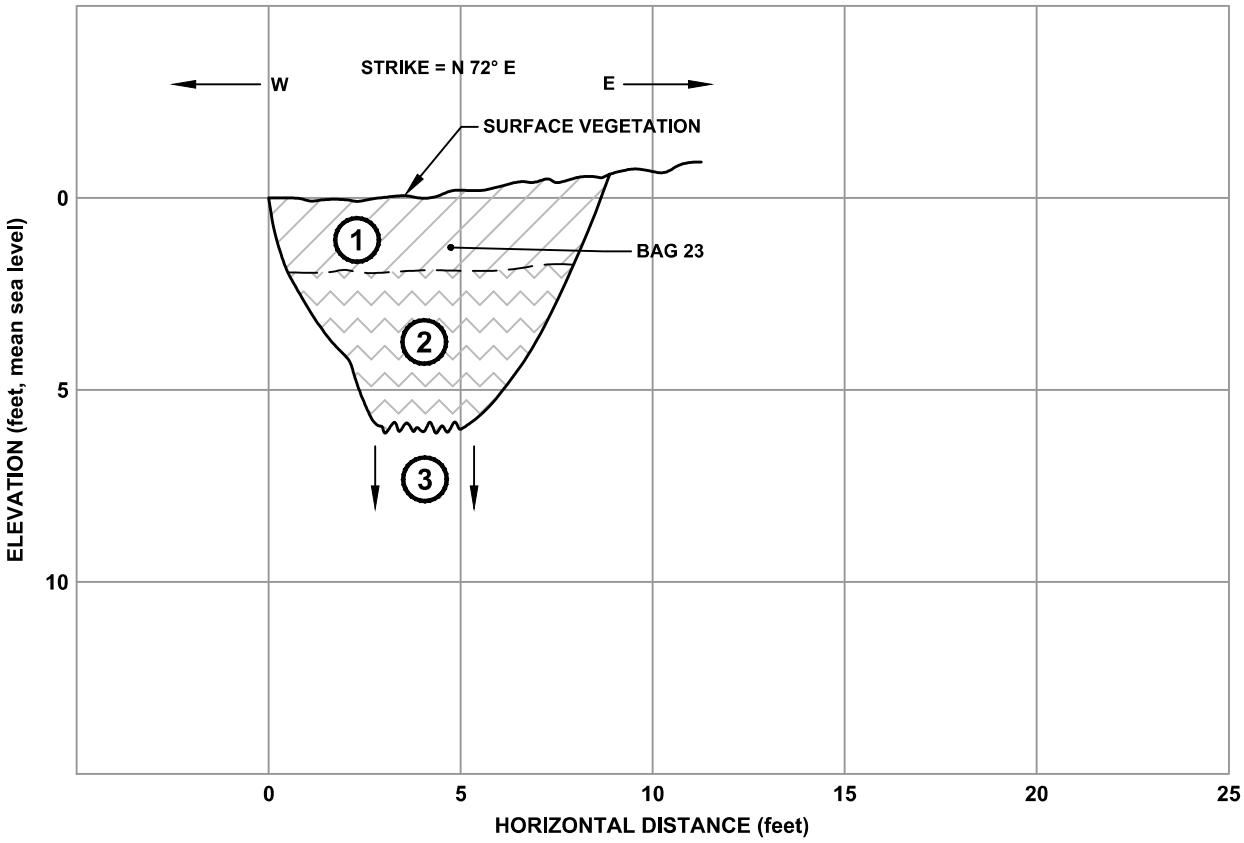
TEST PIT LOG
TP-22

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-28

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-22

PLOTTED: 04 Oct 2019, 12:44pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace subangular coarse gravels up to 1.5", rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, weak to strong, highly fractured, slight foliation, similar to CLAYEY SAND with Gravel and Cobble, fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 10"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, refusal at 6' depth
	Latitude: 38.659276 Longitude: -121.056011

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

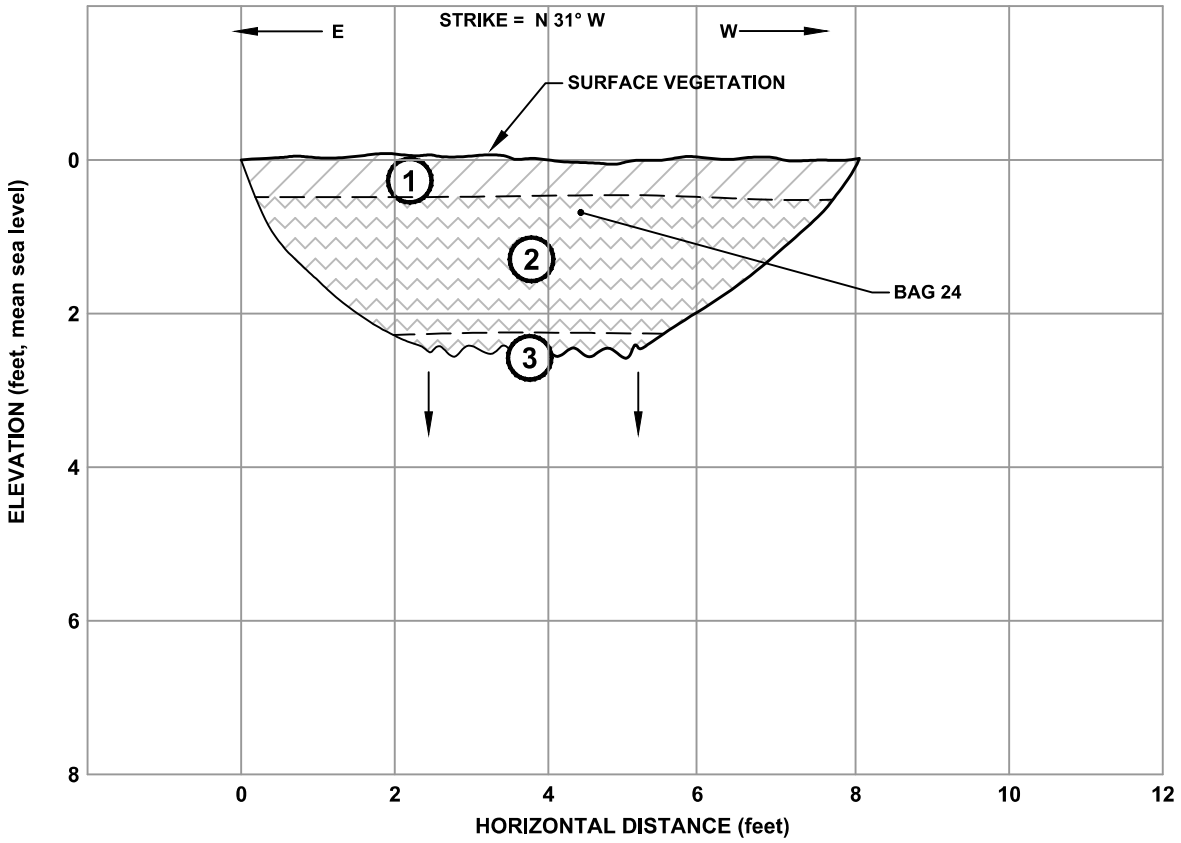
TEST PIT LOG
TP-23

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-29

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-23

PLOTTED: 04 Oct 2019, 12:43pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace fine coarse sand, trace fine gravel, rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, weak to medium strong, highly fractured, well defined foliation, similar to CLAYEY SAND with Gravel, Cobbles, and Boulders (SC); fine to coarse sand, subangular gravels and cobbles up to 14"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, well defined foliation, refusal at 2.5' depth
	Latitude: 38.659248 Longitude: -121.055652

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

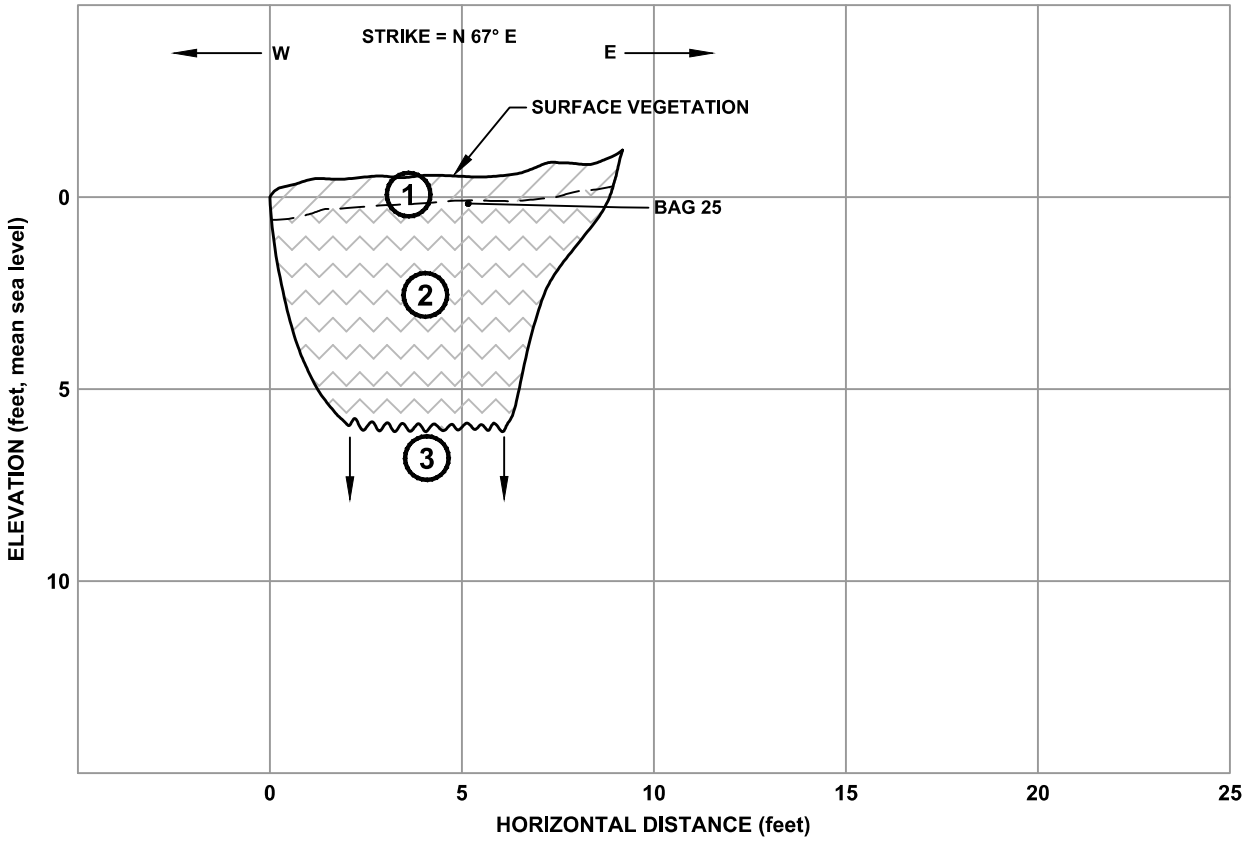
TEST PIT LOG
TP-24

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-30

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-24

PLOTTED: 04 Oct 2019, 12:43pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY (CL) - brownish red, dry, medium plasticity, subangular fine to medium sand, trace fine gravel, rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - light bluish gray, dry, highly weathered, medium strong, highly fractured, slight foliation, similar to POORLY GRADED SAND with Clay, Gravel, Cobble, and Boulders (SP-SC); fine to coarse sand, subangular gravel, cobble, and boulders up to 14"
3	METAVOLCANIC ROCK - light bluish gray, moderately weathered, strong, highly fractured, slight foliation, refusal at 6' depth
	Latitude: 38.659457 Longitude: -121.055406

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

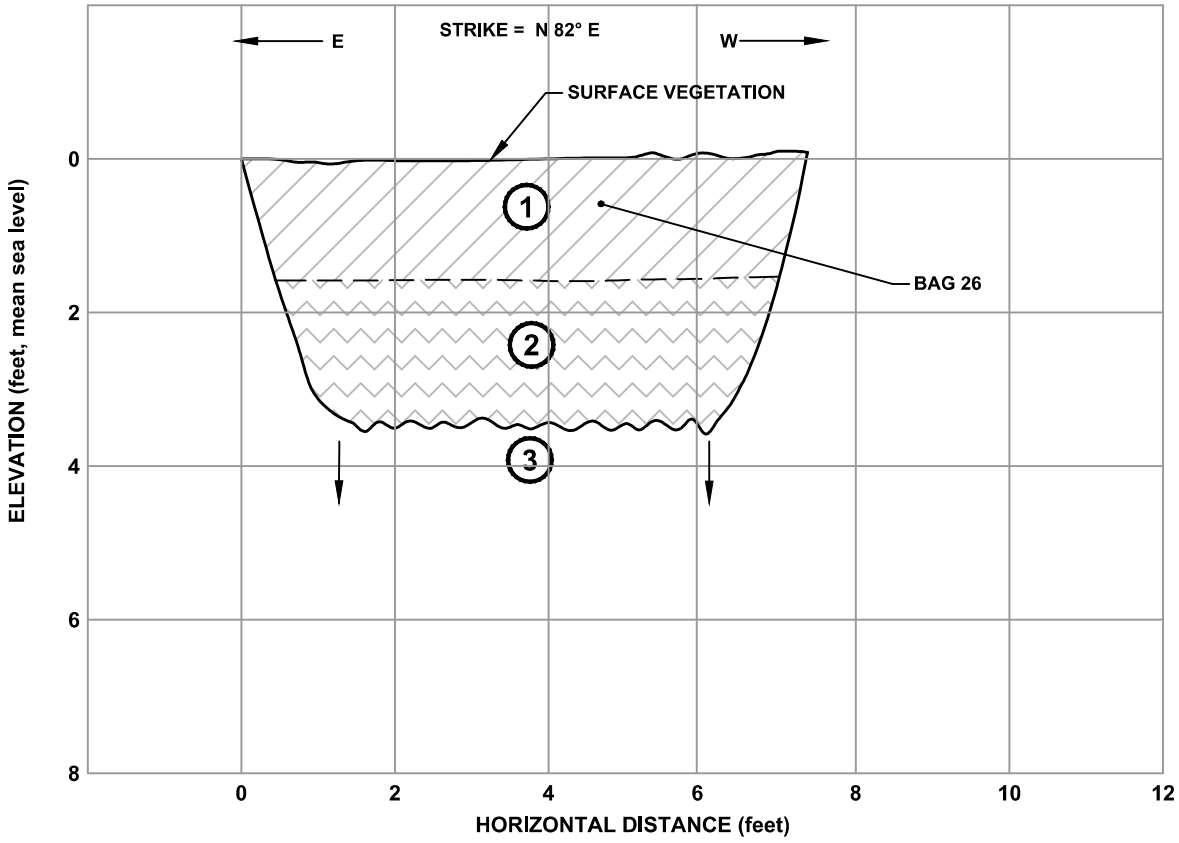
TEST PIT LOG
TP-25

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-31

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-25

PLOTTED: 04 Oct 2019, 12:43pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	LEAN CLAY with SAND (CL) - brownish red, dry, medium plasticity, subangular fine to medium sand, trace fine gravel, rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, medium strong, highly fractured, well defined foliation, similar to CLAYEY SAND with Gravel and Cobble (SC); fine to coarse sand
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, refusal at 3.5 depth
	Latitude: 38.659029 Longitude: -121.057009

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/28/2019

TEST PIT LOG
TP-26

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-32

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-26

APPENDIX B

Laboratory Results

Exploration ID	Depth (ft.)	Sample Description	Water Content (%)	Dry Unit Wt. (pcf)	Sieve Analysis (%)			Atterberg Limits			Additional Tests
					Passing 3/4"	Passing #4	Passing #200	Liquid Limit	Plastic Limit	Plasticity Index	
TP-(1)	0.0 - 2.0	SANDY LEAN CLAY (CL)									**Corrosion Test**
											R-Value= 63
TP-(2)	0.0 - 2.0	SANDY LEAN CLAY (CL)	6.6					31	22	9	
TP-(10)	0.0 - 1.5	SANDY, SILTY CLAY (CL-ML)	7.4					29	21	8	**Corrosion Test**
TP-(14)	0.0 - 2.0	SANDY SILT (ML)									**Corrosion Test**
											R-Value= 54
TP-(21)	0.0 - 1.5	SANDY, SILTY CLAY (CL-ML)	5.5					25	19	6	**Corrosion Test**
TP-(26)	0.0 - 1.5	LEAN CLAY WITH SAND (CL)									**R-Value=** 63

Refer to the Geotechnical Evaluation Report or the supplemental plates for the method used for the testing performed above.
NP = NonPlastic

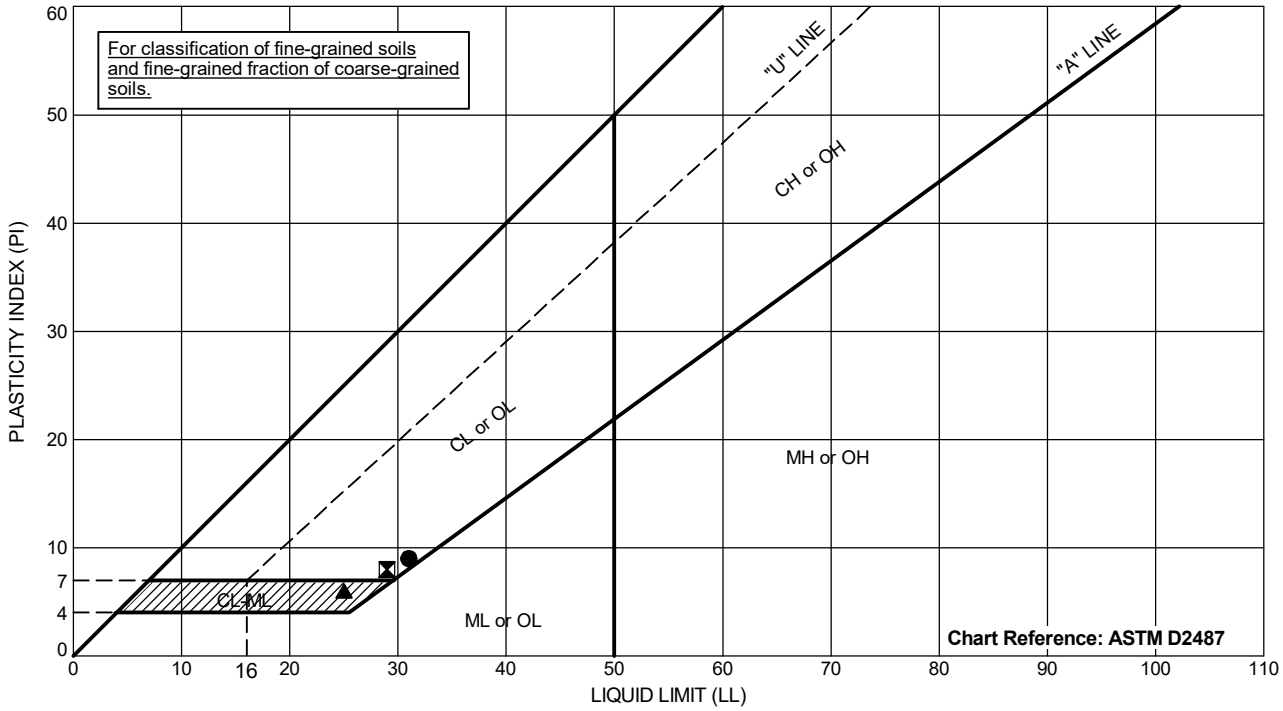
KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.: 20193141
DRAWN BY: JDS
CHECKED BY: DD
DATE: 9/11/2019
REVISED: 10/4/2019

LABORATORY TEST RESULT SUMMARY

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
B-1



Exploration ID		Depth (ft.)	Sample Description	Passing #200	LL	PL	PI
●	TP-(2)	0 - 2	SANDY LEAN CLAY (CL)	NM	31	22	9
⊠	TP-(10)	0 - 1.5	SANDY, SILTY CLAY (CL-ML)	NM	29	21	8
▲	TP-(21)	0 - 1.5	SANDY, SILTY CLAY (CL-ML)	NM	25	19	6

Testing performed in general accordance with ASTM D4318.
NP = Nonplastic
NM = Not Measured

KLEINFELDER
Bright People. Right Solutions.

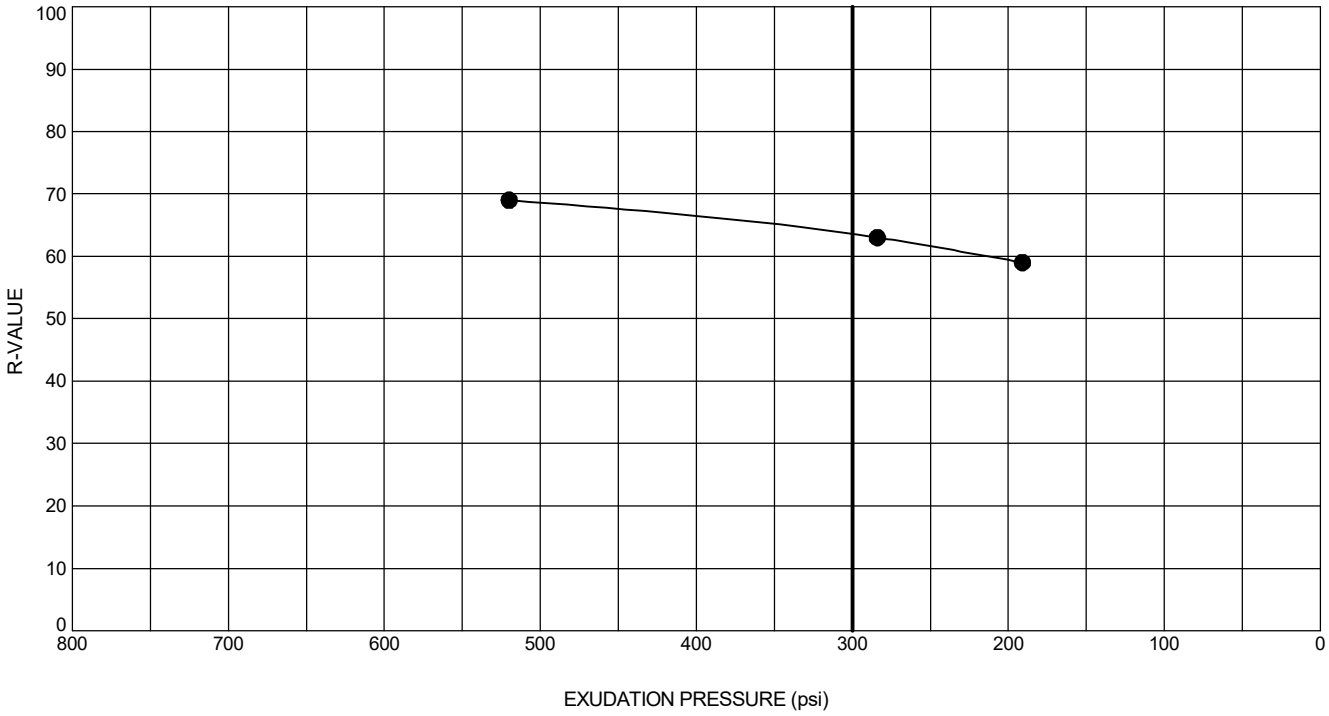
PROJECT NO.:	20193141
DRAWN BY:	DR
CHECKED BY:	DD
DATE:	10/14/2019
REVISED:	-

ATTERBERG LIMITS

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
B-2

PLOTTED: 10/14/2019 08:36 AM BY: DRoss
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.001A
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [KLF_ATTERBERG (ASTM)]



Exploration ID	Depth (ft.)	Sample Description	R-Value @ 300 psi Exudation Pressure
TP-(1)	0 - 2	SANDY LEAN CLAY (CL)	63

Specimen No.	Moisture at Time of Test (%)	Dry Unit Weight (pcf)	Expansion Pressure (psi)	Exudation Pressure (psi)	Corrected Resistance Value
1	16.3	108.1	286	284	63
2	15.4	110.1	450	520	69
3	17.1	108.4	268	191	59

Testing performed in general accordance with ASTM D2844.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	DR
CHECKED BY:	DD
DATE:	10/14/2019
REVISED:	-

R-VALUE

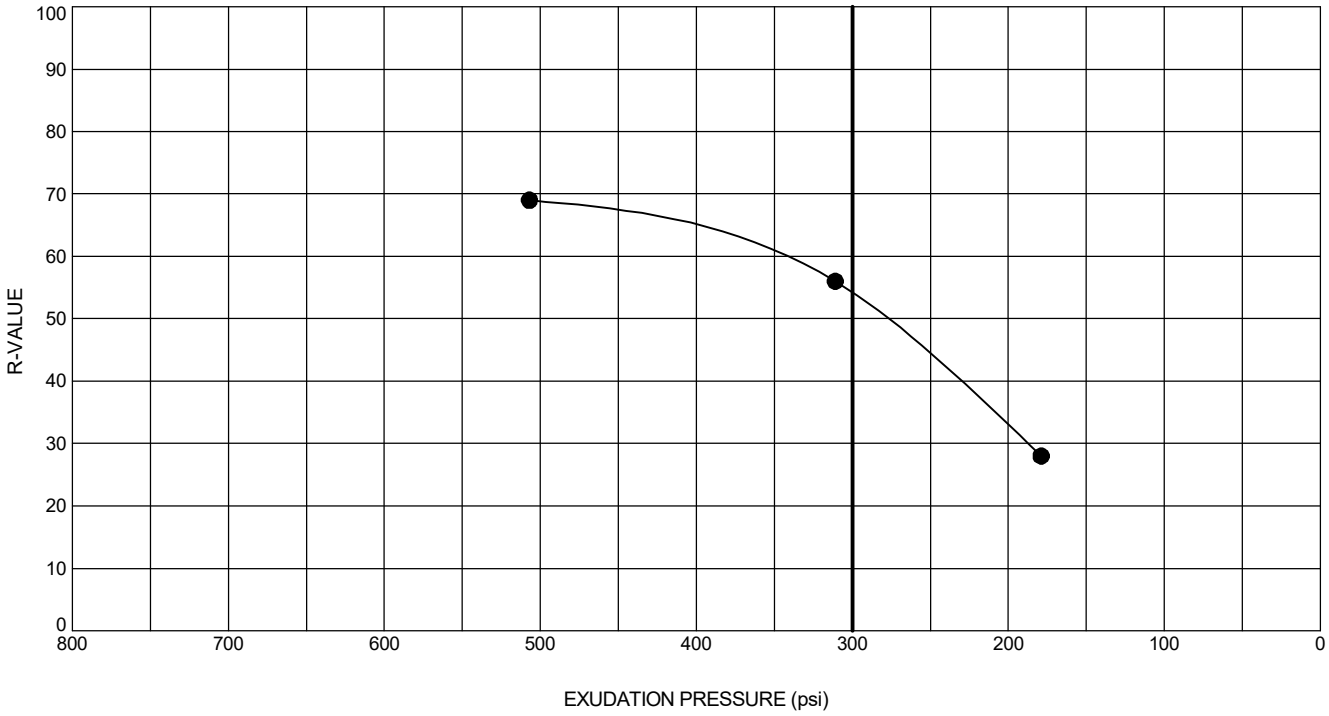
CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE

B-3

PLOTTED: 10/14/2019 08:35 AM BY: DRoss
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.001A
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [_KLF_R-VALUE (REVERSED)]

PLOTTED: 10/14/2019 08:35 AM BY: DRoss
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.001A
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [_KLF_R-VALUE (REVERSED)]



Exploration ID	Depth (ft.)	Sample Description	R-Value @ 300 psi Exudation Pressure
TP-(14)	0 - 2	SANDY SILT (ML)	54

Specimen No.	Moisture at Time of Test (%)	Dry Unit Weight (pcf)	Expansion Pressure (psi)	Exudation Pressure (psi)	Corrected Resistance Value
1	15.2	113.5	294	311	56
2	13.5	116.0	494	507	69
3	16.9	113.0	178	179	28

Testing performed in general accordance with ASTM D2844.

KLEINFELDER
Bright People. Right Solutions.

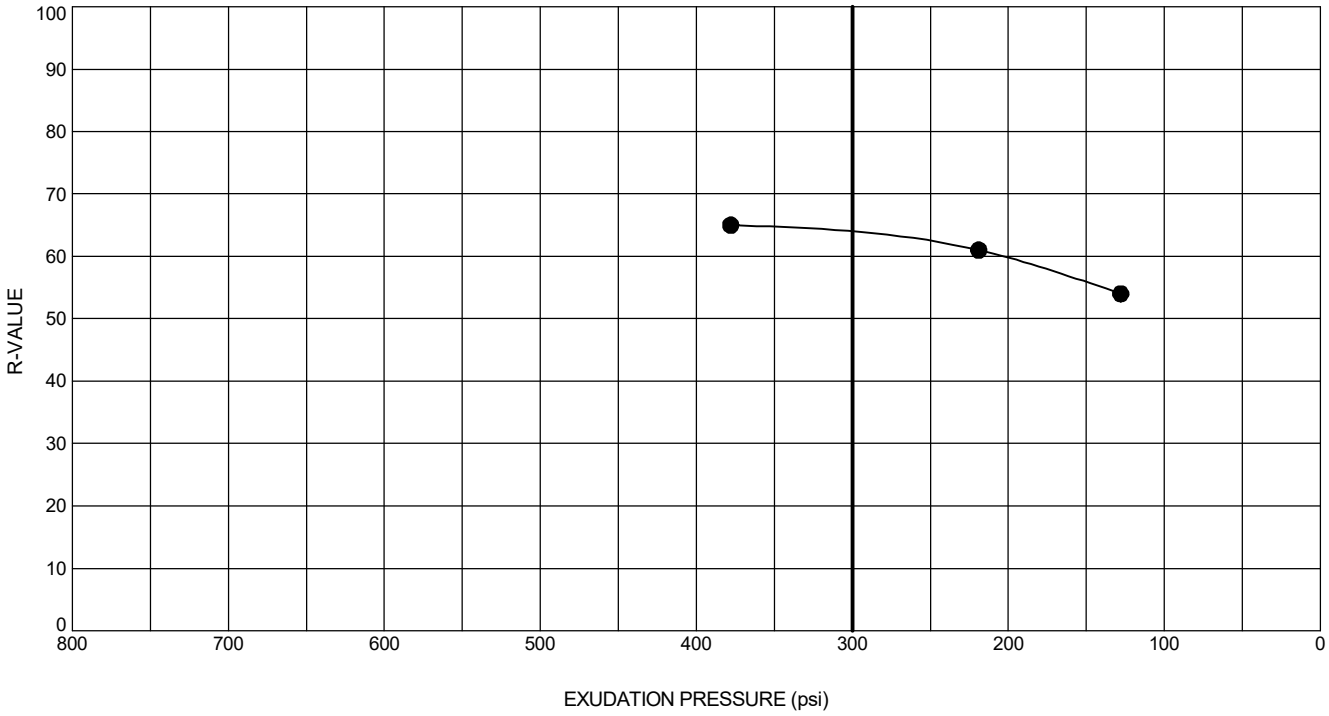
PROJECT NO.:	20193141
DRAWN BY:	DR
CHECKED BY:	DD
DATE:	10/14/2019
REVISED:	-

R-VALUE

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE

B-4



Exploration ID	Depth (ft.)	Sample Description	R-Value @ 300 psi Exudation Pressure
TP-(26)	0 - 1.5	LEAN CLAY WITH SAND (CL)	63

Specimen No.	Moisture at Time of Test (%)	Dry Unit Weight (pcf)	Expansion Pressure (psi)	Exudation Pressure (psi)	Corrected Resistance Value
1	13.8	119.1	169	128	54
2	12.9	118.9	208	378	65
3	13.3	119.5	195	219	61

Testing performed in general accordance with ASTM D2844.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	DR
CHECKED BY:	DD
DATE:	10/14/2019
REVISED:	-

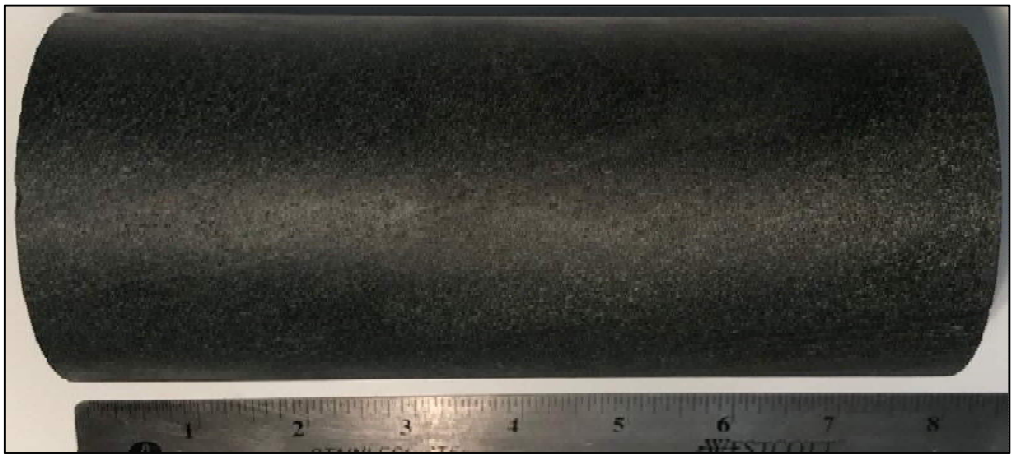
R-VALUE

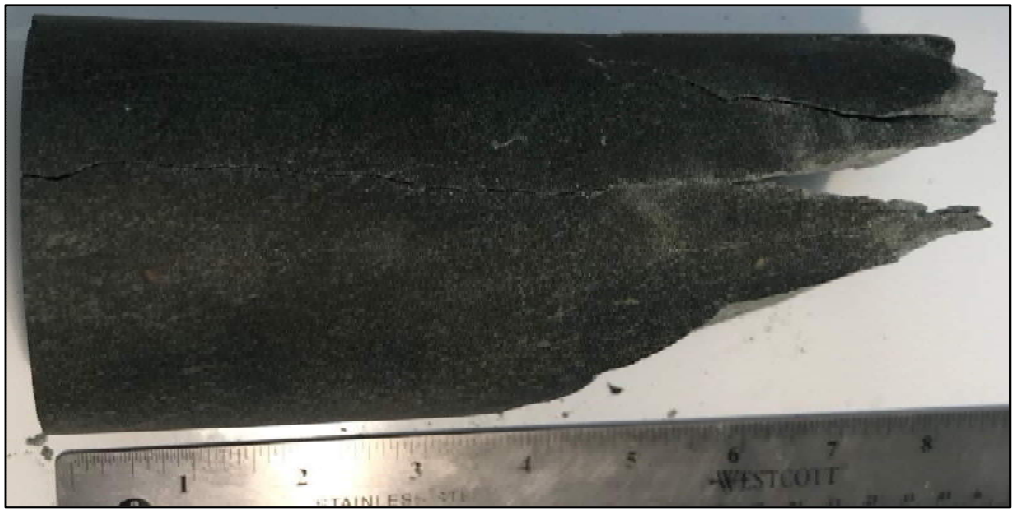
CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE

B-5

PLOTTED: 10/14/2019 08:35 AM BY: DRoss
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.001A
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [_KLF_R-VALUE (REVERSED)]





Specimen Preparation in accordance with ASTM D4543	Diameter, in	D_O	3.27
Remarks:	Height, in	H_O	6.79
	Moisture Condition		As Received
	Unit Weight, pcf	ρ_d	183
	Uniaxial Compressive Strength (psi)	σ_u	17,400
	Time to Failure, mm:ss		2:52

Description of Specimen: Metavolcanic	Test Method: ASTM D7012, Method C

Boring:	KB-4
Run:	4
Depth, ft:	16.6-17.6
Test Date:	10/9/2019

KLEINFELDER
Bright People. Right Solutions.
9969 Horn Rd., Sacramento, CA 95827

PROJECT NO.: 20193141
ENTRY BY: S. Rader
CHECKED BY: B. Anderson
DATE: 10/18/2019

UNIAXIAL COMPRESSION TEST

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
B-6

AP Engineering and Testing, Inc.
DBE|MBE|SBE
2607 Pomona Boulevard | Pomona, CA 91768
t. 909.869.6316 | f. 909.869.6318 | www.aplaboratory.com

CORROSION TEST RESULTS

Client Name: Kleinfelder
Project Name: Costco El Dorado Hills New Warehouse
Project No.: 20193141.001A

AP Job No.: 19-0901
Date: 09/04/19

Boring No.	Sample No.	Depth (feet)	Soil Type	Minimum Resistivity (ohm-cm)	pH	Sulfate Content (ppm)	Chloride Content (ppm)
TP-1	Bulk 6	0-2	CL-ML	3848	5.2	36	35
TP-10	Bulk 3	0-2	CL-ML	5324	6.1	38	39
TP-14	Bulk 4	0-2	CL-ML	6453	6.0	34	34
TP-21	Bulk 7	0-1.5	CL-ML	5012	5.7	41	55

NOTES: Resistivity Test and pH: California Test Method 643
Sulfate Content : California Test Method 417
Chloride Content : California Test Method 422
ND = Not Detectable
NA = Not Sufficient Sample
NR = Not Requested

Anaheim Office
September 25, 2019
Report 19-253-0006

Kleinfelder, Inc.
380 North First Street
Suite A
San Jose CA 95112

Attn: Dan Dockendorf

RE: Costco El Dorado Hills, Updated New Warehouse

Background

One composite sample was processed on September 10, 2019 identified as soil from areas where new landscaping is scheduled for installation. Fertilizer and amendment recommendations were requested. The sample was analyzed for horticultural suitability, fertility, and physical characteristics. The results of the analyses are attached. Organic matter testing was run separately on individual subsamples and these results are also attached.

Analytical Results and Comments

The reaction of the sample is moderately acidic at a pH of 6.0. This is within the range preferred for most plants. Salinity (ECe), sodium, chloride and boron are safely low. The sodium adsorption ratio (SAR) indicates that sodium is adequately balanced by soluble calcium and magnesium; this balance is important for soil structure quality, which relates to the rate at which water infiltrates the soil.

According to the USDA Soil Classification system, the texture of the less than 2mm fraction of the soil is classified as loam. Organic matter content is low at 2.3% dry weight. Based on this information the estimated infiltration rate is moderate at 0.25 inch per hour. Infiltration rates may vary due to differences in compaction across the site. The over 50% silt plus clay present indicates that this soil will have some potential for issues with slow drainage and high water holding capacity and irrigation timing should take this into account. Additional subdrainage may be beneficial for larger specimens being installed in flat areas in this soil.

In terms of soil fertility, nitrogen, phosphorus and sulfate are low and calcium is fair. All of the other major nutrients are sufficient for proper plant nutrition at this time. Of the micronutrients; copper and manganese are abundant while zinc and iron are sufficient.

Boron is safely low for general ornamental plants and may be below optimum levels for plant nutritional purposes. Irrigation water often supplies sufficient boron to meet plant nutritional requirements. However, if boron is low in the irrigation water and/or plants show symptoms of boron deficiency after they are well established, you may consider an application of a product containing boron at the manufacturer's label rate. Boron deficiency symptoms often include stunted or deformed younger growth and tight internodes. Tissue testing can be performed to identify a boron deficiency if it is suspected. Incorporation of a composted greenwaste amendment may be sufficient to negate this deficiency, product depending.

Recommendations

Nitrogen, phosphorus and calcium fertilizers are recommended at the time of planting. Incorporation of a nitrogen stabilized organic amendment or composted greenwaste product is recommended in order to improve soil nutrient holding capacity and porosity. If a composted greenwaste amendment is chosen, that would provide additional phosphorus and potassium as well as supplemental micronutrients, product depending.

To Prepare for Mass Planting:
Drainage of the root zone should be improved by first loosening the top 10 inches of any undisturbed or compacted soil. The following materials should then be evenly spread and thoroughly blended with the top 6 inches of soil to form a homogenous layer:

Amount per 1000 Square Feet	
5 cubic yards	Nitrogen Stabilized Organic Amendment*
8 pounds	Ammonium Phosphate (16-20-0)*
25 pounds	Gypsum (Calcium Sulfate)

*The rate may change based on the analysis of the chosen organic amendment. This rate is based on 270 lbs. of dry weight of organic matter per cubic yard of amendment. If a composted greenwaste amendment is chosen that provides a substantial amount of phosphorus, the ammonium phosphate should be replaced with ammonium sulfate (21-0-0) at a 7 pound rate.

To Prepare Backfill For Trees and Shrubs:

- Excavate planting pits at least twice as wide as the diameter of the rootball.
- Soil immediately below the root ball should be left undisturbed to provide support but the sides and the bottom around the side should be cultivated to improve porosity.
- The top of the rootball should be at or slightly above final grade.
- The top 12 inches of backfill around the sides of the rootball of trees and shrubs may consist of the above amended soil or may be prepared as follows:

3 parts	Site Soil
1 part	Nitrogen Stabilized Organic Amendment*

Uniformly blended with:

Amount / Cubic Yard of Backfill	
1/2 pound	Ammonium Phosphate (16-20-0)*
1 1/3 pounds	Gypsum (Calcium Sulfate)

- Backfill below 12 inches required for 24 inch box or larger material should not contain the organic amendment or ammonium phosphate, but should still contain the gypsum at the recommended rate. In order to improve phosphorus levels below 12 inches in depth, triple superphosphate should be incorporated at a 1/4 pound rate.
- Ideally a weed and turf free zone should be maintained just beyond the diameter of the planting hole. A 2-4 inch deep layer of coarse mulch can be placed around the tree or shrub. Mulch should be kept a minimum 4 inches from the trunk.
- Irrigation of new plantings should take into consideration the differing texture of the rootball substrate and surrounding soil matrix to maintain adequate moisture during this critical period of establishment.

Maintenance

Maintenance fertilization should rely primarily on a nitrogen only program supplemented with a complete fertilizer in the fall and spring. Beginning 45-60 days after planting, ammonium sulfate (21-0-0) should be applied at a rate of 5 pounds per 1000 square feet with reapplication every 45-60 days. Alternatively, slow release Sulfur Coated Urea (43-0-0) may be applied at 6 pounds per 1000 square feet every 90 days. Once plants are performing satisfactorily, the frequency of fertilization may be decreased depending on color and rate of growth desired. In the winter for a quick greening effect, calcium nitrate (15.5-0-0) may be applied at a 6 pound rate if applicable. Early fall and spring, substitute a complete fertilizer such as 15-15-15 to help insure continuing adequate phosphorus and potassium.

Alternatively, Blood Meal (12-0-0) provides available nitrogen fairly rapidly while materials such as Feather Meal (12-0-0), Soybean or Cotton Seed Meal (7-1-1) are slower to provide available nitrogen, but they extend the length of time they make this contribution. In order to provide a good supply of nitrogen for a 3-4 month time frame a good combination would be 6 pounds Blood Meal and 14 pounds Feather Meal per 1000 square feet. In the fall and spring, substitute a complete organic fertilizer such as 5-5-5 applied at the manufacturer's label rate. Or, nutrient rich composted greenwaste may be spread in a 1 to 2 inch layer, which generally carries enough nutrition to boost complete nutrition though a source of nitrogen might also be added at a half rate to assure adequate nitrogen availability.

If we can be of any further assistance, please feel free to contact us.

Annmarie Lucchesi
alucchesi@waypointanalytical.com

Emailed 9 Pages: ddockendorf@kleinfelder.com

Report Number
19-253-0006

Account Number
01944

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Send To: Kleinfelder, Inc.
380 North First Street
Suite A
San Jose, CA 95112

Purchase Order: 20193141.001A
Report Date: 09/25/2019
Date Received: 09/10/2019

Project: Costco-El Dorado Hills
Updated New Warehouse

REPORT OF ANALYSIS

Date Sampled:

Lab Number: 08136
Sample ID: S-1

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Organic Matter (Titration) , %	2.92		WALK-BLACK	09/25/2019 14:30	VVP

Method Reference:
Methods of Soil Analysis, Part 3 - Chemical Methods, 2nd Ed. Rev. Soil Science Society of America, Black, C.A et al. 1982, pages 995-996.

Comments:

Report Number
19-253-0006

Account Number
01944

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Send To: Kleinfelder, Inc.
380 North First Street
Suite A
San Jose, CA 95112

Purchase Order: 20193141.001A
Report Date: 09/25/2019
Date Received: 09/10/2019

Project: Costco-El Dorado Hills
Updated New Warehouse

REPORT OF ANALYSIS

Date Sampled:

Lab Number: 08137
Sample ID: S-2

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Organic Matter (Titration) , %	1.47		WALK-BLACK	09/25/2019 14:30	VVP

Method Reference:
Methods of Soil Analysis, Part 3 - Chemical Methods, 2nd Ed. Rev. Soil Science Society of America, Black, C.A et al. 1982, pages 995-996.

Comments:

Report Number
19-253-0006

Account Number
01944

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Send To: Kleinfelder, Inc.
380 North First Street
Suite A
San Jose, CA 95112

Purchase Order: 20193141.001A
Report Date: 09/25/2019
Date Received: 09/10/2019

Project: Costco-El Dorado Hills
Updated New Warehouse

REPORT OF ANALYSIS

Date Sampled:

Lab Number: 08138
Sample ID: S-3

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Organic Matter (Titration) , %	1.52		WALK-BLACK	09/25/2019 14:30	VVP

Method Reference:
Methods of Soil Analysis, Part 3 - Chemical Methods, 2nd Ed. Rev. Soil Science Society of America, Black, C.A et al. 1982, pages 995-996.

Comments:

Report Number
19-253-0006

Account Number
01944

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Send To: Kleinfelder, Inc.
380 North First Street
Suite A
San Jose, CA 95112

Purchase Order: 20193141.001A
Report Date: 09/25/2019
Date Received: 09/10/2019

Project: Costco-El Dorado Hills
Updated New Warehouse

REPORT OF ANALYSIS

Date Sampled:

Lab Number: 08139
Sample ID: S-4

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Organic Matter (Titration) , %	1.76		WALK-BLACK	09/25/2019 14:30	VVP

Method Reference:
Methods of Soil Analysis, Part 3 - Chemical Methods, 2nd Ed. Rev. Soil Science Society of America, Black, C.A et al. 1982, pages 995-996.

Comments:

Report Number
19-253-0006

Account Number
01944

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Send To: Kleinfelder, Inc.
380 North First Street
Suite A
San Jose, CA 95112

Purchase Order: 20193141.001A
Report Date: 09/25/2019
Date Received: 09/10/2019

Project: Costco-El Dorado Hills
Updated New Warehouse

REPORT OF ANALYSIS

Date Sampled:

Lab Number: 08140
Sample ID: S-5

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Organic Matter (Titration) , %	1.50		WALK-BLACK	09/25/2019 14:30	VVP

Method Reference:
Methods of Soil Analysis, Part 3 - Chemical Methods, 2nd Ed. Rev. Soil Science Society of America, Black, C.A et al. 1982, pages 995-996.

Comments:

Kleinfelder, Inc.
380 North First Street
Suite A
San Jose CA 95112

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Project : Costco-El Dorado Hills
Updated New Warehouse

COMPREHENSIVE SOIL ANALYSIS

Report No : **19-253-0006**
Purchase Order : 20193141.001A
Date Recd : 09/10/2019
Date Printed : 09/25/2019

Sample Description - Sample ID	Half Sat %	pH	ECe dS/m	NO_3-N ppm	NH_4-N ppm	PO_4-P ppm	K ppm	Ca ppm	Mg ppm	Cu ppm	Zn ppm	Mn ppm	Fe ppm	Organic % dry wt.	Lab No.
	TEC	Qual Lime		Sufficiency Factors											
Composite	21	6.0	0.2	5	13	4	97	902	337	3.6	2.3	39	53	2.33	08141
	74	None		0.4		0.2	0.8	0.7	2.0	3.7	0.6	4.8	1.5		

Saturation Extract Values						SAR	Gravel %		Percent of Sample Passing 2 mm Screen					USDA Soil Classification	Lab No.
									Sand						
Ca meq/L	Mg meq/L	Na meq/L	K meq/L	B ppm	SO_4 meq/L		Coarse 5 - 12	Fine 2 - 5	Very Coarse 1 - 2	Coarse 0.5 - 1	Med. to Very Fine 0.05 - 0.5	Silt .002-.05	Clay 0-.002		
2.3	1.5	0.6	0.3	0.07	0.6	0.4	4.2	5.2	6.6	7.4	29.2	42.4	14.2	Loam	08141

08141 Chloride (Cl) = 0.000 meq/L
08141 Aluminum = 1.62 meq/L

Sufficiency factor (1.0=sufficient for average crop) below each nutrient value. N factor based on 200 ppm constant feed. SAR = Sodium adsorption ratio. Half Saturation %=approx field moisture capacity. Nitrogen(N), Potassium(K), Calcium(Ca) and Magnesium(Mg) by sodium chloride extraction. Phosphorus(P) by sodium bicarbonate extraction. Copper(Cu), Zinc(Zn), Manganese(Mn) & Iron(Fe) by DTPA extraction. Sat. ext. method for salinity (ECe as dS/m),Boron (B), Sulfate(SO_4), Sodium(Na). Gravel fraction expressed as percent by weight of oven-dried sample passing a 12mm(1/2 inch) sieve. Particle sizes in millimeters. Organic percentage determined by Walkley-Black or Loss on Ignition.

* LOW , SUFFICIENT , HIGH

Report Number
19-253-0006

Account Number
01944

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Send To: Kleinfelder, Inc.
380 North First Street
Suite A
San Jose, CA 95112

Purchase Order: 20193141.001A
Report Date: 09/25/2019
Date Received: 09/10/2019

Project: Costco-El Dorado Hills
Updated New Warehouse

REPORT OF ANALYSIS

Date Sampled:

Lab Number: 08136
Sample ID: S-1

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Organic Matter (Titration) , %	2.92		WALK-BLACK	09/25/2019 14:30	VVP

Method Reference:
Methods of Soil Analysis, Part 3 - Chemical Methods, 2nd Ed. Rev. Soil Science Society of America, Black, C.A et al. 1982, pages 995-996.

Comments:

Report Number
19-253-0006

Account Number
01944

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Send To: Kleinfelder, Inc.
380 North First Street
Suite A
San Jose, CA 95112

Purchase Order: 20193141.001A
Report Date: 09/25/2019
Date Received: 09/10/2019

Project: Costco-El Dorado Hills
Updated New Warehouse

REPORT OF ANALYSIS

Date Sampled:

Lab Number: 08137
Sample ID: S-2

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Organic Matter (Titration) , %	1.47		WALK-BLACK	09/25/2019 14:30	VVP

Method Reference:
Methods of Soil Analysis, Part 3 - Chemical Methods, 2nd Ed. Rev. Soil Science Society of America, Black, C.A et al. 1982, pages 995-996.

Comments:

Report Number
19-253-0006

Account Number
01944

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Send To: Kleinfelder, Inc.
380 North First Street
Suite A
San Jose, CA 95112

Purchase Order: 20193141.001A
Report Date: 09/25/2019
Date Received: 09/10/2019

Project: Costco-El Dorado Hills
Updated New Warehouse

REPORT OF ANALYSIS

Date Sampled:

Lab Number: 08138
Sample ID: S-3

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Organic Matter (Titration) , %	1.52		WALK-BLACK	09/25/2019 14:30	VVP

Method Reference:
Methods of Soil Analysis, Part 3 - Chemical Methods, 2nd Ed. Rev. Soil Science Society of America, Black, C.A et al. 1982, pages 995-996.

Comments:

Report Number
19-253-0006

Account Number
01944

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Send To: Kleinfelder, Inc.
380 North First Street
Suite A
San Jose, CA 95112

Purchase Order: 20193141.001A
Report Date: 09/25/2019
Date Received: 09/10/2019

Project: Costco-El Dorado Hills
Updated New Warehouse

REPORT OF ANALYSIS

Date Sampled:

Lab Number: 08139
Sample ID: S-4

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Organic Matter (Titration) , %	1.76		WALK-BLACK	09/25/2019 14:30	VVP

Method Reference:
Methods of Soil Analysis, Part 3 - Chemical Methods, 2nd Ed. Rev. Soil Science Society of America, Black, C.A et al. 1982, pages 995-996.

Comments:

Report Number
19-253-0006

Account Number
01944

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Send To: Kleinfelder, Inc.
380 North First Street
Suite A
San Jose, CA 95112

Purchase Order: 20193141.001A
Report Date: 09/25/2019
Date Received: 09/10/2019

Project: Costco-El Dorado Hills
Updated New Warehouse

REPORT OF ANALYSIS

Date Sampled:

Lab Number: 08140
Sample ID: S-5

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Organic Matter (Titration) , %	1.50		WALK-BLACK	09/25/2019 14:30	VVP

Method Reference:
Methods of Soil Analysis, Part 3 - Chemical Methods, 2nd Ed. Rev. Soil Science Society of America, Black, C.A et al. 1982, pages 995-996.

Comments:

Kleinfelder, Inc.
380 North First Street
Suite A
San Jose CA 95112

Waypoint ANALYTICAL
4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Project : Costco-El Dorado Hills
Updated New Warehouse

COMPREHENSIVE SOIL ANALYSIS

Report No : **19-253-0006**
Purchase Order : 20193141.001A
Date Recd : 09/10/2019
Date Printed : 09/25/2019
Page : 1 of 1

Sample Description - Sample ID	Half Sat %	pH	ECe dS/m	NO_3-N ppm	NH_4-N ppm	PO_4-P ppm	K ppm	Ca ppm	Mg ppm	Cu ppm	Zn ppm	Mn ppm	Fe ppm	Organic % dry wt.	Lab No.
	TEC	Qual Lime		Sufficiency Factors											
Composite	21	6.0	0.2	5	13	4	97	902	337	3.6	2.3	39	53	2.33	08141
	74	None		0.4		0.2	0.8	0.7	2.0	3.7	0.6	4.8	1.5		

Saturation Extract Values						SAR	Gravel %		Percent of Sample Passing 2 mm Screen					USDA Soil Classification	Lab No.
									Sand						
Ca meq/L	Mg meq/L	Na meq/L	K meq/L	B ppm	SO_4 meq/L		Coarse 5 - 12	Fine 2 - 5	Very Coarse 1 - 2	Coarse 0.5 - 1	Med. to Very Fine 0.05 - 0.5	Silt .002-.05	Clay 0-.002		
2.3	1.5	0.6	0.3	0.07	0.6	0.4	4.2	5.2	6.6	7.4	29.2	42.4	14.2	Loam	08141

08141 Chloride (Cl) = 0.000 meq/L
08141 Aluminum = 1.62 meq/L

Sufficiency factor (1.0=sufficient for average crop) below each nutrient value. N factor based on 200 ppm constant feed. SAR = Sodium adsorption ratio. Half Saturation %=approx field moisture capacity. Nitrogen(N), Potassium(K), Calcium(Ca) and Magnesium(Mg) by sodium chloride extraction. Phosphorus(P) by sodium bicarbonate extraction. Copper(Cu), Zinc(Zn), Manganese(Mn) & Iron(Fe) by DTPA extraction. Sat. ext. method for salinity (ECe as dS/m),Boron (B), Sulfate(SO_4), Sodium(Na). Gravel fraction expressed as percent by weight of oven-dried sample passing a 12mm(1/2 inch) sieve. Particle sizes in millimeters. Organic percentage determined by Walkley-Black or Loss on Ignition.

* LOW , SUFFICIENT , HIGH

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Sample Summary Table

Report Number: **19-253-0005**

Client Project Description: **Costco-El Dorado Hills**
Updated New Warehouse

Lab No	Client Sample ID	Matrix	Date Collected	Date Received	Method	Lab ID
75362	Composite	Solids		09/10/2019	SW-7471A	
75362	Composite	Solids		09/10/2019	6010D	

: A&L Anal ti!al La"o#ato#ies$ %n!&$ 'emp(is$)*

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

01944
)lein*el lder, +nc,
-.0 Nort# /irst Street
Suite A
San Jose , CA 95112

0ro1ect +n*ormation : Costco$%l 'orado (ills pdated Ne ! "are#ouse

Report Number : **19-253-0005**

REPORT OF ANALYSIS

Report 'ate : 09/12/2019
Received : 09/10/2019

3ab No : **75362**
Sample +' : **Composite**

4atri5: **Solids**
Sampled:

Analytical Method: 7010'
Prep Method: -0506

Prep Batch(es): **L453530** 09/11/19 12:10

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
8otal Silver	90,250	m:/):	0,250	1	09/1-/19 02:05	J8R	345-.0-
8otal Arsenic	**2.04**	m:/):	0,500	1	09/1-/19 02:05	J8R	345-.0-
8otal 6arium	**46.4**	m:/):	0,500	1	09/1-/19 02:05	6)N	345-.0-
8otal 6er;llium	**0.283**	m:/):	0,0500	1	09/1-/19 02:05	J8R	345-.0-
8otal Cadmium	**0.758**	m:/):	0,100	1	09/1-/19 12:25	J8R	34541..
8otal Cobalt	**23.2**	m:/):	0,500	1	09/1-/19 02:05	J8R	345-.0-
8otal C#romium	**34.3**	m:/):	0,250	1	09/1-/19 02:05	J8R	345-.0-
8otal Copper	**65.4**	m:/):	0,250	1	09/1-/19 02:05	J8R	345-.0-
8otal 4ol;bdenum	90,250	m:/):	0,250	1	09/1-/19 02:05	J8R	345-.0-
8otal Nic<el	**14.5**	m:/):	0,250	1	09/1-/19 12:25	J8R	34541..
8otal 3ead	**5.47**	m:/):	0,-00	1	09/1-/19 02:05	J8R	345-.0-
8otal Antimon;	90,500	m:/):	0,500	1	09/1-/19 02:05	J8R	345-.0-
8otal Selenium	90,500	m:/):	0,500	1	09/1-/19 12:25	J8R	34541..
8otal 8#allium	91,00	m:/):	1,00	1	09/1-/19 02:05	J8R	345-.0-
8otal =anadium	**138**	m:/):	0,500	1	09/1-/19 02:05	J8R	345-.0-
8otal >inc	**65.3**	m:/):	1,25	1	09/1-/19 02:05	J8R	345-.0-

Qualifiers/ Definitions ' / 'ilution /actor 4?3 4et#od ?uantitation 3imit

Waypoint ANALYTICAL

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

01944
)lein*elder, +nc,
-.0 Nort# /irst Street
Suite A
San Jose , CA 95112

0ro1ect +n*ormation : Costco$%l 'orado (ills pdated Ne! "are#ouse

Report Number : **19-253-0005**

REPORT OF ANALYSIS

Report 'ate : 09/12/2019
Received : 09/10/2019

3ab No : **75362**
Sample +' : **Composite**

4atri5: **Solids**
Sampled:

Analytical Method: S"$2421A **Prep Batch(es):** **L453537** 09/12/19 0.:00
Prep Method: S"$2421A @0R%0A

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
4ercur; @8otalA	**0.0218**	m:/):	0,015-	1	09/12/19 11:10	8JS	345-2-2

Qualifiers/ Definitions '/ 'ilution /actor 4?3 4et#od ?uantitation 3imit

APPENDIX C

Seismic Refraction Survey Results

ADVANCED GEOLOGICAL SERVICES

1605 School Street, #4
Moraga CA 94556
925 (808-8965)

August 20, 2019

Dan Dockendorf
Kleinfelder, Inc.
40 Clark St # J
Salinas, California 93901

Subject: Report
Phase II Seismic Refraction Survey
Silva Valley Parkway Development
El Dorado Hills, California

Dear Mr. Dockendorf:

1.0 INTRODUCTION

This letter presents the results of Advanced Geological Services, Inc. (AGS) seismic refraction survey in support of grading work at a 16-acre site north of Tong Road and west of Silva Valley Parkway in El Dorado Hills, California (Figure 1). The survey objective was to assess the depth and excavation characteristics (rippability) of bedrock. The survey was performed on August 7 and 8, 2019 by AGS senior geophysicist Roark W. Smith and his assistant. Field oversight was provided by Mr. Jordan Annand of Kleinfelder, who showed AGS the seismic line locations, which were marked in the field with wood stakes labeled with the seismic line number. The survey comprised seven seismic lines of varying lengths and orientations distributed across the site (Figure 2).



Figure 1- Phase II Site Location in El Dorado Hills CA

2.0 SUMMARY OF FINDINGS

- Three velocity layers were detected— Layer V_1 is the uppermost approximately1- to 7-foot thick low-velocity layer representing surficial soil. Layer V_2 is a medium-velocity (from about 3,985 to 6,000 fps) layer representing deeply-weathered bedrock. Layer V_3 is a high-velocity layer (12,200 to over 18,500 fps) representing little-weathered, ”hard” bedrock.

- On the basis of the Caterpillar Performance Handbook “rip chart”, the Layer V_3 “hard” bedrock at this site is classified as non-rippable. This non-rippable “hard” bedrock mostly occurs at depths ranging from 7 to 15 feet, but was found as shallow as one (1)

foot bgs along SL-4 in the western-central portion of the site and as deep as 42 feet along SL-6 in the eastern portion of the site. The refraction survey showed V_3 velocities ranging between 12,200 to over 18,500 fps, and the "rip chart" classifies metamorphic rock exhibiting P-wave velocities greater than 9,200 fps and "non-rippable" with a D9R tractor.

3.0 SITE DESCRIPTION

The survey consisted of seven seismic lines ranging from 230 to 600 feet in length; the lines were distributed across a 16-acre triangular-shaped area of gently rolling, grass-covered hills (Figure 2). It is worth noting that the site was seismically "noisy" at times due to vehicle traffic along the nearby Parkway.

4.0 SEISMIC REFRACTION METHOD OVERVIEW

The seismic refraction method uses compressional (P-) wave energy to delineate seismic velocity layers within the subsurface. Interpretation entails correlating the velocity layers to geologic features such as soil and various types of bedrock. To perform a refraction survey, an elastic wave (compressional, or P-wave) is generated at certain locations (shotpoints) along a survey line. The P-wave energy is usually produced by striking the ground with a sledgehammer. As the P-wave propagates through the ground it is refracted along boundaries between geologic layers with different seismic velocities.

Part of the refracted P-wave energy returns to the ground surface where it is detected by vibration-sensitive devices called geophones, which are placed in a co-linear array along the seismic survey line. The geophone data are fed to a seismograph, where they are recorded, and then to a computer, where they are analyzed to determine the depth and velocities of subsurface seismic layers. Key data for refraction analysis are the positions of the geophones and shotpoints along a seismic line, and the amount of time it takes for the refracted wave to travel from the shotpoint to each geophone location. Because the P-wave is the fastest traveling of all types of seismic waves, it can be readily identified as the first deflection ("first break") on a seismic trace.

Additional discussion of the refraction method, its limitations, and the relationship between seismic velocity and geologic materials is presented in Appendix A.

5.0 FIELD PROCEDURES

Due to the lack of vehicle access, AGS hand-carried the seismic gear to each line location. For each seismic line, AGS laid out a fiberglass tape measure and placed an array of 24 geophones on the ground at 10-foot to 20-foot intervals to form a seismic "spread" that measured from 230 to 300 feet long. For seismic lines longer than 300 feet (e.g., SL-7), AGS laid out a second spread to achieve the required line length. The geophones were coupled to the ground by means of 3-inch metal spikes attached to the geophone base. Three shotpoints were used along each spread, with shotpoints located five feet beyond each end of the geophone array and at the array midpoint. AGS produced P-waves through multiple impacts with a 16-lb sledge hammer against a metal plate placed on the ground surface at each shotpoint location. In general, 10 hammer blows were used ("stacked") at the end shotpoints and 5 blows were used at the center shotpoint.

The P-waves produced by the hammer impacts were detected using Mark Products 14-Hz geophones. The detected seismic signals were recorded using a DAQLink II seismic system connected to a laptop computer.

After the seismic data were obtained along each line, AGS performed a hand-level survey to measure the relative elevation changes along the line so that the ground surface topography could be incorporated into the data analysis. After the seismic survey was completed AGS used a Trimble Pro-XR Global Positioning System (GPS) to record the seismic line locations.

6.0 DATA PROCESSING AND ANALYSIS

In general, the refraction data quality is "good"; however, due to traffic noise from the nearby roadway the quality of some of the refraction data is only "fair". Regardless, for the most part the "first beaks" could be readily identified and picked on the seismic records. Data quality was enhanced by "stacking," which entailed using multiple hammer blows at each shotpoint location to improve the signal-to-noise ratio. The additive affect of stacking of multiple hammer blows at the same location enhances or increases the amplitude of the signal (i.e., the P-wave arrival) while amplitude of the background noise, which, being random in nature, tends to cancel itself on successive hammer blows and remains largely unchanged.

Seismic data were transferred from the seismograph to a desktop computer where they were processed using the *SeisImager* software package by Geometrics, Inc. Briefly, *SeisImager* is a computer inversion program that generates an initial velocity layer model, produces synthetic data from the model, and then adjusts the model so that the synthetic data better matches the observed field data. The agreement between the synthetic and observed data provides an indication of how well the model represents the true subsurface conditions.

First, AGS used the *SeisImager* module *PickWin* to interpret ("pick") the P-wave arrivals ("first breaks") for each of the shotpoint data sets ("shot gathers") per line. *PickWin* was also used to check (against the geophysicist's field log) that the proper locations were assigned to the geophones and shotpoints. Next, the first break files were fed to the SeisImager module *PlotRefra*, which was used review time-distance (TD) plots for the seismic lines and assign a seismic layer to each arrival time. For the refraction analysis, each P-wave arrival is considered to have refracted from a distinct seismic layer. The number of layers resolved by the seismic survey, and their thickness and average velocity, is indicated by straight line segments on the TD plot; because these straight-line segments represent a constant velocity condition within the subsurface, the tend to represent a distinct geologic layer. The topographic elevation files were incorporated into the analysis at this point. Next, a time-term inversion was performed to produce layered velocity models presented on Figures 3 through 7. Time-term inversion is a linear least-squares technique that uses the layer assignments and the distances and travel times between the shotpoints and the geophones to develop a velocity layer model that best fits the observed data.

7.0 RESULTS

The results of the seismic refraction survey are summarized on Table 1, below, and presented on Figures 2 through 7, which show the seismic line locations and the subsurface velocity layer

models that were calculated from the refraction data.

Overall, three velocity layers were detected— Layer V_1 is the uppermost approximately1- to 7-foot thick low-velocity layer representing surficial soil. Layer V_2 is a medium-velocity (from about 3,985 to 6,000 fps) layer representing deeply-weathered bedrock. Layer V_3 is a high-velocity layer (12,200 to over 18,500 fps) representing little-weathered, "hard" bedrock. Layer V_3 generally occurs at depths ranging between 7 to 15 feet bgs, but it is found as shallow as one (1) foot bgs to as deep as 42 feet bgs in places. The shallowest bedrock was detected in the northern portion of the site, along SL-1 and SL-2; the deepest along SL-6 in the eastern portion of the site.

On the basis of the Caterpillar Performance Handbook "rip chart", the Layer V_3 "hard" bedrock at this site is non-rippable. This non-rippable "hard" bedrock mostly occurs at depths ranging from 7 to 15 feet, but was found as shallow as one (1) foot bgs in the western-central portion of the site along SL-4 and as deep as 42 feet in the eastern portion of the site along SL-6. The refraction survey showed V_3 velocities ranging between 12,200 to over 18,500 fps, and the "rip chart" classifies metamorphic rock exhibiting P-wave velocities greater than 9,200 fps and "non-rippable" with a D9R tractor.

Velocity information from the seismic survey is summarized in Table 1; rippability information is summarized in Table 2.

Table 1 Velocity Summary (feet per second) from Layer Models

Seismic Line	Line Length (ft)	Layer V_1 (topsoil)	Layer V_2 (weathered bedrock)	Layer V_3 (little-weathered bedrock)	Approx depth to V_3 (feet)
SL-1	230	1,310	3,985	13,680	6 – 12
SL-2	230	1,305	6,030	13,820	8 – 15
SL-3	390	1,250	4,970	14,960	3 – 16
SL-4	250	1,100	4,210	16,225	1 – 5
SL-5	300	1,270	5,380	16,260	5 – 15
SL-6	600	1,790	5,995	12,210	17 – 42
SL-7	400	1,390	5,350	18,530	7 – 17

8.0 EXCAVATION CHARACTERISTICS (RIPPABILITY)

Seismic velocity charts relating seismic velocity and excavation characteristics have been developed from field tests by others. These charts list the seismic velocity of various types of bedrock materials and their relative ease of excavation using different types of rippers. Caterpillar Tractor Company publishes a performance manual that lists ripper performance charts for various size tractors and types of rippers.

The range of rippability obtained from the ripper performance chart from the Caterpillar Performance Handbook, 12th Edition (2000) is as follows (in feet per second):

Table 2 Rip Chart for Metamorphic Rock (from The Caterpillar Performance Handbook)

Ripper	Rippable	Marginally Rippable	Non-Rippable
D9R	less than 7,200	7,200 to 9,200	greater than 9,200

This information should only be used as a general guide, however, as many other factors should also be considered. These factors include the rock jointing and fracture patterns, the experience of the equipment operator, and the equipment and excavation methods selected. Based on the observed velocities, it appears that the subsurface bedrock beneath the seismic refraction lines is rippable for a D9R to the top of Layer V_3; however, this information should be combined with a complete and thorough analysis of geotechnical boring data, as well as local ripping experience (if available) to make a final assessment.

9.0 CLOSING

All geophysical data and field notes collected as a part of this investigation will be archived at the AGS office. The data collection and interpretation methods used in this investigation are consistent with standard practices applied to similar geophysical investigations. The correlation of geophysical responses with probable subsurface features is based on the past results of similar surveys although it is possible that some variation could exist at this site. Due to the nature of geophysical data, no guarantees can be made or implied regarding the targets identified or the presence or absence of additional objects or targets.

AGS appreciates working for you. We enjoyed this project and we look forward to working with you again.

Sincerely,

Roark W. Smith
Senior Geophysicist
Advanced Geological Services, Inc.

Figures:
- Figure 1 Seismic Refraction Survey Area (imbedded in Report text, above)
- Figure 2 Seismic Refraction Line Locations
- Figure 3 P-wave Velocity Layer Models, SL-1 & SL-2
- Figure 4 P-wave Velocity Layer Models, SL-3 & SL-4
- Figure 5 P-wave Velocity Layer Model, SL-5
- Figure 6 P-wave Velocity Layer Model, SL-6
- Figure 7 P-wave Velocity Layer Model, SL-7

Attachments: Appendix A: Seismic Velocity and Limitations of the Refraction Method



0 150 ft 300

ADVANCED GEOLOGICAL SERVICES

1605 School Street
Suite 4
Moraga, CA 94556
(925) 808-8965

Phase II Seismic Line Locations
Silva Valley Parkway
El Dorado Hills

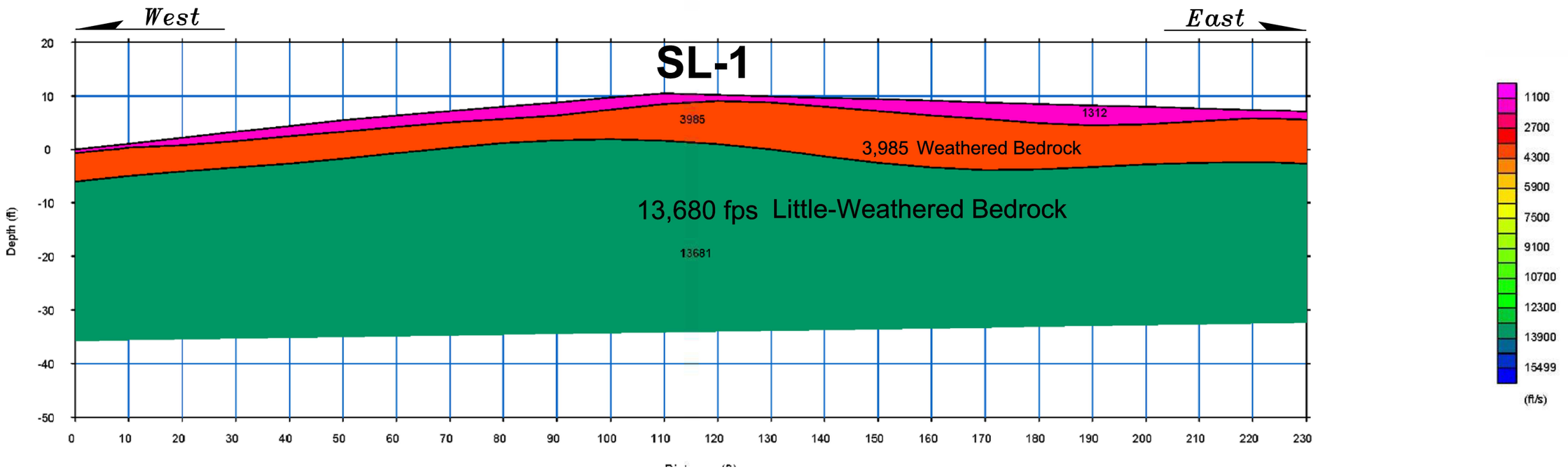
LOCATION: El Dorado Hills, California

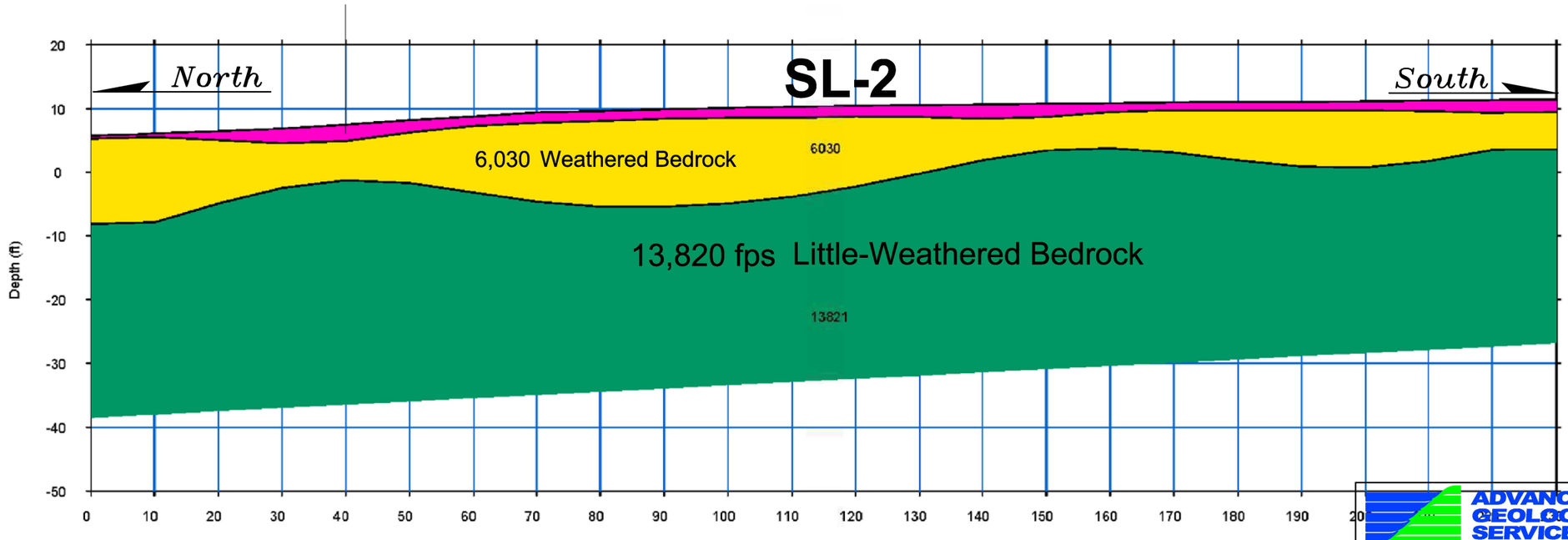
CLIENT: Kleinfelder, Inc.

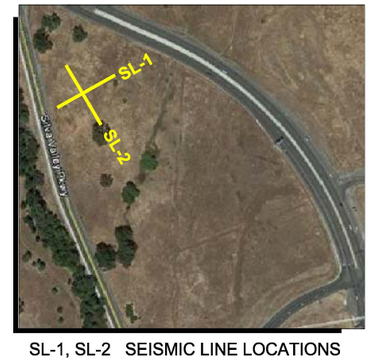
PROJECT #: 19-093-1CA

DATE: Aug 19, 2019 DRAWN BY: R. SMITH

FIGURE 2







SL-1, SL-2 SEISMIC LINE LOCATIONS

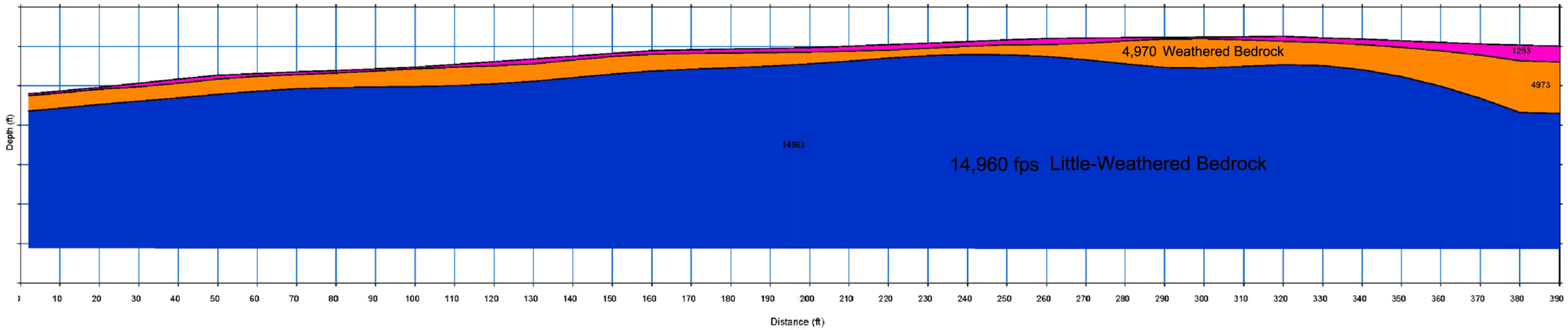
ADVANCED GEOLOGICAL SERVICES
1605 School Street
Suite 4
Moraga, CA 94556
(925) 808-8965

SL-1 & SL-2 P-Wave Velocity Layer Models
Silva Valley Parkway, Phase II
Seismic Refraction Investigation

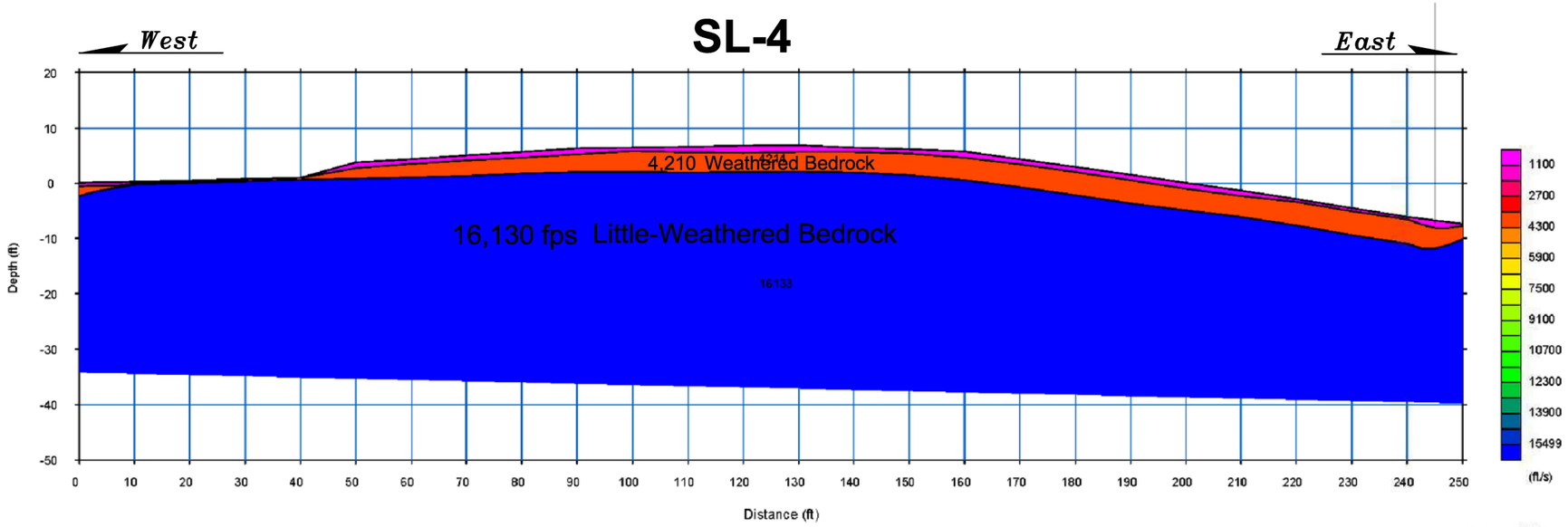
LOCATION: El Dorado Hills, California
CLIENT: Kleinfelder, Inc.
PROJECT #: 19-093-1CA
DATE: Aug 19, 2019
DRAWN BY: R. SMITH

FIGURE 3

SL-3



SL-4





SL-3 & SL-4 SEISMIC LINE LOCATIONS

ADVANCED GEOLOGICAL SERVICES

1605 School Street
Suite 4
Moraga, CA 94556
(925) 808-8965

SL-3 & SL-4 P-Wave Velocity Layer Models
Silva Valley Parkway, Phase II
Seismic Refraction Investigation

LOCATION: El Dorado Hills, California

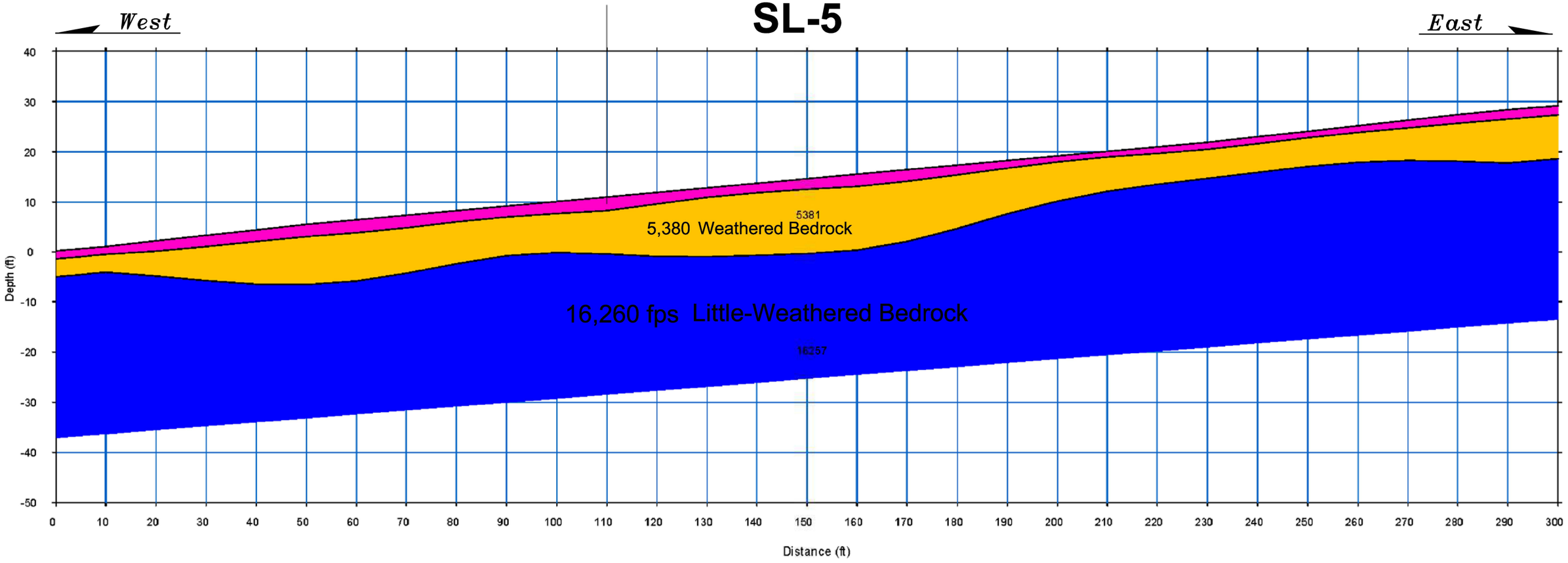
CLIENT: Kleinfelder, Inc.

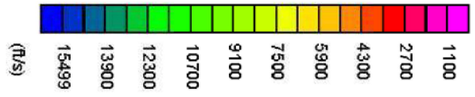
PROJECT #: 19-093-1CA

DATE: Aug 19, 2019 DRAWN BY: R. SMITH

FIGURE 4

SL-5







SL-5 SEISMIC LINE LOCATION

ADVANCED GEOLOGICAL SERVICES

1605 School Street
Suite 4
Moraga, CA 94556
(925) 808-8965

SL-5 P-Wave Velocity Layer Model
Silva Valley Parkway, Phase II
Seismic Refraction Investigation

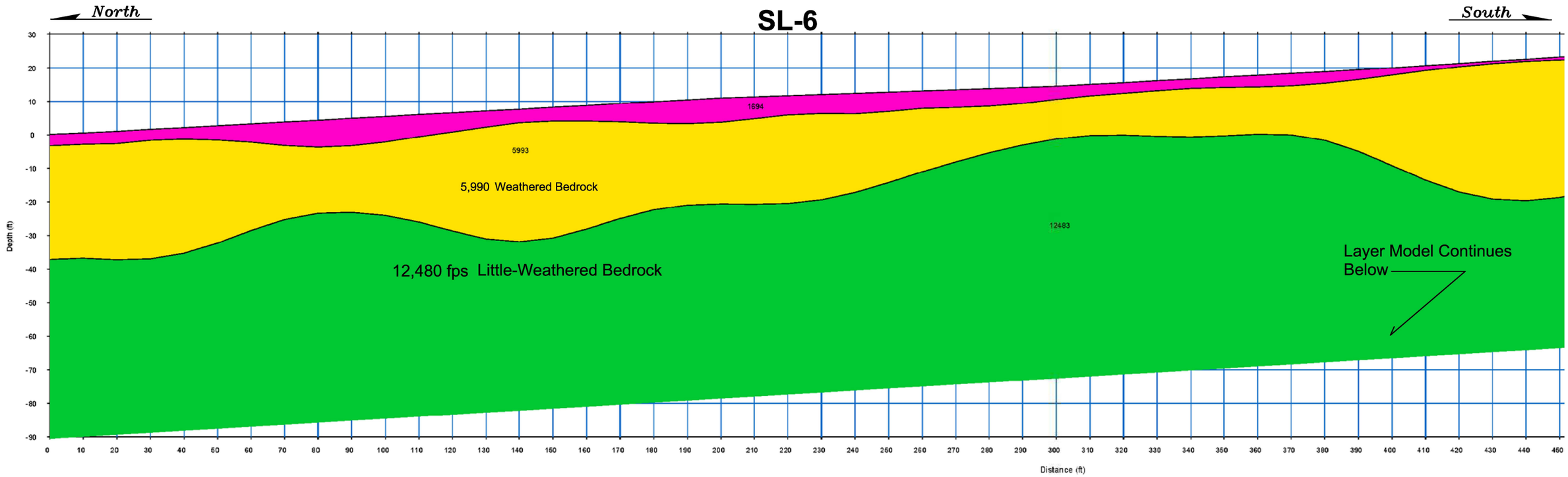
LOCATION: El Dorado Hills, California

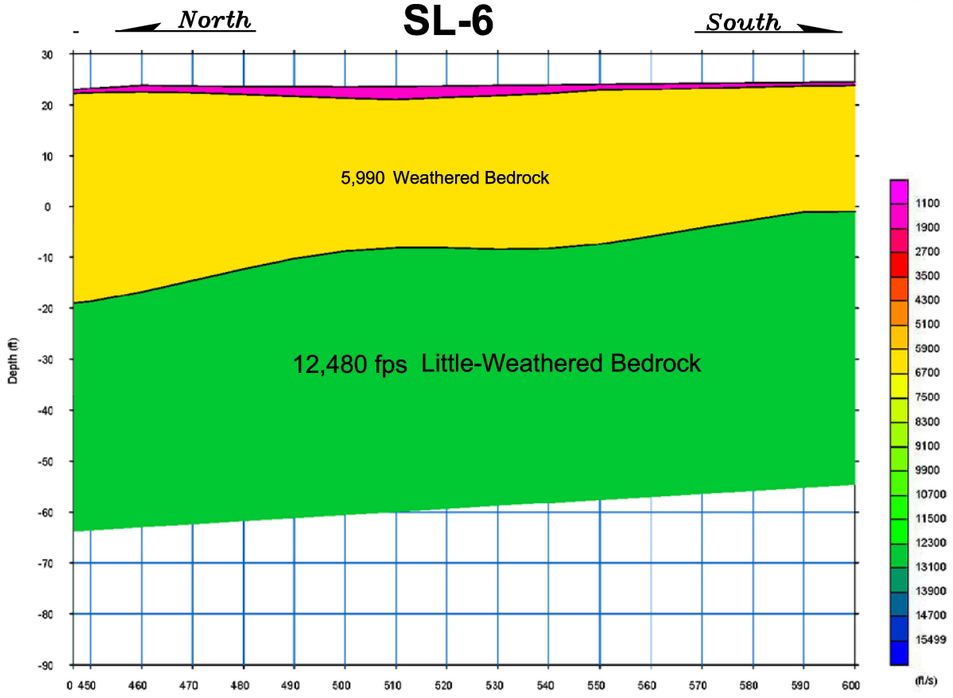
CLIENT: Kleinfelder, Inc.

PROJECT #: 19-093-1CA

DATE: Aug 19, 2019 DRAWN BY: R. SMITH

FIGURE 5







SL-6 SEISMIC LINE LOCATION

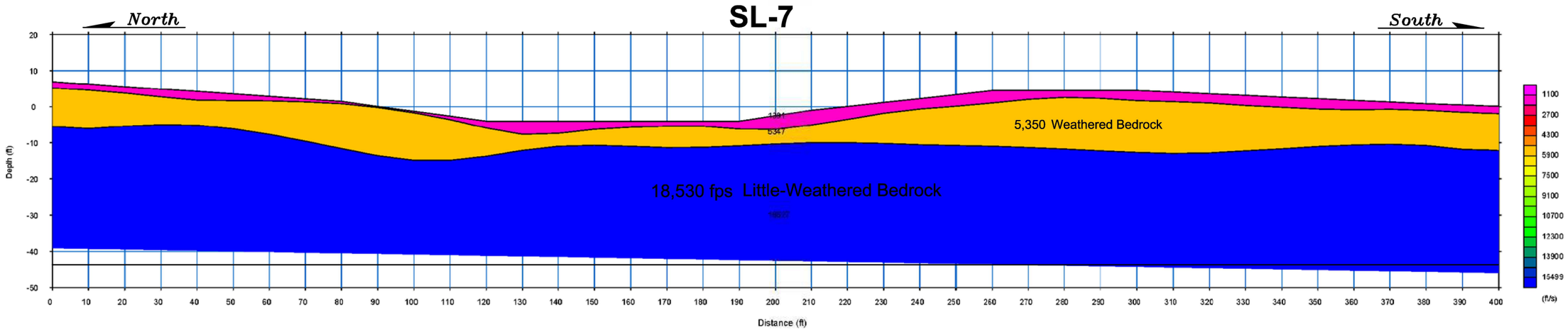
ADVANCED GEOLOGICAL SERVICES
1605 School Street
Suite 4
Moraga, CA 94556
(925) 808-8965

SL-6 P-Wave Velocity Layer Model
Silva Valley Parkway, Phase II
Seismic Refraction Investigation

LOCATION: El Dorado Hills, California
CLIENT: Kleinfelder, Inc.
PROJECT #: 19-093-1CA
DATE: Aug 19, 2019 DRAWN BY: R. SMITH

FIGURE 6

SL-7





SL-7 SEISMIC LINE LOCATION

ADVANCED GEOLOGICAL SERVICES

1605 School Street
Suite 4
Moraga, CA 94556
(925) 808-8965

SL-7 P-Wave Velocity Layer Model
Silva Valley Parkway, Phase II
Seismic Refraction Investigation

LOCATION: El Dorado Hills, California

CLIENT: Kleinfelder, Inc.

PROJECT #: 19-093-1CA

DATE: Aug 19, 2019 | DRAWN BY: R. SMITH

FIGURE 7

APPENDIX A

SEISMIC VELOCITY AND LIMITATIONS OF THE REFRACTION METHOD

The physical properties of earth materials (fill, sediment, rock) such as compaction, density, hardness, and induration dictate the corresponding seismic velocity of the material. Additionally, other factors such as bedding, fracturing, weathering, and saturation can also affect seismic velocity. In general, low velocities indicate loose soil, poorly compacted fill material, poorly to semi-consolidated sediments, deeply weathered, and highly fractured rock. Conversely, high velocities are indicative of competent rock or dense and highly compacted sediments and fill. The highest velocities are measured in unweathered and little fractured rock.

There are certain limitations associated with the seismic refraction method as applied for this investigation. These limitations are primarily based on assumptions that are made by the data analysis routine. The data analysis routine assumes that the velocities along the length of each spread are uniform. If there are localized zones within each layer where the velocities are higher or lower than indicated, the analysis routine will interpret these zones as changes in the surface topography of the underlying layer. A zone of higher velocity material would be interpreted as a low in the surface of the underlying layer. Zones of lower velocity material would be interpreted as a high in the underlying layer. The data analysis routine also assumes that the velocity of subsurface materials increase with depth. Therefore, if a layer exhibits velocities that are slower than those of the material above it, the slower layer will not be resolved. Also, a velocity layer may simply be too thin to be detected.

The quality of the field data is critical to the construction of an accurate depth and velocity profile. Strong, clear “first-break” information from refracted interfaces will make the data processing, analysis, and interpretation much more accurate and meaningful. Vibrational noise or poor subsurface conditions can decrease the ability to accurately locate and pick seismic waves from the interfaces.

Due to these and other limitations inherent to the seismic refraction method, resultant velocity cross-sections should be considered only as approximations of the subsurface conditions. The actual conditions may vary locally.

November 5, 2019
Kleinfelder Project No. 20193141.001A

Costco Wholesale
9 Corporate Park, Suite 230
Irvine, California 92606

Attention: Mr. Michael Okuma
Director of Real Estate Development

SUBJECT: **DRAFT Geotechnical Study**
Proposed Costco Wholesale Warehouse and Fuel Facility
Silva Valley Parkway
El Dorado Hills, California
CW# 18-0487

Dear Mr. Okuma

Kleinfelder is pleased to present this report summarizing our draft geotechnical study for the proposed Costco Wholesale warehouse and fuel facility located on Silva Valley Parkway in El Dorado Hills, California. The conclusions and recommendations presented in this report are subject to the limitations presented in Section 7.

We appreciate the opportunity to provide geotechnical engineering services to you on this project. If you have any questions regarding this report or if we can be of further service, please do not hesitate to contact Andrea Traum at 408.595.3275, or Andy Franks, Kleinfelder's Client Account Manager for Costco at 480.650.4905.

Sincerely,

KLEINFELDER, INC.

Dan Dockendorf, EIT
Staff Professional

Andrea Traum, PE, LEED AP
Senior Project Manager

© 2019 Kleinfelder
KLEINFELDER 380 North 1st Street, Suite A, San Jose, CA 95112 **p |** 831.755.7900

DRAFT GEOTECHNICAL STUDY
PROPOSED COSTCO WHOLESALE WAREHOUSE AND FUEL FACILITY
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA
CW# 18-0487
KLEINFELDER PROJECT NO. 20193141.001A

NOVEMBER 5, 2019

Copyright 2019 Kleinfelder
All Rights Reserved

ONLY THE CLIENT OR ITS DESIGNATED REPRESENTATIVES MAY USE THIS DOCUMENT AND ONLY FOR THE SPECIFIC PROJECT FOR WHICH THIS REPORT WAS PREPARED.

© 2019 Kleinfelder

A Report Prepared for:

Mr. Michael Okuma
Costco Wholesale
9 Corporate Park, Suite 230
Irvine, California 92606

DRAFT GEOTECHNICAL STUDY
PROPOSED COSTCO WHOLESALE
WAREHOUSE AND FUEL FACILITY
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA
CW# 18-0487

Prepared by:

Dan Dockendorf, EIT
Staff Professional

Reviewed by:

Brian E. Crystal, PE, GE
Principal Geotechnical Engineer

KLEINFELDER
380 North First Street, Suite A
San Jose, CA 95112
Phone: 831.755.7900

November 5, 2019
Kleinfelder Project No. 20193141.001A

© 2019 Kleinfelder

Geotechnical Investigation Summary Checklist for Costco Wholesale Projects

General Information

Costco Real Estate Main Contact: Michael Okuma
Geotechnical Main Contact: Andrea Traum (480-650-4905)
Geotechnical Engineer of Record: Kleinfelder
Project Location: Silva Valley Parkway
El Dorado Hills, CA
CW#: 18-0487
Warehouse #:
Report Date: November 5, 2019
Consultant Project/Document Number: 20193141.001A/SJO19R103500
Addendums (List):

Report Purpose: ☐ Preliminary ☒ Draft ☐ Final ☐ Addendum/Revision

	Yes	No or NA	Describe/ Comments	Report Section
Pre-existing Conditions/Information				
Developer provided geotechnical report (describe):	☐	☒		
Pre-existing development (describe)	☒	☐	Undeveloped land	2.1
Foundation type (describe):	☐	☒		
Performance Issues (describe):	☐	☒		
Environmental Issues (describe)	☐	☒		
Site Grading Records (stripping, compaction test results, field reports, etc.)	☐	☒		
Typical Building Structural Design Criteria				
Other (describe):	☒	☐		1.1
Building size (describe):	☒	☐	152,000 square-foot warehouse, fuel facility and 2 level parking structure	1.1
Typical wall loading				
3 kips / foot* (Metal Buildings)	☐	☒		
4.5 kips / foot* (CMU or pre-cast)	☒	☐		
Typical column loading				
120 kips in non-snow regions	☒	☐		
150 kips in snow regions	☐	☒		
Typical canopy loading:	☐	☒		
Typical floor slab loading				
500 pounds per square foot, (psf, total)	☒	☐		
250 psf (dead) at rack areas	☒	☐		
150 psf (dead) at non-rack areas	☒	☐		
350 psf (live)	☒	☐		
Paving Design (20 year life)				
Heavy Duty paving shall accommodate 30 trucks per day (Traffic Index of 7.0)	☒	☐		
Light Duty paving shall accommodate 6,600 cars per day (Traffic Index of 5.0)	☒	☐		
Performance Grade (PG) binder oil identified for local climate conditions	☒	☐	PG 64-10	4.9.3
Site Grading Conditions/Assumptions				
Deviations to Typical Criteria (list/describe):	☐	☒		
Design Finished Floor Elevation (FFE) (describe):	☒	☐	Approximately 729 feet	Figures 5-10
Basis for FFE (assumed, per Civil) (describe):	☐	☒		
Effects of change to assumed FFE (describe):	☐	☒		
Maximum anticipated cuts (describe):	☒	☐	Approximately 15-20 feet	Figures 5-10
Maximum anticipated fills (describe):	☒	☐	Approximately 20 feet	Figures 5-10
Cross sections prepared for sites that are not essentially flat	☒	☐	Sections A-A' through F-F''	Figures 5-10
Amount of import/export anticipated (describe):	☐	☒		

© 2019 Kleinfelder

	Yes	No or NA	Describe/ Comments	Report Section
Frost Depth (describe):	☐	☒		
Retaining walls	☐	☒		
Number of walls (describe):	☐	☒		
Height/Length of walls (describe):	☐	☒	10-15 feet	4.7
Wall construction/type (describe):	☐	☒	Not provided	4.7
Cut/fill transition in pad (describe):	☒	☐		Figures 5-10
Offsite Improvements (describe)	☐	☒		
Fieldwork/Results				
Costco Due Diligence Design Criteria				
Version (describe):	☒	☐	Version 2018, dated October 26, 2018	
Followed Criteria?	☒	☐		
Deviations to standard investigation (describe):	☐	☒		
Groundwater				
Depth (describe):	☐	☒	Perched GW encountered in TP-4/TP-6	3.3
Perched	☒	☐	Perched above rock contact anticipated	3.3
Expected seasonal fluctuation (describe):	☐	☒		
Piezometers installed?	☐	☒		
Unusual/Challenging Soils conditions encountered				
Moisture-sensitive soils	☒	☐		5.2.4
Undocumented fill	☐	☒		
Unsuitable soils (require removal)	☐	☒		
Wet soils	☒	☐		5.3
Debris	☐	☒		
Bedrock/potential non-rippable conditions	☒	☐		5.2.7
Refusal	☒	☐		Appendix A
Collapsible soils	☐	☒		3.4.5
Expansive soils	☐	☒		3.4.4
Compressible soils	☐	☒		
Liquefaction	☐	☒		3.4.3
Sinkholes	☐	☒		
Other (describe):	☐	☒		
Potential Contamination Identified				
Soil	☐	☒		
Groundwater	☐	☒		
Restoration of Disturbed Areas				
Backfilled with soil	☒	☐	Test pits backfilled with soil	Appendix A
Backfilled with grout	☒	☐	Borings Backfilled with grout	Appendix A
Other (describe):	☐	☐		
Topsoil samples collected/analyzed	☒	☐		Appendix B
Corrosivity testing performed/addressed	☒	☐		4.10
Report				
Executive summary	☒	☐		E-1
Wet weather construction recommendations	☒	☐		5.3
Pad winterization/pad recommendations	☐	☒		
Frost protection recommendations	☐	☒		
Design Parameters				
Fill material parameters provided				
Structural fill (below foundations, slabs)	☒	☐		5.2.5
Site grading fill (below pavements, flatwork)	☒	☐		5.2.6
Select backfill	☐	☒		
Trench backfill	☒	☐		5.2.10
Drainage fill	☐	☒		
Frost resistant fill	☐	☒		
Slab base aggregate	☒	☐	6” minimum	4.4

© 2019 Kleinfelder

	Yes	No or NA	Describe/ Comments	Report Section
Limits of debris/unsuitable removal provided	☒	☐		
Over-excavation/recompaction required	☒	☐		5.2
Depth (describe):	☒	☐	Excavate all residual/colluvial soils in fill areas; under the 4 to 6' below building pads at cut/fill transition	5.2.2
Extent (include cross-section diagram)	☒	☐		Figures 5-10
Pad subgrade stabilization required (describe):	☐	☒		
Surcharge	☐	☒		
Height (describe):	☐	☒		
Lateral extent (describe):	☐	☒		
Estimated duration (describe):	☐	☒		
Shallow Foundations	☒	☐	Warehouse Foundations, Fuel Facility Canopy, Parking Structure	4.3.2
psf allowable soil bearing pressure (describe):	☒	☐	3,000 psf	4.3.2
Deep Foundations	☒	☐	Drilled Piles	4.3.3
Type (describe):	☒	☐	Light Pole Foundations	4.3.3
Options and Value Engineering Matrix provided	☐	☒		
Floor Slabs				4.4
Unreinforced	☒	☐		
Reinforced (describe why)	☐	☒		
Subgrade modulus (describe):	☒	☐	150 pci	4.4
Base Material thickness (min 6") (describe):	☒	☐	Minimum 6" Class 2 AB	4.4
Seismic Conditions				
Governing Building Code (IBC, UBC, other)	☒	☐	2019 CBC	4.2
Geologic Hazard Identified	☒	☐		3.4
Proximity to earthquake fault zone(s)	☒	☐		3.4.1
Proximity to seismic hazard zone(s)	☒	☐		3.4.1
Potential for liquefaction	☐	☒		3.4.3
Potential for lateral spreading	☐	☒		3.4.3
Potential for seismic settlement	☐	☒		3.4.3
Potential for slope stability/landslides	☐	☒		3.4.2
Potential for ground shaking or geologic hazards	☒	☐		3.4
Retaining Walls	☐	☒		
Recommended Wall Types	☐	☒		
Recommend Kleinfelder Design	☐	☒		
Lateral earth pressure design values	☒	☐	Prelim values, no retaining wall specifications given	4.7
Active:	☒	☐	40 pcf	4.7
At-rest:	☒	☐	60 pcf	4.7
Passive:	☒	☐	300 pcf	4.7
Seismic:	☐	☒		
Backfill material, placement requirements	☐	☒		
Drainage requirements and cross-section drawing	☐	☒		
Finger Drains	☐	☒		
Required for frost	☐	☒		
Recommended for long term maintenance and constructability	☒	☐		4.6
Pavement				4.9
Pavement subgrade stabilization required (describe):	☐	☒		
Costco asphalt mix design specified	☒	☐	PG 64-10	4.9.3
Heavy and light duty pavement sections specified	☒	☐	Table 3	4.9.2
Alternative pavement sections identified	☐	☒		
Specification for offsite pavement sections included	☐	☒		
Data Gaps/Unknowns (describe):	☐	☒		

© 2019 Kleinfelder

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will not be adequate to develop geotechnical design recommendations for the project.

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it. A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read the report in its entirety. Do not rely on an executive summary. Do not read selective elements only. *Read and refer to the report in full.*

You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys. Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept*

responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are not final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals' plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction-phase observations.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for information purposes only.* To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures.* If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer's services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, ***proper implementation of the geotechnical engineer's recommendations will not of itself be sufficient to prevent moisture infiltration. Confront the risk of moisture infiltration*** by including building-envelope or mold specialists on the design team. ***Geotechnical engineers are not building-envelope or mold specialists.***

GEOPROFESSIONAL BUSINESS ASSOCIATION

Telephone: 301/565-2733
e-mail: info@geoprofessional.org www.geoprofessional.org

Copyright 2019 by Geoprofessional Business Association (GBA). Duplication, reproduction, or copying of this document, in whole or in part, by any means whatsoever, is strictly prohibited, except with GBA's specific written permission. Excerpting, quoting, or otherwise extracting wording from this document is permitted only with the express written permission of GBA, and only for purposes of scholarly research or book review. Only members of GBA may use this document or its wording as a complement to or as an element of a report of any kind. Any other firm, individual, or other entity that so uses this document without being a GBA member could be committing negligent or intentional (fraudulent) misrepresentation.

TABLE OF CONTENTS

Section **Page**

EXECUTIVE SUMMARY 4

1 **INTRODUCTION 10**
- 1.1 PROJECT DESCRIPTION 10
- 1.2 SCOPE OF SERVICES 11
  - 1.2.1 Task 1 – Background Data Review 11
  - 1.2.2 Task 2 – Field Exploration 11
  - 1.2.3 Task 3 – Laboratory Testing 12
  - 1.2.4 Task 4 – Geotechnical Analyses 13
  - 1.2.5 Task 5 – Report Preparation 13

2 **SITE CONDITIONS 15**
- 2.1 SITE DESCRIPTION 15

3 **GEOLOGY 16**
- 3.1 GEOLOGIC SETTING 16
  - 3.1.1 Regional Geology 16
  - 3.1.2 Site Geology 16
- 3.2 SUBSURFACE CONDITIONS 16
- 3.3 GROUNDWATER 17
- 3.4 ASSESSMENT OF POTENTIAL GEOLOGIC HAZARDS 17
  - 3.4.1 Localized Faulting 17
  - 3.4.2 Landsliding 18
  - 3.4.3 Liquefaction and Seismic Compression 18
  - 3.4.4 Expansive Soils 19
  - 3.4.5 Collapsible Soils 19
  - 3.4.6 Subsidence 20
  - 3.4.7 Flooding 20
  - 3.4.8 Oil and Gas Fields 20
  - 3.4.9 Naturally Occurring Asbestos 20

4 **GEOTECHNICAL DESIGN RECOMMENDATIONS 22**
- 4.1 GENERAL 22
- 4.2 2019 CALIFORNIA BUILDING CODE 25
- 4.3 FOUNDATIONS 26
  - 4.3.1 General 26
  - 4.3.2 Shallow Foundations 26
  - 4.3.3 Drilled Pile Foundations (Light Pole Foundations) 27
- 4.4 BUILDING SLAB-ON-GRADE 28
- 4.5 EXTERIOR FLATWORK 29
- 4.6 SITE DRAINAGE 29
- 4.7 RETAINING STRUCTURES 30
- 4.8 PERMANENT SLOPES 32
- 4.9 PAVEMENT SECTIONS 33
  - 4.9.1 Costco Pavement Design Parameters 33
  - 4.9.2 Asphalt Concrete Pavement 33
  - 4.9.3 Asphalt Performance Grade Binder 34

© 2019 Kleinfelder

4.9.4 Portland Cement Concrete Pavement 34
4.9.5 Aggregate Base 35
4.9.6 Pavement Maintenance 35
4.10 SOIL CORROSIVITY 35
4.11 STORMWATER MANAGEMENT 36

5 CONSTRUCTION RECOMMENDATIONS 37
5.1 GENERAL 37
5.2 EARTHWORK 37
5.2.1 General 37
5.2.2 Site Preparation 37
5.2.3 Permanent Slopes 38
5.2.4 Temporary Excavations 38
5.2.5 Excavation Characteristics 39
5.2.6 Foundation Excavations 39
5.2.7 Fill Material and Compaction Criteria 40
5.2.8 Groundwater Impacts 43
5.2.9 Trench Backfill 44
5.3 UNSTABLE SUBGRADE CONDITIONS 45
5.4 EXTERIOR FLATWORK 46
5.5 PAVEMENTS 46
5.5.1 HMA Design 46
5.5.2 Construction Considerations 47

6 ADDITIONAL SERVICES 48
6.1 PLANS AND SPECIFICATIONS REVIEW 48
6.2 CONSTRUCTION OBSERVATION AND TESTING 48

7 LIMITATIONS 49

8 REFERENCES 52

TABLES

1 2019 CBC Seismic Design Parameters 26
2 Lateral Earth Pressures for Retaining Structures (Granular Backfill) 31
3 Recommended Minimum Asphalt Concrete Pavement Sections 34
4 Corrosion Test Results 35
5 Structural Fill Placement and Compaction Criteria 43

FIGURES

1 Site Location Map
2 Exploration Location Map
3 Regional Geology Map
4 Naturally Occurring Asbestos Map
5 Cross Section A-A’
6 Cross Section B-B’
7 Cross Section C-C’
8 Cross Section D-D’
9 Cross Section E-E’
10 Cross Section F-F’

© 2019 Kleinfelder

11 Typical Engineered Fill Slope/Benching Detail
12 Canyon Subdrain Detail

APPENDICES

A Field Explorations
B Laboratory Testing
C Seismic Refraction Survey

© 2019 Kleinfelder

EXECUTIVE SUMMARY

This report presents the results of Kleinfelder's geotechnical study for proposed Costco Wholesale warehouse and fuel facility (CW# 18-0487) located on Silva Valley Parkway in El Dorado Hills, California. The purpose of our geotechnical study was to evaluate soil/bedrock and groundwater conditions at the site and provide geotechnical recommendations for project design and construction. We based our study on the Costco Wholesale Development Requirements (CWDRs), Version 2018, revised October 26, 2018.

Kleinfelder understands Costco plans to purchase an approximately 17-acre, commercially-zoned site on the southwest side of Silva Valley Parkway north of Highway 50 in El Dorado Hills, California and construct an approximately 152,000-square foot warehouse and fuel facility. The building will be a single-story, steel-framed structure (30 feet in height) with concrete-masonry-unit and metal walls. Based on the CWDRs, we understand maximum column loads will be on the order of 120 kips for non-snow regions, typical wall loads will be approximately 4.5 kips per lineal foot, and the total slab load (dead plus live loads) will be approximately 500 psf.

In addition, immediately west of the warehouse facility, a two-level parking structure will be constructed, which will service the majority of the parking at the site. Structural loading is not currently available; however, based on past experience, maximum column loads for the parking structure is anticipated to be on the order of 250 kips for interior columns and 125 kips for exterior columns, respectively. Additional surface parking and landscape islands are also planned around the new fuel facility located on the northern portion of the property. Parking and drive areas will be paved with either Portland cement concrete or asphalt concrete pavement.

The site is located between Silva Valley Parkway and US Highway 50 in El Dorado Hills, California. The site is currently bounded by Silva Valley Parkway to the north and east, the southbound US Highway 50 on-ramp to the south, and Clarksville Crossing to the west. The site is undeveloped with rolling hills running from east to west with ground surface elevations between approximately 705 to 755 feet. At the time of our field exploration, much of the site was covered by low-lying vegetation (weeds and shrubs) and animal burrows. Additionally, a seasonal creek runs through the property from east to west.

Based on preliminary grading plans provided by Kier and Wright (Civil Engineer), we understand that the finished floor elevation for the warehouse building slab will be established at Elevation

© 2019 Kleinfelder

729 feet. The upper level of the parking structure will match the surface grades surrounding the warehouse building at elevations ranging between 724 and 729 feet. The lower level of the parking structure will be set about 12 feet below the upper level. The warehouse building footprint is situated on a cut/fill transitional area with cuts up to approximately 20 feet in the eastern side of the building and fills up to approximately 10 to 15 feet along the western side of the building. Conversely, the proposed parking structure on the western side of the site is located mostly in fills of approximately 5 to 10 feet in depth. The preliminary grading plans show this site to be balanced. Retaining walls will be constructed on the southern and eastern sides of the warehouse building and west of the fuel facility. Retaining wall types have not been determined at this time; however, rockeries are being considered.

Subsurface conditions at the site were explored by drilling 3 borings/rock cores, excavating 26 test pits and performing a seismic refraction survey. The seismic refraction survey was used to evaluate the excavatability (rippability) of the bedrock rock material. A total of 2 boring/rock cores and 15 test pits were drilled/excavated in the warehouse building area; 1 boring/rock core and 2 test pits were excavated within the fuel facility area, 5 test pits were excavated within the future parking structure; and 4 test pits were excavated in the proposed parking lot areas. The borings were drilled using track-mounted hollow-stem-auger drilling equipment with rock coring abilities to depths of between approximately 8½ to 25 feet below the existing ground surface (bgs). The proposed exploration plan also included a fourth rock coring location (KB-2) at the northeastern corner of the new warehouse location. This location was not drilled due to very hard drilling conditions throughout the course of the field exploration.

Subsurface materials encountered during the explorations consisted of colluvium/residual soil overlying bedrock. The colluvium/residual soil consisted primarily of clayey soils with varying amounts of silt and gravel and varied in depth from approximately 1 to 5½ feet bgs. Below the colluvium/residual soil, bedrock comprised of weathered and fractured metavolcanic rock underlain by little-weathered, intact rock. The rock increased in strength and decreased in weathering and fracture amount with depth, as shown on Figures 5 through 10 and the seismic refraction survey report (Appendix C). Localized deposits of artificial fill were encountered in a few test pits. The fill consisted of sandy lean clays with variable amounts of gravel and cobbles. Perched groundwater was encountered in Test Pits TP-4 and TP-6 at depths of approximately 7 to 8 feet bgs. These test pits were located near a seasonal creek, which runs through the property. During Kleinfelder's investigation of the adjacent property in April of 2019, this creek

© 2019 Kleinfelder

had been flowing rapidly and all excavated test pits encountered perched water near bedrock contact.

Based on the results of our prior field exploration, and observations during this exploration, it is our professional opinion that the proposed project is geotechnically feasible, provided the recommendations presented in the geotechnical report are incorporated into the project design and construction. We identified the following key geotechnical considerations during our study.

- The primary geotechnical consideration for site development is the excavatability of the rock and the construction of fills to achieve the finished grades. The seismic refraction survey results (Appendix C) indicate the initial weathered rock layer with compression wave velocities (Vp) ranging between 3,985 to 6,030 feet per second is located approximately 1 to 3 below existing grades and extends as deep as 30 feet below grade within the warehouse building cut. Based on Caterpillar's Handbook of Ripping (2000), rock exhibiting seismic velocities in this range are marginally rippable using a D9R dozer equipped with multi or single shank ripper(s). Underlying this layer is a less weathered rock zone with compression wave velocities ranging between 12,210 to 18,530 feet per second and is located as shallow as 5 to 10 feet below grade within eastern cut for the warehouse building and the fuel facility cut area on the northern portion of the site. Localized blasting will likely be needed to excavate less weathered rock. In addition, crushing and screening operations will likely be required to produce efficient rock fragmentation of the rock (both weathered and less weathered rock) for re-use onsite as structural fill.
- Based on the preliminary grading plan, the warehouse building footprint is situated on a bedrock cut/fill transitional area with cuts up to approximately 20 feet in the eastern side of the building and fills up to approximately 10 to 15 feet along the western side of the building. To provide uniform support for the proposed warehouse building and to reduce the adverse effects of abrupt differential settlement due the cut/fill transition and variability in fill thickness across the building pad, we recommend the bedrock should be undercut by at least 6 feet below the finished floor elevation and backfilled with structural fill. In addition, cut/fill transitions are situated below small areas of the parking structure's lower level. Beneath the parking structure, we recommend the bedrock should be undercut by at least 4 feet below the finished floor elevation and backfilled with structural fill.

© 2019 Kleinfelder

- The residual soil/colluvial layer should excavated to underlying weathered rock contact and stockpiled on site for reuse as structural fill. An estimate of the residual soil/colluvial layer thickness is shown on the cross sections (Figures 5 through 10).
- Prior to grading and subgrade preparation, all vegetation should be cut and removed from the site. Roots and vegetative matter in excess of one inch should be removed by screening or raking soils to a minimum depth of 12 inches. Other than plant roots, organic matter in the topsoil is minimal based on our laboratory testing (between one and three percent). The topsoil can be re-used on site in fills.
- Due to the composition of the bedrock, it will not reduce to a soil-like material when excavated and will not be suitable for re-use as structural fill. However, the bedrock material may be crushed, processed and re-used onsite as structural fill as described below. Rock fragments up to 12 inches in size may be used in structural fills 10 or more feet below finished subgrade elevation, but not within 10 feet of a slope face. Rock fragments greater than 6 inches in size should not be used in the upper 10 feet of site fills. Rock fragments greater than 3 inches in size should not be used in the upper 3 feet of fills below the Costco warehouse building. There may be an opportunity for larger sized rocks and boulders between 12 and 24 inches in size to be re-used at the base of slopes or in landscape areas. A rock that cannot be crushed or screened to above size criteria should be removed off site.
- Rocks up to 12 inches in size may be placed in the deeper portions of structural fills as noted above provided they are thoroughly mixed with soils to avoid excessive concentrations of rock fragments. Over-sized materials (between 6 and 12 inches) should be placed in windrows or otherwise be placed under the observation of the geotechnical engineer's representative in a manner to avoid nesting or voids. Fills should be placed in lifts slightly thicker than the largest particle size and proof-rolled with a D-9 or larger Caterpillar dozer making at least 5 complete passes over each lift. Periodic test pits should be excavated into each compacted lift to confirm the rock fill is being placed in a uniform, dense manner with no nesting or voids.
- After stripping the site and prior to filling in the seasonal creek, which runs from east to west through the site, subdrains should be installed within the creek bottom. This creek was observed to be flowing rapidly during our initial investigation of the adjacent site in April 2019.

© 2019 Kleinfelder

- Rainfall will infiltrate near surface soils and collect on less permeable soil and rock at shallow depth. Therefore, perched groundwater will likely be present at or near subgrade level across the entire site during and after rainfall events.
- Although preliminary grading plans show that this site will be balanced, it is anticipated that crushing and processing the harder rock layers will prove challenging and may require soil to be imported onsite. Import materials, if required, should have a Plasticity Index of less than 10 with no less than 70 percent passing the No. 4 sieve, no more than 30 percent of the particles passing the No. 200 sieve, and no particles greater than 3 inches in maximum dimension. The maximum Plasticity Index for imported soils may be modified upon approval by Costco depending on its proposed use. The contractor should provide documentation to Costco that imported fill is free of hazardous materials, including petroleum or petroleum byproducts, chemicals and harmful minerals prior to its transportation and use on site.
- Permanent slopes should be constructed at an inclination of 2:1 (horizontal to vertical) or flatter.
- Retaining wall types have not been determined at this time; however, we understand rockeries are being considered. Kleinfelder has provided recommendations for cantilever retaining walls. Rockeries are designed and constructed by a design-build specialty contractor.
- The proposed Costco warehouse building, fuel facility canopy, and parking structure foundations may be supported on a conventional shallow foundation system. Proposed light poles located in the parking lot may be supported on short drilled pile foundations.
- Pursuant to current Costco Wholesale standard construction design practices, we have evaluated whether steel reinforcement is needed within the floor slab. Based on the geotechnical characteristics of the site, the proposed warehouse can be built with a non-reinforced slab.
- Kleinfelder typically recommends installation of a vapor barrier beneath the slab to mitigate potential moisture issues such as flooring performance and mold. However, we understand that Costco Wholesale has determined that moisture barriers are not to be used in construction of Costco Wholesale warehouses due to adverse effects on concrete curing and performance. Therefore, we have provided construction recommendations that do not include installation of a moisture barrier, with the understanding that there will be an increased risk for adverse moisture issues.

© 2019 Kleinfelder

- The residual soil/colluvium is anticipated to be used near the finished subgrade levels around the site. Because this material drains poorly, we recommend radial finger drains below new pavement sections. Additionally, planters should be detailed such that water exiting from them will not seep into the foundation areas or beneath slabs and pavement.
- Based on the current grading plan and understanding of the regional geology, we classify the site as Seismic Site Class C.
- Performance grade (PG) binder oil of 64-10 should be used asphalt concrete pavements and is locally available.
- The minimum resistivity of the samples tested indicate that the soil may be corrosive towards ferrous metals. The concentrations of soluble sulfates indicate that the subsurface soils represent a Class S0 exposure to sulfate attack on concrete in contact with the soil based on ACI 318-14 Table 19.3.1.1 (ACI, 2014). Therefore, in accordance with ACI Building Code 318-14, no special provisions for selection of cement type are required.
- Based on visual soil classification and laboratory testing of the soil samples collected during our field exploration, the upper approximately 1 to 5 feet of the subsurface soils consist predominantly lean sandy clays underlain with highly fractured highly weathered metavolcanic rock. Based on the soil classification, and gradation tests, water infiltration is expected to be very low. We recommend alternatives to infiltration BMPs, such as bio-filtration/bio-retention systems (bio-swales and planter boxes), be implemented at the Costco site.

The findings, conclusions, and recommendations presented in this executive summary should not be relied upon without consulting our geotechnical report for more information. The conclusions and recommendations presented in this report are subject to the limitations presented in Section 7.

© 2019 Kleinfelder

1 INTRODUCTION

This report presents the results of Kleinfelder's geotechnical study for proposed Costco Wholesale warehouse and fuel facility (CW# 18-0487) located at Silva Valley Parkway in El Dorado Hills, California. The location of the project site is presented on Figure 1, Site Location Map. The purpose of our geotechnical study was to evaluate soil/bedrock and groundwater conditions at the site and provide geotechnical recommendations for project design and construction. The scope of our services was presented in our change order and revised proposal titled, "Proposal for Geotechnical Study – New Site, Proposed Costco Wholesale Warehouse and Fuel Facility Silva Valley Parkway, El Dorado Hills, California 95762, CW#18-0487," dated August 19, 2019. We based our study on the Costco Wholesale Development Requirements (CWDRs), Version 2018, revised October 26, 2018.

This report presents a description of the services performed, a discussion of the geotechnical conditions observed at the site, and recommendations developed from our engineering analyses of field and laboratory data. Individuals using this report should read the limitations presented in Section 7.

1.1 PROJECT DESCRIPTION

Kleinfelder understands Costco plans to purchase an approximately 17-acre, commercially-zoned site on the southwest side of Silva Valley Parkway north of Highway 50 in El Dorado Hills, California and construct an approximately 152,000-square foot warehouse and fuel facility. The building will be a single-story, steel-framed structure (30 feet in height) with concrete-masonry-unit and metal walls. Based on the CWDRs, we understand maximum column loads will be on the order of 120 kips for non-snow regions, typical wall loads will be approximately 4.5 kips per lineal foot, and the total slab load (dead plus live loads) will be approximately 500 psf.

In addition, immediately west of the warehouse facility, a two-level parking structure will be constructed, which will service the majority of the parking at the site. Structural loading is not currently available; however, based on past experience, maximum column loads for the parking structure is anticipated to be on the order of 250 kips for interior columns and 125 kips for exterior columns, respectively. Additional surface parking and landscape islands are also planned around the new fuel facility located on the northern portion of the property. Parking and drive areas will be paved with either Portland cement concrete or asphalt concrete pavement.

© 2019 Kleinfelder

Based on preliminary grading plans provided by Kier and Wright (Civil Engineer), we understand that the finished floor elevation for the warehouse building slab will be established at Elevation 729 feet. The upper level of the parking structure will match the surface grades surrounding the warehouse building at elevations ranging between 724 and 728 feet. The lower level of the parking structure will be set about 12 feet below the upper level. The warehouse building footprint is situated on a cut/fill transitional area with cuts up to approximately 20 feet in the eastern side of the building and fills up to approximately 10 to 15 feet along the western side of the building. Conversely, the proposed parking structure on the western side of the site is located mostly in fills of approximately 5 to 10 feet in depth. The preliminary grading plans show this site to be balanced. Retaining walls will be constructed on the southern and eastern sides of the warehouse building and west of the fuel facility. Retaining wall types have not been determined at this time; however, rockeries are being considered.

1.2 SCOPE OF SERVICES

The scope of our geotechnical study consisted of a literature review, subsurface explorations, geotechnical laboratory testing, engineering evaluation and analysis, and preparation of this report. Studies to assess environmental hazards that may affect the soil and groundwater at the site were beyond our geotechnical scope of services. The following paragraphs present a description of our services.

1.2.1 Task 1 – Background Data Review

We reviewed readily-available published and unpublished geologic literature in our files and the files of public agencies, including selected publications prepared by the California Geological Survey and the U.S. Geological Survey. Readily-available on-line photos were reviewed for past site development and use. We also reviewed readily available seismic and faulting information, including data for designated earthquake fault zones as well as our in-house database of faulting in the general site vicinity.

1.2.2 Task 2 – Field Exploration

Subsurface conditions at the site were explored by drilling 3 borings/rock cores, excavating 26 test pits and performing a seismic refraction survey. The seismic refraction survey was used to evaluate the excavatability (rippability) of the bedrock rock material. A total of 2 boring/rock cores and 15 test pits were drilled/excavated in the warehouse building area; 1 boring/rock core

© 2019 Kleinfelder

and 2 test pits were excavated within the fuel facility area, 5 test pits were excavated within the future parking structure; and 4 test pits were excavated in the proposed parking lot areas. The borings were drilled using track-mounted hollow-stem-auger drilling equipment with rock coring abilities to depths of between approximately 8½ to 25 feet below the existing ground surface (bgs). The proposed exploration plan also included a fourth rock coring location (KB-2) at the northeastern corner of the new warehouse location. This location was not drilled due to very hard drilling conditions throughout the course of the field exploration. Test pits were excavated with a John Deere 50G track excavator to depths ranging from 2 to 10 feet bgs. The explorations are shown graphically on Figure 2, Exploration Location Map.

Prior to commencement of the fieldwork, Underground Service Alert (USA) was notified and various geophysical techniques were used at the boring and test pit locations to identify potential conflicts with subsurface structures. A Kleinfelder staff engineer supervised the field operations and logged the explorations. Selected samples were retrieved, placed in plastic bags or sealed, and transported to our laboratory for further evaluation. Descriptions used on the logs result from field observations and data, as well as from laboratory test data. Stratification lines on the logs represent the approximate boundary between soil and/or rock types, and the actual transition may vary and can be gradual. Appendix A presents a description of the field exploration program, exploration logs, test pit logs and a legend of terms and symbols used on the logs.

1.2.3 Task 3 – Laboratory Testing

Laboratory testing was performed on representative bulk and relatively undisturbed samples to assist in soil classification and development of engineering parameters for geotechnical design. Laboratory testing comprised moisture content, Atterberg limits, R-value, and unconfined compressive strength tests and were performed by our in-house laboratory. Corrosivity testing was performed by AP Engineering & Testing, Inc. of Pomona, California.

Analytical testing was performed on a composite topsoil sample for essential elements in accordance with CWDRs topsoil samples were tested for organic content. The topsoil analysis and organic content testing was performed by Waypoint Analytical of Anaheim, California to assess soil fertility, localized concentrations of various metals and organic content. All in-house and subcontracted laboratory test results are shown in Appendix B of this report.

© 2019 Kleinfelder

1.2.4 Task 4 – Geotechnical Analyses

We analyzed field and laboratory data in conjunction with the finished grades, warehouse layout, and structural loads to provide geotechnical recommendations for design and construction. We evaluated feasible foundation systems, concrete slab support, pavement design, and earthwork. Seismic design parameters in accordance with the 2019 California Building Code (CBC) are also presented.

1.2.5 Task 5 – Report Preparation

This report summarizes the services performed, data acquired, and our findings, conclusions, and geotechnical recommendations for the design and construction of the proposed improvements. Our report includes the following items:

- Vicinity map and field exploration location map showing the approximate boring and test pit locations;
- Boring and test pit logs (Appendix A);
- Results of laboratory testing including topsoil analytical testing (Appendix B);
- Seismic refraction survey performed by Advanced Geological Services (Appendix C);
- Cross section figures detailing subsurface soils encountered and recommended overexcavation amounts across the building pad and parking lot areas;
- Discussion of general site conditions;
- Discussion of general subsurface conditions as encountered in our field exploration;
- Discussion of regional and local geology;
- Recommendations for seismic design parameters in accordance with Chapter 16 of the 2019 CBC;
- Recommendations for foundation design, allowable bearing pressures, embedment depths, and compatibility constraints under various loading conditions;
- Anticipated total and differential static settlements;
- Recommendations for site preparation, earthwork, temporary slope inclinations, fill placement, and compaction specifications, including the excavation characteristics of bedrock;
- Recommendations for support of floor slabs and slabs-on-grade;

© 2019 Kleinfelder

- Recommendations for flexible and rigid pavement structural sections for light- and heavy-duty pavement based on Equivalent Single Axle loading presented in the CWDRs;
- Recommendations for design of retaining structures, including active and at-rest lateral earth pressures, passive and frictional resistance, and applicable surcharge loads; and
- Preliminary evaluation of the corrosion potential of the on-site soils

© 2019 Kleinfelder

2 SITE CONDITIONS

2.1 SITE DESCRIPTION

The proposed Costco site is located between Silva Valley Parkway and US Highway 50 in El Dorado Hills, California, as presented on Figure 1. The site is currently bounded by Silva Valley Parkway to the north and east, the southbound US Highway 50 on-ramp to the south, and Clarksville Crossing to the west. The land is zoned as commercial and is located around ¼ mile south of Oak Meadow Elementary school and the Serrano residential development.

At the time of our field exploration, the site was an undeveloped field with rolling hills generally sloping from east to west with ground surface elevations ranging from approximately 705 to 755 feet. Much of the site was covered by low-lying vegetation (weeds and shrubs) and animal burrows as well as some native trees. Outcropping rocks were also visible throughout the site. Additionally, a seasonal creek separating the proposed warehouse and parking structure locations from the proposed fuel facility runs through the property from east to west. This creek was dry during our September 2019 investigation but was observed to be flowing during our initial field exploration of the adjacent property in April of 2019.

An unfinished portion (~100 feet long) of Tong Road resides on the southwest corner of the property. Based on site reconnaissance, no existing structures sat on this land prior to the investigation with no utility company easements running through the property.

© 2019 Kleinfelder

3 GEOLOGY

3.1 GEOLOGIC SETTING

3.1.1 Regional Geology

The subject site is situated in the gently rolling topography that forms the western foothills of the Sierra Nevada Mountains. The western foothills are broadly tilted, dipping westward, and uplifted increasingly to the east, due to maximum uplift of the Sierra Nevada at its eastern edge. The Sierra Nevada is comprised mostly of large, north-south elongated blocks of Mesozoic granitic terrain forming the backbone of California. The foothills in the project vicinity consist of a northwest-trending belt of metamorphosed volcanic and sedimentary rock that separate the Sierran crystalline basement rock (granites) from the Central Valley sediments. These rocks are distributed within three major north-south trending, fault-bounded lithologic terrains that extend along the length of the metamorphic belt. Rocks within these terrains have been isoclinally folded and metamorphosed on a regional scale and represent a “collage” of tectonically accreted blocks emplaced during convergent plate tectonism that occurred during the Early Paleozoic and Late Jurassic. Bedding, foliation, and major faults throughout the metamorphic belt normally trend northwest and dip steeply to the east. A map of the regional geology is provided in Figure 3 of this report.

3.1.2 Site Geology

The project area is mapped by Loyd (1983 and 1984) as being underlain by Jurassic and Triassic age metavolcanic rocks (map symbol mv). This formation is almost entirely of marine origin and consist mostly of basaltic to andesitic breccias, flows, and tuffs that have been metamorphosed, but with primary volcanic features generally recognizable. The formation also contains minor associated sandstone and conglomerate, although none were encountered during our field investigation. Foliation that developed from regional metamorphism is often evident in the rock structure and typically has a north-trending direction. Locally, schistose fabric may be evident. The rock strength of the in less weathered portions of the formation is typically very high and can result in difficult excavation conditions.

3.2 SUBSURFACE CONDITIONS

Subsurface materials encountered during the explorations consisted of colluvium/residual soil overlying bedrock. The colluvium/residual soil consisted primarily of clayey soils with varying amounts of silt and gravel and varied in depth from approximately 1 to 5½ feet bgs. Below the

© 2019 Kleinfelder

colluvium/residual soil, bedrock comprised of weathered and fractured metavolcanic rock underlain by little-weathered, intact rock. The rock increased in strength and decreased in weathering and fracture amount with depth, as shown on the attached figure and seismic refraction survey report. Localized deposits of artificial fill were encountered in a few test pits. The fill consisted of sandy lean clays with variable amounts of gravel and cobbles.

3.3 GROUNDWATER

Groundwater as not encountered in our explorations to the maximum depth explored of approximately 25 feet. However, perched groundwater was encountered in Test Pits TP-4 and TP-6 at depths of approximately 7 to 8 feet bgs. These test pits were located near a seasonal creek, which runs through the property. During Kleinfelder's investigation of the adjacent property in April of 2019, this creek had been flowing rapidly and all excavated test pits encountered perched water near bedrock contact.

Localized zones of perched water, increased soil moisture content and fluctuations of the groundwater level, should be anticipated during and following the rainy season. Irrigation of landscaped areas on or adjacent to the site can also cause a fluctuation of local groundwater levels.

3.4 ASSESSMENT OF POTENTIAL GEOLOGIC HAZARDS

3.4.1 Localized Faulting

According to CGS (2018), the site is not located within an Alquist-Priolo Earthquake Fault Zone and no mapped active or potentially active fault traces are known to traverse the site. The project area is situated within a region traditionally characterized by few active faults, numerous inactive faults, and low to moderate seismic activity.

An active fault is a fault that has experienced seismic activity during historic time (since roughly 1800) or exhibits evidence of surface displacement during Holocene time (Hart and Bryant 1997). The definition of "potentially active" varies. A generally accepted definition of "potentially active" is a fault showing evidence of displacement that is older than 11,000 years (Holocene age) and younger than 1.7 million years (Pleistocene age). However, "potentially active" is no longer used as criteria for zoning by the California Geologic Survey (CGS), formerly known as the Division of Mines and Geology. The terms "sufficiently active" and "well-defined" are now used by the CGS as criteria for zoning faults under the Alquist-Priolo Earthquake Fault Act. A

© 2019 Kleinfelder

"sufficiently active fault" is a fault that shows evidence of Holocene surface displacement along one or more of its segments and branches, while a "well-defined fault" is a fault whose trace is clearly detectable by a trained geologist as a physical feature at or just below the ground surface. The definition "inactive" generally implies that a fault has not been active since the beginning of the Pleistocene Epoch (older than 1.7 million years old).

The nearest well-defined faults to the project are the Genoa and Cordelia faults. Both faults are located over 50 miles from the project site. A major seismic event on either of these faults is anticipated to cause weak ground shaking at the project site.

The nearest fault to the project site is the west trace of the Bear Mountain Fault Zone that strikes northwest-southeast for approximately 84 miles along the Sierra Foothill region. A fault trace within this zone is located approximately 650 feet west of the project and forms a major contact between the metavolcanics rock that underly the project and the younger Copper Hills Volcanics Formation to the west of the fault. Seismically, the mapped fault near the project is mapped as Pre-Quaternary (CGS, 2010). However, current seismic data (ANSS, 2011) shows micro-earthquakes (magnitude less than 2 or 3) are generated along the northern portion of the fault zone and UCEF3 includes the Swain Ravine – Spenceville segment of the Bear Mountains Fault Zone in their probability model (USGS, 2013). This low seismic activity is not expected to impact the project.

3.4.2 Landsliding

The majority of the project site is characterized by slope gradients of 5:1 (horizontal to vertical) and shallower (less steep). Given the elevation differential and shallow gradients the potential for slope instability is considered low. However, it should be noted that the exception to this condition are the approximately 2:1 permanent cut slopes for the roadways that form the northern and southern portions of the site. These slopes were excavated into highly weathered rock that historically can develop shallow debris flows and slumps during wet weather. Given the height of the slopes and extent of exposed rock, the potential for shallow slope instability events in this area is considered moderate.

3.4.3 Liquefaction and Seismic Compression

The term liquefaction describes a phenomenon in which saturated, cohesionless soils temporarily lose shear strength (liquefy) due to increased pore water pressures induced by strong, cyclic

© 2019 Kleinfelder

ground motions during an earthquake. Structures founded on or above potentially liquefiable soils may experience bearing capacity failures due to the temporary loss of foundation support, vertical settlements (both total and differential), and/or undergo lateral spreading. The factors known to influence liquefaction potential include soil type, relative density, grain size, confining pressure, depth to groundwater, and the intensity and duration of the seismic ground shaking. Liquefaction is most prevalent in loose to medium dense, silty, sandy, and gravelly soils below the groundwater table. Based on our review of available groundwater well data, it is our opinion that the regional groundwater is deep. Therefore, based on the results of the subsurface explorations and review data, the potential for liquefaction and its adverse effects (i.e., seismic settlement and lateral spreading) is not considered a hazard at the site.

Seismic compression results from the accumulation of contractive volumetric strains in unsaturated soil during earthquake shaking. Loose to medium dense granular material with no fines or with low plasticity fines are most susceptible to seismic compression. Based on the density and composition of the underlying soil/bedrock, seismic compression (dynamic dry settlement) is considered a hazard at the site.

3.4.4 Expansive Soils

Expansive soils are characterized by their ability to undergo significant volume changes (shrink or swell) due to variations in moisture content. Changes in soil moisture content can result from precipitation, landscape irrigation, utility leakage, roof drainage, perched groundwater, drought, or other factors and may result in unacceptable settlement or heave of structures or concrete slabs supported on grade. The surficial soils are generally low-medium plastic fines; therefore, the expansion potential is considered low.

3.4.5 Collapsible Soils

Collapsible soils are characterized by their ability to undergo significant shrinkage (collapse) during inundation. Inundation in soils can result from precipitation, landscape irrigation, utility leakage, roof drainage, perched groundwater, drought, or other factors and may result in unacceptable settlement or heave of structures or concrete slabs supported on grade. Based on the results of laboratory testing, the soil encountered are not expected to collapse during inundation, so the impact of collapsible soils for this site is considered low.

© 2019 Kleinfelder

3.4.6 Subsidence

The site is not located in an area of known significant ground subsidence due to the withdrawal of subsurface fluids. Subsidence may be present but adverse impacts have not been recorded. Therefore, the potential for subsidence occurring at the site due to the withdrawal of oil, gas, or water is considered low.

3.4.7 Flooding

The Flood Insurance Rate Map prepared by the Federal Emergency Management Agency (FEMA) was reviewed to identify the potential flood hazard for the project. This map indicates the site is within Zone X which is defined as being an area with a 0.2-percent-annual-chance-flood and an area of 1-percent-annual-chance flood with average depths of less than 1 foot. Based on this information the potential for the project site to be impacted by regional flooding is considered low. However, the accuracy of this information should be confirmed by a qualified civil engineer/hydrologist. The need and/or method for mitigation of potential flooding should also be addressed.

3.4.8 Oil and Gas Fields

Upon review of the California Division of Oil, Gas & Geothermal Resources (2016) interactive well-finder map accessed at https://maps.conservation.ca.gov/doggr/wellfinder, the El Dorado Hills region does not contain any known abandoned oil wells. Additionally, no active wells are known to exist within the project boundary.

3.4.9 Naturally Occurring Asbestos

Naturally occurring asbestos (NOA) has been identified as a source of potentially hazardous airborne asbestos fibers when disturbed by mining or earthwork activities, if present (Clinkenbeard et al. 2002). NOA generally occurs within mafic or ultramafic metamorphic rock units in which one of the asbestiform minerals defined by the California Air Resources Board (CARB 2002) are present. These NOA minerals have unique flexibility and strength characteristics and include asbestiform varieties of the six minerals chrysotile, amosite, crocidolite, tremolite actinolite, and anthophyllite. It was not part of this project's scope to quantitatively evaluate NOA concentrations along the project alignment. However, review of existing NOA maps produced by the CGS (Churchill 2000 and Higgins 2006) and presented on

© 2019 Kleinfelder

Figure 4 provides general guidelines as to the likelihood of encountering NOA for both El Dorado and Sacramento counties.

In addition, based on numerous NOA studies Kleinfelder has performed in the project area, typical NOA concentration level ranges (measured as a percent volume using the polarized light microscopy identification method [PLM]) can be identified for the rock types / geologic units present along the project alignment. These typical values can be compared to the threshold limits established by CARB's Airborne Toxic Control Measures (ATCM) for Construction Grading, Quarrying, and Surface Mining Operation (CARB 2002) to identify whether mitigative measurements need to be implemented during excavation of the foundation towers and how the excavation spoils are to be handled relative to disposal and off-haul. Generally, the metavolcanic rock has concentration levels at or below the threshold level of 0.25 percent. Where NOA levels are at or above 0.25 percent, contractors are required to implement mitigation practices to protect workers and the public from airborne NOA particles generated during earthwork operations. NOA levels at or above 1 percent is considered a hazardous material and will require special handling during transportation and will need to be disposed of at an approved site. The Asbestos Review Areas map (Churchill, 2000) indicates the project site is in an area that has been removed as mappable NOA bearing unit based on geologic evaluation. Based on this data the potential for NOA to be encountered at levels at or exceeding regulatory threshold levels is considered low. However, testing by Costco could be performed to further define NOA concentrations across the project area in order to assist Costco with identifying their risk associated with this hazard. Should levels be equal to or exceed regulatory threshold levels mitigation procedures will need to be implemented. Mitigation alternatives will need to be consistent with guidelines outlined in the CARB's current ATCM and Occupational Safety and Health Administration (OSHA) standards for the handling of NOA.

© 2019 Kleinfelder

4 GEOTECHNICAL DESIGN RECOMMENDATIONS

4.1 GENERAL

Based on the results of our field exploration, laboratory testing and engineering analyses conducted during this study, it is our professional opinion the proposed project is geotechnically feasible, provided the design and construction recommendations presented in this report are incorporated into the project. We identified the following key geotechnical considerations during our study.

- The primary geotechnical consideration for site development is the excavatability of the rock and the construction of fills to achieve the finished grades. The seismic refraction survey results (Appendix C) indicate the initial weathered rock layer with compression wave velocities (Vp) ranging between 3,985 to 6,030 feet per second is located approximately 1 to 3 below existing grades and extends as deep as 30 feet below grade within the warehouse building cut. Based on Caterpillar's Handbook of Ripping (2000), rock exhibiting seismic velocities in this range are marginally rippable using a D9R dozer equipped with multi or single shank ripper(s). Underlying this layer is a less weathered rock zone with compression wave velocities ranging between 12,210 to 18,530 feet per second and is located as shallow as 5 to 10 feet below grade within eastern cut for the warehouse building and the fuel facility cut area on the northern portion of the site. Localized blasting will likely be needed to excavate less weathered rock. In addition, crushing and screening operations will likely be required to produce efficient rock fragmentation of the rock (both weathered and less weathered rock) for re-use onsite as structural fill.
- Based on the preliminary grading plan, the warehouse building footprint is situated on a bedrock cut/fill transitional area with cuts up to approximately 20 feet in the eastern side of the building and fills up to approximately 10 to 15 feet along the western side of the building. To provide uniform support for the proposed warehouse building and to reduce the adverse effects of abrupt differential settlement due the cut/fill transition and variability in fill thickness across the building pad, we recommend the bedrock should be undercut by at least 6 feet below the finished floor elevation and backfilled with structural fill. In addition, cut/fill transitions are situated below small areas of the parking structure's lower level. Beneath the parking structure, we recommend the bedrock should be undercut by at least 4 feet below the finished floor elevation and backfilled with structural fill.

© 2019 Kleinfelder

- The residual soil/colluvial layer should excavated to underlying weathered rock contact and stockpiled on site for reuse as structural fill. An estimate of the residual soil/colluvial layer thickness is shown on the cross sections (Figures 5 through 10).
- Prior to grading and subgrade preparation, all vegetation should be cut and removed from the site. Roots and vegetative matter in excess of one inch should be removed by screening or raking soils to a minimum depth of 12 inches. Other than plant roots, organic matter in the topsoil is minimal based on our laboratory testing (between one and three percent). The topsoil can be re-used on site in fills.
- Due to the composition of the bedrock, it will not reduce to a soil-like material when excavated and will not be suitable for re-use as structural fill. However, the bedrock material may be crushed, processed and re-used onsite as structural fill as described below. Rock fragments up to 12 inches in size may be used in structural fills 10 or more feet below finished subgrade elevation, but not within 10 feet of a slope face. Rock fragments greater than 6 inches in size should not be used in the upper 10 feet of site fills. Rock fragments greater than 3 inches in size should not be used in the upper 3 feet of fills below the Costco warehouse building. There may be an opportunity for larger sized rocks and boulders between 12 and 24 inches in size to be re-used at the base of slopes or in landscape areas. A rock that cannot be crushed or screened to above size criteria should be removed off site.
- Rocks up to 12 inches in size may be placed in the deeper portions of structural fills as noted above provided they are thoroughly mixed with soils to avoid excessive concentrations of rock fragments. Over-sized materials (between 6 and 12 inches) should be placed in windrows or otherwise be placed under the observation of the geotechnical engineer's representative in a manner to avoid nesting or voids. Fills should be placed in lifts slightly thicker than the largest particle size and proof-rolled with a D-9 or larger Caterpillar dozer making at least 5 complete passes over each lift. Periodic test pits should be excavated into each compacted lift to confirm the rock fill is being placed in a uniform, dense manner with no nesting or voids.
- After stripping the site and prior to filling in the seasonal creek, which runs from east to west through the site, subdrains should be installed within the creek bottom. This creek was observed to be flowing rapidly during our initial investigation of the adjacent site in April 2019.

© 2019 Kleinfelder

- Rainfall will infiltrate near surface soils and collect on less permeable soil and rock at shallow depth. Therefore, perched groundwater will likely be present at or near subgrade level across the entire site during and after rainfall events.
- Although preliminary grading plans show that this site will be balanced, it is anticipated that crushing and processing the harder rock layers will prove challenging and may require soil to be imported onsite. Import materials, if required, should have a Plasticity Index of less than 10 with no less than 70 percent passing the No. 4 sieve, no more than 30 percent of the particles passing the No. 200 sieve, and no particles greater than 3 inches in maximum dimension. The maximum Plasticity Index for imported soils may be modified upon approval by Costco depending on its proposed use. The contractor should provide documentation to Costco that imported fill is free of hazardous materials, including petroleum or petroleum byproducts, chemicals and harmful minerals prior to its transportation and use on site.
- Permanent slopes should be constructed at an inclination of 2:1 (horizontal to vertical) or flatter.
- Retaining wall types have not been determined at this time; however, we understand rockeries are being considered. Kleinfelder has provided recommendations for cantilever retaining walls. Rockeries are designed and constructed by a design-build specialty contractor.
- The proposed Costco warehouse building, fuel facility canopy, and parking structure foundations may be supported on a conventional shallow foundation system. Proposed light poles located in the parking lot may be supported on short drilled pile foundations.
- The residual soil/colluvium is anticipated to be used near the finished subgrade levels around the site. Because this material drains poorly, we recommend radial finger drains below new pavement sections. Additionally, planters should be detailed such that water exiting from them will not seep into the foundation areas or beneath slabs and pavement.
- The minimum resistivity of the sample indicates that the soil may be moderately corrosive to corrosive to ferrous metals. The concentrations of soluble sulfates indicate that the subsurface soils represent a Class S0 exposure to sulfate attack on concrete in contact with the soil based on ACI 318-14 Table 19.3.1.1 (ACI, 2014). Therefore, in accordance with ACI Building Code 318-14, no special provisions for selection of cement type are required.
- Based on visual soil classification and laboratory testing of the soil samples collected during our field exploration, the upper approximately 1 to 5 feet of the subsurface soils consist

© 2019 Kleinfelder

predominantly lean sandy clays underlain with highly fractured highly weathered metavolcanic rock. Based on the soil classification, and gradation tests, water infiltration is expected to be very low. We recommend alternatives to infiltration BMPs, such as bio-filtration/bio-retention systems (bio-swales and planter boxes), be implemented at the Costco site.

The following opinions, conclusions, and recommendations are based on the properties of the materials encountered in the borings and test pits, the results of the laboratory-testing program, and our engineering analyses performed, and should be incorporated into project design and construction.

4.2 2019 CALIFORNIA BUILDING CODE

We have also provided the seismic design parameters for ASCE 7-16, as the project will be designed after adoption of the 2019 California Building Code (CBC) on January 1, 2020. Based on the current grading plan and understanding of the regional geology and on our interpretation of the CBC criteria, we classify the site as Seismic Site Class C. Approximate coordinates for the site are noted below.

- Latitude: 38.66020 °N
- Longitude: 121.05699 °W

In accordance with Section 11.4.8 of ASCE 7-16, a site-specific ground motion analysis may be required for Site Class D sites with an S1 greater than 0.2g. However, a site-specific ground motion analysis is not required if the seismic response coefficient (Cs) is determined in accordance with requirements of Chapter 12 and the exceptions noted in Section 11.4.8. The assumption that Cs will be determined in accordance with the requirements of Chapter 12 and the exceptions noted in Section 11.4.8 should be verified by the project structural engineer during final design. The 2019 CBC (non site-specific) for these structures are summarized in Table 1.

© 2019 Kleinfelder

TABLE 1
2019 CBC SEISMIC DESIGN PARAMETERS

Design Parameter	Recommended Value
Site Class	C
S_s (g)	0.404
S_1 (g)	0.207
F_a	1.300
F_v	1.500
S_{MS} (g)	0.525
S_{M1} (g)	0.311
S_{DS} (g)	0.350
S_{D1} (g)	0.207
PGA_M (g)	0.211

4.3 FOUNDATIONS

4.3.1 General

Based on the results of our field exploration, laboratory testing, and geotechnical analyses, the proposed warehouse building and parking structure may be supported on conventional shallow spread footing foundations founded on subgrade prepared in accordance with Section 5.2.2. We understand that new spread footing foundations for the fuel facility canopy will be embedded approximately 6 to 7 feet below the finished grade. Spread footings may be founded entirely on bedrock or on structural fill.

Proposed light poles in the parking lot may be supported on short drilled pile foundations. Recommendations for the design and construction of shallow foundations and drilled pile foundations are presented below.

4.3.2 Shallow Foundations

Allowable Soil Bearing Pressure

Footings may be designed for a net allowable soil bearing pressure of 3,000 pounds per square foot (psf) for dead plus sustained live loads. Footings should be embedded at least 24 inches below the lowest adjacent exterior grade. The footing dimension and reinforcement should be designed by the structural engineer; however, continuous and isolated spread footings

© 2019 Kleinfelder

should have minimum widths of 18 and 24 inches, respectively. A one-third increase in the above bearing pressures can be used for transient wind or seismic loads.

Estimated Settlements

We estimate total static settlement for foundations designed and constructed in accordance with the recommendations presented above to be less than 1 inch. Differential static settlement between similarly loaded footings is estimated to be less than ½ inches over 50 feet.

Lateral Resistance

Lateral load resistance may be derived from passive resistance along the vertical sides of the footings, friction acting at the base of the footing, or a combination of the two. An allowable passive resistance of 300 psf per foot of depth may be used for design. Allowable passive resistance values should not exceed 3,000 psf. An allowable coefficient of friction of 0.4 between the base of the footings and the structural fill soils can be used for sliding resistance using the dead load normal stresses. Friction and passive resistance may be combined without reduction. We recommend that the first foot of soil cover be neglected in the passive resistance calculations if the ground surface is not protected from erosion or disturbance by a slab, pavement or in a similar manner. Where passive soil resistance is used for design of retaining walls, the area within 5 feet of the front of the wall footing should not be disturbed by excavation or other means.

4.3.3 Drilled Pile Foundations (Light Pole Foundations)

Axial Capacity

The compressive axial capacity of drilled piles may be estimated based on an allowable skin friction capacity of 200 pounds per square foot. The upper one foot of the skin friction capacity should be ignored. The uplift capacity may be estimated as 70 percent of the allowable compressive axial capacity. A one-third increase in the allowable capacities may be used for transient loading conditions such as wind or seismic loads.

Settlement

Settlement of the proposed canopy supported on drilled piles, as recommended, is estimated to be less than ½ inch.

© 2019 Kleinfelder

Lateral Resistance

The drilled pile foundations lateral resistance can be designed in general accordance with Section 1807.3 of the 2016 CBC. We recommend a lateral soil bearing pressure of 300 psf per foot of depth below grade. The lateral soil bearing pressure should not exceed 3,000 psf. Since drilled piles will act as isolated pole foundations, the allowable lateral soil bearing pressure may be increased by a factor of two for short-term lateral loads provided the structure will not be adversely affected by ½ inch of lateral movement at the ground surface.

4.4 BUILDING SLAB-ON-GRADE

Concrete slab-on-grade floors are appropriate for the proposed warehouse, provided subgrade is prepared in accordance with Section 5.2.2. In accordance with the CWDRs, we recommend the slab be a minimum nominal thickness of 6 inches and underlain by at least 6 inches of aggregate base material. Aggregate base materials should meet current Caltrans specifications for Class 2 aggregate base. Please note that Caltrans Class 2 aggregate base may utilize recycled materials. Costco typically does not allow the use of recycled materials within the building pad.

A modulus of subgrade reaction of 150 pounds per cubic inch may be used for design of slabs underlain 6 inches of aggregate base material. Pursuant to current Costco Wholesale standard construction design practices, we have evaluated whether steel reinforcement is needed in the floor slab. Based on the geotechnical characteristics of the site, the proposed warehouse can be built with a non-reinforced slab.

Floor slab control joints should be used to reduce damage due to shrinkage cracking. Control joint spacing is a function of slab thickness, aggregate size, slump and curing conditions. The requirements for concrete slab thickness, joint spacing, and reinforcement should be established by the designer, based on experience, recognized design guidelines and the intended slab use. Placement and curing conditions will have a strong impact on the final concrete slab integrity.

Kleinfelder typically recommends installation of a vapor barrier beneath the slab to mitigate potential moisture issues such as flooring performance and mold. However, we understand that Costco Wholesale has determined that moisture barriers are not to be used in construction of Costco Wholesale warehouses due to adverse effects on concrete curing and performance. Therefore, we have provided construction recommendations that do not include installation of a

© 2019 Kleinfelder

moisture barrier, with the understanding that there will be an increased risk for adverse moisture issues.

4.5 EXTERIOR FLATWORK

Exterior concrete slabs for pedestrian traffic or landscape outside of the building pad limits should be at least four inches thick. Weakened plane joints in sidewalks should be located at intervals of about 6 feet. Careful control of the water/cement ratio should be performed to avoid shrinkage cracking due to excess water or poor concrete finishing or curing. Unreinforced slabs should not be built in areas where further saturation may occur following construction. The subgrade should be prepared in accordance with Section 5.2.2.

4.6 SITE DRAINAGE

Foundation and slab performance depends greatly on proper irrigation and how well runoff water drains from the site. This drainage should be maintained both during construction and over the entire life of the project. The ground surface around structures should be graded such that water drains away from structures without ponding. The surface gradient needed to do this depends on the landscaping type. Surface gradients should conform to current Costco Wholesale standards and the 2019 CBC.

After the initial excavation of the residual/colluvial soils onsite. It is recommended that a perforated subdrain be installed within the creek bottom running from east to west through the project site. The drain may be “burrito wrapped” with filter fabric and surrounded by permeable drain rock prior to rock backfill operations onsite. Slope drains should also be installed within the fill slopes as discussed in Section 4.8. Figures 11 and 12 show typical details for slope and canyon drains.

The residual soil/colluvium is anticipated to be used near the finished subgrade levels around the site. Because this material drains poorly, we recommend radial finger drains below new pavement sections as shown in Detail 16_16 of the CWDRs. Drains should be designed and constructed per Costco’s standard details and laterals should extend at least 15 feet from the catch basins. Planters should be detailed such that water exiting from them will not seep into the foundation areas or beneath slabs and pavement. We recommend that perimeter foundation drains be implemented in accordance with Costco’s development requirements in areas adjacent to landscaping planters.

© 2019 Kleinfelder

Where slabs or pavement areas abut landscaped areas, the aggregate base and subgrade soil should be protected against saturation. Vertical cut off structures are recommended to reduce lateral seepage under slabs from adjacent landscaped areas. Vertical cut-off structures may consist of deepened concrete perimeters, or equivalent, extending at least three inches below the base/subgrade interface. Vertical cut-off structures should be poured neat against undisturbed native soil or compacted fill. The cut-off structures should be continuous.

Operations personnel should be instructed to limit irrigation to the minimum level necessary to properly sustain landscaping plants. Should excessive irrigation, waterline breaks or unusually high rainfall occur, saturated zones and “perched” groundwater may develop, which could soften subgrade and reduce pavement life, and could also create potholes. We also recommend that the downspouts from roof drains be connected to a designed subsurface drainage system such as a storm sewer, etc. to avoid discharging water onto pavement areas as well as backfill zones around the warehouse.

Potential sources of water such as water pipes, drains, and the like should be frequently examined for signs of leakage or damage. Any such leakage or damage should be promptly repaired. Sewer lines beneath the warehouse should have a sufficient slope (at least 1 percent). Plumbing and utility lines should be provided with flexible joints or oversized sleeves where they penetrate floor slabs to prevent breakage caused by different slab movement.

4.7 RETAINING STRUCTURES

Retaining wall types have not been determined at this time; however, we understand rockeries are being considered. Recommendations for cantilever retaining walls are provided below. Rockeries are designed and constructed by a design-build specialty contractor.

Design earth pressures for retaining structures depend primarily on the allowable wall movement, wall inclination, type of backfill materials, backfill slopes, surcharges, and drainage. Earth pressures provided assume that granular (sandy) soils will used as backfill. The on-site residual soil/colluvium should not be used as retaining wall backfill. The granular backfill, which should meet the requirements for imported fill as defined in Section 5.2.6, should extend behind walls a horizontal distance of at least one-half the height of the wall. Determination of whether the active or at-rest condition is appropriate for design will depend on the flexibility of the walls. Walls that are free to rotate at least 0.002 radians (deflection at the top of the wall of at least 0.002 x H,

© 2019 Kleinfelder

where H is the unbalanced wall height) may be designed for the active condition. Walls that are not capable of this movement should be assumed rigid and designed for the at-rest condition. Walls that are not capable of this movement should be assumed rigid and designed for the at-rest condition. The recommended active and at-rest earth pressures and passive resistance values are provided in Table 2.

TABLE 2
LATERAL EARTH PRESSURES FOR RETAINING STRUCTURES
(GRANULAR BACKFILL)

Wall Movement	Backfill Condition	Equivalent Fluid Pressure (pcf)	Seismic Increment (pcf)
Free to Deflect (active condition)	Level	40	5H*
Restrained (at-rest condition)		60	N/A**

*Note: * Walls supporting more than 6 feet of backfill should be designed to support an incremental seismic lateral pressure, which is applied as a triangular pressure distribution with a maximum pressure at the bottom of the wall, not inverted, and H is the height of the wall.*

*** for restrained wall, use the static active earth pressure and seismic increment to check the seismic condition; use at-rest earth pressure only to check the static condition; the larger loading of both cases should be used for the design of restrained wall.*

The above lateral earth pressures do not include the effects of surcharges (e.g., traffic, footings), compaction, or truck-induced wall pressures. Any surcharge (live, including traffic, or dead load) located within a 1:1 (horizontal to vertical) plane drawn upward from the base of the excavation should be added to the lateral earth pressures. The lateral contribution of a uniform surcharge load located immediately behind walls may be calculated by multiplying the surcharge by 0.33 for cantilevered walls under active conditions and 0.50 for restrained walls under at-rest conditions. Walls immediately adjacent to areas subject to vehicular traffic should be designed for a 2-foot equivalent soil surcharge (250 psf). Lateral load contributions from other surcharges located behind walls may be provided once the load configurations and layouts are known.

Walls should be properly drained or designed to resist hydrostatic pressures. Adequate drainage is essential to provide a free-drained backfill condition so that there is no hydrostatic buildup behind the wall. Walls should also be appropriately waterproofed to reduce the potential for staining. Drainage behind loading dock walls can consist of weep holes placed along the base of the wall. Weep holes should be spaced 10 to 15 feet apart and connected with a gravel drain consisting of approximately 2 cubic feet of clean gravel per foot of wall length wrapped with filter fabric. Other types of retaining walls should have a continuous back drain as described below.

© 2019 Kleinfelder

For backfill of walls with a continuous back drain, except for the upper 2 feet, the backfill immediately behind retaining walls (minimum horizontal distance of 2 feet measured perpendicular to the wall) should consist of free-draining ¾-inch crushed rock wrapped with filter fabric. The upper 2 feet of cover backfill should consist of relatively impervious material. A 4-inch-diameter perforated PVC pipe, placed perforations down at the bottom of the rock layer leading to a suitable gravity outlet, should be installed at the base of the walls.

As an alternative to the gravel drain noted above, a manufactured drain panel may be utilized behind retaining walls in addition to normal waterproofing. This system generally consists of a prefabricated drain panel lined with filter fabric. At the wall base, we recommend that a gravel drain be installed to collect and discharge drainage to a suitable outlet. The drain should consist of a 4-inch-diameter perforated PVC pipe, placed perforations down at the bottom of approximately 2 cubic feet of clean gravel per foot of wall length. The gravel drain should be wrapped in filter fabric (Mirafi 140N or equivalent). The pipe should be sloped to drain to a suitable outlet and cleanouts should be provided at appropriate intervals.

If drainage behind the wall is omitted, the wall should be designed for full hydrostatic pressure. The design of any drain system should be submitted to Kleinfelder for review to check that our recommendations have been properly incorporated into the design. Installation of the drainage system should be reviewed and documented by a Kleinfelder representative.

4.8 PERMANENT SLOPES

Preliminary grading plans from the civil engineer have been provided show cut and fill slopes between 2:1 and 6:1 (horizontal to vertical) around the project site. Permanent slopes should be constructed at an inclination of 2:1 or flatter. Slopes will be subject to erosion and should be planted as soon as practicable.

For areas above slopes, positive drainage should be established away from the top of slopes. This may be accomplished utilizing a brow ditch placed at the top of cut slopes to redirect surface runoff away from the slope face where drainage devices are not otherwise available. Site runoff should not be permitted to flow over the tops of slopes. Slope drains should also be installed within the fill slopes. Figures 11 and 12 show typical details for slope and canyon drains.

© 2019 Kleinfelder

4.9 PAVEMENT SECTIONS

The required pavement structural sections will depend on the expected wheel loads, volume of traffic, and subgrade soils. We have provided asphalt concrete pavement sections for traffic indices provided in the CWDRs (Costco, 2018). Positive drainage of the paved areas should be provided since moisture infiltration into the subgrade may decrease the life of pavements. Curbing located adjacent to paved areas should be founded in the subgrade, not the aggregate base, in order to provide a cutoff, which reduces water infiltration into the base course.

The following pavement sections provided above are based on the soil conditions encountered during our field exploration, our assumptions regarding final site grades, and limited laboratory testing.

4.9.1 Costco Pavement Design Parameters

We developed pavement design recommendations using traffic loading parameters provided in the Costco Wholesale Development Requirements and the following test data:

- A 20-year pavement design life;
- Light-duty pavements subject to 6,600 passenger vehicle trips per day (Traffic Index of 5.0);
- Heavy-duty pavements subject to 30 tractor-trailer truck tips per day (Traffic Index of 7.0);
- For asphalt concrete pavements, a design R-value of 50; and
- For Portland cement concrete (PCC) Pavements, a 28-day flexural strength (modulus of rupture determined by the third-point method) of at least 550 pounds per square inch (psi) (approximate compressive strength of 4,000 psi); a modulus of subgrade reaction (k value) of 200 pounds per cubic inch (pci) for native subgrade; and interlock at the control joints.

4.9.2 Asphalt Concrete Pavement

We designed asphalt concrete pavement, also referred to as Hot Mix Asphalt (HMA), in accordance with the Caltrans Highway Design Manual. Prior to placement of aggregate base, pavement subgrade should be prepared in accordance with Section 5.2.2.

© 2019 Kleinfelder

TABLE 3
RECOMMENDED MINIMUM ASPHALT CONCRETE PAVEMENT SECTIONS

TRAFFIC USE	TRAFFIC INDEX, TI	DESIGN METHOD	ASPHALT CONCRETE * (INCHES)	AGGREGATE BASE (INCHES)
Light-Duty Pavement	5.0	CALTRANS	3.0	4.0
Heavy-Duty Pavement	7.0	CALTRANS	4.0	5.0

* Rounded to the closest ½ inch.

4.9.3 Asphalt Performance Grade Binder

An asphalt performance grade (PG) binder of 64-10 should be used for the project and is locally available. This recommendation was developed in accordance with Costco Wholesale Asphalt Paving Specification Section 321216. Air temperature data nearest the project site was used with the MERRA Climate Data option and the PG binder was selected using the FHWA program LTTPBind Online web-based tool based on the AASHTO M323-13 standard. The high-end and low-end temperature rating was selected to provide a reliability of at least 98 and 90 percent, respectively.

4.9.4 Portland Cement Concrete Pavement

We designed PCC pavement in accordance with the Portland Cement Association (PCA) Thickness Design for Concrete Pavements (PCA, 1984) using the design parameters stated above. For heavy-duty pavements, we recommend that PCC pavement section should be comprised of 7.0 inches of PCC with 4.0 inches of aggregate base. We understand that Costco is considering paving the American Disability Act (ADA) access area in front of the main entry with PCC pavement. For ADA access area, we recommend that PCC pavement section should be comprised of 6.0 inches of PCC over 6.0 inches of aggregate base.

Longitudinal and transverse joint spacing should not exceed 12 feet and 15 feet, respectively. Joint details should conform to PCA guidelines. Expansion joints in concrete slabs should be sealed with petroleum resistant sealant to prevent minor releases from impacting subsurface soil.

© 2019 Kleinfelder

4.9.5 Aggregate Base

Aggregate base materials should meet current Caltrans specifications for Class 2 aggregate base and be compacted to at least 95 percent relative compaction (ASTM D1557). Caltrans Class 2 aggregate base utilizes recycled materials and require Costco's approval prior to use.

4.9.6 Pavement Maintenance

Pavements may undergo movement due to changes in subgrade moisture content. This movement tends to accelerate pavement deterioration. A crack sealing program should be performed annually to slow pavement deterioration. Any areas where surface water stands on the surface should be remediated. Over time as cracking becomes more pronounced, a slurry seal coat should be applied.

4.10 SOIL CORROSIVITY

We performed laboratory testing for parameters commonly used to evaluate corrosivity of soils, including pH, minimum resistivity, chloride and soluble sulfate content. Table 4 presents the results.

TABLE 4
CORROSION TEST RESULTS

Location	Depth (ft)	Minimum Resistivity (ohm-cm)	pH	Soluble Sulfate Content (ppm)	Soluble Chloride Content (ppm)
TP-1	0-2	3,848	5.2	36	35
TP-10	0-2	5,324	6.1	38	39
TP-14	0-2	6,453	6.0	34	34
TP-21	0-1.5	5,012	5.7	41	55

These tests are a generalized indicator of soil corrosivity for the sample tested. Other soils on site may be more, less, or similarly corrosive in nature. Imported fill materials should be tested to confirm that their corrosion potential is not more severe than those noted.

Although Kleinfelder does not practice corrosion engineering, resistivity values between 3,000 and 5,000 ohm-cm are considered corrosive to buried ferrous metals (NACE, 2006). The concentrations of soluble sulfates indicate that the subsurface soils represent a Class S0

© 2019 Kleinfelder

exposure to sulfate attack on concrete in contact with the soil based on ACI 318-14 Table 19.3.1.1 (ACI, 2014). Therefore, in accordance with ACI Building Code 318-14, no special provisions for selection of cement type are required.

Concrete and the reinforcing steel within it are at risk of corrosion when exposed to water-soluble chloride in the soil or groundwater. The project structural engineer should review this data to determine if remedial measures are necessary for the concrete reinforcing steel.

4.11 STORMWATER MANAGEMENT

We have assessed the potential for storm water infiltration into the subgrade soils at the subject project site. Our assessment is based on the data collected during our field exploration (borings and test pits) and laboratory testing.

Based on visual soil classification and laboratory testing of the soil samples collected during our field exploration, the upper approximately 1 to 5 feet of the subsurface soils consist predominantly lean sandy clays underlain with highly fractured highly weathered metavolcanic rock. Based on the soil classification, and gradation tests, water infiltration is expected to be very low.

We recommend alternatives to infiltration BMPs, such as bio-filtration/bio-retention systems (bio-swales and planter boxes), be implemented at the Costco site. If bio-filtration/bio-retention systems are employed, we recommend that the BMPs be built such that water exiting from them will not seep into the foundation areas or beneath slabs and pavement. If planters are located within 10 feet of the building or building foundations, or adjacent to slabs and pavements, then some means of diverting water away from the building, building foundation soils, or soils that support slabs and pavements would be required, such as lining the planters.

© 2019 Kleinfelder

5 CONSTRUCTION RECOMMENDATIONS

5.1 GENERAL

The following recommendations should be used by the contractor for construction of the project attention to excavatability and perched groundwater should be noted.

5.2 EARTHWORK

5.2.1 General

Site preparation and earthwork operations should be performed in accordance with applicable codes, safety regulations and other local, state or federal specifications, and the recommendations included in this report. References to maximum dry unit weights are established in accordance with the latest version of ASTM Test Method D1557 (modified Proctor). The earthwork operations should be observed and tested by a representative of Kleinfelder.

5.2.2 Site Preparation

Abandoned utilities and other existing features within the proposed development areas (if any are encountered) should be removed and the excavation(s) backfilled with structural fill. Debris produced by demolition operations, including wood, steel, piping, plastics, etc., should be separated and disposed of off-site. Existing utility pipelines or conduits that extend beyond the limits of the proposed construction and are to be abandoned in place, should be plugged with non-shrinking cement grout to prevent migration of soil and/or water. Demolition, disposal and grading operations should be observed and tested by a representative of Kleinfelder.

Prior to grading and subgrade preparation, all vegetation should be cut and removed from the site. Roots and vegetative matter in excess of one inch should be removed by screening or raking soils to a minimum depth of 12 inches. Other than plant roots, organic matter in the topsoil is minimal based on our laboratory testing (between one and three percent). The topsoil can be re-used in site fills. The residual soil/colluvial layer should excavated to underlying weathered rock contact and stockpiled on site for reuse as structural fill. An estimate of the residual soil/colluvial layer thickness is shown on the attached cross sections (Figures 5 through 10.

Based on the preliminary grading plan, the warehouse building footprint is situated on a bedrock cut/fill transitional area with cuts up to approximately 20 feet in the eastern side of the building and fills up to approximately 10 to 15 feet along the western side of the building. To provide

© 2019 Kleinfelder

uniform support for the proposed warehouse building and to reduce the adverse effects of abrupt differential settlement due the cut/fill transition and variability in fill thickness across the building pad, we recommend the bedrock should be undercut by at least 6 feet below the finished floor elevation and backfilled with structural fill. In addition, cut/fill transitions are situated below small area of the parking structure's lower level. Beneath the parking structure, we recommend the bedrock should be undercut by at least 4 feet below the finished floor elevation and backfilled with structural fill.

5.2.3 Permanent Slopes

Permanent slopes should be constructed at 2:1 (horizontal to vertical) or flatter. Slopes will be subject to erosion and should be planted as soon as practicable. Where new fill slopes are to be constructed on hillsides or existing slopes, the topsoil, colluvial soils, and other materials considered unsuitable should be removed. Where the exposed slope is steeper than 5:1, or where recommended by personnel by our firm, the original ground on which fill is to be placed should be keyed and benched. The benches should extend in the underlying bedrock. Key should be at least 8 feet wide and sloped a minimum of 2% towards the slope. Benches should be at least 4 feet wide and not exceed 4 feet in height. Fill slopes should be overbuilt by 2 feet then cut back to facilitate compaction at the face. Fill and cut slopes should be observed by our firm during grading to evaluate the anticipated geologic conditions and make any necessary modifications. Slope drains should also be installed within the fill slopes to prevent building up hydrostatic pressures behind slopes, especially in areas of observed seepage. Figures 11 and 12 show typical details for slope and canyon drains.

5.2.4 Temporary Excavations

All excavations must comply with applicable local, state, and federal safety regulations, including OSHA requirements. The responsibility for excavation safety and stability of temporary construction slopes lies solely with the contractor. We are providing this information below solely as a service to our client. Under no circumstances should this information provided be interpreted to mean that Kleinfelder is assuming responsibility for final engineering of excavations or shoring, construction site safety, or the contractors' activities; such responsibility is not being implied and should not be inferred.

Minor sloughing and/or raveling of slopes should be anticipated as they dry out. Where space for sloped embankments is not available, shoring will be necessary. In addition, excavations within a

© 2019 Kleinfelder

1:1 plane extending downward from a horizontal distance of 2 feet beyond the bottom outer edge of existing improvements should not be attempted without bracing and/or underpinning the footings, as discussed above. The geotechnical engineer or their field representative should observe the excavations so that modifications can be made to the excavations, as necessary, based on variations in the encountered soil conditions. All applicable excavation safety requirements and regulations, including OSHA requirements, should be met.

All trench excavations should be braced and shored in accordance with good construction practice and all applicable safety ordinances and codes. Stockpiled (excavated) materials should be placed no closer to the edge of an excavation than a distance equal to the depth of the excavation, but no closer than 4 feet.

5.2.5 Excavation Characteristics

The seismic refraction survey results indicate the initial weathered rock layer with compression wave velocities (Vp) ranging between 3,985 to 6,030 feet per second is located approximately 1 to 3 below existing grades and extends as deep as 30 feet below grade within the warehouse building cut. Based on Caterpillar's Handbook of Ripping (2000), rock exhibiting seismic velocities in this range are marginally rippable using a D9R dozer equipped with multi or single shank ripper(s). Underlying this layer is a less weathered rock zone with compression wave velocities ranging between 12,210 to 18,530 feet per second and is located as shallow as 5 to 10 feet below grade within eastern cut for the warehouse building and the fuel facility cut area on the northern portion of the site. Localized blasting will likely be needed to excavate less weathered rock. In addition, crushing and screening operations will likely be required to produce efficient rock fragmentation of the rock (both weathered and less weathered rock) for re-use onsite as structural fill. The results of the seismic refraction survey are presented in Appendix C of this report.

5.2.6 Foundation Excavations

Shallow Foundations

Following excavation to the foundation subgrade elevations, the exposed subgrade should be observed by a representative of the geotechnical engineer to evaluate the presence of satisfactory materials at design elevations. If unsatisfactory material, such as soft or disturbed soil, debris or otherwise unsuitable soil is present at the base of footing excavations, it should be overexcavated

© 2019 Kleinfelder

and replaced with structural concrete, 2-sack sand-cement slurry, or structural fill to the depth determined by the geotechnical engineer.

We understand that new spread footing foundations for the fuel facility canopy will be embedded approximately 6 to 7 feet below the finished grade. If a bedrock cut/fill transition is encountered at the footing bottom for the canopy, the bedrock should be undercut by at least 3 feet and backfilled with structural fill to provide uniform support. It should be noted that fuel facility canopy spread foundation excavation may encounter the harder, less weathered bedrock layer and may require blasting to achieve proper foundation depth.

Drilled Pile Foundations

The performance and capacities of piles can be influenced significantly by the selected construction methods and procedures used. Construction methods that create large zones of disturbance around the drilled shafts can lead to lower than expected skin friction due to excessive stress relief around the shaft length. At grade parking lots are planned north of the warehouse footprint. Per Kleinfelder's seismic refraction survey, these drilled piers will encounter the weathered bedrock layer during drilling. Drilling should be completed with heavy-duty equipment with rock coring capabilities.

Concrete should be placed immediately after drilling of the hole is complete. The concrete should be pumped to the bottom of the drilled shaft using a down-hole tremie. If the tremie method is used to place concrete below the polymer slurry level, we recommend it have a slump of at least 8 inches. If steel casing is used, the casing should be removed as the concrete is placed but the bottom of the casing should be kept at least 5 feet below the top of the concrete.

5.2.7 Fill Material and Compaction Criteria

The on-site soils, minus debris, organic matter, or other deleterious materials may be used as structural fill. Due to the composition of the bedrock, it will not reduce to a soil-like material when excavated. The bedrock material may be crushed, processed and re-used onsite as structural fill. Rock fragments up to 12 inches in size may be used in structural fills 10 or more feet below finished subgrade elevation, but not within 10 feet of a slope face. Rock fragments greater than 6 inches in size should not be used in the upper 10 feet of site fills. Rock fragments greater than 3 inches in size should not be used in the upper 3 feet of fills below the Costco warehouse building. There may be an opportunity for larger sized rocks and boulders between 12 and 24 inches in

© 2019 Kleinfelder

size to be re-used at the base of slopes or in landscape areas. A rock that cannot be crushed or screened to above size criteria should be removed off site.

Rocks up to 12 inches in size may be placed in the deeper portions of structural fills as noted above provided they are thoroughly mixed with soils to avoid excessive concentrations of rock fragments. Over-sized materials (between 6 and 12 inches) should be placed in windrows or otherwise be placed under the observation of the geotechnical engineer's representative in a manner to avoid nesting or voids. Fills should be placed in lifts slightly thicker than the largest particle size and proof-rolled with a D-9 or larger Caterpillar dozer making at least 5 complete passes over each lift. Periodic test pits should be excavated into each compacted lift to confirm the rock fill is being placed in a uniform, dense manner with no nesting or voids.

Compaction of rocky fill should be performed by at least 8 to 10 passes of either a self-propelled, vibratory roller applying at least 20 tons force (dynamic) or a sheepsfoot roller weighing at least 30 tons (static) where at least 90 percent relative compaction is specified. Verification of consolidated material by pot holing during fill/backfill activities should be performed for each lift of compacted rocky fill to confirm a dense fill with no void is being achieved. Additional fill lifts should not be placed if the previous fill lift did not meet the minimum required relative compaction or if fill conditions are not stable. Disking, cross ripping, and/or blending may be required to uniformly moisture-condition soils used for engineered fill.

Although preliminary grading plans show that this site will be balanced, it is anticipated that crushing and processing the harder rock layers will prove challenging and may require soil to be imported onsite. Import materials, if required, should have a Plasticity Index of less than 10 with no less than 70 percent passing the No. 4 sieve, no more than 30 percent of the particles passing the No. 200 sieve, and no particles greater than 3 inches in maximum dimension. The maximum Plasticity Index for imported soils may be modified upon approval by Costco depending on its proposed use. The contractor should provide documentation to Costco that imported fill is free of hazardous materials, including petroleum or petroleum byproducts, chemicals and harmful minerals prior to its transportation and use on site

We recommend soils compacted to at least 95 percent of the maximum dry unit weight (ASTM D1557) in accordance with the CWDRs. Fill should be placed in loose horizontal lifts not more than 8 inches thick (loose measurement). The moisture content of the fill should be maintained at

© 2019 Kleinfelder

around optimum for sandy soils and at least above optimum for clayey soils during compaction. Table 5 presents structural fill placement and compaction criteria.

© 2019 Kleinfelder

TABLE 5
STRUCTURAL FILL PLACEMENT AND COMPACTION CRITERIA

Fill Location/Use	Material Type	Relative Compaction[1] (ASTM D1557)	Moisture Content Range	Minimum Compaction Testing Frequency Per Lift
Aggregate base for pavements and concrete slabs	Aggregate Base	95 percent	-2 to +2% of optimum	10,000 Square Feet
Structural Areas (Warehouse Building Pad)	On-site Fill or Imported Material	95 percent	-2 to +2% of optimum for granular soil 0 to +2% of optimum for on-site clayey soils	10,000 Square Feet
Subgrade for Pavements, Sidewalks and Other Flatwork Areas	On-site Fill or Imported Material	95 percent	-2 to +2% of optimum for granular soil 0 to +2% of optimum for on-site clayey soils	15,000 Square Feet
Retaining Wall backfill	Granular Backfill	95 percent	-2 to +2% of optimum	1,000 Square Feet
Utility trenches backfill	On-site Rock Fill or Imported Material	95 percent	-2 to +2% of optimum for granular soil 0 to +2% of optimum for on-site clayey soils	150 Linear Feet
Lawns or Unimproved areas	Imported Material	At least 90 percent	-2 to +2% of optimum for granular soil 0 to +2% of optimum for on-site clayey soils	20,000 Square Feet

5.2.8 Groundwater Impacts

Rainfall will infiltrate near surface soils and collect on less permeable soil and rock at shallow depth. Perched groundwater above the bedrock was encountered in the test pits that were may be encountered during construction. This is most likely to occur following periods of rainfall and in the winter and spring months. If encountered, excavations which extend below the perched

© 2019 Kleinfelder

groundwater level (currently estimated to be at approximately 2 to 5 feet below existing site grade) will need to be dewatered. In our opinion, dewatering of narrow trench excavations, which penetrate less than a few feet below the groundwater level and do not encounter loose and/or cohesionless soils, may be possible by directing inflow to a sump where water can be removed by a pump. Temporary dewatering of wider, deeper, and/or more extensive excavations may require well points, deep wells, and/or deep sumps. To help maintain bottom stability of wider, deeper, and/or more extensive excavations, groundwater levels should be drawn-down a minimum of 2 feet below the lowest portion of the excavation. Since temporary dewatering will impact and be dependent on construction methods and scheduling, the contractor will be solely responsible for the design, installation, maintenance, and performance of all temporary dewatering systems.

Perched groundwater levels can fluctuate depending on rainfall, runoff conditions, or other factors. Therefore, water levels presented in this report may not be representative of those encountered at the time of construction. We recommend the contractor verify perched groundwater conditions and evaluate dewatering requirements prior to bidding and/or construction.

Depending on the depth of excavation below perched groundwater, soil conditions encountered along the excavation face, and slope inclination, caving or sloughing of excavation slopes is likely within the vicinity of a sump dewatering system. Sloughing or caving of excavation slopes could endanger personnel working within or adjacent to the excavation as well as nearby equipment, structures, or other existing improvements. The Contractor should be aware of the potential for caving and take appropriate precautions to ensure the safety of site personnel as well as the integrity of the excavation slopes and any existing, nearby structures or other improvements.

5.2.9 Trench Backfill

Pipe zone backfill (i.e. material beneath and in the immediate vicinity of the pipe) should consist of imported soil less than ¾-inch in maximum dimension. Trench zone backfill (i.e., material placed between the pipe zone backfill and finished subgrade) may consist of onsite soil or imported fill that meets the requirements for structural fill provided above.

If imported material is used for trench zone backfill, we recommend it consist of silty sand. In general, gravel should not be used for trench zone backfill due to the potential for soil migration

© 2019 Kleinfelder

into the relatively large void spaces present in this type of material and water seepage along trenches backfilled with coarse-grained sand and/or gravel.

Recommendations provided above for pipe zone backfill are minimum requirements only. More stringent material specifications may be required to fulfill local building requirements and/or bedding requirements for specific types of pipes. We recommend the project civil engineer develop these material specifications based on planned pipe types, bedding conditions, and other factors beyond the scope of this study.

Trench backfill should be placed and compacted in accordance with recommendations provided for structural fill in Section 5.2.7. Mechanical compaction is recommended; ponding or jetting should be avoided, especially in areas supporting structural loads or beneath concrete slabs supported on grade, pavements, or other improvements.

5.3 UNSTABLE SUBGRADE CONDITIONS

Pumping subgrade conditions may be encountered during site grading activities in the residual/colluvium soils, and the subgrade may need to be stabilized. Should grading be performed during or following extended periods of rainfall, the moisture content of the near-surface soils will also be significantly above the optimum moisture content. These conditions could seriously impede grading by causing an unstable subgrade condition. Typical remedial measures include the following:

- Drying: Drying unstable subgrade involves disking or ripping wet subgrade to a depth of approximately 18 to 24 inches and allowing the exposed soil to dry. Multiple passes of the equipment (likely on a daily basis) will be needed because as the surface of the soil dries, a crust forms that reduces further evaporation. Frequent disking will help prevent the formation of a crust and will promote drying. This process could take several days to several weeks depending on the material, the depth of ripping, the number of passes, and the weather.
- Removal and Replacement with Crushed Rock and Geotextile Fabric: Unstable subgrade could be overexcavated 12 to 24 inches below existing grade and replaced with ¾- or 1-inch crushed rock underlain by geotextile fabric. The geotextile fabric should consist of a woven geotextile, such as Mirafi HP series or equivalent. The final depth of removal will depend upon the conditions observed in the field once overexcavation begins. The

© 2019 Kleinfelder

geotextile fabric should be placed in accordance with the manufacturer's recommendations.

- Chemical Treatment: Unstable subgrade could be stabilized by mixing the upper 12 to 18 inches of the subgrade with Portland cement, Class C fly ash or lime. For estimating purposes, an application rate of 10 to 12 percent Class C fly ash, 3 to 4 percent for high calcium quick lime, or 4 to 5 percent Portland cement may be used. Final application rates should be determined in the field at the time of construction in consultation with the geotechnical engineer. Chemical treatment should be performed by a specialty contractor experienced in this work and should be performed in accordance with Caltrans Standard Specifications. Since lime treatment uses the on-site soil, the expense of importing material can be avoided. Chemically treated areas will have a high pH level (pH over 10) that will need to be removed from landscape areas.

5.4 EXTERIOR FLATWORK

Prior to casting exterior flatwork, the subgrade soils should be moisture conditioned and recompacted or over-excavated, as recommended in Section 5.2.2. If encountered, the moisture content of the clayey subgrade soils should be maintained at least above optimum prior to the placement of any flatwork. In the event that these subgrade soils are allowed to dry out, the exposed subgrade should be re-moisture conditioned. Careful control of the water/cement ratio should be performed to avoid shrinkage cracking due to excess water or poor concrete finishing or curing.

5.5 PAVEMENTS

5.5.1 HMA Design

Hot Mix Asphalt (HMA) should conform to requirements of the Costco Wholesale Specification Section 321216, Asphalt Paving. Section 1.3.C of the HMA specification requires that the HMA section be placed in at least two lifts. The HMA specification allows the use of ½- or ¾-inch Nominal Maximum Aggregate Size (NMAS) mixes for the base course and ⅜- or ½-inch NMAS mixes for surface course. Maximum and minimum HMA compacted lift thicknesses are provided in Table 3.1 in Section 3.3.B of the HMA specification.

© 2019 Kleinfelder

5.5.2 Construction Considerations

The pavement sections provided above are contingent on the following recommendations being implemented during construction.

- Pavement subgrade should be prepared as recommended in Section 5.2.2.
- Subgrade soils should be in a stable, non-pumping condition at the time the aggregate base materials are placed and compacted.
- Aggregate base materials should be compacted to at least 95 percent relative compaction (ASTM D1557).
- Asphalt paving materials and placement methods should meet current Costco Wholesale Specifications Section 321216.
- Adequate drainage (both surface and subsurface) should be provided such that the subgrade soils and aggregate base materials are not allowed to become wet.

Note that pavement materials and construction must be completed in strict accordance with the Costco's specifications that contain very specific pavement material (asphalt, aggregate and concrete) criteria and construction practices to be used (compaction and material sampling). The general contractor and pavement construction subcontractor should be aware that asphalt and concrete mix designs must be submitted to the design architect and Kleinfelder at least 45 days prior to the scheduled production and laydown for review and approval.

© 2019 Kleinfelder

6 ADDITIONAL SERVICES

6.1 PLANS AND SPECIFICATIONS REVIEW

We recommend Kleinfelder perform a review of geotechnical related portions of the project plans and specifications before they are finalized to see that geotechnical recommendations have been properly interpreted and implemented during design. If we are not accorded the privilege of performing this review, we can assume no responsibility for misinterpretation of our recommendations.

6.2 CONSTRUCTION OBSERVATION AND TESTING

The construction process is an integral design component with respect to the geotechnical aspects of a project. Because geotechnical engineering is an inexact science due to the variability of natural processes, and because we sample only a limited portion of the soils affecting the performance of the proposed structure, unanticipated or changed conditions can be encountered during grading. Proper geotechnical observation and testing during construction are imperative to allow the geotechnical engineer the opportunity to verify assumptions made during the design process. Therefore, we recommend that Kleinfelder be retained during the construction of the proposed improvements to observe compliance with the design concepts and geotechnical recommendations, and to allow design changes in the event that subsurface conditions or methods of construction differ from those assumed while completing this study.

Our services are typically needed at the following stages of grading:

- After demolition and grubbing;
- During grading;
- After the overexcavation, but prior to subgrade preparation;
- During utility trench backfill;
- During base placement and site paving; and
- After excavation for foundations.

© 2019 Kleinfelder

7 LIMITATIONS

This geotechnical study has been prepared for the exclusive use of Costco Wholesale and their agents for specific application to the proposed Costco Wholesale warehouse and fuel facility located on Silva Valley Parkway in El Dorado Hills, California. The findings, conclusions and recommendations presented in this report were prepared in accordance with generally accepted geotechnical engineering practice. No other warranty, express or implied, is made.

The scope of services was limited to a background data review and the field exploration described in Section 1.2. It should be recognized that definition and evaluation of subsurface conditions are difficult. Judgments leading to conclusions and recommendations are generally made with incomplete knowledge of the subsurface conditions present due to the limitations of data from field studies. The conclusions of this assessment are based on our field exploration and laboratory testing programs, and engineering analyses.

Kleinfelder offers various levels of investigative and engineering services to suit the varying needs of different clients. Although risk can never be eliminated, more detailed and extensive studies yield more information, which may help understand and manage the level of risk. Since detailed study and analysis involves greater expense, our clients participate in determining levels of service, which provide information for their purposes at acceptable levels of risk. The client and key members of the design team should discuss the issues covered in this report with Kleinfelder, so that the issues are understood and applied in a manner consistent with the owner's budget, tolerance of risk and expectations for future performance and maintenance.

Recommendations contained in this report are based on our field observations and subsurface explorations, limited laboratory tests, and our present knowledge of the proposed construction. It is possible that soil or groundwater conditions could vary between or beyond the points explored. If soil or groundwater conditions are encountered during construction that differ from those described herein, the client is responsible for ensuring that Kleinfelder is notified immediately so that we may reevaluate the recommendations of this report. If the scope of the proposed construction, including the estimated Traffic Index or locations of the improvements, changes from that described in this report, the conclusions and recommendations contained in this report are not considered valid until the changes are reviewed, and the conclusions of this report are modified or approved in writing, by Kleinfelder.

© 2019 Kleinfelder

The scope of services for this subsurface exploration and geotechnical report did not include environmental assessments or evaluations regarding the presence or absence of wetlands or hazardous substances in the soil, surface water, or groundwater at this site.

Kleinfelder cannot be responsible for interpretation by others of this report or the conditions encountered in the field. Kleinfelder must be retained so that all geotechnical aspects of construction will be monitored on a full-time basis by a representative from Kleinfelder, including site preparation, preparation of foundations, and placement of structural fill and trench backfill. These services provide Kleinfelder the opportunity to observe the actual soil and groundwater conditions encountered during construction and to evaluate the applicability of the recommendations presented in this report to the site conditions. If Kleinfelder is not retained to provide these services, we will cease to be the engineer of record for this project and will assume no responsibility for any potential claim during or after construction on this project. If changed site conditions affect the recommendations presented herein, Kleinfelder must also be retained to perform a supplemental evaluation and to issue a revision to our original report.

This report, and any future addenda or reports regarding this site, may be made available to bidders to supply them with only the data contained in the report regarding subsurface conditions and laboratory test results at the point and time noted. Bidders may not rely on interpretations, opinion, recommendations, or conclusions contained in the report. Because of the limited nature of any subsurface study, the contractor may encounter conditions during construction which differ from those presented in this report. In such event, the contractor should promptly notify the owner so that Kleinfelder's geotechnical engineer can be contacted to confirm those conditions. We recommend the contractor describe the nature and extent of the differing conditions in writing and that the construction contract include provisions for dealing with differing conditions. Contingency funds should be reserved for potential problems during earthwork and foundation construction.

This report may be used only by the client and only for the purposes stated, within a reasonable time from its issuance, but in no event later than one year from the date of the report. Land use, site conditions (both on site and off site) or other factors may change over time, and additional work may be required with the passage of time. Any party, other than the client who wishes to use this report shall notify Kleinfelder of such intended use. Based on the intended use of this report and the nature of the new project, Kleinfelder may require that additional work be performed and that an updated report be issued. Non-compliance with any of these requirements by the

© 2019 Kleinfelder

client or anyone else will release Kleinfelder from any liability resulting from the use of this report by any unauthorized party and the client agrees to defend, indemnify, and hold harmless Kleinfelder from any claims or liability associated with such unauthorized use or non-compliance.

© 2019 Kleinfelder

8 REFERENCES

Advanced National Seismic System (ANSS), 2011, http://www.quake.geo.berkeley.edu/cass

American Concrete Institute (ACI), 2014. Building Code Requirements for Structural Concrete (ACI 318-14) and Commentary (ACI318-14R).

American Society of Civil Engineers (ASCE), 2016. Minimum Design Load for Buildings and Other Structures (ASCE/SEI 7-16).

Asphalt Institute, 2001. Thickness Design: Asphalt Pavements for Highways and Streets, Manual Series 1 (MS1), 9th Edition.

Blackburn Consulting, “Geotechnical Report, EDH 52 Silva Valley Parkway at US 50, Rough Grading and Preliminary Foundation Design, El Dorado Hills, CA” dated March 2013.

California Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR), 2016. interactive oil well location map, available at website: http://maps.conservation.ca.gov/doggr/index.html.

California Department of Water Resources (DWR), 2016, interactive water well location map, available at website: http://well.water.ca.gov/.

California Geological Survey (CGS), 2010, Fault Activity Map of California (2010) available at website: http://maps.conservation.ca.gov/cgs/fam/

California Geological Survey (CGS), 2018, Earthquake Fault Zones – A Guide for Government Agencies, Property Owners/Developers, and Geoscience Practitioners for Assessing Fault Rupture Hazards in California: California Geological Survey Special Publication 42, 83p.

CARB (California Air Resources Board), (2002), Asbestos Airborne Toxic Control Measures (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations.

Caterpillar, (2000) Caterpillar Performance Handbook, 12th Edition available at website: https://www.wagnerequipment.com/caterpillar-performance-handbook-no-45/

© 2019 Kleinfelder

Churchill, R. K., Higgins, C. T., and Hill, B. (2000), Areas More Likely to Contain Natural Occurrences of Asbestos in Western El Dorado County, California, California Geological Survey, Open-File Report 2000-002.

Clinkenbeard, J.P., Churchill, R.K., and Lee, K. (2002), Special Publication 124 – Guidelines for Geologic Investigations of Naturally Occurring Asbestos in California.

Costco, 2018. Costco Wholesale Development Requirements, Version 2018, dated October 26, 2018.

David Babcock and Associates, “El Dorado Concept Site Plan 3.0” Sheet 1 of 1 dated July 3, 2019.

Edelman, S. and Sharp, W. (1989), Terranes, Early Faults, and Pre-Late Jurassic Amalgamation of the Western Sierra Nevada Metamorphic Belt, California, in Geological Society of America Bulletin volume 101, pp 1420-1433.

Federal Emergency Management Agency (FEMA), 2008, FIRM, Flood Insurance Rate Map, El Dorado County, California and incorporated areas, Panel 725 of 1125, Map number 06017C0725E, effective dated September 28, 2008.

Gutierrez, C.I., 2011, Preliminary Geologic Map of the Sacramento 30’ x 60’ Quadrangle, California. CGS, 1: 100,000

Hart, E.W. and Bryant, W.A., 1997 (revised), Fault-rupture hazard zones in California: California Department of Conservation, Division of Mines and Geology Special Publication 42, 38 p. (Revised periodically; information on state law and zoning program for regulating development near hazardous faults.)

Higgins, C., and Clinkenbeard J.P. (2006), Relative Likelihood for The Presence of Naturally Occurring Asbestos in Eastern Sacramento County, California, California Geological Survey, Special Report 192

International Code Council, Inc., 2019 California Building Code.

© 2019 Kleinfelder

Kier and Wright. “Preliminary Grading and Drainage Plan of El Dorado Hills Costco for Costco Wholesale Corporation, El Dorado Hills, California, Sheets C-1 through C-4 dated September 20, 2019

Loyd, R., Anderson, T, and Bushnell, et all (1983), Mineral Land Classification of the Placerville 15-minute Quadrangle, El Dorado and Amador Counties, California, California Geological Survey (formerly California Division of Mines and Geology) Open File Report 83-29 SAC.

Loyd, R. (1984) Mineral Land Classification of the Folsom 15-minute Quadrangle, Sacramento, El Dorado Placer, and Amador Counties, California, California Geological Survey (formerly California Division of Mines and Geology) Open File Report 84-50 SAC.

National Association of Corrosion Engineers (NACE), 2006. “Corrosion Basics, An Introduction, 2nd Edition” National Association of Corrosion Engineers.

Portland Cement Association (PCA), 1984, Thickness Design for Concrete Highway and Street Pavements, Skokie, Illinois: Portland Cement Association.

Portland Cement Association, 1988. Design and Control of Concrete Mixtures, Portland Cement Association, Skokie, Illinois.

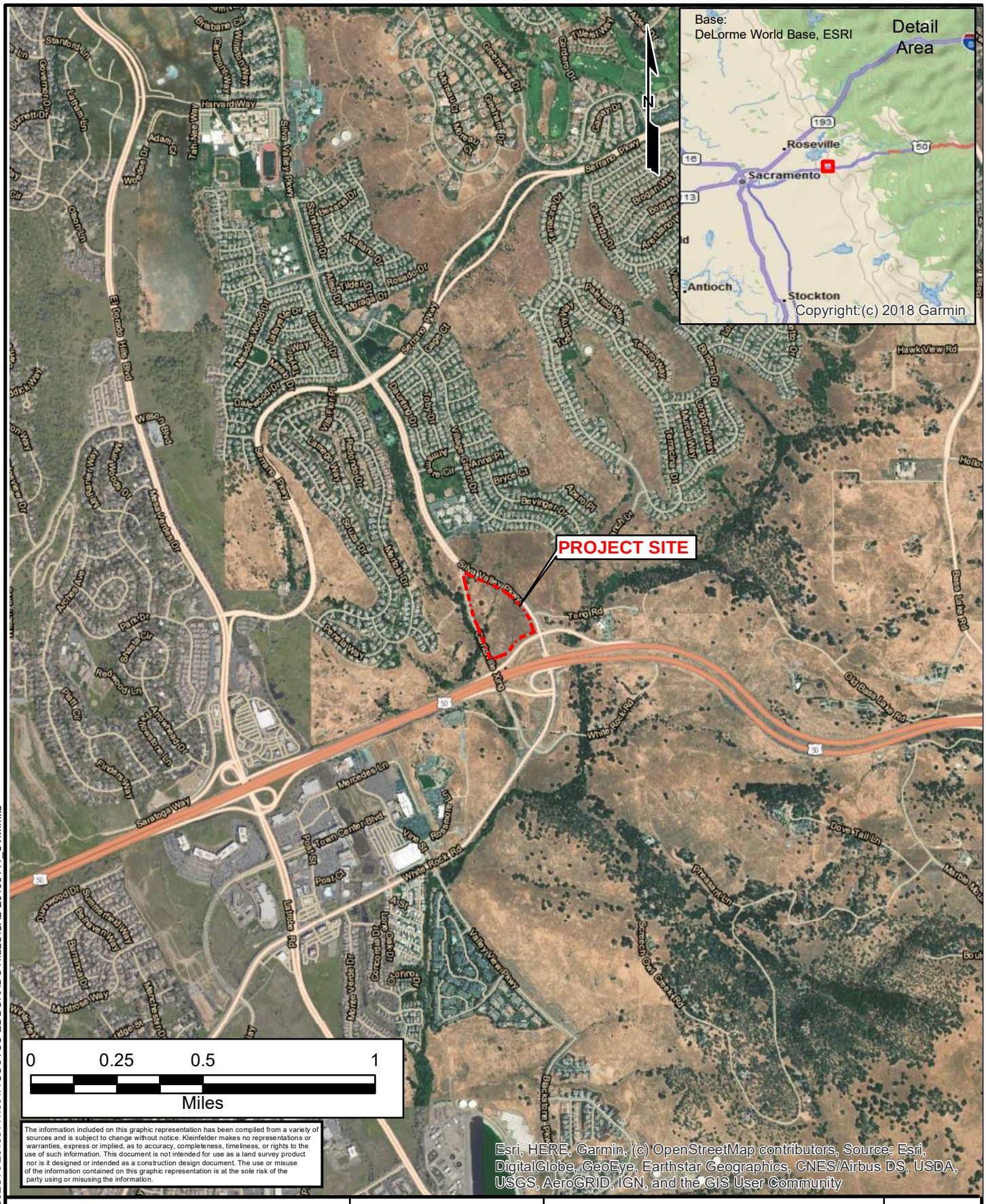
United States Geological Survey (USGS), 2013, The Uniform California Rupture Forecast, Version 3 (UCERF3) – The Time-Independent Model, USGS Open File Report 2013-1165

© 2019 Kleinfelder

KLEINFELDER

Bright People. Right Solutions.

Figures



Date Saved: 9/17/2019 11:33:44 AM

Document Path: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\20193141_SVM.mxd

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

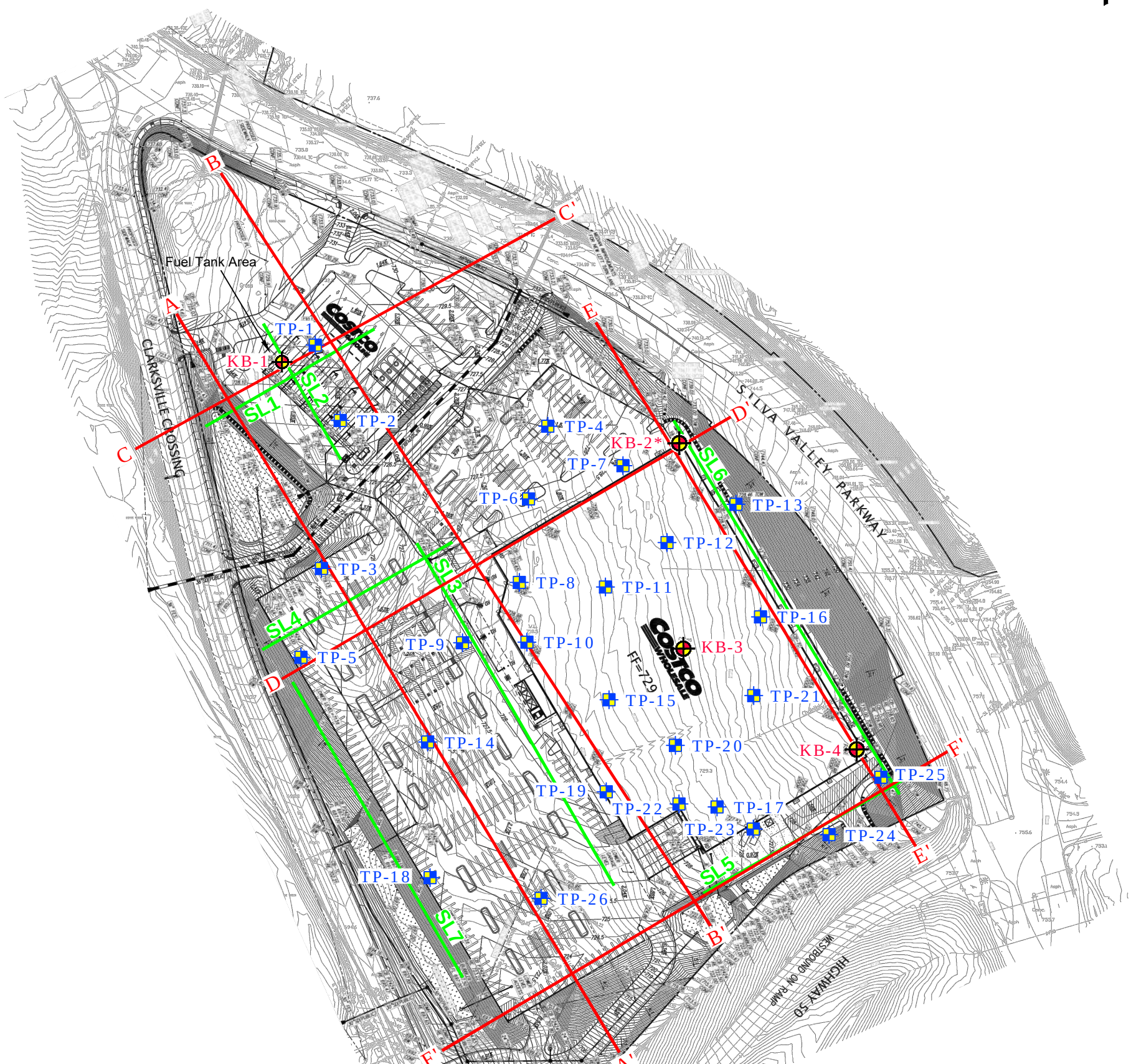
PROJECT NO.	20193141.001A
DRAWN:	9/17/2019
DRAWN BY:	D. Ross
CHECKED BY:	D .Dockendorf
FILE NAME:	20193141_SVM.mxd

SITE LOCATION MAP

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
1

PLOTTED: 23 Oct 2019, 10:25am, KHagan



LEGEND

- Rock Core Boring Location
- Test Pit Location
- SL1 — Seismic Refraction Lines
- A——A' Cross Section Lines

*Rock Core Boring Location KB-2 was not drilled due to very hard drilling conditions throughout the site.

160 0 80 160 320

APPROXIMATE SCALE: 1 inch = 160 feet

Site Plan Reference: ELDORADO HILLS CONCEPTUAL SITE PLAN - OPTION 2.0, by David Babcock & Associates, Sheet 1 of 1, dated April 11, 2019.

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

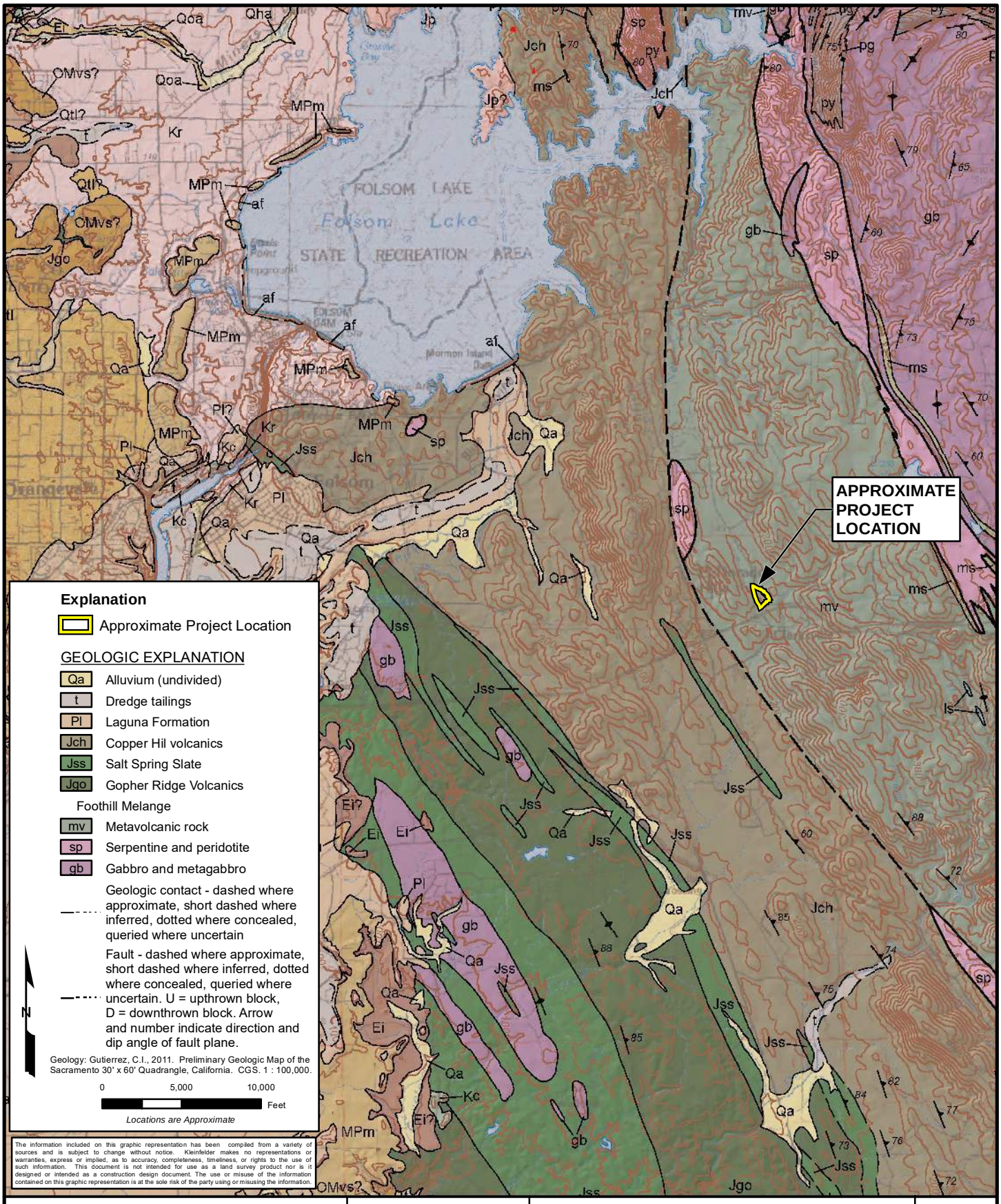
PROJECT:	20193141.001A
DRAWN:	10/23/2019
DRAWN BY:	D. Ross
CHECKED BY:	D .Dockendorf
FILE NAME:	20193141_2.dwg

EXPLORATION LOCATION MAP

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE 2

CAD FILE: \\sacramento\SACRAMENTO-DATA\DRAFTING\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: Layout1



PLOTTED: 10/23/2019 1:10:26 PM, KHagan

FILE: L:\2019\20193141.001A - CSM Costco El Dorado CA New WhseGas GEO\2.0 Technical Information\2.8 CAD GIS

SACRAMENTO, CA

KLEINFELDER
Bright People. Right Solutions.

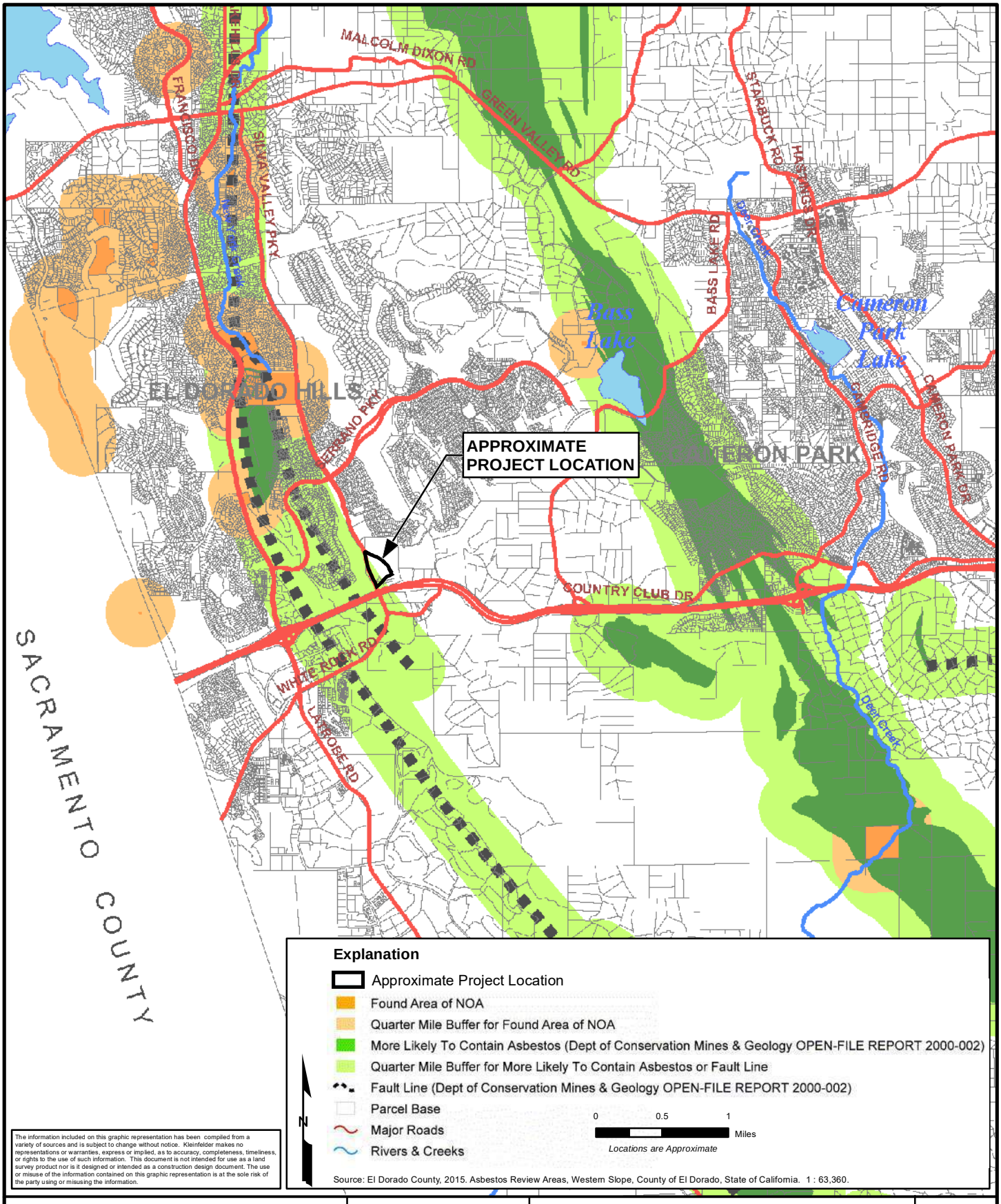
PROJECT:	20193141
DRAWN:	OCT 2019
DRAWN BY:	KFH
CHECKED BY:	DD
FILE NAME:	Fig3_Geo.mxd

REGIONAL GEOLOGY MAP

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE

3



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

PLOTTED: 10/23/2019 2:26:39 PM, KHagan

FILE: L:\2019\20193141.001A - CSM Costco El Dorado CA New WhseGas GEO\2.0 Technical Information\2.8 CAD GIS

SACRAMENTO, CA

KLEINFELDER
Bright People. Right Solutions.

PROJECT:	20193141
DRAWN:	OCT 2019
DRAWN BY:	KFH
CHECKED BY:	DD
FILE NAME:	Fig4_NOA.mxd

NATURALLY OCCURING ASBESTOS MAP

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE

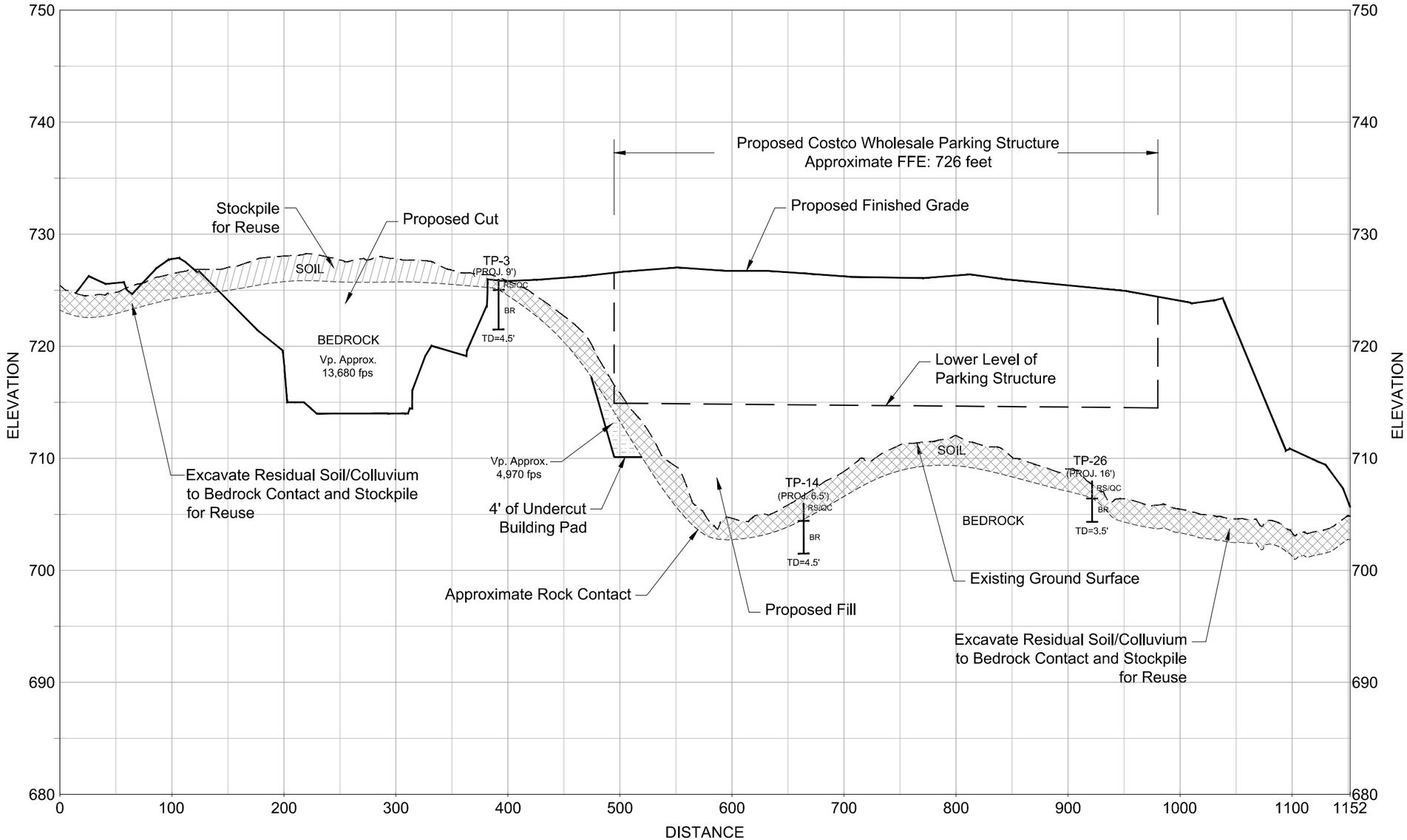
4

PLOTTED: 30 Oct 2019, 4:30pm, DFahrney

A

VIEW: NORTHEAST

A'



LEGEND

RS/QC Residual Soil and/or Colluvium

BR Bedrock

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

PROJECT NO.	20193141.001A
DRAWN:	10/24/2019
DRAWN BY:	D. Ross
CHECKED BY:	B. Anderson
FILE NAME:	CROSS SECTIONS.dwg

CROSS SECTION A - A'

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE

5

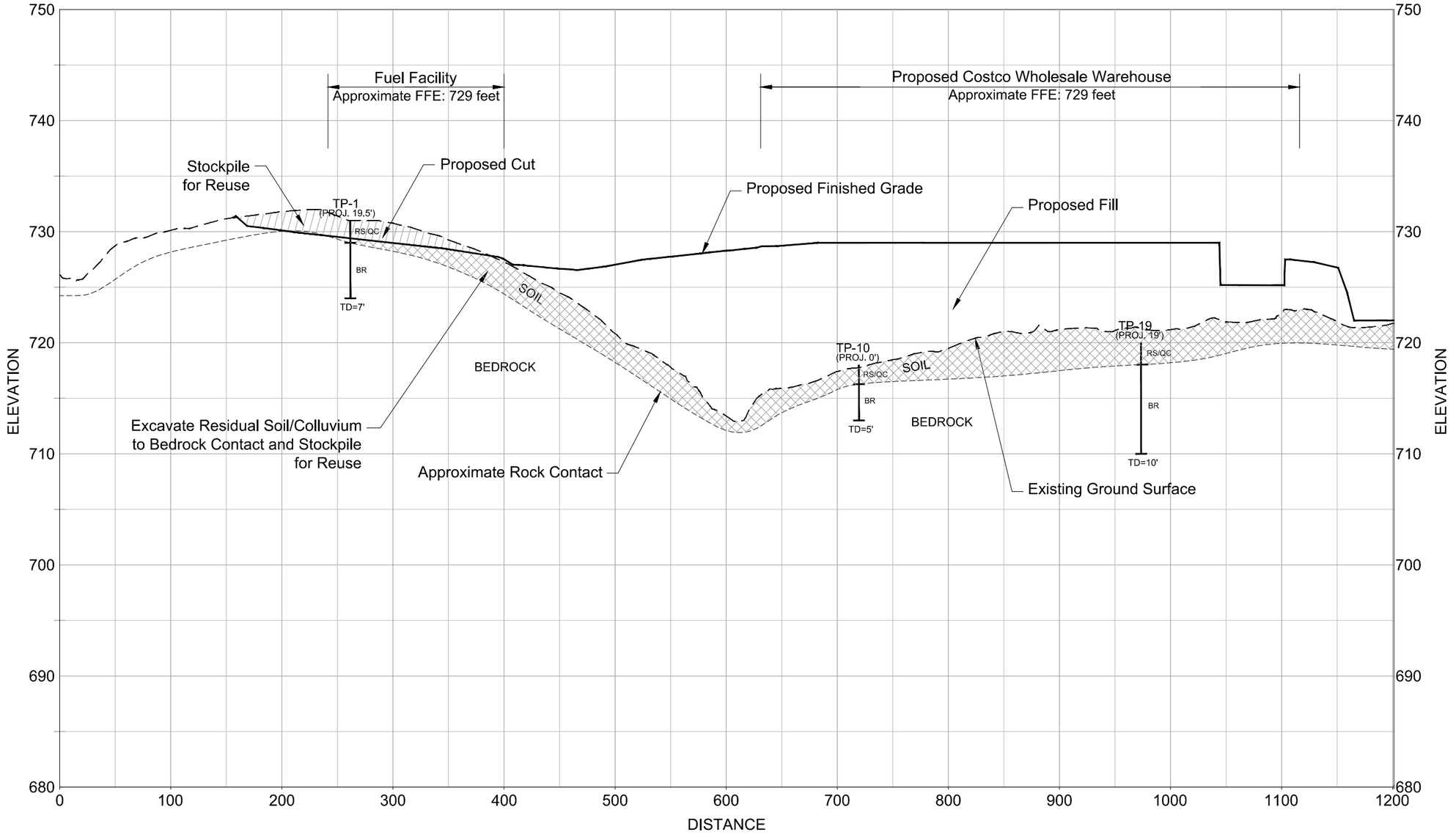
CAD FILE: U:\Projects\CADD\CADD 2019\20193141\ LAYOUT: A-A'

PLOTTED: 30 Oct 2019, 4:14pm, DFahrney

B

VIEW: NORTHEAST

B'



LEGEND

RS/QC Residual Soil and/or Colluvium

BR Bedrock

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

PROJECT NO.	20193141.001A
DRAWN:	10/24/2019
DRAWN BY:	D. Ross
CHECKED BY:	B. Anderson
FILE NAME:	CROSS SECTIONS.dwg

CROSS SECTION B - B'

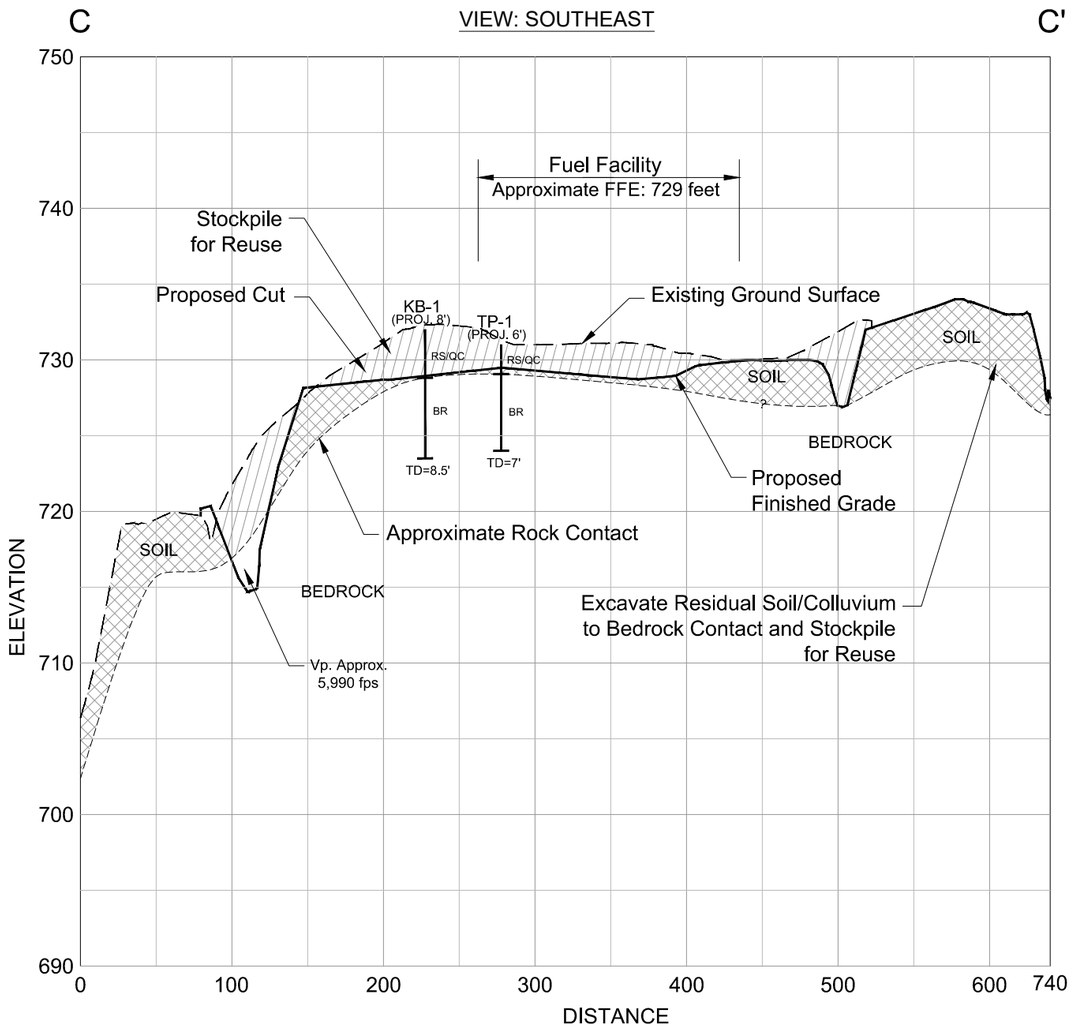
CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE

6

CAD FILE: U:\Projects\CADD\CADD 2019\20193141\ LAYOUT: B-B'

PLOTTED: 30 Oct 2019, 4:15pm, DFahmey



LEGEND

RS/QC Residual Soil and/or Colluvium

BR Bedrock

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

PROJECT NO.	20193141.001A
DRAWN:	10/24/2019
DRAWN BY:	D. Ross
CHECKED BY:	B. Anderson
FILE NAME:	CROSS SECTIONS.dwg

CROSS SECTION C - C'

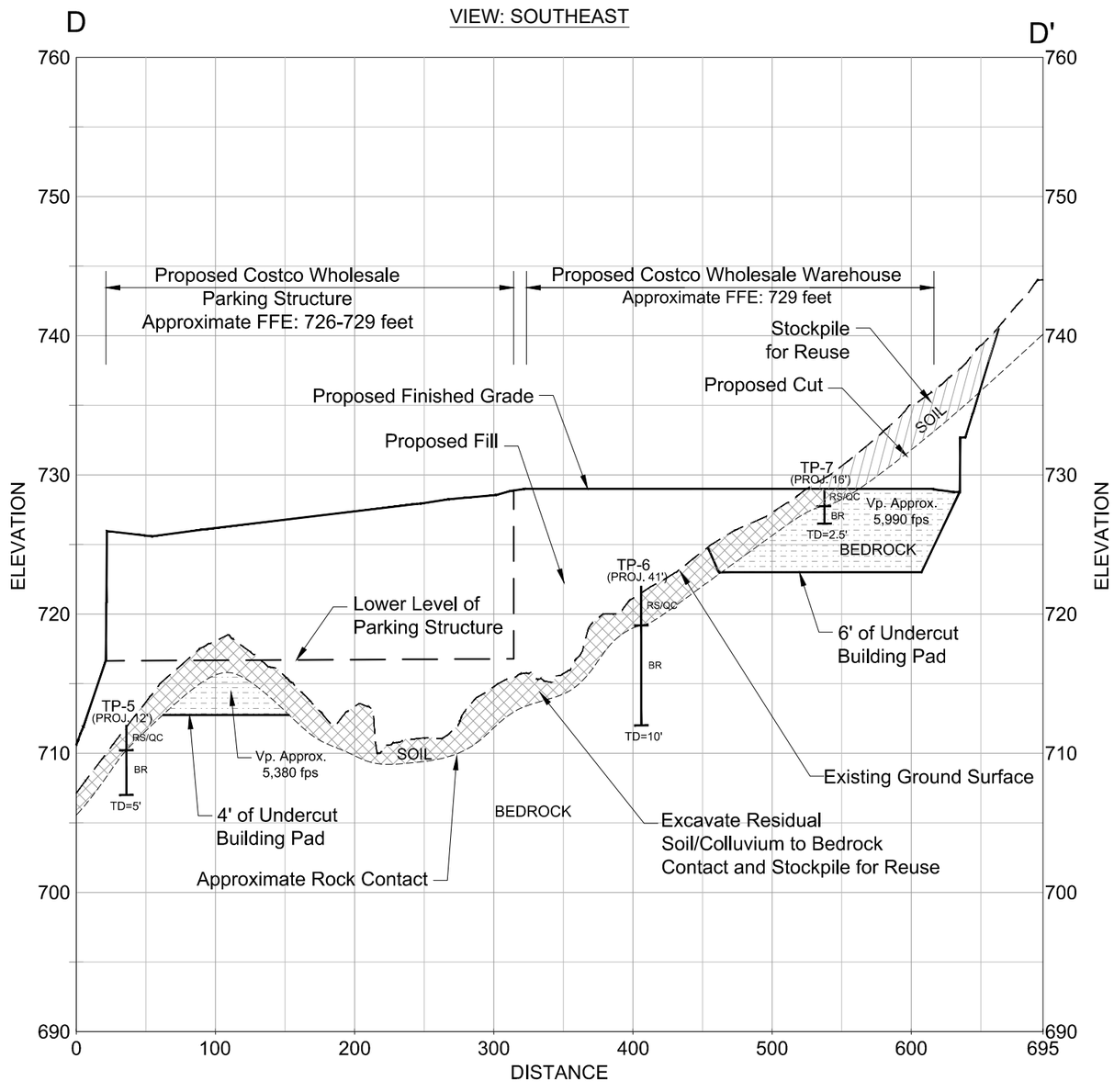
CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
7

CAD FILE: U:\Projects\CADD\CADD 2019\20193141\ LAYOUT: C-C'

PLOTTED: 30 Oct 2019, 4:30pm, DFahmey

VIEW: SOUTHEAST



LEGEND

RS/QC Residual Soil and/or Colluvium

BR Bedrock

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

PROJECT NO.	20193141.001A
DRAWN:	10/24/2019
DRAWN BY:	D. Ross
CHECKED BY:	B. Anderson
FILE NAME:	CROSS SECTIONS.dwg

CROSS SECTION D - D'

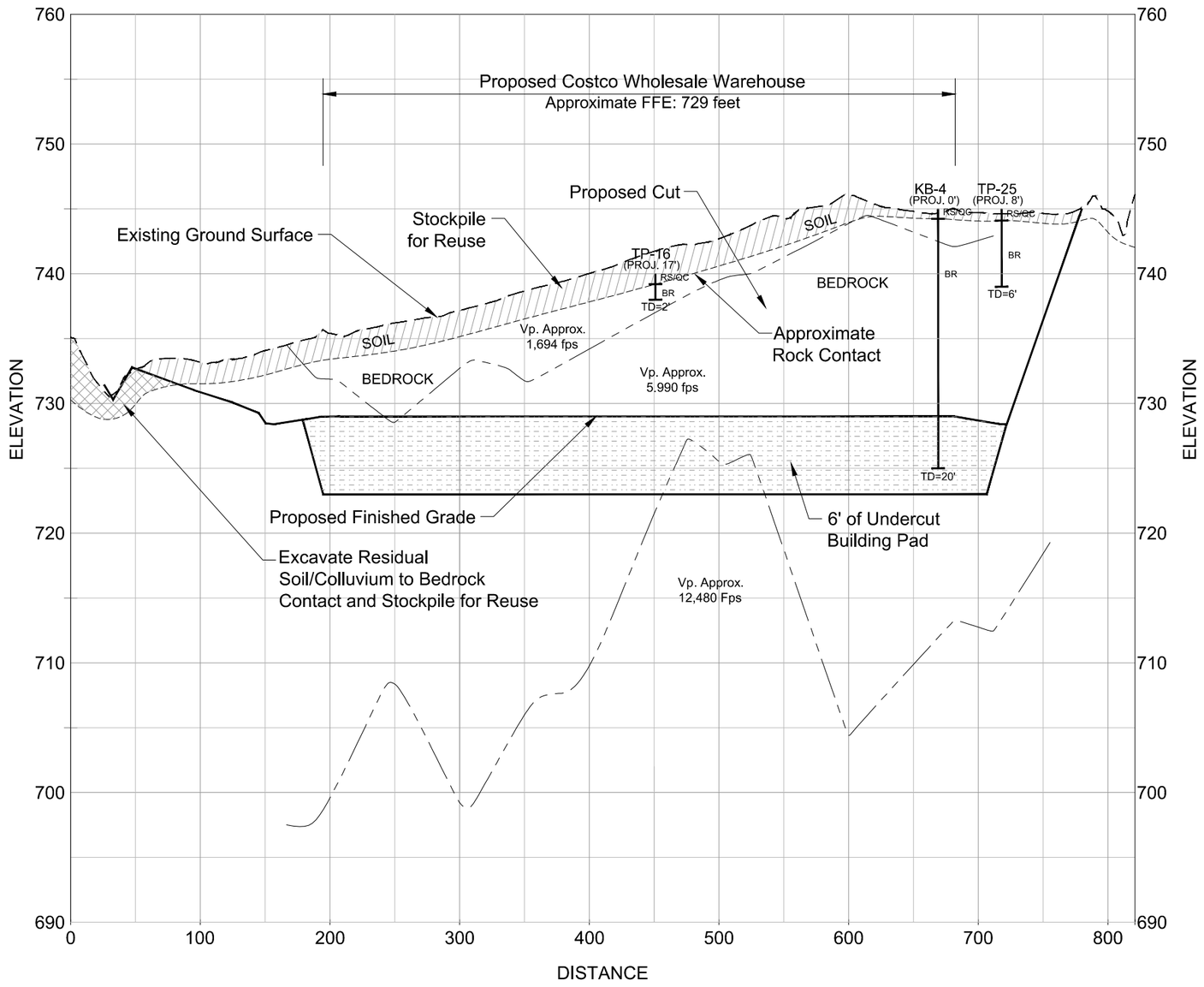
CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
8

CAD FILE: U:\Projects\CADD\CADD 2019\20193141\ LAYOUT: D-D'

PLOTTED: 30 Oct 2019, 4:16pm, DFahmey

E VIEW: SOUTHWEST E'



LEGEND

RS/QC	Residual Soil and/or Colluvium
BR	Bedrock
- - - -	Seismic Refraction Layer Contact with Layer Velocity

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

PROJECT NO.	20193141.001A
DRAWN:	10/24/2019
DRAWN BY:	D. Ross
CHECKED BY:	B. Anderson
FILE NAME:	CROSS SECTIONS.dwg

CROSS SECTION E - E'

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE 9

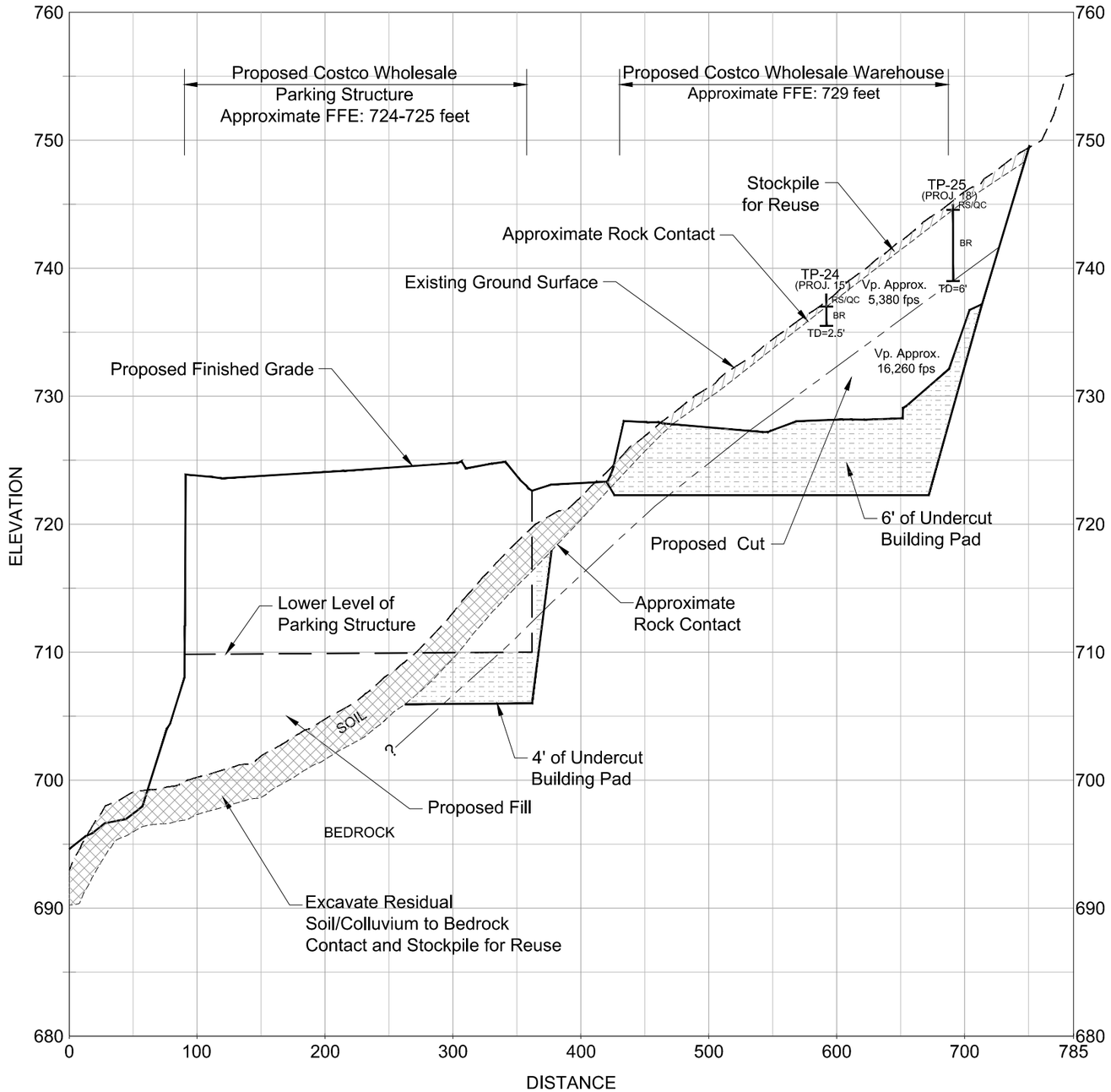
CAD FILE: U:\Projects\CADD\CADD 2019\20193141\ LAYOUT: E-E'

PLOTTED: 30 Oct 2019, 4:17pm, DFahmey

F

VIEW: NORTHWEST

F'



LEGEND

RS/QC Residual Soil and/or Colluvium

BR Bedrock

Seismic Refraction Layer with Layer Velocity

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

PROJECT NO.	20193141.001A
DRAWN:	10/24/2019
DRAWN BY:	D. Ross
CHECKED BY:	B. Anderson
FILE NAME:	CROSS SECTIONS.dwg

CROSS SECTION F - F'

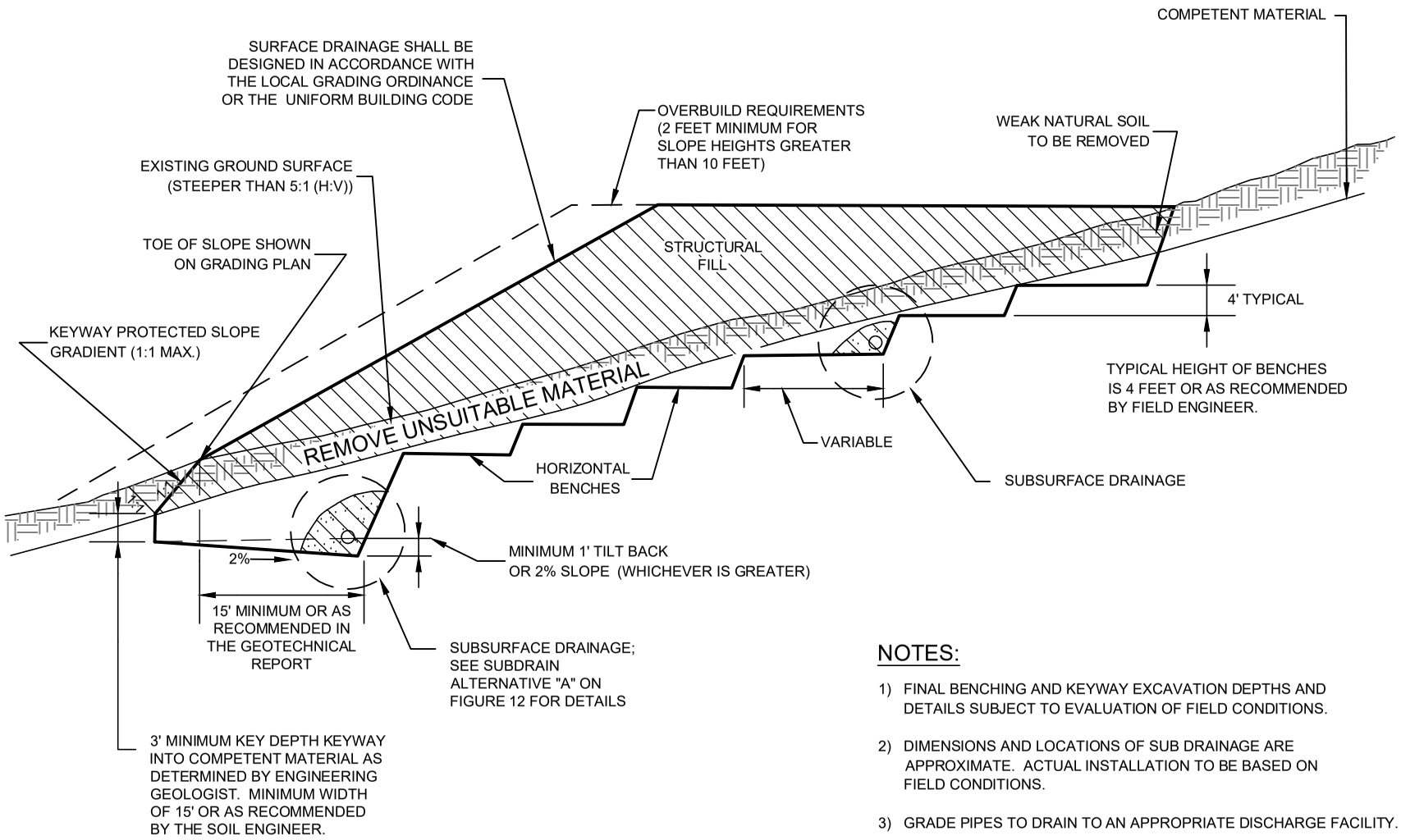
CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE

10

CAD FILE: U:\Projects\CADD\CADD 2019\20193141\ LAYOUT: F-F'

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com



NOTES:

1) FINAL BENCHING AND KEYWAY EXCAVATION DEPTHS AND DETAILS SUBJECT TO EVALUATION OF FIELD CONDITIONS.
2) DIMENSIONS AND LOCATIONS OF SUB DRAINAGE ARE APPROXIMATE. ACTUAL INSTALLATION TO BE BASED ON FIELD CONDITIONS.
3) GRADE PIPES TO DRAIN TO AN APPROPRIATE DISCHARGE FACILITY.
4) INSTALL CLEANOUTS AT ENDS, ANGLES, AND JUNCTIONS OF PIPE.
5) BENCH SHALL BE REQUIRED WHEN NATURAL SLOPES ARE EQUAL TO OR STEEPER THAN 5:1 OR WHEN RECOMMENDED BY THE SOIL ENGINEER.
6) SUBDRAINAGE: BACK DRAIN REQUIRED AS RECOMMENDED IN THE GEOTECHNICAL REPORT AND VERIFIED IN THE FIELD BY THE GEOTECHNICAL CONSULTANT

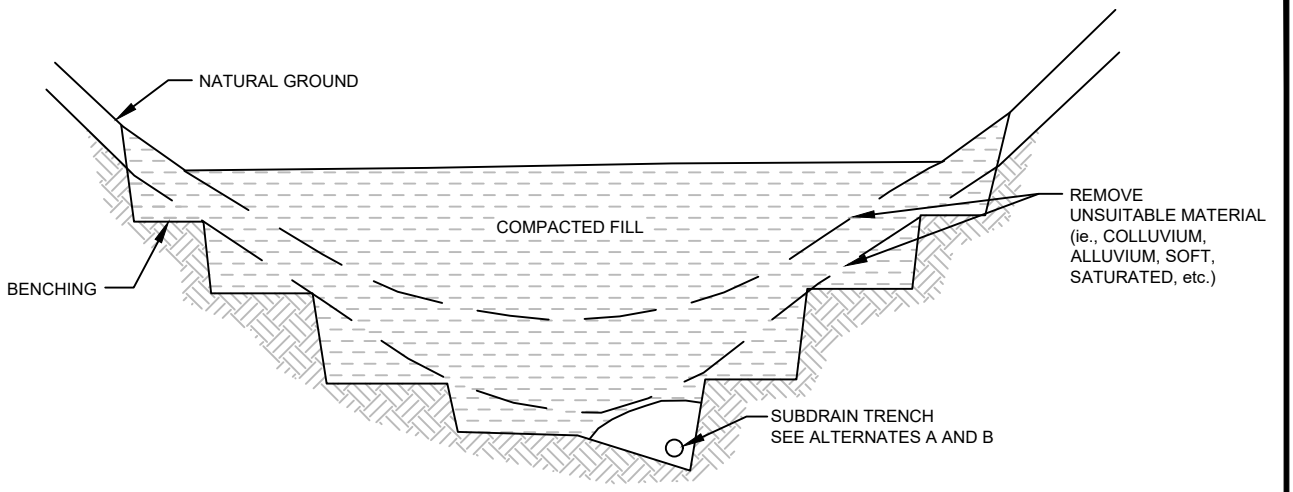
PROJECT NO. 20193141
DRAWN: 04/2017
DRAWN BY: DMF
CHECKED BY: RFE
FILE NAME: Details.dwg

TYPICAL ENGINEERED FILL SLOPE/BENCHING DETAIL

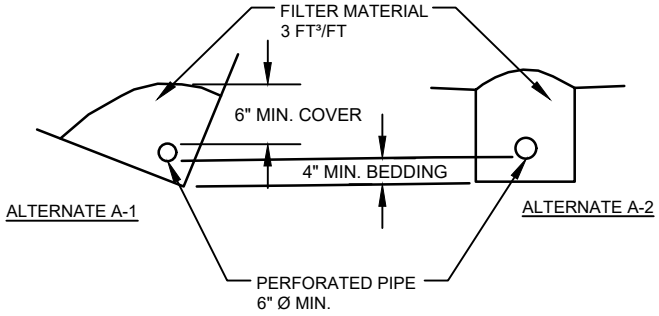
CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE 11

CANYON SUBDRAIN DETAIL



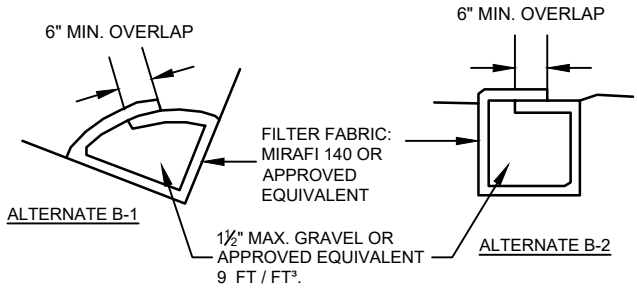
SUBDRAIN ALTERNATE A:
PERFORATED PIPE SURROUNDED BY FILTER MATERIAL



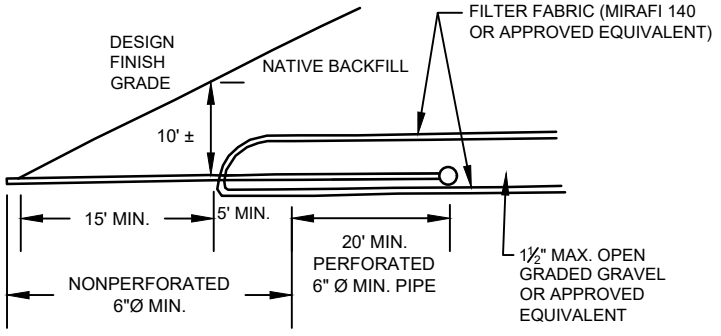
FILTER MATERIAL:
Filter material shall be class 2 permeable material per State of California Standards Specifications, or an approved alternate. Class 2 grading as follows:

SIEVE SIZE	PERCENT PASSING
1"	100
¾"	90-100
⅜"	40-100
No. 4	25-40
No. 8	18-33
No. 30	5-15
No. 50	0-7
No. 200	0-3

SUBDRAIN ALTERNATE B:
1½" GRAVEL WRAPPED IN FILTER FABRIC.
6" MIN. OVERLAP



DETAIL OF CANYON SUBDRAIN TERMINOUS



SUBDRAIN INSTALLATION: SUBDRAIN PIPE SHALL BE INSTALLED WITH PERFORATIONS DOWN, OR AT LOCATIONS DESIGNATED BY THE GEOTECHNICAL CONSULTANT. OUTLET PIPE SHALL BE NON-PERFORATED PIPE.

SUBDRAIN TYPE: SUBDRAIN TYPE SHALL BE SCHEDULE 40 PVC PIPE OR AN APPROVED EQUIVALENT.

CAD FILE: U:\Projects\CADD\CADD ORACLE\ORACLE-2017\136238\Beaumont\ LAYOUT: 4 PLOTTED: 20 Apr 2017, 3:14pm, DFahrney
ATTACHED IMAGES:
ATTACHED XREFS:
RIVERSIDE, CA

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

PROJECT NO.	20193141
DRAWN:	04/2017
DRAWN BY:	DMF
CHECKED BY:	RFE
FILE NAME:	Details.dwg

CANYON SUBDRAIN DETAIL

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
12

KLEINFELDER

Bright People. Right Solutions.

Appendix A

APPENDIX A
FIELD EXPLORATIONS

GENERAL

We explored subsurface conditions at the site by drilling 3 borings and excavating 26 test pits. The borings were drilled by Gulf Shore Drilling of Sacramento, California using track-mounted, hollow-stem auger drilling equipment with rock coring abilities to depths of between approximately 8½ to 25 feet below the existing ground surface (bgs). The proposed exploration plan also included a fourth rock coring location (KB-2) on the northeastern corner of the new warehouse location. This location was not drilled due to very hard drilling conditions throughout the course of the field exploration.

The test pits were excavated by Iron Works Excavation of Sacramento, California using a John Deere 50G track-mounted excavator to excavate to depths ranging from 2 to 10 feet bgs. The approximate locations of the borings and test pits are presented on Figure 2.

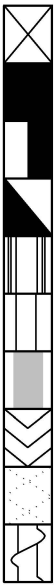
Prior to commencement of the fieldwork, Underground Service Alert (USA) was notified and various geophysical techniques were used at the boring locations to identify potential conflicts with subsurface structures.

The boring and test pit logs are presented as Figures A-4 through A-32. An explanation to the log is presented as Figures A-1 through A-3. The Boring/Test Pit Log describes the earth materials encountered, samples obtained and show field and laboratory tests performed. The log also shows the location, boring/test pit number, drilling/excavation date and the name of the drilling/excavation subcontractor. The borings and test pits were logged by a Kleinfelder engineer using the Unified Soil Classification System. The boundaries between soil types shown on the logs are approximate because the transition between different soil layers may be gradual. Bulk and drive samples of selected earth materials were obtained from the borings and test pits.

Bulk and grab samples of the near-surface soils were directly retrieved from the auger cuttings from the borings and the excavated material in the test pits.

© 2019 Kleinfelder

SAMPLER AND DRILLING METHOD GRAPHICS



- BULK / GRAB / BAG SAMPLE
- MODIFIED CALIFORNIA SAMPLER (2 or 2-1/2 in. (50.8 or 63.5 mm.) outer diameter)
- CALIFORNIA SAMPLER (3 in. (76.2 mm.) outer diameter)
- STANDARD PENETRATION SPLIT SPOON SAMPLER (2 in. (50.8 mm.) outer diameter and 1-3/8 in. (34.9 mm.) inner diameter)
- HQ CORE SAMPLE (2.500 in. (63.5 mm.) core diameter)
- SHELBY TUBE SAMPLER
- PUSH TYPE SAMPLER
- SONIC CONTINUOUS SAMPLER
- HAND AUGER
- AUGER CUTTINGS

GROUND WATER GRAPHICS

- WATER LEVEL (level where first observed)
- WATER LEVEL (level after exploration completion)
- WATER LEVEL (additional levels after exploration)
- OBSERVED SEEPAGE

NOTES

- The report and graphics key are an integral part of these logs. All data and interpretations in this log are subject to the explanations and limitations stated in the report.
- Lines separating strata on the logs represent approximate boundaries only. Actual transitions may be gradual or differ from those shown.
- No warranty is provided as to the continuity of soil or rock conditions between individual sample locations.
- Logs represent general soil or rock conditions observed at the point of exploration on the date indicated.
- In general, Unified Soil Classification System designations presented on the logs were based on visual classification in the field and were modified where appropriate based on gradation and index property testing.
- Fine grained soils that plot within the hatched area on the Plasticity Chart, and coarse grained soils with between 5% and 12% passing the No. 200 sieve require dual USCS symbols, ie., GW-GM, GP-GM, GW-GC, GP-GC, GC-GM, SW-SM, SP-SM, SW-SC, SP-SC, SC-SM.
- If sampler is not able to be driven at least 6 inches then 50/X indicates number of blows required to drive the identified sampler X inches with a 140 pound hammer falling 30 inches.

ABBREVIATIONS
WOH - Weight of Hammer
WOR - Weight of Rod

UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D 2487)

COARSE GRAINED SOILS (More than half of material is larger than the #200 sieve)	**GRAVELS** (More than half of coarse fraction is larger than the #4 sieve)	CLEAN GRAVEL WITH <5% FINES	Cu≥4 and 1≤Cc≤3		**GW**	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES
			Cu<4 and/ or 1>Cc>3		**GP**	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES
		GRAVELS WITH 5% TO 12% FINES	Cu≥4 and 1≤Cc≤3		**GW-GM**	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE FINES
					GW-GC	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE CLAY FINES
			Cu<4 and/ or 1>Cc>3		**GP-GM**	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE FINES
					GP-GC	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE CLAY FINES
		GRAVELS WITH > 12% FINES			**GM**	SILTY GRAVELS, GRAVEL-SILT-SAND MIXTURES
					GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
					GC-GM	CLAYEY GRAVELS, GRAVEL-SAND-CLAY-SILT MIXTURES
	SANDS (Half or more of coarse fraction is smaller than the #4 sieve)	CLEAN SANDS WITH <5% FINES	Cu≥6 and 1≤Cc≤3		**SW**	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE OR NO FINES
			Cu<6 and/ or 1>Cc>3		**SP**	POORLY GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE OR NO FINES
		SANDS WITH 5% TO 12% FINES	Cu≥6 and 1≤Cc≤3		**SW-SM**	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE FINES
					SW-SC	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE CLAY FINES
			Cu<6 and/ or 1>Cc>3		**SP-SM**	POORLY GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE FINES
					SP-SC	POORLY GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE CLAY FINES
		SANDS WITH > 12% FINES			**SM**	SILTY SANDS, SAND-GRAVEL-SILT MIXTURES
					SC	CLAYEY SANDS, SAND-GRAVEL-CLAY MIXTURES
					SC-SM	CLAYEY SANDS, SAND-SILT-CLAY MIXTURES

FINE GRAINED SOILS (Half or more of material is smaller than the #200 sieve)	SILTS AND CLAYS (Liquid Limit less than 50)	**ML**	INORGANIC SILTS AND VERY FINE SANDS, SILTY OR CLAYEY FINE SANDS, SILTS WITH SLIGHT PLASTICITY
		CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
		CL-ML	INORGANIC CLAYS-SILTS OF LOW PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
		OL	ORGANIC SILTS & ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS (Liquid Limit 50 or greater)	**MH**	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILT
		CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
		OH	ORGANIC CLAYS & ORGANIC SILTS OF MEDIUM-TO-HIGH PLASTICITY

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	JDS
CHECKED BY:	DD
DATE:	9/11/2019
REVISED:	10/4/2019

GRAPHICS KEY

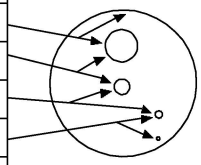
CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-1

PLOTTED: 10/04/2019 10:12 AM BY: DRoss
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.001A
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [LEGEND 1 (GRAPHICS KEY) USCS_NOR_CAL]

GRAIN SIZE

DESCRIPTION		SIEVE SIZE	GRAIN SIZE	APPROXIMATE SIZE
Boulders		>12 in. (304.8 mm.)	>12 in. (304.8 mm.)	Larger than basketball-sized
Cobbles		3 - 12 in. (76.2 - 304.8 mm.)	3 - 12 in. (76.2 - 304.8 mm.)	Fist-sized to basketball-sized
Gravel	coarse	3/4 -3 in. (19 - 76.2 mm.)	3/4 -3 in. (19 - 76.2 mm.)	Thumb-sized to fist-sized
	fine	#4 - 3/4 in. (#4 - 19 mm.)	0.19 - 0.75 in. (4.8 - 19 mm.)	Pea-sized to thumb-sized
Sand	coarse	#10 - #4	0.079 - 0.19 in. (2 - 4.9 mm.)	Rock salt-sized to pea-sized
	medium	#40 - #10	0.017 - 0.079 in. (0.43 - 2 mm.)	Sugar-sized to rock salt-sized
	fine	#200 - #40	0.0029 - 0.017 in. (0.07 - 0.43 mm.)	Flour-sized to sugar-sized
Fines		Passing #200	<0.0029 in. (<0.07 mm.)	Flour-sized and smaller



SECONDARY CONSTITUENT

	AMOUNT	
Term of Use	Secondary Constituent is Fine Grained	Secondary Constituent is Coarse Grained
Trace	<5%	<15%
With	≥5 to <15%	≥15 to <30%
Modifier	≥15%	≥30%

MOISTURE CONTENT

DESCRIPTION	FIELD TEST
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

CEMENTATION

DESCRIPTION	FIELD TEST
Weakly	Crumbles or breaks with handling or slight finger pressure
Moderately	Crumbles or breaks with considerable finger pressure
Strongly	Will not crumble or break with finger pressure

CONSISTENCY - FINE-GRAINED SOIL

CONSISTENCY	SPT - N_{60} (# blows / ft)	Pocket Pen (tsf)	UNCONFINED COMPRESSIVE STRENGTH (Q_u)(psf)	VISUAL / MANUAL CRITERIA
Very Soft	<2	PP < 0.25	<500	Thumb will penetrate more than 1 inch (25 mm). Extrudes between fingers when squeezed.
Soft	2 - 4	0.25 ≤ PP <0.5	500 - 1000	Thumb will penetrate soil about 1 inch (25 mm). Remolded by light finger pressure.
Medium Stiff	4 - 8	0.5 ≤ PP <1	1000 - 2000	Thumb will penetrate soil about 1/4 inch (6 mm). Remolded by strong finger pressure.
Stiff	8 - 15	1 ≤ PP <2	2000 - 4000	Can be imprinted with considerable pressure from thumb.
Very Stiff	15 - 30	2 ≤ PP <4	4000 - 8000	Thumb will not indent soil but readily indented with thumbnail.
Hard	>30	4 ≤ PP	>8000	Thumbnail will not indent soil.

FROM TERZAGHI AND PECK, 1948; LAMBE AND WHITMAN, 1969; FHWA, 2002; AND ASTM D2488

REACTION WITH HYDROCHLORIC ACID

DESCRIPTION	FIELD TEST
None	No visible reaction
Weak	Some reaction, with bubbles forming slowly
Strong	Violent reaction, with bubbles forming immediately

APPARENT / RELATIVE DENSITY - COARSE-GRAINED SOIL

APPARENT DENSITY	SPT-N_{60} (# blows/ft)	MODIFIED CA SAMPLER (# blows/ft)	CALIFORNIA SAMPLER (# blows/ft)	RELATIVE DENSITY (%)
Very Loose	<4	<4	<5	0 - 15
Loose	4 - 10	5 - 12	5 - 15	15 - 35
Medium Dense	10 - 30	12 - 35	15 - 40	35 - 65
Dense	30 - 50	35 - 60	40 - 70	65 - 85
Very Dense	>50	>60	>70	85 - 100

FROM TERZAGHI AND PECK, 1948

PLASTICITY

DESCRIPTION	LL	FIELD TEST
Non-plastic	NP	A 1/8-in. (3 mm.) thread cannot be rolled at any water content.
Low (L)	< 30	The thread can barely be rolled and the lump or thread cannot be formed when drier than the plastic limit.
Medium (M)	30 - 50	The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. The lump or thread crumbles when drier than the plastic limit.
High (H)	> 50	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump or thread can be formed without crumbling when drier than the plastic limit.

STRUCTURE

DESCRIPTION	CRITERIA
Stratified	Alternating layers of varying material or color with layers at least 1/4-in. thick, note thickness.
Laminated	Alternating layers of varying material or color with the layer less than 1/4-in. thick, note thickness.
Fissured	Breaks along definite planes of fracture with little resistance to fracturing.
Slickensided	Fracture planes appear polished or glossy, sometimes striated.
Blocky	Cohesive soil that can be broken down into small angular lumps which resist further breakdown.
Lensed	Inclusion of small pockets of different soils, such as small lenses of sand scattered through a mass of clay; note thickness.

ANGULARITY

DESCRIPTION	CRITERIA
Angular	Particles have sharp edges and relatively plane sides with unpolished surfaces.
Subangular	Particles are similar to angular description but have rounded edges.
Subrounded	Particles have nearly plane sides but have well-rounded corners and edges.
Rounded	Particles have smoothly curved sides and no edges.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	JDS
CHECKED BY:	DD
DATE:	9/11/2019
REVISED:	10/4/2019

SOIL DESCRIPTION KEY

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE

A-2

PLOTTED: 10/04/2019 10:11 AM BY: DRoss
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.001A
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [LEGEND 2 (SOIL DESC KEY)]

INFILLING TYPE

NAME	ABBR	NAME	ABBR
Albite	Al	Muscovite	Mus
Apatite	Ap	None	No
Biotite	Bi	Pyrite	Py
Clay	Cl	Quartz	Qz
Calcite	Ca	Sand	Sd
Chlorite	Ch	Sericite	Ser
Epidote	Ep	Silt	Si
Iron Oxide	Fe	Talc	Ta
Manganese	Mn	Unknown	Uk

DENSITY/SPACING OF DISCONTINUITIES

DESCRIPTION	SPACING CRITERIA
Unfractured	>6 ft. (>1.83 meters)
Slightly Fractured	2 - 6 ft. (0.061 - 1.83 meters)
Moderately Fractured	8 in - 2 ft. (203.20 - 609.60 mm)
Highly Fractured	2 - 8 in (50.80 - 203.30 mm)
Intensely Fractured	<2 in (<50.80 mm)

ADDITIONAL TEXTURAL ADJECTIVES

DESCRIPTION	RECOGNITION
Pit (Pitted)	Pinhole to 0.03 ft. (3/8 in.) (>1 to 10 mm.) openings
Vug (Vuggy)	Small openings (usually lined with crystals) ranging in diameter from 0.03 ft. (3/8 in.) to 0.33 ft. (4 in.) (10 to 100 mm.)
Cavity	An opening larger than 0.33 ft. (4 in.) (100 mm.), size descriptions are required, and adjectives such as small, large, etc., may be used
Honeycombed	If numerous enough that only thin walls separate individual pits or vugs, this term further describes the preceding nomenclature to indicate cell-like form.
Vesicle (Vesicular)	Small openings in volcanic rocks of variable shape and size formed by entrapped gas bubbles during solidification.

ADDITIONAL TEXTURAL ADJECTIVES

DESCRIPTION	CRITERIA
Unweathered	No evidence of chemical / mechanical alternation; rings with hammer blow.
Slightly Weathered	Slight discoloration on surface; slight alteration along discontinuities; <10% rock volume altered.
Moderately Weathered	Discoloring evident; surface pitted and alteration penetration well below surface; Weathering "halos" evident; 10-50% rock altered.
Highly Weathered	Entire mass discolored; Alteration pervading most rock, some slight weathering pockets; some minerals may be leached out.
Decomposed	Rock reduced to soil with relic rock texture/structure; Generally molded and crumbled by hand.

RELATIVE HARDNESS / STRENGTH DESCRIPTIONS

GRADE		UCS (Mpa)	FIELD TEST
R0	Extremely Weak	0.25 - 1.0	Indented by thumbnail
R1	Very Weak	1.0 - 5.0	Crumbles under firm blows of geological hammer, can be peeled by a pocket knife.
R2	Weak	5.0 - 25	Can be peeled by a pocket knife with difficulty, shallow indentations made by firm blow with point of geological hammer.
R3	Medium Strong	25 - 50	Cannot be scraped or peeled with a pocket knife, specimen can be fractured with a single firm blow of a geological hammer.
R4	Strong	50 - 100	Specimen requires more than one blow of geological hammer to fracture it.
R5	Very Strong	100 - 250	Specimen requires many blows of geological hammer to fracture it.
R6	Extremely Strong	> 250	Specimen can only be chipped with a geological hammer.

ROCK QUALITY DESIGNATION (RQD)

DESCRIPTION	RQD (%)
Very Poor	0 - 25
Poor	25 - 50
Fair	50 - 75
Good	75 - 90
Excellent	90 - 100

APERTURE

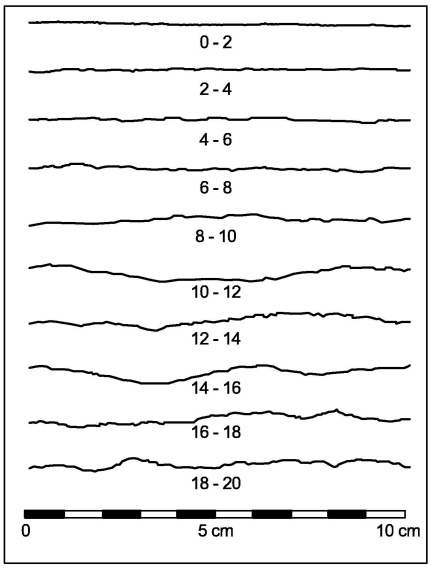
DESCRIPTION	CRITERIA [in (mm)]
Tight	<0.04 (<1)
Open	0.04 - 0.20 (1 - 5)
Wide	>0.20 (>5)

BEDDING CHARACTERISTICS

DESCRIPTION	Thickness [in (mm)]
Very Thick Bedded	>36 (>915)
Thick Bedded	12 - 36 (305 - 915)
Moderately Bedded	4 - 12 (102 - 305)
Thin Bedded	1 - 4 (25 - 102)
Very Thin Bedded	0.4 - 1 (10 - 25)
Laminated	0.1 - 0.4 (2.5 - 10)
Thinly Laminated	<0.1 (<2.5)

Bedding Planes	Planes dividing the individual layers, beds, or stratigraphy of rocks.
Joint	Fracture in rock, generally more or less vertical or traverse to bedding.
Seam	Applies to bedding plane with unspecified degree of weather.

JOINT ROUGHNESS COEFFICIENT (JRC)



From Barton and Choubey, 1977

RQD Rock-quality designation (RQD) Rough measure of the degree of jointing or fracture in a rock mass, measured as a percentage of the drill core in lengths of 10 cm. or more.

CORE SAMPLER TYPE GRAPHICS



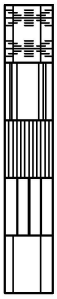
CORE SAMPLER

AQ CORE BARREL
(1.067 in. (27.1 mm.) core diameter)

AX CORE BARREL
(1.185 in. (30.1 mm.) core diameter)

BQ CORE BARREL
(1.433 in. (36.4 mm.) core diameter)

CONTINUOUS CORE SAMPLE
(2.000 in. (50.8 mm.) core diameter)



EX CORE BARREL
(0.846 in. (21.5 mm.) core diameter)

HQ CORE SAMPLE
(2.500 in. (63.5 mm.) core diameter)

NQ CORE SAMPLE
(1.874 in. (47.6 mm.) core diameter)

NO RECOVERY CORE SAMPLE

NX CORE SAMPLE
(2.154 in. (54.7 mm.) core diameter)

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	JDS
CHECKED BY:	DD
DATE:	9/11/2019
REVISED:	10/4/2019

ROCK DESCRIPTION KEY

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE

A-3

PLOTTED: 10/04/2019 10:11 AM BY: DRoss
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.001A
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [LEGEND 3 (ROCK DESC KEY)]

Date Begin - End:	9/13/2019	**Drilling Company:**	Gulf Shore	**BORING LOG KB-(1)**
Logged By:	R. Schmidt	**Drill Crew:**	Carlos, Raj	
Hor.-Vert. Datum:	Not Available	**Drilling Equipment:**	CME 75 LAR	
Plunge:	-90 degrees	**Coring Method:**	Coring	
Weather:	Sunny	**Core Bit Type:**	HQ Core	

ROCK CORING INFORMATION

Depth (feet)	Graphical Log	Latitude: 38.66101° Longitude: -121.05820° Ground Surface Elevation Not Available Formation and Rock Type, Color, Grain/Particle Size, Weathering, Bedding, Density or Spacing	Box Number	Run Number	Sample Type	Recovery (NR=No Recovery)	Drill Rate (min/ft)	RQD (%)	Relative Strength	Discontinuity Description Fracture#: (Depth), Type, Relative Dip, Density or Spacing. Degree of Infilling, Infilling Type, Aperture, Surface Weathering, JRC
		Sandy Lean CLAY (CL): reddish brown, moist medium plasticity, fine to medium grained sand, trace sub-angular gravels (Colluvium)				NR		0		
5		**METAVOLCANIC ROCK**: bluish gray, slightly to moderately weathered, r3-r4, moderately fractured				NR		0		
						2"		25		
10		The exploration was terminated at approximately 8.5 ft. below ground surface. The exploration was backfilled with grout on September 13, 2019. Rock was encountered at a depth of 3 ft. during this exploration.								
15										
20										

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	DR
CHECKED BY:	DD
DATE:	9/16/2019
REVISED:	10/4/2019

BORING LOG KB-(1)

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-4
PAGE: 1 of 1

PLOTTED: 10/04/2019 10:10 AM BY: DRoss
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.001A
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [_KLF_ROCK CORING LOG]

Date Begin - End:	9/11/2019 - 9/12/2019	**Drilling Company:**	Gulf Shore	**BORING LOG KB-(3)**
Logged By:	D. Stemberger	**Drill Crew:**	Carlos, Raj	
Hor.-Vert. Datum:	Not Available	**Drilling Equipment:**	CME 75 LAR	
Plunge:	-90 degrees	**Coring Method:**	Coring	
Weather:	Sunny	**Core Bit Type:**	HQ Core	

ROCK CORING INFORMATION

Latitude: 38.65994°
Longitude: -121.05633°
Ground Surface Elevation Not Available

Depth (feet)	Graphical Log	Formation and Rock Type, Color, Grain/Particle Size, Weathering, Bedding, Density or Spacing	Box Number	Run Number	Sample Type	Recovery (NR=No Recovery)	Drill Rate (min/ft)	RQD (%)	Relative Strength	Discontinuity Description Fracture#: (Depth), Type, Relative Dip, Density or Spacing. Degree of Infilling, Infilling Type, Aperture, Surface Weathering, JRC
		Sandy Lean CLAY (CL): brownish red, dry, medium plasticity, fine to medium grained sand, trace coarse gravels up to 1.5" (Colluvium)								
						66%	25.00	17		
5		**METAVOLCANIC ROCK**: bluish green, highly weathered, highly fractured, orange and black iron oxide							R2	1: (4.5'), joint, 0°, surface stain, Cl/Sd, open, JRC=0-2
						83%	16.00	48	R2	2: (5'), joint, 90°, surface stain, Cl/Sd, tight, JRC=10-12
										3: (6'), joint, 35°, partially filled, Sd, JRC=16-18
		Highly weathered to decomposed							R0-R1	4: (7'), joint, 15°, partially filled, Sd, JRC=0-2
10										5: (9.5'), joint, 10°, partially filled, Sd/Cl, JRC=0-2
						58%	19.00	43		
		Highly weathered, intensely fractured							R3	6: (13.5'), joint, 60°, partially filled, Sd
15										7: (14.5'), joint, 15°, filled, Sd
						33%	14.00	13	R2	8: (16'), joint, 70°, surface stain, Fe/Cl
20		Light bluish green with black								9: (20'), joint, 45°, partially filled, Sd/Fe, JRC=14-16
		Moderately weathered, highly fractured Moderately fractured				77%	21.25	18	R3 R4	10: (21'), joint, 55°, partially filled, Sd/Fe, JRC=8-10
		Intensely fractured								11: (23.5'), joint, 45°, surface stain, Fe, tight, JRC=0-2
25										12: (25'), joint, 45°, surface stain, Fe, tight, JRC=0-2

The exploration was terminated at approximately 25 ft. below ground surface. The boring was backfilled with grout on September 12, 2019. Rock was encountered at a depth of 4.5 ft. during this exploration.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	DR
CHECKED BY:	DD
DATE:	9/16/2019
REVISED:	10/4/2019

BORING LOG KB-(3)

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-5
PAGE: 1 of 1

PLOTTED: 10/04/2019 10:10 AM BY: DRoss
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.001A [_KLF_ROCK CORING LOG]
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:KLF_STANDARD_GINT_LIBRARY_2019.GLB

Date Begin - End:	9/10/2019	**Drilling Company:**	Gulf Shore	**BORING LOG KB-(4)**
Logged By:	J. Annand	**Drill Crew:**	Carlos, Raj	
Hor.-Vert. Datum:	Not Available	**Drilling Equipment:**	CME 75 LAR	
Plunge:	-90 degrees	**Coring Method:**	Coring	
Weather:	Sunny	**Core Bit Type:**	HQ Core	

ROCK CORING INFORMATION

Latitude: 38.65956°
Longitude: -121.05552°
Ground Surface Elevation Not Available

Depth (feet)	Graphical Log	Formation and Rock Type, Color, Grain/Particle Size, Weathering, Bedding, Density or Spacing	Box Number	Run Number	Sample Type	Recovery (NR=No Recovery)	Drill Rate (min/ft)	RQD (%)	Relative Strength	Discontinuity Description Fracture#: (Depth), Type, Relative Dip, Density or Spacing. Degree of Infilling, Infilling Type, Aperture, Surface Weathering, JRC
		Sandy Lean CLAY (CL): medium plasticity, brownish red, dry, fine to medium-grained sand, trace fine gravel, rootlets (Colluvium)		1		27%		0	R3	
		METAVOLCANIC ROCK: light bluish gray, fine to medium grained, highly weathered, highly fractured, slight foliation								
5				2		100%		30	R3	1: (4.5'), joint, 25°, surface stain, Cl/Fe, tight, JRC=12-14 2: (5.6'), joint, 50°, filled, Cl, open, JRC=2-4
		6.6-7.0 ft.: intensely fractured								3: (6.2'), joint, 65°, surface stain, Fe/Cl, tight, JRC=0-2 4: (7'), joint, 48°, filled, Cl, open, JRC=10-12
		7.7-8.3 ft.: intensely fractured								5: (8.2'), joint, 46°, filled, Fe/Cl, open, JRC=10-12
10				3		100%		29	R4	
		10.2-10.8 ft.: massive bedding, intensely fractured								6: (10.8'), joint, 25°, surface stain, Fe/Cl, open, JRC=12-14 7: (11.9'), joint, 40°, surface stain, Fe/Cl, open, JRC=6-8
		13.0-14.0 ft.: insensely fractured								8: (12.6'), joint, 40°, surface stain, Fe/Cl, open, JRC=6-8
		Moderately weathered, moderately fractured		4		100%		65	R5	9: (14'), joint, 50°, filled, Cl, open, JRC=6-8
15										10: (14.7'), joint, 65°, surface stain, Cl, tight, JRC=14-16 11: (15.6'), joint, 70°, healed
		16.3-16.6 ft.: intensely fractured								12: (16.6'), joint, 10°, surface stain, Cl, tight, JRC=2-4
		Moderately weathered, highly fractured		5		100%		38	R5	13: (17.5'), joint, 28°, surface stain, Fe/Cl, open, JRC=6-8 14: (18.5'), joint, 28°, surface stain, Fe/Cl, open, JRC=2-4
20										15: (19.1'), joint, 20°, filled, Cl, tight, JRC=16-18

The exploration was terminated at approximately 20 ft. below ground surface. The exploration was backfilled with grout on September 10, 2019. Rock was encountered at a depth of 1 ft. during this exploration.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	DR
CHECKED BY:	DD
DATE:	9/11/2019
REVISED:	10/4/2019

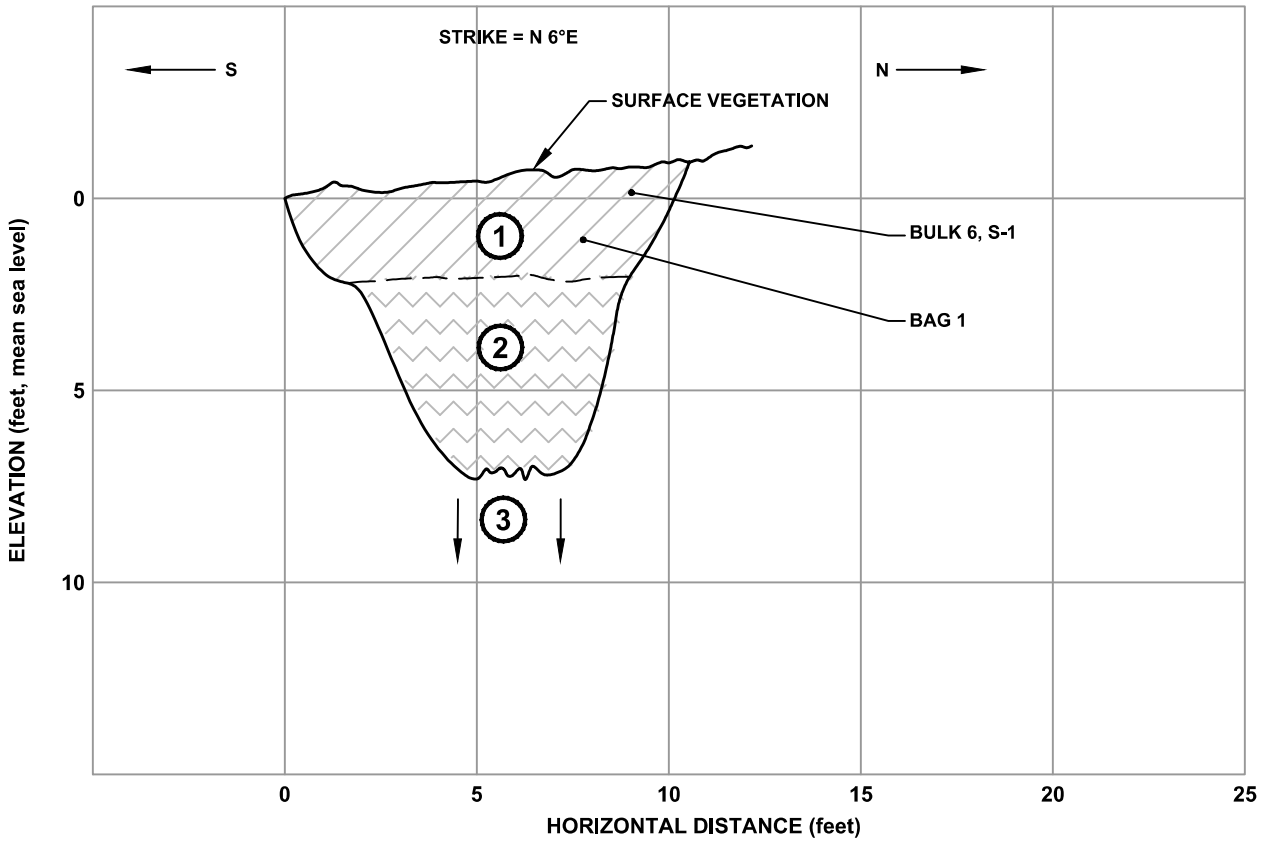
BORING LOG KB-(4)

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-6
PAGE: 1 of 1

PLOTTED: 10/04/2019 10:10 AM BY: DRoss
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.001A [_KLF_ROCK CORING LOG]
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:KLF_STANDARD_GINT_LIBRARY_2019.GLB

PLOTTED: 04 Oct 2019, 12:53pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace coarse sand, trace subangular gravel, rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray, dry, medium dense, highly weathered, medium strong to weak, slight foliation, similar to CLAYEY SAND with Gravel and Cobbles (SC); subangular METAVOLCANIC ROCK fragments up to 7"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong to medium strong, moderately to highly fractured, slight foliation, refusal at 7' depth
	Latitude: 38.661071 Longitude: -121.05804

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

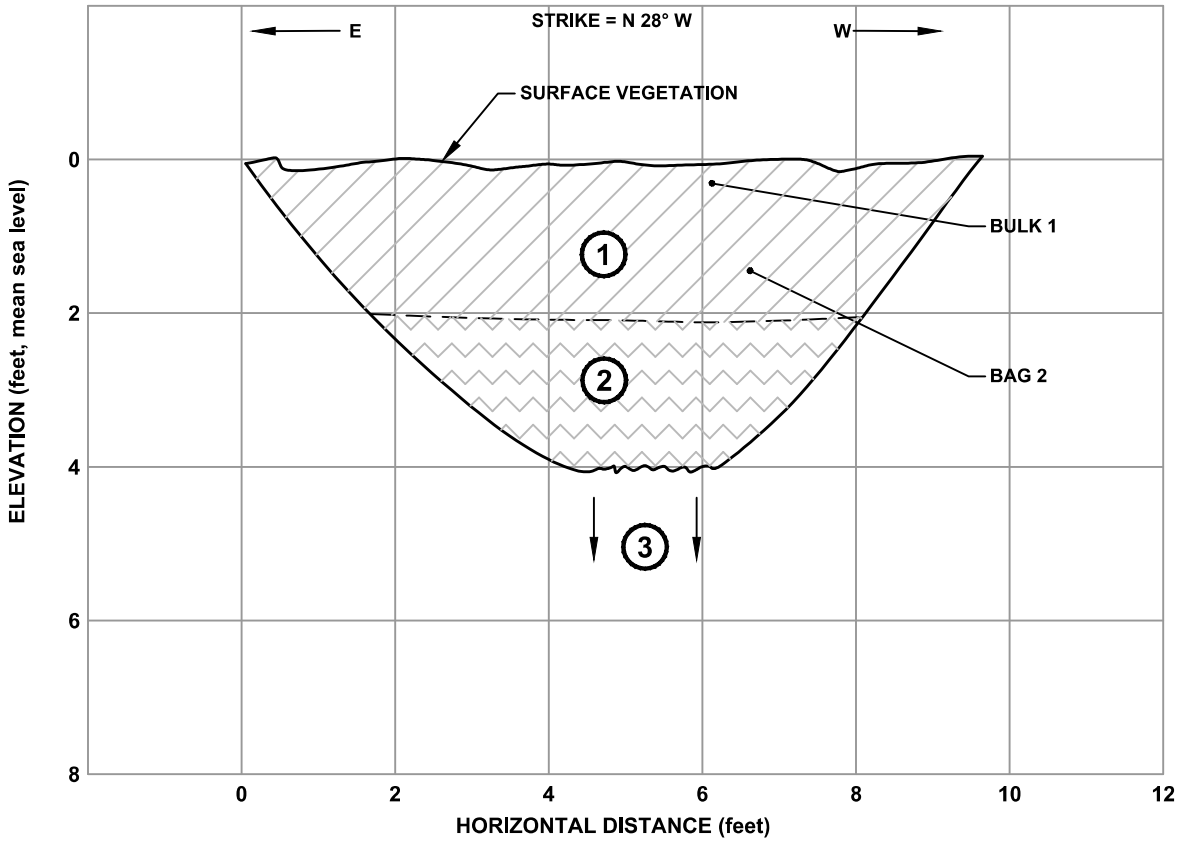
TEST PIT LOG
TP-1

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-7

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-1

PLOTTED: 04 Oct 2019, 12:53pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY with Gravel, Cobbles and Boulders (CL) - brownish red, dry, medium plasticity, fine to coarse sand, subangular gravel and boulders up to 14", rootlets (FILL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, hightly weathered, medium strong, highly fractured, well defined foliation, similar to CLAYEY SAND with Gravel and Cobbles (SC); fine to coarse sand, subangular METAVOLCANIC GRAVELS AND COBBLES up to 11"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, well defined foliation, refusal at 4' depth
	Latitude: 38.660793 Longitude: -121.057927

LOGGED BY: Jordan Annand **DATE:** 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

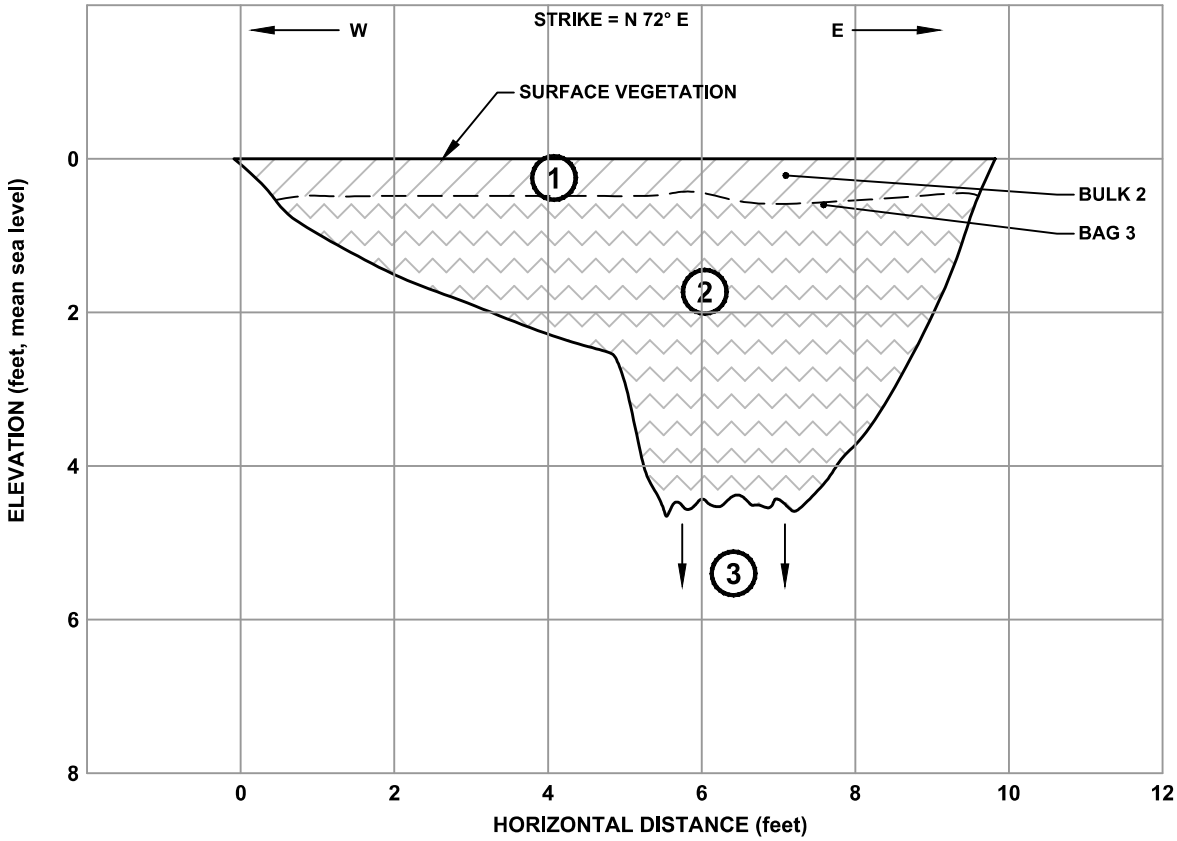
TEST PIT LOG
TP-2

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-8

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-2

PLOTTED: 04 Oct 2019, 12:52pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace fine gravel, rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered with moderately weathered sections, strong to medium strong/weak, highly to moderately fractured, well defined foliation, similar to CLAYEY SAND with Gravel, Cobbles, and Boulders (SC); fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 16"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, refusal at 4.5' depth
	Latitude: 38.660246 Longitude: -121.058017

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

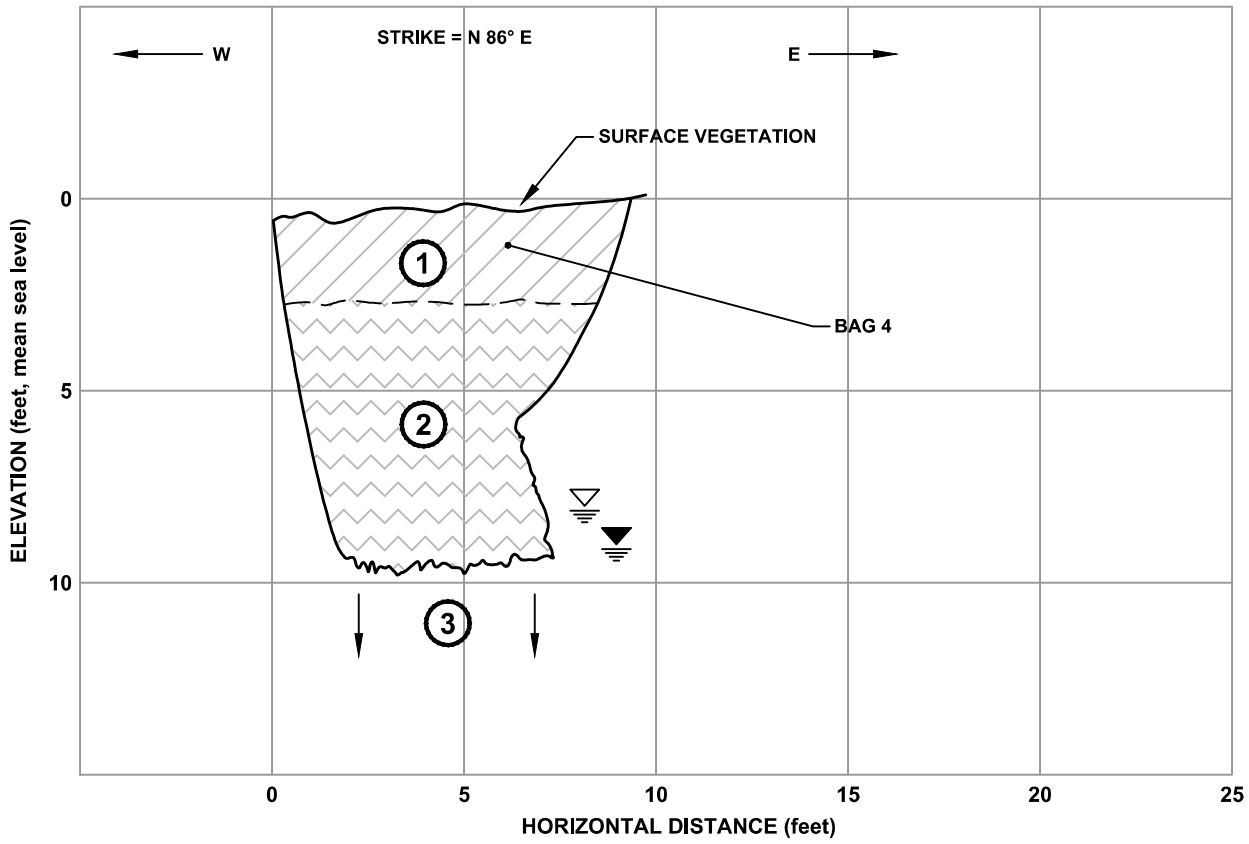
TEST PIT LOG
TP-3

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-9

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-3

PLOTTED: 04 Oct 2019, 12:52pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY (CL) - brownish red, dry, medium plasticity, fine to coarse sand, trace subangular gravels up to 1.5", rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, medium strong, highly fractured, slight foliation, similar to CLAYEY SAND with Gravels, Cobbles, and Boulders (SC); fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 13",
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, refusal at 9.5' depth
	(Perched Groundwater hit at 8 feet deep, settled at 9 feet deep after excavation)
	Latitude: 38.660756 Longitude: -121.056944

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

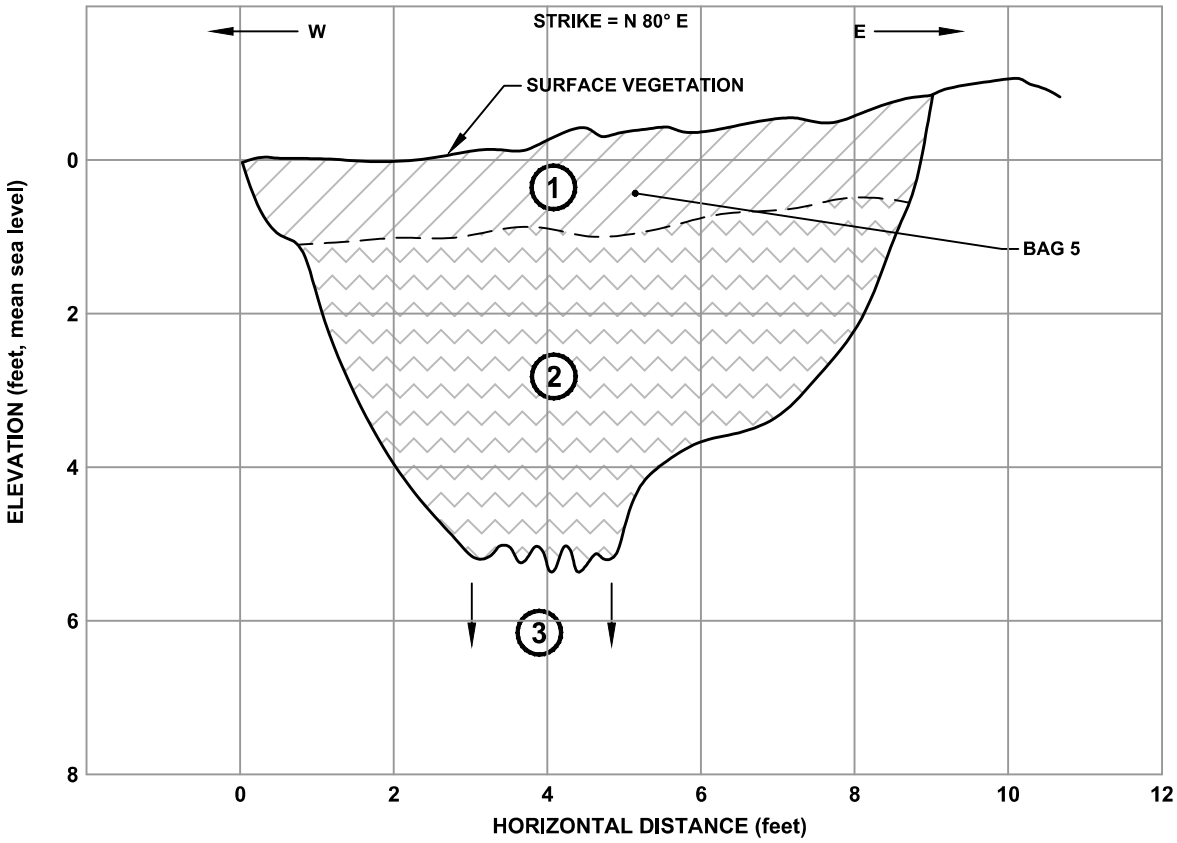
TEST PIT LOG
TP-4

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-10

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-4

PLOTTED: 04 Oct 2019, 12:51pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace gravel, rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, hightly weathered, medium strong to strong, highly fractured, well defined foliation, similar to CLAYEY SAND with Gravel and Cobbles (SC); fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 12"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, well defined foliation, refusal at 5' depth
	Latitude: 38.659916 Longitude: -121.058112

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

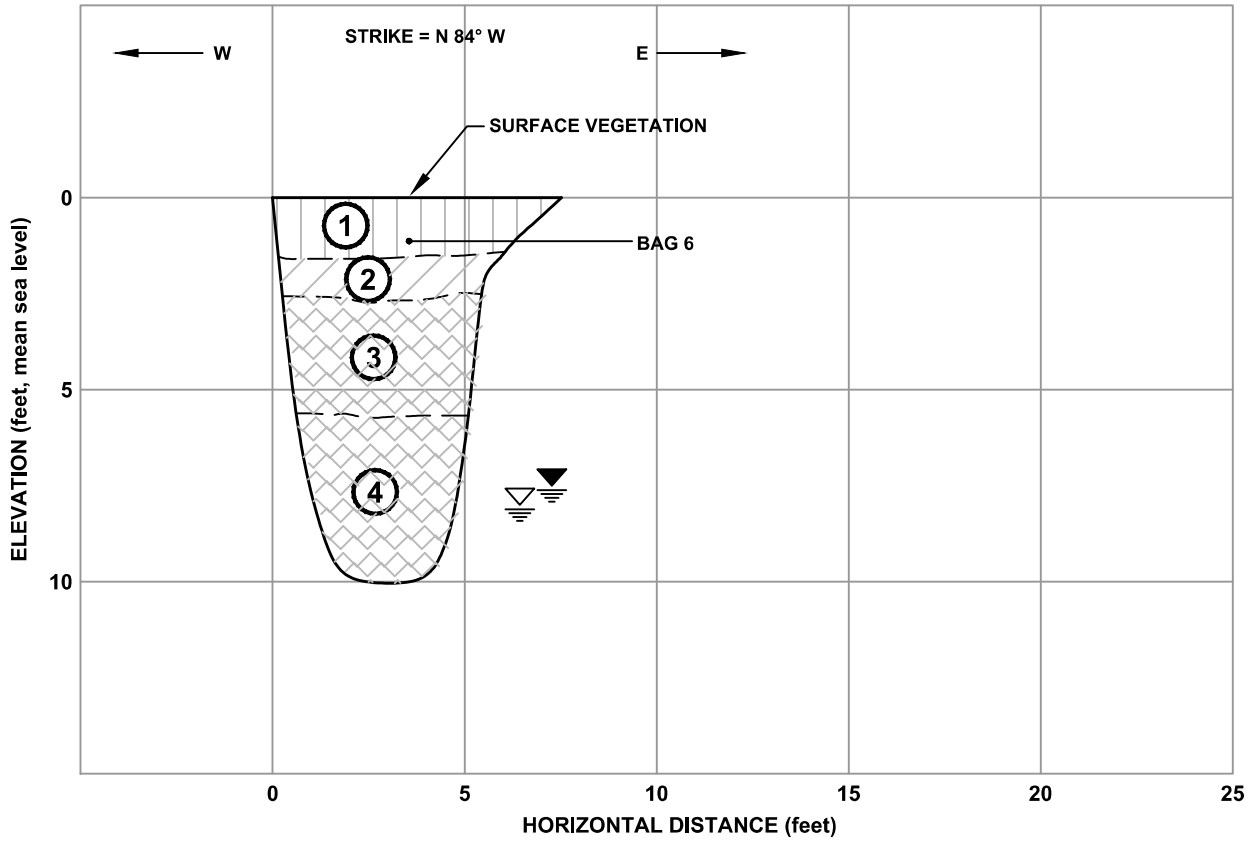
TEST PIT LOG
TP-5

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-11

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-5

PLOTTED: 04 Oct 2019, 12:51pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY SILT (ML) - dark brown, dry, non-plastic, subangular fine to coarse sand, trace gravels up to 1", rootlets (RESIDUAL SOIL)
2	LEAN CLAY with Sand (CL) - brownish red, dry, medium plasticity, fine to coarse sand, trace coarse gravels up to 2", rootlets (COLLUVIUM)
3	METAVOLCANIC ROCK - mottled dark olive, moist, dark reddish brown, and bluish gray, decomposed, similar to FAT CLAY (CH); high plasticity, trace fine sand
4	METAVOLCANIC ROCK - bluish gray, yellowish brown, and brownish red, moist, highly weathered, weak, highly to intensely fractured, slight foliation, similar to CLAYEY SAND with Gravel and Cobble (SC); fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 7"
	(Perched Groundwater hit at 8 feet deep, settled at 7.75 feet deep after excavation)
	Latitude: 38.660489 Longitude: -121.057038

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

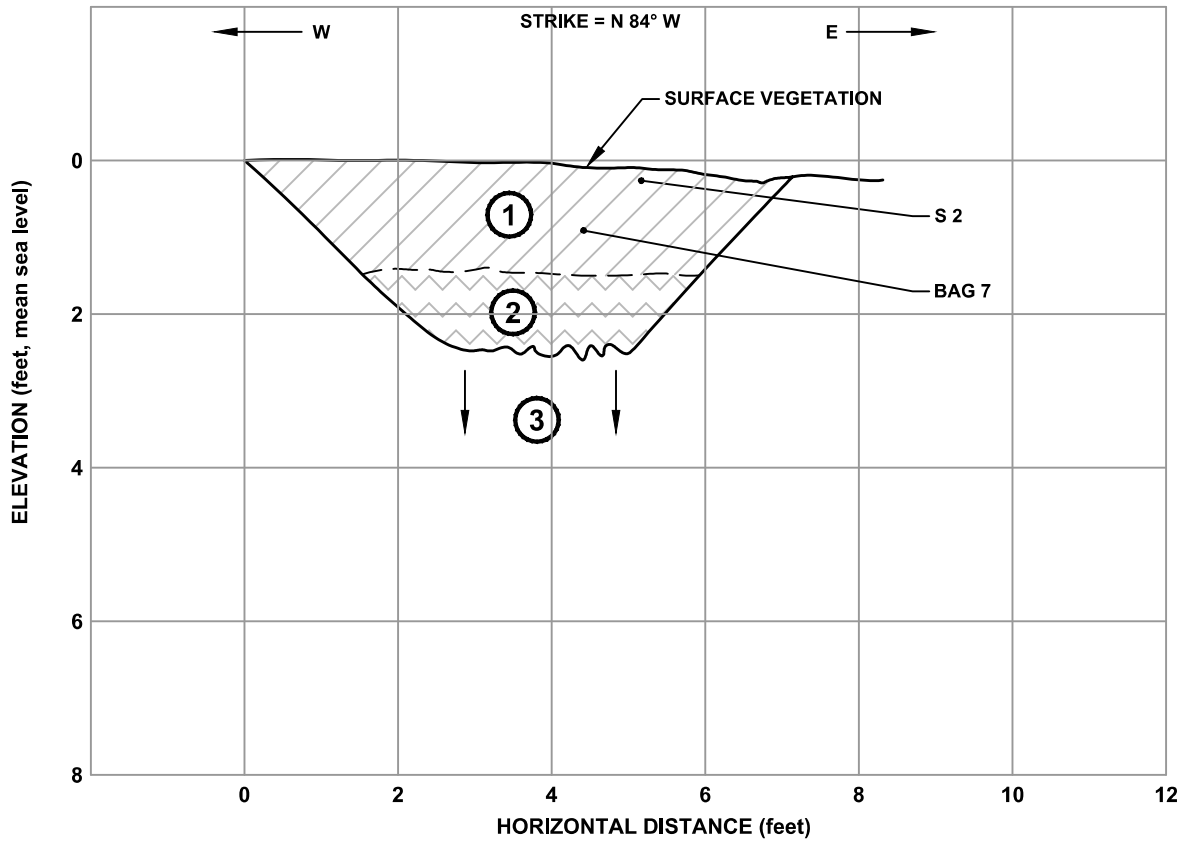
TEST PIT LOG
TP-6

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-12

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-6

PLOTTED: 04 Oct 2019, 12:49pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY with Gravel, Cobble and Boulders (CL) - brownish red, dry, medium plasticity, fine to coarse sand, subangular gravel and boulders up to 14", rootlets (FILL)
2	METAVOLCANIC ROCK - bluish gray and olive, moist, decomposed, similar to SAND LEAN CLAY (CL); fine to coarse sand, trace fine gravel, hard (PP = >4.5 tsf)
3	METAVOLCANIC ROCK - bluish gray, highly to mderately weathered, medium strong to strong, moderately fractured, slight foliation, refusal at 2.5' depth
	Latitude: 38.660608 Longitude: -121.056594

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

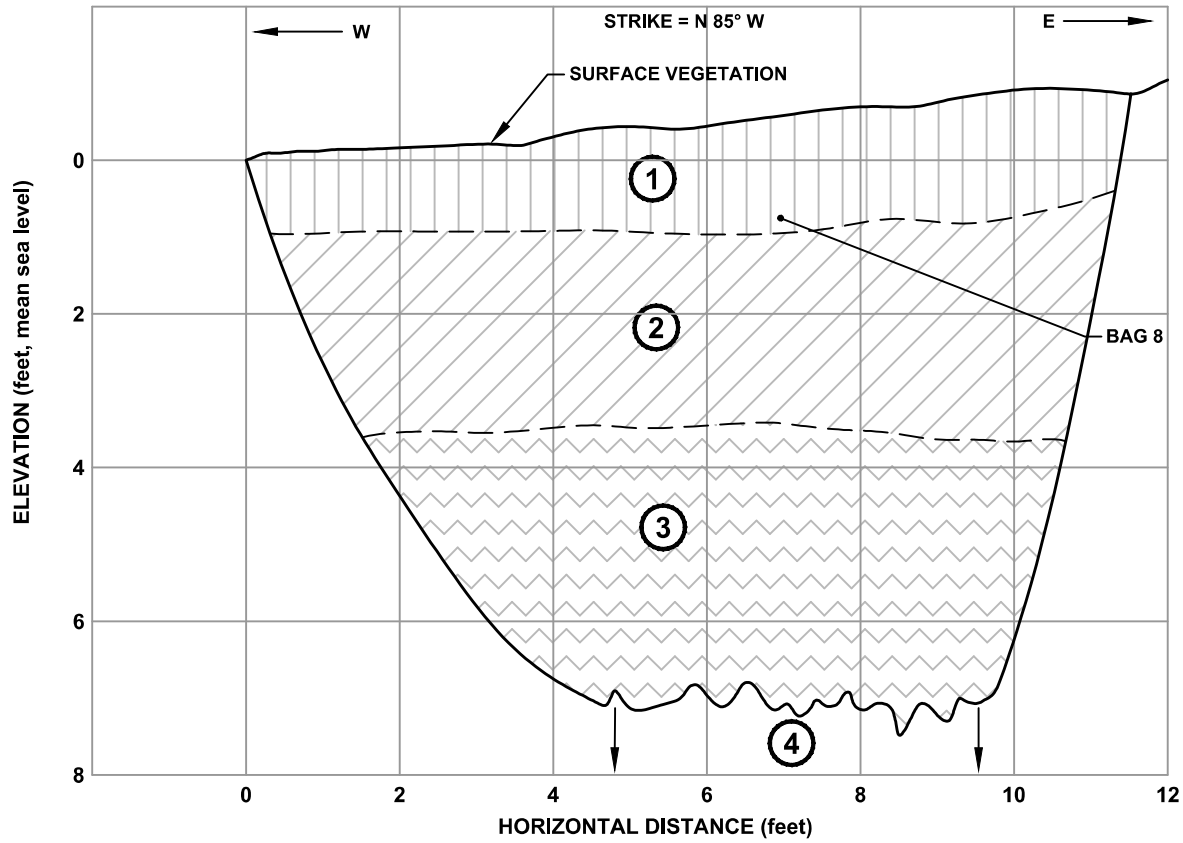
TEST PIT LOG
TP-7

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-13

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-7

PLOTTED: 04 Oct 2019, 12:49pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY SILT (ML) - dark brown, dry, non-plastic, fine to coarse sand, trace gravel up to 3/4", rootlets (COLLUVIUM)
2	LEAN CLAY with SAND (CL) - dark reddish brown, dry, medium plasticity, fine to coarse sand, subangular gravels up to 3", rootlets (COLLUVIUM)
3	METAVOLCANIC ROCK - bluish gray, yellowish brown, and brownish red, dry to moist, highly weathered, weak to medium strong, highly to intensely fractured, well defined foliation, similar to CLAYEY SAND with Gravel and Cobble (SC); fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 9"
4	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, refusal at 7' depth
	Latitude: 38.660183 Longitude: -121.057085

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

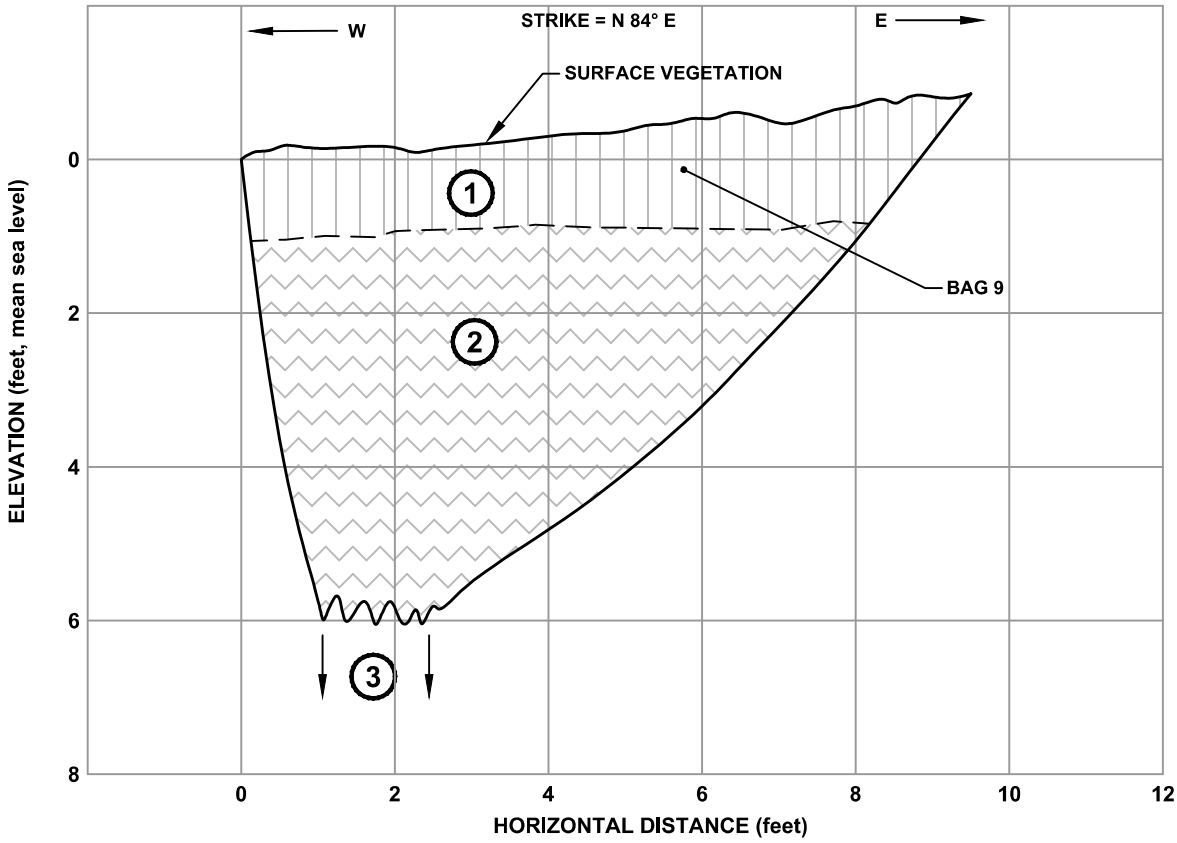
TEST PIT LOG
TP-8

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-14

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-8

PLOTTED: 04 Oct 2019, 12:49pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY SILT (ML) - dark brown and reddish brown, dry, non-plastic, fine to coarse sand, trace gravels up to 1", rootlets (COLLUVIUM)
2	METAVOLCANIC ROCK - bluish gray and olive, dry to moist, highly to moderately weathered, medium strong, highly fractured, slight foliation, similar to CLAYEY SAND with Gravel, Cobbles, and Boulders (SC); fine to coarse sand, subangular gravel, cobbles, and boulders up to 6"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, slight foliation, moderately fractured, refusal at 6' depth
	Latitude: 38.659967 Longitude: -121.057360

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

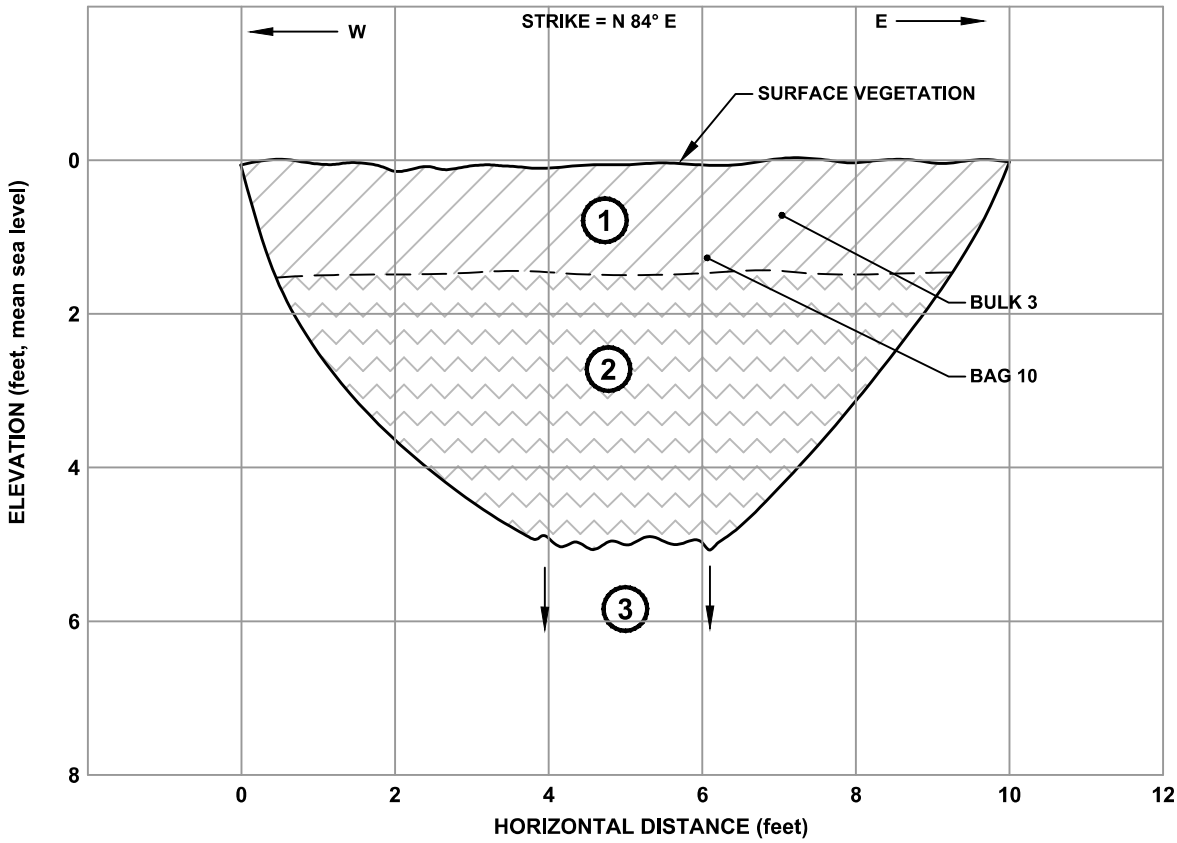
TEST PIT LOG
TP-9

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-15

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-9

PLOTTED: 04 Oct 2019, 12:48pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	LEAN CLAY with Sand (CL) - brownish red, dry, medium plasticity, fine to coarse sand, trace subangular fine gravel, rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, weak, highly fractured, slight foliation, similar to CLAYEY SAND with Gravel and Cobble (SC); fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 10"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, slight foliation, moderately fractured, refusal at 5' depth
	Latitude: 38.659963 Longitude: -121.057053

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

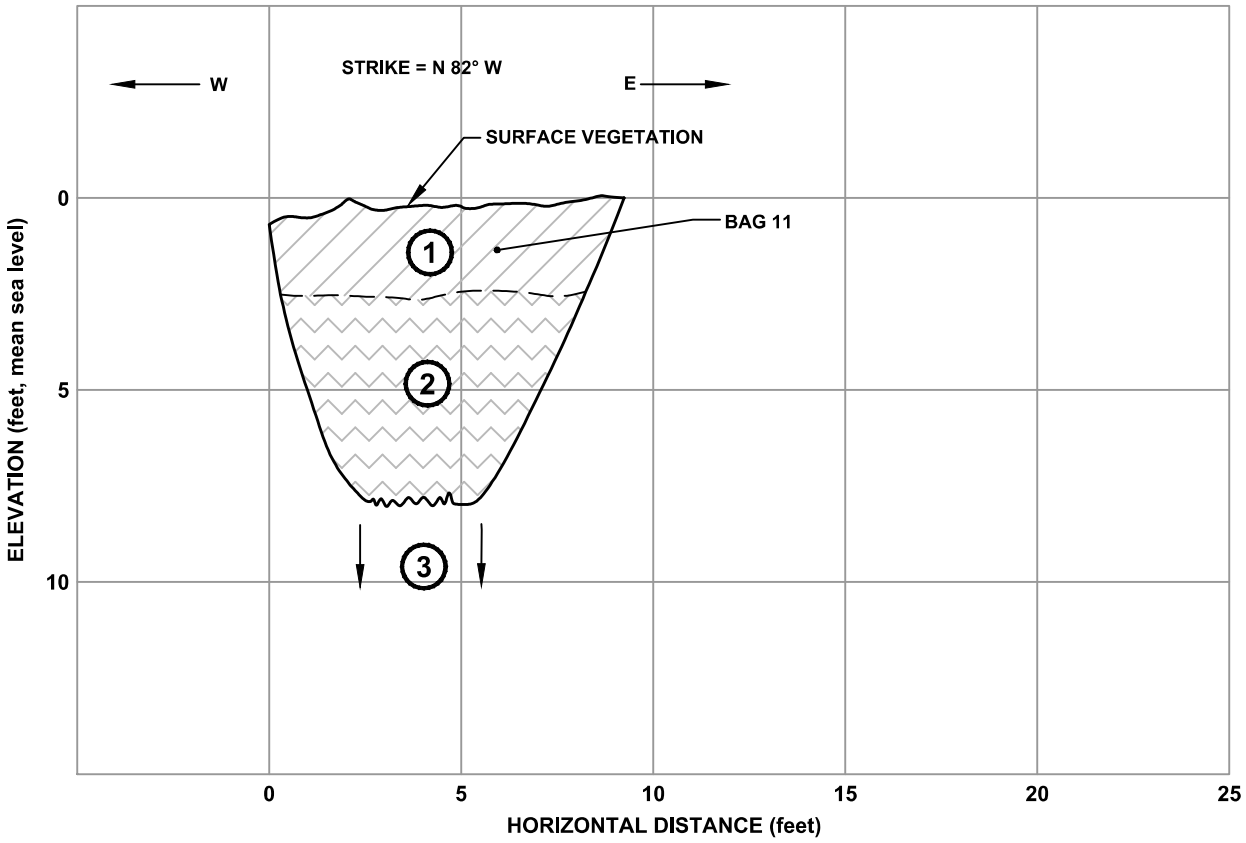
TEST PIT LOG
TP-10

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-16

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-10

PLOTTED: 04 Oct 2019, 12:48pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	LEAN CLAY with Sand (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace coarse sand and fine gravels, rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, medium strong to weak, highly fractured, slight foliation, similar to CLAYEY SAND with Gravel and Cobbles (SC); fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 11"
3	METAVOLCANIC ROCK - bluish gray, moist, moderately weathered, strong, moderately fractured, refusal at 8' depth
	Latitude: 38.660167 Longitude: -121.056687

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

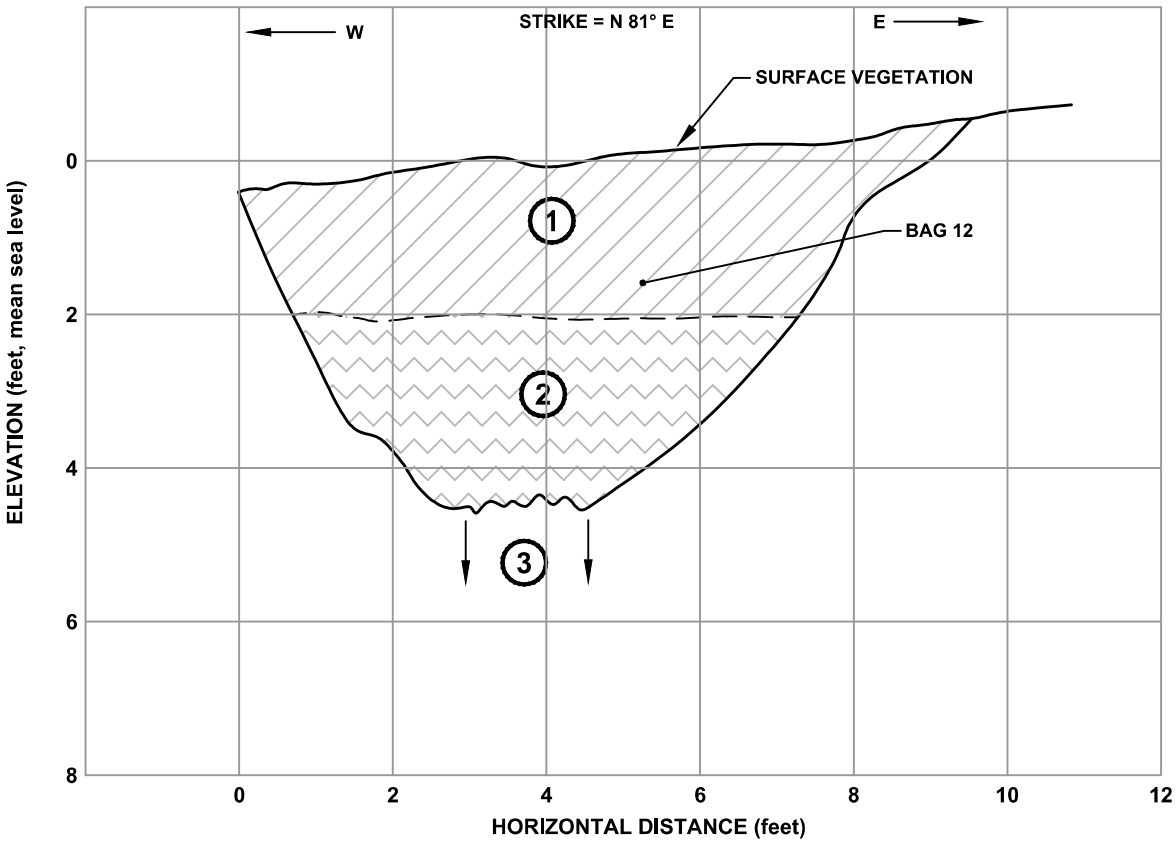
TEST PIT LOG
TP-11

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-17

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-11

PLOTTED: 04 Oct 2019, 12:48pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	LEAN CLAY with Sand (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace coarse sand and coarse gravels up to 1.75", rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, moist, decomposed, simialr to SANDY LEAN CLAY (CL); hard, medium plasticity, fine to coarse sand, trace fine gravels (PP = 4.0 tsf)
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, refusal at 4.5' depth
	Latitude: 38.660328 Longitude: -121.056397

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

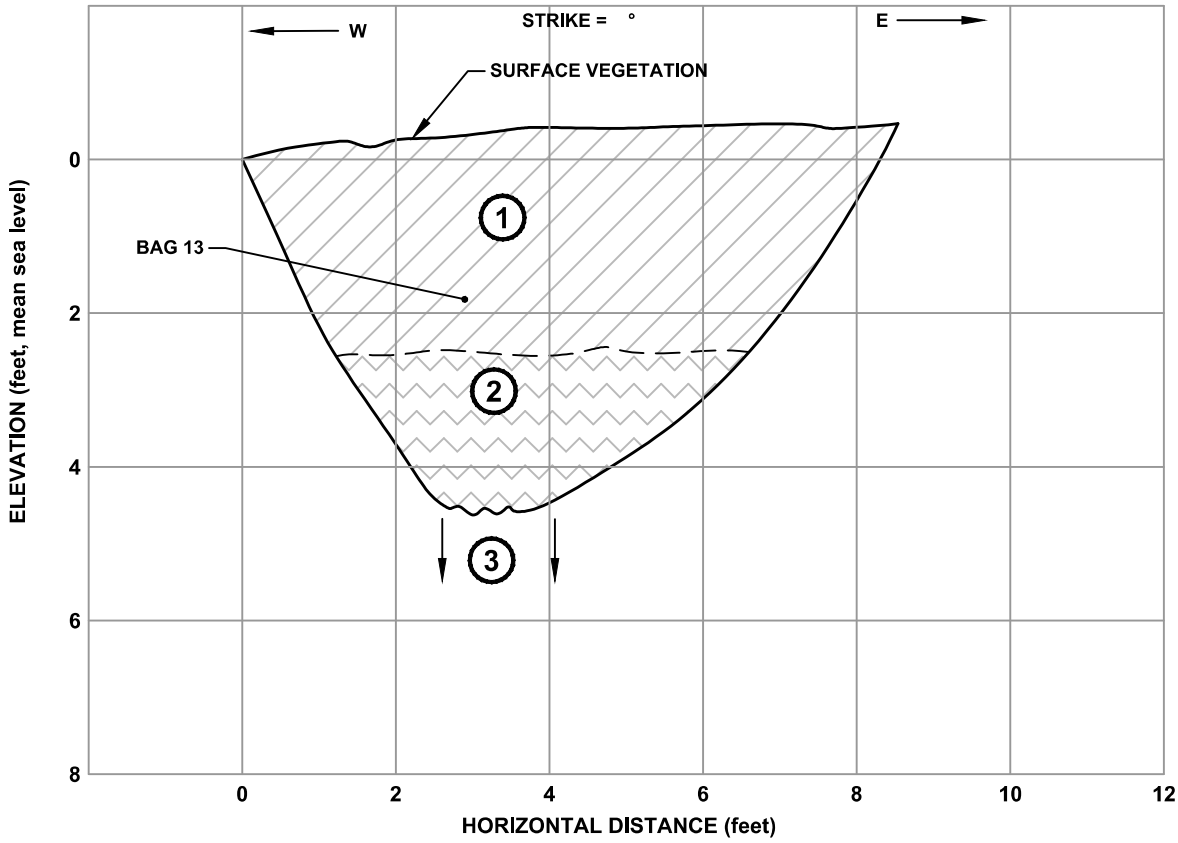
TEST PIT LOG
TP-12

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-18

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-12

PLOTTED: 04 Oct 2019, 12:47pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	LEAN CLAY with Sand (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace coarse sand, trace subangular gravels up to 1", rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, moist, highly weathered, medium strong to weak, highly fractured, well defined foliation, similar to CLAYEY SAND with Gravel and Cobble (SC); fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 10"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, medium strong, moderately fractured, well defined foliation, refusal at 4.5' depth
	Latitude: 38.660466 Longitude: -121.056072

LOGGED BY: Jordan Annand DATE: 8/20/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

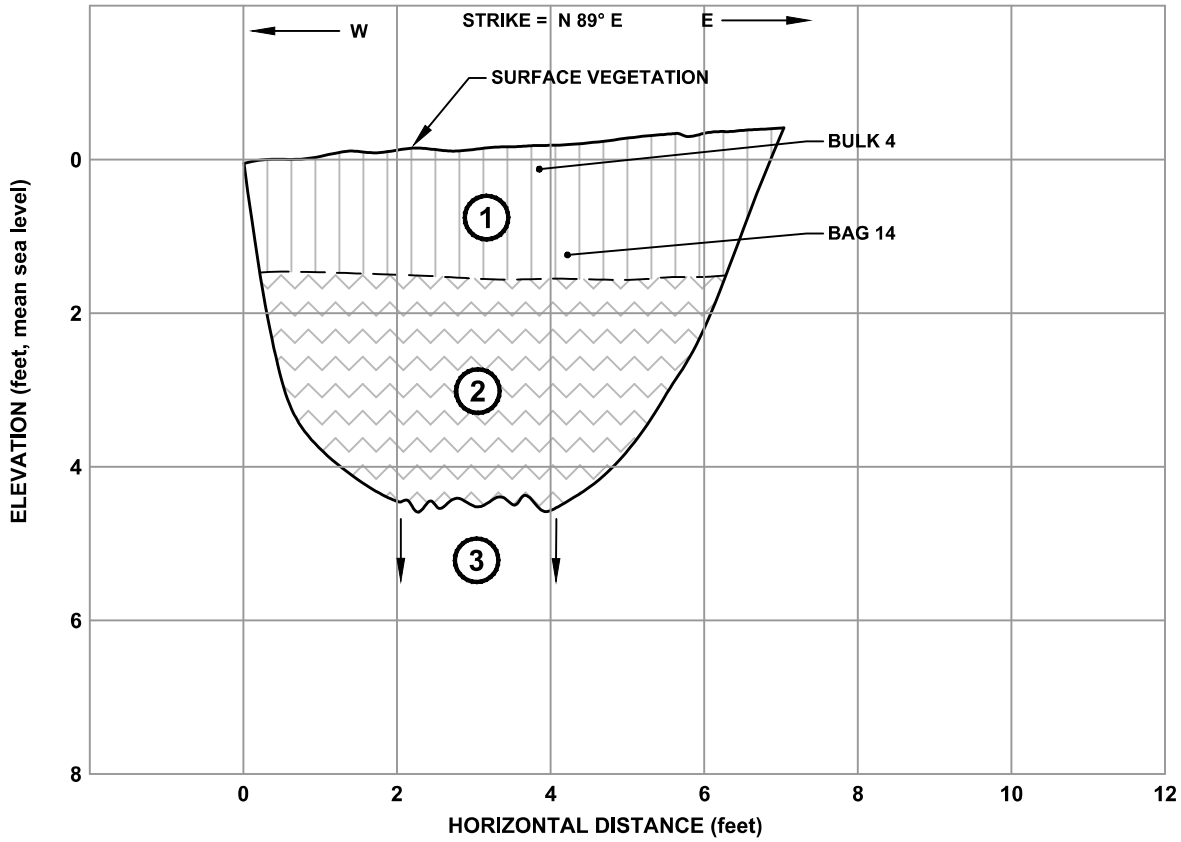
TEST PIT LOG
TP-13

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-19

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-13

PLOTTED: 04 Oct 2019, 12:47pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY SILT (ML) - dark brown, dry, low plasticity, fine to coarse sand, trace subangular gravels up to 1", rootlets (COLLUVIUM)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, weak to medium strong, highly fractured, well defined foliation, similar to CLAYEY SAND with Gravel, Cobble, and Boulders (SC); fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 12"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, refusal at 4.5' depth
	Latitude: 38.659608 Longitude: -121.057533

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

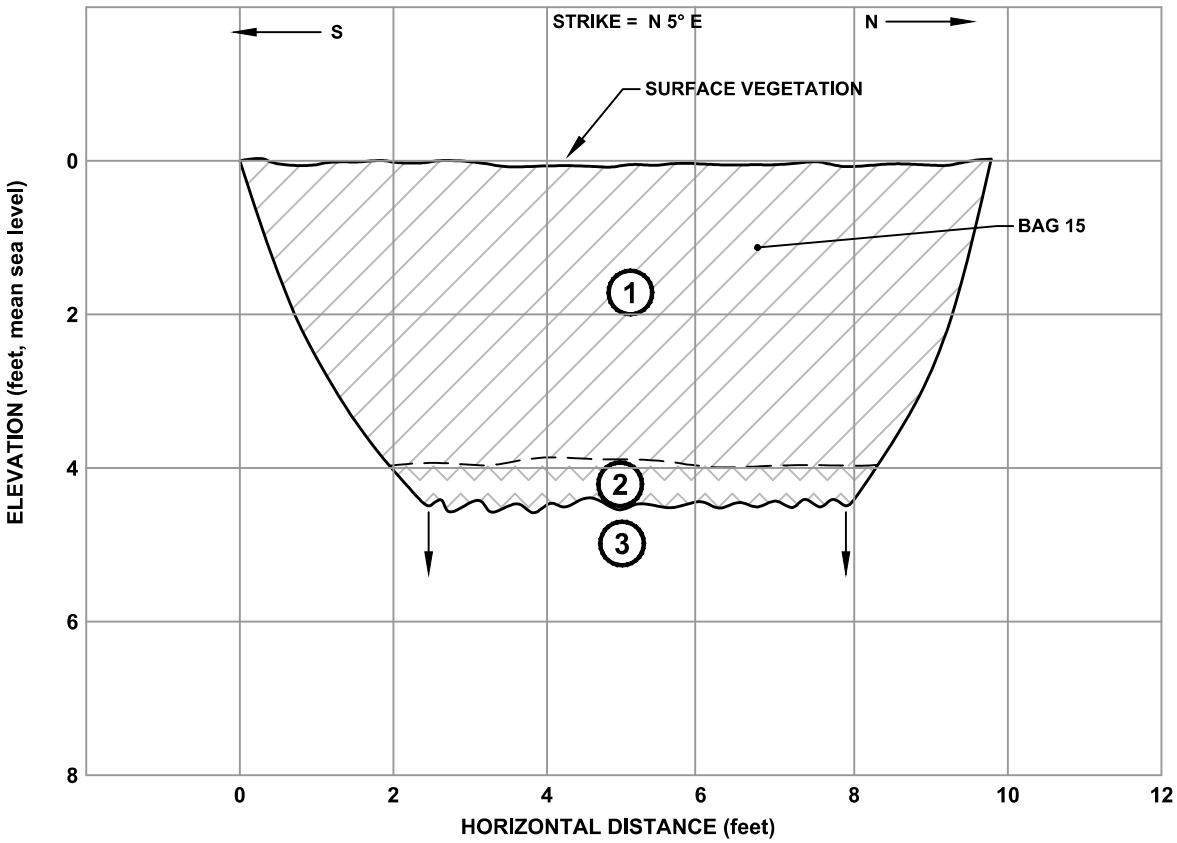
TEST PIT LOG
TP-14

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-20

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-14

PLOTTED: 04 Oct 2019, 12:47pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	LEAN CLAY with SAND (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace coarse sand, trace subangular gravels up to 4" (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry to moist, highly weathered, medium strong, highly fractured, similar to CLAYEY SAND with Gravel and Cobble (SC); fine to coarse sand, subangular to angular METAVOLCANIC ROCK fragments up to 10"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, refusal at 4.5' depth
	Latitude: 38.659756 Longitude: -121.056681

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

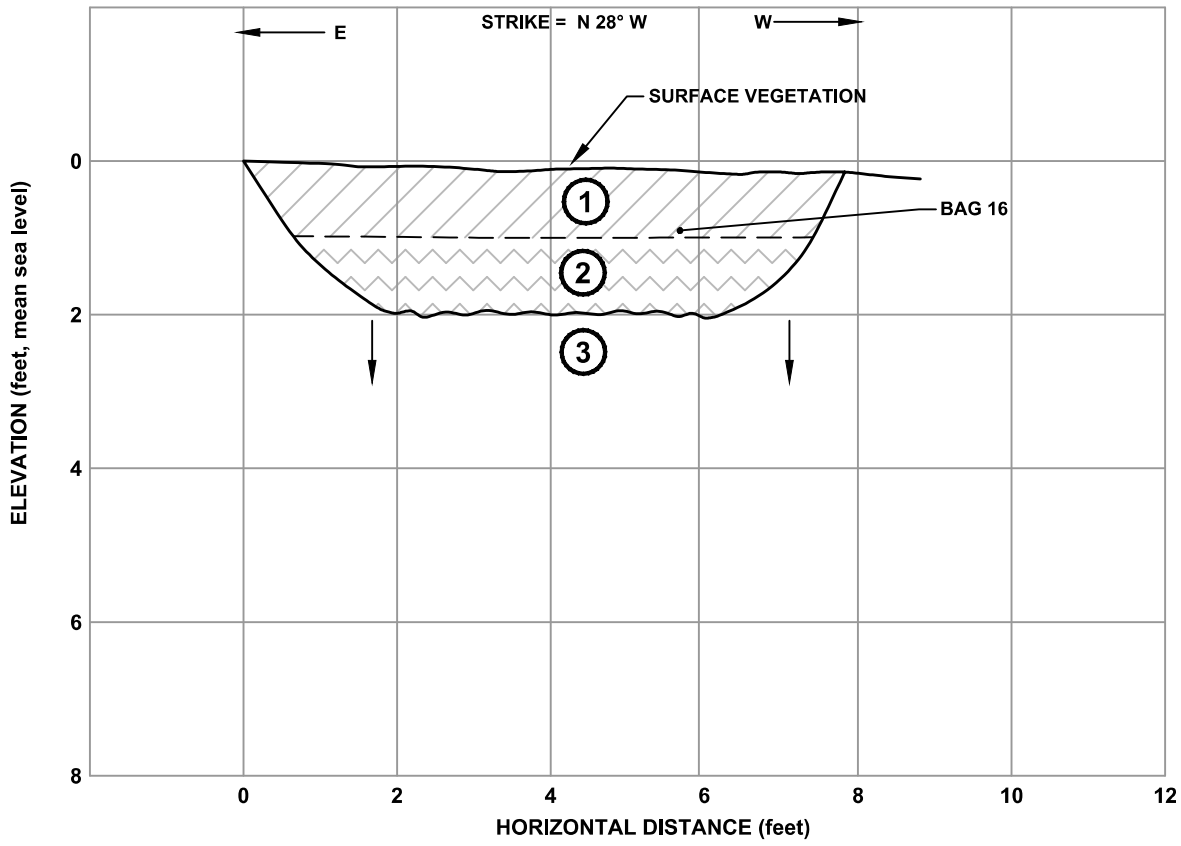
TEST PIT LOG
TP-15

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-21

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-15

PLOTTED: 04 Oct 2019, 12:46pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	LEAN CLAY with SAND (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace coarse sand, trace coarse gravels up to 1.5", rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, medium strong, highly fractured, slight foliation, similar to CLAYEY SAND with Gravel and Cobble (SC); fine to coarse sand, METAVOLCANIC COBBLES up to 8"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, refusal at 2' depth
	Latitude: 38.660051 Longitude: -121.055962

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

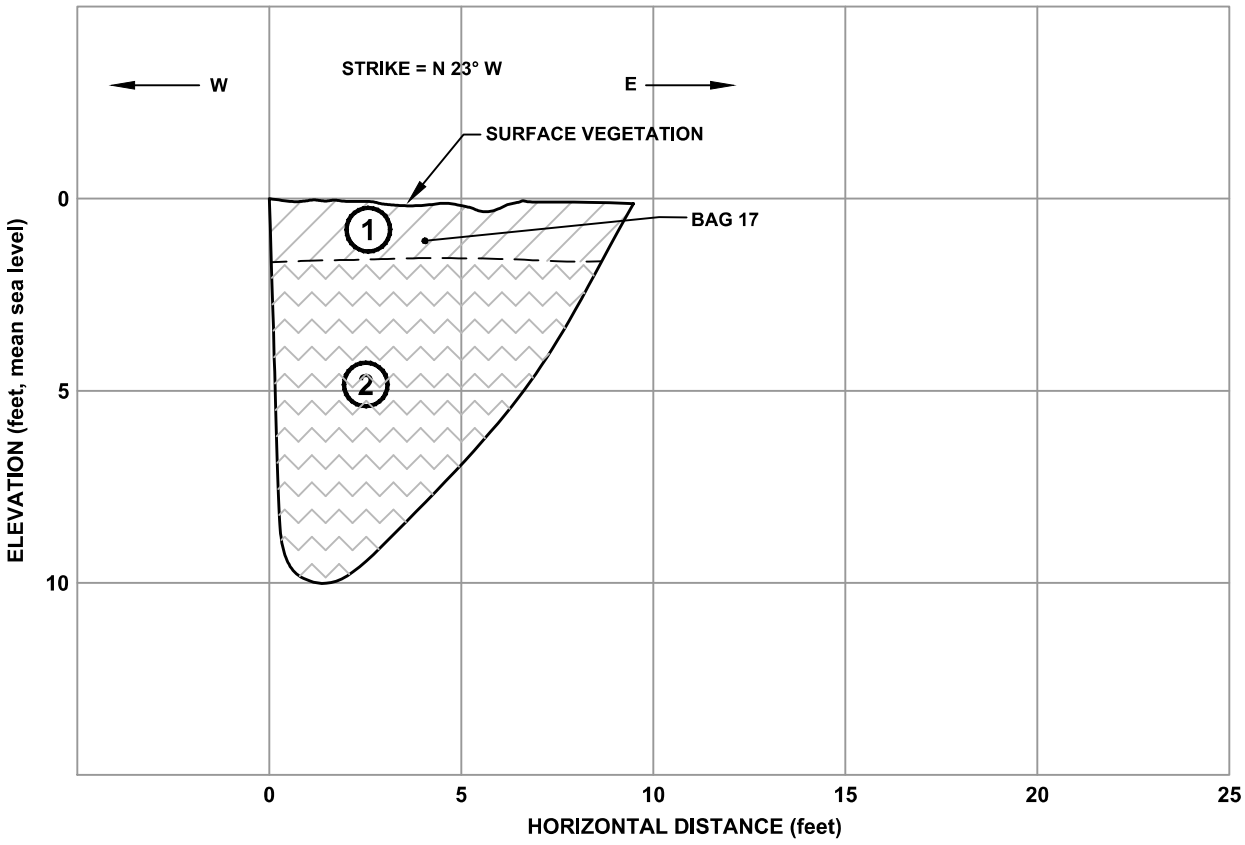
TEST PIT LOG
TP-16

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-22

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-16

PLOTTED: 04 Oct 2019, 12:46pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY with Gravel and Cobble (CL) - brownish red, dry, medium plasticity, fine to coarse sand, subangular gravel/cobble up to 4", rootlets (FILL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, medium strong, highly fractured, well defined foliation, similar to CLAYEY SAND with Gravel and Cobbles (SC); fine to coarse sand, subangular METAVOLCANIC GRAVELS and COBBLES up to 6"
	Latitude: 38.659358 Longitude: -121.056180

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

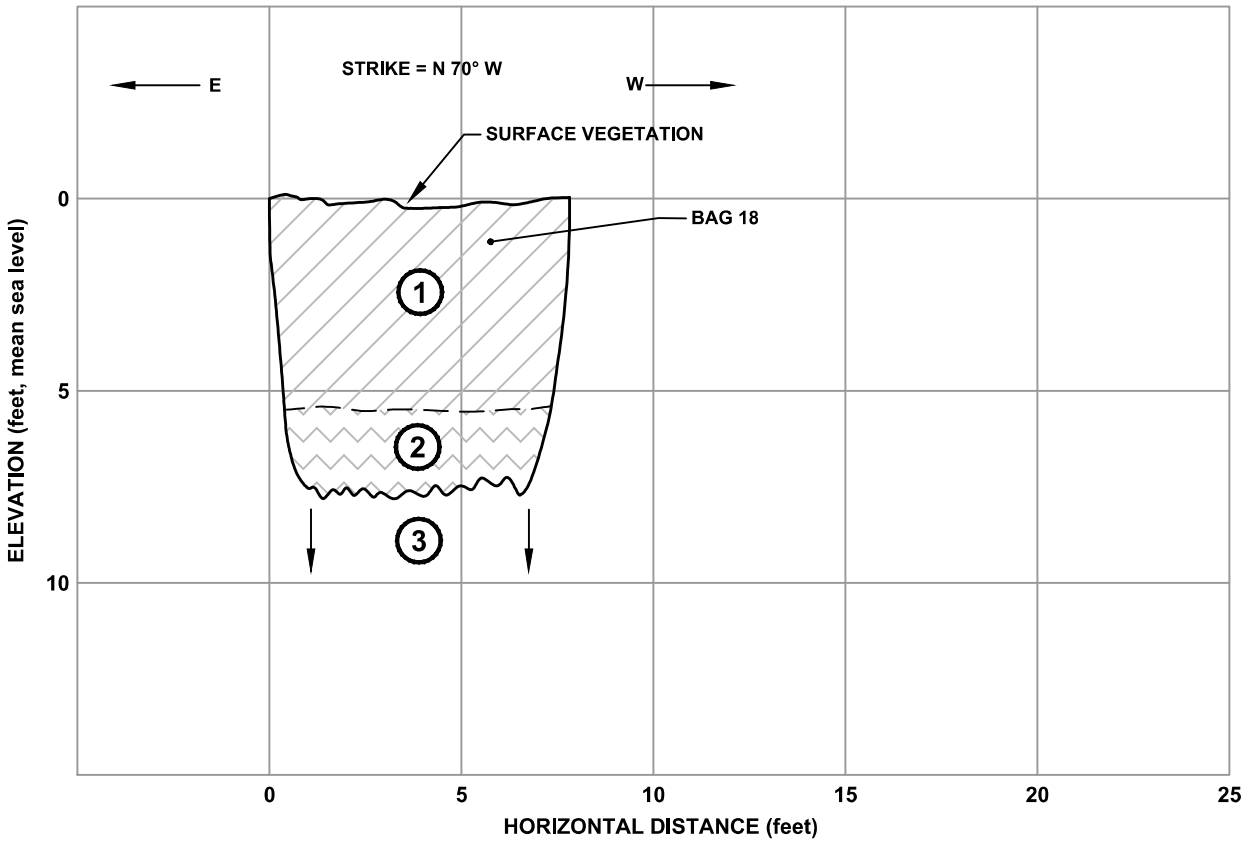
TEST PIT LOG
TP-17

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-23

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-17

PLOTTED: 04 Oct 2019, 12:45pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY with Gravel, Cobble, and Boulders (CL) - reddish brown, dry, medium plasticity, subangular to rounded fine sand to boulder sized particles up to 2' (FILL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, medium strong, highly fraactured, similar to CLAYEY SAND with Gravel and Cobbles (SC); fine to coarse sand, subangular METAVOLCANIC COBBLES up to 8"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, well defined foliation, refusal at 7.3' depth
	Latitude: 38.659105 Longitude: -121.057523

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

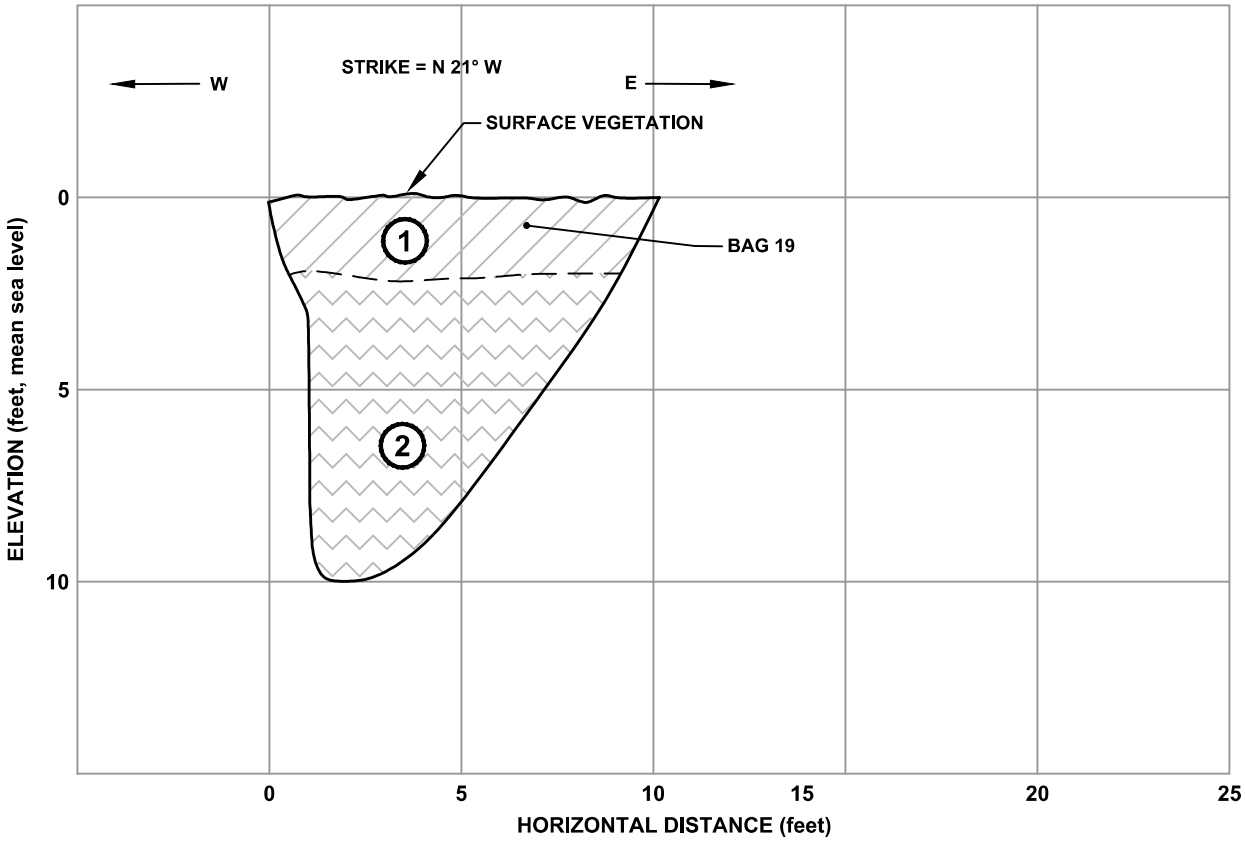
TEST PIT LOG
TP-18

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-24

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-18

PLOTTED: 04 Oct 2019, 12:45pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	LEAN CLAY with Sand (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace subangular gravels up to 2", rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry to moist, highly weathered, weak to medium strong, highly fractured, slight foliation, similar to CLAYEY SAND with Gravel and Cobble(SC); fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 5"
	Latitude: 38.659418 Longitude: -121.056699

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

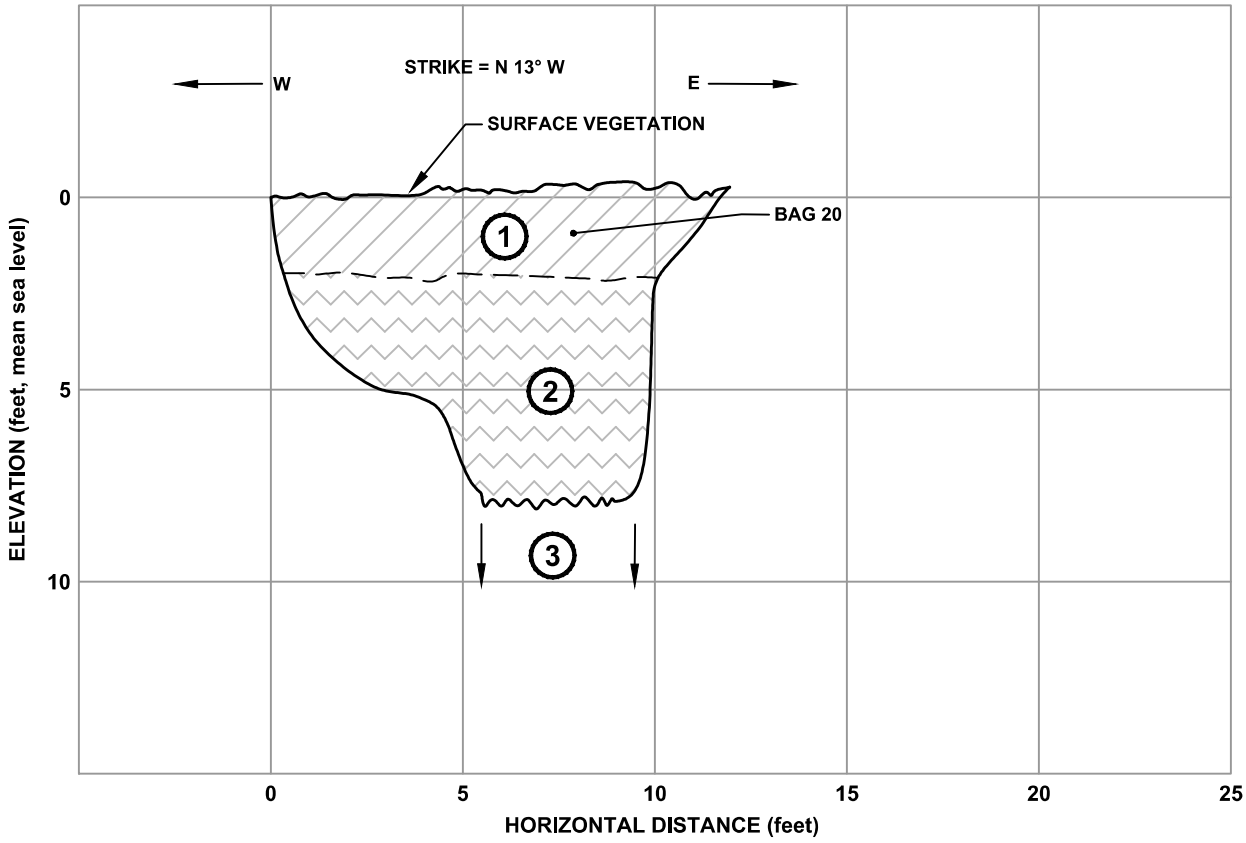
TEST PIT LOG
TP-19

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-25

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-19

PLOTTED: 04 Oct 2019, 12:45pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	LEAN CLAY with Sand (CL) - brownish red, dry, medium plasticity, fine to medium subangular sand, trace fine gravels, rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - light bluish gray, dry, highly weathered, medium strong, highly fractured, well defined foliation, similar to CLAYEY SAND with Gravel, Cobble, and Boulders (SC); fine to coarse sand, subangular ROCK fragments up to 13"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, well defined foliation, refusal at 7.5' depth
	Latitude: 38.659582 Longitude: -121.056399

LOGGED BY: Jordan Annand **DATE:** 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

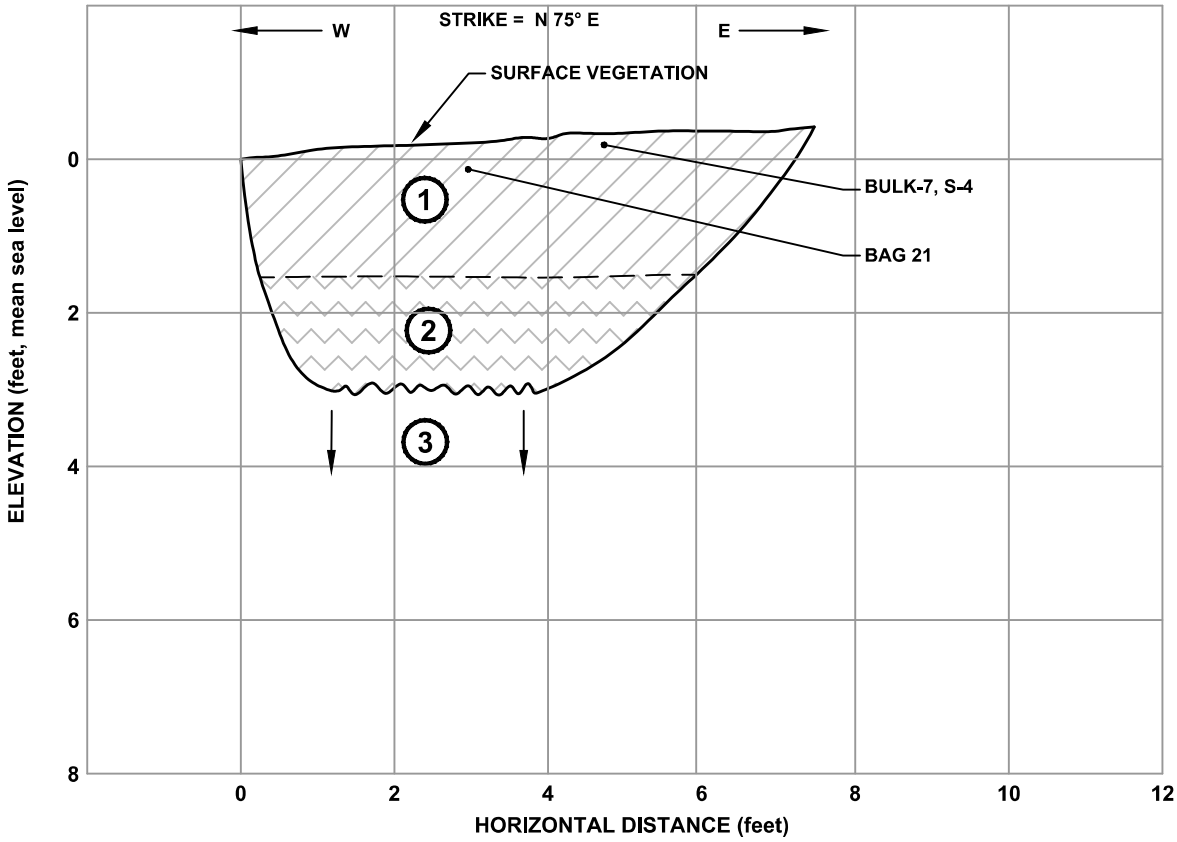
TEST PIT LOG
TP-20

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-26

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-20

PLOTTED: 04 Oct 2019, 12:44pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	LEAN CLAY with SAND (CL) - brownish red, dry, medium plasticity, subangular fine to medium sand, trace fine gravels, rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, medium strong, highly fractured, similar to POORLY GRADED SAND with Clay, Gravel, and Cobble (SP-SC); fine to coarse sand and gravel subrounded cobbles up to 6"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, highly fractured, slight foliation, refusal at 3' depth
	Latitude: 38.659766 Longitude: -121.056003

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

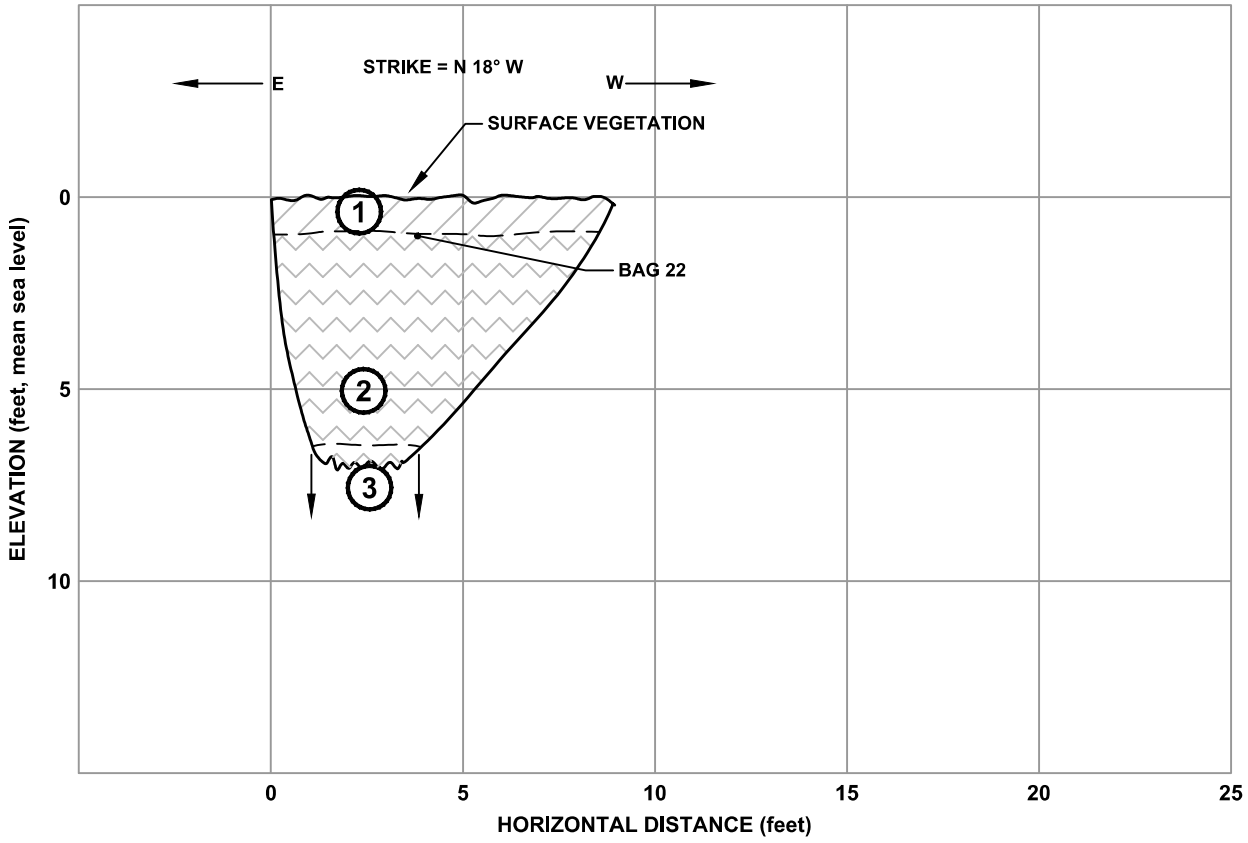
TEST PIT LOG
TP-21

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-27

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-21

PLOTTED: 04 Oct 2019, 12:44pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace subangular gravels up to 1", rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry to moist, highly weathered, medium strong, highly fractured, slight foliation, similar to CLAYEY SAND with Gravel, Cobble, and Boulders (SC); fine to coarse sand, subangular gravel, cobbles, and boulders up to 15"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, slight foliation, refusal at 7' depth
	Latitude: 38.659371 Longitude: -121.056358

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

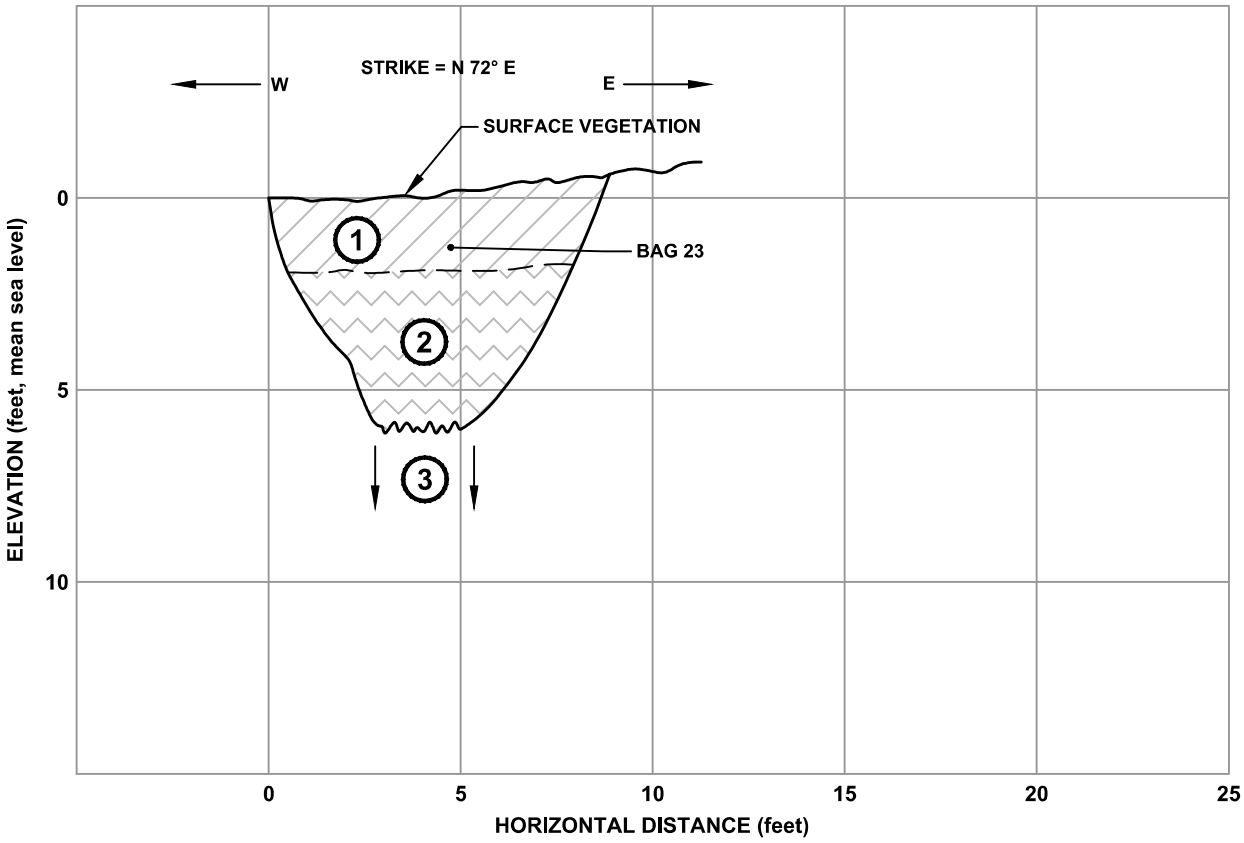
TEST PIT LOG
TP-22

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-28

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-22

PLOTTED: 04 Oct 2019, 12:44pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace subangular coarse gravels up to 1.5", rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, weak to strong, highly fractured, slight foliation, similar to CLAYEY SAND with Gravel and Cobble, fine to coarse sand, subangular METAVOLCANIC ROCK fragments up to 10"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, refusal at 6' depth
	Latitude: 38.659276 Longitude: -121.056011

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

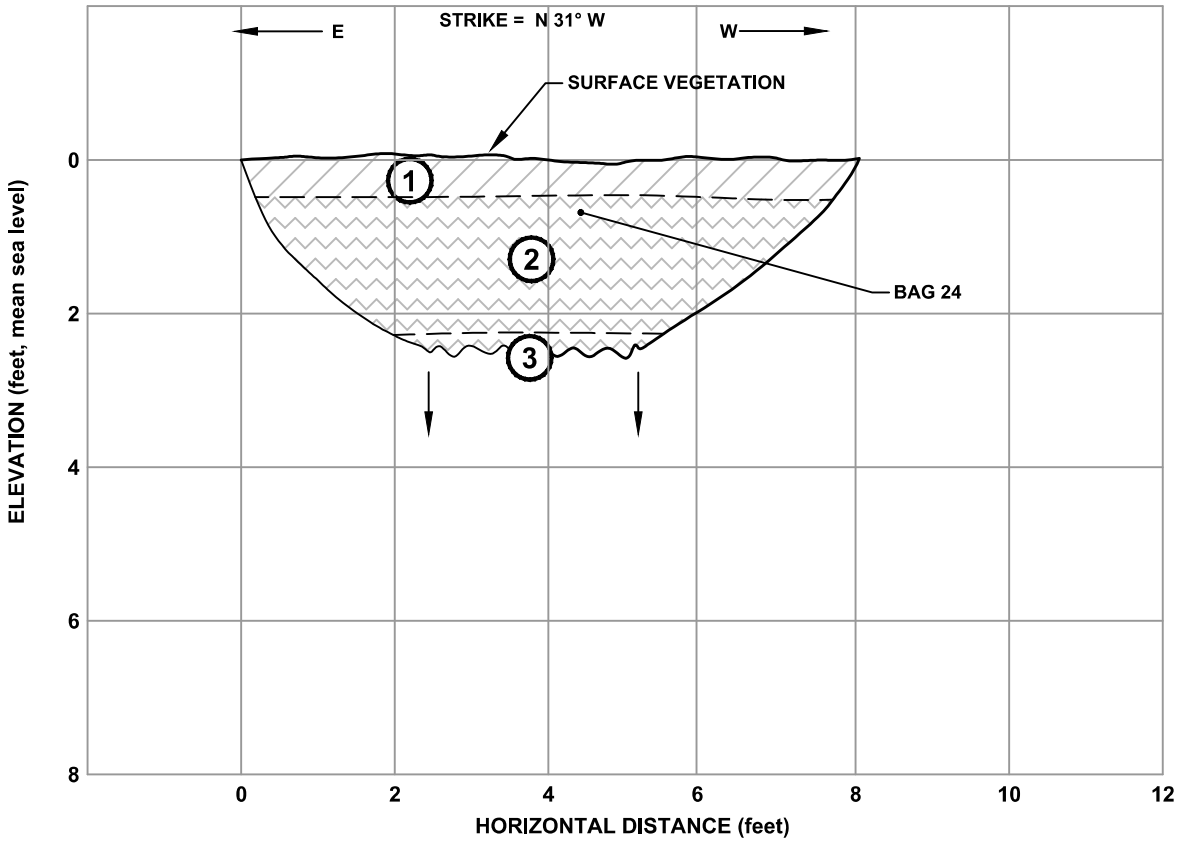
TEST PIT LOG
TP-23

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-29

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-23

PLOTTED: 04 Oct 2019, 12:43pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY (CL) - brownish red, dry, medium plasticity, fine to medium sand, trace fine coarse sand, trace fine gravel, rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, weak to medium strong, highly fractured, well defined foliation, similar to CLAYEY SAND with Gravel, Cobbles, and Boulders (SC); fine to coarse sand, subangular gravels and cobbles up to 14"
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, well defined foliation, refusal at 2.5' depth
	Latitude: 38.659248 Longitude: -121.055652

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

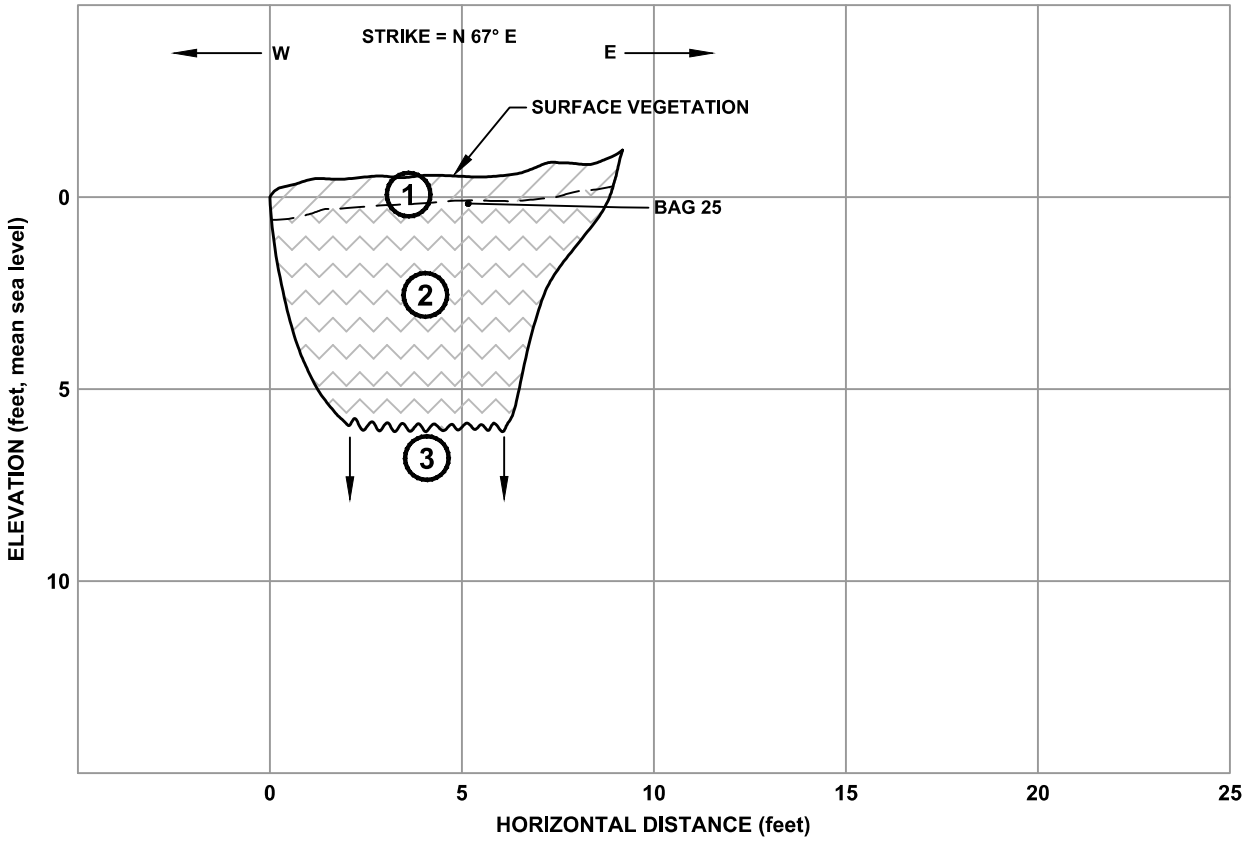
TEST PIT LOG
TP-24

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-30

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-24

PLOTTED: 04 Oct 2019, 12:43pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	SANDY LEAN CLAY (CL) - brownish red, dry, medium plasticity, subangular fine to medium sand, trace fine gravel, rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - light bluish gray, dry, highly weathered, medium strong, highly fractured, slight foliation, similar to POORLY GRADED SAND with Clay, Gravel, Cobble, and Boulders (SP-SC); fine to coarse sand, subangular gravel, cobble, and boulders up to 14"
3	METAVOLCANIC ROCK - light bluish gray, moderately weathered, strong, highly fractured, slight foliation, refusal at 6' depth
	Latitude: 38.659457 Longitude: -121.055406

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/27/2019

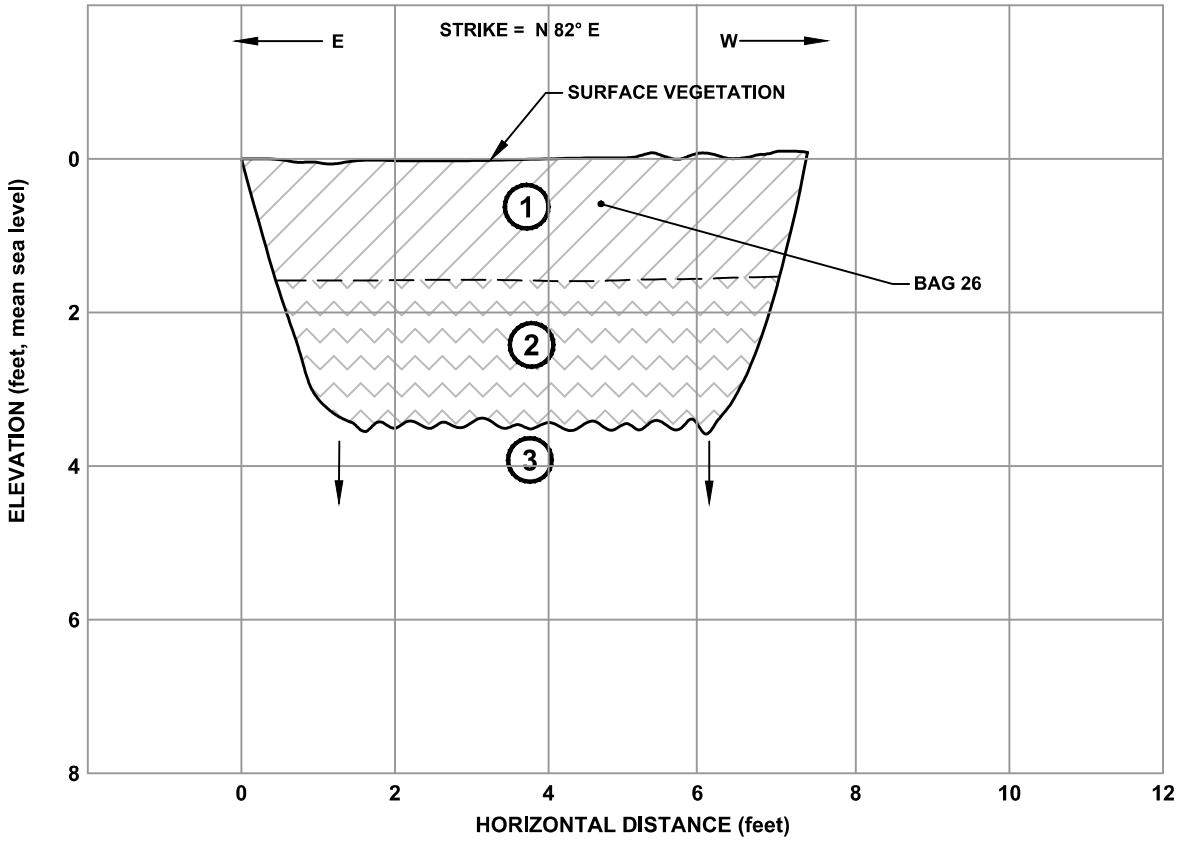
TEST PIT LOG
TP-25

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-31

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-25

PLOTTED: 04 Oct 2019, 12:43pm, DRoss



UNIT NO.	MATERIALS DESCRIPTION
1	LEAN CLAY with SAND (CL) - brownish red, dry, medium plasticity, subangular fine to medium sand, trace fine gravel, rootlets (RESIDUAL SOIL)
2	METAVOLCANIC ROCK - bluish gray and olive, dry, highly weathered, medium strong, highly fractured, well defined foliation, similar to CLAYEY SAND with Gravel and Cobble (SC); fine to coarse sand
3	METAVOLCANIC ROCK - bluish gray, moderately weathered, strong, moderately fractured, refusal at 3.5 depth
	Latitude: 38.659029 Longitude: -121.057009

LOGGED BY: Jordan Annand DATE: 8/19/19

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO. 20193141
ENTRY BY: D. Ross
CHECKED BY: J. Annand
DATE: 08/28/2019

TEST PIT LOG
TP-26

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
A-32

CAD FILE: K:\2019_PROJECTS\20193141.001A COSTCO EL DORADO HILLS\CAD\ LAYOUT: TP-26

KLEINFELDER

Bright People. Right Solutions.

Appendix B

APPENDIX B
LABORATORY TESTING

GENERAL

Laboratory tests were performed on selected samples as an aid in classifying the soils and to evaluate physical properties of the soils that may affect foundation design and construction procedures. The tests were performed in general conformance with the current ASTM or Caltrans standards. A description of the laboratory-testing program is presented below.

MOISTURE CONTENT

Moisture content testing was performed on a selected sample recovered from our borings. Moisture contents were determined in general accordance with ASTM Test Method D2216. Results of the testing are presented on the boring logs in Appendix A and as an attachment in this appendix.

ATTERBERG LIMITS

Atterberg limits testing was performed on selected soil samples to assist in classification. Testing was performed in general accordance with ASTM D4318. Results are presented attached to this appendix.

R-VALUE

Resistance value (R-value) tests were performed on selected bulk soil samples obtained to evaluate pavement support characteristics of the near-surface onsite soils. R-value tests were performed in accordance with Caltrans Standard Test Method 301. The test results are attached in this appendix.

ROCK STRENGTH (UNCONFINED COMPRESSIVE STRENGTH)

Unconfined compressive strength tests were performed on select samples of intact rock from our rock core samples. These tests were performed in accordance with ASTM D7012 and are included in this appendix.

PRELIMINARY SOIL CORROSIVITY

A series of chemical tests were performed on a selected sample of the near-surface soils to estimate pH, resistivity and sulfate and chloride contents. The sample was tested in general accordance with California Test Methods 643, 422, and 417 for pH and minimum resistivity,

© 2019 Kleinfelder

soluble chlorides, and soluble sulfates, respectively. Test results may be used by a qualified corrosion engineer to evaluate the general corrosion potential with respect to construction materials. The tests were performed by AP Engineering and Laboratory, Inc. of Pomona, California. The results of the tests are presented in Table 4 of Section 4.10 of the report and attached to this appendix.

TOPSOIL ANALYTICAL TESTS

Topsoil analytical testing was performed on one representative sample of the near-surface soils by Waypoint Analytical of Anaheim, California. The topsoil was tested for percentages of organic matter, percentages of deleterious material, pH, mineral content, micro and macro nutrient content, and herbicide presence in the soil. The test results are presented in the Waypoint Analytical report attached to this appendix.

© 2019 Kleinfelder

Exploration ID	Depth (ft.)	Sample Description	Water Content (%)	Dry Unit Wt. (pcf)	Sieve Analysis (%)			Atterberg Limits			Additional Tests
					Passing 3/4"	Passing #4	Passing #200	Liquid Limit	Plastic Limit	Plasticity Index	
TP-(1)	0.0 - 2.0	SANDY LEAN CLAY (CL)									**Corrosion Test**
											R-Value= 63
TP-(2)	0.0 - 2.0	SANDY LEAN CLAY (CL)	6.6					31	22	9	
TP-(10)	0.0 - 1.5	SANDY, SILTY CLAY (CL-ML)	7.4					29	21	8	**Corrosion Test**
TP-(14)	0.0 - 2.0	SANDY SILT (ML)									**Corrosion Test**
											R-Value= 54
TP-(21)	0.0 - 1.5	SANDY, SILTY CLAY (CL-ML)	5.5					25	19	6	**Corrosion Test**
TP-(26)	0.0 - 1.5	LEAN CLAY WITH SAND (CL)									**R-Value=** 63

Refer to the Geotechnical Evaluation Report or the supplemental plates for the method used for the testing performed above.
NP = NonPlastic

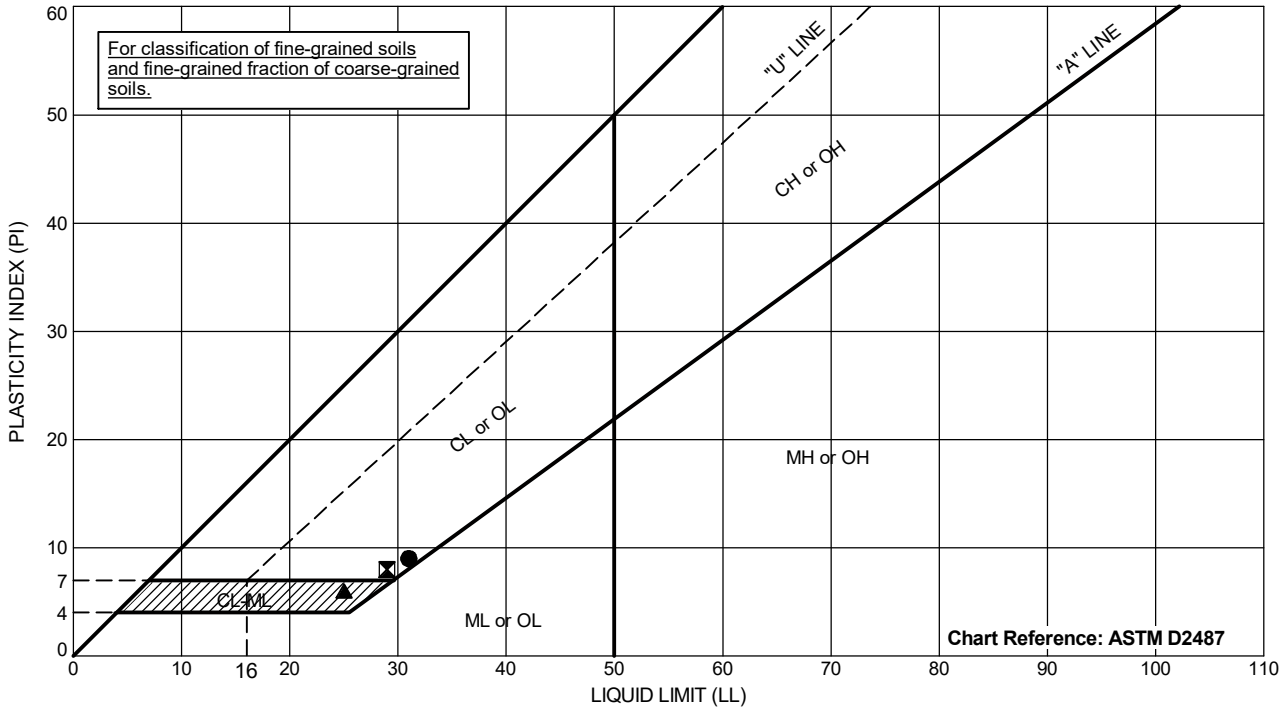
KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.: 20193141
DRAWN BY: JDS
CHECKED BY: DD
DATE: 9/11/2019
REVISED: 10/4/2019

LABORATORY TEST RESULT SUMMARY

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
B-1



Exploration ID		Depth (ft.)	Sample Description	Passing #200	LL	PL	PI
●	TP-(2)	0 - 2	SANDY LEAN CLAY (CL)	NM	31	22	9
⊠	TP-(10)	0 - 1.5	SANDY, SILTY CLAY (CL-ML)	NM	29	21	8
▲	TP-(21)	0 - 1.5	SANDY, SILTY CLAY (CL-ML)	NM	25	19	6

Testing performed in general accordance with ASTM D4318.
NP = Nonplastic
NM = Not Measured

KLEINFELDER
Bright People. Right Solutions.

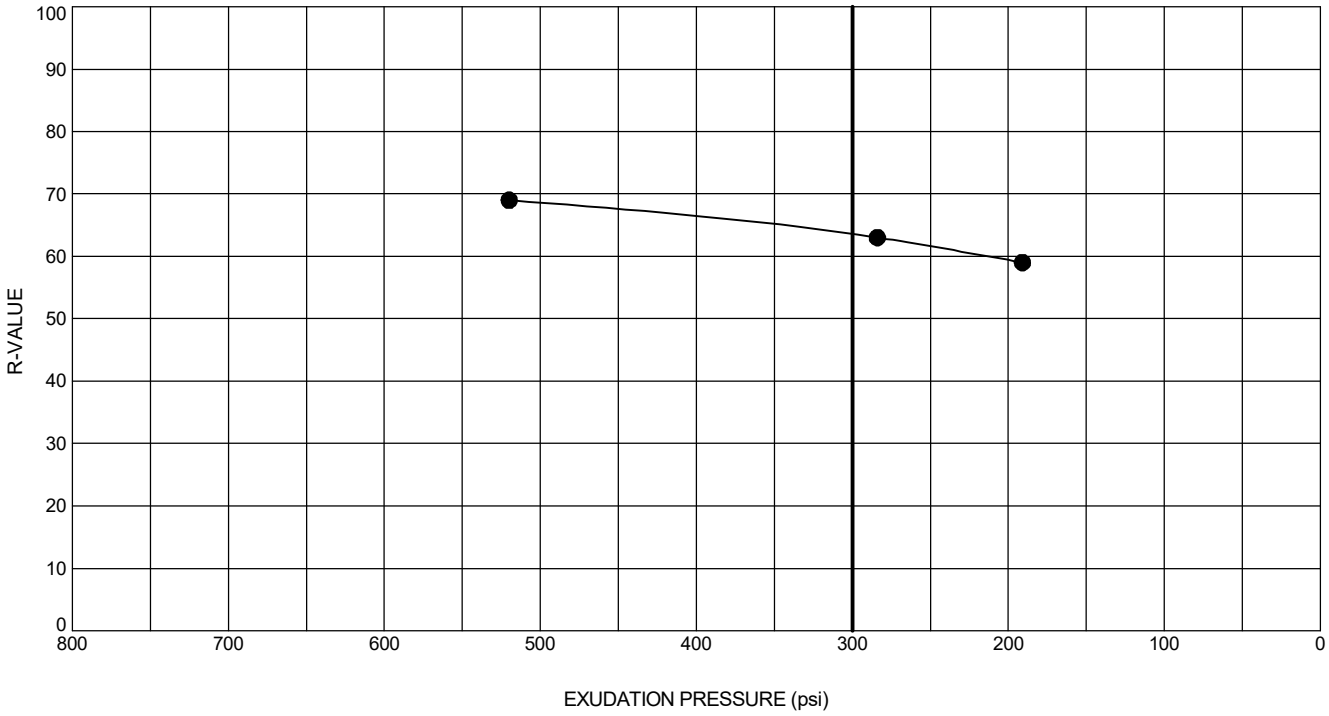
PROJECT NO.:	20193141
DRAWN BY:	DR
CHECKED BY:	DD
DATE:	10/14/2019
REVISED:	-

ATTERBERG LIMITS

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
B-2

PLOTTED: 10/14/2019 08:36 AM BY: DRoss
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.001A
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [KLF_ATTERBERG (ASTM)]



Exploration ID	Depth (ft.)	Sample Description	R-Value @ 300 psi Exudation Pressure
TP-(1)	0 - 2	SANDY LEAN CLAY (CL)	63

Specimen No.	Moisture at Time of Test (%)	Dry Unit Weight (pcf)	Expansion Pressure (psi)	Exudation Pressure (psi)	Corrected Resistance Value
1	16.3	108.1	286	284	63
2	15.4	110.1	450	520	69
3	17.1	108.4	268	191	59

Testing performed in general accordance with ASTM D2844.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	DR
CHECKED BY:	DD
DATE:	10/14/2019
REVISED:	-

R-VALUE

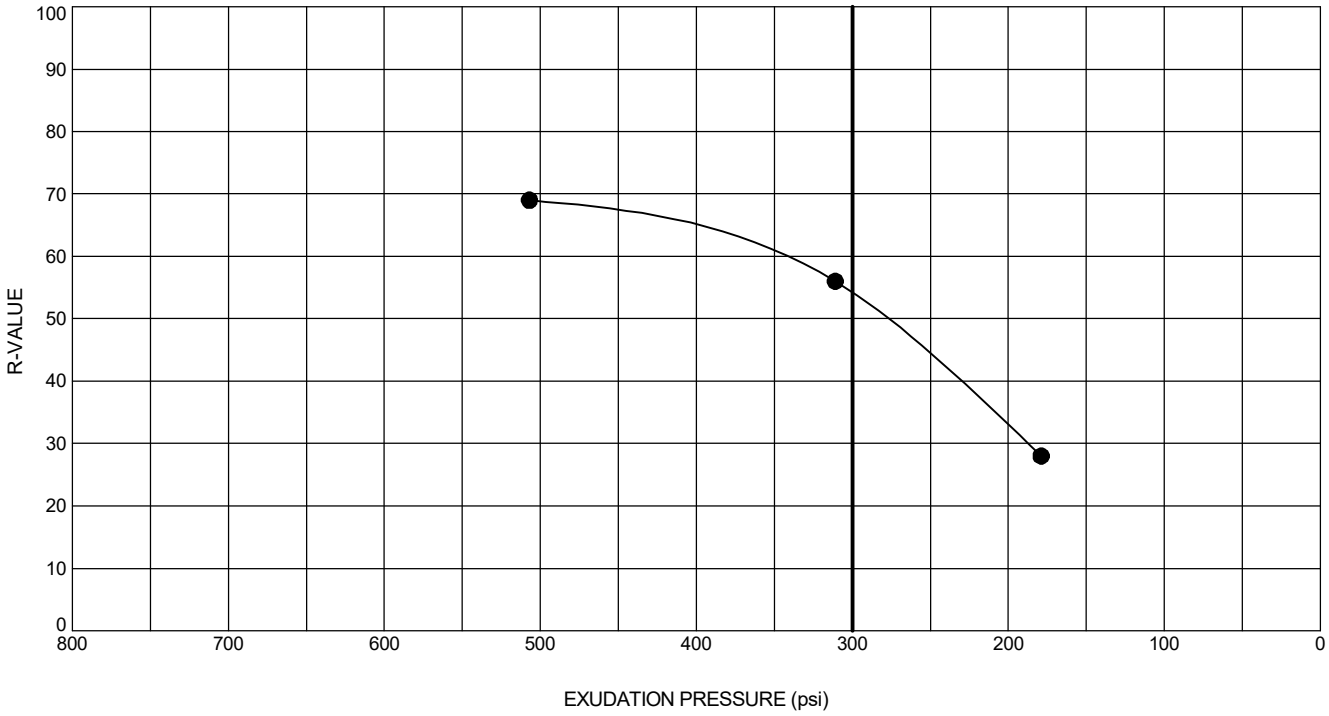
CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE

B-3

PLOTTED: 10/14/2019 08:35 AM BY: DRoss
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.001A
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [_KLF_R-VALUE (REVERSED)]

PLOTTED: 10/14/2019 08:35 AM BY: DRoss
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.001A
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [_KLF_R-VALUE (REVERSED)]



Exploration ID	Depth (ft.)	Sample Description	R-Value @ 300 psi Exudation Pressure
TP-(14)	0 - 2	SANDY SILT (ML)	54

Specimen No.	Moisture at Time of Test (%)	Dry Unit Weight (pcf)	Expansion Pressure (psi)	Exudation Pressure (psi)	Corrected Resistance Value
1	15.2	113.5	294	311	56
2	13.5	116.0	494	507	69
3	16.9	113.0	178	179	28

Testing performed in general accordance with ASTM D2844.

KLEINFELDER
Bright People. Right Solutions.

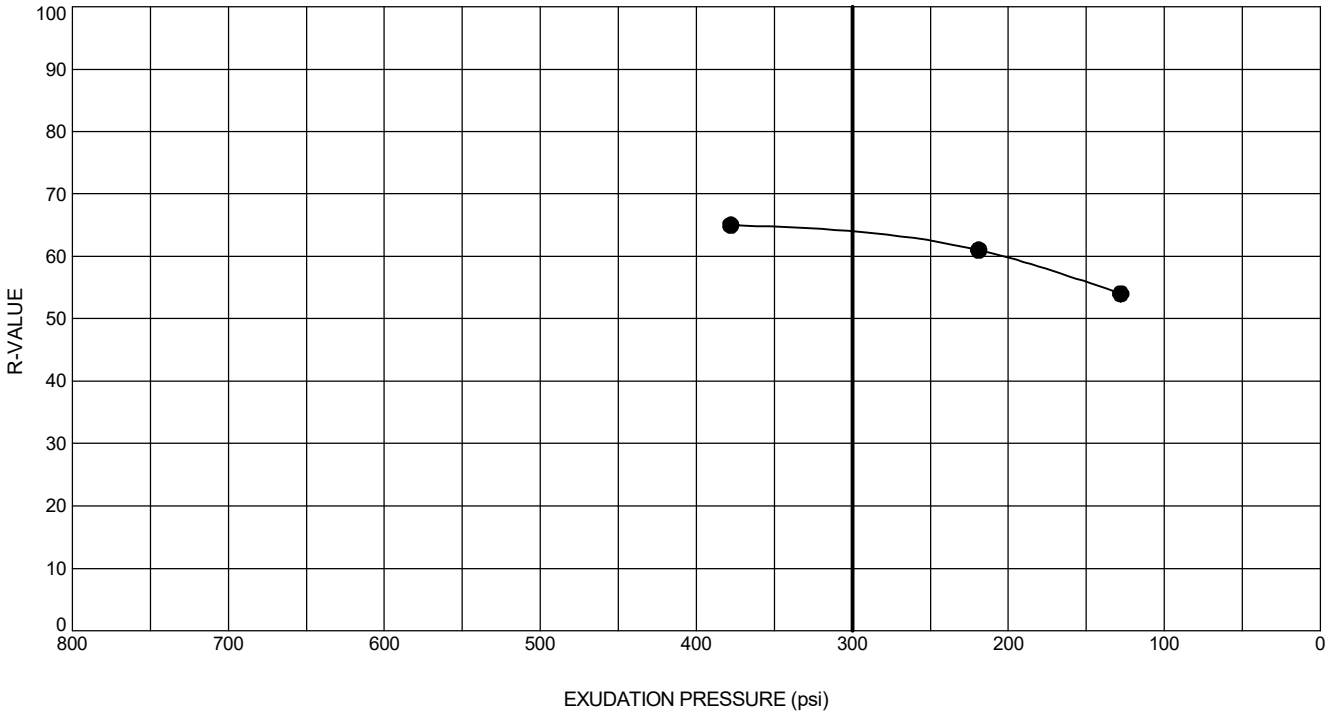
PROJECT NO.:	20193141
DRAWN BY:	DR
CHECKED BY:	DD
DATE:	10/14/2019
REVISED:	-

R-VALUE

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE

B-4



Exploration ID	Depth (ft.)	Sample Description	R-Value @ 300 psi Exudation Pressure
TP-(26)	0 - 1.5	LEAN CLAY WITH SAND (CL)	63

Specimen No.	Moisture at Time of Test (%)	Dry Unit Weight (pcf)	Expansion Pressure (psi)	Exudation Pressure (psi)	Corrected Resistance Value
1	13.8	119.1	169	128	54
2	12.9	118.9	208	378	65
3	13.3	119.5	195	219	61

Testing performed in general accordance with ASTM D2844.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20193141
DRAWN BY:	DR
CHECKED BY:	DD
DATE:	10/14/2019
REVISED:	-

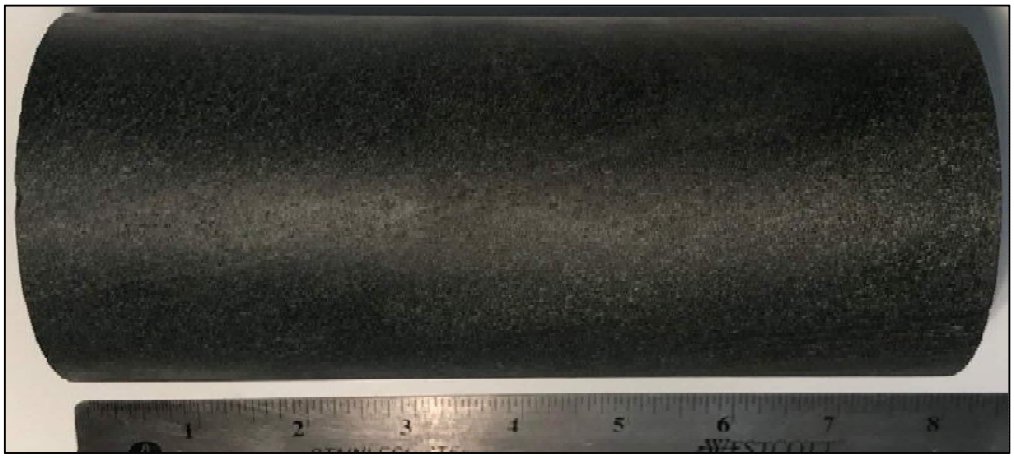
R-VALUE

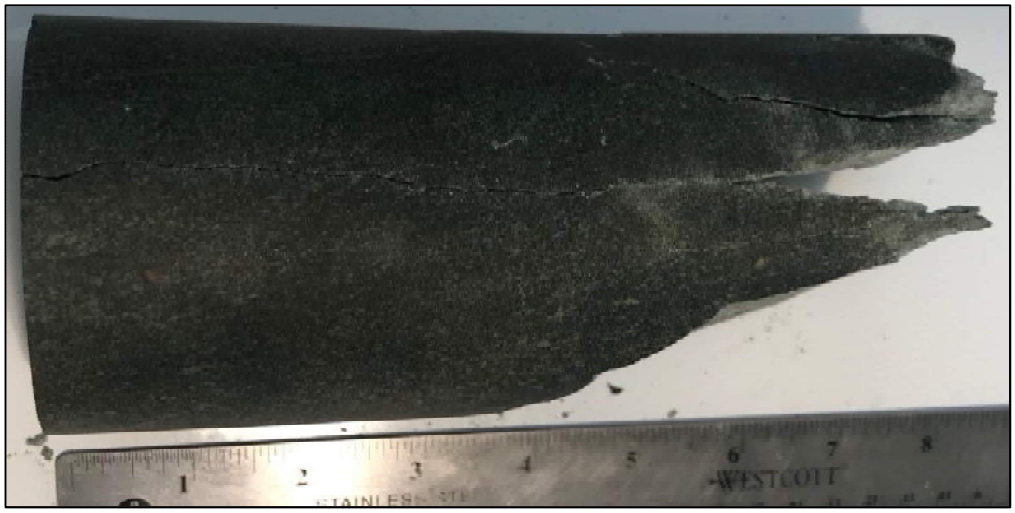
CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE

B-5

PLOTTED: 10/14/2019 08:35 AM BY: DRoss
OFFICE FILTER: SALINAS
PROJECT NUMBER: 20193141.001A
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [_KLF_R-VALUE (REVERSED)]





Specimen Preparation in accordance with ASTM D4543	Diameter, in	D_O	3.27
Remarks:	Height, in	H_O	6.79
	Moisture Condition		As Received
	Unit Weight, pcf	ρ_d	183
	Uniaxial Compressive Strength (psi)	σ_u	17,400
	Time to Failure, mm:ss		2:52

Description of Specimen: Metavolcanic	Test Method: ASTM D7012, Method C

Boring:	KB-4
Run:	4
Depth, ft:	16.6-17.6
Test Date:	10/9/2019

KLEINFELDER
Bright People. Right Solutions.
9969 Horn Rd., Sacramento, CA 95827

PROJECT NO.: 20193141
ENTRY BY: S. Rader
CHECKED BY: B. Anderson
DATE: 10/18/2019

UNIAXIAL COMPRESSION TEST

CSM COSTCO EL DORADO HILLS
SILVA VALLEY PARKWAY
EL DORADO HILLS, CALIFORNIA

FIGURE
B-6

AP Engineering and Testing, Inc.
DBE|MBE|SBE
2607 Pomona Boulevard | Pomona, CA 91768
t. 909.869.6316 | f. 909.869.6318 | www.aplaboratory.com

CORROSION TEST RESULTS

Client Name: Kleinfelder
Project Name: Costco El Dorado Hills New Warehouse
Project No.: 20193141.001A

AP Job No.: 19-0901
Date: 09/04/19

Boring No.	Sample No.	Depth (feet)	Soil Type	Minimum Resistivity (ohm-cm)	pH	Sulfate Content (ppm)	Chloride Content (ppm)
TP-1	Bulk 6	0-2	CL-ML	3848	5.2	36	35
TP-10	Bulk 3	0-2	CL-ML	5324	6.1	38	39
TP-14	Bulk 4	0-2	CL-ML	6453	6.0	34	34
TP-21	Bulk 7	0-1.5	CL-ML	5012	5.7	41	55

NOTES: Resistivity Test and pH: California Test Method 643
Sulfate Content : California Test Method 417
Chloride Content : California Test Method 422
ND = Not Detectable
NA = Not Sufficient Sample
NR = Not Requested

Anaheim Office
September 25, 2019
Report 19-253-0006

Kleinfelder, Inc.
380 North First Street
Suite A
San Jose CA 95112

Attn: Dan Dockendorf

RE: Costco El Dorado Hills, Updated New Warehouse

Background

One composite sample was processed on September 10, 2019 identified as soil from areas where new landscaping is scheduled for installation. Fertilizer and amendment recommendations were requested. The sample was analyzed for horticultural suitability, fertility, and physical characteristics. The results of the analyses are attached. Organic matter testing was run separately on individual subsamples and these results are also attached.

Analytical Results and Comments

The reaction of the sample is moderately acidic at a pH of 6.0. This is within the range preferred for most plants. Salinity (ECe), sodium, chloride and boron are safely low. The sodium adsorption ratio (SAR) indicates that sodium is adequately balanced by soluble calcium and magnesium; this balance is important for soil structure quality, which relates to the rate at which water infiltrates the soil.

According to the USDA Soil Classification system, the texture of the less than 2mm fraction of the soil is classified as loam. Organic matter content is low at 2.3% dry weight. Based on this information the estimated infiltration rate is moderate at 0.25 inch per hour. Infiltration rates may vary due to differences in compaction across the site. The over 50% silt plus clay present indicates that this soil will have some potential for issues with slow drainage and high water holding capacity and irrigation timing should take this into account. Additional subdrainage may be beneficial for larger specimens being installed in flat areas in this soil.

In terms of soil fertility, nitrogen, phosphorus and sulfate are low and calcium is fair. All of the other major nutrients are sufficient for proper plant nutrition at this time. Of the micronutrients; copper and manganese are abundant while zinc and iron are sufficient.

Boron is safely low for general ornamental plants and may be below optimum levels for plant nutritional purposes. Irrigation water often supplies sufficient boron to meet plant nutritional requirements. However, if boron is low in the irrigation water and/or plants show symptoms of boron deficiency after they are well established, you may consider an application of a product containing boron at the manufacturer's label rate. Boron deficiency symptoms often include stunted or deformed younger growth and tight internodes. Tissue testing can be performed to identify a boron deficiency if it is suspected. Incorporation of a composted greenwaste amendment may be sufficient to negate this deficiency, product depending.

Recommendations

Nitrogen, phosphorus and calcium fertilizers are recommended at the time of planting. Incorporation of a nitrogen stabilized organic amendment or composted greenwaste product is recommended in order to improve soil nutrient holding capacity and porosity. If a composted greenwaste amendment is chosen, that would provide additional phosphorus and potassium as well as supplemental micronutrients, product depending.

To Prepare for Mass Planting:
Drainage of the root zone should be improved by first loosening the top 10 inches of any undisturbed or compacted soil. The following materials should then be evenly spread and thoroughly blended with the top 6 inches of soil to form a homogenous layer:

Amount per 1000 Square Feet	
5 cubic yards	Nitrogen Stabilized Organic Amendment*
8 pounds	Ammonium Phosphate (16-20-0)*
25 pounds	Gypsum (Calcium Sulfate)

*The rate may change based on the analysis of the chosen organic amendment. This rate is based on 270 lbs. of dry weight of organic matter per cubic yard of amendment. If a composted greenwaste amendment is chosen that provides a substantial amount of phosphorus, the ammonium phosphate should be replaced with ammonium sulfate (21-0-0) at a 7 pound rate.

To Prepare Backfill For Trees and Shrubs:

- Excavate planting pits at least twice as wide as the diameter of the rootball.
- Soil immediately below the root ball should be left undisturbed to provide support but the sides and the bottom around the side should be cultivated to improve porosity.
- The top of the rootball should be at or slightly above final grade.
- The top 12 inches of backfill around the sides of the rootball of trees and shrubs may consist of the above amended soil or may be prepared as follows:

3 parts	Site Soil
1 part	Nitrogen Stabilized Organic Amendment*

Uniformly blended with:

Amount / Cubic Yard of Backfill	
1/2 pound	Ammonium Phosphate (16-20-0)*
1 1/3 pounds	Gypsum (Calcium Sulfate)

- Backfill below 12 inches required for 24 inch box or larger material should not contain the organic amendment or ammonium phosphate, but should still contain the gypsum at the recommended rate. In order to improve phosphorus levels below 12 inches in depth, triple superphosphate should be incorporated at a 1/4 pound rate.
- Ideally a weed and turf free zone should be maintained just beyond the diameter of the planting hole. A 2-4 inch deep layer of coarse mulch can be placed around the tree or shrub. Mulch should be kept a minimum 4 inches from the trunk.
- Irrigation of new plantings should take into consideration the differing texture of the rootball substrate and surrounding soil matrix to maintain adequate moisture during this critical period of establishment.

Maintenance

Maintenance fertilization should rely primarily on a nitrogen only program supplemented with a complete fertilizer in the fall and spring. Beginning 45-60 days after planting, ammonium sulfate (21-0-0) should be applied at a rate of 5 pounds per 1000 square feet with reapplication every 45-60 days. Alternatively, slow release Sulfur Coated Urea (43-0-0) may be applied at 6 pounds per 1000 square feet every 90 days. Once plants are performing satisfactorily, the frequency of fertilization may be decreased depending on color and rate of growth desired. In the winter for a quick greening effect, calcium nitrate (15.5-0-0) may be applied at a 6 pound rate if applicable. Early fall and spring, substitute a complete fertilizer such as 15-15-15 to help insure continuing adequate phosphorus and potassium.

Alternatively, Blood Meal (12-0-0) provides available nitrogen fairly rapidly while materials such as Feather Meal (12-0-0), Soybean or Cotton Seed Meal (7-1-1) are slower to provide available nitrogen, but they extend the length of time they make this contribution. In order to provide a good supply of nitrogen for a 3-4 month time frame a good combination would be 6 pounds Blood Meal and 14 pounds Feather Meal per 1000 square feet. In the fall and spring, substitute a complete organic fertilizer such as 5-5-5 applied at the manufacturer's label rate. Or, nutrient rich composted greenwaste may be spread in a 1 to 2 inch layer, which generally carries enough nutrition to boost complete nutrition though a source of nitrogen might also be added at a half rate to assure adequate nitrogen availability.

If we can be of any further assistance, please feel free to contact us.

Annmarie Lucchesi
alucchesi@waypointanalytical.com

Emailed 9 Pages: ddockendorf@kleinfelder.com

Report Number
19-253-0006

Account Number
01944

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Send To: Kleinfelder, Inc.
380 North First Street
Suite A
San Jose, CA 95112

Purchase Order: 20193141.001A
Report Date: 09/25/2019
Date Received: 09/10/2019

Project: Costco-El Dorado Hills
Updated New Warehouse

REPORT OF ANALYSIS

Date Sampled:

Lab Number: 08136
Sample ID: S-1

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Organic Matter (Titration) , %	2.92		WALK-BLACK	09/25/2019 14:30	VVP

Method Reference:
Methods of Soil Analysis, Part 3 - Chemical Methods, 2nd Ed. Rev. Soil Science Society of America, Black, C.A et al. 1982, pages 995-996.

Comments:

Report Number
19-253-0006

Account Number
01944

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Send To: Kleinfelder, Inc.
380 North First Street
Suite A
San Jose, CA 95112

Purchase Order: 20193141.001A
Report Date: 09/25/2019
Date Received: 09/10/2019

Project: Costco-El Dorado Hills
Updated New Warehouse

REPORT OF ANALYSIS

Date Sampled:

Lab Number: 08137
Sample ID: S-2

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Organic Matter (Titration) , %	1.47		WALK-BLACK	09/25/2019 14:30	VVP

Method Reference:
Methods of Soil Analysis, Part 3 - Chemical Methods, 2nd Ed. Rev. Soil Science Society of America, Black, C.A et al. 1982, pages 995-996.

Comments:

Report Number
19-253-0006

Account Number
01944

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Send To: Kleinfelder, Inc.
380 North First Street
Suite A
San Jose, CA 95112

Purchase Order: 20193141.001A
Report Date: 09/25/2019
Date Received: 09/10/2019

Project: Costco-El Dorado Hills
Updated New Warehouse

REPORT OF ANALYSIS

Date Sampled:

Lab Number: 08138
Sample ID: S-3

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Organic Matter (Titration) , %	1.52		WALK-BLACK	09/25/2019 14:30	VVP

Method Reference:
Methods of Soil Analysis, Part 3 - Chemical Methods, 2nd Ed. Rev. Soil Science Society of America, Black, C.A et al. 1982, pages 995-996.

Comments:

Report Number
19-253-0006

Account Number
01944

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Send To: Kleinfelder, Inc.
380 North First Street
Suite A
San Jose, CA 95112

Purchase Order: 20193141.001A
Report Date: 09/25/2019
Date Received: 09/10/2019

Project: Costco-El Dorado Hills
Updated New Warehouse

REPORT OF ANALYSIS

Date Sampled:

Lab Number: 08139
Sample ID: S-4

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Organic Matter (Titration) , %	1.76		WALK-BLACK	09/25/2019 14:30	VVP

Method Reference:
Methods of Soil Analysis, Part 3 - Chemical Methods, 2nd Ed. Rev. Soil Science Society of America, Black, C.A et al. 1982, pages 995-996.

Comments:

Report Number
19-253-0006

Account Number
01944

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Send To: Kleinfelder, Inc.
380 North First Street
Suite A
San Jose, CA 95112

Purchase Order: 20193141.001A
Report Date: 09/25/2019
Date Received: 09/10/2019

Project: Costco-El Dorado Hills
Updated New Warehouse

REPORT OF ANALYSIS

Date Sampled:

Lab Number: 08140
Sample ID: S-5

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Organic Matter (Titration) , %	1.50		WALK-BLACK	09/25/2019 14:30	VVP

Method Reference:
Methods of Soil Analysis, Part 3 - Chemical Methods, 2nd Ed. Rev. Soil Science Society of America, Black, C.A et al. 1982, pages 995-996.

Comments:

Kleinfelder, Inc.
380 North First Street
Suite A
San Jose CA 95112

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Project : Costco-El Dorado Hills
Updated New Warehouse

COMPREHENSIVE SOIL ANALYSIS

Report No : **19-253-0006**
Purchase Order : 20193141.001A
Date Recd : 09/10/2019
Date Printed : 09/25/2019

Sample Description - Sample ID	Half Sat %	pH	ECe dS/m	NO_3-N ppm	NH_4-N ppm	PO_4-P ppm	K ppm	Ca ppm	Mg ppm	Cu ppm	Zn ppm	Mn ppm	Fe ppm	Organic % dry wt.	Lab No.
	TEC	Qual Lime		Sufficiency Factors											
Composite	21	6.0	0.2	5	13	4	97	902	337	3.6	2.3	39	53	2.33	08141
	74	None		0.4		0.2	0.8	0.7	2.0	3.7	0.6	4.8	1.5		

Saturation Extract Values						SAR	Gravel %		Percent of Sample Passing 2 mm Screen					USDA Soil Classification	Lab No.
									Sand						
Ca meq/L	Mg meq/L	Na meq/L	K meq/L	B ppm	SO_4 meq/L		Coarse 5 - 12	Fine 2 - 5	Very Coarse 1 - 2	Coarse 0.5 - 1	Med. to Very Fine 0.05 - 0.5	Silt .002-.05	Clay 0-.002		
2.3	1.5	0.6	0.3	0.07	0.6	0.4	4.2	5.2	6.6	7.4	29.2	42.4	14.2	Loam	08141

08141 Chloride (Cl) = 0.000 meq/L
08141 Aluminum = 1.62 meq/L

Sufficiency factor (1.0=sufficient for average crop) below each nutrient value. N factor based on 200 ppm constant feed. SAR = Sodium adsorption ratio. Half Saturation %=approx field moisture capacity. Nitrogen(N), Potassium(K), Calcium(Ca) and Magnesium(Mg) by sodium chloride extraction. Phosphorus(P) by sodium bicarbonate extraction. Copper(Cu), Zinc(Zn), Manganese(Mn) & Iron(Fe) by DTPA extraction. Sat. ext. method for salinity (ECe as dS/m),Boron (B), Sulfate(SO_4), Sodium(Na). Gravel fraction expressed as percent by weight of oven-dried sample passing a 12mm(1/2 inch) sieve. Particle sizes in millimeters. Organic percentage determined by Walkley-Black or Loss on Ignition.

* LOW , SUFFICIENT , HIGH

Report Number
19-253-0006

Account Number
01944

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Send To: Kleinfelder, Inc.
380 North First Street
Suite A
San Jose, CA 95112

Purchase Order: 20193141.001A
Report Date: 09/25/2019
Date Received: 09/10/2019

Project: Costco-El Dorado Hills
Updated New Warehouse

REPORT OF ANALYSIS

Date Sampled:

Lab Number: 08136
Sample ID: S-1

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Organic Matter (Titration) , %	2.92		WALK-BLACK	09/25/2019 14:30	VVP

Method Reference:
Methods of Soil Analysis, Part 3 - Chemical Methods, 2nd Ed. Rev. Soil Science Society of America, Black, C.A et al. 1982, pages 995-996.

Comments:

Report Number
19-253-0006

Account Number
01944

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Send To: Kleinfelder, Inc.
380 North First Street
Suite A
San Jose, CA 95112

Purchase Order: 20193141.001A
Report Date: 09/25/2019
Date Received: 09/10/2019

Project: Costco-El Dorado Hills
Updated New Warehouse

REPORT OF ANALYSIS

Date Sampled:

Lab Number: 08137
Sample ID: S-2

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Organic Matter (Titration) , %	1.47		WALK-BLACK	09/25/2019 14:30	VVP

Method Reference:
Methods of Soil Analysis, Part 3 - Chemical Methods, 2nd Ed. Rev. Soil Science Society of America, Black, C.A et al. 1982, pages 995-996.

Comments:

Report Number
19-253-0006

Account Number
01944

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Send To: Kleinfelder, Inc.
380 North First Street
Suite A
San Jose, CA 95112

Purchase Order: 20193141.001A
Report Date: 09/25/2019
Date Received: 09/10/2019

Project: Costco-El Dorado Hills
Updated New Warehouse

REPORT OF ANALYSIS

Date Sampled:

Lab Number: 08138
Sample ID: S-3

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Organic Matter (Titration) , %	1.52		WALK-BLACK	09/25/2019 14:30	VVP

Method Reference:
Methods of Soil Analysis, Part 3 - Chemical Methods, 2nd Ed. Rev. Soil Science Society of America, Black, C.A et al. 1982, pages 995-996.

Comments:

Report Number
19-253-0006

Account Number
01944

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Send To: Kleinfelder, Inc.
380 North First Street
Suite A
San Jose, CA 95112

Purchase Order: 20193141.001A
Report Date: 09/25/2019
Date Received: 09/10/2019

Project: Costco-El Dorado Hills
Updated New Warehouse

REPORT OF ANALYSIS

Date Sampled:

Lab Number: 08139
Sample ID: S-4

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Organic Matter (Titration) , %	1.76		WALK-BLACK	09/25/2019 14:30	VVP

Method Reference:
Methods of Soil Analysis, Part 3 - Chemical Methods, 2nd Ed. Rev. Soil Science Society of America, Black, C.A et al. 1982, pages 995-996.

Comments:

Report Number
19-253-0006

Account Number
01944

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Send To: Kleinfelder, Inc.
380 North First Street
Suite A
San Jose, CA 95112

Purchase Order: 20193141.001A
Report Date: 09/25/2019
Date Received: 09/10/2019

Project: Costco-El Dorado Hills
Updated New Warehouse

REPORT OF ANALYSIS

Date Sampled:

Lab Number: 08140
Sample ID: S-5

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Organic Matter (Titration) , %	1.50		WALK-BLACK	09/25/2019 14:30	VVP

Method Reference:
Methods of Soil Analysis, Part 3 - Chemical Methods, 2nd Ed. Rev. Soil Science Society of America, Black, C.A et al. 1982, pages 995-996.

Comments:

Kleinfelder, Inc.
380 North First Street
Suite A
San Jose CA 95112

Waypoint ANALYTICAL
4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Project : Costco-El Dorado Hills
Updated New Warehouse

COMPREHENSIVE SOIL ANALYSIS

Report No : **19-253-0006**
Purchase Order : 20193141.001A
Date Recd : 09/10/2019
Date Printed : 09/25/2019
Page : 1 of 1

Sample Description - Sample ID	Half Sat %	pH	ECe dS/m	NO_3-N ppm	NH_4-N ppm	PO_4-P ppm	K ppm	Ca ppm	Mg ppm	Cu ppm	Zn ppm	Mn ppm	Fe ppm	Organic % dry wt.	Lab No.
	TEC	Qual Lime		Sufficiency Factors											
Composite	21	6.0	0.2	5	13	4	97	902	337	3.6	2.3	39	53	2.33	08141
	74	None		0.4		0.2	0.8	0.7	2.0	3.7	0.6	4.8	1.5		

Saturation Extract Values						SAR	Gravel %		Percent of Sample Passing 2 mm Screen					USDA Soil Classification	Lab No.
									Sand						
Ca meq/L	Mg meq/L	Na meq/L	K meq/L	B ppm	SO_4 meq/L		Coarse 5 - 12	Fine 2 - 5	Very Coarse 1 - 2	Coarse 0.5 - 1	Med. to Very Fine 0.05 - 0.5	Silt .002-.05	Clay 0-.002		
2.3	1.5	0.6	0.3	0.07	0.6	0.4	4.2	5.2	6.6	7.4	29.2	42.4	14.2	Loam	08141

08141 Chloride (Cl) = 0.000 meq/L
08141 Aluminum = 1.62 meq/L

Sufficiency factor (1.0=sufficient for average crop) below each nutrient value. N factor based on 200 ppm constant feed. SAR = Sodium adsorption ratio. Half Saturation %=approx field moisture capacity. Nitrogen(N), Potassium(K), Calcium(Ca) and Magnesium(Mg) by sodium chloride extraction. Phosphorus(P) by sodium bicarbonate extraction. Copper(Cu), Zinc(Zn), Manganese(Mn) & Iron(Fe) by DTPA extraction. Sat. ext. method for salinity (ECe as dS/m),Boron (B), Sulfate(SO_4), Sodium(Na). Gravel fraction expressed as percent by weight of oven-dried sample passing a 12mm(1/2 inch) sieve. Particle sizes in millimeters. Organic percentage determined by Walkley-Black or Loss on Ignition.

* LOW , SUFFICIENT , HIGH

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

Sample Summary Table

Report Number: **19-253-0005**

Client Project Description: **Costco-El Dorado Hills**
Updated New Warehouse

Lab No	Client Sample ID	Matrix	Date Collected	Date Received	Method	Lab ID
75362	Composite	Solids		09/10/2019	SW-7471A	
75362	Composite	Solids		09/10/2019	6010D	

: A&L Anal ti!al La"o#ato#ies$ %n!&$ 'emp(is$)*

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

01944
)lein*el lder, +nc,
-.0 Nort# /irst Street
Suite A
San Jose , CA 95112

0ro1ect +n*ormation : Costco$%l 'orado (ills pdated Ne ! "are#ouse

Report Number : **19-253-0005**

REPORT OF ANALYSIS

Report 'ate : 09/12/2019
Received : 09/10/2019

3ab No : **75362**
Sample +' : **Composite**

4atri5: **Solids**
Sampled:

Analytical Method: 7010'
Prep Method: -0506

Prep Batch(es): **L453530** 09/11/19 12:10

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
8otal Silver	90,250	m:/):	0,250	1	09/1-/19 02:05	J8R	345-.0-
8otal Arsenic	**2.04**	m:/):	0,500	1	09/1-/19 02:05	J8R	345-.0-
8otal 6arium	**46.4**	m:/):	0,500	1	09/1-/19 02:05	6)N	345-.0-
8otal 6er;llium	**0.283**	m:/):	0,0500	1	09/1-/19 02:05	J8R	345-.0-
8otal Cadmium	**0.758**	m:/):	0,100	1	09/1-/19 12:25	J8R	34541..
8otal Cobalt	**23.2**	m:/):	0,500	1	09/1-/19 02:05	J8R	345-.0-
8otal C#romium	**34.3**	m:/):	0,250	1	09/1-/19 02:05	J8R	345-.0-
8otal Copper	**65.4**	m:/):	0,250	1	09/1-/19 02:05	J8R	345-.0-
8otal 4ol;bdenum	90,250	m:/):	0,250	1	09/1-/19 02:05	J8R	345-.0-
8otal Nic<el	**14.5**	m:/):	0,250	1	09/1-/19 12:25	J8R	34541..
8otal 3ead	**5.47**	m:/):	0,-00	1	09/1-/19 02:05	J8R	345-.0-
8otal Antimon;	90,500	m:/):	0,500	1	09/1-/19 02:05	J8R	345-.0-
8otal Selenium	90,500	m:/):	0,500	1	09/1-/19 12:25	J8R	34541..
8otal 8#allium	91,00	m:/):	1,00	1	09/1-/19 02:05	J8R	345-.0-
8otal =anadium	**138**	m:/):	0,500	1	09/1-/19 02:05	J8R	345-.0-
8otal >inc	**65.3**	m:/):	1,25	1	09/1-/19 02:05	J8R	345-.0-

Qualifiers/ Definitions ' / 'ilution /actor 4?3 4et#od ?uantitation 3imit

Waypoint ANALYTICAL

4741 East Hunter Ave. Suite A
Anaheim, CA 92807
Main 714-282-8777 ° Fax 714-282-8575
www.waypointanalytical.com

01944
)lein*elder, +nc,
-.0 Nort# /irst Street
Suite A
San Jose , CA 95112

0ro1ect +n*ormation : Costco$%l 'orado (ills pdated Ne! "are#ouse

Report Number : **19-253-0005**

REPORT OF ANALYSIS

Report 'ate : 09/12/2019
Received : 09/10/2019

3ab No : **75362**
Sample +' : **Composite**

4atri5: **Solids**
Sampled:

Analytical Method: S"$2421A **Prep Batch(es):** **L453537** 09/12/19 0.:00
Prep Method: S"$2421A @0R%0A

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
4ercur; @8otalA	**0.0218**	m:/):	0,015-	1	09/12/19 11:10	8JS	345-2-2

Qualifiers/ Definitions '/ 'ilution /actor 4?3 4et#od ?uantitation 3imit

KLEINFELDER

Bright People. Right Solutions.

Appendix C

ADVANCED GEOLOGICAL SERVICES

1605 School Street, #4
Moraga CA 94556
925 (808-8965)

August 20, 2019

Dan Dockendorf
Kleinfelder, Inc.
40 Clark St # J
Salinas, California 93901

Subject: Report
Phase II Seismic Refraction Survey
Silva Valley Parkway Development
El Dorado Hills, California

Dear Mr. Dockendorf:

1.0 INTRODUCTION

This letter presents the results of Advanced Geological Services, Inc. (AGS) seismic refraction survey in support of grading work at a 16-acre site north of Tong Road and west of Silva Valley Parkway in El Dorado Hills, California (Figure 1). The survey objective was to assess the depth and excavation characteristics (rippability) of bedrock. The survey was performed on August 7 and 8, 2019 by AGS senior geophysicist Roark W. Smith and his assistant. Field oversight was provided by Mr. Jordan Annand of Kleinfelder, who showed AGS the seismic line locations, which were marked in the field with wood stakes labeled with the seismic line number. The survey comprised seven seismic lines of varying lengths and orientations distributed across the site (Figure 2).



Figure 1- Phase II Site Location in El Dorado Hills CA

2.0 SUMMARY OF FINDINGS

- Three velocity layers were detected— Layer V_1 is the uppermost approximately1- to 7-foot thick low-velocity layer representing surficial soil. Layer V_2 is a medium-velocity (from about 3,985 to 6,000 fps) layer representing deeply-weathered bedrock. Layer V_3 is a high-velocity layer (12,200 to over 18,500 fps) representing little-weathered, ”hard” bedrock.

- On the basis of the Caterpillar Performance Handbook “rip chart”, the Layer V_3 “hard” bedrock at this site is classified as non-rippable. This non-rippable “hard” bedrock mostly occurs at depths ranging from 7 to 15 feet, but was found as shallow as one (1)

foot bgs along SL-4 in the western-central portion of the site and as deep as 42 feet along SL-6 in the eastern portion of the site. The refraction survey showed V_3 velocities ranging between 12,200 to over 18,500 fps, and the "rip chart" classifies metamorphic rock exhibiting P-wave velocities greater than 9,200 fps and "non-rippable" with a D9R tractor.

3.0 SITE DESCRIPTION

The survey consisted of seven seismic lines ranging from 230 to 600 feet in length; the lines were distributed across a 16-acre triangular-shaped area of gently rolling, grass-covered hills (Figure 2). It is worth noting that the site was seismically "noisy" at times due to vehicle traffic along the nearby Parkway.

4.0 SEISMIC REFRACTION METHOD OVERVIEW

The seismic refraction method uses compressional (P-) wave energy to delineate seismic velocity layers within the subsurface. Interpretation entails correlating the velocity layers to geologic features such as soil and various types of bedrock. To perform a refraction survey, an elastic wave (compressional, or P-wave) is generated at certain locations (shotpoints) along a survey line. The P-wave energy is usually produced by striking the ground with a sledgehammer. As the P-wave propagates through the ground it is refracted along boundaries between geologic layers with different seismic velocities.

Part of the refracted P-wave energy returns to the ground surface where it is detected by vibration-sensitive devices called geophones, which are placed in a co-linear array along the seismic survey line. The geophone data are fed to a seismograph, where they are recorded, and then to a computer, where they are analyzed to determine the depth and velocities of subsurface seismic layers. Key data for refraction analysis are the positions of the geophones and shotpoints along a seismic line, and the amount of time it takes for the refracted wave to travel from the shotpoint to each geophone location. Because the P-wave is the fastest traveling of all types of seismic waves, it can be readily identified as the first deflection ("first break") on a seismic trace.

Additional discussion of the refraction method, its limitations, and the relationship between seismic velocity and geologic materials is presented in Appendix A.

5.0 FIELD PROCEDURES

Due to the lack of vehicle access, AGS hand-carried the seismic gear to each line location. For each seismic line, AGS laid out a fiberglass tape measure and placed an array of 24 geophones on the ground at 10-foot to 20-foot intervals to form a seismic "spread" that measured from 230 to 300 feet long. For seismic lines longer than 300 feet (e.g., SL-7), AGS laid out a second spread to achieve the required line length. The geophones were coupled to the ground by means of 3-inch metal spikes attached to the geophone base. Three shotpoints were used along each spread, with shotpoints located five feet beyond each end of the geophone array and at the array midpoint. AGS produced P-waves through multiple impacts with a 16-lb sledge hammer against a metal plate placed on the ground surface at each shotpoint location. In general, 10 hammer blows were used ("stacked") at the end shotpoints and 5 blows were used at the center shotpoint.

The P-waves produced by the hammer impacts were detected using Mark Products 14-Hz geophones. The detected seismic signals were recorded using a DAQLink II seismic system connected to a laptop computer.

After the seismic data were obtained along each line, AGS performed a hand-level survey to measure the relative elevation changes along the line so that the ground surface topography could be incorporated into the data analysis. After the seismic survey was completed AGS used a Trimble Pro-XR Global Positioning System (GPS) to record the seismic line locations.

6.0 DATA PROCESSING AND ANALYSIS

In general, the refraction data quality is "good"; however, due to traffic noise from the nearby roadway the quality of some of the refraction data is only "fair". Regardless, for the most part the "first beaks" could be readily identified and picked on the seismic records. Data quality was enhanced by "stacking," which entailed using multiple hammer blows at each shotpoint location to improve the signal-to-noise ratio. The additive affect of stacking of multiple hammer blows at the same location enhances or increases the amplitude of the signal (i.e., the P-wave arrival) while amplitude of the background noise, which, being random in nature, tends to cancel itself on successive hammer blows and remains largely unchanged.

Seismic data were transferred from the seismograph to a desktop computer where they were processed using the *SeisImager* software package by Geometrics, Inc. Briefly, *SeisImager* is a computer inversion program that generates an initial velocity layer model, produces synthetic data from the model, and then adjusts the model so that the synthetic data better matches the observed field data. The agreement between the synthetic and observed data provides an indication of how well the model represents the true subsurface conditions.

First, AGS used the *SeisImager* module *PickWin* to interpret ("pick") the P-wave arrivals ("first breaks") for each of the shotpoint data sets ("shot gathers") per line. *PickWin* was also used to check (against the geophysicist's field log) that the proper locations were assigned to the geophones and shotpoints. Next, the first break files were fed to the SeisImager module *PlotRefra*, which was used review time-distance (TD) plots for the seismic lines and assign a seismic layer to each arrival time. For the refraction analysis, each P-wave arrival is considered to have refracted from a distinct seismic layer. The number of layers resolved by the seismic survey, and their thickness and average velocity, is indicated by straight line segments on the TD plot; because these straight-line segments represent a constant velocity condition within the subsurface, the tend to represent a distinct geologic layer. The topographic elevation files were incorporated into the analysis at this point. Next, a time-term inversion was performed to produce layered velocity models presented on Figures 3 through 7. Time-term inversion is a linear least-squares technique that uses the layer assignments and the distances and travel times between the shotpoints and the geophones to develop a velocity layer model that best fits the observed data.

7.0 RESULTS

The results of the seismic refraction survey are summarized on Table 1, below, and presented on Figures 2 through 7, which show the seismic line locations and the subsurface velocity layer

models that were calculated from the refraction data.

Overall, three velocity layers were detected— Layer V_1 is the uppermost approximately1- to 7-foot thick low-velocity layer representing surficial soil. Layer V_2 is a medium-velocity (from about 3,985 to 6,000 fps) layer representing deeply-weathered bedrock. Layer V_3 is a high-velocity layer (12,200 to over 18,500 fps) representing little-weathered, "hard" bedrock. Layer V_3 generally occurs at depths ranging between 7 to 15 feet bgs, but it is found as shallow as one (1) foot bgs to as deep as 42 feet bgs in places. The shallowest bedrock was detected in the northern portion of the site, along SL-1 and SL-2; the deepest along SL-6 in the eastern portion of the site.

On the basis of the Caterpillar Performance Handbook "rip chart", the Layer V_3 "hard" bedrock at this site is non-rippable. This non-rippable "hard" bedrock mostly occurs at depths ranging from 7 to 15 feet, but was found as shallow as one (1) foot bgs in the western-central portion of the site along SL-4 and as deep as 42 feet in the eastern portion of the site along SL-6. The refraction survey showed V_3 velocities ranging between 12,200 to over 18,500 fps, and the "rip chart" classifies metamorphic rock exhibiting P-wave velocities greater than 9,200 fps and "non-rippable" with a D9R tractor.

Velocity information from the seismic survey is summarized in Table 1; rippability information is summarized in Table 2.

Table 1 Velocity Summary (feet per second) from Layer Models

Seismic Line	Line Length (ft)	Layer V_1 (topsoil)	Layer V_2 (weathered bedrock)	Layer V_3 (little-weathered bedrock)	Approx depth to V_3 (feet)
SL-1	230	1,310	3,985	13,680	6 – 12
SL-2	230	1,305	6,030	13,820	8 – 15
SL-3	390	1,250	4,970	14,960	3 – 16
SL-4	250	1,100	4,210	16,225	1 – 5
SL-5	300	1,270	5,380	16,260	5 – 15
SL-6	600	1,790	5,995	12,210	17 – 42
SL-7	400	1,390	5,350	18,530	7 – 17

8.0 EXCAVATION CHARACTERISTICS (RIPPABILITY)

Seismic velocity charts relating seismic velocity and excavation characteristics have been developed from field tests by others. These charts list the seismic velocity of various types of bedrock materials and their relative ease of excavation using different types of rippers. Caterpillar Tractor Company publishes a performance manual that lists ripper performance charts for various size tractors and types of rippers.

The range of rippability obtained from the ripper performance chart from the Caterpillar Performance Handbook, 12th Edition (2000) is as follows (in feet per second):

Table 2 Rip Chart for Metamorphic Rock (from The Caterpillar Performance Handbook)

Ripper	Rippable	Marginally Rippable	Non-Rippable
D9R	less than 7,200	7,200 to 9,200	greater than 9,200

This information should only be used as a general guide, however, as many other factors should also be considered. These factors include the rock jointing and fracture patterns, the experience of the equipment operator, and the equipment and excavation methods selected. Based on the observed velocities, it appears that the subsurface bedrock beneath the seismic refraction lines is rippable for a D9R to the top of Layer V_3; however, this information should be combined with a complete and thorough analysis of geotechnical boring data, as well as local ripping experience (if available) to make a final assessment.

9.0 CLOSING

All geophysical data and field notes collected as a part of this investigation will be archived at the AGS office. The data collection and interpretation methods used in this investigation are consistent with standard practices applied to similar geophysical investigations. The correlation of geophysical responses with probable subsurface features is based on the past results of similar surveys although it is possible that some variation could exist at this site. Due to the nature of geophysical data, no guarantees can be made or implied regarding the targets identified or the presence or absence of additional objects or targets.

AGS appreciates working for you. We enjoyed this project and we look forward to working with you again.

Sincerely,

Roark W. Smith
Senior Geophysicist
Advanced Geological Services, Inc.

Figures:
- Figure 1 Seismic Refraction Survey Area (imbedded in Report text, above)
- Figure 2 Seismic Refraction Line Locations
- Figure 3 P-wave Velocity Layer Models, SL-1 & SL-2
- Figure 4 P-wave Velocity Layer Models, SL-3 & SL-4
- Figure 5 P-wave Velocity Layer Model, SL-5
- Figure 6 P-wave Velocity Layer Model, SL-6
- Figure 7 P-wave Velocity Layer Model, SL-7

Attachments: Appendix A: Seismic Velocity and Limitations of the Refraction Method



0 150 ft 300

ADVANCED GEOLOGICAL SERVICES

1605 School Street
Suite 4
Moraga, CA 94556
(925) 808-8965

Phase II Seismic Line Locations
Silva Valley Parkway
El Dorado Hills

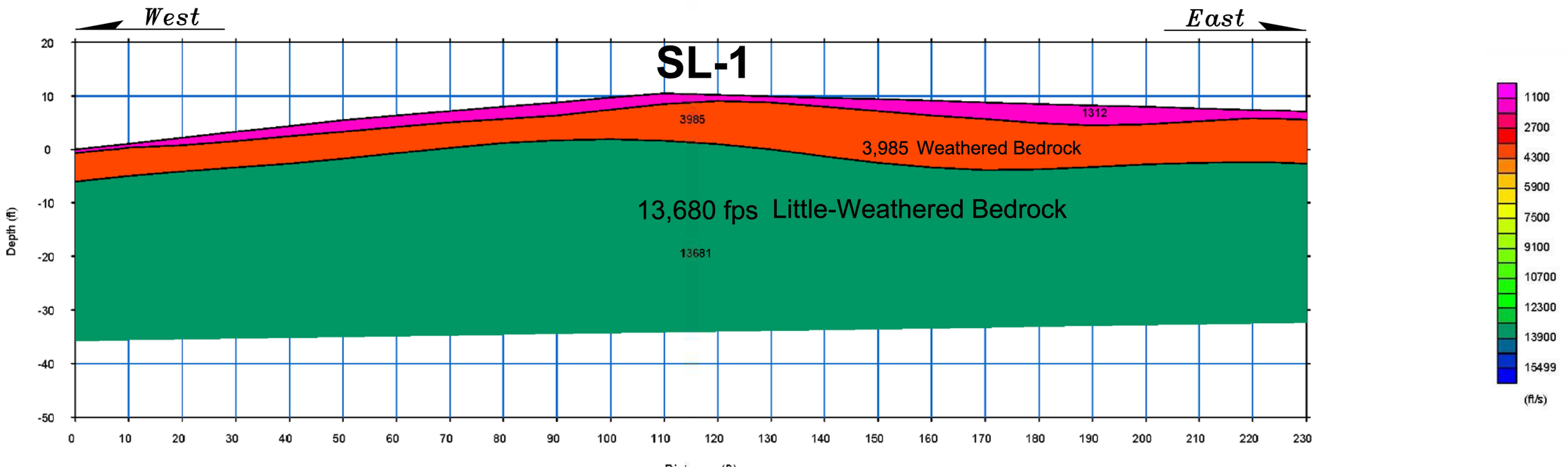
LOCATION: El Dorado Hills, California

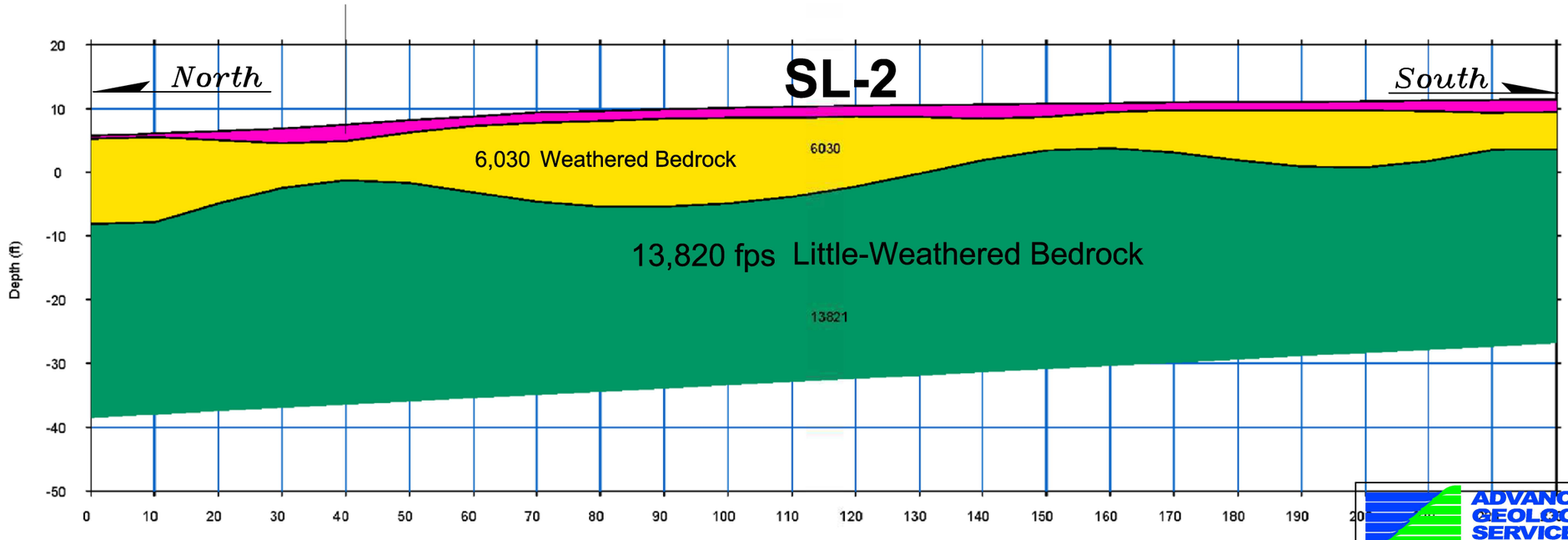
CLIENT: Kleinfelder, Inc.

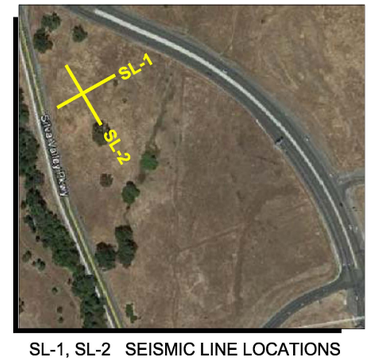
PROJECT #: 19-093-1CA

DATE: Aug 19, 2019 DRAWN BY: R. SMITH

FIGURE 2







SL-1, SL-2 SEISMIC LINE LOCATIONS

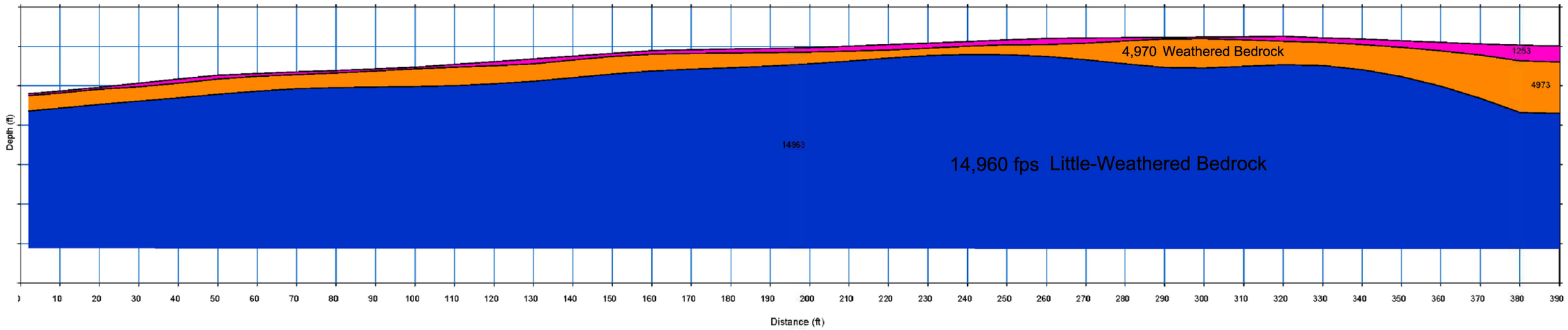
ADVANCED GEOLOGICAL SERVICES
1605 School Street
Suite 4
Moraga, CA 94556
(925) 808-8965

SL-1 & SL-2 P-Wave Velocity Layer Models
Silva Valley Parkway, Phase II
Seismic Refraction Investigation

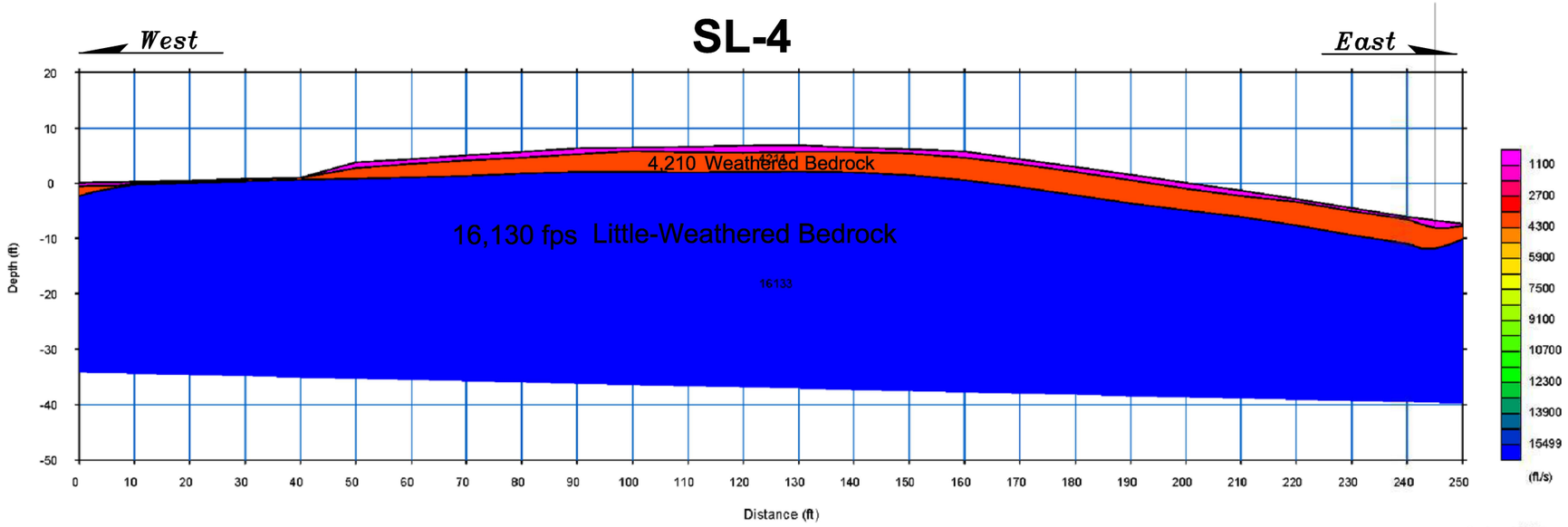
LOCATION: El Dorado Hills, California
CLIENT: Kleinfelder, Inc.
PROJECT #: 19-093-1CA
DATE: Aug 19, 2019
DRAWN BY: R. SMITH

FIGURE 3

SL-3



SL-4





SL-3 & SL-4 SEISMIC LINE LOCATIONS

ADVANCED GEOLOGICAL SERVICES

1605 School Street
Suite 4
Moraga, CA 94556
(925) 808-8965

SL-3 & SL-4 P-Wave Velocity Layer Models
Silva Valley Parkway, Phase II
Seismic Refraction Investigation

LOCATION: El Dorado Hills, California

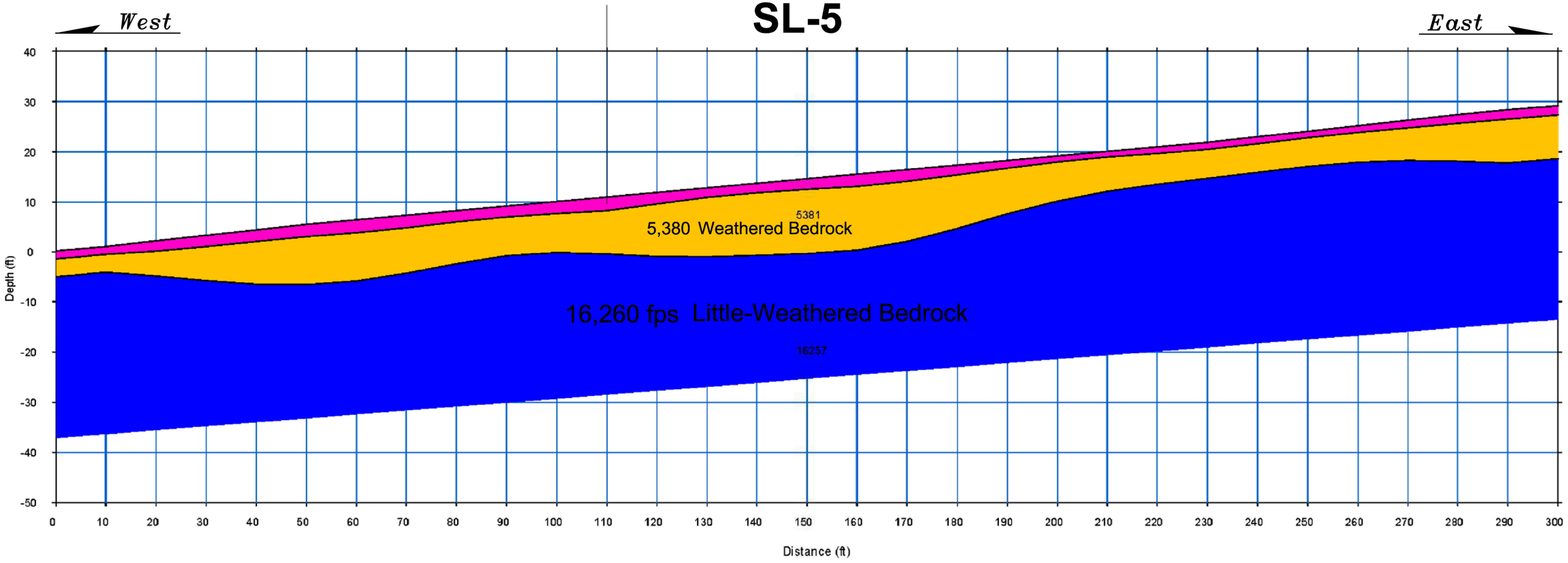
CLIENT: Kleinfelder, Inc.

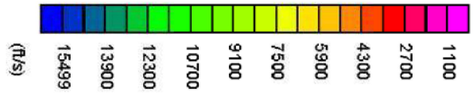
PROJECT #: 19-093-1CA

DATE: Aug 19, 2019 DRAWN BY: R. SMITH

FIGURE 4

SL-5







SL-5 SEISMIC LINE LOCATION

ADVANCED GEOLOGICAL SERVICES

1605 School Street
Suite 4
Moraga, CA 94556
(925) 808-8965

SL-5 P-Wave Velocity Layer Model
Silva Valley Parkway, Phase II
Seismic Refraction Investigation

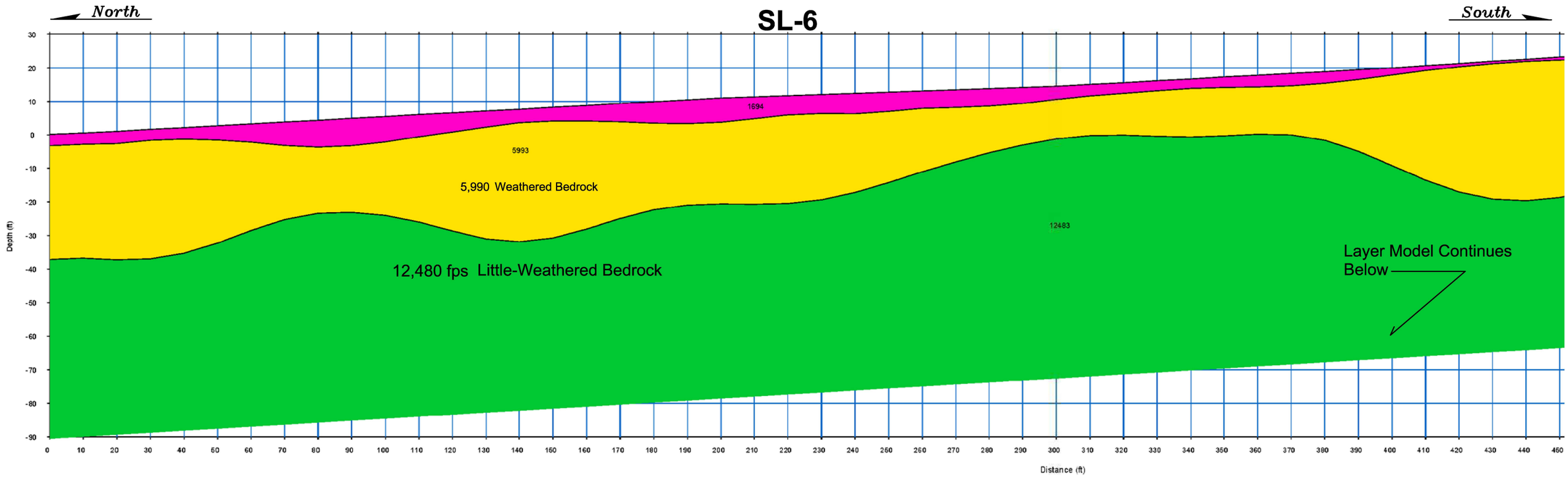
LOCATION: El Dorado Hills, California

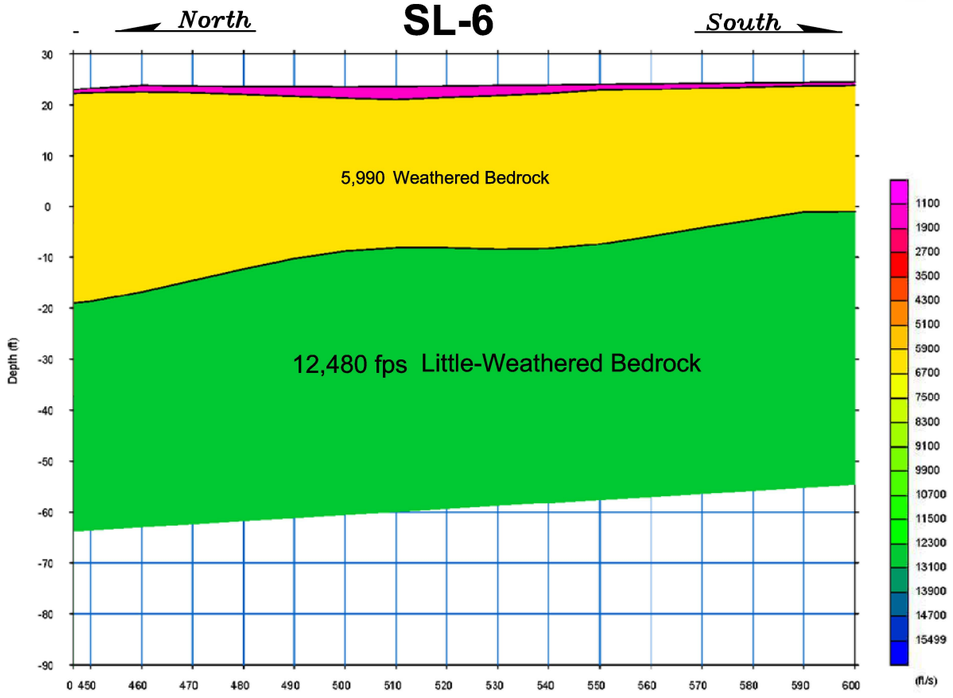
CLIENT: Kleinfelder, Inc.

PROJECT #: 19-093-1CA

DATE: Aug 19, 2019 DRAWN BY: R. SMITH

FIGURE 5







SL-6 SEISMIC LINE LOCATION

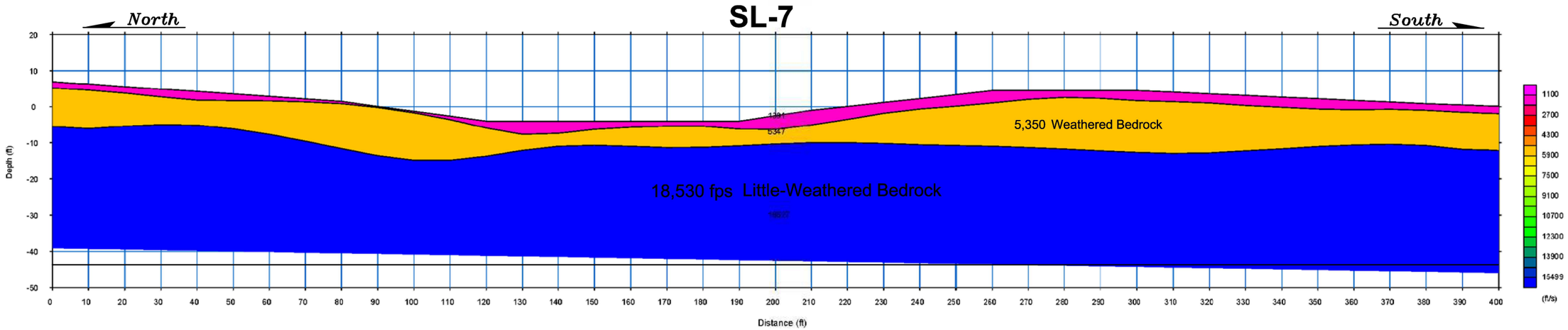
ADVANCED GEOLOGICAL SERVICES
1605 School Street
Suite 4
Moraga, CA 94556
(925) 808-8965

SL-6 P-Wave Velocity Layer Model
Silva Valley Parkway, Phase II
Seismic Refraction Investigation

LOCATION: El Dorado Hills, California
CLIENT: Kleinfelder, Inc.
PROJECT #: 19-093-1CA
DATE: Aug 19, 2019 DRAWN BY: R. SMITH

FIGURE 6

SL-7





SL-7 SEISMIC LINE LOCATION

ADVANCED GEOLOGICAL SERVICES

1605 School Street
Suite 4
Moraga, CA 94556
(925) 808-8965

SL-7 P-Wave Velocity Layer Model
Silva Valley Parkway, Phase II
Seismic Refraction Investigation

LOCATION: El Dorado Hills, California

CLIENT: Kleinfelder, Inc.

PROJECT #: 19-093-1CA

DATE: Aug 19, 2019 | DRAWN BY: R. SMITH

FIGURE 7

APPENDIX A

SEISMIC VELOCITY AND LIMITATIONS OF THE REFRACTION METHOD

The physical properties of earth materials (fill, sediment, rock) such as compaction, density, hardness, and induration dictate the corresponding seismic velocity of the material. Additionally, other factors such as bedding, fracturing, weathering, and saturation can also affect seismic velocity. In general, low velocities indicate loose soil, poorly compacted fill material, poorly to semi-consolidated sediments, deeply weathered, and highly fractured rock. Conversely, high velocities are indicative of competent rock or dense and highly compacted sediments and fill. The highest velocities are measured in unweathered and little fractured rock.

There are certain limitations associated with the seismic refraction method as applied for this investigation. These limitations are primarily based on assumptions that are made by the data analysis routine. The data analysis routine assumes that the velocities along the length of each spread are uniform. If there are localized zones within each layer where the velocities are higher or lower than indicated, the analysis routine will interpret these zones as changes in the surface topography of the underlying layer. A zone of higher velocity material would be interpreted as a low in the surface of the underlying layer. Zones of lower velocity material would be interpreted as a high in the underlying layer. The data analysis routine also assumes that the velocity of subsurface materials increase with depth. Therefore, if a layer exhibits velocities that are slower than those of the material above it, the slower layer will not be resolved. Also, a velocity layer may simply be too thin to be detected.

The quality of the field data is critical to the construction of an accurate depth and velocity profile. Strong, clear “first-break” information from refracted interfaces will make the data processing, analysis, and interpretation much more accurate and meaningful. Vibrational noise or poor subsurface conditions can decrease the ability to accurately locate and pick seismic waves from the interfaces.

Due to these and other limitations inherent to the seismic refraction method, resultant velocity cross-sections should be considered only as approximations of the subsurface conditions. The actual conditions may vary locally.

KLEINFELDER
Bright People. Right Solutions.

ASTM E1527-21
Phase I Environmental Site Assessment
User Questionnaire

INTRODUCTION **El Dorado Hills 05/28/24**

In order to qualify for one of the *Landowner Liability Protections (LLPs)*[1] offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the "*Brownfields Amendments*"),[2] the *user* must conduct the following inquiries required by 40 CFR 312.25, 312.28, 312.29, 312.30, and 312.31. These inquiries must also be conducted by EPA Brownfield Assessment and Characterization grantees. The *user* should provide the following information to the *environmental professional*. Failure to conduct these inquiries could result in a determination that "*all appropriate inquiries*" is not complete.

(1.) Environmental liens that are filed or recorded against the *property* (40 CFR 312.25).

Did a search of *recorded land title records* (or judicial records where appropriate, see *Note 1* below) identify any environmental liens filed or recorded against the *property* under federal, tribal, state or local law?

No

Note 1—In certain jurisdictions, federal, tribal, state, or local statutes, or regulations specify that environmental liens and AULs be filed in judicial records rather than in land title records. In such cases judicial records must be searched for environmental liens and AULs.

(2.) Activity and use limitations that are in place on the *property* or that have been filed or recorded against the *property* (40 CFR 312.26(a)(1)(v) and vi)).

Did a search of *recorded land title records* (or judicial records where appropriate, see *Note 1* above) identify any AULs, such as *engineering controls*, land use restrictions or *institutional controls* that are in place at the *property* and/or have been filed or recorded against the *property* under federal, tribal, state or local law?

No

(3.) Specialized knowledge or experience of the person seeking to qualify for the LLP (40 CFR 312.28).

Do you have any specialized knowledge or experience related to the *property* or nearby properties? For example, are you involved in the same line of business as the current or former *occupants* of the *property* or an *adjoining property* so that you would have specialized knowledge of the chemicals and processes used by this type of business?

No

---

[1] *Landowner Liability Protections, or LLPs*, is the term used to describe the three types of potential defenses to Superfund liability in EPA's *Interim Guidance Regarding Criteria Landowners Must Meet in Order to Qualify for Bona Fide Prospective Purchaser, Contiguous Property Owner, or Innocent Landowner Limitations on CERCLA Liability* ("*Common Elements*" Guide) issued on March 6, 2003.

[2] P.L. 107-118.

(4.) Relationship of the purchase price to the fair market value of the *property* if it were not contaminated (40 CFR 312.29).

Does the purchase price being paid for this *property* reasonably reflect the fair market value of the *property*? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the *property*?

Yes

(5.) Commonly known or *reasonably ascertainable* information about the *property* (40 CFR 312.30).

Are you aware of commonly known or *reasonably ascertainable* information about the *property* that would help the *environmental professional* to identify conditions indicative of releases or threatened releases?

For example,

(a.) Do you know the past uses of the *property*?
No

(b.) Do you know of specific chemicals that are present or once were present at the *property*?
No

(c.) Do you know of spills or other chemical releases that have taken place at the *property*?
No

(d.) Do you know of any environmental cleanups that have taken place at the *property*?
No

(6.) The degree of obviousness of the presence or likely presence of contamination at the *property*, and the ability to detect the contamination by appropriate investigation (40 CFR 312.31).

Based on your knowledge and experience related to the *property* are there any *obvious* indicators that point to the presence or likely presence of releases at the *property*?

No

In addition, certain information should be collected, if available, and provided to the *environmental professional* conducting the *Phase I Environmental Site Assessment*. This information is intended to assist the *environmental professional*, but is not necessarily required to qualify for one of the *LLPs*. The information includes:

(a) the reason why the Phase I is being performed,

(b) the type of *property* and type of *property* transaction, for example, sale, purchase, exchange, etc.,

(c) the complete and correct address for the *property* (a map or other documentation showing *property* location and boundaries is helpful),

(d) the scope of services desired for the Phase I ESA (including whether any parties to the *property* transaction may have a required standard scope of services or whether any considerations beyond the requirements of Practice E1527 are to be considered),

(e) identification of all parties who will rely on the Phase I *report*,

(f) identification of the site contact and how the contact can be reached,

(g) any special terms and conditions which must be agreed upon by the *environmental professional*, and

(h) any other knowledge or experience with the *property* that may be pertinent to the *environmental professional* (for example, copies of any available prior *environmental site assessment reports*, documents, correspondence, etc., concerning the *property* and its environmental condition).

The *USER* QUESTIONNAIRE was completed by:

Name Michael Okuma

Title Director of Real Estate

Firm Costco

Address 9 Corporate Park, Suite 230, Irvine, CA

Phone Number (office) 714/978-5023

(cell)

User represents that to the best of the *user's* knowledge the above statements and facts are true and correct, and, to the best of the *user's* knowledge, no material facts have been suppressed or misstated.

User's Signature

Date 05/20/24

INTERVIEW QUESTIONNAIRE
PHASE I ENVIRONMENTAL SITE ASSESSMENT
Compatible with ASTM Standard E 1527-13

Prepared by Kleinfelder Environmental Site Characterization Practice Group

Site Name: EDH 52

Site Address: Approx. 41 Ac. N. of US 50 + East/West of Silva Valley Parkway
Parcels 122-720-002, 018, 019, 020, 021

Date: 5/28/24

Interviewer: _____

Interviewee: Angelo Christie

Site Association: Project Manager for Owner

Years Associated: 7

Please answer the following questions to the best of your knowledge.

1. Was the property or adjoining property ever used for industrial purposes (e.g. manufacturing) or as a gas station, dry cleaners, waste treatment, processing facility, motor repair facility, photo lab, commercial printing facility, junkyard/disposal/recycling/ landfill? If yes, please list the activity, hazardous substances used, and approximate dates when the activity occurred.

   Prior land use, hazardous substances used, and dates: N/A

   Prior owners, key site managers/operators, occupants and dates:

   Existing or prior structures used for what purposes and duration:

2. Do any of the following documents exist for the site or any portion of the site? If so, can you provide Kleinfelder with a copy? (This question to be asked before site visit).

- ☐ Environmental site assessment reports
- ☐ Environmental compliance audit reports wetland Fill Permits
- ☐ Environmental permits (applications submitted, but permits not issued until 401 cert issued)
- ☐ Underground Storage Tank registration
- ☐ Underground Injection System registration
- ☐ Material Safety Data Sheets
- ☐ Community Right-To-Know Plan
- ☐ Safety plans: preparedness and prevention plans; spill prevention; countermeasure; and control plans, etc.
- ☐ Reports regarding hydrogeologic conditions on the property or surrounding area;
- ☐ Correspondence from any government agency relating to past or current violations of environmental laws with regard to the property or relating to environmental liens encumbering the property
- ☐ Hazardous waste generator notices or reports
- ☒ Geotechnical studies
- ☐ Risk assessments
- ☐ Recorded Activity and Use Limitations (AULs)

3. Have you ever observed evidence of or do you have prior knowledge of any of the following items being used, stored, discarded, dumped above grade, buried, or burned onsite? Circle all that apply and indicate amount and approximate dates.

MATERIAL	QUANTITY	DATE(S) OBSERVED	COMMENTS
Above ground storage tank (AST)*	N/A		Size: Contents: Condition:
Automotive batteries	N/A		
Industrial batteries	N/A		
Pesticides (>5 gallon)	N/A		
Paints (> 5 gallon)	N/A		
Chemicals/Hazardous Substances (> 5 gallon liquid)	N/A		

MATERIAL	QUANTITY	DATE(S) OBSERVED	COMMENTS
Chemicals/Hazardous Substances (dry sacks, containers, etc.)	N/A		
Industrial drums (typically 55 gallons)	N/A		Contents: Condition:
Transformer or other equipment that may contain PCBs (e.g. hydraulic equipment)*	N/A		Installation date:
Underground storage tank*	N/A		Size: Contents: Condition:
Unknown materials you suspect may be hazardous substances	N/A		Describe:

*Please provide records if available.

4. What method(s) is used to contain spills of hazardous waste?

N/A

5. What method(s) is used to dispose of hazardous waste?

N/A

6. Are there any permits for handling, use, storage, or disposal of hazardous waste?

N/A

7. Have you observed evidence of or have prior knowledge of the following onsite?

MATERIAL	QUANTITY	DATE(S) OBSERVED	COMMENTS
Equipment Maintenance Areas	N/A		
Accidental spills or releases of chemicals or petroleum products	N/A		

MATERIAL	QUANTITY	DATE(S) OBSERVED	COMMENTS
Possible asbestos containing materials (e.g. pipe, building, etc.)	N/A		Describe material:
Fill dirt originating from an unknown or contaminated site?	N/A		Source:
Pits, ponds, or lagoons associated with waste treatment or waste disposal?	N/A		Location:
Stained soil or odiferous soil? (e.g. oily black)	N/A		Location:
Sumps or dry wells*	N/A		Size : Contents : Condition :
Vent pipes, fill pipes, access ways to a fill pipe protruding from the ground or adjacent to a structure onsite?	N/A		Location:
Heating and cooling systems (include fuel source)	N/A		Source:
Flooring, drains, walls that are stained or emitting a foul odor (do NOT include water damage)?	N/A		Location:

*Please provide records if available.

8. Is the property served by a private well or non-public water system? If so, please answer the following:

   a. Was the well used for domestic (D), agricultural irrigation (I), or monitoring (M) purposes? Are the wells currently operational and if not, when were they last used? When was the well drilled? How deep is the well? What is the approximate discharge rate?

Well No.	Type	Operating?	Last Used	Date Drilled	Depth	Discharge Rate	Location
1-							
2-							

b. Have the wells been sampled for contaminants that exceed applicable requirements for the designated use (e.g. Drinking Water Standards)? If so, please provide the dates and copies of well records.

c. Has the well or water system been designated by any governmental environmental/health agency as contaminated?

9. Is there an oil/gas well or oil/gas vent located onsite? If so, please indicate the location. Please supply any documents available.

N/A

10. Is the property or has the property to your knowledge been previously served by a septic system? If so, please indicate the location of the tank and leach lines (if applicable) and list any hazardous materials disposed.

Unknown

11. Does the property discharge waste water into a storm water sewer system or a sanitary sewer system onto or adjacent to the property? If so, please describe location, piping flow, quantity discharged, and water quality.

N/A

12. Do you have knowledge of the following with respect to the property? Circle and explain all that apply.

a. Environmental clean-up, ongoing or pending.

b. Environmental liens

c. Governmental notifications regarding any possible past or present violations of environmental laws.

d. Past, threatened, pending lawsuits or administrative proceedings relevant to a release of a hazardous substance or petroleum product, in, on, or from the property.

e. Prior environmental assessment that indicated the presence of hazardous substances, petroleum hydrocarbons, contaminants, or recommended further assessment.

f. Deed Restrictions

g. Citizen complaints regarding activities onsite

AGRICULTURAL SITES:

13. What crops have been grown onsite, currently and in the past? None

CROP	DATE	LOCATION

If crops are present or have been grown, please answer questions 14 through 16 below: N/A

14. Have pesticides been applied to fields or other portions of the site? If so, please answer the following questions:

    a. List the names of pesticides (includes herbicides, fungicides, insecticides, rodenticide) used and dates applied.

PESTICIDE AND BRAND NAME	DATE	CROP OR ANIMAL USE

b. Have you been notified of any violation of environmental law with respect to application or storage of pesticides?

No

c. Location of pesticide mixing areas, if any (past or present)?

N/A

d. Method of pesticide application?

N/A

15. Have fertilizers been applied to the site? What type and method of application?

Never to my knowledge

16. Are there any buried pipelines for irrigation or other purposes onsite? If so, what materials is the piping constructed of? Asbestos containing material, PVC, other? Describe the location of buried piping.

There is a recycled water line @ the Northwest corner of parcel 122-720-018 between Clarksville & Silva Valley Pkwy. There is also a 48" storm drain that daylights in this same area.

P006961-060524 - Public Records Request

Message History (2)

On 6/5/2024 2:34:15 PM, El Dorado County Public Records Center wrote:

Dear Victoria Golston:

The County of El Dorado is dedicated and responsive to our community. Your request has been received and is being processed. Your request was given the reference number P006961-060524 for tracking purposes.

Records Requested: Public Lands - Parks

I am looking to obtain information regarding California Protected Areas Database (CPAD) sites that are identified as regional parks which are maintained by the County of El Dorado:
1. Unit ID: 35646, Super Unit ID: 3446
2. Unit ID: 35695, Super Unit ID: 3446

What are the limitations or restrictions for conducting work in these areas? Are there any regulations on grading, stockpiling, or any earth moving activities that need to be of concern? Any issues with constructing on these areas? Any other concerns in terms of environmental, geotechnical, construction, etc. that we should be concerned with?

Your request will be forwarded to the relevant department(s) to locate the information you seek and to determine the volume and any costs associated with satisfying your request. You will be contacted about the availability and/or provided with copies of the records in question.

You can monitor the progress of your request at the link below and you'll receive an email when your request has been completed.

Thank You,

County of El Dorado

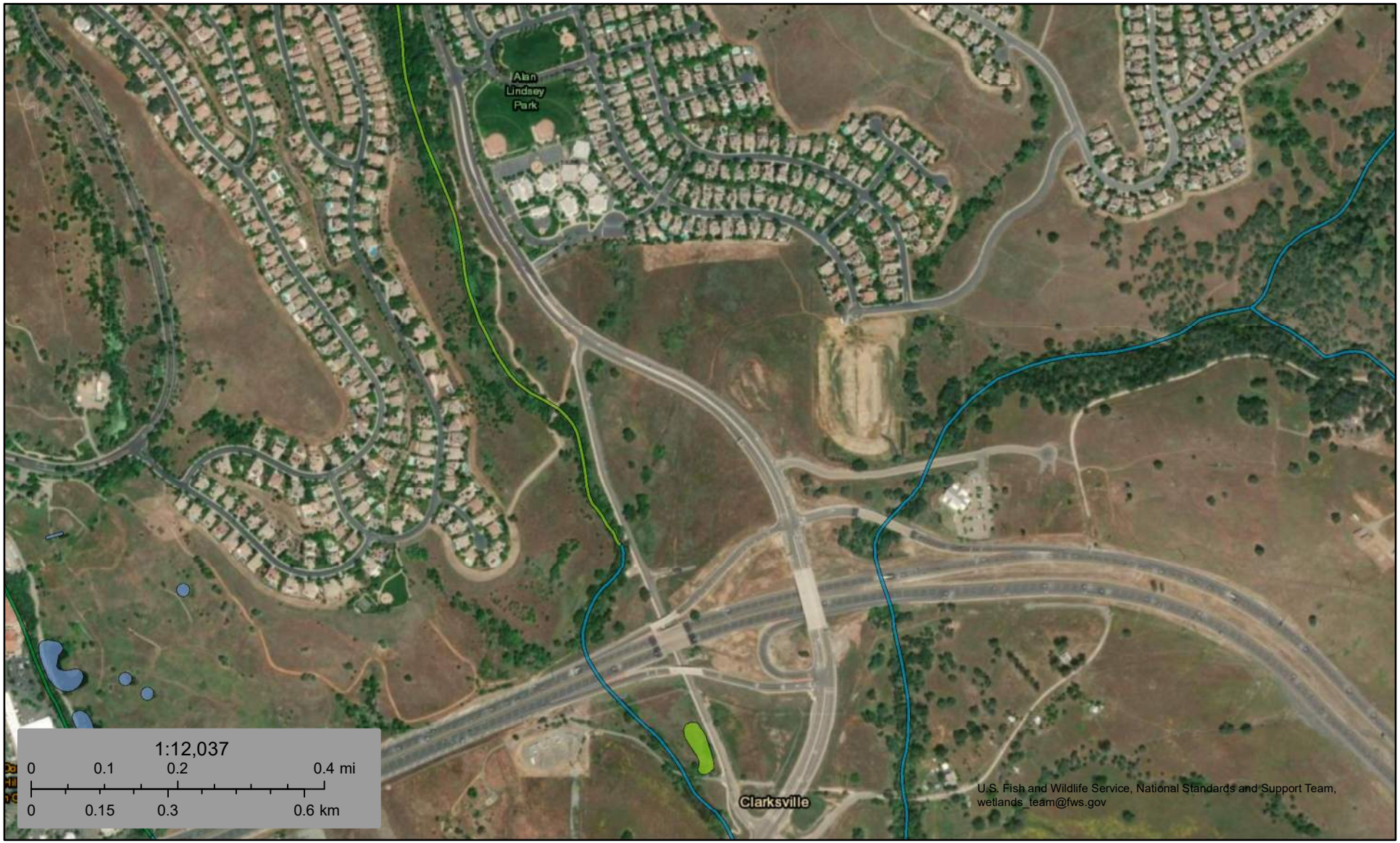
To monitor the progress or update this request please log into the El Dorado County Public Records Center.

On 6/5/2024 2:34:13 PM, Victoria Golston wrote:

Request Created on Public Portal

U.S. Fish and Wildlife Service
National Wetlands Inventory

Costco El Dorado



June 7, 2024

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

APPENDIX D
HISTORICAL RESEARCH DOCUMENTATION

Copyright 2024 Kleinfelder

Costco El Dorado Hills

Costco El Dorado Hills

El Dorado Hills, CA 95762

Inquiry Number: 7659435.3

May 22, 2024

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

05/22/24

Site Name:

Costco El Dorado Hills
Costco El Dorado Hills
El Dorado Hills, CA 95762
EDR Inquiry # 7659435.3

Client Name:

Kleinfelder, Inc.
24411 Ridge Rte Dr Suite 225
Laguna Hills, CA 92653
Contact: Lauren Yarbrough

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Kleinfelder, Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 1167-4ACD-822B

PO # SUSPENSE.WEOH

Project Costco El Dorado Hills

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: 1167-4ACD-822B

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

Limited Permission To Make Copies

Kleinfelder, Inc. (the client) is permitted to make up to FIVE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, LLC. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. This Report is provided on an "AS IS", "AS AVAILABLE" basis. NO WARRANTY EXPRESS OR IMPLIED IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, LLC AND ITS SUBSIDIARIES, AFFILIATES AND THIRD PARTY SUPPLIERS DISCLAIM ALL WARRANTIES, OF ANY KIND OR NATURE, EXPRESS OR IMPLIED, ARISING OUT OF OR RELATED TO THIS REPORT OR ANY OF THE DATA AND INFORMATION PROVIDED IN THIS REPORT, INCLUDING WITHOUT LIMITATION, ANY WARRANTIES REGARDING ACCURACY, QUALITY, CORRECTNESS, COMPLETENESS, COMPREHENSIVENESS, SUITABILITY, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, NON-INFRINGEMENT, MISAPPROPRIATION, OR OTHERWISE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, LLC OR ITS SUBSIDIARIES, AFFILIATES OR THIRD PARTY SUPPLIERS BE LIABLE TO ANYONE FOR ANY DIRECT, INCIDENTAL, INDIRECT, SPECIAL, CONSEQUENTIAL OR OTHER DAMAGES OF ANY TYPE OR KIND (INCLUDING BUT NOT LIMITED TO LOSS OF PROFITS, LOSS OF USE, OR LOSS OF DATA), ARISING OUT OF OR IN ANY WAY CONNECTED WITH THIS REPORT OR ANY OF THE DATA AND INFORMATION PROVIDED IN THIS REPORT. Any analyses, estimates, ratings, environmental risk levels, or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only an assessment performed by a qualified environmental professional can provide findings, opinions or conclusions regarding the environmental risk or conditions in, on or at any property.

Copyright 2024 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, LLC or its affiliates. All other trademarks used herein are the property of their respective owners.

Costco El Dorado Hills

Costco El Dorado Hills

El Dorado Hills, CA 95762

Inquiry Number: 7659435.4

May 22, 2024

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

05/22/24

Site Name:	Client Name:
Costco El Dorado Hills	Kleinfelder, Inc.
Costco El Dorado Hills	24411 Ridge Rte Dr Suite 225
El Dorado Hills, CA 95762	Laguna Hills, CA 92653
EDR Inquiry # 7659435.4	Contact: Lauren Yarbrough

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Kleinfelder, Inc. were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:		*Coordinates:*	
P.O.#	SUSPENSE.WEOH	**Latitude:**	38.661584 38° 39' 42" North
Project:	Costco El Dorado Hills	**Longitude:**	-121.056507 -121° 3' 23" West
		UTM Zone:	Zone 10 North
		UTM X Meters:	669096.37
		UTM Y Meters:	4281015.31
		Elevation:	764.07' above sea level

Maps Provided:

2021	1941
2018	1893
2015	1892
2012	1891
1980	
1973	
1953	
1944	

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, LLC. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. This Report is provided on an "AS IS", "AS AVAILABLE" basis. NO WARRANTY EXPRESS OR IMPLIED IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, LLC AND ITS SUBSIDIARIES, AFFILIATES AND THIRD PARTY SUPPLIERS DISCLAIM ALL WARRANTIES, OF ANY KIND OR NATURE, EXPRESS OR IMPLIED, ARISING OUT OF OR RELATED TO THIS REPORT OR ANY OF THE DATA AND INFORMATION PROVIDED IN THIS REPORT, INCLUDING WITHOUT LIMITATION, ANY WARRANTIES REGARDING ACCURACY, QUALITY, CORRECTNESS, COMPLETENESS, COMPREHENSIVENESS, SUITABILITY, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, NON-INFRINGEMENT, MISAPPROPRIATION, OR OTHERWISE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, LLC OR ITS SUBSIDIARIES, AFFILIATES OR THIRD PARTY SUPPLIERS BE LIABLE TO ANYONE FOR ANY DIRECT, INCIDENTAL, INDIRECT, SPECIAL, CONSEQUENTIAL OR OTHER DAMAGES OF ANY TYPE OR KIND (INCLUDING BUT NOT LIMITED TO LOSS OF PROFITS, LOSS OF USE, OR LOSS OF DATA), ARISING OUT OF OR IN ANY WAY CONNECTED WITH THIS REPORT OR ANY OF THE DATA AND INFORMATION PROVIDED IN THIS REPORT. Any analyses, estimates, ratings, environmental risk levels, or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only an assessment performed by a qualified environmental professional can provide findings, opinions or conclusions regarding the environmental risk or conditions in, on or at any property.

Copyright 2024 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, LLC or its affiliates. All other trademarks used herein are the property of their respective owners.

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2021 Source Sheets



Clarksville
2021
7.5-minute, 24000

2018 Source Sheets



Clarksville
2018
7.5-minute, 24000

2015 Source Sheets



Clarksville
2015
7.5-minute, 24000

2012 Source Sheets



Clarksville
2012
7.5-minute, 24000

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1980 Source Sheets



Clarksville
1980
7.5-minute, 24000
Aerial Photo Revised 1978

1973 Source Sheets



Clarksville
1973
7.5-minute, 24000
Aerial Photo Revised 1973

1953 Source Sheets



Clarksville
1953
7.5-minute, 24000
Aerial Photo Revised 1952

1944 Source Sheets



Folsom
1944
15-minute, 62500

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1941 Source Sheets



Folsom
1941
15-minute, 62500

1893 Source Sheets



Sacramento
1893
30-minute, 125000

1892 Source Sheets



Sacramento
1892
30-minute, 125000

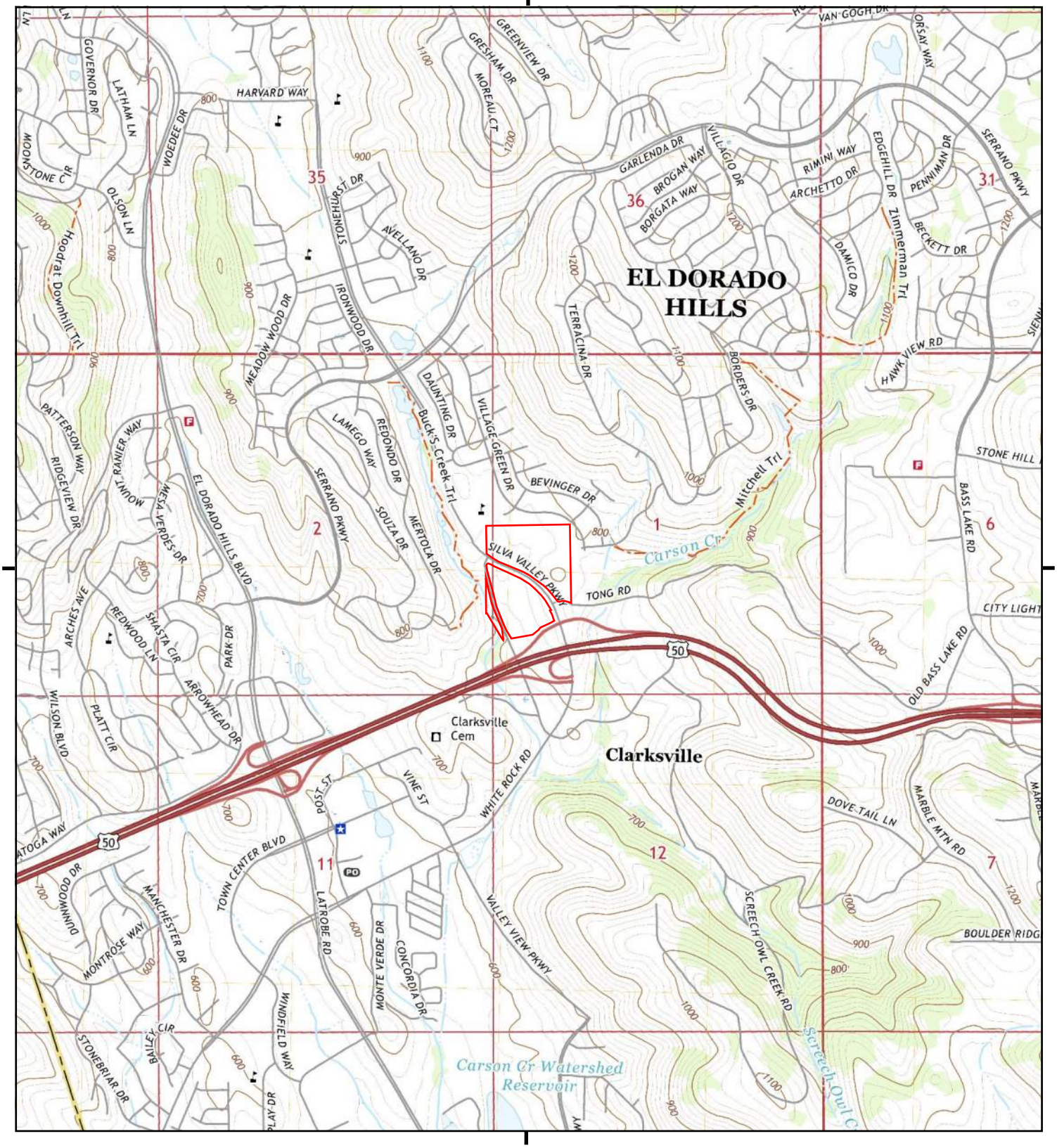
1891 Source Sheets



Sacramento
1891
30-minute, 125000

Historical Topo Map

2021



This report includes information from the following map sheet(s).

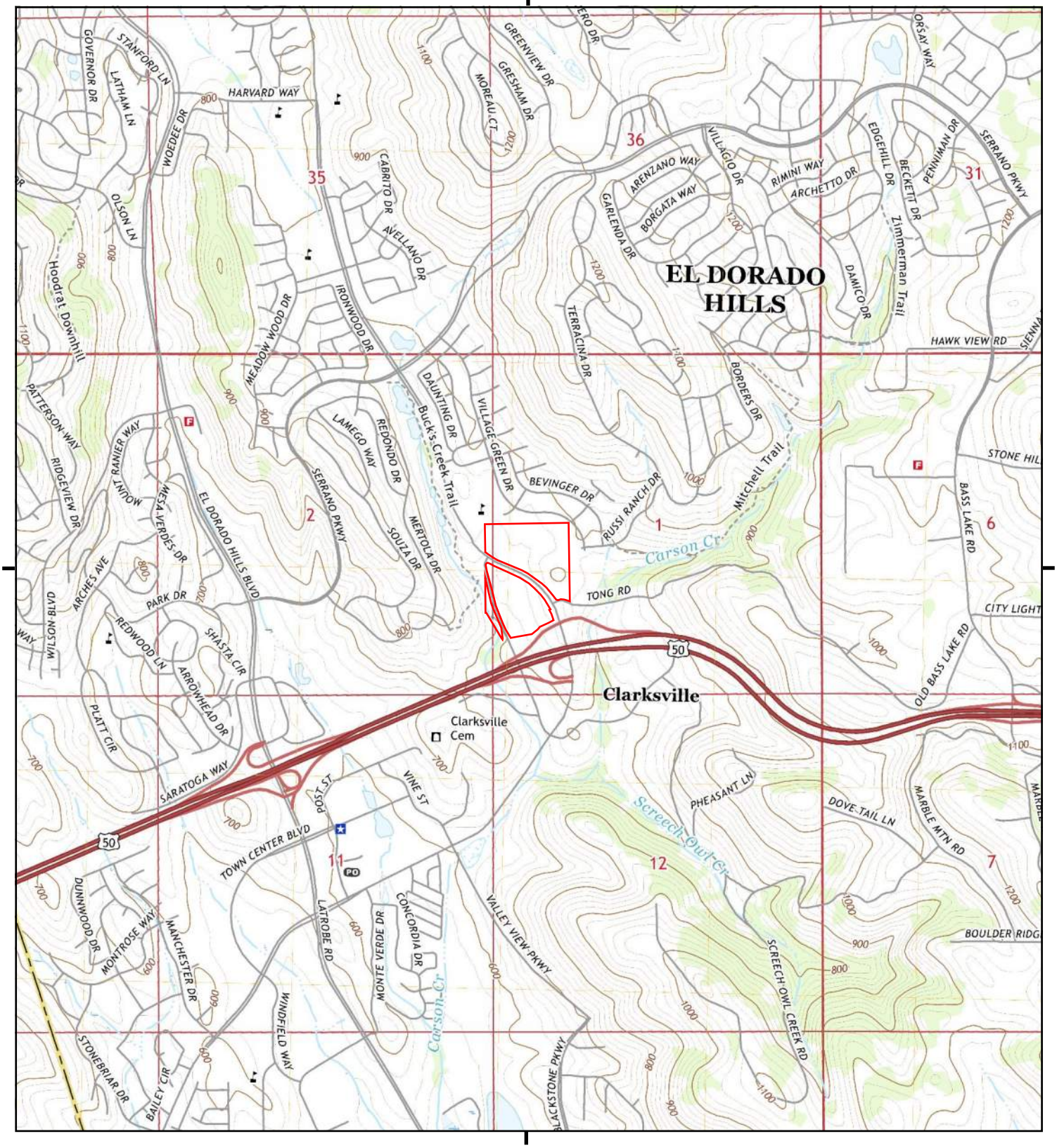
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Clarksville, 2021, 7.5-minute

SITE NAME: Costco El Dorado Hills
ADDRESS: Costco El Dorado Hills
El Dorado Hills, CA 95762
CLIENT: Kleinfelder, Inc.

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

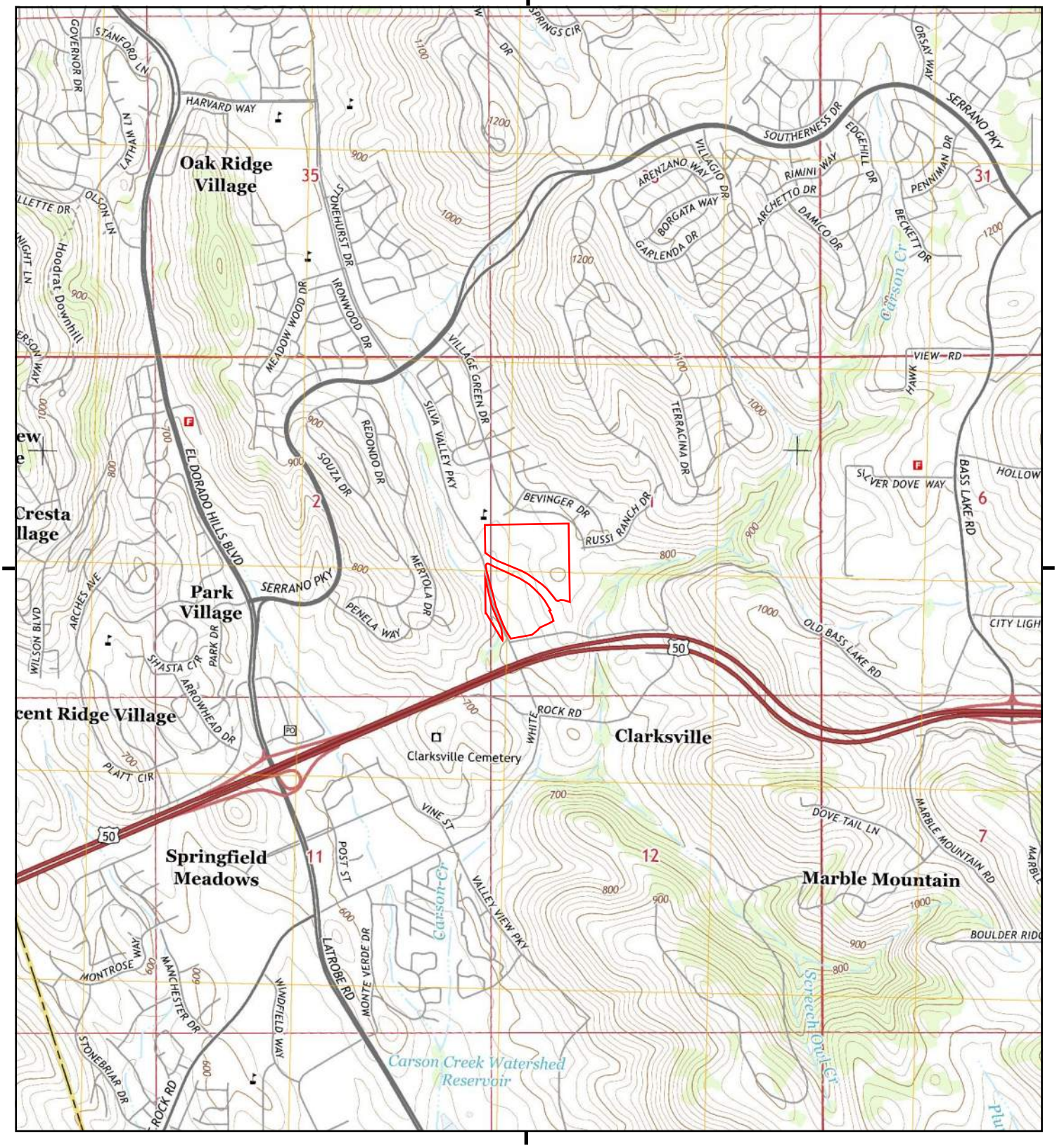
TP, Clarksville, 2018, 7.5-minute

SITE NAME: Costco El Dorado Hills
ADDRESS: Costco El Dorado Hills
El Dorado Hills, CA 95762
CLIENT: Kleinfelder, Inc.

N

Historical Topo Map

2015



This report includes information from the following map sheet(s).

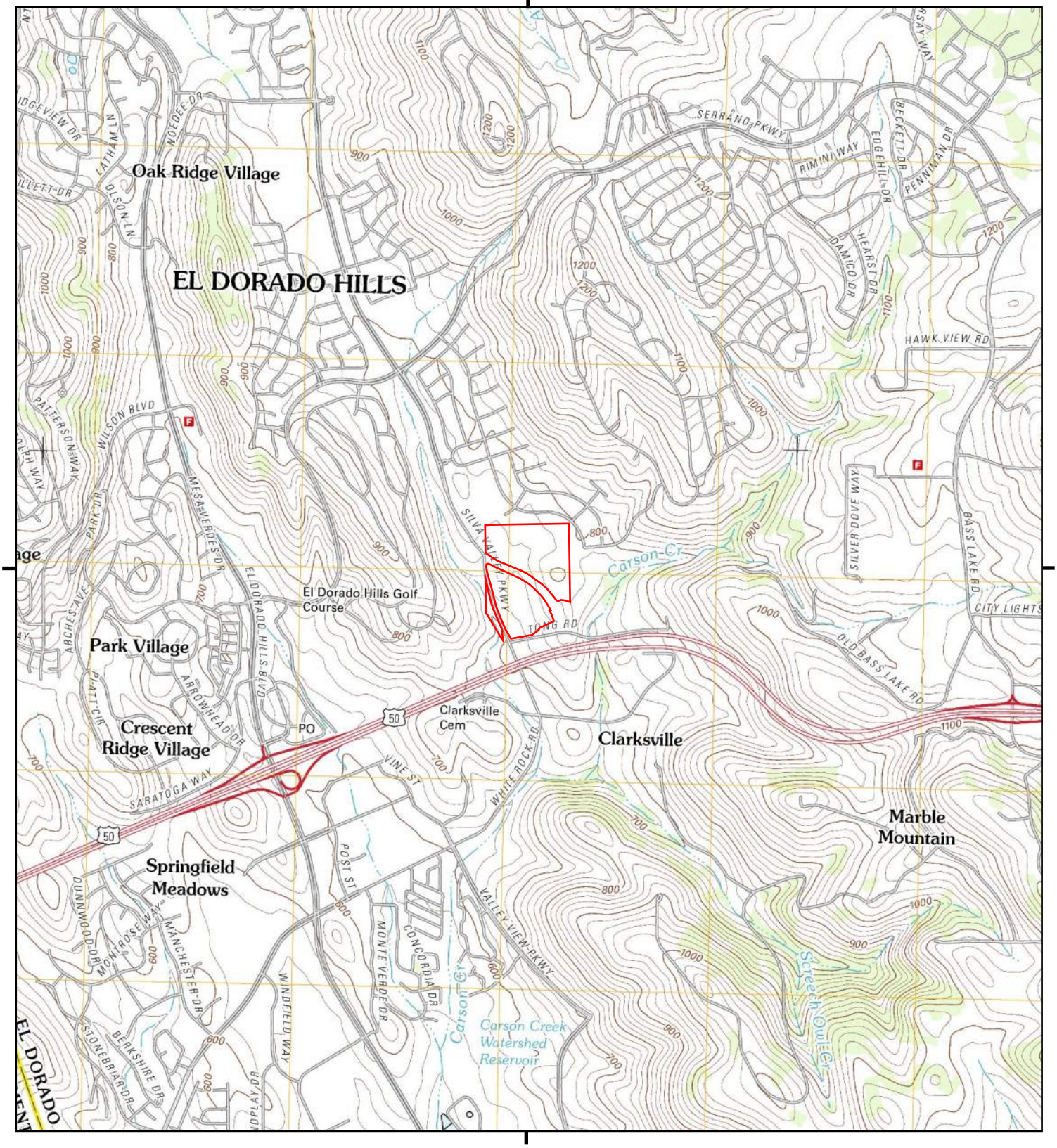
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Clarksville, 2015, 7.5-minute

SITE NAME: Costco El Dorado Hills
ADDRESS: Costco El Dorado Hills
El Dorado Hills, CA 95762
CLIENT: Kleinfelder, Inc.

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

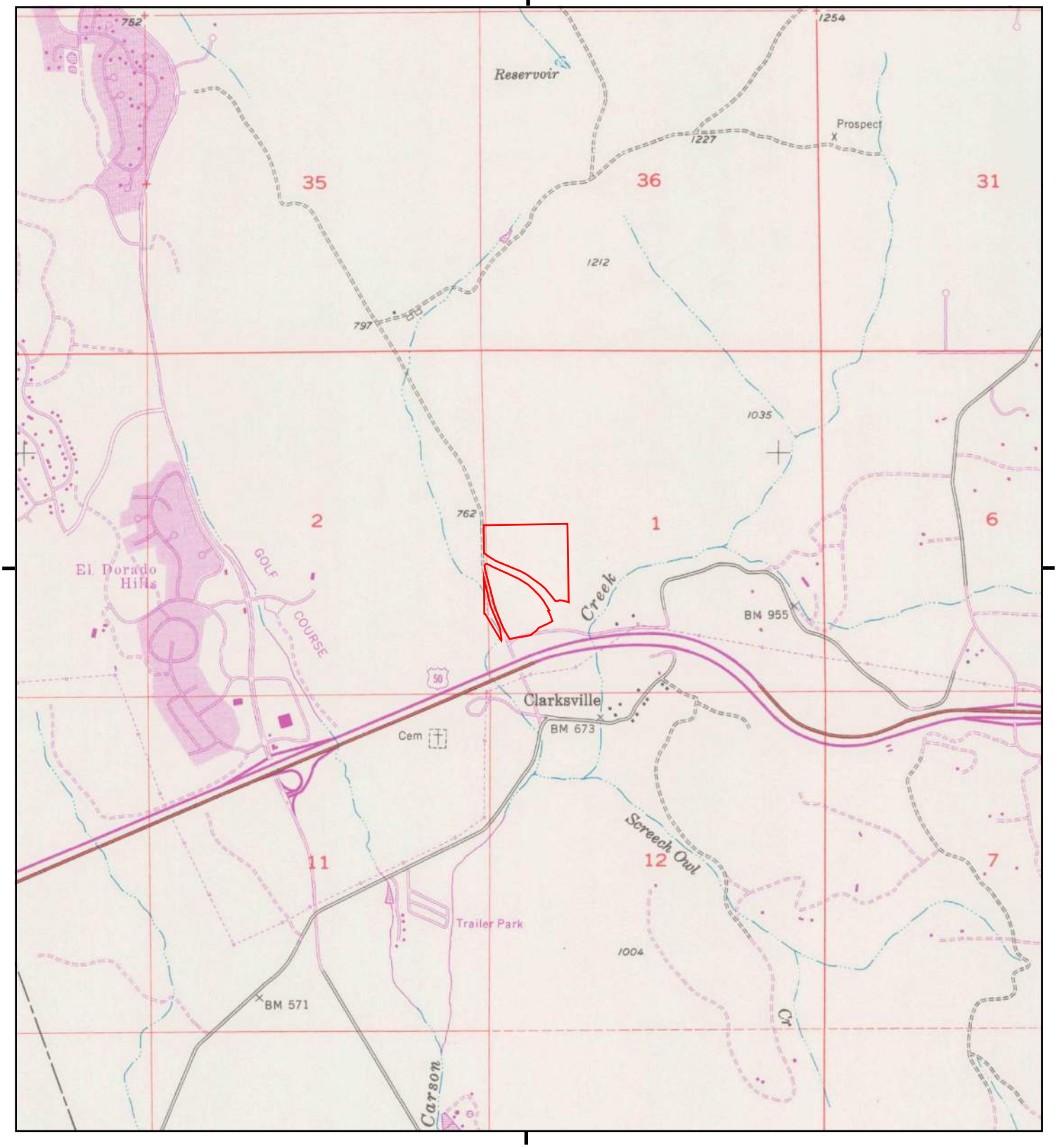
TP, Clarksville, 2012, 7.5-minute

SITE NAME: Costco El Dorado Hills
ADDRESS: Costco El Dorado Hills
El Dorado Hills, CA 95762
CLIENT: Kleinfelder, Inc.

N

Historical Topo Map

1980



This report includes information from the following map sheet(s).

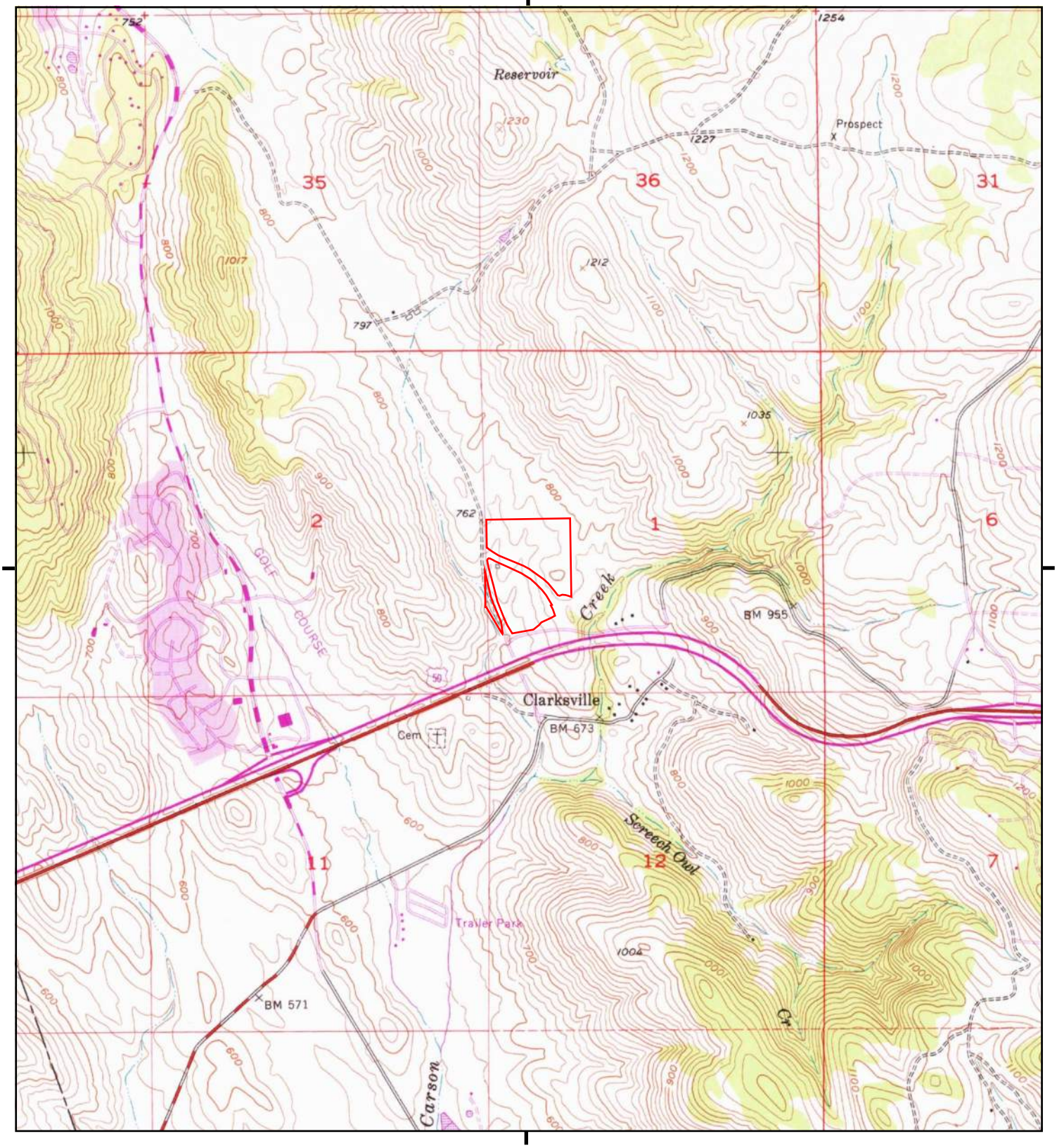
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Clarksville, 1980, 7.5-minute

SITE NAME: Costco El Dorado Hills
ADDRESS: Costco El Dorado Hills
El Dorado Hills, CA 95762
CLIENT: Kleinfelder, Inc.

N



This report includes information from the following map sheet(s).

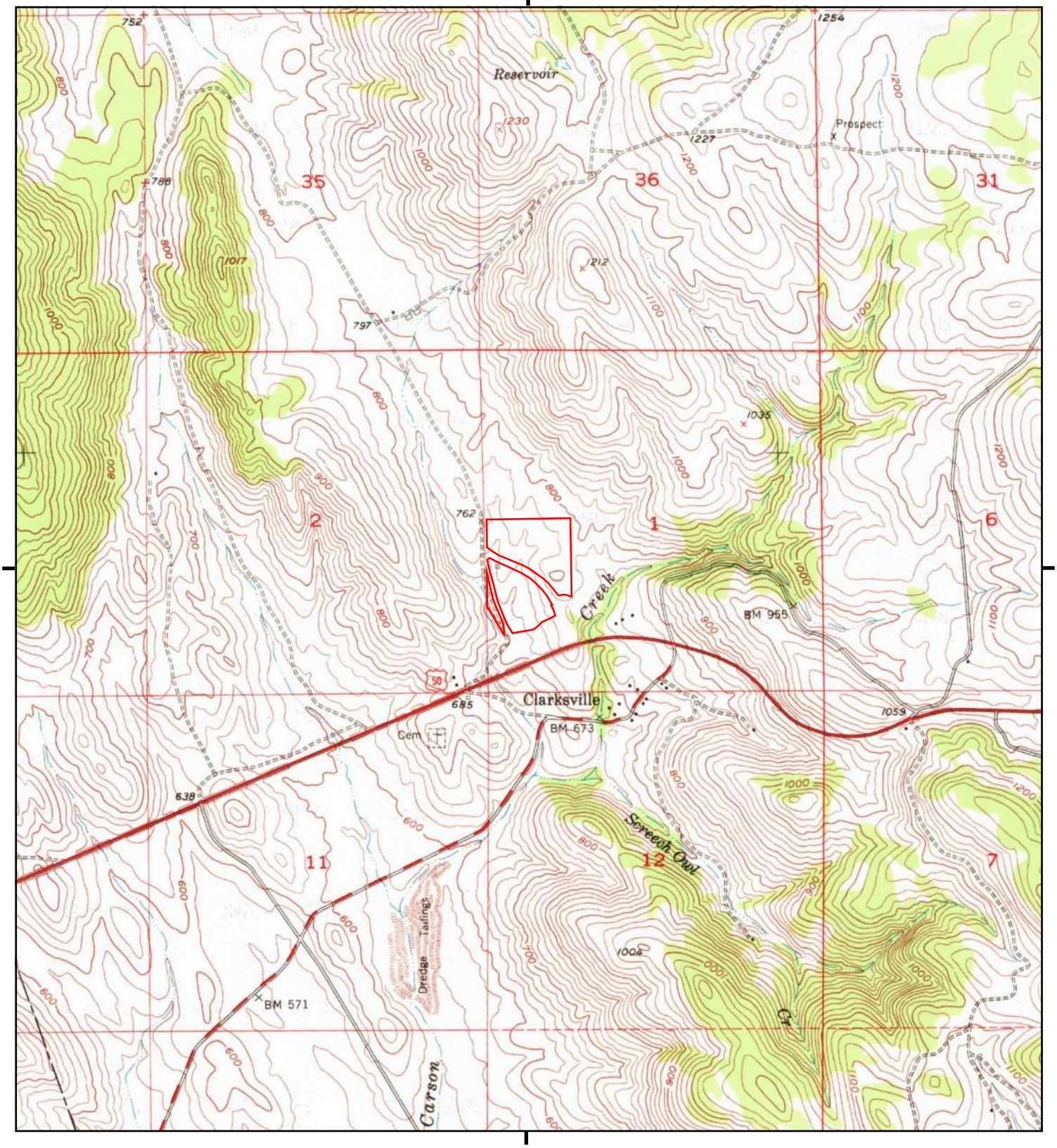
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Clarksville, 1973, 7.5-minute

SITE NAME: Costco El Dorado Hills
ADDRESS: Costco El Dorado Hills
El Dorado Hills, CA 95762
CLIENT: Kleinfelder, Inc.

N



This report includes information from the following map sheet(s).

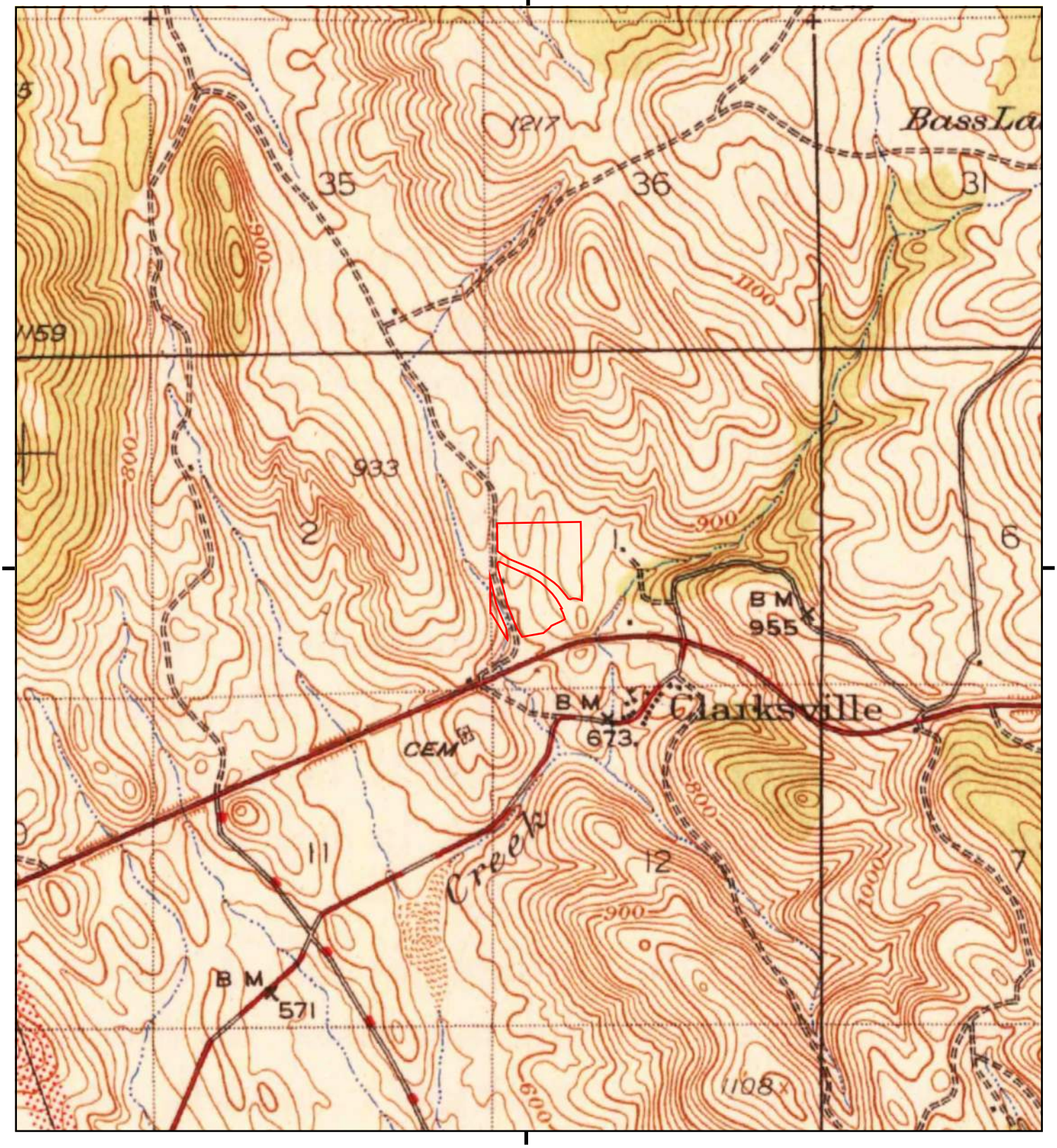
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Clarksville, 1953, 7.5-minute

SITE NAME: Costco El Dorado Hills
ADDRESS: Costco El Dorado Hills
El Dorado Hills, CA 95762
CLIENT: Kleinfelder, Inc.

N



This report includes information from the following map sheet(s).

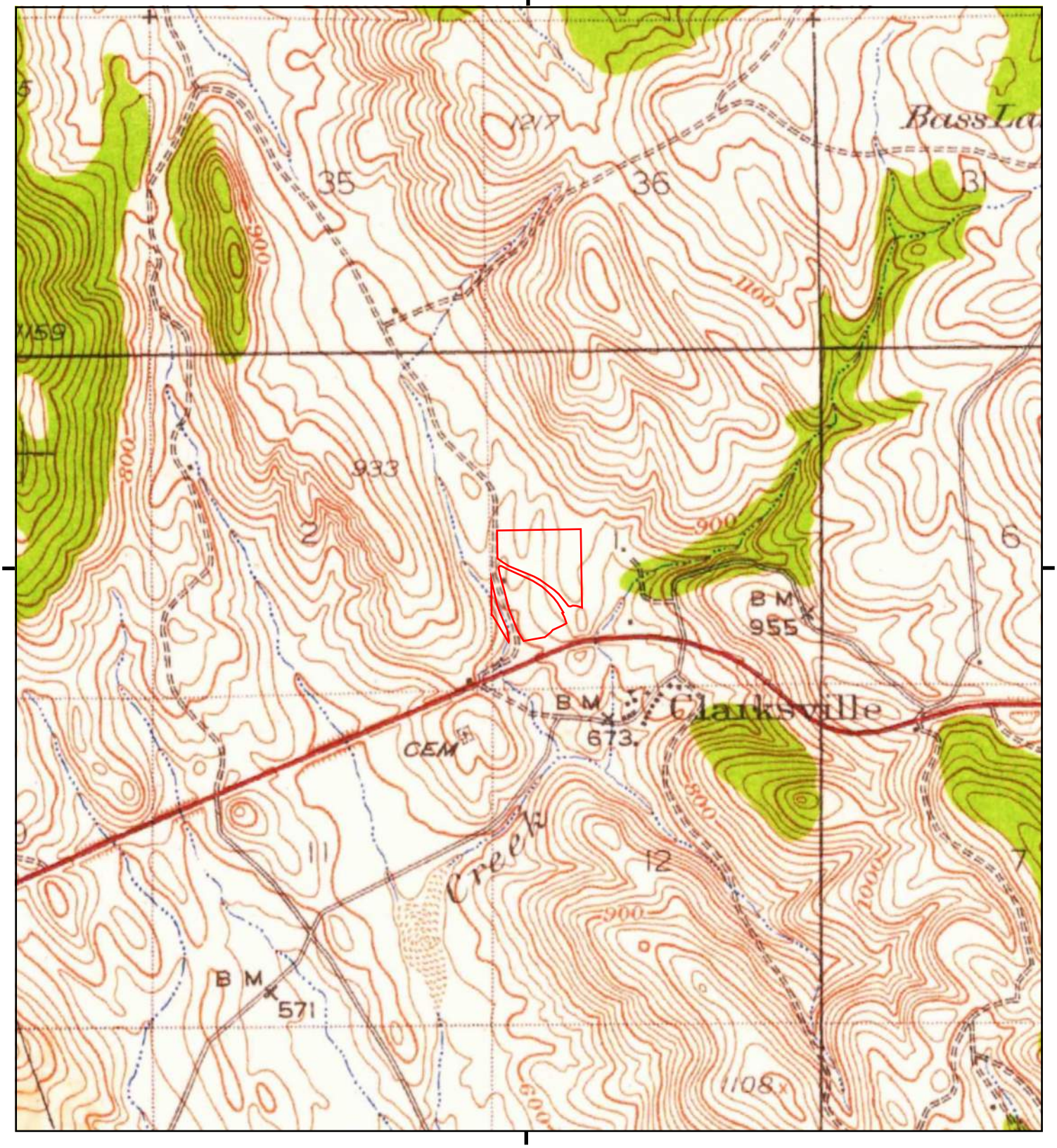
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Folsom, 1944, 15-minute

SITE NAME: Costco El Dorado Hills
ADDRESS: Costco El Dorado Hills
El Dorado Hills, CA 95762
CLIENT: Kleinfelder, Inc.

N



This report includes information from the following map sheet(s).

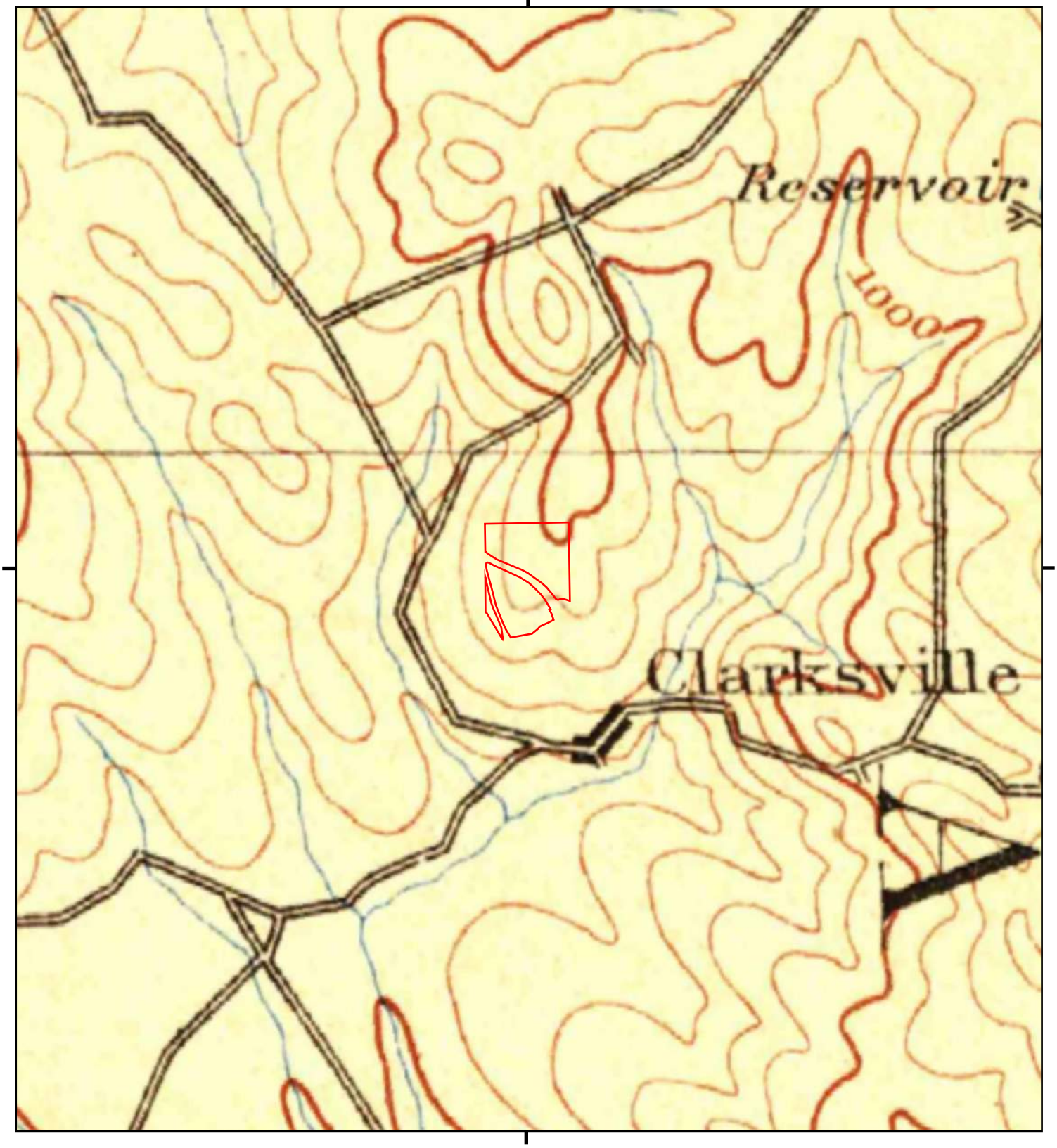
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Folsom, 1941, 15-minute

SITE NAME: Costco El Dorado Hills
ADDRESS: Costco El Dorado Hills
El Dorado Hills, CA 95762
CLIENT: Kleinfelder, Inc.

N



This report includes information from the following map sheet(s).

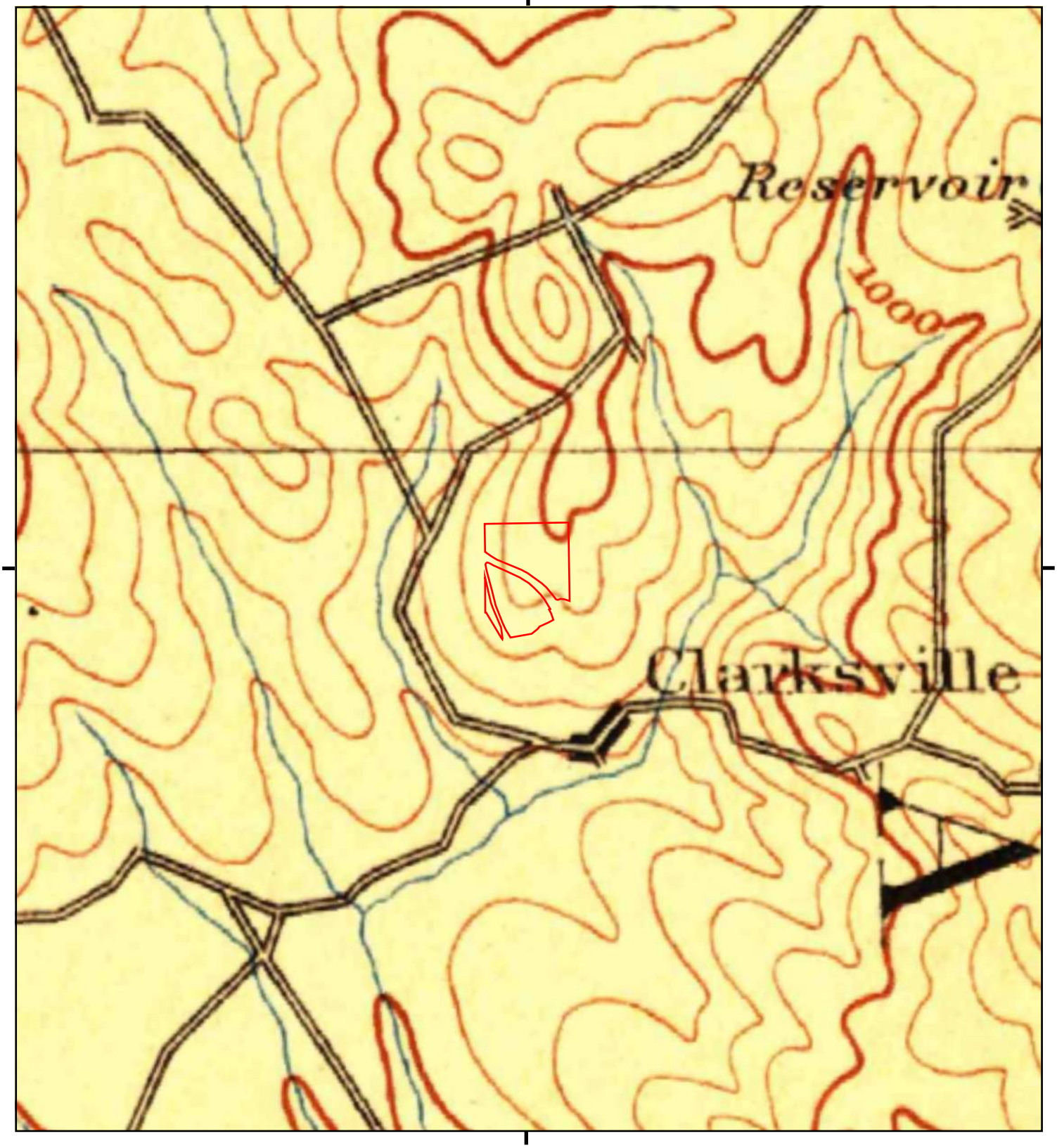
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Sacramento, 1893, 30-minute

SITE NAME: Costco El Dorado Hills
ADDRESS: Costco El Dorado Hills
El Dorado Hills, CA 95762
CLIENT: Kleinfelder, Inc.

N



This report includes information from the following map sheet(s).

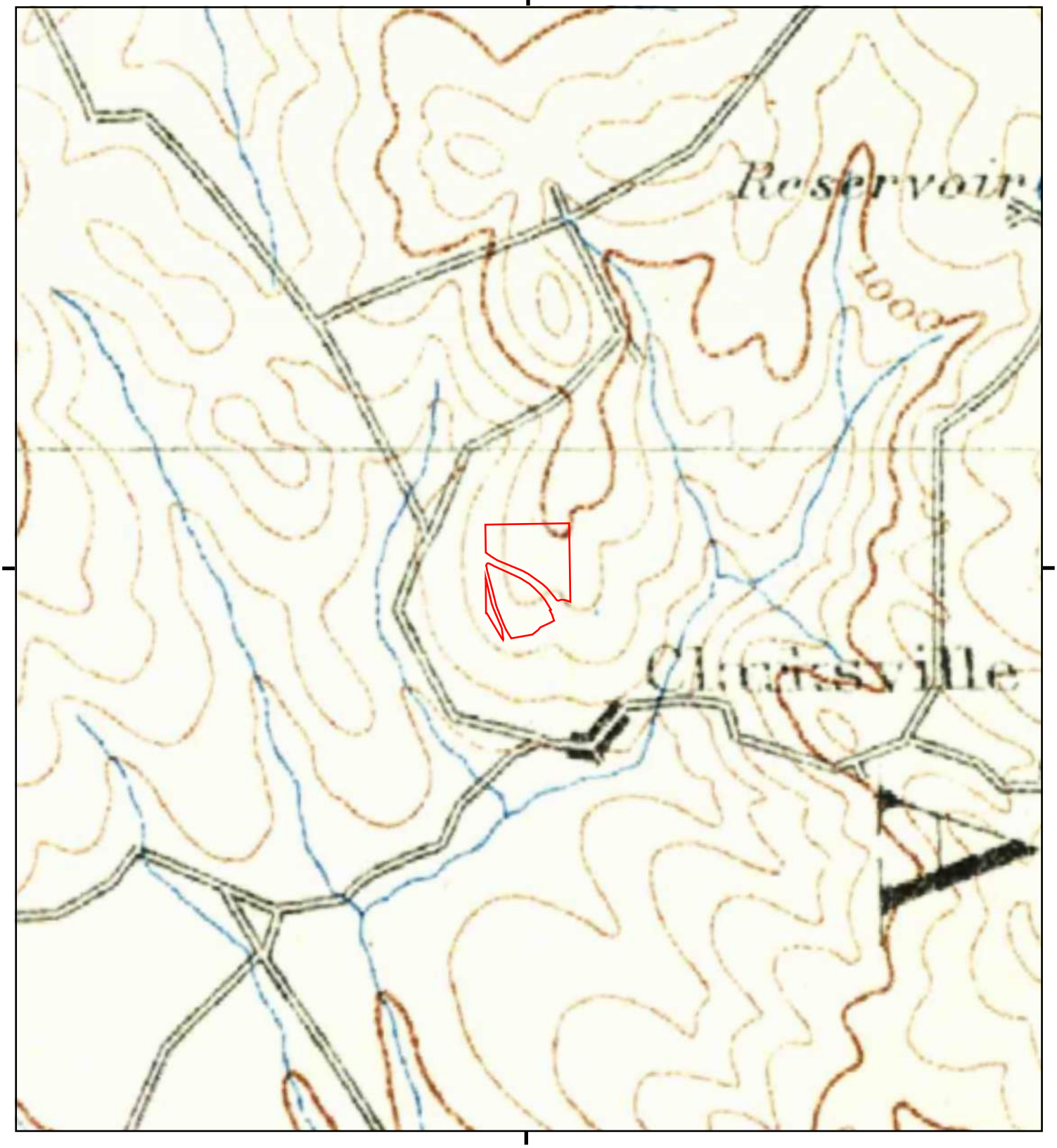
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Sacramento, 1892, 30-minute

SITE NAME: Costco El Dorado Hills
ADDRESS: Costco El Dorado Hills
El Dorado Hills, CA 95762
CLIENT: Kleinfelder, Inc.

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Sacramento, 1891, 30-minute

SITE NAME: Costco El Dorado Hills
ADDRESS: Costco El Dorado Hills
El Dorado Hills, CA 95762
CLIENT: Kleinfelder, Inc.

N

Costco El Dorado Hills
Costco El Dorado Hills
El Dorado Hills, CA 95762

Inquiry Number: 7659435.5
May 24, 2024

The EDR-City Directory Image Report

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Executive Summary

Findings

City Directory Images

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, LLC. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. This Report is provided on an "AS IS", "AS AVAILABLE" basis. **NO WARRANTY EXPRESS OR IMPLIED IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, LLC AND ITS SUBSIDIARIES, AFFILIATES AND THIRD PARTY SUPPLIERS DISCLAIM ALL WARRANTIES, OF ANY KIND OR NATURE, EXPRESS OR IMPLIED, ARISING OUT OF OR RELATED TO THIS REPORT OR ANY OF THE DATA AND INFORMATION PROVIDED IN THIS REPORT, INCLUDING WITHOUT LIMITATION, ANY WARRANTIES REGARDING ACCURACY, QUALITY, CORRECTNESS, COMPLETENESS, COMPREHENSIVENESS, SUITABILITY, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, NON-INFRINGEMENT, MISAPPROPRIATION, OR OTHERWISE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, LLC OR ITS SUBSIDIARIES, AFFILIATES OR THIRD PARTY SUPPLIERS BE LIABLE TO ANYONE FOR ANY DIRECT, INCIDENTAL, INDIRECT, SPECIAL, CONSEQUENTIAL OR OTHER DAMAGES OF ANY TYPE OR KIND (INCLUDING BUT NOT LIMITED TO LOSS OF PROFITS, LOSS OF USE, OR LOSS OF DATA), ARISING OUT OF OR IN ANY WAY CONNECTED WITH THIS REPORT OR ANY OF THE DATA AND INFORMATION PROVIDED IN THIS REPORT.** Any analyses, estimates, ratings, environmental risk levels, or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only an assessment performed by a qualified environmental professional can provide findings, opinions or conclusions regarding the environmental risk or conditions in, on or at any property.

Copyright 2023 by Environmental Data Resources, LLC. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, LLC, or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, LLC or its affiliates. All other trademarks used herein are the property of their respective owners.

EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available business directory data at approximately five year intervals.

RECORD SOURCES

The EDR City Directory Report accesses a variety of business directory sources, including Haines, InfoUSA, Polk, Cole, Bresser, and Stewart. Listings marked as EDR Digital Archive access Cole and InfoUSA records. The various directory sources enhance and complement each other to provide a more thorough and accurate report.

EDR is licensed to reproduce certain City Directory works by the copyright holders of those works. The purchaser of this EDR City Directory Report may include it in report(s) delivered to a customer.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	*Target Street*	*Cross Street*	*Source*
2020	☑	☑	EDR Digital Archive
2017	☐	☑	Cole Information
2014	☑	☑	Cole Information
2010	☑	☑	Cole Information
2005	☑	☐	Cole Information
2000	☐	☑	Cole Information
1995	☐	☐	Cole Information
1992	☐	☐	Cole Information
1990	☐	☐	Haines Criss-Cross Directory
1986	☐	☐	Haines Criss-Cross Directory
1981	☐	☐	Haines Criss-Cross Directory
1977	☐	☐	Haines Criss-Cross Directory
1971	☐	☐	Haines Criss-Cross Directory

FINDINGS

TARGET PROPERTY STREET

Costco El Dorado Hills
El Dorado Hills, CA 95762

Year	*CD Image*	*Source*	
TONG			
2020	pg A2	EDR Digital Archive	
TONG RD			
2017	-	Cole Information	Street not listed in Source
2014	pg A5	Cole Information	
2010	pg A7	Cole Information	
2005	pg A8	Cole Information	
2000	-	Cole Information	Street not listed in Source
1995	-	Cole Information	Street not listed in Source
1992	-	Cole Information	Street not listed in Source
1990	-	Haines Criss-Cross Directory	Street not listed in Source
1986	-	Haines Criss-Cross Directory	Street not listed in Source
1981	-	Haines Criss-Cross Directory	Street not listed in Source
1977	-	Haines Criss-Cross Directory	Street not listed in Source
1971	-	Haines Criss-Cross Directory	Street not listed in Source

FINDINGS

CROSS STREETS

Year	*CD Image*	*Source*	
SILVA VALLEY PKWY			
2017	pg. A3	Cole Information	
2014	pg. A4	Cole Information	
2010	pg. A6	Cole Information	
2005	-	Cole Information	Street not listed in Source
2000	pg. A9	Cole Information	
1995	-	Cole Information	Street not listed in Source
1992	-	Cole Information	Street not listed in Source
1990	-	Haines Criss-Cross Directory	Street not listed in Source
1986	-	Haines Criss-Cross Directory	Street not listed in Source
1981	-	Haines Criss-Cross Directory	Street not listed in Source
1977	-	Haines Criss-Cross Directory	Street not listed in Source
1971	-	Haines Criss-Cross Directory	Street not listed in Source
SILVA VALLEY PKY			
2020	pg. A1	EDR Digital Archive	

City Directory Images

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

SILVA VALLEY PKY 2020

7141 CHILDREN'S SERVICES
ROLLING HILLS MIDDLE SCHOOL

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

TONG 2020

1441 LEN JONES
OLDSON OUTREACH

Target Street	Cross Street	Source
-	✓	Cole Information

SILVA VALLEY PKWY 2017

7141 COUNTY OF EL DORADO

Target Street	Cross Street	Source
-	✓	Cole Information

SILVA VALLEY PKWY 2014

7141 COUNTY OF EL DORADO
ROLLING HILLS MIDDLE SCHOOL

Target Street	Cross Street	Source
✓	-	Cole Information

TONG RD 2014

1441 CAPITAL KOREAN PRESBYTERIAN CHURCH

Target Street	Cross Street	Source
-	✓	Cole Information

SILVA VALLEY PKWY 2010

7141 EL DORADO COUNTY PUBLIC HEALTH
ROLLING HILLS MIDDLE SCHOOL

Target Street	Cross Street	Source
✓	-	Cole Information

TONG RD 2010

1441 CAPITAL KOREAN PRESBYTERIAN
OCCUPANT UNKNOWN,

Target Street	Cross Street	Source
✓	-	Cole Information

TONG RD 2005

1441 CAPITAL KOREAN PRESBYTERIAN CH
1471 OCCUPANT UNKNOWN,

Target Street	Cross Street	Source
-	✓	Cole Information

SILVA VALLEY PKWY 2000

7140 ROLLING HILLS MIDDLE SCHOOL
7141 ROLLING HILLS MIDDLE SCHOOL

Costco El Dorado Hills
Costco El Dorado Hills
El Dorado Hills, CA 95762

Inquiry Number: 7659435.7
May 24, 2024

EDR Environmental Lien and AUL Search

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

EDR Environmental Lien and AUL Search

The EDR Environmental Lien Search Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations (AULs), such as engineering controls and institutional controls.

A network of professional, trained researchers, following established procedures, uses client supplied address information to:

- search for parcel number and/or legal description
- search for ownership information
- research official land title documents recorded at jurisdictional agencies such as recorders' offices, registries of deeds, county clerks' offices, etc.
- search for publicly available environmental encumbering instrument(s) filed on or after the recording of the current deed; between the recording of the current deed and the most current publicly available date
- provide a copy of any environmental encumbrance(s)
- provide a copy of the current deed when available

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, LLC. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. This Report is provided on an "AS IS", "AS AVAILABLE" basis. NO WARRANTY EXPRESS OR IMPLIED IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, LLC AND ITS SUBSIDIARIES, AFFILIATES AND THIRD PARTY SUPPLIERS DISCLAIM ALL WARRANTIES, OF ANY KIND OR NATURE, EXPRESS OR IMPLIED, ARISING OUT OF OR RELATED TO THIS REPORT OR ANY OF THE DATA AND INFORMATION PROVIDED IN THIS REPORT, INCLUDING WITHOUT LIMITATION, ANY WARRANTIES REGARDING ACCURACY, QUALITY, CORRECTNESS, COMPLETENESS, COMPREHENSIVENESS, SUITABILITY, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, NON-INFRINGEMENT, MISAPPROPRIATION, OR OTHERWISE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, LLC OR ITS SUBSIDIARIES, AFFILIATES OR THIRD PARTY SUPPLIERS BE LIABLE TO ANYONE FOR ANY DIRECT, INCIDENTAL, INDIRECT, SPECIAL, CONSEQUENTIAL OR OTHER DAMAGES OF ANY TYPE OR KIND (INCLUDING BUT NOT LIMITED TO LOSS OF PROFITS, LOSS OF USE, OR LOSS OF DATA), ARISING OUT OF OR IN ANY WAY CONNECTED WITH THIS REPORT OR ANY OF THE DATA AND INFORMATION PROVIDED IN THIS REPORT. Any analyses, estimates, ratings, environmental risk levels, or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only an assessment performed by a qualified environmental professional can provide findings, opinions or conclusions regarding the environmental risk or conditions in, on or at any property.

Copyright 2024 by Environmental Data Resources, LLC. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, LLC, or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, LLC or its affiliates. All other trademarks used herein are the property of their respective owners.

EDR Environmental Lien and AUL Search

TARGET PROPERTY INFORMATION

ADDRESS

Costco El Dorado Hills
Costco El Dorado Hills
El Dorado Hills, CA 95762

ENVIRONMENTAL LIEN

Environmental Lien: Found ☐ Not Found ☒

OTHER ACTIVITY AND USE LIMITATIONS (AULs)

AULs: Found ☐ Not Found ☒

RESEARCH SOURCE

Source 1:

El Dorado Recorder
El Dorado, CA

PROPERTY INFORMATION

Deed 1-1:

Type of Deed:	deed
Title is vested in:	EDR 52
Title received from:	John K Teakopoulos
Deed Dated	3/29/1990
Deed Recorded:	3/30/1992
Book:	NA
Page:	na
Volume:	NA
Instrument:	na
Docket:	na
Land Record Comments:	
Miscellaneous Comments:	

Deed 1-2:

Type of Deed:	deed
Title is vested in:	EDH 52
Title received from:	SKK Exchange
Deed Dated	3/29/1990
Deed Recorded:	3/30/1990
Book:	NA
Page:	na
Volume:	na
Instrument:	na
Docket:	NA
Land Record Comments:	
Miscellaneous Comments:	
Legal Description:	See Exhibit
Legal Current Owner:	EDH 52
Parcel # / Property Identifier:	122-720-021, 122-720-020, 122-720-018, 122-720-019
Comments:	See Exhibit

Deed 2:

Type of Deed:	deed
Title is vested in:	John C & Lesley Ann Kemp TR
Title received from:	MEC Capital Investments LLC
Deed Dated	12/2/2022
Deed Recorded:	12/20/2022
Book:	NA
Page:	na
Volume:	na
Instrument:	na
Docket:	NA
Land Record Comments:	
Miscellaneous Comments:	

Legal Description:	See Exhibit
Legal Current Owner:	John C & Lesley Ann Kemp TR
Parcel # / Property Identifier:	122-720-002
Comments:	See Exhibit

Deed Exhibit 1

EL DORADO COUNTY

20229

RECORDING REQUESTED BY

OFFICIAL RECORDS
EL DORADO COUNTY, CALIF.
RECORDED BY

Placer Title Company

MAR 30 4 07 PM '90

And When Recorded Mail This Deed and, Unless Otherwise Shown Below, Mail Tax Statements To:

NAME
STREET ADDRESS EDH 52 PARTNERSHIP
7700 College Town Dr.,#101
CITY, STATE ZIP Sacramento, CA 95826

DOROTHY CARR
COUNTY RECORDER
7.00 (2)

Title Order No. _____ Escrow No. _____

SPACE ABOVE THIS LINE FOR RECORDER'S USE

A.P.#86-070-02

DOCUMENTARY TRANSFER TAX $330.00

X COMPUTED ON FULL VALUE OF PROPERTY CONVEYED,

_____ OR COMPUTED ON FULL VALUE LESS LIENS AND ENCUMBRANCES REMAINING AT TIME OF SALE.

PCOR FILED

THE UNDERSIGNED GRANTOR DECLARES

Signature of Declarant or Agent determining tax. Firm Name

GRANT DEED

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

JOHN K. TSAKOPOULOS

hereby GRANT(S) to

EDH 52, a California General Partnership, as to all of Grantor's undivided 15.80% interest in and to

the following described real property in the county of EL DORADO, state of California:

SEE EXHIBIT "A" ATTACHED HERETO FOR LEGAL DESCRIPTION

Dated March 29, 1990

STATE of CALIFORNIA ss.
COUNTY of Sacramento

On this 29th day of March, in the year 1990, before me, Sue Mapes, a Notary Public, State of California, duly commissioned and sworn, personally appeared John K. Tsakopoulos personally known to me (or proved to me on the basis of satisfactory evidence) to be the person.... whose name _____ subscribed to this instrument, and acknowledged that.... he.... executed it.

IN WITNESS WHEREOF I have hereunto set my hand and affixed my official seal in the State of California County of Sacramento on the date set forth above in this certificate.

Sue Mapes
Notary Public, State of California

My commission expires 5-29-90

John Tsakopoulos
JOHN K. TSAKOPOULOS

OFFICIAL SEAL
SUE MAPES
NOTARY PUBLIC - CALIFORNIA
SACRAMENTO COUNTY
My Comm. Expires May 29, 1990

(Space above for official notarial seal)

MAIL TAX STATEMENTS TO PARTY SHOWN ON FOLLOWING LINE; IF NO PARTY SO SHOWN, MAIL AS DIRECTED ABOVE

Name | Street Address | City & State

FORM 100

EXHIBIT "A"

BEGINNING at the West quarter corner of Section 1, Township 9 North, Range 8 East, M.D.B.&M.; running thence East along the North boundary of the Northwest quarter of Southwest quarter of said Section to the Northeast corner thereof; thence South 20 chains to the Southeast corner of the Northwest quarter of the Southwest quarter of said Section1; thence along the boundary of the land claimed by F.S. Tong, with the following courses and distances: West along the North boundary of the Southwest quarter of Southwest quarter of said Section 1, .38 chains; thence South 15° 26' East 20.78 chains to an intersection with the South boundary of said Section 1 at a point 24.20 chains East of the Southwest corner of said Section which measured along the South line thereof; thence West along the Southerly boundary of said Section 1, 7.84 chains to the Southeast corner of the land claimed by Martha Ella Joerger in said Section 1; thence along the boundary of the land claimed by said Martha Ella Joerger with the following courses and distances: North 27 West 18.30 chains; thence South 16 West 6.20 chains; thence North 54 West 1.20 chains; thence North 31 West 7.80 chains; thence West .80 chains to an intersection with the Westerly boundary of said Section 1; thence North along said Westerly boundary of said Section 1, 22.20 chains to the point of beginning.

EXCEPTING THEREFROM those portions conveyed to the State of California for freeway purposes by deeds recorded North 8, 1939 in book 175 page 12 Official Records for the old highway and recorded February 11, 1964 in book 676 page 229 Official Records for the new highway.

FURTHER EXCEPTING THEREFROM all that portion of said parcel lying Southerly of the North line of U.S. Highway 50, as granted to The State of California in deed recorded North 8, 1939 in Book 175 of Official Records, page 12.

END DOCUMENT

Deed Exhibit 2

EL DORADO COUNTY

20226

OFFICIAL RECORDS
ELDORADO CO. CALIF.
RECORDED BY:

Placer Title Company

MAR 30 2 47 PM '90

DOROTHY CARR
COUNTY RECORDER

7400 (2)

SPACE ABOVE THIS LINE FOR RECORDER'S USE

RECORDING REQUESTED BY

And When Recorded Mail This Deed and, Unless Otherwise Shown Below, Mail Tax Statements To:

NAME EDH 52 PARTNERSHIP
STREET ADDRESS 7700 College Town Dr.,#101
CITY, STATE ZIP Sacramento, CA 95826

Title Order No. 605821 Escrow No. _____

PCOS FILED

A.P.#86-070-02

DOCUMENTARY TRANSFER TAX $ XXXXXXXX 1,731.40

-X- COMPUTED ON FULL VALUE OF PROPERTY CONVEYED,

_____ OR COMPUTED ON FULL VALUE LESS LIENS AND ENCUMBRANCES REMAINING AT TIME OF SALE.

THE UNDERSIGNED GRANTOR DECLARES

Signature of Declarant or Agent determining tax. Firm Name

GRANT DEED

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

SKK EXCHANGE, INC., a California corporation

hereby GRANT(S) to

EDH 52, a California General Partnership

as to an undivided 84.20% interest in and to

the following described real property in the county of EL DORADO, state of California:

SEE EXHIBIT "A" ATTACHED HERETO FOR LEGAL DESCRIPTION

SKK EXCHANGE, INC.,
a California corporation

By _____

Dated March 29, 1990

STATE of CALIFORNIA ss.

COUNTY of.....

On this _____ *day of* _____, *in the year* _____

_____, *before me,*

_____, *a Notary Public, State of California, duly commissioned and sworn, personally appeared* _____

_____

personally known to me (or proved to me on the basis of satisfactory evidence) to be the person.... whose name _____

_____ *subscribed to this instrument, and acknowledged that.... he.... executed it.*

IN WITNESS WHEREOF I have hereunto set my hand and affixed my official seal in the _____ *County of* _____ *on the date set forth above in this certificate.*

_____
Notary Public, State of California

My commission expires _____

(Space above for official notarial seal)

MAIL TAX STATEMENTS TO PARTY SHOWN ON FOLLOWING LINE; IF NO PARTY SO SHOWN, MAIL AS DIRECTED ABOVE

Name | Street Address | City & State

FORM 100

EL DORADO COUNTY

EXHIBIT "A"

BEGINNING at the West quarter corner of Section 1, Township 9 North, Range 8 East, M.D.B.&M.; running thence East along the North boundary of the Northwest quarter of Southwest quarter of said Section to the Northeast corner thereof; thence South 20 chains to the Southeast corner of the Northwest quarter of the Southwest quarter of said Section1; thence along the boundary of the land claimed by F.S. Tong, with the following courses and distances: West along the North boundary of the Southwest quarter of Southwest quarter of said Section 1, .38 chains; thence South 15° 26' East 20.78 chains to an intersection with the South boundary of said Section 1 at a point 24.20 chains East of the Southwest corner of said Section which measured along the South line thereof; thence West along the Southerly boundary of said Section 1, 7.84 chains to the Southeast corner of the land claimed by Martha Ella Joerger in said Section 1; thence along the boundary of the land claimed by said Martha Ella Joerger with the following courses and distances: North 27 West 18.30 chains; thence South 16 West 6.20 chains; thence North 54 West 1.20 chains; thence North 31 West 7.80 chains; thence West .80 chains to an intersection with the Westerly boundary of said Section 1; thence North along said Westerly boundary of said Section 1, 22.20 chains to the point of beginning.

EXCEPTING THEREFROM those portions conveyed to the State of California for freeway purposes by deeds recorded North 8, 1939 in book 175 page 12 Official Records for the old highway and recorded February 11, 1964 in book 676 page 229 Official Records for the new highway.

FURTHER EXCEPTING THEREFROM all that portion of said parcel lying Southerly of the North line of U.S. Highway 50, as granted to The State of California in deed recorded North 8, 1939 in Book 175 of Official Records, page 12.

CORPORATE ACKNOWLEDGMENT NO. 202

State of California } SS.
County of Sacramento

On this the 27th day of March 19 90, before me, [illegible],
the undersigned Notary Public, personally appeared

Deed Exhibit 3

RECORDING REQUESTED BY:
Stewart Title of Sacramento

WHEN RECORDED MAIL TO:
AND MAIL TAX STATEMENT TO:

John C. Kemp, Lesley Ann Kemp, Trustees of the John C. Kemp, and Lesley Ann Kemp Family Trust dated May 4, 1990
112 Kemp Court
Folsom, CA 95630

ORDER NO. 1876814
APN: 122-720-002

Property Addr: EDH Mansour, 122-720-002, El Dorado Hills, CA 95762

Electronically Recorded in Official Records
County of El Dorado
Janelle K. Horne
Recorder-Clerk

DOC# 2022-0047128

12/20/2022
12:36 PM

Titles: 1 Pages: 4

	Fees	$23.00
	Taxes	$255.20
GL	CA SB2 Fee	$0.00
	Total	$278.20

SPACE ABOVE THIS LINE FOR RECORDERS USE

GRANT DEED

THE UNDERSIGNED GRANTOR(s) DECLARE(s)
DOCUMENTARY TRANSFER TAX is $255.20 CITY TAX $0.00
☐ Monument Preservation Fee is: $-0-
☒ computed on full value of property conveyed, or
☐ computed on full value less value of liens or encumbrances remaining at time of sale.

☒ Unincorporated area City of El Dorado Hills

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

MEE CAPITAL INVESTMENTS, LLC , a California limited liability company

hereby GRANT(S) to John C. Kemp and Lesley Ann Kemp, Trustees of the John C. Kemp and Lesley Ann Kemp Family Trust dated May 4, 1990

the following described real property in the unincorporated area , County of El Dorado, State of California:

See Exhibit "A" attached hereto and made a part hereof.

Date: December 2, 2022

MEE CAPITAL INVESTMENTS, LLC, a California limited liability company

By: _____ Date: 12/13/22
Mark Enes, Manager

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached and not the truthfulness, accuracy, or validity of that document.

State of California
County of ~~El Dorado~~ Sacramento

On December 13, 2022 before me Alim Valiev, Notary Public, personally appeared Mark Enes, who proved to me on the basis of satisfactory evidence to be the person(s), whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (seal)

ALIM VALIEV
Notary Public - California
Sacramento County
Commission # 2317355
My Comm. Expires Dec 27, 2023

MAIL TAX STATEMENT AS DIRECTED ABOVE

See Attached

ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of Sacramento)

On December 13, 2022 before me, Alim Valiev, Notary Public
(insert name and title of the officer)

personally appeared Mark Enes,
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (Seal)

ALIM VALIEV
Notary Public - California
Sacramento County
Commission # 2317355
My Comm. Expires Dec 27, 2023

EXHIBIT "A"
LEGAL DESCRIPTION

All that portion of Section 1, Township 9 North, Range 8 East, M.D.B. & M., described as follows:

Beginning at a point located in said Section 1 from which the Southwest corner thereof bears the following two courses and distances: South 29°50'05" East 979.85 feet and South 83°31'06" West 1078.13 feet; thence from said point of beginning South 78°35'53' West 215.96 feet; thence North 23°17'10" East 256.12 feet; thence South 29°50'05" East 221.99 feet to the point of beginning.

Said Parcel is also shown as Tract 2 on that certain record of Survey filed October 10, 1989 in the office of the County Recorder of El Dorado County, in Book 16 of Surveys, Page 147.

APN: 122-720-002

Costco El Dorado Hills
Costco El Dorado Hills
El Dorado Hills, CA 95762

Inquiry Number: 7659435.8
May 22, 2024

EDR Building Permit Report

Target Property and Adjoining Properties

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

About This Report

Executive Summary

Findings

Glossary

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, LLC. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. This Report is provided on an "AS IS", "AS AVAILABLE" basis. **NO WARRANTY EXPRESS OR IMPLIED IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, LLC AND ITS SUBSIDIARIES, AFFILIATES AND THIRD PARTY SUPPLIERS DISCLAIM ALL WARRANTIES, OF ANY KIND OR NATURE, EXPRESS OR IMPLIED, ARISING OUT OF OR RELATED TO THIS REPORT OR ANY OF THE DATA AND INFORMATION PROVIDED IN THIS REPORT, INCLUDING WITHOUT LIMITATION, ANY WARRANTIES REGARDING ACCURACY, QUALITY, CORRECTNESS, COMPLETENESS, COMPREHENSIVENESS, SUITABILITY, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, NON-INFRINGEMENT, MISAPPROPRIATION, OR OTHERWISE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, LLC OR ITS SUBSIDIARIES, AFFILIATES OR THIRD PARTY SUPPLIERS BE LIABLE TO ANYONE FOR ANY DIRECT, INCIDENTAL, INDIRECT, SPECIAL, CONSEQUENTIAL OR OTHER DAMAGES OF ANY TYPE OR KIND (INCLUDING BUT NOT LIMITED TO LOSS OF PROFITS, LOSS OF USE, OR LOSS OF DATA), ARISING OUT OF OR IN ANY WAY CONNECTED WITH THIS REPORT OR ANY OF THE DATA AND INFORMATION PROVIDED IN THIS REPORT.** Any analyses, estimates, ratings, environmental risk levels, or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only an assessment performed by a qualified environmental professional can provide findings, opinions or conclusions regarding the environmental risk or conditions in, on or at any property.

Copyright 2023 by Environmental Data Resources, LLC. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, LLC, or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, LLC or its affiliates. All other trademarks used herein are the property of their respective owners.

EDR BUILDING PERMIT REPORT

About This Report

The EDR Building Permit Report provides a practical and efficient method to search building department records for indications of environmental conditions. Generated via a search of municipal building permit records gathered from more than 1,600 cities nationwide, this report will assist you in meeting the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E1527 - 21), or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

Building permit data can be used to identify current and/or former operations and structures/features of environmental concern. The data can provide information on a target property and adjoining properties such as the presence of underground storage tanks, pump islands, sumps, drywells, etc., as well as information regarding water, sewer, natural gas, electrical connection dates, and current/former septic tanks.

Methodology

EDR has developed the EDR Building Permit Report through our partnership with BuildFax, the nation's largest repository of building department records. BuildFax collects, updates, and manages building department records from local municipal governments. The database now includes 30 million permits, on more than 10 million properties across 1,600 cities in the United States.

The EDR Building Permit Report comprises local municipal building permit records, gathered directly from local jurisdictions, including both target property and adjoining properties. Years of coverage vary by municipality. Data reported includes (where available): date of permit, permit type, permit number, status, valuation, contractor company, contractor name, and description.

Incoming permit data is checked at seven stages in a regimented quality control process, from initial data source interview, to data preparation, through final auditing. To ensure the building department is accurate, each of the seven quality control stages contains, on average, 15 additional quality checks, resulting in a process of approximately 105 quality control "touch points."

For more information about the EDR Building Permit Report, please contact your EDR Account Executive at (800) 352-0050.

EDR® Environmental Data Resources Inc

BUILD FAX PROPERTY HISTORY

EXECUTIVE SUMMARY: SEARCH DOCUMENTATION

A search of building department records was conducted by Environmental Data Resources, Inc (EDR) on behalf of Kleinfelder, Inc. on May 22, 2024.

TARGET PROPERTY

Costco El Dorado Hills
El Dorado Hills, CA 95762

SEARCH METHODS

EDR searches available lists for both the Target Property and Surrounding Properties.

RESEARCH SUMMARY

Building permits identified: **NO PERMITS IDENTIFIED**

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

Name: JurisdictionName
Years: Years
Source: Source
Phone: Phone

BUILDING DEPARTMENT RECORDS SEARCHED

Name: El Dorado County Unincorporated Area
Years: 1980-2024
Source: El Dorado County, Building Services, EL DORADO, CA
Phone: (530) 621-5775

Name: Folsom
Years: 1997-2024
Source: City of Folsom, Building Safety Division, FOLSOM, CA
Phone: 916-351-3555

Name: Redding
Years: 1926-2024
Source: City of Redding, Development Services, Building Division, CHINO, CA
Phone: 530-225-4014

TARGET PROPERTY FINDINGS

TARGET PROPERTY DETAIL

Costco El Dorado Hills
El Dorado Hills, CA 95762

No Permits Found

ADJOINING PROPERTY FINDINGS

ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

No Permits Found

GLOSSARY

General Building Department concepts

- **ICC:** The International Code Council. The governing body for the building/development codes used by all jurisdictions who've adopted the ICC guidelines. MOST of the US has done this. Canada, Mexico, and other countries use ICC codes books and guides as well. There are a few states who have added guidelines to the ICC codes to better fit their needs. For example, California has added seismic retrofit requirements for most commercial structures.
- **Building Department (Permitting Authority, Building Codes, Inspections Department, Building and Inspections):** This is the department in a jurisdiction where an owner or contractor goes to obtain permits and inspections for building, tearing down, remodeling, adding to, re-roofing, moving or otherwise making changes to any structure, Residential or Commercial.
- **Jurisdiction:** This is the geographic area representing the properties over which a Permitting Authority has responsibility.
- **GC:** General Contractor. Usually the primary contractor hired for any Residential or Commercial construction work.
- **Sub:** Subordinate contracting companies or subcontractors. Usually a "trades" contractor working for the GC. These contractors generally have an area of expertise in which they are licensed like Plumbing, Electrical, Heating and Air systems, Gas Systems, Pools etc. (called "trades").
- **Journeymen:** Sub contractors who have their own personal licenses in one or more trades and work for different contracting companies, wherever they are needed or there is work.
- **HVAC (Mechanical, Heating & Air companies):** HVAC = Heating, Ventilation, and Air Conditioning.
- **ELEC (Electrical, TempPole, TPole, TPower, Temporary Power, Panel, AMP Change, Power Release):** Electrical permits can be pulled for many reasons. The most common reason is to increase the AMPs of power in an electrical power panel. This requires a permit in almost every jurisdiction. Other commons reason for Electrical permits is to insert a temporary power pole at a new construction site. Construction requires electricity, and in a new development, power has yet to be run to the lot. The temporary power pole is usually the very first permit pulled for new development. The power is released to the home owner when construction is complete and this sometimes takes the form of a Power Release permit or inspection.
- **"Pull" a permit:** To obtain and pay for a building permit.
- **CBO:** Chief Building Official
- **Planning Department:** The department in the development process where the building /structural plans are reviewed for their completeness and compliance with building codes
- **Zoning Department:** The department in the development process where the site plans are reviewed for their compliance with the regulations associated with the zoning district in which they are situated.
- **Zoning District:** A pre-determined geographic boundary within a jurisdiction where certain types of structures are permitted / prohibited. Examples are Residential structure, Commercial/Retail structures, Industrial/Manufacturing structures etc. Each zoning district has regulations associated with it like the sizes of the lots, the density of the structures on the lots, the number of parking spaces required for certain types of structures on the lots etc.
- **PIN (TMS, GIS ID, Parcel#):** Property Identification Number and Tax Map System number.
- **State Card (Business license):** A license card issued to a contractor to conduct business.
- **Building Inspector (Inspector):** The inspector is a building department employee that inspects building construction for compliance to codes.
- **C.O.:** Certificate of Occupancy. This is the end of the construction process and designates that the owners now have permission to occupy a structure after its building is complete. Sometimes also referred to as a Certificate of Compliance.

GLOSSARY

Permit Content Definitions

- Permit Number: The alphanumerical designation assigned to a permit for tracking within the building department system. Sometimes the permit number gives clues to its role, e.g. a "PL" prefix may designate a plumbing permit.
- Description: A field on the permit form that allows the building department to give a brief description of the work being done. More often than not, this is the most important field for EP's to find clues to the prior use (s) of the property.
- Permit Type: Generally a brief designation of the type of job being done. For example BLDG-RES, BLDG-COM, ELEC, MECH etc.

Sample Building Permit Data

Date: Nov 09, 2000
Permit Type: Bldg -
New Permit Number: 101000000405
Status: Valuation: $1,000,000.00
Contractor Company: OWNER-BUILDER
Contractor Name:

Description: New one store retail (SAV-ON) with drive-thru pharmacy. Certificate of Occupancy.

Costco El Dorado Hills

Costco El Dorado Hills

El Dorado Hills, CA 95762

Inquiry Number: 7659435.11

May 23, 2024

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

05/23/24

Site Name:

Costco El Dorado Hills
Costco El Dorado Hills
El Dorado Hills, CA 95762
EDR Inquiry # 7659435.11

Client Name:

Kleinfelder, Inc.
24411 Ridge Rte Dr Suite 225
Laguna Hills, CA 92653
Contact: Lauren Yarbrough

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	*Scale*	*Details*	*Source*
2020	1"=500'	Flight Year: 2020	USDA/NAIP
2016	1"=500'	Flight Year: 2016	USDA/NAIP
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2006	1"=500'	Flight Year: 2006	USDA/NAIP
1993	1"=500'	Acquisition Date: May 09, 1993	USGS/DOQQ
1984	1"=500'	Flight Date: June 29, 1984	USDA
1972	1"=500'	Flight Date: June 28, 1972	USDA
1966	1"=500'	Flight Date: August 04, 1966	USGS
1962	1"=500'	Flight Date: July 29, 1962	USDA
1952	1"=500'	Flight Date: July 24, 1952	USGS
1940	1"=500'	Flight Date: June 30, 1940	USDA
1937	1"=500'	Flight Date: August 16, 1937	USDA

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, LLC. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. This Report is provided on an "AS IS", "AS AVAILABLE" basis. NO WARRANTY EXPRESS OR IMPLIED IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, LLC AND ITS SUBSIDIARIES, AFFILIATES AND THIRD PARTY SUPPLIERS DISCLAIM ALL WARRANTIES, OF ANY KIND OR NATURE, EXPRESS OR IMPLIED, ARISING OUT OF OR RELATED TO THIS REPORT OR ANY OF THE DATA AND INFORMATION PROVIDED IN THIS REPORT, INCLUDING WITHOUT LIMITATION, ANY WARRANTIES REGARDING ACCURACY, QUALITY, CORRECTNESS, COMPLETENESS, COMPREHENSIVENESS, SUITABILITY, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, NON-INFRINGEMENT, MISAPPROPRIATION, OR OTHERWISE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, LLC OR ITS SUBSIDIARIES, AFFILIATES OR THIRD PARTY SUPPLIERS BE LIABLE TO ANYONE FOR ANY DIRECT, INCIDENTAL, INDIRECT, SPECIAL, CONSEQUENTIAL OR OTHER DAMAGES OF ANY TYPE OR KIND (INCLUDING BUT NOT LIMITED TO LOSS OF PROFITS, LOSS OF USE, OR LOSS OF DATA), ARISING OUT OF OR IN ANY WAY CONNECTED WITH THIS REPORT OR ANY OF THE DATA AND INFORMATION PROVIDED IN THIS REPORT. Any analyses, estimates, ratings, environmental risk levels, or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only an assessment performed by a qualified environmental professional can provide findings, opinions or conclusions regarding the environmental risk or conditions in, on or at any property.

Copyright 2024 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

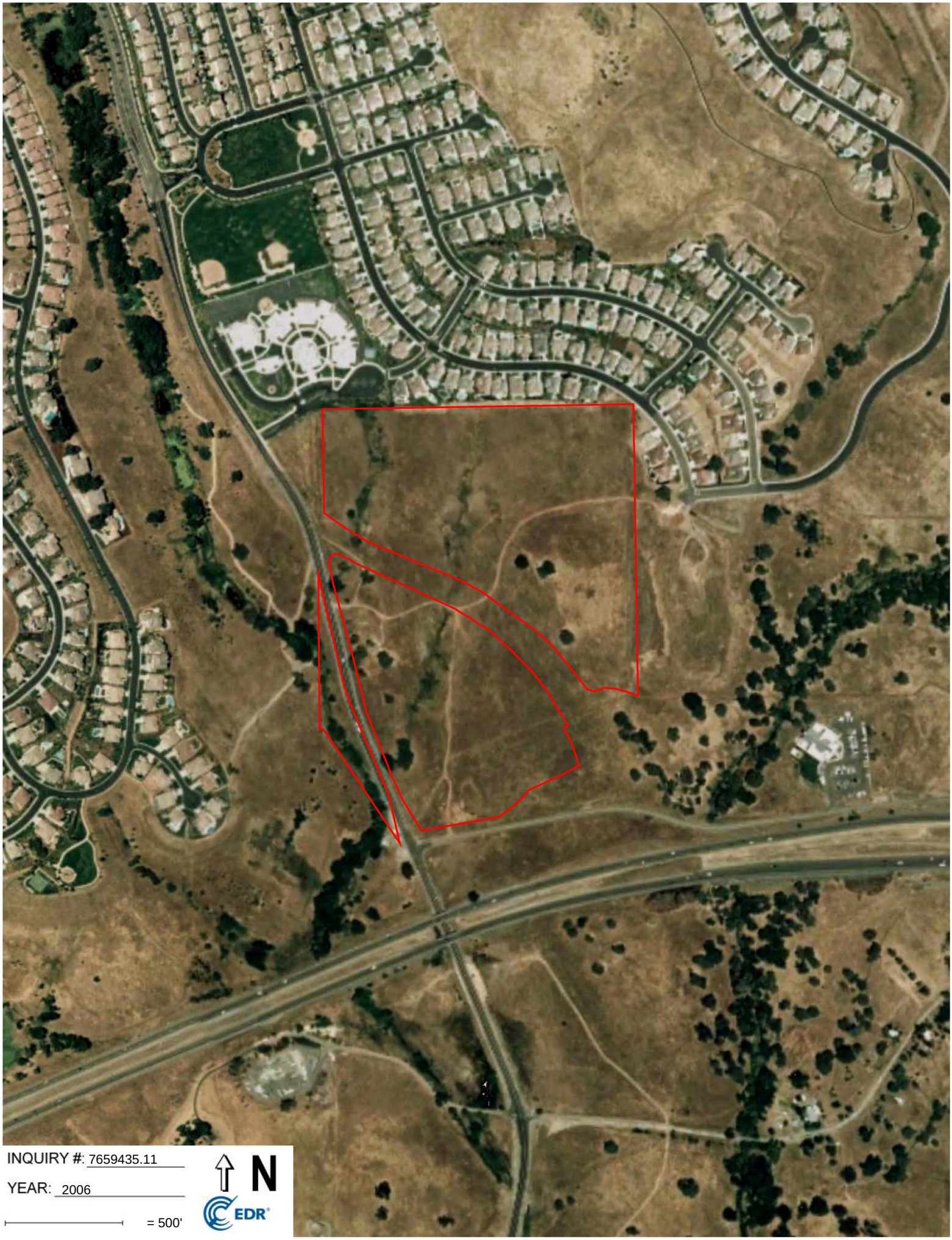
EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, LLC or its affiliates. All other trademarks used herein are the property of their respective owners.


INQUIRY #: 7659435.11
YEAR: 2020
= 500'
N
EDR


INQUIRY #: 7659435.11
YEAR: 2016
= 500'
N
EDR


INQUIRY #: 7659435.11
YEAR: 2012
= 500'
N
EDR


INQUIRY #: 7659435.11
YEAR: 2009
= 500'
N
EDR


INQUIRY #: 7659435.11
YEAR: 2006
= 500'
N
EDR


INQUIRY #: 7659435.11
YEAR: 1993
= 500'
N
EDR


INQUIRY #: 7659435.11
YEAR: 1984
= 500'
N
EDR



INQUIRY #: 7659435.11

YEAR: 1972

= 500'

N

EDR


INQUIRY #: 7659435.11
YEAR: 1966
= 500'
N
EDR



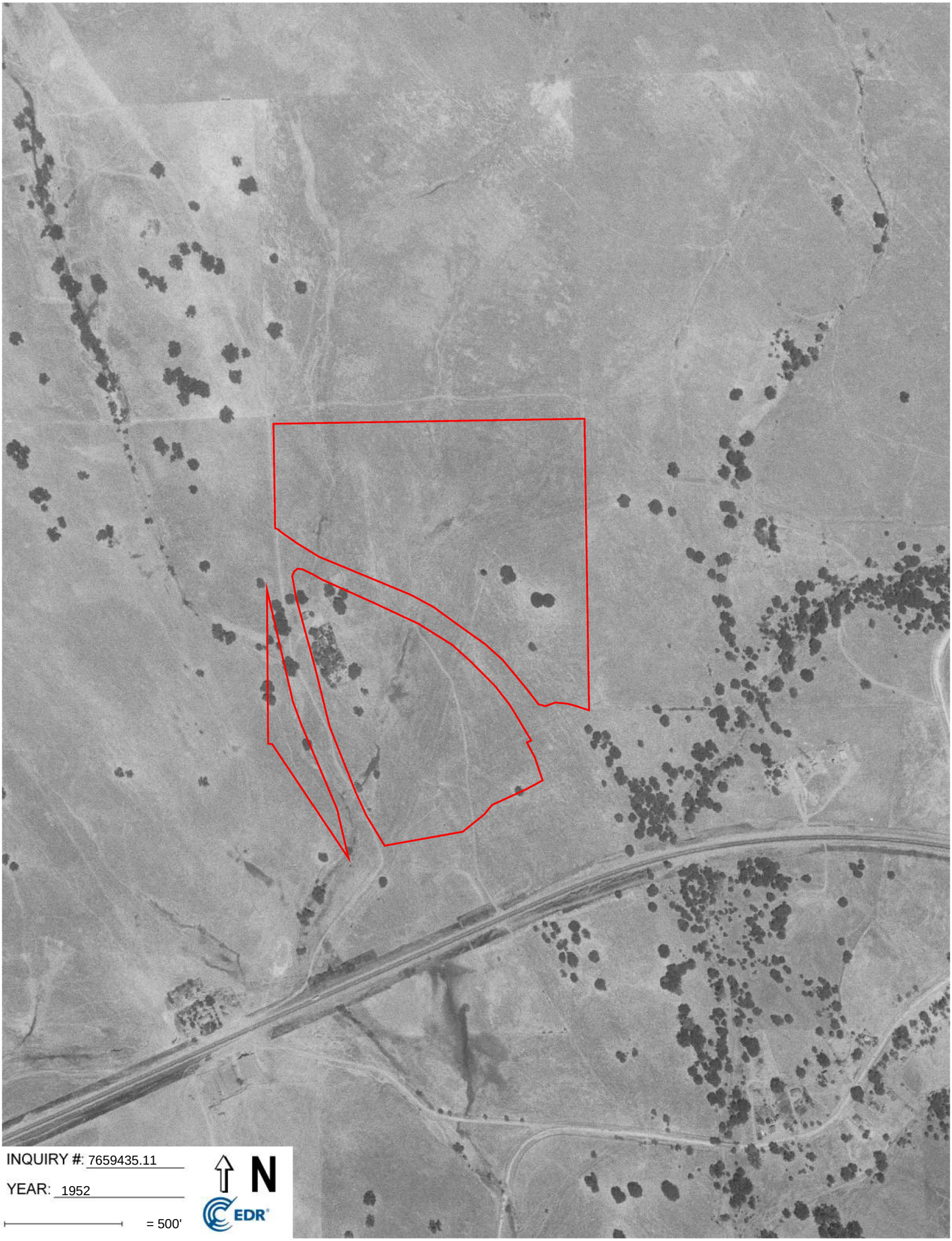
INQUIRY #: 7659435.11

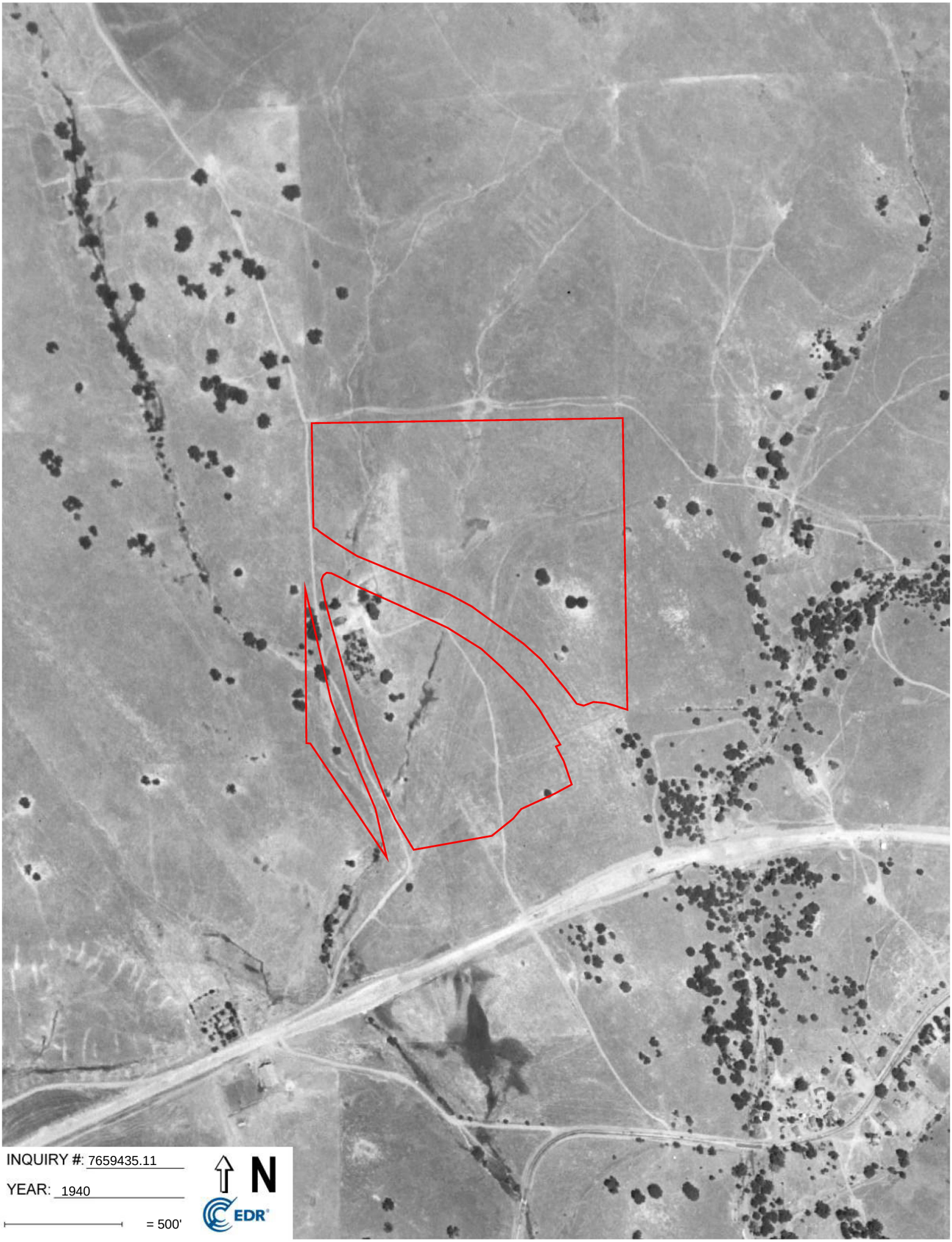
YEAR: 1962

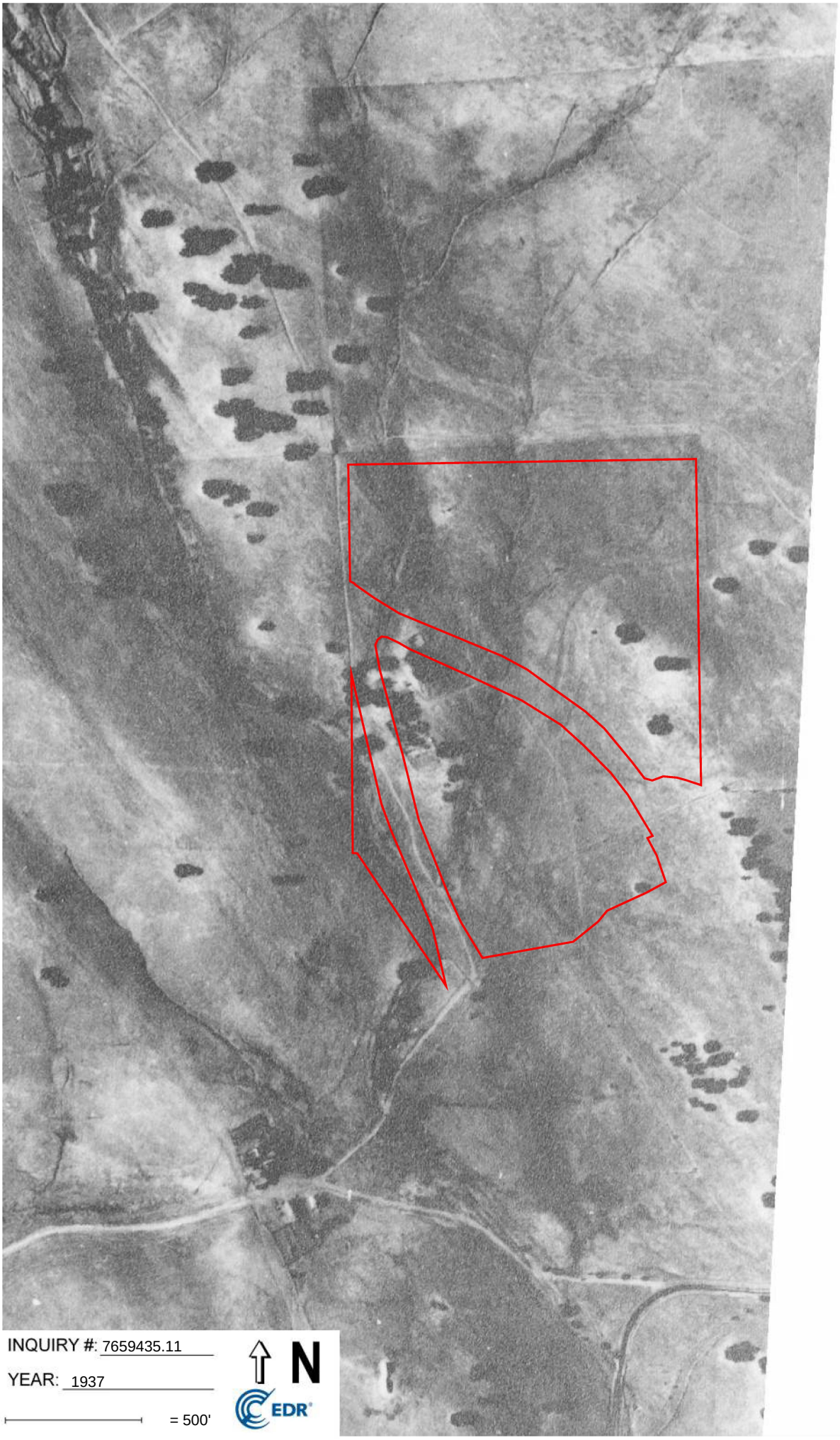
= 500'

N

EDR


INQUIRY #: 7659435.11
YEAR: 1952
= 500'
N
EDR


INQUIRY #: 7659435.11
YEAR: 1940
= 500'
N
EDR



INQUIRY #: 7659435.11

YEAR: 1937

= 500'

N

EDR

Costco El Dorado Hills
Costco El Dorado Hills
El Dorado Hills, CA 95762

Inquiry Number: 7659435.13s
May 22, 2024

EDR NEPASearch™ Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION	PAGE
EDR NEPASearch Description.....	1
Map Findings Summary.....	2
Natural Areas.....	3
Historic Sites.....	71
Flood Plain.....	74
Wetlands.....	76
Wetlands Classification System.....	79
FCC & FAA Sites.....	83
Key Contacts and Government Records Searched.....	92

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, LLC. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. This Report is provided on an "AS IS", "AS AVAILABLE" basis. **NO WARRANTY EXPRESS OR IMPLIED IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, LLC AND ITS SUBSIDIARIES, AFFILIATES AND THIRD PARTY SUPPLIERS DISCLAIM ALL WARRANTIES, OF ANY KIND OR NATURE, EXPRESS OR IMPLIED, ARISING OUT OF OR RELATED TO THIS REPORT OR ANY OF THE DATA AND INFORMATION PROVIDED IN THIS REPORT, INCLUDING WITHOUT LIMITATION, ANY WARRANTIES REGARDING ACCURACY, QUALITY, CORRECTNESS, COMPLETENESS, COMPREHENSIVENESS, SUITABILITY, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, NON-INFRINGEMENT, MISAPPROPRIATION, OR OTHERWISE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, LLC OR ITS SUBSIDIARIES, AFFILIATES OR THIRD PARTY SUPPLIERS BE LIABLE TO ANYONE FOR ANY DIRECT, INCIDENTAL, INDIRECT, SPECIAL, CONSEQUENTIAL OR OTHER DAMAGES OF ANY TYPE OR KIND (INCLUDING BUT NOT LIMITED TO LOSS OF PROFITS, LOSS OF USE, OR LOSS OF DATA) INFORMATION PROVIDED IN THIS REPORT.** Any analyses, estimates, ratings, environmental risk levels, or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only an assessment performed by a qualified environmental professional can provide findings, opinions or conclusions regarding the environmental risk or conditions in, on or at any property.

Copyright 2024 by Environmental Data Resources, LLC. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, LLC, or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, LLC or its affiliates. All other trademarks used herein are the property of their respective owners.

EDR NEPASearch DESCRIPTION

The National Environmental Policy Act of 1969 (NEPA) requires that Federal agencies include in their decision-making processes appropriate and careful consideration of all environmental effects and actions, analyze potential environmental effects of proposed actions and their alternatives for public understanding and scrutiny, avoid or minimize adverse effects of proposed actions, and restore and enhance environmental quality as much as possible.

The EDR NEPASearch Map Report provides information which may be used, in conjunction with additional research, to determine whether a proposed site or action will have significant environmental effect.

TARGET PROPERTY ADDRESS

COSTCO EL DORADO HILLS
COSTCO EL DORADO HILLS
EL DORADO HILLS, CA 95762

Inquiry #: 7659435.13s
Date: 5/22/24

TARGET PROPERTY COORDINATES

Latitude (North):	38.661583 - 38° 39' 41.7''
Longitude (West):	121.056503 - 121° 3' 23.4''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	669100.7
UTM Y (Meters):	4280808.0

The report provides maps and data for the following items (where available). Search results are provided in the Map Findings Summary on page 2 of this report.

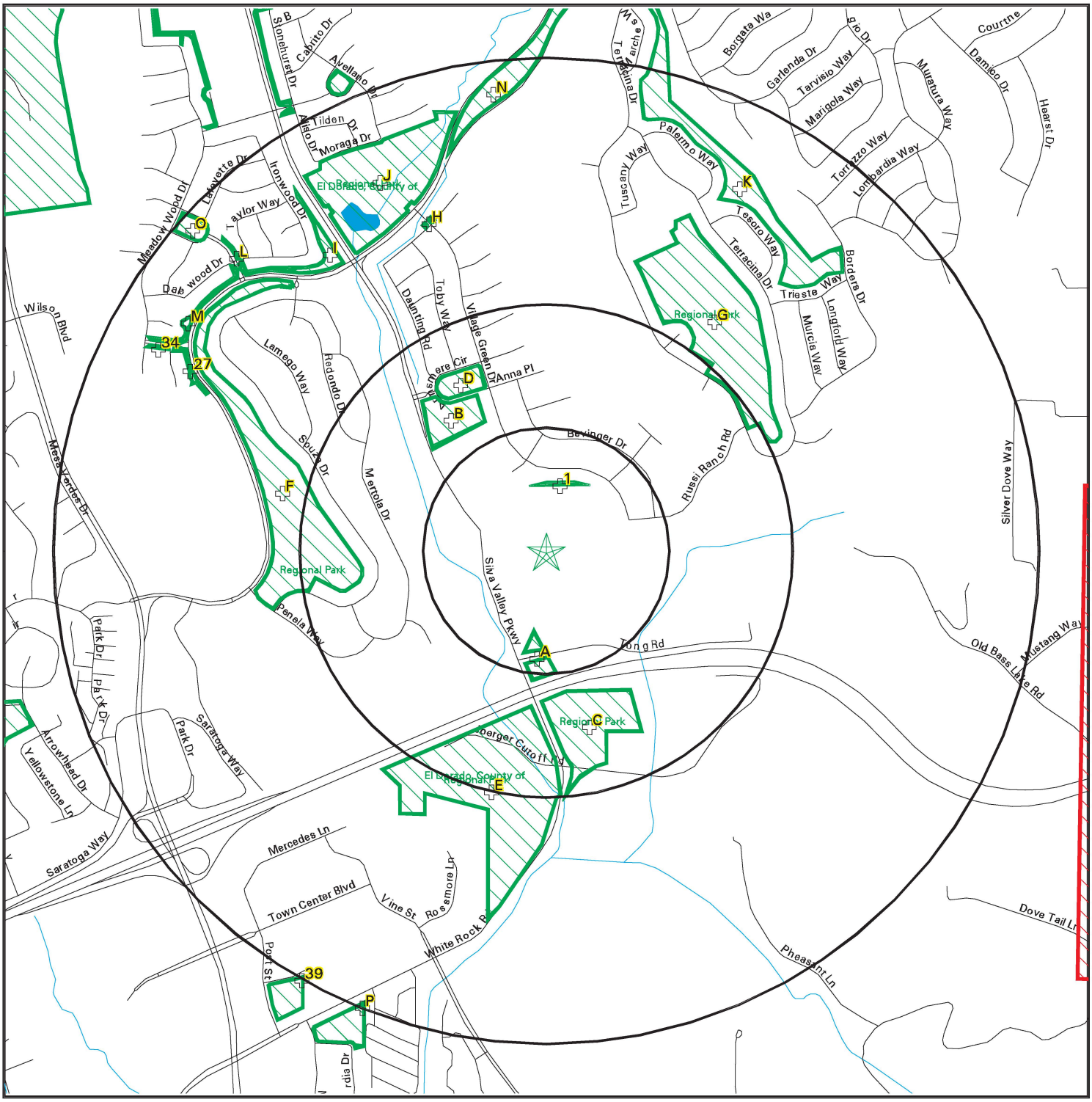
Section	Regulation
Natural Areas Map	
• Federal Lands Data:	
- Officially designated wilderness areas	47 CFR 1.1307(1)
- Officially designated wildlife preserves, sanctuaries and refuges	47 CFR 1.1307(2)
- Wild and scenic rivers	40 CFR 6.302(e)
- Fish and Wildlife	40 CFR 6.302
• Threatened or Endangered Species, Fish and Wildlife, Critical Habitat Data (where available)	47 CFR 1.1307(3); 40 CFR 6.302
Historic Sites Map	
• National Register of Historic Places	47 CFR 1.1307(4); 40 CFR 6.302
• State Historic Places (where available)	
• Indian Reservations	
Flood Plain Map	
• National Flood Hazard Layer Data (where available)	47 CFR 1.1307(6); 40 CFR 6.302
• FEMA Q3 Flood Data (where available)	47 CFR 1.1307(6); 40 CFR 6.302
Wetlands Map	
• National Wetlands Inventory Data (where available)	47 CFR 1.1307(7); 40 CFR 6.302
• State Wetlands Data (where available)	47 CFR 1.1307(7); 40 CFR 6.302
FCC & FAA Map	
• FCC antenna/tower sites, FAA Markings and Obstructions, Airports, Topographic gradient	47 CFR 1.1307(8)
Key Contacts and Government Records Searched	

MAP FINDINGS SUMMARY

The databases searched in this report are listed below. Database descriptions and other agency contact information is contained in the Key Contacts and Government Records Searched section on page 92 of this report.

Applicable Regulation from 47 CFR/FCC Checklist	Database	Search Distance (Miles)	Within Search	Within 1/8 Mile
NATURAL AREAS MAP				
	US Federal Lands	1.00	NO	NO
	US Wilderness Preservation	1.00	NO	NO
1.1307a (2) Officially Designated Wildlife Preserve	US Federal Lands	1.00	NO	NO
	CA Protected Areas	1.00	YES	NO
	CA Government Lands	1.00	YES	NO
	CA Conservation Easement	1.00	NO	NO
	US ACEC	1.00	NO	NO
	CA ACEC	1.00	NO	NO
	World Protected Area	1.00	NO	NO
	US Scenic River	1.00	NO	NO
	US Proclamation Boundaries	1.00	NO	NO
	CA PCT Lands	1.00	NO	NO
	US NCED	1.00	NO	NO
	US Critical Water Habitat	1.00	NO	NO
	US Critical Land Habitat	1.00	NO	NO
1.1307a (3) Threatened or Endangered Species or Critical Habitat	US Endangered Species	County	YES	N/A
1.1307a (3) Threatened or Endangered Species or Critical Habitat	CA Endangered Species	1.00	NO	NO
HISTORIC SITES MAP				
1.1307a (4) Listed or eligible for National Register	CA Historic Landmarks	1.00	YES	NO
1.1307a (4) Listed or eligible for National Register	Natchez Trace National Scenic	1.00	NO	NO
1.1307a (4) Listed or eligible for National Register	Potomac Heritage National Scen	1.00	NO	NO
	Indian Reservations	1.00	NO	NO
1.1307a (4) Listed or eligible for National Register	US Trails	1.00	NO	NO
1.1307a (4) Listed or eligible for National Register	National Register of Hist. Pla	1.00	NO	NO
FLOOD PLAIN MAP				
1.1307 (6) Located in a Flood Plain	Special Flood Hazard Area (1%)	1.00	NO	NO
1.1307 (6) Located in a Flood Plain	0.2% Annual Chance Flood Hazar	1.00	NO	NO
WETLANDS MAP				
1.1307 (7) Change in surface features (wetland fill)	NWI	1.00	YES	NO
1.1307 (7) Change in surface features (wetland fill)	STATE	1.00	NO	NO
	CA COASTAL ZONE	20.00	NO	NO
FCC & FAA SITES MAP				
	Cellular	1.00	NO	NO
	Antenna Structure Registration	1.00	NO	NO
	AM Antenna	1.00	NO	NO
	FM Antenna	1.00	NO	NO
	FAA DOF	1.00	NO	NO
	Airports	1.00	NO	---
	Power Lines	1.00	YES	---

Natural Areas Map



SITE NAME:	Costco El Dorado Hills	CLIENT:	Kleinfelder, Inc.
ADDRESS:	Costco El Dorado Hills El Dorado Hills CA 95762	CONTACT:	Lauren Yarbrough
		INQUIRY #:	7659435.13s
LAT/LONG:	38.661584 / 121.056507	DATE:	May 22, 2024

Copyright © 2024 EDR, Inc. © 2015 TomTom Rel. 2015.

Federal Endangered Species from the U.S. Fish and Wildlife for EL DORADO County

Group:Amphibians

Common Name: Sierra Nevada Yellow-legged Frog — Scientific Name: Rana sierrae
Status: Endangered

Common Name: Yosemite toad — Scientific Name: Anaxyrus canorus
Status: Threatened

Common Name: California red-legged frog — Scientific Name: Rana draytonii
Status: Threatened

Common Name: California tiger Salamander — Scientific Name: Ambystoma californiense
Status: Threatened

Group:Birds

Common Name: Yellow-billed Cuckoo — Scientific Name: Coccyzus americanus
Status: Threatened

Group:Crustaceans

Common Name: Vernal pool tadpole shrimp — Scientific Name: Lepidurus packardi
Status: Endangered

Common Name: Vernal pool fairy shrimp — Scientific Name: Branchinecta lynchi
Status: Threatened

Common Name: Conservancy fairy shrimp — Scientific Name: Branchinecta conservatio
Status: Endangered

Group:Fishes

Common Name: Lahontan cutthroat trout — Scientific Name: Oncorhynchus clarkii henshawi
Status: Threatened

Common Name: Delta smelt — Scientific Name: Hypomesus transpacificus
Status: Threatened

Group:Flowering Plants

Common Name: Sacramento Orcutt grass — Scientific Name: Orcuttia viscida
Status: Endangered

Common Name: El Dorado bedstraw — Scientific Name: Galium californicum ssp. sierrae
Status: Endangered

Common Name: Pine Hill flannelbush — Scientific Name: Fremontodendron californicum ssp. decumbens
Status: Endangered

Common Name: Pine Hill ceanothus — Scientific Name: Ceanothus roderickii
Status: Endangered

Common Name: Layne’s butterweed — Scientific Name: Senecio layneae
Status: Threatened

Common Name: Stebbins’ morning-glory — Scientific Name: Calystegia stebbinsii
Status: Endangered

Federal Endangered Species from the U.S. Fish and Wildlife for EL DORADO County (Continued...)

Group:Insects

Common Name: Valley elderberry longhorn beetle
Scientific Name: Desmocerus californicus dimorphus
Status: Threatened

Group:Mammals

Common Name: Fisher
Scientific Name: Martes pennanti
Status: Proposed Threatened

Group:Reptiles

Common Name: Giant garter snake
Scientific Name: Thamnophis gigas
Status: Threatened

Federal Endangered Species from the U.S. Fish and Wildlife for CA State

Group:Amphibians

Common Name: Lesser slender salamander
Scientific Name: Batrachoseps minor
Status: Under Review

Common Name: Northern red-legged frog
Scientific Name: Rana aurora aurora
Status: Species of Concern

Common Name: Black toad
Scientific Name: Bufo exsul
Status: Species of Concern

Common Name: Kern Canyon slender salamander
Scientific Name: Batrachoseps simatus
Status: Under Review

Common Name: Arizona toad
Scientific Name: Bufo microscaphus microscaphus
Status: Under Review

Common Name: California tiger Salamander
Scientific Name: Ambystoma californiense
Status: Endangered

Common Name: Large-blotched ensatina
Scientific Name: Ensatina eschscholtzii klauberi
Status: Species of Concern

Common Name: Oregon spotted frog
Scientific Name: Rana pretiosa
Status: Threatened

Common Name: Lowland leopard (=San Felipe leopard) frog
Scientific Name: Rana yavapaiensis
Status: Species of Concern

Common Name: Shasta salamander
Scientific Name: Hydromantes shastae
Status: Under Review

Common Name: Inyo Mountains slender salamander
Scientific Name: Batrachoseps campi
Status: Under Review

Common Name: Cascades frog
Scientific Name: Rana cascadae
Status: Under Review

Common Name: Relictual slender salamander
Scientific Name: Batrachoseps relictus

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Status: Under Review

Common Name: Tailed frog — Scientific Name: Ascaphus truei
Status: Species of Concern

Common Name: Limestone salamander — Scientific Name: Hydromantes brunus
Status: Under Review

Common Name: Foothill yellow-legged frog — Scientific Name: Rana boylii
Status: Under Review

Common Name: Breckenridge Mountain slender salamander — Scientific Name: Batrachoseps sp.
Status: Species of Concern

Common Name: Mount Lyell salamander — Scientific Name: Hydromantes platycephalus
Status: Species of Concern

Common Name: Channel Islands slender salamander — Scientific Name: Batrachoseps pacificus pacificus
Status: Species of Concern

Common Name: Yellow-blotched ensatina — Scientific Name: Ensatina eschscholtzii croceator
Status: Species of Concern

Common Name: Owens Valley web-toes salamander — Scientific Name: Hydromantes sp.
Status: Species of Concern

Common Name: Western spadefoot — Scientific Name: Spea hammondii
Status: Under Review

Common Name: Del Norte salamander — Scientific Name: Plethodon elongatus
Status: Species of Concern

Common Name: Kern Plateau salamander — Scientific Name: Batrachoseps robustus
Status: Under Review

Group:Arachnids

Common Name: Empire Cave pseudoscorpion — Scientific Name: Microcreagris imperialis
Status: Species of Concern

Common Name: Santa Cruz telemid spider — Scientific Name: Telema sp.
Status: Species of Concern

Common Name: Lum’s micro-blind harvestman — Scientific Name: Microcina lumi
Status: Species of Concern

Common Name: Edgewood blind harvestman — Scientific Name: Calcina minor
Status: Species of Concern

Common Name: Lee’s micro-blind harvestman — Scientific Name: Microcina leei
Status: Species of Concern

Common Name: Jung’s micro-blind harvestman — Scientific Name: Microcina jungi
Status: Under Review

Common Name: Aalbu’s cave pseudoscorpion — Scientific Name: Archeolarca aalbui

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Status: Species of Concern

Common Name: Grubbs' cave pseudoscorpion
Scientific Name: Aphrastochthonius grubbsi
Status: Species of Concern

Common Name: Lacey's cave pseudoscorpion
Scientific Name: Larca laceyi
Status: Species of Concern

Common Name: Hom's micro-blind harvestman
Scientific Name: Microcina homi
Status: Species of Concern

Common Name: Tiburon micro-blind harvestman
Scientific Name: Microcina tiburona
Status: Species of Concern

Common Name: Carlow's Cave pseudoscorpion
Scientific Name: Aphrastochthonius similis
Status: Species of Concern

Common Name: Music Hall Cave pseudoscorpion
Scientific Name: Pseudogarypus orpheus
Status: Species of Concern

Common Name: Monterey Dunes scorpion
Scientific Name: Pauroctonus maritimus
Status: Species of Concern

Group:Birds

Common Name: Grasshopper sparrow
Scientific Name: Ammodramus savannarum ssp. perpallidus
Status: Species of Concern

Common Name: Black-backed woodpecker
Scientific Name: picoides arcticus
Status: Under Review

Common Name: Tufted Puffin
Scientific Name: Fratercula cirrhata
Status: Under Review

Common Name: Sharp shinned hawk
Scientific Name: Accipiter striatus
Status: Species of Concern

Common Name: Southern California rufous-crowned sparrow
Scientific Name: Aimophila ruficeps canescens
Status: Species of Concern

Common Name: California spotted Owl
Scientific Name: Strix occidentalis occidentalis
Status: Under Review

Common Name: Tricolored blackbird
Scientific Name: Agelaius tricolor
Status: Under Review

Common Name: San Joaquin LeConte's thrasher
Scientific Name: Toxostoma lecontei macmillanorum
Status: Species of Concern

Common Name: Eagle Mountain scrub jay
Scientific Name: Aphelocoma coerulescens cana
Status: Species of Concern

Common Name: Elegant tern
Scientific Name: Sterna elegans
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Least bittern
Scientific Name: Ixobrychus exilis hesperis
Status: Species of Concern

Common Name: Song Sparrow
Scientific Name: Melospiza melodia pusillula
Status: Species of Concern

Common Name: Little willow flycatcher
Scientific Name: Empidonax traillii brewsteri
Status: Species of Concern

Common Name: Song Sparrow
Scientific Name: Melospiza melodia samuelis
Status: Species of Concern

Common Name: Yuma clapper rail
Scientific Name: Rallus longirostris yumanensis
Status: Endangered

Common Name: Southwestern willow flycatcher
Scientific Name: Empidonax traillii extimus
Status: Endangered

Common Name: Large-billed savannah sparrow
Scientific Name: Passerculus sandwichensis rostratus
Status: Species of Concern

Common Name: Common Yellowthroat
Scientific Name: Geothlypis trichas sinuosa
Status: Species of Concern

Common Name: Black tern
Scientific Name: Chlidonias niger
Status: Species of Concern

Common Name: Song Sparrow
Scientific Name: Melospiza melodia maxillaris
Status: Species of Concern

Common Name: Fulvous whistling duck
Scientific Name: Dendrocygna bicolor
Status: Species of Concern

Common Name: Belding’s savannah sparrow
Scientific Name: Passerculus sandwichensis beldingi
Status: Species of Concern

Common Name: Spotted Towhee
Scientific Name: Pipilo maculatus clementae
Status: Species of Concern

Common Name: Xantus’sMurrelet
Scientific Name: Synthliboramphus hypoleucus
Status: Candidate

Common Name: Bell’s sage sparrow
Scientific Name: Amphispiza belli belli
Status: Species of Concern

Common Name: Cooper’s hawk
Scientific Name: Accipiter cooperii
Status: Species of Concern

Group:Conifers and Cycads

Common Name: Torrey, Del Mar pine
Scientific Name: Pinus torreyana torreyana
Status: Species of Concern

Common Name: Bolander’s beach pine
Scientific Name: Pinus contorta bolanderi
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Tecate cypress
Scientific Name: Cupressus forbesii
Status: Species of Concern

Common Name: Monterey pine
Scientific Name: Pinus radiata
Status: Species of Concern

Common Name: Torrey Island pine
Scientific Name: Pinus torreyana insularis
Status: Species of Concern

Common Name: Monterey cypress
Scientific Name: Cupressus macrocarpa
Status: Species of Concern

Common Name: Mendocino cypress
Scientific Name: Cupressus goveniana pigmaea
Status: Species of Concern

Common Name: Yellow cedar
Scientific Name: Calliptropsis nootkatensis
Status: Under Review

Group:Crustaceans

Common Name: Vernal pool tadpole shrimp
Scientific Name: Lepidurus packardi
Status: Endangered

Common Name: Longhorn fairy shrimp
Scientific Name: Branchinecta longiantenna
Status: Endangered

Common Name: Mono Lake brine shrimp
Scientific Name: Artemia monica
Status: Species of Concern

Common Name: Conservancy fairy shrimp
Scientific Name: Branchinecta conservatio
Status: Endangered

Common Name: California freshwater shrimp
Scientific Name: Syncaris pacifica
Status: Endangered

Common Name: [Unnamed] isopod
Scientific Name: Caecidotea tomalensis
Status: Species of Concern

Group:Ferns and Allies

Common Name: No common name
Scientific Name: Botrychium crenulatum
Status: Species of Concern

Common Name: Crater Lake grap fern
Scientific Name: Botrychium pumicola nealleyi
Status: Species of Concern

Group:Fishes

Common Name: Goose Lake redband trout
Scientific Name: Oncorhynchus mykiss ssp.
Status: Species of Concern

Common Name: green sturgeon
Scientific Name: Acipenser medirostris
Status: Threatened

Common Name: Pit roach
Scientific Name: Lavinia symmetricus mitrulus
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Eagle Lake rainbow Trout
Scientific Name: Oncorhynchus mykiss aquilarum
Status: Under Review

Common Name: Jenny Creek sucker
Scientific Name: Catostomus rimiculus ssp.
Status: Species of Concern

Common Name: Steelhead
Scientific Name: Oncorhynchus (=Salmo) mykiss
Status: Under Review

Common Name: longfin smelt
Scientific Name: Spirinchus thaleichthys
Status: Candidate

Common Name: Owens speckled dace
Scientific Name: Rhinichthys osculus ssp.
Status: Species of Concern

Common Name: Steelhead
Scientific Name: Oncorhynchus (=Salmo) mykiss
Status: Threatened

Common Name: Warner Valley redband trout
Scientific Name: Oncorhynchus mykiss ssp.
Status: Species of Concern

Common Name: Amargosa Canyon speckled dace
Scientific Name: Rhinichthys osculus ssp.
Status: Species of Concern

Common Name: Russian River tule perch
Scientific Name: Hysterocarpus traskii pomo
Status: Species of Concern

Common Name: Benton Valley speckled dace
Scientific Name: Rhinichthys osculus ssp.
Status: Species of Concern

Common Name: Goose Lake lamprey
Scientific Name: Lampetra tridentata ssp.
Status: Species of Concern

Common Name: Gualala roach
Scientific Name: Lavinia symmetricus parvipinnis
Status: Species of Concern

Common Name: Rough sculpin
Scientific Name: Cottus asperrimus
Status: Species of Concern

Common Name: Kern River rainbow trout
Scientific Name: Oncorhynchus mykiss gilberti
Status: Species of Concern

Common Name: Arroyo chub
Scientific Name: Gila orcuttii
Status: Species of Concern

Common Name: Flannelmouth sucker
Scientific Name: Catostomus latipinnis
Status: Species of Concern

Common Name: Steelhead
Scientific Name: Oncorhynchus (=Salmo) mykiss
Status: Endangered

Common Name: Klamath largescale sucker
Scientific Name: Catostomus snyderi
Status: Species of Concern

Common Name: Long Valley speckled dace
Scientific Name: Rhinichthys osculus ssp.
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Shoshone pupfish
Scientific Name: Cyprinodon nevadensis shoshone
Status: Species of Concern

Common Name: Red Hills roach
Scientific Name: Lavinia symmetricus ssp.
Status: Species of Concern

Common Name: Santa Ana speckled dace
Scientific Name: Rhinichthys osculus ssp.
Status: Species of Concern

Common Name: Goose Lake sucker
Scientific Name: Catostomus occidentalis lacusanserinus
Status: Species of Concern

Common Name: Sacramento perch
Scientific Name: Archoplites interruptus
Status: Species of Concern

Group:Flowering Plants

Common Name: Marin dwarf-flax
Scientific Name: Hesperolinon congestum
Status: Threatened

Common Name: Fleshy owl's-clover
Scientific Name: Castilleja campestris ssp. succulenta
Status: Threatened

Common Name: Pine Hill ceanothus
Scientific Name: Ceanothus roderickii
Status: Endangered

Common Name: Hoover's spurge
Scientific Name: Chamaesyce hooveri
Status: Threatened

Common Name: Suisun thistle
Scientific Name: Cirsium hydrophilum var. hydrophilum
Status: Endangered

Common Name: Vine Hill clarkia
Scientific Name: Clarkia imbricata
Status: Endangered

Common Name: Soft bird's-beak
Scientific Name: Cordylanthus mollis ssp. mollis
Status: Endangered

Common Name: Baker's larkspur
Scientific Name: Delphinium bakeri
Status: Endangered

Common Name: Yellow larkspur
Scientific Name: Delphinium luteum
Status: Endangered

Common Name: Ione (incl. Irish Hill) buckwheat
Scientific Name: Eriogonum apricum (incl. var. prostratum)
Status: Endangered

Common Name: Pine Hill flannelbush
Scientific Name: Fremontodendron californicum ssp. decumbens
Status: Endangered

Common Name: El Dorado bedstraw
Scientific Name: Galium californicum ssp. sierrae
Status: Endangered

Common Name: Sebastopol meadowfoam
Scientific Name: Limnanthes vinculans
Status: Endangered

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: San Joaquin Orcutt grass
Scientific Name: Orcuttia inaequalis
Status: Threatened

Common Name: Sacramento Orcutt grass
Scientific Name: Orcuttia viscida
Status: Endangered

Common Name: Pitkin Marsh lily
Scientific Name: Lilium pardalinum ssp. pitkinense
Status: Endangered

Common Name: Few-flowered navarretia
Scientific Name: Navarretia leucocephala ssp. pauciflora (=N. pauciflora)
Status: Endangered

Common Name: Many-flowered navarretia
Scientific Name: Navarretia leucocephala ssp. plieantha
Status: Endangered

Common Name: Colusa grass
Scientific Name: Neostapfia colusana
Status: Threatened

Common Name: Hairy Orcutt grass
Scientific Name: Orcuttia pilosa
Status: Endangered

Common Name: Lake County stonecrop
Scientific Name: Parvisedum leiocarpum
Status: Endangered

Common Name: Calistoga allocarya
Scientific Name: Plagiobothrys strictus
Status: Endangered

Common Name: Napa bluegrass
Scientific Name: Poa napensis
Status: Endangered

Common Name: Hartweg's golden sunburst
Scientific Name: Pseudobahia bahiifolia
Status: Endangered

Common Name: San Joaquin adobe sunburst
Scientific Name: Pseudobahia peirsonii
Status: Threatened

Common Name: Layne's butterweed
Scientific Name: Senecio layneae
Status: Threatened

Common Name: Keck's Checker-mallow
Scientific Name: Sidalcea keckii
Status: Endangered

Common Name: Kenwood Marsh checker-mallow
Scientific Name: Sidalcea oregana ssp. valida
Status: Endangered

Common Name: Metcalf Canyon jewelflower
Scientific Name: Streptanthus albidus ssp. albidus
Status: Endangered

Common Name: Presidio Manzanita
Scientific Name: Arctostaphylos hookeri var. ravenii
Status: Endangered

Common Name: Sonoma sunshine
Scientific Name: Blennosperma bakeri
Status: Endangered

Common Name: Tiburon mariposa lily
Scientific Name: Calochortus tiburonensis

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Status: Threatened

Common Name: Coyote ceanothus
Scientific Name: Ceanothus ferrisae
Status: Endangered

Common Name: Sonoma spineflower
Scientific Name: Chorizanthe valida
Status: Endangered

Common Name: Tiburon jewelflower
Scientific Name: Streptanthus niger
Status: Endangered

Common Name: Hidden Lake bluecurls
Scientific Name: Trichostema austromontanum ssp. compactum
Status: Threatened

Common Name: Fountain thistle
Scientific Name: Cirsium fontinale var. fontinale
Status: Endangered

Common Name: Presidio clarkia
Scientific Name: Clarkia franciscana
Status: Endangered

Common Name: Palmate-bracted bird’s beak
Scientific Name: Cordylanthus palmatus
Status: Endangered

Common Name: Tiburon paintbrush
Scientific Name: Castilleja affinis ssp. neglecta
Status: Endangered

Common Name: Arid northern clarkia
Scientific Name: Clarkia borealis arida
Status: Species of Concern

Common Name: Bonny Doon manzanita
Scientific Name: Arctostaphylos silvicola
Status: Species of Concern

Common Name: Santa Catalina monkey-flower
Scientific Name: Mimulus traskiae
Status: Species of Concern

Common Name: No common name
Scientific Name: Eschscholzia multiflora twisselmannii
Status: Species of Concern

Common Name: Barstow wooly-sunflower
Scientific Name: Eriophyllum mohavense
Status: Species of Concern

Common Name: Siskiyou onion
Scientific Name: Allium tribracteatum
Status: Species of Concern

Common Name: Pitkin Marsh paintbrush
Scientific Name: Castilleja uliginosa
Status: Species of Concern

Common Name: Pleasant Valley mariposa lily
Scientific Name: Calochortus clavatus avius
Status: Species of Concern

Common Name: Short-jointed beavertail cactus
Scientific Name: Opuntia basilaris brachyclada
Status: Species of Concern

Common Name: San Bernardino Mountains monkey-flower
Scientific Name: Mimulus exiguus
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Scott Valley phacelia — Scientific Name: Phacelia greenei
Status: Species of Concern

Common Name: San Luis serpentine dudleya — Scientific Name: Dudleya abramsii bettinae
Status: Species of Concern

Common Name: Marble Mountain catchfly — Scientific Name: Silene marmorensis
Status: Species of Concern

Common Name: Parrish's brittlescale — Scientific Name: Atriplex parishii
Status: Species of Concern

Common Name: Flax-like monardella — Scientific Name: Monardella linoides oblonga
Status: Species of Concern

Common Name: Western bog violet — Scientific Name: Viola primulifolia occidentalis
Status: Species of Concern

Common Name: Johnston's buckwheat — Scientific Name: Eriogonum microthecum johnstonii
Status: Species of Concern

Common Name: Whipple's monkey-flower — Scientific Name: Mimulus whipplei
Status: Species of Concern

Common Name: Drymaria dwarf-flax — Scientific Name: Hesperolinon drymarioides
Status: Species of Concern

Common Name: Enterprise clarkia — Scientific Name: Clarkia mosquinii xerophila
Status: Species of Concern

Common Name: Jared's peppergrass — Scientific Name: Lepidium jaredii jaredii
Status: Species of Concern

Common Name: Crisp monardella — Scientific Name: Monardella crispa
Status: Species of Concern

Common Name: Humboldt Bay gumplant — Scientific Name: Grindelia stricta blakei
Status: Species of Concern

Common Name: Jointed buckwheat — Scientific Name: Eriogonum intrafractum
Status: Species of Concern

Common Name: Charlotte's phacelia — Scientific Name: Phacelia nashiana
Status: Species of Concern

Common Name: Heckner's lewisia — Scientific Name: Lewisia cotyledon heckneri
Status: Species of Concern

Common Name: San Francisco Bay spineflower — Scientific Name: Chorizanthe cuspidata cuspidata
Status: Species of Concern

Common Name: Munz's hedgehog cactus — Scientific Name: Echinocereus engelmannii munzii
Status: Species of Concern

Common Name: Goldenbush — Scientific Name: Isocoma arguta
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Bodie Hills rock-cress
Scientific Name: Arabis bodiensis
Status: Species of Concern

Common Name: No common name
Scientific Name: Stylocline masonii
Status: Species of Concern

Common Name: Compact cobweb thistle
Scientific Name: Cirsium occidentale compactum
Status: Species of Concern

Common Name: No common name
Scientific Name: Teloschistes villosus
Status: Species of Concern

Common Name: Peirson's morning-glory
Scientific Name: Calystegia peirsonii
Status: Species of Concern

Common Name: The Cedars globe-lily
Scientific Name: Calochortus raichei
Status: Species of Concern

Common Name: No common name
Scientific Name: Lessingia arachnoidea
Status: Species of Concern

Common Name: Two carpeled dwarf-flax
Scientific Name: Hesperolinon bicarpellatum
Status: Species of Concern

Common Name: Sierra Valley ivesia
Scientific Name: Ivesia aperta aperta
Status: Species of Concern

Common Name: Ballona cinquefoil
Scientific Name: Potentilla multijuga
Status: Species of Concern

Common Name: Silver-haired ivesia
Scientific Name: Ivesia argyrocoma
Status: Species of Concern

Common Name: No common name
Scientific Name: Heterodermia erinacea
Status: Species of Concern

Common Name: San Benito spineflower
Scientific Name: Chorizanthe biloba immemora
Status: Species of Concern

Common Name: Cedar Crest allocarya
Scientific Name: Plagiobothrys glyptocarpus modestus
Status: Species of Concern

Common Name: Trinity phacelia
Scientific Name: Phacelia dalesiana
Status: Species of Concern

Common Name: Kingston bedstraw
Scientific Name: Galium hilendiae kingstonense
Status: Species of Concern

Common Name: Short-leaved dudleya
Scientific Name: Dudleya blochmaniae blochmaniae
Status: Species of Concern

Common Name: [Unnamed] linanthus
Scientific Name: Linanthus concinnus
Status: Species of Concern

Common Name: Point Reyes stickyseed
Scientific Name: Blennosperma nanum robustum
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Mason's lilaeopsis
Scientific Name: Lilaeopsis masonii
Status: Species of Concern

Common Name: Mojave tarweed
Scientific Name: Hemizonia mohavensis
Status: Species of Concern

Common Name: Island hazardia
Scientific Name: Hazardia cana
Status: Species of Concern

Common Name: Parish's gooseberry
Scientific Name: Ribes divaricatum parishii
Status: Species of Concern

Common Name: Mt. Hamilton thistle
Scientific Name: Cirsium fontinale campylon
Status: Species of Concern

Common Name: Conejo buckwheat
Scientific Name: Eriogonum crocatum
Status: Species of Concern

Common Name: Masonic Mountain jewelflower
Scientific Name: Streptanthus oliganthus
Status: Species of Concern

Common Name: Panamint Mountains buckwheat
Scientific Name: Eriogonum microthecum panamintense
Status: Species of Concern

Common Name: Egg Lake monkey-flower
Scientific Name: Mimulus pygmaeus
Status: Species of Concern

Common Name: Black wooly-pod
Scientific Name: Astragalus funereus
Status: Species of Concern

Common Name: Cuyamaca larkspur
Scientific Name: Delphinium hesperium cuyamacae
Status: Species of Concern

Common Name: Cooke's phacelia
Scientific Name: Phacelia cookei
Status: Species of Concern

Common Name: Marin checkermallow
Scientific Name: Sidalcea hickmanii viridis
Status: Species of Concern

Common Name: Henderson's bentgrass
Scientific Name: Agrostis hendersonii
Status: Species of Concern

Common Name: Nine Mile Canyon phacelia
Scientific Name: Phacelia novenmillensis
Status: Species of Concern

Common Name: Curve-podded Mojave milk-vetch
Scientific Name: Astragalus mohavensis hemigyrus
Status: Species of Concern

Common Name: Freed's jewelflower
Scientific Name: Streptanthus brachiatus hoffmanii
Status: Species of Concern

Common Name: Snake cholla
Scientific Name: Opuntia parryi serpentina
Status: Species of Concern

Common Name: Wolf's evening-primrose
Scientific Name: Oenothera wolfii
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Stephens' beardtongue — Scientific Name: Penstemon stephensii
Status: Species of Concern

Common Name: Parish's phacelia — Scientific Name: Phacelia parishii
Status: Species of Concern

Common Name: Blasdale's bentgrass — Scientific Name: Agrostis blasdalei blasdalei
Status: Species of Concern

Common Name: [Unnamed] scurf-pea — Scientific Name: Pediomelum castoreum
Status: Species of Concern

Common Name: Shaggy-hair lupine — Scientific Name: Lupinus spectabilis
Status: Species of Concern

Common Name: Short-lobed broomrape — Scientific Name: Orobanche parishii brachyloba
Status: Species of Concern

Common Name: San Nicolas Island lomatium — Scientific Name: Lomatium insulare
Status: Species of Concern

Common Name: Tecopa bird's-beak — Scientific Name: Cordylanthus tecopensis
Status: Species of Concern

Common Name: Many-stemmed liveforever — Scientific Name: Dudleya multicaulis
Status: Species of Concern

Common Name: Hearst's ceanothus — Scientific Name: Ceanothus hearstiorum
Status: Species of Concern

Common Name: Variegated dudleya — Scientific Name: Dudleya variegata
Status: Species of Concern

Common Name: Sandmat manzanita — Scientific Name: Arctostaphylos pumila
Status: Species of Concern

Common Name: Northern California black walnut — Scientific Name: Juglans californica hindsii
Status: Species of Concern

Common Name: Delta tule-pea — Scientific Name: Lathyrus jepsonii jepsonii
Status: Species of Concern

Common Name: Stebbins lewisia — Scientific Name: Lewisia stebbinsii
Status: Species of Concern

Common Name: Wilkin's harebell — Scientific Name: Campanula wilkinsiana
Status: Species of Concern

Common Name: Cup Lake draba — Scientific Name: Draba asterophora macrocarpa
Status: Species of Concern

Common Name: Mecca aster — Scientific Name: Xylorhiza cognata
Status: Species of Concern

Common Name: Small-leaved rose — Scientific Name: Rosa minutifolia
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Cambria morning-glory — Scientific Name: Calystegia subacaulis episcopalis
Status: Species of Concern

Common Name: San Benito thornmint — Scientific Name: Acanthomintha obovata obovata
Status: Species of Concern

Common Name: Bear Valley phlox — Scientific Name: Phlox dolichantha
Status: Species of Concern

Common Name: Owens Peak lomatium — Scientific Name: Lomatium shevockii
Status: Species of Concern

Common Name: Wild Rose Canyon buckwheat — Scientific Name: Eriogonum eremicola
Status: Species of Concern

Common Name: Mt. Saint Helena morning-glory — Scientific Name: Calystegia collina oxyphylla
Status: Species of Concern

Common Name: Large red buckwheat — Scientific Name: Eriogonum grande rubescens
Status: Species of Concern

Common Name: Dog Valley ivesia — Scientific Name: Ivesia aperta canina
Status: Species of Concern

Common Name: Del Norte manzanita — Scientific Name: Arctostaphylos nortensis
Status: Species of Concern

Common Name: [Unnamed] milk-vetch — Scientific Name: Astragalus gilmanii
Status: Species of Concern

Common Name: Seaside birds-beak — Scientific Name: Cordylanthus rigidus littoralis
Status: Species of Concern

Common Name: Sp. nov. ined. (Del Norte) rock-cress — Scientific Name: Arabis sp.
Status: Species of Concern

Common Name: No common name — Scientific Name: Lecanora xanthosora
Status: Species of Concern

Common Name: California marina — Scientific Name: Marina orcuttii orcuttii
Status: Species of Concern

Common Name: San Felipe monardella — Scientific Name: Monardella nana leptosiphon
Status: Species of Concern

Common Name: San Francisco owl's-clover — Scientific Name: Triphysaria floribunda
Status: Species of Concern

Common Name: San Benito fritillary — Scientific Name: Fritillaria viridea
Status: Species of Concern

Common Name: Red-flowered lotus — Scientific Name: Lotus rubriflorus
Status: Species of Concern

Common Name: Palmer's grapplinghook — Scientific Name: Harpagonella palmeri palmeri
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: No common name
Scientific Name: Stylocline citroleum
Status: Species of Concern

Common Name: Humboldt lily
Scientific Name: Lilium humboldtii ocellatum
Status: Species of Concern

Common Name: Death Valley sandpaperplant
Scientific Name: Petalonyx thurberi gilmanii
Status: Species of Concern

Common Name: San Diego marsh elder
Scientific Name: Iva hayesiana
Status: Species of Concern

Common Name: Merced phacelia
Scientific Name: Phacelia ciliata opaca
Status: Species of Concern

Common Name: Tomales clarkia
Scientific Name: Clarkia concinna raichei
Status: Species of Concern

Common Name: Spinysepaled eryngo
Scientific Name: Eryngium spinosepalum
Status: Species of Concern

Common Name: Stebbins' phacelia
Scientific Name: Phacelia stebbinsii
Status: Species of Concern

Common Name: Bakersfield saltbush
Scientific Name: Atriplex tularensis
Status: Species of Concern

Common Name: Dorr's Cabin jewelflower
Scientific Name: Streptanthus morrisonii hirtiflorus
Status: Species of Concern

Common Name: No common name
Scientific Name: Malacothrix crispifolia
Status: Species of Concern

Common Name: Mt. Tedoc linanthus
Scientific Name: Linanthus nuttallii howellii
Status: Species of Concern

Common Name: Smooth tarplant
Scientific Name: Hemizonia pungens laevis
Status: Species of Concern

Common Name: Pajaroensis manzanita
Scientific Name: Arctostaphylos pajaroensis
Status: Species of Concern

Common Name: Silver, Santa Cruz Island hosackia
Scientific Name: Lotus argophyllus niveus
Status: Species of Concern

Common Name: Rock sanicle
Scientific Name: Sanicula saxatilis
Status: Species of Concern

Common Name: Kernville poppy
Scientific Name: Eschscholzia procera
Status: Species of Concern

Common Name: Mt. Hamilton coreopsis
Scientific Name: Coreopsis hamiltonii
Status: Species of Concern

Common Name: No common name
Scientific Name: Lessingia micradenia glabrata
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Aphanisma
Scientific Name: Aphanisma blitoides
Status: Species of Concern

Common Name: Mosquin's clarkia
Scientific Name: Clarkia mosquinii mosquinii
Status: Species of Concern

Common Name: East Bay clarkia
Scientific Name: Clarkia concinna automixa
Status: Species of Concern

Common Name: Silky cryptantha
Scientific Name: Cryptantha crinita
Status: Species of Concern

Common Name: Bensoniella
Scientific Name: Bensoniella oregona
Status: Species of Concern

Common Name: Santa Margarita manzanita
Scientific Name: Arctostaphylos pilosula pilosula
Status: Species of Concern

Common Name: Robison's monardella
Scientific Name: Monardella robisonii
Status: Species of Concern

Common Name: Brewer's dwarf-flax
Scientific Name: Hesperolinon breweri
Status: Species of Concern

Common Name: Howell's alkali grass
Scientific Name: Puccinellia howellii
Status: Species of Concern

Common Name: Maritime california-lilac
Scientific Name: Ceanothus maritimus
Status: Species of Concern

Common Name: No common name
Scientific Name: Collinsia antonina
Status: Species of Concern

Common Name: Schreiber's manzanita
Scientific Name: Arctostaphylos glutinosa
Status: Species of Concern

Common Name: Pale-yellow layia
Scientific Name: Layia heterotricha
Status: Species of Concern

Common Name: Hardham's evening-primrose
Scientific Name: Camissonia hardhamiae
Status: Species of Concern

Common Name: Comanche layia
Scientific Name: Layia leucopappa
Status: Species of Concern

Common Name: Southern tarplant
Scientific Name: Hemizonia parryi australis
Status: Species of Concern

Common Name: Howell's tauschia
Scientific Name: Tauschia howellii
Status: Species of Concern

Common Name: Lake County dwarf-flax
Scientific Name: Hesperolinon didymocarpum
Status: Species of Concern

Common Name: Morrison's jewelflower
Scientific Name: Streptanthus morrisonii morrisonii
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Rincon ceanothus — Scientific Name: Ceanothus confusus
Status: Species of Concern

Common Name: Little Sur manzanita — Scientific Name: Arctostaphylos edmundsii
Status: Species of Concern

Common Name: Valley sagittaria — Scientific Name: Sagittaria sanfordii
Status: Species of Concern

Common Name: Rock lady — Scientific Name: Holmgrenanthe petrophila
Status: Species of Concern

Common Name: Cone Peak bedstraw — Scientific Name: Galium californicum luciense
Status: Species of Concern

Common Name: Butte County sidalcea — Scientific Name: Sidalcea robusta
Status: Species of Concern

Common Name: San Nicolas Island buckwheat — Scientific Name: Eriogonum grande timorum
Status: Species of Concern

Common Name: No common name — Scientific Name: Malacothrix intermedia
Status: Species of Concern

Common Name: San Gabriel bedstraw — Scientific Name: Galium grande
Status: Species of Concern

Common Name: Dune larkspur — Scientific Name: Delphinium parryi blochmaniae
Status: Species of Concern

Common Name: Amargosa penstemon — Scientific Name: Penstemon fruticiformis amargosae
Status: Species of Concern

Common Name: Preston Peak rock-cress — Scientific Name: Arabis mcdonaldiana
Status: Species of Concern

Common Name: Thread-leaved penstemon — Scientific Name: Penstemon filiformis
Status: Species of Concern

Common Name: Blair’s munzothamnus — Scientific Name: Stephanomeria blairii
Status: Species of Concern

Common Name: Stebbins’ madia — Scientific Name: Madia stebbinsii
Status: Species of Concern

Common Name: Mission Canyon bluecup — Scientific Name: Githopsis diffusa filicaulis
Status: Species of Concern

Common Name: Saw-toothed lewisia — Scientific Name: Lewisia serrata
Status: Species of Concern

Common Name: White-margined penstemon — Scientific Name: Penstemon albomarginatus
Status: Species of Concern

Common Name: Contact Mine streptanthus — Scientific Name: Streptanthus brachiatus brachiatus
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Coast barrel cactus
Scientific Name: Ferocactus viridescens
Status: Species of Concern

Common Name: Santa Cruz manzanita
Scientific Name: Arctostaphylos andersonii
Status: Species of Concern

Common Name: San Jacinto bedstraw
Scientific Name: Galium californicum primum
Status: Species of Concern

Common Name: Mt. Vision ceanothus
Scientific Name: Ceanothus gloriosus porrectus
Status: Species of Concern

Common Name: Rock Creek broomrape
Scientific Name: Orobanche valida valida
Status: Species of Concern

Common Name: Raiches manzanita
Scientific Name: Arctostaphylos stanfordiana raichei
Status: Species of Concern

Common Name: Sandfood
Scientific Name: Pholisma sonorae
Status: Species of Concern

Common Name: Spanish needle onion
Scientific Name: Allium shevockii
Status: Species of Concern

Common Name: Petaluma popcornflower
Scientific Name: Plagiobothrys mollis vestitus
Status: Species of Concern

Common Name: Island morning-glory
Scientific Name: Calystegia macrostegia amplissima
Status: Species of Concern

Common Name: Montara manzanita
Scientific Name: Arctostaphylos montaraensis
Status: Species of Concern

Common Name: [Unnamed] adobe-lily
Scientific Name: Fritillaria pluriflora
Status: Species of Concern

Common Name: Snow Mountain buckwheat
Scientific Name: Eriogonum nervulosum
Status: Species of Concern

Common Name: Supple daisy
Scientific Name: Erigeron supplex
Status: Species of Concern

Common Name: Hoover’s button-celery
Scientific Name: Eryngium aristulatum hooveri
Status: Species of Concern

Common Name: San Luis lupine
Scientific Name: Lupinus ludovicianus
Status: Species of Concern

Common Name: Legenere
Scientific Name: Legenere limosa
Status: Species of Concern

Common Name: Pink sand-verbena
Scientific Name: Abronia umbellata breviflora
Status: Species of Concern

Common Name: Prostrate buckwheat
Scientific Name: Eriogonum prociduum
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Butte County morning-glory
Scientific Name: Calystegia atriplicifolia buttensis
Status: Species of Concern

Common Name: San Bernardino Mountains orthocarpus
Scientific Name: Castilleja lasiorhyncha
Status: Species of Concern

Common Name: Parry's tetracoccus
Scientific Name: Tetracoccus dioicus
Status: Species of Concern

Common Name: Red Rock tarweed
Scientific Name: Hemizonia arida
Status: Species of Concern

Common Name: Santa Barbara Island buckwheat
Scientific Name: Eriogonum giganteum compactum
Status: Species of Concern

Common Name: Trinity buckwheat
Scientific Name: Eriogonum alpinum
Status: Species of Concern

Common Name: Applegate stonecrop
Scientific Name: Sedum oblanceolatum
Status: Species of Concern

Common Name: Twisselmann's buckwheat
Scientific Name: Eriogonum twisselmannii
Status: Species of Concern

Common Name: The Geysers panic grass
Scientific Name: Dichanthelium acuminatum acuminatum
Status: Species of Concern

Common Name: San Clemente Island buckwheat
Scientific Name: Eriogonum giganteum formosum
Status: Species of Concern

Common Name: Flat-seeded spurge
Scientific Name: Chamaesyce platysperma
Status: Species of Concern

Common Name: Algodones Dunes sunflower
Scientific Name: Helianthus niveus tephrodes
Status: Species of Concern

Common Name: Plummer's mariposa lily
Scientific Name: Calochortus plummerae
Status: Species of Concern

Common Name: Point Reyes horkelia
Scientific Name: Horkelia marinensis
Status: Species of Concern

Common Name: Davidson's bush-mallow
Scientific Name: Malacothamnus davidsonii
Status: Species of Concern

Common Name: Bristlecone catseye
Scientific Name: Cryptantha roosiorum
Status: Species of Concern

Common Name: Vine Hill ceanothus
Scientific Name: Ceanothus foliosus vineatus
Status: Species of Concern

Common Name: Marin knotweed
Scientific Name: Polygonum marinense
Status: Species of Concern

Common Name: Hardy Creek barberry
Scientific Name: Berberis nervosa mendocinensis
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Parasol clover — Scientific Name: Trifolium bolanderi
Status: Species of Concern

Common Name: Fragrant fritillary — Scientific Name: Fritillaria liliacea
Status: Species of Concern

Common Name: Ziegler's layia — Scientific Name: Layia platyglossa
Status: Species of Concern

Common Name: Seaside tarweed — Scientific Name: Hemizonia multicaulis multicaulis
Status: Species of Concern

Common Name: Foothill mariposa lily — Scientific Name: Calochortus weedii intermedius
Status: Species of Concern

Common Name: Mendocino coast paintbrush — Scientific Name: Castilleja mendocinensis
Status: Species of Concern

Common Name: Slough thistle — Scientific Name: Cirsium crassicaule
Status: Species of Concern

Common Name: South Coast Range morning-glory — Scientific Name: Calystegia collina venusta
Status: Species of Concern

Common Name: Cache Peak buckwheat — Scientific Name: Eriogonum kennedyi pinicola
Status: Species of Concern

Common Name: California beaked-rush — Scientific Name: Rhynchospora californica
Status: Species of Concern

Common Name: Pringle monardella — Scientific Name: Monardella pringlei
Status: Species of Concern

Common Name: Southern island phacelia — Scientific Name: Phacelia floribunda
Status: Species of Concern

Common Name: Humboldt milk-vetch — Scientific Name: Astragalus agnicidus
Status: Species of Concern

Common Name: Trask's milk-vetch — Scientific Name: Astragalus traskiae
Status: Species of Concern

Common Name: Veiny monardella — Scientific Name: Monardella douglasii venosa
Status: Species of Concern

Common Name: Tecate tarweed — Scientific Name: Hemizonia floribunda
Status: Species of Concern

Common Name: South coast saltbush — Scientific Name: Atriplex pacifica
Status: Species of Concern

Common Name: Arroyo de la Cruz manzanita — Scientific Name: Arctostaphylos cruzensis
Status: Species of Concern

Common Name: Santa Cruz Island monkey-flower — Scientific Name: Mimulus brandegeei
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Northcoast phacelia
Scientific Name: Phacelia insularis continentis
Status: Species of Concern

Common Name: Sand dune phacelia
Scientific Name: Phacelia argentea
Status: Under Review

Common Name: Inyo mariposa lily
Scientific Name: Calochortus excavatus
Status: Species of Concern

Common Name: Webber's milk-vetch
Scientific Name: Astragalus webberi
Status: Species of Concern

Common Name: Delta coyote-thistle
Scientific Name: Eryngium racemosum
Status: Species of Concern

Common Name: Hall's madia
Scientific Name: Madia hallii
Status: Species of Concern

Common Name: Red Hills soaproot
Scientific Name: Chlorogalum grandiflorum
Status: Species of Concern

Common Name: No common name
Scientific Name: Ceanothus arboreus glaber
Status: Species of Concern

Common Name: Guadalupe Island lupine
Scientific Name: Lupinus guadalupensis
Status: Species of Concern

Common Name: Sequoia gooseberry
Scientific Name: Ribes tularensis
Status: Species of Concern

Common Name: Swamp harebell
Scientific Name: Campanula californica
Status: Species of Concern

Common Name: Narrow-leaved nightshade
Scientific Name: Solanum tenuilobatum
Status: Species of Concern

Common Name: Green liveforever
Scientific Name: Dudleya virens
Status: Species of Concern

Common Name: Parry's spineflower
Scientific Name: Chorizanthe parryi parryi
Status: Species of Concern

Common Name: Parish's bush-mallow
Scientific Name: Malacothamnus parishii
Status: Species of Concern

Common Name: Tamalpais manzanita
Scientific Name: Arctostaphylos hookeri montana
Status: Species of Concern

Common Name: San Clemente Island brodiaea
Scientific Name: Brodiaea kinkiensis
Status: Species of Concern

Common Name: Tamalpais jewelflower
Scientific Name: Streptanthus batrachopus
Status: Species of Concern

Common Name: Smooth pungent forsellesia
Scientific Name: Glossopetalon pungens glabra
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Panoche peppergrass
Scientific Name: Lepidium jaredii album
Status: Species of Concern

Common Name: Dacite manzanita
Scientific Name: Arctostaphylos tomentosa daciticola
Status: Species of Concern

Common Name: Fresno County bird's-beak
Scientific Name: Cordylanthus tenuis barbatus
Status: Species of Concern

Common Name: Bolinas ceanothus
Scientific Name: Ceanothus masonii
Status: Species of Concern

Common Name: No common name
Scientific Name: Astragalus lentiginosus antonius
Status: Species of Concern

Common Name: San Diego goldenstar
Scientific Name: Muilla clevelandii
Status: Species of Concern

Common Name: Hearsts' manzanita
Scientific Name: Arctostaphylos hookeri hearstiorum
Status: Species of Concern

Common Name: Orocopia sage
Scientific Name: Salvia greatai
Status: Species of Concern

Common Name: Abbott's bush-mallow
Scientific Name: Malacothamnus abbottii
Status: Species of Concern

Common Name: Merced monardella
Scientific Name: Monardella leucocephala
Status: Species of Concern

Common Name: Alverson's foxtail cactus
Scientific Name: Coryphantha vivipara alversonii
Status: Species of Concern

Common Name: San Gabriel River dudleya
Scientific Name: Dudleya cymosa crebrifolia
Status: Species of Concern

Common Name: Kern River daisy
Scientific Name: Erigeron multiceps
Status: Species of Concern

Common Name: Jepson's onion
Scientific Name: Allium jepsonii
Status: Species of Concern

Common Name: Auburua Ranch jewelflower
Scientific Name: Streptanthus insignis lyonii
Status: Species of Concern

Common Name: Saline Valley phacelia
Scientific Name: Phacelia amabilis
Status: Species of Concern

Common Name: Nevada oryctes
Scientific Name: Oryctes nevadensis
Status: Species of Concern

Common Name: Kaweah brodiaea
Scientific Name: Brodiaea insignis
Status: Species of Concern

Common Name: Baldwin Lake linanthus
Scientific Name: Linanthus killipii
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Mt. Diablo jewelflower — Scientific Name: Streptanthus hispidus
Status: Species of Concern

Common Name: Thorne's buckwheat — Scientific Name: Eriogonum ericifolium thornei
Status: Species of Concern

Common Name: Diamond-petaled poppy — Scientific Name: Eschscholzia rhombipetala
Status: Species of Concern

Common Name: Showy raillardella — Scientific Name: Raillardella pringlei
Status: Species of Concern

Common Name: Scadden Flat checkerbloom — Scientific Name: Sidalcea stipularis
Status: Species of Concern

Common Name: Slender mariposa lily — Scientific Name: Calochortus clavatus gracilis
Status: Species of Concern

Common Name: Mojave monkey-flower — Scientific Name: Mimulus mohavensis
Status: Species of Concern

Common Name: Anthony Peak lupine — Scientific Name: Lupinus antoninus
Status: Species of Concern

Common Name: No common name — Scientific Name: Arnica lonchophylla
Status: Species of Concern

Common Name: Poison Canyon stickseed — Scientific Name: Hackelia brevicula
Status: Species of Concern

Common Name: Borrego bedstraw — Scientific Name: Galium angustifolium borregoense
Status: Species of Concern

Common Name: Eastwood's goldenweed — Scientific Name: Ericameria fasciculata
Status: Species of Concern

Common Name: Hickman's onion — Scientific Name: Allium hickmanii
Status: Species of Concern

Common Name: One-awned spineflower — Scientific Name: Chorizanthe rectispina
Status: Species of Concern

Common Name: Inyo laphamia — Scientific Name: Perityle inyoensis
Status: Species of Concern

Common Name: DeDecker's lupine — Scientific Name: Lupinus padre-crowleyi
Status: Species of Concern

Common Name: Thurber's reedgrass — Scientific Name: Calamagrostis crassiglumis
Status: Species of Concern

Common Name: Rayless layia — Scientific Name: Layia discoidea
Status: Species of Concern

Common Name: Stebbins' lomatium — Scientific Name: Lomatium stebbinsii
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Sp. nov. ined. (Pit River) jewelflower — Scientific Name: Streptanthus sp.
Status: Species of Concern

Common Name: Mountains Springs bush lupine — Scientific Name: Lupinus excubitus medius
Status: Species of Concern

Common Name: Gander butterweed — Scientific Name: Packera ganderi
Status: Species of Concern

Common Name: Forest Camp sandwort — Scientific Name: Arenaria macradenia kuschei
Status: Species of Concern

Common Name: Monterey ceanothus — Scientific Name: Ceanothus cuneatus rigidus
Status: Species of Concern

Common Name: Most beautiful jewelflower — Scientific Name: Streptanthus albidus peramoenus
Status: Species of Concern

Common Name: San Francisco gumplant — Scientific Name: Grindelia hirsuta maritima
Status: Species of Concern

Common Name: Mt. Hamilton harebell — Scientific Name: Campanula sharsmithiae
Status: Species of Concern

Common Name: Congdon’s lomatium — Scientific Name: Lomatium congdonii
Status: Species of Concern

Common Name: Plaskett Meadows linanthus — Scientific Name: Linanthus harknessii condensatus
Status: Species of Concern

Common Name: Lemon colored fawn-lily — Scientific Name: Erythronium citrinum rodrickii
Status: Species of Concern

Common Name: Raven’s milk-vetch — Scientific Name: Astragalus monoensis ravenii
Status: Species of Concern

Common Name: Nevin’s wooly-sunflower — Scientific Name: Eriophyllum nevinii
Status: Species of Concern

Common Name: California ditaxis — Scientific Name: Ditaxis serrata
Status: Species of Concern

Common Name: Tehama dwarf-flax — Scientific Name: Hesperolinon tehamense
Status: Species of Concern

Common Name: Piute Mountains jewelflower — Scientific Name: Streptanthus cordatus piutensis
Status: Species of Concern

Common Name: No common name — Scientific Name: Calochortus weedii vestus
Status: Species of Concern

Common Name: Slender pentachaeta — Scientific Name: Pentachaeta exilis aeolica
Status: Species of Concern

Common Name: Purple monkey-flower — Scientific Name: Mimulus purpureus purpureus
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Calistoga ceanothus — Scientific Name: Ceanothus divergens
Status: Species of Concern

Common Name: Butte fritillary — Scientific Name: Fritillaria eastwoodiae
Status: Species of Concern

Common Name: Pale yellow lupine — Scientific Name: Lupinus luteolus
Status: Species of Concern

Common Name: Arroyo de la Cruz mariposa lily — Scientific Name: Calochortus clavatus recurvifolius
Status: Species of Concern

Common Name: Umpqua green-gentian — Scientific Name: Frasera fastigiata
Status: Species of Concern

Common Name: Canyon Creek stonecrop — Scientific Name: Sedum paradisum
Status: Species of Concern

Common Name: Ash Creek ivesia — Scientific Name: Ivesia paniculata
Status: Species of Concern

Common Name: Cliff spurge — Scientific Name: euphorbia misera
Status: Species of Concern

Common Name: Small-flowered morning-glory — Scientific Name: Convolvulus equitans
Status: Species of Concern

Common Name: Beautiful Hulsea — Scientific Name: Hulsea vestita ssp. callicarpha
Status: Species of Concern

Common Name: Cleveland’s bush monkeyflower — Scientific Name: Diplacus clevelandii
Status: Species of Concern

Common Name: Fish’s milkwort — Scientific Name: Polygala cornuta var. fishiae
Status: Species of Concern

Common Name: Sonoma alopecurus — Scientific Name: Alopecurus aequalis var. sonomensis
Status: Endangered

Common Name: Ione manzanita — Scientific Name: Arctostaphylos myrtifolia
Status: Threatened

Common Name: Pallid manzanita — Scientific Name: Arctostaphylos pallida
Status: Threatened

Common Name: Solano grass — Scientific Name: Tuctoria mucronata
Status: Endangered

Common Name: San Mateo thornmint — Scientific Name: Acanthomintha obovata ssp. duttonii
Status: Endangered

Common Name: Clara Hunt’s milk-vetch — Scientific Name: Astragalus clarianus
Status: Endangered

Common Name: Chinese Camp brodiaea — Scientific Name: Brodiaea pallida
Status: Threatened

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Mariposa pussypaws
Scientific Name: Calyptridium pulchellum
Status: Threatened

Common Name: Stebbins' morning-glory
Scientific Name: Calystegia stebbinsii
Status: Endangered

Common Name: White sedge
Scientific Name: Carex albida
Status: Endangered

Common Name: Santa Clara Valley dudleya
Scientific Name: Dudleya setchellii
Status: Endangered

Common Name: Island tree poppy
Scientific Name: Dendromecon rigida rhamnoides
Status: Species of Concern

Common Name: Northcoast birds-beak
Scientific Name: Cordylanthus maritimus palustris
Status: Species of Concern

Common Name: Loch Lomond coyote thistle
Scientific Name: Eryngium constancei
Status: Endangered

Common Name: Red Hills vervain
Scientific Name: Verbena californica
Status: Threatened

Common Name: San Francisco lessingia
Scientific Name: Lessingia germanorum (=L.g. var. germanorum)
Status: Endangered

Common Name: Payson's jewelflower
Scientific Name: Caulanthus simulans
Status: Species of Concern

Common Name: Santa Barbara false-lupine
Scientific Name: Thermopsis macrophylla agnina
Status: Species of Concern

Common Name: Beaked clarkia
Scientific Name: Clarkia rostrata
Status: Species of Concern

Common Name: Boundary Peak rock-cress
Scientific Name: Boechera pinzliae
Status: Species of Concern

Common Name: Island jepsonia
Scientific Name: Jepsonia malvifolia
Status: Species of Concern

Common Name: Channel Island tree poppy
Scientific Name: Dendromecon rigida ssp. harfordii
Status: Species of Concern

Common Name: Springville clarkia
Scientific Name: Clarkia springvillensis
Status: Threatened

Common Name: Pennell's bird's-beak
Scientific Name: Cordylanthus tenuis ssp. capillaris
Status: Endangered

Common Name: Hollisteria
Scientific Name: Hollisteria lanata
Status: Species of Concern

Common Name: Tuolumne fawn-lily
Scientific Name: Erythronium tuolumnense
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: No common name
Scientific Name: Holocarpha virgata elongata
Status: Species of Concern

Common Name: Peirson's spring beauty
Scientific Name: Claytonia lanceolata peirsonii
Status: Species of Concern

Common Name: Hispid birds-beak
Scientific Name: Cordylanthus mollis hispidus
Status: Species of Concern

Common Name: Wart-stemmed ceanothus
Scientific Name: Ceanothus verrucosus
Status: Species of Concern

Common Name: Oso manzanita
Scientific Name: Arctostaphylos osoensis
Status: Species of Concern

Common Name: Dudley's lousewort
Scientific Name: Pedicularis dudleyi
Status: Species of Concern

Common Name: Pierpoint Springs liveforever
Scientific Name: Dudleya cymosa costifolia
Status: Species of Concern

Common Name: Mono milk-vetch
Scientific Name: Astragalus monoensis monoensis
Status: Species of Concern

Common Name: Kern mallow
Scientific Name: Eremalche kernensis
Status: Endangered

Common Name: San Mateo woolly sunflower
Scientific Name: Eriophyllum latilobum
Status: Endangered

Common Name: Long-petaled lewisia
Scientific Name: Lewisia longipetala
Status: Species of Concern

Common Name: Monterrey manzanita
Scientific Name: Arctostaphylos montereyensis
Status: Species of Concern

Common Name: [Unnamed] checkermallow
Scientific Name: Sidalcea malvaeflora patula
Status: Species of Concern

Common Name: Howe's hedgehog cactus
Scientific Name: Echinocereus engelmannii howei
Status: Species of Concern

Common Name: Tuolumne coyote-thistle
Scientific Name: Eryngium pinnatisectum
Status: Species of Concern

Common Name: No common name
Scientific Name: Lessingia micradenia micradenia
Status: Species of Concern

Common Name: Santa Catalina Island manzanita
Scientific Name: Arctostaphylos catalinae
Status: Species of Concern

Common Name: Cuyamaca raspberry
Scientific Name: Rubus glaucifolius ganderi
Status: Species of Concern

Common Name: [Unnamed] milk-vetch
Scientific Name: Astragalus lentiformis
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Brandegee eriastrum
Scientific Name: Eriastrum brandegeeae
Status: Species of Concern

Common Name: San Clemente Island brodiaea
Scientific Name: Triteleia clementina
Status: Species of Concern

Common Name: Summer-holly
Scientific Name: Comarostaphylis diversifolia diversifolia
Status: Species of Concern

Common Name: Borrego Valley peppergrass
Scientific Name: Lepidium flavum felipense
Status: Species of Concern

Common Name: Ahart's dwarf rush
Scientific Name: Juncus leiospermus var. ahartii
Status: Species of Concern

Common Name: No common name
Scientific Name: Chorizanthe polygonoides longispina
Status: Species of Concern

Common Name: San Francisco wallflower
Scientific Name: Erysimum franciscanum
Status: Species of Concern

Common Name: Diablo rock-rose
Scientific Name: Helianthella castanea
Status: Species of Concern

Common Name: Carmel Valley malacothrix
Scientific Name: Malacothrix saxatilis arachnoidea
Status: Species of Concern

Common Name: Lupine, San Mateo tre
Scientific Name: Lupinus arboreus eximius
Status: Species of Concern

Common Name: No common name
Scientific Name: Dendrographa leucophaea
Status: Species of Concern

Common Name: Butte County meadowfoam
Scientific Name: Limnanthes floccosa ssp. californica
Status: Endangered

Common Name: Bakersfield cactus
Scientific Name: Opuntia treleasei
Status: Endangered

Common Name: Klamath manzanita
Scientific Name: Arctostaphylos klamathensis
Status: Species of Concern

Common Name: Laguna Mountains aster
Scientific Name: Machaeranthera asteroides lagunensis
Status: Species of Concern

Common Name: Heart-leaved pitcher-sage
Scientific Name: Lepechinia cardiophylla
Status: Species of Concern

Common Name: Caper-fruited tropidocarpum
Scientific Name: Tropidocarpum capparideum
Status: Species of Concern

Common Name: Santiago Peak phacelia
Scientific Name: Phacelia suaveolens keckii
Status: Species of Concern

Common Name: Panamint daisy
Scientific Name: Enceliopsis covillei
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Shasta River mariposa lily — Scientific Name: Calochortus monanthus
Status: Species of Concern

Common Name: Jaeger's bush milk-vetch — Scientific Name: Astragalus pachypus jaegeri
Status: Species of Concern

Common Name: Mouse buckwheat — Scientific Name: Eriogonum nudum murinum
Status: Species of Concern

Common Name: Ashy phacelia — Scientific Name: Phacelia distans
Status: Species of Concern

Common Name: Little mousetail — Scientific Name: Myosurus minimus apus
Status: Species of Concern

Common Name: Orcutt's dudleya — Scientific Name: Dudleya attentuata orcuttii
Status: Species of Concern

Common Name: Star-fruited, small stonecrop — Scientific Name: Sedum radiatum depauperatum
Status: Species of Concern

Common Name: Bodie Hills draba — Scientific Name: Cusickiella quadricostata
Status: Species of Concern

Common Name: Pappose spikeweed — Scientific Name: Hemizonia parryi congdonii
Status: Species of Concern

Common Name: Hoover's rosinweed — Scientific Name: Calycadenia hooveri
Status: Species of Concern

Common Name: Ft. Tejon wooly-sunflower — Scientific Name: Eriophyllum lanatum hallii
Status: Species of Concern

Common Name: Glandular dwarf-flax — Scientific Name: Hesperolinon adenophyllum
Status: Species of Concern

Common Name: Otay lotus — Scientific Name: Lotus crassifolius otayensis
Status: Species of Concern

Common Name: Kingston Mountains cinquefoil — Scientific Name: Ivesia patellifera
Status: Species of Concern

Common Name: Bear Valley wooly-pod — Scientific Name: Astragalus leucolobus
Status: Species of Concern

Common Name: Bellinger's meadowfoam — Scientific Name: Limnanthes floccosa bellingeriana
Status: Species of Concern

Common Name: San Clemente Island milk-vetch — Scientific Name: Astragalus nevinii
Status: Species of Concern

Common Name: Bear Valley pyrrocoma — Scientific Name: Pyrrocoma uniflora gossypina
Status: Species of Concern

Common Name: Munz's mariposa lily — Scientific Name: Calochortus palmeri munzii
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Orcutt's linanthus
Scientific Name: Linanthus orcuttii
Status: Species of Concern

Common Name: Tiburon tarweed
Scientific Name: Hemizonia multicaulis vernalis
Status: Species of Concern

Common Name: Warner Springs lessingia
Scientific Name: Lessingia glandulifera tomentosa
Status: Species of Concern

Common Name: Descanso milk-vetch
Scientific Name: Astragalus oocarpus
Status: Species of Concern

Common Name: Klamath gentian
Scientific Name: Gentiana plurisetosa
Status: Species of Concern

Common Name: Little San Bernardino Mountains gilia
Scientific Name: Gilia maculata
Status: Species of Concern

Common Name: Mono Lake lupine
Scientific Name: Lupinus duranii
Status: Species of Concern

Common Name: Suisun aster
Scientific Name: Aster chilensis lentus
Status: Species of Concern

Common Name: Kruckeberg's jewelflower
Scientific Name: Streptanthus morrisonii kruckebergii
Status: Species of Concern

Common Name: Ferris' milk-vetch
Scientific Name: Astragalus tener var. ferrisae
Status: Species of Concern

Common Name: Salinas Valley popcornflower
Scientific Name: Plagiobothrys uncinatus
Status: Species of Concern

Common Name: Twisselmann's nemacladus
Scientific Name: Nemacladus twisselmannii
Status: Species of Concern

Common Name: Santa Cruz silverpuffs
Scientific Name: Stebbinsoseris decipiens
Status: Species of Concern

Common Name: Orange lupine
Scientific Name: Lupinus citrinus
Status: Species of Concern

Common Name: Cuesta Pass sidalcea
Scientific Name: Sidalcea hickmanii anomala
Status: Species of Concern

Common Name: San Francisco popcornflower
Scientific Name: Plagiobothrys torreyi var. diffusus
Status: Species of Concern

Common Name: Catalina ironwood
Scientific Name: Lyonothamnus floribundus floribundus
Status: Species of Concern

Common Name: Orcutt's brodiaea
Scientific Name: Brodiaea orcuttii
Status: Species of Concern

Common Name: Parry's horkelia
Scientific Name: Horkelia parryi
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Panamint Mountains lupine — Scientific Name: Lupinus magnificus magnificus
Status: Species of Concern

Common Name: Mono Hot Springs evening-primrose — Scientific Name: Camissonia sierrae alticola
Status: Species of Concern

Common Name: Forked fiddleneck — Scientific Name: Amsinckia vernicosa furcata
Status: Species of Concern

Common Name: Hetch Hetchy monkey-flower — Scientific Name: Mimulus filicaulis
Status: Species of Concern

Common Name: Jaeger's caulostramina — Scientific Name: Caulostramina jaegeri
Status: Species of Concern

Common Name: Caliente clarkia — Scientific Name: Clarkia tembloriensis ssp. calientensis
Status: Species of Concern

Common Name: San Bernardino butterweed — Scientific Name: Packera bernardina
Status: Species of Concern

Common Name: Island tree mallow — Scientific Name: Lavatera assurgentiflora
Status: Species of Concern

Common Name: Lemon lily — Scientific Name: Lilium parryi
Status: Species of Concern

Common Name: Wedge-leaved horkelia — Scientific Name: Horkelia cuneata sericea
Status: Species of Concern

Common Name: Arroyo Seco bush-mallow — Scientific Name: Malacothamnus palmeri lucianus
Status: Species of Concern

Common Name: Sand mesa manzanita — Scientific Name: Arctostaphylos rudis
Status: Species of Concern

Common Name: Sonoma ceanothus — Scientific Name: Ceanothus sonomensis
Status: Species of Concern

Common Name: Santa Lucia manzanita — Scientific Name: Arctostaphylos luciana
Status: Species of Concern

Common Name: Refugio manzanita — Scientific Name: Arctostaphylos refugioensis
Status: Species of Concern

Common Name: Donner Pass buckwheat — Scientific Name: Eriogonum umbellatum torreyanum
Status: Species of Concern

Common Name: Orcutt's bird's-beak — Scientific Name: Cordylanthus orcuttianus
Status: Species of Concern

Common Name: Piute buckwheat — Scientific Name: Eriogonum breedlovei breedlovei
Status: Species of Concern

Common Name: San Bernardino Mountains dudleya — Scientific Name: Dudleya abramsii affinis
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Dwarf goldenstar — Scientific Name: Bloomeria humilis
Status: Species of Concern

Common Name: Ojai frtillary — Scientific Name: Fritillaria ojaiensis
Status: Species of Concern

Common Name: Humboldt Bay owl's clover — Scientific Name: Castilleja ambigua humboldtiensis
Status: Species of Concern

Common Name: Prostrate hosackia — Scientific Name: Lotus nuttallianus
Status: Species of Concern

Common Name: San Luis Obispo monardella — Scientific Name: Monardella frutescens
Status: Species of Concern

Common Name: Closed-lip beardtongue — Scientific Name: Penstemon personatus
Status: Species of Concern

Common Name: Velvety false-lupine — Scientific Name: Thermopsis macrophylla semota
Status: Species of Concern

Common Name: Nuttall's scrub oak — Scientific Name: Quercus dumosa
Status: Species of Concern

Common Name: San Gabriel manzanita — Scientific Name: Arctostaphylos gabrielensis
Status: Species of Concern

Common Name: Hanaupah laphamia — Scientific Name: Perityle villosa
Status: Species of Concern

Common Name: Seaside, Coulter's daisy — Scientific Name: Lasthenia glabrata coulteri
Status: Species of Concern

Common Name: Sp. nov. ined. (chaparral) beargrass — Scientific Name: Nolina sp.
Status: Species of Concern

Common Name: Palmer's mariposa lily — Scientific Name: Calochortus palmeri palmeri
Status: Species of Concern

Common Name: No common name — Scientific Name: Ivesia longibracteata
Status: Species of Concern

Common Name: Ertter's milk-vetch — Scientific Name: Astragalus ertterae
Status: Species of Concern

Common Name: Heartscale — Scientific Name: Atriplex cordulata
Status: Species of Concern

Common Name: Mt. Eddy draba — Scientific Name: Draba carnosula
Status: Species of Concern

Common Name: Shirley Meadows mariposa lily — Scientific Name: Calochortus westonii
Status: Species of Concern

Common Name: Candleholder dudleya — Scientific Name: Dudleya candelabrum
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Santa Cruz gooseberry — Scientific Name: Ribes thacherianum
Status: Species of Concern

Common Name: Munz cholla — Scientific Name: Opuntia munzii
Status: Species of Concern

Common Name: Lakeside ceanothus — Scientific Name: Ceanothus cyaneus
Status: Species of Concern

Common Name: Point Reyes meadowfoam — Scientific Name: Limnanthes douglasii sulphurea
Status: Species of Concern

Common Name: Los Angeles sunflower — Scientific Name: Helianthus nuttallii parishii
Status: Species of Concern

Common Name: Howell's lewisia — Scientific Name: Lewisia cotyledon howellii
Status: Species of Concern

Common Name: Santa Barbara Island cream cups — Scientific Name: Platystemon californicus ciliatus
Status: Species of Concern

Common Name: Island snapdragon — Scientific Name: Gambelia speciosa
Status: Species of Concern

Common Name: Adobe sanicle — Scientific Name: Sanicula maritima
Status: Species of Concern

Common Name: Nissenan manzanita — Scientific Name: Arctostaphylos nissenana
Status: Species of Concern

Common Name: Parish's rock-cress — Scientific Name: Arabis parishii
Status: Species of Concern

Common Name: Tiehm's rock-cress — Scientific Name: Arabis tiehmii
Status: Species of Concern

Common Name: Yosemite wooly-sunflower — Scientific Name: Eriophyllum nubigenum
Status: Species of Concern

Common Name: Baker's meadowfoam — Scientific Name: Limnanthes bakeri
Status: Species of Concern

Common Name: Jones layia — Scientific Name: Layia jonesii
Status: Species of Concern

Common Name: White bear desert-poppy — Scientific Name: Arctomecon merriamii
Status: Species of Concern

Common Name: Panamint dudleya — Scientific Name: Dudleya saxosa saxosa
Status: Species of Concern

Common Name: Dunn's mariposa lily — Scientific Name: Calochortus dunnii
Status: Species of Concern

Common Name: California dissanthelium — Scientific Name: Dissanthelium californicum
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Temblor buckwheat — Scientific Name: Eriogonum temblorense
Status: Species of Concern

Common Name: Shaw's agave — Scientific Name: Agave shawii
Status: Species of Concern

Common Name: Pickering ivesia — Scientific Name: Ivesia pickeringii
Status: Species of Concern

Common Name: Forked buckwheat — Scientific Name: Eriogonum bifurcatum
Status: Species of Concern

Common Name: San Bernardino rock-cress — Scientific Name: Arabis breweri pecuniaria
Status: Species of Concern

Common Name: Butterworth's buckwheat — Scientific Name: Eriogonum butterworthianum
Status: Species of Concern

Common Name: Borrego aster — Scientific Name: Xylorhiza orcuttii
Status: Species of Concern

Common Name: The Lassics lupine — Scientific Name: Lupinus constancei
Status: Species of Concern

Common Name: Giant spanishneedle — Scientific Name: Palafoxia arida gigantea
Status: Species of Concern

Common Name: San Clemente island bedstraw — Scientific Name: Galium catalinense acrispum
Status: Species of Concern

Common Name: Pecho manzanita — Scientific Name: Arctostaphylos pechoensis
Status: Species of Concern

Common Name: Lavin's milk-vetch — Scientific Name: Astragalus oophorus lavinii
Status: Species of Concern

Common Name: Tahquitz ivesia — Scientific Name: Ivesia callida
Status: Species of Concern

Common Name: Adder's-mouth — Scientific Name: Malaxis brachypoda
Status: Species of Concern

Common Name: Black-flowered figwort — Scientific Name: Scrophularia atrata
Status: Species of Concern

Common Name: Indian Valley brodiaea — Scientific Name: Brodiaea coronaria rosea
Status: Species of Concern

Common Name: Alkali mariposa lily — Scientific Name: Calochortus striatus
Status: Species of Concern

Common Name: Mt. Diablo phacelia — Scientific Name: Phacelia phacelioides
Status: Species of Concern

Common Name: Gairdner's yampah — Scientific Name: Perideridia gairdneri gairdneri
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Santa Catalina Island desert-thorn — Scientific Name: Lycium hassei
Status: Species of Concern

Common Name: Franciscan manzanita — Scientific Name: Arctostaphylos franciscana
Status: Endangered

Common Name: Coast lily — Scientific Name: Lilium maritimum
Status: Species of Concern

Common Name: Mt. Gleason paintbrush — Scientific Name: Castilleja gleasonii
Status: Species of Concern

Common Name: Gander's pitcher-sage — Scientific Name: Lepechinia ganderi
Status: Species of Concern

Common Name: Mt. Tamalpais thistle — Scientific Name: Cirsium hydrophilum vaseyi
Status: Species of Concern

Common Name: Greene's mariposa lily — Scientific Name: Calochortus greenei
Status: Species of Concern

Common Name: Yellow-tubered toothwort — Scientific Name: Cardamine nuttallii
Status: Species of Concern

Common Name: Mendocino bush-mallow — Scientific Name: Malacothamnus mendocinensis
Status: Species of Concern

Common Name: Mono phacelia — Scientific Name: Phacelia monoensis
Status: Species of Concern

Common Name: Butte County catchfly — Scientific Name: Silene occidentalis longistipitata
Status: Species of Concern

Common Name: Barton Flats horkelia — Scientific Name: Horkelia wilderae
Status: Species of Concern

Common Name: No common name — Scientific Name: Ivesia jaegeri
Status: Species of Concern

Common Name: Rusby's desert-mallow — Scientific Name: Sphaeralcea rusbyi eremicola
Status: Species of Concern

Common Name: Oregon fireweed — Scientific Name: Epilobium oreganum
Status: Species of Concern

Common Name: Pallid birds-beak — Scientific Name: Cordylanthus tenuis pallescens
Status: Species of Concern

Common Name: San Clemente Island evening-primrose — Scientific Name: Camissonia guadalupensis clementina
Status: Species of Concern

Common Name: Carmel Valley bush-mallow — Scientific Name: Malacothamnus palmeri involucratus
Status: Species of Concern

Common Name: Coast wallflower — Scientific Name: Erysimum ammophilum
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Hutchinson's delphinium
Scientific Name: Delphinium hutchinsonae
Status: Species of Concern

Common Name: Otay manzanita
Scientific Name: Arctostaphylos otayensis
Status: Species of Concern

Common Name: Jacumba milk-vetch
Scientific Name: Astragalus douglasii perstrictus
Status: Species of Concern

Common Name: Santa Susana tarweed
Scientific Name: Hemizonia minthornii
Status: Species of Concern

Common Name: Santa Lucia pogogyne
Scientific Name: Pogogyne clareana
Status: Species of Concern

Common Name: Moreno currant
Scientific Name: Ribes canthariforme
Status: Species of Concern

Common Name: Three Peaks jewelflower
Scientific Name: Streptanthus morrisonii elatus
Status: Species of Concern

Common Name: Big Bear milk-vetch
Scientific Name: Astragalus lentiginosus sierrae
Status: Species of Concern

Common Name: Pine City stonecrop
Scientific Name: Sedum pinetorum
Status: Species of Concern

Common Name: [Unnamed] milk-vetch
Scientific Name: Astragalus tegetarioides
Status: Species of Concern

Common Name: Cienega Seca oxytheca
Scientific Name: Oxytheca parishii ciengensis
Status: Species of Concern

Common Name: Tracy's sanicle
Scientific Name: Sanicula tracyi
Status: Species of Concern

Common Name: Tulare horkelia
Scientific Name: Horkelia tularensis
Status: Species of Concern

Common Name: Palmer's haplopappus
Scientific Name: Haplopappus palmeri palmeri
Status: Species of Concern

Common Name: Northcoast semaphore grass
Scientific Name: Pleuropogon hooverianus
Status: Species of Concern

Common Name: Deane's milk-vetch
Scientific Name: Astragalus deanei
Status: Species of Concern

Common Name: Mt. Hamilton jewelflower
Scientific Name: Streptanthus callistus
Status: Species of Concern

Common Name: Recurved larkspur
Scientific Name: Delphinium recurvatum
Status: Species of Concern

Common Name: Hospital Canyon larkspur
Scientific Name: Delphinium californicum interius
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Island wallflower — Scientific Name: Erysimum insulare insulare
Status: Species of Concern

Common Name: Talus fritillary — Scientific Name: Fritillaria falcata
Status: Species of Concern

Common Name: El Dorado mule-ears — Scientific Name: Wyethia reticulata
Status: Species of Concern

Common Name: Mendocino gentian — Scientific Name: Gentiana setigera
Status: Species of Concern

Common Name: Lost Hills saltbush — Scientific Name: Atriplex vallicola
Status: Species of Concern

Common Name: Vine Hill manzanita — Scientific Name: Arctostaphylos densiflora
Status: Species of Concern

Common Name: Bolander's horkelia — Scientific Name: Horkelia bolanderi
Status: Species of Concern

Common Name: Howell's montia — Scientific Name: Montia howellii
Status: Species of Concern

Common Name: July gold — Scientific Name: Dedeckera eurekensis
Status: Species of Concern

Common Name: Santa Catalina figwort — Scientific Name: Scrophularia villosa
Status: Species of Concern

Common Name: Ahart's whitlow-wort — Scientific Name: Paronychia ahartii
Status: Species of Concern

Common Name: Fern-leaved ironwood — Scientific Name: Lyonothamnus floribundus asplenifolius
Status: Species of Concern

Common Name: The Lassics sandwort — Scientific Name: Minuartia decumbens
Status: Species of Concern

Common Name: Fremont's rosinweed — Scientific Name: Calycadenia fremontii
Status: Species of Concern

Common Name: Valley spearscale — Scientific Name: Atriplex joaquiniana
Status: Species of Concern

Common Name: Secund jewelflower — Scientific Name: Streptanthus glandulosus hoffmanii
Status: Species of Concern

Common Name: Plumas ivesia — Scientific Name: Ivesia sericoleuca
Status: Species of Concern

Group:Insects

Common Name: White Mountains icarioides blue — Scientific Name: Plejebus icarioides ssp.
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Antioch efferian robberfly Status: Species of Concern	Scientific Name: Efferia antiochi
Common Name: San Emigdio blue Status: Species of Concern	Scientific Name: Plebulina emigdionis
Common Name: Blaisdell trigonoscuta weevil Status: Species of Concern	Scientific Name: Trigonoscuta blaisdelli
Common Name: Ancient ant Status: Species of Concern	Scientific Name: Smithistruma reliquia
Common Name: Pinnacles shield-back katydid Status: Species of Concern	Scientific Name: Idiostatus kathleenae
Common Name: Oso Flaco robber fly Status: Species of Concern	Scientific Name: Ablautus schlingeri
Common Name: Morro Bay blue butterfly Status: Species of Concern	Scientific Name: Icaricia icarioides moroensis
Common Name: Valley mydas fly Status: Under Review	Scientific Name: Rhaphiomidas trochilus
Common Name: Giuliani's dubiraphian riffle beetle Status: Species of Concern	Scientific Name: Dubiraphia giulianii
Common Name: Amphibious caddisfly Status: Species of Concern	Scientific Name: Desmona bethula
Common Name: Cheese-weed moth lacewing Status: Species of Concern	Scientific Name: Oliarces clara
Common Name: California diplectronan caddisfly Status: Species of Concern	Scientific Name: Diplectrona californica
Common Name: Wandering skipper Status: Species of Concern	Scientific Name: Panoquina errans
Common Name: [Unnamed] riffle beetle Status: Species of Concern	Scientific Name: Microcylleopus similis
Common Name: Spring Mountains icarioides blue Status: Species of Concern	Scientific Name: Plejebus icarioides ssp.
Common Name: Lange's El Segundo Dune weevil Status: Species of Concern	Scientific Name: Onychobaris langei
Common Name: Sandy beach tiger beetle Status: Species of Concern	Scientific Name: Cicindela hirticollis gravida
Common Name: Yellow-banded andrenid bee Status: Species of Concern	Scientific Name: Perdita hirticeps luteocincta
Common Name: Leech's chaetarthrian water scavenger beetle	Scientific Name: Chaetarthria leechi

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Status: Species of Concern

Common Name: San Gabriel Mountains elfin — Scientific Name: Incisalia mossii ssp.
Status: Species of Concern

Common Name: Wooly hydroporus diving beetle — Scientific Name: Hydroporus hirsutus
Status: Species of Concern

Common Name: Fort Dick limnephilus caddisfly — Scientific Name: Limnephilus atercus
Status: Species of Concern

Common Name: Ciervo aegialian scarab — Scientific Name: Aegialia concinna
Status: Species of Concern

Common Name: Cold Spring caddisfly — Scientific Name: Lepidostoma ermanae
Status: Species of Concern

Common Name: White Mountains skipper — Scientific Name: Hesperia mirimae ssp.
Status: Species of Concern

Common Name: Doyen's trigonoscuta dune weevil — Scientific Name: Trigonoscuta sp.
Status: Species of Concern

Common Name: Siskiyou ground beetle — Scientific Name: Nebria gebleri siskiyouensis
Status: Species of Concern

Common Name: Antioch mutillid wasp — Scientific Name: Myrmosula pacifica
Status: Species of Concern

Common Name: Hermes copper butterfly — Scientific Name: Lycaena hermes
Status: Candidate

Common Name: Confusion caddisfly — Scientific Name: Cryptochia shasta
Status: Species of Concern

Common Name: Death Valley june beetle — Scientific Name: Polyphylla erratica
Status: Species of Concern

Common Name: Ford's sand dune moth — Scientific Name: Psammobotys fordi
Status: Species of Concern

Common Name: Dorothy's El Segundo Dune weevil — Scientific Name: Trigonoscuta dorothea dorothea
Status: Species of Concern

Common Name: Santa Catalina Island trigonscuta weevil — Scientific Name: Trigonoscuta catalina
Status: Species of Concern

Common Name: Saratoga Springs belostoman bug — Scientific Name: Belostoma saratogae
Status: Species of Concern

Common Name: Santa Monica shieldback katydid — Scientific Name: Neduba longipennis
Status: Species of Concern

Common Name: Antioch Dunes anthicid — Scientific Name: Anthicus antiochensis
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Denning's cryptic caddisfly — Scientific Name: Cryptochia denningi
Status: Species of Concern

Common Name: Wing-shoulder minute moss beetle — Scientific Name: Ochthebius crassalus
Status: Species of Concern

Common Name: Antioch sphecid wasp — Scientific Name: Philanthus nasalis
Status: Species of Concern

Common Name: Dohrn's elegant eucnemid beetle — Scientific Name: Paleoxenus dohrni
Status: Species of Concern

Common Name: Redheaded sphecid wasp — Scientific Name: Eucerceris ruficeps
Status: Species of Concern

Common Name: [Unnamed] riffle beetle — Scientific Name: Microcylleopus fomicoideus
Status: Species of Concern

Common Name: Boharts' blue — Scientific Name: Philotiella speciosa bohartorum
Status: Species of Concern

Common Name: Castle Crags rhyacophilan caddisfly — Scientific Name: Rhyacophila lineata
Status: Species of Concern

Common Name: Middlekauf's shieldback katydid — Scientific Name: Idiostatus middlekaufi
Status: Species of Concern

Common Name: Atascodero june beetle — Scientific Name: Polyphylla nubila
Status: Species of Concern

Common Name: Travertine band-thigh diving beetle — Scientific Name: Hygrotus fontinalis
Status: Species of Concern

Common Name: Leech's skyline diving beetle — Scientific Name: Hydroporus leechi
Status: Species of Concern

Common Name: South Forks ground beetle — Scientific Name: Nebria darlingtoni
Status: Species of Concern

Common Name: Morrison's blister beetle — Scientific Name: Lytta morrisoni
Status: Species of Concern

Common Name: Marin elfin — Scientific Name: Incisalia mossii ssp.
Status: Species of Concern

Common Name: Saline Valley snow-front june beetle — Scientific Name: Polyphylla anteronivea
Status: Species of Concern

Common Name: Sonoma arctic skipper — Scientific Name: Carterocephalus palaemon ssp.
Status: Species of Concern

Common Name: Globose dune beetle — Scientific Name: Coelus globosus
Status: Species of Concern

Common Name: Wilbur Springs minute moss beetle — Scientific Name: Ochthebius reticulus
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Tehachapi Mountain silverspot
Scientific Name: Speyeria egleis tehachapina
Status: Species of Concern

Common Name: Valley oak ant
Scientific Name: Proceratium californicum
Status: Under Review

Common Name: Coachella giant sand treader cricket
Scientific Name: Macrobaenetes valgum
Status: Species of Concern

Common Name: Ricksecker's water scavenger beetle
Scientific Name: Hydrochara rickseckeri
Status: Species of Concern

Common Name: Brown-tassel trigonoscuta weevil
Scientific Name: Trigonoscuta brunneotesselata
Status: Species of Concern

Common Name: Henne's eucosman moth
Scientific Name: Eucosma hennei
Status: Species of Concern

Common Name: Samwell Cave cricket
Scientific Name: Pristoceuthophilus sp.
Status: Species of Concern

Common Name: Kelso jerusalem cricket
Scientific Name: Ammopelmatus kelsoensis
Status: Species of Concern

Common Name: White sand bear scarab
Scientific Name: Lichnanthe albopilosa
Status: Species of Concern

Common Name: Dry Creek cliff strider bug
Scientific Name: Oravelia pege
Status: Species of Concern

Common Name: Mono checkerspot
Scientific Name: Euphydryas editha monoensis
Status: Species of Concern

Common Name: Mission blue butterfly
Scientific Name: Icaricia icarioides missionensis
Status: Endangered

Common Name: Myrtle's silverspot butterfly
Scientific Name: Speyeria zerene myrtleae
Status: Endangered

Common Name: San Bruno elfin butterfly
Scientific Name: Callophrys mossii bayensis
Status: Endangered

Common Name: Callippe silverspot butterfly
Scientific Name: Speyeria callippe callippe
Status: Endangered

Common Name: Delhi Sands flower-loving fly
Scientific Name: Rhaphiomidas terminatus abdominalis
Status: Endangered

Common Name: Monarch buttefly
Scientific Name: Danaus plexippus plexippus
Status: Under Review

Common Name: Pinnacles optioservus riffle beetle
Scientific Name: Optioservus canus
Status: Species of Concern

Common Name: Mojave Desert blister beetle
Scientific Name: Lytta inseparata
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Oso Flaco flightless moth — Scientific Name: Areniscythris brachypteris
Status: Species of Concern

Common Name: Kelso giant sand treader cricket — Scientific Name: Macrobaenetes kelsoensis
Status: Species of Concern

Common Name: Oblivious tiger beetle — Scientific Name: Cicindela latesignata obliviosa
Status: Species of Concern

Common Name: Long-tailed caddisfly — Scientific Name: Farula sp.
Status: Species of Concern

Common Name: Moestan blister beetle — Scientific Name: Lytta moesta
Status: Species of Concern

Common Name: Sierra pygmy grasshopper — Scientific Name: Tetrix sierrana
Status: Species of Concern

Common Name: Bumblebee scarab — Scientific Name: Lichnanthe ursina
Status: Species of Concern

Common Name: Franklin's bumblebee — Scientific Name: Bombus franklini
Status: Under Review

Common Name: Gold rush hanging fly — Scientific Name: Orbittacus obscurus
Status: Species of Concern

Common Name: Brownish dubiraphian riffle beetle — Scientific Name: Dubiraphia brunnescens
Status: Species of Concern

Common Name: Coachella Valley jerusalem cricket — Scientific Name: Stenopelmatus cahuilaensis
Status: Species of Concern

Common Name: Desert monkey grasshopper — Scientific Name: Psychomastix deserticola
Status: Species of Concern

Common Name: Point Conception jerusalem cricket — Scientific Name: Ammopelmatus muwu
Status: Species of Concern

Common Name: Shirttail Creek stonefly — Scientific Name: Megaleuctra sierra
Status: Species of Concern

Common Name: Sacramento anthicid — Scientific Name: Anthicus sacramento
Status: Species of Concern

Common Name: Wawona riffle beetle — Scientific Name: Atractelmis wawona
Status: Species of Concern

Common Name: San Joaquin tiger beetle — Scientific Name: Cicindela tranquebarica ssp.
Status: Species of Concern

Common Name: Sagehen Creek goeracean caddisfly — Scientific Name: Goeracea oregona
Status: Species of Concern

Common Name: Hopping's blister beetle — Scientific Name: Lytta hoppingi
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Kelso Dune glaresis scarab — Scientific Name: Glaresis arenata
Status: Species of Concern

Common Name: Wilbur Springs shore fly — Scientific Name: Paracoenia calida
Status: Species of Concern

Common Name: Antioch andrenid bee — Scientific Name: Perdita scitula antiochensis
Status: Species of Concern

Common Name: Point Reyes blue — Scientific Name: Icaricia icariodes ssp.
Status: Species of Concern

Common Name: Simple hydroporus diving beetle — Scientific Name: Hydroporus simplex
Status: Species of Concern

Common Name: Antioch cophuran robberfly — Scientific Name: Cophura hurdi
Status: Species of Concern

Common Name: MacNeill sooty wing skipper — Scientific Name: Hesperopsis gracielae
Status: Species of Concern

Common Name: King’s Creek ecclisomyian caddisfly — Scientific Name: Ecclisomyia bilera
Status: Species of Concern

Common Name: King’s Creek parapsyche caddisfly — Scientific Name: Parapsyche extensa
Status: Species of Concern

Common Name: Kings Canyon cryptochian caddisfly — Scientific Name: Cryptochia excella
Status: Species of Concern

Common Name: San Clemente Island coenonycha beetle — Scientific Name: Coenonycha clementina
Status: Species of Concern

Common Name: Spiny rhyacophilan caddisfly — Scientific Name: Rhyacophila spinata
Status: Species of Concern

Common Name: Delta june beetle — Scientific Name: Polyphylla stellata
Status: Species of Concern

Common Name: Trinity Alps ground beetle — Scientific Name: Nebria sahlbergii triad
Status: Species of Concern

Common Name: San Francisco lacewing — Scientific Name: Nothochrysa californica
Status: Species of Concern

Common Name: San Gabriel Mountains blue — Scientific Name: Plejebus saepiolus ssp.
Status: Species of Concern

Common Name: White Mountains copper — Scientific Name: Lycaena rubicus ssp.
Status: Species of Concern

Common Name: Oso Flaco patch butterfly — Scientific Name: Chlosyne leanira osoflaco
Status: Species of Concern

Common Name: Curved-foot hygrotus diving beetle — Scientific Name: Hygrotus curvipes
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Golden-horned caddisfly — Scientific Name: Neothremma genella
Status: Species of Concern

Common Name: Rude's long-horned beetle — Scientific Name: Necydalis rudei
Status: Species of Concern

Common Name: Busck's gall moth — Scientific Name: Carolella busckana
Status: Species of Concern

Common Name: Andrew's marble butterfly — Scientific Name: Euchloe hyantis andrewsi
Status: Species of Concern

Common Name: [Unnamed] ground beetle — Scientific Name: Scaphinotus behrensi
Status: Species of Concern

Common Name: White Mountains saepiolus blue — Scientific Name: Plejebus saepiolus ssp.
Status: Species of Concern

Common Name: White Mountains sandhill skipper — Scientific Name: Polites sabuleti albomontana
Status: Species of Concern

Common Name: Greenest tiger beetle — Scientific Name: Cicindela tranquebarica viridissima
Status: Species of Concern

Common Name: Siskiyou caddisfly — Scientific Name: Neothremma siskiyou
Status: Species of Concern

Common Name: Humboldt ground beetle — Scientific Name: Scaphinotus longiceps
Status: Species of Concern

Common Name: Casey's June Beetle — Scientific Name: Dinacoma caseyi
Status: Endangered

Common Name: Channel Islands dune beetle — Scientific Name: Coelus pacificus
Status: Species of Concern

Common Name: Hurd's metapogon robberfly — Scientific Name: Metapogon hurdi
Status: Species of Concern

Common Name: Molestan blister beetle — Scientific Name: Lytta molesta
Status: Species of Concern

Common Name: Nelson's miloderes weevil — Scientific Name: Miloderes nelsoni
Status: Species of Concern

Common Name: Lake Tahoe benthic stonefly — Scientific Name: Capnia lacustra
Status: Species of Concern

Common Name: Bilobed rhyacophilan caddisfly — Scientific Name: Rhyacophila mosana
Status: Species of Concern

Common Name: Santa Cruz Island shore weevil — Scientific Name: Trigonoscuta stantoni
Status: Species of Concern

Group:Lichens

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Splitting yarn lichen
Scientific Name: Sulcaria isidiisera
Status: Species of Concern

Common Name: [Unnamed] lichen
Scientific Name: Texosporium sancti-jacobi
Status: Species of Concern

Group:Mammals

Common Name: Tipton kangaroo rat
Scientific Name: Dipodomys nitratoides nitratoides
Status: Endangered

Common Name: Pale Townsend's big-eared bat
Scientific Name: Plecotus townsendii pallescens
Status: Species of Concern

Common Name: Buena Vista Lake ornate Shrew
Scientific Name: Sorex ornatus relictus
Status: Endangered

Common Name: Riparian woodrat (=San Joaquin Valley)
Scientific Name: Neotoma fuscipes riparia
Status: Endangered

Common Name: Occult little brown bat
Scientific Name: Myotis lucifugus occultus
Status: Species of Concern

Common Name: California wolverine
Scientific Name: Gulo gulo luteus
Status: Species of Concern

Common Name: San Bernardino northern flying squirrel
Scientific Name: Glaucomys sabrinus californicus
Status: Under Review

Common Name: Tehachapi white-eared pocket mouse
Scientific Name: Perognathus alticola inexpectatus
Status: Species of Concern

Common Name: Colorado River cotton rat
Scientific Name: Sigmodon arizonae plenus
Status: Species of Concern

Common Name: Suisun ornate shrew
Scientific Name: Sorex ornatus sinuosus
Status: Species of Concern

Common Name: White-footed vole
Scientific Name: Arborimus albipes
Status: Species of Concern

Common Name: Salinas pocket mouse
Scientific Name: Perognathus inornatus psammophilus
Status: Species of Concern

Common Name: Southern grasshopper mouse
Scientific Name: Onychomys torridus ramona
Status: Species of Concern

Common Name: Channel Islands spotted skunk
Scientific Name: Spilogale putorius amphiala
Status: Species of Concern

Common Name: Yuma puma
Scientific Name: Felis concolor browni
Status: Species of Concern

Common Name: Island fox
Scientific Name: Urocyon littoralis
Status: Status Undefined

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Jacumba little pocket mouse
Scientific Name: Perognathus longimembris internationalis
Status: Species of Concern

Common Name: Spotted bat
Scientific Name: Euderma maculatum
Status: Species of Concern

Common Name: Mexican long-tongued bat
Scientific Name: Choeronycteris mexicana
Status: Species of Concern

Common Name: Point Reyes mountain beaver
Scientific Name: Aplodontia rufa phaea
Status: Species of Concern

Common Name: Monterey ornate shrew
Scientific Name: Sorex ornatus salarius
Status: Species of Concern

Common Name: San Joaquin pocket mouse
Scientific Name: Perognathus inornatus
Status: Species of Concern

Common Name: Northwestern San Diego pocket mouse
Scientific Name: Perognathus fallax fallax
Status: Species of Concern

Common Name: Cave myotis
Scientific Name: Myotis velifer
Status: Species of Concern

Common Name: California leaf-nosed bat
Scientific Name: Macrotus californicus
Status: Species of Concern

Common Name: Sierra Nevada snowshoe hare
Scientific Name: Lepus americanus tahoensis
Status: Species of Concern

Common Name: Monterey dusky-footed woodrat
Scientific Name: Neotoma fuscipes luciana
Status: Species of Concern

Common Name: San Clemente deer mouse
Scientific Name: Peromyscus maniculatus clementis
Status: Species of Concern

Common Name: Alameda Island mole
Scientific Name: Scapanus latimanus parvus
Status: Species of Concern

Common Name: Marysville California kangaroo rat
Scientific Name: Dipodomys californicus eximius
Status: Species of Concern

Common Name: San Clemente Island fox
Scientific Name: Urocyon littoralis clementae
Status: Species of Concern

Common Name: Merced kangaroo rat
Scientific Name: Dipodomys heermanni dixoni
Status: Species of Concern

Common Name: Nelson’s antelope ground squirrel
Scientific Name: Ammospermophilus nelsoni
Status: Species of Concern

Common Name: White-eared pocket mouse
Scientific Name: Perognathus alticola alticola
Status: Species of Concern

Common Name: Santa Catalina ornate shrew
Scientific Name: Sorex ornatus willetti
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: San Nicolas Island fox — Scientific Name: Urocyon littoralis dickeyi
Status: Species of Concern

Common Name: Mountain beaver — Scientific Name: Aplodontia rufa californica
Status: Species of Concern

Common Name: Owens Valley California vole — Scientific Name: Microtus californicus vallicola
Status: Species of Concern

Common Name: Allen's big-eared bat — Scientific Name: Idionycteris phyllotis
Status: Species of Concern

Common Name: California red tree vole — Scientific Name: Arborimus pomo
Status: Species of Concern

Common Name: Salt marsh ornate shrew — Scientific Name: Sorex ornatus salicornicus
Status: Species of Concern

Common Name: Yuma hispid cotton rat — Scientific Name: Sigmodon hispidus eremicus
Status: Species of Concern

Common Name: Berkeley kangaroo rat — Scientific Name: Dipodomys heermanni berkleyensis
Status: Species of Concern

Common Name: Point Reyes jumping mouse — Scientific Name: Zapus trinotatus orarius
Status: Species of Concern

Common Name: Pacific Townsend's big-eared bat — Scientific Name: Plecotus townsendii townsendii
Status: Species of Concern

Common Name: Greater western mastiff-bat — Scientific Name: Eumops perotis californicus
Status: Species of Concern

Common Name: Pallid San Diego pocket mouse — Scientific Name: Perognathus fallax pallidus
Status: Species of Concern

Common Name: Earthquake Merriam's kangaroo rat — Scientific Name: Dipodomys merriami collinus
Status: Species of Concern

Common Name: Los Angeles little pocket mouse — Scientific Name: Perognathus longimembris brevinasus
Status: Species of Concern

Common Name: Lodgepole chipmunk — Scientific Name: Tamias speciosus speciosus
Status: Species of Concern

Common Name: Short-nosed kangaroo rat — Scientific Name: Dipodomys nitratoides brevinasus
Status: Species of Concern

Common Name: Tulare grasshopper mouse — Scientific Name: Onychomys torridus tularensis
Status: Species of Concern

Common Name: Mojave river vole — Scientific Name: Microtus californicus mohavensis
Status: Species of Concern

Common Name: San Francisco dusky-footed woodrat — Scientific Name: Neotoma fuscipes annectens
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: San Diego black-tailed jackrabbit
Scientific Name: Lepus californicus bennettii
Status: Species of Concern

Common Name: Guadalupe fur seal
Scientific Name: Arctocephalus townsendi
Status: Threatened

Common Name: Dulzura California pocket mouse
Scientific Name: Perognathus californicus femoralis
Status: Species of Concern

Common Name: Stephens' California vole
Scientific Name: Microtus californicus stephensi
Status: Species of Concern

Common Name: Salt marsh vagrant shrew
Scientific Name: Sorex vagrans halicoetes
Status: Species of Concern

Common Name: San Diego desert woodrat
Scientific Name: Neotoma lepida intermedia
Status: Species of Concern

Common Name: Palm Springs little pocket mouse
Scientific Name: Perognathus longimembris bangsi
Status: Species of Concern

Common Name: Riparian brush rabbit
Scientific Name: Sylvilagus bachmani riparius
Status: Endangered

Group:Reptiles

Common Name: Southwestern pond turtle
Scientific Name: Actinemys marmorata pallida
Status: Species of Concern

Common Name: South coast garter snake
Scientific Name: Thamnophis sirtalis ssp.
Status: Species of Concern

Common Name: Silvery legless lizard
Scientific Name: Anniella pulchra pulchra
Status: Species of Concern

Common Name: Southern rubber boa
Scientific Name: Charina bottae umbratica
Status: Under Review

Common Name: Chuckwalla
Scientific Name: Sauromalus ater
Status: Species of Concern

Common Name: San Bernardino mountain king snake
Scientific Name: Lampropeltis zonata parvirubra
Status: Species of Concern

Common Name: Coastal rosy boa
Scientific Name: Charina trivirgata roseofusca
Status: Species of Concern

Common Name: Sierra night lizard
Scientific Name: Xantusia vigilis sierrae
Status: Species of Concern

Common Name: Coastal western whiptail
Scientific Name: Cnemidophorus tigris multiscutatus
Status: Species of Concern

Common Name: Orange-throated whiptail
Scientific Name: Cnemidophorus hyperythrus
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: San Diego horned lizard
Scientific Name: Phrynosoma coronatum blainvillii
Status: Species of Concern

Common Name: Coast patch-nosed snake
Scientific Name: Salvadora hexalepis virgultea
Status: Species of Concern

Common Name: San Joaquin whipsnake
Scientific Name: Masticophis flagellum ruddocki
Status: Species of Concern

Common Name: Mojave fringe-toed Lizard
Scientific Name: Uma scoparia
Status: Status Undefined

Common Name: San Diego ringneck snake
Scientific Name: Diadophis punctatus similis
Status: Species of Concern

Common Name: Barefoot gecko
Scientific Name: Coleonyx switaki
Status: Species of Concern

Common Name: Coronado skink
Scientific Name: Eumeces skiltonianus interparietalis
Status: Species of Concern

Common Name: Rosy boa
Scientific Name: Charina trivirgata
Status: Species of Concern

Common Name: California horned lizard
Scientific Name: Phrynosoma coronatum frontale
Status: Species of Concern

Common Name: San Diego banded gecko
Scientific Name: Coleonyx variegatus abbotti
Status: Species of Concern

Common Name: San Bernardino ringneck snake
Scientific Name: Diadophis punctatus modestus
Status: Species of Concern

Common Name: Banded gila monster
Scientific Name: Heloderma suspectum cinctum
Status: Species of Concern

Common Name: San Diego Mountain king snake
Scientific Name: Lampropeltis zonata pulchra
Status: Species of Concern

Common Name: Panamint alligator lizard
Scientific Name: Elgaria panamintina
Status: Under Review

Common Name: Two-striped garter snake
Scientific Name: Thamnophis hammondii
Status: Species of Concern

Common Name: Santa Cruz Island gopher snake
Scientific Name: Pituophis melanoleucus pumilis
Status: Species of Concern

Common Name: Northern red diamond rattlesnake
Scientific Name: Crotalus ruber ruber
Status: Species of Concern

Group:Snails

Common Name: Keeled sideband
Scientific Name: Monadenia circumcarinata
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: California McCoy snail islandsnail — Scientific Name: Micrarionta rowelli mccoiana
Status: Species of Concern

Common Name: Mimic tryonia — Scientific Name: Tryonia imitator
Status: Species of Concern

Common Name: San Nicolas islandsnail — Scientific Name: Micrarionta feralis
Status: Species of Concern

Common Name: Santa Barbara shelled slug — Scientific Name: Binneya notabilis
Status: Species of Concern

Common Name: Williams' bronze shoulderband — Scientific Name: Helminthoglypta arrosa williamsi
Status: Species of Concern

Common Name: Santa Barbara islandsnail — Scientific Name: Micrarionta facta
Status: Species of Concern

Common Name: Hirsute sierra sideband — Scientific Name: Monadenia mormonum hirsuta
Status: Species of Concern

Common Name: Yosemite mariposa sideband — Scientific Name: Monadenia hillebrandi yosemitensis
Status: Species of Concern

Common Name: Thousand Palms desertsnail — Scientific Name: Eremarionta millepalmarum
Status: Species of Concern

Common Name: Button's Sierra sideband — Scientific Name: Monadenia mormonum buttoni
Status: Species of Concern

Common Name: White Abalone — Scientific Name: Haliotis sorenseni
Status: Endangered

Common Name: Shasta sideband — Scientific Name: Monadenia troglodytes troglodytes
Status: Under Review

Common Name: Grapevine Springs elongate tryonia — Scientific Name: Tryonia margae
Status: Species of Concern

Common Name: Robust tryonia — Scientific Name: Tryonia robusta
Status: Species of Concern

Common Name: Redwood shoulderband — Scientific Name: Helminthoglypta sequoicola consors
Status: Species of Concern

Common Name: Merced Canyon shoulderband — Scientific Name: Helminthoglypta allynsmithi
Status: Species of Concern

Common Name: Wintu sideband — Scientific Name: Monadenia troglodytes ssp. wintu
Status: Under Review

Common Name: Globular pebblesnail — Scientific Name: Fluminicola sph
Status: Under Review

Common Name: Peninsula Coast Range shoulderband — Scientific Name: Helminthoglypta nickliniana awania
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Pricklypear islandsnail — Scientific Name: Micrarionta opuntia
Status: Species of Concern

Common Name: Newcomb's littorine snail — Scientific Name: Algamorda newcombiana
Status: Species of Concern

Common Name: Owens springsnail — Scientific Name: Pyrgulopsis owensensis
Status: Species of Concern

Common Name: [Unnamed] snail — Scientific Name: Valvata virens
Status: Species of Concern

Common Name: Cockerell's striate disc — Scientific Name: Discus shemeki cockerelli
Status: Species of Concern

Common Name: Catalina mountainsnail — Scientific Name: Radiocentrum avalonense
Status: Species of Concern

Common Name: Yates' tight coin — Scientific Name: Ammonitella yatesii
Status: Species of Concern

Common Name: San Clemente islandsnail — Scientific Name: Micrarionta gabbii
Status: Species of Concern

Common Name: Aardhals springsnail — Scientific Name: Pyrgulopsis aardahli
Status: Species of Concern

Common Name: Morongo desertsnail — Scientific Name: Eremarionta morongoana
Status: Species of Concern

Common Name: Wongs springsnail — Scientific Name: Pyrgulopsis wongi
Status: Species of Concern

Common Name: White desertsnail — Scientific Name: Eremarionta immaculata
Status: Species of Concern

Common Name: Pomo bronze shoulderband — Scientific Name: Helminthoglypta arrosa pomoensis
Status: Species of Concern

Common Name: Fish Slough springsnail — Scientific Name: Pyrgulopsis perturbata
Status: Species of Concern

Common Name: Grapevine Springs squat tryonia — Scientific Name: Tryonia rowlandsi
Status: Species of Concern

Common Name: Victorville shoulderband — Scientific Name: Helminthoglypta mohaveana
Status: Species of Concern

Common Name: Bridges' Coast Range shoulderband — Scientific Name: Helminthoglypta nickliniana bridgesi
Status: Species of Concern

Common Name: Peninsular Range shoulderband — Scientific Name: Helminthoglypta traski coelata
Status: Species of Concern

Common Name: Kern shoulderband — Scientific Name: Helminthoglypta callistoderma
Status: Species of Concern

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: [Unnamed] islandsnail
Scientific Name: Micrarionta rowelli bakerensis
Status: Species of Concern

Common Name: Badwater snail
Scientific Name: Assiminea infima
Status: Species of Concern

Map ID Direction Distance Distance (ft.)			EDR ID Database
1 North 1/8-1/4 mi 708			CAGO10000016419 CA Government Lands
	Agency:	El Dorado, County of	
	Group:	Local Government	
	Level:	County	
A2 South 1/8-1/4 mi 870			CAGO10000016459 CA Government Lands
	Agency:	El Dorado, County of	
	Group:	Local Government	
	Level:	County	
A3 South 1/8-1/4 mi 870			CANAPA100025908 CA Protected Areas
	Holding ID:	54199	
	Unit Name:	Regional Park	
	Public Access Level:	Open Access	
	Alternate Site Name:	Not Reported	
	Owning Agency:	El Dorado, County of	
	Agency Jurisdiction:	County	
	Agency Type:	County Agency	
	Public Access:	http://www.edcgov.us/Parks/	
	Managing Agency:	El Dorado, County of	
	Holding Name:	Regional Park	
	Special Use:	Not Reported	
	Year Acquired:	0	
	GAP Designation:	Local Park	
	Protection Rank:	No known mandate for protection.	

URL: Not Reported

A4
South
1/8-1/4 mi
1136

CAGO10000016464
CA Government Lands

Agency: El Dorado, County of
Group: Local Government
Level: County

A5
South
1/8-1/4 mi
1136

CANAPA100025916
CA Protected Areas

Holding ID: 54197
Unit Name: Regional Park
Public Access Level: Open Access
Alternate Site Name: Not Reported
Owning Agency: El Dorado, County of
Agency Jurisdiction: County
Agency Type: County Agency
Public Access: http://www.edcgov.us/Parks/
Managing Agency: El Dorado, County of
Holding Name: Regional Park
Special Use: Not Reported
Year Acquired: 0
GAP Designation: Local Park
Protection Rank: No known mandate for protection.
URL: Not Reported

C6
South
1/4-1/2 mi
1515

CAGO10000016487
CA Government Lands

Agency: El Dorado, County of
Group: Local Government
Level: County

C7
South
1/4-1/2 mi
1515

CANAPA100025955
CA Protected Areas

Holding ID:	54196
Unit Name:	Regional Park
Public Access Level:	Open Access
Alternate Site Name:	Not Reported
Owning Agency:	El Dorado, County of
Agency Jurisdiction:	County
Agency Type:	County Agency
Public Access:	http://www.edcgov.us/Parks/
Managing Agency:	El Dorado, County of
Holding Name:	Regional Park
Special Use:	Not Reported
Year Acquired:	0
GAP Designation:	Local Park
Protection Rank:	No known mandate for protection.
URL:	Not Reported

B8
NNW
1/4-1/2 mi
1534

CAGO10000016403
CA Government Lands

Agency:	El Dorado Hills Community Service District
Group:	Local Government
Level:	Special District

B9
NNW
1/4-1/2 mi
1536

CANAPA100025821
CA Protected Areas

Holding ID:	54582
Unit Name:	Alan Lindsey Park
Public Access Level:	Open Access
Alternate Site Name:	Not Reported
Owning Agency:	El Dorado Hills Community Service District
Agency Jurisdiction:	Special District
Agency Type:	Community Services District
Public Access:	http://www.edhcsd.org/
Managing Agency:	El Dorado Hills Community Service District
Holding Name:	Alan Lindsey Park
Special Use:	Not Reported
Year Acquired:	0
GAP Designation:	Local Park
Protection Rank:	No known mandate for protection.
URL:	http://www.eldoradohillscsd.org/images/park_detail_popups/allan-lindsey/

E10
South
1/4-1/2 mi
1670

CAGO10000016494
CA Government Lands

Agency:	El Dorado, County of
Group:	Local Government
Level:	County

E11
South
1/4-1/2 mi
1670

CANAPA100025962
CA Protected Areas

Holding ID:	54195
Unit Name:	Regional Park
Public Access Level:	Open Access
Alternate Site Name:	Not Reported
Owning Agency:	El Dorado, County of
Agency Jurisdiction:	County
Agency Type:	County Agency
Public Access:	http://www.edcgov.us/Parks/
Managing Agency:	El Dorado, County of
Holding Name:	Regional Park
Special Use:	Not Reported
Year Acquired:	0
GAP Designation:	Local Park
Protection Rank:	No known mandate for protection.
URL:	Not Reported

D12
NNW
1/4-1/2 mi
1870

CANAPA100025810
CA Protected Areas

Holding ID:	92519
Unit Name:	Regional Park
Public Access Level:	Open Access
Alternate Site Name:	Not Reported
Owning Agency:	El Dorado, County of
Agency Jurisdiction:	County
Agency Type:	County Agency
Public Access:	http://www.edcgov.us/Parks/
Managing Agency:	El Dorado, County of
Holding Name:	Regional Park
Special Use:	Not Reported
Year Acquired:	0
GAP Designation:	Local Park
Protection Rank:	No known mandate for protection.
URL:	Not Reported

D13
NNW
1/4-1/2 mi
1870

CAGO10000016389
CA Government Lands

Agency:	El Dorado, County of
Group:	Local Government
Level:	County

F14
West
1/4-1/2 mi
1984

CAGO10000016351
CA Government Lands

Agency:	El Dorado, County of
Group:	Local Government
Level:	County

F15
West
1/4-1/2 mi
1984

CANAPA100025763
CA Protected Areas

Holding ID:	54204
Unit Name:	Regional Park
Public Access Level:	Open Access
Alternate Site Name:	Not Reported
Owning Agency:	El Dorado, County of
Agency Jurisdiction:	County
Agency Type:	County Agency
Public Access:	http://www.edcgov.us/Parks/
Managing Agency:	El Dorado, County of
Holding Name:	Regional Park
Special Use:	Not Reported
Year Acquired:	0
GAP Designation:	Local Park
Protection Rank:	No known mandate for protection.
URL:	Not Reported

G16
ENE
1/4-1/2 mi
2531

CAGO10000016319
CA Government Lands

Agency:	El Dorado, County of
Group:	Local Government
Level:	County

G17
ENE
1/4-1/2 mi
2531

CANAPA100025722
CA Protected Areas

Holding ID:	54214
Unit Name:	Regional Park
Public Access Level:	Open Access
Alternate Site Name:	Not Reported
Owning Agency:	El Dorado, County of
Agency Jurisdiction:	County
Agency Type:	County Agency
Public Access:	http://www.edcgov.us/Parks/
Managing Agency:	El Dorado, County of
Holding Name:	Regional Park
Special Use:	Not Reported
Year Acquired:	0
GAP Designation:	Local Park
Protection Rank:	No known mandate for protection.
URL:	Not Reported

H18
NNW
1/2-1 mi
3689

CAGO10000016322
CA Government Lands

Agency:	El Dorado, County of
Group:	Local Government
Level:	County

H19
NNW
1/2-1 mi
3727

CAGO10000016320
CA Government Lands

Agency:	El Dorado, County of
Group:	Local Government
Level:	County

H20
NNW
1/2-1 mi
3731

CANAPA100025723
CA Protected Areas

Holding ID:	54215
Unit Name:	Regional Park
Public Access Level:	Open Access
Alternate Site Name:	Not Reported
Owning Agency:	El Dorado, County of
Agency Jurisdiction:	County
Agency Type:	County Agency

Public Access:	http://www.edcgov.us/Parks/
Managing Agency:	El Dorado, County of
Holding Name:	Regional Park
Special Use:	Not Reported
Year Acquired:	0
GAP Designation:	Local Park
Protection Rank:	No known mandate for protection.
URL:	Not Reported

I21
NW
1/2-1 mi
3775

CAGO10000016312
CA Government Lands

Agency:	El Dorado, County of
Group:	Local Government
Level:	County

I22
NW
1/2-1 mi
3775

CANAPA100025710
CA Protected Areas

Holding ID:	54217
Unit Name:	Regional Park
Public Access Level:	Open Access
Alternate Site Name:	Not Reported
Owning Agency:	El Dorado, County of
Agency Jurisdiction:	County
Agency Type:	County Agency
Public Access:	http://www.edcgov.us/Parks/
Managing Agency:	El Dorado, County of
Holding Name:	Regional Park
Special Use:	Not Reported
Year Acquired:	0
GAP Designation:	Local Park
Protection Rank:	No known mandate for protection.
URL:	Not Reported

J23
NNW
1/2-1 mi
3780

CAGO10000016293
CA Government Lands

Agency:	El Dorado, County of
Group:	Local Government

Level:	County

J24
NNW
1/2-1 mi
3780

CANAPA100025674
CA Protected Areas

Holding ID:	54584
Unit Name:	Regional Park
Public Access Level:	Open Access
Alternate Site Name:	Not Reported
Owning Agency:	El Dorado, County of
Agency Jurisdiction:	County
Agency Type:	County Agency
Public Access:	http://www.edcgov.us/Parks/
Managing Agency:	El Dorado, County of
Holding Name:	Regional Park
Special Use:	Not Reported
Year Acquired:	0
GAP Designation:	Local Park
Protection Rank:	No known mandate for protection.
URL:	Not Reported

K25
NE
1/2-1 mi
3805

CAGO10000016256
CA Government Lands

Agency:	El Dorado, County of
Group:	Local Government
Level:	County

K26
NE
1/2-1 mi
3805

CANAPA100025583
CA Protected Areas

Holding ID:	54227
Unit Name:	Regional Park
Public Access Level:	Open Access
Alternate Site Name:	Not Reported
Owning Agency:	El Dorado, County of
Agency Jurisdiction:	County
Agency Type:	County Agency
Public Access:	http://www.edcgov.us/Parks/
Managing Agency:	El Dorado, County of

Holding Name:	Regional Park
Special Use:	Not Reported
Year Acquired:	0
GAP Designation:	Local Park
Protection Rank:	No known mandate for protection.
URL:	Not Reported

27
WNW
1/2-1 mi
4005

CAGO10000016385
CA Government Lands

Agency:	El Dorado, County of
Group:	Local Government
Level:	County

N28
NNW
1/2-1 mi
4388

CAGO10000016253
CA Government Lands

Agency:	El Dorado, County of
Group:	Local Government
Level:	County

M29
NW
1/2-1 mi
4413

CAGO10000016341
CA Government Lands

Agency:	El Dorado, County of
Group:	Local Government
Level:	County

L30
NW
1/2-1 mi
4444

CANAPA100025750
CA Protected Areas

Holding ID:	54207
Unit Name:	Regional Park
Public Access Level:	Open Access
Alternate Site Name:	Not Reported

Owning Agency:	El Dorado, County of
Agency Jurisdiction:	County
Agency Type:	County Agency
Public Access:	http://www.edcgov.us/Parks/
Managing Agency:	El Dorado, County of
Holding Name:	Regional Park
Special Use:	Not Reported
Year Acquired:	0
GAP Designation:	Local Park
Protection Rank:	No known mandate for protection.
URL:	Not Reported

N31
NNW
1/2-1 mi
4449

CANAPA100025580
CA Protected Areas

Holding ID:	54228
Unit Name:	Regional Park
Public Access Level:	Open Access
Alternate Site Name:	Not Reported
Owning Agency:	El Dorado, County of
Agency Jurisdiction:	County
Agency Type:	County Agency
Public Access:	http://www.edcgov.us/Parks/
Managing Agency:	El Dorado, County of
Holding Name:	Regional Park
Special Use:	Not Reported
Year Acquired:	0
GAP Designation:	Local Park
Protection Rank:	No known mandate for protection.
URL:	Not Reported

M32
WNW
1/2-1 mi
4517

CANAPA100025785
CA Protected Areas

Holding ID:	54203
Unit Name:	Regional Park
Public Access Level:	Open Access
Alternate Site Name:	Not Reported
Owning Agency:	El Dorado, County of
Agency Jurisdiction:	County
Agency Type:	County Agency
Public Access:	http://www.edcgov.us/Parks/
Managing Agency:	El Dorado, County of
Holding Name:	Regional Park
Special Use:	Not Reported

Year Acquired:	0
GAP Designation:	Local Park
Protection Rank:	No known mandate for protection.
URL:	Not Reported

L33
NW
1/2-1 mi
4542

CAGO10000016331
CA Government Lands

Agency:	El Dorado, County of
Group:	Local Government
Level:	County

34
WNW
1/2-1 mi
4588

CAGO10000016384
CA Government Lands

Agency:	El Dorado, County of
Group:	Local Government
Level:	County

O35
NW
1/2-1 mi
4962

CAGO10000016317
CA Government Lands

Agency:	El Dorado, County of
Group:	Local Government
Level:	County

O36
NW
1/2-1 mi
4964

CANAPA100025719
CA Protected Areas

Holding ID:	54216
Unit Name:	Regional Park
Public Access Level:	Open Access
Alternate Site Name:	Not Reported
Owning Agency:	El Dorado, County of
Agency Jurisdiction:	County

Agency Type:	County Agency
Public Access:	http://www.edcgov.us/Parks/
Managing Agency:	El Dorado, County of
Holding Name:	Regional Park
Special Use:	Not Reported
Year Acquired:	0
GAP Designation:	Local Park
Protection Rank:	No known mandate for protection.
URL:	Not Reported

P37
SSW
1/2-1 mi
5212

CAGO10000016566
CA Government Lands

Agency:	El Dorado Hills Community Service District
Group:	Local Government
Level:	Special District

P38
SSW
1/2-1 mi
5227

CANAPA100026055
CA Protected Areas

Holding ID:	54602
Unit Name:	Creekside Greens Park
Public Access Level:	Open Access
Alternate Site Name:	Not Reported
Owning Agency:	El Dorado Hills Community Service District
Agency Jurisdiction:	Special District
Agency Type:	Community Services District
Public Access:	http://www.edhcsd.org/
Managing Agency:	El Dorado Hills Community Service District
Holding Name:	Creekside Greens Park
Special Use:	Not Reported
Year Acquired:	0
GAP Designation:	Local Park
Protection Rank:	No known mandate for protection.
URL:	Not Reported

39
SSW
1/2-1 mi
5257

CAGO10000016560
CA Government Lands

Agency:	Other Federal

NATURAL AREAS MAP FINDINGS

Group: Other Federal Lands
Level: Federal

Endangered Species Codes

Global Imperilment Rank Codes - GRANK: Priority rank (1-5) based on number of occurrences through element's range.

G1 - Critically imperiled globally because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extinction.

G2 - Imperiled globally because of rarity (6-20 occurrences or few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extinction.

G3 - Vulnerable. Either very rare and local throughout its range or found locally (even abundantly at some of its locations) in a restricted range. (e.g., a single western state, a physiographic region in the East) or because of other factors making it vulnerable to extinction throughout its range; in terms of occurrences, in the range of 21 - 100.

G4 - Apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery.

G5 - Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.

GH - Possibly extinct or eliminated. Of historical occurrence throughout its range, i.e., formerly part of the established biota, with the expectation that it may be rediscovered (e.g., Bachman's Warbler). For historic and ecological communities, no likelihood for rediscovery, but possibility of restoration (e.g., American Chestnut Forest).

GNA - Not applicable to the element at a global level. Includes Hybrids, Invasive species, species of Domestic Origin, Cultural communities, and communities that have been managed.

GNR - Rank not assigned.

GU - Unrankable. Possibly in peril range-wide but status uncertain; more information is needed.

GX - Believed to be extinct throughout range (e.g., Passenger Pigeon) with virtually no likelihood that it will be rediscovered. For an ecological community, no restoration potential.

G#G# - Rank with a range. Used to show the range of uncertainty, will not skip more than 1 rank.

T-RANKS - T subranks are given to global ranks when a subspecies, variety, or race is considered at the state level. The subrank is made up of a "T" plus a number or letter (1, 2, 3, 4, 5, H, U, X) with the same ranking rules as a full species.

State Rank Codes - SRANK: Priority rank (1-5) based on number of occurrences through element's range.

S1 - Critically imperiled, Extremely rare. Typically 5 or fewer estimated occurrences in the state, or only a few remaining individuals, may be especially vulnerable to extirpation.

S2 - Imperiled, very rare. Typically between 5 and 20 estimated occurrences or with many individuals in fewer occurrences, often susceptible to becoming extirpated.

S3 - Vulnerable, rare to uncommon. Typically between 21 and 100 estimated occurrences, may have fewer occurrences but with large number of individuals in some populations, may be susceptible to large-scale disturbances.

S4 - Common, apparently secure under present conditions. Typically 100 or more estimated occurrences, but may be fewer with many large populations, may be restricted to only a portion of the state, usually not susceptible to immediate threats.

S5 - Demonstrably widespread, common, and secure in the state and essentially ineradicable under present conditions.

SA - Accidental.

SH - Historically known from the state, but not verified for an extended period, usually 15 years.

SU - Unrankable, not assessed. Possibly in peril in the state, but status uncertain, more information is needed. When possible, the most likely rank is assigned and a question mark is added to show uncertainty.

SX - Apparently extirpated from state.

SNR - Unranked. The state rank not yet assessed.

SRF - Reported falsely in the state.

SE - Exotic for local area.

SZ - Birds that migrate through the state but have no identifiable location.

S#S# - State level of G#G#.

Endangered Species Codes, (Continued...)

General Ranking Notes

Q - A "Q" in the global rank indicates the element’s taxonomic classification as a species is a matter of conjecture among scientists.

A - Accidental - far outside usual range

C - Captive or Cultivated only

HYB - Element represents an interspecific hybrid, not a species

R - Reported but not confirmed

Z - Zero Occurrences

Breeding Status Qualifiers (animals only)

B - Breeding population of the element

N - Nonbreeding population of the element

M - Migrant population

Historic Sites Map



- Target Property
- Streets
- County Boundary
- Waterways
- Water
- Historic Sites
- Federal Historic Areas
- State Historic Areas
- US Indian Reservations
- Scenic Trail

SITE NAME:	Costco El Dorado Hills	CLIENT:	Kleinfelder, Inc.
ADDRESS:	Costco El Dorado Hills El Dorado Hills CA 95762	CONTACT:	Lauren Yarbrough
LAT/LONG:	38.661584 / 121.056507	INQUIRY #:	7659435.13s
		DATE:	May 22, 2024

Copyright © 2024 EDR, Inc. © 2015 TomTom Rel. 2015.

HISTORIC SITES MAP FINDINGS

Map ID Direction Distance Distance (ft.)		EDR ID Database
1 SSW 1/4-1/2 mi 2165	**MORMON TAVERN-OVERLAND PONY EXPRESS ROUTE IN CALIFORNIA** **On frontage rd adjacent to State Hwy 50 (P.M. 1.5), take El Dorado Hills Blvd S for 0.5 mi to old White Rd (rd to Clarksville), then NE 0.9 mi, then go W 0.3 mi on PG&E Clarksville Substation Rd to pl** **0.5 mi W of Clarksville, CA**	**CA2016000000162** **CA Historic Landmarks**

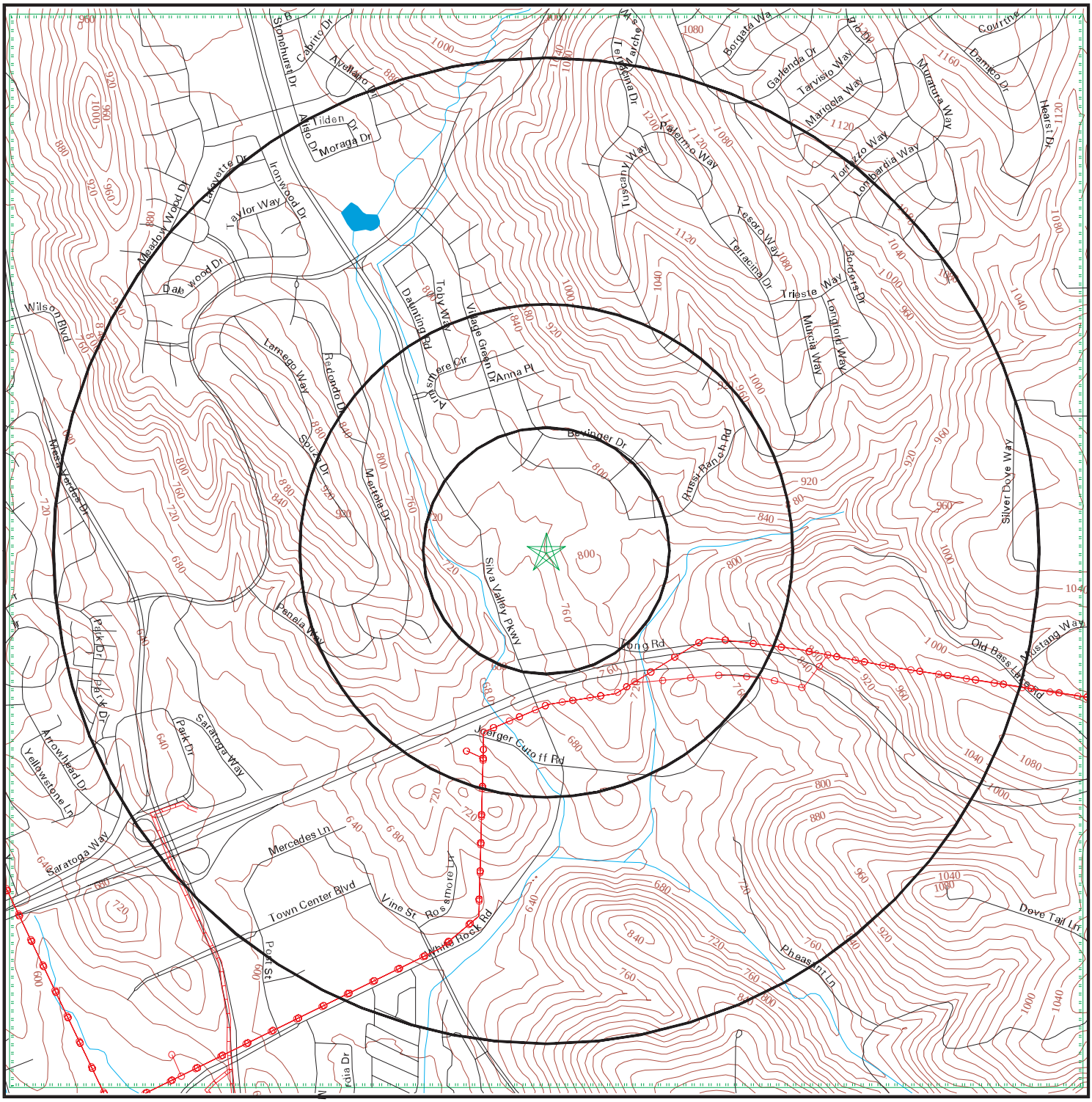
Site #: NO. 699
County: El Dorado
Description: At this site on the old Clarksville-White Rock Emigrant Road was Mormon Tavern. Constructed in 1849, this popular stage stop was enlarged and operated by Franklin Winchell in 1851. It became a remount station of the Central Overland Pony Express and on April 4, 1860, pony rider Sam (Bill) Hamilton changed horses here on the first eastbound trip.
URL: http://ohp.parks.ca.gov/?page_id=21417

UNMAPPABLE HISTORIC SITES

Due to poor or inadequate address information, the following sites were not mapped:	Status EDR ID Database

No unmapped sites were found in EDR's search of available government records.

Flood Plain Map



SITE NAME:	Costco El Dorado Hills	CLIENT:	Kleinfelder, Inc.
ADDRESS:	Costco El Dorado Hills El Dorado Hills CA 95762	CONTACT:	Lauren Yarbrough
LAT/LONG:	38.661584 / 121.056507	INQUIRY #:	7659435.13s
		DATE:	May 22, 2024

Copyright © 2024 EDR, Inc. © 2015 TomTom Rel. 2015.

FLOOD PLAIN MAP FINDINGS

Source: FEMA FIRM Flood Data, FEMA Q3 Flood Data

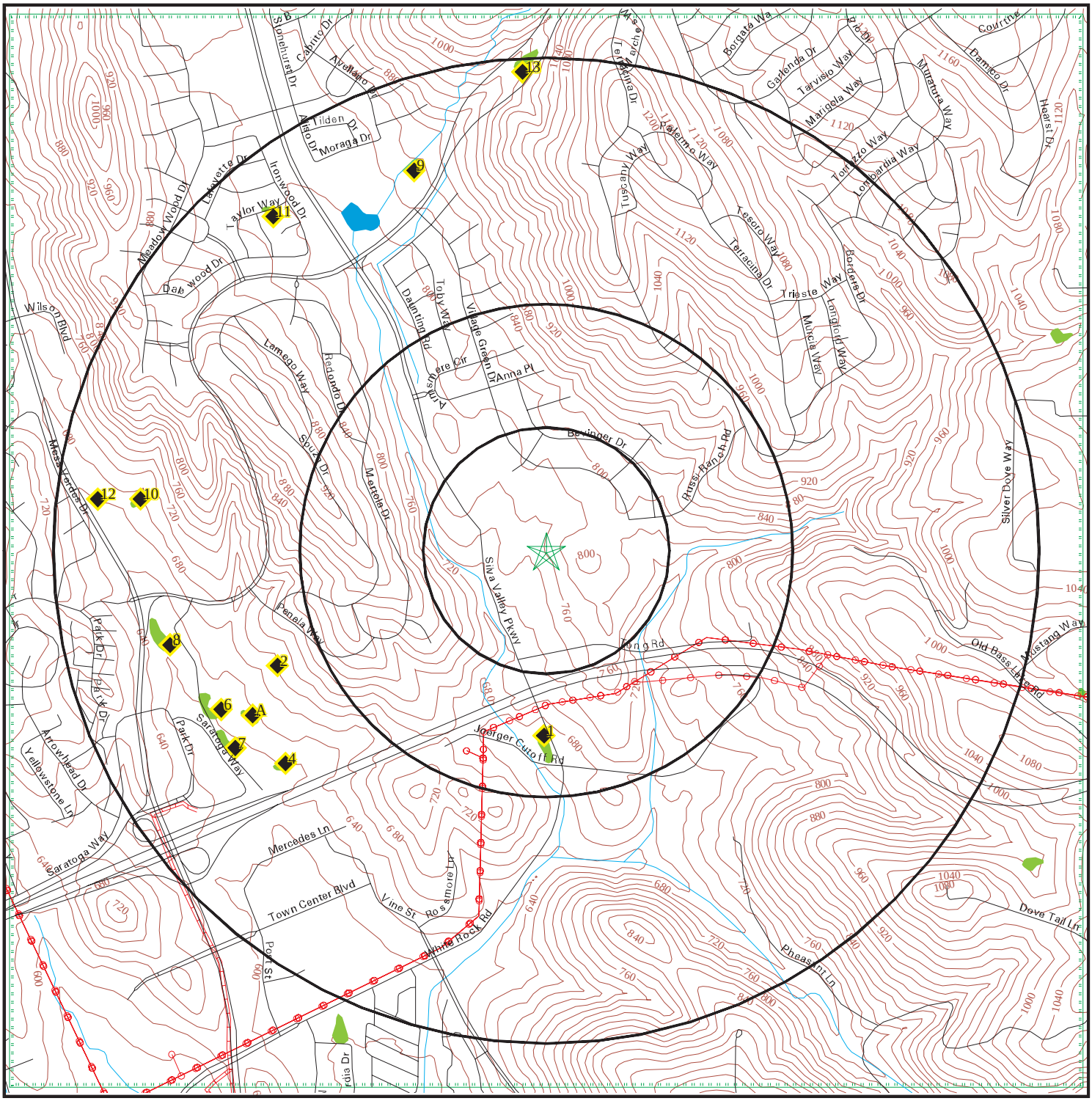
Flood Panel Number	**FEMA Source Type**

Flood Plain panel at target property:
06017C0725E (FEMA FIRM Flood data)

Additional Flood Plain panel(s) in search area:
06067C0140H (FEMA FIRM Flood data)

Map ID Direction Distance Distance (ft.)	Description	Database

Wetlands Map



SITE NAME:	Costco El Dorado Hills	CLIENT:	Kleinfelder, Inc.
ADDRESS:	Costco El Dorado Hills El Dorado Hills CA 95762	CONTACT:	Lauren Yarbrough
		INQUIRY #:	7659435.13s
LAT/LONG:	38.661584 / 121.056507	DATE:	May 22, 2024

Copyright © 2024 EDR, Inc. © 2015 TomTom Rel. 2015.

WETLANDS MAP FINDINGS

Source: Fish and Wildlife Service NWI data

NWI hardcopy map at target property: Clarksville
Additional NWI hardcopy map(s) in search area:
Not reported in source data

Map ID Direction Distance Distance (ft.)	Code and Description*	Database
1 South 1/4-1/2 mi 1982	PEMCh [P] Palustrine [EM] Emergent [C] Seasonally Flooded [h] Diked/Impounded Lat/Lon: 38.656143 / -121.056587	NWI
2 WSW 1/2-1 mi 3131	PUBHx [P] Palustrine [UB] Unconsolidated Bottom [H] Permanently Flooded [x] Excavated Lat/Lon: 38.658199 / -121.066589	NWI
A3 WSW 1/2-1 mi 3574	PUBHx [P] Palustrine [UB] Unconsolidated Bottom [H] Permanently Flooded [x] Excavated Lat/Lon: 38.656628 / -121.067307	NWI
4 SW 1/2-1 mi 3604	PUBHx [P] Palustrine [UB] Unconsolidated Bottom [H] Permanently Flooded [x] Excavated Lat/Lon: 38.655327 / -121.066284	NWI
A5 WSW 1/2-1 mi 3644	PUBHx [P] Palustrine [UB] Unconsolidated Bottom [H] Permanently Flooded [x] Excavated Lat/Lon: 38.656853 / -121.067741	NWI
6 WSW 1/2-1 mi 3878	PUBHx [P] Palustrine [UB] Unconsolidated Bottom [H] Permanently Flooded [x] Excavated Lat/Lon: 38.656914 / -121.068703	NWI
7 WSW 1/2-1 mi 3946	PUBHx [P] Palustrine [UB] Unconsolidated Bottom [H] Permanently Flooded [x] Excavated Lat/Lon: 38.655781 / -121.068176	NWI
8 WSW 1/2-1 mi 4157	PFOA [P] Palustrine [FO] Forested [A] Temporarily Flooded Lat/Lon: 38.658810 / -121.070625	NWI

*See Wetland Classification System for additional information.

WETLANDS MAP FINDINGS

Map ID Direction Distance Distance (ft.)	Code and Description*	Database
9 NNW 1/2-1 mi 4311	PUBFh [P] Palustrine [UB] Unconsolidated Bottom [F] Semipermanently Flooded [h] Diked/Impounded Lat/Lon: 38.672764 / -121.061462	NWI
10 West 1/2-1 mi 4380	PUBHx [P] Palustrine [UB] Unconsolidated Bottom [H] Permanently Flooded [x] Excavated Lat/Lon: 38.663101 / -121.071724	NWI
11 NW 1/2-1 mi 4623	PEMC [P] Palustrine [EM] Emergent [C] Seasonally Flooded Lat/Lon: 38.671413 / -121.066750	NWI
12 West 1/2-1 mi 4838	PUBHx [P] Palustrine [UB] Unconsolidated Bottom [H] Permanently Flooded [x] Excavated Lat/Lon: 38.663097 / -121.073334	NWI
13 North 1/2-1 mi 5135	PUBHh [P] Palustrine [UB] Unconsolidated Bottom [H] Permanently Flooded [h] Diked/Impounded Lat/Lon: 38.675663 / -121.057396	NWI

*See Wetland Classification System for additional information.

WETLANDS CLASSIFICATION SYSTEM

National Wetland Inventory Maps are produced by the U.S. Fish and Wildlife Service, a sub-department of the U.S. Department of the Interior. In 1974, the U.S. Fish and Wildlife Service developed a criteria for wetland classification with four long range objectives:

- to describe ecological units that have certain homogeneous natural attributes,
- to arrange these units in a system that will aid decisions about resource management,
- to furnish units for inventory and mapping, and
- to provide uniformity in concepts and terminology throughout the U.S.

High altitude infrared photographs, soil maps, topographic maps and site visits are the methods used to gather data for the productions of these maps. In the infrared photos, wetlands appear as different colors and these wetlands are then classified by type. Using a hierarchical classification, the maps identify wetland and deepwater habitats according to:

- system
- subsystem
- class
- subclass
- modifiers

(as defined by Cowardin, et al. U.S. Fish and Wildlife Service FWS/OBS 79/31. 1979.)

The classification system consists of five systems:

1. marine
2. estuarine
3. riverine
4. lacustrine
5. palustrine

The marine system consists of deep water tidal habitats and adjacent tidal wetlands. The riverine system consists of all wetlands contained within a channel. The lacustrine systems includes all nontidal wetlands related to swamps, bogs & marshes. The estuarine system consists of deepwater tidal habitats and where ocean water is diluted by fresh water. The palustrine system includes nontidal wetlands dominated by trees and shrubs and where salinity is below .5% in tidal areas. All of these systems are divided in subsystems and then further divided into class.

National Wetland Inventory Maps are produced by transferring gathered data on a standard 7.5 minute U.S.G.S. topographic map. Approximately 52 square miles are covered on a National Wetland Inventory map at a scale of 1:24,000. Electronic data is compiled by digitizing these National Wetland Inventory Maps.

SYSTEM **MARINE**

SUBSYSTEM **1 - SUBTIDAL** **2 - INTERTIDAL**

CLASS	RB-ROCK BOTTOM	UB-UNCONSOLIDATED BOTTOM	AB-AQUATIC BED	RF-REEF	OW-OPEN WATER / Unknown Bottom	AB-AQUATIC BED	RF-REEF	RS-ROCKY SHORE	US-UNCONSOLIDATED SHORE
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 3 Rooted Vascular 5 Unknown Submergent	1 Coral 3 Worm		1 Algal 3 Rooted Vascular 5 Unknown Submergent	1 Coral 3 Worm	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic

SYSTEM **E - ESTUARINE**

SUBSYSTEM **1 - SUBTIDAL**

CLASS	RB-ROCK BOTTOM	UB-UNCONSOLIDATED BOTTOM	AB-AQUATIC BED	RF-REEF	OW-OPEN WATER / Unknown Bottom
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 3 Rooted Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface	2 Mollusk 3 Worm	

SUBSYSTEM **2 - INTERTIDAL**

CLASS	AB-AQUATIC BED	RF-REEF	SB - STREAMBED	RS-ROCKY SHORE	US-UNCONSOLIDATED SHORE	EM-EMERGENT	SS-SCRUB SHRUB	FO-FORESTED
Subclass	1 Algal 3 Rooted Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface	2 Mollusk 3 Worm	1 Cobble- Gravel 2 Sand 3 Mud 4 Organic	1 Bedrock 2 Rubble	1 Cobble- Gravel 2 Sand 3 Mud 4 Organic	1 Persistent 2 Nonpersistent	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 Deciduous 7 Evergreen	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 Deciduous 7 Evergreen

SYSTEM — **R - RIVERINE**

SUBSYSTEM	**1 - TIDAL**	**2 - LOWER PERENNIAL**	**3 - UPPER PERENNIAL**	**4 - INTERMITTENT**	**5 - UNKNOWN PERENNIAL**
CLASS	RB-ROCK BOTTOM UB-UNCONSOLIDATED BOTTOM *SB-STREAMBED AB-AQUATIC BED RS-ROCKY SHORE US-UNCONSOLIDATED SHORE **EM-EMERGENT OW-OPEN WATER/ Unknown Bottom				
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Bedrock 2 Rubble 3 Cobble-Gravel 4 Sand 5 Mud 6 Organic 7 Vegetated	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	2 Nonpersistent

* STREAMBED is limited to TIDAL and INTERMITTENT SUBSYSTEMS, and comprises the only CLASS in the INTERMITTENT SUBSYSTEM.
**EMERGENT is limited to TIDAL and LOWER PERENNIAL SUBSYSTEMS.

SYSTEM — **L - LACUSTRINE**

SUBSYSTEM — **1 - LIMNETIC**

CLASS	RB-ROCK BOTTOM	UB-UNCONSOLIDATED BOTTOM	AB-AQUATIC BED	OW-OPEN WATER/ Unknown Bottom
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface	

SUBSYSTEM — **2 - LITTORAL**

CLASS	RB-ROCK BOTTOM	UB-UNCONSOLIDATED BOTTOM	AB-AQUATIC BED	RS-ROCKY SHORE	US-UNCONSOLIDATED SHORE	EM-EMERGENT	OW-OPEN WATER/ Unknown Bottom
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	2 Nonpersistent	

SUBSYSTEM — **P - PALUSTRINE**

CLASS	RB--ROCK BOTTOM	UB--UNCONSOLIDATED BOTTOM	AB-AQUATIC BED	US--UNCONSOLIDATED SHORE	ML--MOSS-LICHEN	EM--EMERGENT	SS--SCRUB-SHRUB	FO--FORESTED	OW-OPEN WATER/ Unknown
Bottom									
Subclass	1 Bedrock 2 Rubble 3 Mud 4 Organic	1 Cobble-Gravel 2 Sand	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	1 Moss 2 Lichen	1 Persistent 2 Nonpersistent	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 Deciduous 7 Evergreen	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6Deciduous 7 Evergreen	

MODIFIERS

In order to more adequately describe wetland and deepwater habitats one or more of the water regime, water chemistry, soil, or special modifiers may be applied at the class or lower level in the hierarchy. The farmed modifier may also be applied to the ecological system.

WATER REGIME

Non-Tidal

A Temporarily Flooded
B Saturated
C Seasonally Flooded
D Seasonally Flooded/ Well Drained
E Seasonally Flooded/ Saturated
F Semipermanently Flooded
G Intermittently Exposed

Tidal

H Permanently Flooded
J Intermittently Flooded
K Artificially Flooded
W Intermittently Flooded/Temporary
Y Saturated/Semipermanent/ Seasonal
Z Intermittently Exposed/Permanent
U Unknown

CoastalHalinityInlandSalinitypHModifiersfor

K Artificially Flooded
L Subtidal
M Irregularly Exposed
N Regularly Flooded
P Irregularly Flooded

*S Temporary-Tidal
*R Seasonal-Tidal
*T Semipermanent -Tidal
V Permanent -Tidal
U Unknown

*These water regimes are only used in tidally influenced, freshwater systems.

WATER CHEMISTRY

1 Hyperhaline
2 Euhaline
3 Mixohaline (Brackish)
4 Polyhaline
5 Mesohaline
6 Oligohaline
0 Fresh

7 Hypersaline
8 Eusaline
9 Mixosaline
0 Fresh

all Fresh Water

a Acid
t Circumneutral
i Alkaline

SOIL

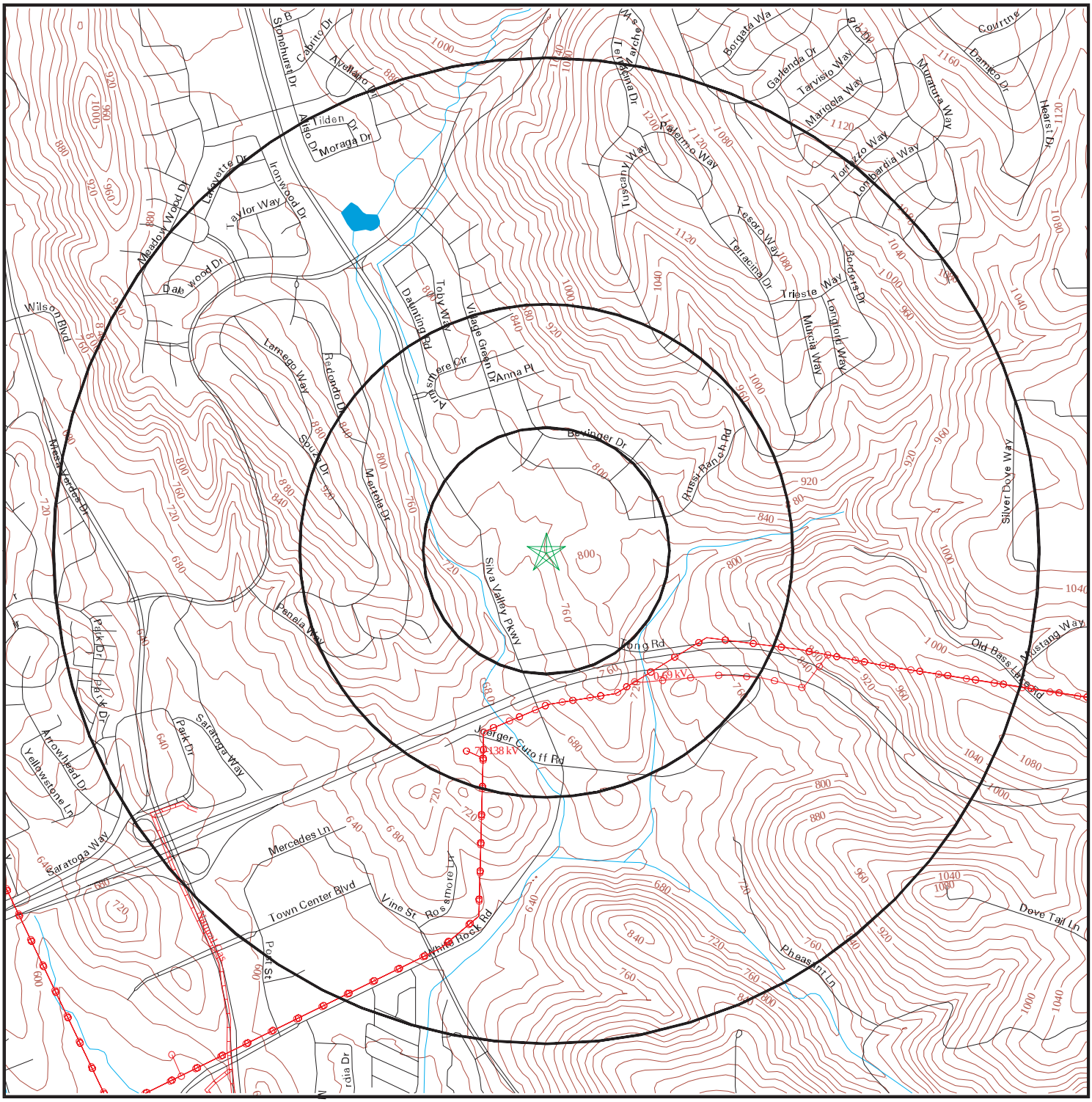
g Organic
n Mineral

SPECIAL MODIFIERS

b Beaver
d Partially Drained/Ditched
f Farmed
h Diked/Impounded
r Artificial Substrate
s Spoil
x Excavated

Source: U.S. Department of the Interior
Fish and Wildlife Service
National Wetlands Inventory

FCC & FAA Sites Map



SITE NAME:	Costco El Dorado Hills	CLIENT:	Kleinfelder, Inc.
ADDRESS:	Costco El Dorado Hills El Dorado Hills CA 95762	CONTACT:	Lauren Yarbrough
		INQUIRY #:	7659435.13s
LAT/LONG:	38.661584 / 121.056507	DATE:	May 22, 2024

Copyright © 2024 EDR, Inc. © 2015 TomTom Rel. 2015.

FCC & FAA SITES MAP FINDINGS
TOWERS

Map ID Direction Distance Distance (ft.)	EDR ID Database

No Sites Reported.

FCC & FAA SITES MAP FINDINGS
AIRPORTS

EDR ID
Database

No Sites Reported.

FCC & FAA SITES MAP FINDINGS
POWERLINES

EDR ID
Database

78747
POWERLINES

Voltage:	138
Range:	Not Reported
Hi voltage:	0
Volt cat:	70-138 kV
Type:	Alternating current
Status:	Active
Corridor:	Multiple lines
Owner:	FirstEnergy Corp.
Owner id:	FIRENG
Num owners:	Single Owner
Operator:	Allegheny Power
Operator id:	ALLEGPWR
Last owner:	Allegheny Energy Inc.
Last own id:	ALLEGH
Last oper:	Not Reported
Last oper id:	Not Reported
Mileage:	.89495517999999996

81735
POWERLINES

Voltage:	0
Range:	Not Reported
Hi voltage:	0
Volt cat:	0-69 kV
Type:	Alternating current
Status:	Active
Corridor:	Single line
Owner:	Not Reported
Owner id:	Not Reported
Num owners:	Single Owner
Operator:	Not Reported
Operator id:	Not Reported
Last owner:	Not Reported
Last own id:	Not Reported
Last oper:	Not Reported
Last oper id:	Not Reported
Mileage:	1.4974377299999999

82642
POWERLINES

Voltage:	115
Range:	Yes
Hi voltage:	161
Volt cat:	70-138 kV
Type:	Alternating current

FCC & FAA SITES MAP FINDINGS
POWERLINES

EDR ID
Database

Status:	Active
Corridor:	Multiple lines
Owner:	Not Reported
Owner id:	Not Reported
Num owners:	Single Owner
Operator:	Not Reported
Operator id:	Not Reported
Last owner:	Not Reported
Last own id:	Not Reported
Last oper:	Not Reported
Last oper id:	Not Reported
Mileage:	7.60634823

79656
POWERLINES

Voltage:	0
Range:	Not Reported
Hi voltage:	0
Volt cat:	0-69 kV
Type:	Alternating current
Status:	Active
Corridor:	Single line
Owner:	Not Reported
Owner id:	Not Reported
Num owners:	Single Owner
Operator:	Not Reported
Operator id:	Not Reported
Last owner:	Not Reported
Last own id:	Not Reported
Last oper:	Not Reported
Last oper id:	Not Reported
Mileage:	33.564215709999999

80108
POWERLINES

Voltage:	230
Range:	Not Reported
Hi voltage:	0
Volt cat:	139-230 kV
Type:	Alternating current
Status:	Active
Corridor:	Single line
Owner:	U.S. Department of Interior
Owner id:	DOI
Num owners:	Single Owner
Operator:	Bonneville Power Administration
Operator id:	BPA

FCC & FAA SITES MAP FINDINGS
POWERLINES

EDR ID
Database

Last owner:	Not Reported
Last own id:	Not Reported
Last oper:	Not Reported
Last oper id:	Not Reported
Mileage:	1.3785855199999999

78909
POWERLINES

Voltage:	0
Range:	Not Reported
Hi voltage:	0
Volt cat:	0-69 kV
Type:	Alternating current
Status:	Active
Corridor:	Single line
Owner:	Not Reported
Owner id:	Not Reported
Num owners:	Single Owner
Operator:	Not Reported
Operator id:	Not Reported
Last owner:	Not Reported
Last own id:	Not Reported
Last oper:	Not Reported
Last oper id:	Not Reported
Mileage:	1.1209332700000001

79495
POWERLINES

Voltage:	60
Range:	Yes
Hi voltage:	92
Volt cat:	0-69 kV
Type:	Alternating current
Status:	Active
Corridor:	Single line
Owner:	Sacramento Municipal Utility District
Owner id:	SACRAMEN
Num owners:	Single Owner
Operator:	Sacramento Municipal Utility District
Operator id:	SACRAMEN
Last owner:	Not Reported
Last own id:	Not Reported
Last oper:	Not Reported
Last oper id:	Not Reported
Mileage:	.94368171999999995

FCC & FAA SITES MAP FINDINGS
POWERLINES

EDR ID
Database

80613
POWERLINES

Voltage:	46
Range:	Not Reported
Hi voltage:	0
Volt cat:	0-69 kV
Type:	Alternating current
Status:	Active
Corridor:	Single line
Owner:	MidAmerican Energy Holdings Company
Owner id:	MIDAMRHC
Num owners:	Single Owner
Operator:	PacifiCorp
Operator id:	PACCRP
Last owner:	ScottishPower
Last own id:	SCOTPWR
Last oper:	Not Reported
Last oper id:	Not Reported
Mileage:	5.7121772399999999

81104
POWERLINES

Voltage:	69
Range:	Not Reported
Hi voltage:	0
Volt cat:	0-69 kV
Type:	Alternating current
Status:	Active
Corridor:	Single line
Owner:	Not Reported
Owner id:	Not Reported
Num owners:	Single Owner
Operator:	Not Reported
Operator id:	Not Reported
Last owner:	Not Reported
Last own id:	Not Reported
Last oper:	Not Reported
Last oper id:	Not Reported
Mileage:	.76259668000000003

79388
POWERLINES

Voltage:	60
Range:	Yes
Hi voltage:	92
Volt cat:	0-69 kV
Type:	Alternating current

FCC & FAA SITES MAP FINDINGS
POWERLINES

EDR ID
Database

Status:	Active
Corridor:	Single line
Owner:	Sacramento Municipal Utility District
Owner id:	SACRAMEN
Num owners:	Single Owner
Operator:	Sacramento Municipal Utility District
Operator id:	SACRAMEN
Last owner:	Not Reported
Last own id:	Not Reported
Last oper:	Not Reported
Last oper id:	Not Reported
Mileage:	.059297099999999998

78862
POWERLINES

Voltage:	0
Range:	Not Reported
Hi voltage:	0
Volt cat:	0-69 kV
Type:	Alternating current
Status:	Active
Corridor:	Single line
Owner:	Not Reported
Owner id:	Not Reported
Num owners:	Single Owner
Operator:	Not Reported
Operator id:	Not Reported
Last owner:	Not Reported
Last own id:	Not Reported
Last oper:	Not Reported
Last oper id:	Not Reported
Mileage:	1.63193297

82035
POWERLINES

Voltage:	115
Range:	Not Reported
Hi voltage:	0
Volt cat:	70-138 kV
Type:	Alternating current
Status:	Active
Corridor:	Single line
Owner:	American Electric Power
Owner id:	AMELECCO
Num owners:	Single Owner
Operator:	Southwestern Electric Power Co.
Operator id:	SWEP

FCC & FAA SITES MAP FINDINGS
POWERLINES

EDR ID
Database

Last owner:	Not Reported
Last own id:	Not Reported
Last oper:	Not Reported
Last oper id:	Not Reported
Mileage:	3.4030624999999999

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

Various Federal laws and executive orders address specific environmental concerns. NEPA requires the responsible offices to integrate to the greatest practical extent the applicable procedures required by these laws and executive orders. EDR provides key contacts at agencies charged with implementing these laws and executive orders to supplement the information contained in this report.

NATURAL AREAS
Wilderness Areas
Government Records Searched in This Report

FED_LAND: Federal Lands
Source: USGS
Telephone: 703-648-5094
Federal data from Bureau of Land Management, National Park Service, Forest Service, and Fish and Wildlife Service.
- National Parks
- Forests
- Monuments
- Wildlife Sanctuaries, Preserves, Refuges
- Federal Wilderness Areas.

Date of Government Version: 12/31/2005

US NWP: National Wilderness Preservation System
This map layer consists of National Wilderness Preservation System areas of 320 acres or more, in the United States, Puerto Rico, and the U.S. Virgin Islands. Some established wilderness areas which are larger than 320 acres are not included in this map layer because their boundaries were not available from the owning or administering agency.
Source: U.S. Geological Survey.
Telephone: 888-275-8747

Federal Contacts for Additional Information

National Park Service, Pacific West Region
600 Harrison Street, Suite 600
San Francisco CA 94107
415-427-1300

USDA Forest Service, Pacific Southwest
630 Sansome Street
San Francisco CA 94111
415-705-2557

BLM - California State Office
2800 Cottage Way, Room W-1834
Sacramento CA 95825-1886
916-978-4400

Fish & Wildlife Service, Fish & Wildlife Region 8
2800 Cottage Way W-2606
Sacramento CA 95825
916-414-6464

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

Wildlife Preserves, Sanctuaries and Refuges
Government Records Searched in This Report

FED_LAND: Federal Lands
Source: USGS
Telephone: 703-648-5094
Federal data from Bureau of Land Management, National Park Service, Forest Service, and Fish and Wildlife Service.
- National Parks
- Forests
- Monuments
- Wildlife Sanctuaries, Preserves, Refuges
- Federal Wilderness Areas.

Date of Government Version: 12/31/2005

CA ACEC: Areas of Critical Environmental Concern
BLM Areas of Critical Environmental Concern in California
Source: Bureau of Land Management.
Telephone: 916-978-4400

CA Conservation Easement: Conservation Easement Database
The California Conservation Easement Database (CCED) contains GIS data for conservation and open space easements for public and private property.
Source: GreenInfo Network.
Telephone: 510-350-8700

CA Government Land: CA Government Owned Land
Statewide GIS layer of land ownership, compiled from multiple data sources and snapped to county parcels.
Source: Cal Fire.
Telephone: 916-653-5123

CA PCT Lands: CA Public, Conservation and Trust Lands
A 1:100,000 polygon features class representing public, conservation and trust land ownership in the state of California Developed for the California Resources Agency Legacy Project, this dataset depicts ownership features as submitted by major public, trust, and non-profit groups in the state.
Source: California Resources Agency.
Telephone: 510-653-1369

CA Protected Areas: Protected Areas Database
The California Protected Areas Database (CPAD) contains GIS data about lands that are owned in fee and protected for open space purposes by over 1,000 public agencies or non-profit organizations.
Source: GreenInfo Network.
Telephone: 510-350-8700

US Proclamation Boundaries: US Proclamation Boundaries
Approved, Proclamation or Extent Boundary
Source: USGS.
Telephone: 208-301-8288

US ACEC: Areas of Critical Environmental Concern Designated Polygons
The designated ACECs are "areas within the public lands where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems of processes, or to protect life and safety from natural hazards
Source: Bureau of Land Management.
Telephone: 202-912-7352

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

US Critical Water Habitat: US Critical Water Habitat
When a species is proposed for listing as endangered or threatened under the Endangered Species Act, the U.S. Fish and Wildlife Service must consider whether there are areas of habitat believed to be essential the species conservation. Those areas may be proposed for designation as critical habitat. Critical habitat is a term defined and used in the Act.
Source: US Fish & Wildlife Services.
Telephone: 970-226-9468

World Database on Protected Areas: World Database on Protected Areas
The World Database on Protected Areas (WDPA) is the most comprehensive global database of marine and terrestrial protected areas. It is a joint project between UN Environment Programme and the IUCN, and is managed by UNEP-WCMC, in collaboration with governments, non-governmental organizations, academia and industry.
Source: UN Environment World Conservation Monitoring Centre.
Telephone: +44 (0)1223 277314

US Scenic River: National Wild and Scenic River System
National Wild and Scenic Rivers System
Source: USGS National Atlas and the Interagency Wild and Scenic River Coordinating Council.
Telephone: 509-546-8333

US NCED: National Conservation Easement Database
NCED shows a comprehensive picture of privately owned conservation easement lands in the U.S. The NCED will allow better strategic planning for conservation and development by merging data on land protection with biodiversity and resources, improving ecological and economic plans and investments.
Source: U.S Endowment for Forestry and Communities.
Telephone: 202-621-1647

US Critical Land Habitat: US Critical Land Habitat
When a species is proposed for listing as endangered or threatened under the Endangered Species Act, the U.S. Fish and Wildlife Service must consider whether there are areas of habitat believed to be essential the species conservation. Those areas may be proposed for designation as critical habitat. Critical habitat is a term defined and used in the Act.
Source: US Fish & Wildlife Services.
Telephone: 970-226-9468

Federal Contacts for Additional Information

Fish & Wildlife Service, Fish & Wildlife Region 8
2800 Cottage Way W-2606
Sacramento CA 95825
916-414-6464

State Contacts for Additional Information

Department of Fish and Wildlife
916-653-7667

Wild and scenic rivers

Government Records Searched in This Report

FED_LAND: Federal Lands
Source: USGS
Telephone: 703-648-5094
Federal data from Bureau of Land Management, National Park Service, Forest Service, and Fish and Wildlife Service.
- National Parks
- Forests
- Monuments
- Wildlife Sanctuaries, Preserves, Refuges
- Federal Wilderness Areas.

Date of Government Version: 12/31/2005

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

Federal Contacts for Additional Information
Fish & Wildlife Service, Fish & Wildlife Region 8
2800 Cottage Way W-2606
Sacramento CA 95825
916-414-6464

Endangered Species

Government Records Searched in This Report
CA Endangered Species: Natural Diversity Database
Source: Dept. of Fish and Game.
Telephone: 916-324-3812

CA Endangered Species: California Natural Diversity Database
The California Natural Diversity Database (CNDDB) provides location and status information for the California most imperiled species.
Source: Department of Fish and Wildlife.
Telephone: 916-322-2493

Federal Endangered Species by County: Threatened and Endangered Species Listing
Endangered, Threatened, Emergency Listing (Endangered), Emergency Listing (Threatened), Experimental Population (Essential), Experimental Population (Non-Essential), Similarity of Appearance (Endangered), Similarity of Appearance (Threatened).
Source: US Fish and Wildlife Services.
Telephone: 800-344-9453

Federal Contacts for Additional Information
Fish & Wildlife Service, Fish & Wildlife Region 8
2800 Cottage Way W-2606
Sacramento CA 95825
916-414-6464

State Contacts for Additional Information
Natural Heritage Program, Dept. of Fish & Game
916-322-2493

LANDMARKS, HISTORICAL, AND ARCHEOLOGICAL SITES
Historic Places
Government Records Searched in This Report
National Register of Historic Places:
The National Register of Historic Places is the official federal list of districts, sites, buildings, structures, and objects significant in American history, architecture, archeology, engineering, and culture. These contribute to an understanding of the historical and cultural foundations of the nation.
The National Register includes:
- All prehistoric and historic units of the National Park System;
- National Historic Landmarks, which are properties recognized by the Secretary of the Interior as possessing national significance; and
- Properties significant in American, state, or local prehistory and history that have been nominated by State Historic Preservation Officers, federal agencies, and others, and have been approved for listing by the National Park Service.

Date of Government Version: 07/19/2015

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

CA Historic Landmarks: CA Historical Landmarks
Historical Landmarks are sites, buildings, features or events that are of statewide significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value
Source: Office of Historic Preservation.
Telephone: 916-653-6624

Potomac Heritage National Scenic Trail: Potomac Heritage National Scenic Trail
Source: Potomac Heritage NST Office.
Telephone: 304-535-4014

Natchez Trace National Scenic Trail: Natchez Trace National Scenic Trail
Source: Natchez Trace Parkway.
Telephone: 800-305-7417

Indian Reservations: Indian Reservations
This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.
Source: USGS.
Telephone: 202-208-3710

US Trails: US Trails
This dataset contains a baseline inventory and condition assessment of all non-motorized trails on U.S. Fish and Wildlife Service lands as part of the National Trails Inventory Program conducted by the US Dept. of Transportation, Federal Highway Administration, Federal Lands Highway Division.
Source: U.S. Fish and Wildlife.
Telephone: 703-358-2205

Federal Contacts for Additional Information

Park Service; Advisory Council on Historic Preservation
1849 C Street NW
Washington, DC 20240
Phone: (202) 208-6843

State Contacts for Additional Information

Office of Historic Preservation, Ept. Of Parks & Recreation
916-653-6624

Indian Religious Sites

Government Records Searched in This Report

Indian Reservations:
This map layer portrays Indian administrated lands of the United States that have any area equal to or greater than 640 acres.
Source: USGS
Phone: 888-275-8747
Date of Government Version: 12/31/2005

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

Federal Contacts for Additional Information

Department of the Interior- Bureau of Indian Affairs
Office of Public Affairs
1849 C Street, NW
Washington, DC 20240-0001
Office: 202-208-3711
Fax: 202-501-1516

National Association of Tribal Historic Preservation Officers
1411 K Street NW, Suite 700
Washington, DC 20005
Phone: 202-628-8476
Fax: 202-628-2241

State Contacts for Additional Information

A listing of local Tribal Leaders and Bureau of Indian Affairs Representatives can be found at:
http://www.doi.gov/bia/areas/agency.html

Phoenix Area Office, Bureau of Indian Affairs
One North First Street P.O. Box 10
Phoenix AZ 85001
602-379-6600

Sacramento Area Office, Bureau of Indian Affairs
2800 Cottage Way
Sacramento CA 95825
916-979-2600

Cultural Division, Yuork Tribe
1034 6th Street
Eureka CA 95501

Scenic Trails

State Contacts for Additional Information

Pacific Crest Trail Association
5325 Elkhorn Boulevard, #256
Sacramento, California 95842
916-349-2109

FLOOD PLAIN, WETLANDS AND COASTAL ZONE

Flood Plain Management

Government Records Searched in This Report

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts Special Flood Hazard Areas (1%) and 0.2% Annual Chance of Flood Hazard as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA
Phone: 877-336-2627
Date of Government Version: 2015, 2003

Federal Contacts for Additional Information

Federal Emergency Management Agency
877-3362-627

State Contacts for Additional Information

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

Office of Emergency Services
916-262-1843

Wetlands Protection
Government Records Searched in This Report
NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010, and 2015 from the U.S. Fish and Wildlife Service.
Source: U.S. Fish and Wildlife Service.
Phone: 608-238-9333
Date of Government Version: 05/28/2015

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

Federal Contacts for Additional Information
Fish & Wildlife Service
813-570-5412

State Contacts for Additional Information
Department of Fish and Wildlife
916-653-7667

Coastal Zone Management
Government Records Searched in This Report
CAMA Management Areas
Dept. of Env., Health & Natural Resources
919-733-2293

Federal Contacts for Additional Information
Office of Ocean and Coastal Resource Management
N/ORM, SSMC4
1305 East-West Highway
Silver Spring, Maryland 20910
301-713-3102

State Contacts for Additional Information
California Coastal Commission
415-904-5200

CA Coastline Information
Department of Fish and Game
831-649-7143

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

FCC & FAA SITES MAP
For NEPA actions that come under the authority of the FCC, the FCC requires evaluation of Antenna towers and/or supporting structures that are to be equipped with high intensity white lights which are to be located in residential neighborhoods, as defined by the applicable zoning law.

Government Records Searched in This Report

Cellular
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554
888-225-5322

Antenna Structure Registration
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554
888-225-5322

AM Antenna
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554
888-225-5322

FM Antenna
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554
888-225-5322

FAA Digital Obstacle File
Federal Aviation Administration (FAA)
1305 East-West Highway, Station 5631
Silver Sprinng, MD 20910-3281
Telephone: 301-713-2817
Describes known obstacles of interest to aviation users in the US. Used by the Federal Aviation Administration (FAA) and the National Oceanic and Atmospheric Administration to manage the National Airspace System.

Airport Landing Facilities
Federal Aviation Administration
Telephone (800) 457-6656
Private and public use landing facilities.

Electric Power Transmission Line Data
PennWell Corporation
This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

Excessive Radio Frequency Emission
For NEPA actions that come under the authority of the FCC, Commission actions granting construction permits, licenses to transmit or renewals thereof, equipment authorizations or modifications in existing facilities, require the determination of whether the particular facility, operation or transmitter would cause human exposure to levels of radio frequency in excess of certain limits.

Federal Contacts for Additional Information

Office of Engineering and Technology
Federal Communications Commission
445 12th Street SW
Washington, DC 20554
Phone: 202-418-2470

OTHER CONTACT SOURCES

Grants Coordination, State Clearinghouse
P.O. Box 3044, Room 222
Sacramento CA 95812-3044
916-445-0613

STREET AND ADDRESS INFORMATION

(c) 2015 TomTom North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to TomTom North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

Appendix H

Drainage Study

DATE: April 14, 2025

TO: Kier+Wright and Costco Wholesale

FROM: Patrick Stiehr, PE

RE: Drainage Study for Costco El Dorado Hills at Highway 50 and Silva Valley Parkway

OVERVIEW

The project consists of two hydraulically connected parcels covering about 45 acres that include a Costco gas station on the northeast side of Silva Valley Parkway and a Costco warehouse on the southwest side. Both are located just north of the Highway 50 interchange. See **Figure 1**, **Vicinity Map**.

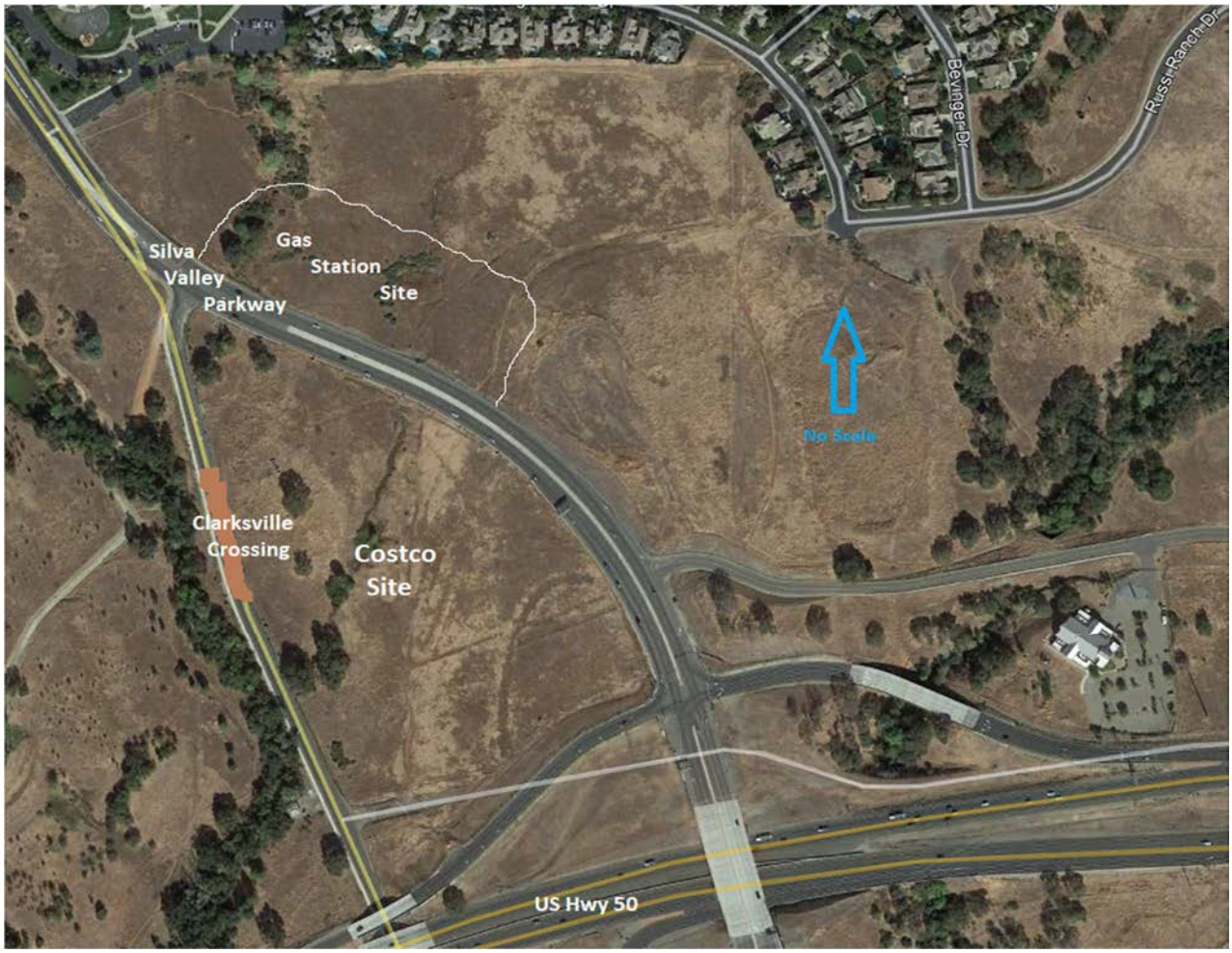


Figure 1. Vicinity Map

3153 Jenna Court
Roseville, CA 95747

Phone: 916- 774- 1111, Fax: 916- 774- 1181
Mobile: 916- 715- 1167, email: pstiehr@wtrmark.com

This study provides evaluation of the proposed onsite facilities to demonstrate adequate capacity of the proposed drainage facilities but does not address downstream conditions. A consideration is that the proposed Costco development is located at the lower end of the 763-acre watershed the passes under Highway 50. Per Caltrans requirement, the drainage facilities will include attenuation storage to reduce the estimated peak 100-year flow to existing conditions. The peak flow from this development area will enter the watercourse and pass under Highway 50 at least 15 minutes before the main stem peak arrives, meaning the likelihood of the proposed development increasing the main stem peak flow is minimal.

HYDROLOGY

The hydrology was based on the SCS methodology embedded within the XP-SWMM software.

Soils

The soils within the project area are classified by the NRCS as Auburn Silt Loam and falls within Hydrologic Group D, low infiltration. The published hydraulic conductivity for the Auburn Silt Loam is 7.09 micrometers per second, or one inch per hour in US units.

Shed Definition

The gas station was divided into five subsheds, DMAs 8-12. There are five offsite sheds, A B, C1, C2, and D. The Costco site was divided into seven sheds, DMAs 1-7. All of the site generally drains to the southwest.

The Drainage Management Areas (DMAs) are shown on the 'Storm Water Quality Control Plan prepared by Kier+Wright and are shown on **Figure 2**. Offsite flows from the northeast will be piped through both the gas station and warehouse sites.

SCS Parameters

The idealized rainfall distribution for the 10-year, 24-hour storm was developed from the El Dorado County Table A2.2.3, depth-duration-frequency, developed by Jim Goodridge in 2008. A screen shot of the hyetograph is shown in **Figure 3**. The mean annual rainfall was estimated at 26 inches per year.

An assumed time-of-concentration of five minutes and a Curve Number of 98 were used for all nodes within the project areas. **Table 1** provides a summary of the shed areas and peak flows from the 10-year and 100-year, 24-hour storms. The 100-year storm has the same general shape as the 10-year storm, but with greater intensities and storm volume.

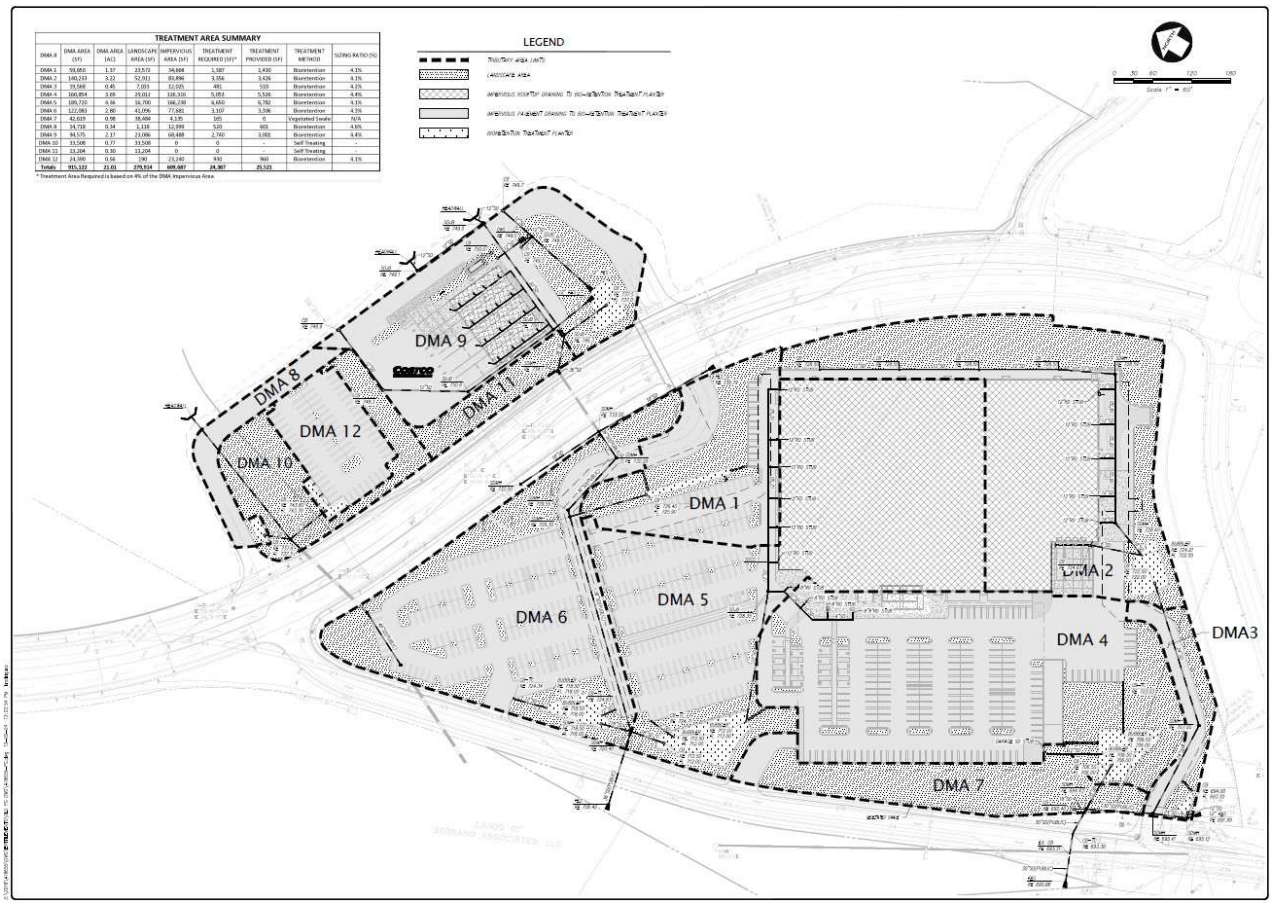


Figure 2. DMA Areas

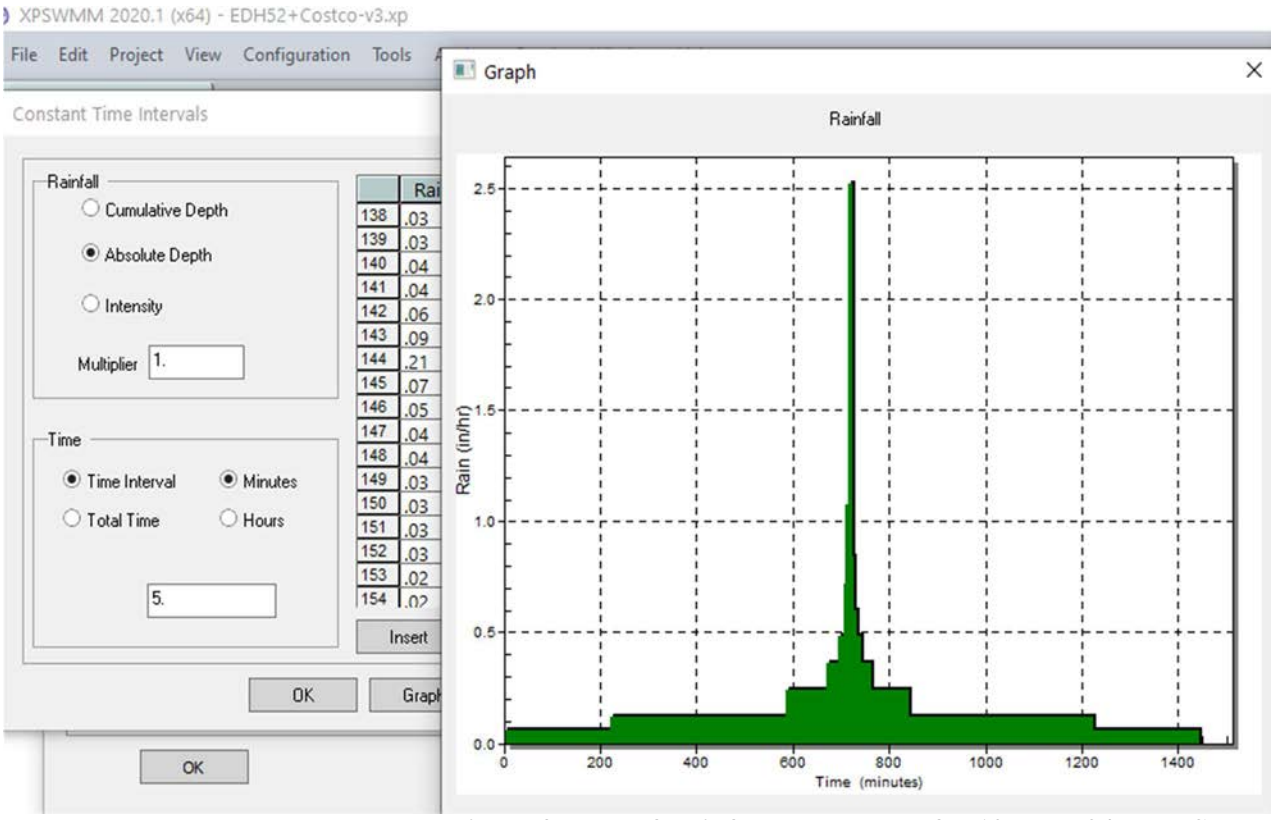


Figure 3. Plot of Rainfall Hyetograph for 10-year, 24-hour Storm

Table 1 Summary of Hydrologic Parameters and Design Flows

Node Name	Area acres	Width ft	Slope ft/ft	Pervious Area Curve Number	Impervious Percentage %	10-yr Max Flow cfs	100-yr Max Flow cfs	Initial Abstraction Fraction min	Initial Abstraction Depth in	Pervious Area Curve Number	Time of Concentration (min)
ClrkvilXinDIa	0.3	30	0.02	95	98.00	0.70	1.2	0.2	0.05	95	5
ClrkvilXingDIb	0.3	30	0.02	95	95.00	0.70	1.2	0.2	0.05	95	5
DMA 10	0.77	50	0.01	80	2.00	0.90	2.1	0.2	0.04	80	6
DMA 11	0.3	40	0.01	80	2.00	0.40	0.9	0.2	0.04	80	5
DMA 12bio	0.56	100	0.01	95	95.00	1.30	2.2	0.2	0.04	95	5
DMA 1Bio	1.37	100	0.005	95	95.00	3.10	5.5	0.2	0.05	95	5
DMA 2bio	3.22	100	0.01	95	95.00	7.30	12.9	0.2	0.05	95	5
DMA 3bio	0.45	100	0.01	95	95.00	1.00	1.8	0.2	0.05	95	5
DMA 4bio	3.69	250	0.01	95	95.00	8.40	14.8	0.2	0.05	95	5
DMA 5bio	4.36	230	0.01	95	95.00	9.90	17.5	0.2	0.05	95	5
DMA 6bio	2.8	300	0.01	95	90.00	6.30	11.2	0.2	0.05	95	5
DMA 7	0.98	50	0.01	95	95.00	2.20	3.9	0.2	0.05	95	5
DMA 8bio	0.34	100	0.01	95	95.00	0.80	1.4	0.2	0.04	95	5
DMA 9bio	2.07	200	0.01	95	95.00	4.70	8.3	0.2	0.04	95	5
Existing	44.22	1500	0.295	81	2.00	45.40	102.5	0.2	0.04	81	10
OffsiteShed A	0.92	100	0.04	80	2.00	1.20	2.8	0.2	0.04	80	5
OffsiteShed B	3.43	500	0.05	80	2.00	3.90	9.1	0.2	0.04	80	7
OffsiteShed C1	6.7	450	0.03	80	2.00	6.60	15.1	0.2	0.04	80	10
OffsiteShed C2	3.6	150	0.05	80	2.00	4.30	10	0.2	0.04	80	6
OffsiteShed D	2.18	100	0.04	80	2.00	2.60	6.1	0.2	0.04	80	6
OffsiteShed E-sw	4.55	300	0.02	80	40.00	6.30	12.2	0.2	0.05	80	10
SVPkwy a	0.5	80	0.015	98	95.00	1.10	2	0.2	0.04	98	5
SVPkwy b	0.7	80	0.02	98	95.00	1.60	2.8	0.2	0.04	98	5
SVPkwy c	0.73	80	0.02	98	95.00	1.70	2.9	0.2	0.04	98	5

HYDRAULICS

The XP-SWMM software was used for the backwater analysis. Drainage facilities information for the modeling was based on the Preliminary Grading Plan Drainage Exhibit prepared by Kier+Wright for the Costco site.

Figure 4 provides a schematic modeling map for the two development area projects. The "Existing" node was used to generate existing conditions hydrographs for the 10- and 100-year storms without additional routing.

Table 2 provides a summary of the design flows and the hydraulic parameters and characteristics of the drainage facilities.

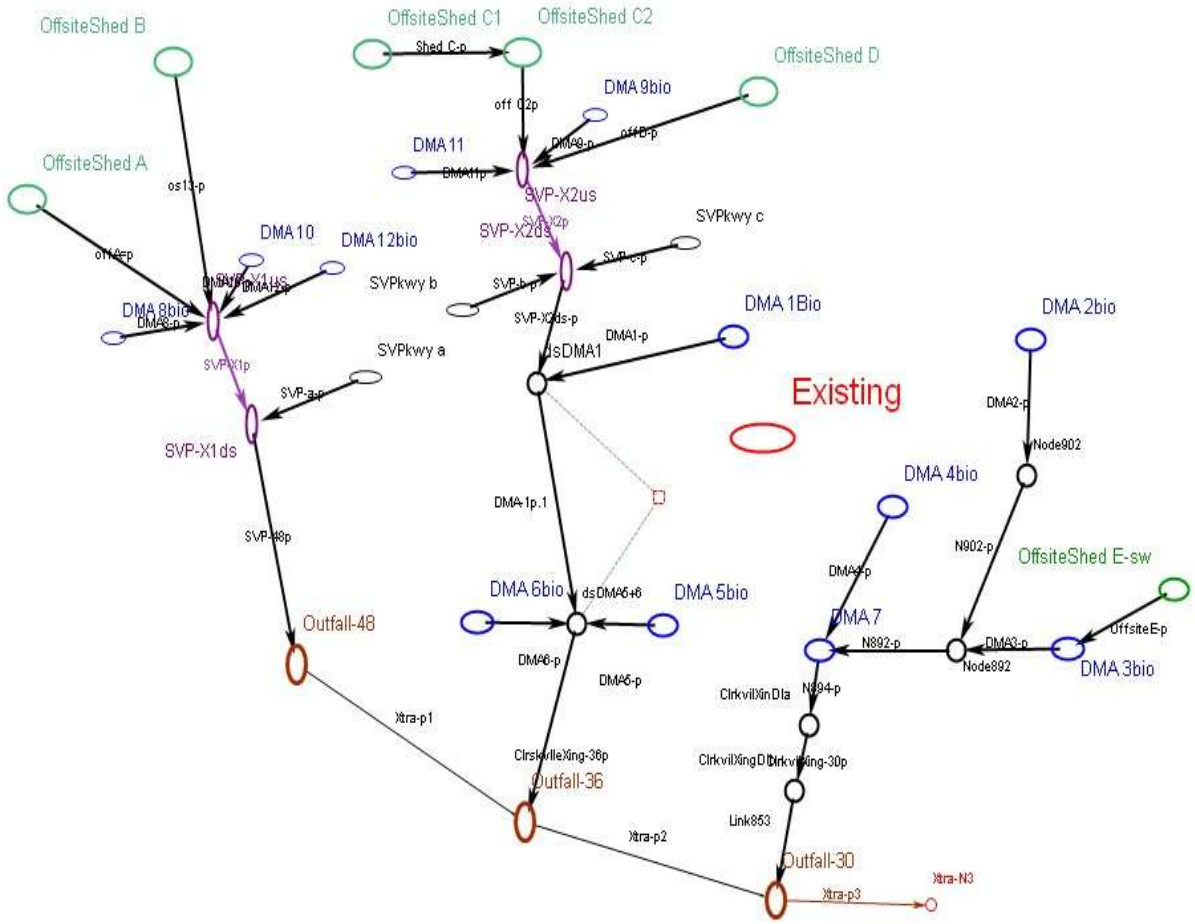


Figure 4 Modeling Map

Table 2 Summary of Flows and Hydraulic Information

Upstream Node Name	Ground Elevation (Spill Crest) ft	Upstream Invert Elevation ft	Maximum Water Elevation (US) ft	10-yr Max Flow cfs	10-yr Max Velocity ft/s	100-yr Max Flow cfs	100-yr Max Velocity ft/s	Downstream Node Name	Downstream Invert Elevation ft	Maximum Water Elevation (DS) ft	Time to Peak hr
ClrkvilXinDIa	693.3	688.68	690.23	24.4	8.1	35.3	8.7	ClrkvilXingDIb	688.55	689.94	12.029
ClrkvilXingDIb	693.31	688.55	689.94	25.1	8.6	36.4	9.4	Outfall-30	688	689.51	12.029
DMA 10	744.3	735.7	736.04	0.9	3.8	2.1	4.8	SVP-X1us	735	735.34	12.031
DMA 11	732.5	730	730.27	0.4	1.9	0.9	2.5	SVP-X2us	729.5	729.72	12.036
DMA 12bio	744.3	735	735.37	1.3	4.7	2.2	5.5	SVP-X1us	734	734.37	12.024
DMA 1Bio	726.4	719.77	721.57	3.1	3.9	5.4	6.8	dsDMA1	719.16	720.67	12.022
DMA 2bio	722.5	715	715.53	7.3	13	12.9	15.1	Node902	699.59	700.12	12.022
DMA 3bio	695.12	689.6	691.05	7.3	3.9	17.1	5.3	Node892	689.33	691.01	12.056
DMA 4bio	706.5	700	700.47	8.4	11	14.8	12.4	DMA 7	688.81	690.69	12.021
DMA 5bio	712.5	707.36	708.86	9.9	5.8	17.5	9.8	dsDMA5+6	707.09	708.39	12.022
DMA 6bio	718.5	707.33	708.53	6.3	4	11.2	6.3	dsDMA5+6	707.09	708.39	12.021
DMA 7	694.43	688.81	690.69	23.7	8.3	34.1	10.8	ClrkvilXinDIa	688.68	690.23	12.031
DMA 8bio	740	733.5	733.82	0.8	2.7	1.4	3.2	SVP-X1us	733	733.32	12.026
DMA 9bio	738	733.5	735.18	4.7	6.1	8.1	10.2	SVP-X2us	733	733.9	12.022
dsDMA1	729.3	719.16	722.49	16.9	4.6	39.8	4.2	Node928	718.5	722.49	12.017
dsDMA1	729.3	719.16	720.67	23.6	5.6	48.9	7	dsDMA5+6	718.5	719.93	12.044
dsDMA5+6	722.5	707.09	708.39	38.6	16	75.2	19.4	Outfall-36	703	703.9	12.029
Node892	695.41	689.33	691.01	13.9	5	21.5	6.7	DMA 7	688.81	690.69	12.043
Node902	707	699.59	700.12	7.3	6.4	12.9	10.2	Node892	689.33	691.01	12.024
Node928	725	718.5	722.49	12	11	14.8	12.3	dsDMA5+6	707.09	708.06	12.042
OffsiteShed A	735	733	733.32	1.2	2.8	2.8	4	SVP-X1us	732	732.64	12.021
OffsiteShed B	745	736.7	737.18	3.9	5.6	9	7.4	SVP-X1us	732	732.64	12.042
OffsiteShed C1	739	737	738.05	6.6	5.2	15.1	7	OffsiteShed C2	736.56	737.16	12.075
OffsiteShed C2	749	736.56	737.16	10.3	9.5	23.8	12.3	SVP-X2us	728	728.8	12.056
OffsiteShed D	734	730	730.54	2.6	4.5	6.1	5.6	SVP-X2us	728.5	729.04	12.04
OffsiteShed E-sv	692	689.66	691.08	6.4	3.8	16.5	5.2	DMA 3bio	689.6	691.05	12.071
Outfall-30	693.3	688	689.51	72.6	14.6	130.1	17.1	Xtra-N3	686	687.5	12.032
Outfall-36	710.01	703	703.9	47.4	14.2	94.2	18.1	Outfall-30	688	689.51	12.037
Outfall-48	720	710	710.5	8.9	6.2	19.1	8	Outfall-36	703	703.9	12.043
SVP-X1ds	739	730	730.47	9	10.9	19.1	13.6	Outfall-48	710.2	710.67	12.04
SVP-X1us	737.8	732	732.64	7.9	8.5	17.2	10.8	SVP-X1ds	730	730.47	12.031
SVP-X2ds	733	723.38	724.18	20.5	8.4	43.5	10.8	dsDMA1	719.16	720.67	12.04
SVP-X2us	734.1	728	728.8	17.5	11.5	38.2	14.4	SVP-X2ds	723.38	724.18	12.042
SVPkwy a	737.5	733	733.37	1.1	3.4	2	3.9	SVP-X1ds	732	732.37	12.028
SVPkwy b	732.5	729	729.43	1.6	3.7	2.8	4.4	SVP-X2ds	728	728.43	12.026
SVPkwy c	735.79	730	730.31	1.6	6.4	2.9	7	SVP-X2ds	724	724.3	12.025

The modeling results indicate that the proposed storm drain pipes have adequate capacity to convey the 10-year, 24-hour storm. Note that the bio-retention areas were not modeled as storage areas. If the bio-retention areas were added, there may be a decreased peak flow because of the attenuation throughout the development. They were not added because it seemed unnecessary.

Attachments 1, 2 and 3 provide screen shots of a highlighted reach of storm drain pipe within the project with the 10-year, 24-hr storm water surface profiles. This information is available in Table 2 but is also provided graphically to aid the reader.

ATTENUATION OF 100-YR FLOW

The facilities to attenuate the 100-year flow down to existing conditions are preliminary at this time but consist of an oversized pipe within the middle storm drain within the parking lot. An orifice or smaller pipe will then be used to meter the flow as necessary.

The preliminary design includes 220 lineal feet of 48-inch storm drain with a downstream 15-inch storm drain. The XP model was then configured to compare the flow along the normal 36-inch storm drain to the attenuated flow within the combined large and small pipes.

The bottom part of the model map shows that all the flows were combined as part of this evaluation. Note that the three outfalls are not and will not be connected and the configuration is for modeling and comparison purposes only.

Figure 5 shows the 100-year runoff hydrograph for existing conditions (102 cfs). Figure 6 shows the computed flows for the 10-yr, 100-yr and 100-yr attenuated flow (99) cfs for developed conditions. The red value in Figure 6 is the 100-year flow without attenuation.

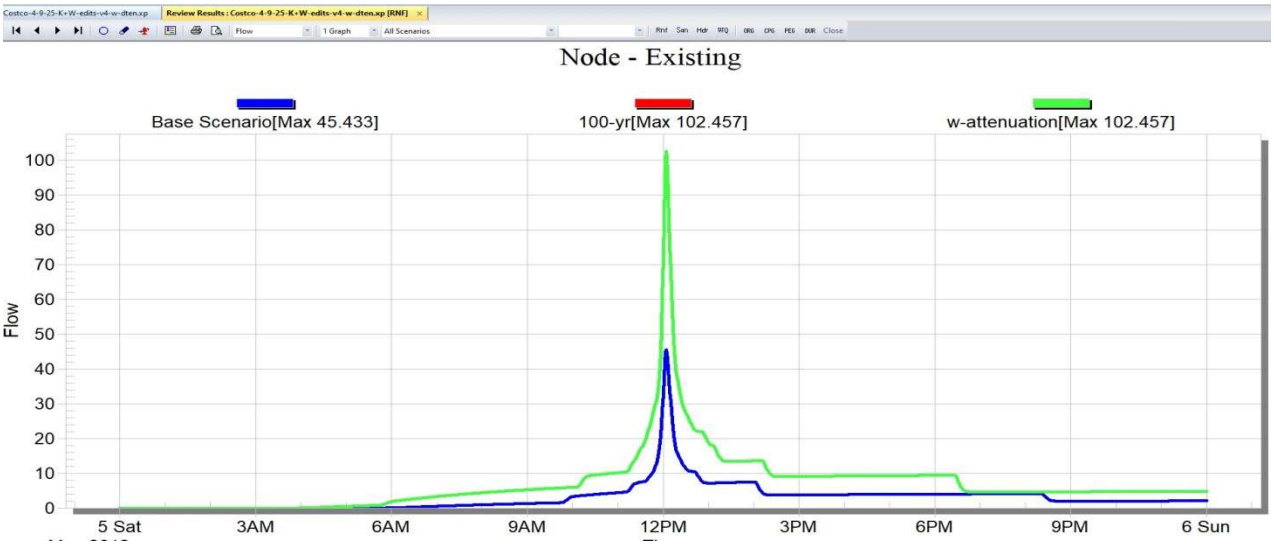


FIGURE 5. PLOT OF EXISTING CONDITIONS HYDROGRAPHS

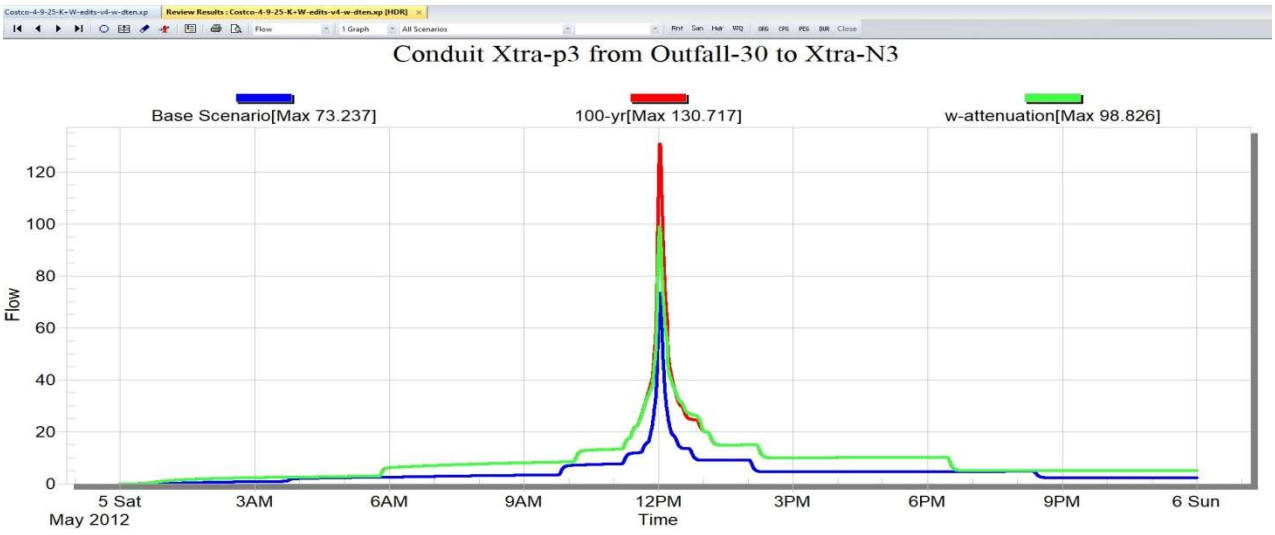


FIGURE 6. PLOT OF OUTFLOWS FROM DEVELOPMENT SITE

SUMMARY AND COMMENTS

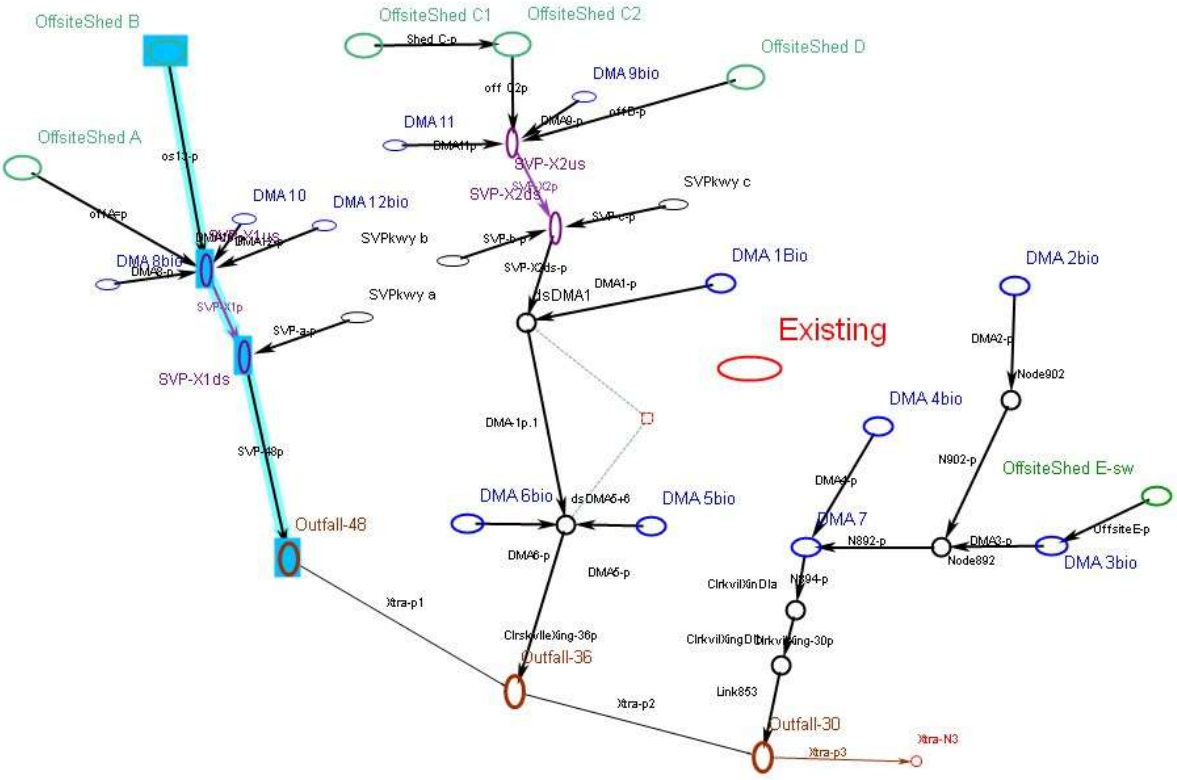
The modeling shows that the proposed piping network for the two projects has adequate capacity to convey the 10-year storm.

The modeling also shows that the 100-year peak flow can be attenuated on-site with a length of over-sized pipe connected to a smaller pipe, or with an orifice to reduce peak flow.

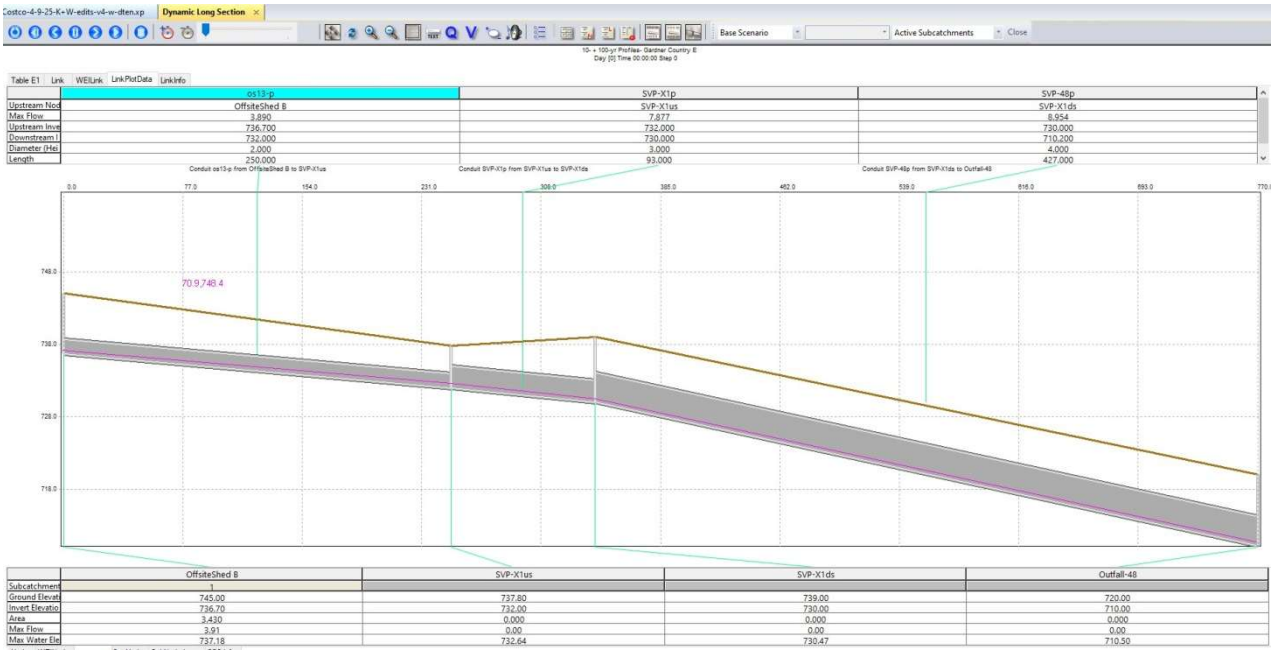
Additional information is available upon request including the XP-SWMM model and the rainfall 5-minute distribution depicted in Figure 2.

Water quality for the two projects is accomplished via the bio-retention area planters scattered within the project. No additional information has been provided within this document.

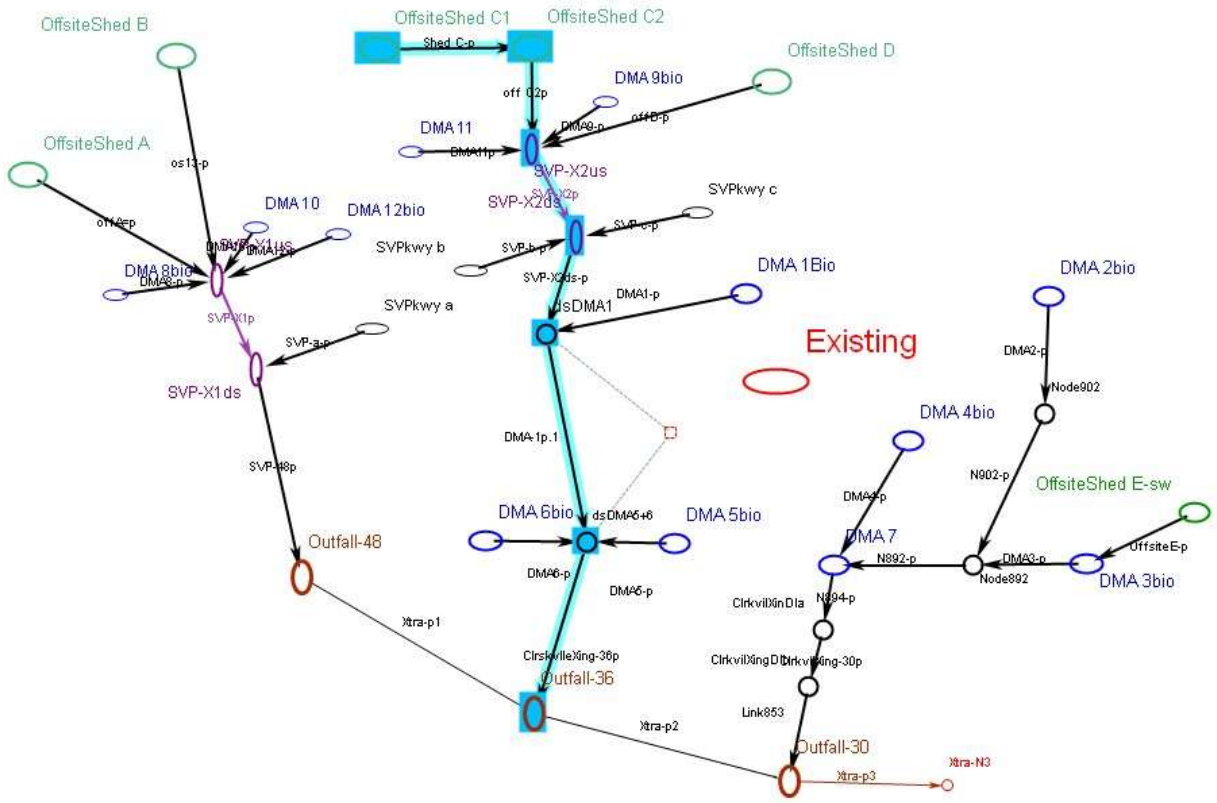
The offsite drainage northwest of the gas station is included in the analysis, but is considered as pass-through flow.



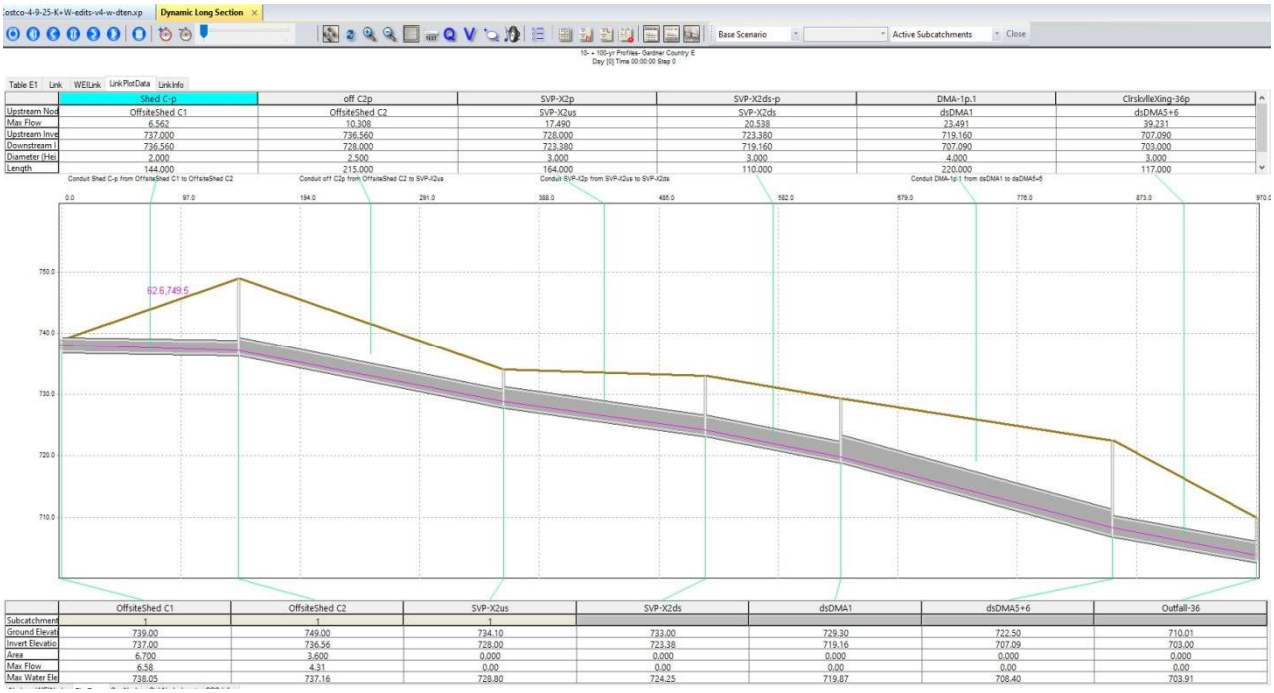
Attachment 1a. Modeling Map with Highlighted Reach 1



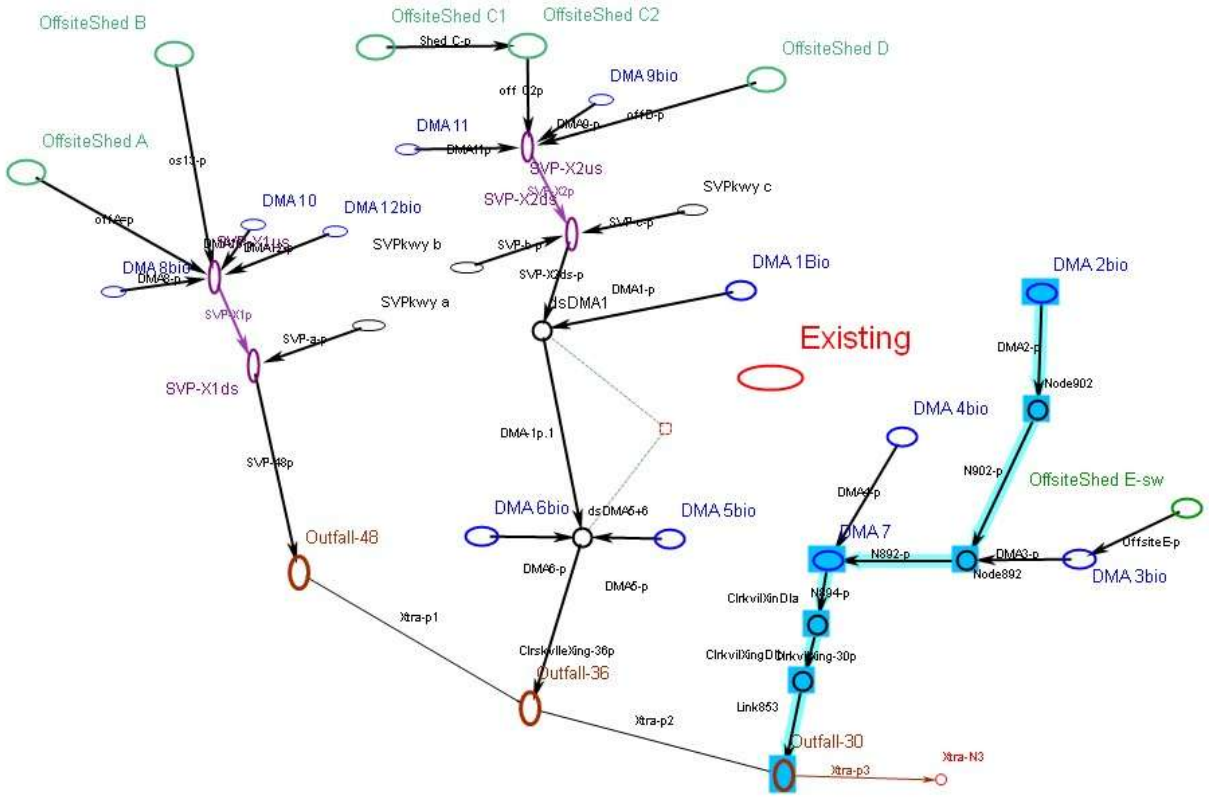
Attachment 1b. 10-yr Water Surface Profile along Reach 1



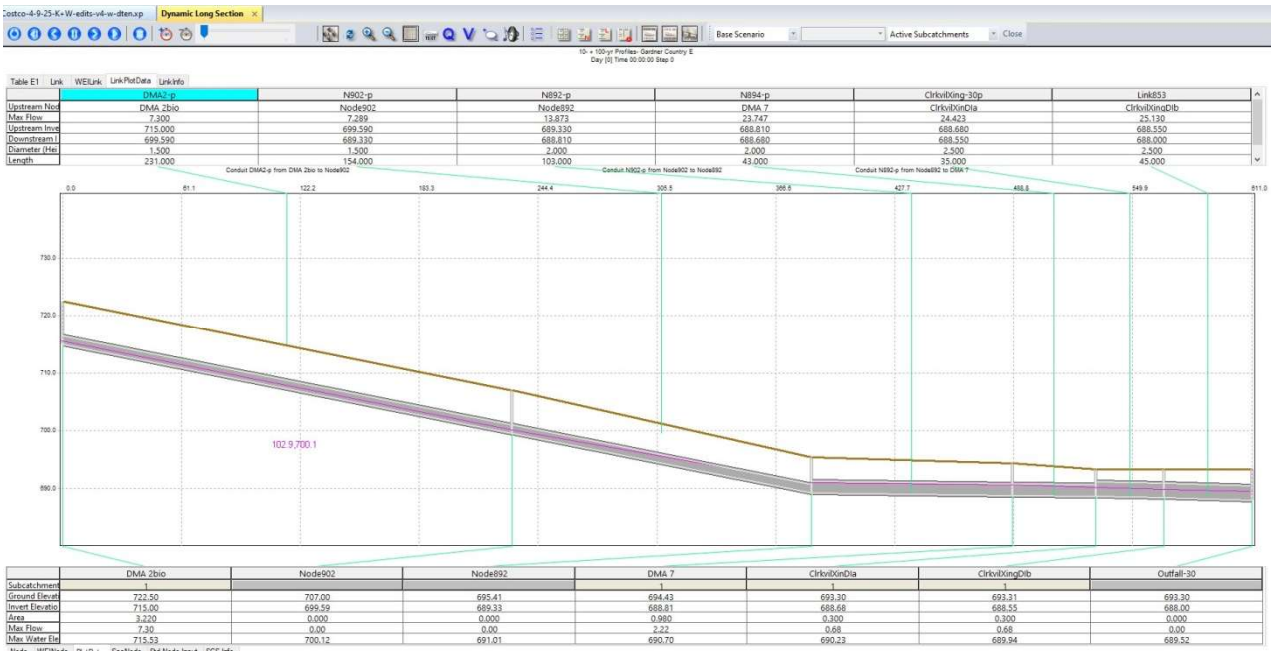
Attachment 2a. Modeling Map with Highlighted Reach 2



Attachment 2b. 10-yr Water Surface Profile along Reach 2



Attachment 3a. Modeling Map with Highlighted Reach 3.



Attachment 3b. 10-yr Water Surface Profile along Reach 3

Appendix I

Noise Modeling Data

Long-Term Noise Measurement Raw Data

KEY: Orange cells are for input.

Measurement Site:	LT1
Measurement Date:	February 25, 12:00 p.m. to February 26, 12:00 p.m.
Project Name:	El Dorado County - Costco

Number	Start Date	Start Time	End Time	I	Meas Mc	Input Rai	Input Typ	SPL Time Weight	LN% Freq Weigl	Overload	UnderRange	Sensitivity	LZeq	LCeq	LAeq	LZSmax	LCSmax	LASmax	LZSmin	LCSmin	LASmin	LZE	LCE	LAE	LZpk	LCpk	LApk	LAS1%	LAS2%	LAS5%	LAS8%	LAS10%	LAS25%	LAS50%
174	2/25/2025	12:00:00 PM	1:00:00 PM		Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	76.5	69.2	53.7	94.6	85.3	63.9	59.8	57.7	47.4	112.1	104.8	89.3	107.9	100.8	78.3	59.7	58.6	57	56.1	55.7	54.1	52.8
175	2/25/2025	1:00:00 PM	2:00:00 PM		Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	75.8	68.8	52.8	95.1	86.6	71.2	60.5	57.6	47.6	111.4	104.4	88.4	107.7	98.6	85.6	57	56.1	55	54.5	54.3	53.4	52.3
176	2/25/2025	2:00:00 PM	3:00:00 PM		Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	73	66.7	54.2	88.9	80.6	64.8	61.5	58.9	48.4	108.6	102.3	89.8	102.7	94.1	79.4	60.1	58.8	56.9	56.2	56	54.8	53.5
177	2/25/2025	3:00:00 PM	4:00:00 PM		Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	72	66.8	54.1	89.9	82.4	67	61	58.3	48	107.6	102.4	89.7	102.4	97.1	85.7	58.7	57.7	56.7	56.2	55.9	54.7	53.6
178	2/25/2025	4:00:00 PM	5:00:00 PM		Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	66.9	63.3	54.7	81.7	73.8	64.6	60.6	58.4	48.5	102.5	98.9	90.3	94	86.5	83.3	58.5	57.8	57	56.6	56.4	55.4	54.3
179	2/25/2025	5:00:00 PM	6:00:00 PM		Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	66.7	64.3	57	81.6	74.9	66.4	61.3	59.4	51.2	102.3	99.9	92.6	96	86.8	80.2	63.2	61.6	59.7	59.1	58.9	57.7	56.4
180	2/25/2025	6:00:00 PM	7:00:00 PM		Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	63.7	62.4	57.8	75.3	71.4	64.7	58.8	57.4	50.7	99.3	98	93.4	86	83.9	82.1	61.7	61	60.3	59.9	59.7	58.7	57.4
181	2/25/2025	7:00:00 PM	8:00:00 PM		Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	64	62.7	58	76	73.5	66.4	57.7	55.9	49.6	99.6	98.3	93.6	90.5	89.1	87.5	62.6	62	61.2	60.6	60.3	58.9	57.4
182	2/25/2025	8:00:00 PM	9:00:00 PM		Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	62.9	62	57.5	73.2	72.7	67.4	55	53.8	46.7	98.5	97.6	93.1	88.4	87.5	85.5	63.3	62.3	61.1	60.5	60.1	58.5	56.5
183	2/25/2025	9:00:00 PM	10:00:00 PM		Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	61.9	60.6	56.2	76.5	72.4	66	52.5	50.4	42	97.5	96.2	91.8	85.1	85.7	82.6	62.5	61.7	60.6	59.9	59.5	57.3	54.7
184	2/25/2025	10:00:00 PM	11:00:00 PM		Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	59.5	58.4	53.5	75.7	75.5	68.4	50.4	48.6	41.8	95.1	94	89.1	90.4	90.2	89.4	60.4	59.4	58.2	57.4	56.9	54.5	51.5
185	2/25/2025	11:00:00 PM	12:00:00 AM		Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	59.4	58.4	53.8	74.1	74	68.6	48	46.5	38.6	95	94	89.4	84.6	84.7	83.7	61.6	60.2	58.6	57.8	57.3	54.8	51.7
186	2/26/2025	12:00:00 AM	1:00:00 AM		Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	58.3	57.3	53.2	72.8	72.7	65.5	46.5	44.6	35.3	93.9	92.9	88.8	86.3	86.3	85	61.8	60.5	58.8	57.7	57.2	54.2	49.7
187	2/26/2025	1:00:00 AM	2:00:00 AM		Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	56.3	54.7	50.1	72.5	68.4	63.8	45.1	42.9	33.8	91.9	90.3	85.7	91	88.9	87.4	60	59	57.2	55.8	55	49.4	42.8
188	2/26/2025	2:00:00 AM	3:00:00 AM		Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	57.4	56	51.3	74.7	73.6	67.1	45.9	44.3	34.4	93	91.6	86.9	88.9	88.7	85.1	59.9	58.9	57.4	56.3	55.7	51.8	46.4
189	2/26/2025	3:00:00 AM	4:00:00 AM		Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	60.1	58.8	55	71.4	70.9	67.6	45.6	43.4	34.9	95.7	94.4	90.6	89.1	89.4	86.3	63.5	62.7	61.2	60.3	59.6	56	50.4
190	2/26/2025	4:00:00 AM	5:00:00 AM		Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	63	61.6	57.4	74.5	73	69.9	51	49.1	40.1	98.6	97.2	93	86.8	86.4	84.2	64	63.2	61.9	61.2	60.8	58.7	56.1
191	2/26/2025	5:00:00 AM	6:00:00 AM		Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	67.1	66.3	62.6	79.1	79	75	58.1	56.5	49.5	102.7	101.9	98.2	93.2	93.6	90.8	67.7	67.1	66.1	65.6	65.4	63.9	61.7
192	2/26/2025	6:00:00 AM	7:00:00 AM		Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	69.3	68.5	64.9	76.2	75.6	73.2	62	60.9	56.2	104.9	104.1	100.5	93.6	92.9	90.7	69.3	68.6	67.8	67.3	67	65.8	64.4
193	2/26/2025	7:00:00 AM	8:00:00 AM		Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	69	68	64.2	76	75.8	69.9	62.9	61.4	56.9	104.6	103.6	99.8	87.7	87.3	87.2	67.9	67.4	66.6	66.2	66	65	63.8
194	2/26/2025	8:00:00 AM	9:00:00 AM		Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	68	66.5	62.1	75.9	75.4	70.6	63.5	61.9	54.8	103.6	102.1	97.7	91.4	91.3	87.7	65.6	65.1	64.4	63.9	63.7	62.8	61.8
195	2/26/2025	9:00:00 AM	10:00:00 AM		Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	69	66.5	61.5	84.6	77	71.6	62.2	60.6	54.5	104.6	102.1	97.1	97.3	91.3	85.4	65.2	64.7	64	63.6	63.3	62.3	61.2
196	2/26/2025	10:00:00 AM	11:00:00 AM		Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	69.3	66.5	60.8	81.8	75	66.2	62.6	61.2	53.7	104.9	102.1	96.4	92.7	88.6	87.4	64.4	64	63.4	63	62.8	61.7	60.5
197	2/26/2025	11:00:00 AM	12:00:00 PM		Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	67.6	65	58.8	79.8	74.6	66.1	61.2	59	50	103.2	100.6	94.4	92.6	87.1	85.4	63.2	62.7	61.9	61.4	61.2	59.9	58.4

Long-Term Noise Measurement Calculations

KEY: Orange cells are for input.
Grey cells are intermediate calculations performed by the model.
Green cells are data to present in a written analysis (output).

Measurement Site: LT1
Measurement Date: February 25, 12:00 p.m. to February 26, 12:00 p.m.
Project Name: El Dorado County - Costco

Hour of Day 24-hr Format	L_{dn}		C_{NEL}	
	Start	End	Start	End
Daytime	7	22	7	19
Evening	N/A	N/A	19	22
Nighttime	22	7	22	7

Hour of Day (24-hr Format)	Sound Levels Descriptors			
	L_{eq}	L_{max}	L_{50}	L_{min}
12:00	54	64	53	47
13:00	53	71	52	48
14:00	54	65	54	48
15:00	54	67	54	48
16:00	55	65	54	49
17:00	57	66	56	51
18:00	58	65	57	51
19:00	58	66	57	50
20:00	58	67	57	47
21:00	56	66	55	42
22:00	54	68	52	42
23:00	54	69	52	39
0:00	53	66	50	35
1:00	50	64	43	34
2:00	51	67	46	34
3:00	55	68	50	35
4:00	57	70	56	40
5:00	63	75	62	50
6:00	65	73	64	56
7:00	64	70	64	57
8:00	62	71	62	55
9:00	62	72	61	55
10:00	61	66	61	54
11:00	59	66	58	50

Sound Power[1]
$=10*\text{Log}(L_{eq,\ 1hr}/10)$

Equivalent Noise Level (L_{eq})				
Day	Night	Day	Evening	Night
234422.8815		234422.8815		
190546.0718		190546.0718		
263026.7992		263026.7992		
257039.5783		257039.5783		
295120.9227		295120.9227		
501187.2336		501187.2336		
602559.5861		602559.5861		
630957.3445			630957.3445	
562341.3252			562341.3252	
416869.3835			416869.3835	
	223872.1139			223872.1139
	239883.2919			239883.2919
	208929.6131			208929.6131
	102329.2992			102329.2992
	134896.2883			134896.2883
	316227.766			316227.766
	549540.8739			549540.8739
	1819700.859			1819700.859
	3090295.433			3090295.433
2630267.992				
1621810.097		1621810.097		
1412537.545		1412537.545		
1202264.435		1202264.435		
758577.575		758577.575		

Day Night Average (L_{dn})[2]		Community Noise Equivalent Level (CNEL)[3]		
Day	Night	Day	Evening	Night
Sum of Sound Power during Period w/o Penalty				
11,579,529	6,685,676	7,339,093	1,610,168	6,685,676
Log Factor for CNEL Penalty (i.e., 10*log(x))[4]				
1	10	1	3	10
Sound Power during Period with penalty				
11,579,529	66,856,755	7,339,093	4,830,504	66,856,755
Number of Hours				
		24		
L_{dn}	65.1	**CNEL**	65.2	

Notes:
[1] Computation of Sound Power are based on equation 7-1 on pg. 7-9 of Caltrans 2013
[2] Computation of the L_{dn} based on 1-hour L_{eq} measurements for each hour of a day are based on equation 2-23 on pg. 2-52 of Caltrans 2013.
[3] Computation of the CNEL based on 1-hour L_{eq} measurements for each hour of a day are based on equation 2-24 on pg. 2-53 of Caltrans 2013.
[4] Log factors for the L_{dn} and CNEL penalties are provided in Table 2-11 on pg. 2-48 of Caltrans 2013.
[5] Average noise level descriptors were logarithmicly averaged over the total number of hours
Source:
California Department of Transportation (Caltrans), Division of Environmental Analysis. 2013 (September). *Technical Noise Supplement to the Traffic Noise Analysis Protocol* . Sacramento, CA. Available: <https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf>. Accessed Febuary 26, 2025.

Sound Power[1]
$=10*\text{Log}(L_{eq,\ 1hr}/10)$

Hour of Day	Maximum Noise Levels (L_{max})					Sound Pressure Level Exceeded 50% of a Specific Time Period (L_{50})					Mininum Noise Levels (L_{min})				
	Day	Night	Day	Evening	Night	Day	Night	Day	Evening	Night	Day	Night	Day	Evening	Night
12:00	2454709		2454708.916			190546.0718		190546.0718			54954.08739		54954.08739		
13:00	13182567		13182567.39			169824.3652		169824.3652			57543.99373		57543.99373		
14:00	3019952		3019951.72			223872.1139		223872.1139			69183.09709		69183.09709		
15:00	5011872		5011872.336			229086.7653		229086.7653			63095.73445		63095.73445		
16:00	2884032		2884031.503			269153.4804		269153.4804			70794.57844		70794.57844		
17:00	4365158		4365158.322			436515.8322		436515.8322			131825.6739		131825.6739		
18:00	2951209		2951209.227			549540.8739		549540.8739			117489.7555		117489.7555		
19:00	4365158			4365158.322		549540.8739			549540.8739		91201.08394			91201.08394	
20:00	5495409			5495408.739		446683.5922			446683.5922		46773.51413			46773.51413	
21:00	3981072			3981071.706		295120.9227			295120.9227		15848.93192			15848.93192	
22:00		6918309.709			6918309.709		141253.7545			141253.7545		15135.61248			15135.61248
23:00		7244359.601			7244359.601		147910.8388			147910.8388		7244.359601			7244.359601
0:00		3548133.892			3548133.892		93325.43008			93325.43008		3388.441561			3388.441561
1:00		2398832.919			2398832.919		19054.60718			19054.60718		2398.832919			2398.832919
2:00		5128613.84			5128613.84		43651.58322			43651.58322		2754.228703			2754.228703
3:00		5754399.373			5754399.373		109647.8196			109647.8196		3090.295433			3090.295433
4:00		9772372.21			9772372.21		407380.2778			407380.2778		10232.92992			10232.92992
5:00		31622776.6			31622776.6		1479108.388			1479108.388		89125.09381			89125.09381
6:00		20892961.31			20892961.31		2754228.703			2754228.703		416869.3835			416869.3835
7:00	9772372		9772372.21			2398832.919		2398832.919			489778.8194		489778.8194		
8:00	11481536		11481536.21			1513561.248		1513561.248			301995.172		301995.172		
9:00	14454398		14454397.71			1318256.739		1318256.739			281838.2931		281838.2931		
10:00	4168694		4168693.835			1122018.454		1122018.454			234422.8815		234422.8815		
11:00	4073803		4073802.778			691830.9709		691830.9709			100000		100000		

Average Sound Level Descriptors[5]									
L_{eq}					L_{50}				
Day	Night	Day	Evening	Night	Day	Night	Day	Evening	Night
59	59	58	57	59	58	58	59	56	58

L_{max}					L_{min}				
Day	Night	Day	Evening	Night	Day	Night	Day	Evening	Night
68	70	68	67	70	52	48	52	47	48

Long-Term Noise Measurement Summary

KEY: Orange cells are for input.

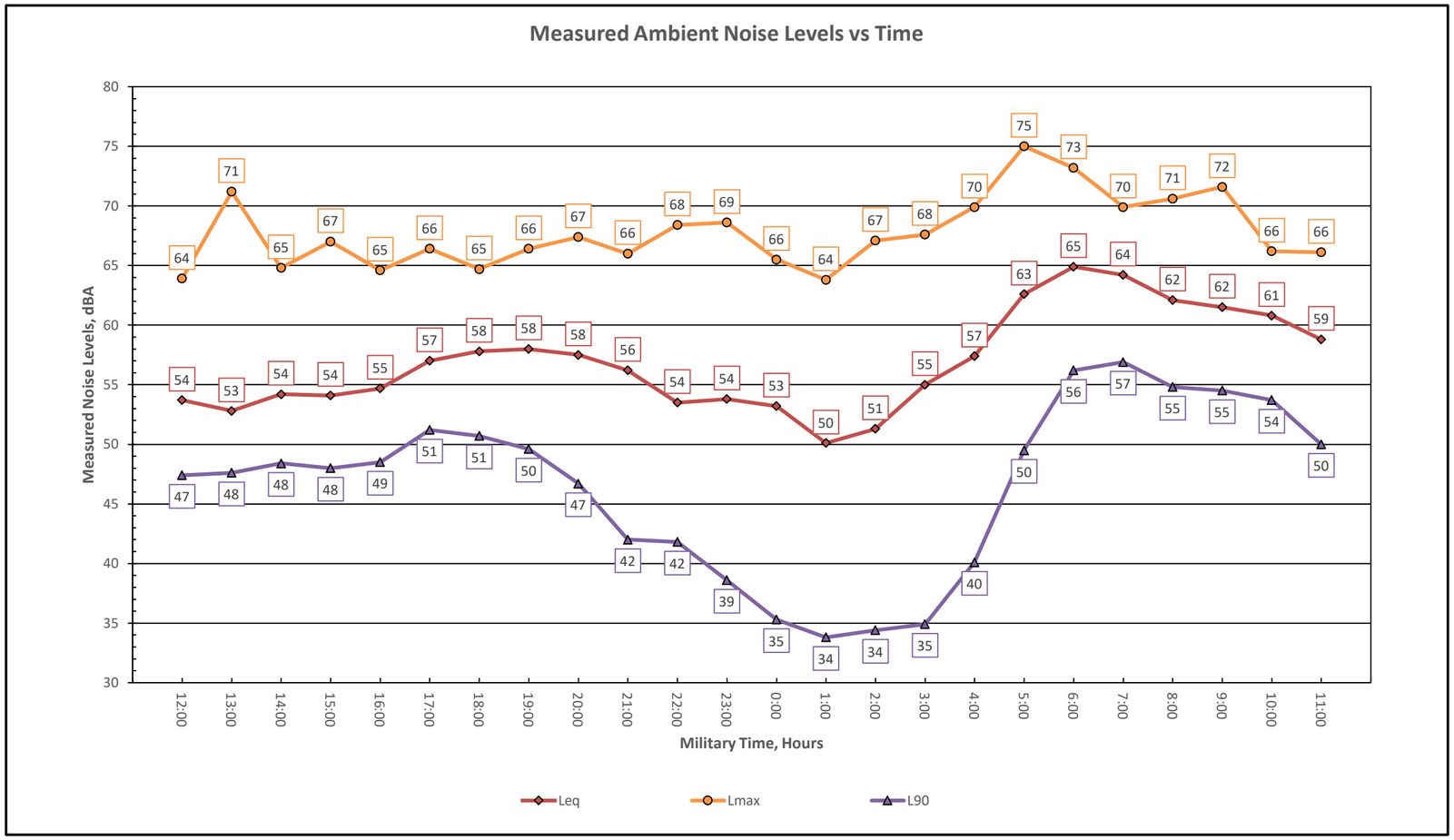
Green cells are data to present in a written analysis (output).

Measurement Site:	LT1
Measurement Date:	February 25, 12:00 p.m. to February 26, 12:00 p.m.
Project Name:	El Dorado County - Costco
Coordinates	38°28'35"N 121°48'08"W

Hour of Day (military time)	Measured Level, dBA L_{eq}	L_{max}	L_{50}	L_{min}
12:00	54	64	53	47
13:00	53	71	52	48
14:00	54	65	54	48
15:00	54	67	54	48
16:00	55	65	54	49
17:00	57	66	56	51
18:00	58	65	57	51
19:00	58	66	57	50
20:00	58	67	57	47
21:00	56	66	55	42
22:00	54	68	52	42
23:00	54	69	52	39
0:00	53	66	50	35
1:00	50	64	43	34
2:00	51	67	46	34
3:00	55	68	50	35
4:00	57	70	56	40
5:00	63	75	62	50
6:00	65	73	64	56
7:00	64	70	64	57
8:00	62	71	62	55
9:00	62	72	61	55
10:00	61	66	61	54
11:00	59	66	58	50

Metrics	L_{eq}	L_{max}	L_{50}	L_{min}
Day Average	58	68	59	52
Evening Average	57	67	56	47
Night Average	59	70	58	48

CNEL	65.2
Day %	63.4%
Night %	36.6%



Notes: Primary noises include traffic noise originating from US 50 and Silva Valley Parkway.

Long-Term Noise Measurement Raw Data

KEY: Orange cells are for input.

Measurement Site:	LT2
Measurement Date:	February 25, 1:00 p.m. to February 26, 1:00 p.m.
Project Name:	El Dorado County - Costco

Number	Start Date	Start Time	End Time	LAeq	LASmax	LASmin	LAS50%
308	2/25/2025	1:00:00 PM	2:00:00 PM	46.6	60.4	40	45.4
309	2/25/2025	2:00:00 PM	3:00:00 PM	46	56.2	39.2	45.1
310	2/25/2025	3:00:00 PM	4:00:00 PM	46.4	60.8	38.3	44.6
311	2/25/2025	4:00:00 PM	5:00:00 PM	46.9	69	40.2	45.7
312	2/25/2025	5:00:00 PM	6:00:00 PM	47.8	57.1	39.7	47
313	2/25/2025	6:00:00 PM	7:00:00 PM	48.1	58.6	36.9	46.8
314	2/25/2025	7:00:00 PM	8:00:00 PM	51	63	36.9	49.9
315	2/25/2025	8:00:00 PM	9:00:00 PM	51.5	65.8	38.5	50.2
316	2/25/2025	9:00:00 PM	10:00:00 PM	50.1	61.3	37.2	48.7
317	2/25/2025	10:00:00 PM	11:00:00 PM	46.1	59.7	33.1	42.8
318	2/25/2025	11:00:00 PM	12:00:00 AM	47	61.1	33.6	43.1
319	2/26/2025	12:00:00 AM	1:00:00 AM	46.9	63.5	35	44.9
320	2/26/2025	1:00:00 AM	2:00:00 AM	44.7	61.7	32.1	41.9
321	2/26/2025	2:00:00 AM	3:00:00 AM	44.3	63.3	33.4	41.7
322	2/26/2025	3:00:00 AM	4:00:00 AM	47.8	60.6	34.6	46
323	2/26/2025	4:00:00 AM	5:00:00 AM	51.3	63.9	38.7	49.5
324	2/26/2025	5:00:00 AM	6:00:00 AM	55.1	67.3	44.8	54.7
325	2/26/2025	6:00:00 AM	7:00:00 AM	59.1	71.1	53.4	58.6
326	2/26/2025	7:00:00 AM	8:00:00 AM	59.4	67.2	49.8	59.2
327	2/26/2025	8:00:00 AM	9:00:00 AM	54.6	64.6	46.1	54.2
328	2/26/2025	9:00:00 AM	10:00:00 AM	52.9	67.7	46.2	52.4
329	2/26/2025	10:00:00 AM	11:00:00 AM	52.7	63.4	46.3	52.2
330	2/26/2025	11:00:00 AM	12:00:00 PM	52.2	69.8	43.9	51.5
331	2/26/2025	12:00:00 PM	1:00:00 PM	50.3	60.1	43.4	49.5

Long-Term Noise Measurement Calculations

KEY: Orange cells are for input.
Grey cells are intermediate calculations performed by the model.
Green cells are data to present in a written analysis (output).

Measurement Site: LT2
Measurement Date: February 25, 1:00 p.m. to February 26, 1:00 p.m.
Project Name: El Dorado County - Costco

Time of Day	L_{dn} Start	L_{dn} End	C_{NEL} Start	C_{NEL} End
Daytime	7	22	7	19
Evening	N/A	N/A	19	22
Nighttime	22	7	22	7

Hour of Day (military time)	Sound Levels Descriptors L_{eq}	L_{max}	L_{50}	L_{min}
13:00	47	60	45	40
14:00	46	56	45	39
15:00	46	61	45	38
16:00	47	69	46	40
17:00	48	57	47	40
18:00	48	59	47	37
19:00	51	63	50	37
20:00	52	66	50	39
21:00	50	61	49	37
22:00	46	60	43	33
23:00	47	61	43	34
0:00	47	64	45	35
1:00	45	62	42	32
2:00	44	63	42	33
3:00	48	61	46	35
4:00	51	64	50	39
5:00	55	67	55	45
6:00	59	71	59	53
7:00	59	67	59	50
8:00	55	65	54	46
9:00	53	68	52	46
10:00	53	63	52	46
11:00	52	70	52	44
12:00	50	60	50	43

Sound Power[1]
$=10*\text{Log}(L_{eq,\ 1hr}/10)$

Equivalent Noise Level (L_{eq})				
Day	Night	Day	Evening	Night
45708.81896		45708.81896		
39810.71706		39810.71706		
43651.58322		43651.58322		
48977.88194		48977.88194		
60255.95861		60255.95861		
64565.4229		64565.4229		
125892.5412			125892.5412	
141253.7545			141253.7545	
102329.2992			102329.2992	
	40738.02778			40738.02778
	50118.72336			50118.72336
	48977.88194			48977.88194
	29512.09227			29512.09227
	26915.34804			26915.34804
	60255.95861			60255.95861
	134896.2883			134896.2883
	323593.6569			323593.6569
	812830.5162			812830.5162
870963.59		870963.59		
288403.1503		288403.1503		
194984.46		194984.46		
186208.7137		186208.7137		
165958.6907		165958.6907		
107151.9305		107151.9305		

Day Night Average (L_{dn})[2]		Community Noise Equivalent Level (CNEL)[3]		
Day	Night	Day	Evening	Night
Sum of Sound Power during Period w/o Penalty				
2,486,117	1,527,838	2,116,641	369,476	1,527,838
Log Factor for CNEL Penalty (i.e., 10*log(x))[4]				
1	10	1	3	10
Sound Power during Period with penalty				
2,486,117	15,278,385	2,116,641	1,108,427	15,278,385
Number of Hours				
24				
L_{dn}	58.7	**CNEL**	58.9	

Notes:
[1] Computation of Sound Power are based on equation 7-1 on pg. 7-9 of Caltrans 2013
[2] Computation of the L_{dn} based on 1-hour L_{eq} measurements for each hour of a day are based on equation 2-23 on pg. 2-52 of Caltrans 2013.
[3] Computation of the CNEL based on 1-hour L_{eq} measurements for each hour of a day are based on equation 2-24 on pg. 2-53 of Caltrans 2013.
[4] Log factors for the L_{dn} and CNEL penalties are provided in Table 2-11 on pg. 2-48 of Caltrans 2013.
[5] Average noise level descriptors were logarithmicly averaged over the total number of hours
Source:
California Department of Transportation (Caltrans), Division of Environmental Analysis. 2013 (September). *Technical Noise Supplement to the Traffic Noise Analysis Protocol* . Sacramento, CA. Available: <https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf>. Accessed Febuary 26, 2025.

Sound Power[1]
$=10*\text{Log}(L_{eq,\ 1hr}/10)$

Hour of Day	Maximum Noise Levels (L_{max})					Sound Pressure Level Exceeded 50% of a Specific Time Period (L_{50})					Mininum Noise Levels (L_{min})				
	Day	Night	Day	Evening	Night	Day	Night	Day	Evening	Night	Day	Night	Day	Evening	Night
13:00	1096478		1096478.196			34673.68505		34673.68505			10000		10000		
14:00	416869		416869.3835			32359.36569		32359.36569			8317.637711		8317.637711		
15:00	1202264		1202264.435			28840.31503		28840.31503			6760.829754		6760.829754		
16:00	7943282		7943282.347			37153.52291		37153.52291			10471.28548		10471.28548		
17:00	512861		512861.384			50118.72336		50118.72336			9332.543008		9332.543008		
18:00	724436		724435.9601			47863.00923		47863.00923			4897.788194		4897.788194		
19:00	1995262			1995262.315		97723.7221			97723.7221		4897.788194			4897.788194	
20:00	3801894			3801893.963		104712.8548			104712.8548		7079.457844			7079.457844	
21:00	1348963			1348962.883		74131.02413			74131.02413		5248.074602			5248.074602	
22:00		933254.3008			933254.3008		19054.60718			19054.60718		2041.737945			2041.737945
23:00		1288249.552			1288249.552		20417.37945			20417.37945		2290.867653			2290.867653
0:00		2238721.139			2238721.139		30902.95433			30902.95433		3162.27766			3162.27766
1:00		1479108.388			1479108.388		15488.16619			15488.16619		1621.810097			1621.810097
2:00		2137962.09			2137962.09		14791.08388			14791.08388		2187.761624			2187.761624
3:00		1148153.621			1148153.621		39810.71706			39810.71706		2884.031503			2884.031503
4:00		2454708.916			2454708.916		89125.09381			89125.09381		7413.102413			7413.102413
5:00		5370317.964			5370317.964		295120.9227			295120.9227		30199.5172			30199.5172
6:00		12882495.52			12882495.52		724435.9601			724435.9601		218776.1624			218776.1624
7:00	5248075		5248074.602			831763.7711		831763.7711			95499.2586		95499.2586		
8:00	2884032		2884031.503			263026.7992		263026.7992			40738.02778		40738.02778		
9:00	5888437		5888436.554			173780.0829		173780.0829			41686.93835		41686.93835		
10:00	2187762		2187761.624			165958.6907		165958.6907			42657.95188		42657.95188		
11:00	9549926		9549925.86			141253.7545		141253.7545			24547.08916		24547.08916		
12:00	1023293		1023292.992			89125.09381		89125.09381			21877.61624		21877.61624		

Average Sound Level Descriptors[5]									
L_{eq}					L_{50}				
Day	Night	Day	Evening	Night	Day	Night	Day	Evening	Night
52	52	52	51	52	52	51	52	50	51

L_{max}					L_{min}				
Day	Night	Day	Evening	Night	Day	Night	Day	Evening	Night
65	65	65	64	65	43	45	44	38	45

Long-Term Noise Measurement Summary

KEY: Orange cells are for input.

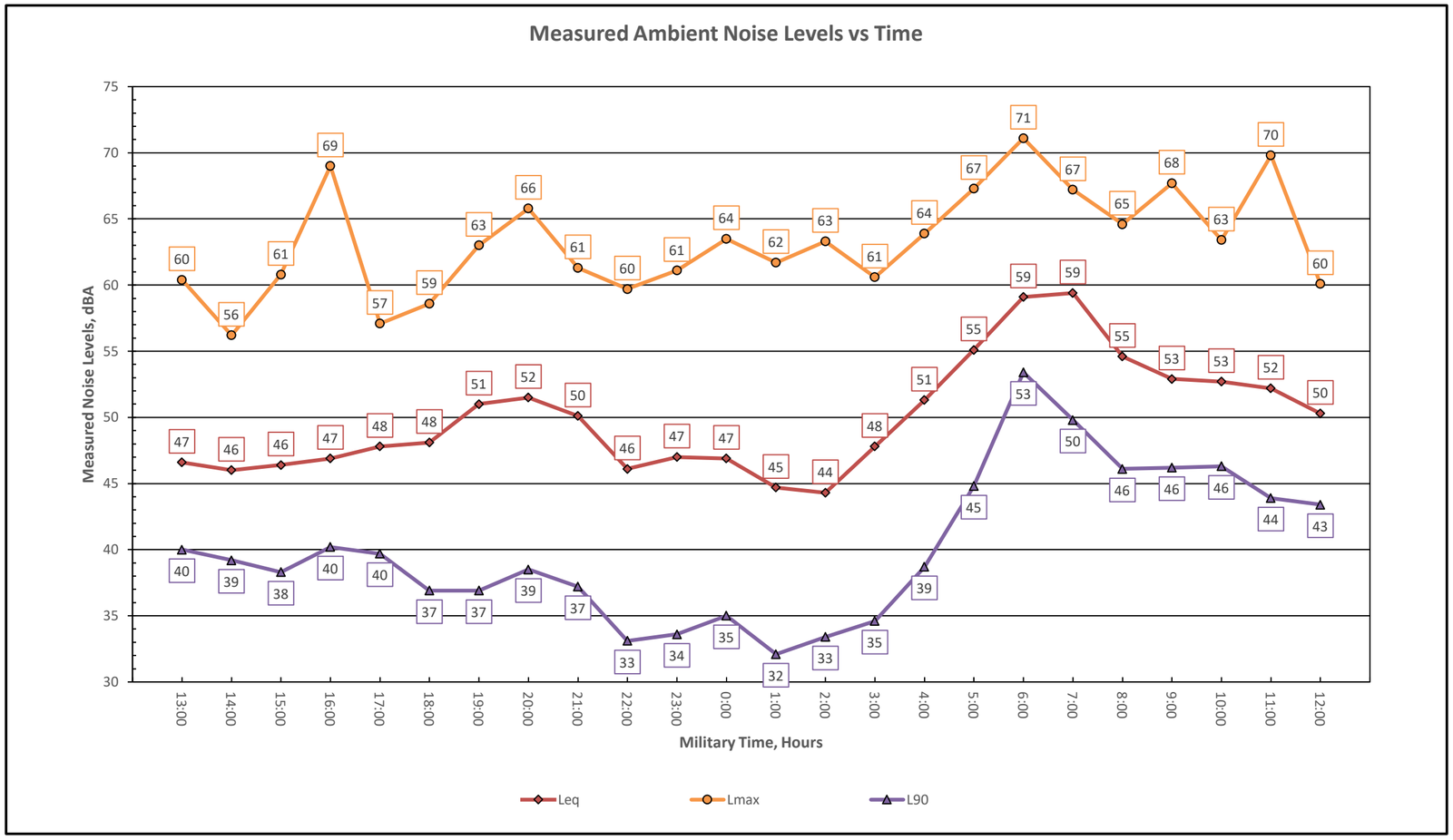
Green cells are data to present in a written analysis (output).

Measurement Site:	LT2
Measurement Date:	February 25, 1:00 p.m. to February 26, 1:00 p.m.
Project Name:	El Dorado County - Costco
Coordinates	38°28'35"N 121°48'08"W

Hour of Day (military time)	Measured Level, dBA L_{eq}	L_{max}	L_{50}	L_{min}
13:00	47	60	45	40
14:00	46	56	45	39
15:00	46	61	45	38
16:00	47	69	46	40
17:00	48	57	47	40
18:00	48	59	47	37
19:00	51	63	50	37
20:00	52	66	50	39
21:00	50	61	49	37
22:00	46	60	43	33
23:00	47	61	43	34
0:00	47	64	45	35
1:00	45	62	42	32
2:00	44	63	42	33
3:00	48	61	46	35
4:00	51	64	50	39
5:00	55	67	55	45
6:00	59	71	59	53
7:00	59	67	59	50
8:00	55	65	54	46
9:00	53	68	52	46
10:00	53	63	52	46
11:00	52	70	52	44
12:00	50	60	50	43

Metrics	L_{eq}	L_{max}	L_{50}	L_{min}
Day Average	52	65	52	44
Evening Average	51	64	50	38
Night Average	52	65	51	45

CNEL	58.9
Day %	62%
Night %	38%



Notes: Primary noises include traffic noise originating from US 50 and Silva Valley Parkway.

Number	Start Date	Start Time	End Time	Duration	Meas Mode	Input Range	Input Type	SPL Time W	LN% Freq W	Overload	UnderRang	Sensitivity	LZeq	LCeq	LAeq	LZSmax	LCSmax	LASmax	LZSmin	LCSmin	LASmin	LZE	LCE	LAE	LZpk	LCpk	LApk	LAS1%	LAS2%	LAS5%	LAS8%	LAS10%	LAS25%	LAS50%	LAS90%	LAS95%	LAS99%
174	2/25/2025	12:00:00 PM	1:00:00 PM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	76.5	69.2	53.7	94.6	85.3	63.9	59.8	57.7	47.4	112.1	104.8	89.3	107.9	100.8	78.3	59.7	58.6	57	56.1	55.7	54.1	52.8	50.8	50.2	48.8
175	2/25/2025	1:00:00 PM	2:00:00 PM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	75.8	68.8	52.8	95.1	86.6	71.2	60.5	57.6	47.6	111.4	104.4	88.4	107.7	98.6	85.6	57	56.1	55	54.5	54.3	53.4	52.3	50.2	49.8	48.8
176	2/25/2025	2:00:00 PM	3:00:00 PM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	73	66.7	54.2	88.9	80.6	64.8	61.5	58.9	48.4	108.6	102.3	89.8	102.7	94.1	79.4	60.1	58.8	56.9	56.2	56	54.8	53.5	51.4	50.9	50
177	2/25/2025	3:00:00 PM	4:00:00 PM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	72	66.8	54.1	89.9	82.4	67	61	58.3	48	107.6	102.4	89.7	102.4	97.1	85.7	58.7	57.7	56.7	56.2	55.9	54.7	53.6	51.2	50.6	49.4
178	2/25/2025	4:00:00 PM	5:00:00 PM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	66.9	63.3	54.7	81.7	73.8	64.6	60.6	58.4	48.5	102.5	98.9	90.3	94	86.5	83.3	58.5	57.8	57	56.6	56.4	55.4	54.3	52.3	51.6	50.2
179	2/25/2025	5:00:00 PM	6:00:00 PM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	66.7	64.3	57	81.6	74.9	66.4	61.3	59.4	51.2	102.3	99.9	92.6	96	86.8	80.2	63.2	61.6	59.7	59.1	58.9	57.7	56.4	54.1	53.5	52.5
180	2/25/2025	6:00:00 PM	7:00:00 PM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	63.7	62.4	57.8	75.3	71.4	64.7	58.8	57.4	50.7	99.3	98	93.4	86	83.9	82.1	61.7	61	60.3	59.9	59.7	58.7	57.4	55	54.3	52.8
181	2/25/2025	7:00:00 PM	8:00:00 PM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	64	62.7	58	76	73.5	66.4	57.7	55.9	49.6	99.6	98.3	93.6	90.5	89.1	87.5	62.6	62	61.2	60.6	60.3	58.9	57.4	54.4	53.5	52.1
182	2/25/2025	8:00:00 PM	9:00:00 PM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	62.9	62	57.5	73.2	72.7	67.4	55	53.8	46.7	98.5	97.6	93.1	88.4	87.5	85.5	63.3	62.3	61.1	60.5	60.1	58.5	56.5	52.8	51.8	49.9
183	2/25/2025	9:00:00 PM	10:00:00 PM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	61.9	60.6	56.2	76.5	72.4	66	52.5	50.4	42	97.5	96.2	91.8	85.1	85.7	82.6	62.5	61.7	60.6	59.9	59.5	57.3	54.7	50.5	49.1	46.4
184	2/25/2025	10:00:00 PM	11:00:00 PM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	59.5	58.4	53.5	75.7	75.5	68.4	50.4	48.6	41.8	95.1	94	89.1	90.4	90.2	89.4	60.4	59.4	58.2	57.4	56.9	54.5	51.5	46.9	45.5	43.7
185	2/25/2025	11:00:00 PM	12:00:00 AM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	59.4	58.4	53.8	74.1	74	68.6	48	46.5	38.6	95	94	89.4	84.6	84.7	83.7	61.6	60.2	58.6	57.8	57.3	54.8	51.7	46.2	44.7	42.2
186	2/26/2025	12:00:00 AM	1:00:00 AM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	58.3	57.3	53.2	72.8	72.7	65.5	46.5	44.6	35.3	93.9	92.9	88.8	86.3	86.3	85	61.8	60.5	58.8	57.7	57.2	54.2	49.7	41.2	39.6	36.8
187	2/26/2025	1:00:00 AM	2:00:00 AM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	56.3	54.7	50.1	72.5	68.4	63.8	45.1	42.9	33.8	91.9	90.3	85.7	91	88.9	87.4	60	59	57.2	55.8	55	49.4	42.8	36.7	35.9	34.8
188	2/26/2025	2:00:00 AM	3:00:00 AM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	57.4	56	51.3	74.7	73.6	67.1	45.9	44.3	34.4	93	91.6	86.9	88.9	88.7	85.1	59.9	58.9	57.4	56.3	55.7	51.8	46.4	39.2	38	36.4
189	2/26/2025	3:00:00 AM	4:00:00 AM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	60.1	58.8	55	71.4	70.9	67.6	45.6	43.4	34.9	95.7	94.4	90.6	89.1	89.4	86.3	63.5	62.7	61.2	60.3	59.6	56	50.4	41.3	39.5	36.3
190	2/26/2025	4:00:00 AM	5:00:00 AM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	63	61.6	57.4	74.5	73	69.9	51	49.1	40.1	98.6	97.2	93	86.8	86.4	84.2	64	63.2	61.9	61.2	60.8	58.7	56.1	47.9	45.9	43.3
191	2/26/2025	5:00:00 AM	6:00:00 AM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	67.1	66.3	62.6	79.1	79	75	58.1	56.5	49.5	102.7	101.9	98.2	93.2	93.6	90.8	67.7	67.1	66.1	65.6	65.4	63.9	61.7	57.3	55.8	52.6
192	2/26/2025	6:00:00 AM	7:00:00 AM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	69.3	68.5	64.9	76.2	75.6	73.2	62	60.9	56.2	104.9	104.1	100.5	93.6	92.9	90.7	69.3	68.6	67.8	67.3	67	65.8	64.4	61.6	60.6	58.7
193	2/26/2025	7:00:00 AM	8:00:00 AM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	69	68	64.2	76	75.8	69.9	62.9	61.4	56.9	104.6	103.6	99.8	87.7	87.3	87.2	67.9	67.4	66.6	66.2	66	65	63.8	61.7	61	59.7
194	2/26/2025	8:00:00 AM	9:00:00 AM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	68	66.5	62.1	75.9	75.4	70.6	63.5	61.9	54.8	103.6	102.1	97.7	91.4	91.3	87.7	65.6	65.1	64.4	63.9	63.7	62.8	61.8	59.5	58.8	57.6
195	2/26/2025	9:00:00 AM	10:00:00 AM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	69	66.5	61.5	84.6	77	71.6	62.2	60.6	54.5	104.6	102.1	97.1	97.3	91.3	85.4	65.2	64.7	64	63.6	63.3	62.3	61.2	58.8	58.1	56.8
196	2/26/2025	10:00:00 AM	11:00:00 AM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	69.3	66.5	60.8	81.8	75	66.2	62.6	61.2	53.7	104.9	102.1	96.4	92.7	88.6	87.4	64.4	64	63.4	63	62.8	61.7	60.5	58.1	57.3	55.8
197	2/26/2025	11:00:00 AM	12:00:00 PM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	17.41mV/Pa	67.6	65	58.8	79.8	74.6	66.1	61.2	59	50	103.2	100.6	94.4	92.6	87.1	85.4	63.2	62.7	61.9	61.4	61.2	59.9	58.4	54.7	53.8	51.9

Number	Start Date	Start Time	End Time	Duration	Meas Mod	Input Rang	Input Type	SPL Time W	LN% Freq W	Overload	UnderRang	Sensitivity	LZeq	LCeq	LAeq	LZFmax	LCFmax	LAFmax	LZFmin	LCFmin	LAFmin	LZE	LCE	LAE	LZpk	LCpk	LApk	LAF1%	LAF2%	LAF5%	LAF8%	LAF10%	LAF25%	LAF50%	LAF90%	LAF95%	LAF99%
ST1																																					
300	2/25/2025	11:15:00 AM	11:30:00 AM	0:15:00	Auto	Low	Mic	Slow	dBA	No	No	20.22mV/F	69.6	67.5	53.5	81.8	81.2	63.8	62.9	60.7	47.7	99.1	97	83	90.9	89.8	77.9	61.2	59	57.1	56.1	55.6	53.7	52.4	50.2	49.5	48.5
ST2																																					
303	2/25/2025	12:00:00 PM	12:15:00 PM	0:15:00	Auto	Low	Mic	Slow	dBA	No	No	20.22mV/F	68.5	64.9	55.7	80.9	75.1	65.1	58.6	56.5	45.4	98	94.4	85.2	93.9	88.4	78.5	62.5	61.7	59.5	58.8	58.3	56.5	54.6	50.2	48.7	46.2
LT2																																					
308	2/25/2025	1:00:00 PM	2:00:00 PM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	20.22mV/F	63.2	60.5	46.6	74.1	71.4	60.4	53.7	51.3	40	98.8	96.1	82.2	86.9	83.3	85.1	53.8	52.3	49.9	49.1	48.7	47	45.4	43.1	42.4	41.3
309	2/25/2025	2:00:00 PM	3:00:00 PM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	20.22mV/F	63.2	60.8	46	78.3	74.4	56.2	52.8	50.2	39.2	98.8	96.4	81.6	92.3	87.6	77.3	52.3	50.9	49.4	48.5	48.1	46.6	45.1	42.9	42.2	40.7
310	2/25/2025	3:00:00 PM	4:00:00 PM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	20.22mV/F	67.2	63.9	46.4	85.5	81.6	60.8	53	50.4	38.3	102.8	99.5	82	93.8	89.8	80.2	57.3	52.5	49	48.2	47.7	46	44.6	42	41.4	40.2
311	2/25/2025	4:00:00 PM	5:00:00 PM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	20.22mV/F	61.9	60.1	46.9	78.7	78.2	69	53.6	51.2	40.2	97.5	95.7	82.5	92.7	93	91.2	51.9	51.1	49.8	49	48.7	47.3	45.7	43.2	42.7	41.6
312	2/25/2025	5:00:00 PM	6:00:00 PM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	20.22mV/F	61.8	60.3	47.8	74.8	74	57.1	53.1	51.1	39.7	97.4	95.9	83.4	84.4	82.8	75.7	53.6	52.5	51.2	50.6	50.2	48.6	47	44	43	40.9
313	2/25/2025	6:00:00 PM	7:00:00 PM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	20.22mV/F	60	58.6	48.1	70	68.7	58.6	52.4	49.5	36.9	95.6	94.2	83.7	84.2	84	76.6	54.9	54.1	52.5	51.6	51	48.8	46.8	42.7	41.4	39.4
314	2/25/2025	7:00:00 PM	8:00:00 PM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	20.22mV/F	60.9	59.3	51	77	75.5	63	52.5	50.2	36.9	96.5	94.9	86.6	83.9	82.7	76.4	56.8	56	55.1	54.4	54	52.3	49.9	44.7	43.3	40.8
315	2/25/2025	8:00:00 PM	9:00:00 PM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	20.22mV/F	60.9	59.8	51.5	77.9	77.4	65.8	51.4	49.4	38.5	96.5	95.4	87.1	87.9	87.2	85.2	58.1	57	55.6	54.6	54.2	52.3	50.2	45.8	44.4	41.4
316	2/25/2025	9:00:00 PM	10:00:00 PM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	20.22mV/F	59.9	57.9	50.1	77	72.8	61.3	51.2	49	37.2	95.5	93.5	85.7	84.3	82.1	76.8	56.6	55.7	54.5	53.7	53.3	51.3	48.7	43	41.4	39.4
317	2/25/2025	10:00:00 PM	11:00:00 PM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	20.22mV/F	56.9	55.3	46.1	68.9	67.9	59.7	45.4	43	33.1	92.5	90.9	81.7	80.7	78.6	73.9	54.6	53.3	51.4	50.4	49.8	46.7	42.8	37	35.8	34.2
318	2/25/2025	11:00:00 PM	12:00:00 AM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	20.22mV/F	54.7	52.9	47	65.4	64.9	61.1	45.2	42.8	33.6	90.3	88.5	82.6	77.1	76.9	76.5	56.3	55	52.8	51.5	50.8	47.1	43.1	37.9	36.8	35.2
319	2/26/2025	12:00:00 AM	1:00:00 AM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	20.22mV/F	55.4	53.4	46.9	68	67.7	63.5	46.4	44.2	35	91	89	82.5	79.1	78.7	76.7	54	53.1	51.5	50.6	50.2	47.8	44.9	40.2	38.9	37.2
320	2/26/2025	1:00:00 AM	2:00:00 AM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	20.22mV/F	52.9	50.9	44.7	67.2	64.5	61.7	45.1	43.2	32.1	88.5	86.5	80.3	89.9	89.9	86.6	53.5	51.7	49.8	48.7	48	45.1	41.9	36.9	35.9	34.1
321	2/26/2025	2:00:00 AM	3:00:00 AM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	20.22mV/F	53.2	51.1	44.3	68.7	68.7	63.3	45.9	44.1	33.4	88.8	86.7	79.9	80.8	80.1	75.9	53.7	51.3	48.8	47.5	47	44.4	41.7	37.4	36.6	35.4
322	2/26/2025	3:00:00 AM	4:00:00 AM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	20.22mV/F	55.7	53.8	47.8	65.8	63.6	60.6	47.2	45.3	34.6	91.3	89.4	83.4	76.9	75.3	74.1	55	54.1	52.5	51.5	51.2	48.7	46	40.1	38.3	36.1
323	2/26/2025	4:00:00 AM	5:00:00 AM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	20.22mV/F	59.2	57.2	51.3	71.6	70.3	63.9	50.9	48.5	38.7	94.8	92.8	86.9	85.9	84.4	78.7	58.5	57.6	56.2	55.1	54.6	51.9	49.5	45	43.6	41.4
324	2/26/2025	5:00:00 AM	6:00:00 AM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	20.22mV/F	62.9	61.6	55.1	75.7	75	67.3	54.2	52.3	44.8	98.5	97.2	90.7	87.5	87.9	84.7	60	59.1	57.8	57.3	57.1	56	54.7	51	49.6	47.5
325	2/26/2025	6:00:00 AM	7:00:00 AM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	20.22mV/F	65.5	64.3	59.1	75.5	75.4	71.1	59.9	58.7	53.4	101.1	99.9	94.7	89.9	89.8	86.8	63.3	62.6	61.8	61.4	61.1	59.9	58.6	56	55.5	54.6
326	2/26/2025	7:00:00 AM	8:00:00 AM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	20.22mV/F	67.1	65.6	59.4	75	73.9	67.2	60.3	58.3	49.8	102.7	101.2	95	86.3	85.5	83.5	63.5	62.9	62.1	61.7	61.5	60.4	59.2	56	54.7	52
327	2/26/2025	8:00:00 AM	9:00:00 AM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	20.22mV/F	63.7	61.9	54.6	72.2	71.4	64.6	58.2	55.9	46.1	99.3	97.5	90.2	85.3	86.3	84.8	58.6	58.1	57.3	56.8	56.6	55.5	54.2	51.2	50.3	49
328	2/26/2025	9:00:00 AM	10:00:00 AM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	20.22mV/F	62.7	60.7	52.9	75.1	72.8	67.7	57.6	55.1	46.2	98.3	96.3	88.5	86.8	84.6	85.5	56.6	56.1	55.3	55	54.8	53.7	52.4	50	49.3	48
329	2/26/2025	10:00:00 AM	11:00:00 AM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	20.22mV/F	63.4	61.2	52.7	74	73.4	63.4	57.5	55.4	46.3	99	96.8	88.3	84.5	84.8	80.2	57.4	56.7	55.6	55	54.7	53.4	52.2	49.7	49.1	48
330	2/26/2025	11:00:00 AM	12:00:00 PM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	20.22mV/F	63.1	60.7	52.2	78.4	72	69.8	56.9	54.6	43.9	98.7	96.3	87.8	90.4	87.7	89.1	57.3	56	55.1	54.6	54.3	52.9	51.5	48.3	47.4	45.9
331	2/26/2025	12:00:00 PM	1:00:00 PM	1:00:00	Auto	Low	Mic	Slow	dBA	No	No	20.22mV/F	63.3	61.2	50.3	74.8	74.3	60.1	56.4	54.3	43.4	98.9	96.8	85.9	89	87.4	86.7	55.3	54.6	53.5	52.9	52.6	51.2	49.5	46.8	46.1	45.1

El Dorado Costco Construction Noise Modeling Summary

Phase	Leq at 50 feet	Lmax at 50 feet
Site Preparation	88.5	92.5
Grading	87.7	92.8
Building Construction	88.3	92.8
Building Construction with Silent Blasting	88.5	92.8
Paving	88.1	92.5
Architectural Coating	82.0	86.0
Nighttime Construction	83.5	89.0

Temporary Increase in Noise Calculations - Daytime + Nighttime

	Noise Level dBA Leq	FT	Activity Noise at SR	Combined (Existing + Project)	Change	Substantial Noise Increase Threshold	Exceeds Threshold
Reference Daytime Noise Level (Silva Valley Parkway)[1]	52	555					
Calculated Daytime Noise level - North Site[1]	**62.5**	50					
NR-SR 2 - School	**60.0**	88	66	67.0	7.0	3	Yes
Reference Nighttime Noise Level (Silva Valley Parkway)[1]	52	555					
Calculated Nighttime Noise level - North Site[1]	**62.9**	45					
NR-SR 2 - School	**60.0**	88	54.4	61.1	1.1	3	No
R-SR 3 - Residences along Village Green	**51.5**	625	55.2	56.7	5.3	3	Yes
R-SR 4 - Residences along Village Green/Russi	**49.9**	890	55.4	56.5	6.5	3	Yes
NR-SR 5 - Church	**51.2**	660	55.5	56.9	5.6	3	Yes
Reference Nighttime Noise Level (Clarksville Road)[1]	59	590					
Calculated Daytime Noise level - North Site[1]	**62.5**	50					
NR-SR 2 - School - Loudest Construction Activity to result in substantial increase	**60.0**	88	60	63.0	3.0	3	No
Calculated Daytime Noise level - North Site[1]	**62.5**	50					
NR-SR 2 - School - Offsite construction noise increase	**60.0**	88	57.5	61.9	1.9	3	No
Calculated Nighttime Noise level - South Site[2]	**69.7**	50					
R-SR 1: Residential along Mertola Ave	**58.9**	600	57.9	61.5	2.5	3	No

Sources

Attenuation Formula (line source)

Lp(R2)=Lp(R1)-10*Log(R2/R1)

			8
Lp(R1)	=	reference noise level at known distance	5
Lp(R2)	=	noise level at second location	soft
R1	=	reference level distance	6.5
R2	=	distance to second location	
			0.6339286

1. 12-hour daytime and nighttime Leq measurement conducted approximately 555 feet from the centerline of Silva Valley Parkway
2. 12-hour daytime and nighttime Leq measurement conducted approximately 590 feet from the centerline of Clarksville Road

Costco - Site Preparation (L_{eq})

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
FTA Daytime Residential Threshold	42	90.0
County Nighttime Threshold	7,476	45.0
R-SR 1: Residential along Mertola Ave	950	62.9
NR-SR 2: Oak Meadow Elementary	635	66.4
R-SR 3: Residential along Village Green Drive	500	68.5
R-SR 4: Residential near Village Green Drive/Russi Ranch Drive	985	62.6
NR-SR 5: Church	1,255	60.5

Equipment[4]	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Grader	85	0.4
Scraper	85	0.4
Tractor	84	0.4
Grader	85	0.4
Scraper	85	0.4
Tractor	84	0.4

Ground Type	hard
Source Height	8
Receiver Height	5
Ground Factor[2]	0.00

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Grader	81.0
Scraper	81.0
Tractor	80.0
Grader	81.0
Scraper	81.0
Tractor	80.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
88.5

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

[4] Mounted impact hammer is used a substitute for rock crushing in this analysis. Extec Screens & Crushers Ltd. Novemer 2007. "C12+ Crusher Operationg and Maintenance Manual". (site accessed December 6, 2023).
$L_{eq}(equip) = E.L.+10*log (U.F.) - 20*log (D/50) - 10*G*log (D/50)$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

El Dorado Costco - Grading (Leq)

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
FTA Daytime Residential Threshold	38	90.0
County Nighttime Threshold	6,806	45.0
R-SR 1: Residential along Mertola Ave	950	62.1
NR-SR 2: Oak Meadow Elementary	635	65.6
R-SR 3: Residential along Village Green Drive	500	67.7
R-SR 4: Residential near Village Green Drive/Russi Ranch Drive	985	61.8
NR-SR 5: Church	1,255	59.7

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Grader	85	0.4
Excavator	85	0.4
Backhoe	80	0.4
Grader	85	0.4
Excavator	85	0.4
Backhoe	80	0.4

Ground Type	hard
Source Height	8
Receiver Height	5
Ground Factor[2]	0.00

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Grader	81.0
Excavator	81.0
Backhoe	76.0
Grader	81.0
Excavator	81.0
Backhoe	76.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
87.7

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

$L_{eq}(equip) = E.L.+10*\log(U.F.) - 20*\log(D/50) - 10*G*\log(D/50)$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

El Dorado Costco - Building Construction (Leq)

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
FTA Daytime Residential Thresho	41	90.0
County Nighttime Threshold	7,280	45.0
R-SR 1: Residential along Mertola Ave	950	62.7
NR-SR 2: Oak Meadow Elementary	635	66.2
R-SR 3: Residential along Village Green Drive	500	68.3
R-SR 4: Residential near Village Green Drive/Russi Ranch Drive	985	62.4
NR-SR 5: Church	1,255	60.3

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Crane	85	0.16
Dozer	85	0.4
Pneumatic Tools	85	0.5
Crane	85	0.16
Dozer	85	0.4
Pneumatic Tools	85	0.5

Ground Type	hard
Source Height	8
Receiver Height	5
Ground Factor[2]	0.00

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Crane	77.0
Dozer	81.0
Pneumatic Tools	82.0
Crane	77.0
Dozer	81.0
Pneumatic Tools	82.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
88.3

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

$L_{eq}(equip) = E.L.+10*\log (U.F.) - 20*\log (D/50) - 10*G*\log (D/50)$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

El Dorado Costco - Nighttime Construction (Leq)

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
Nighttime Residential Threshold	4,184	45.0
FTA Nighttime Industrial/Commercial Threshold	69	80.0
R-SR 1: Residential along Mertola Ave	950	57.9
NR-SR 2: Oak Meadow Elementary	1425	54.4
R-SR 3: Residential along Village Green Drive	1290	55.2
R-SR 4: Residential near Village Green Drive/Russi Ranch Drive	1265	55.4
NR-SR 5: Church	1,255	55.5

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Concrete Mixer Truck	85	0.4
Concrete Pump Truck	82	0.2
Roller	85	0.2

Ground Type	hard
Source Height	8
Receiver Height	5
Ground Factor[2]	0.00

Predicted Noise Level [4]	L_{eq} dBA at 50 feet[3]
Concrete Mixer Truck	81.0
Concrete Pump Truck	75.0
Roller	78.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
83.5

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

$L_{eq}(equip) = E.L.+10*\log(U.F.) - 20*\log(D/50) - 10*G*\log(D/50)$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

El Dorado Costco - Building Construction with Silent Blasting (Leq)

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
FTA Daytime Residential Threshol	42	90.0
County Nighttime Threshold	7,471	45.0
R-SR 1: Residential along Mertola Ave[1]	950	62.9
NR-SR 2: Oak Meadow Elementary[2]	635	66.4
R-SR 3: Residential along Village Green Drive[2]	500	68.5
R-SR 4: Residential near Village Green Drive/Russi Ranch Drive[2]	985	62.6
NR-SR 5: Church[1]	1,255	60.5
NR-SR 2: Oak Meadow Elementary Buildings	800	64.4

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Mounted Impact Hammer (hoe ram)	90	0.2
Dozer	85	0.4
Excavator	85	0.4
Dozer	85	0.4
Excavator	85	0.4

Ground Type	hard
Source Height	8
Receiver Height	5
Ground Factor[2]	0.00

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Mounted Impact Hammer (hoe ram)	83.0
Dozer	81.0
Excavator	81.0
Dozer	81.0
Excavator	81.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
88.5

Notes:

[1] The nearest construction activity would be located on the South Site

[2] The nearest construction activity would be located on the North Site

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

$L_{eq}(equip) = E.L.+10*\log(U.F.) - 20*\log(D/50) - 10*G*\log(D/50)$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

El Dorado Costco - Paving (Leq)

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
FTA Daytime Residential Threshold	40	90.0
County Nighttime Threshold	7,133	45.0
R-SR 1: Residential along Mertola Ave	950	62.5
NR-SR 2: Oak Meadow Elementary	635	66.0
R-SR 3: Residential along Village Green Drive	500	68.1
R-SR 4: Residential near Village Green Drive/Russi Ranch Drive	985	62.2
NR-SR 5: Church	1,255	60.1

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Paver	85	0.5
Roller	85	0.2
Tractor	84	0.4
Paver	85	0.5
Roller	85	0.2
Tractor	84	0.4

Ground Type	hard
Source Height	8
Receiver Height	5
Ground Factor[2]	0.00

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Paver	82.0
Roller	78.0
Tractor	80.0
Paver	82.0
Roller	78.0
Tractor	80.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
88.1

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

$L_{eq}(equip) = E.L.+10*\log(U.F.) - 20*\log(D/50) - 10*G*\log(D/50)$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

El Dorado CostcoArchitectural Coating (Leq)

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
FTA Residential Threshold	20	90.0
County Nighttime Threshold	3,557	45.0
R-SR 1: Residential along Mertola Ave	950	56.5
NR-SR 2: Oak Meadow Elementary	635	60.0
R-SR 3: Residential along Village Green Drive	500	62.0
R-SR 4: Residential near Village Green Drive/Russi Ranch Drive	985	56.2
NR-SR 5: Church	1,255	54.0

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Compressor (air)	80	0.4
Compressor (air)	80	0.4
Compressor (air)	80	0.4
Compressor (air)	80	0.4

Ground Type	hard
Source Height	8
Receiver Height	5
Ground Factor[2]	0.00

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Compressor (air)	76.0
Compressor (air)	76.0
Compressor (air)	76.0
Compressor (air)	76.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
82.0

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

$L_{eq}(equip) = E.L.+10*\log (U.F.) - 20*\log (D/50) - 10*G*\log (D/50)$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

El Dorado Costco - Off-site Construction (Leq)

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
FTA Daytime Residential Threshold	27	90.0
Residences near Village Green Drive	877	59.7
NR-SR 2: Oak Meadow Elementary - Install Left turn lanes	1128	57.5
Residences near White Rock Road	193	72.8

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Paver	85	0.5
Grader	85	0.4

Ground Type	hard
Source Height	8
Receiver Height	5
Ground Factor[2]	0.00

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Paver	82.0
Grader	81.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
84.5

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

$L_{eq}(equip) = E.L.+10*\log(U.F.) - 20*\log(D/50) - 10*G*\log(D/50)$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

Costco - Site Preparation (L_{MAX})

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
Residential Threshold	66	90.0
Industrial/Commercial Threshold	100	100.0

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Grader	85	1
Scraper	85	1
Tractor	84	1
Grader	85	1
Scraper	85	1
Tractor	84	1

Ground Type	hard
Source Height	8
Receiver Height	5
Ground Factor[2]	0.00

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Grader	85.0
Scraper	85.0
Tractor	84.0
Grader	85.0
Scraper	85.0
Tractor	84.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
92.5

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

$L_{eq}(equip) = E.L.+10*\log(U.F.) - 20*\log(D/50) - 10*G*\log(D/50)$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

Nighttime Construction Maximum Noise Levels

Project Name:

KEY: Orange cells are for input.
Grey cells are intermediate calculations performed by the model.
Green cells are data to present in a written analysis (output).

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (dBA L_{max})
Thresholds		
Evening Standard	874	60.0
Nighttime Standard	1,554	55.0
Sensitive Receptors		
R-SR 1: Residential along Mertola Ave	950	59.3
NR-SR 2: Oak Meadow Elementary	1425	55.8
R-SR 3: Residential along Village Green Drive	1290	56.6
R-SR 4: Residential near Village Green Drive/Russi Ranch Drive	1265	56.8
NR-SR 5: Church	1,255	56.9

Equipment[1]	Reference Emission Noise Levels (dBA L_{max}) at 50 feet[2]
Concrete Mixer Truck	79
Concrete Pump Truck	81
Roller	80

Ground Type	Hard
Source Height	8
Receiver Height	5
Ground Factor[3]	0.00

Predicted Noise Level [3]	dBA L_{max} at 50 feet[3]
Concrete Mixer Truck	79.0
Concrete Pump Truck	81.0
Roller	80.0

Combined Predicted Noise Level (dBA L_{max} at 50 feet)
84.8

Sources:

[1] Where measured values are not available, noise levels based on the Construction Noise Control Specifiction 721.560 were used.

[2] Based on Figure 4-26 from the Federal Transit Noise and Vibration Impact Assessment, 2018 (pg 86).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2018 (pg 177).

L_{eq}(equip) = E.L.+10*log (U.F.) - 20*log (D/50) - 10*G*log (D/50)

Where: E.L. = Emission Level;

U.F.= Usage Factor, assumed to be 1 for the purposes of the calculation of maximum noise levels;

G = Constant that accounts for topography and ground effects (FTA 2018: pg 86); and

D = Distance from source to receiver.

El Dorado Costco Grading (LMAX)

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
Residential Threshold	69	90.0
Industrial/Commercial Threshold	100	100.0

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Grader	85	1
Excavator	85	1
Dozer	85	1
Grader	85	1
Excavator	85	1
Dozer	85	1

Ground Type	hard
Source Height	8
Receiver Height	5
Ground Factor[2]	0.00

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Grader	85.0
Excavator	85.0
Dozer	85.0
Grader	85.0
Excavator	85.0
Dozer	85.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
92.8

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

$L_{eq}(equip) = E.L.+10*\log(U.F.) - 20*\log(D/50) - 10*G*\log(D/50)$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

El Dorado Costco Building (LMAX)

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
Residential Threshold	69	90.0
Industrial/Commercial Threshold	100	100.0

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Crane	85	1
Dozer	85	1
Pneumatic Tools	85	1
Crane	85	1
Dozer	85	1
Pneumatic Tools	85	1

Ground Type	hard
Source Height	8
Receiver Height	5
Ground Factor[2]	0.00

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Crane	85.0
Dozer	85.0
Pneumatic Tools	85.0
Crane	85.0
Dozer	85.0
Pneumatic Tools	85.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
92.8

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

$L_{eq}(equip) = E.L.+10*\log(U.F.) - 20*\log(D/50) - 10*G*\log(D/50)$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

Construction (LMAX)

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
Residential Threshold	138	90.0
Industrial/Commercial Threshold	100	100.0

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Impact Pile Driver	95	1
Dozer	85	1
Pneumatic Tools	85	1
Impact Pile Driver	95	1
Dozer	85	1
Pneumatic Tools	85	1

Ground Type	hard
Source Height	8
Receiver Height	5
Ground Factor[2]	0.00

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Impact Pile Driver	95.0
Dozer	85.0
Pneumatic Tools	85.0
Impact Pile Driver	95.0
Dozer	85.0
Pneumatic Tools	85.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
98.8

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

$L_{eq}(equip) = E.L.+10*\log(U.F.) - 20*\log(D/50) - 10*G*\log(D/50)$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

Construction (LMAX)

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
Residential Threshold	66	90.0
Industrial/Commercial Threshold	100	100.0

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Paver	85	1
Roller	85	1
Tractor	84	1
Paver	85	1
Roller	85	1
Tractor	84	1

Ground Type	hard
Source Height	8
Receiver Height	5
Ground Factor[2]	0.00

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Paver	85.0
Roller	85.0
Tractor	84.0
Paver	85.0
Roller	85.0
Tractor	84.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
92.5

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

$L_{eq}(equip) = E.L.+10*\log(U.F.) - 20*\log(D/50) - 10*G*\log(D/50)$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

Construction (LMAX)

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
Residential Threshold	32	90.0
Industrial/Commercial Threshold	100	100.0

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Compressor (air)	80	1
Compressor (air)	80	1
Compressor (air)	80	1
Compressor (air)	80	1

Ground Type	hard
Source Height	8
Receiver Height	5
Ground Factor[2]	0.00

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Compressor (air)	80.0
Compressor (air)	80.0
Compressor (air)	80.0
Compressor (air)	80.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
86.0

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

$L_{eq}(equip) = E.L.+10*\log(U.F.) - 20*\log(D/50) - 10*G*\log(D/50)$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

Equipment Description	Acoustical Usage Factor (%)	Spec 721.560 Lmax @ 50ft (dBA slow)	Actual Measured Lmax @ 50ft (dBA slow)	No. of Actual Data Samples (count)	Spec 721.560 LmaxCalc	Spec 721.560 Leq	Distance	Actual Measured LmaxCalc	Actual Measured Leq
Auger Drill Rig	20	85	84	36	79.0	72.0	100	78.0	71.0
Backhoe	40	80	78	372	74.0	70.0	100	72.0	68.0
Bar Bender	20	80	na	0	74.0	67.0	100		
Blasting	na	94	na	0	88.0		100		
Boring Jack Power Unit	50	80	83	1	74.0	71.0	100	77.0	74.0
Chain Saw	20	85	84	46	79.0	72.0	100	78.0	71.0
Clam Shovel (dropping)	20	93	87	4	87.0	80.0	100	81.0	74.0
Compactor (ground)	20	80	83	57	74.0	67.0	100	77.0	70.0
Compressor (air)	40	80	78	18	74.0	70.0	100	72.0	68.0
Concrete Batch Plant	15	83	na	0	77.0	68.7	100		
Concrete Mixer Truck	40	85	79	40	79.0	75.0	100	73.0	69.0
Concrete Pump Truck	20	82	81	30	76.0	69.0	100	75.0	68.0
Concrete Saw	20	90	90	55	84.0	77.0	100	84.0	77.0
Crane	16	85	81	405	79.0	71.0	100	75.0	67.0
Dozer	40	85	82	55	79.0	75.0	100	76.0	72.0
Drill Rig Truck	20	84	79	22	78.0	71.0	100	73.0	66.0
Drum Mixer	50	80	80	1	74.0	71.0	100	74.0	71.0
Dump Truck	40	84	76	31	78.0	74.0	100	70.0	66.0
Excavator	40	85	81	170	79.0	75.0	100	75.0	71.0
Flat Bed Truck	40	84	74	4	78.0	74.0	100	68.0	64.0
Front End Loader	40	80	79	96	74.0	70.0	100	73.0	69.0
Generator	50	82	81	19	76.0	73.0	100	75.0	72.0
Generator (<25KVA, VMS s	50	70	73	74	64.0	61.0	100	67.0	64.0
Gradall	40	85	83	70	79.0	75.0	100	77.0	73.0
Grader	40	85	na	0	79.0	75.0	100		
Grapple (on Backhoe)	40	85	87	1	79.0	75.0	100	81.0	77.0
Horizontal Boring Hydr. Jac	25	80	82	6	74.0	68.0	100	76.0	70.0
Hydra Break Ram	10	90	na	0	84.0	74.0	100		
Impact Pile Driver	20	95	101	11	89.0	82.0	100	95.0	88.0
Jackhammer	20	85	89	133	79.0	72.0	100	83.0	76.0
Man Lift	20	85	75	23	79.0	72.0	100	69.0	62.0

Equipment Description	Acoustical Usage Factor (%)	Spec 721.560 Lmax @ 50ft (dBA slow)	Actual Measured Lmax @ 50ft (dBA slow)	No. of Actual Data Samples (count)	Spec 721.560 LmaxCalc	Spec 721.560 Leq	Distance	Actual Measured LmaxCalc	Actual Measured Leq
Mounted Impact Hammer	20	90	90	212	84.0	77.0	100	84.0	77.0
Pavement Scarafier	20	85	90	2	79.0	72.0	100	84.0	77.0
Paver	50	85	77	9	79.0	76.0	100	71.0	68.0
Pickup Truck	40	55	75	1	49.0	45.0	100	69.0	65.0
Pneumatic Tools	50	85	85	90	79.0	76.0	100	79.0	76.0
Pumps	50	77	81	17	71.0	68.0	100	75.0	72.0
Refrigerator Unit	100	82	73	3	76.0	76.0	100	67.0	67.0
Rivit Buster/chipping gun	20	85	79	19	79.0	72.0	100	73.0	66.0
Rock Drill	20	85	81	3	79.0	72.0	100	75.0	68.0
Roller	20	85	80	16	79.0	72.0	100	74.0	67.0
Sand Blasting (Single Nozzl	20	85	96	9	79.0	72.0	100	90.0	83.0
Scraper	40	85	84	12	79.0	75.0	100	78.0	74.0
Shears (on backhoe)	40	85	96	5	79.0	75.0	100	90.0	86.0
Slurry Plant	100	78	78	1	72.0	72.0	100	72.0	72.0
Slurry Trenching Machine	50	82	80	75	76.0	73.0	100	74.0	71.0
Soil Mix Drill Rig	50	80	na	0	74.0	71.0	100		
Tractor	40	84	na	0	78.0	74.0	100		
Tugboat	40	87	74	4	81.0	77.0	100	68.0	64.0
Vacuum Excavator (Vac-tru	40	85	85	149	79.0	75.0	100	79.0	75.0
Vacuum Street Sweeper	10	80	82	19	74.0	64.0	100	76.0	66.0
Ventilation Fan	100	85	79	13	79.0	79.0	100	73.0	73.0
Vibrating Hopper	50	85	87	1	79.0	76.0	100	81.0	78.0
Vibratory Concrete Mixer	20	80	80	1	74.0	67.0	100	74.0	67.0
Vibratory Pile Driver	20	95	101	44	89.0	82.0	100	95.0	88.0
Warning Horn	5	85	83	12	79.0	66.0	100	77.0	64.0
Workboat	40	72	74	4	66.0	62.0	100	68.0	64.0
Welder / Torch	40	73	74	5	67.0	63.0	100	68.0	64.0

Source:
FHWA Roadway Construction Noise Model, January 2006. Table 9.1

Equipment Description	Acoustical Usage Factor (%)	Spec 721.560 Lmax @ 50ft (dBA slow)	Actual Measured Lmax @ 50ft (dBA slow)	No. of Actual Data Samples (count)	Spec 721.560 LmaxCalc	Spec 721.560 Leq	Distance	Actual Measured LmaxCalc	Actual Measured Leq

U.S. Department of Transportation
CA/T Construction Spec. 721.560

Traffic Noise Spreadsheet Calculator - Costco Project Traffic Noise - Weekday Summary

Project: El Dorado Hills Project - Weekday Traffic Volumes

Number	Name	Segment Description and Location From	To	Existing Conditions	Existing + Project Conditions	Δ Existing – Existing + Project	Cumulative (Year 2034) Conditions	Cumulative +Project Conditions	Δ Cumulative – Cumulative + Project
Summary of Net Changes									
1	El Dorado Hills Blvd/Latrobe Road	US 50 WB Ramps	US 50 EB Ramps	70.5	70.5	0.0	71.0	71.0	0.0
2	Latrobe Road	US 50 EB Ramps	White Rock Road	70.4	70.4	0.0	70.6	70.6	0.0
3	White Rock Road	Latrobe Road	Post Street	66.2	66.3	0.2	68.1	68.2	0.1
4	White Rock Road	Post Street	Valley View Parkway	65.9	66.0	0.2	67.6	67.7	0.1
5	White Rock Road	Valley View Parkway	Clarksville Crossing	65.2	65.4	0.2	67.0	67.1	0.1
6	White Rock Road	Clarksville Crossing	US 50 EB Ramps	66.2	66.3	0.1	68.2	68.3	0.1
7	White Rock Road/Silva Valley Parkwa	US 50 EB Ramps	US 50 WB Ramps	66.0	66.9	0.9	67.2	67.9	0.7
8	Silva Valley Parkway	Harvard Way	Golden Eagle Lane	59.1	59.2	0.1	60.0	60.1	0.1
9	Silva Valley Parkway	Golden Eagle Lane	Serrano Parkway	65.7	65.8	0.2	66.5	66.6	0.1
10	Silva Valley Parkway	Serrano Parkway	Entrada Drive	66.6	67.1	0.5	67.8	68.1	0.4
11	Silva Valley Parkway	Entrada Drive	Oak Meadow Elementary School	60.3	60.8	0.5	61.5	61.9	0.4
12	Silva Valley Parkway	Oak Meadow Elementary School	Clarksville Crossing	60.2	60.7	0.5	61.4	61.8	0.4
13	Silva Valley Parkway	Clarksville Crossing	North/South Site Access	65.9	66.5	0.6	66.8	67.3	0.5
14	Silva Valley Parkway	North/South Site Access	Tong Road	66.0	67.5	1.5	66.8	68.1	1.3
15	Silva Valley Parkway	Tong Road	US 50 WB Ramps	66.0	67.5	1.5	66.7	68.1	1.3
16	Clarksville Crossing	Silva Valley Parkway	South Site North Access	58.4	58.9	0.5	60.9	61.2	0.3
17	Clarksville Crossing	South Site North Access	South Site Center Access	58.4	58.7	0.3	60.9	61.1	0.2
18	Clarksville Crossing	South Site Center Access	South Site South Access	58.4	58.7	0.3	60.9	61.1	0.2
19	Clarksville Crossing	South Site South Access	White Rock Road	58.3	59.2	0.9	60.8	61.4	0.5
20	Serrano Parkway	Silva Valley Parkway	Bass Lake Road	65.6	65.8	0.2	66.3	66.5	0.2
21	Bass Lake Road	Serrano Parkway	Country Club Drive	65.2	65.2	0.1	66.4	66.5	0.0
22	Bass Lake Road	Country Club Drive	US 50 WB Ramps	67.7	67.8	0.1	69.5	69.5	0.1
23	Bass Lake Road	US 50 WB Ramps	US 50 EB Ramps	65.4	65.5	0.1	67.1	67.2	0.1
24	US 50 Westbound	Silva Valley Parkway	El Dorado Hills Boulevard	59.9	61.8	1.9	58.5	61.0	2.5
25	US 50 Westbound	East of Silva Valley Parkway Interchange		58.8	60.1	1.3	61.2	62.0	0.8
26	US 50 Eastbound	El Dorado Hills Boulevard	Silva Valley Parkway	58.7	59.3	0.7	62.6	62.9	0.3
27	US 50 Eastbound	East of Silva Valley Parkway Interchange		57.6	58.5	0.8	57.7	58.5	0.8

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator - Weekday Existing Conditions

Project: El Dorado Hills Project - Weekday Traffic Volumes

Noise Level Descriptor: Ldn
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor:

		Segment Description and Location		Input										Output				
						Distance to Directional Centerline, (feet)$_4$		Traffic Distribution Characteristics						Ldn,	Distance to Contour, (feet)$_3$			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	(dBA)$_{5,6,7}$	75 dBA	70 dBA	65 dBA	60 dBA
Existing Conditions																		
1	El Dorado Hills Blvd/Latrobe Road	US 50 WB Ramps	US 50 EB Ramps	51,221	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	70.5	40	125	397	1254
2	Latrobe Road	US 50 EB Ramps	White Rock Road	50,286	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	70.4	39	123	389	1231
3	White Rock Road	Latrobe Road	Post Street	18,943	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.2	15	46	147	464
4	White Rock Road	Post Street	Valley View Parkway	17,593	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.9	14	43	136	431
5	White Rock Road	Valley View Parkway	Clarksville Crossing	15,229	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.2	12	37	118	373
6	White Rock Road	Clarksville Crossing	US 50 EB Ramps	19,180	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.2	15	47	148	470
7	White Rock Road/Silva Valley Parkway	US 50 EB Ramps	US 50 WB Ramps	18,086	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.0	14	44	140	443
8	Silva Valley Parkway	Harvard Way	Golden Eagle Lane	16,000	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	59.1	3	9	29	91
9	Silva Valley Parkway	Golden Eagle Lane	Serrano Parkway	16,801	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.7	13	41	130	411
10	Silva Valley Parkway	Serrano Parkway	Entrada Drive	20,700	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.6	16	51	160	507
11	Silva Valley Parkway	Entrada Drive	Oak Meadow Elementary Sch	20,986	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.3	4	12	38	119
12	Silva Valley Parkway	Oak Meadow Elementary Sch	Clarksville Crossing	20,814	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.2	4	12	37	118
13	Silva Valley Parkway	Clarksville Crossing	North/South Site Access	17,914	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.9	14	44	139	439
14	Silva Valley Parkway	North/South Site Access	Tong Road	18,029	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.0	14	44	140	441
15	Silva Valley Parkway	Tong Road	US 50 WB Ramps	18,022	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.0	14	44	140	441
16	Clarksville Crossing	Silva Valley Parkway	South Site North Access	3,150	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.4	2	8	24	77
17	Clarksville Crossing	South Site North Access	South Site Center Access	3,157	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.4	2	8	24	77
18	Clarksville Crossing	South Site Center Access	South Site South Access	3,157	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.4	2	8	24	77
19	Clarksville Crossing	South Site South Access	White Rock Road	3,057	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.3	2	7	24	75
20	Serrano Parkway	Silva Valley Parkway	Bass Lake Road	16,529	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.6	13	40	128	405
21	Bass Lake Road	Serrano Parkway	Country Club Drive	10,979	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.2	12	37	116	366
22	Bass Lake Road	Country Club Drive	US 50 WB Ramps	19,565	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.7	21	65	206	652
23	Bass Lake Road	US 50 WB Ramps	US 50 EB Ramps	11,665	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.4	12	39	123	389
24	US 50 Westbound	Silva Valley Parkway	El Dorado Hills Boulevard	4,443	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	59.9	3	11	34	109
25	US 50 Westbound	East of Silva Valley Parkway Ir	0	7,014	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.8	3	9	27	85
26	US 50 Eastbound	El Dorado Hills Boulevard	Silva Valley Parkway	6,757	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.7	3	8	26	82
27	US 50 Eastbound	East of Silva Valley Parkway Ir	0	5,343	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	57.6	2	6	21	65

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator - Weekday Existing + Project Conditions

Project: El Dorado Hills Project - Weekday Traffic Volumes

Noise Level Descriptor: Ldn
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor:

		Segment Description and Location		Input										Output				
						Distance to Directional Centerline, (feet)$_4$		Traffic Distribution Characteristics						Ldn,	Distance to Contour, (feet)$_3$			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	(dBA)$_{5,6,7}$	70 dBA	65 dBA	60 dBA	55 dBA
Existing + Project Conditions																		
1	El Dorado Hills Blvd/Latrobe Road	US 50 WB Ramps	US 50 EB Ramps	51,371	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	70.5	126	398	1258	3977
2	Latrobe Road	US 50 EB Ramps	White Rock Road	50,286	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	70.4	123	389	1231	3893
3	White Rock Road	Latrobe Road	Post Street	19,666	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.3	48	152	481	1523
4	White Rock Road	Post Street	Valley View Parkway	18,316	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.0	45	142	448	1418
5	White Rock Road	Valley View Parkway	Clarksville Crossing	15,771	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.4	39	122	386	1221
6	White Rock Road	Clarksville Crossing	US 50 EB Ramps	19,560	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.3	48	151	479	1514
7	White Rock Road/Silva Valley Parkwa	US 50 EB Ramps	US 50 WB Ramps	22,403	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.9	55	173	548	1734
8	Silva Valley Parkway	Harvard Way	Golden Eagle Lane	16,477	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	59.2	9	30	94	296
9	Silva Valley Parkway	Golden Eagle Lane	Serrano Parkway	17,452	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.8	43	135	427	1351
10	Silva Valley Parkway	Serrano Parkway	Entrada Drive	23,187	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.1	57	180	568	1795
11	Silva Valley Parkway	Entrada Drive	Oak Meadow Elementary Sch	23,473	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.8	13	42	133	421
12	Silva Valley Parkway	Oak Meadow Elementary Sch	Clarksville Crossing	23,301	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.7	13	42	132	418
13	Silva Valley Parkway	Clarksville Crossing	North/South Site Access	20,365	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.5	50	158	499	1577
14	Silva Valley Parkway	North/South Site Access	Tong Road	25,719	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.5	63	199	630	1991
15	Silva Valley Parkway	Tong Road	US 50 WB Ramps	25,712	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.5	63	199	629	1991
16	Clarksville Crossing	Silva Valley Parkway	South Site North Access	3,543	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.9	9	27	87	274
17	Clarksville Crossing	South Site North Access	South Site Center Access	3,386	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.7	8	26	83	262
18	Clarksville Crossing	South Site Center Access	South Site South Access	3,386	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.7	8	26	83	262
19	Clarksville Crossing	South Site South Access	White Rock Road	3,760	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	59.2	9	29	92	291
20	Serrano Parkway	Silva Valley Parkway	Bass Lake Road	17,326	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.8	42	134	424	1341
21	Bass Lake Road	Serrano Parkway	Country Club Drive	11,124	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.2	37	117	371	1173
22	Bass Lake Road	Country Club Drive	US 50 WB Ramps	20,072	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.8	67	212	669	2117
23	Bass Lake Road	US 50 WB Ramps	US 50 EB Ramps	11,917	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.5	40	126	397	1257
24	US 50 Westbound	Silva Valley Parkway	El Dorado Hills Boulevard	6,943	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.8	17	54	170	538
25	US 50 Westbound	East of Silva Valley Parkway Ir	0	9,514	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.1	12	37	116	366
26	US 50 Eastbound	El Dorado Hills Boulevard	Silva Valley Parkway	7,895	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	59.3	10	30	96	304
27	US 50 Eastbound	East of Silva Valley Parkway Ir	0	6,481	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.5	8	25	79	249

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator - Weekday Cumulative Conditions

Project: El Dorado Hills Project - Weekday Traffic Volumes

Noise Level Descriptor: Ldn
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor:

		Segment Description and Location		Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics							Distance to Contour, (feet)[3]			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	Ldn, (dBA)[5,6,7]	70 dBA	65 dBA	60 dBA	55 dBA
Cumulative (Year 2034) Conditions																		
1	El Dorado Hills Blvd/Latrobe R	US 50 WB Ramps	Latrobe Road	57,779	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	71.0	141	447	1415	4473
2	Latrobe Road	US 50	White Rock Road	52,814	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	70.6	129	409	1293	4089
3	White Rock Road	Latrobe Road	Post Street	29,407	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	68.1	72	228	720	2277
4	White Rock Road	Post Street	Vine Street/ Valley View Parkv	26,457	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.6	65	205	648	2048
5	White Rock Road	Vine Street/Valley View Parkw	Clarksville Road/Old White Ro	22,650	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.0	55	175	555	1754
6	White Rock Road	Clarksville Road/Old White Ro	US 50 EB Off-ramp	30,143	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	68.2	74	233	738	2334
7	White Rock Road/Silva Valley	US 50 EB Off-Ramp	US 50 WB	23,757	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.2	58	184	582	1839
8	Silva Valley Parkway	Harvard Way	Golden Eagle Lane/Walker Par	19,564	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.0	11	35	111	351
9	Silva Valley Parkway	Golden Eagle Lane/Walker Par	Serrano Parkway	20,357	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.5	50	158	498	1576
10	Silva Valley Parkway	Serrano Parkway	Entrada Drive	27,243	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.8	67	211	667	2109
11	Silva Valley Parkway	Entrada Drive	School Driveway	27,700	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.5	16	50	157	497
12	Silva Valley Parkway	School Driveway	Clarksville Road	27,271	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.4	15	49	155	489
13	Silva Valley Parkway	Clarksville Road	North/South Site Access	21,957	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.8	54	170	538	1700
14	Silva Valley Parkway	North/South Site Access	Tong Road	22,071	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.8	54	171	540	1709
15	Silva Valley Parkway	Tong Road	US 50 WB	21,479	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.7	53	166	526	1663
16	Clarksville Crossing	Silva Valley Parkway	South Site North Access on Cl	5,636	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.9	14	44	138	436
17	Clarksville Crossing	South Site North Access on Cl	South Site Center Access on C	5,643	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.9	14	44	138	437
18	Clarksville Crossing	South Site Center Access on C	South Site South Access on Cl	5,643	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.9	14	44	138	437
19	Clarksville Crossing	South Site South Access on Cl	White Rock Road	5,543	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.8	14	43	136	429
20	Serrano Parkway	Silva Valley Parkway	Bass Lake Road	19,393	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.3	47	150	475	1501
21	Bass Lake Road	Serrano Parkway	Country Club Drive	14,714	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.4	49	155	491	1552
22	Bass Lake Road	Country Club Drive	US 50 WB Ramps	29,629	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	69.5	99	312	988	3125
23	Bass Lake Road	US 50 WB Ramps	US 50 EB Ramps	17,264	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.1	58	182	576	1821
24	US 50 Westbound	Silva Valley Parkway	El Dorado Hills Boulevard	3,229	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.5	8	25	79	250
25	US 50 Westbound	East of Silva Valley Parkway	Interchange	12,029	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.2	15	46	146	463
26	US 50 Eastbound	El Dorado Hills Boulevard	Silva Valley Parkway	16,586	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	62.6	20	64	202	638
27	US 50 Eastbound	East of Silva Valley Parkway	Interchange	5,357	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	57.7	7	21	65	206

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator - Weekday Cumulative + Project Conditions

Project: El Dorado Hills Project - Weekday Traffic Volumes

Noise Level Descriptor: Ldn
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor:

		Segment Description and Location		Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics						Ldn,	Distance to Contour, (feet)[3]			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	$(dBA)_{5,6,7}$	70 dBA	65 dBA	60 dBA	55 dBA
Cumulative +Project Conditions																		
1	El Dorado Hills Blvd/Latrobe R	US 50 WB Ramps	Latrobe Road	57,929	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	71.0	142	448	1418	4485
2	Latrobe Road	US 50	White Rock Road	52,814	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	70.6	129	409	1293	4089
3	White Rock Road	Latrobe Road	Post Street	30,130	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	68.2	74	233	738	2333
4	White Rock Road	Post Street	Vine Street/ Valley View Parkv	27,180	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.7	67	210	665	2104
5	White Rock Road	Vine Street/Valley View Parkw	Clarksville Road/Old White Ro	23,192	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.1	57	180	568	1795
6	White Rock Road	Clarksville Road/Old White Ro	US 50 EB Off-ramp	30,523	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	68.3	75	236	747	2363
7	White Rock Road/Silva Valley	US 50 EB Off-Ramp	US 50 WB	28,074	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.9	69	217	687	2173
8	Silva Valley Parkway	Harvard Way	Golden Eagle Lane/Walker Par	20,041	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.1	11	36	114	360
9	Silva Valley Parkway	Golden Eagle Lane/Walker Par	Serrano Parkway	21,008	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.6	51	163	514	1626
10	Silva Valley Parkway	Serrano Parkway	Entrada Drive	29,730	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	68.1	73	230	728	2302
11	Silva Valley Parkway	Entrada Drive	School Driveway	30,187	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.9	17	54	171	542
12	Silva Valley Parkway	School Driveway	Clarksville Road	29,758	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.8	17	53	169	534
13	Silva Valley Parkway	Clarksville Road	North/South Site Access	24,408	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.3	60	189	598	1890
14	Silva Valley Parkway	North/South Site Access	Tong Road	29,761	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	68.1	73	230	729	2304
15	Silva Valley Parkway	Tong Road	US 50 WB	29,169	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	68.1	71	226	714	2258
16	Clarksville Crossing	Silva Valley Parkway	South Site North Access on Cl	6,029	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.2	15	47	148	467
17	Clarksville Crossing	South Site North Access on Cl	South Site Center Access on C	5,872	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.1	14	45	144	455
18	Clarksville Crossing	South Site Center Access on C	South Site South Access on Cl	5,872	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.1	14	45	144	455
19	Clarksville Crossing	South Site South Access on Cl	White Rock Road	6,246	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.4	15	48	153	484
20	Serrano Parkway	Silva Valley Parkway	Bass Lake Road	20,190	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.5	49	156	494	1563
21	Bass Lake Road	Serrano Parkway	Country Club Drive	14,860	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.5	50	157	496	1567
22	Bass Lake Road	Country Club Drive	US 50 WB Ramps	30,136	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	69.5	100	318	1005	3178
23	Bass Lake Road	US 50 WB Ramps	US 50 EB Ramps	17,516	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.2	58	185	584	1847
24	US 50 Westbound	Silva Valley Parkway	El Dorado Hills Boulevard	5,729	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.0	14	44	140	444
25	US 50 Westbound	East of Silva Valley Parkway	Interchange	14,529	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	62.0	18	56	177	559
26	US 50 Eastbound	El Dorado Hills Boulevard	Silva Valley Parkway	17,724	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	62.9	22	68	216	682
27	US 50 Eastbound	East of Silva Valley Parkway	Interchange	6,495	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.5	8	25	79	250

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator

Project: El Dorado Hills Project - Weekend Traffic Volumes

Number	Name	Segment Description and Location From	To	Existing Conditions	Existing + Project Conditions	Δ Existing – Existing + Project	Cumulative (Year 2034) Conditions	Cumulative +Project Conditions	Δ Cumulative – Cumulative + Project
Summary of Net Changes									
1	El Dorado Hills Blvd/Latrobe Ro	US 50 WB Ramps	US 50 EB Ramps						
2	Latrobe Road	US 50 EB Ramps	White Rock Road						
3	White Rock Road	Latrobe Road	Post Street						
4	White Rock Road	Post Street	Valley View Parkway						
5	White Rock Road	Valley View Parkway	Clarksville Crossing	62.6	62.9	0.4	64.5	64.7	0.2
6	White Rock Road	Clarksville Crossing	US 50 EB Ramps	64.8	64.9	0.1	66.7	66.8	0.1
7	White Rock Road/Silva Valley P	US 50 EB Ramps	US 50 WB Ramps	65.0	66.1	1.1	66.4	67.2	0.8
8	Silva Valley Parkway	Harvard Way	Golden Eagle Lane						
9	Silva Valley Parkway	Golden Eagle Lane	Serrano Parkway	60.7	61.3	0.6	61.6	62.1	0.5
10	Silva Valley Parkway	Serrano Parkway	Entrada Drive	65.1	65.9	0.9	66.2	66.9	0.7
11	Silva Valley Parkway	Entrada Drive	Oak Meadows Elementary Schoo	59.2	60.0	0.8	60.5	61.1	0.6
12	Silva Valley Parkway	Oak Meadows Elementary Schoo	Clarksville Crossing	59.2	60.0	0.8	60.3	61.0	0.6
13	Silva Valley Parkway	Clarksville Crossing	North/South Site Access	64.8	65.5	0.8	65.7	66.3	0.6
14	Silva Valley Parkway	North/South Site Access	Tong Road	64.8	66.9	2.1	65.7	67.4	1.8
15	Silva Valley Parkway	Tong Road	US 50 WB Ramps	64.7	66.9	2.1	65.5	67.3	1.8
16	Clarksville Crossing	Silva Valley Parkway	South Site North Access	57.6	58.5	0.8	59.8	60.4	0.5
17	Clarksville Crossing	South Site North Access	South Site Center Access	57.6	58.1	0.5	59.8	60.1	0.3
18	Clarksville Crossing	South Site Center Access	South Site South Access	57.6	58.1	0.5	59.8	60.1	0.3
19	Clarksville Crossing	South Site South Access	White Rock Road	57.7	59.1	1.4	60.0	60.9	0.9
20	Serrano Parkway	Silva Valley Parkway	Bass Lake Road	61.3	62.0	0.7	61.8	62.4	0.6
21	Bass Lake Road	Serrano Parkway	Country Club Drive						
22	Bass Lake Road	Country Club Drive	US 50 WB Ramps						
23	Bass Lake Road	US 50 WB Ramps	US 50 EB Ramps						
24	US 50 Westbound	Silva Valley Parkway	El Dorado Hills Boulevard	59.5	61.9	2.4	58.0	61.1	3.1
25	US 50 Westbound	East of Silva Valley Parkway Interchange		57.8	59.7	1.8	60.2	61.4	1.2
26	US 50 Eastbound	El Dorado Hills Boulevard	Silva Valley Parkway	56.8	57.7	0.9	60.6	61.1	0.4
27	US 50 Eastbound	East of Silva Valley Parkway Interchange		56.3	57.3	1.0	56.3	57.3	1.0

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator - Weekend Existing Conditions

Project: El Dorado Hills Project - Weekend Traffic Volumes

Noise Level Descriptor: Ldn
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor:

		Segment Description and Location		Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics						Ldn,	Distance to Contour, (feet)[3]			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	(dBA)[5,6,7]	75 dBA	70 dBA	65 dBA	60 dBA
Existing Conditions																		
1	El Dorado Hills Blvd/Latrobe R	US 50 WB Ramps	US 50 EB Ramps	0	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
2	Latrobe Road	US 50 EB Ramps	White Rock Road	0	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
3	White Rock Road	Latrobe Road	Post Street	0	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
4	White Rock Road	Post Street	Valley View Parkway	0	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
5	White Rock Road	Valley View Parkway	Clarksville Crossing	8,271	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	62.6	6	20	64	202
6	White Rock Road	Clarksville Crossing	US 50 EB Ramps	13,793	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	64.8	11	34	107	338
7	White Rock Road/Silva Valley	US 50 EB Ramps	US 50 WB Ramps	14,471	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.0	11	35	112	354
8	Silva Valley Parkway	Harvard Way	Golden Eagle Lane	0	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
9	Silva Valley Parkway	Golden Eagle Lane	Serrano Parkway	5,386	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.7	4	13	42	132
10	Silva Valley Parkway	Serrano Parkway	Entrada Drive	14,693	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.1	11	36	114	360
11	Silva Valley Parkway	Entrada Drive	Oak Meadow Elementary Scho	16,514	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	59.2	3	9	30	94
12	Silva Valley Parkway	Oak Meadow Elementary Scho	Clarksville Crossing	16,293	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	59.2	3	9	29	92
13	Silva Valley Parkway	Clarksville Crossing	North/South Site Access	13,650	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	64.8	11	33	106	334
14	Silva Valley Parkway	North/South Site Access	Tong Road	13,636	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	64.8	11	33	106	334
15	Silva Valley Parkway	Tong Road	US 50 WB Ramps	13,629	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	64.7	11	33	106	334
16	Clarksville Crossing	Silva Valley Parkway	South Site North Access	2,643	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	57.6	2	6	20	65
17	Clarksville Crossing	South Site North Access	South Site Center Access	2,643	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	57.6	2	6	20	65
18	Clarksville Crossing	South Site Center Access	South Site South Access	2,643	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	57.6	2	6	20	65
19	Clarksville Crossing	South Site South Access	White Rock Road	2,714	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	57.7	2	7	21	66
20	Serrano Parkway	Silva Valley Parkway	Bass Lake Road	6,186	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.3	5	15	48	151
21	Bass Lake Road	Serrano Parkway	Country Club Drive	0	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
22	Bass Lake Road	Country Club Drive	US 50 WB Ramps	0	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
23	Bass Lake Road	US 50 WB Ramps	US 50 EB Ramps	0	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
24	US 50 Westbound	Silva Valley Parkway	El Dorado Hills Boulevard	4,100	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	59.5	3	10	32	100
25	US 50 Westbound	East of Silva Valley Parkway In	0	5,586	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	57.8	2	7	21	68
26	US 50 Eastbound	El Dorado Hills Boulevard	Silva Valley Parkway	4,357	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	56.8	2	5	17	53
27	US 50 Eastbound	East of Silva Valley Parkway In	0	3,929	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	56.3	2	5	15	48

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator - Weekend Existing + Project Conditions

Project: El Dorado Hills Project - Weekend Traffic Volumes

Noise Level Descriptor: Ldn
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor:

	Segment Description and Location			Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics						Ldn,	Distance to Contour, (feet)[3]			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	$(dBA)_{5,6,7}$	70 dBA	65 dBA	60 dBA	55 dBA
Existing + Project Conditions																		
1	El Dorado Hills Blvd/Latrobe R	US 50 WB Ramps	US 50 EB Ramps	0	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
2	Latrobe Road	US 50 EB Ramps	White Rock Road	0	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
3	White Rock Road	Latrobe Road	Post Street	0	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
4	White Rock Road	Post Street	Valley View Parkway	0	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
5	White Rock Road	Valley View Parkway	Clarksville Crossing	8,989	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	62.9	22	70	220	696
6	White Rock Road	Clarksville Crossing	US 50 EB Ramps	14,197	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	64.9	35	110	348	1099
7	White Rock Road/Silva Valley	US 50 EB Ramps	US 50 WB Ramps	18,628	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.1	46	144	456	1442
8	Silva Valley Parkway	Harvard Way	Golden Eagle Lane	0	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
9	Silva Valley Parkway	Golden Eagle Lane	Serrano Parkway	6,222	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.3	15	48	152	482
10	Silva Valley Parkway	Serrano Parkway	Entrada Drive	17,928	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.9	44	139	439	1388
11	Silva Valley Parkway	Entrada Drive	Oak Meadow Elementary Scho	19,749	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.0	11	35	112	354
12	Silva Valley Parkway	Oak Meadow Elementary Scho	Clarksville Crossing	19,527	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.0	11	35	111	350
13	Silva Valley Parkway	Clarksville Crossing	North/South Site Access	16,332	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.5	40	126	400	1264
14	Silva Valley Parkway	North/South Site Access	Tong Road	22,125	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.9	54	171	542	1713
15	Silva Valley Parkway	Tong Road	US 50 WB Ramps	22,119	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.9	54	171	542	1712
16	Clarksville Crossing	Silva Valley Parkway	South Site North Access	3,206	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.5	8	25	78	248
17	Clarksville Crossing	South Site North Access	South Site Center Access	2,971	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.1	7	23	73	230
18	Clarksville Crossing	South Site Center Access	South Site South Access	2,971	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.1	7	23	73	230
19	Clarksville Crossing	South Site South Access	White Rock Road	3,746	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	59.1	9	29	92	290
20	Serrano Parkway	Silva Valley Parkway	Bass Lake Road	7,236	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	62.0	18	56	177	560
21	Bass Lake Road	Serrano Parkway	Country Club Drive	0	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
22	Bass Lake Road	Country Club Drive	US 50 WB Ramps	0	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
23	Bass Lake Road	US 50 WB Ramps	US 50 EB Ramps	0	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
24	US 50 Westbound	Silva Valley Parkway	El Dorado Hills Boulevard	7,063	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.9	17	55	173	547
25	US 50 Westbound	East of Silva Valley Parkway In	0	8,549	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	59.7	10	33	104	329
26	US 50 Eastbound	El Dorado Hills Boulevard	Silva Valley Parkway	5,410	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	57.7	7	21	66	208
27	US 50 Eastbound	East of Silva Valley Parkway In	0	4,982	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	57.3	6	19	61	192

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator - Weekend Cumulative Conditions

Project: El Dorado Hills Project - Weekend Traffic Volumes

Noise Level Descriptor: Ldn
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor:

		Segment Description and Location		Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics										
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	Ldn, (dBA)[5,6,7]	Distance to Contour, (feet)[3] 70 dBA	65 dBA	60 dBA	55 dBA
Cumulative (Year 2034) Conditions																		
1	El Dorado Hills Blvd/Latrobe Road		Latrobe Road	0	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
2	Latrobe Road	US 50	White Rock Road	0	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
3	White Rock Road	Latrobe Road	Post Street	0	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
4	White Rock Road	Post Street	Vine Street/ Valley View Parkv	0	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
5	White Rock Road	Vine Street/Valley View Parkw	Clarksville Road/Old White Ro	12,837	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	64.5	31	99	314	994
6	White Rock Road	Clarksville Road/Old White Ro	US 50 EB Off-ramp	21,478	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.7	53	166	526	1663
7	White Rock Road/Silva Valley	US 50 EB Off-Ramp	US 50 WB	19,895	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.4	49	154	487	1540
8	Silva Valley Parkway	Harvard Way	Golden Eagle Lane/Walker Par	0	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
9	Silva Valley Parkway	Golden Eagle Lane/Walker Par	Serrano Parkway	6,567	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.6	16	51	161	508
10	Silva Valley Parkway	Serrano Parkway	Entrada Drive	19,207	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.2	47	149	470	1487
11	Silva Valley Parkway	Entrada Drive	School Driveway	21,936	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.5	12	39	125	394
12	Silva Valley Parkway	School Driveway	Clarksville Road	21,307	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.3	12	38	121	382
13	Silva Valley Parkway	Clarksville Road	North/South Site Access	16,814	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.7	41	130	412	1302
14	Silva Valley Parkway	North/South Site Access	Tong Road	16,777	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.7	41	130	411	1299
15	Silva Valley Parkway	Tong Road	US 50 WB	16,108	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.5	39	125	394	1247
16	Clarksville Crossing	Silva Valley Parkway	South Site North Access on Cl	4,395	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	59.8	11	34	108	340
17	Clarksville Crossing	South Site North Access on Cl	South Site Center Access on C	4,341	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	59.8	11	34	106	336
18	Clarksville Crossing	South Site Center Access on C	South Site South Access on Cl	4,341	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	59.8	11	34	106	336
19	Clarksville Crossing	South Site South Access on Cl	White Rock Road	4,526	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.0	11	35	111	350
20	Serrano Parkway	Silva Valley Parkway	Bass Lake Road	6,881	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.8	17	53	168	533
21	Bass Lake Road	Serrano Parkway	Country Club Drive	0	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
22	Bass Lake Road	Country Club Drive	US 50 WB Ramps	0	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
23	Bass Lake Road	US 50 WB Ramps	US 50 EB Ramps	0	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
24	US 50 Westbound	Silva Valley Parkway	El Dorado Hills Boulevard	2,880	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.0	7	22	71	223
25	US 50 Westbound	East of Silva Valley Parkway	Interchange	9,618	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.2	12	37	117	370
26	US 50 Eastbound	El Dorado Hills Boulevard	Silva Valley Parkway	10,677	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.6	13	41	130	411
27	US 50 Eastbound	East of Silva Valley Parkway	Interchange	3,918	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	56.3	5	15	48	151

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator - Weekend Cumulative + Project Conditions

Project: El Dorado Hills Project - Weekend Traffic Volumes

Noise Level Descriptor: Ldn
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor:

		Segment Description and Location		Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics						Ldn,	Distance to Contour, (feet)[3]			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	(dBA)[5,6,7]	70 dBA	65 dBA	60 dBA	55 dBA
Cumulative +Project Conditions																		
1	El Dorado Hills Blvd/Latrobe Road		Latrobe Road	0	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
2	Latrobe Road	US 50	White Rock Road	0	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
3	White Rock Road	Latrobe Road	Post Street	0	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
4	White Rock Road	Post Street	Vine Street/ Valley View Parkv	0	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
5	White Rock Road	Vine Street/Valley View Parkw	Clarksville Road/Old White Ro	13,555	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	64.7	33	105	332	1049
6	White Rock Road	Clarksville Road/Old White Ro	US 50 EB Off-ramp	21,882	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.8	54	169	536	1694
7	White Rock Road/Silva Valley	US 50 EB Off-Ramp	US 50 WB	24,052	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.2	59	186	589	1862
8	Silva Valley Parkway	Harvard Way	Golden Eagle Lane/Walker Par	0	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
9	Silva Valley Parkway	Golden Eagle Lane/Walker Par	Serrano Parkway	7,403	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	62.1	18	57	181	573
10	Silva Valley Parkway	Serrano Parkway	Entrada Drive	22,442	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.9	55	174	549	1737
11	Silva Valley Parkway	Entrada Drive	School Driveway	25,171	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.1	14	45	143	452
12	Silva Valley Parkway	School Driveway	Clarksville Road	24,541	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.0	14	44	139	440
13	Silva Valley Parkway	Clarksville Road	North/South Site Access	19,495	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.3	48	151	477	1509
14	Silva Valley Parkway	North/South Site Access	Tong Road	25,266	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.4	62	196	619	1956
15	Silva Valley Parkway	Tong Road	US 50 WB	24,598	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.3	60	190	602	1904
16	Clarksville Crossing	Silva Valley Parkway	South Site North Access on Cl	4,958	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.4	12	38	121	384
17	Clarksville Crossing	South Site North Access on Cl	South Site Center Access on C	4,669	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.1	11	36	114	361
18	Clarksville Crossing	South Site Center Access on C	South Site South Access on Cl	4,669	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.1	11	36	114	361
19	Clarksville Crossing	South Site South Access on Cl	White Rock Road	5,558	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.9	14	43	136	430
20	Serrano Parkway	Silva Valley Parkway	Bass Lake Road	7,932	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	62.4	19	61	194	614
21	Bass Lake Road	Serrano Parkway	Country Club Drive	0	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
22	Bass Lake Road	Country Club Drive	US 50 WB Ramps	0	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
23	Bass Lake Road	US 50 WB Ramps	US 50 EB Ramps	0	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
24	US 50 Westbound	Silva Valley Parkway	El Dorado Hills Boulevard	5,843	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.1	14	45	143	452
25	US 50 Westbound	East of Silva Valley Parkway Interchange		12,581	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.4	15	48	153	484
26	US 50 Eastbound	El Dorado Hills Boulevard	Silva Valley Parkway	11,730	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.1	14	45	143	451
27	US 50 Eastbound	East of Silva Valley Parkway Interchange		4,971	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	57.3	6	19	60	191

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator - Weekday

Project: North Site Remainder Area- Weekday Traffic Volumes

Number	Segment Description and Location: Name	From	To	Existing Conditions	Existing + Project + North Site Remainder Area Conditions	Δ Existing – Existing + Project	Cumulative (Year 2034) Conditions	Cumulative + Project + North Site Remainder Area	Δ Cumulative – Cumulative + Project
Summary of Net Changes									
1	El Dorado Hills Blvd/Latrobe Road		Latrobe Road	70.5	70.5	0.0	71.0	71.0	0.0
2	Latrobe Road	US 50	White Rock Road	70.4	70.4	0.0	70.6	70.6	0.0
3	White Rock Road	Latrobe Road	Post Street	66.2	66.4	0.2	68.1	68.2	0.1
4	White Rock Road	Post Street	Vine Street/ Valley View Parkway	65.9	66.1	0.2	67.6	67.8	0.2
5	White Rock Road	Vine Street/Valley View Parkway	Clarksville Road/Old White Rock I	65.2	65.4	0.2	67.0	67.1	0.1
6	White Rock Road	Clarksville Road/Old White Rock I	US 50 EB Off-ramp	66.2	66.4	0.2	68.2	68.3	0.1
7	White Rock Road/Silva Valley Pa	US 50 EB Off-Ramp	US 50 WB	66.0	67.1	1.1	67.2	68.0	0.9
8	Silva Valley Parkway	Harvard Way	Golden Eagle Lane/Walker Park D	59.1	59.3	0.2	60.0	60.1	0.1
9	Silva Valley Parkway	Golden Eagle Lane/Walker Park	Serrano Parkway	65.7	65.9	0.2	66.5	66.7	0.2
10	Silva Valley Parkway	Serrano Parkway	Entrada Drive	66.6	67.2	0.7	67.8	68.3	0.5
11	Silva Valley Parkway	Entrada Drive	School Driveway	60.3	60.9	0.6	61.5	62.0	0.5
12	Silva Valley Parkway	School Driveway	Clarksville Road	60.2	60.9	0.6	61.4	61.9	0.5
13	Silva Valley Parkway	Clarksville Road	North/South Site Access	65.9	66.6	0.6	66.8	67.4	0.5
14	Silva Valley Parkway	North/South Site Access	Tong Road	66.0	67.8	1.8	66.8	68.4	1.5
15	Silva Valley Parkway	Tong Road	US 50 WB	66.0	67.8	1.8	66.7	68.3	1.6
16	Clarksville Crossing	Silva Valley Parkway	South Site North Access on Clarksville Crossing	58.4	58.9	0.5	60.9	61.2	0.3
17	Clarksville Crossing	South Site North Access on Clarksville Crossing	South Site Center Access on Clark	58.4	58.7	0.3	60.9	61.1	0.2
18	Clarksville Crossing	South Site Center Access on Clark	South Site South Access on Clarks	58.4	58.7	0.3	60.9	61.1	0.2
19	Clarksville Crossing	South Site South Access on Clarks	White Rock Road	58.3	59.2	0.9	60.8	61.4	0.5
20	Serrano Parkway	Silva Valley Parkway	Bass Lake Road	65.6	65.9	0.3	66.3	66.5	0.2
21	Bass Lake Road	Serrano Parkway	Country Club Drive	65.2	65.2	0.1	66.4	66.5	0.1
22	Bass Lake Road	Country Club Drive	US 50 WB Ramps	67.7	67.8	0.1	69.5	69.6	0.1
23	Bass Lake Road	US 50 WB Ramps	US 50 EB Ramps	65.4	65.5	0.1	67.1	67.2	0.1
24	US 50 Westbound	Silva Valley Parkway	El Dorado Hills Boulevard	59.9	62.0	2.1	58.5	61.2	2.7
25	US 50 Westbound	East of Silva Valley Parkway Interchange		58.8	60.3	1.5	61.2	62.1	0.9
26	US 50 Eastbound	El Dorado Hills Boulevard	Silva Valley Parkway	58.7	59.3	0.7	62.6	62.9	0.3
27	US 50 Eastbound	East of Silva Valley Parkway Interchange		57.6	58.5	0.8	57.7	58.5	0.8

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator - Weekday Existing Conditions

Project: El Dorado Hills Project - Weekday Traffic Volumes

Noise Level Descriptor: Ldn
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor:

		Segment Description and Location		Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics						Ldn,	Distance to Contour, (feet)[3]			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	$(dBA)_{5,6,7}$	70 dBA	65 dBA	60 dBA	55 dBA
Existing Conditions																		
1	El Dorado Hills Blvd/Latrobe R	US 50 WB Ramps	US 50 EB Ramps	51,423	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	70.5	126	398	1259	3981
2	Latrobe Road	US 50 EB Ramps	White Rock Road	50,286	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	70.4	123	389	1231	3893
3	White Rock Road	Latrobe Road	Post Street	18,943	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.2	46	147	464	1467
4	White Rock Road	Post Street	Valley View Parkway	17,593	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.9	43	136	431	1362
5	White Rock Road	Valley View Parkway	Clarksville Crossing	15,229	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.2	37	118	373	1179
6	White Rock Road	Clarksville Crossing	US 50 EB Ramps	19,180	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.2	47	148	470	1485
7	White Rock Road/Silva Valley	US 50 EB Ramps	US 50 WB Ramps	18,086	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.0	44	140	443	1400
8	Silva Valley Parkway	Harvard Way	Golden Eagle Lane	16,000	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	59.1	9	29	91	287
9	Silva Valley Parkway	Golden Eagle Lane	Serrano Parkway	16,801	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.7	41	130	411	1301
10	Silva Valley Parkway	Serrano Parkway	Entrada Drive	20,700	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.6	51	160	507	1603
11	Silva Valley Parkway	Entrada Drive	Oak Meadow Elementary Scho	20,986	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.3	12	38	119	377
12	Silva Valley Parkway	Oak Meadow Elementary Scho	Clarksville Crossing	20,814	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.2	12	37	118	374
13	Silva Valley Parkway	Clarksville Crossing	North/South Site Access	17,914	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.9	44	139	439	1387
14	Silva Valley Parkway	North/South Site Access	Tong Road	18,029	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.0	44	140	441	1396
15	Silva Valley Parkway	Tong Road	US 50 WB Ramps	18,022	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.0	44	140	441	1395
16	Clarksville Crossing	Silva Valley Parkway	South Site North Access	3,150	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.4	8	24	77	244
17	Clarksville Crossing	South Site North Access	South Site Center Access	3,157	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.4	8	24	77	244
18	Clarksville Crossing	South Site Center Access	South Site South Access	3,157	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.4	8	24	77	244
19	Clarksville Crossing	South Site South Access	White Rock Road	3,057	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.3	7	24	75	237
20	Serrano Parkway	Silva Valley Parkway	Bass Lake Road	16,529	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.6	40	128	405	1280
21	Bass Lake Road	Serrano Parkway	Country Club Drive	10,979	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.2	37	116	366	1158
22	Bass Lake Road	Country Club Drive	US 50 WB Ramps	19,565	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.7	65	206	652	2063
23	Bass Lake Road	US 50 WB Ramps	US 50 EB Ramps	11,665	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.4	39	123	389	1230
24	US 50 Westbound	Silva Valley Parkway	El Dorado Hills Boulevard	4,443	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	59.9	11	34	109	344
25	US 50 Westbound	East of Silva Valley Parkway In	0	7,014	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.8	9	27	85	270
26	US 50 Eastbound	El Dorado Hills Boulevard	Silva Valley Parkway	6,757	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.7	8	26	82	260
27	US 50 Eastbound	East of Silva Valley Parkway In	0	5,343	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	57.6	6	21	65	205

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator - Weekday Existing + Project + North Site Remainder Area Conditions

Project: El Dorado Hills Project - Weekday Traffic Volumes

Noise Level Descriptor: Ldn
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor:

		Segment Description and Location		Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics							Distance to Contour, (feet)[3]			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	Ldn, (dBA)[5,6,7]	70 dBA	65 dBA	60 dBA	55 dBA
Existing + Project + North Site Remainder Area Conditions																		
1	El Dorado Hills Blvd/Latrobe R	US 50 WB Ramps	US 50 EB Ramps	51,423	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	70.5	126	398	1259	3981
2	Latrobe Road	US 50 EB Ramps	White Rock Road	50,286	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	70.4	123	389	1231	3893
3	White Rock Road	Latrobe Road	Post Street	19,920	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.4	49	154	488	1542
4	White Rock Road	Post Street	Valley View Parkway	18,570	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.1	45	144	455	1438
5	White Rock Road	Valley View Parkway	Clarksville Crossing	15,961	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.4	39	124	391	1236
6	White Rock Road	Clarksville Crossing	US 50 EB Ramps	19,940	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.4	49	154	488	1544
7	White Rock Road/Silva Valley	US 50 EB Ramps	US 50 WB Ramps	23,427	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.1	57	181	574	1814
8	Silva Valley Parkway	Harvard Way	Golden Eagle Lane	16,639	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	59.3	9	30	94	299
9	Silva Valley Parkway	Golden Eagle Lane	Serrano Parkway	17,674	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.9	43	137	433	1368
10	Silva Valley Parkway	Serrano Parkway	Entrada Drive	24,043	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.2	59	186	589	1861
11	Silva Valley Parkway	Entrada Drive	Oak Meadow Elementary Scho	24,329	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.9	14	44	138	437
12	Silva Valley Parkway	Oak Meadow Elementary Scho	Clarksville Crossing	24,157	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.9	14	43	137	434
13	Silva Valley Parkway	Clarksville Crossing	North/South Site Access	20,789	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.6	51	161	509	1609
14	Silva Valley Parkway	North/South Site Access	Tong Road	27,398	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.8	67	212	671	2121
15	Silva Valley Parkway	Tong Road	US 50 WB Ramps	27,391	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.8	67	212	671	2121
16	Clarksville Crossing	Silva Valley Parkway	South Site North Access	3,543	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.9	9	27	87	274
17	Clarksville Crossing	South Site North Access	South Site Center Access	3,386	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.7	8	26	83	262
18	Clarksville Crossing	South Site Center Access	South Site South Access	3,386	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.7	8	26	83	262
19	Clarksville Crossing	South Site South Access	White Rock Road	3,760	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	59.2	9	29	92	291
20	Serrano Parkway	Silva Valley Parkway	Bass Lake Road	17,605	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.9	43	136	431	1363
21	Bass Lake Road	Serrano Parkway	Country Club Drive	11,176	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.2	37	118	373	1179
22	Bass Lake Road	Country Club Drive	US 50 WB Ramps	20,251	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.8	68	214	675	2136
23	Bass Lake Road	US 50 WB Ramps	US 50 EB Ramps	12,006	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.5	40	127	400	1266
24	US 50 Westbound	Silva Valley Parkway	El Dorado Hills Boulevard	7,247	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	62.0	18	56	177	561
25	US 50 Westbound	East of Silva Valley Parkway In	0	9,818	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.3	12	38	119	378
26	US 50 Eastbound	El Dorado Hills Boulevard	Silva Valley Parkway	7,908	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	59.3	10	30	96	304
27	US 50 Eastbound	East of Silva Valley Parkway In	0	6,494	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.5	8	25	79	250

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator - Weekday Cumulative

Project: North Site Remainder Area- Weekday Traffic Volumes

Noise Level Descriptor: Ldn
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor:

		Segment Description and Location		Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics							Distance to Contour, (feet)[3]			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	Ldn, (dBA)[5,6,7]	70 dBA	65 dBA	60 dBA	55 dBA
Cumulative (Year 2034) Conditions																		
1	El Dorado Hills Blvd/Latrobe Road		Latrobe Road	57,779	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	71.0	141	447	1415	4473
2	Latrobe Road	US 50	White Rock Road	52,814	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	70.6	129	409	1293	4089
3	White Rock Road	Latrobe Road	Post Street	29,407	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	68.1	72	228	720	2277
4	White Rock Road	Post Street	Vine Street/ Valley View Parkv	26,457	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.6	65	205	648	2048
5	White Rock Road	Vine Street/Valley View Parkw	Clarksville Road/Old White Ro	22,650	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.0	55	175	555	1754
6	White Rock Road	Clarksville Road/Old White Ro	US 50 EB Off-ramp	30,143	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	68.2	74	233	738	2334
7	White Rock Road/Silva Valley	US 50 EB Off-Ramp	US 50 WB	23,757	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.2	58	184	582	1839
8	Silva Valley Parkway	Harvard Way	Golden Eagle Lane/Walker Par	19,564	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.0	11	35	111	351
9	Silva Valley Parkway	Golden Eagle Lane/Walker Par	Serrano Parkway	20,357	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.5	50	158	498	1576
10	Silva Valley Parkway	Serrano Parkway	Entrada Drive	27,243	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.8	67	211	667	2109
11	Silva Valley Parkway	Entrada Drive	School Driveway	27,700	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.5	16	50	157	497
12	Silva Valley Parkway	School Driveway	Clarksville Road	27,271	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.4	15	49	155	489
13	Silva Valley Parkway	Clarksville Road	North/South Site Access	21,957	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.8	54	170	538	1700
14	Silva Valley Parkway	North/South Site Access	Tong Road	22,071	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.8	54	171	540	1709
15	Silva Valley Parkway	Tong Road	US 50 WB	21,479	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.7	53	166	526	1663
16	Clarksville Crossing	Silva Valley Parkway	South Site North Access on Cl	5,636	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.9	14	44	138	436
17	Clarksville Crossing	South Site North Access on Cl	South Site Center Access on C	5,643	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.9	14	44	138	437
18	Clarksville Crossing	South Site Center Access on C	South Site South Access on Cl	5,643	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.9	14	44	138	437
19	Clarksville Crossing	South Site South Access on Cl	White Rock Road	5,543	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.8	14	43	136	429
20	Serrano Parkway	Silva Valley Parkway	Bass Lake Road	19,393	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.3	47	150	475	1501
21	Bass Lake Road	Serrano Parkway	Country Club Drive	14,714	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.4	49	155	491	1552
22	Bass Lake Road	Country Club Drive	US 50 WB Ramps	29,629	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	69.5	99	312	988	3125
23	Bass Lake Road	US 50 WB Ramps	US 50 EB Ramps	17,264	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.1	58	182	576	1821
24	US 50 Westbound	Silva Valley Parkway	El Dorado Hills Boulevard	3,229	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.5	8	25	79	250
25	US 50 Westbound	East of Silva Valley Parkway Interchange		12,029	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.2	15	46	146	463
26	US 50 Eastbound	El Dorado Hills Boulevard	Silva Valley Parkway	16,586	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	62.6	20	64	202	638
27	US 50 Eastbound	East of Silva Valley Parkway Interchange		5,357	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	57.7	7	21	65	206

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator - Weekday Cumulative + Remainder Area

Project: North Site Remainder Area- Weekday Traffic Volumes

Noise Level Descriptor: Ldn
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor:

Number	Segment Description and Location: Name	From	To	Input: ADT	Speed (mph)	Distance to Directional Centerline, (feet)$_4$: Near	Far	Traffic Distribution Characteristics: % Auto	% Medium	% Heavy	% Day	% Eve	% Night	Output: Ldn, (dBA)$_{5,6,7}$	Distance to Contour, (feet)$_3$: 70 dBA	65 dBA	60 dBA	55 dBA
Cumulative + Project + North Site Remainder Area																		
1	El Dorado Hills Blvd/Latrobe Road		Latrobe Road	57,981	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	71.0	142	449	1419	4489
2	Latrobe Road	US 50	White Rock Road	52,814	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	70.6	129	409	1293	4089
3	White Rock Road	Latrobe Road	Post Street	30,384	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	68.2	74	235	744	2352
4	White Rock Road	Post Street	Vine Street/ Valley View Parkv	27,434	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.8	67	212	672	2124
5	White Rock Road	Vine Street/Valley View Parkw	Clarksville Road/Old White Ro	23,382	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.1	57	181	572	1810
6	White Rock Road	Clarksville Road/Old White Ro	US 50 EB Off-ramp	30,903	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	68.3	76	239	757	2392
7	White Rock Road/Silva Valley	US 50 EB Off-Ramp	US 50 WB	29,098	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	68.0	71	225	712	2253
8	Silva Valley Parkway	Harvard Way	Golden Eagle Lane/Walker Par	20,203	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.1	11	36	115	363
9	Silva Valley Parkway	Golden Eagle Lane/Walker Par	Serrano Parkway	21,230	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.7	52	164	520	1644
10	Silva Valley Parkway	Serrano Parkway	Entrada Drive	30,586	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	68.3	75	237	749	2368
11	Silva Valley Parkway	Entrada Drive	School Driveway	31,043	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	62.0	18	56	176	557
12	Silva Valley Parkway	School Driveway	Clarksville Road	30,614	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.9	17	55	174	549
13	Silva Valley Parkway	Clarksville Road	North/South Site Access	24,832	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.4	61	192	608	1922
14	Silva Valley Parkway	North/South Site Access	Tong Road	31,440	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	68.4	77	243	770	2434
15	Silva Valley Parkway	Tong Road	US 50 WB	30,848	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	68.3	76	239	755	2388
16	Clarksville Crossing	Silva Valley Parkway	South Site North Access on Cl	6,029	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.2	15	47	148	467
17	Clarksville Crossing	South Site North Access on Cl	South Site Center Access on C	5,872	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.1	14	45	144	455
18	Clarksville Crossing	South Site Center Access on C	South Site South Access on Cl	5,872	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.1	14	45	144	455
19	Clarksville Crossing	South Site South Access on Cl	White Rock Road	6,246	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.4	15	48	153	484
20	Serrano Parkway	Silva Valley Parkway	Bass Lake Road	20,469	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.5	50	158	501	1585
21	Bass Lake Road	Serrano Parkway	Country Club Drive	14,912	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.5	50	157	497	1573
22	Bass Lake Road	Country Club Drive	US 50 WB Ramps	30,315	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	69.6	101	320	1011	3197
23	Bass Lake Road	US 50 WB Ramps	US 50 EB Ramps	17,605	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.2	59	186	587	1857
24	US 50 Westbound	Silva Valley Parkway	El Dorado Hills Boulevard	6,033	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.2	15	47	148	467
25	US 50 Westbound	East of Silva Valley Parkway Interchange		14,833	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	62.1	18	57	180	570
26	US 50 Eastbound	El Dorado Hills Boulevard	Silva Valley Parkway	17,737	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	62.9	22	68	216	682
27	US 50 Eastbound	East of Silva Valley Parkway Interchange		6,508	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.5	8	25	79	250

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator - Weekend Summary

Project: North Site Remainder Area- Weekend Traffic Volumes

Number	Segment Description and Location: Name	From	To	Existing Conditions	Existing + Project + North Site Remainder Area Conditions	Δ Existing – Existing + Project	Cumulative (Year 2034) Conditions	Cumulative + Project + North Site Remainder Area	Δ Cumulative – Cumulative + Project
Summary of Net Changes									
1	El Dorado Hills Blvd/Latrobe Ro	Saratoga Way	Latrobe Road		42.1			42.1	
2	Latrobe Road	US 50	White Rock Road						
3	White Rock Road	Latrobe Road	Post Street		49.0			49.0	
4	White Rock Road	Post Street	Vine Street/ Valley View Parkway		49.0			49.0	
5	White Rock Road	Vine Street/Valley View Parkway	Clarksville Road/Old White Rock	62.9	63.1	0.1	64.7	64.8	0.1
6	White Rock Road	Clarksville Road/Old White Rock I	US 50 EB Off-ramp	64.9	65.1	0.2	66.8	66.9	0.1
7	White Rock Road/Silva Valley Pa	US 50 EB Off-Ramp	US 50 WB	66.1	66.4	0.3	67.2	67.5	0.3
8	Silva Valley Parkway	Harvard Way	Golden Eagle Lane/Walker Park D		40.7			40.7	
9	Silva Valley Parkway	Golden Eagle Lane/Walker Park	Serrano Parkway	61.3	61.6	0.2	62.1	62.3	0.2
10	Silva Valley Parkway	Serrano Parkway	Entrada Drive	65.9	66.2	0.3	66.9	67.1	0.2
11	Silva Valley Parkway	Entrada Drive	School Driveway	60.0	60.3	0.3	61.1	61.3	0.2
12	Silva Valley Parkway	School Driveway	Clarksville Road	60.0	60.2	0.3	61.0	61.2	0.2
13	Silva Valley Parkway	Clarksville Road	North/South Site Access	65.5	65.7	0.2	66.3	66.4	0.1
14	Silva Valley Parkway	North/South Site Access	Tong Road	66.9	67.3	0.4	67.4	67.8	0.4
15	Silva Valley Parkway	Tong Road	US 50 WB	66.9	67.3	0.4	67.3	67.7	0.4
16	Clarksville Crossing	Silva Valley Parkway	South Site North Access on Clarksville Crossing	58.5	58.5	0.0	60.4	60.4	0.0
17	Clarksville Crossing	South Site North Access on Clarksville Crossing	South Site Center Access on Clark	58.1	58.1	0.0	60.1	60.1	0.0
18	Clarksville Crossing	South Site Center Access on Clark	South Site South Access on Clarks	58.1	58.1	0.0	60.1	60.1	0.0
19	Clarksville Crossing	South Site South Access on Clarks	White Rock Road	59.1	59.1	0.0	60.9	60.9	0.0
20	Serrano Parkway	Silva Valley Parkway	Bass Lake Road	62.0	62.2	0.2	62.4	62.6	0.2
21	Bass Lake Road	Serrano Parkway	Country Club Drive		43.4			43.4	
22	Bass Lake Road	Country Club Drive	US 50 WB Ramps		48.8			48.8	
23	Bass Lake Road	US 50 WB Ramps	US 50 EB Ramps		45.7			45.7	
24	US 50 Westbound	Silva Valley Parkway	El Dorado Hills Boulevard	61.9	62.1	0.2	61.1	61.0	-0.1
25	US 50 Westbound	East of Silva Valley Parkway Interchange		59.7	59.8	0.2	61.4	62.0	0.6
26	US 50 Eastbound	El Dorado Hills Boulevard	Silva Valley Parkway	58.7	59.3	0.7	62.6	62.6	0.0
27	US 50 Eastbound	East of Silva Valley Parkway Interchange		57.6	58.5	0.8	57.7	57.7	0.0

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator - Weekend Existing Conditions

Project: El Dorado Hills Project - Weekend Traffic Volumes

Noise Level Descriptor: Ldn
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor:

		Segment Description and Location		Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics						Ldn,	Distance to Contour, (feet)[3]			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	$(dBA)_{5,6,7}$	70 dBA	65 dBA	60 dBA	55 dBA
Existing Conditions																		
1	El Dorado Hills Blvd/Latrobe R	US 50 WB Ramps	US 50 EB Ramps	0	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
2	Latrobe Road	US 50 EB Ramps	White Rock Road	0	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
3	White Rock Road	Latrobe Road	Post Street	0	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
4	White Rock Road	Post Street	Valley View Parkway	0	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
5	White Rock Road	Valley View Parkway	Clarksville Crossing	8,989	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	62.9	22	70	220	696
6	White Rock Road	Clarksville Crossing	US 50 EB Ramps	14,197	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	64.9	35	110	348	1099
7	White Rock Road/Silva Valley	US 50 EB Ramps	US 50 WB Ramps	18,628	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.1	46	144	456	1442
8	Silva Valley Parkway	Harvard Way	Golden Eagle Lane	0	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
9	Silva Valley Parkway	Golden Eagle Lane	Serrano Parkway	6,222	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.3	15	48	152	482
10	Silva Valley Parkway	Serrano Parkway	Entrada Drive	17,928	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.9	44	139	439	1388
11	Silva Valley Parkway	Entrada Drive	Oak Meadow Elementary Scho	19,749	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.0	11	35	112	354
12	Silva Valley Parkway	Oak Meadow Elementary Scho	Clarksville Crossing	19,527	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.0	11	35	111	350
13	Silva Valley Parkway	Clarksville Crossing	North/South Site Access	16,332	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.5	40	126	400	1264
14	Silva Valley Parkway	North/South Site Access	Tong Road	22,125	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.9	54	171	542	1713
15	Silva Valley Parkway	Tong Road	US 50 WB Ramps	22,119	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.9	54	171	542	1712
16	Clarksville Crossing	Silva Valley Parkway	South Site North Access	3,206	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.5	8	25	78	248
17	Clarksville Crossing	South Site North Access	South Site Center Access	2,971	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.1	7	23	73	230
18	Clarksville Crossing	South Site Center Access	South Site South Access	2,971	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.1	7	23	73	230
19	Clarksville Crossing	South Site South Access	White Rock Road	3,746	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	59.1	9	29	92	290
20	Serrano Parkway	Silva Valley Parkway	Bass Lake Road	7,236	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	62.0	18	56	177	560
21	Bass Lake Road	Serrano Parkway	Country Club Drive	0	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
22	Bass Lake Road	Country Club Drive	US 50 WB Ramps	0	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
23	Bass Lake Road	US 50 WB Ramps	US 50 EB Ramps	0	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
24	US 50 Westbound	Silva Valley Parkway	El Dorado Hills Boulevard	7,063	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.9	17	55	173	547
25	US 50 Westbound	East of Silva Valley Parkway In	0	8,549	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	59.7	10	33	104	329
26	US 50 Eastbound	El Dorado Hills Boulevard	Silva Valley Parkway	5,410	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	57.7	7	21	66	208
27	US 50 Eastbound	East of Silva Valley Parkway In	0	4,982	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	57.3	6	19	61	192

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator - Weekend Existing + Project + North Site Development Conditions

Project: El Dorado Hills Project - Weekend Traffic Volumes

Noise Level Descriptor: Ldn
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor:

		Segment Description and Location		Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics						Ldn,	Distance to Contour, (feet)[3]			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	(dBA)[5,6,7]	70 dBA	65 dBA	60 dBA	55 dBA
Existing + Project + North Site Remainder Area Conditions																		
1	El Dorado Hills Blvd/Latrobe R	US 50 WB Ramps	US 50 EB Ramps	74	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	42.1		1	2	6
2	Latrobe Road	US 50 EB Ramps	White Rock Road	0	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
3	White Rock Road	Latrobe Road	Post Street	362	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	49.0	1	3	9	28
4	White Rock Road	Post Street	Valley View Parkway	362	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	49.0	1	3	9	28
5	White Rock Road	Valley View Parkway	Clarksville Crossing	9,261	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	63.1	23	72	227	717
6	White Rock Road	Clarksville Crossing	US 50 EB Ramps	14,741	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.1	36	114	361	1141
7	White Rock Road/Silva Valley	US 50 EB Ramps	US 50 WB Ramps	20,094	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.4	49	156	492	1556
8	Silva Valley Parkway	Harvard Way	Golden Eagle Lane	232	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	40.7			1	4
9	Silva Valley Parkway	Golden Eagle Lane	Serrano Parkway	6,542	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.6	16	51	160	506
10	Silva Valley Parkway	Serrano Parkway	Entrada Drive	19,157	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.2	47	148	469	1483
11	Silva Valley Parkway	Entrada Drive	Oak Meadow Elementary Scho	20,978	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.3	12	38	119	377
12	Silva Valley Parkway	Oak Meadow Elementary Scho	Clarksville Crossing	20,756	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.2	12	37	118	373
13	Silva Valley Parkway	Clarksville Crossing	North/South Site Access	16,938	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	65.7	41	131	415	1311
14	Silva Valley Parkway	North/South Site Access	Tong Road	24,519	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.3	60	190	600	1898
15	Silva Valley Parkway	Tong Road	US 50 WB Ramps	24,513	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.3	60	190	600	1898
16	Clarksville Crossing	Silva Valley Parkway	South Site North Access	3,206	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.5	8	25	78	248
17	Clarksville Crossing	South Site North Access	South Site Center Access	2,971	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.1	7	23	73	230
18	Clarksville Crossing	South Site Center Access	South Site South Access	2,971	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.1	7	23	73	230
19	Clarksville Crossing	South Site South Access	White Rock Road	3,746	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	59.1	9	29	92	290
20	Serrano Parkway	Silva Valley Parkway	Bass Lake Road	7,635	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	62.2	19	59	187	591
21	Bass Lake Road	Serrano Parkway	Country Club Drive	73	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	43.4		1	2	8
22	Bass Lake Road	Country Club Drive	US 50 WB Ramps	253	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	48.8	1	3	8	27
23	Bass Lake Road	US 50 WB Ramps	US 50 EB Ramps	126	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	45.7		1	4	13
24	US 50 Westbound	Silva Valley Parkway	El Dorado Hills Boulevard	7,367	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	62.1	18	57	180	570
25	US 50 Westbound	East of Silva Valley Parkway In	0	8,853	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	59.8	11	34	108	340
26	US 50 Eastbound	El Dorado Hills Boulevard	Silva Valley Parkway	5,423	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	57.7	7	21	66	209
27	US 50 Eastbound	East of Silva Valley Parkway In	0	4,995	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	57.4	6	19	61	192

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator - Weekend Cumulative + Project Conditions

Project: El Dorado Hills Project - Weekend Traffic Volumes

Noise Level Descriptor: Ldn
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor:

	Segment Description and Location			Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics						Ldn,	Distance to Contour, (feet)[3]			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	$(dBA)_{5,6,7}$	70 dBA	65 dBA	60 dBA	55 dBA
Cumulative (Year 2034) Conditions																		
1	El Dorado Hills Blvd/Latrobe Road		Latrobe Road	0	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
2	Latrobe Road	US 50	White Rock Road	0	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
3	White Rock Road	Latrobe Road	Post Street	0	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
4	White Rock Road	Post Street	Vine Street/ Valley View Parkv	0	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
5	White Rock Road	Vine Street/Valley View Parkw	Clarksville Road/Old White Ro	13,555	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	64.7	33	105	332	1049
6	White Rock Road	Clarksville Road/Old White Ro	US 50 EB Off-ramp	21,882	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.8	54	169	536	1694
7	White Rock Road/Silva Valley	US 50 EB Off-Ramp	US 50 WB	24,052	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.2	59	186	589	1862
8	Silva Valley Parkway	Harvard Way	Golden Eagle Lane/Walker Par	0	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
9	Silva Valley Parkway	Golden Eagle Lane/Walker Par	Serrano Parkway	7,403	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	62.1	18	57	181	573
10	Silva Valley Parkway	Serrano Parkway	Entrada Drive	22,442	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.9	55	174	549	1737
11	Silva Valley Parkway	Entrada Drive	School Driveway	25,171	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.1	14	45	143	452
12	Silva Valley Parkway	School Driveway	Clarksville Road	24,541	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.0	14	44	139	440
13	Silva Valley Parkway	Clarksville Road	North/South Site Access	19,495	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.3	48	151	477	1509
14	Silva Valley Parkway	North/South Site Access	Tong Road	25,266	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.4	62	196	619	1956
15	Silva Valley Parkway	Tong Road	US 50 WB	24,598	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.3	60	190	602	1904
16	Clarksville Crossing	Silva Valley Parkway	South Site North Access on Cl	4,958	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.4	12	38	121	384
17	Clarksville Crossing	South Site North Access on Cl	South Site Center Access on C	4,669	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.1	11	36	114	361
18	Clarksville Crossing	South Site Center Access on C	South Site South Access on Cl	4,669	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.1	11	36	114	361
19	Clarksville Crossing	South Site South Access on Cl	White Rock Road	5,558	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.9	14	43	136	430
20	Serrano Parkway	Silva Valley Parkway	Bass Lake Road	7,932	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	62.4	19	61	194	614
21	Bass Lake Road	Serrano Parkway	Country Club Drive	0	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
22	Bass Lake Road	Country Club Drive	US 50 WB Ramps	0	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
23	Bass Lake Road	US 50 WB Ramps	US 50 EB Ramps	0	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
24	US 50 Westbound	Silva Valley Parkway	El Dorado Hills Boulevard	5,843	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.1	14	45	143	452
25	US 50 Westbound	East of Silva Valley Parkway	Interchange	12,581	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.4	15	48	153	484
26	US 50 Eastbound	El Dorado Hills Boulevard	Silva Valley Parkway	11,730	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.1	14	45	143	451
27	US 50 Eastbound	East of Silva Valley Parkway	Interchange	4,971	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	57.3	6	19	60	191

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator - Weekend Cumulative + Project + North Site Remainder Area Conditions

Project: El Dorado Hills Project - Weekend Traffic Volumes

Noise Level Descriptor: Ldn
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor:

		Segment Description and Location		Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics										
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	Ldn, (dBA)[5,6,7]	Distance to Contour, (feet)[3] 70 dBA	65 dBA	60 dBA	55 dBA
Cumulative + Project + North Site Remainder Area																		
1	El Dorado Hills Blvd/Latrobe Road		Latrobe Road	74	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	42.1		1	2	6
2	Latrobe Road	US 50	White Rock Road	0	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
3	White Rock Road	Latrobe Road	Post Street	362	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	49.0	1	3	9	28
4	White Rock Road	Post Street	Vine Street/ Valley View Parkv	362	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	49.0	1	3	9	28
5	White Rock Road	Vine Street/Valley View Parkw	Clarksville Road/Old White Ro	13,827	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	64.8	34	107	339	1070
6	White Rock Road	Clarksville Road/Old White Ro	US 50 EB Off-ramp	22,426	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.9	55	174	549	1736
7	White Rock Road/Silva Valley	US 50 EB Off-Ramp	US 50 WB	25,518	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.5	62	198	625	1976
8	Silva Valley Parkway	Harvard Way	Golden Eagle Lane/Walker Par	232	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	40.7			1	4
9	Silva Valley Parkway	Golden Eagle Lane/Walker Par	Serrano Parkway	7,723	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	62.3	19	60	189	598
10	Silva Valley Parkway	Serrano Parkway	Entrada Drive	23,671	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.1	58	183	580	1833
11	Silva Valley Parkway	Entrada Drive	School Driveway	26,400	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.3	15	47	150	474
12	Silva Valley Parkway	School Driveway	Clarksville Road	25,770	25	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.2	15	46	146	463
13	Silva Valley Parkway	Clarksville Road	North/South Site Access	20,101	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.4	49	156	492	1556
14	Silva Valley Parkway	North/South Site Access	Tong Road	27,660	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.8	68	214	677	2141
15	Silva Valley Parkway	Tong Road	US 50 WB	26,992	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	67.7	66	209	661	2090
16	Clarksville Crossing	Silva Valley Parkway	South Site North Access on Cl	4,958	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.4	12	38	121	384
17	Clarksville Crossing	South Site North Access on Cl	South Site Center Access on C	4,669	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.1	11	36	114	361
18	Clarksville Crossing	South Site Center Access on C	South Site South Access on Cl	4,669	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.1	11	36	114	361
19	Clarksville Crossing	South Site South Access on Cl	White Rock Road	5,558	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.9	14	43	136	430
20	Serrano Parkway	Silva Valley Parkway	Bass Lake Road	8,331	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	62.6	20	64	204	645
21	Bass Lake Road	Serrano Parkway	Country Club Drive	73	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	43.4		1	2	8
22	Bass Lake Road	Country Club Drive	US 50 WB Ramps	253	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	48.8	1	3	8	27
23	Bass Lake Road	US 50 WB Ramps	US 50 EB Ramps	126	50	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	45.7		1	4	13
24	US 50 Westbound	Silva Valley Parkway	El Dorado Hills Boulevard	6,147	45	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.3	15	48	150	476
25	US 50 Westbound	East of Silva Valley Parkway Interchange		12,885	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.5	16	50	157	495
26	US 50 Eastbound	El Dorado Hills Boulevard	Silva Valley Parkway	11,743	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.1	14	45	143	452
27	US 50 Eastbound	East of Silva Valley Parkway Interchange		4,984	35	100	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	57.3	6	19	61	192

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Weekday Daily Volumes - Study Intersections + Study Roadways

Segment N	To		From		Roadway	From	To	Existing	Existing Plu	Near Term	Near Term Plus Project
1		1		2	El Dorado Hills Blvd/Latrobe Road	US 50 WB Ramps	US 50 EB Ramps	51,221	51,371	57,779	57,929
2		2		3	Latrobe Road	US 50 EB Ramps	White Rock Road	50,286	50,286	52,814	52,814
3		3		4	White Rock Road	Latrobe Road	Post Street	18,943	19,666	29,407	30,130
4		4		15	White Rock Road	Post Street	Valley View Parkway	17,593	18,316	26,457	27,180
5		15		14	White Rock Road	Valley View Parkway	Clarksville Crossing	15,229	15,771	22,650	23,192
6		14		13	White Rock Road	Clarksville Crossing	US 50 EB Ramps	19,180	19,560	30,143	30,523
7		13		12	White Rock Road/Silva Valley Parkway	US 50 EB Ramps	US 50 WB Ramps	18,086	22,403	23,757	28,074
8		5		6	Silva Valley Parkway	Harvard Way	Golden Eagle Lane	16,000	16,477	19,564	20,041
9		6		7	Silva Valley Parkway	Golden Eagle Lane	Serrano Parkway	16,801	17,452	20,357	21,008
10		7		8	Silva Valley Parkway	Serrano Parkway	Entrada Drive	20,700	23,187	27,243	29,730
11		8		9	Silva Valley Parkway	Entrada Drive	Oak Meadows Elementary S	20,986	23,473	27,700	30,187
12		9		10	Silva Valley Parkway	Oak Meadows Element	Clarksville Crossing	20,814	23,301	27,271	29,758
13		10	A		Silva Valley Parkway	Clarksville Crossing	North/South Site Access	17,914	20,365	21,957	24,408
14	A			11	Silva Valley Parkway	North/South Site Acces	Tong Road	18,029	25,719	22,071	29,761
15		11		12	Silva Valley Parkway	Tong Road	US 50 WB Ramps	18,022	25,712	21,479	29,169
16		10	B		Clarksville Crossing	Silva Valley Parkway	South Site North Access	3,150	3,543	5,636	6,029
17	B		C		Clarksville Crossing	South Site North Acces	South Site Center Access	3,157	3,386	5,643	5,872
18	C		D		Clarksville Crossing	South Site Center Acce	South Site South Access	3,157	3,386	5,643	5,872
19	D			14	Clarksville Crossing	South Site South Acces	White Rock Road	3,057	3,760	5,543	6,246
20		7		16	Serrano Parkway	Silva Valley Parkway	Bass Lake Road	16,529	17,326	19,393	20,190
21		16		17	Bass Lake Road	Serrano Parkway	Country Club Drive	10,979	11,124	14,714	14,860
22		17		18	Bass Lake Road	Country Club Drive	US 50 WB Ramps	19,565	20,072	29,629	30,136
23		18		19	Bass Lake Road	US 50 WB Ramps	US 50 EB Ramps	11,665	11,917	17,264	17,516
24		5			US 50 Westbound	Silva Valley Parkway	El Dorado Hills Boulevard	4,443	6,943	3,229	5,729
25		6			US 50 Westbound	East of Silva Valley Parkway Interchange		7,014	9,514	12,029	14,529
26		7			US 50 Eastbound	El Dorado Hills Boulev	Silva Valley Parkway	6,757	7,895	16,586	17,724
27		8			US 50 Eastbound	East of Silva Valley Parkway Interchange		5,343	6,481	5,357	6,495

Weekend Daily Volumes - Study Intersections + Study Roadways

1		1		2	El Dorado Hills Blvd/Latrobe Road	US 50 WB Ramps	US 50 EB Ramps	0	0	0	0
2		2		3	Latrobe Road	US 50 EB Ramps	White Rock Road	0	0	0	0
3		3		4	White Rock Road	Latrobe Road	Post Street	0	0	0	0
4		4		15	White Rock Road	Post Street	Valley View Parkway	0	0	0	0
5		15		14	White Rock Road	Valley View Parkway	Clarksville Crossing	8,271	8,989	12,837	13,555
6		14		13	White Rock Road	Clarksville Crossing	US 50 EB Ramps	13,793	14,197	21,478	21,882
7		13		12	White Rock Road/Silva Valley Parkway	US 50 EB Ramps	US 50 WB Ramps	14,471	18,628	19,895	24,052
8		5		6	Silva Valley Parkway	Harvard Way	Golden Eagle Lane	0	0	0	0
9		6		7	Silva Valley Parkway	Golden Eagle Lane	Serrano Parkway	5,386	6,222	6,567	7,403
10		7		8	Silva Valley Parkway	Serrano Parkway	Entrada Drive	14,693	17,928	19,207	22,442
11		8		9	Silva Valley Parkway	Entrada Drive	Oak Meadows Elementary S	16,514	19,749	21,936	25,171
12		9		10	Silva Valley Parkway	Oak Meadows Element	Clarksville Crossing	16,293	19,527	21,307	24,541
13		10	A		Silva Valley Parkway	Clarksville Crossing	North/South Site Access	13,650	16,332	16,814	19,495
14	A			11	Silva Valley Parkway	North/South Site Acces	Tong Road	13,636	22,125	16,777	25,266
15		11		12	Silva Valley Parkway	Tong Road	US 50 WB Ramps	13,629	22,119	16,108	24,598
16		10	B		Clarksville Crossing	Silva Valley Parkway	South Site North Access	2,643	3,206	4,395	4,958
17	B		C		Clarksville Crossing	South Site North Acces	South Site Center Access	2,643	2,971	4,341	4,669
18	C		D		Clarksville Crossing	South Site Center Acce	South Site South Access	2,643	2,971	4,341	4,669
19	D			14	Clarksville Crossing	South Site South Acces	White Rock Road	2,714	3,746	4,526	5,558
20		7		16	Serrano Parkway	Silva Valley Parkway	Bass Lake Road	6,186	7,236	6,881	7,932
21		16		17	Bass Lake Road	Serrano Parkway	Country Club Drive	0	0	0	0
22		17		18	Bass Lake Road	Country Club Drive	US 50 WB Ramps	0	0	0	0
23		18		19	Bass Lake Road	US 50 WB Ramps	US 50 EB Ramps	0	0	0	0
24		5			US 50 Westbound	Silva Valley Parkway	El Dorado Hills Boulevard	4100	7063	2880	5843
25		6			US 50 Westbound	East of Silva Valley Parkway Interchange		5586	8549	9618	12581
26		7			US 50 Eastbound	El Dorado Hills Boulev	Silva Valley Parkway	4357	5410	10677	11730
27		8			US 50 Eastbound	East of Silva Valley Parkway Interchange		3929	4982	3918	4971

Weekday Daily Volumes - Study Intersections + Study Roadways North Site Remainder Area

Segment N	To	From	Roadway	From	To	Trips	Existing	Existing+project + remainder area	Near Term + Project	Near Term Plus Project + North Site Remainder Area
1	1	2	El Dorado Hills Blvd/Latrobe Road	US 50 WB I	US 50 EB Ramps	52	51,221	51,423	57,779	57,981
2	2	3	Latrobe Road	US 50 EB R	White Rock Road	0	50,286	50,286	52,814	52,814
3	3	4	White Rock Road	Latrobe Ro	Post Street	254	18,943	19,920	29,407	30,384
4	4	15	White Rock Road	Post Street	Valley View Parkway	254	17,593	18,570	26,457	27,434
5	15	14	White Rock Road	Valley Viev	Clarksville Crossing	190	15,229	15,961	22,650	23,382
6	14	13	White Rock Road	Clarksville	US 50 EB Ramps	380	19,180	19,940	30,143	30,903
7	13	12	White Rock Road/Silva Valley Parkway	US 50 EB R	US 50 WB Ramps	1,024	18,086	23,427	23,757	29,098
8	5	6	Silva Valley Parkway	Harvard W	Golden Eagle Lane	162	16,000	16,639	19,564	20,203
9	6	7	Silva Valley Parkway	Golden Eag	Serrano Parkway	222	16,801	17,674	20,357	21,230
10	7	8	Silva Valley Parkway	Serrano Pa	Entrada Drive	856	20,700	24,043	27,243	30,586
11	8	9	Silva Valley Parkway	Entrada Dr	Oak Meadows Elementary School	856	20,986	24,329	27,700	31,043
12	9	10	Silva Valley Parkway	Oak Meadc	Clarksville Crossing	856	20,814	24,157	27,271	30,614
13	10	A	Silva Valley Parkway	Clarksville	North/South Site Access	424	17,914	20,789	21,957	24,832
14	A	11	Silva Valley Parkway	North/Sout	Tong Road	1,679	18,029	27,398	22,071	31,440
15	11	12	Silva Valley Parkway	Tong Road	US 50 WB Ramps	1,679	18,022	27,391	21,479	30,848
16	10	B	Clarksville Crossing	Silva Valley	South Site North Access	0	3,150	3,543	5,636	6,029
17	B	C	Clarksville Crossing	South Site	South Site Center Access	0	3,157	3,386	5,643	5,872
18	C	D	Clarksville Crossing	South Site	South Site South Access	0	3,157	3,386	5,643	5,872
19	D	14	Clarksville Crossing	South Site	White Rock Road	0	3,057	3,760	5,543	6,246
20	7	16	Serrano Parkway	Silva Valley	Bass Lake Road	279	16,529	17,605	19,393	20,469
21	16	17	Bass Lake Road	Serrano Pa	Country Club Drive	52	10,979	11,176	14,714	14,912
22	17	18	Bass Lake Road	Country Cl	US 50 WB Ramps	179	19,565	20,251	29,629	30,315
23	18	19	Bass Lake Road	US 50 WB I	US 50 EB Ramps	89	11,665	12,006	17,264	17,605
24	5		US 50 Westbound	Silva Valley	El Dorado Hills Boulevard	304	4,443	7,247	3,229	6,033
25	6		US 50 Westbound	East of Silva Valley Parkway Interchange		304	7,014	9,818	12,029	14,833
26	7		US 50 Eastbound	El Dorado I	Silva Valley Parkway	13	6,757	7,908	16,586	17,737
27	8		US 50 Eastbound	East of Silva Valley Parkway Interchange		13	5,343	6,494	5,357	6,508

Weekend Daily Volumes - Study Intersections + Study Roadways

Segment N	To	From	Roadway	From	To	Trips	Existing	Existing+project + remainder area	Near Term	Near Term Plus Project + North Site Remainder Area
1	1	2	El Dorado Hills Blvd/Latrobe Road	US 50 WB I	US 50 EB Ramps	74	0	74	0	74
2	2	3	Latrobe Road	US 50 EB R	White Rock Road	0	0	0	0	0
3	3	4	White Rock Road	Latrobe Ro	Post Street	362	0	362	0	362
4	4	15	White Rock Road	Post Street	Valley View Parkway	362	0	362	0	362
5	15	14	White Rock Road	Valley Viev	Clarksville Crossing	272	8271	9261	12837	13827
6	14	13	White Rock Road	Clarksville	US 50 EB Ramps	544	13793	14741	21478	22426
7	13	12	White Rock Road/Silva Valley Parkway	US 50 EB R	US 50 WB Ramps	1466	14471	20094	19895	25518
8	5	6	Silva Valley Parkway	Harvard W	Golden Eagle Lane	232	0	232	0	232
9	6	7	Silva Valley Parkway	Golden Eag	Serrano Parkway	320	5386	6542	6567	7723
10	7	8	Silva Valley Parkway	Serrano Pa	Entrada Drive	1229	14693	19157	19207	23671
11	8	9	Silva Valley Parkway	Entrada Dr	Oak Meadows Elementary School	1229	16514	20978	21936	26400
12	9	10	Silva Valley Parkway	Oak Meadc	Clarksville Crossing	1229	16293	20756	21307	25770
13	10	A	Silva Valley Parkway	Clarksville	North/South Site Access	606	13650	16938	16814	20101
14	A	11	Silva Valley Parkway	North/Sout	Tong Road	2394	13636	24519	16777	27660
15	11	12	Silva Valley Parkway	Tong Road	US 50 WB Ramps	2394	13629	24513	16108	26992
16	10	B	Clarksville Crossing	Silva Valley	South Site North Access	0	2643	3206	4395	4958
17	B	C	Clarksville Crossing	South Site	South Site Center Access	0	2643	2971	4341	4669
18	C	D	Clarksville Crossing	South Site	South Site South Access	0	2643	2971	4341	4669
19	D	14	Clarksville Crossing	South Site	White Rock Road	0	2714	3746	4526	5558
20	7	16	Serrano Parkway	Silva Valley	Bass Lake Road	399	6186	7635	6881	8331
21	16	17	Bass Lake Road	Serrano Pa	Country Club Drive	73	0	73	0	73
22	17	18	Bass Lake Road	Country Cl	US 50 WB Ramps	253	0	253	0	253
23	18	19	Bass Lake Road	US 50 WB I	US 50 EB Ramps	126	0	126	0	126
24	5		US 50 Westbound	Silva Valley	El Dorado Hills Boulevard	304	4100	7367	2880	6147
25	6		US 50 Westbound	East of Silva Valley Parkway Interchange		304	5586	8853	9618	12885
26	7		US 50 Eastbound	El Dorado I	Silva Valley Parkway	13	4357	5423	10677	11743
27	8		US 50 Eastbound	East of Silva Valley Parkway Interchange		13	3929	4995	3918	4984

Citation #	Citations	
1	Caltrans Technical Noise Supplement. 2009 (November). Table (5-11), Pg 5-60.	Caltrans Technical Noise Supplement. 2013 (September). Table (4-2), Pg 4-17.
2	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-26), Pg 5-60.	Caltrans Technical Noise Supplement. 2013 (September). Equation (4-5), Pg 4-17
3	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-16), Pg 2-32.	FHWA 2004 TNM Version 2.5
4	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-11), Pg 5-47, 48.	FHWA 2004 TNM Version 2.5
5	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-26), Pg 2-55, 56.	Caltrans Technical Noise Supplement. 2013 (September). Equation (2-23), Pg 2-5
6	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-27), Pg 2-57.	Caltrans Technical Noise Supplement. 2013 (September). Equation (2-24), Pg 2-5
7	Caltrans Technical Noise Supplement. 2009 (November). Pg 2-53.	Caltrans Technical Noise Supplement. 2013 (September). Pg 2-57.
8	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-7), Pg 5-45.	FHWA 2004 TNM Version 2.5
9	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-8), Pg 5-45.	FHWA 2004 TNM Version 2.5
10	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-9), Pg 5-45.	FHWA 2004 TNM Version 2.5
11	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-13), Pg 5-49.	FHWA 2004 TNM Version 2.5
12	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-14), Pg 5-49.	FHWA 2004 TNM Version 2.5
13	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (16), Pg 67	
14	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (20), Pg 69	
15	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (18), Pg 69	

References

California Department of Transportation (Caltrans). 2009 (November). Technical Noise Supplement. Available: http://www.dot.ca.gov/hq/env/noise/pub/tens_complete.pdf. Accessed A
2017.

Attenuation Calculations for Stationary Noise Sources

KEY:
Orange cells are for input.
Grey cells are intermediate calculations performed by the model.
Green cells are data to present in a written analysis (output).

STEP 1: Identify the noise source and enter the reference noise level (dBA and distance).

STEP 2: Select the ground type (hard or soft), and enter the source and receiver heights.

STEP 3: Select the distance to the receiver.

Noise Source/ID	Reference Noise Level			Attenuation Characteristics				Attenuated Noise Level at Receptor		
	noise level (dBA)	@	distance (ft)	Ground Type (soft/hard)	Source Height (ft)	Receiver Height (ft)	Ground Factor	noise level (dBA)	@	distance (ft)
Loading Dock Activity (daytime: 55 dBA Leq)	59.3	@	100	hard	8	5	0.00	55.0	@	165
Loading Dock Activity (evening: 50 dBA Leq)	59.3	@	100	hard	8	5	0.00	49.8	@	300
Loading Dock Activity (nighttimetime: 45 dBA Leq)	59.3	@	100	hard	8	5	0.00	44.9	@	522
Loading Dock Activity at nearest sensitive receptor	59.3	@	100	hard	8	5	0.00	38.8	@	1065
Trash Compactor (daytime: 55 dBA Leq)	77.0	@	10	hard	8	5	0.00	54.9	@	127
Trash Compactor (evening: 50 dBA Leq)	77.0	@	10	hard	8	5	0.00	49.9	@	226
Trash Compactor (nighttime: 45 dBA Leq)	77.0	@	10	hard	8	5	0.00	44.9	@	405
Trash Compactor Activity at nearest sensitive receptor	77.0	@	10	hard	8	5	0.00	36.7	@	1030
Parking Lot Noise - South Site (daytime: 55 dBA Leq)	64.7	@	50	hard	8	5	0.00	54.9	@	155
Parking Lot Noise - South Site (evening: 50 dBA Leq)	64.7	@	50	hard	8	5	0.00	49.9	@	275
Parking Lot Noise- South Site (nighttime: 45 dBA Leq)	64.7	@	50	hard	8	5	0.00	45.0	@	485
Parking Lot Noise - North Site (daytime: 55 dBA Leq)	59.0	@	50	hard	8	5	0.00	54.9	@	80
Parking Lot Noise - North Site (evening: 50 dBA Leq)	59.0	@	50	hard	8	5	0.00	49.2	@	155
Parking Lot Noise - North Site(nighttime: 45 dBA Leq)	59.0	@	50	hard	8	5	0.00	44.8	@	255
Parking Lot Noise - nearest sensitive receptor North Site	59.0	@	50	hard	8	5	0.00	42.1	@	350
Parking Lot Noise - nearest sensitive receptor South Site	64.7	@	50	hard	8	5	0.00	41.8	@	700
Tire Center Noise (daytime: 55 dBA Leq)	65.0	@	50	hard	8	5	0.00	54.9	@	160
Tire Center Noise (evening: 50 dBA Leq)	65.0	@	50	hard	8	5	0.00	49.9	@	285
Tire Center Noise - nearest sensitive receptor	65.0	@	50	hard	8	5	0.00	39.3	@	965
Heavy Vehicles - nearest sensitive receptor to South Site	65.8	@	16	hard	8	5	0.00	34.1	@	612
Heavy Vehicles - nearest sensitive receptor to North Site	65.8	@	16	hard	8	5	0.00	33.4	@	670

Notes:

Estimates of attenuated noise levels do not account for reductions from intervening barriers, including walls, trees, vegetation, or structures of any type.

Computation of the attenuated noise level is based on the equation presented on pg. 176 and 177 of FTA 2018.

Computation of the ground factor is based on the equation presentd in Table 4-26 on pg. 86 of FTA 2018, where the distance of the reference noise leve can be adjusted and the usage factor is not applied (i.e., the usage factor is equal to 1).

Sources:

Federal Transit Association (FTA). 2018 (September). Transit Noise and Vibration Impact Assessment. Washington, D.C. Available: <http://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf>Accessed: March 5,

Addition of Noise Levels from Multiple Sources at a Discrete Receptor

OBJECTIVE: This work sheet is designed to estiamte the combined level of noise exposure at a single discrete receptor from multiple point sources.

KEY: Orange cells are for input.
Grey cells are intermediate calculations performed by the model.
Green cells are data to present in a written analysis (output).

Receptor Name: **Sensitive Receptors near El Dorado Hills Costco Project**

STEP 1: Identify the noise sources and enter the reference noise levels (dBA and distance).
Hour of Day (24-HR time)
STEP 3: Select the distance to the receptor and the reduction provided by any intervening barrier.

Step 1. Step 2. Step 3.

Noise Source	**Reference Noise Level**			**Attenuation Characteristics**				**Attenuated Noise Level at Receptor (SR 5)**			
	Reference Noise Level (dBA)	@	Reference Distance (ft)	Ground Type (soft/hard)	Source Height (ft)	Receiver Height (ft)	Ground Factor	Noise Level (dBA)	@	Distance to Receptor (ft)	Reduction Provided by Barrier, if any (dBA)
HVAC Unit	75.0	@	3	hard	35	5	0.00	25.8	@	870	0
HVAC Unit	75.0	@	3	hard	35	5	0.00	25.8	@	870	0
HVAC Unit	75.0	@	3	hard	35	5	0.00	25.8	@	870	0
HVAC Unit	75.0	@	3	hard	35	5	0.00	25.8	@	870	0
HVAC Unit	75.0	@	3	hard	35	5	0.00	25.8	@	870	0
HVAC Unit	75.0	@	3	hard	35	5	0.00	25.8	@	870	0
HVAC Unit	75.0	@	3	hard	35	5	0.00	25.8	@	870	0
HVAC Unit	75.0	@	3	hard	35	5	0.00	25.8	@	870	0
HVAC Unit	75.0	@	3	hard	35	5	0.00	25.8	@	870	0
HVAC Unit	75.0	@	3	hard	35	5	0.00	25.8	@	870	0
HVAC Unit	75.0	@	3	hard	35	5	0.00	25.8	@	870	0
HVAC Unit	75.0	@	3	hard	35	5	0.00	25.8	@	870	0
HVAC Unit	75.0	@	3	hard	35	5	0.00	25.8	@	870	0
HVAC Unit	75.0	@	3	hard	35	5	0.00	25.8	@	870	0
HVAC Unit	75.0	@	3	hard	35	5	0.00	25.8	@	870	0
HVAC Unit	75.0	@	3	hard	35	5	0.00	25.8	@	870	0

Combined level of noise exposure at receptor from all noise sources (dBA): **31.8**

Noise Source	**Reference Noise Level**			**Attenuation Characteristics**				**Attenuated Noise Level at Receptor (SR6)**			
	Reference Noise (dBA)	@	Reference Distance (ft)	Ground Type (soft/hard)	Source Height (ft)	Receiver Height (ft)	Ground Factor	Noise Level (dBA)	@	Distance to Receptor (ft)	Reduction Provided (dBA)
Trash Compactor	74.0	@	10	hard	35	5	0.00	74.0	@	10	0
Trash Compactor	74.0	@	10	hard	35	5	0.00	74.0	@	10	0

Combined level of noise exposure at receptor from all noise sources (dBA): **77.0**

Computation of the attenuated noise level is based on the equation presented on pg. 12-3 and 12-4 of FTA 2006.
Computation of the ground factor is based on the equation presentd in Figure 6-23 on pg. 6-23 of FTA 2006, where the distance of the reference noise leve can be
Summation of noise levels from different stationary noise sources at the same receptor is based on the equation presented on page 2-3 of FTA 2006.

Sources:
Federal Transit Association (FTA). 2006 (May). Transit Noise and Vibration Impact Assessment. FTA-VA-90-1003-06. Washington, D.C. Available:

Parking Lot South Site Noise Calculation

KEY:	Orange cells are for input.
	Green cells are data to present in a written analysis (output).

Number of automobiles per hour	1697
Number of buses per hour	0
Distance to sensitive receptor (feet)	700

	distance	sound level
Leq @	50	**64.7**
Leq @	700	**41.8**

Source

Federal Transit Administration. 2018 (September). Transit Noise and Vibration Impact Assessment. Washington, D.C. Available: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed 2025. See pages 45–47, including Equation 4-14.

Parking Lot North Site Noise Calculation

KEY:	Orange cells are for input.
	Green cells are data to present in a written analysis (output).

Number of automobiles per hour	461
Number of buses per hour	0
Distance to sensitive receptor (feet)	350

	distance	sound level
Leq @	50	**59.0**
Leq @	350	**42.1**

Source

Federal Transit Administration. 2018 (September). Transit Noise and Vibration Impact Assessment. Washington, D.C. Available: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed 2025. See pages 45–47, including Equation 4-14.

Distance Propagation Calculations for Stationary Sources of Ground Vibration

KEY: Orange cells are for input.

Grey cells are intermediate calculations performed by the model.

Green cells are data to present in a written analysis (output).

STEP 1: Determine units in which to perform calculation.

— If vibration decibels (VdB), then use Table A and proceed to Steps 2A and 3A.

— If peak particle velocity (PPV), then use Table B and proceed to Steps 2B and 3B.

STEP 2A: Identify the vibration source and enter the reference vibration level (VdB) and distance.

STEP 3A: Select the distance to the receiver.

Table A. Propagation of vibration decibels (VdB) with distance

Noise Source/ID	Reference Noise Level			Attenuated Noise Level at Receptor		
	vibration level (VdB)	@	distance (ft)	vibration level (VdB)	@	distance (ft)
Hoe Ram	87	@	25	79.9	@	43
Vibratory Roller	87	@	25	79.9	@	43
Large Bulldozer	87	@	25	79.9	@	43
Loaded Trucks	70	@	25	79.9	@	12
Small Bulldozer	58	@	25	78.8	@	5

The Lv metric (VdB) is used to assess the likelihood for vibration to result in human annoyance.

STEP 2B: Identify the vibration source and enter the reference peak particle velocity (PPV) and distance.

STEP 3B: Select the distance to the receiver.

Table B. Propagation of peak particle velocity (PPV) with distance

Noise Source/ID	Reference Noise Level			Attenuated Noise Level at Receptor		
	vibration level (PPV)	@	distance (ft)	vibration level (PPV)	@	distance (ft)
Hoe Ram	0.089	@	25	0.237		13
Vibratory Roller	0.089	@	25	0.237		13
Large Bulldozer	0.089	@	25	0.237		13

The PPV metric (in/sec) is used for assessing the likelihood for the potential of structural damage.

Notes:

Computation of propagated vibration levels is based on the equations presented on pg. 185 of FTA 2018. Estimates of attenuated vibration levels do not account for reductions from intervening underground barriers or other underground structures of any type, or changes in soil type.

Federal Transit Association (FTA). 2018 (September). Transit Noise and Vibration Impact Assessment Manual. FTA Report No. 0123. Washington, D.C. Accessed: December 20, 2020. Page Available:

https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf

El Dorado Hills Costco EIR
Noise Source Characteristics - Existing Environment Noise

Name	Source group	Source type	Lw dB(A)	Emission spectrum	63Hz dB(A)	125Hz dB(A)	250Hz dB(A)	500Hz dB(A)	1kHz dB(A)	2kHz dB(A)	4kHz dB(A)	8kHz dB(A)
Clarksville Road	Environmental Noise	Line	111.0	Traffic Noise	92.5	96.5	100.6	103.6	106.5	104.5	99.6	94.5
Silva Valley Parkway	Environmental Noise	Line	112.0	Traffic Noise	93.5	97.5	101.6	104.6	107.5	105.5	100.6	95.5
State Route 50	Environmental Noise	Line	125.5	Traffic Noise	107.0	111.0	115.1	118.1	121.0	119.0	114.1	109.0

El Dorado HIlls Costco EIR
Contribution level - Existing Environment Noise Points

Source	Source group	Source type	Leq dB(A)
Receiver LT-1 Leq 56.8 dB(A)			
Clarksville Road	Environmental Noise	Line	47.9
Silva Valley Parkway	Environmental Noise	Line	42.3
State Route 50	Environmental Noise	Line	56.0
Receiver LT-2 Leq 52.4 dB(A)			
Clarksville Road	Environmental Noise	Line	44.1
Silva Valley Parkway	Environmental Noise	Line	47.5
State Route 50	Environmental Noise	Line	49.6

El Dorado Hills Costco EIR
Noise Source Characteristics - Operational Noise

Name	Source group	Source type	Lw	Emission spectrum	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	16kHz
			dB(A)		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
15 HVAC units	Operational Noise	Area	98.8	Exhaust air fan (max. 26.600 m³/h)	68.6	74.8	80.8	85.8	88.0	89.8	97.4	71.7	
Heavy Vehicles North Site	Operational Noise	Line	91.0	Truck: start the engine Lmax	72.5	76.5	80.6	83.6	86.5	84.5	79.6	74.5	
Heavy Vehicles South Site	Operational Noise	Line	91.0	Truck: start the engine Lmax	72.5	76.5	80.6	83.6	86.5	84.5	79.6	74.5	
Loading Dock	Operational Noise	Area	101.8	Truck: start the engine Lmax	83.3	87.3	91.4	94.4	97.3	95.3	90.4	85.3	
Parking Lots North Site	Operational Noise	Area	94.4	Car engine start	65.1	73.7	73.4	79.6	89.0	90.0	88.2	81.6	70.2
Parking Lots South Site	Operational Noise	Area	100.0	Car engine start	70.7	79.3	79.0	85.2	94.6	95.6	93.8	87.2	75.8
Tire Center	Operational Noise	Line	100.3	Fitting tires with impact wrench	54.1	66.7	76.6	82.7	91.0	97.3	94.7	89.1	77.1
Two Trash Compactors	Operational Noise	Point	97.7	C8.3 Waste compactor	70.1	84.2	79.7	89.1	95.3	88.5	85.3	83.2	

El Dorado HIlls Costco EIR
Contribution level - Operational Noise Points

Source	Source group	Source type	Leq dB(A)
Receiver LT-1 Leq 42.6 dB(A)			
Heavy Vehicles South Site	Operational Noise	Line	26.8
Heavy Vehicles North Site	Operational Noise	Line	23.1
15 HVAC units	Operational Noise	Area	29.9
Loading Dock	Operational Noise	Area	37.1
Parking Lots North Site	Operational Noise	Area	26.5
Parking Lots South Site	Operational Noise	Area	37.1
Tire Center	Operational Noise	Line	37.5
Two Trash Compactors	Operational Noise	Point	17.3
Receiver LT-2 Leq 42.0 dB(A)			
Heavy Vehicles South Site	Operational Noise	Line	16.1
Heavy Vehicles North Site	Operational Noise	Line	33.7
15 HVAC units	Operational Noise	Area	27.7
Loading Dock	Operational Noise	Area	16.1
Parking Lots North Site	Operational Noise	Area	36.6
Parking Lots South Site	Operational Noise	Area	35.5
Tire Center	Operational Noise	Line	36.8
Two Trash Compactors	Operational Noise	Point	6.3

El Dorado Hills Costco EIR
Noise Source Characteristics - Existing Plus Operational

Name	Source group	Source type	Lw	Emission spectrum	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	16kHz
			dB(A)		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
15 HVAC units	Operational Noise	Area	98.8	Exhaust air fan (max. 26.600 m³/h)	68.6	74.8	80.8	85.8	88.0	89.8	97.4	71.7	
Clarksville Road	Environmental Noise	Line	111.0	Traffic Noise	92.5	96.5	100.6	103.6	106.5	104.5	99.6	94.5	
Heavy Vehicles North Site	Operational Noise	Line	91.0	Truck: start the engine Lmax	72.5	76.5	80.6	83.6	86.5	84.5	79.6	74.5	
Heavy Vehicles South Site	Operational Noise	Line	91.0	Truck: start the engine Lmax	72.5	76.5	80.6	83.6	86.5	84.5	79.6	74.5	
Loading Dock	Operational Noise	Area	101.8	Truck: start the engine Lmax	83.3	87.3	91.4	94.4	97.3	95.3	90.4	85.3	
Parking Lots North Site	Operational Noise	Area	94.4	Car engine start	65.1	73.7	73.4	79.6	89.0	90.0	88.2	81.6	70.2
Parking Lots South Site	Operational Noise	Area	100.0	Car engine start	70.7	79.3	79.0	85.2	94.6	95.6	93.8	87.2	75.8
Silva Valley Parkway	Environmental Noise	Line	112.0	Traffic Noise	93.5	97.5	101.6	104.6	107.5	105.5	100.6	95.5	
State Route 50	Environmental Noise	Line	125.5	Traffic Noise	107.0	111.0	115.1	118.1	121.0	119.0	114.1	109.0	
Tire Center	Operational Noise	Line	100.3	Fitting tires with impact wrench	54.1	66.7	76.6	82.7	91.0	97.3	94.7	89.1	77.1
Two Trash Compactors	Operational Noise	Point	97.7	C8.3 Waste compactor	70.1	84.2	79.7	89.1	95.3	88.5	85.3	83.2	

El Dorado Hills Costco EIR
Contribution level - Existing Plus Operational Points

Source	Source group	Source	Leq dB(A)
Receiver LT-1 Leq 57.0 dB(A)			
15 HVAC units	Operational Noise	Area	29.9
Clarksville Road	Environmental Noise	Line	48.4
Heavy Vehicles North Site	Operational Noise	Line	23.1
Heavy Vehicles South Site	Operational Noise	Line	26.8
Loading Dock	Operational Noise	Area	37.1
Parking Lots North Site	Operational Noise	Area	26.5
Parking Lots South Site	Operational Noise	Area	37.1
Silva Valley Parkway	Environmental Noise	Line	42.9
State Route 50	Environmental Noise	Line	56.0
Tire Center	Operational Noise	Line	37.5
Two Trash Compactors	Operational Noise	Point	17.3
Receiver LT-2 Leq 52.6 dB(A)			
15 HVAC units	Operational Noise	Area	27.7
Clarksville Road	Environmental Noise	Line	44.4
Heavy Vehicles North Site	Operational Noise	Line	33.7
Heavy Vehicles South Site	Operational Noise	Line	16.1
Loading Dock	Operational Noise	Area	16.1
Parking Lots North Site	Operational Noise	Area	36.6
Parking Lots South Site	Operational Noise	Area	35.5
Silva Valley Parkway	Environmental Noise	Line	47.3
State Route 50	Environmental Noise	Line	49.3
Tire Center	Operational Noise	Line	36.8
Two Trash Compactors	Operational Noise	Point	6.3

Appendix J

CEQA Analysis

KITTELSON & ASSOCIATES

EL DORADO COSTCO CEQA ANALYSIS

El Dorado County, California

July 2025



Inside front cover

Page Intentionally blank

El Dorado Costco CEQA Analysis

El Dorado County, CA

Prepared for:
County of El Dorado
330 Fair Lane
Placerville, CA 95667

Prepared by:
Kittelson & Associates, Inc.
155 Grand Avenue, Suite 505
Oakland, CA 94612
510.839.1742

Project Manager:
Amy Lopez
Associate Planner

Project Principal:
Christopher Brehmer
Senior Principal Engineer

Project Number 26783

July 2025

Page Intentionally blank

CONTENTS

Introduction 1

CEQA Background & Significance Criteria 1

1. Consistency with Plans and Programs 2

Federal 2

State 2

Regional 3

County 3

Impact Finding 5

2. Impact to Regional VMT 6

VMT Data 6

VMT Assessment 10

Impact Finding 24

3. Potential Hazards 26

Impact Finding 27

4. Emergency Access 28

Impact Finding 28

Conclusion 29

LIST OF FIGURES

Figure 1. Proposed Site Plan 1
Figure 2. VMT Analysis – Existing Primary Warehouse Trips Shifted to New Warehouse 13
Figure 3. VMT Analysis – Existing Primary Gas Trips Shifted to New Warehouse 18

LIST OF TABLES

Table 1. Costco Warehouse Trip Characteristics 7
Table 2. Project Daily Trip Generation 9
Table 3. Folsom Costco Daily Trip Generation 9
Table 4. Average Primary Warehouse Trip Distances - Existing vs. Proposed 12
Table 5. Primary Warehouse Trip VMT – Shifting Existing Trips from Folsom Costco 12
Table 6. Primary Warehouse Trip VMT - New Trips 14
Table 7. Diverted Warehouse Trip Distances 14
Table 8. Diverted Warehouse Trip VMT – Shifting Existing Trips from Folsom Costco 15
Table 9. Diverted Warehouse Trip VMT – New Trips 15
Table 10. Average Primary Gas Trip Distances – Existing vs. Proposed 16
Table 11. Primary Gas Trip VMT – Shifting Existing Trips from Folsom Costco 17
Table 12. Primary Gas Trip VMT - Shifting Existing Trips from Non-Costco Gas Stations 19
Table 13. Diverted Gas Trip VMT – Shifting Existing Trips from Folsom Costco 20
Table 14. Diverted Gas Trip VMT – Shifting Existing Trips from Non-Costco Gas Stations 20
Table 15. Employee Trip VMT 21
Table 16. Change in Member Frequency Associated with New Warehouse Opening 21
Table 17. Latent Demand VMT 22
Table 18. Change in Regional Total VMT 23
Table 19: Trip Reduction Programs for Employees (Project/Site) 24
Table 20. Reduction in VMT Associated with Proposed TDM Mitigation Measures 26

Page intentionally blank.

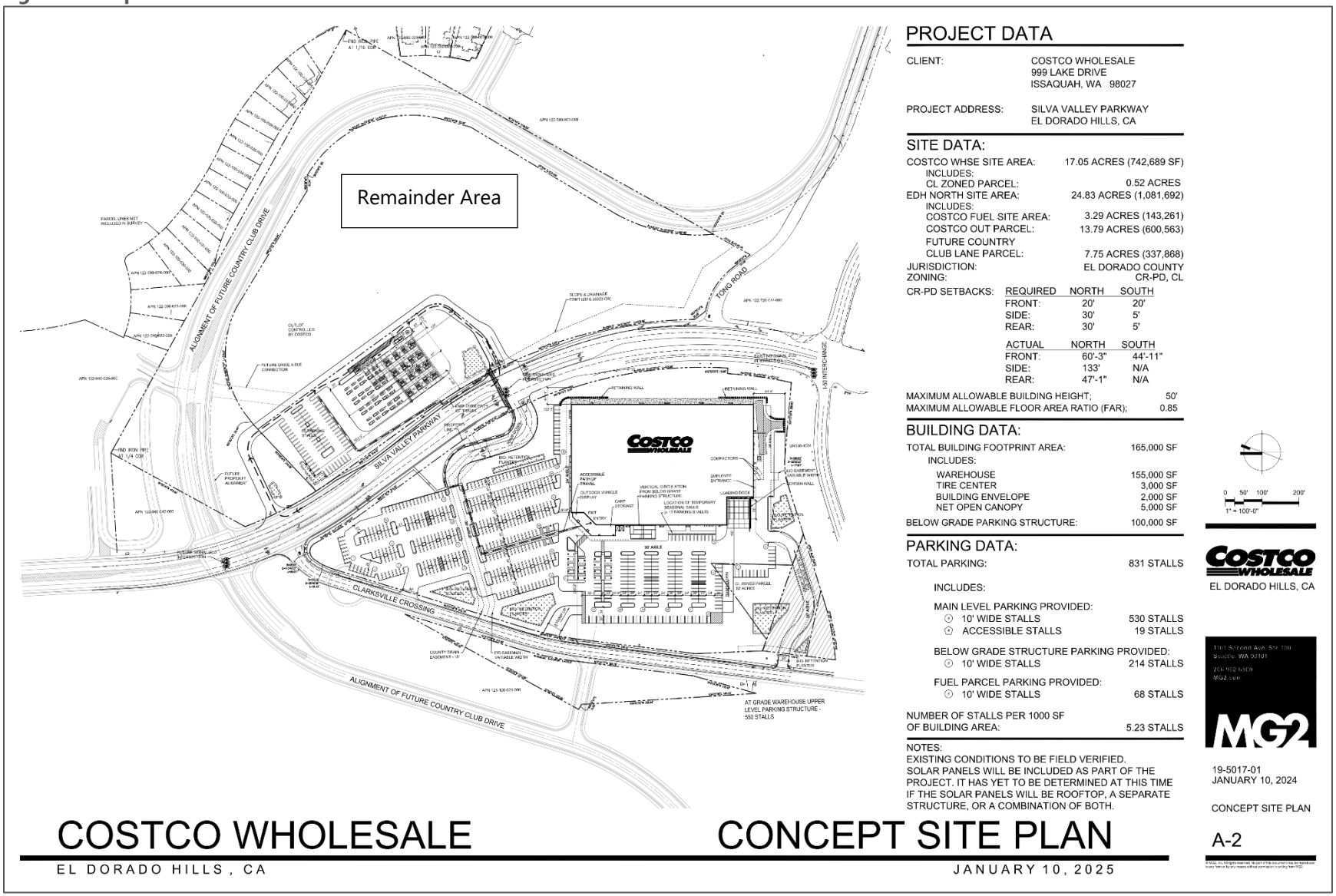
Introduction

Costco Wholesale (Costco) has proposed to construct an approximately 155,700 square foot warehouse retail facility and 30-fueling position fuel station (Project) in El Dorado County, CA along Silva Valley Parkway and just north of US 50. Silva Valley Parkway bifurcates the development with the warehouse retail building on the south side of the road and adjacent to Clarksville Crossing (South Site), and the fuel facility on the north side of the road (North Site). This report evaluates this Project under the California Environmental Quality Act (CEQA) to determine whether the Project would result in potentially significant impacts. Figure 1 presents the proposed Project site plan.

On the North Site, approximately 3.29 acres would be developed with a Costco members-only fuel facility and an employee parking area. The remainder of the North Site would include a 13.79 acre out-parcel that would remain undeveloped at this time (Remainder Area). Figure 1 presents the Remainder Area.

The Costco project proposes no development for the Remainder Area. However, development of the remainder area would be made more reasonably foreseeable by the proposed annexation of the entire North Site to the El Dorado Irrigation District and the El Dorado Fire District. Since such annexations are assumed to facilitate possible future development of the Remainder Area, even though there is not even a conceptual or contemplated plan for build out of that land, the analysis in this report conservatively assumes that such land would be developed consistent with the General Plan and zoning designations and density. The assumed total potential commercial development of the Remainder Area is approximately 138,000 square feet. This analysis programmatically studies development of the Remainder Area with 138,000 square feet of commercial uses.

Figure 1. Proposed Site Plan



CEQA Background & Significance Criteria

In January 2016, the California Office of Planning and Research (OPR), now the Governor's Office of Land Use and Climate Innovation (OLCI), published for public review and comment a Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA, recommending that transportation impacts for projects be measured using a vehicle miles traveled (VMT) metric. In December 2018, the California Natural Resources Agency certified and adopted the CEQA Guidelines update package, including the section implementing Senate Bill (SB) 743 (section 15064.3). OPR developed a Technical Advisory on Evaluating Transportation Impacts in CEQA, which contains OPR's technical recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures. The Board of Supervisors of the County of El Dorado adopted its own VMT significance thresholds for analyzing transportation impacts under CEQA, consistent with OPR's guidance, in October 2020 (Resolution 141-2020).[1]

The Project's impact is not considered to be significant unless it would:

a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.
b) Conflict or be inconsistent with CEQA Guideline section 15064.3, subdivision (b).
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
d) Result in inadequate emergency access.

Significance criterion "b" is related to the implementation of VMT as the primary performance metric. OPR recommends using a project's total VMT (as opposed to per-capita or per employee VMT) for retail projects because "… retail projects typically re-route travel from other retail destinations. A retail project might lead to increases or decreases in VMT, depending on previously existing retail travel patterns." Therefore, a project is considered to have a significant impact if it results in a net increase in existing regional VMT.

[1] https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/transportation/executed-resolution-141-2020.pdf

1. Consistency with Plans and Programs

The County of El Dorado (County) has jurisdiction over County streets and County-operated traffic signals. Caltrans has jurisdiction over State facilities and on- and off-ramp intersections with County streets. Kittelson reviewed the applicable programs, plans, ordinances, and policies that pertain to the Project's potential impacts on the transportation system.

FEDERAL

No federal plans, policies, regulations, or laws related to transportation and circulation were identified as applicable to the Project.

STATE

Senate Bill 743 (2020)

Senate Bill (SB) 743, passed in 2013, required the Governor's Office of Planning and Research (OPR) to develop new CEQA guidelines that address transportation metrics under CEQA. As stated in the legislation, upon adoption of the new guidelines, "automobile delay, as described solely by LOS or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment pursuant to this division, except in locations specifically identified in the guidelines, if any."

OPR published its proposal for the comprehensive updates to the CEQA Guidelines in November 2017 which included proposed updates related to analyzing transportation impacts pursuant to Senate Bill 743. These updates indicated that vehicle miles traveled (VMT) be the primary metric used to identify transportation impacts. In December of 2018, OPR published the most recent version of the Technical Advisory on Evaluating Transportation Impacts (December 2018) which provides guidance for VMT analysis.

The updated CEQA Guidelines were adopted on December 28, 2018. According to the new CEQA Guidelines (Section 15064.3), VMT replaces congestion as the metric for determining transportation impacts. The guidelines state, "Beginning July 1, 2020, the provisions of this section shall apply statewide."

State of California General Plan Guidelines (Governor's Office of Planning and Research 2017)

The State of California General Plan Guidelines, published in 2017, assists local governments in preparing general plans by providing detailed guidelines which streamline the process of updating general plans. The document provides free online tools and resources, promotes increased use of online data, and includes templates, sample policies and links to more information. The transportation section of this document notes objectives including designing with complete streets, improving safety for all modes, and improving air quality and health.

REGIONAL

2021-24 Metropolitan Transportation Improvement Program (Sacramento Area Council of Governments 2021)

The Metropolitan Transportation Improvement Program (MTIP) is a comprehensive listing of transportation projects that receive federal funds, require federal action, or are regionally significant. The MTIP includes transit, highway, local roadway, bicycle, and pedestrian investments. Projects in the MTIP are included in the federal TIP and the state TIP. Some features of the MTIP are that it: Addresses the federal requirements as identified in the Fixing America's Surface Transportation Act (FAST Act); covers four years of programming; includes approximately 520 projects total; programs over $2.4 billion of the over $3.9 billion of reasonably available federal, state, and local funding during the four-year period.

2020 Metropolitan Transportation Plan/Sustainable Communities Strategy (Sacramento Area Council of Governments 2020)

The 2020 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) lays out a transportation investment and land use strategy to support a prosperous region, with access to jobs and economic opportunity, transportation options, and affordable housing that works for all residents. The plan also lays out a path for improving air quality, preserving open space and natural resources, and helping California achieve its goal to reduce greenhouse gas emissions that contribute to climate change. The Plan has four priority policy areas: build vibrant places for today's and tomorrow's residents; foster the next generation of mobility solutions; modernize the way we pay for transportation infrastructure; build and maintain a safe, reliable and multimodal transportation system.

COUNTY

El Dorado County Active Transportation Plan (El Dorado County Transportation Commission 2020)

The Active Transportation Plan establishes a long-term vision for improving walking and bicycling in El Dorado County. The plan provides a set of recommended infrastructure improvements and studies paired with education, encouragement, enforcement, and evaluation programs. This document also provides a strategy to ensure implementation of these projects and programs is manageable and fundable.

County of El Dorado General Plan (County of El Dorado 2019)

The El Dorado County General Plan policies and strategic actions that are relevant to the transportation and circulation impacts analyzed in this Project are listed below.

- Goal TC-X: To coordinate planning and implementation of roadway improvements with new development to maintain adequate levels of service on County roads.
    - Policy TC-Xg: Each development project shall dedicate right-of-way, design and construct or fund any improvements necessary to mitigate the effects of traffic from the project. The County shall require an analysis of impacts of traffic from the development project, including impacts from truck traffic, and require dedication of needed right-of-way and construction of road facilities as a condition of the development. This policy shall remain in effect indefinitely unless amended by voters.

- Goal TC-3: To reduce travel demand on the County's road system and maximize the operating efficiency of transportation facilities, thereby reducing the quantity of motor vehicle emissions and the amount of investment required in new or expanded facilities.
    - Policy TC-3c: The County shall encourage new development within Community Regions and Rural Centers to provide appropriate on-site facilities that encourage employees to use alternative transportation modes. The type of facilities may include bicycle parking, shower and locker facilities, and convenient access to transit, depending on the development size and location.

- Goal TC-5: to provide safe, continuous and accessible sidewalks and pedestrian facilities as a viable alternative transportation mode.
    - Policy TC-5b: In commercial and research and development subdivisions, curbs and sidewalks shall be required on all roads. Sidewalks in industrial subdivisions may be required as appropriate.

Western El Dorado County Short- and Long-Range Transit Plan (El Dorado County Transportation Commission 2019)

The Western El Dorado County Short- and Long-Range Transit Plan focuses on improving and enhancing public transit services in the coming years. The plan presents detailed, financially constrained improvements for future services and provides a more generalized long-range plan for El Dorado County. The plan includes short- and long-range transit service and capital improvements. Key points in the short-range service plan include establishing a 50 Express service, an El Dorado Hills Wednesday Activity Bus, and extended hours. Key points in the long-range plan include hourly service on the 50 Express Route and greater frequency of local routes.

El Dorado County Traffic Impact Mitigation Fee Program (County of El Dorado 2016)

The County utilizes its Capital Improvement Program (CIP) to identify and prioritize future transportation investments to meet the County's existing and future transportation needs. CIP projects can include roadways, intersections, sidewalks, bicycle lanes, traffic calming treatments, transit service improvement projects, and ongoing administrative costs for transportation monitoring programs, including traffic model update costs, traffic study guideline updates, and updates to the Circulation Element to the County's General Plan. Funding from most CIP projects is provided from a variety of sources including state and/or federal grants, and the County's Traffic Impact Mitigation (TIM) Fee Program. This program is required by General Plan Policy TC-Xb.

The TIM Fee Program is used to fund needed improvements including roadway widening, new roadways, roadway intersection improvements, and transit to deal with future growth during a defined period of time. Major updates to the CIP and TIM Fee Program are made by the County every five years as required by State law and General Plan policies. The most recent update to the Western Slope Roadway CIP and TIM Fee Program was completed and certified by the County Board of Supervisors in 2016, with amendments adopted as recently as June 2018. The current TIM Fee Program is based on 20 years of growth and TIM Fee Program-funded improvements are part of the CIP.

El Dorado County Regional Transportation Plan 2035 (El Dorado County Transportation Commission 2015)

The El Dorado County Transportation Commission is the Regional Transportation Planning Agency (RTPA) for El Dorado County (excluding the Tahoe Basin) and is responsible for the preparation of the El Dorado County Regional Transportation Plan (RTP). The current El Dorado County Regional Transportation Plan 2015 – 2035 was developed to guide the systematic development of a balanced, comprehensive, multi-modal transportation system. The RTP was developed to provide a clear vision of the regional transportation goals, objectives, and policies, complemented by short-term and long-term strategies for implementation. The El Dorado County RTP also serves as the El Dorado County portion of the Sacramento Area Council of Governments (SACOG) MTP.

IMPACT FINDING

Project Impact. The Project will develop a warehouse retail facility on an undeveloped parcel within El Dorado County with direct access to existing transportation facilities, including regional routes such as US-50. The proposed Costco facility will provide nearby members with a more convenient option and would benefit the local economy.

The Project will not require substantial modifications to the transportation network and would not explicitly conflict with any program, plan, ordinance, or policy addressing the circulation system, including those relating to transit, bicycle, or pedestrian facilities. Furthermore, the development of the Project will entail development review by the County and compliance with County land development and site access standards and policies. Therefore, the Project impact due to a conflict with existing plans, ordinances, or policies will be less than significant.

Remainder Area Impact. The Project proposes no development for the North Site Remainder Area. There are existing Class II bicycle facilities along Silva Valley Parkway. Like the Project, the development of the Remainder Area will entail development review by the County and compliance with County land development and site access standards and policies. Therefore, the Remainder Area impact due to a conflict with existing plans, ordinances, or policies is anticipated to be less than significant.

2. Impact to Regional VMT

The potential for an impact due to regional vehicle miles traveled (VMT) is evaluated by comparing the expected future condition (members traveling to/from the new facility) to the existing condition (members traveling to/from other existing facilities). Consistent with OPR's recommendations, this analysis considers a project to have a significant impact if it results in a net increase in existing regional VMT.

VMT DATA

This section provides an overview of the proprietary Costco membership data, transaction data, and member trip data that were used in this analysis.

Trip Generation Estimates

Trip generation estimates for each trip type were developed for the warehouse and fuel facility using trip rates from a database of proprietary Costco traffic data and travel characteristics maintained by Kittelson & Associates, Inc. (Kittelson).

COSTCO TRIP DATABASE

For more than 20 years, Kittelson has maintained a database of trip data and travel characteristics for Costco Wholesale. The database contains transportation information such as trip rates and trip type percentages for Costco locations throughout the United States as well as Canada and Mexico. The database is updated periodically when new Costco traffic counts or other such information become available to Kittelson. To best evaluate the anticipated transportation characteristics of the proposed warehouse in El Dorado County, Kittelson used the Costco trip database to develop a trip generation estimate as it provides use-specific data that most accurately represents the anticipated transportation characteristics of this unique development type.

The warehouse trip rates summarized herein rely on data collection conducted at Costco sites located across the western region of the United States. The trip studies were completed using industry standard engineering practices consistent with guidance within the Institute of Transportation Engineers (ITE) standard reference, Trip Generation Manual, 11th Edition. These cordon surveys were conducted between 2011 and 2024 and include 24 surveys of Costco warehouses with fuel stations in California, Arizona, Oregon, Utah, and Washington. The Costco buildings surveyed range in size between 115,707 square feet and 235,298 square feet, with an average size of 156,293 square feet. The existing Costco locations all included fuel stations, ranging from 20 to 32 fueling positions. Most Costco warehouses have an attached tire center for tire sales and installation, including the Project. The tire center is an ancillary use to the warehouse, and trips associated with the tire center are captured in the overall trip generation of a site. The data used for analysis of the Project includes trip data for warehouses with tire centers.

Internal (or shared) trip percentages, or the percentage of trips to the site that visit more than one Costco facility (e.g. warehouse *and* fuel facility,) are derived from Costco member transaction data – a trip is considered an internal trip if a member completed a transaction at two Costco facilities on site within one 90-minute window. Primary, pass-by, and diverted trip percentages were derived from member surveys

taken at existing Costco warehouses and fuel facilities. These trip types are described in more detail below.

Table 1 summarizes trip characteristics for weekday AM and PM peak hours, Saturday midday peak hour, and weekday daily. This VMT analysis only considers the weekday daily trip generation.

Table 1. Costco Warehouse Trip Characteristics

Land Use / Trip Type	Weekday Daily Trip Rate (per KSF)	Weekday AM Peak Rate			Weekday PM Peak Rate			Saturday Midday Peak Rate		
		Total	In	Out	Total	In	Out	Total	In	Out
Costco Warehouse	94.6	3	55%	45%	8.2	47%	53%	10.9	49%	51%
Internal Trips	14%	14%			13%			14%		
Primary Trips	38%*	10%			38%			46%		
Pass-by Trips	23%*	36%			23%			19%		
Diverted Trips	26%*	40%			26%			21%		

Source: Kittelson & Associates, Inc., 2025

*No data available for weekday daily primary, pass-by, and diverted trip percentages. Weekday PM peak values are assumed.

TRIP TYPES

Since travel behaviors and average trip distances (and therefore VMT) may differ between trips made to the warehouse versus trips made to the fuel facility, this analysis separates these trip types and evaluates the contribution of each trip type toward a potential impact to regional VMT. Trip types evaluated in the VMT analysis are described below.

- A **warehouse trip** is a member trip to the Costco *warehouse* facility. These trips may also include a shared trip to another facility within the development (e.g., fuel facility) but are assumed to be driven to the development by the warehouse (*warehouse-only trips* + *shared warehouse/fuel trips*).
    - A **primary warehouse trip** is a trip that motivates travel in the first place with a destination (i.e., the warehouse) that terminates the travel session. These are trips made to the warehouse or warehouse *and* fuel facility that are assumed to return to their previous location once all purchase transactions are complete. For this Project, these trips may be existing trips that are expected to shift from nearby Costco locations or new trips on the transportation network. The assumption that any trip not shifting from another Costco location is a new trip on the network is a conservative assumption since the analysis intentional avoids attempting to assume trips to existing non-Costco, large format retail facilities would shift to the Project.
    - A **pass-by warehouse trip** is a trip made during the course of an existing primary trip that does not require deviating from the primary trip route and already is passing by the Project site. Since these trips are assumed to have a trip distance of zero miles, they do not affect regional VMT, and thus pass-by trip VMT is not measured in this analysis.
    - A **diverted warehouse trip** is a trip made during the course of a primary trip that requires deviating from the primary trip route. For this analysis, these trips are assumed to originate from primary trips along US-50, from which members deviate from their original path to visit the warehouse or warehouse and fuel facility. They consist of both existing trips that

are expected to shift from nearby Costco locations and new trips on the transportation network.

- A **gas trip** is a member trip made to the Costco *fuel* facility that does not include a visit to the warehouse. These trips are considered separate from warehouse trips since they have unique characteristics that affect VMT *(Gas-only trips)*.
    - A **primary gas trip** is a trip that motivates travel in the first place with a destination (i.e., the fuel facility) that terminates the travel session. These are trips made to the fuel facility that are assumed to return to their previous location once the purchase transaction is complete. For this Project, these trips are assumed to be existing trips on the transportation network that would otherwise be made at other Costco fuel facilities or existing non-Costco gas stations and would shift to the new facility. None of these trips are assumed to be new on the roadway network as gas purchasing is motivated by a household's driving behaviors and is not motivated by the mere presence of a gas station (i.e., people who would buy gas at the Costco fuel station already are buying gas somewhere today).
    - A **pass-by gas trip** is a trip made during the course of a primary trip that does not require deviating from the primary trip route. Since these trips are assumed to have a trip distance of zero miles, they do not affect regional VMT, and thus pass-by trip VMT is not measured in this analysis.
    - A **diverted gas trip** is a trip made during the course of a primary trip that requires deviating from the primary trip route. For this analysis, these trips are assumed to originate from primary trips along US-50, from which members deviate from their original path to visit the warehouse or warehouse and fuel facility. They are assumed to be existing trips on the transportation network that would otherwise divert to nearby Costco fuel facilities or non-Costco gas stations.

- An **employee trip** is a trip made by an employee to or from the new facility. These trips are assumed to be new primary trips on the transportation network.

Table 2 shows the anticipated weekday daily trip generation for the Project. These values are used to calculate VMT associated with Costco members and employees in subsequent sections of this report. As shown in the table, the Project is expected to generate 14,729 weekday trips, which includes 8,350 total warehouse trips, 5,779 gas-only trips, and 600 employee trips.

Table 3 shows the estimated weekday daily trip generation for the nearby Folsom Costco, since a portion of Project trips are expected to shift from this location. The estimate was developed using driveway counts and fuel facility counts at the Folsom location, as well as member surveys and member transaction data.

Table 2. Project Daily Trip Generation

Trip Type	Weekday Daily Trip Ends
Total Trips	**14,729**
Total Warehouse Trips[1]	**8,350**
Primary Warehouse Trips	5,538
Pass-by Warehouse Trips	1,454
Diverted Warehouse Trips	1,358
Total Gas Trips[2]	**5,779**
Primary Gas Trips	1,667
Pass-by Gas Trips	1,796
Diverted Gas Trips	2,316
Total Employee Trips	**600**
Primary Employee Trips	600
Pass-by Employee Trips	0
Diverted Employee Trips	0

Source: Kittelson & Associates, Inc., 2025

[1] Shared warehouse/gas trips are included in this value since the warehouse is the primary use of the site and is expected draw these shared trips; these trips share characteristics in terms of travel time and distance that influence VMT

[2] Gas-Only trips

Table 3. Folsom Costco Daily Trip Generation

Trip Type	Weekday Daily Trip Ends
Total Trips	**15,476**
Total Warehouse Trips[1]	**8,624**
Primary Warehouse Trips	5,784
Pass-by Warehouse Trips	1,478
Diverted Warehouse Trips	1,362
Total Gas Trips[2]	**6,252**
Primary Gas Trips	1,803
Pass-by Gas Trips	1,943
Diverted Gas Trips	2,506
Total Employee Trips	**600**
Primary Employee Trips	600
Pass-by Employee Trips	0
Diverted Employee Trips	0

Source: Kittelson & Associates, Inc., 2025

[1] Shared warehouse/gas trips are included in this value since the warehouse is the primary use of the site and is expected draw these shared trips; these trips share characteristics in terms of travel time and distance that influence VMT

[2] Gas-Only trips

Costco Member/Transaction Data

To understand how Costco member VMT in the region may change with the addition of the Project, the following data regarding Costco members, market areas, and transactions were compiled.

- Aggregated home locations of Costco members who shopped at an existing Costco facility in the Project area during September 2024, grouped into 1-square-mile zones.
    - Folsom Costco – located approximately 4 miles southwest of the Project at 1800 Cavitt Drive in Folsom, CA
- Number of visits to the existing Folsom Costco in September 2024 made by members in each 1-square-mile zone, separated into warehouse-only visits, gas-only visits, and shared warehouse/gas visits. A member visit was assumed to be a shared warehouse/gas visit if transactions were made at both the warehouse and the fuel facility within a 90-minute period.
- Market areas of the existing Folsom Costco and proposed El Dorado Costco locations

VMT ASSESSMENT

This section presents the VMT analysis methodology and findings for each trip type provided in Table 2.

Warehouse Trip VMT

Warehouse trip VMT refers to the daily miles traveled by members to and from the warehouse. Warehouse trip VMT includes trips made to the warehouse *only* as well as trips made to both the warehouse and on-site fuel facility and includes both primary and diverted trips.

PRIMARY WAREHOUSE TRIPS

Primary warehouse trips made by members to the Project site are expected to either 1) replace existing warehouse trips to the Folsom Costco or 2) be new trips made on the transportation network. This section assesses VMT associated with primary warehouse trips.

SHIFT FROM EXISTING COSTCO LOCATIONS

The first component of the VMT analysis evaluates how the VMT associated with Costco members making primary trips to an existing Costco warehouse may change with the addition of a new location in El Dorado County. The new location provides another option for existing Costco members and results in lower average trip lengths for members who choose to shift their existing trip to a more convenient location.

A spatial analysis was conducted to determine which Costco members would likely shift their existing trips and to derive the associated effect to regional VMT. ArcGIS Online software was used to calculate average trip distances to the existing Folsom Costco and the proposed new facility for two scenarios: without and with the new facility. The software determined the most convenient routes between each 1-square-mile zone and the existing Folsom Costco. Average trip distances were calculated using proprietary Costco transaction data from September 2024. This analysis was then conducted assuming the presence of the new El Dorado facility and assuming members would visit the Costco location most convenient to them

(i.e., the one located within the shortest travel time from their homes). The following provides more details regarding the methodology and assumptions of this analysis:

- The center of each 1-square-mile zone was used for the starting/ending point of member trips (see Figure 2).

- The data provided by Costco includes information regarding warehouse-only and shared warehouse/gas visits at the existing Folsom Costco in September 2024. The member transactions were limited to those made by members who live within Costco's pre-defined market areas for the Folsom and El Dorado locations. This subset is used as a proxy for primary trips; transactions made by members whose homes are far from the site and were likely associated with pass-by or diverted trips (instead of primary trips beginning and ending at members' homes) are eliminated from the dataset.

- Each transaction is assumed to correspond to two one-way trips between the members' homes and the Costco facility (i.e., one roundtrip).

- To calculate the average primary trip lengths to the existing Folsom Costco, trip distances between each 1-square-mile zone and the existing facility were determined using ArcGIS online software. Trips were routed based on minimum travel time (as opposed to shortest distance recognizing shorter distances along low-speed streets can result in longer travel times). These distances were then multiplied by the number of transactions made at facility by members within each 1-square-mile zone to calculate the total one-way miles traveled by members to the Folsom Costco. This value divided by the average daily visits provides the average one-way trip length. Table 4 shows the average existing trip lengths.

- To calculate the average primary trip length when the new warehouse opens in El Dorado County, first it was determined which existing Costco members would shift their trips to the new facility. For this analysis, it was assumed that if the travel time from a 1-square mile zone to the new location was less than the travel time to the existing Folsom location, all members within that zone would choose to shop at the new location. In other words, all trips currently made from that zone to an existing Costco location are assumed to shift to the new location. For zones that are closer (by travel time) to the Folsom Costco, no shift was made, and trips by members in those zones were assumed to remain as they are today. Figure 2 shows the approximate home locations of existing Costco members whose primary warehouse trips are assumed to shift from the Folsom Costco to the El Dorado Costco.

- The proprietary transaction data is used to calculate 1) the average trips lengths for the existing and proposed conditions and 2) the percentage of existing trips expected to shift to the new facility. The transaction data is *not* used to estimate trip generation; a separate trip generation estimate based on trip generation data collected at other Costco warehouse retail facilities with fuel stations (as previously described) is used to compute VMT.

Table 4 provides the average primary warehouse trip distances for the existing and Project conditions (8.90 miles and 7.20 miles, respectively), as well as the portion of existing primary warehouse trips expected to shift from the Folsom warehouse (55%). Table 5 shows how these values are used in combination with the trip generation estimates presented in Table 2 and Table 3 to determine how the shifting of primary warehouse trips affects regional VMT.

Table 4. Average Primary Warehouse Trip Distances - Existing vs. Proposed

Costco Location	Existing			Proposed (after El Dorado location opens)		
	Daily Transactions	Total One-Way Distance (vehicle miles)	Average One-Way Trip Distance (mi)	Daily Transactions	Total One-Way Distance (vehicle miles)	Average One-Way Trip Distance (mi)
Folsom	3,828	34,071	8.90	1,733	6,748	3.89
El Dorado	-	-	-	2,095	20,817	9.94
Total	**3,828**	**34,071**	**8.90**	**3,828**	**27,565**	**7.20**

Source: Kittelson & Associates, Inc., 2025

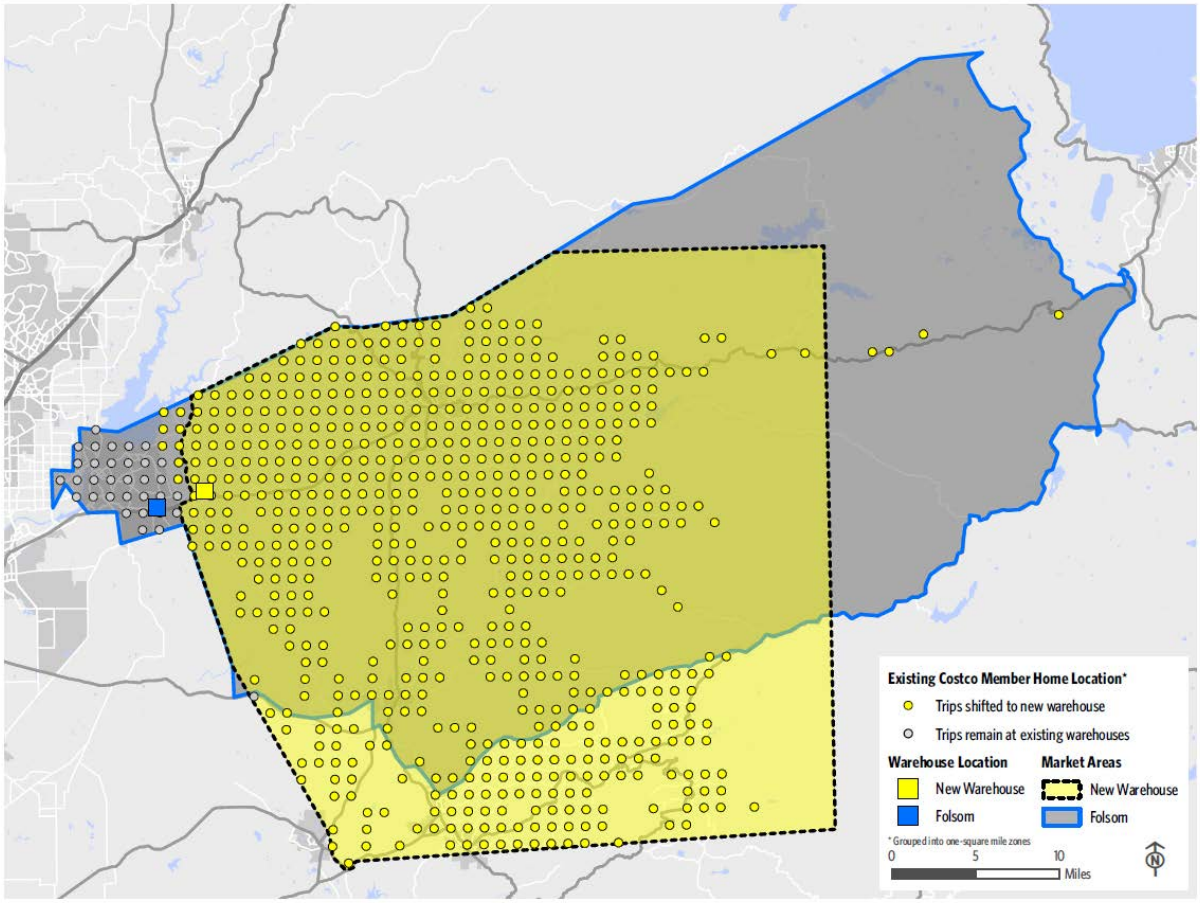
Table 5. Primary Warehouse Trip VMT – Shifting Existing Trips from Folsom Costco

Scenario / Location	Primary Warehouse Trip Length (mi)	Primary Warehouse Trips	Primary Warehouse Trip VMT
Existing Conditions	**8.90**	**5,784**	**51,478**
Folsom	8.90	5,784	51,478
Future Conditions	**7.20**	**5,784**	**41,648**
Folsom	3.89	2,619	10,188
El Dorado	9.94	3,165	31,460
		Change in Regional VMT	**-9,830**

Source: Kittelson & Associates, Inc., 2025

As shown in Table 5, the opening of the new warehouse in El Dorado County is expected to result in 3,165 daily existing primary warehouse trips to the Folsom Costco to shift to the new facility. This shift will result in a decrease in regional VMT of 9,830 miles.

Figure 2. VMT Analysis – Existing Primary Warehouse Trips Shifted to New Warehouse



NEW PRIMARY WAREHOUSE TRIPS

As shown in Table 5, 3,165 of the estimated 5,538 primary warehouse trips are expected to shift from the nearby Folsom Costco. The remaining 2,373 trips are assumed to be new trips on the network, made by existing or new members who previously would not have made a trip to a Costco location.

Table 6 presents the VMT associated with new primary warehouse trips. Assuming a trip length of 9.94 (developed through the previous analysis and presented in Tables 3 and 4), new primary warehouse trips are expected to generate approximately 23,588 daily vehicle miles.

Table 6. Primary Warehouse Trip VMT - New Trips

Primary Warehouse Trip Length (mi)	New Primary Warehouse Trips	New Primary Warehouse Trip VMT
9.94	2,373	**+23,588**

Source: Kittelson & Associates, Inc., 2025

DIVERTED WAREHOUSE TRIPS

The Project is expected to generate 1,358 daily diverted warehouse trips, which are assumed to originate from US-50. Since the Folsom Costco is located in close proximity to the Project (about 4 miles to the west) and currently generates diverted trips off US-50, a portion of the Project's diverted warehouse trips are expected to replace existing trips to the Folsom Costco. The remaining trips are assumed to be new diversions made on the transportation network. This section assesses VMT associated with diverted warehouse trips.

SHIFT FROM EXISTING COSTCO LOCATIONS

Based on the GIS exercise completed for the primary warehouse trip VMT assessment, approximately 55% of Folsom Costco's diverted warehouse trips are expected to shift to the new location in El Dorado County. To determine how this shift will affect the VMT associated with these trips, average diversion distances were calculated for both the existing Folsom and proposed El Dorado warehouses. Trip distances reflect the average distance traveled to divert from the original path (US-50) to visit the facility (inbound) and to return to the original path, minus any progress made toward the original trip (outbound). Table 7 presents the diverted warehouse trip distances for the Folsom and El Dorado warehouses.

Table 7. Diverted Warehouse Trip Distances

Diversion Route	Trip Distance to Folsom Warehouse (mi)	Trip Distance to El Dorado Warehouse (mi)
US-50 Westbound	0.33	0.13
US-50 Eastbound	0.43	0.23
Average	**0.38**	**0.18**

Source: Kittelson & Associates, Inc., 2025

Table 8 presents the VMT associated with shifting existing diverted warehouse trips from the Folsom Costco. As shown in the table, Project trips are expected to replace 745 of the existing trips to Folsom, resulting in a decrease in regional VMT of 150 miles.

Table 8. Diverted Warehouse Trip VMT – Shifting Existing Trips from Folsom Costco

Scenario / Location	Diverted Warehouse Trip Length (mi)	Diverted Warehouse Trips	Diverted Warehouse Trip VMT
Existing Conditions	**0.38**	**1,362**	**518**
Folsom	0.38	1,362	518
Future Conditions	**0.27**	**1,362**	**368**
Folsom	0.38	617	234
El Dorado	0.18	745	134
		Change in Regional VMT	**-150**

Source: Kittelson & Associates, Inc., 2025

NEW DIVERTED WAREHOUSE TRIPS

As shown in Table 8, 745 of the estimated 1,358 diverted warehouse Project trips are expected to shift from the nearby Folsom Costco. The remaining 613 trips are assumed to be new trips on the network, made by existing or new members who previously would not have made a diverted trip to a Costco location.

Table 9 presents the VMT associated with new diverted warehouse trips. Assuming a trip length of 0.18 (presented in Table 7), new diverted warehouse trips are expected to generate approximately 110 daily vehicle miles.

Table 9. Diverted Warehouse Trip VMT – New Trips

Diverted Warehouse Trip Length (mi)	New Diverted Warehouse Trips	New Primary Warehouse Trip VMT
0.18	613	**+110**

Source: Kittelson & Associates, Inc., 2025

Gas Trip VMT

Gas Trip VMT refers to the daily miles traveled by members to and from the fuel facility. Gas Trip VMT includes primary and diverted trips made to the fuel facility *only* and does not include trips made to both the warehouse and fuel facility[2]. All Project gas trips are assumed to be existing trips on the transportation network that are currently being made at nearby Costco fuel facilities or non-Costco gas stations since people's demand for gas is based on household driving trends and not on the mere presence of gas stations.

PRIMARY GAS TRIPS

Primary gas trips made by members to the Project site are expected to 1) replace existing primary gas trips to the Folsom Costco or 2) replace existing primary gas trips to non-Costco gas stations. This section assesses VMT associated with primary gas trips.

[2] Shared trips are accounted for in the "Warehouse Trip VMT" analysis

SHIFT FROM EXISTING COSTCO LOCATIONS

The same spatial analysis conducted for the primary warehouse trips was conducted using data regarding gas trips to determine which Costco members would likely shift their existing trips from the Folsom Costco to the new location. ArcGIS Online software was used to calculate average trip distances to the existing and proposed fuel facilities, without and with the new facility. The data provided by Costco and used in this analysis includes information regarding gas-only visits at the existing Folsom Costco in September 2024.

The methodology and assumptions described in the "Primary Warehouse Trips" section of this report also apply to this analysis with one key difference: for warehouse trips, the pre-defined Costco market areas served as boundaries to determine which member transactions were assumed to be associated with primary trips to the warehouse. However, since gas-only trips are assumed to be relatively short trips of convenience, member gas transactions were limited to those made by member households within a 10-minute drive of each site. This eliminates transactions made by members whose homes are farther from the site and were likely associated with pass-by or diverted trips (instead of primary trips beginning and ending from members' homes). Figure 3 shows the approximate home locations of members expected to shift their existing gas trips from the Folsom location to the new location in El Dorado County.

Table 10 provides the average trip distances for the existing and proposed conditions (2.30 miles and 2.18 miles, respectively), as well as the portion of existing primary gas trips expected to shift from the Folsom warehouse (8%). Table 11 shows how these values are used (with the trip generation estimates presented in Table 2 and Table 3) to determine how the shifting of primary gas trips affects regional VMT.

Table 10. Average Primary Gas Trip Distances – Existing vs. Proposed

Costco Location	Existing			Proposed (after El Dorado location opens)		
	Daily Transactions	Total One-Way Distance (vehicle miles)	Average One-Way Trip Distance (mi)	Daily Transactions	Total One-Way Distance (vehicle miles)	Average One-Way Trip Distance (mi)
Folsom	419	963	2.30	384	827	2.15
El Dorado	-	-	-	35	88	2.50
Total	**419**	**963**	**2.30**	**419**	**915**	**2.18**

Source: Kittelson & Associates, Inc., 2025

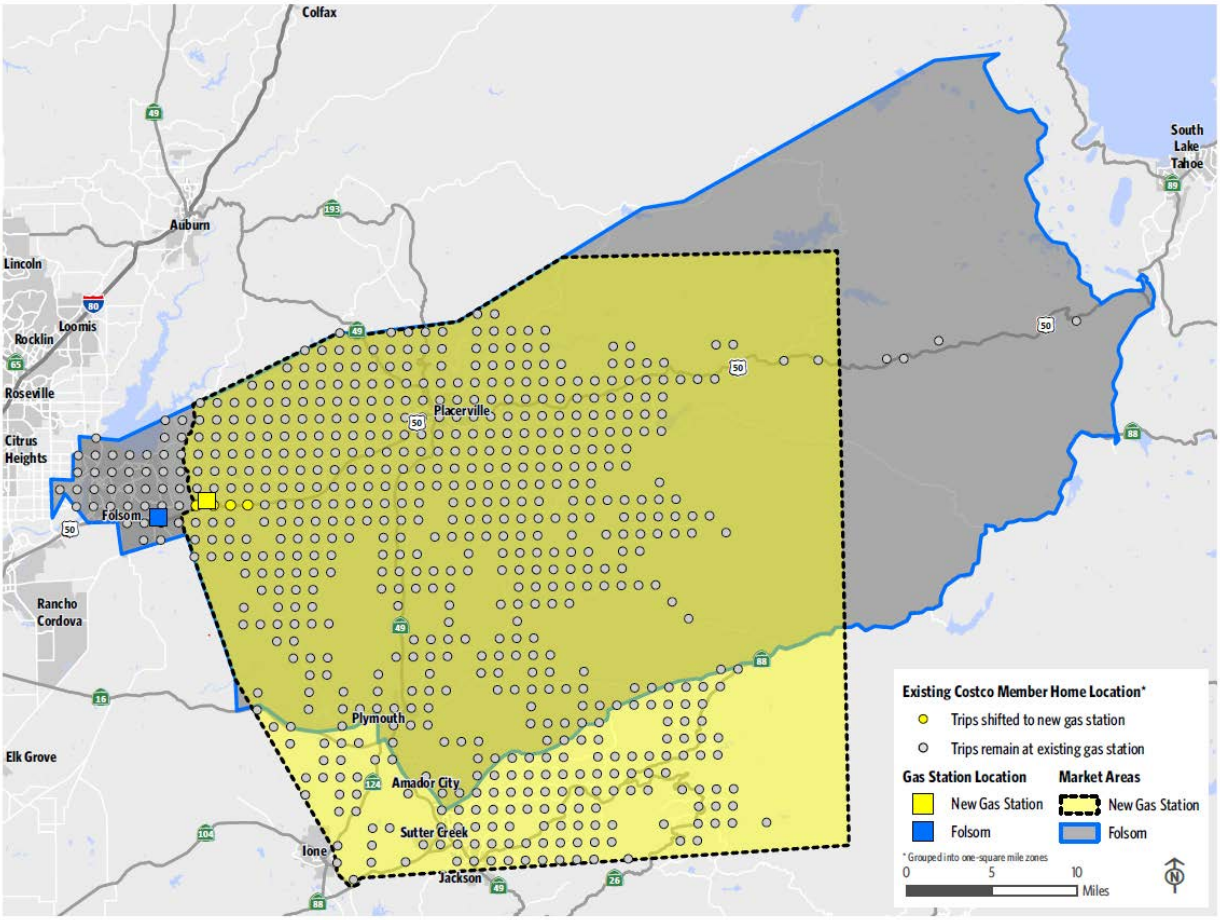
Table 11. Primary Gas Trip VMT – Shifting Existing Trips from Folsom Costco

Scenario / Location	Primary Gas Trip Length (mi)	Primary Gas Trips	Primary Gas Trip VMT
Existing Conditions	**2.30**	**1,803**	**4,147**
Folsom	2.30	1,803	4,147
Future Conditions	**2.18**	**1,803**	**3,929**
Folsom	2.15	1,652	3,552
El Dorado	2.50	151	378
		Change in Regional VMT	**-218**

Source: Kittelson & Associates, Inc., 2025

As shown in Table 11, the opening of the new warehouse in El Dorado County is expected to result in 151 daily existing primary gas trips to the Folsom Costco to shift to the new facility. This shift will result in a decrease in regional VMT of 218 miles.

Figure 3. VMT Analysis – Existing Primary Gas Trips Shifted to New Warehouse



SHIFT FROM EXISTING NON-COSTCO GAS STATIONS

As shown in Table 11, 151 of the estimated 1,667 primary gas trips are expected to shift from the nearby Folsom Costco. The remaining 1,516 trips are assumed to be existing trips shifted from non-Costco as stations in the vicinity of the Project.

To determine how these trips will affect regional VMT, a similar GIS exercise to the one previously described was completed to understand the difference in average trip lengths between 1) members' homes and the new Costco fuel facility and 2) members' homes and the closest non-Costco gas station.

- For all member households within 10 minutes of the new facility, the average distance to the new Costco fuel facility (when accounting for minimal travel time) is 3.76 miles.
- For these same households, the average distance to their nearest non-Costco gas station is 1.92 miles. This value was determined using ArcGIS online to route each member household 1-square-mile zone to the nearest gas station, using a shapefile consisting of all gas stations in California provided by the California Energy Commission[3].

Table 12 shows the change in VMT associated with 1,516 existing primary gas trips shifting from non-Costco gas stations to the new facility. As shown in the table, the average trip distance for these trips is expected to increase from 1.92 miles to 3.76 miles, increasing regional VMT by about 2,789 miles.

Table 12. Primary Gas Trip VMT - Shifting Existing Trips from Non-Costco Gas Stations

	Primary Gas Trips	Average Trip Distance (mi)	VMT
Existing Conditions *Non-Costco Gas Stations*	1,516	1.92	2,911
Future Conditions *Costco Fuel Facility*	1,516	3.76	5,700
		Change in Regional VMT	**+2,789**

Source: Kittelson & Associates, Inc., 2025

DIVERTED GAS TRIPS

Of the 5,779 daily gas trips anticipated at the El Dorado Costco fuel facility, 2,316 are expected to be diverted trips. Similar to primary gas trips, all diverted gas trips are assumed to replace existing trips on the network, shifting from either the nearby Folsom Costco or a non-Costco gas station. This section assesses VMT associated with diverted gas trips.

SHIFT FROM EXISTING COSTCO LOCATIONS

Based on the GIS exercise completed for the primary gas trip VMT assessment, approximately 8% of Folsom Costco's diverted gas trips are expected to shift to the new location in El Dorado County. The diverted trip distances calculated for warehouse trips (presented in Table 7) remain valid for gas trips, since both trip types are expected to divert from/to the same location (US-50).

[3] https://hub.arcgis.com/datasets/ec575b2693f64199866bc18744d232fe/explore

Table 13 presents the VMT associated with shifting existing diverted gas trips from the Folsom Costco. As shown in the table, Project trips are expected to replace 209 of the existing trips to Folsom, resulting in a decrease in regional VMT of 41 miles.

Table 13. Diverted Gas Trip VMT – Shifting Existing Trips from Folsom Costco

Scenario / Location	Diverted Gas Trip Length (mi)	Diverted Gas Trips	Diverted Gas Trip VMT
Existing Conditions	**-**	**2,506**	**952**
Folsom	0.38	2,506	952
Future Conditions	**-**	**2,506**	**911**
Folsom	0.38	2,297	873
El Dorado	0.18	209	38
		Change in Regional VMT	**-41**

Source: Kittelson & Associates, Inc., 2025

SHIFT FROM NON-COSTCO GAS STATIONS

The remaining 2,107 daily diverted gas trips that are not expected to shift from the Folsom Costco are assumed to be existing trips that would shift from nearby non-Costco gas stations. Given the numerous non-Costco gas stations present near US-50 off-ramps and the minimal trip distances associated with these trips, this analysis conservatively assumes a length of zero miles.

Table 14 presents the change in regional VMT associated with these 2,107 diverted gas trips. As shown in the table, they are anticipated to increase regional VMT by about 379 miles.

Table 14. Diverted Gas Trip VMT – Shifting Existing Trips from Non-Costco Gas Stations

	Diverted Gas Trips	Average Diverted Gas Trip Distance (mi)	VMT
Existing Conditions *Non-Costco Gas Stations*	2,107	0	0
Future Conditions *Costco Fuel Facility*	2,107	0.18	379
		Change in Regional VMT	**+379**

Source: Kittelson & Associates, Inc., 2025

Employee Trip VMT

Employee Trip VMT was estimated using the 2018 countywide home-based work VMT per employee of 12.75, provided on El Dorado County's map server[4]. This VMT rate was multiplied by the estimated number of employees for the new facility (300) to calculate total daily employee VMT. As presented in Table 15, the expected daily employee VMT for the new Costco facility is 3,825 miles.

[4] https://www.arcgis.com/home/webmap/viewer.html?url=https%3A%2F%2Fsee-eldorado.edcgov.us%2Farcgis%2Frest%2Fservices%2FHosted%2FEDC_TAZs_with_a_Total_VMT_per_Service_Population_below_the_Countywide_Average%2FFeatureServer%2F6&source=sd

Table 15. Employee Trip VMT

Employees	El Dorado County VMT per Employee	Employee Trip VMT
300	12.75	**+3,825**

Source: Kittelson & Associates, Inc., 2025; El Dorado County

Latent Demand VMT

The existing Folsom Costco is expected to become less crowded with the opening of the new warehouse in El Dorado County after some existing members shift their trips to the new warehouse. As Costco has observed at other warehouses when a new location opens in the same market area, this latent demand could result in an increase in trip frequency to existing warehouses by existing members who continue to shop at their same warehouse. To estimate the number of additional trips expected at the Folsom warehouse, Costco transaction data from representative warehouses in California were analyzed.

The analysis demonstrated that existing members tend to purchase more products at existing warehouses (increased sales) after a new warehouse is opened, but the increase in visit frequency (trips) to the existing warehouse is relatively minor. Table 16 shows the average annual change in member trip frequency (4.5%) at three California Costco warehouse locations after another warehouse opened in the same market area. As shown in the table, the existing Costco warehouse locations see an average of 1.5 additional trips per member per year as a result of latent demand.

Table 16. Change in Member Frequency Associated with New Warehouse Opening

Costco Location	New Costco Opening	Average Annual Visit Frequency (Trips per Year)			
		Before	After	Change	% Change
Visalia	New Hanford	34.5	35.5	1	2.9%
Garden Grove	Huntington Beach	44	45.5	1.5	3.4%
South Sacramento	Elk Grove	27.5	29.5	2	7.3%
Average				**1.5**	**4.5%**

Source: Kittelson & Associates, Inc., 2025

Table 17 presents the change in VMT associated with an increase in trip frequency to the existing warehouses after a new warehouse opens (i.e. latent demand trips). As shown in the table, daily regional VMT is expected to increase by 671 miles.

Table 17. Latent Demand VMT

	Folsom Warehouse Trips	Folsom Gas Trips	All Folsom Trips
Future Primary Trips	2,619	1,652	4,271
Primary Trips Added (4.5%)	118	74	192
Primary Trip Length (mi)	3.89	2.15	-
Primary Trip VMT	**460**	**160**	**620**
Future Diverted Trips	617	2,297	2,914
Diverted Trips Added (4.5%)	28	103	131
Diverted Trip Length (mi)	0.38	0.38	-
Diverted Trip VMT	**11**	**40**	**51**
Total Added VMT	**471**	**200**	**+671**

Source: Kittelson & Associates, Inc., 2025

Change in Regional Total VMT

Table 18 presents the change in regional daily VMT associated with the new Costco facility. The change in total regional daily VMT is calculated by comparing the existing VMT by Costco members in the Project area and VMT by members and employees after the new facility is opened. As presented in the table, the change in total regional daily VMT with the new facility is estimated to be a net increase of 21,123 miles.

Table 18. Change in Regional Total VMT, Costco Development

Trip Type	Change in Regional Daily VMT
Warehouse Trips	**13,718**
Primary Warehouse Trips	13,758
Shifted from Folsom Costco	*-9,830*[1]
New Primary Warehouse Trips	*23,588*[2]
Diverted Warehouse Trips	-40
Shifted from Folsom Costco	*-150*[3]
New Diverted Warehouse Trips	*110*[4]
Gas Trips	**2,909**
Primary Gas Trips	2,571
Shifted from Folsom Costco	*-218*[5]
Shifted from Non-Costco Gas Stations	*2,789*[6]
Diverted Gas Trips	338
Shifted from Folsom Costco	*-41*[7]
Shifted from Non-Costco Gas Stations	*379*[8]
Employee Trips	**3,825**[9]
Latent Demand at Folsom Warehouse	**671**[10]
All Trips	**21,123**

Source: Kittelson & Associates, Inc., 2025

[1] *Table 5. Primary Warehouse Trip VMT – Shifting Existing Trips from Folsom Costco*
[2] *Table 6. Primary Warehouse Trip VMT – New Trips*
[3] *Table 8. Diverted Warehouse Trip VMT – Shifting Existing Trips from Folsom Costco*
[4] *Table 9. Diverted Warehouse Trip VMT – New Trips*
[5] *Table 11. Primary Gas Trip VMT – Shifting Existing Trips from Folsom Costco*
[6] *Table 12. Primary Gas Trip VMT – Shifting Existing Trips from non-Costco Gas Stations*
[7] *Table 13. Diverted Gas Trip VMT – Shifting Existing Trips from Folsom Costco*
[8] *Table 14. Diverted Gas Trip VMT – Shifting Existing Trips from Non-Costco Gas Stations*
[9] *Table 15. Employee Trip VMT*
[10] *Table 17. Latent Demand VMT*

North Site Remainder Area VMT

North Site Remainder Area VMT was estimated using land use, daily trips, and average trip length information for year 2040 in the current approved version of the El Dorado County travel forecast model. The traffic analysis zone (TAZ) in the model encompassing the Project and Remainder Area represents 24 acres, which is approximately the total acreage of the Project site and Remainder Area. The Remainder Area is 13.79 acres or 57% of the acreage assumed for the TAZ in the model. The model generates 4,427 daily trips by commercial uses in the TAZ. For this analysis, it is assumed the Remainder Area when developed with 138,000 SF of commercial uses would generate 57% of the daily trips generated by the TAZ in the model, or 2,536 daily trips. The travel forecast model provides an average trip length of 4.52

miles for all trip types in the model. VMT for the Remainder Area was computed by multiplying daily trips by this average trip length.

Table 19 presents the VMT for the Remainder Area. As shown in the table, the change in total regional daily VMT with development of 138,00 SF of commercial uses in the Remainder Area is estimated to be a net increase of 11,463 miles.

Table 19: North Site Remainder Area VMT

Daily trips	Average Trip Length	VMT
2,536	4.52	**+11,463**

Source: Kittelson & Associates, Inc., 2025

IMPACT FINDING

With operation of the Costco warehouse, regional daily VMT is estimated to increase by 21,123 miles. When the Remainder Area develops, regional daily VMT is estimated to increase by 11,463 miles. Therefore, the Project impact due to VMT will be significant, and the future Remainder Area impact to VMT is anticipated to be significant.

VMT Mitigation

The California Air Pollution Control Officers Association (CAPCOA) first published a handbook in 2010 titled *Quantifying Greenhouse Gas Mitigation Measures Handbook* (GHG Handbook). The GHG Handbook was updated by the Sacramento Metropolitan Air Quality Management District and adopted by CAPCOA in December 2021. The GHG Handbook is provided as a planning resource for agencies and developers. It includes a transportation section that discusses solutions to mitigate VMT by shifting modes of travel from single-occupancy vehicles to shared or active modes of transportation.

Table 20 provides trip reduction programs/measures from the GHG Handbook aimed at reducing VMT associated with the Project. The table provides only measures that could reasonably be considered for the Costco Project, given the implementation scale, nature of the proposed Project, and/or limited jurisdictional authority of Costco to implement particular measures.

Table 20: Trip Reduction Programs for Employees (Project/Site)

#	VMT Mitigation Measure	Percent Reduction	Notes
T-7	Commute Trip Reduction Marketing	Up to 4%	
T-8	Provide Ridesharing Program	Up to 8%	Designated parking spaces for rideshare vehicles; Designated passenger loading and unloading and waiting areas.
T-10	Provide End-of-Trip Bicycle Facilities	Up to 4.4%	
T-18	Provide Pedestrian Network Improvement	Up to 6.4%	

Source: GHG Handbook, 2021

PROPOSED VMT MITIGATION MEASURES

Costco Wholesale's business model involves the sale of large items and the sale of items in bulk. As such, walking or biking to a Costco warehouse typically is not a viable method of travel for members as they would have difficulty transporting their goods home with them. Therefore, VMT mitigation measures that Costco can implement are geared toward reducing employee trips. Employee trips account for 600 daily trips (about 4% of total daily trips) and 3,825 VMT (approximately 18% of daily VMT). Thus, VMT reductions from TDM measures are not expected to fully mitigate the VMT impact and the Project VMT impact will remain significant.

To encourage Costco employees to shift their trips from automobiles to active modes of transportation, Costco intends to provide the following mitigation measures on the Project site and within its immediate vicinity.

- **Commute Trip Reduction Marketing [T-7]** (up to 4% employee VMT reduction): Costco will implement a marketing strategy to promote Costco's commute reduction program. Information sharing and marketing promote and educate employees about their travel choices to the employment location beyond driving such as carpooling, walking, and biking. The following features (or similar alternatives) will be provided: on-site or online commuter information services, employee transportation coordinators, and guaranteed ride home service.

- **Provide Ridesharing Program [T-8]** (up to 8% employee VMT reduction): Costco will develop and implement a ridesharing program. Ridesharing encourages carpooled vehicle trips in place of single-occupied vehicle trips. The following strategies provide examples of a multifaceted approach for promoting a rideshare program:
    - Designating a certain percentage of desirable parking spaces for ridesharing vehicles
    - Designating adequate passenger loading and unloading and waiting areas for ridesharing vehicles
    - Providing an app or website for coordinating rides

- **Provide End-of-Trip Bicycle Facilities [T-10]** (up to 4.4% employee VMT reduction): Costco will install and maintain end-of-trip facilities for employee use. End-of-trip facilities include elements such as bike parking, bike lockers, showers, and personal lockers. The provision and maintenance of secure bike parking and related facilities encourages commuting by bicycle.

- **Provide Pedestrian Network Improvement [T-18]** (up to 6.4% employee VMT reduction): Costco will provide a pedestrian network improvement near the site, constructing sidewalk along the Project frontage on Clarksville Crossing and Silva Valley Parkway. Additionally, the Project will construct sidewalk north of the Project frontage on the east side of Silva Valley Parkway to connect to existing sidewalk near Oak Meadow Elementary School, thereby providing connectivity with the surrounding neighborhood.

Table 21 provides the potential employee VMT reduction associated with these proposed mitigation measures. As shown in the table, employee VMT is anticipated to decrease by 872 miles; however, employee VMT (and regional VMT) is expected to remain a net positive as a result of the Project. Therefore, the Project impact due to VMT would remain significant.

Table 21. Reduction in VMT Associated with Proposed TDM Mitigation Measures

Employee VMT Mitigation Measures	Maximum Reduction	VMT
Employee Trip VMT	-	3,825
Commute Trip Reduction Marketing	*4%*	*(153)*
Ridesharing Program	*8%*	*(306)*
End-of-Trip Bicycle Facilities	*4.4%*	*(168)*
Pedestrian Network Improvement	*6.4%*	*(245)*
Total Employee Trip VMT Reduction	22.8%[1]	(872)
Employee Trip VMT (with mitigation)	**-**	**2,953**

Source: Kittelson & Associates, Inc., 2025

[1] For illustrative purposes only, the maximum reductions were summed to demonstrate that, even with the most generous assumption of VMT reductions, Project VMT would not be reduced to a less-than-significant level with implementation of all feasible mitigation measures.

3. Potential Hazards

The Project is a land development composed of commercial uses and ancillary parking on land zoned for these types of uses. All site accesses and traffic controls will comply with County design standards and policies. Similarly, the Remainder Area as represented in this programmatic analysis comprises 13.59 acres with anticipated future development of 138,000 SF of commercial uses. All proposed developments within the Remainder Area would be subject to County development review and would be required to comply with County standards and policies.

IMPACT FINDING

The Project does not propose any geometric design features or incompatible uses that would substantially increase hazards. Therefore, the Project impact due to hazards will be less than significant. The Remainder Area would be subject to County development review and would be required to comply with County standards and policies. Therefore, the Remainder Area impact due to hazards is anticipated to be less than significant.

4. Emergency Access

Emergency response to the site is accommodated through the Project access points on Silva Valley Parkway and Clarksville Crossing. The Project will comply with all applicable El Dorado County Fire Protection District design standards for emergency access. Adequate emergency access is required per the local fire code, and site plans will be reviewed by local fire officials as part of the site development design review process. Similarly, future development of the Remainder Area would be subject to County development review and would be required to comply with County standards and policies for emergency access.

IMPACT FINDING

The Project will comply with all applicable El Dorado County Fire Protection District design standards for emergency access. Therefore, the Project impact due to emergency access will be less than significant. The Remainder Area would be subject to County development review and would be required to comply with County standards and policies. Therefore, the Remainder Area impact due to emergency access is anticipated to be less than significant.

Conclusion

This CEQA compliance analysis resulted in the following impact findings:

- Consistency with Plans, Policies, and Programs – Neither the Project nor the anticipated Remainder Area development would conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bike, and pedestrian facilities. Therefore, both the Project impact and Remainder Area impact would be **less than significant**.
- Change in Regional VMT – The Project is expected to increase regional daily VMT by 21,123 vehicle miles traveled. The anticipated Remainder Area is expected to increase regional daily VMT by 11,463 miles. Therefore, both the Project impact and Remainder Area impact would be **significant**. Proposed TDM mitigation measures could reduce employee VMT by approximately 872 miles; however, the Project impact would remain significant.
- Potential Hazards – The Project's proposed on-site and off-site improvements would not result in sharp curves, dangerous intersections, or other hazards. The anticipated Remainder Area would be subject to County review and would comply with County standards and policies for land development, thus not resulting in sharp curves, dangerous intersections, or other hazards. Therefore, the Project impact and the anticipated Remainder Area impact would be **less than significant**.
- Emergency Access – The Project provides emergency access to and within the site and is not expected to result in inadequate emergency vehicle access. The anticipated Remainder Area would be subject to County review and would comply with County standards and policies for land development and emergency access. Therefore, the Project impact and the anticipated Remainder Area impact would be **less than significant**.

Appendix K

Fire Safe Plan and Evacuation Analysis

Fire Safe Plan

VERSION (DRAFT)

Fire Safe Plan

COSTCO WHOLESALE PROJECT

SEPTEMBER 2025

Prepared for:

COSTCO WHOLESALE
9 Corporate Park, Suite 230
Irvine, CA 92606
Contact: Michael Okuma

Prepared by:

DUDEK
1904 Franklin Street, Suite 600
Oakland, California 94606
Contact: Jeremy Cawn

_____

Jeremy Cawn
Fire Protection Planner

INTENTIONALLY LEFT BLANK

Table of Contents

SECTION **PAGE NO.**

Acronyms and Abbreviations 5

1 Executive Summary 7

2 Introduction 9

3 Regulatory Setting 10

4 Site Description 11
- 4.1 Project Location 11
- 4.2 Project Description 11
- 4.3 Site Conditions 11
  - 4.3.1 Adjacent Properties 11
  - 4.3.2 Fuels (Vegetation) 12
  - 4.3.3 Terrain 12
  - 4.3.4 Weather 12
  - 4.3.5 Fire History and Fire Severity Zones 13

5 Adjoining Property Conditions 15
- 5.1 Current Land Uses 15
- 5.2 Planned Construction 16
- 5.3 Vegetation (Fuels) 16
- 5.4 Environmental Restoration Plans 17

6 Recommendations for Reducing Wildfire Risk 17
  - 6.1.1 Building Construction 17
  - 6.1.2 Fire Protection and Life Safety Systems 17
  - 6.1.3 Access 18
  - 6.1.4 Water Supply 19
  - 6.1.5 Signage 20
  - 6.1.6 Housekeeping 20
  - 6.1.7 Other 20
- 6.2 Vegetation Management 21
  - 6.2.1 Defensible Space 21
  - 6.2.2 Defensible Space Standards 22
  - 6.2.3 Fire Resistant Landscaping 24
- 6.3 Fire Prevention During Construction 27
  - 6.3.1 Precautions Against Fire 27
  - 6.3.2 Access For Firefighting 28

6.3.3 Water Supply 29
6.3.4 Fire Protection Features 29
6.3.5 Hot Work 29
6.3.6 Fuel Modification 30
6.3.7 Red Flag Warning Protocol 30
6.4 Timing and Responsible Parties 31
7 Project Impacts to Adopted Emergency Response Plans or Emergency Evacuation Plans 33
8 Project Impacts to Wildfire Risk 35
9 Installation or maintenance of associated infrastructure that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment 37
10 Project Influence on the Risk of Post-Fire Downslope or Downstream Flooding as a Result of Run-off, Slope Instability, or Drainage Changes 38
11 Local Fire Protection Capability and Water Supply for Fire Suppression 39
11.1 Fire Protection Capability 39
11.2 Water Supply 40
12 Project Impact on Community Evacuation Routes 41
12.1 Background 41
12.2 Analysis 41
12.2.1 Scenarios 41
12.2.2 Evacuation Assumptions 42
12.3 Results 43
12.3.1 Scenario #1, Existing Conditions 43
12.3.2 Scenario #1, Near Term (2034) Conditions 43
12.3.3 Scenario #2, Existing Conditions 44
12.3.4 Scenario #2, Near Term (2034) Conditions 44
13 Conclusion 45
14 References 46

TABLE(S)

Table 1 Proposed Plants for Landscape Areas and Defensible Space Zone 25
Table 2. Summary of Project Fire Risk Mitigation Recommendations 31
Table 3 Location and Response Times for the Nearest Fire Stations to the Project 39
Table 4. Evacuation Analysis Wildfire Scenarios 42
Table 5. Congestion Classification based on Volume-to-Capacity (V/C) ratio 43

EXHIBIT(S)

Exhibit 1: Red Flag Warnings Issued by Year, Month 13

FIGURE(S)

Figure 1 Project Vicinity Map 49
Figure 2 Project Site Plan 50
Figure 3 CAL FIRE Fire Hazard Severity Zone Map 51
Figure 4 Fire History Map 52
Figure 5 Defensible Space Zones Map 53
Figure 6 Landscape Plans with Defensible Space Zones Overlay 54

APPENDIX(CES)

Appendix A
EDHFD Fire Safe Plan Requirements (From #W-002)
Appendix B
Regulatory Environment: Wildfire Prevention Codes, Laws, and Regulations Relevant to the Costco Wholesale Project
Appendix C
Reference Photos
Appendix D
Evacuation Analysis

INTENTIONALLY LEFT BLANK

Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AHJ	Authority Having Jurisdiction
APN	Assessor's Parcel Number
RAWS	Remote Automated Weather Station
Costco	El Dorado Hills Costco Wholesale Project
FSP	Fire Safe Plan
HFHSZ	High Fire Hazard Severity Zone
EDHFD	El Dorado Hills Fire Department
EID	El Dorado Irrigation District
MFHSZ	Moderate Fire Hazard Severity Zone
Project	El Dorado Hills Costco Wholesale Project
VHFHSZ	Very High Fire Hazard Severity Zone
WUI	Wildland Urban Interface
SRA	State Responsibility Area
LRA	Local Response Area

INTENTIONALLY LEFT BLANK

1 Executive Summary

New developments in moderate, high, and very high fire hazard severity zones (FHSZ) in El Dorado County are required to submit a Wildland Urban Interface Fire Protection Plan, known as a Fire Safe Plan (FSP), to identify the wildfire risks present within the project area and provide recommendations to address these risks. The proposed Costco Wholesale project (project) is located in a moderate fire hazard severity zone (MFHSZ)[1] and is submitting this FSP to the El Dorado Hills Fire Department as part of their building permit application package to the County.

The Costco project is a commercial development located in El Dorado County, California, near the county line between El Dorado and Sacramento counties. The project is located just north of California State Highway 50 and is accessible from the Silva Valley Parkway. The project is located on both the north and south sides of Silva Valley Parkway. The site is currently vacant and covered with California Annual Grasslands with scattered woodland and riparian vegetation along the wet drainages that cross the site. Adjacent properties are a mix of developed and undeveloped areas, with vegetation similar to that of the two project sites. In its current state, the project site and several adjacent properties could sustain the spread of a wildfire due to the continuous fuel bed provided by the annual grasslands.

This Fire Safe plan aims to describe the site conditions that could contribute to the intensity and spread of a wildfire, potentially causing it to transmit to buildings, endanger life, overwhelm fire suppression capabilities, or result in significant property losses. Then, describe the actions the property owner or responsible party is taking to address these conditions, including removing flammable vegetation, using ignition-resistant materials in the project's development, and installing features on the site and in the proposed building that will aid firefighters.

Dudek prepared this Fire Safe Plan by analyzing the following: the physical environmental conditions in the vicinity of the project and the local fire environment, the project's impact on wildfire risk, the project's impact on evacuation and emergency access, and the elements incorporated into the project to mitigate the risk of wildfire.

Dudek concludes that the project, as proposed, will not exacerbate the risk of wildfire in the area.

[1] A discussion of the updates to the FHSZ maps is presented in Section 4.3.4

Plan Signature Page

Preparer:

Jeremy Cawn, Dudek

CAL FIRE – Amador & El Dorado Unit (AEU) Representative:

Authorized Representative for the AHJ:

2 Introduction

This Fire Safe Plan (FSP) has been prepared for the Costco project, located in El Dorado Hills, California, specifically for the El Dorado Hills Costco warehouse project on the South Site of the property, a proposed commercial development in El Dorado County, California. The project is located in an area designated as a moderate fire hazard severity zone by CAL FIRE, with existing site conditions that can sustain the growth of a wildfire due to the continuous fuel bed provided by the annual grasslands that cover the site.

The El Dorado Hills Fire Department requires that new development in moderate, high, and very high fire hazard severity zones create a Fire Safety Plan (FSP). The specific requirements for the FSP are described in the El Dorado Hills Fire Department (EDHFD) standard #W-002.

The purpose of this FSP is to meet the requirements of the EDHFD standards, to identify the wildfire risks present at the site and the project's impact on those risks, and to provide recommendations to address these risks through vegetation management, ignition-resistant construction, providing adequate water supply, and fire department access. Appendix A contains a list of the EDHFD Fire Safe Plan requirements.

This FSP has assessed the property's location, topography, surrounding combustible vegetation (including fuel types), climatic conditions, and fire history. The plan addresses water supply, access, structural ignitability, and fire-resistant building features, as well as fire protection systems and equipment, impacts on existing emergency services, community evacuation routes, defensible space, and vegetation management. The following tasks were performed toward the completion of this plan:

- Gather site-specific climate, terrain, and fuel data;
- Collect site photographs;
- Process and analyze the data using the latest GIS technology;
- Predict fire behavior using scientifically based fire behavior models, comparisons with actual wildfires in similar terrain and fuels, and experienced judgment;
- Analyze and guide the design of proposed infrastructure;
- Analyze the existing emergency response capabilities;
- Analyze the existing site access and community evacuation routes;
- Assess the risk associated with the Proposed Project and the project site; and
- Prepare this FSP detailing how fire risk will be mitigated through a system of fuel modification, structural ignition resistance enhancements, and fire protection delivery system upgrades.

3 Regulatory Setting

The Project site and the surrounding area are within a CAL FIRE-designated Fire Hazard Severity Zone (FHSZ). They are required to meet local and state regulations that provide for a minimum level of wildfire safety and ignition risk reduction. Appendix B contains a detailed list of the applicable fire prevention regulations that apply to new development in the Project area. The requirement to prepare this Fire Safe Plan is authorized by the El Dorado County General Plan Public Health, Safety, and Noise Element, *Policy 6.2.2.2.* El Dorado Hills Fire Department standard #W-002 communicates the minimum fire safe regulations of the State of California, County of El Dorado (EDC), and the local Fire Code Official for the formation, implementation, and ongoing use of a Wildland Urban Interface Fire Protection Plan (Fire Safe Plan) for new developments and special use permits.

According to EDHFD standard #W-002, Fire Safe Plans (FSPs) are required for the following types of development projects:

A. The creation of a Specific Plan or similar large-scale project.

B. The creation of five (5) or more parcels as part of a parcel or subdivision map.

C. A change in zoning or issuance of a discretionary permit that proposes to increase intensity or density.

D. New commercial or industrial uses located in High or Very-High Fire Hazard Severity Zones.

E. Where, in the opinion of either CAL FIRE or the local Fire Code Official, it is deemed necessary due to the fire risk or fire hazard associated with the property.

The preparation of this FSP is required under condition E. This FSP demonstrates compliance with the requirements for an FSP in standard #W-002 shown in Appendix A and with the codes, laws, and regulations listed in Appendix B.

4 Site Description

4.1 Project Location

The Project site is located north of US 50 and Tong Road, east of Clarksville Crossing. It is bisected by the Silva Valley Parkway in El Dorado County, California.

The northern portion of the property (North Site) is approximately 24.83 acres and includes APNs: 122-720-0019, 20, and 21. All the parcels are undeveloped, and 122-720-21 (6.57 of 7.75 acres) is primarily reserved for the future extension of County Club Drive to Silva Valley Parkway, which is not part of the project. The southern portion of the property (South Site) is approximately 18.42 acres and includes APNs: 122- 720- 018, 02, and 03. A portion of 122-720-003 and a portion of the unused former Tong Road right-of-way between Silva Valley Parkway and Clarksville Crossing are proposed for use as site access. The 1.38-acre portion of 122-720-018, located west of Clarksville Crossing on the South Site, will not be developed as part of the project site, resulting in a net development site of 17.05 acres. Figure 1 shows the Project site and the surrounding area.

4.2 Project Description

The Project includes a new Costco Member Warehouse, Fuel Facility, and associated site improvements. The North Site contains the Fuel Facility and Costco employee parking lot, while the South Site contains the Costco Member Warehouse. The remainder of the North Site would include an out parcel that is not planned for development at this time. The maximum building area for the Member Warehouse on the South Site will be approximately 165,000 square feet and includes, without limitation, a Costco warehouse retail center, tire sales and installation, optical exams and optical sales, hearing aid testing and sales, food service preparation and sales, a pharmacy, meat preparation and sales, bakery and sales of baked goods, and alcohol sales. Temporary outdoor sales may occur within the parking field adjacent to the warehouse for seasonal sales, such as Christmas trees from late November through December. The members-only Fuel Facility on the North Site will include a maximum of 13,000 square feet of open canopy and a 200-square-foot controller enclosure. Figure 2 contains the site layout plans for the Project.

4.3 Site Conditions

The following sections discuss the project site characteristics, including the local climate and fire history within and surrounding the site. Evaluating conditions at the project scale is intended to understand the local fire environment, which is helpful for predicting how a wildfire may spread across the site and for estimating wildfire risk for the project site. Appendix C includes photos of the project site showing the conditions of the local fire environment.

4.3.1 Adjacent Properties

Adjacent to the project site are residential communities on the east and west, composed of single-family dwellings, an elementary school to the north, and the Highway to the south. Between these developed areas and the project site is vacant, undeveloped land.

4.3.2 Fuels (Vegetation)

The Costco South site is predominantly covered with California Annual Grasslands. The grasslands extend continuously across both developments, north and south of Silva Valley Parkway. This fuel continuity continues onto adjacent properties and is only interrupted by the roads that border the project boundaries (e.g., Tong Road, Clarksville Road). Fuel heights in these grasslands are between two and three feet. Vegetation cover transitions to riparian woodlands surrounding the drainage near the intersection of Clarksville Road and Silva Valley Parkway, as well as in the small drainage that runs from Oak Meadow Elementary School to Silva Valley Parkway. Valley Oak woodlands are present in the drainage that crosses the Costco South development from north to south. Annual grass continues to be a significant part of the surface fuels, even in areas where vegetation cover changes. This grass is anticipated to be the primary carrier of any wildfire spreading through the project site. The exception to this is the perennially wet area near the storm drain.

4.3.3 Terrain

The general terrain of the Costco South Site is composed of a southwest-facing slope with an average slope of 6% and slopes that range from 0 to 37 degrees. Elevations range from 693 feet at the southwest corner of the Costco South development near Clarksville Road to 791 feet above mean sea level (AMSL) along the north boundary of the North Site. The general terrain on the site is broken up by a north-to-south-oriented drainage that crosses through the center of the project and a depression for a storm drain at the northern tip of the project site.

In the absence of strong winds, a terrain-driven wildfire is expected to move upslope following the general terrain of the two units. The drainages are not deep enough to create or funnel winds that would be significantly different from the prevailing wind conditions expected across the rest of the project site. There are no terrain features present on either side that would be expected to significantly increase fire intensity or rate of spread.

4.3.4 Weather

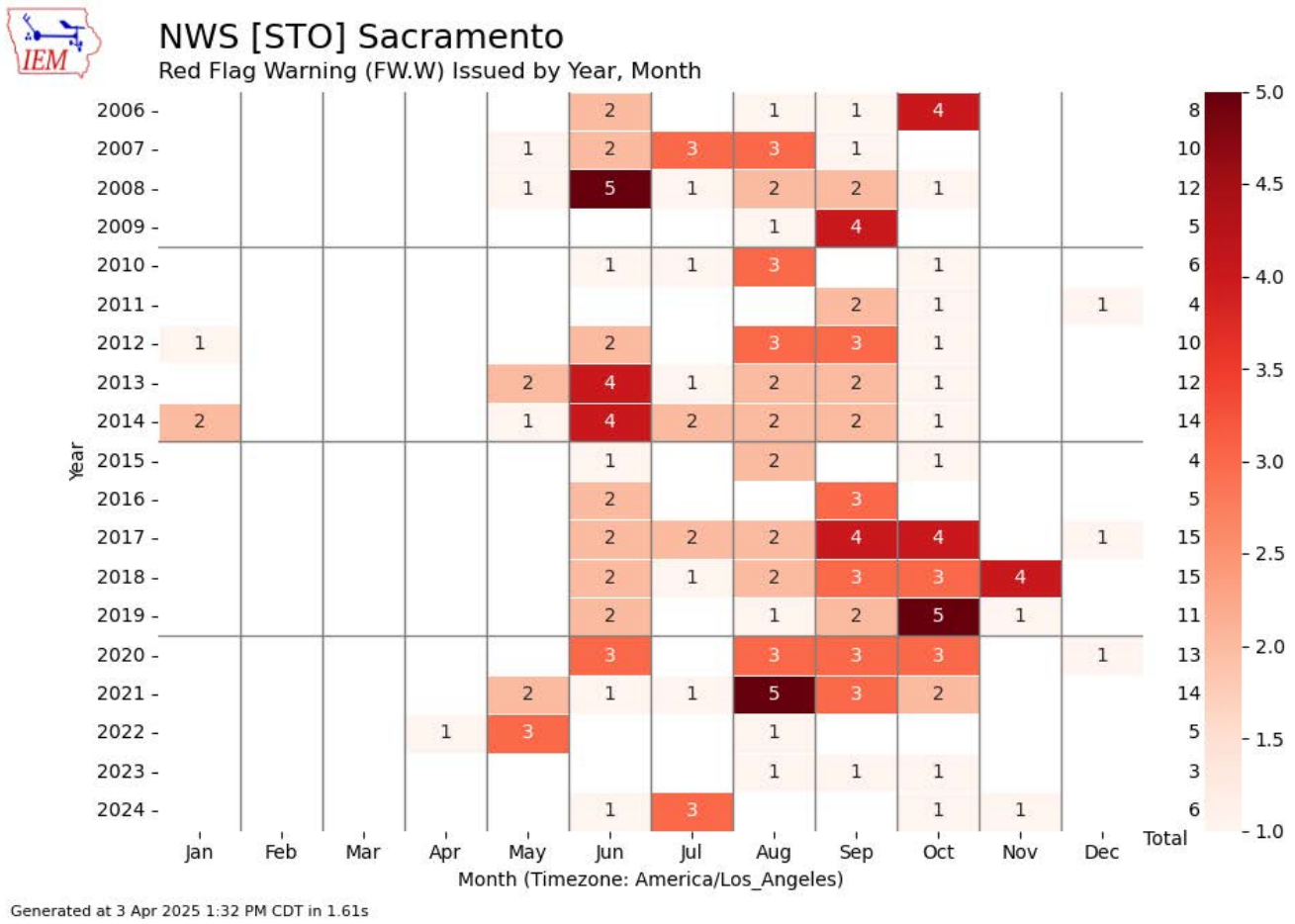
The climate in the El Dorado Hills community is Mediterranean, characterized by wet, cool winters and dry, hot summers. Weather data from the nearest remote automated weather station (RAWS) at Ben Bolt describes the following weather conditions for the area. Average temperatures range from 40°F to 58°F in the winter months and 60°F to 98°F in the summer. The hottest months, May through October, can have maximum daily temperatures over 100 degrees Fahrenheit. The driest months coincide with the hottest months; precipitation during an average year is minimal from May to October, and the average minimum relative humidity from May to October is less than 10%.

Prevailing winds in the community vary based on the time of year; from December to February, prevailing winds are, on average, out of the east-northeast. From March to November, prevailing winds are on average from the west-northwest. Throughout the year, winds averaged 0 to 5 miles per hour (mph), but the maximum wind gusts occurred on average from November to April, with maximum wind speeds of 40 mph and greater. From May to October, average maximum wind gusts range between 20 and 30 mph. It is important to note that the prevailing winds for most of the year and during the hottest and driest time of year are aligned with the general terrain of the two project sites (e.g., prevailing winds would push a fire upslope).

The National Weather Service (NWS) issues wildfire forecast warnings when conditions are ideal for wildfire combustion and high rates of fire spread. The NWS issues two types of these forecasts, Red Flag Warnings (RFW) and Fire Weather Watches. Both indicate that dangerous fire weather conditions will occur in the forecast area.

Based on historical records from the NWS, Red Flag Warnings and Fire Weather Watches can occur from May to November, with these warnings being issued most frequently between August and October (NWS Sacramento 2025). Exhibit 1 shows the historical occurrence of RFWs in the project area (IEMS 2025).

Exhibit 1: Red Flag Warnings Issued by Year, Month



4.3.5 Fire History and Fire Severity Zones

Fire Hazard Severity Zones

The project is located in the CAL FIRE state responsibility area (SRA), which has been designated as a Moderate Fire Hazard Severity zone (MFHSZ). The CAL FIRE adopted updated SRA Fire Hazard Severity Zone maps in April 2024, and the designated fire hazard severity zone for the project site was unchanged. Adjacent lands to the north are within the Local Responsibility Area (LRA) and are designated as a Moderate Fire Hazard Severity Zone. The SRA Moderate Fire Hazard Severity Zone continues to the east. To the south, the SRA transitions to the High Fire Hazard Severity Zone south of Highway 50. To the west is the LRA Moderate Fire Hazard Severity Zone. Figure 3 contains the CAL FIRE Fire Hazard Severity Zone map for the project area.

Fire History

Fire history represented in this FSP uses the Fire and Resource Assessment Program (FRAP) database. FRAP summarizes fire perimeter data dating back to the late 1800s; however, it is incomplete due to the fact that it only includes fires over 10 acres in size and has incomplete perimeter data, especially for the first half of the 20th century (Syphard and Keeley 2016). However, the data does provide a summary of recorded fires and can be used to show whether large fires have occurred in the Project area, which indicates whether they may be possible in the future.

Figure 3, Project Fire History Map, presents a graphical view of the project area's recorded fire history. As presented in the exhibit, there have been 28 fires recorded since 1935 by CALFIRE in their FRAP database (FRAP 2024)[2] Within 5 miles of the project site. Three of these fires occurred within 1 mile of the project. Based on the fire perimeters mapped in Figure 4, many of the recorded wildfires in the vicinity of the project were primarily slope-driven (uphill) and wind-driven by the prevailing winds.

Based on an analysis of the CAL FIRE FRAP fire history data set, specifically the years in which the fires burned, the average interval between wildfires in the five-mile radius area was calculated to be 3 years, with intervals ranging between zero and 18 years. Based on this analysis, it is expected that a wildfire that could burn in available unmaintained landscapes may occur, if weather conditions coincide, possibly every two to three years, with the realistic possibility of longer interval occurrences, as observed in the fire history records, and considering the recent past and ongoing development of the region.

2 Based on polygon GIS data from CAL FIRE's FRAP, which includes data from CAL FIRE, USDA Forest Service Region 5, BLM, NPS, Contract Counties and other agencies. The data set is a comprehensive fire perimeter GIS layer for public and private lands throughout the state and covers fires 10 acres and greater between 1878–2018.

5 Adjoining Property Conditions

The following sections discuss the site characteristics for the properties adjacent to the project site. The Costco Project is similar in terms of topography, vegetative cover, and access to adjacent residential areas, but it differs in planned use and proximity to buildings. The following sections discuss the characteristics of the project area at the community scale. The intent of evaluating conditions at this macro-scale is to provide a better understanding of the regional fire environment, which is not constrained by property boundary delineations.

5.1 Current Land Uses

North

To the north of the project site is Silva Valley Parkway, a 4-lane divided road. North of the road is a vacant lot that covers the lower portion of the hillside, between Silva Valley Parkway and the residential community, and Oak Meadow Elementary School, further up the slope. The vacant lot is predominantly covered with annual grasslands except for a strip of riparian woodland along the drainage that ends at the intersection of Silva Valley Parkway and Clarksville Road. The residential community to the north consists of single-family homes on approximately 0.25-acre lots, with approximately 20 feet of space between homes. This community is accessed by a circuit of residential streets connected to Silva Valley Parkway. Oak Meadow Elementary School is located to the north of the project site on the uphill side of the vacant lot. The school consists of a cluster of nine buildings in the center of the property and two separate buildings along the east border of the school property. The north, south, and west sides of the school property contain a large, paved driveway and parking lot. The school is accessed from Silva Valley Parkway.

East

The Silva Valley Parkway continues along the east side of the project, and on the other side of the road, vacant land on the hillside north of the project site continues to the east of the project site. Annual grassland remains the dominant vegetation cover type, transitioning to woodlands only in the wetter drainages. There is little development east of the project site. Tong Road connects to Silva Valley Parkway near the westbound Highway 50 off-ramp and runs east. Along Tong Road is a church and several widely spaced home sites (>400 feet). The church and home sites are accessible from Tong Road/Old Bass Road. Approximately 600 feet east of the Capital Korean Presbyterian Church on Tong Road, the road narrows and is no longer compliant with fire code regulations.

South

Immediately south of the project site is Highway 50, a six-lane divided freeway. The westbound on-ramp and eastbound on and off-ramps are also located south of the project site. Between the freeway and the ramps are areas of maintained grasslands. South of the freeway are several roads: White Rock Road, Clarksville Road, Joerger Cut-off Road, and Old White Rock Road. There is little development south of the project site, with most of the land covered with continuous grasslands on the drier sites or riparian woodlands on the wetter sites. The nearest development to the south is an electrical substation approximately 1300 feet to the southwest, and then another 700 feet beyond the substation until the outskirts of the developed areas off Latrobe Road.

West

Clarksville Road, a 2-lane road, is located immediately west of the project site. Across the road is a vacant, undeveloped creek and hillside. The creek bottom is perennially wet and covered with riparian vegetation. Slopes immediately adjacent to the creek bed are covered with a mix of riparian forest that transitions to oak woodland. Further from the creek, the tree cover thins out and transitions to annual grasslands with scattered trees. The property across Clarksville Road from the project site is not entirely vacant. Near the southwest corner of the project site, there is a single utility building on a concrete pad. West of the undeveloped creek and hillside is a residential community. This community consists of single-family homes on 0.25-acre lots with approximately 20 feet between homes on the same street. Homes situated between streets are separated by more than 100 feet, and a strip of undeveloped hillside that lies between them. This residential community is accessible by a circuit of residential streets connected to Serrano Parkway.

5.2 Planned Construction

There are no projects under review with the El Dorado Hills Area Planning Advisory Committee (EDHAPAC 2025) or the El Dorado County Planning Division (El Dorado County 2025) on the lands immediately adjoining the project site. The nearest projects under review are located 1.1 miles southeast of the project site on Latrobe Road (Montano De El Dorado), 1.34 miles east of the project site on Bass Lake Road (Town and Country Village), 1.7 miles east of the project site, south of Highway 50 (Village of Marble Valley), and 1.7 miles south of the project site on Latrobe Road (Gateway El Dorado). To the north of the Project site is the Serrano Village residential community, an approved project comprising several phases of construction, some of which have been completed. Phase A14 is located south of the intersection between Village Green Drive and Russi Ranch Drive, approximately 1,200 feet east of Silva Valley Parkway, on the hilltop/ridgeline on the adjacent property to the north (El Dorado County 2025). At the time of Dudek's site visit for this FSP, grading work was underway.

At the time of the site visit, a vacant property near the corner of Silva Valley Parkway and Tong Road was being graded. No other planned construction was identified.

5.3 Vegetation (Fuels)

Adjoining properties contain a mix of vegetation covers depending on location and land use.

Developed areas are predominantly covered with maintained landscaping, including ornamental ground covers, shrubs, and shade trees. Within the boundaries of the developed areas, both single-family homes and the elementary school, there is very little natural and unmanaged vegetation. Typical vegetation cover consists of turfgrass and low-growing ornamental plants, with scattered individual or clusters of shade trees. Generally, there is adequate separation between the tree crowns and the surface vegetation.

Undeveloped, vacant properties are covered predominantly with annual grasslands on the drier upland and hillside areas. Annual grasslands are generally continuous with fuel heights of 2 to 3 feet. Wetter areas in drainages and along creeks are covered with oak woodland on the slopes adjacent to the creek or drainage that transitions to riparian woodlands and riparian vegetation at the drainage bottom or creek bed. Vegetation in woodland areas is generally dense, with small trees and shrubs in the understory and no separation between the tree crowns and the

tops of the understory vegetation. In the wettest areas, year-round standing water, tree cover is scattered, and vegetation is limited to riparian vegetation.

5.4 Environmental Restoration Plans

There are no known environmental restoration plans for the properties adjoining the project.

6 Recommendations for Reducing Wildfire Risk

The project will incorporate a series of complementary fire protection features that will reduce the risk of a wildfire igniting on the project site and the risk that a wildfire spreading on the adjacent properties can spread onto the Project site. This section of the FSP summarizes all fire risk reduction recommendations for the Project, including building construction and fire protection features, signage, access, water supply, and vegetation management.

6.1.1 Building Construction

The Project's structures and facilities will be similar in layout, building materials, and appearance to those of other nearby Costco facilities in Elk Grove and Folsom, California. The Costco Warehouse on the Costco South site will be built to meet Type V B construction. It will incorporate non-combustible materials throughout the structure, including steel for the main building structure, metal panels, concrete and masonry on the building exterior walls, and metal studs and structural steel for interior elements. The roof covering on both the Costco Warehouse and the fuel facility will have flat Class A roof coverings composed of a metal joist system for structure and a standing seam metal roof on vapor barrier/batt insulation for the roof coverings.

These building materials comply with the ignition-resistant building requirements in Chapter 7a of the California Building Code.

No accessory structures are proposed for construction on the Costco South site.

6.1.2 Fire Protection and Life Safety Systems

The Costco Warehouse building and the fueling facility will incorporate CFC-required fire detection, notification, and protection systems. The Costco Warehouse contains a bakery and food preparation area, a tire center, and a floor shopping area. To meet CFC and local fire code requirements and protect occupants, the Costco Warehouse will have the following fire protection systems installed.

- An automatic fire sprinkler system will be installed to provide coverage throughout the occupiable portions of the structure. Pipe layout, size, and composition, as well as the type and number of sprinkler heads, will comply with the requirements of the 2022 El Dorado Hills Fire Code, the 2022 California Fire Code, and NFPA 13. The building's fire flow is 3,000 gallons per minute for a duration of two hours. Sprinkler head K-factor and activation temperatures will be customized to match the use or materials stored throughout the building.

- A Fire Alarm System installed that meets the requirements of the 2022 El Dorado Hills Fire Code and the 2022 California Fire Code, as well as the provisions in the National Fire Protection Association 72 standard. The fire alarm system will be connected directly through and monitored by a UL. approved central station service, which gives audible and visual signals at a constantly attended location.

- A Type 1 Commercial Cooking Exhaust Hood that meets the requirements of the 2022 California Fire Code, California Mechanical Code, and the provisions of Underwriters Laboratories 610 standard. The commercial cooking exhaust hood will contain the required ventilation and fire suppression systems.

- The layout of the Tire Center will meet Fire Protection requirements in CFC Chapter 32, 34, and NFPA 13. Adequate water supply to meet these requirements would be provided by the building's fire sprinkler system and on-site fire hydrants.

The fire sprinkler riser(s) and the Fire Alarm Control Panel (FACP) will be located in a fire control room that is accessible from the exterior of the building and used only for fire protection systems. The room will be clearly labeled on the door “FIRE CONTROL ROOM.”

The Costco fueling facility will install the following fire protection systems to meet CFC Chapter 23 and local fire code requirements and protect occupants.

- Vehicle impact protection for the fuel dispensing devices for each of the four fueling bays.

- An emergency disconnect switch within 20 feet of the fuel pumps.

- Portable fire extinguishers meeting CFC Section 906 requirements and having a minimum rating of 2-A:20-B: C would be provided so that one fire extinguisher is within 75 feet of any pumps, dispensers, or storage tank fill pipe opening.

- The underground fuel storage tank for the fueling facility will comply with CFC Chapter 57.

- Dispenser equipment, including pumps, hoses, and nozzles, will be composed of UL-listed equipment.

Both the Costco warehouse and the fuel facility will incorporate CFC-compliant fire and life safety features that minimize the risk of explosion, fire, and accidental spill of flammable liquids. While these features are intended to protect occupants and minimize the risk of a structure fire, they also address the Project’s wildfire risk by reducing the likelihood of a fire occurring on the property that can spread onto the adjacent wildlands and by reducing the risk that the Project structures will ignite during a wildfire.

6.1.3 Access

The Costco South site is accessible from four driveways; three are connected to Clarksville Road on the west side of the south project site, and one is connected to Silva Valley Parkway on the east side of the south project site. Access to the south side of the building is from the road connecting the southwest corner of the building to Clarksville Road. Access to the north side of the building is from two roads, one connecting to Clarksville Road and the other to Silva Valley Parkway. The exterior of the building is accessible on all sides. The Warehouse is surrounded by a road on three sides of the building and is connected to the driveways that lead to the adjacent public streets. A walkway is located on the east side of the building.

Both the North Site and the South Site will be accessible by two or more connections to the adjacent public streets. The North Site is accessible from two connections to the adjacent public streets. Both are connected to Silva Valley Parkway on the west side of the North Site. The two driveways are located on the northwest and southeast boundaries of the fueling facility.

The internal access system consists of roads and driveways that surround both the fueling facility on the North Site and the Costco Warehouse on the South Site. For the North site, the internal road system consists of a loop that begins at Silva Valley Parkway, wraps around the north side of the fueling facility, and reconnects to Silva Valley Parkway on the other side of the fueling facility. Access to the fueling bays, fueling facility attendant structure, and the Costco employee parking lot is from driveways connected to the internal access loop. Traffic flow for the internal road system for the North Site will be one-way starting at the Silva Valley Parkways connection on the northwest side of the fueling facility. For the South Site, the internal road system consists of one access road that traverses the north half of the site from Silva Valley Parkway to Clarksville Road. This access road is connected to multiple driveways that allow access to the parking lot, the Costco warehouse store front, the parking garage, and the tire center. A more direct access to the parking garage is provided by a short internal road section that connects to Clarksville Road along the west side of the site. At the southwest corner of the Costco South site, an access road provides direct access to the rear of the Costco warehouse building, the tire center, and the south side of the parking garage. The internal access roads for both sites are interconnected; it is possible to drive around both sites using any access point.

For the South Site, the access point and access road at the southwest corner are the designated truck routes for delivery trucks. This access road provides the shortest path to the loading docks at the southwest corner of the Costco warehouse. There is a hammerhead ‘T’ at the rear of the Costco warehouse for fire trucks to turn around.

The access road connections and the internal access roads will meet the fire department access requirements in Chapter 5 of the 2022 CFC and the CCR Title 14 minimum fire-safe regulations. Internal access roads, not including driveways and parking lot alleys, will exceed 20 feet in width (approximately 30 feet in width), with the exception of the access on the east side of the structure, which is reduced to 15’ because of topographical constraints. Driveways and parking lot alleys will be a minimum of 15 feet wide. Internal access roads will be designed and maintained to support the weight of a fully loaded fire apparatus and surfaced to provide all-weather driving conditions. No traffic calming features will be installed on interior access roads that will impact emergency vehicle access. Designated Fire Apparatus Access Roads will be marked appropriately and have signage that contains the words “NO PARKING-FIRE LANE”. Designated Fire Apparatus Access Roads include the main access road loop around the fueling facility on the North Site, the access road that traverses the Costco South Site from Silva Valley Parkway to Clarksville Road, and the truck route at the southwest corner of the South Site.

There are no dead ends or gates at either the North Site or South Site.

6.1.4 Water Supply

The project site is located within the El Dorado Irrigation District (EID) service territory; however, the EID is not currently servicing the property. As part of the Project approval, the Project will apply for annexation into the EID and will connect to the 18-inch water line located along the west side of the project in Clarksville Crossing. The project proposes to install a looped water line extension to the EID water line for water service, including water for firefighting purposes, to both the North Site and the South Site. According to the project's Facility Improvement

Letter, the existing water system can deliver the required 3000 gallons per minute fire flow demand to the project site (El Dorado Irrigation District 2022).

Dry barrel fire hydrants will be installed on the project site to provide water for fire protection. The nearest hydrant, according to EID maps, is located approximately 75 feet from the southwest corner of the project site in front of the utility building on the west side of Clarksville Crossing. The project would install at least five fire hydrants for the Costco South site, with no more than 450 feet on average between fire hydrants. These fire hydrants will be spaced out evenly around the Costco warehouse opposite the structure in parking lot islands on the north and west sides, and in the landscape areas across the access roads around the east and south sides. No new fire hydrants will be installed at the North Site fueling facility.

All fire hydrants will be painted with safety white enamel and marked with a blue reflective marker on the adjacent public street or access road.

6.1.5 Signage

Both the North Site and the South Sites would be appropriately signed to meet address identification requirements in the 2022 CFC, the CCR Title 14 Minimum Fire Safe Standards, and local fire codes. Address identification will be provided either on the structure or on a sign near each structure.

In addition to address signage, fire protection features such as Fire Department Connections, Fire Alarm Control Panels, Fire Sprinkler Rooms, Emergency Disconnects, and Electrical rooms will be signed as required by the 2022 CFC. Fire hydrants would be identified with a reflective blue marker in the middle of the street adjacent to the hydrant.

6.1.6 Housekeeping

The Costco project would, as a part of everyday business, generate and store combustible materials on-site, including cardboard boxes and rubbish containers or dumpsters. Stored outside, these materials can be ignited by an approaching wildfire or embers cast ahead of the main body of the fire. Combustible waste generated during the operations of the Costco Warehouse and the Fueling Facility will be disposed of on a regular basis. Combustible waste materials (such as stacks of cardboard boxes) and rubbish bins will not be stored within five feet of the exterior of the Costco Warehouse, Fueling Facility Attendant Station, or within 30 feet of the fueling bays. Costco utilizes an all-metal trash compactor for handling cardboard and solid, non-hazardous trash generated by the store. Combustible materials and debris will be placed in the compactor, compacted, and then stored until picked up by a trash disposal service. Inside the metal compactor, the combustible material and debris will be protected from direct flame contact and embers from a nearby fire.

6.1.7 Other

Electrical lines and utility connections servicing the project will be installed underground. Above-ground transformers and pull boxes (located on the south side of the Costco Warehouse) will be constructed of non-combustible materials and placed more than 10 feet away from combustible vegetation.

6.2 Vegetation Management

The Fuel Facility on the North Site does not occupy the entire North Site. To the north, east, and south, the North Project Site will be enveloped by a 30-foot-wide non-combustible surface service road. Silva Valley Parkway is a 100-foot-wide non-combustible surface bordering the North Site Project to the west.

The development footprint, including structures, access roads, and other built non-combustible facilities of the Costco project, occupies a portion of both sites. The remainder of both sites will be covered with landscaping or a mix of landscaping and natural vegetation (California Annual Grasslands). The development footprint for the Fuel Facility on the North Site covers less than ½ of the north site parcel. Outside of the development footprint, the site would remain covered in continuous annual grasslands. Within the development footprint and the area immediately around it, vegetation cover will be composed entirely of maintained landscaping. The development footprint for the Costco warehouse on the South site covers the entire parcel, and there will be no areas of natural vegetation.

For both sites, vegetation maintenance and careful landscaping layout and installation are necessary to minimize the risk of wildfire spreading onto the property and extreme fire behavior igniting the structures, thereby placing occupants at risk. Based on the anticipated post-development conditions, vegetation management for the Project to minimize wildfire will be divided into two activities: defensible space and fire-resistant landscaping.

6.2.1 Defensible Space

Defensible space refers to the design and maintenance of natural and/or landscaped areas around structures to mitigate the danger from an approaching wildfire. Defensible space is intended to reduce the threat of wildfire spreading from the wildland to adjacent structures. It is also intended to provide firefighters with access for fire suppression actions and a safe zone for them to work. State and local agencies generally define the defensible space area as a 100-foot-wide area that begins at the structure exterior (including an appendage such as a combustible deck or covering). The 100-foot-wide defensible space area is divided into three zones. EDHFD defines the three zones as:

- Zone 0 – 0 feet to 5 feet; Ember Resistant Zone
- Zone 1 – 5 feet to 30 feet; Lean, Clean and Green Zone
- Zone2 – 30 feet to 100 feet; Reduced Fuel Zone

The defensible space zone for the fueling facility on the North Site encompasses the areas within the development footprint around the fueling bays, the adjacent parking lot to the northwest, the landscaping surrounding the fueling bays, and a portion of the undeveloped hillside to the northeast of the fueling facility. The defensible space zone for the Costco Warehouse on the Costco South site encompasses the parking lots and access roads on the northwest, southwest, and southeast sides of the structure. On the northeast side of the Costco warehouse, the defensible space zone includes the landscaped area on the grounds between the building and Silva Valley Parkway. A portion of the defensible space area for both sites overlaps with Silva Valley Parkways, which is outside of the project boundaries. For both the Fueling Facility and the Costco Warehouse, Zone 0 and Zone 1 of the defensible space area are generally covered with roads, walkways, and other non-combustible surfaces. Vegetation in these two zones for both the Fueling Facility and the Costco Warehouse is limited to irrigated landscaping. A portion of Zone 2 for the Fueling Facility on the northeast side of the fuel bays extends onto the undeveloped hillside. The

remainder of Zone 2 for the Fueling Facility and all of Zone 2 for the Costco Warehouse is covered with either non-combustible surfaces (e.g., roads, walkways, parking lots, etc.) or irrigated landscaping. Figure 5 shows the 100-foot defensible space zone around both sites and includes the boundaries of Zones 0, 1, and 2.

6.2.2 Defensible Space Standards

Zone 0– Immediate Zone (0 to 5 feet from the structure)

Zone 0 reduces the likelihood of structure ignition by reducing the potential for direct ignition of the structure from flame contact, embers that accumulate at the base of a wall, and/or indirect ignitions when embers ignite vegetation, vegetation debris, or other combustible materials located close to the structure, resulting in either radiant heat and/or direct flame contact exposure to the structure.

Zone 0 is the horizontal area within the first five feet around the structure, garage, any outbuildings, attached decks, and stairs. Zone 0 is measured from the edge of a structure, attached decks, patio covers, balconies, and floor projections above grade. The zone also includes the area under attached decks and stair landings.

The Immediate Zone is the most vulnerable and should be the most aggressively maintained for fire resistance through the following practices:

- Clean roofs and gutters of dead leaves, debris, and pine needles that could catch embers.
- Replace or repair any loose or missing shingles or roof tiles to prevent ember penetration.
- Clean debris from exterior attic vents and install 1/8 inch metal mesh screening to block embers.
- Repair or replace damaged or loose window screens and any broken windows.
- Remove combustible materials from beneath decks or porches. Screen or box-in areas below patios and decks with wire mesh to prevent debris and combustible materials from accumulating.
- Move any flammable material away from wall exteriors – lumber, cardboard, and combustible debris.
- Leaf litter should be cleaned up and disposed of regularly. Dead plants should be removed promptly.
- Trim back tree and large shrub branches that grow into the Immediate Zone to a minimum of 5 feet from the structure and 10 feet from a chimney.
- Minimize vegetation in this Zone. Do not plant trees or woody shrubs in this Zone.
- No annual grasses or plants are permitted in this zone.
- Irrigate and maintain the existing landscape so that plants are healthy with minimal dead material.
- Minimize the use of combustible mulches.
- Maintain shrubs to 18 inches in height or less and with 10 feet of horizontal separation between shrubs.

Note: As required by State Law, regulations for the Immediate Zone are under development by the State Board of Forestry and were initially scheduled to take effect January 1, 2023, for all new buildings and January 1, 2024, for all existing buildings; however, as stated, these regulations are still under development with no set date of enforcement. Any State regulation more restrictive than this standard will apply.

Zone 1 - Intermediate Zone (5 to 30 feet from the structure)

Zone 1 reduces the likelihood of fire burning directly to the structure. This is accomplished by modifying fuels and creating a discontinuity between planting groups that limits the pathways for fire to burn to the structure and reduces the potential for near-to-building ember generation and radiant heat exposures. This zone shall consist of planting low-growth, drought-tolerant, and fire-resistant plant species. An additional purpose of this zone is to provide a defendable area for fire personnel to stage and take direct action.

Zone 1 is an area within 5 to 30 feet of structures. The vegetation within the Intermediate Zone will be maintained to break up fuel pathways to structures and to minimize fire behavior through the following practices:

- Remove all dead plants, grass, and weeds (vegetation).
- Remove dead or dry leaves and pine needles from your yard, roof, and rain gutters.
- Trees and shrubs will be maintained to create 10 feet of horizontal space between tree or shrub crowns.
- Lower branches will be removed from trees to create a minimum of 6 feet of clearance between the lowest branches and the surface vegetation (or 1/3 of the tree height for trees less than 10 feet in height).
- Do not install woody shrubs beneath trees. Remove existing shrubs and small trees growing beneath mature trees.
- Remove branches that hang over your roof and keep dead branches 10 feet away from your chimney.
- Irrigate and maintain landscaping in this Zone to keep plants healthy with minimal dead material.

Landscaping installed in this zone will be based on the characteristics of the plants found on the fire-resistant plant species in the Project landscape plans.

Zone 2 – Extended Zone (30 to 100 feet from the structure)

The Extended Zone is designed to interrupt the fire's path to the structures and minimize fire behavior by keeping flame heights low and minimizing the risk of extreme fire behavior. The vegetation within the Extended Zone will be maintained to minimize fire behavior through the following practices:

- Cut or mow annual grass down to a maximum height of 4 inches.
- Remove all dead plants, grass, and weeds.
- Landscaping installed in this zone will be based on the characteristics of the plants found on the fire-resistant plant species in the Project landscape plans.

- Trees and shrubs will be maintained to create 15 feet of horizontal space between tree or shrub crowns.
- Lower branches will be removed from trees to create a minimum of 6 feet of clearance between the lowest branches and the surface vegetation (or 1/3 of the tree height for trees less than 10 feet in height).
- Do not install woody shrubs beneath trees. Remove existing shrubs and small trees growing beneath mature trees.

6.2.3 Fire Resistant Landscaping

The landscaping on the project site will be composed of shade trees with ground cover beneath. No natural areas of unmanaged vegetation will be present. The species composition, planting density, continuity, and plant life form type will be varied across the property and will be dependent on the primary function of the landscaping. Shade trees will be planted individually or in open clusters throughout the project site, with the exception of the very steep slopes between the Costco and the Silva Valley Parkway. For the ground cover, a mix of shrub and herbaceous plants will be installed throughout the project site. Shrubs will compose a more significant portion of the species installed on the steepest slopes to stabilize the slope and minimize erosion. In the bioretention basins, ground cover will consist of grass and perennial herbaceous plants only.

Landscaping will comply with each standard defensible space zone, based on distance from structures. There will be no dead plants, grass, or weeds within the landscaped area. There will be no flammable material on the wall exteriors. Trees and shrubs will not be planted within 5 feet of structures, and trees and shrubs will be trimmed to have 5 5-foot spacing with structures. Needle and leaf litter will be cleaned up on a regular basis. Tree branches will be removed to create 6 feet of clearance between the tree's lowest branch and ground vegetation or a clearance of 1/3 the height of the tree if the tree is less than 10 feet in height. Woody shrubs and volunteer trees will not occupy the space below a mature tree's crown. Within Zone 1, trees and shrubs will maintain a minimum of 10 feet of horizontal space between their crowns. Landscaped area will be irrigated, and the vegetation within the landscaped areas will maintain a higher level of fuel moisture than the undeveloped areas on the surrounding hillsides, even in dry conditions.

These actions in landscaping surrounding structures will significantly tame fire behavior approaching structures, making structures safer and easier to defend in potential wildfire conditions.

Table 1 below contains a list of the shade trees and ground cover proposed for installation on the project site by the project's conceptual landscape plan.

Table 1 Proposed Plants for Landscape Areas and Defensible Space Zone[3]

Species	Expected Height at Maturity (in feet)	Expected Width at Maturity (in feet)
Trees		
Acer platanoides 'Crimson King' /Crimson King Norway Maple	45	40
Acer rubrum 'Redpointe' / Redpointe Red Maple	45	35
Cedrus deodora / Deodar Cedar	80	40
Lagerstroemia hyb. 'Muskogee'/Muskogee (Lavender) Crape Myrtle	25	15
Lagerstroemia hyb. 'Tuscarora' /Pink/Red Flowering Crape Myrtle	25	15
Zelkova serrata 'Green Vase' /Green Vase Zelkova	65	65
Quercus ilex /Holly Oak	60	60
Quercus lobata /Valley Oak	70	70
Quercus virginiana 'Sky Climber' / Sky Climber Live Oak	80	80
Shrubs/Perennials/Grasses/Ground Covers/Vine		
Arbutus unedo 'Compacta' /Compact Strawberry Tree	8	8
Ceanothus 'Concha' /Concha Ceanothus	8	8

[3] Plant characteristic information obtained from San Marco Growers, Monrovia Nursery Company, Gardenia.net, Urban Forest Ecosystem Institute (UFEI), and USDA PLANTS database

Species	Expected Height at Maturity (in feet)	Expected Width at Maturity (in feet)
Cotoneaster dammeri 'Lowfast' /Lowfast Bearberry Cotoneaster	1	10
Dietes grandiflora 'Variegata' /Striped Fortnight Lily	4	3
Dianella revolute 'Little Rev' /Little Rev Dianella	4	2
Eleagnus x ebbingei 'Gilt Edge' /Gilt Edge Silver Berry	5	5
Juniperus chinensis 'Mint Julep' /Mint Julep Juniper	6	8
Juniperus horizontalis 'Blue Chip' /Blue Chip Juniper	1	8
Phlomis fruticosa /Jerusalem Sage	4	4
Rosa 'Meidrifora' /Coral Drift Rose	2	2
Rosa banksiae 'Lutea' /Yellow Lady Banks Climbing Rose	Climbing Vine	Climbing Vine
Salvia leucantha 'Santa Barbara' /Santa Barbara Sage	4	6
Rosmarinus o. 'Huntington Blue' /Huntington Blue Rosemary	2	8
Juncus patens 'Elk Blue' /Elk Blue Gray Rush	2	2
Muhlenbergia rigens /Deer Grass	5	4
Nepeta racemosa 'Walker's Low' /Walker's Low Catmint	2	3

Species	Expected Height at Maturity (in feet)	Expected Width at Maturity (in feet)
Chondropetalum tectorum /Cape Rush	3	4
Festuca mairei /Atlas Fescue	3	3
Muhlenbergia capillaris 'Regal Mist' /Regal Mist Muhly Grass	3	3
Pennisetum orientale /Oriental Fountain Grass	2	3
Verbena lilacina 'De la Mina' / Purple Cedros Island Verbena	3	3

Figure 6 contains the Project landscape plans with an overlay of the defensible space zones.

6.3 Fire Prevention During Construction

During the development of the Project, the site will transition from an open grassland to a developed commercial property on a portion of the North Site and all of the South Site. During this period, the wildfire risk will vary. Dropping as the existing land is cleared, including the removal of natural vegetation, is completed. Then, when combustible building materials are transported to the site and activities with ignition potential, such as hot work, are performed, the risk of fire increases. Fire risk, including the risk that construction activities ignite a wildfire, can be mitigated by adhering to CFC and local fire prevention requirements during construction and by modifying construction activities when there is a high risk of wildfire occurrence. This section describes the 2022 CFC Chapter 33 and the El Dorado Hills Fire Department's requirements for fire safety during construction. Adhering to the CFC and the El Dorado Hills Fire Department's requirements reduces the risk that construction activities will result in a new wildfire. It minimizes the risk that a fire spreading onto the Project site from an adjacent property will ignite the structures or building materials.

6.3.1 Precautions Against Fire

Smoking

- Smoking will be prohibited except in approved areas. A designated smoking area where smoking is permitted will be signed.

Combustible Debris, Rubbish, and Waste

- Combustible debris will not be left in structures.
- Combustible Debris, Rubbish, and Waste will be removed from buildings at the end of each work shift.

- Rubbish containers will be constructed of noncombustible materials or materials that meet a peak rate of heat release not exceeding 300 kW/m^2 when tested in accordance with ASTM E1354.
- Combustible Debris, Rubbish, and Waste will not be disposed of by burning on the site.

Electrical

- Temporary wiring for electrical power and lighting will comply with the California Electrical Code.

Storage of Flammable and Combustible Liquids and Gases

- Storage of flammable and combustible liquids and gases will be in accordance with CFC Section 5704 and Chapter 58.
- Flammable and combustible liquids and materials storage areas will be maintained clear of combustible vegetation and waste materials.
- Sources of ignition and smoking will be prohibited in flammable and combustible liquid and gas storage areas.

Vehicles and Equipment

- When not in use, Project vehicles and equipment will be parked in a designated parking or storage area with at least 30 feet of separation between the parking area and any unmanaged flammable vegetation.
- Vehicle and equipment fueling will be conducted in designated locations and at least 10 feet from combustible debris or building material storage areas.
- Vehicle and equipment fueling and servicing areas will be located at least 30 feet from any hot work areas.

6.3.2 Access For Firefighting

- Fire Apparatus access for firefighting will be provided to all construction and demolition sites.
- Fire Apparatus access for firefighting will be provided within 100 feet of temporary or permanent fire department connections, including fire hydrants.
- Fire Apparatus access must be maintained until fire apparatus access roads are available.
- Fire Apparatus access roads will be a minimum of 20 feet wide and have a vertical clearance of 13 feet 6 inches.
- Fire Apparatus access roads will be of an all-weather surface capable of supporting a minimum of 75,000 lbs. gross vehicle weight (minimum of 3 inches of AC over 8 inches of Compacted AB rock).
- Fire Apparatus access roads will be designed to meet the turning radius requirements of forty (40) feet inside and fifty-six (56) feet outside.

- Any dead-end roadway in excess of 150 feet in length will be provided with not less than a fifty-six (56) foot outside turning radius.
- Key boxes will be provided as required by CFC Chapter 5.

As soon as construction begins, Fire Department access roads will be provided for both the North Site and the South Site.

6.3.3 Water Supply

An approved water supply, either temporary or permanent, will be available for firefighting as soon as combustible building materials arrive on-site. The water supply during the Project construction will provide a minimum flow rate of 500 gallons per minute. The fire hydrant that provides this fire flow will be within 500 feet of the combustible materials and adjacent to a fire apparatus access road.

6.3.4 Fire Protection Features

- Automatic fire sprinkler systems will be tested and approved prior to occupancy of the Costco Warehouse.
- Fire extinguishers will be installed and ready for use at both the North Site and South Site near combustible material storage, flammable liquids and gases, and areas where hot work is occurring.

6.3.5 Hot Work

These requirements are primarily from California Fire Code (CFC) Chapter 35, Welding and other Hot Work, and NFPA 51B, Fire Prevention During Welding, Cutting and other Hot Work. Hot work is defined in the CFC as operations involving cutting, welding, thermit welding, brazing, soldering, grinding, thermal spraying, thawing pipe, or other similar operations. Hot work areas are defined as the areas exposed to sparks, hot slag, radiant heat, or convective heat because of the hot work.

Hot work will only be done in designated fire-safe areas and will comply with the following:

- All personnel involved in Hot Work shall be trained in the safe operation of the equipment. This will include providing training at "tailgate safety meetings." They shall also be made aware of the risks involved and emergency procedures, such as how to transmit an alarm and who is responsible for calling 9-1-1.
- Signage required in areas where workers may enter, indicating "Caution; Hot Work in progress; Stay Clear" would be posted on site.
- Hot work would not be done on any containers containing or having contained flammable liquids, gases, or solids until they have been thoroughly cleaned, purged, or inerted.
- A dry chemical fire extinguisher with a minimum rating of 4A:80BC, a 5-gallon backpack pump or water fire extinguisher, and a 46-inch round point shovel shall be readily accessible within 25 feet of the hot work area.
- The safety manager shall inspect the hot work area before issuing a permit and shall then make daily inspections.
- Welding and cutting would comply with 2022 CFC Chapter 35- Welding and Hot Work.
- Electric arc hot work would comply with CFC Chapter 35.

- Piping manifolds and Hose Systems for Fuel Gases and Oxygen would comply with CFC Section 3509.
- Cylinder use and storage shall comply with 2022 CFC Chapter 53, "Compressed Gases."
- Personal Protective Clothing would be selected to minimize the potential for ignition, burning, trapping hot sparks, and electric shock.
- A fire watch will be in place for a minimum of 30 minutes, or longer as considered necessary.
- Any ignitions would be immediately extinguished (as much as possible) by site personnel, and the fire department would be notified of the incident.

6.3.6 Fuel Modification

Prior to the start of construction, both the North Site and South Site development footprints would be cleared of all existing vegetation. This will result in the removal of all of the vegetation on the South Ste and the North Site, except for a strip along the northeast side of the development footprint. During construction, the CFC chapter 49 and PRC 4291 required a 100-foot defensible space area to be maintained around each structure. Fuel modification would also be performed within 20 feet of a site access road and along Silva Valley Parkway and Clarksville Crossing.

Within the development footprint for both sites, fuel modification would include removing or mowing to a height of less than four inches any vegetation that grows in the graded areas. For the North site, a 50— to 70-foot-wide strip of the annual grasslands on the hillsides northeast of the development footprint will be mowed to a height of four inches or less prior to May 1st.

Prior to the start of any vegetation management activities, it is recommended that the developer have a certified biologist survey the project site to identify any areas containing protected species or habitats, and have the biologist mark the areas with sensitive species and habitats so vegetation management crews can avoid those areas. If sensitive species or habitats are identified, the California Department of Fish and Wildlife (CDFW) should be contacted at least ten days prior to beginning work.

6.3.7 Red Flag Warning Protocol

The National Weather Service issues Red Flag Warnings, indicating that conditions are such that wildfire ignitions and spread are likely to occur (e.g., low humidity, high winds). The Red Flag Warning protocol is intended to raise on-site construction crews' awareness of the fire danger and limit activities that pose a high risk of igniting a wildfire.

During Red Flag Warning or Watch periods, no hot work or open flames will be performed unless the El Dorado Hills Fire Department has been consulted to discuss the type of hot work activity and the precautions that will be taken. Other construction, operation, maintenance, and decommissioning activities may proceed during these periods under heightened awareness conditions.

To ensure compliance with Red Flag Warning restrictions, the National Weather Service website will be monitored daily during normal conditions or 2 to 3 times a day during Red Flag Warnings at the Project site during construction and decommissioning (National Weather Service 2024).

6.4 Timing and Responsible Parties

Table 2 below summarizes all project recommendations, including the timing for implementation and the responsible party for completion.

Table 2. Summary of Project Fire Risk Mitigation Recommendations

Recommendation	Responsible Party	Timing
Construction Fire Safety		
Fire Apparatus Access	Project Manager	After the Completion of grading and site clearing
Permanent or Temporary Water Supply	Project Manager	Prior to the delivery of combustible materials
Hot Work	Project Manager, Staff performing Hot Work	During hot work operations
Fire Extinguishers	Project Manager	Prior to the delivery of combustible materials
Precautions Against Fire	Project Manager	Set up at the beginning of construction and maintained throughout the entire project.
Fire Protection Features	Project Manager	Prior to occupation
Fuel Modification	Project Manager	Completed prior to May 1st
Red Flag Warning (RFW) Protocol	Project Manager	When NWS issues RFW
Fire and Life Safety Features		
Fire Apparatus Access Roads	On-site Costco Manager	Inspect annually, repair or replace as needed.
Water Supply	On-site Costco Manager	Inspect and certify every 12 months
Fire and Life Safety Systems (Fire Alarm, Fire Sprinklers, etc.)	On-site Costco Manager	Inspect and certify every 12 months
Fire Alarm	On-site Costco Manager	Inspect and certify every 12 months
Fire Extinguishers	On-site Costco Manager	Inspect and certify every 12 months
Housekeeping	On-site Costco Manager, all staff	Daily
Signage	On-site Costco Manager	Inspect annually, repair or replace as needed.
Defensible Space		

Recommendation	Responsible Party	Timing
Landscaping, installation	Project Manager	Inspect and confirm the functioning of the irrigation system and the proper plant layout prior to project completion.
Landscaping, maintenance	On-site Costco Manager	Weekly inspections of the vegetation for maintenance needs should be conducted, and the irrigation system should be inspected annually.
Hillside Vegetation Management	On-site Costco Manager	Completed prior to May 1st

7 Project Impacts to Adopted Emergency Response Plans or Emergency Evacuation Plans

All development proposed for the Project would be designed, constructed, and maintained to comply with applicable local, regional, state, and/or federal requirements related to emergency access, fire protection, and evacuation. The El Dorado Hills Fire Department and CAL FIRE would perform a fire and life safety review, respectively, prior to approval of the Project plans and documents.

An emergency plan describes a comprehensive emergency management system that provides for the planned response to disaster situations associated with natural disasters, technological incidents, terrorism, and nuclear-related incidents. The County of El Dorado and the community of El Dorado Hills utilize the following documents to respond to major emergencies and disasters.

- 2024 El Dorado County Multi-Jurisdictional Hazard Mitigation Plan.
- El Dorado County - Emergency Operations Plan
- El Dorado County - Local Hazard Mitigation Plan

The El Dorado County Emergency Operations Plan identifies a broad range of potential hazards and a general response plan (County of El Dorado 2023). While evacuation routes for the Project area are not identified in the Emergency Operations Plan, typically, evacuation routes consist of the major interstates, highways, and prime arterials. Nearby potential evacuation routes nearest to the Project area include the Silva Valley Parkway, which is immediately adjacent to the Project, and State Highway 50, with the nearest on ramp several hundred feet south of the Project., However, specific evacuation routes would be determined based on the location and extent of the incident.

The El Dorado County Emergency Operations Plan establishes the emergency organization, assigns tasks, specifies policies and general procedures, and provides for the coordination of planning efforts of the various emergency staff and service elements of the county. The El Dorado County Emergency Operations Plan is an all-hazards plan that establishes a comprehensive framework for the management of emergency events that occur in the county or can have a significant impact on the county. The plan is designed to integrate with the plans of El Dorado County's response partners. It is consistent with the mandates of the Federal Emergency Management Agency and the California Office of Emergency Services. While the El Dorado County Emergency Operations Plan and the El Dorado County Multi-Jurisdictional Hazard Mitigation Plan address evacuation, they do not provide specific guidance on establishing evacuation routes, trigger points, or other details that describe how an evacuation would be conducted in the Project area. No officially adopted emergency evacuation plan in El Dorado County applies to the Project area.

Appendix D, El Dorado Hills Costco Warehouse- Evacuation Analysis, May 2025, details the Evacuation Analysis of the project site, which is also discussed thoroughly in Section 12, Project Impact to Community Evacuation Routes.

Overall, the Project would not impair implementation of or physically interfere with the El Dorado County Emergency Operations Plan or the county hazard mitigation plans, as it would not have any effect on the framework or procedural guidance in these plans or otherwise affect plans for wildfire mitigation or preparedness.. Therefore, the Project Plan would not interfere with adopted emergency response plans, and the impact would be **less than significant.**

8 Project Impacts to Wildfire Risk

The Project is located entirely within a CAL FIRE-designated Moderate Fire Hazard Severity Zone. Figure 3 shows the CAL FIRE Fire Hazard Severity Zone map for the Project area. The Project site and surrounding areas contain fuels (annual grasslands and woodlands) and terrain (southwest-facing hillsides) that can sustain the spread of a wildfire when weather conditions permit fire growth (May to October) and a suitable ignition source is present. Wildfires have historically happened in the area due to a variety of ignition sources, including equipment use and electrical equipment.

Construction

As noted, the Project area is partially located within a Moderate Fire Hazard Severity Zone. Heat or sparks from construction equipment or vehicles, as well as the use of flammable materials, have the potential to ignite adjacent vegetation and start a fire, especially during weather events that include low humidity and high wind speeds that are typically experienced in the fall, but can occur from May to October in the region. The following construction-related equipment and practices have the potential to generate heat or sparks that could result in wildfire ignition:

- Earthmoving and excavating equipment, chainsaws, and other small gas-powered equipment and tools can cause sparks that serve as a source of fire ignition.
- Tractors, graders, mowers, bulldozers, backhoes, cranes, excavators, trucks, and vehicles may result in heated exhaust, which, if they come into contact with vegetation, may result in fire ignition.
- Welders consist of an open heat source that may result in metallic sparks, which could ignite vegetation.

The risk of potential ignitions resulting from construction activities is very low for the vast majority of the Project development footprint. Both the North Site and the South Site will be cleared and graded during the first phases of construction. This work would remove combustible vegetation from the area where there is a risk of construction-related ignition. All of the Costco South site will be cleared and graded, so it is anticipated that there will be no combustible vegetation on site to be ignited. The development footprint of the Fuel Facility on the North Site only covers a portion of the site, and during construction, the annual grasslands on the adjacent hillside will remain intact. There is an increased ignition potential resulting from construction equipment and related activities at the North Site due to the proximity of native vegetation communities to construction activities. Therefore, the construction impacts of the proposed Master Plan related to wildfire risks would be **potentially significant.** Implementation of the Construction Fire Prevention measures in Section 6.3 would avoid significant wildfire risks associated with the construction of the project.

Operation

After the completion of the project, the area within the development footprint on both the North Site and South Site would be converted to a mix of non-combustible surfaces, ignition-resistant buildings, and maintained landscaping. Project structures, infrastructure, and landscaping would comply with the requirements in the CBC for ignition-resistant construction, and the CFC and Title 14 Minimum Fire Safe Regulations for access, water supply, and vegetation management. Structural hardening requirements address roofs, eaves, exterior walls, vents, appendages, windows, and doors, and result in hardened structures that have been proven to perform at high levels

(resist ignition) during the typically short duration of exposure to burning vegetation from wildfires. There are two primary concerns for structure ignition: 1) radiant and/or convective heat and 2) burning embers (NFPA 1144, 2008; IBHS, 2008). Burning embers have been a focus of building code updates for at least the last decade, and structures built to these codes have proven to be very ignition-resistant. Likewise, radiant and convective heat impacts on structures have been minimized through the exterior fire ratings for walls, windows, and doors. Additionally, provisions for defensible space (described below) separating wildland fuels from structures and requirements for interior sprinklers have proven to reduce the number of structure losses in WUI areas. Project structures would be required to maintain a defensible area around the entire structure and be consistent with state and local level 100-foot defensible space standards (California Public Resources Code Section 4291, EDH #W-002), As shown on Figure 5, the Project is able to achieve a 100 foot defensible space area around structures at both sites through a combination of non-combustible surfaces, fire smart landscaping, and maintenance of the adjacent annual grasslands. Therefore, with adherence to the CBC and CFC, the impacts of the Project post-development related to wildfire risks would be **less than significant.**

9 Installation or maintenance of associated infrastructure that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.

As described in Section 6.2, it would maintain defensible space around the structures at both the North Site and South Site, consistent with California Public Resources Code 4291 and El Dorado Hills Fire Department standards (#W-001 and # W—002), given its location within the CAL FIRE designated Moderate Fire Hazard Severity Zone. The Project structures and infrastructure would comply with the CBC and CFC requirements for development in an SRA Fire Hazard Severity, including adequate fire department road access and suitable water supply, given the structure's construction and size. Project components, including structures, infrastructure, and vegetation, would also comply with the CCR Title 14 Minimum Fire Safe Standards. The Project improvements, including access road construction and the installation of on-site fire hydrants and automatic fire sprinklers, would facilitate site access for responding fire agency personnel and reduce the risk of structure ignition. None of the Project components, including the Fueling Facility, is expected to exacerbate wildfire risk or result in additional temporary or permanent impacts beyond those identified in this FSP. Finally, the Project proposes to convert all of the South Site and all of the development footprint of the North Site from a hillside covered with combustible vegetation (annual grasslands) to a combination of maintained landscaping, non-combustible surfaces, and ignition-resistant structures. For these reasons, impacts to the environment resulting from the installation and maintenance of infrastructure would be **less than significant.**

Development of the Project and the resulting conversion of the lands within the development footprint from combustible vegetation to maintained vegetation, ignition-resistant construction, and non-combustible surfaces would reduce the overall wildfire risk on the Project site. A portion of both the North Site and South Site is adjacent to Silva Valley Parkway, an important transportation corridor between Highway 50 and the residential areas to the north. The development of the Project site would protect the portions of Silva Valley Parkway within the Project boundaries from being overrun during a wildfire. Fire smart landscaping, annual vegetation management, and regular irrigation as described in Section 6.2 would ensure that the emergency access roads within the Project site, as well as the important adjacent public streets, would remain open during a fire and would not likely be impacted by extreme fire behavior anticipated in unmanaged fuels.

10 Project Influence on the Risk of Post-Fire Downslope or Downstream Flooding as a Result of Run-off, Slope Instability, or Drainage Changes

Slope failures, mudflows, and landslides are common in areas with steep hillsides and embankments, and such conditions would be exacerbated in a post-fire environment where vegetative cover has been removed. The project site is located in a valley bottom at the lower end of a watershed that passes under Highway 50 (Stier PE 2021). There is minimal development downslope to or downstream from the project site. Slopes exceed 20% on the steepest parts of the Project site, but these occur on short sections of the hillside. The average slope across the Project site is approximately 4%, and therefore, it is not at a high risk for slope failures, mudflows, or landslides. Further, the entire Costco South site will be developed, and post-development will be unlikely to sustain a wildfire that could remove all of the vegetation on the site and lead to post-fire soil instability.

Increases in surface runoff and erosion are also possible in a post-fire environment where surface vegetation has been removed, and steep slopes can lead to increased runoff flow velocity. As presented in Section 4.10, Hydrology and Water Quality, all near-term project development and redevelopment that introduces new impervious surfaces or replaces existing impervious surfaces would be required to include stormwater control features to reduce the potential for increased runoff and associated erosion. Finally, the irrigated and maintained landscaping in Voorhis Ecological Reserve and the Agricultural Field Laboratories are not expected to be burned (removed) entirely should a fire occur on the near-term project sites, unlike post-fire conditions in native vegetation, where complete removal is common. Considering these near-term project site features and characteristics, post-fire conditions are not expected to increase risks associated with runoff and erosion. Therefore, potential impacts associated with runoff, post-fire slope instability, or drainage changes due to the near-term projects would be **less than significant**.

11 Local Fire Protection Capability and Water Supply for Fire Suppression

The El Dorado Hills Costco project is located within the jurisdiction of the El Dorado Hills Fire Department (EDHFD); however, the project does not have agreement with the EDHFD yet to provide emergency services to site and the property is still described on CAL FIRE Fire Hazard Severity Maps as being located in the State Responsibility Area (SRA) with CAL FIRE having the responsibility to provide emergency services to the project site (CAL FIRE 2024). Water service in the area of the project site is provided by the El Dorado Irrigation District (EID), but the site is not currently in EID's service area.

At this time, the project does not have 'Will-Serve' agreements with either agency; however, will serve agreements are a condition of project approval, and for this report, it is assumed that both agencies will annex the project into their service territories.

11.1 Fire Protection Capability

The El Dorado Hills Fire Department is an ISO rated Class 3/3x Fire Department with seven fire stations serving the communities of El Dorado Hills, Latrobe, and Rescue. The project site is located at approximately equal distances and travel times to three EDHFD fire stations. Station 86 is located east of the project site on Bass Lake Road, approximately 2.8 road miles from the project site, with a projected travel time of 5 minutes. Station 85 is located west of the project site on El Dorado Hills Boulevard, approximately 2.7 road miles from the project site, with a projected travel time of 6.5 minutes. Station 87 is located south of the project on Golden Foothill Parkway, approximately 2.8 miles from the project site, with a projected travel time of 6.5 minutes.

The EDHFD has sufficient staffing and equipment to provide emergency fire protection services to the project site and meets the requirements for fire protection response and capacity described in Chapters 5 and 6 of the El Dorado County General Plan [Policies 5.7.1.1, 5.7.4.1, 5.7.4.2, and 6.2.3.1].

Table 3 lists the three closest El Dorado Hills Fire stations, along with their respective travel distances and travel times to the Project site.

Table 3 Location and Response Times for the Nearest Fire Stations to the Project

Station Name	Fire Station Address	Maximum Travel Distance[4]	Maximum Travel Time**
El Dorado Hills Fire Station 85	1050 Wilson Blvd, El Dorado Hills, CA 95762	2.7 mi.	6 minutes and 20 seconds
El Dorado Hills Fire Station 86	3670 Bass Lake Rd, El Dorado Hills, CA 95762	2.8 mi.	6 minutes and 35 seconds
El Dorado Hills Fire Station 87	4680 Golden Foothill Pkwy, El Dorado Hills, CA 95762	2.8 mi.	6 minutes and 35 seconds

[4] Maximum Travel Distance from the fire station to the Costco Warehouse entrance on Silva Valley Parkway

Travel distances are derived from Google road data. In contrast, travel times are calculated using response speeds of 35 mph, consistent with the nationally recognized National Fire Protection Association (NFPA) 1710 and Insurance Services Office (ISO) Public Protection Classification Program's Response Time Standard formula (Time=0.65 + 1.7(Distance). The ISO response travel time formula discounts speed for intersections, vehicle deceleration, and acceleration, and does not include turnout time.

11.2 Water Supply

The El Dorado Irrigation District (EID) will provide water service to the project. There is an existing EID water main located in Clarksville Crossing that the Project's new water mains would connect to. Based on the requirements in Chapter 5, Appendix B, and Appendix C of the 2022 CFC, it meets the requirements for fire protection response and capacity described in Chapters 5 and 6 of the El Dorado County General Plan [Policies 5.7.1.1 and 6.2.3.1]. The project would be required to meet a minimum fire flow rate of 3000 gallons per minute for a duration of two hours and install a minimum of five fire hydrants around the Costco Warehouse.

12 Project Impact on Community Evacuation Routes

12.1 Background

Appendix D, Evacuation Analysis, a technical memorandum prepared by Kittelson and Associates, created in May 2025, provides an evacuation transport analysis and is summarized in this section. The Evacuation Analysis provides estimates of roadway capacity constraints during wildfire evacuations, potential impacts to the roadway network under wildfire evacuation scenarios, and changes in travel times associated with the proposed Project. The Evacuation Analysis describes two different wildfire event scenarios for both existing and near-term (2034) conditions at the Project site and the surrounding residential communities. The two different wildfire event scenarios include one fire igniting in the northeast of the Project site and one fire igniting southwest of the Project site.

12.2 Analysis

12.2.1 Scenarios

The Evacuation Analysis evaluates the transportation-related impacts of the Project during the two wildfire evacuation scenarios, which are summarized in Table 4. To maintain consistency with the Traffic Impact Analysis (TIA), the Evacuation Analysis examines potential evacuation effects under the Existing and Near-Term (2034) conditions. To account for the worst-case scenario, all the scenarios are analyzed during the afternoon peak hour, which represents the peak traffic volume during a typical week: the sum of background traffic in the area plus traffic from the Project development, assuming Costco members and employees are in the warehouse and residents in the evacuation area are at home. Accordingly, this study evaluates transportation-related impacts during the afternoon peak hour for the two wildfire scenarios under the following conditions: existing no project, existing plus project, near-term (2034) no project, and near-term (2034) plus project. The near-term (2034) no project and plus project conditions include the projected land use development and trip generation for the remainder area, which is the approximately 13.79-acre portion of the Project site that is not proposed for development. Thus, the remainder area is not considered in the existing plus project conditions.

Table 4. Evacuation Analysis Wildfire Scenarios

	Wildfire Scenario #1	Wildfire Scenario #2
Ignition Location	Northeast of the Project site	Southwest of the Project site
Wind Direction	North-northeast	Southwest
Direction of Fire Spread	Southwest towards the Project site	Northeast towards the Project site
Time to reach the Project site	~143 minutes (2 hours 23 minutes)	Does not reach the Project site due to fire breaks, including riparian vegetation and a paved roadway west of the Project site

12.2.2 Evacuation Assumptions

Transportation activity was modeled for the worst-case scenario under which people in the surrounding areas would evacuate. This period is assumed to be the afternoon peak hour when the sum of background traffic in the area plus traffic from the Project development is greatest during a typical week.

Baseline travel represents normal travel patterns during the afternoon peak hour, as included in the El Dorado County travel demand model. Evacuation travel represents the estimated number of evacuation trips and the travel time from each evacuating Traffic Analysis Zone (TAZ) to an evacuation destination. TAZs are assigned a combination of Baseline travel and Evacuation travel (25% and 75%, respectively), based on their presence in the designated evacuation area.

For each of the two wildfire evacuation scenarios analyzed in this study, the following are the evacuation area boundaries: For wildfire Scenario #1, the evacuation area is assumed to be bounded by Serrano Parkway on the north, US 50/Old White Rock Road on the south, Silva Valley Parkway on the west, and Bass Lake Road on the east. For wildfire scenario #2, the evacuation area is assumed to be bounded by Serrano Parkway on the north, US 50/White Rock Road on the south, El Dorado Hills Boulevard on the west, and areas surrounding Tong Road between Silva Valley Parkway and Bass Lane Road.

The El Dorado County auto ownership information by Census Tract is obtained from the American Community Survey (ACS) 2023 five-year estimates. Based on this data, there are an average of 2.03 vehicles per household in El Dorado County. Therefore, the number of evacuating households is multiplied by two (rounded) to estimate the number of evacuating residential vehicles. Each evacuating employee is assumed to use one vehicle.

The evacuation analysis conservatively assumes that 75 percent of residents and 75 percent of employees would need to evacuate during a wildfire event. This is due to most residents being at home during the night and fewer being at home during the day, while most employees will be at work during the day and are much less likely to be at work at night.

65% of Costco members and employees will evacuate eastward towards Placerville, while 35% will evacuate westward towards Folsom. 80% of residents and employees outside the project area will evacuate westward towards Folsom, while twenty percent will evacuate eastward towards Placerville. Those evacuating will use US 50 to evacuate to the east or west. All Costco employees and members will evacuate during the peak hour for both scenarios. Additionally, 65% of residents and employees outside the project area will evacuate during the peak hour when under an evacuation order, and 25% will evacuate under an evacuation warning.

12.3 Results

The El Dorado County travel demand model was used to estimate travel times and volume-to-capacity ratios (V/C) ratios for each analysis scenario to understand how the Project would impact residents, employees, and Costco members in the evacuation area for each wildfire scenario. The following sections present the congestion locations and comparison of travel times for baseline conditions (no evacuation), existing conditions, and near-term (2034) conditions in No Project and Plus Project conditions for the two wildfire scenarios. The analysis is run assuming no manual traffic control is in place during the evacuation. The congestion on a roadway segment is determined based on the V/C ratio of the segment derived from the El Dorado County travel demand model. Congestion locations are classified as shown in Table 5.

Table 5. Congestion Classification based on Volume-to-Capacity (V/C) ratio

Volume to Capacity Ratio	Congestion Classification
≤ 0.9	Under Capacity
0.9 to 1.0	Near Capacity
≥ 1.0	Over Capacity

12.3.1 Scenario #1, Existing Conditions

The Project will increase travel time in traffic with a variation between 0.1 and 1.0 minutes (0-5% increase). Although the volume-to-capacity ratio increases along US 50 towards Folsom and Placerville, the volume-to-capacity ratio changes with the addition of Project traffic are minimal. The overall roadway capacity is expected to remain under full capacity (v/c < 1.0).

12.3.2 Scenario #1, Near Term (2034) Conditions

The Project will increase travel time in traffic with a variation between 0.1 and 0.8 minutes (1-4% increase). Volume-to-capacity ratio increases along US 50 towards Folsom and Placerville, and along Serrano Parkway between Silva Valley Parkway and El Dorado Hills Boulevard. The overall roadway capacity is expected to remain under full capacity (v/c < 1.0). The change in roadway capacity is estimated to be minimal.

12.3.3 Scenario #2, Existing Conditions

The Project will increase travel time in traffic with a variation between 0 and 1.2 minutes (0-6% increase). Although volume-to-capacity ratio increases along US 50 towards Folsom and Placerville, and along Serrano Parkway between Silva Valley Parkway and El Dorado Hills Boulevard, the volume-to-capacity ratio changes with the addition of Project traffic are minimal. The Overall roadway capacity is expected to remain under full capacity (v/c < 1.0) for most of US-50 near the project site, but some segments are estimated to have a roadway capacity over capacity (v/c > 1.0).

12.3.4 Scenario #2, Near Term (2034) Conditions

The Project will increase travel time in traffic with a variation between 0.1 and 0.6 minutes (0-3% increase). Overall roadway capacity is expected to remain under full capacity (v/c < 1.0) for most US-50 near the project site, but some segments are estimated to have a roadway capacity over capacity (v/c > 1.0). Although the volume-to-capacity ratio increases along US 50 towards Folsom and Placerville, and along Serrano Parkway between Silva Valley Parkway and El Dorado Hills Boulevard. The change in roadway capacity is estimated to be minimal.

13 Conclusion

The El Dorado Hills Costco project proposes to construct a Costco retail center, parking facilities, and a fuel facility on a vacant site in the El Dorado Hills community. The project site is located just north of Highway 50 and next to Silva Valley Parkway. The project site and surrounding area have been designated as a Moderate Fire Hazard Severity Zone. Since 1935, the project's general area has experienced 20 large wildfires. Current conditions on the site and on the adjacent properties would sustain the spread of a wildfire. Because of this risk, the El Dorado Hills Fire Department has required the developer of this project to create a Fire Safe Plan as a condition of approval for the project. This Fire Safe Plan is intended to document the conditions present on the site that could contribute to the ignition or spread of a wildfire and the elements of the project that help mitigate this risk of a new wildfire igniting or spreading on the project site.

This Fire Safe Plan describes the current wildfire environment for the project site, including the elements required for a wildfire to grow, such as fuels, terrain, and weather. Also described is the existing road system and the adjacent land uses. The report then describes the elements that the developer intends to incorporate into the Costco building, the parking lot, and the surrounding landscaping that will reduce the risk of a new fire starting on the site, limit the ability of a wildfire to spread on the site, and allow firefighters to engage a nearby wildfire safely.

Upon completion of the proposed project, the site will lack terrain and fuels that can sustain the rapid growth of a wildfire. The Costco building, located on a large bench in the middle of the site, will have an exterior constructed out of ignition-resistant and non-combustible materials, so it would not be at an increased risk of ignition. The entire site will be easily accessible for fire apparatus from multiple points. In addition to not increasing the risk of starting or spreading a wildfire, the project can be served by the existing roads, water supply, and fire department without requiring an upgrade to public facilities. Finally, the project would not substantially impact the evacuation of the surrounding residential communities.

This plan concludes that the project does not exacerbate the wildfire risk in the project area.

14 References

Carpenter, Courtney, NOAA/National Weather Service. 2022. Fire Weather Zone Records for Fire Weather Watches and Red Flag Warnings for Zones 217, 267,269, and 272. Sacramento, CA.

CAL FIRE. 2025. Fire Hazard Severity Zone Viewer. Accessed on January 16, 2025. Accessed on January 16, 2025. https://experience.arcgis.com/experience/03beab8511814e79a0e4eabf0d3e7247/.

Syphard, Alexandra D.; Keeley, Jon E. 2016. Historical reconstructions of California wildfires vary by data source. International Journal of Wildland Fire, 25(12), 1221-1227.

Brink, Mike, P.E., El Dorado Irrigation District (EID) 2022. Facility Improvement Letter (FIL)3631FIL. Placerville, CA: March 20, 2022.

City of Folsom 2020. City of Folsom Emergency Operations Plan (EOP). City of Folsom, CA. Date of Access: October 18, 2020. Retrieved from https://www.folsom.ca.us/residents/emergency-information

City of Folsom 2020. City of Folsom Emergency Operations Plan (EOP), Appendix E-2 Emergency Evacuation Plan. City of Folsom, CA. Date of Access: October 18, 2020. Retrieved from https://www.folsom.ca.us/residents/emergency-information

Alexandra D. Syphard, 2019. The Relative Influence of Climate and Housing Development on Current and Projected Future Fire Patterns and Structure Loss Across Three California Landscapes. GLOBAL ENVIRONMENTAL CHANGE; Alexandra D. Syphard, et al., Housing Arrangement and Location Determine the Likelihood of Housing Loss Due to Wildfire (Mar. 28, 2012) PLOS ONE, available at https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0033954

El Dorado County. 2025. Planning Division-Projects in Your Area. Accessed on June 4, 2025, at https://www.eldoradocounty.ca.gov/Land-Use/Planning-and-Building/Planning-Division

El Dorado County. 2024. Planning Division Notice of Public Hearing Serrano Village A14. Planning and Building Department, Planning Division. July 10, 2024. Placerville, CA.

El Dorado County. 2019. El Dorado County General Plan, Chapter 5 Public Services and Utilities Element. Placerville, CA: El Dorado County Board of Supervisors. December 12, 2019. Date of Access: September 24, 2022. Retrieved from:https://www.edcgov.us/Government/Planning/pages/Adopted_General_Plan.aspx

El Dorado County. 2019. El Dorado County General Plan, Chapter 6 Public Health, Safety, and Noise Element. Placerville, CA: El Dorado County Board of Supervisors. December 12, 2019. Date of Access: September 24, 2022. Retrieved from:https://www.edcgov.us/Government/Planning/pages/Adopted_General_Plan.aspx

El Dorado Hills Area Planning Advisory Committee. 2025. Projects Under Review. https://edhapac.org/documents/

Iowa Environmental Mesonet. 2025. Automated Data Plotter-Number of Watch/Warning/Advisories Issued Per Year + Top Ten Daily. Accessed on April 11, 2025, at https://mesonet.agron.iastate.edu/plotting/auto/?q=90

National Weather Service. 2024. Fire Weather. https://www.weather.gov/fire/

INTENTIONALLY LEFT BLANK

Figure 1 Project Vicinity Map



SOURCE:

DUDEK

0 125 250 Feet

FIGURE 1

Project Location

EDH 52 and Costco South Fire Safe Plan

Figure 2 Project Site Plan



SOURCE: Bing Imagery 2024; OpenStreetMaps 2019

DUDEK

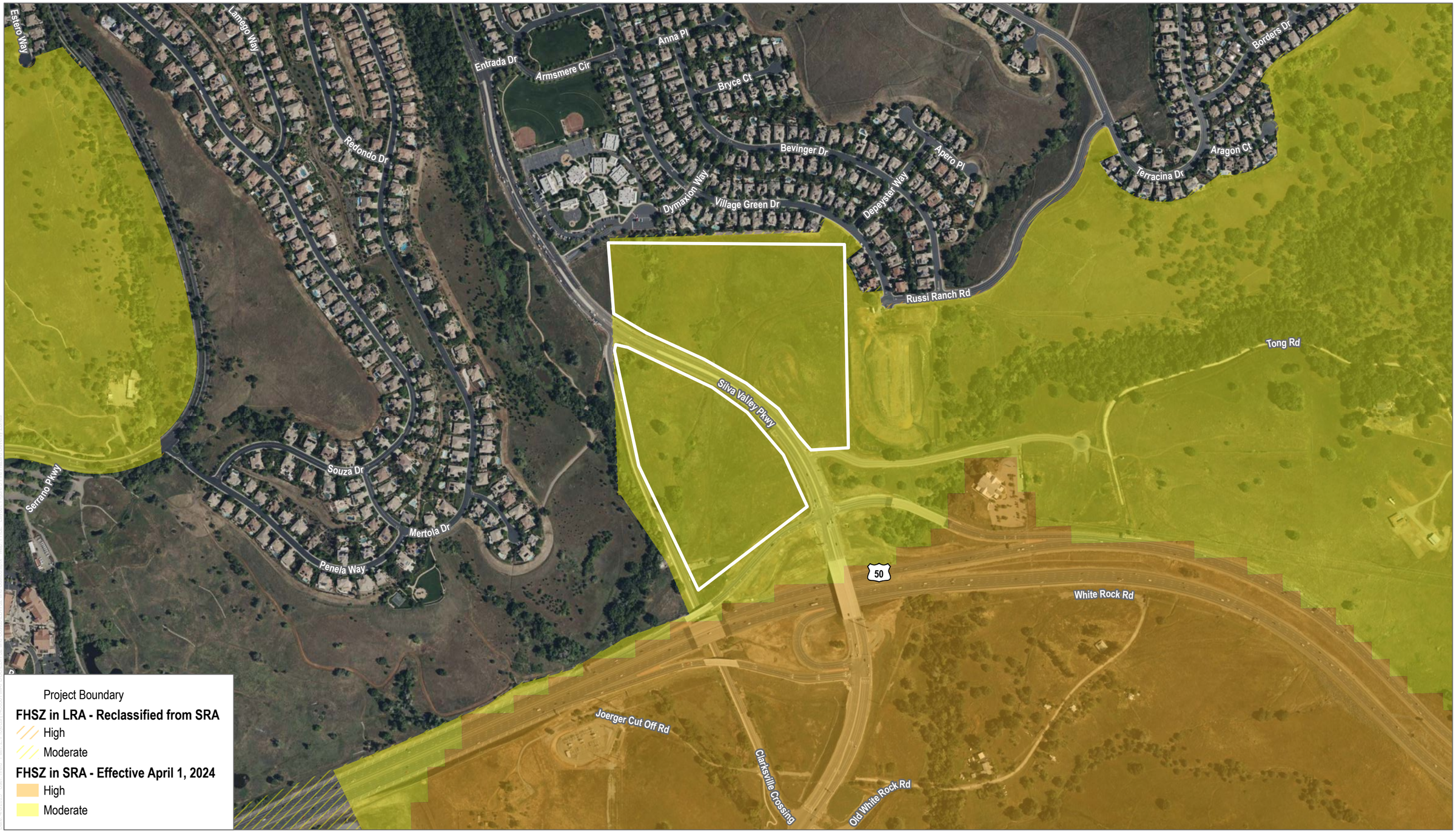
0 140 280 Feet

FIGURE 2

Site Plan

EDH 52 and Costco South Fire Safe Plan

Figure 3 CAL FIRE Fire Hazard Severity Zone Map



SOURCE: Bing Imagery 2024; OpenStreetMaps 2019; CalFire 2024

DUDEK

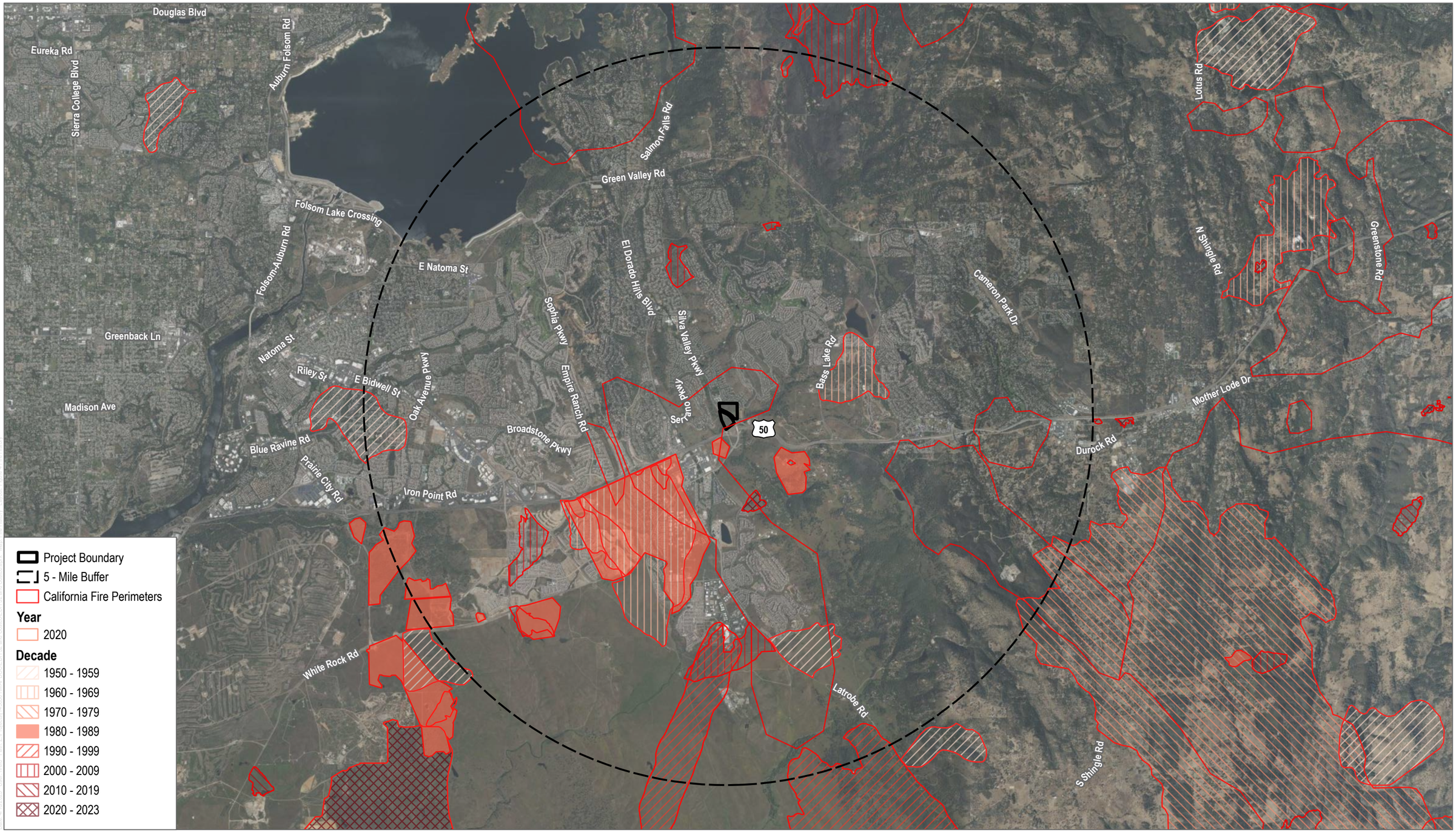
0 245 490 Feet

FIGURE 3

Fire Hazard Severity Zone

EDH 52 and Costco South Fire Safe Plan

Figure 4 Fire History Map



SOURCE: Bing Imagery 2024; OpenStreetMaps 2019; CalFire 2024

DUDEK

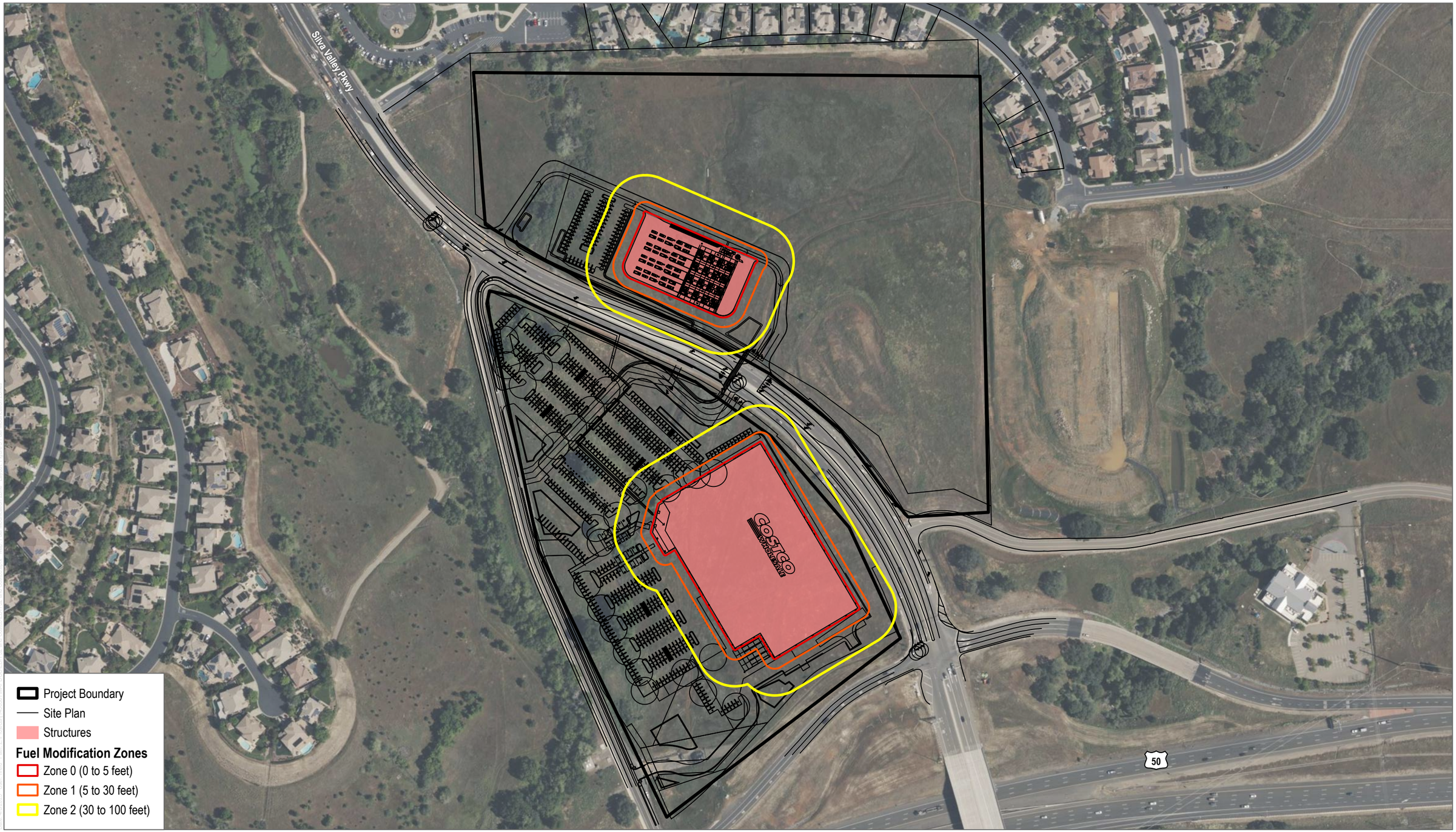
0 0.5 1 Miles

FIGURE 4

Fire History

EDH 52 and Costco South Fire Safe Plan

Figure 5 Defensible Space Zones Map



SOURCE: Bing Imagery 2024; OpenStreetMaps 2019

DUDEK

0 115 230 Feet

FIGURE 5

Fuel Modification Zones

EDH 52 and Costco South Fire Safe Plan

Figure 6 Landscape Plans with Defensible Space Zones Overlay



Fuel Modification Zones

- Zone 0 (0 to 5 feet)
- Zone 1 (5 to 30 feet)
- Zone 2 (30 to 100 feet)

IRRIGATION DESIGN STATEMENT:

The irrigation system will be a water efficient low flow, point source system designed to provide adequate watering to support plant growth and insure deeply rooted plant material while avoiding excess water application. The system will be programmable, allowing operation during late night and or early morning hours, with multiple start times and cycles. The system will interface with a weather based sensor that will adjust the amount of water applied to the plant material based on daily weather conditions. Irrigation materials specified for the site will be selected on the basis of durability and ease of maintenance. Landscape irrigation will comply with the California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELO).

Note: All landscape areas will be irrigated.

LANDSCAPE DATA:

Costco Site Coverage

Costco Warehouse Site Area:	17.04 AC	(742,282 SF)
Costco Fuel Site Area:	3.25 AC	(143,261 SF)
Total Costco Site Area:	20.33 AC	(885,523 SF)
Landscape Area Provided:	318,349 SF	(35.95%)

Shading Requirements:
Required: 50% parking lot shading at 15 years
Provided: 55.8%

Upper Level Parking:
Provides 100% shading of lower level parking

WUCOLS LEGEND:

L Low Water Use

M Moderate Water Use

Plant Legend

Symbols	Botanical/ Common Name	Size	WUCOLS (Water Use Classification or Landscapes Species)	Qty.	Comments
	Trees				
	Acer platanoides 'Crimson King' / Crimson King Norway Maple	24" box	M	77	Matched Standards
	Acer rubrum 'Redpointe' / Redpointe Red Maple	24" box	M	85	Matched Standards
	Lagerstroemia hyb. 'Muskogee' / Muskogee (Lavender) Crape Myrtle	24" box	L	30	Matched Standards
	Lagerstroemia hyb. 'Tuscarora' / Pink/Red Flowering Crape Myrtle	24" box	L	9	Matched Standards
	Zelkova serrata 'Green Vase'/ Green Vase Zelkova	24" box	L	58	Matched Standards
	Quercus ilex/ Holly oak	24" box	L	29	Matched Standards
	Quercus lobata / Valley Oak	24" box	L	36	Matched Standards
	Cedrus deodora / Deodar Cedar	24" box	L	37	Matched in Size
	Shrubs, Perennials, Ornamental Grasses, Ground Covers and Vine				
	Arbutus unedo 'Compacta' / Compact Strawberry Tree	15 gal.	L		
	Ceanothus 'Concha' / Concha Ceanothus	5 gal.	L		
	Cotoneaster dammeri 'Lowfast' / Lowfast Bearberry Cotoneaster	1 gal.	M		
	Dietes grandiflora 'Variegata' / Striped Fortnight Lily	1 gal.	L		
	Dianella revolute 'Little Rev'/ Little Rev Dianella	1 gal.	L		
	Eleagnus x ebbingei 'Gilt Edge' / Gilt Edge Silver Berry	15 gal.	L		
	Festuca matrei / Atlas Fescue	1 gal.	L		
	Muhlenbergia capillaris 'Regal Mist' / Regal Mist Muhly Grass	1 gal.	L		
	Muhlenbergia rigens / Deer Grass	1 gal.	L		
	Pennisetum orientale / Oriental Fountain Grass	1 gal.	L		
	Juniperus chinensis 'Mint Julep'/ Mint Julep Juniper	5 gal.	L		
	Juniperus horizontalis 'Blue Chip' / Blue Chip Juniper	1 gal.	L		
	Phlomis fruticosa / Jerusalem Sage	1 gal.	L		
	Rosa 'Meidiflora' / Coral Drift Rose	5 gal.	M		
	Rosa banksiae 'Lutea'/ Yellow Lady Banks Climbing Rose	15 gal.	M		
	Salvia leucantha 'Santa Barbara' / Santa Barbara Sage	5 gal.	L		
	Rosmarinus o. 'Huntington Blue' / Huntington Blue Rosemary	1 gal.	L		
	Stormwater Treatment Planter				
	Tree				
	Quercus Virginiana 'Sky Climber' / Sky Climber Live Oak	24" box	L	13	Matched Standards
	Perennials and Grasses				
	Chondropetalum tectorum / Cape Rush	5 gal.	L		
	Epilobium septentrionale 'Select matlole' / Select Matlole California Fuchsia	1 gal.	L		On slope embankment only
	Juncus patens 'Elk Blue' / Elk Blue Gray Rush	1 gal.	M		
	Muhlenbergia rigens / Deer Grass	1 gal.	L		
	Nepeta racemose 'Volker's Low' / Walker's Low Catmint	1 gal.	L		On slope embankment only
	Verbena lilacina 'Del La Mina' / Purple Cedros Island Verbena	1 gal.	L		On slope embankment only

0 40' 80' 160'

1"= 80'

COSTCO WHOLESALE
EL DORADO HILLS, CA

DB+A
DAVID BABCOCK + ASSOCIATES
ARCHITECTURE PLANNING LANDSCAPE
3551 MT. DIABLO BLVD., SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

DBA# P.290
NOVEMBER 27, 2024

PRELIMINARY LANDSCAPE PLAN
L-1

COSTCO WHOLESALE
EL DORADO HILLS, CALIFORNIA

PRELIMINARY LANDSCAPE PLAN
NOVEMBER 27, 2024

SOURCE: Costco 2025

FIGURE 6
Landscape Plans
EDH 52 and Costco South Fire Safe Plan

Appendix A
EDHFD Fire Safe Plan Requirements (From #W-002)

EL DORADO HILLS FIRE DEPARTMENT
FIRE PROTECTION STANDARD

Wildland Urban Interface Fire Protection Plans
STANDARD #W-002 EFFECTIVE 6-6-2022 REVISED 6-6-22

I. PURPOSE:

The purpose of this standard is to communicate the minimum fire safe regulations of the State of California, County of El Dorado (EDC) and the local Fire Code Official for the formation, implementation and on-going use of a *Wildland Urban Interface Fire Protection Plan* (Fire Safe Plan) for new developments and special use permits hereafter created.

II. BACKGROUND:

The California Fire Code (CFC) Section 4903.1 (Where Required), amended by ordinance in EDC by each local fire authority, states: *The fire code official of the fire district may require development projects located in Moderate, High and Very-High Fire Hazard Severity Zones to submit a fire protection plan. This plan shall be approved by both the fire code official and the authorized representative for the local CAL FIRE Unit Chief, if located in the State Responsibility Area (SRA), prior to the recording of the final map for the project by the County of El Dorado.*

III. SCOPE:

This standard identifies when a Fire Safe Plan is required, common definitions associated with the plan creation, who is qualified to prepare plans, the framework for a plan, and how the plan is to be implemented by the property owner or responsible party to mitigate conditions that might cause a wildfire to transmit fire to buildings, threaten to destroy life, overwhelm fire suppression capabilities, or result in large property losses. This standard does not supersede the

fire code official's authority to require more restrictive requirements than those described in this document.

IV. WHERE REQUIRED:

An approved Fire Safe Plan shall be prepared for the following types of development projects:

A. The creation of a Specific Plan or similar large-scale project.

B. The creation of five (5) or more parcels as part of a parcel or subdivision map.

C. A change in zoning or issuance of a discretionary permit which proposes to increase intensity or density.

D. New commercial or industrial uses located in High or Very-High Fire Hazard Severity Zones.

E. Where in the opinion of either CAL FIRE or the local Fire Code Official it is deemed necessary due to the fire risk or fire hazard associated with the property.

EXCEPTIONS:

1. Accessory and junior accessory dwelling units.
2. Roads used solely for agricultural, mining, or the management and harvesting of wood products.

V. AUTHORITY CITED:

A. County of El Dorado General Plan 6.2.2.2 (Limitations to Development).

B. 2019 California Fire Code (CFC), Chapter 4, Chapter 4 (Emergency Planning & Preparedness).

C. 2020 Local Fire District Ordinance, Chapter 49, Section 4903.1 (WUI Fire Protection Plans).

D. 2021 Title 14 of the California Code of Regulations, Division 1.5, Chapter 7, Subchapter 2, Articles 1-5 (Fire Safe Regulations).

E. 2019 California Building Code (CBC) Chapter 7A (Materials & Construction Methods for Exterior Wildfire Exposure)

F. Fire Hazard Planning Technical Advisory Guide (2020) – Governor's Office of Planning & Research

VI. DEFINITIONS:

A. **Access –** The roads on a route from a building to the nearest collector road.

B. **Authority Having Jurisdiction (AHJ) -** A fire department, agency, division, district, or other governmental body responsible for regulating and/or enforcing minimum fire safety standards.

C. **Building –** Any structure utilized or intended for supporting or sheltering any occupancy.

D. **Biomass** – Refers to "green waste" materials generated during the defensible space clearing project. This includes grass, weeds, and tree trimming materials.

E. **CAL FIRE** – Refers to the California Department of Forestry and Fire Protection.

F. **CWPP –** Refers to the El Dorado County Community Wildfire Protection Plan.

G. **Defensible Space** – Is the design and maintenance of natural and/or landscaped areas around a structure to reduce the danger from an approaching wildfire. Defensible space is intended to reduce the threat of wildfire spread from the wildland threat area to adjacent structures. It is also intended to provide access to firefighters for fire suppression actions and to provide a safe zone for them to work. Defensible space is based on three general concepts:

1. Zone 0 - 0-5'; Ember Resistant Zone
2. Zone 1 – 5'-30'; Lean, Clean and Green Zone
3. Zone 2 – 30'-100'; Reduced Fuel Zone
4. Fuel removal or reduction within 100' of structures in all directions
5. Thinning, pruning and removal of dead vegetation and continuous dense uninterrupted layers of vegetation
6. Removal of ladder fuels within 6'-10' to prevent fire spread from surface fuels into tree canopies.

H. **Development –** means the uses to which the land which is the subject of a map shall be put, the buildings to be constructed on it, and all alterations of the land and construction incident thereto.

I. **Emergency Vehicle/Evacuation Access Road (EVA)** - A road or other connection designed to connect directly to a through road and used to comply with 14CCR §1273.08 (Maximum Length of New Dead-end Roads). The road shall serve as a secondary means of emergency vehicle access and civilian evacuation for the project.

J. **Fire Code Official –** The fire chief or other designated authority charged with the administration and enforcement of the code, or a duly authorized representative.

K. **Firefighting Water Supply –** Water supply that is dedicated to the use of the fire department for the suppression of any type of fire.

L. **Fire Hazard –** Is the dangerous accumulation of flammable fuels in open space areas and other wildland urban interface areas. It is typically described at the landscape (area) level. Usually referring to the density of live or dead vegetation that may be ignited by the various fire risks or causes that can increase a fires intensity or rate of spread. Fire hazard is based on the vegetation types likely to be present over the next 50 years that contribute to fire severity and ember production, the topography of the area and the average fire weather conditions present in the area.

M. **Fire Resistant Vegetation** – Plants, shrubs, trees, and other vegetation which exhibit properties, such as high moisture content, little accumulation of dead vegetation, and low sap or resin content, that make them less likely to ignite or contribute heat or spread flame in a fire than native vegetation typically found in the region. **Note**: The following sources contain examples of vegetation that can be considered fire resistant vegetation. (Fire Resistant Plants for Home Landscapes, A Pacific Northwest Extension publication; Home Landscaping for Fire, University of California Division of Agriculture and Natural Resources; Sunset Western Garden Book).

N. **Fire Risk** – Is the potential damage a fire can cause to buildings, critical assets/infrastructure and other values at risk in individual open space areas and other

wildland urban interface areas. Fire risk does consider modification that may affect susceptibility of property to damage such as defensible space, fire sprinkler systems and building construction that can reduce the risk of burning embers igniting buildings. Fire hazard does not equal fire risk but is an important factor in determining fire risk.

O. **Fuel Break** – A strategically located area where the volume and arrangement of vegetation has been managed to limit fire intensity, fire severity, rate of spread, crown fire potential and/or ember production.

P. **Greenbelts** – Agricultural lands, open space, parks, wildlands, or a combination thereof, as designated by a local jurisdiction, which surround or are adjacent to a city or urbanized area, and restrict or prohibit development.

Q. **Greenways** – Linear open spaces or corridors that link parks and neighborhoods within a community through natural or manmade trails and paths.

R. **Local Responsibility Area (LRA)** – Those areas of land not classified by the State Board of Forestry where the financial responsibility of preventing and suppressing wildfires is that of the State or Federal government, PRC §4125.

S. **Public Temporary Refuge Area** – A gathering point for residents if they are temporarily evacuated from their residence, or when evacuation routes are obstructed by smoke, incoming emergency equipment, or directly threatened by fire as a last resort.

T. **Shaded Fuel Break** – Is a strategy used whereby a strip of land containing fuel (for example, living trees and brush, and dead branches, needles, or downed logs) has been modified to reduce the amount of combustible materials to act as a "strategic landscape" to limit the fire's ability to spread rapidly. Constructing a shaded fuel break is the process of selectively thinning and removing more flammable understory vegetation while leaving the majority of larger tree species in place. Along roadways, shaded fuel breaks create safer ingress and egress routes for fire personnel and citizens.

U. **Shelter in Place**[i] – Is a community approach to protecting neighborhood and individual homes from the imminent threat of a wildfire when residents are unable to evacuate. The communities are built to specific fire safety standards adopted by the AHJ that may allow

the residents who are unable to evacuate to remain inside their ignition-resistant home until the immediate emergency is over.

V. **State Responsibility Area (SRA)** – Areas of the State in which the financial responsibility of preventing and suppressing fires has been determined by the State Board of Forestry and Fire Protection, to be primarily the responsibility of the State, PRC §4102.

W. **Wildfire** – Any uncontrolled fire spreading through vegetative fuels that threatens to destroy life, property, or resources, PRC §4103 and 4104.

X. **Wildland-Urban Interface (WUI)** – A geographical area identified by the State as a "Fire Hazard Severity Zone" in accordance with the PRC §4201 through 4204 and Government Code §51175 through 51189, or through the Healthy Forest Restoration Act of 2003 (Public Law 108-148), as an area within or adjacent to an at-risk community that is identified to be at a significant risk from wildfires.

VII. REQUIRED PERMITS:

A. Concurrent with the submission of an application for a Parcel Map or Tentative Subdivision Map that would result in a total of five (5) or more parcels, or other entitlement application for projects described in Section IV, to the County of El Dorado, the project applicant shall submit the required Fire Safe Plan to the AHJ and CAL FIRE - Amador-El Dorado- Unit (AEU) for approval.

B. Prior to the approval of a certificate of occupancy for a building the project shall demonstrate to the satisfaction of the AHJ and CAL FIRE that the project complies with all applicable provisions found in the Fire Safe Plan.

C. Prior to the recording of a Parcel Map or approval of a Final Subdivision Map, or other entitlement for projects described in Section IV, by the County of El Dorado, the project shall adequately demonstrate that all provisions of the Fire Safe Plan, including the maintenance of green belts, greenways, fuel breaks, shaded fuel breaks and other vegetation management requirements, have either [1] been met to the satisfaction of the

AHJ and CAL FIRE; or [2] that a development agreement or bonding of the required infrastructure has been agreed to by the AHJ and CAL FIRE.

D. Prior to June 1st each year the property owner or their representative shall demonstrate to the satisfaction of the AHJ and CAL FIRE that the project [1] complies with all relevant provisions of the Fire Safe Plan; and [2] that all fire hazards in the development have been mitigated.

E. Fire Safe Plans shall be reviewed and updated by the property owner no less than once every five calendar years after its original approval to ensure that the project complies with all current regulations and requirements for existing developments. The AHJ and CAL FIRE shall review and approve this plan update prior to its use.

VIII. QUALIFICATIONS & LICENSES REQUIRED FOR PLAN DEVELOPMENT:

The following persons and / or concerns are qualified to prepare and submit Fire Safe Plans on behalf of the development projects described in Section IV.

A. California licensed foresters, landscape architects and arborists with fire behavior experience.

B. Certified Wildfire Mitigation Specialists.

C. Subject matter experts deemed qualified by the fire code official and CAL FIRE.

D. A AHJ or other approved federal, state or local agency.

IX. FIRE SAFE PLAN REQUIREMENTS:

A. Fire Safe Plans shall be based on a site-specific wildfire risk assessment that includes considerations of location, topography, aspect, flammable vegetation, climatic conditions, and fire history. The plan shall address water supply, emergency vehicle access, building ignition and fire-resistance factors, fire protection systems and equipment, defensible space, fuel breaks, buffer zones and vegetation management to

reduce hazard severity and risk. Fire Safe Plans shall be formatted in the following areas to ensure consistency:

1. A cover sheet that identifies the name of the project, the County of El Dorado Planning Permit Number (if applicable), the date prepared and the name of the concern that prepared the plan.
2. A plan signature page that includes the name and organization of the plan preparer, CAL FIRE – Amador & El Dorado Unit (AEU) representative and the authorized representative for the AHJ.
3. A section of the plan shall identify the following features of the project:
   a. Total size of the project
   b. Information on the adjoining properties on all sides, including current land uses, and, if known, existing structures and densities, planned construction, natural vegetation, environmental restoration plans, roads and parks.
   c. A map with all project boundary lines, slope contour lines, proposed structure foundation footprints, and proposed roads and driveways. The map shall also identify fuel modification zones and methods of identifying the fuel modification zone boundaries.

4. A section of the plan shall summarize all recommendations for the project, the timing in which the recommendations are to be implemented, and who the responsible party is to complete these recommendations.

B. The plan shall evaluate whether the project will substantially impair an adopted emergency response plan or emergency evacuation plan. The plan shall identify potential mitigation measures that can be adequately employed to reduce the impacts caused to the existing response or evacuation plan.

C. The plan shall evaluate whether the project exacerbates the wildfire risk due to slope, prevailing winds and other factors. The plan shall identify potential mitigation measures that can be adequately employed to reduce the overall wildfire risk due to the factors identified.

D. The plan shall identify the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or on-going impacts to the environment. The plan shall identify potential mitigation measures for vegetation reduction around emergency access, evacuation routes and associated infrastructure that can be implemented to ensure that this infrastructure is installed and maintained by the project and successor parties.

E. The plan shall identify whether the project will expose people or structures to significant risks, including downslope or downstream flooding or landscape, as a result of runoff, post-fire slope instability, or drainage changes.

F. The plan shall evaluate [1] the local fire protection capabilities; and [2] fire suppression water supply capabilities to adequately serve the project and make recommendations to improve or mitigate deficiencies identified during the analysis of the project.

G. The plan shall evaluate community wildfire evacuation routes required for the project for their capacity, safety, and viability under a range of scenarios and to ensure consistency with CAL FIRE, CAL OES and AHJ requirements.

H. The plan shall provide legally binding statements regarding community responsibility for the maintenance of fuel modification zones. The legally binding statements shall be

incorporated into the project covenants, conditions, and restriction regarding property owner responsibilities for vegetation maintenance.

I. The plan shall include a map identifying all proposed plants in the fuel modification zones with a legend that includes a symbol for each proposed plant species. The plan shall include specific information on each species proposed, including but not limited to:

1. The plant life-form
2. Scientific and common name; and
3. Expected height and width of mature growth

The map shall identify irrigated and non-irrigated zones. The map shall identify all points of access for equipment and personnel to maintain vegetation in common areas.

J. The cost of fire safe plan preparation and review shall be the responsibility of the project applicant.

K. The use of alternative materials, designs and methods of construction and equipment proposed within a FSP shall be approved by the AHJ in accordance with CFC §104.9.

L. Applications for appeal of provisions found in a FSP shall be heard by the AJH Board of Appeals in accordance with CFC §109.

M. The approved fire safe plan shall be retained by both the AHJ and CAL FIRE for future use. The plan shall also be provided to the project applicant and successor parties for use in implementing the plan provisions.

Approved By:

Ronald A. Phillips, Project Management Specialist

Maurice Johnson, Fire Chief

HOW TO DISTINGUISH CHANGES TO THIS STANDARD FROM PRIOR STANDARD PROVISIONS

Indicates a new standard section has been added.

RED indicates language changes have been made since the previous version of this standard.

[i] The shelter in place concept is normally associated with new communities and developments where fire protection features such as defensible space, home hardening, Class A roofs, automatic fire sprinkler systems, etc.... are present.

Appendix B
Regulatory Environment: Wildfire Prevention Codes, Laws, and Regulations Relevant to the Costco Project

The Costco project will be consistent with the following codes and regulations:

- **2019 California Building Code, Ch. 7A** – Materials and Construction Methods for Exterior Wildfire Exposure: minimum standards for a new building located in a WUI area to resist the intrusion of flame or burning embers projected by a vegetation fire.
- **2019 California Fire Code, Chapter 49** – Requirements for Wildland-Urban Interface Fire Areas: minimum standards to increase the ability of a building to resist the intrusion of flame or burning embers being projected by a vegetation fire.
- **2019 California Code of Regulations, Title 14, Div. 1.5, Ch. 7, Sub-Ch. 2** – SRA/VHFHSZ Fire Safe Regulations: minimum wildfire protection standards in conjunction with building, construction, and development in the SRA and VHFHSZ.
- **California Public Resources Code, Div. 4, Part 2, Ch. 3, Sec. 4290**: minimum fire safety standards related to defensible space in Hazardous Fire Areas; **Sec. 4291**: Defensible space maintenance on Mountainous, Forest-, Brush- and Grass-Covered Lands.
- **California Government Code, Title 5, Div. 1, Part 1, Ch. 6.8, Sec. 51175-51189**: Very High Fire Hazard Severity Zones.
- **California Government Code, Title 7, Div. 2, Ch. 4, Sec. 66474.02**: requirements for tentative map approval in a very high fire hazard severity zone.

- **El Dorado County General Plan, Public Health, Safety, and Noise Element, Policy 6.2.3.1:** The project proponent and the responsible fire protection district must provide the County with evidence of adequate emergency water flow, fire access, and firefighting personnel and equipment in accordance with applicable State and local fire district standards.

- **El Dorado County General Plan, Public Health, Safety, and Noise Element, Policy 6.2.3.2:** The project proponent must demonstrate to the County that adequate emergency access exists at the site and private vehicles can safely evacuate the area.

- **El Dorado County General Plan, Public Services and Utilities Element, Policy 5.2.1.2:** An adequate quantity and quality of water for all uses, including fire, shall be provided for with discretionary development.

- **El Dorado County General Plan, Public Health, Safety, and Noise Element, Policy 5.7.2.1:** The responsible fire protection district shall be requested to determine the ability of the district to provide protection at acceptable levels because of the new development.

Appendix C
Reference Photos



Photo Number 1. Looking south from the intersection of Silva Valley Parkway and Clarksville Road



Photo Number 2- Looking north at the riparian vegetation in the storm drain at the north end of the project site.



Photo Number 3- Looking south across the project site, Silva Valley Parkway is the roadway on the left side of the image.



Photo Number 4- Looking at the east side of the small drainage that runs through the project site.



Photo Number 5. Looking at the west side of the small drainage that runs through the project site.



Photo Number 6- Looking north across the project site from the intersection of Silva Valley Parkway and Highway 50



Photo Number 7- Looking northeast across the project site toward Oak Meadow Elementary school.



Photo Number 8- Looking south along Silva Valley Parkway. The paved and gravel areas combined are approximately 10 feet wide.

Appendix D
El Dorado Hills Costco Warehouse - Evacuation Analysis

KITTELSON & ASSOCIATES
155 Grand Avenue, Suite 505
Oakland, CA 94612
P 510.839.1742

TECHNICAL MEMORANDUM

August 20, 2025 Project# 26783

To: Ande Flower & Cameron Welch, County of El Dorado Planning

From: Grace Carsky, Sravya Kamalapuram, Amy Lopez

CC: Lt. Troy Morton, El Dorado County Office of Emergency Services; Chief Chrishana Fields, El Dorado Hills Fire; Chief Jeff Hoag, CAL FIRE

RE: El Dorado Hills Costco Warehouse - Evacuation Analysis

Introduction

Kittelson & Associates, Inc. (Kittelson) is providing an evacuation transportation analysis for the environmental impact report (EIR) of the proposed El Dorado Hills Costco warehouse development (Project) at the Silva Valley Parkway, El Dorado Hills site. This assessment provides estimates of roadway capacity constraints during wildfire evacuations, potential impacts to the roadway network under wildfire evacuation scenarios, and changes in travel times associated with the proposed Project. The assessment will cover two different wildfire event scenarios for both existing and near-term (2034) conditions. This memorandum presents the evacuation analysis methodology, results, and considerations for the County of El Dorado (County) and emergency responders including Cal FIRE, El Dorado Hills Fire Department, and El Dorado County Office of Emergency Services.

PROJECT DESCRIPTION

The proposed Project is a commercial development in El Dorado County north of US 50 along Silva Valley Parkway. It is bordered by existing residences and vacant land to the north, vacant land to the east, Clarksville Crossing to the west, and Tong Road and the US 50 westbound ramps to the south. The Project site currently is vacant. Figure 1 presents the Project location.

The Project consists of two sites on either side of Silva Valley Parkway: the North Site and South Site. The North Site will contain a fuel facility with 32 fueling positions. The South Site entails a Costco Warehouse retail center of approximately 165,000 cumulative square feet. Figure 1 presents the location of the proposed Project. Adjacent to the North Site fuel facility, future commercial development is anticipated for the surrounding vacant land (herein referred to as the "Remainder Area").

The Project is expected to generate 442 trips (221 vehicles) in the AM peak hour, 1,277 trips (638 to 639 vehicles) in the PM peak hour, and 1,697 trips (848 to 849 veicles) in the Saturday midday peak hour. During operating hours of the Costco warehouse and gas station, as many as 200 employees are expected to be on-site at any given time.



Figure 1

Costco Project Site
El Dorado Hills Costco
El Dorado County, California

KITTELSON & ASSOCIATES

H:\26\26783 - El Dorado County Costco TIA\gis\26783_Costco_EDH\26783_Costco_EDH.aprx Date: 5/19/2025

Wildfire Scenarios

To evaluate how the proposed development may affect congestion and travel times in the vicinity of the Project during wildfire evacuation scenarios, fire progression and fire behavior modeling was conducted by Dudek for the Project area. This modeling considered wildfire history, ignition sources, fuels/vegetation, and historical weather patterns for the Project site and the surrounding area. The detailed Wildfire Modeling methodology report prepared by Dudek is provided in Appendix A.

While the modeling identified three potential wildfire scenarios impacting the Project site, discussions with El Dorado County, El Dorado County Office of Emergency Services (OES), El Dorado Hills Fire Department, and the California Department of Forestry and Fire Protection (Cal FIRE) (hereby referred as the advisory group) led to the selection of two primary wildfire evacuation scenarios for further analysis. These scenarios assess wildfire behavior and evacuation strategies for area residents and Costco employees and members in the Project vicinity and nearby communities.

The details of the wildfire scenarios analyzed in this study are outlined in Table 1. Figure 2 and Figure 3 show the fire progression and fire spread for wildfire scenarios #1 and #2.

Table 1. Wildfire Scenarios

	Wildfire Scenario #1	Wildfire Scenario #2
Ignition Location	Northeast of the Project site	Southwest of the Project site
Wind Direction[1]	North/Northeast	Southwest
Fire Spread	Southwest towards the Project site	Northeast towards the Project site
Time to reach the Project Site	~143 minutes (2 hours 23 minutes)	Does not reach the Project site due to natural fire breaks including riparian vegetation and a paved roadway west of the Project site

Source: Wildfire Modeling Summary Report, Prepared by Dudek, 2025
Wind direction indicates the direction of where the wind is coming from



El Dorado Costco Project Site

Wildfire Scenario #1 (Hours Since Ignition)

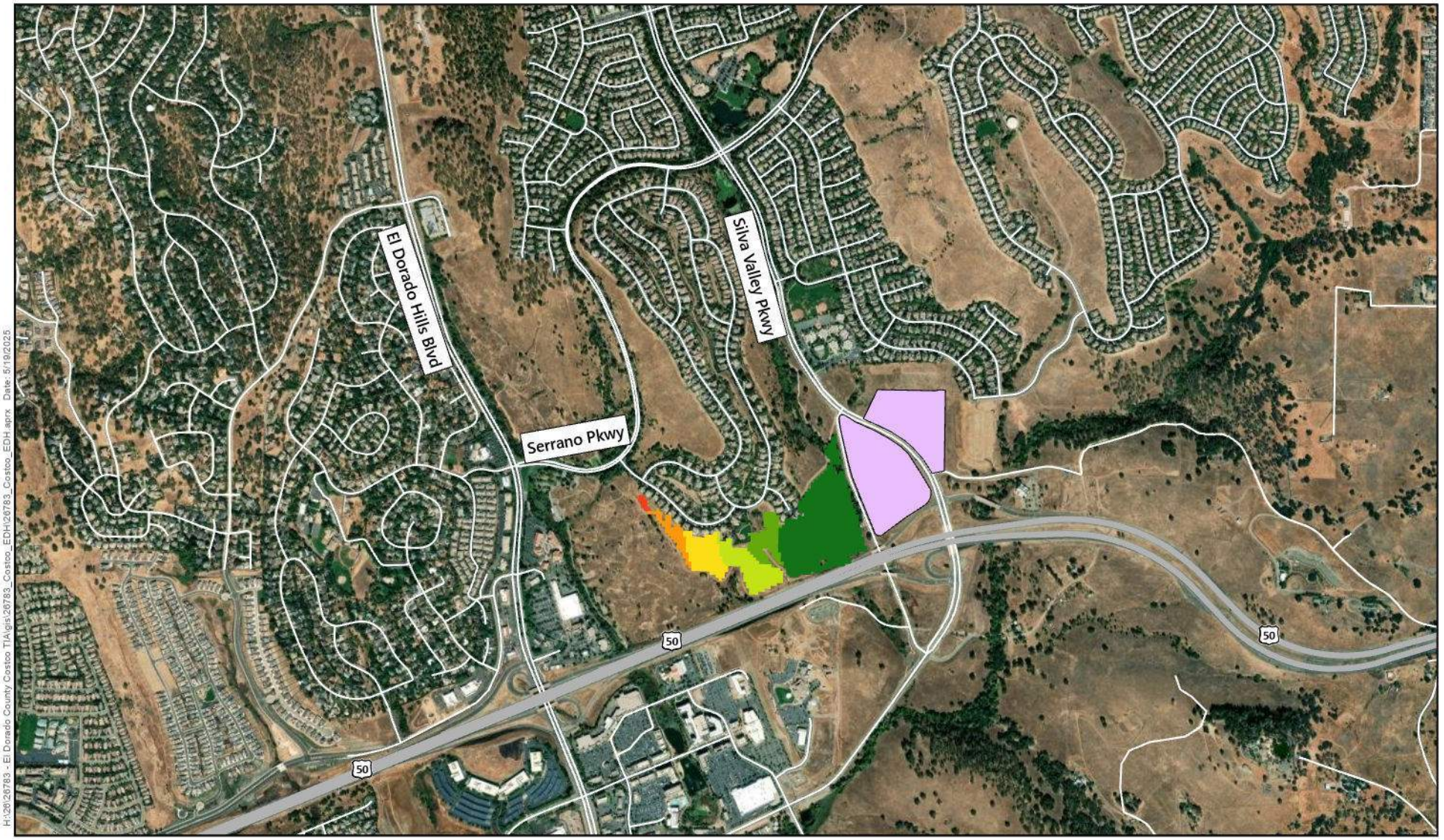
- < 1 hr
- 1 - 2 hr
- 2 - 3 hr
- 3 - 4 hr
- 4 - 5 hr
- 5 - 6 hr
- 6 - 7 hr
- 7 - 8 hr

0 1 Miles

Figure 2

Wildfire Scenario #1
Fire Progression
El Dorado Costco

KITTELSON & ASSOCIATES



H:\26\26783 - El Dorado County Costco TIA\gis\26783_Costco_EDH\26783_Costco_EDH aprx Date: 5/19/2025

El Dorado Costco Project Site

Wildire Scenario #2 (Hours Since Ignition)

- <1 hr
- 1 - 2 hr
- 2 - 3 hr
- 3 - 4 hr
- 4 - 5 hr
- 5 - 6 hr

0 1 Miles

Figure 3

Wildfire Scenario #2
Fire Progression
El Dorado Costco

KITTELSON & ASSOCIATES

Analysis Scenarios

This study evaluates the transportation related impacts of the Project during the two wildfire evacuation scenarios discussed in Table 1. To maintain consistency with the Traffic Impact Analysis (TIA) conducted by Kittleson & Associates, Inc. for the Project,[1] this study examines potential evacuation effects under the Existing and Near-Term (2034) conditions. To account for the worst-case scenario, all the scenarios are analyzed during the PM peak hour, which represents the peak traffic volume during a typical week: the sum of background traffic in the area plus traffic from the Project development, assuming Costco members and employees are in the warehouse and residents in the evacuation area are at home.

Accordingly, this study evaluates transportation related impacts during the PM peak hour for the two wildfire scenarios under the following conditions:

- Existing No Project
- Existing Plus Project
- Near-Term (2034) No Project
- Near-Term (2034) Plus Project

The Near-Term (2034) No Project and Plus Project conditions include the projected land use development and trip generation for the Remainder Area. The Remainder Area is approximately 13.79 acres and is not proposed for development as part of the current project. Thus, the Remainder Area is not considered in the Existing Plus Project conditions.

Travel Modeling Tools

The evacuation analysis uses the El Dorado County travel demand model to estimate roadway congestion and travel times in an evacuation under No Project and Plus Project conditions. The current travel model is calibrated and validated for a 2018 base year and includes a 2040 future scenario with 2040 land use forecasts and transportation improvement assumptions. Kittelson estimated land use conditions for Near-Term (2034) conditions by a linear interpolation of 2018 and 2040 land use assumptions and assuming the 2040 transportation improvements in the Project vicinity.

Evacuation Assumptions

This section outlines the assumptions made on when the residents, employees, and Costco members in the evacuation area would need to evacuate and the conditions under which they would evacuate.

[1] *EDH Costco TIA – DRAFT, February 2025*

TIME PERIOD

Kittelson modeled transportation activity for the worst-case scenario under which people in surrounding areas would evacuate. This period is assumed to be the PM peak hour when the sum of background traffic in the area plus traffic from the Project development is greatest during a typical week.

TRAVEL TYPE

Baseline travel represents normal travel patterns during the PM peak hour as included in the El Dorado County travel demand model. Evacuation travel represents estimated evacuation trips and travel time from each evacuating Traffic Analysis Zone (TAZ) to an evacuation destination. Kittelson reviewed the model's TAZs and assigned each TAZ a combination of Baseline travel and Evacuation travel (25% and 75%, respectively), based on its presence in the designated evacuation area.

EVACUATION AREA BOUNDARIES

For each of the two wildfire evacuation scenarios analyzed in this study, evacuation area boundaries were determined based on discussions with the advisory group. Accordingly, the following are the evacuation area boundaries assumed in this study.

- **Wildfire Scenario #1:** Evacuation area is assumed to be bounded by Serrano Parkway on the north, US 50/Old White Rock Road on the south, Silva Valley Parkway on the west, and Bass Lake Road on the east.
- **Wildfire Scenario #2:** Evacuation area is assumed to be bounded by Serrano Parkway on the north, US 50/White Rock Road on the south, El Dorado Hills Boulevard on the west, and areas surrounding Tong Road between Silva Valley Parkway and Bass Lane Road.

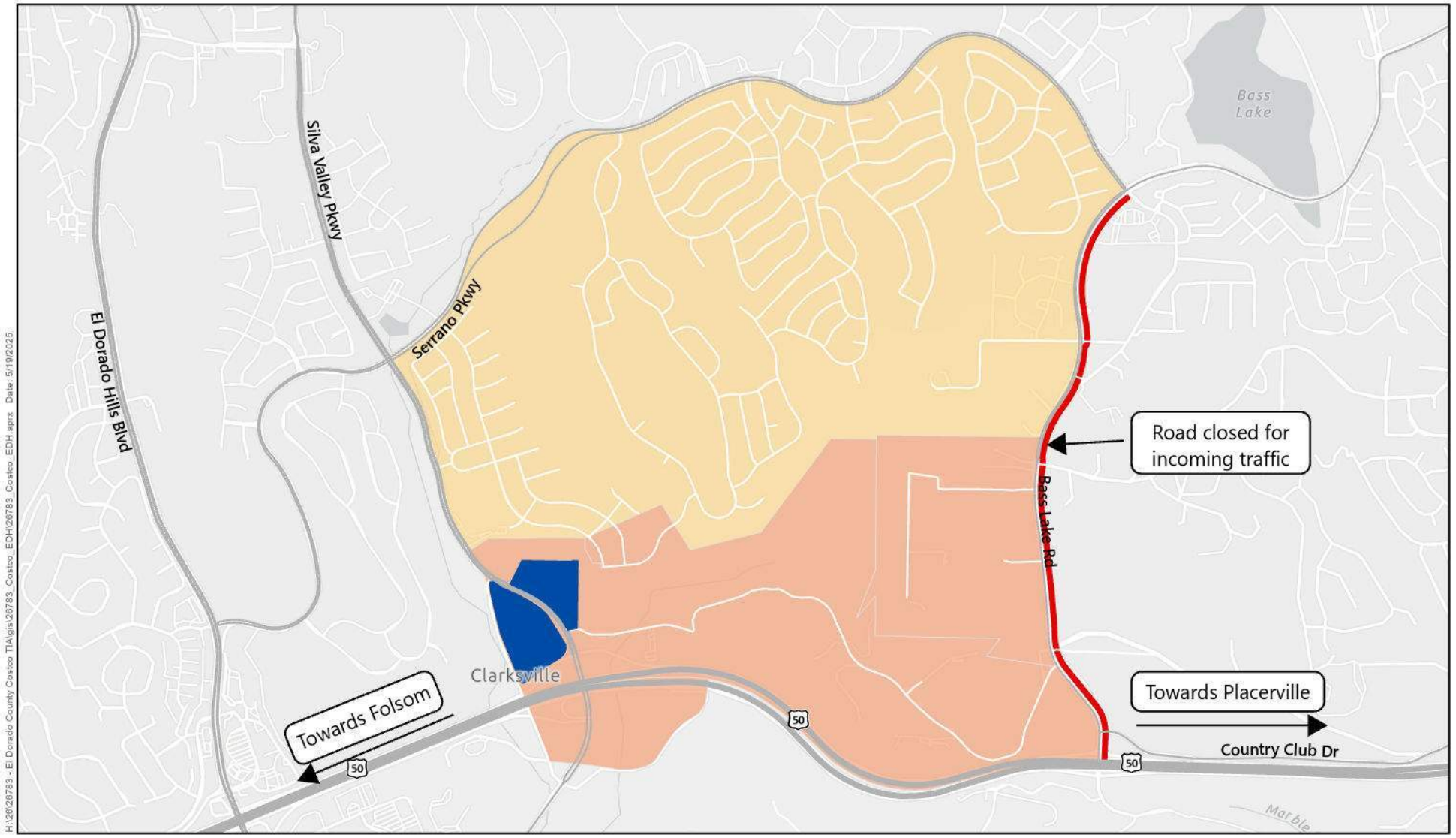
The evacuation areas are overlaid with the El Dorado County travel demand model's Traffic Analysis Zone (TAZ) map to identify the numbers of people that would need to be evacuated.

NUMBER OF EVACUATING TRIPS

Modeled trips are a function of the interactions between geographic patterns, including the land uses in an area, the socio-economic characteristics of the population in the area (e.g., auto ownership, income, and household size), and the type and extent of transportation facilities in an area. Kittelson obtained countywide land use information by TAZ (including households, population, and employment information) from the El Dorado County travel demand model for the Existing and Near-Term (2034) conditions. The land use information for Near-Term (2034) conditions also includes the projected land use for the Reminder Area, based on the County's General Plan.

The El Dorado County auto ownership information by Census Tract is obtained from the American Community Survey (ACS) 2023 five-year estimates. Based on this data, there are an average of 2.03 vehicles per household in El Dorado County. Therefore, the number of evacuating households is multiplied by two (rounded) to estimate the number of evacuating residential vehicles. Each evacuating employee is assumed to use one vehicle.

Kittelson estimated total evacuation trips by calculating the trips generated at household uses and trips generated by employees at non-residential land uses. If a fire occurs during the night, most residents would be home, but most employees would not be at their workplace. If a fire occurs during the workday, most employees would be at their workplace, but many residents would not be at their homes. The evacuation analysis conservatively assumes that 75 percent of residents and 75 percent of employees would need to evacuate during a wildfire event.



Percent Evacuating During Peak Hour*

- 25 percent
- 65 percent

- Road Closures
- El Dorado Costco Project Site

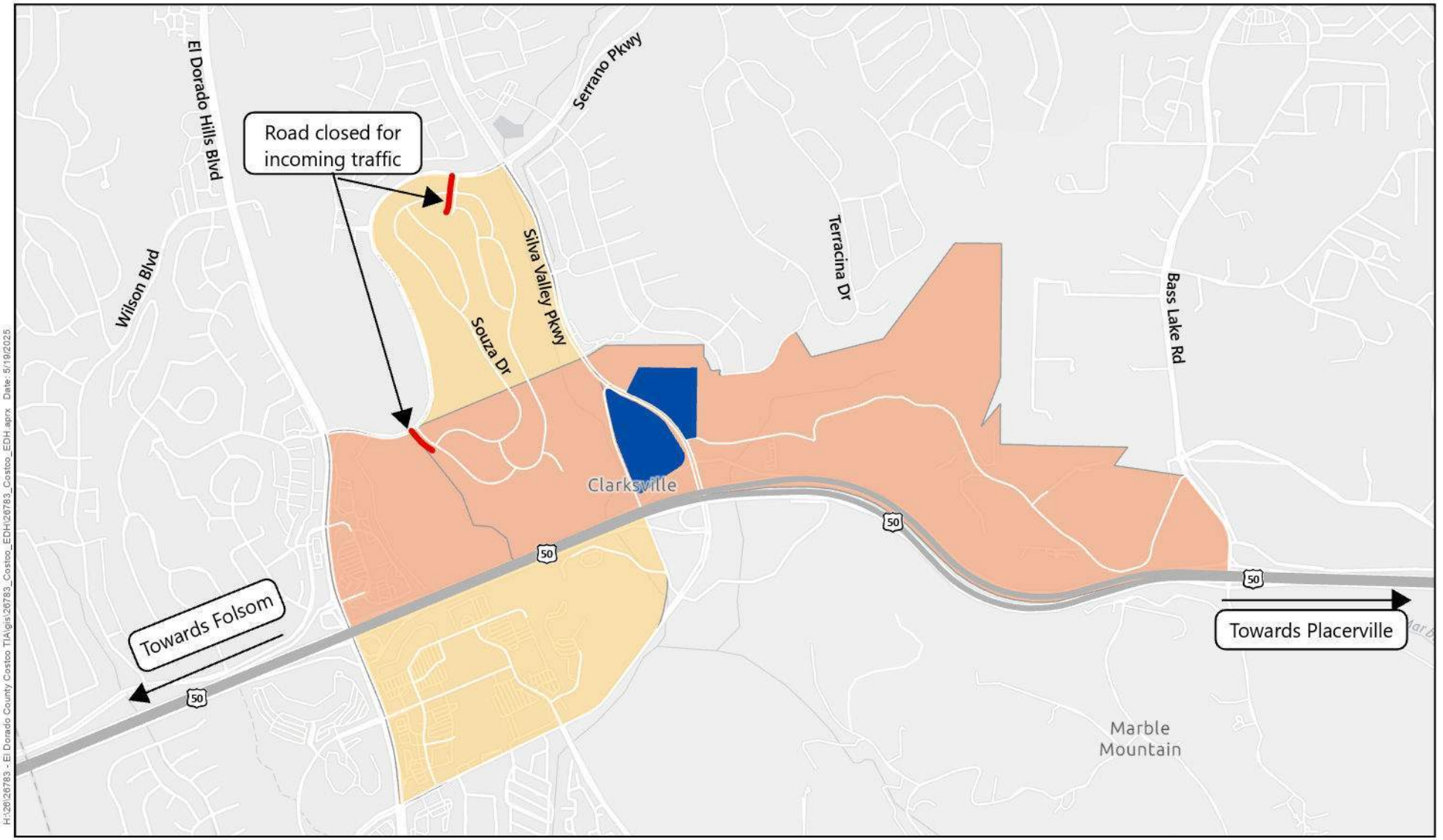
0 1 Miles

*Peak Hour is assumed to be the first hour of the evacuation, where residents, employees, customers and visitors are given evacuation orders.

KITTELSON & ASSOCIATES

Figure 4

Percent Evacuating During Peak Hour*
Wildfire Scenario #1
El Dorado Costco



Percent Evacuating during Peak Hour*

- 25 percent
- 65 percent

- Road Closures
- El Dorado Costco Project Site

0 1 Miles

*Peak Hour is assumed to be the first hour, where residents, employees, customers and visitors are given evacuation orders

KITTELSON & ASSOCIATES

Figure 5

Percent Evacuating During Peak Hour* Wildfire Scenario #2 El Dorado Costco

TRIP DISTRIBUTION

Kittelson considered separate trip distribution for the Costco members and employees and other residents and employees in the evacuation area outside of the Project site. The assumptions are as follows.

- **Costco Members and Employees**: Trip distribution assumptions were based on Costco member transaction data and a market area analysis conducted as part of the Project TIA. The analysis showed that most Costco members are expected to travel from areas east of the Project site, surrounding the City of Placerville and other parts of El Dorado County (Figure 6). Accordingly, the following evacuation trip distribution was assumed for Costco members and employees:
    - 65% evacuate eastward toward Placerville
    - 35% evacuate westward toward Folsom
- **Residents and Employees Outside the Project Site**: For residents and employees in the evacuation area outside of the Project site, trip distribution assumptions were based on existing land use, the location of evacuation destinations, and their relative proximity to the evacuation area. Accordingly, the following evacuation trip distribution was assumed for residents and employees in the evacuation area outside of the Project site:
    - 80% evacuate westward toward Folsom
    - 20% evacuate eastward toward Placerville

The trips were distributed from each of the evacuating TAZs to the evacuation destinations, as appropriate. The trip distribution is not intended to reflect a precise distribution of the routes that would be taken during an evacuation.

ROADWAY CAPACITY AND ROADWAY CLOSURES

Kittelson modeled trip patterns using the typical capacities for each roadway within and outside the evacuation area for roadways otherwise identified for road closures by the advisory group. The scenarios represent conditions without implementation of any evacuation strategies, such as manual traffic control or contraflow lanes, which could increase roadway capacity in one direction versus the other. The roadways identified for roadway closures for each of the scenarios include:

- **Wildfire Scenario #1:** Bass Lake Road is assumed to be restricted to outbound/evacuating traffic only, with no access allowed for inbound traffic.
- **Wildfire Scenario #2:** It is assumed that residential streets in the communities north of the Project site will be closed to incoming traffic and will only remain open for evacuating vehicles.

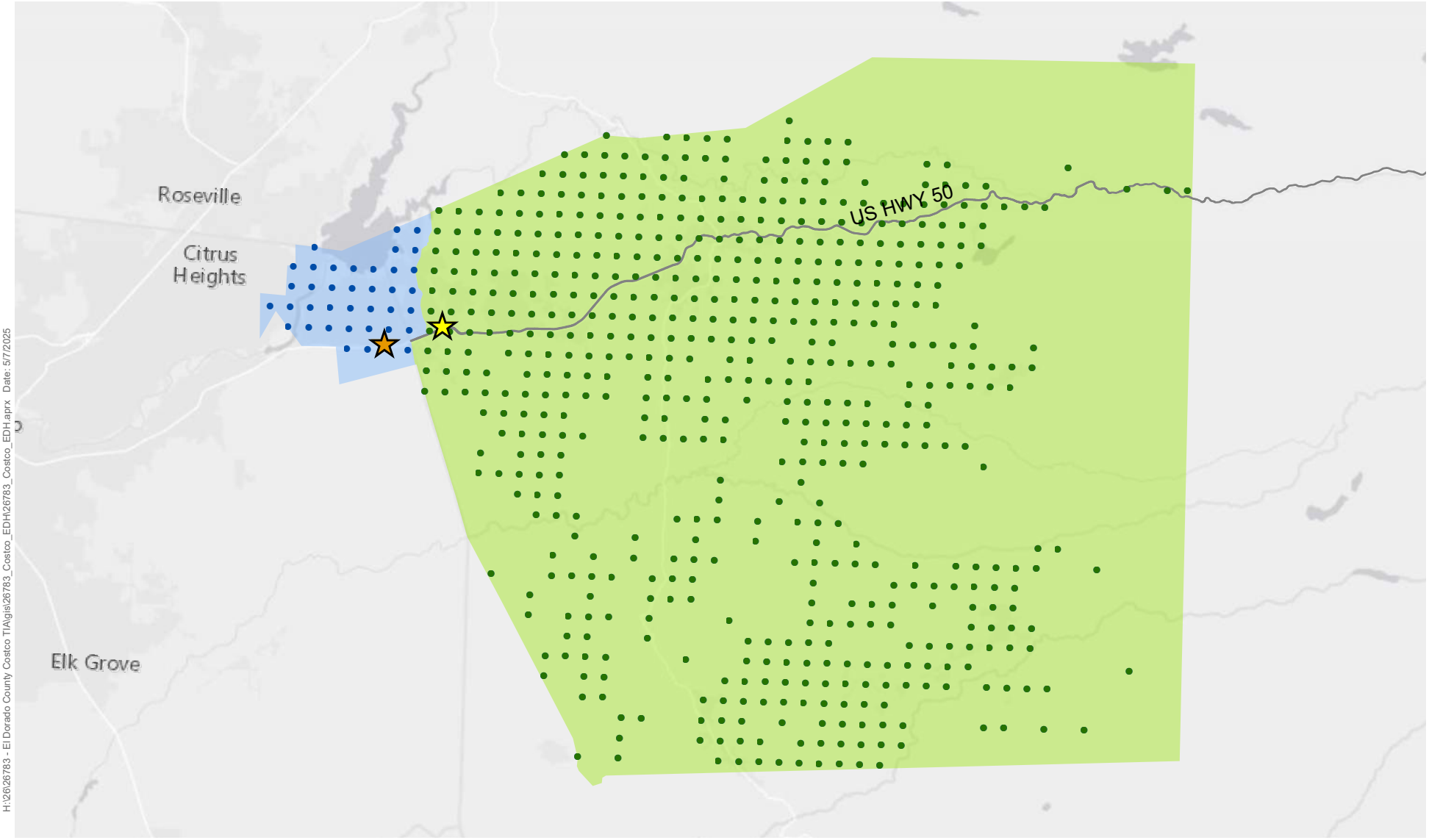


Figure 6

Future Market Areas
El Dorado Hills Costco

KITTELSON & ASSOCIATES

EVACUATION DESTINATION AND ROUTE CHOICE

Based on the conversations with the advisory group, Kittelson modeled evacuating vehicles to use US 50 to evacuate towards Folsom to the west or Placerville to the east.

The number of trips to each evacuation destination was assigned based on the location and direction of the evacuation based on the trip distribution described above. These destinations were selected for each of the evacuation scenarios with a goal of identifying evacuation travel patterns and congestion in the evacuation area and in the region.

EVACUATION ASSIGNMENT

During an evacuation event, residents and employees will receive one of three evacuation assignment orders:

- **No Action** – residents and employees do not need to evacuate or prepare for an evacuation.
- **Evacuation Warning** – residents and employees in a specific evacuation zone are ordered to prepare for an evacuation but do not need to evacuate immediately.
- **Evacuation Order** – residents and employees in a specific evacuation zone are ordered to evacuate immediately.

The peak hour for evacuation, when most vehicles evacuate, is defined differently depending on the wildfire scenario. For both wildfire scenarios, the peak hour is assumed to be the first hour of the evacuation.

The percentage of residents and employees evacuating is considered in two separate groups.

- **Costco Members and Employees:** To account for the worst-case scenario, it is assumed that all Costco members and employees will receive an evacuation order and evacuate during the peak hour in both wildfire scenarios.
- **Residents and Employees Outside the Project Site**: When an area is assigned an evacuation order or warning, it is assumed that 90 percent of residents and employees will evacuate over the duration of an evacuation and approximately 10 percent will remain behind. The estimated factors are based on survey results from people impacted by prior fires in California in UC Berkeley's Review of California Wildfire Evacuations from 2017 to 2019.[2] Based on Kittelson's conversations with the advisory group, it is assumed that evacuation will occur in phases, with different portions of the evacuation area receiving either an evacuation order or an evacuation warning.
    - Areas under an evacuation order are expected to have 65 percent of vehicles evacuating during the peak hour.
    - Areas under an evacuation warning are expected to have 25 percent of vehicles evacuating during the peak hour.

[2] *Wong, S., Broader, J. and Shaheen, P., 2022. Review of California Wildfire Evacuations from 2017 to 2019. [online] Escholarship.org. Available at:* <https://escholarship.org/uc/item/5w85z07g>

Evacuation Results

The El Dorado County travel demand model was used to estimate travel times and volume-to-capacity (V/C) ratios for each analysis scenario to understand how the Project would impact residents, employees, and Costco members in the evacuation area for each wildfire scenario. The following sections present the congestion locations and comparison of travel times for baseline conditions (no evacuation), existing conditions, and near-term (2034) conditions in No Project and Plus Project conditions for the two wildfire scenarios. The analysis is run assuming no manual traffic control is in place during the evacuation.

The congestion on a roadway segment is determined based on the V/C ratio of the segment derived from the El Dorado County travel demand model. Congestion locations are classified as shown in Table 2.

Table 2. Congestion Classification based on Volume-to-Capacity (V/C) ratio

Volume-to-Capacity (V/C) ratio	Congestion Classification
≤ 0.9	Under Capacity
0.9 to 1.0	Near Capacity
≥ 1.0	Over Capacity

Wildfire Scenario #1

This section presents the congestion location and travel times analysis under wildfire scenario #1 for all the analysis scenarios. The origin and destination location are identified based on the evacuation area boundaries identified for this wildfire scenario and likely evacuation destinations in the City of Folsom and City of Placerville. However, evacuation destinations are subject to change during an actual evacuation event based on direction from the Office of Emergency Services or evacuating persons' personal preferences.

EXISTING CONDITIONS

Figure 7 and Figure 8 show the congestion locations during wildfire scenario #1 for Existing Conditions under Evacuation No Project and Evacuation Plus Project scenarios. The following are the locations operating near or over capacity in the Existing Conditions No Project and Plus Project scenarios.

No Project

- Eastbound US 50 toward Placerville
- Eastbound and Westbound US 50 toward Folsom
- Serrano Parkway between Silva Valley Parkway and El Dorado Hills Boulevard
- El Dorado Hills Boulevard between Serrano Parkway and US 50

Plus Project

- Eastbound US 50 toward Placerville including sections adjacent to the evacuation area.
- Eastbound and Westbound US 50 toward Folsom
- Serrano Parkway between Silva Valley Parkway and El Dorado Hills Boulevard
- El Dorado Hills Boulevard between Serrano Parkway and US 50

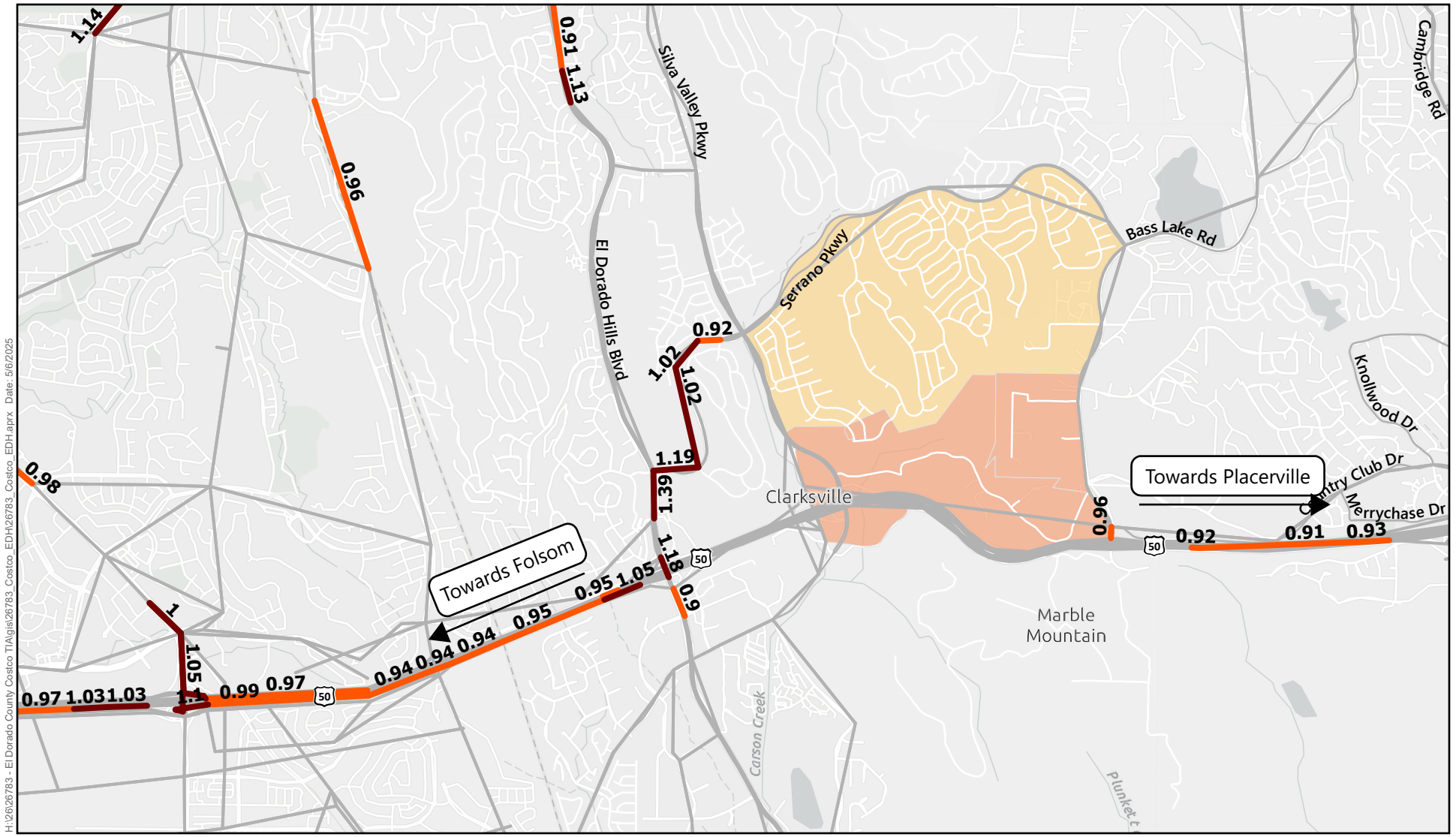
With the addition of Project traffic, volume-to-capacity ratio increases along US 50 towards Folsom and Placerville. Roadway capacity along Serrano Parkway between Silva Valley Parkway and El Dorado Hills operates over capacity under the No Project and Plus Project scenarios, though the volume-to-capacity ratio changes with the addition of Project traffic are minimal.

Table 3 shows the travel times (in minutes) during wildfire scenario #1 for existing conditions under No Evacuation, Evacuation No Project, and Evacuation Plus Project scenarios. As seen in the table below, the increase in travel time with Project traffic varies between 0.1 to 1.0 minutes (0-5% increase).

Table 3. Travel Time (minutes), Wildfire Scenario #1 - Existing Conditions

Origin	Destination	No Evacuation Travel Time (mins)	Evacuation			
			No Project Travel Time (mins)	Plus Project Travel Time (mins)	Difference (mins)	Difference (percent)
S. of Serrano Pkwy.	Folsom	9.5	10.1	10.2	0.1	1%
	Placerville	22.9	23.8	24.7	0.9	4%
W. of Bass Lake Rd.	Folsom	8.0	8.3	8.3	0.0	0%
	Placerville	19.0	19.8	20.6	0.8	4%
Old White Rock Rd.	Folsom	5.4	5.7	5.8	0.1	2%
	Placerville	19.6	20.3	21.1	0.8	4%
Village Green Dr.	Folsom	5.8	6.2	6.4	0.2	3%
	Placerville	20.6	21.3	22.3	1.0	5%
Costco	Folsom	4.6	5.0	5.2	0.2	4%
	Placerville	19.4	20.1	21.0	0.9	4%

Compiled by: Kittelson & Associates, Inc., 2025



H:\26\26783 - El Dorado County Costco TIA\gis\26783_Costco_EDH26783_Costco_EDH.aprx Date: 5/6/2025

Congestion Locations

- Under Capacity
- Near Capacity
- Over Capacity

Percent Evacuating during Peak Hour*

25 percent 65 percent

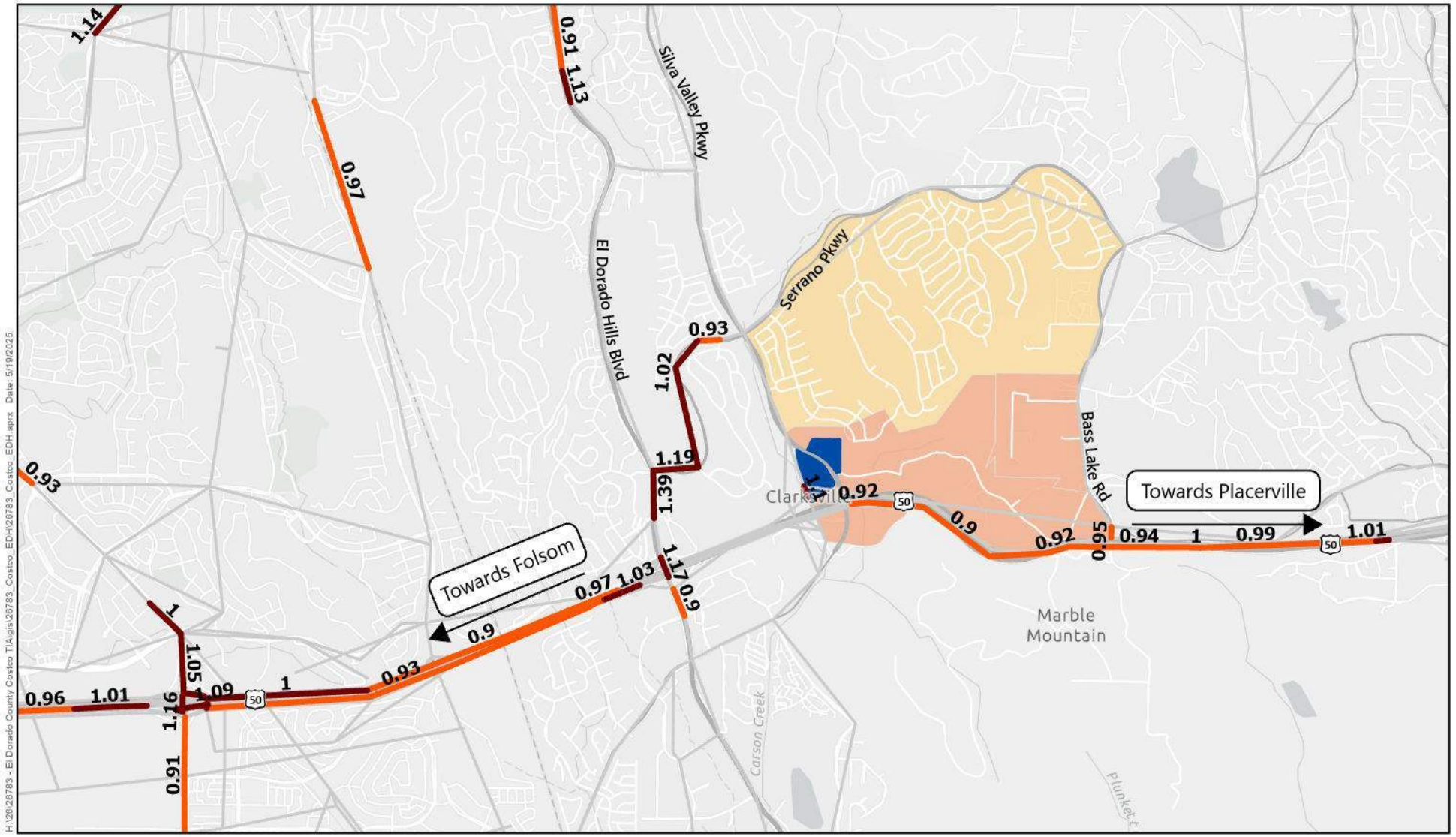
**Peak Hour is assumed to be the first hour of the evacuation, where residents, employees, customers and visitors are given evacuation orders.*

0 1 Miles

KITTELSON & ASSOCIATES

Figure 7

Congestion Locations
Wildfire Scenario #1
Existing Conditions - No Project
El Dorado Costco



Congestion Locations

- Under Capacity
- Near Capacity
- Over Capacity

Percent Evacuating during Peak Hour*

25 percent 65 percent

Costco Project Site

0 1 Miles

*Peak Hour is assumed to be the first hour of the evacuation, where residents, employees, customers and visitors are given evacuation orders

KITTELSON & ASSOCIATES

Figure 8

Congestion Locations
Wildfire Scenario #1
Existing Conditions - Plus Project
El Dorado Costco

NEAR-TERM (2034) CONDITIONS

Figure 9 and Figure 10 show the congestion locations during wildfire scenario #1 for Near Term (2034) Conditions under Evacuation No Project and Evacuation Plus Project scenarios. In the No Project and Plus Project scenarios, roadways operating near or over capacity are as follows:

No Project

- Eastbound US 50 toward Placerville
- Eastbound and Westbound US 50 toward Folsom
- Serrano Parkway connecting evacuation area to Bass Lake Road
- Serrano Parkway between Silva Valley Parkway and El Dorado Hills Boulevard
- El Dorado Hills Boulevard between Serrano Parkway and US 50

Plus Project

- Eastbound US 50 toward Placerville
- Eastbound and Westbound US 50 toward Folsom
- Serrano Parkway connecting evacuation area to Bass Lake Road
- Serrano Parkway between Silva Valley Parkway and El Dorado Hills Boulevard
- El Dorado Hills Boulevard between Serrano Parkway and US 50

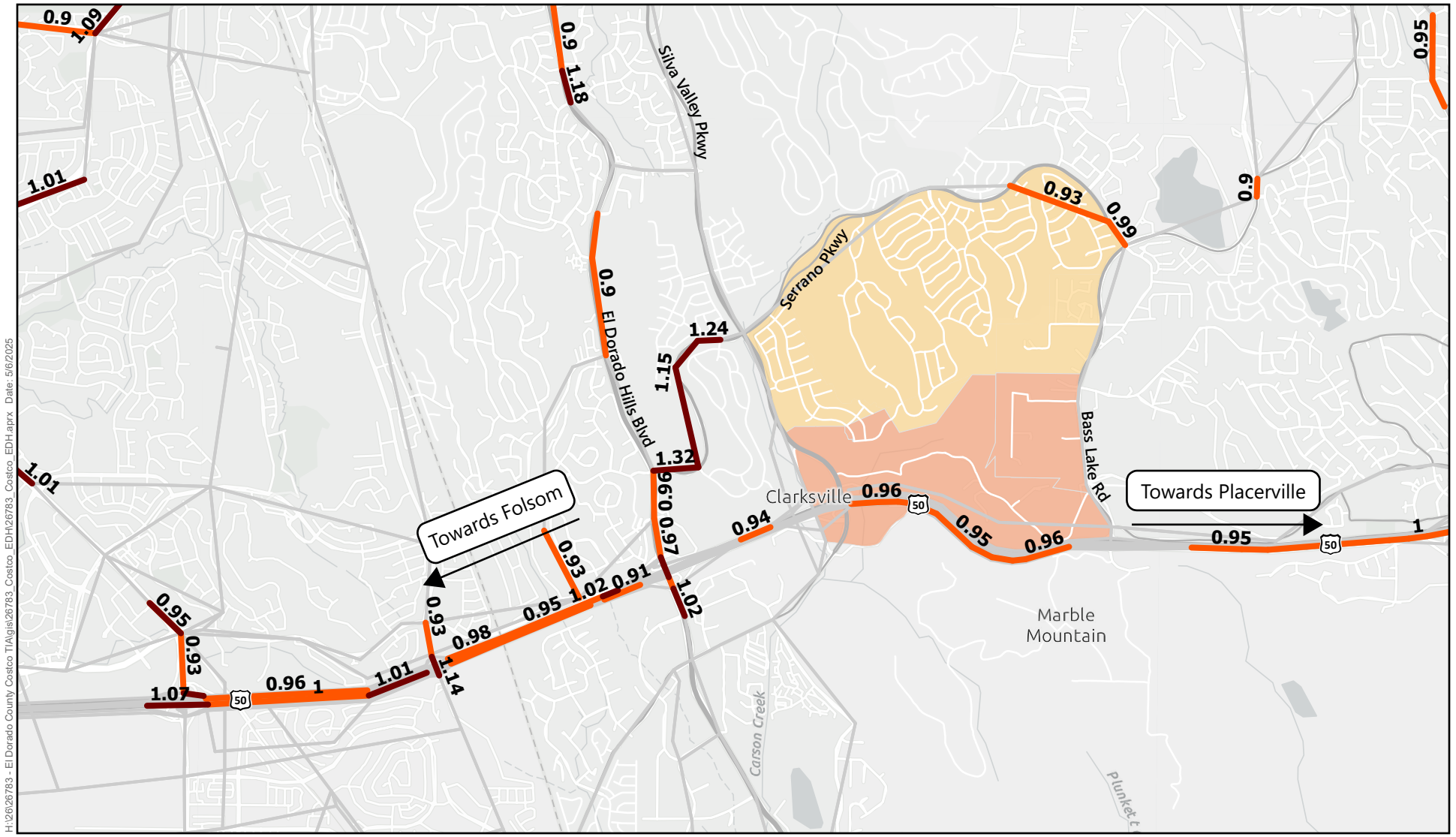
With the addition of Project traffic, volume-to-capacity ratio increases along US 50, towards Folsom and Placerville, including sections adjacent to the Project Site, and along Serrano Parkway between Silva Valley Parkway and El Dorado Hills Boulevard.

Table 4 shows the travel times (in minutes) during wildfire scenario #1 for Existing Conditions under No Evacuation, Evacuation No Project, and Evacuation Plus Project scenarios. As seen in the table below, the increase in travel time with Project traffic varies between 0.1 to 0.8 minutes (1-4% increase) with the addition of the Project.

Table 4. Travel Times (minutes), Wildfire Scenario #1 - Near Term (2034) Conditions

Origin	Destination	No Evacuation Travel Time (mins)	Evacuation			
			No Project Travel Time (mins)	Plus Project Travel Time (mins)	Difference (mins)	Difference (percent)
S. of Serrano Pkwy.	Folsom	8.6	9.4	9.6	0.2	2%
	Placerville	22.2	22.9	23.4	0.5	2%
W. of Bass Lake Rd.	Folsom	8.3	9.0	9.1	0.1	1%
	Placerville	18.5	18.8	19.4	0.6	3%
Old White Rock Rd.	Folsom	5.3	5.9	6.0	0.1	2%
	Placerville	18.9	19.0	19.7	0.7	4%
Village Green Dr.	Folsom	4.9	5.5	5.7	0.2	4%
	Placerville	19.0	19.2	20.0	0.8	4%
Costco	Folsom	4.5	5.2	5.3	0.1	2%
	Placerville	18.7	18.9	19.6	0.7	4%

Compiled by: Kittelson & Associates, Inc., 2025



H:\26\26783 - El Dorado County Costco TIA\gis\26783_Costco_EDH26783_Costco_EDH.aprx Date: 5/6/2025

Congestion Locations

- Under Capacity
- Near Capacity
- Over Capacity

Percent Evacuating during Peak Hour*

25 percent 65 percent

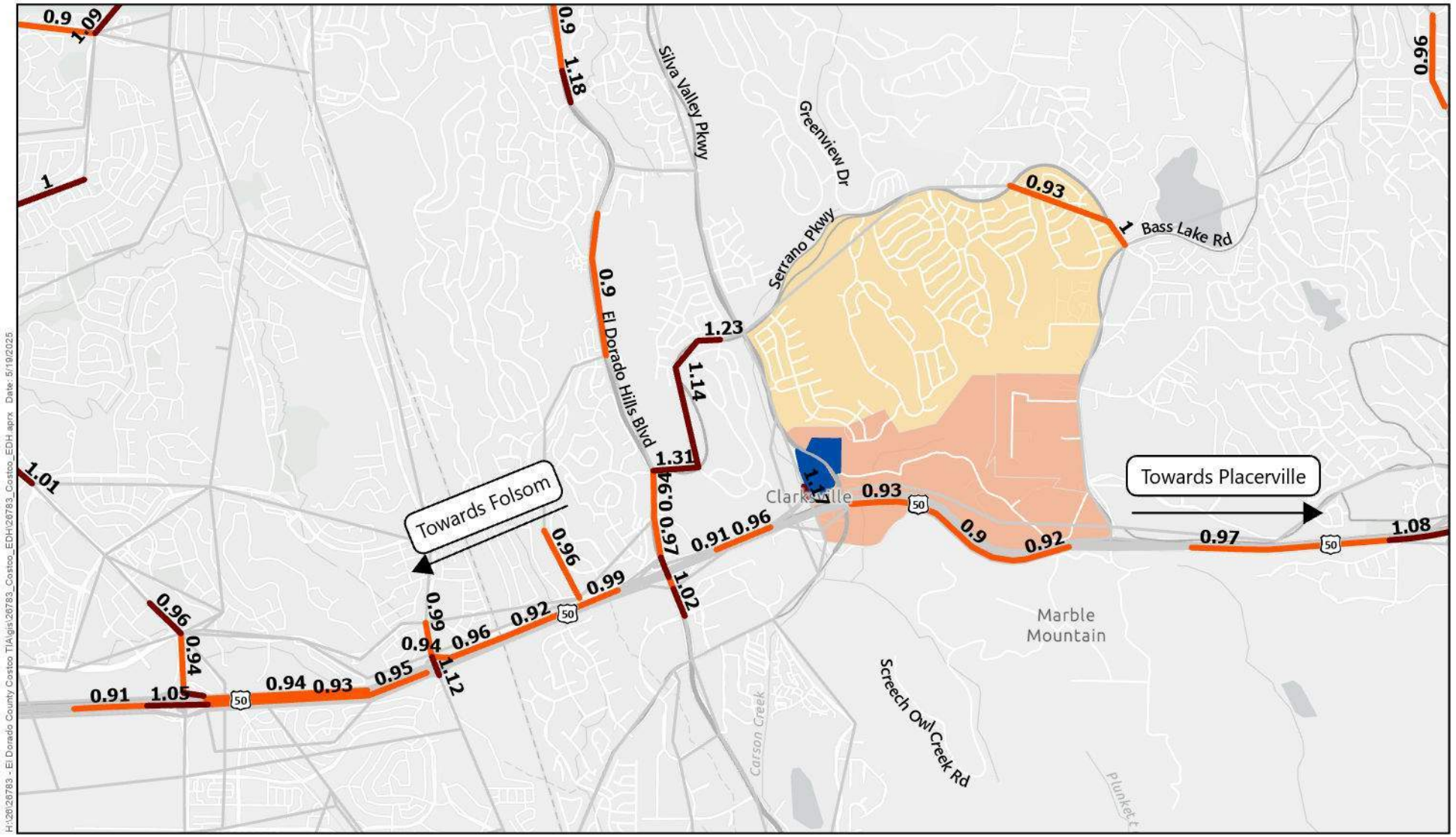
**Peak Hour is assumed to be the first hour of the evacuation, where residents, employees, customers and visitors are given evacuation orders.*

0 1 Miles

Figure 9

Congestion Locations
Wildfire Scenario #1
Near Term (2034) Conditions - No Project
El Dorado Costco

KITTELSON & ASSOCIATES



Congestion Locations

- Under Capacity
- Near Capacity
- Over Capacity

Percent Evacuating during Peak Hour*

25 percent 65 percent

El Dorado Costco Project Site

0 1 Miles

*Peak Hour is assumed to be the first hour of the evacuation, where residents, employees, customers and visitors are given evacuation orders.

Figure 10

Congestion Locations
Wildfire Scenario #1
Near Term (2034) Conditions - Plus Project
El Dorado Costco

KITTELSON & ASSOCIATES

Wildfire Scenario #2

This section presents the travel times and congestion analysis under wildfire scenario #2 for all the analysis scenarios. The origin and destination locations are identified based on the evacuation area boundaries identified for this wildfire scenario and likely evacuation destinations in Folsom and Placerville. However, evacuation destinations are subject to change during an actual evacuation event based on direction from the Office of Emergency Services or evacuating persons' personal preferences.

EXISTING CONDITIONS

Figure 11 and Figure 12 show the congestion locations during the wildfire scenario #2 for Existing Conditions under Evacuation No Project and Evacuation Plus Project scenarios. The following are the locations operating near or over capacity in the Existing No Project and Plus Project scenarios.

No Project

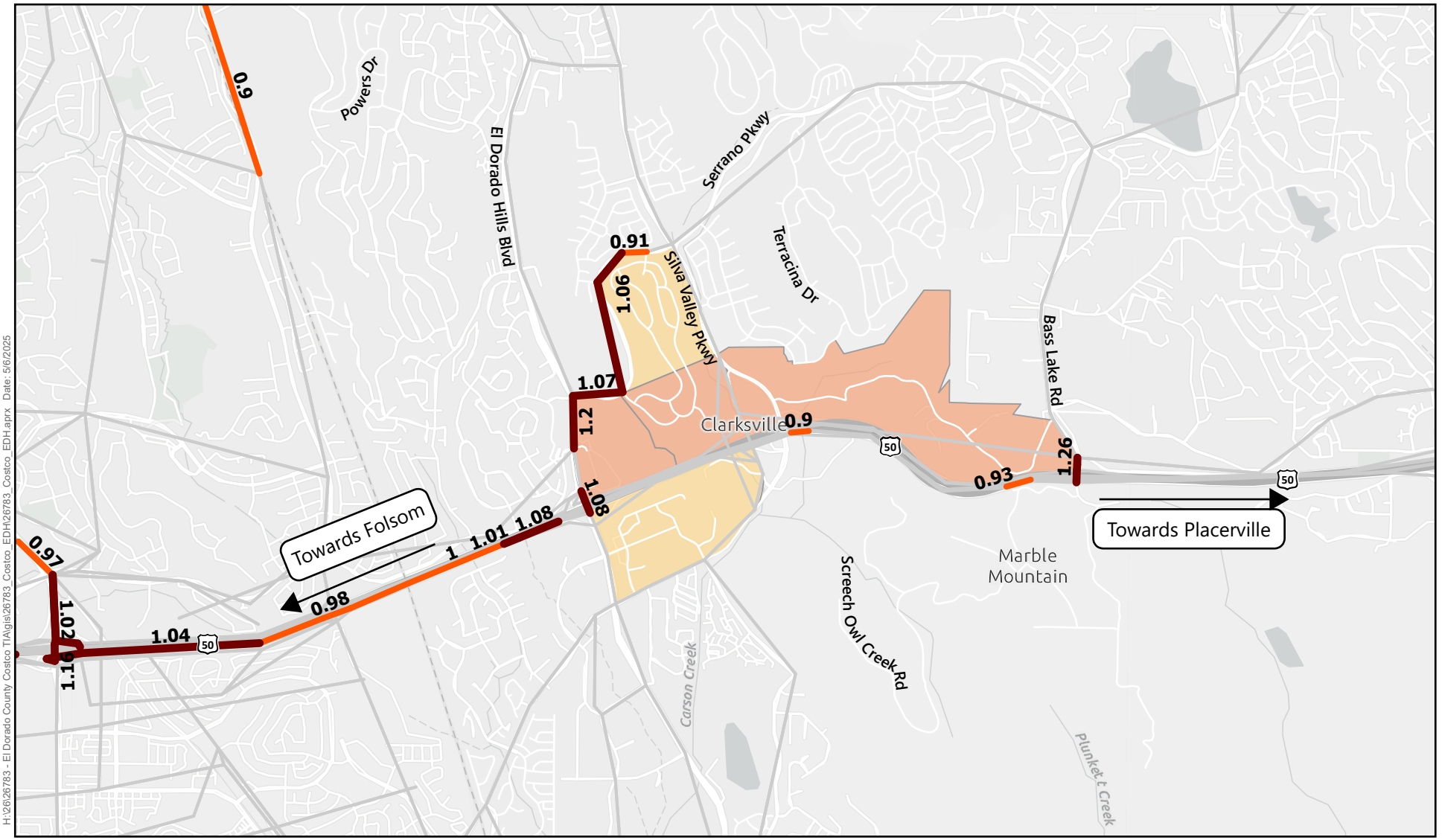
- Serrano Parkway between Silva Valley Parkway and El Dorado Hills Boulevard
- El Dorado Hills Boulevard between Serrano Parkway and US 50
- Eastbound US 50 between Folsom and El Dorado Hills

Plus Project

- Serrano Parkway between Silva Valley Parkway and El Dorado Hills Boulevard
- El Dorado Hills Boulevard between Serrano Parkway and US 50
- A few sections of Eastbound US 50 between Folsom and Placerville including those adjacent to the Project site.

With the addition of Project traffic, volume-to-capacity ratio increases along US 50, towards Folsom and Placerville, including sections adjacent to the Project site. Roadway capacity on Serrano Parkway between Silva Valley Parkway and El Dorado Hills Boulevard operates over capacity in the No Project and Plus Project scenarios, though the volume-to-capacity ratio changes with the addition of the Project are minimal.

Table 5 shows the travel times (in minutes) during wildfire scenario #2 for Existing Conditions under No Evacuation, Evacuation No Project, and Evacuation Plus Project scenarios. As seen in the table, the increase in travel time with Project traffic varies between 0 to 1.2 minutes (0-6% increase).



H:\26\26783 - El Dorado County Costco TIA\gis\26783_Costco_EDH\26783_Costco_EDH.aprx Date: 5/6/2025

Congestion Locations

- Under Capacity
- Near Capacity
- Over Capacity

Percent Evacuating during Peak Hour*

- 25 percent
- 65 percent

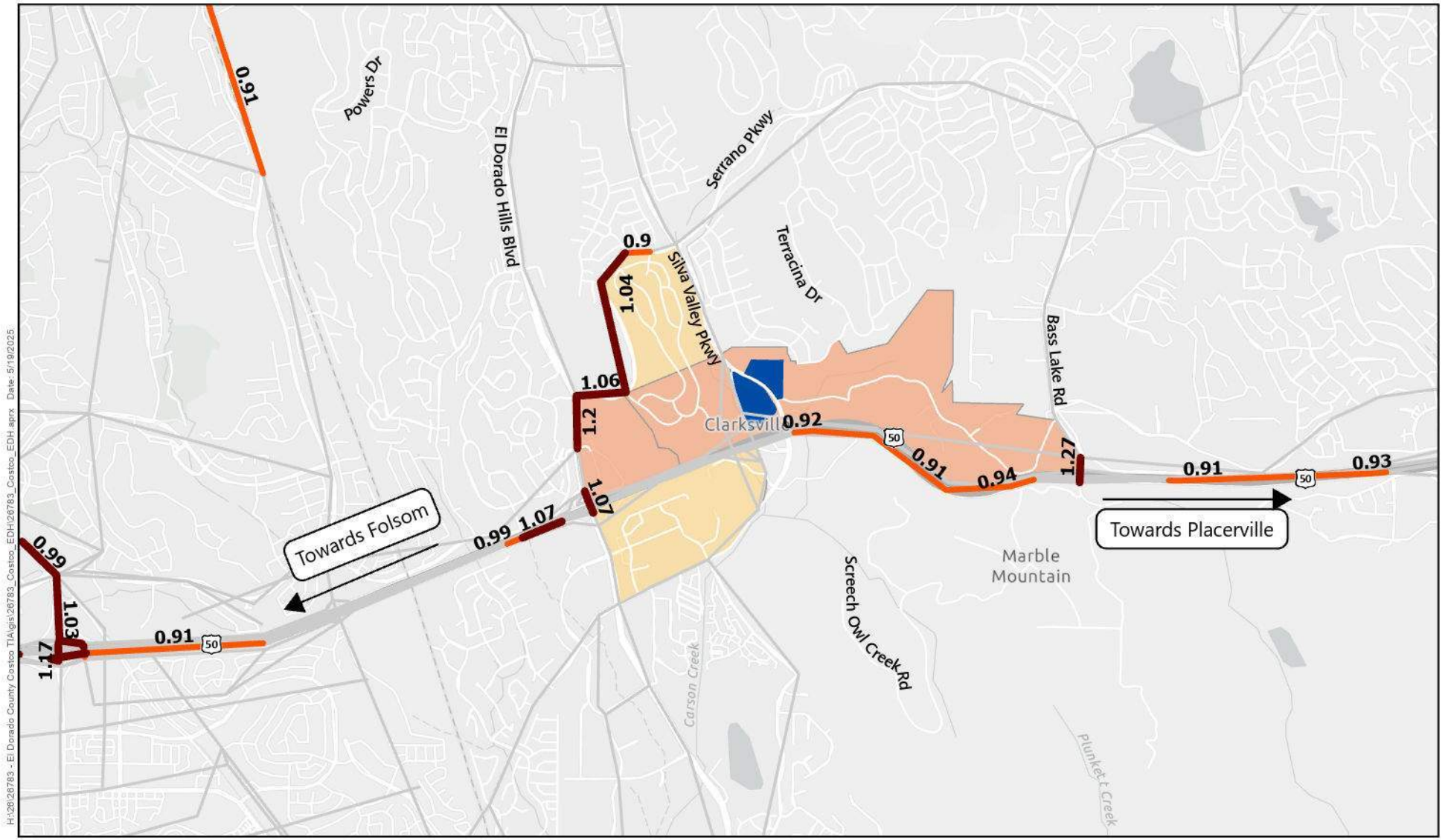
**Peak Hour is assumed to be the first hour, where residents, employees, customers and visitors are given evacuation orders*

0 1 Miles

Figure 11

Congestion Locations
Wildfire Scenario #2
Existing Conditions - No Project
El Dorado Costco

KITTELSON & ASSOCIATES



Congestion Locations

- Under Capacity
- Near Capacity
- Over Capacity

Percent Evacuating during Peak Hour*

- 25 percent
- 65 percent

**Peak Hour is assumed to be the first hour, where residents, employees, customers and visitors are given evacuation orders*

El Dorado Costco Project Site

0 1 Miles

KITTELSON & ASSOCIATES

Figure 12

Congestion Locations
Wildfire Scenario #2
Existing Conditions - Plus Project
El Dorado Costco

Table 5. Travel Times (minutes), Wildfire Scenario #2, - Travel Times (minutes) - Existing Conditions

Origin	Destination	No Evacuation Travel Time (mins)	Evacuation			
			No Project Travel Time (mins)	Plus Project Travel Time (mins)	Difference (mins)	Difference (percent)
Souza Dr.	Folsom	5.6	5.7	5.8	0.1	2%
	Placerville	21.6	21.8	23.0	1.2	6%
Town Center	Folsom	4.4	4.5	4.6	0.1	2%
	Placerville	20.5	20.7	21.8	1.1	6%
Raley's	Folsom	3.8	3.9	3.9	0.0	0%
	Placerville	20.5	20.7	21.8	1.1	5%
Costco	Folsom	4.6	4.7	4.8	0.1	2%
	Placerville	19.4	19.6	20.8	1.2	6%

Compiled by: Kittelson & Associates, Inc, 2025

NEAR-TERM (2034) CONDITIONS

Figure 13 and Figure 14 show the congestion locations during the wildfire scenario #2 for Near Term conditions under Evacuation No Project and Evacuation Plus Project scenarios. The following are the locations operating near or over capacity in the Near-Term No Project and Plus Project scenarios.

No Project

- Serrano Parkway between Silva Valley Parkway and El Dorado Hills Boulevard
- Eastbound US 50 between El Dorado Hills and Placerville
- Eastbound and Westbound US 50 between El Dorado Hills and Folsom

Plus Project

- Serrano Parkway between Silva Valley Parkway and El Dorado Hills Boulevard
- Eastbound US 50 between El Dorado Hills and Placerville
- Eastbound US 50 and some sections of westbound US 50 between El Dorado Hills and Folsom

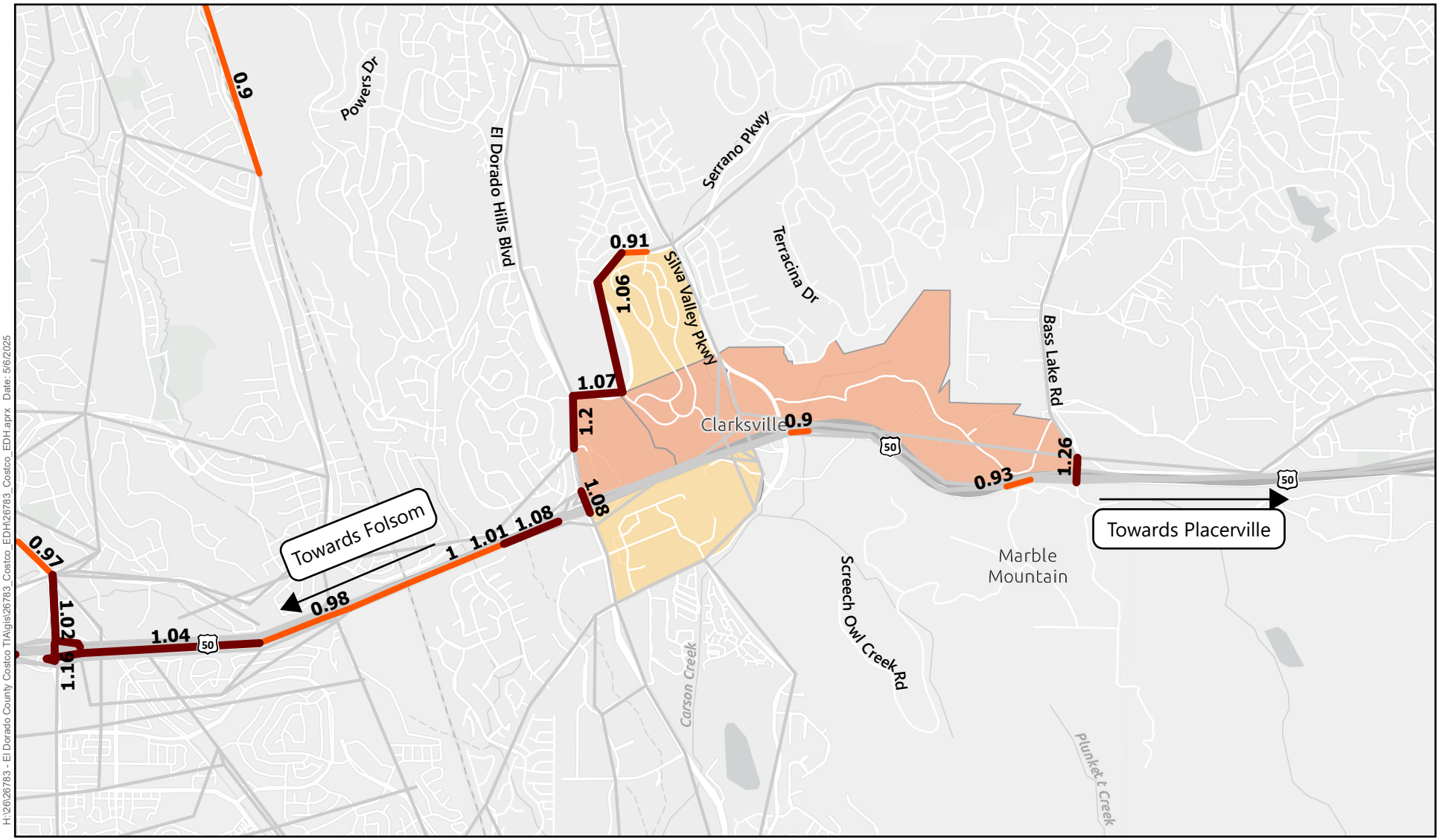
With the addition of Project traffic, volume-to-capacity ratio increases along US 50, towards Folsom and Placerville, including sections adjacent to the Project site and Serrano Parkway between Silva Valley Parkway and El Dorado Hills Boulevard.

Table 6 shows the travel times (in minutes) during wildfire scenario #2 for Near Term (2034) conditions under No Evacuation, Evacuation No Project, and Evacuation Plus Project scenarios. As seen in the table below, the change in travel time with Project traffic varies between 0 to 0.6 minutes (0-3% increase).

Table 6. Travel Times (minutes), Wildfire Scenario #2 – Near Term (2034) Conditions

Origin	Destination	No Evacuation Travel Time (mins)	Evacuation			
			No Project Travel Time (mins)	Plus Project Travel Time (mins)	Difference (mins)	Difference (percent)
Souza Dr.	Folsom	5.9	6.0	6.1	0.1	2%
	Placerville	20.1	20.1	20.7	0.6	3%
Town Center	Folsom	4.7	4.8	4.8	0.0	0%
	Placerville	19.9	19.9	20.3	0.4	2%
Raley's	Folsom	4.1	4.2	4.2	0.0	0%
	Placerville	19.9	20.0	20.3	0.3	2%
Costco	Folsom	4.5	4.6	4.7	0.1	2%
	Placerville	18.7	18.7	19.3	0.6	3%

Compiled by: Kittelson & Associates, Inc., 2025



Congestion Locations

- Under Capacity
- Near Capacity
- Over Capacity

Percent Evacuating during Peak Hour*

- 25 percent
- 65 percent

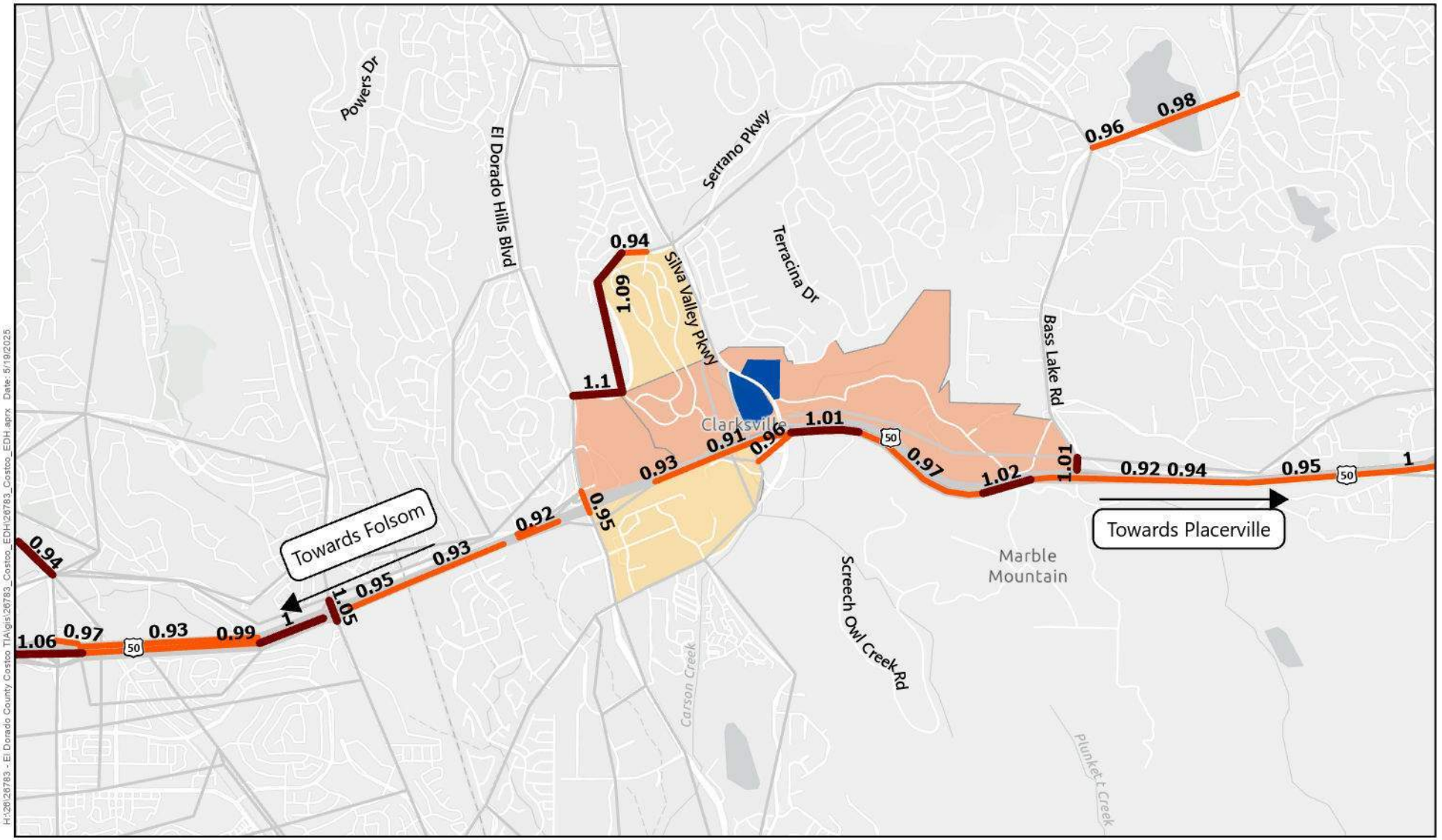
**Peak Hour is assumed to be the first hour, where residents, employees, customers and visitors are given evacuation orders*

0 1 Miles

Figure 13

Congestion Locations
Wildfire Scenario #2
Near Term (2034) Conditions - No Project
El Dorado Costco

KITTELSON & ASSOCIATES



H:\26\26783 - El Dorado County Costco TIA\gis\26783_Costco_EDH\26783_Costco_EDH.aprx Date: 5/19/2025

Congestion Locations

- Under Capacity
- Near Capacity
- Over Capacity

Percent Evacuating during Peak Hour*

- 25 percent
- 65 percent

El Dorado Costco Project Site

*Peak Hour is assumed to be the first hour, where residents, employees, customers and visitors are given evacuation orders

0 1 Miles

KITTELSON & ASSOCIATES

Figure 14

Congestion Locations
Wildfire Scenario #2
Near Term (2034) Conditions - Plus Project
El Dorado Costco

Evacuation Planning Considerations

This section describes evacuation projects and strategies that may be considered to improve the capacity and resilience of the evacuation area and surrounding region's roadway network to support future evacuation events. The projects and strategies were identified based on previous congestion and evacuation studies, review of recent evacuation efforts, and effective evacuation planning practices identified by US Department of Transportation (USDOT) and Federal Highway Administration (FHWA). The strategies are organized into five categories:

1. Roadway Management
2. Communications
3. Vulnerable Populations
4. Public Education
5. Resource Management

ROADWAY MANAGEMENT

This section includes infrastructure-related strategies that may aid in improving the capacity of the evacuation roadway network, which can present constraints or limitations to a successful evacuation. For each infrastructure-related treatment, it is necessary to consider downstream capacity limitations and identify if those limits nullify the potential benefits of the treatment as well as other competing roadway design needs to serve other functions and goals. Table 7 outlines each of these strategies and provides a brief description of the strategy and desired outcomes.

Of these strategies, the most effective for increasing evacuation capacity would be those that involve manual control of traffic combined with contra flow operations that allow evacuation on both inbound and outbound lanes of streets, combined with maintaining clear passages for emergency vehicles.

Table 7: Roadway and Intersection Capacity and Resilience Related Strategies

Strategy	Action Items
Limited contra flow on highways	Reverse one or more lanes of highway to accommodate an increased flow of traffic in one direction.
Unlimited contra flow on highways	Redirect all lanes of a designated evacuation route to accommodate rapid evacuation from a city or region.
Limited/unlimited contra flow on unlimited access arterials	Temporarily close inbound travel lanes on selected unlimited access arterials (such as parkways and boulevards) to allow outbound traffic to utilize these lanes during evacuation.
Closure of inbound lanes on selected roads and highways	Close inbound lanes on highways utilized for evacuation routes to prevent drivers on these routes from entering the evacuation area while evacuation is underway.
Restrict left-turn movements	Minimize left-turn movements along evacuation routes and on roads leading to evacuation routes.

Strategy	Action Items
Stage tow trucks	Consider how to stage tow trucks at bottleneck locations along evacuation routes to help detect and clear minor crashes and maintain traffic flows.
Adjust signal timing	Increase the green time and/or progression band for through movements leading out of an evacuation zone.
Signal operation during power outage	Install signal battery backups in case signal operations need to be maintained during a power outage. Consider using channeling devices, static signs, and coning strategies to manage intersection flow during power outage if signals lack power.
Additional access routes	Identify and communicate with communities that have at least two access points. Prioritize adding additional access to communities that are currently served by only one or two access points.
Public transit	Develop transportation solutions such as the use of a bus system for evacuating individuals with special needs (such as those with mobility limitations) and/or evacuating larger groups of people in fewer vehicles.
Traffic control points	Establish traffic control points (i.e., locations along designated evacuation routes with emergency management personnel) to maintain a greater degree of evacuation management. These locations could enhance the efficiency of an evacuation, reduce public confusion, and allow increased operational flexibility during an evacuation.
Vegetation clearing/management	Maintain evacuation roadways and shoulders, keeping them clear of trees, vegetation, and debris that would block travel lanes and shoulders for people evacuating and for emergency operation vehicles.

COMMUNICATIONS

This section describes communication strategies that address how information may be shared among agencies, organizations, and the general public for evacuations. During an emergency evacuation event, two types of communication take place: (1) communication among entities involved in the management of response, and (2) communication between the County and the general public. Table 8 outlines each of these strategies and provides a brief description of the strategy and desired outcomes.

Table 8. Communication Strategies for Evacuations

Strategy	Description and Outcome
Establish and maintain communications	Strengthen and maintain communication among coordinating emergency event agencies. This could be achieved through systems such as the Public Information Emergency System and Emergency Satellite Communications.

Strategy	Description and Outcome
Variable/Dynamic Message Signage	Use variable message board equipment and targeted installation of permanent dynamic message signs on evacuation routes to improve communication and reduce public confusion.
Traffic Control Center	Implement a traffic control center that would have up-to-the-minute reports on traffic patterns and could communicate directly with emergency officers via broadcast media, social media, and other emergency communications channels (e.g., County Telephone Emergency Notification System) to let drivers know about roadway congestion conditions and direct them to alternate routes.
Traffic counters/CCTV cameras	Install traffic counters and/or CCTV cameras on freeways, which can help assess traffic flow, volume of vehicles evacuating, and monitor incidents during emergency evacuation events.
Highway Advisory Radio	Implement highway advisory radio to provide information regarding primary and secondary evacuation routes and incidents to the public.
Pre-defined evacuation zones	The County could consider implementing a system of pre-defined evacuation zones. Pre-defined evacuation zones can provide a common reference system for first responders and the community.

VULNERABLE POPULATIONS

This section identifies strategies specifically for evacuation of vulnerable populations. The County can use demographic data and U.S. Census data to identify vulnerable population locations and communities. County staff and emergency response teams may work with specialized organizations such as hospitals, medical associations, public service organizations, public health staff, and other providers or community groups to identify and locate relevant population segments and the types of assistance needed. Table 9 outlines considerations by need.

Table 9: Additional Steps for Evacuation of Vulnerable Populations

Special Need	Action Items/Considerations
Visually impaired	May be reluctant to leave familiar surroundings when the request for evacuation comes from a stranger. People who are blind or partially sighted may have to depend on their guide dogs and/or others to lead them to safety.
Hearing impaired	May need to make special arrangements to receive evacuation warnings. Include visual aids such as pictures or maps to reinforce key messages.

Special Need	Action Items/Considerations
Mobility impaired	May need special assistance such as paratransit. Partner with neighboring jurisdictions and/or private/non-profit organizations to provide adequate paratransit services.
People without vehicles	Emphasize the importance of carpooling with neighbors or other community members. Provide information on transit routes and transit stops.
Non-English-speaking persons	Provide bilingual or multilingual materials to support communication with non-English speaking populations during evacuation.
People with medical conditions	Communicate in advance the location and availability of hospitals or facilities with emergency/life-sustaining medical equipment, such as dialysis machines.
Unhoused population	Arrange for food, shelter, and transportation for unhoused population. Offer age-appropriate emergency and evacuation information to unhoused children.

PUBLIC EDUCATION

Sharing information is a critical element to help educate the general public on how to prepare in advance for an evacuation. The public education strategies the County may consider include:

- Defining the meaning of different types of evacuation orders
- Sharing how evacuation orders are declared and communicated to the public
- Providing information on preparations to carry out in advance (such as emergency "go" kits or family evacuation plans)
- Conducting a public affair campaign(s) to distribute easy-to-read evacuation maps with alternate routes
- Providing information on available transportation options, including for vulnerable populations
- Providing information on evacuation shelters and support services offered during evacuation
- Providing regular emergency preparedness trainings in multiple languages at convenient, accessible locations
- Building capacity of resilience hubs, community-based organizations, and other community groups to support community-based disaster preparedness efforts through direct or passthrough funding, grant writing support, information sharing, etc.

RESOURCE MANAGEMENT

Evacuations are resource-intensive events that require significant personnel, facilities, and equipment to implement successfully. The County should determine what resources are available as well as what resources will be needed for staff to perform their responsibilities during an evacuation successfully, which may include the following:

- Clarity on staff roles and expertise available
- Facilities available (e.g., traffic operations center, shelters, etc.)

- Available information systems to support the evacuation (e.g., intelligent transportation systems, computer networks, road sensor loops, ancillary hardware such as cameras, etc.)
- Communication systems (e.g., landline, mobile phones, radio system, email, sirens)
- Vehicles/transports (e.g., staff transport, tow trucks, transit vehicles, heavy equipment)
- Miscellaneous materials to support implementation of evacuation strategies (e.g., traffic cones, channeling devices, static/dynamic message signs)

If critical resource gaps are identified, the County may look to work with other evacuation entities to determine additional resources and needs. The County may also work with private sector entities to expand the resource base. For example, utilities companies may keep cell and internet services running in vulnerable communities during public safety power shutoffs. Private service companies such as ambulance operators and towing companies can provide additional assets during evacuation. These companies can clarify what is expected of them during a potential evacuation event to ensure their services are available, when needed.

Conclusion

This memorandum documents the methodology and results of the evacuation analysis for two wildfire scenarios under Existing and Near-Term Conditions: No Project and Plus Project scenarios. The El Dorado County travel demand model was used to estimate roadway capacity and travel times during evacuations in No Project and Plus Project conditions.

EXISTING CONDITIONS

Under Existing conditions, roadway capacity is estimated to increase along US-50 in the westbound and eastbound directions. Though the roadway capacity is estimated to increase, overall roadway capacity is expected to remain under full capacity (v/c < 1.0).

Roadways near the project site, such as Silva Valley Parkway and Serrano Parkway, are estimated to see an increase in roadway capacity as residents, customers, and employees evacuate. The change in roadway capacity is estimated to be minimal.

NEAR-TERM (2034) CONDITIONS

Under Near-Term (2034) conditions, which include land uses and traffic for the Remainder Area, roadway capacity is estimated to increase along US-50 in the westbound and eastbound directions. Overall roadway capacity is expected to remain under full capacity (v/c < 1.0) for most of US-50 near the project site, but some segments are estimated to have a roadway capacity over capacity (v/c > 1.0).

Roadways adjacent to the project site, such as Silva Valley Parkway and Serrano Parkway, are estimated to see an increase in roadway capacity as residents, customers, and employees evacuate. The change in roadway capacity is estimated to be minimal.

The evacuation planning considerations and strategies identified in this memorandum can help enhance the capacity and resilience of the County's roadway network to support future evacuation events.

Wildfire Modeling Summary Report

El Dorado Hills 52 North and Costco South

MARCH 2025

Prepared for:

COSTCO WHOLESALE
730 Lake Drive
Issaquah, WA 98027
Contact: Michael Okuma

Prepared by:

DUDEK

853 Lincoln Way, Suite 105
Auburn, California 95603
Contact: Scott Eckardt, RPF
Matthew Crockett, Fire Protection Planner

Printed on 30% post-consumer recycled material.

Table of Contents

SECTION **PAGE NO.**

1 Introduction 1
- 1.1 Location 1
- 1.2 Project Description 3
- 1.3 FlamMap Fire Behavior Modeling 3
- 1.4 Fire Behavior Modeling Background 3

2 Modeling Approach Summary 21

3 Modeling Inputs 21
- 3.1 Model Inputs 21
  - 3.1.1 Elevation 21
  - 3.1.2 Slope 22
  - 3.1.3 Aspect 22
  - 3.1.4 Fuel Model 22
  - 3.1.5 Canopy Cover 23
  - 3.1.6 Weather 23
  - 3.1.7 Ignition Locations 25
- 3.2 Model Outputs 26
  - 3.2.1 Fire Behavior 26
  - 3.2.2 Fire Progression 26

4 References 28

TABLES

Table 1. Land Cover to Fire Behavior Fuel Model Crosswalk 22
Table 2. Ben Bolt Remote Automated Weather Station Characteristics 23
Table 3. Weather Variables used for Fire Behavior and Progression Modeling 24
Table 4. Fire Behavior Interpretation 28

FIGURES

Figure 1. Project and Modeling Area Location 2

APPENDIX

A Fire Progression Model Outputs

B Landscape Fire Behavior Model Outputs

1 Introduction

This report summarizes fire behavior modeling efforts conducted for the El Dorado Hills 52 North and Costco South Project (Project), a proposed commercial development located in El Dorado County, California. Fire progression and fire behavior modeling was conducted for the Project area to evaluate potential fire behavior characteristics and fire spread potential toward the Project site. The following tasks were performed:

- Evaluation of wildfire history, wildfire ignition, and fuels/vegetation mapping data for the Project site and surrounding area.
- A field evaluation of the Project site and surrounding area to better understand fuel (vegetation) conditions and confirm observations made during mapping data review and to refine the fuel model(s) to be used in the wildfire behavior and progression modeling efforts.
- Analysis and processing of local historical weather data to determine appropriate fuel moisture, wind speed, and wind direction inputs for the wildfire behavior and progression modeling runs.
- Creation of a base landscape data set (GIS-based terrain and fuels data) to be used for wildfire behavior and progression modeling efforts.
- Modeling of wildfire behavior (flame length, spread rate, and fireline intensity) and three (3) wildfire progression scenarios to understand the effect of a fire approaching the proposed Project site. Modeling was conducted using FlamMap. A GID-based fire behavior modeling application.
- Preparation of this Wildfire Modeling Summary Report that summarizes our methods, data sources, assumptions, and modeling results.
- Coordination and communication with the California Department of Forestry and Fire Protection (CAL FIRE) and the Project team.

1.1 Location

The Project site is located in El Dorado County, north of US 50 and Tong Road, east of Clarksville Crossing, and is bisected by Silva Valley Parkway. The northern portion of the Project site is approximately 24.83 acres (EDH 52 – North Site) and includes APNs: 122-720-0019, 20, and 21. All the parcels are undeveloped, and 122-720-21 (6.57 of 7.75 acres) is primarily reserved for the future extension of County Club Drive to Silva Valley Parkway, which is not part of the Project. The southern portion of the Project site is approximately 18.42 acres (EDH 52 – South Site) and includes APNs:122-720-018, 02, and 03. A portion of 122-720-003 and a portion of the unused former Tong Road right-of-way between Silva Valley Parkway and Clarksville Crossing are proposed to be utilized for site access. The 1.38-acre portion of 122-720-018 west of Clarksville Crossing on the South Site will not be developed as part of the Project, resulting in a net development site of 20.34 acres.

The modeling analysis area discussed in this report includes the Project site plus the area within 2 miles of the Project site. The Project site and modeling analysis area are presented in Figure 1.

1.2 Project Description

The Project proposes to develop the site as a Costco retail center with the Costco building at the center of the south portion of the site and a fuel facility on the north portion of the site. The maximum building area for the Costco South Site will be approximately 165,000 square feet. Development of this portion of the site includes the main Costco building, site access, and a parking area, including a subterranean parking structure. The fuel facility on the North Site will include a maximum 13,000 square foot open canopy and a 200 square foot controller enclosure. The remainder of the North Site will include Costco employee parking.

1.3 FlamMap Fire Behavior Modeling

The FlamMap software package was used to model potential fire behavior and fire spread in the modeling analysis area. FlamMap utilizes the same fire spread equations built into the BehavePlus software package but allows for a geographical presentation of fire behavior outputs as it applies the calculations to each pixel in an associated geographic information system (GIS) landscape (Finney 2002). The FlamMap software package is a publicly available resource available through the Fire, Fuel, and Smoke Science Program of the U.S. Forest Service. FlamMap is a GIS-based software package that models potential fire behavior and fire spread where weather conditions (wind and fuel moisture) are held constant. FlamMap generates map files of potential fire behavior characteristics (e.g., flame length, spread rate, fireline intensity) and fire progression data (fire growth perimeters, fire flow paths). Model outputs represent fire behavior calculated for each pixel within the analysis area independently and do not calculate fire spread across a landscape. The software requires a minimum of five input variables, including elevation, slope, aspect, fuel model, and canopy cover. Wind and weather data are also critical components to FlamMap modeling efforts. The following section presents a background on fire behavior modeling and this report presents the methods and data sources used in performing the FlamMap fire behavior modeling analysis.

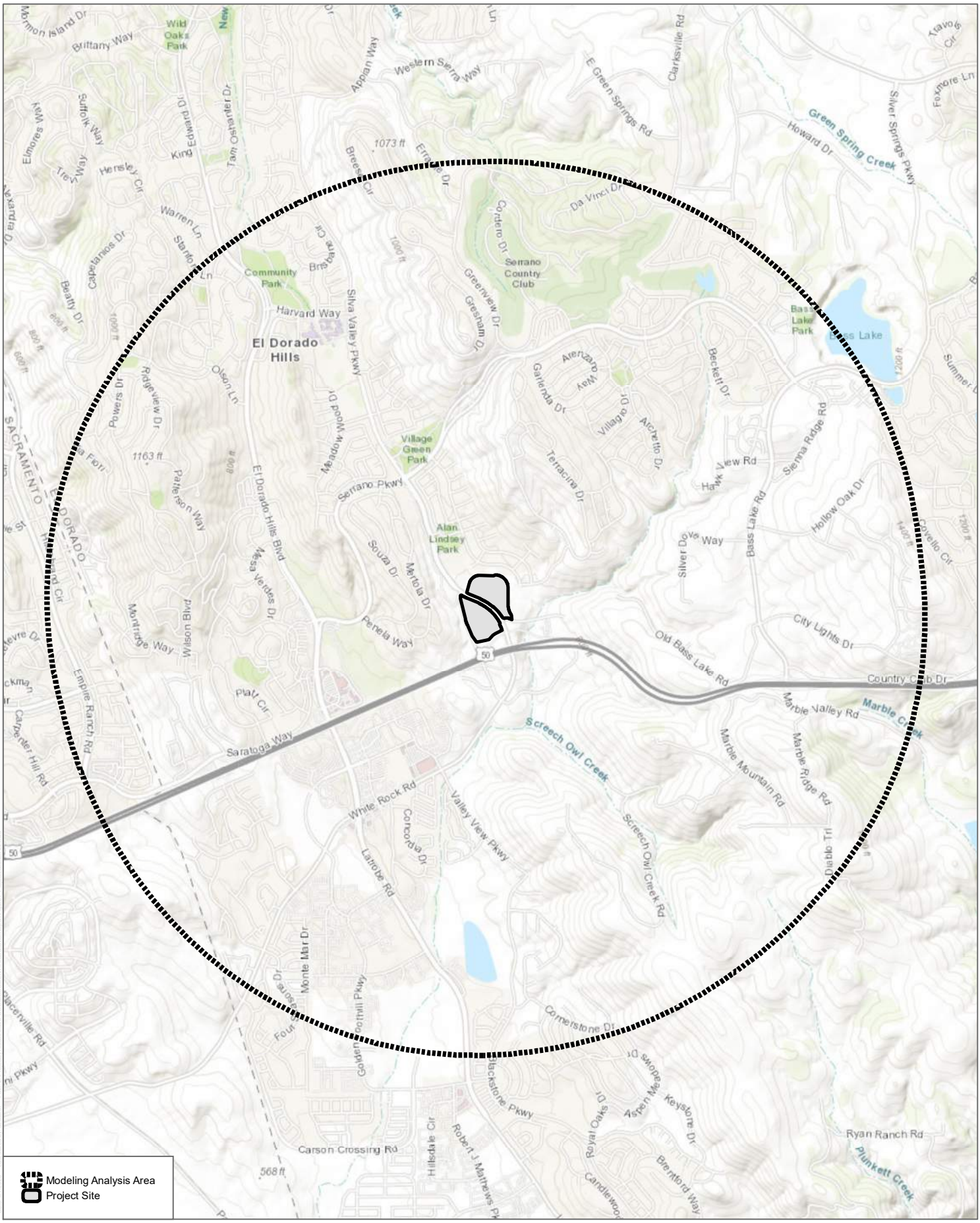
1.4 Fire Behavior Modeling Background

Predicting wildland fire behavior is not an exact science due to the many variables that must be considered. As such, the movement of a fire will likely never be fully predictable, especially considering the variations in weather, the limits of weather forecasting, and the weather that is often created by firestorms. Nevertheless, practiced and experienced judgment, coupled with a validated fire behavior modeling system, results in useful and accurate fire information (Rothermel 1993). To be used effectively, the basic assumptions and limitations of fire behavior modeling applications must be understood.

- First, it must be realized that the fire model describes fire behavior only in the flaming front. The primary driving force in the predictive calculations is dead fuel less than 0.25 inches in diameter. These are the fine fuels that carry fire. Fuels greater than 1 inch in diameter have little effect, while fuels greater than 3 inches in diameter have no effect on fire behavior.
- Second, the model bases surface fire calculations and descriptions on a wildfire spreading through fuels that are within 6 feet of the ground and contiguous to the ground. Surface fuels are classified as grass, grass/shrub, shrub, timber litter, timber understory, or slash.

- Third, the software assumes that weather is uniform. However, because wildfires almost always burn under non-uniform conditions, creating their own weather, length of projection period and choice of fuel model must be carefully considered to obtain useful predictions.
- Fourth, fire behavior computer modeling systems are not intended for determining sufficient fuel modification zone/defensible space widths. However, results can provide the average length of the flames, which is a key element for determining defensible space distances for minimizing structure ignition.
- Fifth, FlamMap is designed to simulate wildland fire behavior in vegetative fuels (such as grasses, shrubs, and trees), not structures.
- Sixth, FlamMap does not predict ember spotting from non-timber fuel types (e.g., shrubs, grasses).
- Seventh, fire spread modeling does not account for fire suppression efforts and therefore represents a worst-case scenario.

FlamMap can provide valuable fire behavior predictions, which can be used as a tool in the decision-making process. In order to make reliable estimates of fire behavior, one must understand the relationship of fuels to the fire environment and be able to recognize the variations in these fuels. Fuels are made up of the various components of vegetation, both live and dead, that occur in a particular landscape. The type and quantity will depend upon soil, climate, terrain, and management and disturbance (e.g., fire) history. The major fuel groups of grass, grass/shrub, shrub, trees, tree litter, and slash are defined by their constituent types and quantities of litter and duff layers, dead woody material, grasses and forbs, shrubs, regeneration, and trees. Fire behavior can be predicted largely by analyzing the characteristics of these fuels. Fire behavior is affected by seven principal fuel characteristics: fuel loading, size and shape, compactness, horizontal continuity, vertical arrangement, moisture content, and chemical properties.



SOURCE: ESRI 2025

FIGURE 1

Project and Modeling Area Location

Wildfire Modeling Summary Report, El Dorado Hills 52 North and Costco South

DUDEK

0 1,625 3,250 Feet

2 Modeling Approach Summary

Three scenarios were evaluated for fire progression modeling, as defined below:

- **Scenario 1:** This scenario represented a fire burning under late summer/early fall north-northwest wind conditions (represented by 97th percentile fire weather conditions). The ignition point for this scenario was located to the northeast of the Project site.
- **Scenario 2:** This scenario represented a fire burning under summer southwest wind conditions (represented by 50th percentile fire weather conditions). The ignition point for this scenario was located to the southwest of the Project site.
- **Scenario 3:** Similar to Scenario 2, this scenario represented a fire burning under summer southwest wind conditions (represented by 50th percentile fire weather conditions). The ignition point for this scenario was located to the southwest of the Project site, though further east than that for Scenario 2.

Additionally, fire behavior modeling was used to evaluate potential fire behavior characteristics in the modeling analysis area. The results of this modeling effort are static outputs representing fire behavior characteristic at a site, given fuel, terrain, and weather inputs. The following fire behavior characteristics were modeled:

- Flame Length
- Spread Rate
- Fireline Intensity

3 Modeling Inputs

3.1 Model Inputs

3.1.1 Elevation

Elevation data were derived from a 1/3 arc-second (10m) resolution National Elevation Dataset (NED), acquired from the U.S. Geological Survey (USGS) National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center and projected in the NAD 1983, California State Plane, Zone 2 coordinate system, with units in meters (USGS, 2024a). Elevation values in the modeling area range from 492 feet to 1,460 feet above mean sea level (AMSL). This data was utilized to create an elevation grid file, using units of feet AMSL. Elevation is a required input file for FlamMap runs and are necessary for adiabatic adjustment of temperature and humidity and for conversion of fire spread between horizontal and slope distances.

3.1.2 Slope

Using ArcGIS Spatial Analyst tools, a slope grid file was generated from the elevation grid file described above. Slope measurements utilized values in percent of inclination from horizontal. Slope values in the analysis area range from 0-37 degrees. The slope input file is necessary for computing slope effects on fire spread and solar radiance.

3.1.3 Aspect

Using ArcGIS Spatial Analyst tools, an aspect grid file was generated from the elevation grid file described above. The aspect values utilized were azimuth degrees. Aspect values are important in determining the solar exposure of grid cells.

3.1.4 Fuel Model

Fire Behavior Fuel Models (FBFMs) are standardized classifications used to describe the types of vegetation and other combustible materials that influence wildfire behavior. These models help predict fire spread, intensity, and flame length under various conditions. Fuel model data was created utilizing the 2023 National Land Cover Database (USGS 2024b). This database is a comprehensive dataset that provides detailed land cover and land use information for the United States. It is produced by the United States Geological Survey (USGS) and the Multi-Resolution Land Characteristics Consortium (MRLC) and is used for a wide range of applications in environmental monitoring, land planning, resource management, and research. Land cover data is provided at a 30-meter resolution and classifies landcover into the categories provided in **Exhibit 1**. Fuel model data was further refined to account for roadways and other non-burnable areas not accounted for within the NLCD Land Cover data.



Exhibit: 1: NLCD Land Cover Classifications (USGS 2024b)

This dataset was clipped to the modeling analysis area to derive fuel models in wildlands surrounding the Project site at a 10-meter resolution. A crosswalk was created to assign land cover classifications into unique FBFMs using the Scott and Burgan 2005 40 FBFMs (Scott and Burgan, 2005). Crosswalk values were determined through field observations and through comparison with regional FBFM classification standards as mapped by LANDFIRE. The land cover to FBFM crosswalk is provided in Table 1. As presented, fuels in the analysis area are comprised mainly of developed areas and annual grassland vegetation.

Table 1. Land Cover to Fire Behavior Fuel Model Crosswalk

NLCD Land Cover Classification	Fuel Model Classification	Acres
21-24 Developed 11 Open water	NB1 – Non-burnable/Developed	4,460

Table 1. Land Cover to Fire Behavior Fuel Model Crosswalk

NLCD Land Cover Classification	Fuel Model Classification	Acres
71 Grassland/Herbaceous	GR2 - Low Load, Dry Climate Grass	2,858
52 Shrub/Scrub	SH5 - High Load, Dry Climate Shrub	527
41 Deciduous Forest	TL2 - Low Load Broadleaf Litter	353
42 Evergreen Forest 43 Mixed Forest	TL6 – Moderate Load Broadleaf Litter	146
	Total:	**8,306**

Source: USGS 2024b, LANDFIRE 2023

3.1.5 Canopy Cover

Canopy cover is a required raster file for FlamMap operations. It is necessary for computing shading and wind reduction factors for all fuel models. Canopy cover is measured as the horizontal fraction of the ground that is covered directly overhead by tree canopy. Crown closure refers to the ecological condition of relative tree crown density. Stands can be said to be "closed" to recruitment of canopy trees but still only have 40% or 50% canopy cover. Coverage units are represented as percentage values (0–100).

Canopy cover for the analysis area was derived from NLCD 2023 Canopy Cover Database (MRLC 2023). The 2023 NLCD Canopy Cover dataset quantifies the percentage of forest canopy cover in 10% increments. It provides a spatial representation of canopy cover at a 30-meter resolution ranging from 0% (no canopy) to 100% (complete canopy coverage).

3.1.6 Weather

Historical weather data for the modeling area was utilized in determining appropriate fire behavior modeling inputs. For this analysis, 97th percentile fuel moisture, wind speed, and wind direction values were derived from Remote Automated Weather Station (RAWS) data and utilized in fire behavior and progression modeling efforts. Data from the Ben Bolt RAWS was utilized for modeling fire behavior and progression (approximately 250 feet north of the City-owned Grizzly Peak Open Space parcels). Table 2 summarizes location information and available data ranges for the Ben Bolt RAWS.

Table 2. Ben Bolt Remote Automated Weather Station Characteristics

Station Characteristics	Value
Station ID	42612
Latitude	38.59084
Longitude	-120.93362
Elevation	905 feet
Data Years	2005-2024

To determine weather-related modeling inputs, RAWS data were downloaded, processed, and analyzed using the FireFamily Plus software package (v. 5.0) to determine 97th percentile (Scenario 1) and 5th percentile (Scenarios 2 and 3) fire weather conditions. The RAWS data was evaluated from August 1 through October 15 for each year between 2005 and 2024 (extent of available data record) for the 97th percentile (Scenario 1) and from June 1

through August 31 for each year between 2005 and 2024 (extent of available data record) for the 50th percentile (Scenarios 2 and 3). Data derived from this analysis included values for 1-hour, 10-hour, and 100-hour fuel moistures, live herbaceous moisture, live woody moisture, 20-foot sustained wind speed, and wind direction. The weather data was also evaluated to determine the maximum sustained wind speed.

These weather values were incorporated into the Initial Fuel Moisture file used as an input in FlamMap. Wind direction and wind speed values for the FlamMap run were manually entered during the data input phase. Table 3 presents the wind and weather values used in the FlamMap fire behavior and progression modeling runs.

Table 3. Weather Variables used for Fire Behavior and Progression Modeling

Model Variable	Value Scenario 1 (97th Percentile Fire Weather)	Value Scenarios 2 and 3 (50th Percentile Fire Weather)
20-foot Wind Speed (mph)	10	8
Maximum Wind Speed (mph)	23	19
Wind Azimuth (degrees)	23	225
1-hour Fuel Moisture (%)	3	6
10-hour Fuel Moisture (%)	6	10
100-hour Fuel Moisture (%)	8	11
Live Herbaceous Fuel Moisture (%)	30	30
Live Woody Fuel Moisture (%)	59	59

Note: * Live herbaceous moisture values were lower than 30% so the herbaceous fuels are considered fully cured (Scott and Burgan 2005).

Wind direction (azimuth) for each Scenario was determined by evaluating wind rose outputs for sustained wind speeds, as presented in Exhibits 2 and 3.

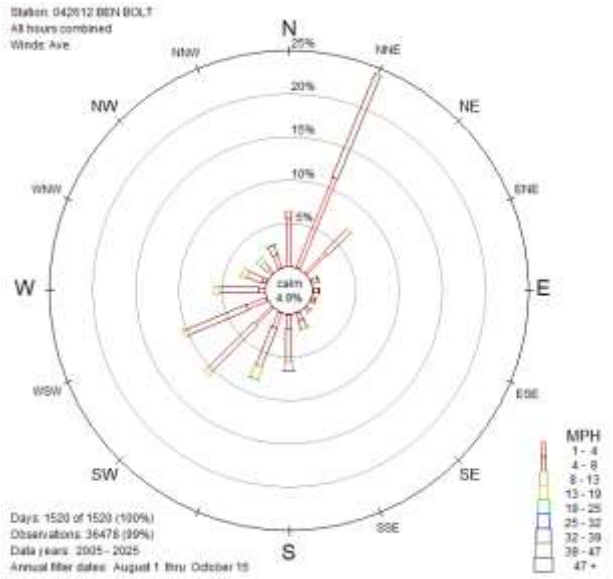


Exhibit 2. Wind rose for 97th percentile wind direction.

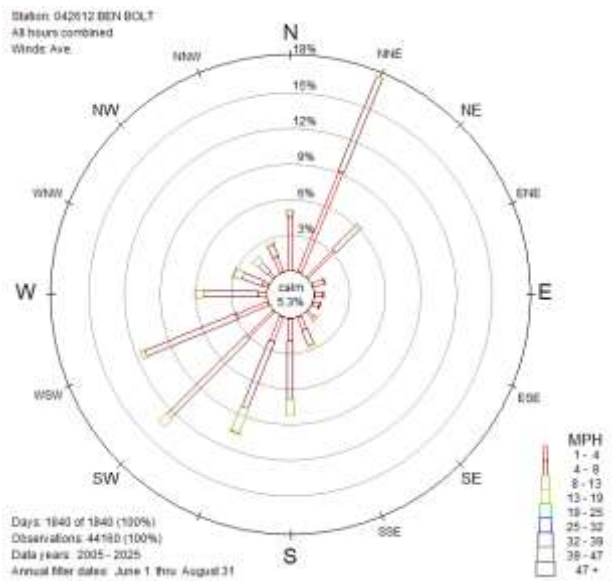


Exhibit 3. Wind rose for 50th percentile wind direction.

Finally, wind vectors were modeled within the FlamMap runs using the WindNinja tool embedded in the FlamMap software. WindNinja models the effect of topography on wind speed and direction and generates wind vector files for use in the modeling runs. The grid resolution for the WindNinja analysis was set at 30 meters.

3.1.7 Ignition Locations

We evaluated historic wildfire ignition point data in GIS format (NIFC 2025) to understand where historic ignitions have occurred and where it is likely that they could occur again. This data, coupled with an evaluation of wildfire history data (CAL FIRE 2024) and vegetation mapping data (USGS 2024b), informed the selection of ignition locations for the fire progression modeling effort. These locations were also evaluated in the field and ignition locations were reviewed with CAL FIRE prior to conducting the modeling runs. The following summarizes each of the ignition locations used for the fire progression modeling runs:



Exhibit 4. Photograph of field conditions located at the ignition point used for Scenario 1 (southwest corner of the intersection of Bass Lake Road and Hawk View Road).

Scenario 1: The ignition point for this scenario represents a roadside ignition occurring along the west side of Bass Lake Road near its intersection with Hawk View Road. This location contains ample roadside grasses that could potentially be ignited from human causes associated with roadways (e.g., cigarettes, dragging chains, molten catalyst material from vehicles, etc.) According to historic ignition data, multiple ignitions have occurred along Bass Lake Road.

Scenario 2: The ignition point for this scenario represents a roadside ignition occurring along the north side of Highway-50 approximately 1,200 feet east of El Dorado Hills Boulevard. An ignition in this location is possible from a vehicle or other human causes. According to historic ignition data, multiple ignitions have occurred along Highway-50 in this region.



Exhibit 5. Photograph of field conditions located near the ignition points used for Scenarios 2 and 3 (north of Highway 50 and east of El Dorado Hills Boulevard).

Scenario 3: The ignition point for this scenario represents a similar roadside ignition to Scenario 2 yet occurring approximately 2,000 feet further to the east and closer to the Project site. According to historic ignition data, multiple ignitions have occurred along Highway 50 in this region.

3.2 Model Outputs

Model outputs for this analysis include three fire progression maps (one for each of the three scenarios) and six landscape fire behavior characteristic maps, which include measurements of flame length, fireline intensity, and rate of spread for 50th and 97th percentile weather conditions. While wildfire progression maps present fire behavior and spread from a unique ignition point, landscape fire behavior models are static and represent wildfire behavior in all vegetated pixels present within the landscape.

Fire progression runs utilized the Minimum Travel Time (MTT) tool in FlamMap. The MTT tool is a two-dimensional fire growth model which calculates fire growth based on calculated fire spread rates from an ignition source (point, line, or polygon). The MTT tool uses fire spread rates to find minimum travel paths between data cells in the GIS landscape, with an output data file representing the number of minutes for a wildfire to reach a particular location from the ignition source. As FlamMap provides a static representation of fire behavior, modeling using the MTT tool holds wind and weather inputs constant over the modeling period. Each MTT simulation was assigned a burn period of 6 hours (360 minutes).

3.2.1 Fire Progression

The output files generated for the three progression runs included one arrival time grid and one line file representing major fire spread paths, considering modeling inputs and ignition location (output maps are presented in Appendix A). Major paths identify the most significant pathways for fire spread. The arrival time data presents time (in minutes) for a modeled fire to reach a specific location. This data was analyzed to determine the time necessary for a fire to burn from its ignition point to the Project site and surrounding communities. For some runs (Scenarios 2 and 3), the modeled fire did not reach the Project. This is due to the classification of non-burnable fuel models associated with roadways that function as barriers to grassland fire spread.

Scenario 1: A wildfire in this scenario spreads in a southwest direction driven by strong 23 mph winds from the north/northeast. Wildfire spreads quickly through herbaceous vegetation in a downslope direction through the Carson Creek drainage. Exiting roadways such as Silver Dove Way and Tong Road function as fuel breaks and prevent the fire from burning away from the drainage to the south. While the main fire front spreads in a southwest direction, the fire's flanks spread towards existing communities along Borders Drive and Archetto Drive. After about 1 hour, the modeled fire reaches riparian woodland vegetation which significantly slows fire spread. This alters the path of the fire front and results in fire spread across the north slope of Carson Creek. The fire front continues to spread southwest and eventually reaches the eastern edge of the Project site in 143 minutes (2 hours, 23 minutes).

Scenario 2: A wildfire in this scenario spreads in a northeast direction through grassland fuels. Fire spread is driven by 19 mph winds from the southwest and follows a slight uphill slope. The fire's northern perimeter is modeled to reach the edge of existing communities along Panela Way within 52 minutes. Spread along the fire's northeastern perimeter is halted by an existing dirt service road (roughly 16 feet wide) which travels across the open space and functions as a fuel break. This feature is modeled to prevent fire from continuing towards the Project site from this ignition location.



Exhibit 6: Aerial image of service road which functions as a fuel break and limits fire spread towards the Project site in Scenario 2.

Scenario 3: In this scenario, similar to Scenario 2, a wildfire spreads northeast across grasslands, driven by 19 mph winds from the southwest. The fire follows a slight uphill path and reaches the western edge of Old Silva Valley Parkway in 36 minutes. However, riparian vegetation and the paved roadway to the west of the Project site act as a natural fire break, preventing the fire from reaching the Project site.

3.2.2 Fire Behavior

Three output grid files for each weather scenario (50th and 97th percentile) were generated for the FlamMap run and represent flame length (feet), fireline intensity (BTU/ft/s), and rate of spread (mph). Flame length, the length of the flame of a spreading surface fire within the flaming front, is measured from midway in the active flaming combustion zone to the average tip of the flames (Andrews et al. 2008). It is a somewhat subjective and non-scientific measure of fire behavior but is extremely important to fireline personnel in evaluating fireline intensity and is worth considering as an important fire variable (Rothermel 1993). Flame length values in the resulting grid file are in feet. Table 4 below presents an interpretation of flame length and its relationship to fireline intensity. Fireline intensity is a measure of heat output from the flaming front and affects the potential for a surface fire to transition to a crown fire. Rate of spread measures the horizontal movement of fire spread across the landscape and is useful to determine a fire's behavior and how many resources will be needed to contain the fire, as a faster-moving fire requires more immediate and significant resources. Maps depicting fire behavior in the modeling analysis area are presented in Appendix B (B1-B6).

As presented in B-1 under 50th percentile weather summer conditions, flame lengths within grass fuels (Fuel Model GS2) range from roughly 6-8 feet depending on slope and wind exposure. During peak 97th percentile weather conditions (B-2), flame lengths in grass fuels are modeled to reach upwards of 9-12 feet under sustained wind speeds of 23 miles per hour.

Under extreme weather and wind conditions (B-4), fireline intensity values may exceed 1,000 Btu/foot/second with spread rates greater than 2 miles per hour in grass fuels. While at high risk of ignition, grass fuels are generally less hazardous compared to other fuel types such as shrub and timber. This is largely to lower fuel loads and rapid burn-out times. Grass fuels are typically light, fine fuels, meaning they are composed of thin, dry material that ignites and burns quickly. While wildfires in grass fuels may produce large flame lengths and spread rapidly, these conditions are often sustained for short periods of time. Because of this, grass fires provide more opportunities for direct fire suppression from responding personnel.

Table 4. Fire Behavior Interpretation

Flame Length	Fireline Intensity	Interpretation
Under 4 feet	Under 100 BTU/ft/s	Fires can generally be attacked at the head or flanks by persons using hand tools. Hand line should hold the fire.
4 feet to 8 feet	100–500 BTU/ft/s	Fires are too intense for a direct attack on the head by persons using hand tools. Hand line cannot be relied on to hold the fire. Equipment such as dozers, pumpers, and retardant aircraft can be effective.
8 feet to 11 feet	500–1,000 BTU/ft/s	Fires may present serious control problems—torching out, crowning, and spotting. Control efforts at the fire head will probably be ineffective.
Over 11 feet	Over 1,000 BTU/ft/s	Crowning, spotting, and major fire runs are probable. Control efforts at the head of fire are ineffective.

Source: Roussopoulos and Johnson 1975.
Note: BTU/ft/s = British thermal units per foot per second.

4 References

California Department of Forestry and Fire Protection (CAL FIRE). 2024. Fire and Resource Assessment Program. GIS Data Set: Fire Perimeters. https://hub-calfire-forestry.hub.arcgis.com/datasets/CALFIRE-Forestry::california-fire-perimeters-1950/explore.

Finney, M.A. 2002. Fire growth using minimum travel time methods. Can. J. For. Res. 32(8):1420-1424.

LANDFIRE, 2023. LANDFIRE 2023 Scott and Burgan Fire Behavior Fuel Model (FBFM40) CONUS. https://www.arcgis.com/home/item.html?id=f924a09b3ef743fdb2fa9f147706c4f4

Multi-Resolution Land Characteristics Consortium (MRLC). 2023 CONUS Tree Canopy. https://www.mrlc.gov/viewer/

National Interagency Fire Agency (NIFC). 2025. *Wildland Fire Incident Locations*. https://data-nifc.opendata.arcgis.com/datasets/b4402f7887ca4ea9a6189443f220ef28_0/explore?location=38.677435%2C-121.040807%2C13.46

Rothermel, R.C. 1993. *How to Predict the Spread and Intensity of Forest and Range Fires.* General Technical Report INT-143. Ogden, Utah: U.S. Forest Service, Intermountain Forest and Range Experiment.

Roussopoulos, Peter J.; Johnson, Von J. 1975. Help in making fuel management decisions. Research Paper NC-RP-112. St. Paul, MN: USDA Forest Service, North Central Forest Experiment Station. 16 p.

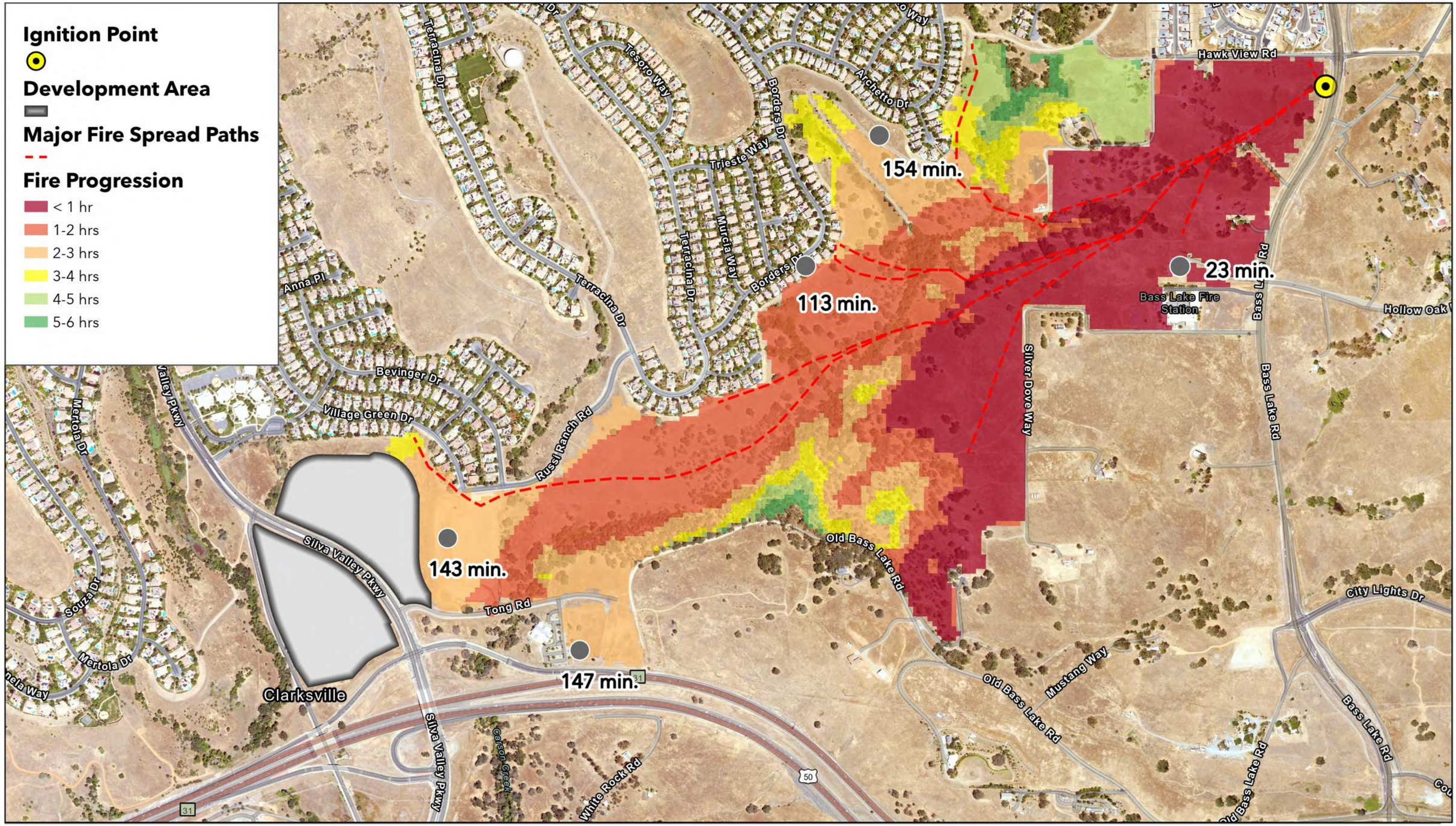
Scott, J. H.; Burgan, R. E. 2005. Standard fire behavior fuel models: a comprehensive set for use with Rothermel's surface fire spread model. General Technical Report RMRS-GTR-153. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. (1,359 KB; 80 pages)

U.S. Geological Survey (USGS). 2024a. USGS 1/3 Arc Second n39w122 20240313. https://www.sciencebase.gov/catalog/item/65fa6db1d34e40b5f4972e4c

USGS. 2024b. Annual NLCD Collection 1 Science Products: U.S. Geological Survey data release, https://doi.org/10.5066/P94UXNTS.

INTENTIONALLY LEFT BLANK

Appendix A
Fire Progression Model Outputs



DUDEK

0 375 750 1,500 Feet

Appendix A-1

Scenario 1: 97th Percentile Weather / NE Ignition

El Dorado Hills 52 North and Costco South Wildfire Modeling

Ignition Point

Development Area

Major Fire Spread Paths

Fire Progression

- < 1 hr
- 1-2 hrs
- 2-3 hrs
- 3-4 hrs
- 4-5 hrs
- 5-6 hrs

52 min.

Serrano Pkwy
Mertola Dr
Souza Dr
Penela Way
Village Green Dr
Silva Valley Pkwy
Tong Rd
Clarksville
Old Silva Valley Pkwy
Carson Creek
Park Dr
Umpqua Bank
Bank of America
Walgreens
Jack in the Box
Starbucks
50
31
30

DUDEK

0 245 490 980 Feet

Appendix A-2

Scenario 3: 50th Percentile Weather / SW Ignition

El Dorado Hills 52 North and Costco South Wildfire Modeling

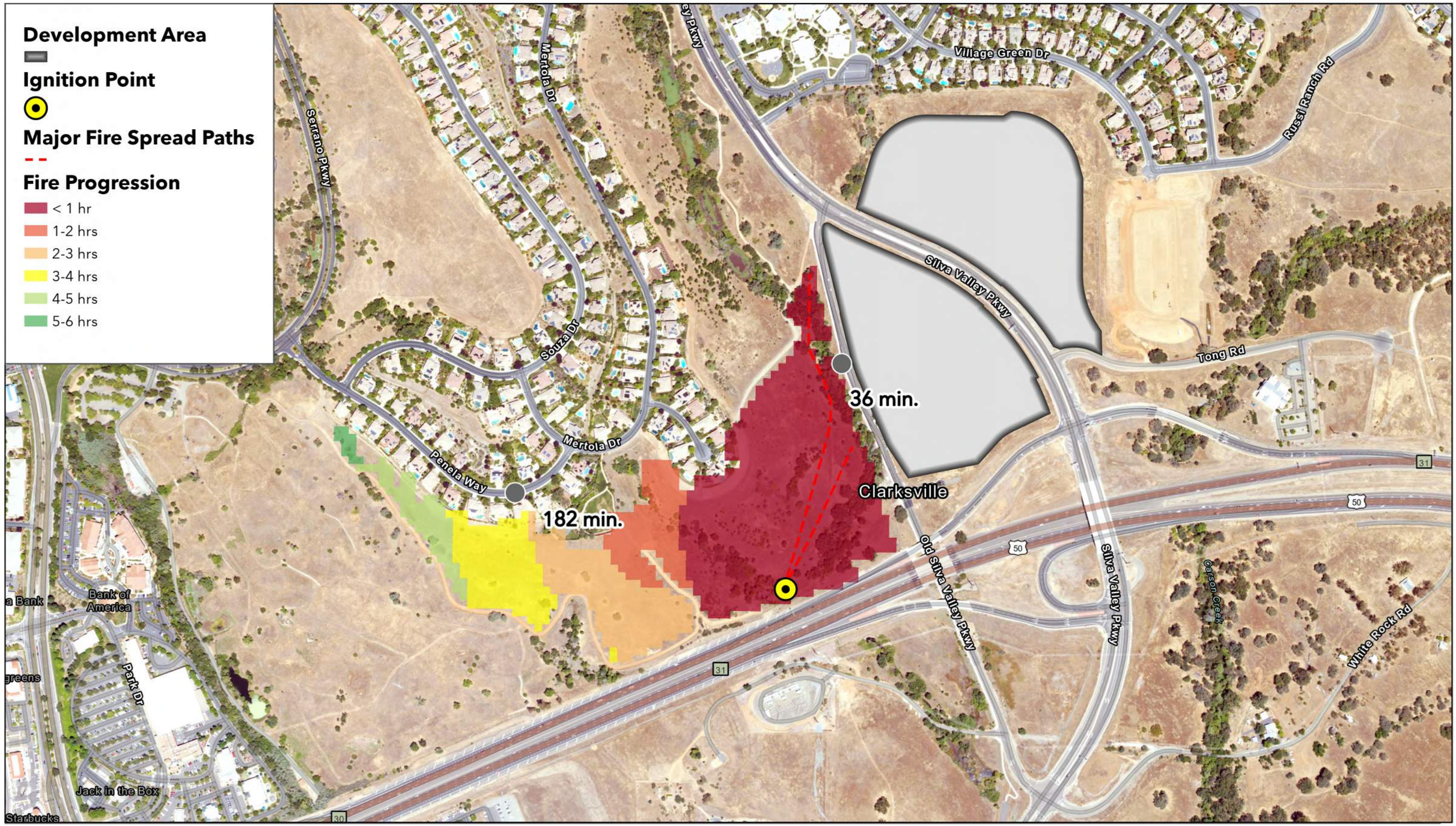
Development Area

Ignition Point

Major Fire Spread Paths

Fire Progression

- < 1 hr
- 1-2 hrs
- 2-3 hrs
- 3-4 hrs
- 4-5 hrs
- 5-6 hrs



DUDEK

0 245 490 980 Feet

Appendix A-3

Scenario 3: 50th Percentile Weather / SW Ignition

El Dorado Hills 52 North and Costco South Wildfire Modeling

Appendix B

Landscape Fire Behavior Model Outputs

Development Area

Flame Length (ft)

- Developed
- <4
- >4-8
- >8-11
- >11-20
- >20



DUDEK

0 500 1,000 2,000 Feet

Appendix B-1

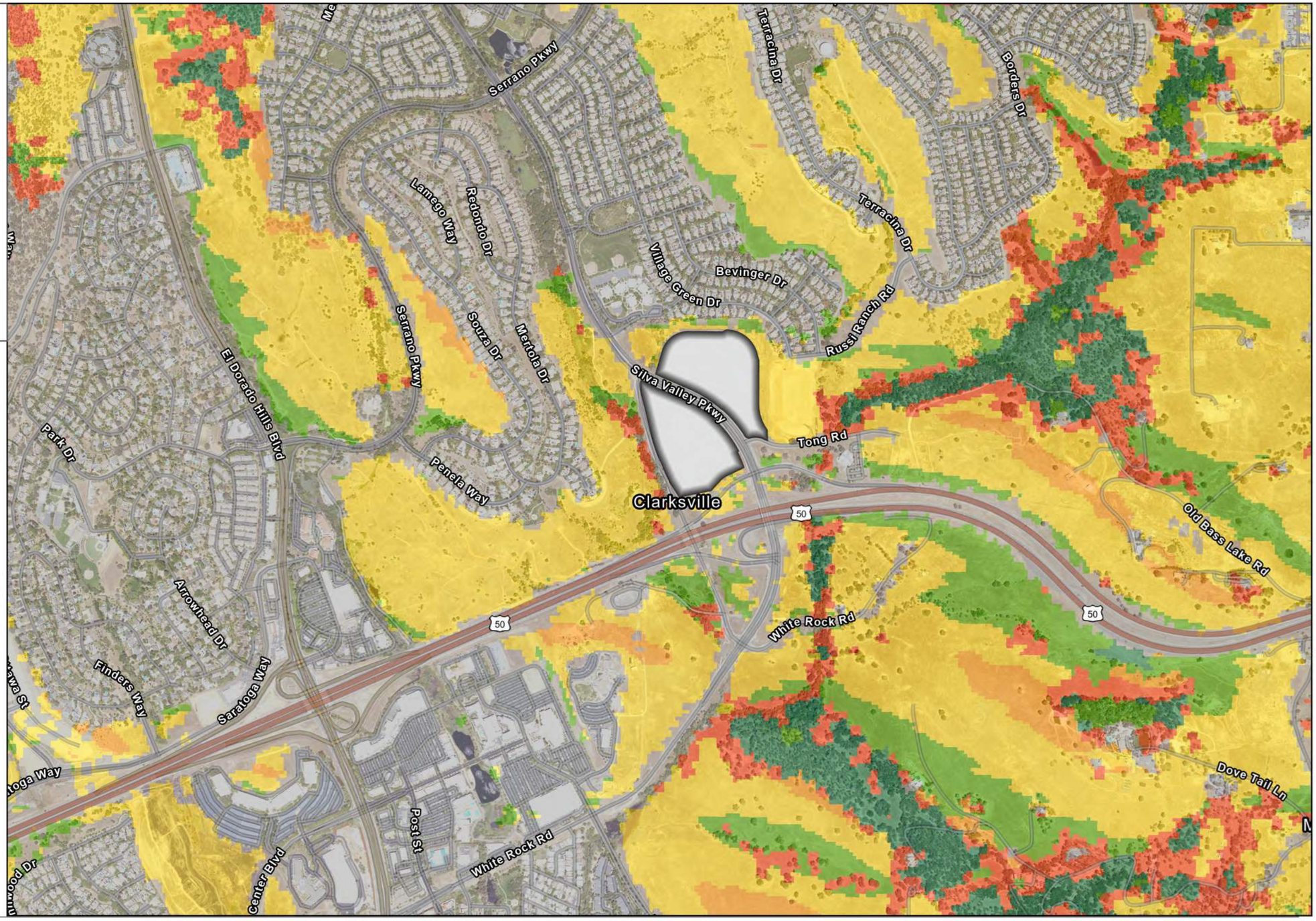
Flame Length - 50th Percentile Weather

El Dorado Hills 52 North and Costco South Wildfire Modeling

Development Area

Flame Length (ft)

- Developed
- <4
- >4-8
- >8-11
- >11-20
- >20



DUDEK

0 500 1,000 2,000 Feet

Appendix B-2

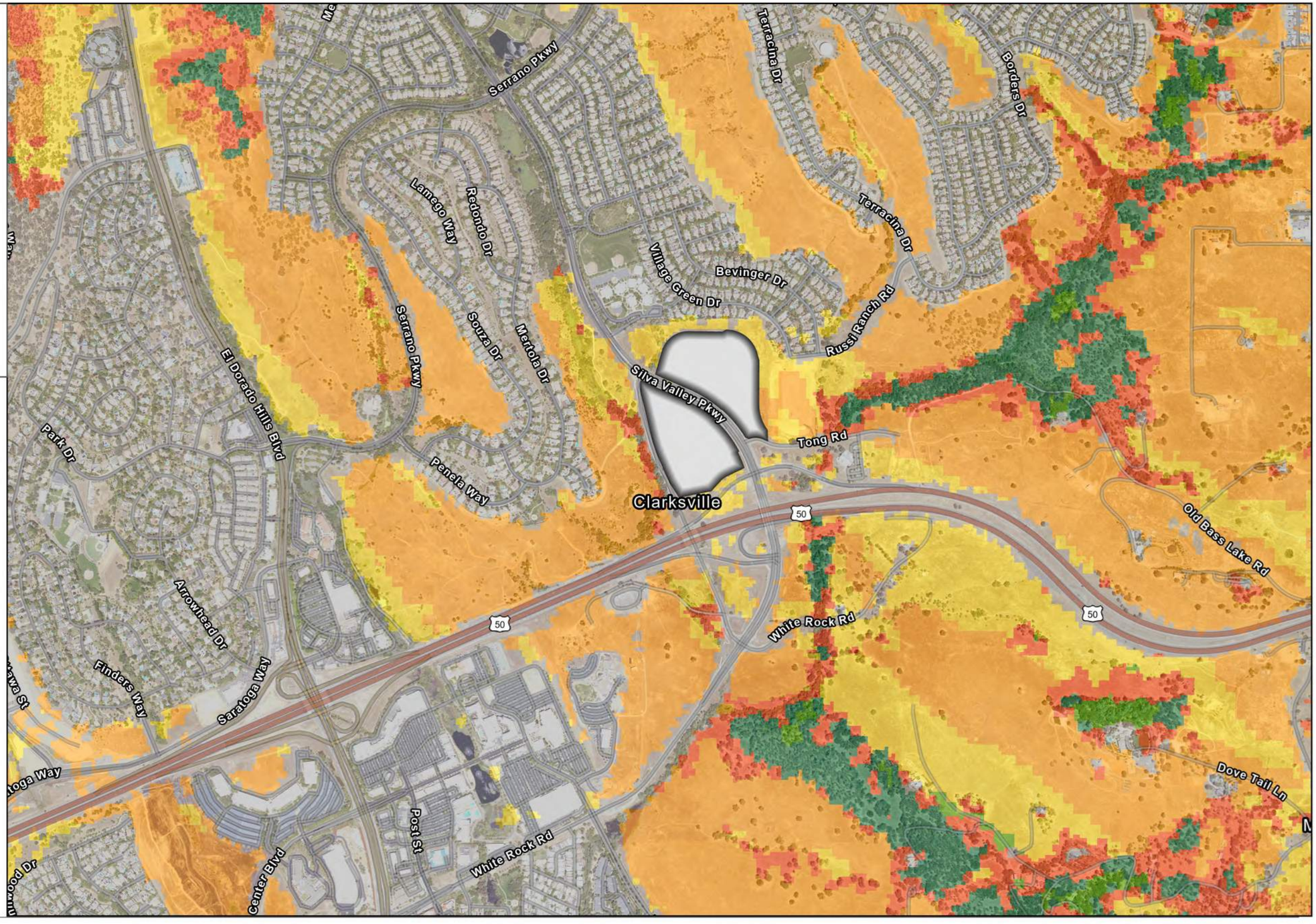
Flame Length - 97th Percentile Weather

El Dorado Hills 52 North and Costco South Wildfire Modeling

Development Area

Fireline Intensity (BTU/ft/s)

- Developed
- <100
- >100-500
- >500-1,000
- >1,000-6,175
- >6,175



DUDEK

0 500 1,000 2,000 Feet

Appendix B-3

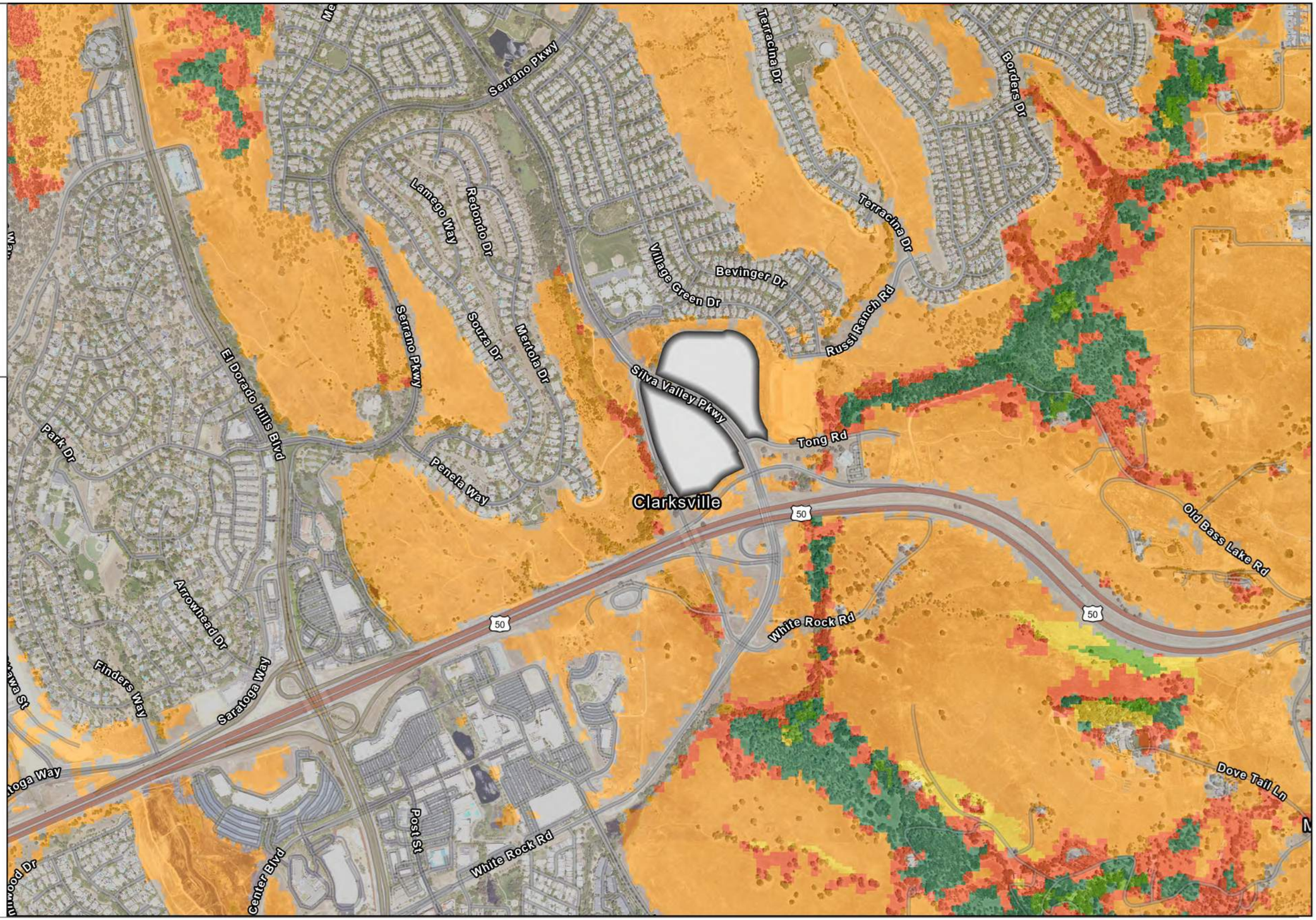
Fireline Intensity- 50th Percentile Weather

El Dorado Hills 52 North and Costco South Wildfire Modeling

Development Area

Fireline Intensity (BTU/ft/s)

- Developed
- <100
- >100-500
- >500-1,000
- >1,000-6,175
- >6,175



Appendix B-4

Fireline Intensity- 97th Percentile Weather

El Dorado Hills 52 North and Costco South Wildfire Modeling

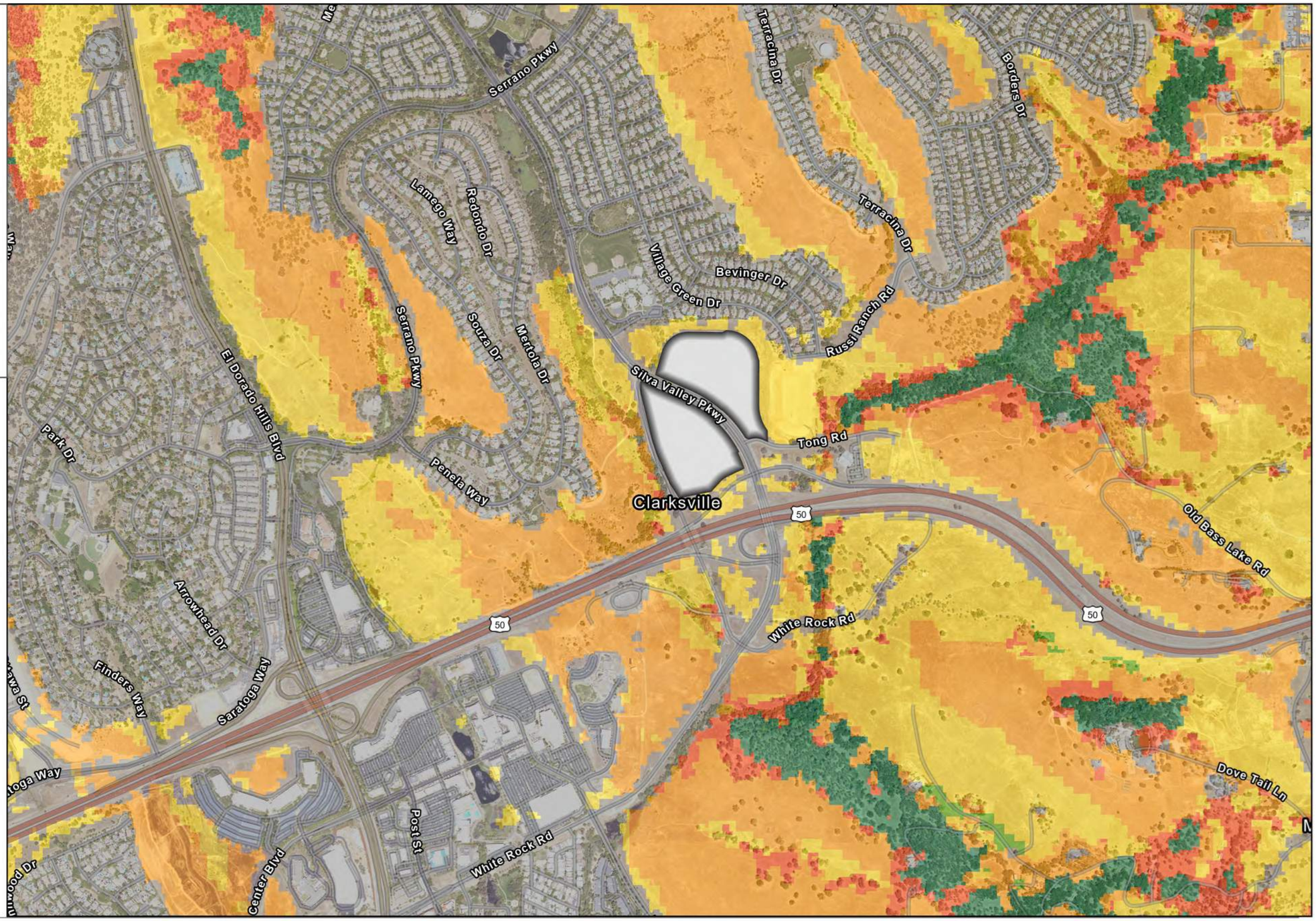
DUDEK

0 500 1,000 2,000 Feet

Development Area

Rate of Spread (mph)

- Developed
- <0.25
- >0.25-0.5
- >0.5-1
- >1-2
- >2



Appendix B-5

Rate of Spread - 50th Percentile Weather

El Dorado Hills 52 North and Costco South Wildfire Modeling

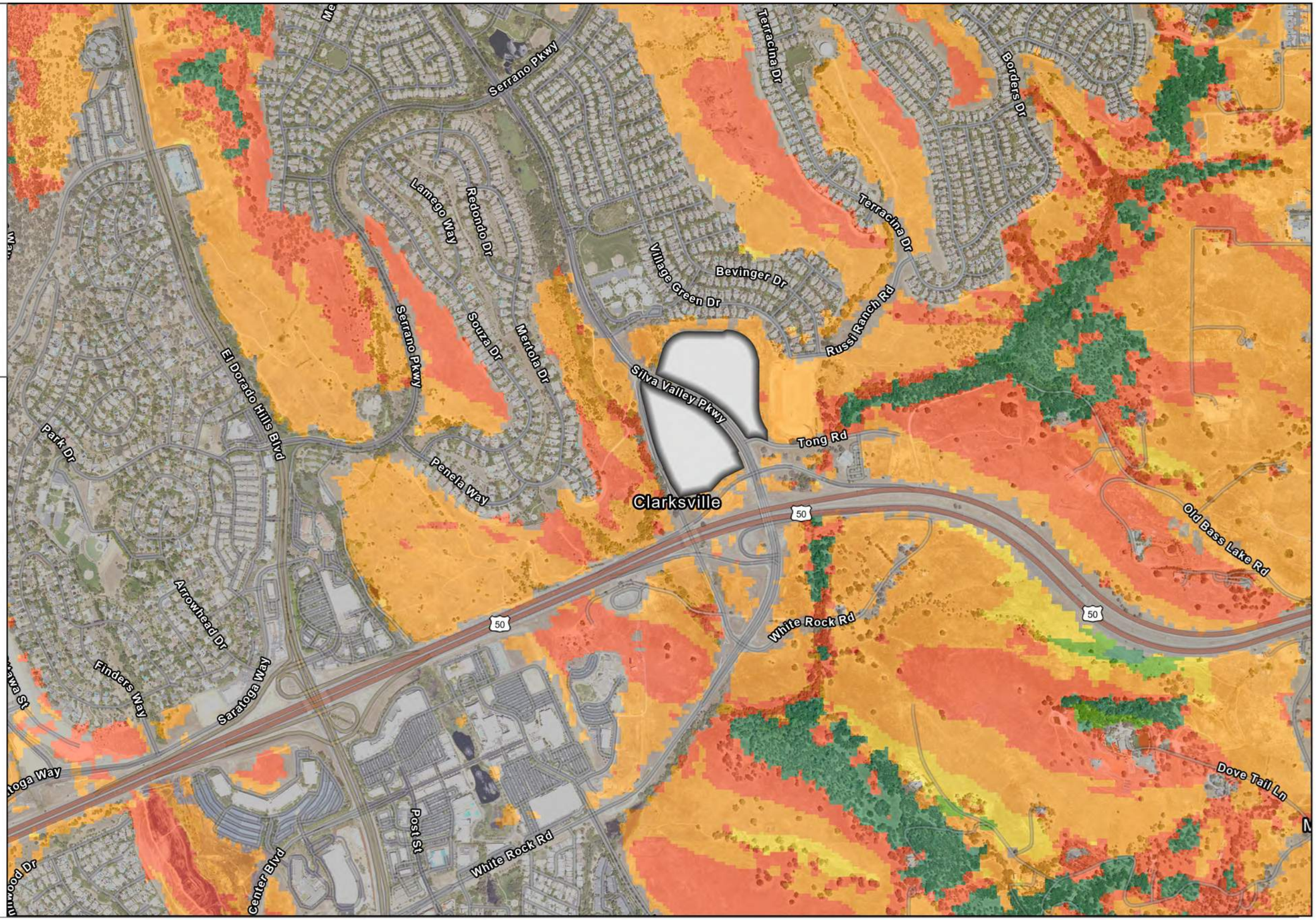
DUDEK

0 500 1,000 2,000 Feet

Development Area

Rate of Spread (mph)

- Developed
- <0.25
- >0.25-0.5
- >0.5-1
- >1-2
- >2



DUDEK

0 500 1,000 2,000 Feet

Appendix B-6

Rate of Spread - 97th Percentile Weather

El Dorado Hills 52 North and Costco South Wildfire Modeling

Evacuation Analysis

KITTELSON & ASSOCIATES
155 Grand Avenue, Suite 505
Oakland, CA 94612
P: 510.839.1742

TECHNICAL MEMORANDUM

August 20, 2025 Project# 26783

To: Ande Flower & Cameron Welch, County of El Dorado Planning

From: Grace Carsky, Sravya Kamalapuram, Amy Lopez

CC: Lt. Troy Morton, El Dorado County Office of Emergency Services; Chief Chrishana Fields, El Dorado Hills Fire; Chief Jeff Hoag, CAL FIRE

RE: El Dorado Hills Costco Warehouse - Evacuation Analysis

Introduction

Kittelson & Associates, Inc. (Kittelson) is providing an evacuation transportation analysis for the environmental impact report (EIR) of the proposed El Dorado Hills Costco warehouse development (Project) at the Silva Valley Parkway, El Dorado Hills site. This assessment provides estimates of roadway capacity constraints during wildfire evacuations, potential impacts to the roadway network under wildfire evacuation scenarios, and changes in travel times associated with the proposed Project. The assessment will cover two different wildfire event scenarios for both existing and near-term (2034) conditions. This memorandum presents the evacuation analysis methodology, results, and considerations for the County of El Dorado (County) and emergency responders including Cal FIRE, El Dorado Hills Fire Department, and El Dorado County Office of Emergency Services.

PROJECT DESCRIPTION

The proposed Project is a commercial development in El Dorado County north of US 50 along Silva Valley Parkway. It is bordered by existing residences and vacant land to the north, vacant land to the east, Clarksville Crossing to the west, and Tong Road and the US 50 westbound ramps to the south. The Project site currently is vacant. Figure 1 presents the Project location.

The Project consists of two sites on either side of Silva Valley Parkway: the North Site and South Site. The North Site will contain a fuel facility with 32 fueling positions. The South Site entails a Costco Warehouse retail center of approximately 165,000 cumulative square feet. Figure 1 presents the location of the proposed Project. Adjacent to the North Site fuel facility, future commercial development is anticipated for the surrounding vacant land (herein referred to as the "Remainder Area").

The Project is expected to generate 442 trips (221 vehicles) in the AM peak hour, 1,277 trips (638 to 639 vehicles) in the PM peak hour, and 1,697 trips (848 to 849 veicles) in the Saturday midday peak hour. During operating hours of the Costco warehouse and gas station, as many as 200 employees are expected to be on-site at any given time.



Figure 1

Costco Project Site
El Dorado Hills Costco
El Dorado County, California

KITTELSON & ASSOCIATES

Wildfire Scenarios

To evaluate how the proposed development may affect congestion and travel times in the vicinity of the Project during wildfire evacuation scenarios, fire progression and fire behavior modeling was conducted by Dudek for the Project area. This modeling considered wildfire history, ignition sources, fuels/vegetation, and historical weather patterns for the Project site and the surrounding area. The detailed Wildfire Modeling methodology report prepared by Dudek is provided in Appendix A.

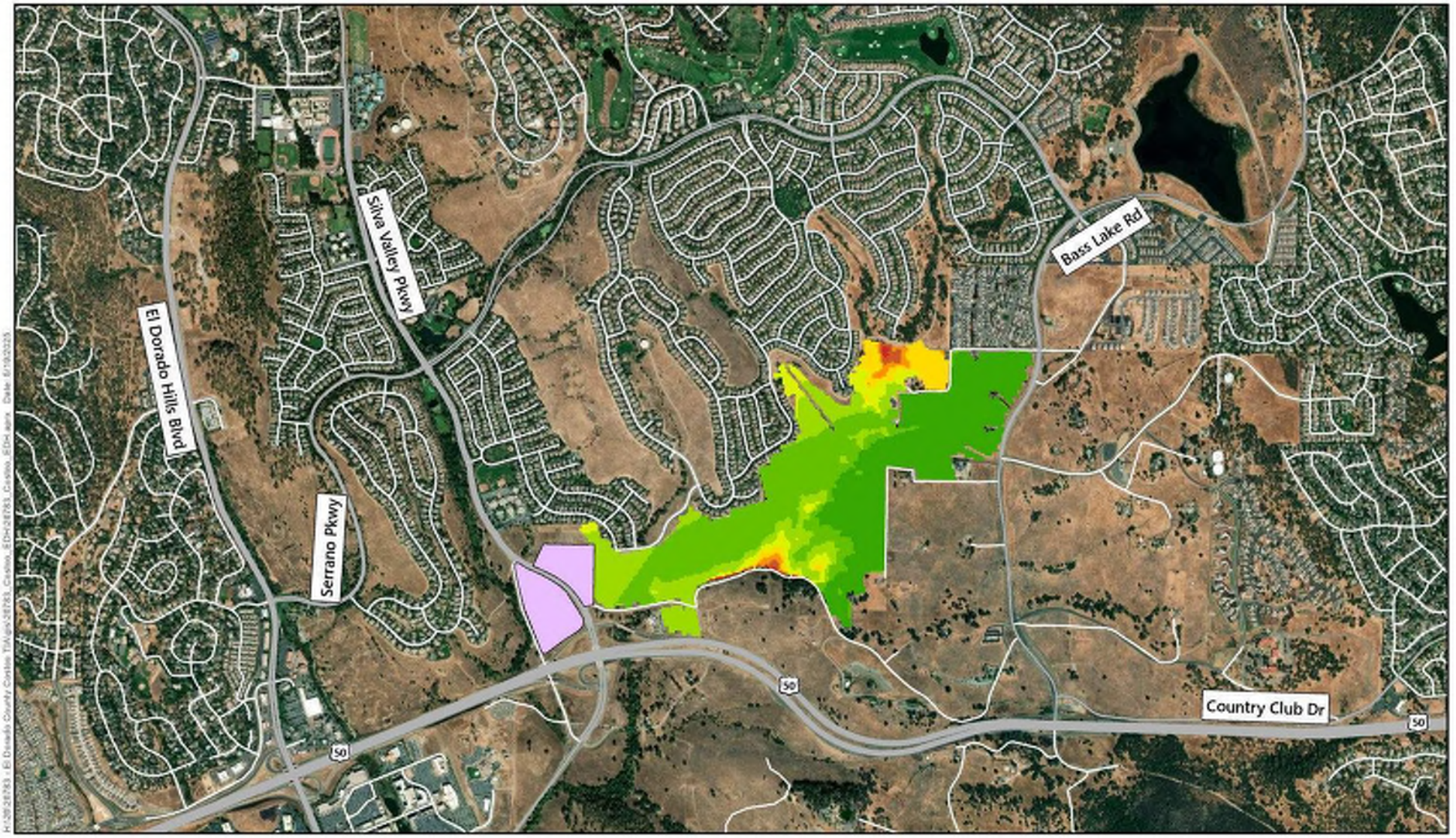
While the modeling identified three potential wildfire scenarios impacting the Project site, discussions with El Dorado County, El Dorado County Office of Emergency Services (OES), El Dorado Hills Fire Department, and the California Department of Forestry and Fire Protection (Cal FIRE) (hereby referred as the advisory group) led to the selection of two primary wildfire evacuation scenarios for further analysis. These scenarios assess wildfire behavior and evacuation strategies for area residents and Costco employees and members in the Project vicinity and nearby communities.

The details of the wildfire scenarios analyzed in this study are outlined in Table 1. Figure 2 and Figure 3 show the fire progression and fire spread for wildfire scenarios #1 and #2.

Table 1. Wildfire Scenarios

	Wildfire Scenario #1	Wildfire Scenario #2
Ignition Location	Northeast of the Project site	Southwest of the Project site
Wind Direction[1]	North/Northeast	Southwest
Fire Spread	Southwest towards the Project site	Northeast towards the Project site
Time to reach the Project Site	~143 minutes (2 hours 23 minutes)	Does not reach the Project site due to natural fire breaks including riparian vegetation and a paved roadway west of the Project site

Source: Wildfire Modeling Summary Report, Prepared by Dudek, 2025
Wind direction indicates the direction of where the wind is coming from



El Dorado Costco Project Site

Wildfire Scenario #1 (Hours Since Ignition)

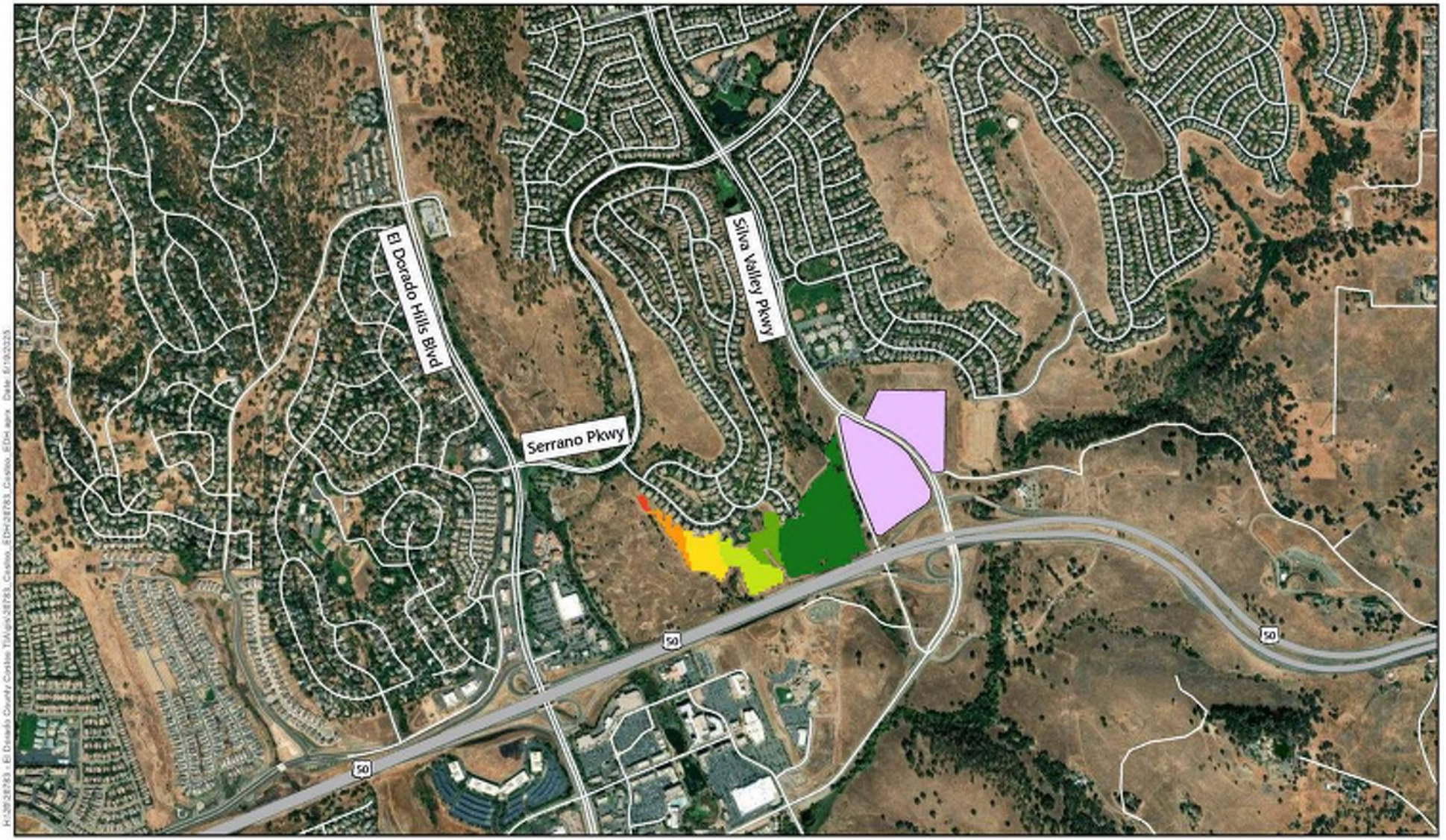
- < 1 hr
- 1 - 2 hr
- 2 - 3 hr
- 3 - 4 hr
- 4 - 5 hr
- 5 - 6 hr
- 6 - 7 hr
- 7 - 8 hr

0 1 Miles

Figure 2

Wildfire Scenario #1
Fire Progression
El Dorado Costco

KITTELSON & ASSOCIATES



El Dorado Costco Project Site

Wildire Scenario #2 (Hours Since Ignition)

- <1 hr
- 1 - 2 hr
- 2 - 3 hr
- 3 - 4 hr
- 4 - 5 hr
- 5 - 6 hr

0 1 Miles

Figure 3

Wildfire Scenario #2
Fire Progression
El Dorado Costco

KITTELSON & ASSOCIATES

Analysis Scenarios

This study evaluates the transportation related impacts of the Project during the two wildfire evacuation scenarios discussed in Table 1. To maintain consistency with the Traffic Impact Analysis (TIA) conducted by Kittleson & Associates, Inc. for the Project,[1] this study examines potential evacuation effects under the Existing and Near-Term (2034) conditions. To account for the worst-case scenario, all the scenarios are analyzed during the PM peak hour, which represents the peak traffic volume during a typical week: the sum of background traffic in the area plus traffic from the Project development, assuming Costco members and employees are in the warehouse and residents in the evacuation area are at home.

Accordingly, this study evaluates transportation related impacts during the PM peak hour for the two wildfire scenarios under the following conditions:

- Existing No Project
- Existing Plus Project
- Near-Term (2034) No Project
- Near-Term (2034) Plus Project

The Near-Term (2034) No Project and Plus Project conditions include the projected land use development and trip generation for the Remainder Area. The Remainder Area is approximately 13.79 acres and is not proposed for development as part of the current project. Thus, the Remainder Area is not considered in the Existing Plus Project conditions.

Travel Modeling Tools

The evacuation analysis uses the El Dorado County travel demand model to estimate roadway congestion and travel times in an evacuation under No Project and Plus Project conditions. The current travel model is calibrated and validated for a 2018 base year and includes a 2040 future scenario with 2040 land use forecasts and transportation improvement assumptions. Kittelson estimated land use conditions for Near-Term (2034) conditions by a linear interpolation of 2018 and 2040 land use assumptions and assuming the 2040 transportation improvements in the Project vicinity.

Evacuation Assumptions

This section outlines the assumptions made on when the residents, employees, and Costco members in the evacuation area would need to evacuate and the conditions under which they would evacuate.

[1] *EDH Costco TIA – DRAFT, February 2025*

TIME PERIOD

Kittelson modeled transportation activity for the worst-case scenario under which people in surrounding areas would evacuate. This period is assumed to be the PM peak hour when the sum of background traffic in the area plus traffic from the Project development is greatest during a typical week.

TRAVEL TYPE

Baseline travel represents normal travel patterns during the PM peak hour as included in the El Dorado County travel demand model. Evacuation travel represents estimated evacuation trips and travel time from each evacuating Traffic Analysis Zone (TAZ) to an evacuation destination. Kittelson reviewed the model's TAZs and assigned each TAZ a combination of Baseline travel and Evacuation travel (25% and 75%, respectively), based on its presence in the designated evacuation area.

EVACUATION AREA BOUNDARIES

For each of the two wildfire evacuation scenarios analyzed in this study, evacuation area boundaries were determined based on discussions with the advisory group. Accordingly, the following are the evacuation area boundaries assumed in this study.

- **Wildfire Scenario #1:** Evacuation area is assumed to be bounded by Serrano Parkway on the north, US 50/Old White Rock Road on the south, Silva Valley Parkway on the west, and Bass Lake Road on the east.
- **Wildfire Scenario #2:** Evacuation area is assumed to be bounded by Serrano Parkway on the north, US 50/White Rock Road on the south, El Dorado Hills Boulevard on the west, and areas surrounding Tong Road between Silva Valley Parkway and Bass Lane Road.

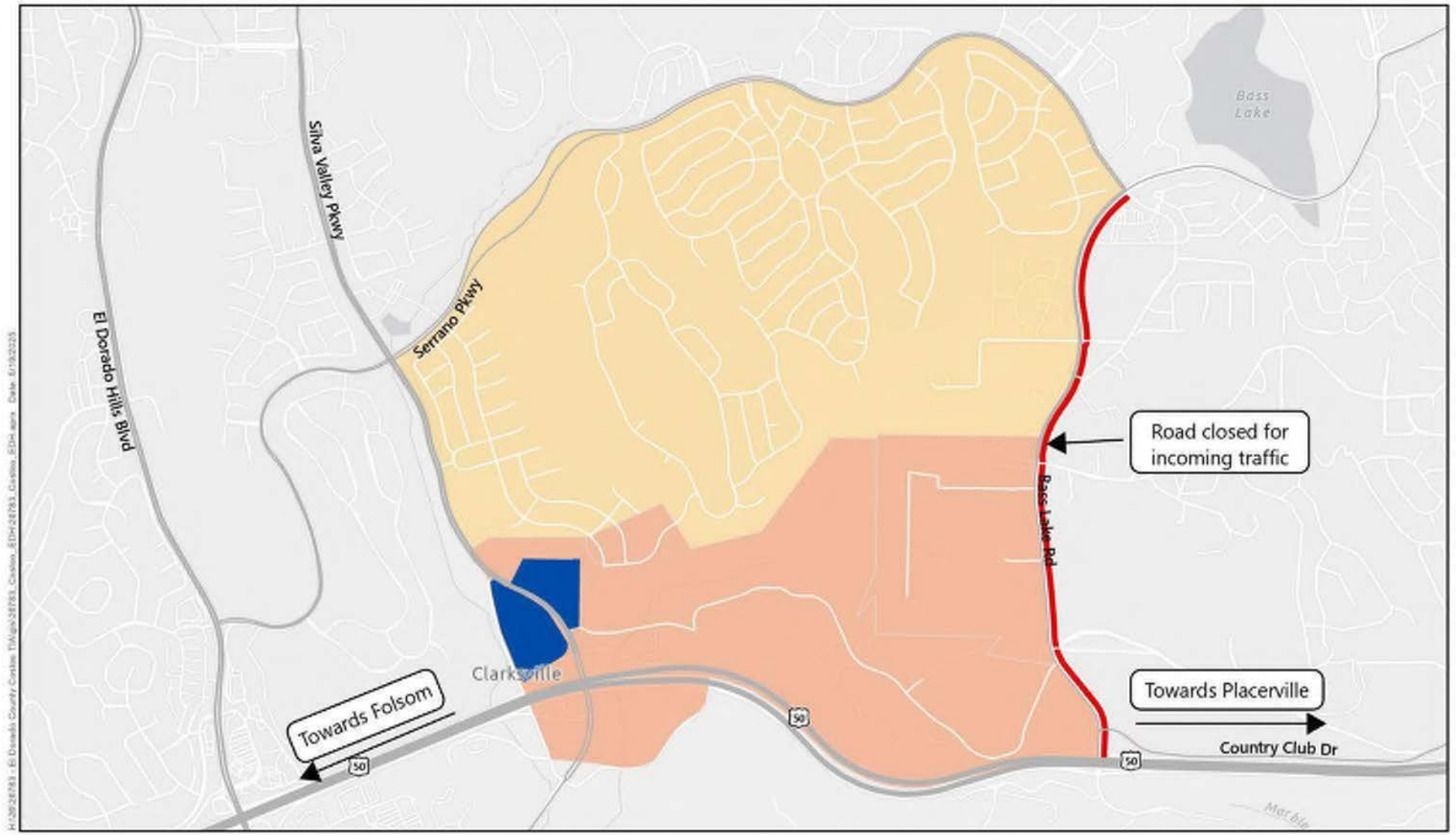
The evacuation areas are overlaid with the El Dorado County travel demand model's Traffic Analysis Zone (TAZ) map to identify the numbers of people that would need to be evacuated.

NUMBER OF EVACUATING TRIPS

Modeled trips are a function of the interactions between geographic patterns, including the land uses in an area, the socio-economic characteristics of the population in the area (e.g., auto ownership, income, and household size), and the type and extent of transportation facilities in an area. Kittelson obtained countywide land use information by TAZ (including households, population, and employment information) from the El Dorado County travel demand model for the Existing and Near-Term (2034) conditions. The land use information for Near-Term (2034) conditions also includes the projected land use for the Reminder Area, based on the County's General Plan.

The El Dorado County auto ownership information by Census Tract is obtained from the American Community Survey (ACS) 2023 five-year estimates. Based on this data, there are an average of 2.03 vehicles per household in El Dorado County. Therefore, the number of evacuating households is multiplied by two (rounded) to estimate the number of evacuating residential vehicles. Each evacuating employee is assumed to use one vehicle.

Kittelson estimated total evacuation trips by calculating the trips generated at household uses and trips generated by employees at non-residential land uses. If a fire occurs during the night, most residents would be home, but most employees would not be at their workplace. If a fire occurs during the workday, most employees would be at their workplace, but many residents would not be at their homes. The evacuation analysis conservatively assumes that 75 percent of residents and 75 percent of employees would need to evacuate during a wildfire event.



Percent Evacuating During Peak Hour*

- 25 percent
- 65 percent

- Road Closures
- El Dorado Costco Project Site

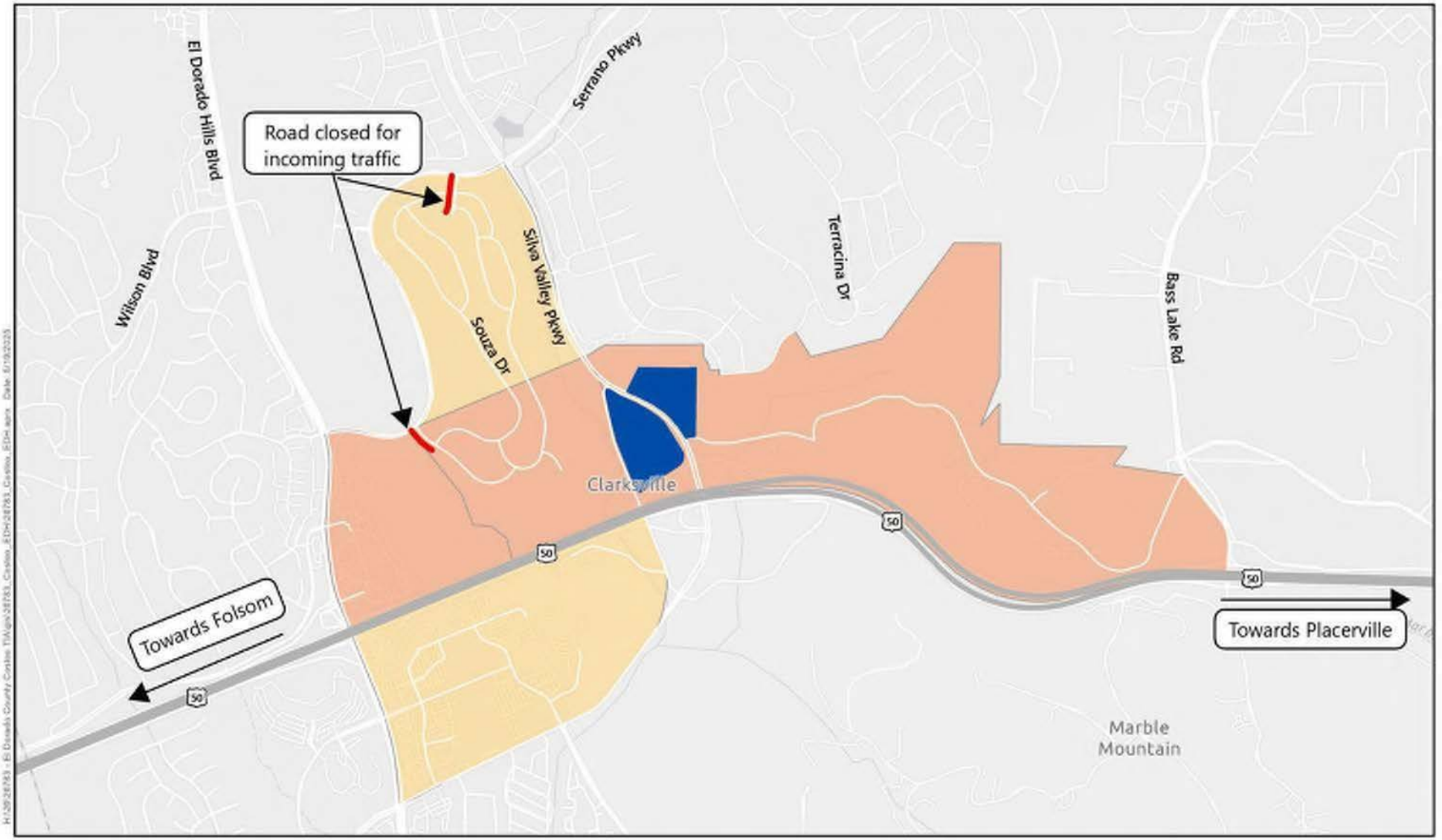
0 1 Miles

*Peak Hour is assumed to be the first hour of the evacuation, where residents, employees, customers and visitors are given evacuation orders.

KITTELSON & ASSOCIATES

Figure 4

Percent Evacuating During Peak Hour*
Wildfire Scenario #1
El Dorado Costco



Percent Evacuating during Peak Hour*

- 25 percent
- 65 percent

- Road Closures
- El Dorado Costco Project Site

0 1 Miles

*Peak Hour is assumed to be the first hour, where residents, employees, customers and visitors are given evacuation orders

Figure 5

Percent Evacuating During Peak Hour*
Wildfire Scenario #2
El Dorado Costco

KITTELSON & ASSOCIATES

TRIP DISTRIBUTION

Kittelson considered separate trip distribution for the Costco members and employees and other residents and employees in the evacuation area outside of the Project site. The assumptions are as follows.

- **Costco Members and Employees**: Trip distribution assumptions were based on Costco member transaction data and a market area analysis conducted as part of the Project TIA. The analysis showed that most Costco members are expected to travel from areas east of the Project site, surrounding the City of Placerville and other parts of El Dorado County (Figure 6). Accordingly, the following evacuation trip distribution was assumed for Costco members and employees:
    - 65% evacuate eastward toward Placerville
    - 35% evacuate westward toward Folsom
- **Residents and Employees Outside the Project Site**: For residents and employees in the evacuation area outside of the Project site, trip distribution assumptions were based on existing land use, the location of evacuation destinations, and their relative proximity to the evacuation area. Accordingly, the following evacuation trip distribution was assumed for residents and employees in the evacuation area outside of the Project site:
    - 80% evacuate westward toward Folsom
    - 20% evacuate eastward toward Placerville

The trips were distributed from each of the evacuating TAZs to the evacuation destinations, as appropriate. The trip distribution is not intended to reflect a precise distribution of the routes that would be taken during an evacuation.

ROADWAY CAPACITY AND ROADWAY CLOSURES

Kittelson modeled trip patterns using the typical capacities for each roadway within and outside the evacuation area for roadways otherwise identified for road closures by the advisory group. The scenarios represent conditions without implementation of any evacuation strategies, such as manual traffic control or contraflow lanes, which could increase roadway capacity in one direction versus the other. The roadways identified for roadway closures for each of the scenarios include:

- **Wildfire Scenario #1:** Bass Lake Road is assumed to be restricted to outbound/evacuating traffic only, with no access allowed for inbound traffic.
- **Wildfire Scenario #2:** It is assumed that residential streets in the communities north of the Project site will be closed to incoming traffic and will only remain open for evacuating vehicles.

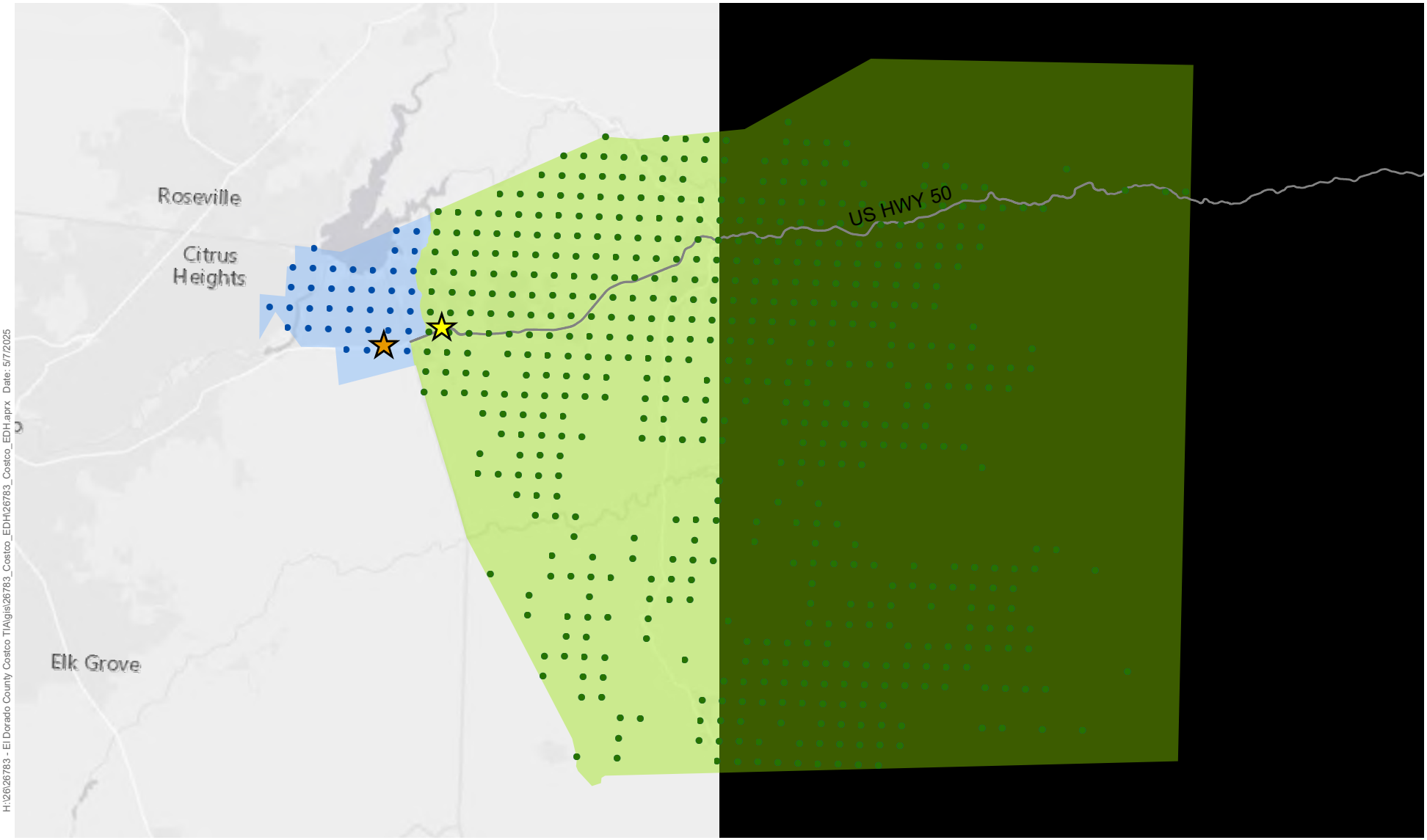


Figure 6

Future Market Areas
El Dorado Hills Costco

KITTELSON & ASSOCIATES

EVACUATION DESTINATION AND ROUTE CHOICE

Based on the conversations with the advisory group, Kittelson modeled evacuating vehicles to use US 50 to evacuate towards Folsom to the west or Placerville to the east.

The number of trips to each evacuation destination was assigned based on the location and direction of the evacuation based on the trip distribution described above. These destinations were selected for each of the evacuation scenarios with a goal of identifying evacuation travel patterns and congestion in the evacuation area and in the region.

EVACUATION ASSIGNMENT

During an evacuation event, residents and employees will receive one of three evacuation assignment orders:

- **No Action** – residents and employees do not need to evacuate or prepare for an evacuation.
- **Evacuation Warning** – residents and employees in a specific evacuation zone are ordered to prepare for an evacuation but do not need to evacuate immediately.
- **Evacuation Order** – residents and employees in a specific evacuation zone are ordered to evacuate immediately.

The peak hour for evacuation, when most vehicles evacuate, is defined differently depending on the wildfire scenario. For both wildfire scenarios, the peak hour is assumed to be the first hour of the evacuation.

The percentage of residents and employees evacuating is considered in two separate groups.

- **Costco Members and Employees:** To account for the worst-case scenario, it is assumed that all Costco members and employees will receive an evacuation order and evacuate during the peak hour in both wildfire scenarios.
- **Residents and Employees Outside the Project Site**: When an area is assigned an evacuation order or warning, it is assumed that 90 percent of residents and employees will evacuate over the duration of an evacuation and approximately 10 percent will remain behind. The estimated factors are based on survey results from people impacted by prior fires in California in UC Berkeley's Review of California Wildfire Evacuations from 2017 to 2019.[2] Based on Kittelson's conversations with the advisory group, it is assumed that evacuation will occur in phases, with different portions of the evacuation area receiving either an evacuation order or an evacuation warning.
    - Areas under an evacuation order are expected to have 65 percent of vehicles evacuating during the peak hour.
    - Areas under an evacuation warning are expected to have 25 percent of vehicles evacuating during the peak hour.

[2] *Wong, S., Broader, J. and Shaheen, P., 2022. Review of California Wildfire Evacuations from 2017 to 2019. [online] Escholarship.org. Available at:* <https://escholarship.org/uc/item/5w85z07g>

Evacuation Results

The El Dorado County travel demand model was used to estimate travel times and volume-to-capacity (V/C) ratios for each analysis scenario to understand how the Project would impact residents, employees, and Costco members in the evacuation area for each wildfire scenario. The following sections present the congestion locations and comparison of travel times for baseline conditions (no evacuation), existing conditions, and near-term (2034) conditions in No Project and Plus Project conditions for the two wildfire scenarios. The analysis is run assuming no manual traffic control is in place during the evacuation.

The congestion on a roadway segment is determined based on the V/C ratio of the segment derived from the El Dorado County travel demand model. Congestion locations are classified as shown in Table 2.

Table 2. Congestion Classification based on Volume-to-Capacity (V/C) ratio

Volume-to-Capacity (V/C) ratio	Congestion Classification
≤ 0.9	Under Capacity
0.9 to 1.0	Near Capacity
≥ 1.0	Over Capacity

Wildfire Scenario #1

This section presents the congestion location and travel times analysis under wildfire scenario #1 for all the analysis scenarios. The origin and destination location are identified based on the evacuation area boundaries identified for this wildfire scenario and likely evacuation destinations in the City of Folsom and City of Placerville. However, evacuation destinations are subject to change during an actual evacuation event based on direction from the Office of Emergency Services or evacuating persons' personal preferences.

EXISTING CONDITIONS

Figure 7 and Figure 8 show the congestion locations during wildfire scenario #1 for Existing Conditions under Evacuation No Project and Evacuation Plus Project scenarios. The following are the locations operating near or over capacity in the Existing Conditions No Project and Plus Project scenarios.

No Project

- Eastbound US 50 toward Placerville
- Eastbound and Westbound US 50 toward Folsom
- Serrano Parkway between Silva Valley Parkway and El Dorado Hills Boulevard
- El Dorado Hills Boulevard between Serrano Parkway and US 50

Plus Project

- Eastbound US 50 toward Placerville including sections adjacent to the evacuation area.
- Eastbound and Westbound US 50 toward Folsom
- Serrano Parkway between Silva Valley Parkway and El Dorado Hills Boulevard
- El Dorado Hills Boulevard between Serrano Parkway and US 50

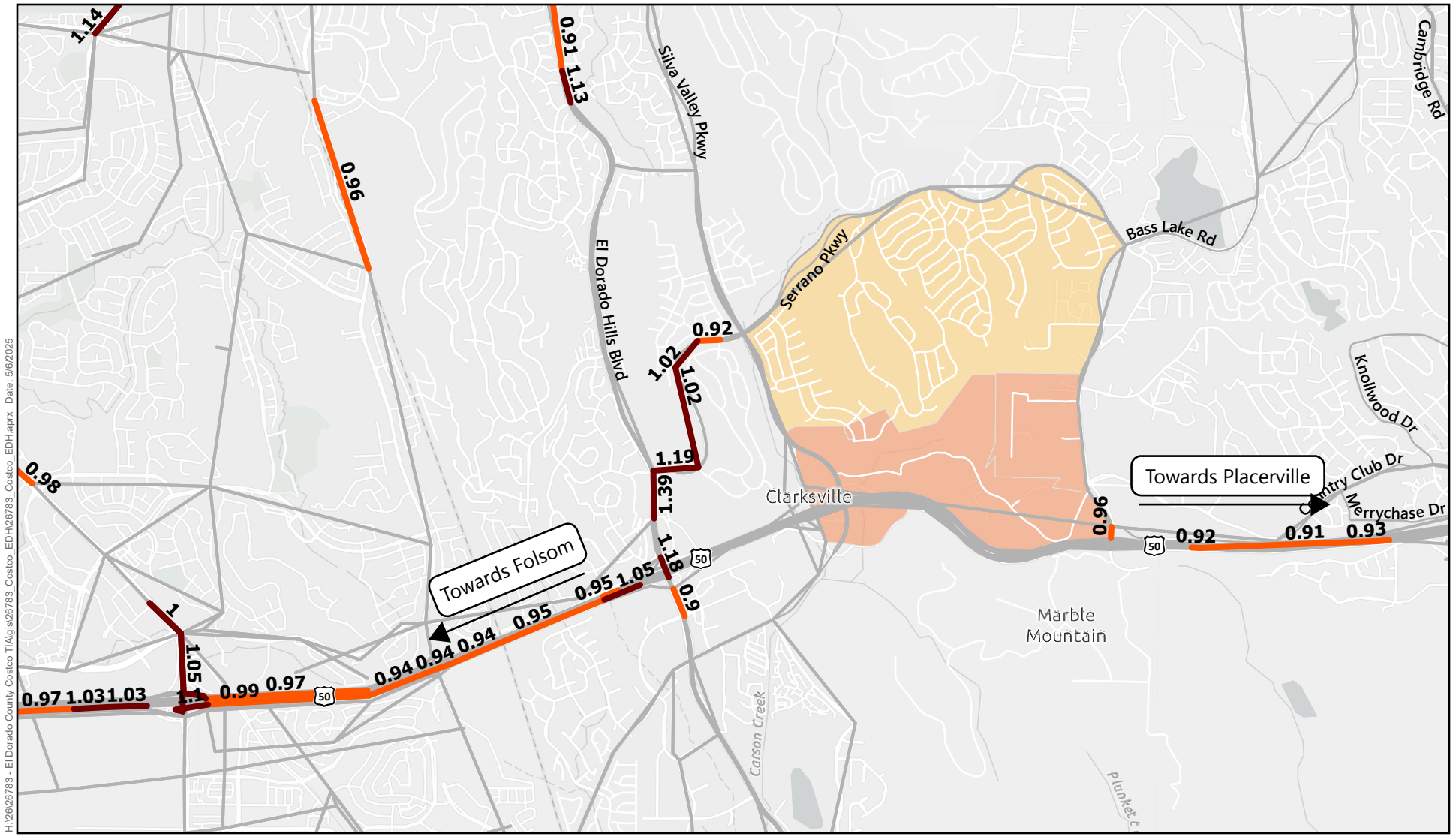
With the addition of Project traffic, volume-to-capacity ratio increases along US 50 towards Folsom and Placerville. Roadway capacity along Serrano Parkway between Silva Valley Parkway and El Dorado Hills operates over capacity under the No Project and Plus Project scenarios, though the volume-to-capacity ratio changes with the addition of Project traffic are minimal.

Table 3 shows the travel times (in minutes) during wildfire scenario #1 for existing conditions under No Evacuation, Evacuation No Project, and Evacuation Plus Project scenarios. As seen in the table below, the increase in travel time with Project traffic varies between 0.1 to 1.0 minutes (0-5% increase).

Table 3. Travel Time (minutes), Wildfire Scenario #1 - Existing Conditions

Origin	Destination	No Evacuation Travel Time (mins)	Evacuation			
			No Project Travel Time (mins)	Plus Project Travel Time (mins)	Difference (mins)	Difference (percent)
S. of Serrano Pkwy.	Folsom	9.5	10.1	10.2	0.1	1%
	Placerville	22.9	23.8	24.7	0.9	4%
W. of Bass Lake Rd.	Folsom	8.0	8.3	8.3	0.0	0%
	Placerville	19.0	19.8	20.6	0.8	4%
Old White Rock Rd.	Folsom	5.4	5.7	5.8	0.1	2%
	Placerville	19.6	20.3	21.1	0.8	4%
Village Green Dr.	Folsom	5.8	6.2	6.4	0.2	3%
	Placerville	20.6	21.3	22.3	1.0	5%
Costco	Folsom	4.6	5.0	5.2	0.2	4%
	Placerville	19.4	20.1	21.0	0.9	4%

Compiled by: Kittelson & Associates, Inc., 2025



H:\26\26783 - El Dorado County Costco TIA\gis\26783_Costco_EDH26783_Costco_EDH.aprx Date: 5/6/2025

Congestion Locations

- Under Capacity
- Near Capacity
- Over Capacity

Percent Evacuating during Peak Hour*

25 percent 65 percent

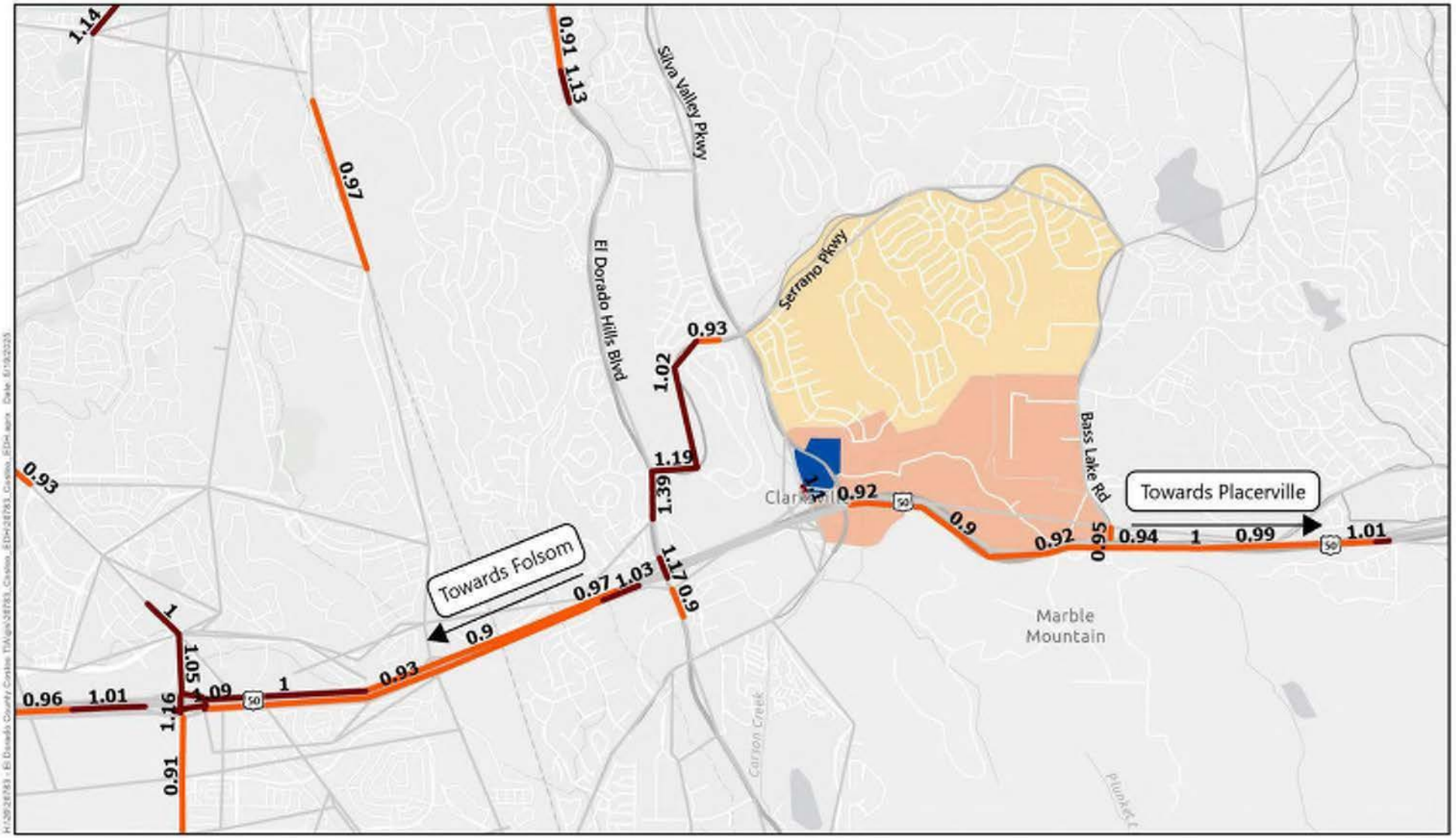
**Peak Hour is assumed to be the first hour of the evacuation, where residents, employees, customers and visitors are given evacuation orders.*

0 1 Miles

Figure 7

Congestion Locations
Wildfire Scenario #1
Existing Conditions - No Project
El Dorado Costco

KITTELSON & ASSOCIATES



Congestion Locations

- Under Capacity
- Near Capacity
- Over Capacity

Percent Evacuating during Peak Hour*

25 percent 65 percent

Costco Project Site

0 1 Miles

*Peak Hour is assumed to be the first hour of the evacuation, where residents, employees, customers and visitors are given evacuation orders

KITTELSON & ASSOCIATES

Figure 8

Congestion Locations
Wildfire Scenario #1
Existing Conditions - Plus Project
El Dorado Costco

NEAR-TERM (2034) CONDITIONS

Figure 9 and Figure 10 show the congestion locations during wildfire scenario #1 for Near Term (2034) Conditions under Evacuation No Project and Evacuation Plus Project scenarios. In the No Project and Plus Project scenarios, roadways operating near or over capacity are as follows:

No Project

- Eastbound US 50 toward Placerville
- Eastbound and Westbound US 50 toward Folsom
- Serrano Parkway connecting evacuation area to Bass Lake Road
- Serrano Parkway between Silva Valley Parkway and El Dorado Hills Boulevard
- El Dorado Hills Boulevard between Serrano Parkway and US 50

Plus Project

- Eastbound US 50 toward Placerville
- Eastbound and Westbound US 50 toward Folsom
- Serrano Parkway connecting evacuation area to Bass Lake Road
- Serrano Parkway between Silva Valley Parkway and El Dorado Hills Boulevard
- El Dorado Hills Boulevard between Serrano Parkway and US 50

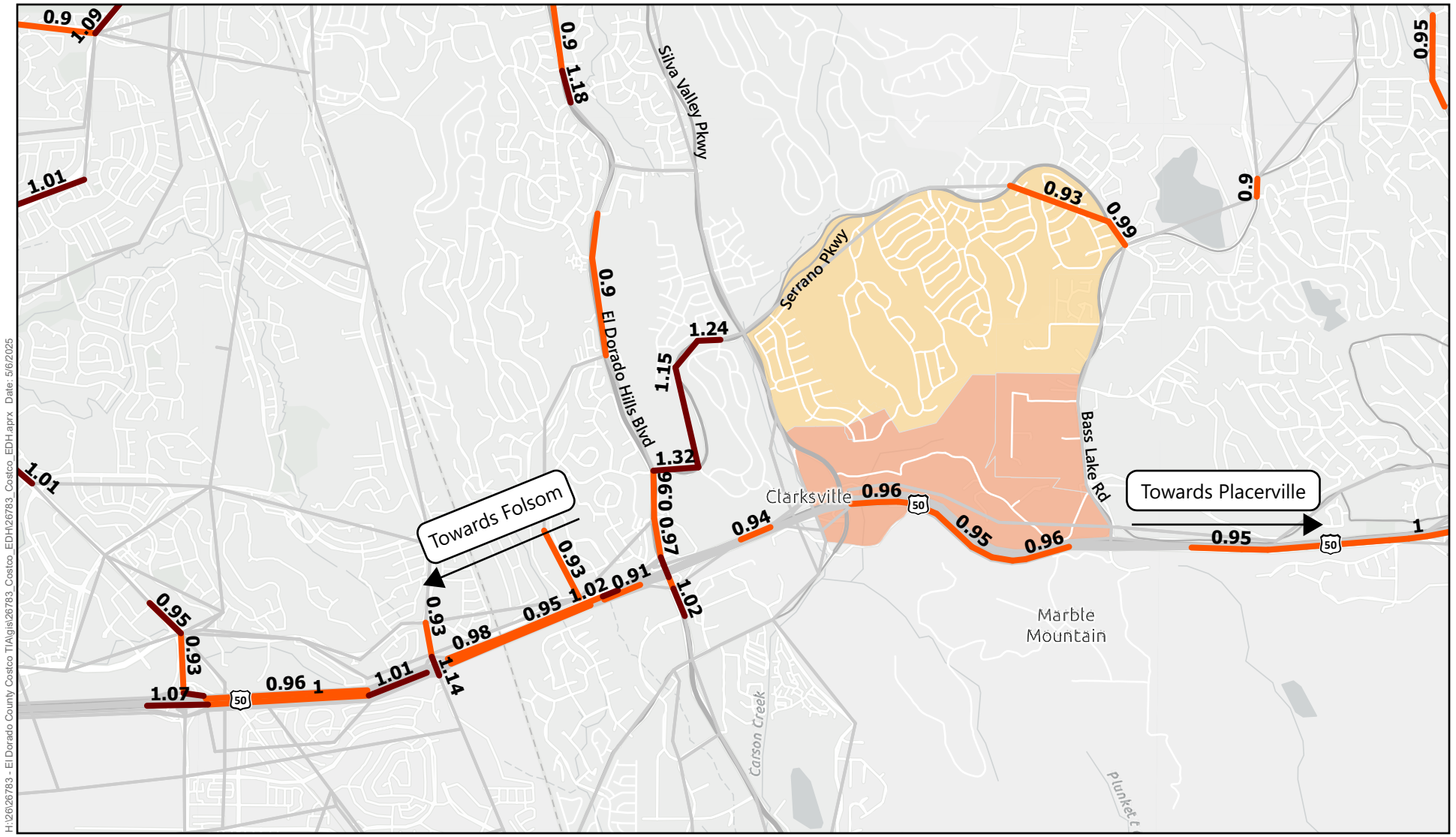
With the addition of Project traffic, volume-to-capacity ratio increases along US 50, towards Folsom and Placerville, including sections adjacent to the Project Site, and along Serrano Parkway between Silva Valley Parkway and El Dorado Hills Boulevard.

Table 4 shows the travel times (in minutes) during wildfire scenario #1 for Existing Conditions under No Evacuation, Evacuation No Project, and Evacuation Plus Project scenarios. As seen in the table below, the increase in travel time with Project traffic varies between 0.1 to 0.8 minutes (1-4% increase) with the addition of the Project.

Table 4. Travel Times (minutes), Wildfire Scenario #1 - Near Term (2034) Conditions

Origin	Destination	No Evacuation Travel Time (mins)	Evacuation			
			No Project Travel Time (mins)	Plus Project Travel Time (mins)	Difference (mins)	Difference (percent)
S. of Serrano Pkwy.	Folsom	8.6	9.4	9.6	0.2	2%
	Placerville	22.2	22.9	23.4	0.5	2%
W. of Bass Lake Rd.	Folsom	8.3	9.0	9.1	0.1	1%
	Placerville	18.5	18.8	19.4	0.6	3%
Old White Rock Rd.	Folsom	5.3	5.9	6.0	0.1	2%
	Placerville	18.9	19.0	19.7	0.7	4%
Village Green Dr.	Folsom	4.9	5.5	5.7	0.2	4%
	Placerville	19.0	19.2	20.0	0.8	4%
Costco	Folsom	4.5	5.2	5.3	0.1	2%
	Placerville	18.7	18.9	19.6	0.7	4%

Compiled by: Kittelson & Associates, Inc., 2025



H:\26\26783 - El Dorado County Costco TIA\gis\26783_Costco_EDH26783_Costco_EDH.aprx Date: 5/6/2025

Congestion Locations

- Under Capacity
- Near Capacity
- Over Capacity

Percent Evacuating during Peak Hour*

25 percent 65 percent

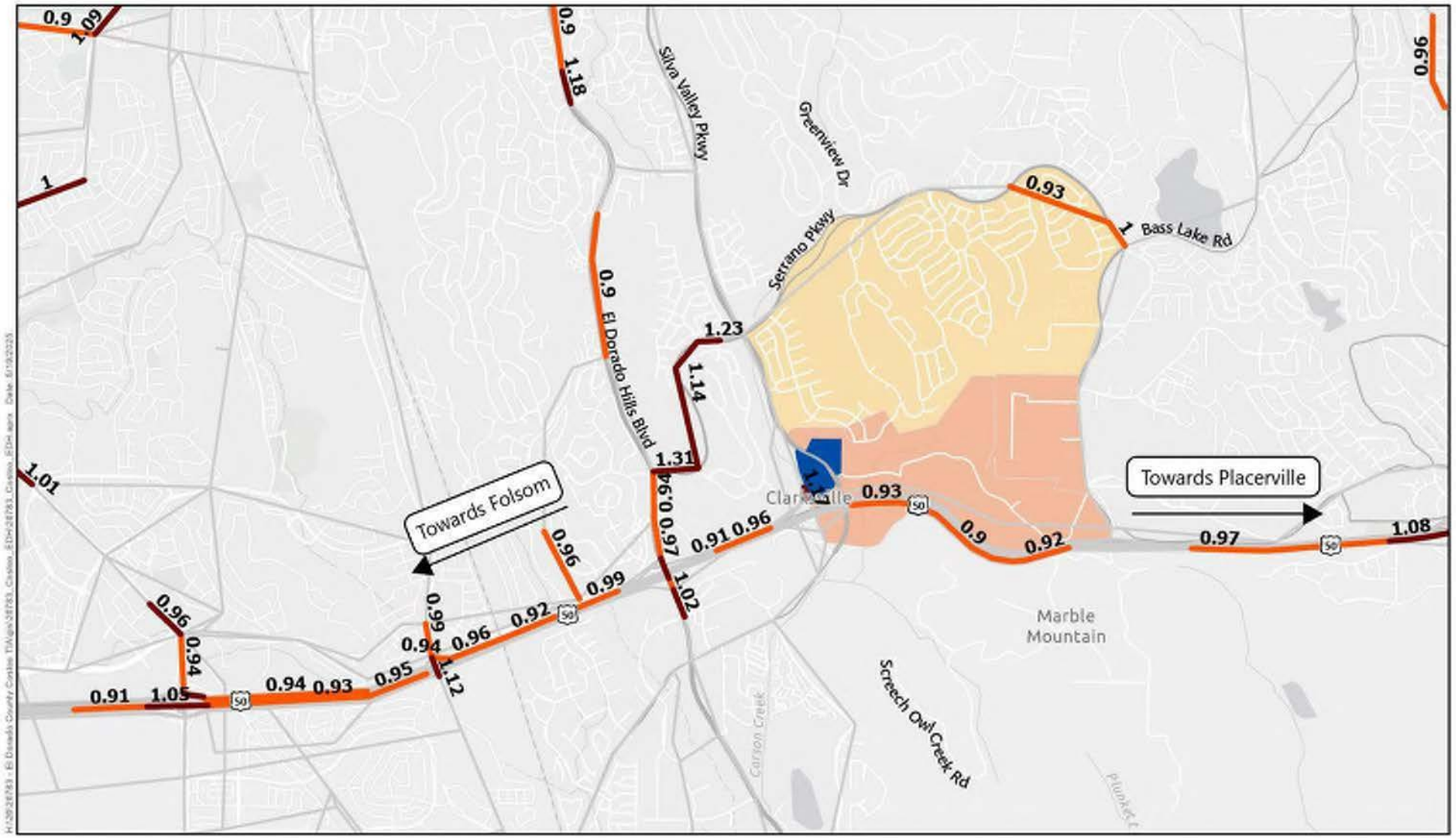
**Peak Hour is assumed to be the first hour of the evacuation, where residents, employees, customers and visitors are given evacuation orders.*

0 1 Miles

Figure 9

Congestion Locations
Wildfire Scenario #1
Near Term (2034) Conditions - No Project
El Dorado Costco

KITTELSON & ASSOCIATES



Congestion Locations

- Under Capacity
- Near Capacity
- Over Capacity

Percent Evacuating during Peak Hour*

25 percent | 65 percent

*Peak Hour is assumed to be the first hour of the evacuation, where residents, employees, customers and visitors are given evacuation orders.

El Dorado Costco Project Site

0 1 Miles

Figure 10

Congestion Locations
Wildfire Scenario #1
Near Term (2034) Conditions - Plus Project
El Dorado Costco

KITTELSON & ASSOCIATES

Wildfire Scenario #2

This section presents the travel times and congestion analysis under wildfire scenario #2 for all the analysis scenarios. The origin and destination locations are identified based on the evacuation area boundaries identified for this wildfire scenario and likely evacuation destinations in Folsom and Placerville. However, evacuation destinations are subject to change during an actual evacuation event based on direction from the Office of Emergency Services or evacuating persons' personal preferences.

EXISTING CONDITIONS

Figure 11 and Figure 12 show the congestion locations during the wildfire scenario #2 for Existing Conditions under Evacuation No Project and Evacuation Plus Project scenarios. The following are the locations operating near or over capacity in the Existing No Project and Plus Project scenarios.

No Project

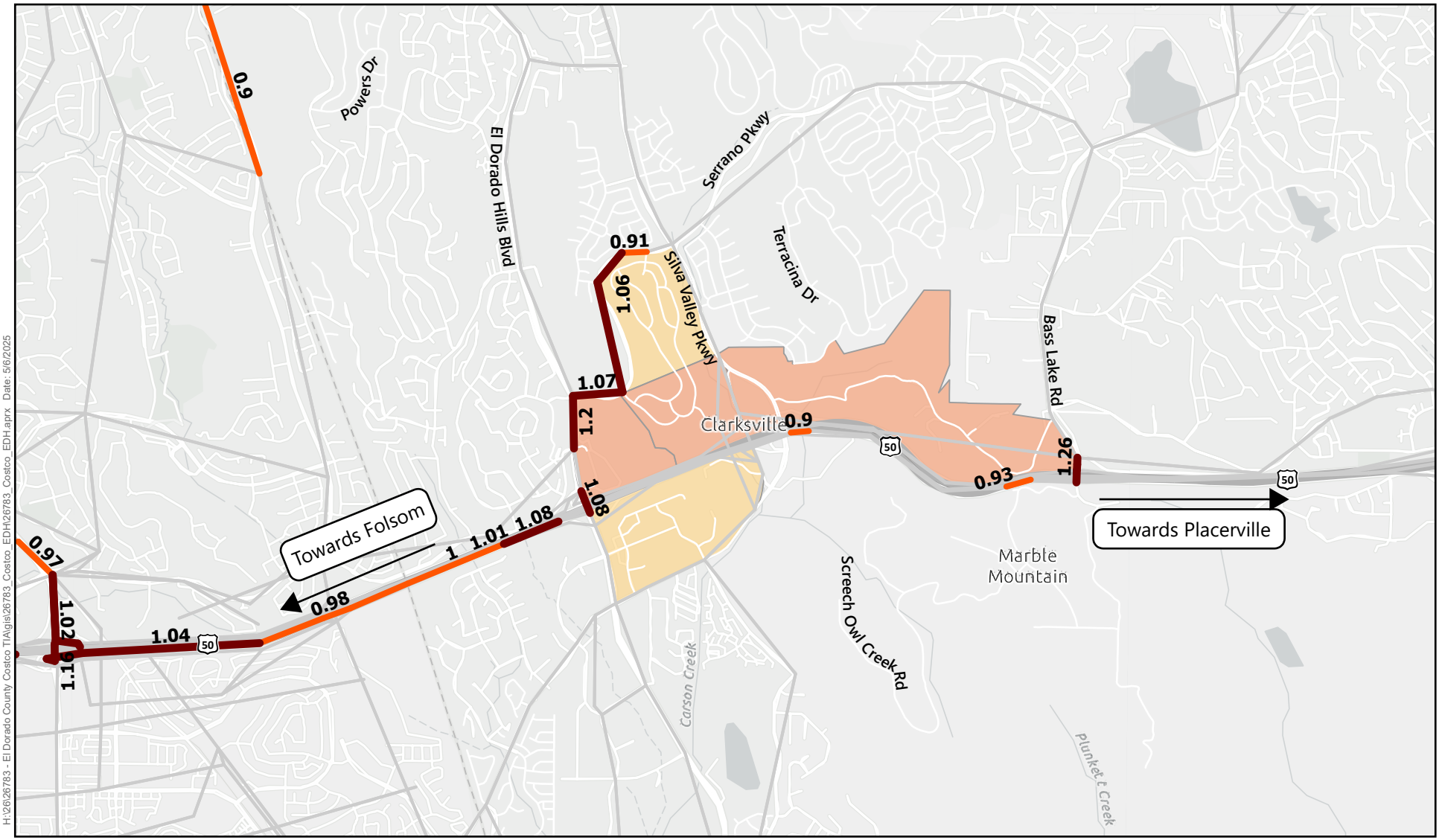
- Serrano Parkway between Silva Valley Parkway and El Dorado Hills Boulevard
- El Dorado Hills Boulevard between Serrano Parkway and US 50
- Eastbound US 50 between Folsom and El Dorado Hills

Plus Project

- Serrano Parkway between Silva Valley Parkway and El Dorado Hills Boulevard
- El Dorado Hills Boulevard between Serrano Parkway and US 50
- A few sections of Eastbound US 50 between Folsom and Placerville including those adjacent to the Project site.

With the addition of Project traffic, volume-to-capacity ratio increases along US 50, towards Folsom and Placerville, including sections adjacent to the Project site. Roadway capacity on Serrano Parkway between Silva Valley Parkway and El Dorado Hills Boulevard operates over capacity in the No Project and Plus Project scenarios, though the volume-to-capacity ratio changes with the addition of the Project are minimal.

Table 5 shows the travel times (in minutes) during wildfire scenario #2 for Existing Conditions under No Evacuation, Evacuation No Project, and Evacuation Plus Project scenarios. As seen in the table, the increase in travel time with Project traffic varies between 0 to 1.2 minutes (0-6% increase).



Congestion Locations

- Under Capacity
- Near Capacity
- Over Capacity

Percent Evacuating during Peak Hour*

- 25 percent
- 65 percent

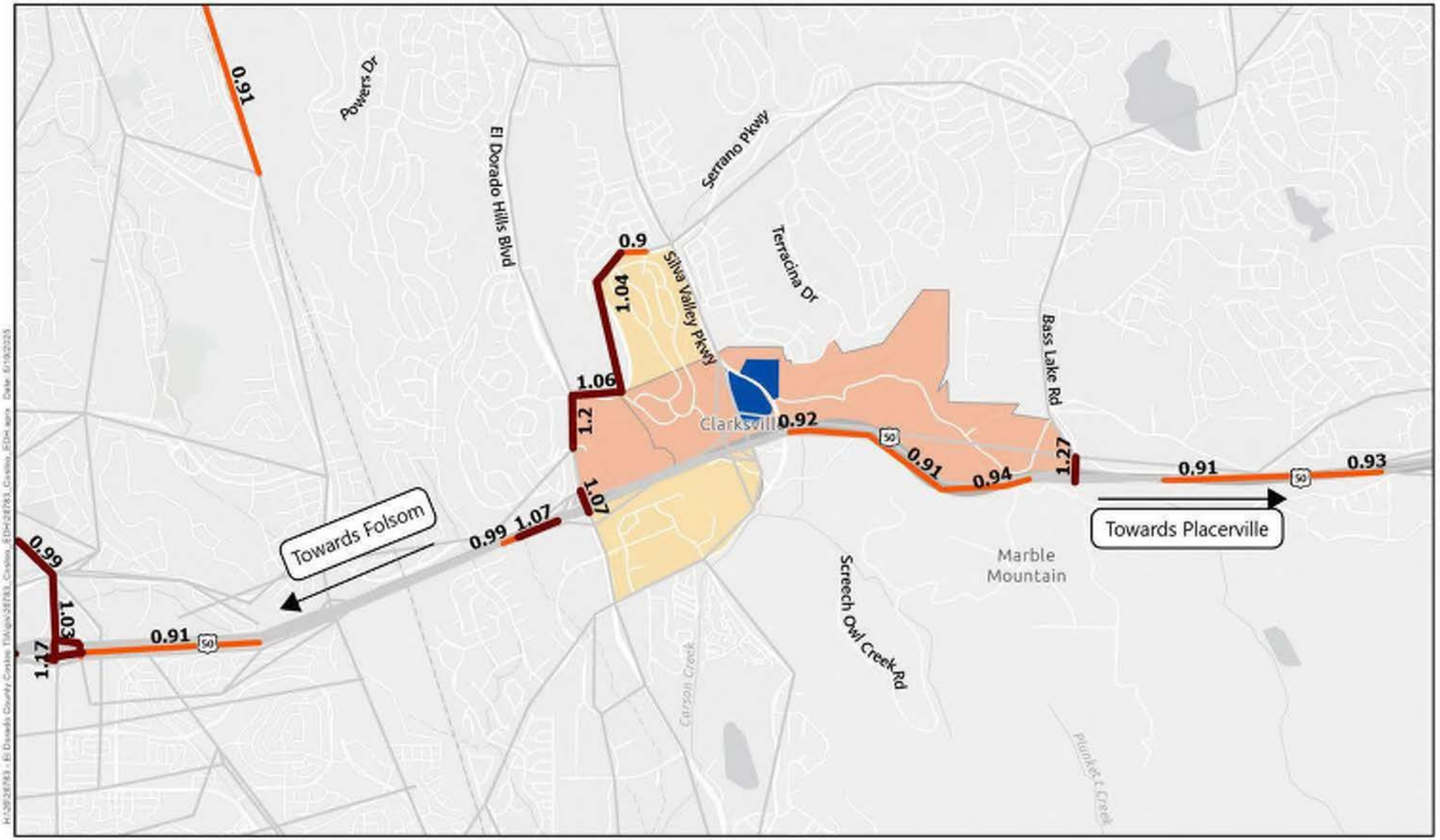
**Peak Hour is assumed to be the first hour, where residents, employees, customers and visitors are given evacuation orders*

0 1 Miles

KITTELSON & ASSOCIATES

Figure 11

Congestion Locations
Wildfire Scenario #2
Existing Conditions - No Project
El Dorado Costco



Congestion Locations

- Under Capacity
- Near Capacity
- Over Capacity

Percent Evacuating during Peak Hour*

- 25 percent
- 65 percent

*Peak Hour is assumed to be the first hour, where residents, employees, customers and visitors are given evacuation orders

El Dorado Costco Project Site

KITTELSON & ASSOCIATES

Figure 12

Congestion Locations
Wildfire Scenario #2
Existing Conditions - Plus Project
El Dorado Costco

Table 5. Travel Times (minutes), Wildfire Scenario #2, - Travel Times (minutes) - Existing Conditions

Origin	Destination	No Evacuation Travel Time (mins)	Evacuation			
			No Project Travel Time (mins)	Plus Project Travel Time (mins)	Difference (mins)	Difference (percent)
Souza Dr.	Folsom	5.6	5.7	5.8	0.1	2%
	Placerville	21.6	21.8	23.0	1.2	6%
Town Center	Folsom	4.4	4.5	4.6	0.1	2%
	Placerville	20.5	20.7	21.8	1.1	6%
Raley's	Folsom	3.8	3.9	3.9	0.0	0%
	Placerville	20.5	20.7	21.8	1.1	5%
Costco	Folsom	4.6	4.7	4.8	0.1	2%
	Placerville	19.4	19.6	20.8	1.2	6%

Compiled by: Kittelson & Associates, Inc, 2025

NEAR-TERM (2034) CONDITIONS

Figure 13 and Figure 14 show the congestion locations during the wildfire scenario #2 for Near Term conditions under Evacuation No Project and Evacuation Plus Project scenarios. The following are the locations operating near or over capacity in the Near-Term No Project and Plus Project scenarios.

No Project

- Serrano Parkway between Silva Valley Parkway and El Dorado Hills Boulevard
- Eastbound US 50 between El Dorado Hills and Placerville
- Eastbound and Westbound US 50 between El Dorado Hills and Folsom

Plus Project

- Serrano Parkway between Silva Valley Parkway and El Dorado Hills Boulevard
- Eastbound US 50 between El Dorado Hills and Placerville
- Eastbound US 50 and some sections of westbound US 50 between El Dorado Hills and Folsom

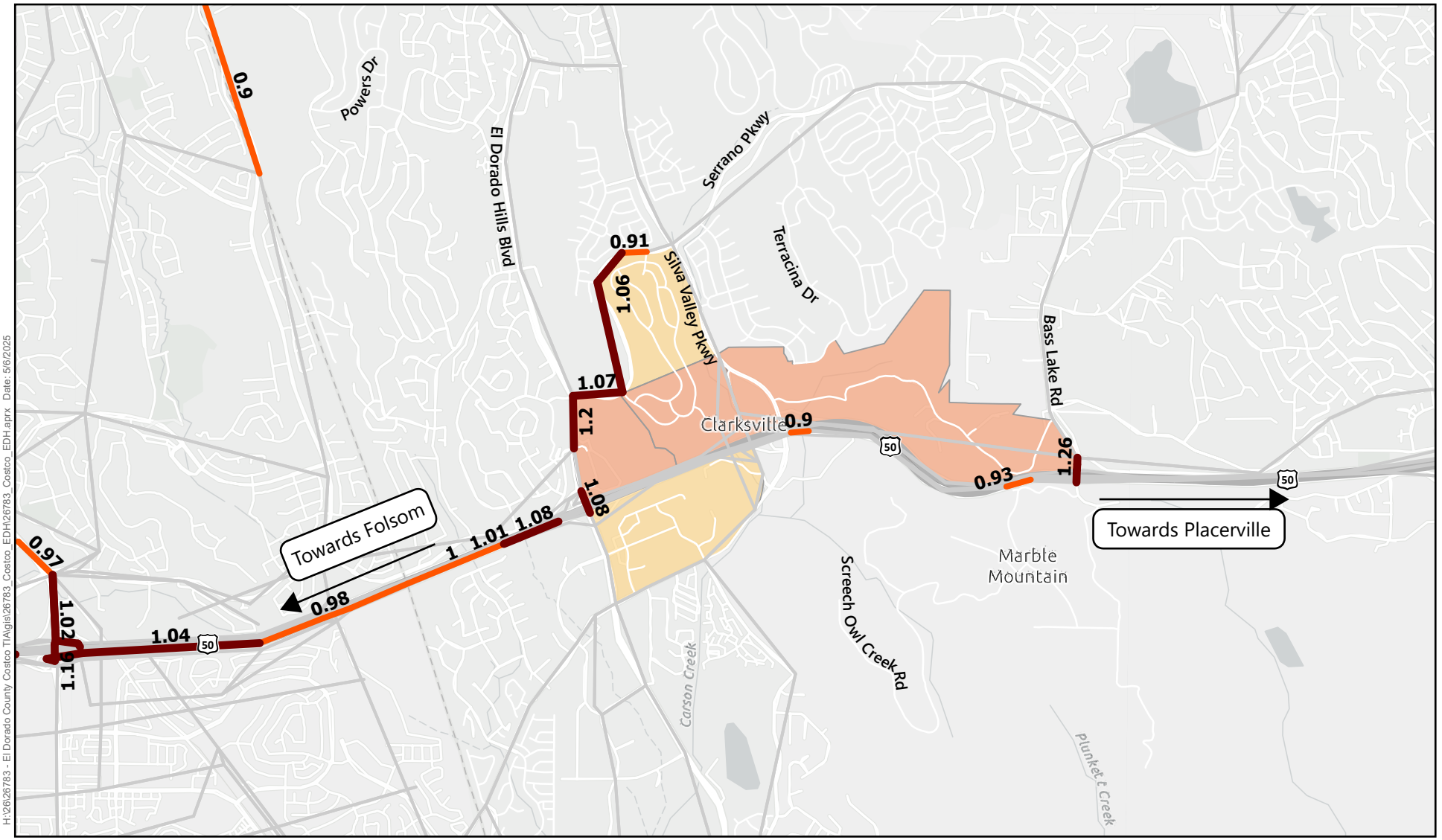
With the addition of Project traffic, volume-to-capacity ratio increases along US 50, towards Folsom and Placerville, including sections adjacent to the Project site and Serrano Parkway between Silva Valley Parkway and El Dorado Hills Boulevard.

Table 6 shows the travel times (in minutes) during wildfire scenario #2 for Near Term (2034) conditions under No Evacuation, Evacuation No Project, and Evacuation Plus Project scenarios. As seen in the table below, the change in travel time with Project traffic varies between 0 to 0.6 minutes (0-3% increase).

Table 6. Travel Times (minutes), Wildfire Scenario #2 – Near Term (2034) Conditions

Origin	Destination	No Evacuation Travel Time (mins)	Evacuation			
			No Project Travel Time (mins)	Plus Project Travel Time (mins)	Difference (mins)	Difference (percent)
Souza Dr.	Folsom	5.9	6.0	6.1	0.1	2%
	Placerville	20.1	20.1	20.7	0.6	3%
Town Center	Folsom	4.7	4.8	4.8	0.0	0%
	Placerville	19.9	19.9	20.3	0.4	2%
Raley's	Folsom	4.1	4.2	4.2	0.0	0%
	Placerville	19.9	20.0	20.3	0.3	2%
Costco	Folsom	4.5	4.6	4.7	0.1	2%
	Placerville	18.7	18.7	19.3	0.6	3%

Compiled by: Kittelson & Associates, Inc., 2025



Congestion Locations

- Under Capacity
- Near Capacity
- Over Capacity

Percent Evacuating during Peak Hour*

- 25 percent
- 65 percent

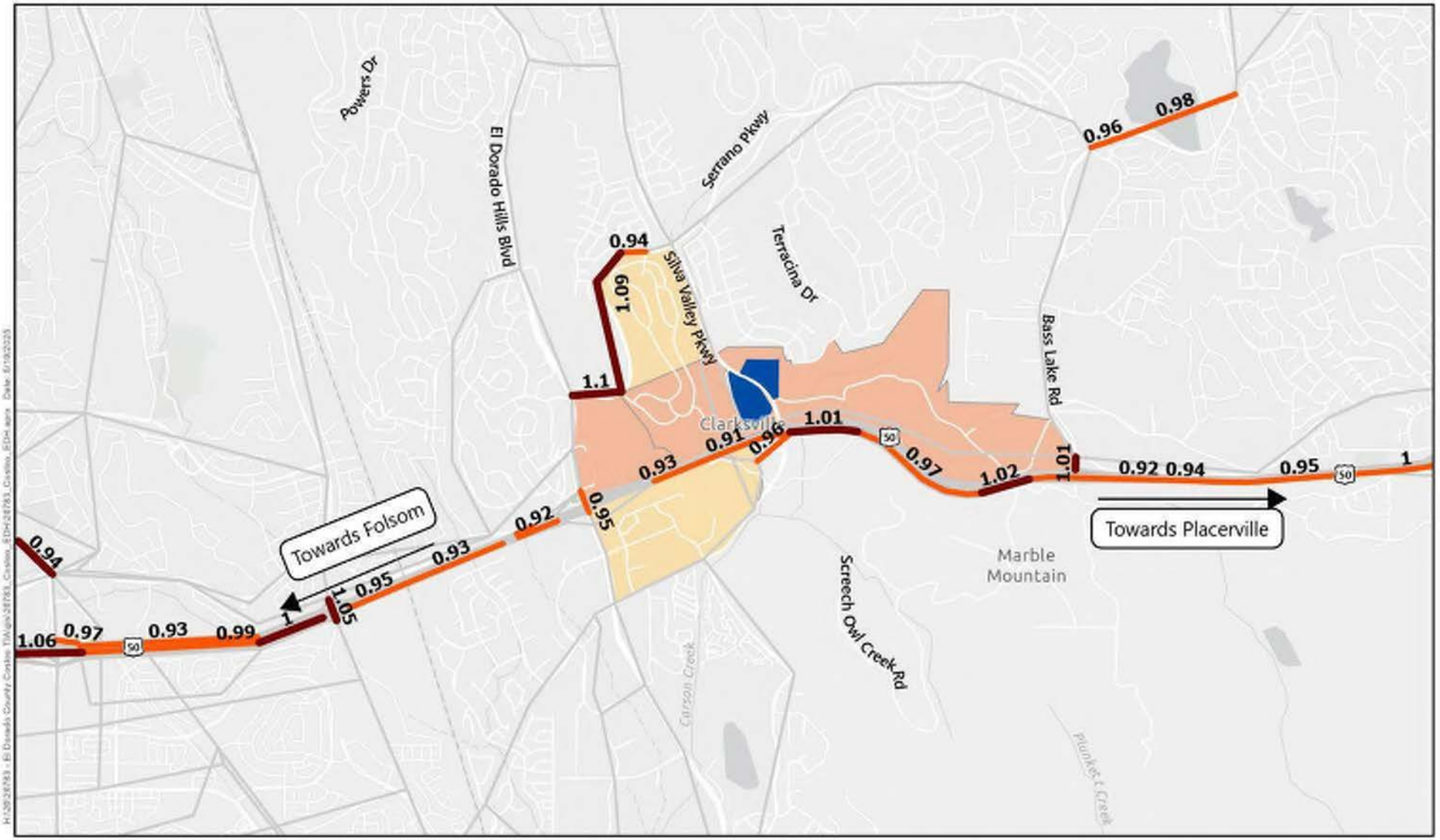
**Peak Hour is assumed to be the first hour, where residents, employees, customers and visitors are given evacuation orders*

0 1 Miles

Figure 13

Congestion Locations
Wildfire Scenario #2
Near Term (2034) Conditions - No Project
El Dorado Costco

KITTELSON & ASSOCIATES



Congestion Locations

- Under Capacity
- Near Capacity
- Over Capacity

Percent Evacuating during Peak Hour*

- 25 percent
- 65 percent

El Dorado Costco Project Site

0 1 Miles

*Peak Hour is assumed to be the first hour, where residents, employees, customers and visitors are given evacuation orders

KITTELSON & ASSOCIATES

Figure 14

Congestion Locations
Wildfire Scenario #2
Near Term (2034) Conditions - Plus Project
El Dorado Costco

Evacuation Planning Considerations

This section describes evacuation projects and strategies that may be considered to improve the capacity and resilience of the evacuation area and surrounding region's roadway network to support future evacuation events. The projects and strategies were identified based on previous congestion and evacuation studies, review of recent evacuation efforts, and effective evacuation planning practices identified by US Department of Transportation (USDOT) and Federal Highway Administration (FHWA). The strategies are organized into five categories:

1. Roadway Management
2. Communications
3. Vulnerable Populations
4. Public Education
5. Resource Management

ROADWAY MANAGEMENT

This section includes infrastructure-related strategies that may aid in improving the capacity of the evacuation roadway network, which can present constraints or limitations to a successful evacuation. For each infrastructure-related treatment, it is necessary to consider downstream capacity limitations and identify if those limits nullify the potential benefits of the treatment as well as other competing roadway design needs to serve other functions and goals. Table 7 outlines each of these strategies and provides a brief description of the strategy and desired outcomes.

Of these strategies, the most effective for increasing evacuation capacity would be those that involve manual control of traffic combined with contra flow operations that allow evacuation on both inbound and outbound lanes of streets, combined with maintaining clear passages for emergency vehicles.

Table 7: Roadway and Intersection Capacity and Resilience Related Strategies

Strategy	Action Items
Limited contra flow on highways	Reverse one or more lanes of highway to accommodate an increased flow of traffic in one direction.
Unlimited contra flow on highways	Redirect all lanes of a designated evacuation route to accommodate rapid evacuation from a city or region.
Limited/unlimited contra flow on unlimited access arterials	Temporarily close inbound travel lanes on selected unlimited access arterials (such as parkways and boulevards) to allow outbound traffic to utilize these lanes during evacuation.
Closure of inbound lanes on selected roads and highways	Close inbound lanes on highways utilized for evacuation routes to prevent drivers on these routes from entering the evacuation area while evacuation is underway.
Restrict left-turn movements	Minimize left-turn movements along evacuation routes and on roads leading to evacuation routes.

Strategy	Action Items
Stage tow trucks	Consider how to stage tow trucks at bottleneck locations along evacuation routes to help detect and clear minor crashes and maintain traffic flows.
Adjust signal timing	Increase the green time and/or progression band for through movements leading out of an evacuation zone.
Signal operation during power outage	Install signal battery backups in case signal operations need to be maintained during a power outage. Consider using channeling devices, static signs, and coning strategies to manage intersection flow during power outage if signals lack power.
Additional access routes	Identify and communicate with communities that have at least two access points. Prioritize adding additional access to communities that are currently served by only one or two access points.
Public transit	Develop transportation solutions such as the use of a bus system for evacuating individuals with special needs (such as those with mobility limitations) and/or evacuating larger groups of people in fewer vehicles.
Traffic control points	Establish traffic control points (i.e., locations along designated evacuation routes with emergency management personnel) to maintain a greater degree of evacuation management. These locations could enhance the efficiency of an evacuation, reduce public confusion, and allow increased operational flexibility during an evacuation.
Vegetation clearing/management	Maintain evacuation roadways and shoulders, keeping them clear of trees, vegetation, and debris that would block travel lanes and shoulders for people evacuating and for emergency operation vehicles.

COMMUNICATIONS

This section describes communication strategies that address how information may be shared among agencies, organizations, and the general public for evacuations. During an emergency evacuation event, two types of communication take place: (1) communication among entities involved in the management of response, and (2) communication between the County and the general public. Table 8 outlines each of these strategies and provides a brief description of the strategy and desired outcomes.

Table 8. Communication Strategies for Evacuations

Strategy	Description and Outcome
Establish and maintain communications	Strengthen and maintain communication among coordinating emergency event agencies. This could be achieved through systems such as the Public Information Emergency System and Emergency Satellite Communications.

Strategy	Description and Outcome
Variable/Dynamic Message Signage	Use variable message board equipment and targeted installation of permanent dynamic message signs on evacuation routes to improve communication and reduce public confusion.
Traffic Control Center	Implement a traffic control center that would have up-to-the-minute reports on traffic patterns and could communicate directly with emergency officers via broadcast media, social media, and other emergency communications channels (e.g., County Telephone Emergency Notification System) to let drivers know about roadway congestion conditions and direct them to alternate routes.
Traffic counters/CCTV cameras	Install traffic counters and/or CCTV cameras on freeways, which can help assess traffic flow, volume of vehicles evacuating, and monitor incidents during emergency evacuation events.
Highway Advisory Radio	Implement highway advisory radio to provide information regarding primary and secondary evacuation routes and incidents to the public.
Pre-defined evacuation zones	The County could consider implementing a system of pre-defined evacuation zones. Pre-defined evacuation zones can provide a common reference system for first responders and the community.

VULNERABLE POPULATIONS

This section identifies strategies specifically for evacuation of vulnerable populations. The County can use demographic data and U.S. Census data to identify vulnerable population locations and communities. County staff and emergency response teams may work with specialized organizations such as hospitals, medical associations, public service organizations, public health staff, and other providers or community groups to identify and locate relevant population segments and the types of assistance needed. Table 9 outlines considerations by need.

Table 9: Additional Steps for Evacuation of Vulnerable Populations

Special Need	Action Items/Considerations
Visually impaired	May be reluctant to leave familiar surroundings when the request for evacuation comes from a stranger. People who are blind or partially sighted may have to depend on their guide dogs and/or others to lead them to safety.
Hearing impaired	May need to make special arrangements to receive evacuation warnings. Include visual aids such as pictures or maps to reinforce key messages.

Special Need	Action Items/Considerations
Mobility impaired	May need special assistance such as paratransit. Partner with neighboring jurisdictions and/or private/non-profit organizations to provide adequate paratransit services.
People without vehicles	Emphasize the importance of carpooling with neighbors or other community members. Provide information on transit routes and transit stops.
Non-English-speaking persons	Provide bilingual or multilingual materials to support communication with non-English speaking populations during evacuation.
People with medical conditions	Communicate in advance the location and availability of hospitals or facilities with emergency/life-sustaining medical equipment, such as dialysis machines.
Unhoused population	Arrange for food, shelter, and transportation for unhoused population. Offer age-appropriate emergency and evacuation information to unhoused children.

PUBLIC EDUCATION

Sharing information is a critical element to help educate the general public on how to prepare in advance for an evacuation. The public education strategies the County may consider include:

- Defining the meaning of different types of evacuation orders
- Sharing how evacuation orders are declared and communicated to the public
- Providing information on preparations to carry out in advance (such as emergency "go" kits or family evacuation plans)
- Conducting a public affair campaign(s) to distribute easy-to-read evacuation maps with alternate routes
- Providing information on available transportation options, including for vulnerable populations
- Providing information on evacuation shelters and support services offered during evacuation
- Providing regular emergency preparedness trainings in multiple languages at convenient, accessible locations
- Building capacity of resilience hubs, community-based organizations, and other community groups to support community-based disaster preparedness efforts through direct or passthrough funding, grant writing support, information sharing, etc.

RESOURCE MANAGEMENT

Evacuations are resource-intensive events that require significant personnel, facilities, and equipment to implement successfully. The County should determine what resources are available as well as what resources will be needed for staff to perform their responsibilities during an evacuation successfully, which may include the following:

- Clarity on staff roles and expertise available
- Facilities available (e.g., traffic operations center, shelters, etc.)

- Available information systems to support the evacuation (e.g., intelligent transportation systems, computer networks, road sensor loops, ancillary hardware such as cameras, etc.)
- Communication systems (e.g., landline, mobile phones, radio system, email, sirens)
- Vehicles/transports (e.g., staff transport, tow trucks, transit vehicles, heavy equipment)
- Miscellaneous materials to support implementation of evacuation strategies (e.g., traffic cones, channeling devices, static/dynamic message signs)

If critical resource gaps are identified, the County may look to work with other evacuation entities to determine additional resources and needs. The County may also work with private sector entities to expand the resource base. For example, utilities companies may keep cell and internet services running in vulnerable communities during public safety power shutoffs. Private service companies such as ambulance operators and towing companies can provide additional assets during evacuation. These companies can clarify what is expected of them during a potential evacuation event to ensure their services are available, when needed.

Conclusion

This memorandum documents the methodology and results of the evacuation analysis for two wildfire scenarios under Existing and Near-Term Conditions: No Project and Plus Project scenarios. The El Dorado County travel demand model was used to estimate roadway capacity and travel times during evacuations in No Project and Plus Project conditions.

EXISTING CONDITIONS

Under Existing conditions, roadway capacity is estimated to increase along US-50 in the westbound and eastbound directions. Though the roadway capacity is estimated to increase, overall roadway capacity is expected to remain under full capacity (v/c < 1.0).

Roadways near the project site, such as Silva Valley Parkway and Serrano Parkway, are estimated to see an increase in roadway capacity as residents, customers, and employees evacuate. The change in roadway capacity is estimated to be minimal.

NEAR-TERM (2034) CONDITIONS

Under Near-Term (2034) conditions, which include land uses and traffic for the Remainder Area, roadway capacity is estimated to increase along US-50 in the westbound and eastbound directions. Overall roadway capacity is expected to remain under full capacity (v/c < 1.0) for most of US-50 near the project site, but some segments are estimated to have a roadway capacity over capacity (v/c > 1.0).

Roadways adjacent to the project site, such as Silva Valley Parkway and Serrano Parkway, are estimated to see an increase in roadway capacity as residents, customers, and employees evacuate. The change in roadway capacity is estimated to be minimal.

The evacuation planning considerations and strategies identified in this memorandum can help enhance the capacity and resilience of the County's roadway network to support future evacuation events.

Appendix A

Wildfire Modeling Summary Report

Costco Wholesale Project

OCTOBER 2025

Prepared for:

COSTCO WHOLESALE
730 Lake Drive
Issaquah, WA 98027
Contact: Michael Okuma

Prepared by:

DUDEK

853 Lincoln Way, Suite 105
Auburn, California 95603
Contact: Scott Eckardt, RPF
Matthew Crockett, Fire Protection Planner

Printed on 30% post-consumer recycled material.

Table of Contents

SECTION **PAGE NO.**

1 Introduction 1
1.1 Location 1
1.2 Project Description 3
1.3 FlamMap Fire Behavior Modeling 3
1.4 Fire Behavior Modeling Background 3
2 Modeling Approach Summary 21
3 Modeling Inputs 21
3.1 Model Inputs 21
3.1.1 Elevation 21
3.1.2 Slope 22
3.1.3 Aspect 22
3.1.4 Fuel Model 22
3.1.5 Canopy Cover 23
3.1.6 Weather 23
3.1.7 Ignition Locations 25
3.2 Model Outputs 26
3.2.1 Fire Behavior 26
3.2.2 Fire Progression 26
4 References 28

TABLES

Table 1. Land Cover to Fire Behavior Fuel Model Crosswalk 22
Table 2. Ben Bolt Remote Automated Weather Station Characteristics 23
Table 3. Weather Variables used for Fire Behavior and Progression Modeling 24
Table 4. Fire Behavior Interpretation 28

FIGURES

Figure 1. Project and Modeling Area Location 2

APPENDIX

A Fire Progression Model Outputs
B Landscape Fire Behavior Model Outputs

1 Introduction

This report summarizes fire behavior modeling efforts conducted for the Costco Wholesale Project (Project), a proposed commercial development located in El Dorado County, California. Fire progression and fire behavior modeling was conducted for the Project area to evaluate potential fire behavior characteristics and fire spread potential toward the Project site. The following tasks were performed:

- Evaluation of wildfire history, wildfire ignition, and fuels/vegetation mapping data for the Project site and surrounding area.
- A field evaluation of the Project site and surrounding area to better understand fuel (vegetation) conditions and confirm observations made during mapping data review and to refine the fuel model(s) to be used in the wildfire behavior and progression modeling efforts.
- Analysis and processing of local historical weather data to determine appropriate fuel moisture, wind speed, and wind direction inputs for the wildfire behavior and progression modeling runs.
- Creation of a base landscape data set (GIS-based terrain and fuels data) to be used for wildfire behavior and progression modeling efforts.
- Modeling of wildfire behavior (flame length, spread rate, and fireline intensity) and three (3) wildfire progression scenarios to understand the effect of a fire approaching the proposed Project site. Modeling was conducted using FlamMap. A GID-based fire behavior modeling application.
- Preparation of this Wildfire Modeling Summary Report that summarizes our methods, data sources, assumptions, and modeling results.
- Coordination and communication with the California Department of Forestry and Fire Protection (CAL FIRE) and the Project team.

1.1 Location

The Project site is located in El Dorado County, north of US 50 and Tong Road, east of Clarksville Crossing, and is bisected by Silva Valley Parkway. The northern portion of the Project site is approximately 24.83 acres (North Site) and includes APNs: 122-720-0019, 20, and 21. All the parcels are undeveloped, and 122-720-21 (6.57 of 7.75 acres) is primarily reserved for the future extension of County Club Drive to Silva Valley Parkway, which is not part of the Project. The southern portion of the Project site is approximately 18.42 acres (South Site) and includes APNs:122-720-018, 02, and 03. A portion of 122-720-003 and a portion of the unused former Tong Road right-of-way between Silva Valley Parkway and Clarksville Crossing are proposed to be utilized for site access. The 1.38-acre portion of 122-720-018 west of Clarksville Crossing on the South Site will not be developed as part of the Project, resulting in a net development site of 17.05 acres.

The modeling analysis area discussed in this report includes the Project site plus the area within 2 miles of the Project site. The Project site and modeling analysis area are presented in Figure 1.

Project and Modeling Area Location

1.2 Project Description

The Project proposes to develop the site as a Costco retail center with the Costco building at the center of the south portion of the site and a fuel facility on the north portion of the site. The maximum building area for the Costco South Site will be approximately 165,000 square feet. Development of this portion of the site includes the main Costco building, site access, and a parking area, including a subterranean parking structure. The fuel facility on the North Site will include a maximum 13,000 square foot open canopy and a 200 square foot controller enclosure. The remainder of the North Site will include Costco employee parking.

1.3 FlamMap Fire Behavior Modeling

The FlamMap software package was used to model potential fire behavior and fire spread in the modeling analysis area. FlamMap utilizes the same fire spread equations built into the BehavePlus software package but allows for a geographical presentation of fire behavior outputs as it applies the calculations to each pixel in an associated geographic information system (GIS) landscape (Finney 2002). The FlamMap software package is a publicly available resource available through the Fire, Fuel, and Smoke Science Program of the U.S. Forest Service. FlamMap is a GIS-based software package that models potential fire behavior and fire spread where weather conditions (wind and fuel moisture) are held constant. FlamMap generates map files of potential fire behavior characteristics (e.g., flame length, spread rate, fireline intensity) and fire progression data (fire growth perimeters, fire flow paths). Model outputs represent fire behavior calculated for each pixel within the analysis area independently and do not calculate fire spread across a landscape. The software requires a minimum of five input variables, including elevation, slope, aspect, fuel model, and canopy cover. Wind and weather data are also critical components to FlamMap modeling efforts. The following section presents a background on fire behavior modeling and this report presents the methods and data sources used in performing the FlamMap fire behavior modeling analysis.

1.4 Fire Behavior Modeling Background

Predicting wildland fire behavior is not an exact science due to the many variables that must be considered. As such, the movement of a fire will likely never be fully predictable, especially considering the variations in weather, the limits of weather forecasting, and the weather that is often created by firestorms. Nevertheless, practiced and experienced judgment, coupled with a validated fire behavior modeling system, results in useful and accurate fire information (Rothermel 1993). To be used effectively, the basic assumptions and limitations of fire behavior modeling applications must be understood.

- First, it must be realized that the fire model describes fire behavior only in the flaming front. The primary driving force in the predictive calculations is dead fuel less than 0.25 inches in diameter. These are the fine fuels that carry fire. Fuels greater than 1 inch in diameter have little effect, while fuels greater than 3 inches in diameter have no effect on fire behavior.

- Second, the model bases surface fire calculations and descriptions on a wildfire spreading through fuels that are within 6 feet of the ground and contiguous to the ground. Surface fuels are classified as grass, grass/shrub, shrub, timber litter, timber understory, or slash.

- Third, the software assumes that weather is uniform. However, because wildfires almost always burn under non-uniform conditions, creating their own weather, length of projection period and choice of fuel model must be carefully considered to obtain useful predictions.
- Fourth, fire behavior computer modeling systems are not intended for determining sufficient fuel modification zone/defensible space widths. However, results can provide the average length of the flames, which is a key element for determining defensible space distances for minimizing structure ignition.
- Fifth, FlamMap is designed to simulate wildland fire behavior in vegetative fuels (such as grasses, shrubs, and trees), not structures.
- Sixth, FlamMap does not predict ember spotting from non-timber fuel types (e.g., shrubs, grasses).
- Seventh, fire spread modeling does not account for fire suppression efforts and therefore represents a worst-case scenario.

FlamMap can provide valuable fire behavior predictions, which can be used as a tool in the decision-making process. In order to make reliable estimates of fire behavior, one must understand the relationship of fuels to the fire environment and be able to recognize the variations in these fuels. Fuels are made up of the various components of vegetation, both live and dead, that occur in a particular landscape. The type and quantity will depend upon soil, climate, terrain, and management and disturbance (e.g., fire) history. The major fuel groups of grass, grass/shrub, shrub, trees, tree litter, and slash are defined by their constituent types and quantities of litter and duff layers, dead woody material, grasses and forbs, shrubs, regeneration, and trees. Fire behavior can be predicted largely by analyzing the characteristics of these fuels. Fire behavior is affected by seven principal fuel characteristics: fuel loading, size and shape, compactness, horizontal continuity, vertical arrangement, moisture content, and chemical properties.

2 Modeling Approach Summary

Three scenarios were evaluated for fire progression modeling, as defined below:

- **Scenario 1:** This scenario represented a fire burning under late summer/early fall north-northwest wind conditions (represented by 97th percentile fire weather conditions). The ignition point for this scenario was located to the northeast of the Project site.
- **Scenario 2:** This scenario represented a fire burning under summer southwest wind conditions (represented by 50th percentile fire weather conditions). The ignition point for this scenario was located to the southwest of the Project site.
- **Scenario 3:** Similar to Scenario 2, this scenario represented a fire burning under summer southwest wind conditions (represented by 50th percentile fire weather conditions). The ignition point for this scenario was located to the southwest of the Project site, though further east than that for Scenario 2.

Additionally, fire behavior modeling was used to evaluate potential fire behavior characteristics in the modeling analysis area. The results of this modeling effort are static outputs representing fire behavior characteristic at a site, given fuel, terrain, and weather inputs. The following fire behavior characteristics were modeled:

- Flame Length
- Spread Rate
- Fireline Intensity

3 Modeling Inputs

3.1 Model Inputs

3.1.1 Elevation

Elevation data were derived from a 1/3 arc-second (10m) resolution National Elevation Dataset (NED), acquired from the U.S. Geological Survey (USGS) National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center and projected in the NAD 1983, California State Plane, Zone 2 coordinate system, with units in meters (USGS, 2024a). Elevation values in the modeling area range from 492 feet to 1,460 feet above mean sea level (AMSL). This data was utilized to create an elevation grid file, using units of feet AMSL. Elevation is a required input file for FlamMap runs and are necessary for adiabatic adjustment of temperature and humidity and for conversion of fire spread between horizontal and slope distances.

3.1.2 Slope

Using ArcGIS Spatial Analyst tools, a slope grid file was generated from the elevation grid file described above. Slope measurements utilized values in percent of inclination from horizontal. Slope values in the analysis area range from 0-37 degrees. The slope input file is necessary for computing slope effects on fire spread and solar radiance.

3.1.3 Aspect

Using ArcGIS Spatial Analyst tools, an aspect grid file was generated from the elevation grid file described above. The aspect values utilized were azimuth degrees. Aspect values are important in determining the solar exposure of grid cells.

3.1.4 Fuel Model

Fire Behavior Fuel Models (FBFMs) are standardized classifications used to describe the types of vegetation and other combustible materials that influence wildfire behavior. These models help predict fire spread, intensity, and flame length under various conditions. Fuel model data was created utilizing the 2023 National Land Cover Database (USGS 2024b). This database is a comprehensive dataset that provides detailed land cover and land use information for the United States. It is produced by the United States Geological Survey (USGS) and the Multi-Resolution Land Characteristics Consortium (MRLC) and is used for a wide range of applications in environmental monitoring, land planning, resource management, and research. Land cover data is provided at a 30-meter resolution and classifies landcover into the categories provided in **Exhibit 1**. Fuel model data was further refined to account for roadways and other non-burnable areas not accounted for within the NLCD Land Cover data.



Exhibit: 1: NLCD Land Cover Classifications (USGS 2024b)

This dataset was clipped to the modeling analysis area to derive fuel models in wildlands surrounding the Project site at a 10-meter resolution. A crosswalk was created to assign land cover classifications into unique FBFMs using the Scott and Burgan 2005 40 FBFMs (Scott and Burgan, 2005). Crosswalk values were determined through field observations and through comparison with regional FBFM classification standards as mapped by LANDFIRE. The land cover to FBFM crosswalk is provided in Table 1. As presented, fuels in the analysis area are comprised mainly of developed areas and annual grassland vegetation.

Table 1. Land Cover to Fire Behavior Fuel Model Crosswalk

NLCD Land Cover Classification	Fuel Model Classification	Acres
21-24 Developed 11 Open water	NB1 – Non-burnable/Developed	4,460

Table 1. Land Cover to Fire Behavior Fuel Model Crosswalk

NLCD Land Cover Classification	Fuel Model Classification	Acres
71 Grassland/Herbaceous	GR2 - Low Load, Dry Climate Grass	2,858
52 Shrub/Scrub	SH5 - High Load, Dry Climate Shrub	527
41 Deciduous Forest	TL2 - Low Load Broadleaf Litter	353
42 Evergreen Forest 43 Mixed Forest	TL6 – Moderate Load Broadleaf Litter	146
	Total:	**8,306**

Source: USGS 2024b, LANDFIRE 2023

3.1.5 Canopy Cover

Canopy cover is a required raster file for FlamMap operations. It is necessary for computing shading and wind reduction factors for all fuel models. Canopy cover is measured as the horizontal fraction of the ground that is covered directly overhead by tree canopy. Crown closure refers to the ecological condition of relative tree crown density. Stands can be said to be "closed" to recruitment of canopy trees but still only have 40% or 50% canopy cover. Coverage units are represented as percentage values (0–100).

Canopy cover for the analysis area was derived from NLCD 2023 Canopy Cover Database (MRLC 2023). The 2023 NLCD Canopy Cover dataset quantifies the percentage of forest canopy cover in 10% increments. It provides a spatial representation of canopy cover at a 30-meter resolution ranging from 0% (no canopy) to 100% (complete canopy coverage).

3.1.6 Weather

Historical weather data for the modeling area was utilized in determining appropriate fire behavior modeling inputs. For this analysis, 97th percentile fuel moisture, wind speed, and wind direction values were derived from Remote Automated Weather Station (RAWS) data and utilized in fire behavior and progression modeling efforts. Data from the Ben Bolt RAWS was utilized for modeling fire behavior and progression (approximately 250 feet north of the City-owned Grizzly Peak Open Space parcels). Table 2 summarizes location information and available data ranges for the Ben Bolt RAWS.

Table 2. Ben Bolt Remote Automated Weather Station Characteristics

Station Characteristics	Value
Station ID	42612
Latitude	38.59084
Longitude	-120.93362
Elevation	905 feet
Data Years	2005-2024

To determine weather-related modeling inputs, RAWS data were downloaded, processed, and analyzed using the FireFamily Plus software package (v. 5.0) to determine 97th percentile (Scenario 1) and 5th percentile (Scenarios 2 and 3) fire weather conditions. The RAWS data was evaluated from August 1 through October 15 for each year between 2005 and 2024 (extent of available data record) for the 97th percentile (Scenario 1) and from June 1

through August 31 for each year between 2005 and 2024 (extent of available data record) for the 50th percentile (Scenarios 2 and 3). Data derived from this analysis included values for 1-hour, 10-hour, and 100-hour fuel moistures, live herbaceous moisture, live woody moisture, 20-foot sustained wind speed, and wind direction. The weather data was also evaluated to determine the maximum sustained wind speed.

These weather values were incorporated into the Initial Fuel Moisture file used as an input in FlamMap. Wind direction and wind speed values for the FlamMap run were manually entered during the data input phase. Table 3 presents the wind and weather values used in the FlamMap fire behavior and progression modeling runs.

Table 3. Weather Variables used for Fire Behavior and Progression Modeling

Model Variable	Value Scenario 1 (97th Percentile Fire Weather)	Value Scenarios 2 and 3 (50th Percentile Fire Weather)
20-foot Wind Speed (mph)	10	8
Maximum Wind Speed (mph)	23	19
Wind Azimuth (degrees)	23	225
1-hour Fuel Moisture (%)	3	6
10-hour Fuel Moisture (%)	6	10
100-hour Fuel Moisture (%)	8	11
Live Herbaceous Fuel Moisture (%)	30	30
Live Woody Fuel Moisture (%)	59	59

Note: * Live herbaceous moisture values were lower than 30% so the herbaceous fuels are considered fully cured (Scott and Burgan 2005).

Wind direction (azimuth) for each Scenario was determined by evaluating wind rose outputs for sustained wind speeds, as presented in Exhibits 2 and 3.

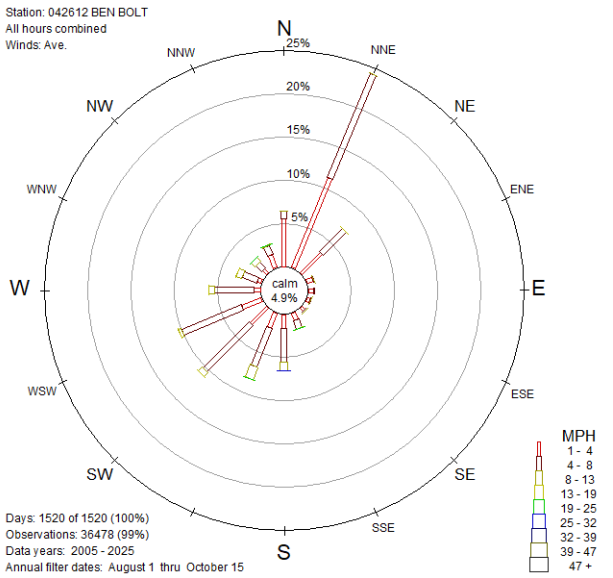


Exhibit 2. Wind rose for 97th percentile wind direction.

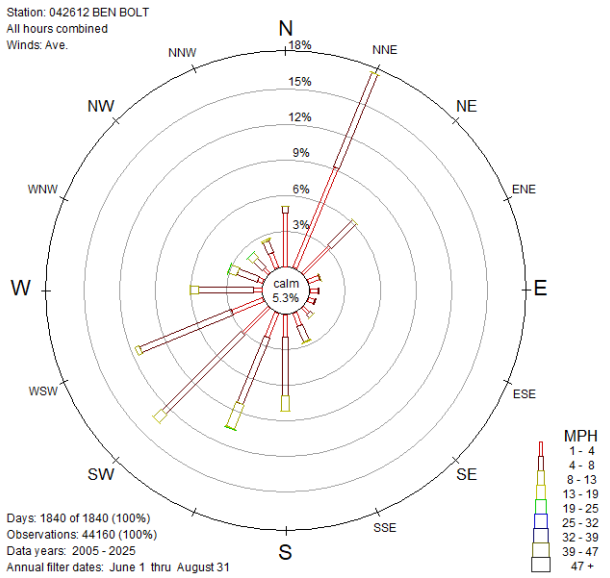


Exhibit 3. Wind rose for 50th percentile wind direction.

Finally, wind vectors were modeled within the FlamMap runs using the WindNinja tool embedded in the FlamMap software. WindNinja models the effect of topography on wind speed and direction and generates wind vector files for use in the modeling runs. The grid resolution for the WindNinja analysis was set at 30 meters.

3.1.7 Ignition Locations

We evaluated historic wildfire ignition point data in GIS format (NIFC 2025) to understand where historic ignitions have occurred and where it is likely that they could occur again. This data, coupled with an evaluation of wildfire history data (CAL FIRE 2024) and vegetation mapping data (USGS 2024b), informed the selection of ignition locations for the fire progression modeling effort. These locations were also evaluated in the field and ignition locations were reviewed with CAL FIRE prior to conducting the modeling runs. The following summarizes each of the ignition locations used for the fire progression modeling runs:



Exhibit 4. Photograph of field conditions located at the ignition point used for Scenario 1 (southwest corner of the intersection of Bass Lake Road and Hawk View Road).

Scenario 1: The ignition point for this scenario represents a roadside ignition occurring along the west side of Bass Lake Road near its intersection with Hawk View Road. This location contains ample roadside grasses that could potentially be ignited from human causes associated with roadways (e.g., cigarettes, dragging chains, molten catalyst material from vehicles, etc.) According to historic ignition data, multiple ignitions have occurred along Bass Lake Road.



Exhibit 5. Photograph of field conditions located near the ignition points used for Scenarios 2 and 3 (north of Highway 50 and east of El Dorado Hills Boulevard).

Scenario 2: The ignition point for this scenario represents a roadside ignition occurring along the north side of Highway-50 approximately 1,200 feet east of El Dorado Hills Boulevard. An ignition in this location is possible from a vehicle or other human causes. According to historic ignition data, multiple ignitions have occurred along Highway-50 in this region.

Scenario 3: The ignition point for this scenario represents a similar roadside ignition to Scenario 2 yet occurring approximately 2,000 feet further to the east and closer to the Project site. According to historic ignition data, multiple ignitions have occurred along Highway 50 in this region.

3.2 Model Outputs

Model outputs for this analysis include three fire progression maps (one for each of the three scenarios) and six landscape fire behavior characteristic maps, which include measurements of flame length, fireline intensity, and rate of spread for 50th and 97th percentile weather conditions. While wildfire progression maps present fire behavior and spread from a unique ignition point, landscape fire behavior models are static and represent wildfire behavior in all vegetated pixels present within the landscape.

Fire progression runs utilized the Minimum Travel Time (MTT) tool in FlamMap. The MTT tool is a two-dimensional fire growth model which calculates fire growth based on calculated fire spread rates from an ignition source (point, line, or polygon). The MTT tool uses fire spread rates to find minimum travel paths between data cells in the GIS landscape, with an output data file representing the number of minutes for a wildfire to reach a particular location from the ignition source. As FlamMap provides a static representation of fire behavior, modeling using the MTT tool holds wind and weather inputs constant over the modeling period. Each MTT simulation was assigned a burn period of 6 hours (360 minutes).

3.2.1 Fire Progression

The output files generated for the three progression runs included one arrival time grid and one line file representing major fire spread paths, considering modeling inputs and ignition location (output maps are presented in Appendix A). Major paths identify the most significant pathways for fire spread. The arrival time data presents time (in minutes) for a modeled fire to reach a specific location. This data was analyzed to determine the time necessary for a fire to burn from its ignition point to the Project site and surrounding communities. For some runs (Scenarios 2 and 3), the modeled fire did not reach the Project. This is due to the classification of non-burnable fuel models associated with roadways that function as barriers to grassland fire spread.

Scenario 1: A wildfire in this scenario spreads in a southwest direction driven by strong 23 mph winds from the north/northeast. Wildfire spreads quickly through herbaceous vegetation in a downslope direction through the Carson Creek drainage. Exiting roadways such as Silver Dove Way and Tong Road function as fuel breaks and prevent the fire from burning away from the drainage to the south. While the main fire front spreads in a southwest direction, the fire's flanks spread towards existing communities along Borders Drive and Archetto Drive. After about 1 hour, the modeled fire reaches riparian woodland vegetation which significantly slows fire spread. This alters the path of the fire front and results in fire spread across the north slope of Carson Creek. The fire front continues to spread southwest and eventually reaches the eastern edge of the Project site in 143 minutes (2 hours, 23 minutes).

Scenario 2: A wildfire in this scenario spreads in a northeast direction through grassland fuels. Fire spread is driven by 19 mph winds from the southwest and follows a slight uphill slope. The fire's northern perimeter is modeled to reach the edge of existing communities along Panela Way within 52 minutes. Spread along the fire's northeastern perimeter is halted by an existing dirt service road (roughly 16 feet wide) which travels across the open space and functions as a fuel break. This feature is modeled to prevent fire from continuing towards the Project site from this ignition location.



Exhibit 6: Aerial image of service road which functions as a fuel break and limits fire spread towards the Project site in Scenario 2.

Scenario 3: In this scenario, similar to Scenario 2, a wildfire spreads northeast across grasslands, driven by 19 mph winds from the southwest. The fire follows a slight uphill path and reaches the western edge of Old Silva Valley Parkway in 36 minutes. However, riparian vegetation and the paved roadway to the west of the Project site act as a natural fire break, preventing the fire from reaching the Project site.

3.2.2 Fire Behavior

Three output grid files for each weather scenario (50th and 97th percentile) were generated for the FlamMap run and represent flame length (feet), fireline intensity (BTU/ft/s), and rate of spread (mph). Flame length, the length of the flame of a spreading surface fire within the flaming front, is measured from midway in the active flaming combustion zone to the average tip of the flames (Andrews et al. 2008). It is a somewhat subjective and non-scientific measure of fire behavior but is extremely important to fireline personnel in evaluating fireline intensity and is worth considering as an important fire variable (Rothermel 1993). Flame length values in the resulting grid file are in feet. Table 4 below presents an interpretation of flame length and its relationship to fireline intensity. Fireline intensity is a measure of heat output from the flaming front and affects the potential for a surface fire to transition to a crown fire. Rate of spread measures the horizontal movement of fire spread across the landscape and is useful to determine a fire's behavior and how many resources will be needed to contain the fire, as a faster-moving fire requires more immediate and significant resources. Maps depicting fire behavior in the modeling analysis area are presented in Appendix B (B1-B6).

As presented in B-1 under 50th percentile weather summer conditions, flame lengths within grass fuels (Fuel Model GS2) range from roughly 6-8 feet depending on slope and wind exposure. During peak 97th percentile weather conditions (B-2), flame lengths in grass fuels are modeled to reach upwards of 9-12 feet under sustained wind speeds of 23 miles per hour.

Under extreme weather and wind conditions (B-4), fireline intensity values may exceed 1,000 Btu/foot/second with spread rates greater than 2 miles per hour in grass fuels. While at high risk of ignition, grass fuels are generally less hazardous compared to other fuel types such as shrub and timber. This is largely to lower fuel loads and rapid burn-out times. Grass fuels are typically light, fine fuels, meaning they are composed of thin, dry material that ignites and burns quickly. While wildfires in grass fuels may produce large flame lengths and spread rapidly, these conditions are often sustained for short periods of time. Because of this, grass fires provide more opportunities for direct fire suppression from responding personnel.

Table 4. Fire Behavior Interpretation

Flame Length	Fireline Intensity	Interpretation
Under 4 feet	Under 100 BTU/ft/s	Fires can generally be attacked at the head or flanks by persons using hand tools. Hand line should hold the fire.
4 feet to 8 feet	100–500 BTU/ft/s	Fires are too intense for a direct attack on the head by persons using hand tools. Hand line cannot be relied on to hold the fire. Equipment such as dozers, pumpers, and retardant aircraft can be effective.
8 feet to 11 feet	500–1,000 BTU/ft/s	Fires may present serious control problems—torching out, crowning, and spotting. Control efforts at the fire head will probably be ineffective.
Over 11 feet	Over 1,000 BTU/ft/s	Crowning, spotting, and major fire runs are probable. Control efforts at the head of fire are ineffective.

Source: Roussopoulos and Johnson 1975.
Note: BTU/ft/s = British thermal units per foot per second.

4 References

California Department of Forestry and Fire Protection (CAL FIRE). 2024. Fire and Resource Assessment Program. GIS Data Set: Fire Perimeters. https://hub-calfire-forestry.hub.arcgis.com/datasets/CALFIRE-Forestry::california-fire-perimeters-1950/explore.

Finney, M.A. 2002. Fire growth using minimum travel time methods. Can. J. For. Res. 32(8):1420-1424.

LANDFIRE, 2023. LANDFIRE 2023 Scott and Burgan Fire Behavior Fuel Model (FBFM40) CONUS. https://www.arcgis.com/home/item.html?id=f924a09b3ef743fdb2fa9f147706c4f4

Multi-Resolution Land Characteristics Consortium (MRLC). 2023 CONUS Tree Canopy. https://www.mrlc.gov/viewer/

National Interagency Fire Agency (NIFC). 2025. *Wildland Fire Incident Locations*. https://data-nifc.opendata.arcgis.com/datasets/b4402f7887ca4ea9a6189443f220ef28_0/explore?location=38.677435%2C-121.040807%2C13.46

Rothermel, R.C. 1993. *How to Predict the Spread and Intensity of Forest and Range Fires.* General Technical Report INT-143. Ogden, Utah: U.S. Forest Service, Intermountain Forest and Range Experiment.

Roussopoulos, Peter J.; Johnson, Von J. 1975. Help in making fuel management decisions. Research Paper NC-RP-112. St. Paul, MN: USDA Forest Service, North Central Forest Experiment Station. 16 p.

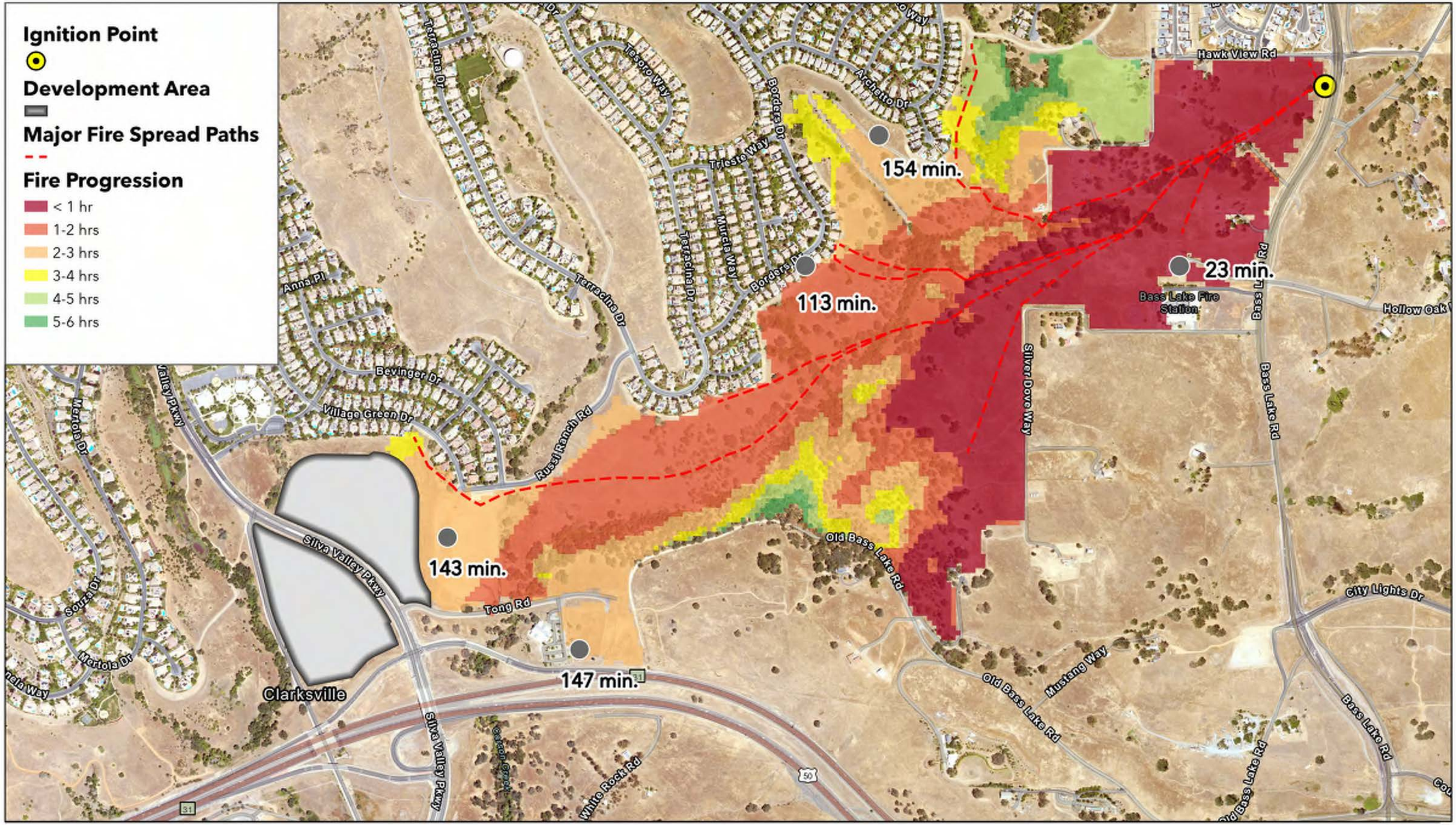
Scott, J. H.; Burgan, R. E. 2005. Standard fire behavior fuel models: a comprehensive set for use with Rothermel's surface fire spread model. General Technical Report RMRS-GTR-153. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. (1,359 KB; 80 pages)

U.S. Geological Survey (USGS). 2024a. USGS 1/3 Arc Second n39w122 20240313. https://www.sciencebase.gov/catalog/item/65fa6db1d34e40b5f4972e4c

USGS. 2024b. Annual NLCD Collection 1 Science Products: U.S. Geological Survey data release, https://doi.org/10.5066/P94UXNTS.

INTENTIONALLY LEFT BLANK

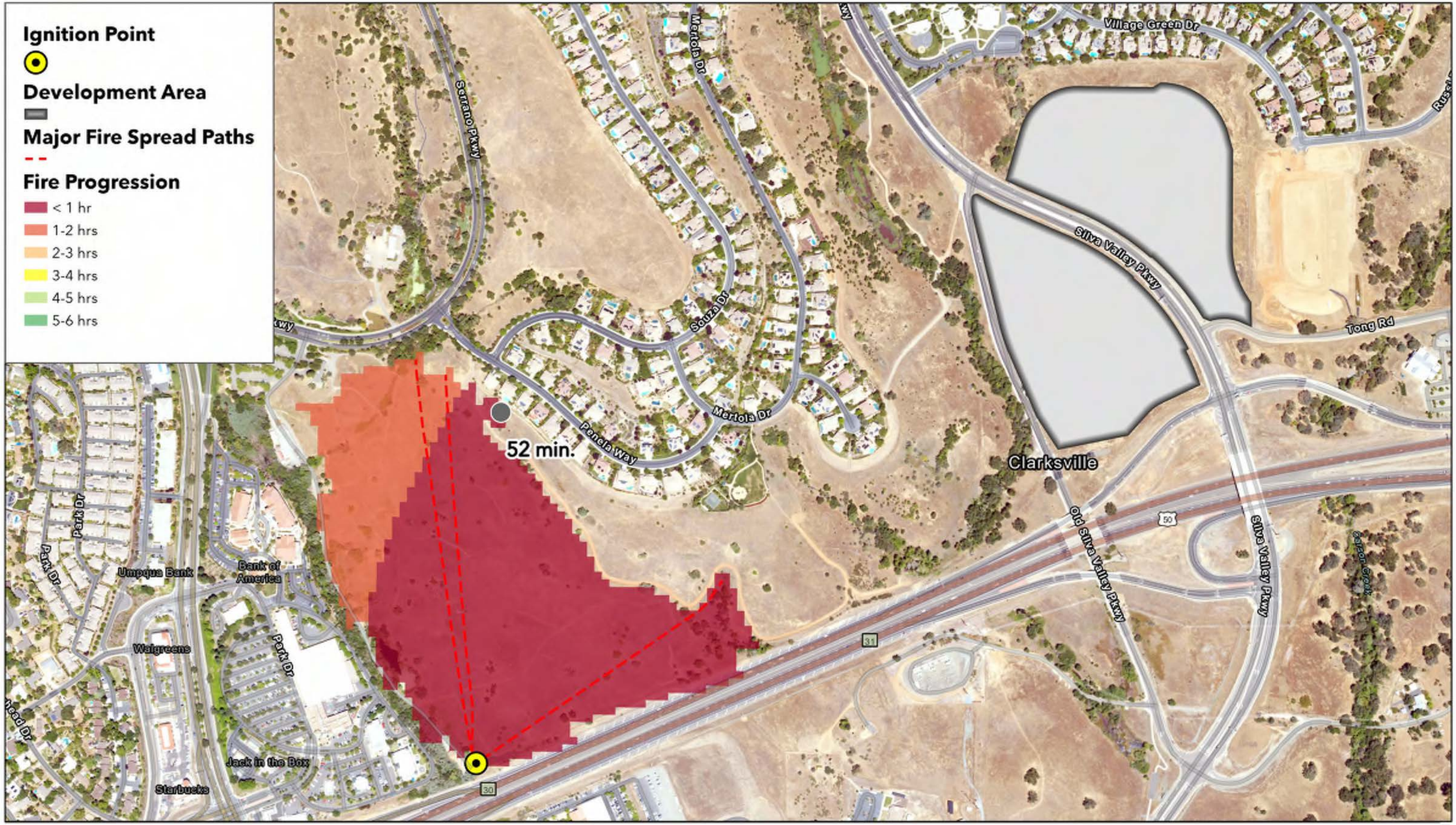
Appendix A
Fire Progression Model Outputs



DUDEK 0 375 750 1,500 Feet

Appendix A-1

Scenario 1: 97th Percentile Weather / NE Ignition

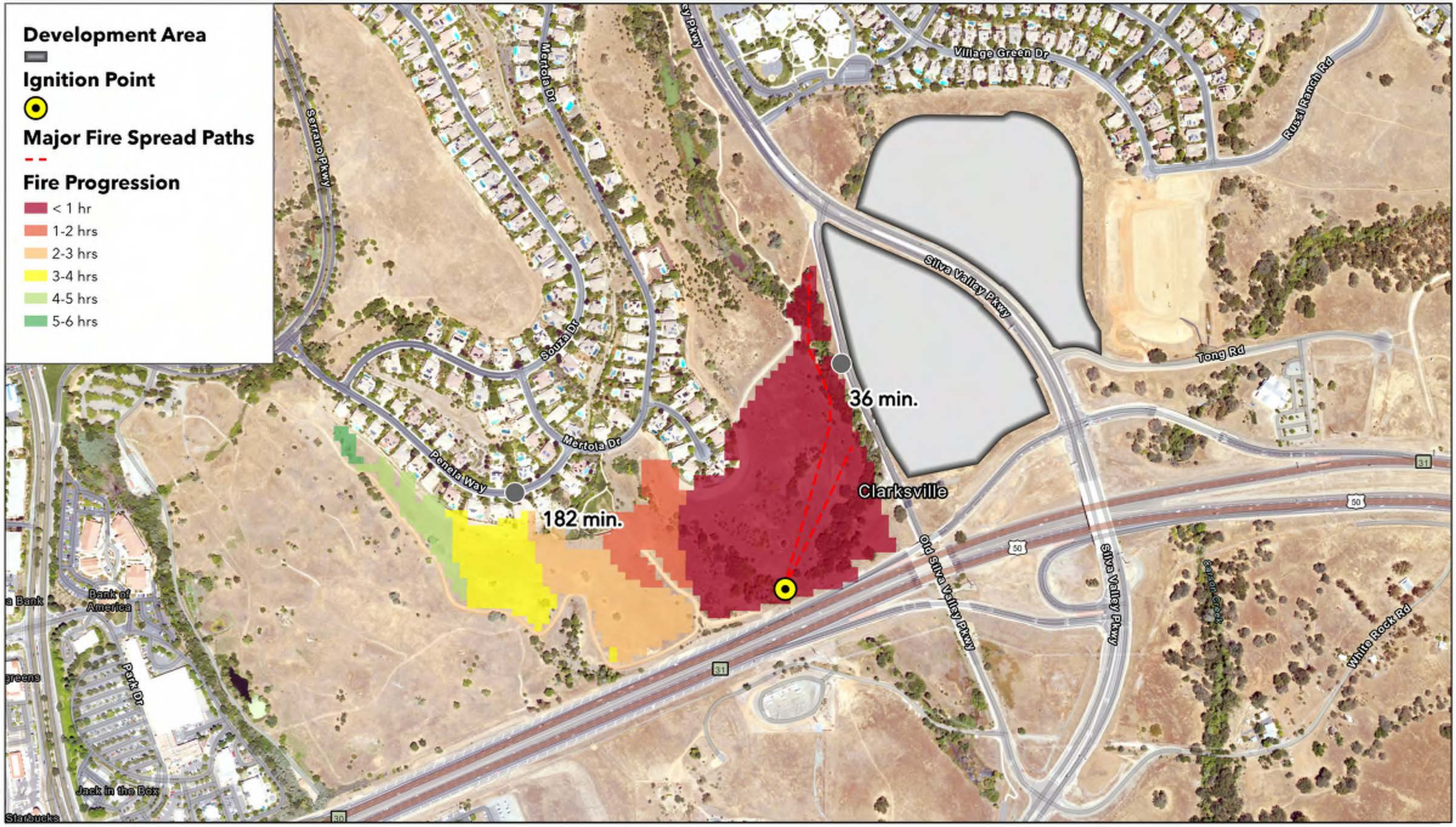


DUDEK

0 245 490 980 Feet

Appendix A-2

Scenario 3: 50th Percentile Weather / SW Ignition



DUDEK

0 245 490 980 Feet

Appendix A-3

Scenario 3: 50th Percentile Weather / SW Ignition

Appendix B

Landscape Fire Behavior Model Outputs

Development Area

Flame Length (ft)

- Developed
- <4
- >4-8
- >8-11
- >11-20
- >20



DUDEK

0 500 1,000 2,000 Feet

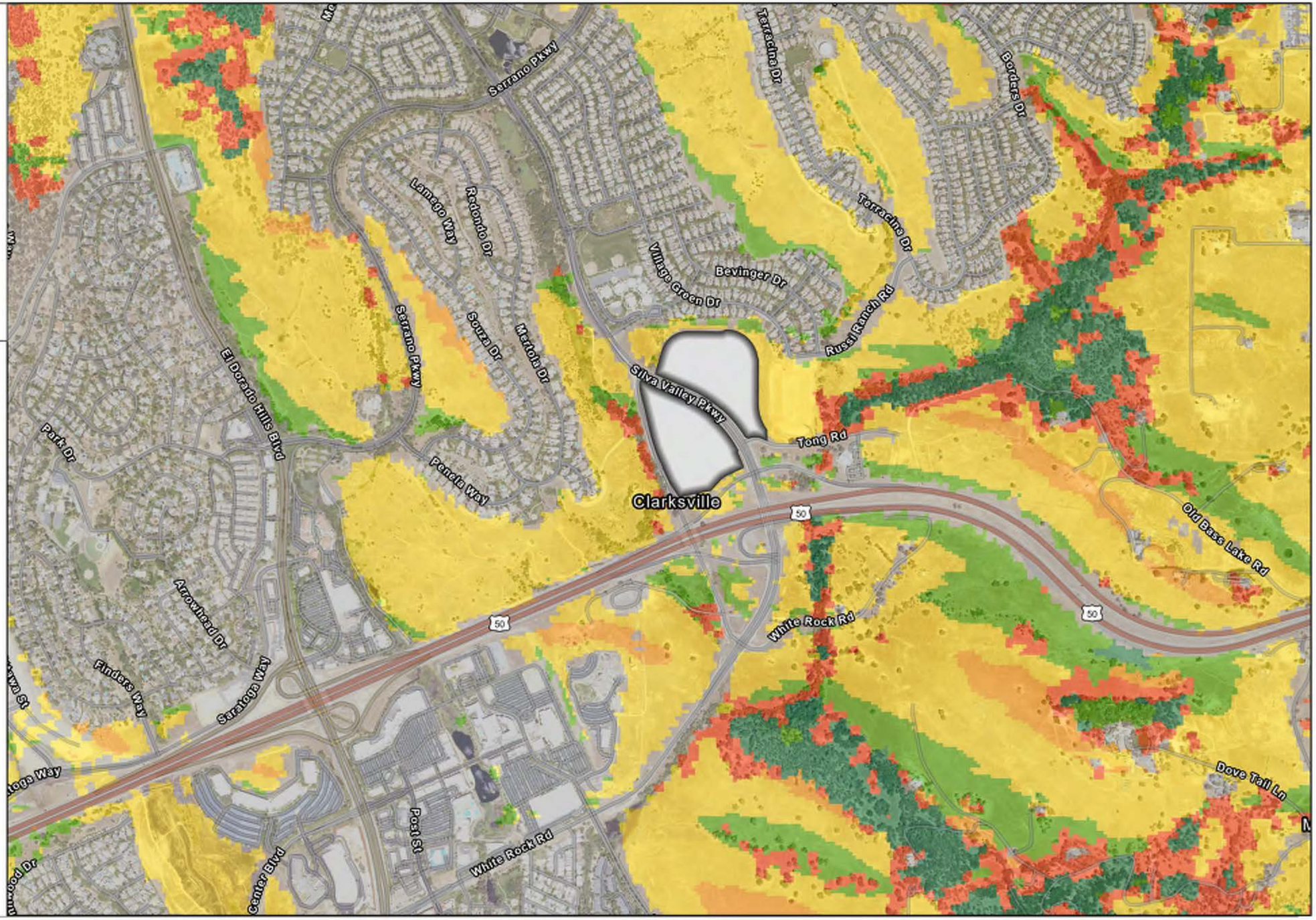
Appendix B-1

Flame Length - 50th Percentile Weather

Development Area

Flame Length (ft)

- Developed
- <4
- >4-8
- >8-11
- >11-20
- >20



Appendix B-2

Flame Length - 97th Percentile Weather

Wildifre Modeling Summary Report: Costco Wholesale Project

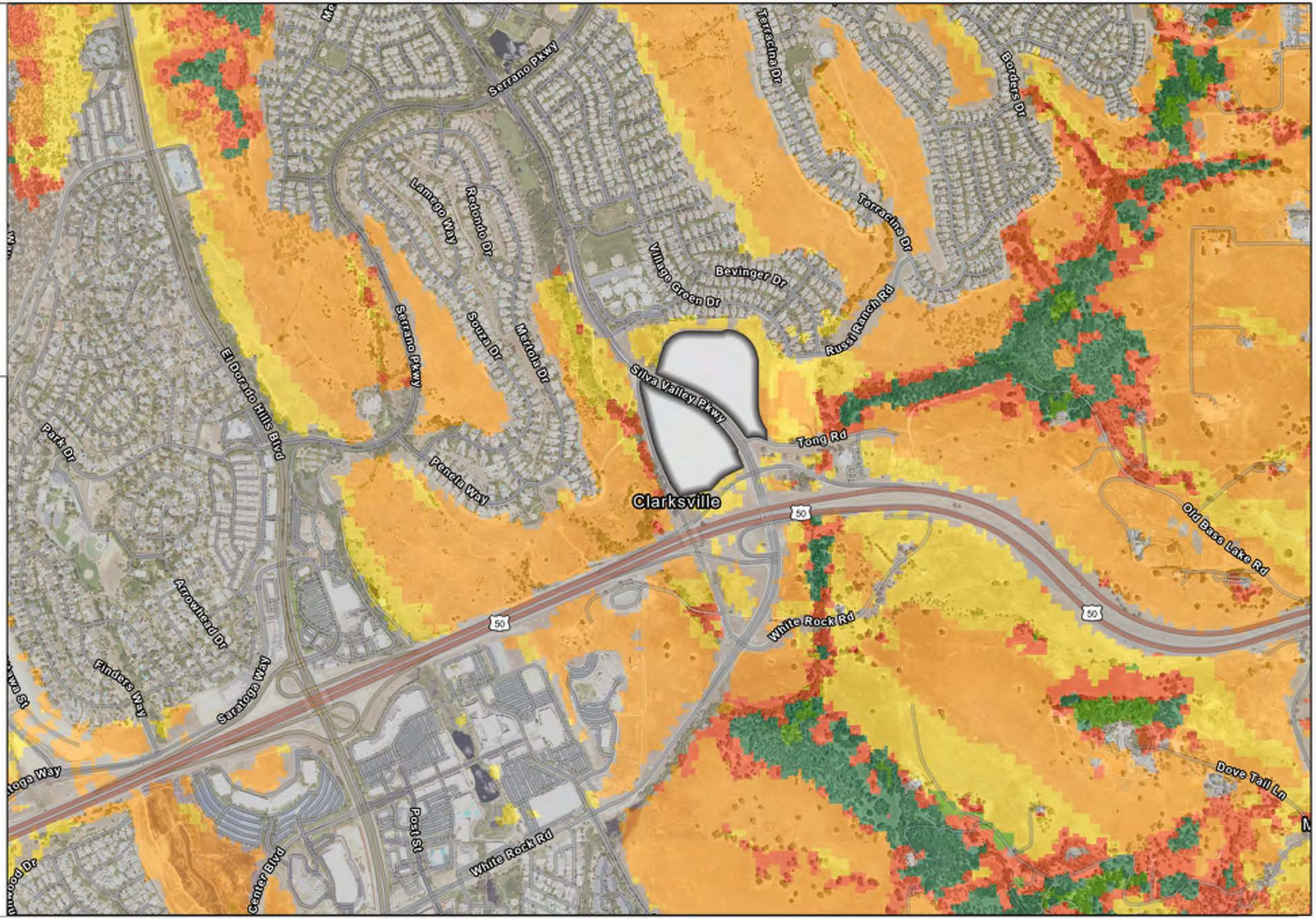
DUDEK

0 500 1,000 2,000 Feet

Development Area

Fireline Intensity (BTU/ft/s)

- Developed
- <100
- >100-500
- >500-1,000
- >1,000-6,175
- >6,175



DUDEK

0 500 1,000 2,000 Feet

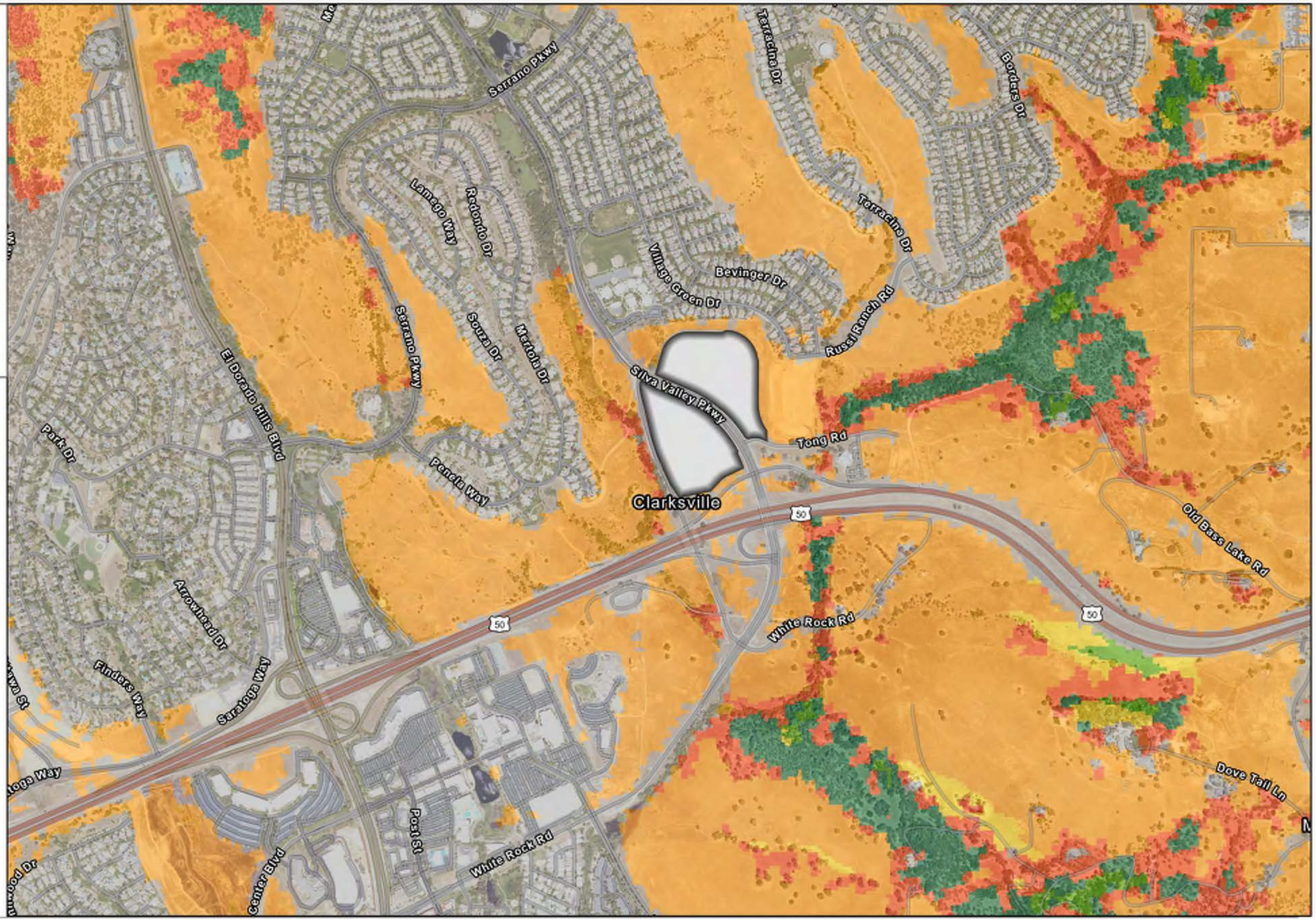
Appendix B-3

Fireline Intensity- 50th Percentile Weather

Development Area

Fireline Intensity (BTU/ft/s)

- Developed
- <100
- >100-500
- >500-1,000
- >1,000-6,175
- >6,175



DUDEK

0 500 1,000 2,000 Feet

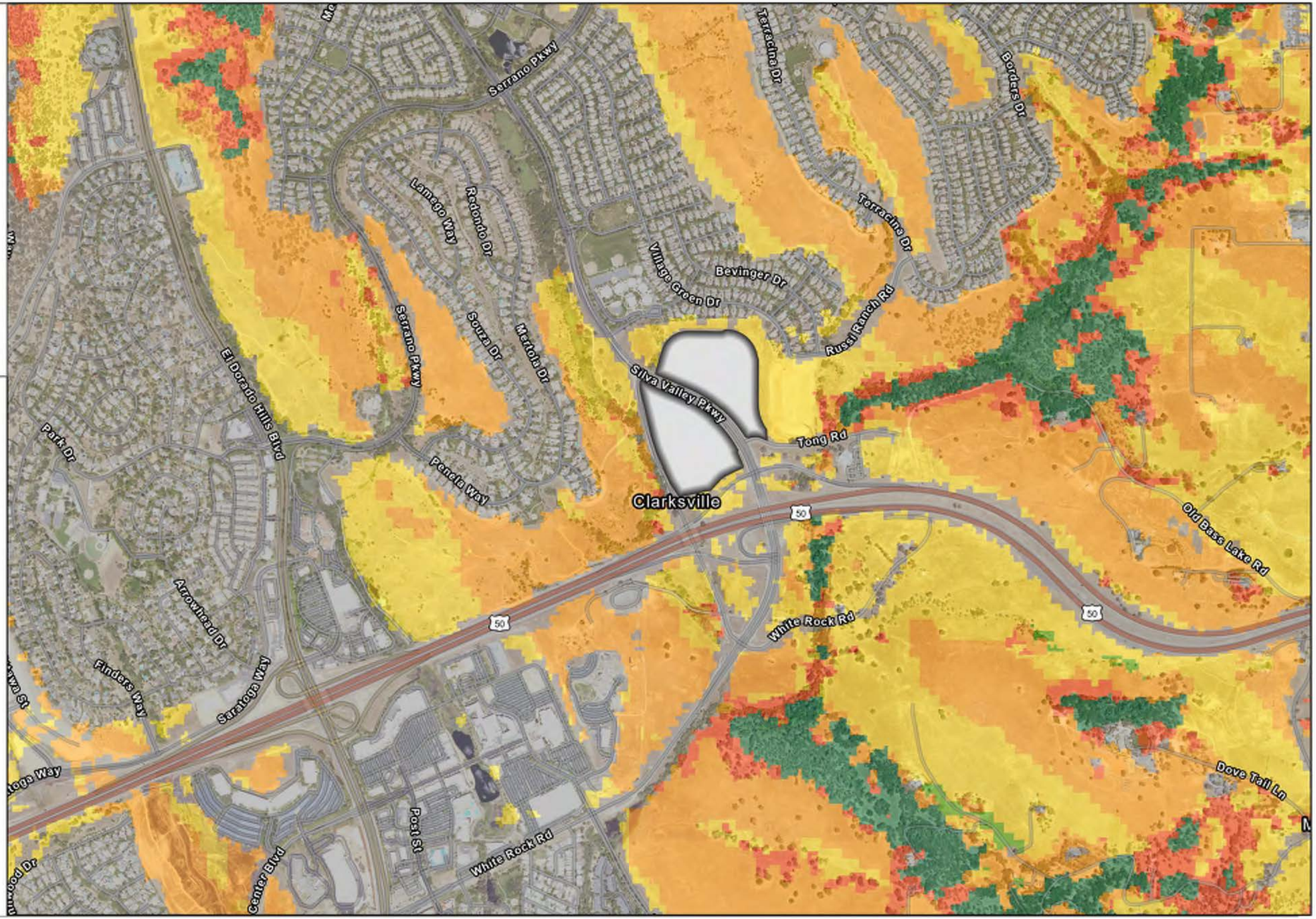
Appendix B-4

Fireline Intensity- 97th Percentile Weather

Development Area

Rate of Spread (mph)

- Developed
- <0.25
- >0.25-0.5
- >0.5-1
- >1-2
- >2



DUDEK

0 500 1,000 2,000 Feet

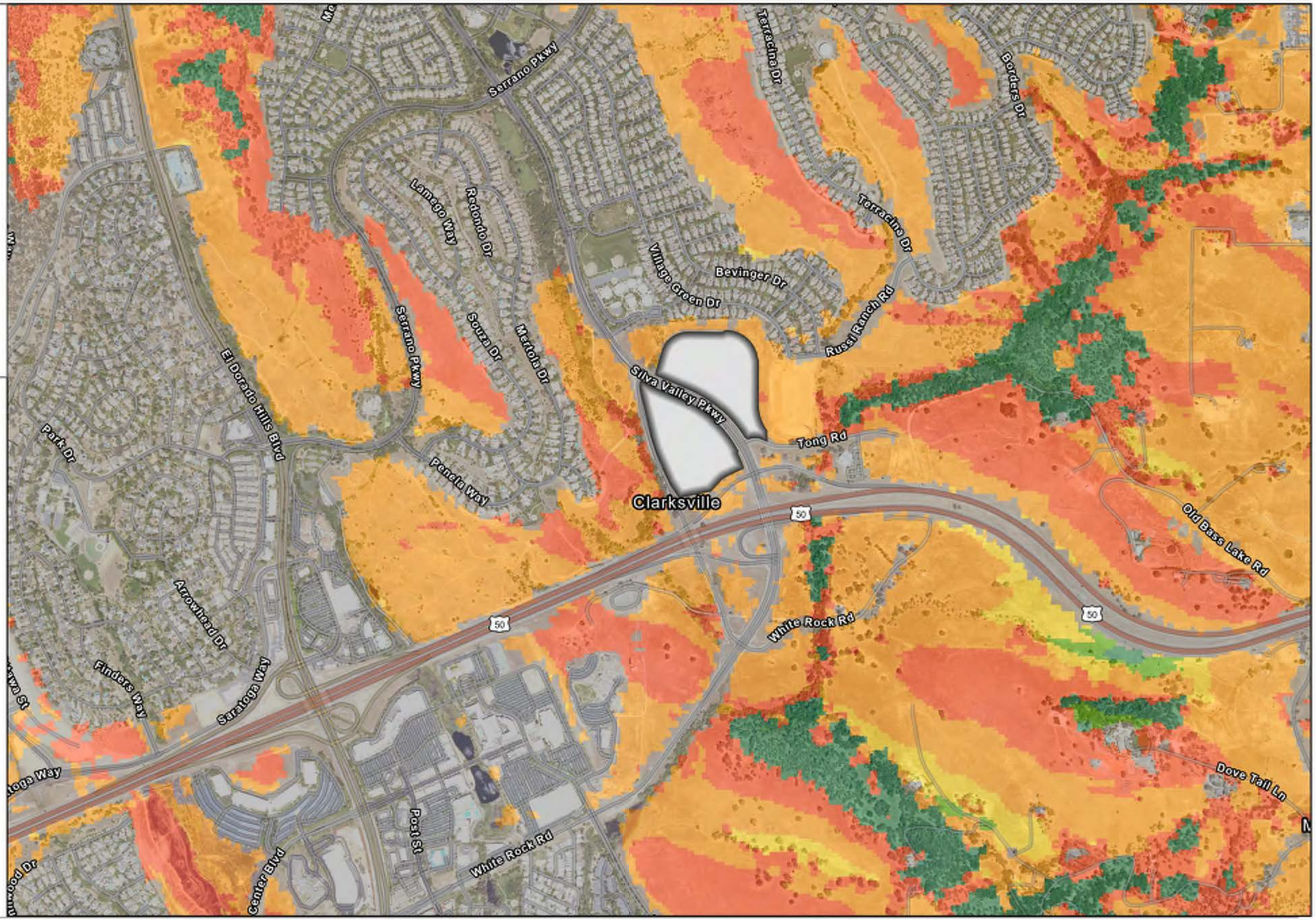
Appendix B-5

Rate of Spread - 50th Percentile Weather

Development Area

Rate of Spread (mph)

- Developed
- <0.25
- >0.25-0.5
- >0.5-1
- >1-2
- >2



Appendix B-6

Rate of Spread - 97th Percentile Weather

DUDEK

0 500 1,000 2,000 Feet

Appendix L

Policy and Regulation
Consistency Analysis

Project Compliance with Applicable Land Use-Related Plans, Policies, and Regulations that Protect the Environment

Plan/ Policy/Regulation	Project Consistency
El Dorado County General Plan	
Policy 2.3.1.2: The Zoning Ordinance shall include consideration of a standard for parking lot shading and provision of street trees in all new development Projects.	***Consistent.*** As discussed in Section 3.1, "Aesthetics," Section 3.1.3, "Environmental Impacts and Mitigation Measures," Substantial perimeter landscaping would be provided along Silva Valley Parkway and Clarksville Crossing to screen parking areas and soften views of structures. Approximately 36 percent of the site would be landscaped, and 56 percent of the parking area would be shaded by trees after 15 years. Loading and utility areas would be screened with landscaping, walls, and fencing to reduce visual clutter.
Objective 2.5.1: Provision for the visual and physical separation of communities from new development.	***Consistent.*** As discussed in Section 3.1, "Aesthetics," Section 3.1.3, "Environmental Impacts and Mitigation Measures," the Costco project is buffered from single-family residential uses by intervening open space areas and distance.
Policy 2.5.1.1: Low intensity land uses shall be incorporated into new development projects to provide for the physical and visual separation of communities. Low intensity land uses may include any one or a combination of the following: parks and natural open space areas, special setbacks, parkways, landscaped roadway buffers, natural landscape features, and transitional development densities.	***Consistent.*** As discussed in Section 3.1, "Aesthetics," Section 3.1.3, "Environmental Impacts and Mitigation Measures," the Costco project is buffered from single-family residential uses by intervening open space areas and distance. Perimeter landscaping would be provided along Silva Valley Parkway and Clarksville Crossing Road providing addition buffer
Objective 2.8.1: Lighting Standards - Provide standards, consistent with prudent safety practices, for the elimination of high intensity lighting and glare.	***Consistent.*** As discussed in Section 3.1, "Aesthetics," Section 3.1.3, "Environmental Impacts and Mitigation Measures," the proposed project would add new nighttime lighting, which would increase nighttime illumination on the site where none currently exists. It would also contribute to areawide nighttime lighting because this lighting could spillover on adjacent areas and residences north and west of the site, resulting in adverse nighttime lighting impacts. However, the project is designed to comply with Title 130, Chapter 130.34 (Outdoor Lighting) of County Code, which requires that outdoor lighting be located, shielded, and directed such that no direct light falls outside the property line or into the public right-of-way. Additionally, the project would use non-reflective materials and low-glare finishes, such as ribbed metal panels in muted colors, split-face CMU, and natural concrete, to eliminate glare.
Policy 2.8.1.1: Development shall limit excess nighttime light and glare from parking area lighting, signage, and buildings. Consideration will be given to design features, namely directional shielding for street lighting, parking lot lighting, sport field lighting, and other significant light sources, that could reduce effects from nighttime lighting. In addition, consideration will be given to the use of automatic shutoffs or motion sensors for lighting features in rural areas to further reduce excess nighttime light.	**Consistent.** See response to Objective 2.8.1.

Plan/ Policy/Regulation	Project Consistency
Objective 5.1.2: Concurrency: Ensure through consultation with responsible service and utility purveyors that adequate public services and utilities, including fire protection, police protection, and ambulance service are provided concurrent with discretionary development or through other mitigation measures provided, and ensure that adequate school facilities are provided concurrent with discretionary development to the maximum extent permitted by State law. It shall be the policy of the County to cooperate with responsible service and utility purveyors in ensuring the adequate provision of service. Absent evidence beyond a reasonable doubt, the County will rely on the information received from such purveyors and shall not substitute its judgment for that of the responsible purveyors on questions of capacity or levels of service.	***Consistent.*** As discussed in Section 3.13, "Public Services and Recreation," Section 3.13.3, "Environmental Impacts and Mitigation Measures," the El Dorado Hills Fire Department and ECSO have level of service standards that the project would meet. Additionally, as discussed in Section 3.16, "Utilities and Service Systems," Section 3.16.3, "Environmental Impacts and Mitigation Measures," EID and El Dorado Disposal would both be able to serve the projects water supply, wastewater, and solid waste disposal needs, respectively. El Dorado Local Agency Formation Commission approval of project annexation to EID and El Dorado Hills Fire Department service areas would be required.
Policy 5.1.2.1: Prior to the approval of any discretionary development, the approving authority shall make a determination of the adequacy of the public services and utilities to be impacted by that development. Where, according to the purveyor responsible for the service or utility as provided in Table 5-1(Draft EIR Table 3.13-1), demand is determined to exceed capacity, the approval of the development shall be conditioned to require expansion of the impacted facility or service to be available concurrent with the demand, mitigated, or a finding made that a CIP [Capital Improvements Plan] project is funded and authorized which will increase service capacity.	***Consistent.*** As discussed in Section 3.13, "Public Services and Recreation," Section 3.13.3, "Environmental Impacts and Mitigation Measures," public service provision for public services not conflict with this Policy. Additionally, as discussed in Section 3.16, "Utilities and Service Systems," Section 3.16.3, "Environmental Impacts and Mitigation Measures," based on the EID 2022 Water Supply and Demand Report and the EID 2020 UWMP, water supply would be adequate to accommodate the project under normal-, dry-, and multiple-dry-year water conditions. Additionally, the constituents in the wastewater flow from the project to the EDHWWTP would be within the plant's capacity. The solid waste facilities would experience a small increase from the project and would not consume a substantial proportion of the available permitted capacity and would not trigger the need to expand landfill facilities.
Policy 5.1.2.2: Provision of public services to new discretionary development shall not result in a reduction of service below minimum established standards to current users, pursuant to Table 5-1 (Draft EIR Table 3.13-1).	***Consistent.*** See response to Policy 5.1.2.1.
Policy 5.1.2.3: New development shall be required to pay its proportionate share of the costs of infrastructure improvements required to serve the project to the extent permitted by State law. Lack of available public or private services or adequate infrastructure to serve the project which cannot be satisfactorily mitigated shall be grounds for denial of any project or cause for the reduction of size, density, and/or intensity otherwise indicated on the General Plan land use map to the extent allowed by State law.	***Consistent.*** As discussed in Chapter 2, "Project Description," and Section 3.16, "Utilities and Service Systems," Section 3.16.3, "Environmental Impacts and Mitigation Measures," the project proposes to onsite improvements into its design to adequately service water supply and wastewater needs of the project.
Objective 5.2.1: County-Wide Water Resource Program. Establish a county-wide water resources development and management program to include the activities necessary to ensure adequate future water supplies consistent with the General Plan.	***Consistent.*** As discussed in Section 3.16, "Utilities and Service Systems," Section 3.16.3, "Environmental Impacts and Mitigation Measures," adequate water supply is available to accommodate the project consistent with this General Plan Objective.

Plan/ Policy/Regulation	Project Consistency
Policy 5.2.1.2: An adequate quantity and quality of water for all uses, including fire protection, shall be provided for with discretionary development.	***Consistent.*** As discussed in Section 3.16, "Utilities and Service Systems," Section 3.16.3, "Environmental Impacts and Mitigation Measures," the Costco project would require approximately 20.7 EDUs of water supply and the North Site Remainder Area could require approximately 86.3 EDUs of water supply, depending on the types of commercial uses that are proposed for future development. As of January 2022, there were approximately 16,910 EDUs of water supply available in El Dorado Hills Water Supply Region. EID determined in its 2020 UWMP that its water supply portfolio is capable of meeting water demand in its service area in normal, single dry, and consecutive dry years from 2020 through 2045.
Policy 5.2.1.9: In an area served by a public water purveyor or an approved private water system, the applicant for a tentative map or for a building permit on a parcel that has not previously complied with this requirement must provide a Water Supply Assessment that contains the information that would be required if a water supply assessment were prepared pursuant to Water Code section 10910. In order to approve the tentative map or building permit for which the assessment was prepared the County must **(a)** find that by the time the first grading or building permit is issued in connection with the approval, the water supply from existing water supply facilities will be adequate to meet the highest projected demand associated with the approval on the lands in question; and **(b)** require that before the first grading permit or building permit is issued in connection with the approval, the applicant will have received a sufficient water meters or a comparable supply guarantee to provide adequate water supply to meet the projected demand associated with the entire approval. A water supply is adequate if the total entitled water supplies available during normal, single, dry, and multiple-dry years within a 20-year projection will meet the highest projected demand associated with the approval, in addition to existing and 20-year projected future uses within the area served by the water supplier, including but not limited to, fire protection, agricultural, and industrial uses, 95% of the time, with cutbacks calculated not to exceed 20% in the remaining 5% of the time.	***Consistent.*** The project is not subject to Water Code Section 10910. However, a detailed analysis of water supply availability consistent with this policy is provided in Section 3.16, "Utilities and Service Systems," Section 3.16.3, "Environmental Impacts and Mitigation Measures."
Policy 5.2.1.11: The County shall direct new development to areas where public water service already exists. In Community Regions, all new development shall connect to a public water system. In Rural Centers, all new development shall connect either to a public water system or to an approved private water system.	***Consistent.*** The project would obtain public water service from EID. El Dorado Local Agency Formation Commission approval of project annexation to the EID service area would be required.
Objective 5.3.1: Wastewater Capacity. Ensure the availability of wastewater collection and treatment facilities of adequate capacity to meet the needs of multifamily, high-, and medium-density residential areas, and commercial and industrial areas.	***Consistent.*** As discussed in Section 3.16, "Utilities and Service Systems," Section 3.16.3, "Environmental Impacts and Mitigation Measures," the constituents in the wastewater flow from the project to the EDHWWTP would be within the plant's treatment capacity. The project also includes onsite wastewater improvements to obtain service.
Policy 5.3.1.1: High-density and multifamily residential, commercial, and industrial projects may be required to connect to public wastewater collection facilities if reasonably available as a condition of approval. In the Rural Centers of Camino/Cedar Grove/Pollock Pines, the long-term development of public sewer service shall be encouraged.	***Consistent.*** The project would be required to connect to EID's public wastewater collection facilities that would address the wastewater needs for the project.

Plan/ Policy/Regulation	Project Consistency
Policy 5.3.1.7: In Community Regions, all new development shall connect to public wastewater treatment facilities. In Community Regions where public wastewater collection facilities do not exist project applicants must demonstrate that the proposed wastewater disposal system can accommodate the highest possible demand of the project.	***Consistent.*** The project would be required to connect to EID's public wastewater collection facilities that would address the wastewater needs for the project. El Dorado Local Agency Formation Commission approval of project annexation to the EID service area would be required.
Objective 5.4.1: Initiate a County-wide drainage and flood management program to prevent flooding, protect soils from erosion, and minimize impacts on existing drainage facilities.	***Consistent.*** As discussed in Section 3.9, "Hydrology and Water Quality," Section 3.9.1, "Regulatory Setting," The County's Drainage Manual requires that a hydrologic and hydraulic analysis be submitted for all proposed drainage facilities. The analysis must include an introduction/background, location map/description, catchment description/delineation, hydrologic analysis, hydraulic and structural analysis, risk assessment/impacts discussion, unusual or special conditions, conclusions, and technical appendices. A drainage report based on the project design and is provided in Appendix H that documents that proposed drainage improvements would address water quality and offset project increases in drainage flows offsite.
Policy 5.4.1.1. Require storm drainage systems for discretionary development that protect public health and safety, preserve natural resources, prevent erosion of adjacent and downstream lands, prevent the increase in potential for flood hazard or damage on either adjacent, upstream or downstream properties, minimize impacts to existing facilities, meet the National Pollution Discharge Elimination System (NPDES) requirements, and preserve natural resources such as wetlands and riparian areas.	***Consistent.*** See response to Objective 5.4.1.
Policy 5.4.1.2: Discretionary development shall protect natural drainage patterns, minimize erosion, and ensure existing facilities are not adversely impacted while retaining the aesthetic qualities of the drainage way.	***Consistent.*** While the project would modify onsite drainage features, it would retain the overall drainage pattern and includes water quality and detention facilities to avoid adverse impacts to downstream drainage conditions of natural waterways.
Objective 5.5.2: Recycling, Transformation, and Disposal Facilities. Ensure that there is adequate capacity for solid waste processing, recycling, transformation, and disposal to serve existing and future users in the County.	***Consistent.*** As discussed in Section 3.16, "Utilities and Service Systems," Section 3.16.3, "Environmental Impacts and Mitigation Measures," there is capacity for solid waste pick up and removal to serve the project.
Policy 5.5.2.1: Concurrent with the approval of new development, evidence will be required that capacity exists within the solid waste system for the processing, recycling, transformation, and disposal of solid waste.	***Consistent.*** See response to Objective 5.5.2.
Objective 5.6.2: Encourage development of energy-efficient buildings, subdivisions, development, and landscape designs	***Consistent.*** As described in Chapter 2, "Project Description," the project would include multiple design features to improve energy efficiency and prevent the wasteful or inefficient use of energy for building operations, including use of energy-efficient LED lighting, water-efficient landscaping, high-efficiency water fixtures, HVAC systems controlled by a computerized building management system to maximize efficiency, and gas water heaters that would be direct-vent and 94 percent efficient or greater. Additionally, because Costco has a Clean Energy Contract with PG&E, all electricity consumed by the project would be 100 percent renewable electrical power.
Policy 5.6.2.1: Require energy conserving landscaping plans for all projects requiring design review or other discretionary approval.	***Consistent.*** As discussed in Section 3.5, "Energy," the project would be subject to energy efficiency requirements of the California Energy Code.

Plan/ Policy/Regulation	Project Consistency
Objective 5.7.1: Fire Protection (Community Regions): Ensure sufficient emergency water supply, storage, and conveyance facilities are available, and that adequate access is provided for, concurrent with development.	***Consistent.*** As discussed in Section 3.16, "Utilities and System Services," EID Facility Improvement letter identifies project proposed improvements for water supply would provide water flow to meet fire protection needs. Section 3.14, "Transportation," identifies that the project design provides adequate access points for emergency vehicle access.
Policy 5.7.1.1: Prior to approval of new development, the applicant will be required to demonstrate that adequate emergency water supply, storage, conveyance facilities, and access for fire protection either are or will be provided concurrent with development.	***Consistent.*** The project would be required to comply with level of service standards (discussed above) that would address fire protection and water supply standards and be consistent with the General Plan.
Objective 5.7.3: Law Enforcement: An adequate, comprehensive, coordinated law enforcement system consistent with the needs of the community.	***Consistent.*** As discussed in Section 3.13, "Public Services and Recreation," EDSO responded that they had no concerns regarding serving the project.
Policy 5.7.3.1: Prior to approval of new development, the Sheriff's Department shall be requested to review all applications to determine the ability of the department to provide protection services. The ability to provide protection to existing development shall not be reduced below acceptable levels as a consequence of new development. Recommendations such as the need for additional equipment, facilities, and adequate access may be incorporated as conditions of approval.	***Consistent.*** See response to Objective 5.7.3.
Objective 5.7.4: Medical Emergency Services**:** Adequate medical emergency services available to serve existing and new development recognizing that levels of service may differ between Community Regions, and Rural Centers and Regions	***Consistent.*** As discussed in Section 3.13, "Public Services and Recreation," the El Dorado Hills Fire Department identified that they would be able to meet the minimum required response time.
Policy 5.7.4.1: Prior to approval of new development, the applicant shall be required to demonstrate that adequate medical emergency services are available and that adequate emergency vehicle access will be provided concurrent with development.	***Consistent.*** See response to Objective 5.7.4.
Policy 5.7.4.2: Prior to approval of new development, the Emergency Medical Services Agency shall be requested to review all applications to determine the ability of the department to provide protection services. The ability to provide protection to existing development shall not be reduced below acceptable levels as a consequence of new development. Recommendations such as the need for additional equipment, facilities, and adequate access may be incorporated as conditions of approval.	***Consistent.*** See response to Objective 5.7.4.
Objective 6.2.1: Defensible Space: All existing and new development and structures shall meet "defensible space" requirements to minimize wildland fire hazards.	***Consistent.*** As described in Section 3.17, "Wildfire and Evacuation," and the Costco Wholesale Project Fire Safe Plan, the project site would be converted to a mix of non-combustible surfaces, ignition resistant buildings, and maintained landscaping. Project structures, infrastructure, and landscaping would comply with the requirements in the CBC for ignition resistant construction, and the CFC and Title 14 Minimum Fire Safe Regulations for access, water supply, and vegetation management. Structural hardening requirements address roofs, eaves, exterior walls, vents, appendages, windows, and doors and result in hardened structures that have been proven to perform at high levels (resist ignition) during the typically short duration of exposure to burning vegetation from wildfires.

Plan/ Policy/Regulation	Project Consistency
Policy 6.2.1.1: Implement Fire Safe ordinance to attain and maintain defensible space through conditioning of tentative maps and in new development at the final map and/or building permit stage.	***Consistent.*** See response to Objective 6.2.1.
Policy 6.2.1.2: Coordinate with the local Fire Safe Councils, California Department of Forestry and Fire Protection (CAL FIRE), and federal and state agencies having land use jurisdiction in El Dorado County in the development of a countywide fuels management strategy.	***Consistent.*** See response to Objective 6.2.1.
Policy 6.2.1.4: Require consistency with fire code and development standards that ensure adequate defensible space clearance around all existing and new structures in compliance with the California Fire Code, Public Resources Code Section 4291 (ember-resistant zone), Government Code Section 51175-51188, CCR Title 14, Division 1.5, Chapter 7, Subchapter 3, Section 1299.03, and in the County Code of Ordinances Chapter 8.09	***Consistent.*** See response to Objective 6.2.1.
Policy 6.2.1.5: Maintain and enforce the County Defensible Space Ordinance and Fire Prevention Programs and Plans in coordination with local the VHFHSZs and other fire agencies and continue to support related fire prevention programs associated with defensible space inspections as detailed in County Code of Ordinances Chapter 8.09, fire development standards, and public education	***Consistent.*** See response to Objective 6.2.1.
Policy 6.2.2.1: Fire Hazard Severity Zone Maps shall be consulted in the review of all projects so that standards and mitigation measures appropriate to each hazard classification can be applied. Land use densities and intensities shall be determined by mitigation measures in areas designated as high or very high fire hazard.	***Consistent.*** See response to Objective 6.2.2. Draft EIR Figure 3.17-1 provides fire hazard severity zone mapping for the project site and the surrounding area.
Policy 6.2.2.2: The County shall preclude development in areas of high and very high wildland fire hazard or in areas identified as wildland-urban interface (WUI) communities within the vicinity of Federal lands that are a high risk for wildfire, as listed in the Federal Register Executive Order 13728 of May 18, 2016, unless such development can be adequately protected from wildland fire hazard, as demonstrated in a WUI Fire Safe Plan prepared by a qualified professional as approved by the El Dorado County Fire Prevention Officers Association. The WUI Fire Safe Plan shall be approved by the local Fire Protection District having jurisdiction and/or California Department of Forestry and Fire Protection. (Resolution 124- 2019, August 6, 2019)	***Consistent.*** See response to Objective 6.2.2.

Plan/ Policy/Regulation	Project Consistency
Objective 6.2.3: Adequate Fire Protection: Application of uniform fire protection standards to development projects by fire district.	***Consistent.*** As described in Section 3.17, "Wildfire and Evacuation," and the Costco Wholesale Project Fire Safe Plan, both the Costco warehouse retail building and the fuel facility would incorporate CFC-compliant fire and life safety features that minimize the risk of explosion, fire, and accidental spill of flammable liquids. While these features are intended to protect occupants and minimize the risk of a structure fire, they also address the project's wildfire risk by reducing the likelihood of a fire occurring on the property that can spread onto the adjacent wildlands and by reducing the risk that the project structures would ignite during a wildfire. Upon completion, the project site would be converted to a mix of non-combustible surfaces, ignition resistant buildings, and maintained landscaping. Project structures, infrastructure, and landscaping would comply with the requirements in the CBC for ignition resistant construction, and the CFC, Title 14 Minimum Fire Safe Regulations, and El Dorado Hills Fire Department requirements for access, water supply, and vegetation management. Structural hardening requirements address roofs, eaves, exterior walls, vents, appendages, windows, and doors and result in hardened structures that have been proven to perform at high levels (resist ignition) during the typically short duration of exposure to burning vegetation from wildfires. Future development of the North Site Remainder Area would also be subject to these standards.
Policy 6.2.3.1: As a requirement for approving new development, the County must find, based on information provided by the applicant and the responsible FPD that, concurrent with development, adequate emergency and peak load water supply, water flow, fire access, and firefighting personnel and equipment will be available in accordance with applicable State and local fire district standards to support fire suppression efforts.	***Consistent.*** See response to Objective 6.2.3. The Costco project design includes a 15-ft wide fire access easement and associated pathway along the rear of the building to be built to bear a minimum of 75,000 pounds and meet County Department of Transportation standards for roadways and the provision of 3,000 gallons per minute fire flow accompanied with sprinklers sufficient to meet California Fire Code Section 507.3 and Appendix B fire flow requirements as identified in Section 3.13, "Public Services and Recreation."
Policy 6.2.3.2: As a requirement of new development, the applicant must demonstrate that adequate access exists, or can be provided to ensure that emergency vehicles can access the site and private vehicles can evacuate the area.	***Consistent.*** See response to Objective 6.2.3 and Policy 6.2.3.1.
Policy 6.2.3.4: All new development and public works projects shall be consistent with applicable State Wildland Fire Standards and other relevant State and federal fire requirements.	***Consistent.*** See response to Objective 6.2.3.
Policy 6.2.3.5: Identify actions to ensure noncompliant development meets current fire safe standards and road standards as defined in Title 14 CCR, Division 1.5, Chapter 7 Fire Protection, Subchapter 2, Articles 1-5, SRA Fire Safe Regulations through the WUI Fire Safe Plan review process and through collaboration with the FPDs and local fire agencies when reviewing Fire Protection Plans and provisions for new development.	***Consistent.*** See response to Objective 6.2.3.

Plan/ Policy/Regulation	Project Consistency
Policy 6.2.3.6: All new development within an SRA or very high (VHFHSZs) shall prepare a Fire Protection Plan that complies with established fire safety standards. Ingress and egress to the new development will be constructed utilizing the most current State Fire Safe Regulations, Fire Code, and/or County Code that meets these minimum requirements. Key components of a Fire Protection Plan include: 1. risk analysis; 2. fire response capabilities; 3. fire safety requirements – defensible space, infrastructure, and building ignition resistance; 4. mitigation measures and design considerations for non-conforming fuel modification; 5. wildfire education, maintenance, and limitations, and 6. evacuation planning. Existing development within an SRA or VHFHSZ can meet these requirements through retro-fitting and home hardening.	***Consistent.*** See response to Objective 6.2.3.
Policy 6.2.3.7: Enforce the most recent California Uniform Building Code Fire Code to safeguard life and property from the hazards of fires and explosions; dangerous conditions arising from the storage, handling, and use of hazardous materials and devices; and hazardous conditions in the use or occupancy of building or premises.	***Consistent.*** See response to Objective 6.2.3. The FSP demonstrates compliance with applicable State fire requirements.
Objective 6.2.4: Area-Wide Fuel Management Program: Reduce fire hazard through cooperative fuel management activities.	***Consistent.*** As described in Section 3.17, "Wildfire and Evacuation," and the Costco Wholesale Project Fire Safe Plan, the project site would be converted to a mix of non-combustible surfaces, ignition resistant buildings, and maintained landscaping. Project structures, infrastructure, and landscaping would comply with the requirements in the CBC for ignition resistant construction, and the CFC and Title 14 Minimum Fire Safe Regulations for access, water supply, and vegetation management. Structural hardening requirements address roofs, eaves, exterior walls, vents, appendages, windows, and doors and result in hardened structures that have been proven to perform at high levels (resist ignition) during the typically short duration of exposure to burning vegetation from wildfires.
Policy 6.2.4.1: Discretionary development within high and very high fire hazard areas shall be conditioned to designate fuel break zones that comply with fire safe requirements to benefit the new and, where possible, existing development.	***Consistent.*** See response to Objective 6.2.4.
Policy 6.2.4.2: The County shall cooperate with CAL FIRE and local FPDs to identify opportunities for fuel breaks in zones of high and very high fire hazard either prior to or as a component of project review and will support the FPDs in tracking grants to fund fire breaks and their long-term maintenance.	***Consistent.*** See response to Objective 6.2.4.

Plan/ Policy/Regulation	Project Consistency
Objective 6.3.1: Building and Site Standards. Adopt and enforce development regulations, including building and site standards, to protect against seismic and geologic hazards.	***Consistent.*** As discussed in Section 3.6, "Geology, Soils, and Paleontological Resources," Section 3.6.3, "Environmental Impacts and Mitigation Measures," in the General Plan EIR, this particular portion of the Foothills Fault System has a low level of seismic activity. Nevertheless, the project would be required to comply with the CBC regarding Chapter 16, Structural Design, which identifies both general building structural design requirements and specific seismic safety design requirements for projects. These seismic design criteria are also included as recommendations in the Geotechnical Study Update. Standard regulatory compliance with the CBC and incorporation of the Geotechnical Study recommendations would minimize the project's potential to cause direct or indirect adverse effects, including risk of loss, injury, or death, involving strong seismic shaking.
Policy 6.3.1.1: The County shall require that all discretionary projects and all projects requiring a grading permit, or a building permit that would result in earth disturbance, that are located in areas likely to contain naturally occurring asbestos (based on mapping developed by the California Department of Conservation [DOC]) comply with the Air Quality Management District (AQMD) Rules 223, 223-1 and 223-2 requirements. The Department of Transportation and the AQMD shall consider the requirement of posting a warning sign at the work site in areas likely to contain naturally occurring asbestos based on the mapping developed by the DOC.	***Consistent.*** As discussed in Section 3.2, "Air Quality," Section 3.2.3, "Environmental Impacts and Mitigation Measures," NOA may present in the project area. Mitigation Measure 3.2-4b would Implement Asbestos Dust Mitigation Consistent with EDCAQMD Rule 223-1, EDCAQMD Rule 223-2 and County Ordinance 4548 to prepare an Asbestos Dust Mitigation Plan before the start of construction and therefore would ensure compliance with all EDCAQMD rules.
Objective 6.3.2: County-Wide Seismic Hazards. Continue to evaluate seismic related hazards such as liquefaction, landslides, avalanche, and seiche, particularly in the Tahoe Basin.	***Consistent.*** See response to Objective 6.3.1.
Policy 6.3.2.4: Applications for development of habitable structures shall be reviewed for potential hazards associated with steep or unstable slopes, areas susceptible to high erosion, and avalanche risk. Geotechnical studies shall be required when development may be subject to geological hazards. If hazards are identified, applicants shall be required to mitigate or avoid identified hazards as a condition of approval. If no mitigation is feasible, the project will not be approved.	***Consistent.*** See response to Objective 6.3.1.
Objective 6.5.1: Protection of Noise-Sensitive Development: Protect existing noise-sensitive developments (e.g., hospitals, schools, churches and residential) from new uses that would generate noise levels incompatible with those uses and, conversely, discourage noise-sensitive uses from locating near sources of high noise levels	***Consistent.*** As discussed in Section, "Noise and Vibration," Section 3.11.3, "Environmental Impacts and Mitigation Measures," project operational noise would comply with stationary noise standards in General Plan Table HS-4.
Policy 6.5.1.2: Where proposed non-residential land uses are likely to produce noise levels exceeding the performance standards of Table HS-4 (presented as Table 3.11-4 in this section) at existing or planned noise-sensitive uses, an acoustical analysis shall be required as part of the environmental review process so that noise mitigation may be included in the project design.	***Consistent.*** See response to Objective 6.5.1.
Policy 6.5.1.7: Noise created by new proposed non-transportation noise sources shall be mitigated so as not to exceed the noise level standards of Table HS-4 (presented as Table 3.11-4 in this section) for noise-sensitive uses.	***Consistent.*** See response to Objective 6.5.1.

Plan/ Policy/Regulation	Project Consistency
Policy 6.5.1.9: Noise created by new transportation noise sources, excluding airport expansion but including roadway improvement projects, shall be mitigated so as not to exceed the levels specified in Table HS-3 (presented as Table 3.11-3 in this section) at existing noise-sensitive land uses.	***Consistent.*** As discussed in Section, "Noise and Vibration," Section 3.11.3, "Environmental Impacts and Mitigation Measures," the project transportation noise would not exceed noise standards in General Plan Table HS-3.
Policy 6.5.1.11: The standards outlined Table HS-5, Table HS-6, and Table HS-7 shall not apply to those activities associated with actual construction of a project as long as such construction occurs between the hours of 7 a.m. and 7 p.m., Monday through Friday, and 8 a.m. and 5 p.m. on weekends, and on federally-recognized holidays. Further, the standards outlined in Tables HS-5, HS-6, and HS-7 shall not apply to public projects to alleviate traffic congestion and safety hazards.	***Consistent.*** The project would be required to comply with Mitigation Measure 3.11-1a and 3.11-1b that would address construction noise, including nighttime construction noise.
Policy 6.5.1.12: When determining the significance of impacts and appropriate mitigation for new development projects, the following criteria shall be taken into consideration. A. Where existing or projected future traffic noise levels are less than 60 dBA L_{dn} at the outdoor activity areas of residential uses, an increase of more than 5 dBA L_{dn} caused by a new transportation noise source will be considered significant; B. Where existing or projected future traffic noise levels range between 60 and 65 dBA L_{dn} at the outdoor activity areas of residential uses, an increase of more than 3 dBA L_{dn} caused by a new transportation noise source will be considered significant; and C. Where existing or projected future traffic noise levels are greater than 65 dBA L_{dn} at the outdoor activity areas of residential uses, an increase of more than 1.5 dBA L_{dn} caused by a new transportation noise will be considered significant	***Consistent.*** As discussed in Section, "Noise and Vibration," Section 3.11.3, "Environmental Impacts and Mitigation Measures," the project transportation noise would not exceed noise standards in General Plan.
Policy 6.5.1.13: When determining the significance of impacts and appropriate mitigation to reduce those impacts for new development projects, including ministerial development, the following criteria shall be taken into consideration: A. In areas in which ambient noise levels are in accordance with the standards in Table HS-3, increases in ambient noise levels caused by new non transportation noise sources that exceed 5 dBA shall be considered significant; and B. In areas in which ambient noise levels are not in accordance with the standards in Table HS-3, increases in ambient noise levels caused by new non transportation noise sources that exceed 3 dBA shall be considered significant.	***Consistent.*** As discussed in Section 3.11, "Noise and Vibration," Section 3.11.3, "Environmental Impacts and Mitigation Measures," long-term stationary impacts are assessed in conjunction with the County's noise performance standards and General Plan Policy 6.5.1.13.
Objective 6.6.1: Regulation of Hazardous Materials. Regulate the use, storage, manufacture, transport, and disposal of hazardous materials in accordance with State and Federal regulations.	***Consistent.*** As discussed in Section 3.8, "Hazards and Hazardous Materials," Section 3.8.3, "Environmental Impacts and Mitigation Measures," Mitigation Measure 3.8-1 would address the proper removal of potential onsite hazardous materials.

Plan/ Policy/Regulation	Project Consistency
Policy 6.6.1.1: The Hazardous Waste Management Plan shall serve as the implementation program for management of hazardous waste in order to protect the health, safety, property of residents and visitors, and to minimize environmental degradation while maintaining economic viability.	***Consistent.*** See response to Objective 6.6.1.
Policy 6.6.1.2: Prior to the approval of any subdivision of land or issuing of a permit involving ground disturbance, a site investigation, performed by a Registered Environmental Assessor or other person experienced in identifying potential hazardous wastes, shall be submitted to the County for any subdivision or parcel that is located on a known or suspected contaminated site included in a list on file with the Environmental Management Department as provided by the State of California and federal agencies. If contamination is found to exist by the site investigations, it shall be corrected and remediated in compliance with applicable laws, regulations, and standards prior to the issuance of a new land use entitlement or building permit.	***Consistent.*** The project has completed a Phase I Environmental Site Assessment and is provided in Appendix G.
Objective 6.10.1: Encourage Water Efficiency. Promote cost-effective water conservation and water efficiency measures.	***Consistent.*** Upon annexation to EID, the project would be subject to EID's water conservation and efficiency requirements..
Policy 6.10.1.3: Require new development to demonstrate that adequate water is available before project approval and to fund its fair-share costs associated with the provision of water service.	***Consistent.*** See response to Policy 5.2.12.
Objective 6.11.1: Evacuation Route Identification. Identify and analyze emergency evacuation routes and areas without at least two evacuation routes.	***Consistent.*** As identified in Chapter 2, "Project Description," the project proposes multiple access points to both Silva Valley Parkway and Clarksville Crossing Road. Appendix K (El Dorado Hills Costco Warehouse Evacuation Analysis) concludes that the Costco project and future development within the North Site Remainder Area impact to overall roadway capacity and evacuation travel times would be minimal under both wildfire scenarios and are not expected to impair implementation of or physically interfere with evacuation efforts and associated implementation of the El Dorado County Emergency Operations Plan or the county hazard mitigation plans.
Objective 6.11.2: Evacuation Route Maintenance. Ensure viability of future use of evacuation routes.	***Consistent.*** See response to Objective 6.11.1.
Policy 6.11.2.1: Development shall be served by a street system with at least two evacuation routes capable of carrying peak load traffic and have sufficient capacity to meet project needs, or they must provide the necessary capacity to ensure the development has adequate fire protection and safe ingress and egress routes in conformance with the California Fire Safe Regulations (Section 1273 and 1274) of the California Code of Regulations – Title 14, Division 1.5, Chapter 7, Articles 2 and 3).	***Consistent.*** See response to Objective 6.11.1. The Costco project design includes a 15-ft wide fire access easement and associated pathway along the rear of the building to be built to bear a minimum of 75,000 pounds and meet County Department of Transportation standards for roadways and the provision of 3,000 gallons per minute fire flow accompanied with sprinklers sufficient to meet California Fire Code Section 507.3 and Appendix B fire flow requirements as identified in Section 3.13, "Public Services and Recreation."
Policy 6.11.2.2: Construction of new roads, streets, and evacuation routes must be adequate in terms of width, turning radius, and grade to facilitate access by firefighting apparatus. Priorities for road improvements will be based on evacuation accessibility	***Consistent. Consistent.*** See response to Policy 6.11.2.1.

Plan/ Policy/Regulation	Project Consistency
Policy 6.11.2.4: Continue to coordinate with the County Sheriff's Department, CAL FIRE, local FPDs, and other fire agencies to identify, assess, and maintain evacuation routes to support the adequate capacity, safety, and viability of those routes under a range of emergency scenarios. Identify designated evacuation routes that are not compliant with Fire Safe Regulations (14 CCR Section 1270.00) for roadway standards and develop a plan to bring those roads into conformance to promote adequate and safe accessibility in communities	***Consistent.*** See response to Policy 6.11.2.1.
Objective 7.1.2: Erosion/Sedimentation - Minimize soil erosion and sedimentation.	***Consistent***: As discussed in Section 3.9, "Hydrology and Water Quality," Section 3.9, "Environmental Impacts and Mitigation Measures," the project would be required to comply with State and County standards during construction, including the development and implementation of a storm water pollution prevention plan (SWPPP).
Policy 7.1.2.2: Discretionary and ministerial projects that require earthwork and grading, including cut and fill for roads, shall be required to minimize erosion and sedimentation, conform to natural contours, maintain natural drainage patterns, minimize impervious surfaces, and maximize the retention of natural vegetation. Specific standards for minimizing erosion and sedimentation shall be incorporated into the Zoning Ordinance.	***Consistent.*** The project would be required to comply with the County's SWMP and project SWPPP (discussed under Objective 7.1.2) that would address minimizing erosion and sedimentation to be consistent with the General Plan and County standards.
Objective 7.3.2: Water Quality - Maintenance of and, where possible, improvement of the quality of underground and surface water.	***Consistent.*** The project would be required to comply with the County's SWMP and project SWPPP (discussed under Objective 7.1.2) that would address minimizing erosion and sedimentation to be consistent with the General Plan and County Ordinances for project construction and operation.
Policy 7.3.2.2: Projects requiring a grading permit shall have an erosion control program approved, where necessary.	***Consistent.*** The project would be required to comply with the County's SWMP and project SWPPP (discussed under Objective 7.1.2) that would address minimizing erosion and sedimentation to be consistent with the General Plan and County standards.
Objective 7.3.3: Wetlands - Protection of natural and man-made wetlands, vernal pools, wet meadows, and riparian areas from impacts related to development for their importance to wildlife habitat, water purification, scenic values, and unique and sensitive plant life.	***Consistent.*** With the exception of proposed restoration of the existing on-site ponds, the project design retains the on-site drainage features within proposed open space lots. As discussed in Section 3.3, "Biological Resources," Section 3.3.3, "Environmental Impacts and Mitigation Measures," implementation of Mitigation Measures 3.3-3a, 3.3-3b, and 3.4-4 would reduce significant impacts on sensitive natural communities, riparian habitat, and wetlands to a less-than-significant level by requiring compensation for permanent loss of these habitats such that there is no net loss, potentially including a streambed alteration agreement with CDFW.
Policy 7.3.3.1: For projects that would result in the discharge of material to or that may affect the function and value of river, stream, lake, pond, or wetland features, the application shall include a delineation of all such features. For wetlands, the delineation shall be conducted using the US Army Corps of Engineers (USACE) Wetland Delineation Manual.	***Consistent.*** The project would be required to comply with the Mitigation Measures 3.3-4 (discussed above under Objective 7.3.3) that would address impacts on protected wetlands to be consistent with the General Plan and County standards.
Policy 7.3.3.5: Rivers, streams, lakes and ponds, and wetlands shall be integrated into new development in such a way that they enhance the aesthetic and natural character of the site while disturbance to the resource is avoided or minimized and fragmentation is limited.	***Consistent.*** Costco project impacts would be limited proposed development areas and would be mitigation with implementation of Mitigation Measure 3.3-4.

Plan/ Policy/Regulation	Project Consistency
Objective 7.3.4: Drainage - Protection and utilization of natural drainage patterns	***Consistent.*** While the project would modify onsite drainage features, it would retain the overall drainage pattern and includes water quality and detention facilities to avoid adverse impacts to downstream drainage conditions of natural waterways. Implementation of Mitigation Measures 3.3-3a, 3.3-3b, and 3.4-4 would reduce significant impacts to onsite sensitive natural communities, riparian habitat, and wetlands.
Policy 7.3.4.1: Natural watercourses shall be integrated into new development in such a way that they enhance the aesthetic and natural character of the site without disturbance	***Consistent.*** See response to Objective 7.3.4.
Policy 7.3.4.2: Modification of natural stream beds and flow shall be regulated to ensure that adequate mitigation measures are utilized.	***Consistent.*** See response to Objective 7.3.4.
Objective 7.4.1: Pine Hill Rare Plant Species - The County shall protect Pine Hill rare plant species and their habitats consistent with Federal and State laws.	***Consistent.*** As discussed in Section 3.3, "Biological Resources," Section 3.3.3, "Environmental Impacts and Mitigation Measures," implementation of Mitigation Measure 3.3-1 would reduce the significant impact on special-status plants to a less-than-significant level by requiring protocol-level surveys for special-status plants and implementation of avoidance measures and compensation for impacts on special-status plants if they are present.
Policy 7.4.1.1: The County shall continue to provide for the permanent protection of the eight sensitive plant species known as the Pine Hill endemics and their habitat through the establishment and management of ecological preserves consistent with County Code Chapter 130.71 and the USFWS Gabbro Soil Plants for the Central Sierra Nevada Foothills Recovery Plan (USFWS 2002).	***Consistent.*** The project is located outside of the ecological preserves.
Objective 7.4.2: Identify and Protect Resources - Identification and protection, where feasible, of critical fish and wildlife habitat including deer winter, summer, and fawning ranges; deer migration routes; stream and river riparian habitat; lake shore habitat; fish spawning areas; wetlands; wildlife corridors; and diverse wildlife habitat.	***Consistent.*** Section 3.3, "Biological Resources, Section 3.3.3, "Environmental Impacts and Mitigation Measures," identifies residential development surrounding the project site makes it unlikely that the project site functions as a critical habitat linkage for wildlife.
Policy 7.4.2.8: Conserve contiguous blocks of important habitat to offset the effects of increased habitat loss and fragmentation elsewhere in the County through a Biological Resource Mitigation Program (Program). The Program will result in the conservation of: 1. Habitats that support special status species; 2. Aquatic environments including streams, rivers, and lakes; 3. Wetland and riparian habitat; 4. Important habitat for migratory deer herds; and 5. Large expanses of native vegetation. (see full text in Section 3.4.1, "Regulatory Setting.")	***Consistent.*** While the project site contains natural habitat and may provide some wildlife nursery habitat and function as a movement corridor for some wildlife species, it is surrounded by residential development to the north and west and US 50 (including onramps and offramps) to the south. Silva Valley Parkway, which bisects the north and south portions of the project site, is a busy four-lane road. Implementation of Mitigation Measure 3.3-2a through 3.3-2i would reduce the potential impact on all endangered or threatened species that may occur in the project area. Implementation of Mitigation Measures 3.3-3a, 3.3-3b, and 3.4-4 would reduce significant impacts to onsite sensitive natural communities, riparian habitat, and wetlands.
Policy 7.4.4.4: For all new development projects or actions that result in impacts to oak woodlands and/or individual native oak trees, including Heritage Trees, the County shall require mitigation as outlined in the El Dorado County Oak Resources Management Plan (ORMP). The ORMP functions as the oak resources component of the County's biological resources mitigation program, identified in Policy 7.4.2.8.	***Consistent.*** The project would be required to comply with the County's ORMP for proposed oak tree removal.

Plan/ Policy/Regulation	Project Consistency
Policy 7.5.1.3: Cultural resource studies (historic, prehistoric, and paleontological resources) shall be conducted prior to approval of discretionary projects. Studies may include, but are not limited to, record searches through the North Central Information Center at California State University, Sacramento, the Museum of Paleontology, University of California, Berkeley, field surveys, subsurface testing, and/or salvage excavations. The avoidance and protection of sites shall be encouraged.	***Consistent.*** Section 3.4, "Cultural Resources," identifies that the project was evaluated in the *Costco El Dorado Hills Project Cultural Resources Assessment*. Paleontological resources are addressed in mitigated in Section Geology, Soils, and Paleontological Resources, Section 3.6.3, "Environmental Impacts and Mitigation Measures. " The project would implement Mitigation Measures 3.4-1a, 3.4-1b, and 3.6-4 that would address resource protection consistent with the General Plan.
Policy 7.5.1.6: The County shall treat any significant cultural resources (i.e., those determined California Register of Historical Resources/National Register of Historic Places eligible and unique paleontological resources), documented as a result of a conformity review for ministerial development, in accordance with CEQA standards.	***Consistent.*** See response to Policy 7.5.1.3.
Objective 7.5.2: Visual Integrity - Maintenance of the visual integrity of historic resources.	***Consistent.*** See response to Policy 7.5.1.3. No historic resources were identified on the project site.
Policy 7.5.2.4: The County shall prohibit the modification of all National Register of Historic Places (NRHP)/California Register of Historical Resources (CRHR) listed properties that would alter their integrity, historic setting, and appearance to a degree that would preclude their continued listing on these registers. If avoidance of such modifications on privately owned listed properties is deemed infeasible, mitigation measures commensurate with NRHP/CRHR standards shall be formulated in cooperation with the property owner.	***Consistent.*** See response to Policy 7.5.1.3.
Policy TC-3c: The County shall encourage new development within Community Regions and Rural Centers to provide appropriate on-site facilities that encourage employees to use alternative transportation modes. The type of facilities may include bicycle parking, shower and locker facilities, and convenient access to transit, depending on the development size and location	***Consistent.***
Policy TC-4b: The County shall construct and maintain bikeways in a manner that minimizes conflicts between bicyclists and motorists.	***Consistent.*** As discussed in Section 3.14, "Transportation," Section 3.14.3, "Environmental Impacts and Mitigation Measures," the project would minimize the opportunity for conflicts between vehicles and alternative modes of transportation through design. All intersections and driveways along existing and proposed roadways would be required to provide adequate sight distance in accordance with Section 3(B) of the County DISM (El Dorado County 1990: 23).
Policy TC-5a: Sidewalks and curbs shall be required throughout residential subdivisions, including land divisions created through the parcel map process, where any residential lot or parcel size is 10,000 square feet or less.	***Consistent.*** As discussed in Section 3.14, "Transportation," Section 3.14.3, "Environmental Impacts and Mitigation Measures," the project would include sidewalks along project streets.
Policy TC-5c: Roads adjacent to schools or parks shall have curbs and sidewalks.	***Consistent.*** See response to Policy TC-9a.
El Dorado County Ordinances	
Chapter 130.34.020: Outdoor lighting Ordinance.	***Consistent.*** As discussed in Section 3.1, "Aesthetics," Section 3.1.3, "Environmental Impacts and Mitigation Measures," features to reduce excess nighttime light and glare, such as the use of directional shielding and automatic shutoff or motion sensors, would be incorporated into the project design.

Plan/ Policy/Regulation	Project Consistency
Chapter 110.14: Grading, Erosion, and Sediment Control Ordinance	***Consistent.*** As discussed in Section 3.6, "Geology, Soils, and Paleontological Resources, Section 3.6.3, "Environmental Impacts and Mitigation Measures," the project would be required to comply with the County Code of Ordinances Chapter 110.14, Grading, Erosion, and Sediment Control Ordinance, which requires grading and drainage plans to be developed for major development projects, as well as compliance with Chapter 4 of the County Land Development Manual, which sets forth standards and procedures for grading activities in the county.
Chapter 110.32: On-Site Wastewater Treatment Systems	***Consistent.*** As discussed in Section 3.6, "Geology, Soils, and Paleontological Resources," Section 3.6.3, "Environmental Impacts and Mitigation Measures," the project would be required to comply with Chapter 110.32 in the County Code of Ordinances and OWTS Manual, which would ensure that construction and operation of the project would not have a significant adverse wastewater disposal or sewer system impact on existing conditions. The project has addressed compliance in part with the preparation of the Septic Feasibility Study.
Chapter 120.12: Conditions and Requirements	***Consistent.*** As discussed in Section 3.13, "Public Services and Recreation," Section 3.13.3, "Environmental Impacts and Mitigation Measures," Section 120.12.090 establishes park dedication requirements for new development projects. When a subdivision proposes or creates lots, the Board of Supervisors may require the dedication of land and/or a payment of fees in lieu of park and recreation development as a condition of approval of the tentative subdivision map if the dedicated park land would conform with the goals, objectives, and standards contained in the recreation element of the general plan and any applicable specific plans and the dedicated land would serve park and recreation facilities for the proposed project, in the case of this project the ratio would be required to be 5.0 acres of parks and recreation land per 1,000 residents, as stated in General Plan Policy 9.1.1.1. The project would build a 4.0 acre community park and make up for the additional 0.385 required acres through in-lieu fees.
Chapter 12.08.080: Roach Encroachments	***Consistent.*** The project will obtain encroachment permits from El Dorado County before any work begins within El Dorado County right-of-way.
Chapter 130.37.50: Acoustic Analysis Required	***Consistent.*** An acoustic analysis was prepared for the project as identified in Section 3.11, "Noise and Vibration."
El Dorado LAFCO Policies	
Policy 3.2.16: When evaluating environmental impacts discovered during the Initial Study process, LAFCO will identify such impacts as potentially significant and adverse if: ▶ Build-out of the proposed project may cause service levels to decline below established standards, costs of service provision to rise substantially to the detriment of service levels, or cause those currently receiving service to receive reduced or inadequate services especially when such change may cause adverse health and safety or other physical impacts; ▶ Build-out of the proposed project may cause the infrastructure capacity of a service provider to exceed planned and safe limits especially when such change may cause adverse health and safety or other physical impacts; ▶ The proposed project includes or plans for infrastructure capacity, especially water and sewer lines, that exceed the needs of the proposed project and may be used to serve	***Consistent.*** The project would maintain El Dorado County General Plan level of service standards for public services and utilities. The project includes plans for annexation to the EID service area as well as water supply, sewer, and electrical improvements that would support the project and allow for surrounding existing developments to maintain their current level of service for water, sewer, and electrical services, see Section 3.16, "Utilities and Service Systems," 3.16.3, "Utilities and Service Systems." Public services, such as fire protection services and park and recreation facilities would also be able to serve the project as detailed in Section 3.13, "Public Services and Recreation," Section 3.13.3, "Environmental Impacts and Mitigation Measures." The project is within the EDHCSD Sphere of Influence. The project is not on important agriculture land or open space land that is open to the public. The project plan includes nine open space lots that would preserve 57.58 acres of oak trees, woodland areas, and wetland features. The project is surrounded by residential projects on its western and southern boundaries, and its larger lot properties in the project design are on the exterior of the project site to soften the transition to the more rural lands to the north and east of the project site.

Plan/ Policy/Regulation	Project Consistency
areas not planned for development, especially those containing prime agricultural land, mineral, sensitive plant and wildlife or other important resources (*note – this circumstance does not occur with this project*); ▶ The proposed plan could cause health and safety or other physical impacts because a service provider is incapable of providing service, the proposal has an illogical boundary, or elements needed to provide service (water supply, treatment facilities, equipment, energy) are not available, or stressed beyond capacity. ▶ The proposed project is substantially inconsistent with applicable Sphere of Influence Plans, long range and area service plans, phased land use plans of any city or county, or resource conservation plans of the state or federal government. ▶ In the case of Sphere of Influence and area of service plans, the Environmental Coordinator reviews the appropriate plans and determines whether the level of significance warrants additional review. In the case of public agency land use or resource plans, the affected agency shall provide specific information regarding the nature and substance of the project's potential impacts upon its plans or programs. ▶ The proposed project may induce substantial growth on important agricultural and open space lands because it would: ▪ Permit the extension of, or require, infrastructure such as flood control levees or water diversions, electrical, water or sewer lines, especially trunk lines, roadways or other public facilities that would permit new development in a substantial area currently constrained from development; ▪ Be adversely and substantially inconsistent with the agricultural, open space, resource conservation or preservation, growth management, trip reduction, air quality improvement or other plans, policies or Ordinances of the General, Community, Specific or other Plan of the land use jurisdiction responsible for the project site or vicinity. ▪ Cause significant adverse cumulative impacts when considered in conjunction with other recent, present and reasonably foreseeable projects; ▪ Result in substantial noncontiguous development which, in turn, results in adverse physical impacts; ▪ Have no need for service and the proposed project adversely affects important public resources or the public health and safety; ▪ Adversely impact animal or plant species either listed as, or determined to be, endangered, rare, or threatened as provided in §15380; or ▪ Be identified as potentially significant when completing the Initial Study checklist adopted as Exhibit A of LAFCO's CEQA procedures.	There is the potential for the project to impact special status species, however with the mitigation measures listed in Section 3.4, "Biological Resources," these impacts would be less than significant.

Plan/ Policy/Regulation	Project Consistency
Policy 3.3.2.2: If service cannot be provided without expanding service capacity or constructing infrastructure (other than at parcel connections to service), then the following information shall be provided: ▶ A description of any required facility or infrastructure expansions or other necessary capital improvements; ▶ The likely schedule for completion of the expanded capacity project, the viability of the needed project, and the relation of the subject project to the overall project and project time line; ▶ A list of required administrative and legislated processes, such as CEQA review or State Water Resources Board allocation permits, including assessment of likelihood of approval of any permits and existence of pending or threatened legal or administrative challenges if known; ▶ The planned total additional capacity; ▶ The size and location of needed capital improvements; ▶ The proposed project cost, financing plan and financing mechanisms including a description of the persons or properties who will be expected to bear project costs; and ▶ Any proposed alternative projects if the preferred project cannot be completed (include information in letters "a" through "f" for each proposed alternative).	***Consistent.*** The project has provided specific descriptions of required utility, facility, and infrastructure plans that would be needed to provide services to the project area as identified in Section 3.13, Public Services and Recreation," and Section 3.16, "Utilities and Service Systems." Off-site water and wastewater improvements would be sized to accommodate the project.
Policy 3.4.1: Consistency with General and Specific Plans. For the purposes of this policy, a project is consistent if the type and level of services to be provided are consistent with and appropriate to the applicable General or Specific Plan land use designations and document text, and the applicable General or Specific Plan is legally adequate and internally consistent. The Commission will not approve projects that are inconsistent with the applicable General or Specific Plan unless the following circumstances are shown to exist: ▶ The site is fully developed and located in an existing developed area where district or city facilities are present and found by LAFCO to be sufficient for service and where the Commission determines that the change of organization or reorganization will not induce growth in the area. ▶ The site is fully developed and located in an existing developed area where LAFCO finds that the public interests of health, safety, and welfare would best be served, or that clear and present health or safety hazards could be mitigated, by the proposal. ▶ The site is located in an undeveloped area where disapproval would cause a loss of service to existing service users.	***Consistent.*** While the project is proposing to amend its current General Plan land use designations to allow for more dense residential development, the project is located within the El Dorado Hills Community Region that is designated for urban and suburban development and associated public service and utility provision. Impacts on fire protection services and parks and recreation facilities was discussed in Section 3.13, "Public Services and Recreation," and would be consistent with LAFCO capacity policies through facility improvements and development fees. Impacts of the project on the wastewater system is evaluated in Section 3.16, "Utilities and Service Systems," and the project includes plans for capital improvement projects to the EID wastewater system off-site from the project area to service the project and not exceed the capacity of the existing public wastewater service. Additionally, Section 3.10, "Land Use and Planning, and Agriculture and Forestry Resources" details consistency with the El Dorado County General Plan and El Dorado County Code of Ordinances.

Plan/ Policy/Regulation	Project Consistency
Policy 3.9.3: Lands to be annexed which are within an adopted Sphere of Influence shall be physically contiguous to the boundaries of the annexing agency except under one of the following circumstances (§56119): ▶ Existing developed areas where LAFCO determines that interests of public health, safety, and welfare would best be served by the extension of the service, or which represent clear or present health or safety hazards that could be mitigated by the proposal and city or district facilities are present and sufficient for service. ▶ Existing developed areas where city or district facilities are present and sufficient for service, and where the Commission determines that the annexation will not induce growth.	***Consistent.*** As described in Section 3.13, "Public Service and Recreation," and Section 3.16, "Utility and Service Systems," the project area is within sphere of influences for the El Dorado Hills Fire Department, El Dorado Hills Community Services District, and EID.
Policy 3.9.7: The resulting boundary configuration shall not produce areas that are difficult to serve (§56668, §56001).	***Consistent.*** As described in Section 3.13, "Public Services and Recreation," and Section 3.14, "Transportation," EA roads and access points from Green Valley Road would allow for adequate service to the project site. Additionally, the project site is in a contiguous boundary from agencies that would require annexation, and would not create an area that is difficult to serve.
Policy 6.1.7: Prior to annexation to a city or special district, the petitioners shall demonstrate that the need for governmental services exists, the annexing agency is capable of providing service, that a plan for service exists, and that the annexation is the best alternative to provide service (§56700, §56668)	***Consistent.*** The project would be required to comply with level of service standards and agency requirements to gain annexation (discussed above), which would be consistent with the LAFCO policies. Project-proposed residential development densities would require public services and utility service.

Appendix M

Urban Decay Analysis

El Dorado Hills
Costco Wholesale Warehouse and Fuel Facility
Urban Decay Analysis

Prepared by:

ALH Urban & Regional Economics

December 2025

TABLE OF CONTENTS

I. EXECUTIVE SUMMARY 1

INTRODUCTION 1
SUMMARY OF FINDINGS 1
URBAN DECAY DETERMINATION 4

II. INTRODUCTION 7

STUDY BACKGROUND 7
STUDY TASKS 7
REPORT ORGANIZATION 8

III. PROJECTED COSTCO SALES 9

COSTCO PROJECT DESCRIPTION AND SALES COMPOSITION 9
COSTCO WAREHOUSE SALES 12

IV. MARKET AREA DEFINITION 15

PROJECT MARKET AREA DEFINITION 15
ESTIMATE OF SALES GENERATED FROM WITHIN THE MARKET AREA 17
MARKET AREA DEMOGRAPHICS 18
KEY MARKET AREA SHOPPING NODES AND RETAIL SALES 19

V. RETAIL SALES BASE CHARACTERIZATION 20

METHODOLOGY 20
RETAIL SALES BASES 21
RETAIL LEAKAGE AND ATTRACTION FINDINGS 22

VI. PROJECT SALES IMPACTS 25

APPROACH 25
RECAPTURED LEAKAGE POTENTIAL 25
ESTIMATED MARKET AREA SALES IMPACTS 26
FOOD SALES IMPACTS 27
GASOLINE STATION IMPACTS 32

VII. CUMULATIVE PROJECTS 36

IDENTIFIED RETAIL DEVELOPMENT PROJECTS 36
CUMULATIVE PROJECT IMPACTS 37

VIII. URBAN DECAY DETERMINATION 38

STUDY DEFINITION OF URBAN DECAY 38
APPROACH TO DETERMINING URBAN DECAY POTENTIAL 38
THE CURRENT ENVIRONMENT 38
IMPACT ON COSTCO'S FOLSOM WAREHOUSE AND FUEL FACILITY 42
REGULATORY CONTROLS 43
POTENTIAL FOR URBAN DECAY RESULTING FROM THE PROJECT 46

ASSUMPTIONS AND GENERAL LIMITING CONDITIONS 48

APPENDIX A: EXHIBITS (Exhibits 1 – 20)
APPENDIX B: SUPPORT EXHIBITS (Exhibits B-1 – B-3)

APPENDIX A
LIST OF EXHIBITS AND FIGURES

Exhibit 1. El Dorado Hills Costco Warehouse and Fuel Station; Costco Sales by State of California Department of Tax and Fee Administration Retail Classifications

Exhibit 2. El Dorado Hills Costco Warehouse and Fuel Facility; Distribution of Sales and Consumer Sales Estimates; in 2025 Dollars

Exhibit 3. El Dorado County Population; For Cities and Unincorporated Areas; 2020

Exhibit 4. Amador County Population; For Cities and Unincorporated Areas; 2020

Exhibit 5. El Dorado Hills Costco Warehouse and Fuel Station; Distribution of Net New Costco Sales Generated by Market Area Residents and Businesses; in 2025 Dollars

Exhibit 6. Total Retail Sales Estimates; El Dorado County, South Lake Tahoe, El Dorado County Excluding South Lake Tahoe; in 2024 Dollars

Exhibit 7. Total Retail Sales Estimates; Amador County; in 2024 Dollars

Exhibit 8. El Dorado County Less South Lake Tahoe; Household Retail Demand, Sales Attraction, and Spending Analysis; in 2024 Dollars

Exhibit 9. Amador County; Household Retail Demand, Sales Attraction, and Spending Analysis; in 2024 Dollars

Exhibit 10. El Dorado Hills Costco Warehouse and Fuel Facility Market Area; Household Retail Demand; 2025

Exhibit 11. El Dorado Hills Costco Warehouse and Fuel Facility Market Area; Market Area Retail Sales Attraction/(Leakage); in 2024 Dollars

Exhibit 12. El Dorado Hills Costco Consumer Sales Market Area Sales Imipact; 2024 Dollars

Exhibit 13. Representative Grocery Stores, Other Food Stores, and General Merchandise Stores; El Dorado Hills Costco Market Area; Spring and Early Summer 2025

Exhibit 14. Representative Grocery Stores, Other Food Stores, and General Merchandise Stores; El Dorado Hills Costco Market Area; Prospective Store Impacts

Exhibit 15. Representative Market Area Gas Stations; El Dorado Hills, Cameron Park, Shingle Springs; Select Gas Station Characteristics; March 27, 2025

Exhibit 16. Representative Market Area Gas Stations; Placerville and Diamond Springs; Select Gas Station Characteristics; April 15, 2025

APPENDIX A
LIST OF EXHIBITS AND FIGURES (CONTINUED)

Exhibit 17. Representative Market Area Gas Stations; Amador County Portion of Market Area; Select Gas Station Characteristics; July 3, 2025

Exhibit 18. Identified Planned and Proposed Retail Projects; Project Details and Timing Estimates; El Dorado Hills Costco Competitive market Area; June 2025

Exhibit 19. Representative Retail Vacancies; El Dorado Hills Costco Market Area; El Dorado County Portion of the Market Area; March and April 2025

Exhibit 20. Representative Retail Vacancies; El Dorado Hills Costco Market Area; Amador County Portion of the Market Area; July 2025

FIGURES
(Inserted after the page referenced)

Figure 1: El Dorado Hills Costco Project Market Area

Figure 2: El Dorado Hills Costco Project Market Area – Grocery Stores

Figure 3: El Dorado Hills Costco Project Market Area – El Dorado County Gas Stations

Figure 4: El Dorado Hills Costco Project Market Area – Amador County Gas Stations

APPENDIX B
LIST OF SUPPORT EXHIBITS

Exhibit B-1. El Dorado Hills Costco Market Area Census Tracts; El Dorado County and Amador County

Exhibit B-2. State of California Department of Tax and Fee Administration Taxable Retail Sales Estimate by Retail Category; 2024

Exhibit B-3. Household Income Spent on Retail; United States; 2022

I. EXECUTIVE SUMMARY

INTRODUCTION

The purpose of this study is to assess the economic impacts of a proposed Costco warehouse store and fuel facility in El Dorado Hills, a census designated place in Unincorporated El Dorado County, California (the "Project"). The Project is planned to include a 165,000-square-foot Costco warehouse plus a 16-pump fuel facility with 32 handles. An Environmental Impact Report (EIR) is being prepared for the Project. ALH Urban & Regional Economics ("ALH Economics") is preparing the EIR's urban decay analysis. As such, this study estimates the potential impacts of the Project on existing retailers in the market area pursuant to diverted sales from existing retailers. The study estimates the extent to which the opening of the Costco warehouse and fueling facility and other cumulative retail projects may or may not contribute to urban decay in the market area resulting from potential store closures attributable to existing retailer sales diversions.

SUMMARY OF FINDINGS

Project Sales and Market Area

ALH Economics estimates that stabilized Project sales will total $297 million in pre-tax sales. Of the annual sales amount, 84% is generally estimated to be generated by retail consumers versus 16% generated by wholesale consumers, i.e., businesses that purchase items wholesale from Costco, and then resell the items as part of their business operations. Of the retail consumer amount, 85% is estimated to be generated from within the Project's market area. Development of the El Dorado Hills warehouse and fuel facility is intended by Costco to take pressure off its existing Folsom facilities located east of the Project site and enhance member shopping experiences. Therefore, many of the sales anticipated to be achieved in El Dorado Hills are assumed to be shifted from the Folsom warehouse and fuel facility. Consequently, $111.5 million in consumer retail sales are estimated to be competitive with other retailers in the market area.

Given the broad range of products sold by Costco, these consumer retail sales will occur in numerous retail categories, including motor vehicles & parts, home furnishings & appliances, building materials & garden equipment, food & beverages, gasoline, clothing & accessories, general merchandise, food services & drinking places, and other retail. The other retail category is broad and encompasses a wide range of retailers such as office supply, pet supply, sporting goods, book stores, and jewelry.

The Project's market area includes about 2/3 of El Dorado County extending eastward from the county's western boundary, but short of South Lake Tahoe, and south/southeast to include a major portion of Amador County (excluding Kirkwood and other nearby areas far to the east and Comanche North Shore and Buena Vista in the southern part of the County). This is the geographic area for which the El Dorado Hills Costco Warehouse and Fuel Facility will be the closest Costco operations.

Market Area Sales Base and Retail Leakage

The market area's retail sales base is estimated to total close to $2.9 billion in 2024. The El Dorado County portion of the market area sales base comprises a significant share at $2.3 billion (i.e., 80%). Analysis indicates that the market area portion of El Dorado County is characterized overall by a modest amount of retail leakage, amounting to 8% of the area's demand. This means that across all retail categories, 8% of estimated household spending leaves the county and is spent elsewhere. Thus, almost $237 million in local demand leaves the area. In contrast, Amador County, with a much smaller sales base, is characterized overall by retail attraction, much of which is likely attributable to tourist sales. Overall, when pairing market area retail sales with estimated retail demand generated by market area households, the market area has an aggregate level of 11% retail sales attraction, totaling $325 million. By dollar volume, attraction is greatest in the other retail group category, food & beverage stores category, and gasoline stations. These categories correspond to the categories comprising the greatest amount of the El Dorado Hills Costco sales. Thus, the majority of Costco sales will be in strong market area retail sales categories, with the potential for Costco sales to strengthen these attraction categories. There are additionally four leakage categories in the market area, including home furnishings & appliance stores, motor vehicles & parts dealers, clothing & clothing accessories stores, and food services & drinking places. Costco sales will have the potential to reduce existing leakage in these categories.

Project Sales Achieved Through Retail Sales Recapture

The enhanced shopping opportunities provided by Costco will serve to help recapture existing retail leakage in select retail categories. Given the volume of Costco sales in the four leakage categories, and the amount of estimated leakage, all of the Costco sales in these leakage categories are assumed to comprise recaptured leakage, with no resulting impact on existing market area retailers. Even with this capture a large amount of leakage in the market area's four leakage categories will remain, totaling $367 million.

Sales Impacts

Net of the share of Project sales anticipated to be generated by consumers outside the market area and after consideration of recaptured leakage and some sales fluctuation associated with the normal ebb and flow of economic cycles, the study estimates potential sales impacts will occur among the market area's food stores and gasoline stations. These impacts are estimated as 2.5% to 7.5% of the market area's food & beverage store sales (or $15.9 to $47.9 million) and 2.9% to 7.9% of the market area's gasoline station sales (or $10.3 to $28.2 million). For both retail categories, the minimum sales impacts reflect the idea that there will be some economic cycles and sales fluctuations over time, while the maximum sales impacts reflect the perspective that, in this instance, all of the impacts are related to the new El Dorado Hills Costco.

Food Stores. The market area has at least 28 stores with significant food sales, including conventional grocery stores, discount food stores, general merchandise stores, and niche stores. This does not include relatively smaller convenience-oriented stores as Costco will not compete with a store that satisfies a shopper's need for a quick, convenience item. Costco will also not be directly competitive with any single one of the 28 stores selling food because of the nature of Costco product sales. This includes Costco's merchandising strategy associated with its product mix and depth and checkout procedures. Because Costco carries a relatively small number of products

(4,000 stock keeping units per warehouse across all products, not just food, versus 31,795 for the average grocery store) shoppers making food and food-related purchases at Costco will still need to shop at other stores to purchase the full complement of food supplies needed to equip their household. These Costco retail merchandising factors will likely contribute to the dispersal and lessening of potential food store sales impacts resulting from the Project. Because of the comparatively limited number of products available for purchase, the bulk nature of the products, and the bagging and purchasing procedures implemented at Costco, the potential for sales to be diverted away from any of the existing retailers selling food products to an extent so severe as to cause store closure is highly unlikely.

There are numerous existing food stores distributed across a large geographic area. Because existing and anticipated Costco members are also distributed across a relatively large geographic area, shopping pattern changes away from existing stores will also be widely distributed. For stores that may experience sales impacts attributable to Costco's food sales, adaptation is a hallmark of the retail sector, meaning stores can modify their merchandising mix and customer service strategies to be more resistant to prospective sales impacts. Retailing is highly dynamic, with the nature of competition continuously changing. Thus, retailers regularly modify their strategies to distinguish themselves in the market and to retain market share. The actual performance of the market area grocery stores and other stores selling food products is not available. However, most stores appear to have robust performance with a dedicated customer base. Therefore, ALH Economics concludes that given the potential to implement adaptive strategies, no single store engaged in food sales is likely to experience sales declines sufficient to result in store closure.

Gasoline Stations. There are at least 47 gas stations in the market area, with 116 fueling stations and 232 handles. A same day price comparison with Costco indicated that about 40% of the El Dorado County gas stations had some gas prices equal to or less than Costco's prices. This comparison included only gas stations located 5 or more miles from the Costco Project site.

The market area's existing gas stations have many features that set them apart from Costco, providing a competitive advantage. These include gas availability 24/7 (i.e., open 50% more hours than Costco's Folsom fuel facility, and 40% more than at the planned Costco El Dorado Hills fuel facility),[1] a wider range of gas product availability, the presence of convenience stores to satisfy travel-related shopping needs, restroom availability, and select amenities, such as car wash stations, repair services, and smog checks. Another notable difference between Costco gasoline sales and the market area gas stations is the fact that only Costco members can purchase gas at Costco gas stations. Because of this, the existing gas stations all have access to a broader customer base while also providing more amenities and services.

The estimated gasoline sales impacts will be dispersed throughout the market area. To some extent the impacts could be greatest closest to the Project site, as it would be easier for Costco members to redirect their gasoline purchase trip from stations closer rather than more distant from Costco. However, even gas stations further from Costco are likely to experience sales diversions depending

[1] Per the Project Description on file with El Dorado County Planning and building Department, the Fuel Facility hours will be 5:00 am to 10:00 pm daily. See "EDH 52 North and Costco South Overall Commercial Center CEQA Project Description, March 18, 2022 (revised December 18, 2024)," 12/14/24, page 6.

upon how well consumers can time their purchases coincident with a shopping trip to the Costco warehouse.

The timing of gasoline purchases are often dictated by need, not by choice, and a Costco member who lives or works at the perimeter of the market area will often need to pump gas into their vehicle when in a location distant from the Costco fuel facility. Nevertheless, it is possible that gas stations with higher gas prices in the area near the Costco might encounter a more competitive marketplace, with a disproportionate decline in customer sales. However, Costco gas lines can be long, and time-stressed consumers will choose to purchase gas at other locations rather than go an extra distance to wait in line behind other gasoline customers. In addition, the longer hours at market area gas stations and presence of amenities relative to Costco will comprise comparative market area gas station advantages. Therefore, ALH Economics concludes that the gasoline sales impacts will likely be dispersed to the extent that no single or small set of gas stations will bear the brunt of the sales impacts and risk closure as a result.

Cumulative Project Impacts

ALH Economics identified five potential cumulative development projects in the market area with retail components comprising at least 25,000 square feet of retail space. The five projects have total retail potential of 550,646 to 711,382 square feet, with most also encompassing other land uses, especially residential. One project is requesting a land use change. If this happens, then the cumulative retail space total will drop to 475,330 to 636,066 square feet. The projects are located between 1.7 and 30 miles of the El Dorado Hills Costco site. All but one of the projects is in El Dorado County. One of the cumulative projects is under construction with 132,126 square feet, one project is approved, and three projects are under review.

The El Dorado Hills Costco Project is anticipated to have the greatest impact on the market area's food & beverage and gasoline station retail sectors. Thus, any food store and gasoline station sales generated by cumulative projects would add to these prospective impacts. However, based on the size of cumulative project retail components, and constituent buildings, it is unlikely that any cumulative project will include a food store. Moreover, it is too speculative at present to forecast the retail uses at the three cumulative projects that are under review. In addition, none of the cumulative projects appear at this time to include plans for new gas station development.

This probable lack of food store and gas station development indicates there will likely not be any cumulative project impacts in these retail categories. While El Dorado Hills Costco sales may compete with sales in other retail sectors, those impacts are low enough to likely be absorbed in the normal course of doing business in the market area. The same is likely the case among the cumulative projects, as even with Costco's recapture of existing market area leakage some leakage will still remain. Therefore, the cumulative projects are not anticipated to significantly increase or change the market area impacts associated with the El Dorado Hills Costco Project.

URBAN DECAY DETERMINATION

Definition of Urban Decay

For the purpose of this analysis, urban decay is defined as, among other characteristics, visible symptoms of physical deterioration that invite vandalism, loitering, and graffiti that is caused by a

downward spiral of business closures and long term vacancies. This physical deterioration to properties or structures is so prevalent, substantial, and lasting for a significant period of time that it impairs the proper utilization of the properties and structures, and the health, safety, and welfare of the surrounding community. The manifestations of urban decay include such visible conditions as plywood-boarded doors and windows, parked trucks and long term unauthorized use of the properties and parking lots, extensive gang and other graffiti and offensive words painted on buildings, dumping of refuse on site, overturned dumpsters, broken parking barriers, broken glass littering the site, dead trees and shrubbery together with weeds, lack of building maintenance, homeless encampments, and unsightly and dilapidated fencing.

Urban Decay Conclusion

Based on the above description of urban decay, ALH Economics' analysis examined whether there was sufficient market demand to support the Project without affecting existing retailers so severely as to consequently lead to a downward spiral toward decay. Specifically, the analysis considered whether or not physical deterioration would likely result from the opening of the Project and other cumulative retail developments. ALH Economics' urban decay conclusion is based on consideration of current market conditions, findings regarding diverted sales, the backfilling potential of existing store spaces, and the existence of regulatory controls.

In addition, the urban decay conclusion assumes the existing Folsom Costco warehouse and fuel facility will not close following development and opening of the new El Dorado Hills Costco project. This assumption is based on the expectation that the diversion of sales from Folsom to El Dorado Hills will take pressure off Costco's existing Folsom facilities, providing members at both warehouses with a better shopping experience. Data and information from Costco about comparable experiences in other communities where new Costco facilities were built close to existing facilities supports this expectation.

Overall, field research, market research, and interviews with market participants indicate that current market conditions are relatively strong, except for some older properties with absent and/or lackluster owner interest. The market area's retail inventory is generally in good to excellent condition, with well-located properties garnering market interest and backfilling with new retail tenants. Vacant retail properties in some markets with weak or weakening conditions often transition to alternate uses. Such conversions do not appear to be happening in the market area, demonstrating the presence of a generally healthy retail sector.

The study analysis estimated that market sales impacts are only likely to transpire in the food & beverage stores and gasoline station retail sectors. This is attributable to existing retail sales leakage in other key retail sectors matching Costco merchandising categories. Even with absorption of this leakage yet additional retail sales leakage is anticipated to remain in the market area. Given the large size of the market area and number of competitive food stores and gas stations, the analysis concluded that no single food store or gas station is likely to experience Project-induced sales declines sufficient to trigger store closure. However, even if any existing market area retailers were to close as a consequence of the Project and its sales impacts, retail leakage in other categories could comprise opportunities for new retailers to enter the marketplace focused on satisfying unmet market area retail demand. Moreover, there are existing governmental regulatory controls in the market area's jurisdictions designed to manage or avoid nuisances such as graffiti, broken windows, overgrown vegetation, and dilapidated building exteriors. Enforcement

of these ordinances can help prevent physical deterioration due to any long-term closures of retail spaces. Thus, if any market area retail properties experience prolonged vacancy following the operations of the Project and any cumulative projects, implementation of the existing regulations will likely support abatement of conditions contributing to urban decay and deterioration.

Based upon all these findings in combination, ALH Economics concludes that the Costco Project and the identified cumulative projects will not cause or contribute to urban decay.

II. INTRODUCTION

STUDY BACKGROUND

Costco Wholesale Corporation ("Costco") is seeking to open a Costco Wholesale Member Warehouse retail store (warehouse) and fuel facility in El Dorado Hills, a census designated place in Unincorporated El Dorado County (the "Project"). The warehouse is planned to include 165,000 square feet of building area plus a 16-pump facility with 32 handles, on an approximately 43.26-acre site. The site is located across the north and south sides of Silva Valley Parkway, just north of U.S. Highway 50.

The primary reason Costco is seeking to open a warehouse and fuel facility in El Dorado Hills is to take pressure off Costco's existing Folsom facilities located approximately 5.1 miles east of the Project site. By opening a new nearby warehouse and fuel facility Costco hopes to provide members at both warehouses with a better experience. The Folsom Costco is currently operating over ideal capacity with demand generated by members from Folsom and El Dorado County.[2]

An Environmental Impact Report (EIR) for the Project is being prepared for El Dorado County. To support this effort and comply with the California Environmental Quality Act ("CEQA"), ALH Urban & Regional Economics ("ALH Economics") was asked to prepare findings regarding the potential for the proposed Project to cause urban decay. The decision by the Fifth District Court of Appeal in *Bakersfield Citizens for Local Control v. The City of Bakersfield* indicated that CEQA requires a lead agency to consider and analyze the potential for the introduction of planned retailers to result in adverse physical impacts on the environment by causing a chain reaction of store closures and long-term vacancies, otherwise referred to as a condition of "urban decay."

This study addresses the concerns voiced in the Bakersfield decision by considering the potential impact of the warehouse and fuel facility in conjunction with the introduction of other retail developments in the Project's identified market area. The key indicator from a CEQA perspective is impacts on the existing environment, which in the context of an urban decay analysis includes existing stores and commercial real estate conditions, as measured by the current baseline. The Notice of Preparation (NOP) for the EIR was released in March 2025. This timeframe comprises the baseline reflected by existing conditions discussed in this report.

The field work upon which this study is based was completed in Spring and early Summer 2025. Accordingly, ALH Economics assumes no responsibility for market events pertinent to the market area, more general environs, or the Project site occurring after those dates.

STUDY TASKS

ALH Economics engaged in numerous tasks to complete this assignment. These tasks included the following:

- Identified the Project's market area, i.e., the area from which the majority of Project shoppers are anticipated to originate;

[2] See https://edhapac.org/wp-content/uploads/2019/03/Fact-Sheet-FAQ-Costco-FINAL.pdf.

- Conducted fieldwork to review the Project site and evaluate existing market conditions;
- Estimated the planned Project's sales;
- Estimated market area retail sales;
- Conducted retail sales leakage analyses for the Project's market area and constituent county areas;
- Estimated the Project's impacts on existing relevant retailers;
- Identified planned retail projects in the market area;
- Assessed the cumulative impacts of planned retail projects in the market area and other relevant areas; and
- Assessed the extent to which opening of the Costco wholesale warehouse and the cumulative projects may or may not contribute to urban decay.

The findings pertaining to these tasks are reviewed and summarized in this report, with analytical findings presented in the exhibits in Appendices A and B. Figures referenced in the text are presented on the page following the first reference.

REPORT ORGANIZATION

This report includes eight chapters, as follows:

I. Executive Summary
II. Introduction
III. Projected Costco Sales
IV. Market Area Definition
V. Retail Sales Base Characterization
VI. Project Sales Impacts
VII. Cumulative Projects
VIII. Urban Decay Determination

This report is subject to the appended Assumptions and General Limiting Conditions.

III. PROJECTED COSTCO SALES

A description of the planned Project and ALH Economics' estimates of the total retail sales generated by the Project are presented below, including sales generated by retail category. This estimate is necessary to facilitate analysis of the Project's urban decay impacts.

COSTCO PROJECT DESCRIPTION AND SALES COMPOSITION

The 165,000-square-foot Costco warehouse inclusive of a tire center and fuel facility will be located north of U.S. Highway 50, straddling Silva Parkway. The fuel facility will comprise a 16-pump facility with 32 handles. Close to the site across U.S. Highway 50 there is a significant retail node, with close to 600,000 square feet of retail space in two major shopping centers plus four gas stations. These shopping centers include the 448,256-square-foot El Dorado Hills Town Center, anchored by Target, and the 134,679-square-foot Market Place at Town Center, anchored by Nugget and Ace Hardware.

Costco is a membership warehouse store, where members are required to purchase a membership and renew it annually if they seek to continue shopping at Costco. As such, only members will be able to make purchases at the El Dorado Hills Costco Project. There are different types of memberships, available at different pricing levels. These include the following:

- Gold Star Membership, for $65.00 a year, available for individuals who want to purchase products mainly for personal use;
- Business Membership, for $65.00 a year, available for business owners and managers, which allows the purchase of products for business, personal, and resale use; and
- Executive Membership, for $130.00 a year, includes a 2% reward on purchases up to $1,250 a year as well as additional benefits and greater discounts on select Costco services. This membership level is available to both households and businesses.[3]

In 2024, the national division between household and business membership was 84% and 16%, respectively.[4] All of these memberships include a household card. The household figure is inclusive of the Executive Memberships.

Costco merchandise is not targeted to the average consumer. Many Costco items are only available in bulk. This includes mostly foodstuffs and other items one could purchase at a grocery store, such as two loaves of sliced bread bundled together, a case of kidney bean cans, 15 rolls of paper towels, and a 3 lb. can of ground coffee. It is not possible at Costco to purchase an individual-sized pastry, a quart of milk, a small spice jar, a dozen eggs, or just a pound of butter. Costco food sales are clearly targeted toward large families, restaurants, event organizers, and other consumers with extensive storage capacity. Accordingly, Costco is not the type of store where the average household consumer will stop by once or twice a week to round out the pantry and purchase ingredients for intimate family dinners. Even many non-food items or business-oriented products are also only available in bulk, such as a case of printer paper versus just one ream, a box of 500 business envelopes, or a large package of batteries rather than a two- or four-pack.

[3] Costco.com
[4] Costco Wholesale 2024 Annual Report, Fiscal Year Ended September 1, 2024, page 6.

In addition, Costco typically carries only one brand at a time of certain items, such as canned peaches or tomato sauce. Thus, selection is not the hallmark of Costco. In fact, Costco typically carries less than 4,000 active items per warehouse, or SKUS (stock-keeping units) for sale.[5] This compares to 120,000 for the typical Walmart supercenter[6] and 31,704 on average at a traditional supermarket.[7] To counterbalance the limited variety of merchandise, Costco strives to keep a unique mix of new, limited volume merchandise flowing through the stores, so shoppers can expect to encounter some new merchandise with every visit.

Costco is further distinguished from the average retailer pursuant to its payment options and how it assembles items purchased by customers. Costco warehouses accept cash, checks, debit cards, and only Visa credit cards. No other major credit cards are accepted for the payment of merchandise.[8] These methods of payment may limit Costco's customer base. Once a customer has made purchases, Costco does not provide bags or bagging services. Some items are loaded into packing boxes by Costco cashiers, but the balance of goods are either reloaded back into the shopping cart by the Costco cashiers or can be placed into bags provided by the customer. This approach may further limit Costco's customer base among customers accustomed to merchandise bagging.

Costco presents information in its corporate materials regarding the average distribution of sales at all Costco warehouse stores. This information is presented in categories that conform to categorization by Costco. These categories, and the percent distribution of sales, are summarized in Table 1, below.

Table 1
Costco Warehouse
Costco Retail Categories and Sales Distribution

Costco Sales Category	Percent
Foods and Sundries	40%
Non-Foods	26%
Fresh Foods	14%
Ancillary & Other	20%
Total	100%

Source: Costco Wholesale 2024 Annual Report, Fiscal Year Ended September 1, 2024. Calculated from sales data reported on page 60.

This sales information is presented in Exhibit 1, which develops and expands this information in ways conducive to analyzing the Costco Project's prospective impacts relative to other existing retailers. This is accomplished by matching Costco's categories with categories used by the State of California Department of Tax and Fee Administration (CDTFA) which is the primary public source of taxable retail sales data and trends in California. This is necessary because CDTFA data are the

[5] Ibid, page 5.
[6] http://en.wikipedia.org/wiki/Walmart
[7] http://www.fmi.org/facts_figs/?fuseaction=superfact
[8] https://www.forbes.com/advisor/credit-cards/what-credit-cards-does-costco-accept/

most comprehensive resource available to provide a basis for evaluating the existing retail sales base by geography.

ALH Economics spread the Costco sales percentages presented in Table 1 among the State of California Department of Tax and Fee Administration's reporting categories. This was accomplished through several means, including the following:

- Reviewing Costco's category descriptions included in its most recent and previous Annual Reports and qualitatively matching the referenced types of goods with the appropriate CDTFA category;
- Conducting field work to an existing representative Costco warehouse and assessing the distribution of warehouse products by type of good and CDTFA retail category;
- Reviewing select information presented by Costco regarding the amount or percentage of store sales in key retail categories, such as a Costco reference to 12% of net sales typically comprising gasoline sales;[9] and
- Using the preceding information to quantitatively spread the Costco category sales among the CDTFA retail sales categories.

The results of the distribution of Costco sales into the CDTFA categories are presented in Exhibit 1 and summarized below in Table 2.

Table 2
Costco Warehouse
CDTFA Retail Categories and Sales Distribution

Costco Sales Category	Percent
Motor Vehicle & Parts Dealers	3.1%
Home Furnishings & Appliances	8.6%
Building Materials & Garden Equipment	1.5%
Food & Beverage Stores	49.1%
Gasoline Stations	12.0%
Clothing & Clothing Accessories	3.2%
General Merchandise Stores	8.1%
Food Services & Drinking Places	1.3%
Other Retail Group	13.2%

Source: Exhibit 1.

These sales distribution assumptions were used as a basis for distributing the estimated Costco Project sales among the relevant retail sales categories and by type of consumer. As noted, the largest portion of estimated Costco sales, 49.1%, is in the food & beverage category, which includes all food items and both alcoholic and non-alcoholic beverages. This sales category dominates all estimated sales, with the next largest categories comprising other retail at 13.2% and gasoline sales at 12%. The other retail sales category is a broad category, and includes such goods as pharmacy, health and personal care, gifts, art goods and novelties, sporting goods, florists, photographic supplies, musical instruments, stationary and books, and office and school supplies.

[9] Costco Wholesale 2024 Annual Report, Fiscal Year Ended September 1, 2024, page 5.

COSTCO WAREHOUSE SALES

Total Sales

For the purpose of the study, ALH Economics developed a total Project stabilized sales estimate. This estimate is based on a per square foot sales figure of $1,800. This figure was developed based on analysis of several sources, including Costco Wholesale's Annual Reports and industry internet resources, such as Statista and Gurufocus.com. Applying this sales figure to the total warehouse square footage results in an annual sales estimate of $297 million.

The following analysis, which provides the basis for the urban decay analysis, assumes the Project sales at this $297 million performance level. In the retail industry many stores ramp up to their stabilized sales levels over time, as the retailer becomes more established in the market. This analysis, however, conservatively assumes the maximum sales will be achieved during the Project's first full year of operations rather than several years later after it has become established in the marketplace and solidified a customer following.

Sales by Retail Category

The Project's $297 million sales estimate is distributed in Exhibit 2 among the CDTFA retail categories. This distribution is based upon the estimated distribution of sales calculated in Exhibit 1 and summarized in Table 3, presented in millions of dollars.

Table 3
Costco Warehouse
CDTFA Retail Categories and Sales, in $ millions

Costco Sales Category	Sales
Motor Vehicle & Parts Dealers	$9.2
Home Furnishings & Appliances	$25.5
Building Materials & Garden Equipment	$4.6
Food & Beverage Stores	$145.9
Gasoline Stations	$35.6
Clothing & Clothing Accessories	$9.4
General Merchandise Stores	$23.9
Food Services & Drinking Places	$3.9
Other Retail Group	$39.1
Total	$297.0

Source: Exhibit 2.

This table indicates that approximately $146 million in sales generated by the Project is likely to be for food & beverage items. The next largest categories are other retail at $39.1 million and gasoline at $35.6 million. The other double-digit sales categories include home furnishings & appliances with $25.5 million in sales and general merchandise with $23.9 million in sales.

Store Sales by Type and Location of Consumer

Not all the estimated Project sales will be competitive with existing retail operations, especially retailers within the Costco market area. There are several factors contributing to this competitiveness profile, discussed below.

Sales Redirected from Costco's Folsom Warehouse. The El Dorado Hills Costco is located just 5.1 miles east of Costco's existing Folsom warehouse and fuel facility. There are no other Costco operations anywhere else east of Folsom, since the next closest warehouse to the east is in Carson City, Nevada, approximately 105 miles east of Folsom, and 100 miles east of El Dorado Hills. This means that the new El Dorado Hills location will comprise a more convenient, closer shopping location for many existing Folsom shoppers originating from east of Folsom. Hence there is an expectation that many of the existing Folsom sales will be redirected to El Dorado Hills. While these redirected sales will be new to the El Dorado Hills Costco, they will not comprise new sales to Costco or new expenditures made by Costco shoppers. Costco also anticipates that a small percentage of sales at the Rancho Cordova Costco will also be transferred to El Dorado Hills.

The transportation engineering and planning consulting firm Kittelson & Associates prepared a transportation analysis for the Project that includes analysis of projected vehicle miles traveled (VMT) by Project patrons and number of existing and projected member visits. Their analysis is grounded in proprietary data provided by Costco, including data pertaining to Folsom warehouse and fuel facility shoppers (but not Rancho Cordova). Based on ALH Economics' analysis of Kittelson & Associates' findings, where ALH Economics generally equates demand with the number of warehouse trips, but allocating more weight to primary trips given the expectation these trips will entail higher sales, ALH Economics assumes that 54% of the El Dorado Hills Costco warehouse sales are anticipated to be shifted, or redirected, from the Folsom warehouse.[10] Thus, 46% of projected Project sales are estimated to be net new to Costco. Since gasoline purchases are more convenience-oriented, and locally based, a much lower 7% of gasoline sales are estimated to be shifted, or redirected, also with the same weighted sales approach applied to food sales. This assumption is also derived from the Kittelson & Associates analysis. Both the warehouse and fuel facility estimated shifts are slightly conservative, as they do not take into account the small shift from Rancho Cordova to El Dorado Hills (which Costco estimates at less than 5%).[11]

Application of these estimated sales shifts indicates that $153 million of the estimated $297 million in El Dorado Hills Costco sales are estimated to be net new sales to Costco, and comprise new retail expenditures by consumers (see Exhibit 2).

Costco Business vs. Household Shoppers. Costco's membership includes business and household members. Some business members include businesses that purchase items wholesale from Costco, and then resell the items as part of their business operations. Businesses with resale licenses do not pay sales tax on the purchased items. Thus, sales made under these circumstances are not considered taxable retail sales. As such, these sales are not competitive with the existing retail base, the size of which is estimated based upon taxable retail sales reported by the State of California Department of Tax and Fee Administration (see Chapter V).

[10] Note, primary trips comprise trips planned with Costco as an explicit destination.
[11] This less than 5% sales transfer from Rancho Cordova to El Dorado Hills was provided to ALH Urban & Regional Economics by Costco.

In its annual reports Costco presents information about the composition of its membership base. This includes the aforementioned Gold Star, Business, and Executive Membership categories. Information presented in Costco's 2024 Annual Report indicates that Business Membership totaled 17.9% of total membership in 2022, 17.2% in 2023, and 16.4% in 2024. Costco materials indicate that many business members also shop at Costco for their personal needs, but these materials do not indicate the share of total business member purchases that are personal.

For the sake of the analysis, ALH Economics assumes that the percentage of resale volume will comprise 16%, consistent with the national proportion of Business Membership. Therefore, the analysis assumes that 16% of Project sales will be to wholesale customers, i.e., customers whose typical purchases are not reported as retail purposes, and 84% will be to household and business customers that qualify to pay sales tax on taxable items. The exception to this assumption is gasoline sales, all of which are allocated to retail consumers, as all of these sales are assumed to be taxed, and this is the same as a consumer-based taxable retail sales purchase.

Based upon the assumption split between retail and business customers, Exhibit 2 presents further information about the disaggregation of the estimated net new Costco Project sales. Assuming that 84% of sales are generated by household retail consumers, the Project sales competitive with other retailers totals $131.2 million. The balance of the sales, or $18.8 million, is assumed to be generated by wholesale customers and is not competitive with the retail base. There is actually a strong likelihood that these sales might ultimately be reflected themselves in the retail sales base, as they are resold in the course of the operations conducted by the business members.

Customer Geographical Origin. The customers that will shop at the El Dorado Hills Costco will come from a large geographical area. The following chapter defines and discusses the market area for the Project. For the purpose of this section it suffices to say that a market area comprises the area from which the majority of shoppers originate. It does not, however, include the area from which ***all*** shoppers originate. Therefore, the portion of sales contributed by shoppers outside the market area are not competitive with sales within the market area since, at worst, they will be diverted away from retailers that would otherwise be frequented by the out-of-market-area shoppers. By definition, these retailers will be located in a variety of locations not within the Costco market area. Consideration of how the outside market area customer shopping affects the Costco sales relevant to the urban decay analysis is discussed in the following chapter.

IV. MARKET AREA DEFINITION

This report chapter discusses the approach to examining the Project's market area, which is the area from which the majority of shoppers is anticipated to originate. This chapter defines the Project's anticipated market area based on this approach and provides general information regarding locations of major retail corridors and nodes within the market area.

PROJECT MARKET AREA DEFINITION

ALH Economics engaged in several activities to define the Project's market area, i.e., the area from which the majority of shoppers will originate. These included fieldwork in the El Dorado Hills area, identification of the location of existing Costco warehouses, and review of VMT Analysis information and graphics prepared for the Project.

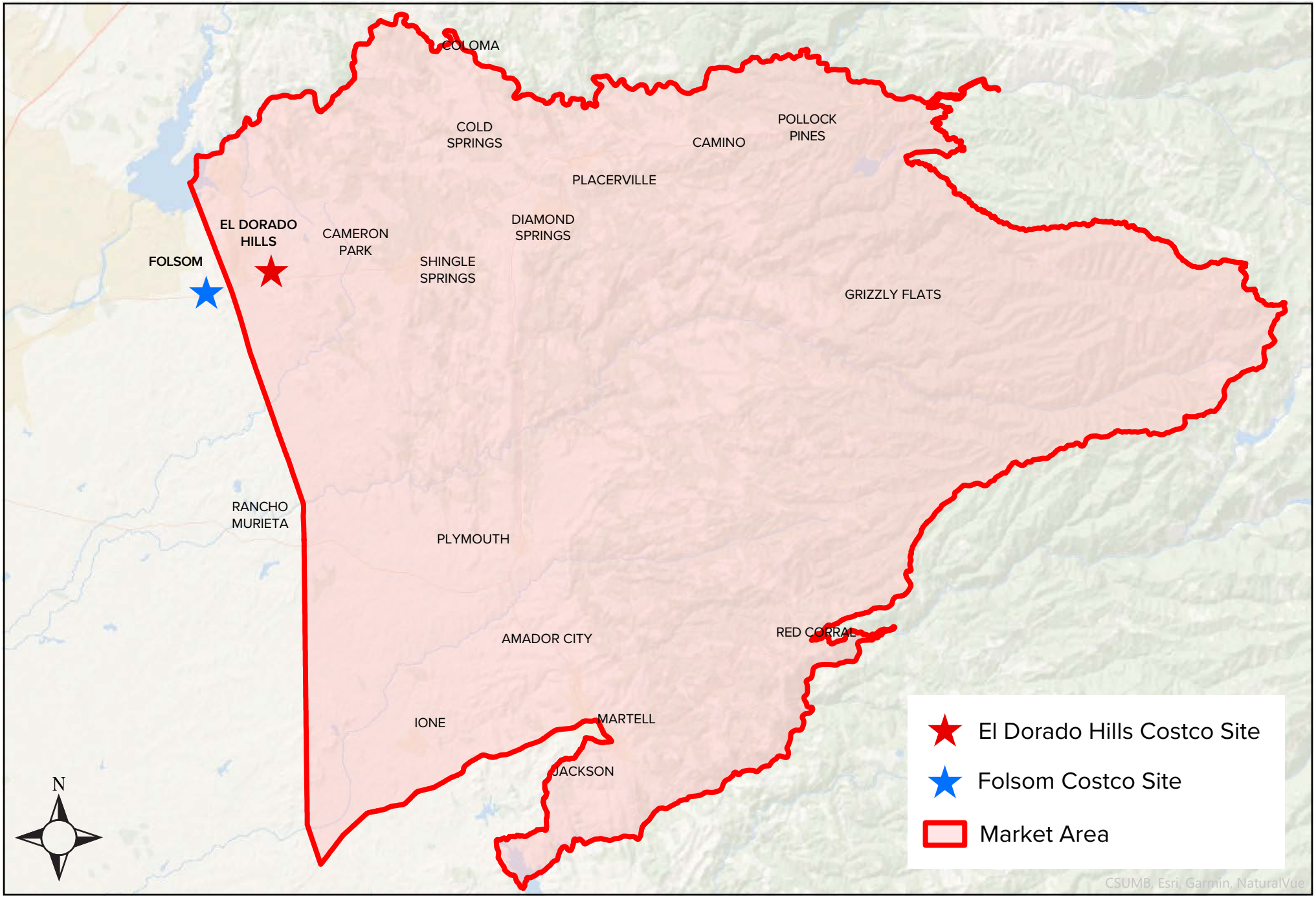
Typically, the definition of a market area is based on the principle that most consumers will travel to the shopping destination most convenient to their homes given the type of goods available. In this instance, given Costco's focus on selling heavily discounted, bulk products, the market area definition is premised upon the expectation that Costco will achieve a large consumer draw. One of the main determinants of the market area, therefore, was consideration of the next nearest Costco warehouses, and the geographic area located in closest proximity to the planned El Dorado Hills warehouse. This was accomplished by mapping the locations of the nearest Costco warehouses and then determining travel time and distance from various map locations to the El Dorado Hills site and other Costco warehouses. The four most relevant warehouses for this purpose are located in: Folsom, 5 miles west of the El Dorado Hills site; Loomis, 19 miles northwest of the site; Lodi, 51 miles southwest of the site; and Carson City, Nevada, approximately 100 miles east of the El Dorado Hills site.[12]

Another prominent guide to definition of the market area are projections and analysis of vehicle trips to the new Costco location. These are included in "El Dorado Costco CEQA Analysis [Draft], February 14, 2025, prepared by Kittelson & Associates. Graphic information included in this report, as well as supplemental graphic information provided upon request, were based on information about existing Folsom warehouse and fuel facility shoppers provided by Costco to Kittelson & Associates.

Combining the existing Costco warehouse locational information with the Kittelson & Associates presentation resulted in a market area definition that includes about 2/3 of El Dorado County extending eastward from the county's western boundary, but short of South Lake Tahoe, and south/southeast to include a major portion of Amador County (excluding Kirkwood and other nearby areas to the extreme east and Comanche North Shore and Buena Vista in the southern part of the County). A map of this area is presented in Figure 1. The area reflected in Figure 1 comprises an agglomeration of select El Dorado County and Amador County census tracts. For areas not defined on a geopolitical basis, such as cities or counties, census tracts provide a strong basis for defining a market area. This is because census tracts are defined to capture population nodes but are generally small enough to allow customization of an area. An additional benefit is the greater ability to obtain

[12] For the purposes of measuring distances the El Dorado Hills Costco Project site is the intersection of Silva Valley Parkway and Clarksville Road.

FIGURE 1. EL DORADO HILLS COSTCO PROJECT MARKET AREA



and analyze data at the census tract level while retaining the potential for replication by interested parties. Because of the relatively sparse population base in portions of both counties, some of the census tracts are large, with some encompassing areas inside and outside of the market area. In cases where a census tract was deemed not fully within the market area, the definition includes the census tract if at least one-half or more of the census tract is located in the market area. In most cases these are the largest and least populated census tracts, thus minimizing the potential to overstate the size of the market area population base. This is counter-balanced by the exclusion of census tracts where less than one-half the area overlapped with the market area. A list of the resulting census tracts is located in the Appendix, in Exhibit B-1. In addition, the cities and unincorporated areas per county located in the Market Area are identified in Exhibit 3 for El Dorado County and Exhibit 4 for Amador County. These exhibits demonstrate that South Lake Tahoe in El Dorado County is the largest city or area in the market area counties that is not within the Project's market area.

ESTIMATE OF SALES GENERATED FROM WITHIN THE MARKET AREA

ALH Economics estimates that market area residents will generate 85% of the retail consumer sales for the planned El Dorado Hills Costco warehouse and that consumers traveling from outside the market area (e.g., travelers to and through the region) will generate the remaining 15% of revenues. The estimated percentage of wholesale consumers from within the market area is higher, at 90%, with 10% originating from outside the market area. Thus, of total warehouse sales, $111.5 million are estimated to be generated by household consumers located within the market area, and $16.9 million are estimated by be generated by wholesale business customers within the market area. These sales estimates are delineated in Exhibit 5.

This distribution of sales is consistent with findings published by major research organizations, such as the Urban Land Institute (ULI) and the International Council of Shopping Centers (ICSC), which indicate that a retail store's trade area generally supplies 70% to 90% of the store's sales, while the remaining 10% to 30% of sales are attributed to consumers residing outside of the related market area. For example, ULI states the following in its *Shopping Center Development Handbook, Third Edition*:

> *"A site generally has a primary and a secondary trade area, and it might have a tertiary area. The primary trade area should generally supply 70 to 80 percent of the sales generated by the site. These boundaries are set by geographical and psychological obstacles."*[13]

ULI is a nonprofit research and education organization representing the entire spectrum of land use and real estate development disciplines. Among real estate, retail, and economic development professionals, this organization is considered a preeminent educational forum.

Information published by the International Council of Shopping Centers (ICSC), a trade association for the shopping center industry, also provides background about market area definitions. In the publication *Developing Successful Retail in Secondary & Rural Markets*, the ICSC says:

> *"A trade area is the geographic market that you will be offering to potential retailers as a consumer market. … Defining a retail trade area is an art and a science. In general, a trade area should reflect the geography from which 75-90 percent of retail sales are generated.*

[13] *Shopping Center Development Handbook, Third Edition*, Urban Land Institute, 1999, page 44.

Different stores can have different trade areas based on their individual drawing power and the competitive market context."[14]

El Dorado Hills is along a major transportation route to one of California's most popular tourist destinations – Lake Tahoe. Analysis of countywide tourist spending supports the 15% outside market area support for consumer retail spending. Dean Runyan Associates annually prepares a study for Visit California, a nonprofit organization that partners with the state's travel industry to promote California as a tourist destination, which estimates the economic impact of travel in the state. Many results are presented on a county by county basis, including estimates of the percent of taxable sales that are generated by travel.[15] The most recent study, published in May 2025, indicated that travel-generated taxable sales comprised 17.2% of El Dorado County's taxable sales and 14.5% of Amador County's taxable sales in 2024.[16] The weighted average between the two counties is 16.8%. Thus, the 15% figure for consumer retail sales is a reasonable estimate of outside market area sales support.

MARKET AREA DEMOGRAPHICS

Based on the market area definition, approximately three-quarters of the combined population and household base of El Dorado and Amador counties is within the El Dorado Hills Costco market area. Given the disparity in the relative size of each county's demographic base, the majority of the market area's population is located in El Dorado County. Thus, the market area's average household size, average household income, and median household income is very comparable to the corresponding figures in El Dorado County (see Table 4).

Table 4. Summary Demographic Characteristics, 2025

Demographic Characteristic	El Dorado County	Amador County	Market Area (1)
Population	188,656	41,134	175,676
Households	74,644	15,991	67,688
Average HH Size	2.5	2.3	2.5
Average HH Income	$161,661	$107,536	$161,755
Median HH Income	$112,508	$79,850	$111,311

Sources: Claritas, Demographic Quick Facts, El Dorado County, Amador County, and Select Census Tracts; and ALH Urban & Regional Economics.
(1) The Market Area includes 33/50+ census tracts in El Dorado County and 8/10 census tracts in Amador County. See Exhibit B-1.

Overall, in 2025, the market area is estimated to have a 175,676 population count and 67,688 households. Average market area household income is estimated at $161,755.

Despite recent modest growth in El Dorado and Amador counties (approximately 2% from 2020 to 2024 per the State of California Department of Finance), growth is projected to be limited over the next five years, between 2025 and 2030.[17]

[14] Developing Successful Retail in Secondary & Rural Markets, International Council of Shopping Centers in cooperation with National Association of Counties, 2007, page 7.
[15] This report is "The Economic Impact of Travel, California: 2024p Calendar Year; State, Regional, & County Impacts," May 2025, Prepared for Visit California, by Dean Runyan Associates.
[16] Ibid, page 25.
[17] As projected by Claritas, a national provider of demographic and economic data and projections.

KEY MARKET AREA SHOPPING NODES AND RETAIL SALES

The market area has several existing retail nodes, with El Dorado Hills and Placerville comprising the largest in the El Dorado County portion of the market area. The retail in these areas is generally located close to Highway 50, which stretches from Sacramento to South Lake Tahoe and beyond. El Dorado Hills and Placerville each have general merchandise retailers, with Target in El Dorado Hills and Target and Walmart in Placerville. There are numerous shopping centers in both areas, primarily neighborhood and community shopping centers, with many grocery stores and other complementary retail, such as hardware, mattresses, pharmacy, clothing/shoes, and restaurants. The lion's share of retail in El Dorado Hills was built during the early 2000's while most of Placerville's major retail was built prior to 2000. There are also a couple of retail nodes in Cameron Park, located between El Dorado Hills and Placerville. The retail centers in Cameron Park are also generally older, with most built prior to the 2000's. Retail tenants in Cameron Park include more grocery stores, pharmacies, Petco, and other small shop retailers. This portion of the market area also has other, small pockets of retail, such in Pollack Pines. There are many gas stations distributed throughout El Dorado County's portion of the market area, including in Shingle Springs, east of Cameron Park, and Diamond Springs, further east of Shingle Springs, but west of Placerville.

There is comparatively much less retail in the Amador County portion of the market area. This portion of the market area has many additional grocery stores, a recently remodeled Walmart, and numerous big box and other major retailers, such as Lowes, Petco, Staples, Big 5, Tractor Supply, and Dollar Tree. This retail is generally located along Highway 49, through Plymouth, Amador City, Sutter Creek, Martell, and Jackson. The largest portion of Amador County's market area retail is located in Martell and Jackson. State Route 124 is a relatively short state highway (about 10 miles) that runs through Ione, west of Jackson, where another small amount of retail is located. As with the rest of the market area, the majority of the retail centers are older, with only one significant center (the largest with over 200,000 square feet) built after 2000. There are also gas stations in this portion of the market area, but comparatively less than in El Dorado County.

V. RETAIL SALES BASE CHARACTERIZATION

This chapter analyzes the retail sales leakage and sales base composition of the portion of El Dorado County in the market, Amador County, and the Project's market area. The analysis focuses on the extent to which each area captures resident household spending as well as sales generated from outside the area. This analysis provides a characterization of the sales performance of the relevant retail sales bases, an estimate of the size of the sales bases, and an estimate of existing demand for retail. ALH Economics conducts this analysis as a building block towards determining the extent to which the Project may or may not divert sales away from existing market area retailers.

METHODOLOGY

Approach

ALH Economics uses a retail model that estimates retail spending potential for an area based upon household counts, income, and consumer spending patterns. The model then computes the extent to which the area is or is not capturing this spending potential based upon taxable sales data published by the State of California Department of Tax and Fee Administration (DTFA). This analysis can be most readily conducted for cities, groupings of cities, or counties, consistent with the geographies reported by the DTFA.

For any study area, retail categories in which spending by locals[18] is not fully captured are called "leakage" categories, while retail categories in which more sales are captured than are generated by residents are called "attraction" categories. This type of study is generically called a retail demand, sales attraction, and spending leakage analysis. Generally, attraction categories signal particular strengths of a retail market while leakage categories signal particular weaknesses. ALH Economics' model, as well as variations developed by other urban economic and real estate consultants, compares projected spending to actual sales.

For the purpose of generating a Retail Demand, Sales Attraction, and Spending Leakage Analysis for the Project's market area and other germane areas ALH Economics obtained taxable retail sales data for calendar year 2024 and adjusted the taxable sales to reflect total sales. Sales data were obtained for El Dorado County, Amador County, and select constituent cities. Using these retail sales data, combined with household counts estimated by the State of California and by Claritas Inc., (a national provider of demographic and economic data) and household income estimates provided by Claritas, Inc., ALH Economics conducted Retail Demand, Sales Attraction, and Spending Leakage Analyses. These analyses compared total estimated household spending to actual retail sales in the portion of El Dorado County in the market area, in Amador County, and in the market area. Sales estimates for the market area were assumed to comprise the summation of sales in the portion of El Dorado County in the market area and sales in Amador County. This study assumes that the majority of all Amador County taxable sales are generated by establishments located in the portion of Amador County in the market area.

[18] In this context locals refers to households and businesses. While the model is driven off household counts, they are a proxy for all spending, as the sales base included in the analysis includes all taxable sales, regardless of how they are generated.

Demographic Characteristics

ALH Economics' Retail Demand, Sales Attraction, and Spending Leakage Analysis requires household count and average household income inputs for the area of analysis. Demographic data assumptions for the market area were presented earlier in Table 4. Household counts for El Dorado County, South Lake Tahoe, and Amador County were all obtained from the State of California Department of Finance. Average household incomes for El Dorado and Amador counties were estimated by Claritas, also in Table 4. The relevant average household income estimates are $161,661 for El Dorado County, $107,536 for Amador County, and $161,755 for the market area.

RETAIL SALES BASES

Approach to Estimation

ALH Economics estimated sales for El Dorado County less South Lake Tahoe, Amador County, and the market area by utilizing city and county DTFA data. DTFA publishes taxable sales figures for counties and major cities; its most recent full-year taxable sales figures are for 2024. These are the data points reflected in this report.

Because DTFA presents data corresponding with only taxable sales, ALH Economics included adjustments to gross the estimated sales up to total sales. This involved sales adjustments for non-taxable sales for food, pharmacy, and a portion of general merchandise store sales that include food sales. ALH Economics estimates that 70% of food store sales and 67% of drug store sales are non-taxable based on discussions with the DTFA and other industry research, including U.S. Census publications. In addition, sales of grocery items at non-drug store general merchandise stores are non-taxable and are estimated at 35% of sales for this subset of the retail category based on analysis of the U.S Economic Census for General Merchandise Stores.[19] Finally, the DTFA combines drug stores sales in the "other retail group" sales. Thus, the analysis assumes a portion of this category's sales are pharmaceutical sales, in keeping with the statewide percentage of 5.5%. Consequently, the CDTFA taxable sales figures for the food stores, general merchandise, and other categories are adjusted upward to reflect non-taxable transactions.

Market Area Sales Base

The market area sales base is estimated to comprise the sales base for El Dorado County less South Lake Tahoe and Amador County. The sales estimates for these areas are presented in Exhibits 6 and 7, respectively. The results indicate that the El Dorado County portion of the market area has an estimated $2.3 billion sales base and Amador County has an approximately $570 million sales base. As shown in Table 5, the combined market area sales base is therefore almost $2.9 billion. Of this total, 80% is generated by the El Dorado County portion of the market area, with just 20% contributed by Amador County. The retail categories with the largest sales are food & beverage stores at nearly $640 million and other retail group at about $580 million. Many other sales categories range from $265 to $360 million, with only two below this level, at $72 million for clothing & clothing accessories and $45 million for home furnishings & appliances.

[19] Per the U.S. Economic Census data, General Merchandise stores encompass a mix of department stores, discount department stores, warehouse clubs and Supercenters, variety stores, and other general miscellaneous stores.

Table 5. El Dorado Hills Costco Market Area Sales Base

Type of Retailer	Market Area Sales (1)	Share of Sales by County	
		El Dorado	Amador
Motor Vehicle & Parts Dealers	$328,246,110	94%	6%
Home Furnishings & Appliances	$44,548,860	84%	16%
Building Materials & Garden Equipment	$265,689,745	74%	26%
Food & Beverage Stores	$639,438,217	74%	26%
Gasoline Stations	$357,453,917	82%	18%
Clothing & Clothing Accessories	$71,749,758	87%	13%
General Merchandise Stores	$284,962,168	73%	27%
Food Services & Drinking Places	$292,446,546	80%	20%
Other Retail Group	$580,802,160	83%	17%
Total	$2,865,337,481	80%	20%

Sources: Exhibit 6 and Exhibit 7.
(1) Comprises the summation of taxable and non-taxable sales for El Dorado County less South Lake Tahoe and for Amador County, as a proxy for market area sales.

RETAIL LEAKAGE AND ATTRACTION FINDINGS

Market Area Constituent Counties

Retail Demand, Sales Attraction, and Spending Leakage Analyses were prepared for the market area portion of El Dorado County (see Exhibit 8), Amador County (see Exhibit 9), and the market area (see Exhibit 11). As a key component of the market area analysis, market area retail demand was also estimated (see Exhibit 10). The retail demand, sales attraction, and spending leakage findings are all annual estimates.

The analysis for the market area portion of El Dorado County indicates that overall, the area is characterized by a modest amount of retail leakage, amounting to 8% of the area's demand. Thus, almost $237 million in local demand leaves the area. The levels of attraction and leakage for this area vary widely, with most categories characterized by leakage, ranging from -18% to -51% of demand, but a few characterized by attraction, ranging from 15% to 44% of demand. One category, food & beverage stores, is at relative equilibrium between supply and demand, with effectively no attraction or leakage. The categories with the great volume of leakage include food services & drinking places (restaurants) with -$183 million in leakage, motor vehicles & parts dealers with -$112 million in leakage, clothing & clothing accessories with -$100 million in leakage. The general merchandise category, which is one of the categories most relevant to Costco, also has leakage, amounting to -$60 million.

Unlike the El Dorado County portion of the market area, Amador County is overall characterized by retail attraction. But to put this in perspective, the retail base in the El Dorado County portion of the market area is four times the size of Amador County's retail base. Further, as noted earlier, in 2024 an estimated 14.5% of Amador County's retail sales comprised tourist dollars. This compares to Amador County's 20% overall attraction. Thus, much of this county's retail sales attraction is likely due to tourists traveling to and through the county. Attraction in Amador County is most pronounced in food & beverage stores, with $82 million in attraction and the other retail group, with $51 million in attraction. The building materials & garden equipment, general merchandise store, and gasoline

station categories are also attraction categories. Leakage in Amador County is greatest in motor vehicles & parts dealers totaling -$54 million, and somewhat comparable among the other leakage categories of home furnishings & appliance stores, clothing & clothing accessories stores, and food services & drinking places, ranging from -$14 million to -20 million a year.

Market Area

The combined partial El Dorado County and all Amador County sales bases are estimated to comprise the market area sales base. Therefore, to assess how this sales base contributes to the market area's assessment of retail sales attraction and leakage it is necessary to also estimate market area spending, or demand for retail.

Market Area Demand. The retail sales demand generated by the market area is estimated in Exhibit 10. Based on the market area's $161,755 average annual household income, the demand analysis assumes annual retail spending of 26% of income on categories comparable to the ones reported by the CDTFA. This amount totals $41,900 per household. This average spending is allocated by retail category consistent with the sales distribution pattern throughout the State of California, resulting in per category spending estimates ranging from $2,272 on home furnishings & appliances to $7,221 on food and beverage stores. Net of an estimated 10.5% of overall spending on e-commerce, ranging from 0% to 25% of category spending, the market area's 67,688 households are estimated to annually spend just over $2.5 billion on brick & mortar store retail goods.

Retail Leakage and Attraction Findings. The market area demand estimate is paired with the market area sales base in Exhibit 11 to assess the overall state of retail attraction and leakage in the market area. The aggregate findings are summarized below in Table 6.

Table 6. El Dorado Hills Costco Market Area Retail Sales Attraction and Spending Leakage Summary, 2024

	Market Area Retail Sales Attraction/(Leakage)	
Type of Retailer	Amount	Percent
Motor Vehicle & Parts Dealers	($92,512,084)	-22%
Home Furnishings & Appliances	($70,804,734)	-61%
Building Materials & Garden Equipment	$98,595,019	37%
Food & Beverage Stores	$165,300,898	26%
Gasoline Stations	$115,923,095	32%
Clothing & Clothing Accessories	($92,029,122)	-56%
General Merchandise Stores	$16,913,863	6%
Food Services & Drinking Places	($126,887,637)	-30%
Other Retail Group	$310,863,292	54%
Total	**$325,362,591**	**11%**

Source Exhibit 11.

Overall, the market area has an aggregate level of 11% retail sales attraction. By dollar volume, attraction is greatest in the other retail group category, food & beverage stores category, and gasoline stations, each with attraction over $100 million. These categories correspond to the categories comprising the greatest amount of the El Dorado Hills Costco sales, equal to 74% of all sales (see percentages in Table 2). Thus, the majority of Costco sales will be in strong market area retail sales

categories, with the potential for Costco sales to strengthen these attraction categories. There are four retail leakage categories in the market area, i.e., motor vehicle & parts dealers, home furnishings & appliances, clothing & clothing accessories, and food services & drinking places. Another 16% of Costco sales will occur in these existing market area retail leakage categories, with Costco sales having the potential to reduce existing market area leakage.

VI. PROJECT SALES IMPACTS

The following analysis more fully examines the extent to which El Dorado Hills Costco operations would attract new sales to the market area and/or divert sales from existing retailers. If some sales are diverted, the maximum level of impact on existing market area retailers is identified.

APPROACH

ALH Economics has developed an analytic approach that estimates the impact of the Project's incremental sales on existing retailers. For this analysis, the approach assumes that if the Costco Project is adding sales to a category in an amount greater than any potential recaptured market area leakage in the category, ***then at worst***, the amount of sales in that category in excess of any recaptured leakage will be diverted away from existing market area retailers. This is a conservative assumption given that diverted sales could also occur among other retailers beyond the market area boundaries. The analysis referenced in this chapter is presented in Exhibit 12.

RECAPTURED LEAKAGE POTENTIAL

One potential source of demand for new retail space such as the Project is the share of market area residents' shopping that occurs outside of the market area, comprising the estimated retail leakage. In other words, given the identification of retail leakage, market area households clearly spend some proportion of their incomes at retail stores outside the market area. If the addition of the Costco makes the market area a more convenient shopping destination, local and regional demand could increase through the recapture of these sales.

As summarized in Exhibit 11, the market area experiences $382 million in annual retail sales leakage. This is counterbalanced by $708 million in retail attraction, with the net results of $325 million in attraction. Four retail categories contribute to the identified leakage. This leakage is in addition to recaptured leakage and other sales already accounted for in Exhibit 2, which estimated the share of El Dorado Hills Costco sales anticipated to be transferred from the existing Folsom warehouse and fuel facility.

Recaptured Leakage

The enhanced market area shopping opportunities provided by the El Dorado Hills Costco warehouse and fuel facility will serve to help recapture existing retail leakage. The amount of recaptured leakage will depend upon the estimated amount of Costco sales in the associated retail category and the depth of the estimated retail leakage. The analysis assumes that if estimated Project sales are less than 25% of the estimated leakage, then 100% of the Project's sales are anticipated to be absorbed through leakage. If the Project sales are equal to 25% to 50% of the leakage, then 50% of the Project sales are anticipated to be absorbed through leakage. If the Project sales comprise more than 50% of the estimated leakage then only 25% or less of the Project sales are anticipated to be absorbed through leakage. These thresholds were developed because they generally appear reasonable.

For the four retail leakage categories identified in Exhibit 11 the Costco sales are well below the 25% threshold associated with 100% of sales achieved through recapture. The greatest percentage is 12% for the home furnishings & appliance stores category, with 1% to 3% for the other three leakage categories of motor vehicles & parts dealers, clothing & clothing accessories stores, and food services

& drinking places. Thus, as shown in Exhibit 12, all of the Costco sales in these leakage categories are assumed to comprise recaptured leakage, with no resulting impact on existing market area retailers. These sales total $15.4 million, comprising 14% of total Project sales. The $15.4 million in recaptured leakage also comprise only 4% of all existing market area leakage.

Remaining Leakage. Exhibit 12 indicates that after the Project's absorption of retail leakage a large amount of leakage in the market area's four leakage categories will still remain, totaling $367 million. This remaining leakage indicates that when retailers are poised to make new investments, the market area as a whole has the potential to support a greater critical mass of retail than is currently supported. In addition, the potential for yet other retailers to gain support from the market area will be enhanced after the Project opens, due to the greater market visibility and draw achieved by Costco.

ESTIMATED MARKET AREA SALES IMPACTS

Absent the share of Project sales anticipated to be generated by consumers outside the market area and the recaptured leakage, Exhibit 12 indicates the potential for $98 million in sales to be diverted from market area retailers. This sales volume, which comprises 3.4% of the market area's retail sales base, includes all of the Project's anticipated sales in the market area's attraction categories of building materials & garden equipment, food & beverage stores, gasoline stations, general merchandise, and other retail group. For these sales attraction categories the analysis conservatively assumes that any Project sales generated by market area residents absent sales redirected from the Folsom Costco warehouse and fuel facility will occur to the detriment of retailers in the market area.

As shown in Exhibit 12 and summarized in Table 7, the sales base impacts for categories with estimated impacts range from a low of 0.6% in building materials & garden equipment to a high of 7.9% in gasoline stations. Three of the categories have impacts below 3% while only two have greater impacts, i.e., the 7.9% gasoline sales impacts and 7.5% food & beverage store impacts. These would comprise maximum impacts, as are all of the impacts that total $98 million. Alternatively, ALH Economics assumes that in the normal course of doing business some retailers should anticipate the potential need to absorb annual fluctuations in sales, including nominal sales declines or fluctuations up to 3% - 5%. This reflects the type of economic changes retailers should anticipate given the ebb and flow of retail sales and swings in the local economy, comprising minimum impacts. The range of impacts above 5% is summarized in Table 7 and are labeled minimum impacts.

Table 7. El Dorado Hills Costco Market Area Sales Base Impact, 2024 Dollars

	Sales Base Impact Less Leakage		Sales Base Impact Above 5% of Sales Base	
	Maximum Impact		Minimum Impact	
Type of Retailer	Amount	Percent of Sales Base	Amount	Percent of Sales Base
Motor Vehicle & Parts Dealers	$0	0.0%	$0	0.0%
Home Furnishings & Appliances	$0	0.0%	$0	0.0%
Building Materials & Garden Equipment	$1,502,941	0.6%	$0	0.0%
Food & Beverage Stores	$47,911,300	7.5%	$15,939,389	2.5%
Gasoline Stations	$28,173,420	7.9%	$10,300,724	2.9%
Clothing & Clothing Accessories	$0	0.0%	$0	0.0%
General Merchandise Stores	$7,863,724	2.8%	$0	0.0%
Food Services & Drinking Places	$0	0.0%	$0	0.0%
Other Retail Group	$12,829,195	2.2%	$0	0.0%
Total	**$98,280,580**	**3.4%**	**$26,240,113**	**0.9%**

Source Exhibit 12.

Based on the findings summarized in Table 7, two of the retail categories have maximum impacts above 5%. These are food & beverage stores and gasoline stations. Because of the magnitude of these impacts, the following impact analysis focuses on these two retail sectors. For both, the minimum sales impacts reflect the idea that there will be some economic cycles and sales fluctuations over time, while the maximum sales impacts reflect the perspective that, in this instance, all of the impacts are related to the new Costco.

FOOD SALES IMPACTS

Relative to the market area, the almost $48 million sales impact in food & beverage store sales totals 7.5% of the sales base. After assuming 5% of this impact could be absorbed pursuant to average, or typical retail sales fluctuations, the remainder is a 2.5% impact, or just about $16 million. Thus, the range of food stores impacts is approximately $16 million to $48 million.

ALH Economics identified 28 supermarkets, food stores, and general merchandise stores selling food products in the market area. These would be the stores most competitive with the Project's grocery component. The market area's relatively smaller convenience-oriented stores are not included because Costco will not compete with a store that satisfies a shopper's need for a quick, convenience item. The 28 identified stores are referenced in Exhibit 13 and are presented in three categories, by county: full service grocery stores; other food stores; and general merchandise stores. The market area store locations are mapped in Figure 2.

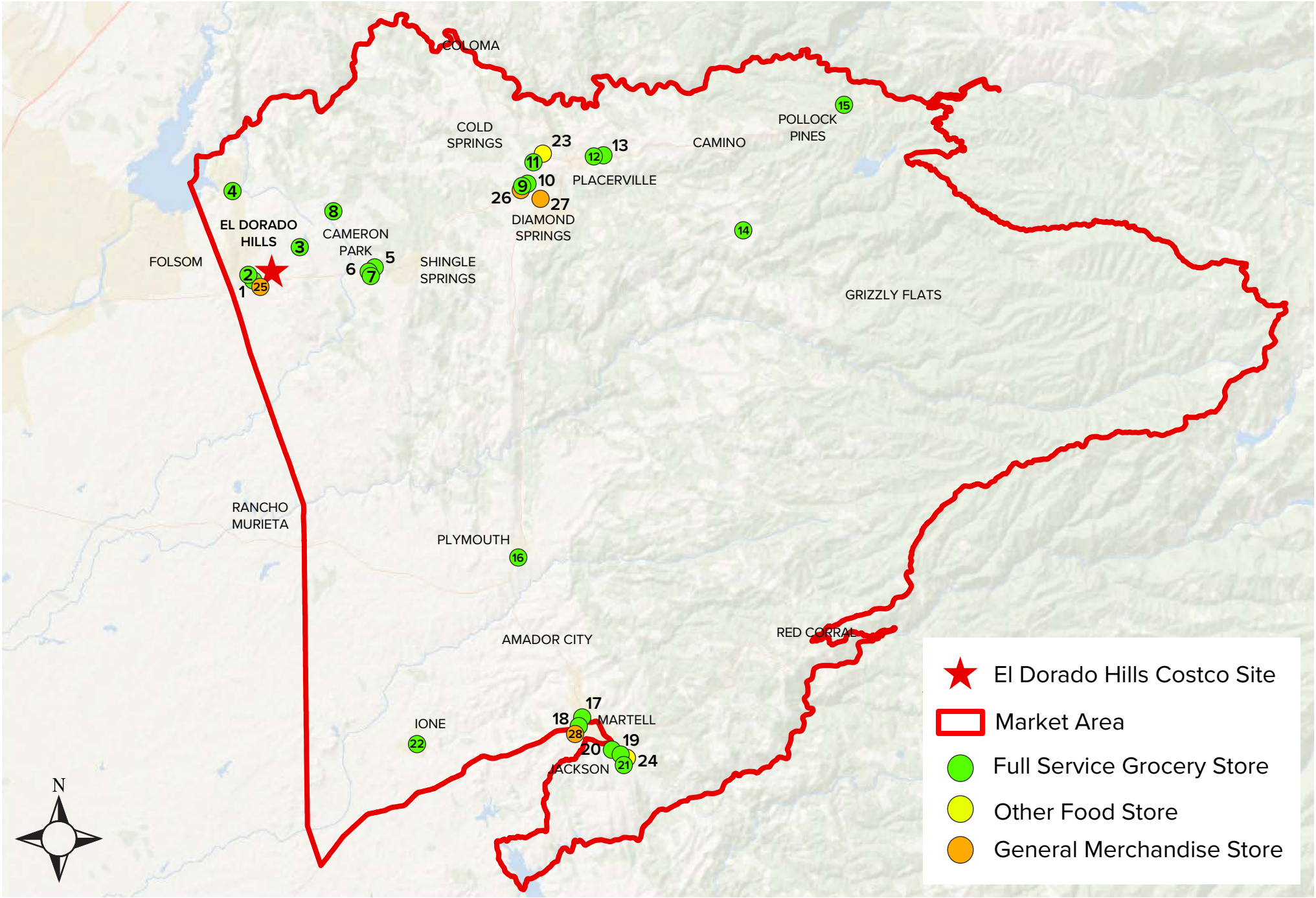
Many of the identified market area stores may experience a share of the estimated food sales impacts following Costco's opening. Given the store formats of these retailers relative to the proposed Project, ALH Economics believes it is most meaningful to classify these retailers by market orientation.

- ***Discount Stores and General Merchandise Stores*** are characterized by lower-than-average price points. Sometimes, these are characterized by bulk items, which allow the customers to get more for their dollar relative to most other grocery stores. In the market area, Grocery Outlet is the primary discount food store by virtue of its pricing levels and store format. Costco's grocery component is most similar to the Discount supermarket format. General Merchandise stores selling significant quantities of food items and other items typically found in a grocery store also have the feel of a discount store. In the market area this includes two Walmart stores and two Target stores.

- ***Conventional Stores*** are full-service grocery stores that offer most or all of the following: a fresh bakery; fresh meat and seafood; frozen foods including frozen meat; fresh produce; a deli counter; and prepared foods. Other specialties sometimes include organic foods, a flower selection, a pharmacy, or a coffee bar. The largest share of the market area food stores are conventional groceries, such as Safeway, Bel Air, Save Mart, and Cost Less Food Company. Some Conventional stores also have a more upscale orientation, such as Nugget Markets and Raley's O-N-E Market.

- ***Niche Stores*** typically have average to higher prices and a unique product orientation. Many brands sold at these stores are not stocked at the more conventional stores. There is usually an emphasis on fresh foods, gourmet products, and locally grown, organic foods. These stores may sell a mix of more unique non-grocery products as well, such as natural home remedies and specialty gift items. In the market area this category includes Placerville Food Co-op and Gold Trail Natural Foods.

FIGURE 2. EL DORADO HILLS COSTCO PROJECT MARKET AREA - **GROCERY STORES**



Factors Offsetting Individual Store Impacts

ALH Economics visited many of the market area grocery stores to ascertain their market orientation and assess the degree to which they might experience sales impacts attributable to Costco. The nature of Costco product sales will serve to minimize the potential for significant sales impacts on any specific store. Factors influencing this include Costco's merchandising strategy, specifically its product mix and depth and checkout procedures.

Product Mix and Depth. Costco's merchandising strategy aims to provide its members with a broad range of high-quality merchandise at consistently low prices. Costco seeks to limit most items to fast-selling models, sizes, and colors. Accordingly, Costco carries less than 4,000 active stock keeping units (SKUs) per warehouse in its core warehouse business. This is significantly less than other broadline retailers,[20] which comprise companies that offer a wide range of products and merchandise categories under one roof. Other brick and mortar examples of broadline retailers include Target, Walmart, Dollar General, and Dollar Tree.[21] Even much smaller Dollar General not long ago carried 11,000 – 12,000 SKUs per store, [22] although recent efforts have involved some SKU reduction to make space for in-demand inventory.[23]

As noted previously, the core merchandise categories in a Costco warehouse are as follows: Foods and Sundries; Non-Foods; Fresh Foods; and Ancillary & Other. Because of Costco's wide range of product offerings, there is very little depth in any one type of product, limiting the potential to draw demand away from any specific retail store or type of retailer. Yet, food and food-related products comprise the largest general category of goods typically sold by Costco. This suggests that if any particular type of store would be impacted by Costco sales, it would be grocery stores. However, there are a number of factors endemic to a Costco food shopping experience that could minimize impacts on existing food and beverage retailers, or especially a specific food store. Many of Costco's consumable products are offered for sale in case, carton, or multiple pack quantities only,[24] including many foodstuffs and other items one could purchase at a grocery store, such as two loaves of sliced bread bundled together, a case of kidney bean cans, 15 rolls of paper towels, and a 33.9-ounce can of ground coffee. It is not possible at Costco to purchase an individual-sized pastry, a quart of milk, a small spice jar, a dozen eggs, or just a pound of butter. Costco food sales are clearly targeted toward large families, restaurants, event organizers, and other consumers with extensive storage capacity. Accordingly, Costco is not the type of store where the average household consumer will stop by once or twice a week to round out the pantry and purchase ingredients for intimate family dinners. Therefore, individual local businesses that do serve the market for more individualized grocery purchases are not likely to be significantly affected by Costco.

In addition, given the very limited number of SKUs, selection is not the hallmark of Costco, as there is often only one brand at a time available of certain items, such as canned peaches or tomato sauce. Product depth is especially limited. For example, only a few varieties of soup may be for sale at a time. In contrast, in 2024 the average grocery store offered 31,795 products.[25] This is nearly 8 times

[20] These statements and information can be found here: Costco Wholesale Corp, 10-K, For the fiscal year ended September 1, 2024, page 5.
[21] See https://www.cfraresearch.com/insights/broadline-retail-trends-and-outlook/
[22] See https://www.foodnavigator-usa.com/Article/2023/12/12/dollar-general-to-cut-skus-including-food-to-improve-margins-manage-shrink#
[23]See https://www.supplychaindive.com/news/dollar-general-sku-reduction-inventory-management/750207
[24] Costco Wholesale Corp, 10-K, Ibid
[25] https://www.fmi.org/our-research/food-industry-facts

more products available in the entirety of a Costco warehouse, which includes more than just food products. In contrast to Costco's few varieties of soup, a traditional grocery store will have shelves filled with multiple brands and multiple varieties. The same applies to many other products, such as canned beans, canned fish, bread, cookies, etc.

Checkout Procedures. Costco is further distinguished from the average retailer pursuant to its payment options and how it assembles items purchased by customers. Costco warehouses accept cash, checks, certain debit cards, and certain (but not all) credit cards, including Costco cobranded cards.[26] These methods of payment may limit Costco's customer base. Once a customer has made purchases, Costco does not provide bags (to minimize costs and waste) or bagging services. Some items are loaded into packing boxes by Costco cashiers, but the balance of goods are either reloaded back into the shopping cart by the Costco cashiers or can be placed into bags provided by the customer. This approach may further limit Costco's customer base among customers accustomed to merchandise bagging, including by store clerks.

Sales Impact Implications

These Costco retail merchandising factors will likely contribute to the dispersal and lessening of potential food store sales impacts resulting from the Project. Because of the comparatively limited number of products available for purchase, the bulk nature of the products, and the bagging and purchasing procedures implemented at Costco, the potential for sales to be diverted away from any of the existing retailers selling food products to an extent so severe as to cause store closure is highly unlikely, despite the maximum estimated food stores impact of $48 million. Many factors are likely to moderate this maximum impact.

There are a large number of stores distributed across a large geographic area, identified as at least 28. Because existing and anticipated Costco members are also distributed across a relatively large geographic area, shopping pattern changes away from existing stores will also be widely distributed. However, most shoppers will need to continue shopping elsewhere to purchase the full complement of food supplies needed to equip their household. Moreover, existing stores can adapt their merchandising mix and customer service strategies to be more resistant to prospective sales impacts, regardless of the source (e.g., the Project or other major retailer). Retailing is highly dynamic, with the nature of competition continuously changing. Thus, retailers regularly modify their strategies to distinguish themselves in the market and to retain market share.

The estimated $16 million to $48 million in food store sales impact will occur among a wide range of existing stores, as Costco appeals to a wide range of shoppers. Therefore, discount grocery stores as well as conventional grocery stores alike are anticipated to incur some sales losses as shoppers replace some of their regular store shopping trips with Costco shopping trips. The actual performance of the market area grocery stores and other stores selling food products is not available. However, most stores appear to have robust performance with a dedicated customer base.

To approximate a general idea of where food store impacts might be concentrated, ALH Economics prepared an analysis sorting the stores identified in Exhibit 13 into three categories defined by distance from the El Dorado Hills Costco site. The categories were defined by the natural breaks in distance, with the First Tier including stores located 1.5 to 6.0 miles from the Costco site, the Second Tier including stores 13.5 to 17.6 miles from the Costco site, and the Third Tier including stores 22.5

[26] Costco Wholesale Corp, 10-K, Ibid

to 31.2 miles from the Costco site. A Fourth Tier is also identified, as a catchall tier to include other food-selling stores in the market area that were not substantial enough on their own to be included in the Exhibit 13 representative inventory. The First Tier stores include 9 stores in El Dorado Hills and Cameron Park, The Second Tier stores include 8 stores in Placerville, and the Third Tier stores include 11 stores, comprising 9 in Amador County and two relatively distant stores in Placerville and Pollock Pines.

The First through Third Tiers were paired with the size of the market area population closest to each tier and then weighted by proximity. The population estimates are not exact, but they encompass the population counts identified earlier in Exhibits 3 and 4 for communities in El Dorado and Amador counties, respectively. For the First Tier the population counts include El Dorado Hills, Cameron Park, and Shingle Springs. For the Second Tier the population counts include Placerville, Diamond Springs, and the other El Dorado County market area locations except Pollock Pines. Finally, the Third Tier includes the Amador County population within the market area plus Pollock Pines.

As shown in Exhibit 14, the market area's population is distributed 51% in the First Tier, 18% in the Second Tier, and 31% in the Third Tier. The analysis also assumes that 10% of the market area population is served by the generalized Fourth Tier stores (primarily to allocate 10% of the impact to these stores). The population counts in the First through Third Tiers were then weighted based on proximity to the new Costco site, recognizing the likelihood that persons living closer to the Costco site may have a greater propensity to shop at Costco than those living further away. These weights ranged from a high of 2 applied to the First Tier population to a low of 1 applied to the Third Tier population. The resulting weighted populations were then used to calculate estimated shares of diverted sales from each Tier, and then averaged across the number of food-selling stores in each tier. These shares are 64% for the First Tier, 17% for the Second Tier, and 20% for the Third Tier. These are percentage shares of the impacts less the Fourth Tier allocation, or 90% of the minimum and maximum impacts.

The prospective store impact results displayed in Exhibit 14 indicate a per store average impact ranging as follows:[27]

- $1.0 million to $3.1 million among the First Tier stores in El Dorado Hills and Cameron Park;
- $300,000 to just under $900,000 million among the Second Tier stores in Placerville; and
- $200,000 to almost $800,000 among the Third Tier stores in Amador County.[28]

Expressed in this manner, it seems highly unlikely that all 9 stores in El Dorado Hills and Cameron Park would experience a $3.1 million annual sales loss attributable to the economic impacts of the El Dorado Hills Costco. All of the stores in this tier are well-established and appear to be strong performers based on visual observation. The same is generally true for the stores in the Second and Third tiers, such that the respective maximum average impacts of $900,000 and $800,000 per store are unlikely to occur. Individual store impacts may be uneven, but the lower estimates of $300,000 to $1.0 million per store depending upon tier seem more likely given the inherent differences in store merchandising strategies between Costco and the market area's more traditional food stores and general merchandise stores selling food products. Thus, ALH Economics concludes that given the potential to implement adaptive strategies, and the differences in merchandising strategies, no single store engaged in food sales is likely to experience sales declines sufficient to result in store closure.

[27] Results are generally rounded to the nearest $100,000.
[28] With the exception of two El Dorado County stores also located in this tier.

GASOLINE STATION IMPACTS

Prevalence of Market Area Gas Stations

Relative to the market area, the approximately $27.5 million maximum sales impact in gasoline stations totals 7.7% of the sales base. After assuming 5% of this impact is absorbed pursuant to average, or typical retail sales fluctuations (including most likely the price of gasoline given its relative volatility compared to other consumer products), that leaves a minimum 2.7% impact, or $9.7 million (see Exhibit 12).

Exhibits 15 and 16 identify 34 gas stations in the El Dorado County portion of the market area, with a total of 71 fueling stations and 142 handles. Exhibit 17 identifies an additional 13 gas stations in the Amador County portion of the market area, with 45 fueling stations and 90 pumps. Therefore, there are at least 47 gas stations in the market area with 116 fueling stations and 232 pumps.[29] This compares to the 16 fueling stations and 32 handles at the proposed El Dorado Hills Costco fueling facility. Hence the Project will increase the market area's gasoline handle inventory by 14%.

These gas stations are geographically mapped in Figure 3 (El Dorado County) and Figure 4 (Amador County). ALH Economics visited all the gas stations listed in Exhibits 15-17 and gathered key operating information, including number of fueling stations and pumps, price of gasoline, name and relative size of the gas station's convenience store (if any), hours of operation for the gas pumps and store, and unique gas station features. The gas stations were visited over multiple days. For each of those days the gas prices at the Costco in Folsom were also gathered for comparison purposes.

Market Area Gas Station Characteristics

The gasoline price comparison information indicates that in the El Dorado County portion of the market area, 13 of the 34 gas stations had at least some gasoline price equal to or lower than the Costco price on the survey day. These included only gas stations 5 or more miles from the Project site (6 gas stations are less than 5 miles from the Project and 27 are located 5 – 17.3 miles distant, with one outlier around 24.5 miles away). In addition to some selective low gas prices, gas was available for purchase 24/7 at every El Dorado County gas station. This is equivalent to gas availability 168 hours per week. In contrast, Costco fuel facility hours are more limited, with gas available for purchase 108.5 hours per week. Thus, the El Dorado County gas stations are open more than 50% more hours than the Costco fuel facility. This is a significant distinction between Costco and the market area gas stations, with consumers having comparatively more flexibility in when they can purchase gasoline from market area gas stations. Further distinguishing these gas stations from Costco is the presence of a convenience store at every El Dorado County gas station. At 12 of these gas stations, the store hours were also 24/7; hours at the other 22 gas station convenience stores typically extend from 5:00 or 6:00 am to 10:00 or 11:00 pm. Finally, about 40% of the El Dorado County gas stations have yet additional features not present at the planned Project. These primarily include car wash stations with some also offering repair services and smog checks.

[29] These gas stations are representative, and yet additional gas stations may be present in the market area.

FIGURE 3. EL DORADO HILLS COSTCO PROJECT MARKET AREA
EL DORADO COUNTY GAS STATIONS

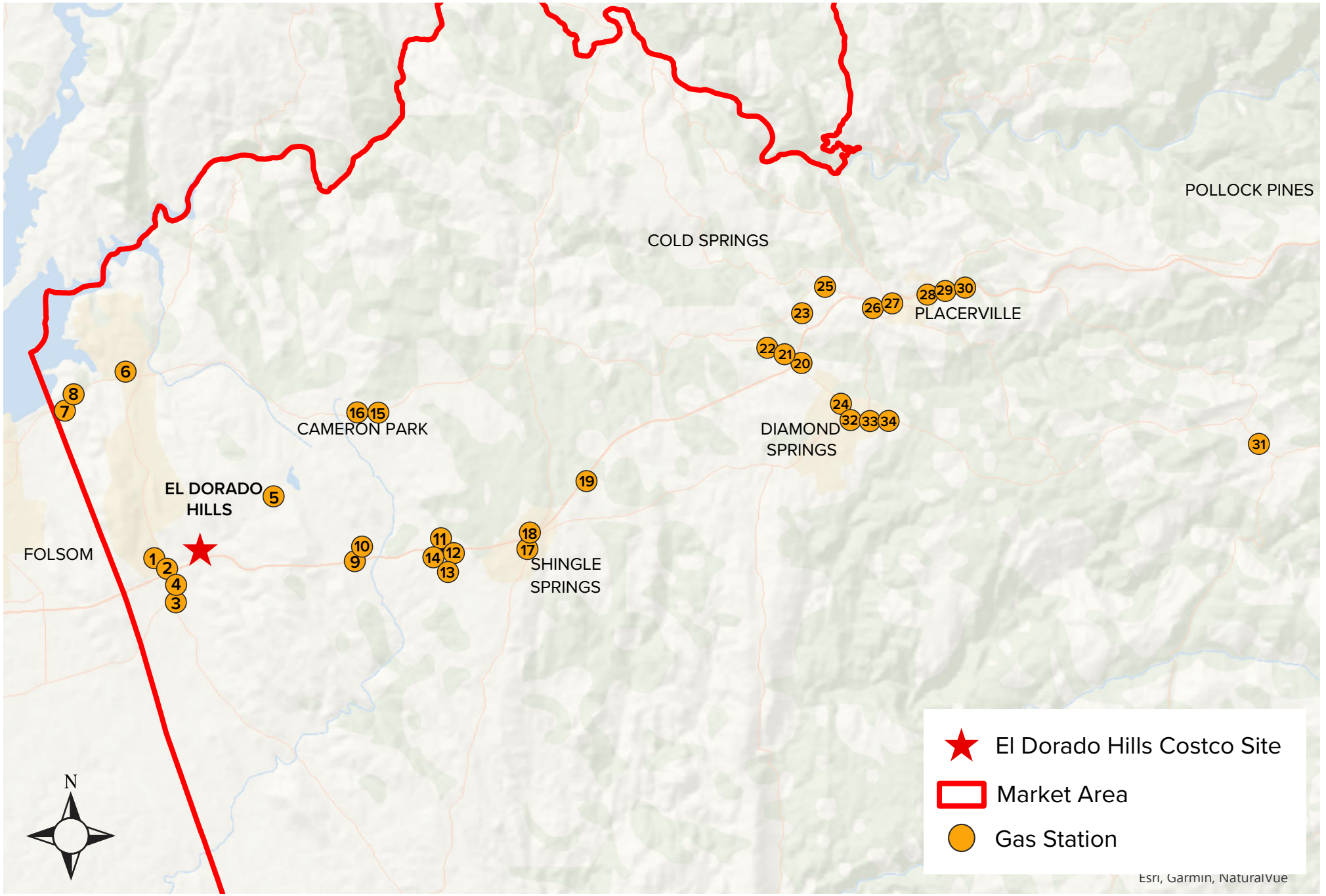
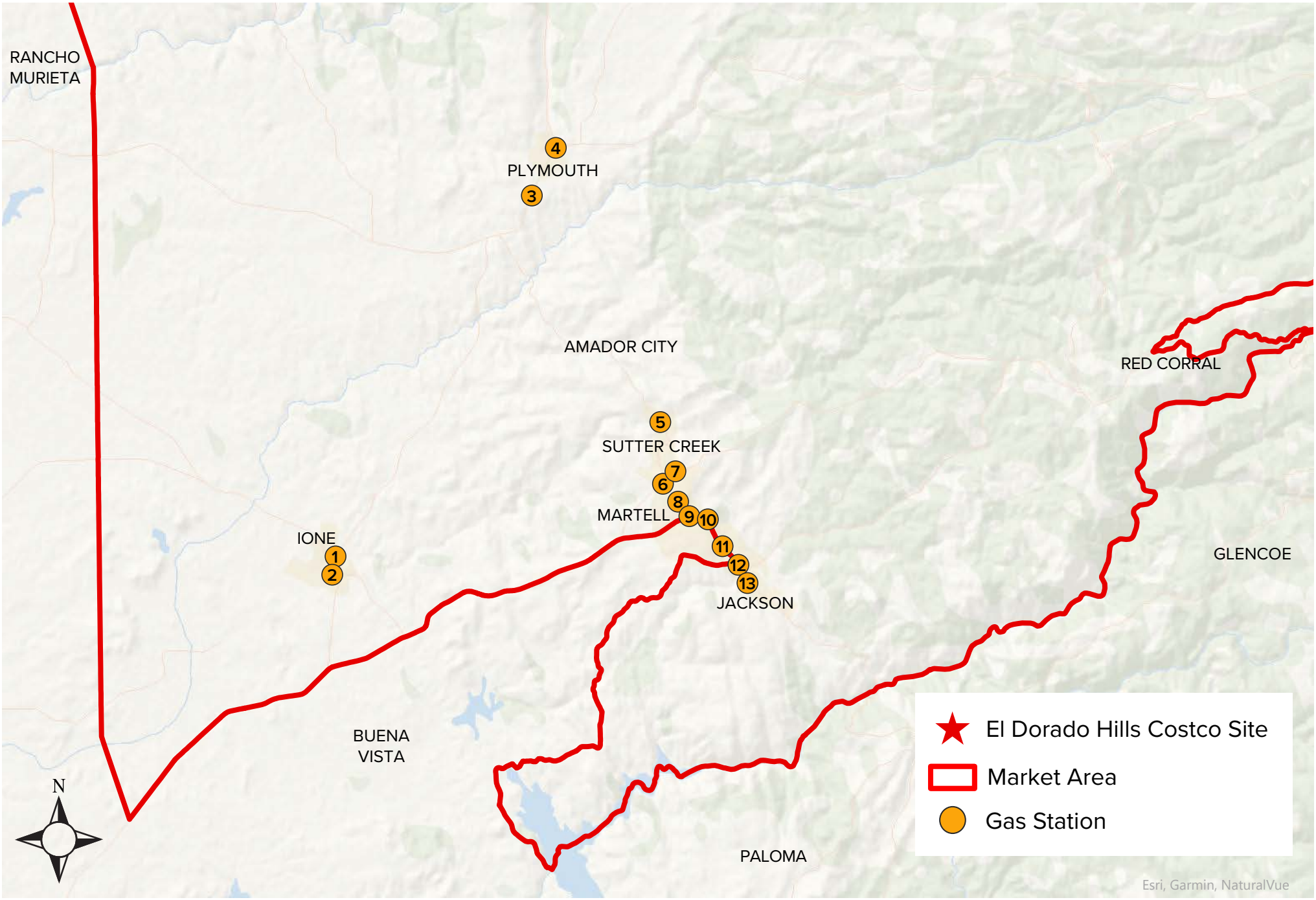


FIGURE 4. EL DORADO HILLS COSTCO PROJECT MARKET AREA
AMADOR COUNTY GAS STATIONS



In the Amador County portion of the market area, none of the 13 gas stations had any gasoline prices lower than Costco. This likely reflects the more rural nature of Amador County, plus the location of all the gas stations 20 – 30 miles from the Project site. All but one of these gas stations has gas available 24/7, hence with greater availability than at Costco. In addition, all but one of the Amador County gas stations has a convenience store of some kind. Unlike in El Dorado County, few of the Amador County gasoline stations have any additional features.

There are some other notable differences between Costco gasoline sales and the market area gas stations. Most notably, only Costco members can purchase gas at Costco gas stations. In contrast, any consumer can purchase gas at the market area's 47 gas stations, which offer the same or a wider range of fuel products, are open longer hours, sell on-site convenience store products (with many of the convenience stores providing customer restrooms, which are not a Costco fueling station feature), and in many cases provide expanded automobile services. All of the existing gas stations have more customer service offerings than Costco and they all have access to a broader customer base because they do not have a customer membership requirement.

Moreover, the market area as a whole, and individually including the El Dorado County and Amador County portions, achieves significant retail sales attraction in gasoline sales. This indicates that the gasoline sales sector is one of the market area's strongest performing retail sectors, clearly satisfying regional demands in excess of local needs.

Sales Impact Implications

The estimated $9.7 million minimum to $27.5 million maximum market area gasoline sales will be dispersed throughout the market area. To some extent the impacts could be greatest closest to the Project site, as it would be easier for Costco members to redirect their gasoline purchase trip from stations closer rather than more distant from Costco. However, even gas stations further from Costco are likely to experience sales diversions depending upon how well consumers can time their purchases coincident with a shopping trip to the Costco warehouse. This is especially the case as current market area Costco members are already likely purchasing gas at Costco in favor of existing market area gas stations when feasible.

The timing of gasoline purchases are often dictated by need, not by choice, and a Costco member who lives or works at the perimeter of the market area will often need to pump gas into their vehicle when in a location distant from the Costco fuel facility. Nevertheless, it is possible that gas stations with higher gas prices in the area near the Costco might encounter a more competitive marketplace, with a disproportionate decline in customer sales. However, Costco gas lines can be long, and time-stressed consumers will choose to purchase gas at other locations rather than go an extra distance to wait in line behind other gasoline customers. In addition, the longer hours at market area gas stations and presence of amenities relative to Costco (e.g., convenience store, restroom, and ancillary services) will comprise comparative market area gas station advantages. Therefore, ALH Economics concludes that the gasoline sales impacts will likely be dispersed to the extent that no single or small set of gas stations will bear the brunt of the sales impacts and risk closure as a result. This is especially the case if the gas station impacts are at the lower end of the estimated range of impacts. Moreover, case study research previously conducted by ALH Economics in communities with new Costco fuel facilities indicated that while revenues at other area gas stations may experience an initial dip after the Costco fuel facility opening, over time, gas station revenues are recouped, and often increase, even adjusting for the volatility of gasoline prices.

VII. CUMULATIVE PROJECTS

This analysis seeks to quantify the impact of the Costco Project taking into consideration other planned competitive retail projects within the market area. The cumulative projects that have been assessed for impacts include retail developments that are in various stages of entitlement or planning.

IDENTIFIED RETAIL DEVELOPMENT PROJECTS

ALH Economics identified five potential cumulative development projects in the market area with retail components. Projects with at least 25,000 square feet of planned retail space are included in the cumulative projects. Information about these projects was primarily derived from review of public documents and interviews with local government sources. These five projects are described in Exhibit 18, and are organized based on their development or public review status, including projects under construction, projects approved but not yet under construction, and projects under review. The five projects have total retail potential of 550,646 to 711,382 square feet, with most also encompassing other land uses, especially residential. The projects are located between 1.7 and 30 miles of the El Dorado Hills Costco site.

The cumulative projects are mostly all located in El Dorado County, with just one in Amador County. The El Dorado County projects are located in Placerville and Unincorporated El Dorado County, including El Dorado Hills. The Amador County project is located in Unincorporated Amador County near Martell.

Only one cumulative project is currently under construction. This project is "Crossings at El Dorado" in Placerville, which is a 132,126-square-foot all retail project located 13.6 miles from the Costco site. This new community shopping center is located adjacent to the existing Prospector's Plaza. As of June 2025, some of this project's pad buildings were complete and operational, but the majority of the space was still under construction. Representative tenants identified for this project include 7-Eleven, Petco, Michael's, and Five Below. Notably, none of the anticipated tenants identified for this project include food sales that would be competitive with the high volume of food sales anticipated to be generated at Costco.

One additional project with a planned retail component is approved, located in El Dorado Hills. This project is situated 1.7 miles from the Costco site, and is named "Montano de El Dorado Phase II. This is a planned mixed-use development project comprising an expansion of the existing Montano de El Dorado boutique lifestyle retail center near El Dorado Hills Town Center. This approved project includes 75,316 square feet of retail divided among 8 buildings. However, since the 2021 approval of this project the applicant has identified plans to alternatively develop the land with multifamily residential housing, so actual development of the approved retail space is uncertain.

The three other cumulative projects are all under review in their respective jurisdictions, which include El Dorado County and Amador County. These projects are "Gateway El Dorado" in El Dorado Hills, "Village of Marble Valley" in Unincorporated El Dorado County, and "Wicklow Way Specific Plan" in Unincorporated Amador County. All three projects include a range of land uses, with retail space comprising just a portion, ranging from 100,000 to 303,940 square feet per project.

CUMULATIVE PROJECT IMPACTS

The cumulative projects total 550,646 to 711,382 square feet of potential new retail space. Only 132,126 square feet of this space is under construction, with all other space either approved or under review. The approved space appears to have the potential to be converted to another land use. If this occurs, then the cumulative retail space total will drop to 475,330 to 636,066 square feet.

As demonstrated earlier, the El Dorado Hills Costco project is anticipated to have the greatest impact on the market area's food & beverage and gasoline station retail sectors. Thus, any food store and gasoline station sales generated by cumulative projects would add to these prospective impacts. However, based on the size of cumulative project retail components, and constituent buildings where identified, it is unlikely that any cumulative project will include a food store. Moreover, it is too speculative at this time to forecast the retail uses at the three cumulative projects that are under review. In addition, none of the cumulative projects appear at this time to include plans for new gas station development.

This probable lack of food store and gas station development indicates there will likely not be any cumulative project impacts in these retail categories. While El Dorado Hills Costco sales may compete with sales in other retail sectors, those impacts are low enough to likely be absorbed in the normal course of doing business in the market area. The same is likely the case among the cumulative projects, as even with Costco's recapture of existing market area leakage some leakage will still remain. This remaining leakage is in these retail categories: motor vehicles & parts dealers, home furnishings & appliance stores, clothing & clothing accessories stores, and food services & drinking places. If the cumulative projects include tenants representative of these retail categories then those tenants will likewise have the potential to recapture existing leakage. This is especially likely in the food services & drinking places retail category, which as shown in Exhibit 12 has the greatest amount of remaining leakage ($125.6 million) while various forms of restaurants are likely to be major cumulative retail project retail uses, including at "Crossings at El Dorado", the one cumulative project most likely to be developed in a timeframe coincident with the Costco Project.

In conclusion, the cumulative projects are not anticipated to significantly increase or change the market area impacts associated with the El Dorado Hills Costco Project.

VIII. URBAN DECAY DETERMINATION

The purpose of this chapter is to assess the degree to which development of the Costco Project will or will not contribute to urban decay. This chapter discusses the definition of urban decay, the study's approach to determining urban decay potential, and ALH Economics' urban decay determination.

STUDY DEFINITION OF URBAN DECAY

For the purpose of this analysis, urban decay is defined as, among other characteristics, visible symptoms of physical deterioration that invite vandalism, loitering, and graffiti that is caused by a downward spiral of business closures and long term vacancies. The outward manifestations of urban decay include, but are not limited to, plywood-boarded doors and windows, parked trucks and long term unauthorized use of the properties and parking lots, extensive gang and other graffiti and offensive words painted on buildings, dumping of refuse on site, overturned dumpsters, broken parking barriers, broken glass littering the site, dead trees and shrubbery together with weeds, lack of building maintenance, homeless encampments, and unsightly and/or dilapidated fencing. A project's economic impacts on a community are only considered significant if they lead to adverse physical changes in the environment.

APPROACH TO DETERMINING URBAN DECAY POTENTIAL

ALH Economics engaged in several tasks to assess the probability of urban decay ensuing from Project development. These tasks revolved around assessing the potential for closed retail store spaces, if any, to either (a) remain vacant for a prolonged period of time such that they contribute to the multitude of causes that could eventually lead to urban decay, or (b) be leased to other retailers within a reasonable marketing period. Part of this research focused on assessing if sufficient retailer demand exists to absorb vacated space in the event existing retailers close due to any negative economic impacts of the Project and the development of other planned retail. ALH Economics conducted field research and contacted real estate brokers and third party resources to determine the commercial health of the market area.

THE CURRENT ENVIRONMENT

ALH Economics conducted fieldwork throughout the more heavily retailed portions of the market area. The purpose of this fieldwork was to examine the physical condition of major shopping centers and shopping corridors, especially ones with stores competitive with Costco, to identify existing retail vacancies, and to assess their condition and appearance. A four point rating system was applied to each center's vacancies as a whole, including Poor, Fair, Good, and Excellent.

Area Commercial Retail Vacancies

All of the commercial shopping centers where competitive stores are located were examined during field research to identify and inventory any existing vacancies. The physical conditions of the vacancies were also reviewed, to assess their current state relative to the characteristics indicative of urban decay. Follow-up research on the vacancies was conducted via internet research and outreach to commercial real estate brokers representing the various vacancies. Additional centers in select areas were also inventoried, despite the lack of a grocery store or general merchandise store anchor tenant. The purpose of this inclusion is to highlight the difference in performance and condition between

centers with and without anchors competitive to Costco. Notably, in general, retail operating within a 5% to 10% vacancy rate is typically considered indicative of a healthy retail market, as some vacancy facilitates strategic repositioning and the attraction of new tenants with higher growth potential, leading to a more vibrant and competitive market.

Some of the commercial centers where competitive stores are located have no apparent or visible vacancies, but the majority of the centers have some degree of vacancy. Many of the relevant centers are identified on Exhibit 13 in association with the identification of representative grocery stores, other food stores, and general merchandise stores. Summary information on this exhibit in the "Adjoining Vacancies" column identifies the number and relative size of existing vacancies. Several centers are also noted as having no vacancies at the time of the field research in late spring and early summer 2025.

The centers with existing vacancy and select information on the vacancies are presented in Exhibits 19 and 20. Where available, the information presented includes center name and address, year built, miles from the Project site, gross leasable area (GLA), anchor tenants, amount of vacant square footage including size and number of vacancies, vacancy rate, condition of the vacancies, and select notes on the vacancies or property. Exhibit 19 pertains to centers located in the El Dorado County portion of the market area and Exhibit 20 pertains to select Amador County retail vacancies. Notes on the vacancies and photos of representative vacancies are maintained in ALH Economics' project files.

El Dorado Hills Vacancies. In El Dorado Hills, ALH Economics identified five shopping centers with tenants included in the competitive store inventory that are operating with some vacancies. These centers range in size from 100,698 square feet at the relatively new Sienna Ridge center (built 2020), located 3.2 miles from the Project site, to 448,256 square feet at El Dorado Hills Town Center, 1.5 miles from the Project site. The Sienna Ridge shopping center, anchored by Safeway, is still experiencing initial build out, with the expected completion of a 1,527-square-foot pad in Summer 2025. An additional 3,559 square feet is unoccupied, but still under lease, so technically not vacant. Nevertheless, there are two parties interested in the space. One small space of 900 vacant square feet is under negotiations.

The vacancies among the older shopping centers in El Dorado Hills, built between 1992 and 2007, are all in good to mostly excellent condition. All four of the centers anchored by a grocery store are operating at well below 5.0% vacancy. Commercial brokers representing the vacant spaces generally indicate there is strong market interest for vacancies. One of these centers, Market Place at Town Center, previously had a long-term vacancy (beginning 2012), comprising 23,435 square feet occupied by CVS prior to its relocation. For many years, CVS continued to hold and pay on this lease, so it was not available for backfilling. Once the CVS lease expired, Ace Hardware took over the space, and appears to be meeting with strong market demand.

Cameron Park Vacancies. The information on the properties located in Cameron Park indicates that almost three quarters of the selected retail centers with existing vacancy were built approximately 20 or more years ago. All but one of the nine Cameron Park centers identified in Exhibit 19 are located 5.5 or more miles from the Costco site. Only two centers have grocery or other stores competitive with Costco. These include the Goldorado Shopping Center anchored by Bel Air and Cameron Park Place anchored by Safeway. Notably, these centers are operating at relatively low vacancy rates of 5.5% and 6.8%, respectively. Of the identified centers with existing vacancy, these are the lowest vacancy rates. The vacancies at these centers appear to be in good or excellent condition. These are likely equilibrium vacancy rates for these two centers, as the Goldorado Shopping Center, with 6.8% vacancy, lacks visibility, which is challenging for existing and prospective retailers. The 5.5% vacancy

rate at Cameron Park Place is attributed by the commercial broker representing the space to the relatively small size of the Cameron Park market.

Two other Cameron Park centers are grocery store adjacent. These include Cameron Park, adjacent to Forklift, and Green Valley Station, adjacent to the market area's newest grocery store, Grocery Outlet (opened October 2023). These two centers have among the second lowest levels of existing vacancy, at 8.3% and 8.4%, respectively. Their vacant spaces appear to be in excellent condition. All the other Cameron Park retail centers have substantially higher vacancy rates, of 30% or greater. One center, which is really a stand-alone retail space, is noted with 100% vacancy. However, this former Rite-Aid, closed in 2022 during the Covid-19 Pandemic, is slated to become a new Dollar Tree store. The other two centers with high vacancy, Cameron Park Plaza and Winery Plaza, appear to be victims of owner disinterest, due to long-distance ownership, and are essentially located adjacent to each other. This appears to be a neglected retail node, although the new Dollar Tree opening in the former CVS space is also located at this node.

Among the two Cameron Park centers with high vacancy rates, the condition of their respective vacancies appear to be in fair (Winery Plaza) to good condition (Cameron Park Plaza). The vacancies at Cameron Park Plaza appear to be in good condition, with no visible signs of decay. There may be plastic sheeting covering some windows from inside, but this is not an indicator of urban decay. At Winery Plaza, the vacancies have been available for several years. The leasing broker for the center indicates interest is expressed from time to time, but is never followed through. These vacancies are in fair condition, with some visible rust and other staining on the façades. Still, this is not an indicator of urban decay, as the center is reasonably well maintained, there is no visible trash, and no windows are boarded up and no graffiti is present. In many rural and country settings, this exterior appearance, especially for an older property, is the norm.

Placerville Vacancies. There are five centers in Placerville included in Exhibit 19. Three of these centers are anchored by a grocery store, with the other two centers located across a road from stand-alone grocery stores. All of these centers are at least 13.5 miles from the Costco Project site, with the furthest located 24-25 miles away. These centers range in size from about 20,000 square feet to over 240,000 square feet. Retail vacancy is highest at 10.6% for the oldest center in Placerville, Apple Farm Place, originally built in 1973 (and renovated in 2022/23). The six vacancies at this center have been vacant for about three years. Nevertheless, the center and vacancies appear to be in good condition. The existing tenants at this center have a discount orientation, including Grocery Outlet and Dollar Tree.

The two other Placerville shopping centers anchored by a grocery store are operating at low vacancy rates of 1.5% and 5.1%. These are also the largest centers, with 243,000 square feet at Prospector's Plaza anchored by Save Mart and Target and 119,928 square feet at Missouri Flat Village, anchored by Safeway. The one vacancy at Prospector's Plaza is in good condition, while the more numerous vacancies at Missouri Flat Village are in excellent condition. The only Placerville center with vacancies deemed to be in fair condition is the relatively small Pleasant Valley Square, located out in the country, 24-25 miles from the Costco Project site and across the road from the stand-alone Holiday Market.

Amador County Vacancies. Exhibit 20 for Amador County includes five properties, four of which are retail centers with vacancy and one of which is a long-term vacant retail building. These properties are all 28-31 miles from the Costco Project site. The long-term vacancy is the former K-Mart space in Martell, across the road from Martell's Walmart store. The K-Mart was closed in 2017 and the space has remained vacant ever since, with the property available for sale or lease. Following recent community efforts to clean up the site and enhance its curb appeal the property appears to be in

generally good condition, although there is one area of the building that is in disrepair (under the eaves along the front).

The two shopping centers with the more conventional grocery stores are both operating at very low vacancy, with 3.7% at Amador Ridge Plaza in Martell with multiple anchor tenants including Safeway, and 1.1% at Jackson Creek Plaza in Jackson anchored by Cost Less Food Co. The limited vacancies at both these centers appear to be in good condition. At the large Amador Ridge Plaza (272,948 square feet), vacancies tend to lease up after about 6 to 12 months, which is a reasonable and respectable time frame.

Jackson's Grocery Outlet is located in a small, out of the way, center, previously paired with a Joann Fabric and Crafts store. Due to the closure of the entire Joann chain, the Joann space was vacated in spring 2025. City of Jackson representatives indicate no interest has yet been expressed in renovating or retenanting the space. Nevertheless, it is in good condition. Prior to occupancy by Grocery Outlet and Joanne, this center was a Safeway store. Hence the current occupancy is an example of retail backfilling of a grocery store in the Costco Project market area.

Finally, the Mother Lode Plaza is a relatively older retail center, dating from 1977-1979. The amount of vacancy is unclear, given recent changes in property management, but appears to be about 25%. This center is a bit run down, with on-site indications of personal vehicle sales. The only relevance of this center to the Costco Project is the tenancy of Gold Trail Natural Foods, a small, specialty food store. However, given the specialized products sold at this store and its distance from the Costco Project site, this store is highly unlikely to be competitive with Costco and is not likely to experience any sales impacts as a result of the Costco warehouse operations.

Vacancy Summary. In summary, this review of representative commercial vacancies in the Costco Project market area indicates that the majority of centers with stores potentially competitive with Costco are operating at healthy vacancy rates (or none at all) with existing vacancies being well-maintained and in good to excellent condition. Some longer term vacancies have recently or will soon be backfilled, although the large vacant K-Mart in Martell remains available. Despite this building's long-term vacancy of about 8 years, efforts were recently made to improve the property's curb appeal. Other vacancies in well-located centers with good visibility appear to attract prospective tenant interest.

Overall, while some market area retail vacancies may be located in older properties not characterized by stringent upkeep, ALH Economics does not consider them indicative of widespread urban decay, as they do not generally exhibit the typical signs of urban decay such as plywood-boarded doors and windows, parked trucks and long term unauthorized use of the properties and parking lots, extensive gang and other graffiti and offensive words painted on buildings, dumping of refuse on site, overturned dumpsters, broken parking barriers, broken glass littering the site, dead trees and shrubbery together with weeds, lack of building maintenance, homeless encampments, and unsightly and/or dilapidated fencing.

IMPACT ON COSTCO'S FOLSOM WAREHOUSE AND FUEL FACILITY[30]

As noted earlier in the analysis, in Chapter III, Projected Costco Sales, 54% of the El Dorado Hills Costco warehouse sales and 7% of the El Dorado Hills Costco fuel facility sales are estimated to be diverted from Costco's existing Folsom warehouse and fuel facility, for a total of $144 million in shifted annual sales. Also as noted earlier, in Section II. Study Background, Costco is developing the new facilities in El Dorado Hills because the Folsom warehouse and fuel facility are operating over ideal capacity. Consequently, some members are deterred from shopping in Folsom because of the high volume of shoppers and congestion.

According to communication from Costco representatives, Folsom sales have increased by nearly 53% over the last 10 years. As a result, the Folsom warehouse is the highest generator of sales in the Sacramento market. Accordingly, this suggests the Folsom facilities are achieving substantially higher sales per square foot than the $1,800 figure estimated for El Dorado Hills. Costco representatives confirm that Folsom sales performance exceeds this more generalized average. Further, Costco has developed its own internal estimates of the share of Folsom sales that will transfer to El Dorado Hills when the latter is fully operational. Based on the 150,000-square-foot size of the Folsom warehouse [31] and the share of sales Costco estimates will transfer to El Dorado Hills, for analytical purposes ALH Economics assumes this warehouse is performing 50% above this study's $1,800 per square foot estimate for El Dorado Hills. If that is the case, which ALH Economics believes is a reasonable estimate given the strong performance of the Folsom warehouse, then sales at Folsom (inclusive of gasoline) are $405 million. The estimated $144 million in sales diverted from Folsom to El Dorado Hills will comprise 36% of Folsom's estimated existing sales. This figure is generally comparable to the estimate provided by Costco.

The impact of this sales loss at Costco's Folsom facilities is not anticipated to be severe enough to cause the Folsom facilities to close, and thus are not anticipated to cause or contribute to urban decay. This finding is based on several factors. One major factor is that Costco is seeking to open in El Dorado Hills to provide a more enjoyable shopping experience for Members who will continue to live closest to Folsom and shop there. Second, for the purpose of this study, Costco provided information about Costco warehouse impacts in other California and Pacific Northwest communities when a new warehouse opened near an existing warehouse.[32] These included the following comparatively new warehouses:

- Hanford in 2016, near an existing Visalia warehouse;
- Redmond, WA in 2016 near an existing Kirkland, WA warehouse;
- San Jose's Great Oaks neighborhood in 2017 near an Almaden neighborhood warehouse;
- Elk Grove in 2018 near an existing South Sacramento warehouse; and
- SW Henderson, Nevada, near an existing Henderson warehouse.

Sales losses at the existing warehouses cited above ranged from 11% to 26%. All these existing warehouses continued operations, and built back their sales within 2 to 7 years, averaging 4.5 years. The growth market deemed by Costco to be most similar to the Folsom/El Dorado Hills area was the

[30] Select information in this section regarding Costco's existing Folsom operations was provided by Costco representatives. Communications pertaining to this information are maintained in ALH Economics' project file.
[31] See https://engageeldorado.us.engagementhq.com/edh-costco/widgets/93259/faqs#question15042.
[32] This information is also maintained in ALH Economics' project file.

last example, in Henderson Nevada. There, a sales loss greater than 20% at the existing store was built back by year 2.

While the estimated sales loss at Folsom is greater than those cited above, the Folsom store is most likely outperforming any of the identified existing warehouses. But the most significant finding represented by these examples is that Costco routinely develops new warehouses close to existing ones without impacting the existing warehouses to such an extent that they cease operations and negatively impact their respective physical environments. This provides support for the expectation that development of the El Dorado Hills warehouse and fuel facility will not negatively impact the existing Folsom warehouse such that it could close and potentially impact Folsom's real estate base.

REGULATORY CONTROLS

Owners of commercial retail properties are generally financially motivated to maintain property in a manner appropriate to retain existing tenants and attract new tenants. This appears to generally be the case in the market area portions of El Dorado and Amador counties, where the competitive retail properties are located. This is evidenced by the overall positive prevailing physical condition of the market area's retail vacancies. If property owners lag, however, and property maintenance begins to show signs of deferred maintenance or other disrepair, the various jurisdictions comprising the bulk of the market area have regulatory controls that can be implemented to avoid the onset of deterioration or decay. This report section reviews some of these regulatory controls.

Relevant Jurisdictions in El Dorado County

El Dorado County and Placerville both have ordinance codes addressing property conditions characteristic of urban decay and blight. El Dorado County's code is especially relevant to these conditions.

El Dorado County. The El Dorado County Code, adopted November 17, 2014 (with the most recent ordinance 5231 adopted June 24, 2025), includes many regulations designed to maintain the physical condition of properties in the unincorporated County areas. These regulations can serve to keep urban decay conditions at bay. The sections of the Code most applicable to urban decay characteristics include ones addressing graffiti, weeds and rubbish, illegal dumping, and nuisance abatement.[33]

The ***Title 9*** portion of the code, addressing ***Public Peace, Morals and Welfare,*** contains the basics regarding maintenance of private property. This includes ***Article II. – Vacant Buildings,*** which has a series of provisions related to the responsibility of property owners to actively maintain and manage their buildings. The Board of Supervisors finds that "When the owner of a vacant building fails to actively maintain and manage the building, the building can become a major cause of blight…vacant buildings that are boarded, substandard, or unkempt discourage economic development." The text explicitly states that it is the property owner's responsibility to maintain their property in order to prevent it from becoming a threat to "public health, safety, or welfare." ***Section 9.02.630. – Maintenance and monitoring of vacant buildings,*** further requires that vacant buildings, along with the associated landscaping, be maintained in good condition with regular trash removal, weed abatement, and the prevention of criminal activity, including illegal occupancy. Furthermore, if a vacant building cannot be secured, then the code requires it to be boarded up with posted signs

[33] See https://library.municode.com/ca/el_dorado_county/codes/code_of_ordinances for all references to El Dorado County's Municipal Code, relevant to the county's Unincorporated areas.

indicating that it is unlawful to enter or occupy the structure. While boarded up buildings can often be perceived as an indicator of urban decay, here the County's code requires this action.

Also included in Title 9 is ***Chapter 9.50. – Graffiti Abatement,*** which is intended to "summarily abate graffiti throughout the unincorporated area of the County" because graffiti "constitutes a nuisance that presents an imminent danger to the public health, safety and welfare of persons in the County and creates a negative impact on the County." Among provisions in the chapter is the requirement that the private property owner paint out graffiti within five calendar days from notice (***Section 9.50.060. – Graffiti removal***). There are also provisions for the County to recover costs associated with graffiti abatement, including liens for minors and persons creating graffiti.

Litter and weeds are specifically addressed in ***Title 8 – Public Health and Safety.*** The section regarding litter is found in **Chapter 8.42. – Solid Waste Management, Article VIII. Prohibited Acts, Nuisances, Violations, Abatement and Penalties, Section 8.42.700. – Littering, accumulation of litter, and illegal dumping prohibited.** Property owners are prohibited from allowing the accumulation of litter, trash, scrap, junk, or garbage so that it is visible to adjacent properties or the right-of-way. ***Section 8.42.800. – Abatement procedures*** under ***Article IX. Abatement and Penalties*** provides details regarding abatement of litter and penalties for violating the chapter.

Weeds and hazardous vegetation are addressed in ***Chapter 8.09 – Hazardous Vegetation and Defensible Space, Section 8.09.060. – Prohibited conduct,*** which states that a responsible person shall not "permit the accumulation of weeds, grasses, hazardous vegetation, refuse, or other combustible material on that responsible person's property or on any other property so as to constitute a fire hazard." Subsequent sections outline the duty to remove and abate hazardous vegetation and the penalties for violations.

City of Placerville. Similarly, the City of Placerville has an Official City Code with provisions to prevent the occurrence of blight, regulating items such as graffiti, litter, weeds or debris accumulation.[34] The prevailing City Code of Placerville contains ordinances up to and including ordinance 1725, passed October 22, 2024.

Under ***Title 7 Health and Sanitation, Chapter 13 Abatement of Graffiti, 7-13-4: Graffiti Prohibited,*** the code indicates that property owners and managers shall not allow any graffiti to remain on property when it is visible from the public right of way or other public or private property. The chapter indicates that property owners who are notified have 10 days to remove the graffiti, or the City will remove the graffiti itself and seek repayment from the property owner. Also under ***Title 7 Health and Sanitation*** **is** ***Chapter 7-1A Solid Waste Regulations, 7-1A-17 Prohibited Acts***, which prohibits the accumulation of "litter, trash, scrap materials, junk parts, garbage or refuse of any kind upon private property." This chapter also provides a complaint procedure to address this issue.

With respect to weeds and debris, ***Title 8 Public Ways and Property, Chapter 4 Weeds, 8-4-1 Accumulation of Weeds Prohibited*** states that property owners are prohibited from allowing "weeds, dry grass, rubbish, or other debris to grow or collect upon his property within thirty feet of any fence, house, or building." The chapter continues with the process of abating such a hazard. If the fire chief determines that a fire hazard exists, the property owner has fourteen days to eliminate the

[34] See https://codelibrary.amlegal.com/codes/placervilleca/latest/placerville_ca/0-0-0-1 for the cited references to the City of Placerville's Municipal Code.

hazard after they receive notice. If no action is taken by the property owner, the City may abate the hazard at the owner's expense.

Relevant Jurisdictions in Amador County

Amador County and the relevant cities of Ione, Jackson, and Plymouth all have ordinances in their respective codes addressing issues such as the accumulation of weeds, debris, refuse, abandoned vehicles, etc. on private properties. These ordinances are usually found in the Health and Safety (or Sanitation) sections of the respective codes. The City of Ione specifically addresses vacant or abandoned buildings in its municipal code (while other jurisdictions do not), while the City of Jackson has a section outlining property maintenance regulations in its code. Two of the jurisdictions specifically mention graffiti abatement for buildings in their codes (Ione and Jackson) while two do not reference graffiti in the context of buildings, although they do relative to signs, fences, and walls (Amador County and Plymouth).

Amador County. Amador County's General Ordinances (the Amador County Code, current through Ordinance 1862, passed April 8, 2025) have some provisions relevant to characteristics or urban decay, but is not as expansive as El Dorado County's Ordinance Code. Some of the key provisions in the General Ordinances of Amador County include the following: ***Title 7: Health and Safety***, which requires abatement of hazardous vegetation; ***Title 9: Public Peace, Morals and Welfare,*** which prohibits unlawful dumping and littering including that on a private property that creates a public health or safety hazard or public nuisance with provisions to abate such hazards; and ***Title 10: Vehicles and Traffic***, which considers abandoned vehicles a nuisance.[35]

City of Ione. In the City of Ione, the March 10, 2025, Ione Municipal Code's ***Title 8: Health and Safety (Section 8.06 Vacant, Abandoned, Distressed or Foreclosed Properties***) very comprehensively addresses conditions relevant to urban decay. This portion of the Code has the following provisions: requires registration of abandoned/vacant properties; requires maintenance, including abatement of weeds, trash, debris, and graffiti; requires security; and includes penalties for failure to comply with the measure.[36]

City of Jackson. In the Jackson Municipal Code (current through Ordinance 732 adopted 3/24/2025), ***Title 8: Health and Sanitation; Weed and Rubbish Abatement*** –requires owners to abate weed growth, refuse, and rubbish that may constitute a hazard and allows city to take corrective action and bill the owner. Title 17: Development Code includes a section regarding property maintenance prohibiting abandoned materials and dangerous conditions, and requiring the removal of trash, debris, dry vegetation, and graffiti.[37]

City of Plymouth. The Plymouth Municipal Code, which includes legislation through Ord. No. 2024-07 adopted January 9, 2025, includes one section with key relevancy to characteristics of urban decay. This section is ***Title 8: Health and Safety; Chapter 8.01 – Weed, Rubble and Rubbish Control,*** which requires property owners to keep their property clear (remove or destroy) of weeds, rubble, and rubbish that may constitute a menace to health or safety or constitute a fire menace. A

[35] See https://www.codepublishing.com/CA/AmadorCounty for the cited references to Amador County's Municipal Code.
[36] See https://library.municode.com/ca/ione/codes/code_of_ordinances for the cited references to the City of Ione's Municipal Code.
[37] See https://ecode360.com/JA4944 for the cited references to the City of Jackson's Municipal Code.

separate chapter, ***8.04, Abandoned, Wrecked or Dismantled Vehicles***, regulates abandoned, wrecked or dismantled vehicles.[38]

Regulatory Summary and Implications

During the study fieldwork conducted in spring and early summer 2025, there were very few signs of litter, weeds, or rubbish associated with the identified existing retail properties in the competitive market area. There were no visible signs of graffiti associated with the retail centers, and only a few buildings exhibited signs of structural disrepair, of a very minor nature.

Instead, vacant storefronts in most shopping centers were reasonably well-maintained with no significant signs of decay or deterioration. Thus, ALH Economics concludes that existing measures to maintain private commercial property in good condition in the El Dorado Hills Costco market area are effective and would serve to preclude the potential for urban decay and deterioration in the event any existing market area retail properties experience prolonged vacancy following the operations of the Project and any cumulative projects.

POTENTIAL FOR URBAN DECAY RESULTING FROM THE PROJECT

Definition of Urban Decay

Before considering how the Project and cumulative projects might affect the market and environs, it is useful to focus on what constitutes the *environmental* impact known as urban decay. The leading court case on the subject, *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1204, described the phenomenon as "a chain reaction of store closures and long-term vacancies, ultimately destroying existing neighborhoods and leaving decaying shells in their wake." The court also discussed prior case law that addressed the potential for large retail projects to cause "physical deterioration of [a] downtown area" or "a general deterioration of [a] downtown area." (Id. at pp. 1206, 1207). When looking at the phenomenon of urban decay, it is also helpful to note economic impacts that do not constitute urban decay. For example, a vacant building is not urban decay, even if the building were to be vacant over a relatively long time. Similarly, even a number of empty storefronts will not constitute urban decay.

Urban Decay Conclusion

Based on the above description of urban decay, ALH Economics' analysis examined whether there was sufficient market demand to support the Project without affecting existing retailers so severely as to consequently lead to a downward spiral toward decay. Specifically, the analysis considered whether or not physical deterioration would likely result from the opening of the Project and other cumulative retail developments. ALH Economics' urban decay conclusion is based on consideration of current market conditions, findings regarding diverted sales, the backfilling potential of existing store spaces, and the existence of regulatory controls.

Overall, field research, market research, and interviews with market participants indicate that current market conditions are relatively strong, except for some older properties with absent and/or lackluster owner interest. The market area's retail inventory is generally in good to excellent condition, with well-

[38] See https://ecode360.com/PL4989 for the cited references to the City of Plymouth's Municipal Code.

located properties garnering market interest and backfilling with new retail tenants. Vacant retail properties in some markets with weak or weakening conditions often transition to alternate uses. Such conversions do not appear to be happening in the market area, demonstrating the presence of a generally healthy retail sector.

The preceding analysis estimated that market sales impacts are only likely to transpire in the food & beverage stores and gasoline station retail sectors. This is attributable to existing retail sales leakage in other key retail sectors matching Costco merchandising categories. Even with absorption of this leakage yet additional retail sales leakage is anticipated to remain in the market area. Given the large size of the market area and number of competitive food stores and gas stations, the analysis concluded that no single food store or gas station is likely to experience Project-induced sales declines sufficient to trigger store closure. However, even if any existing market area retailers were to close as a consequence of the Project and its sales impacts, retail leakage in other categories could comprise opportunities for new retailers to enter the marketplace focused on satisfying unmet market area retail demand. Moreover, there are existing governmental regulatory controls in the market area's jurisdictions designed to manage or avoid nuisances such as graffiti, broken windows, overgrown vegetation, and dilapidated building exteriors. Enforcement of these ordinances can help prevent physical deterioration due to any long-term closures of retail spaces. Thus, if any market area retail properties experience prolonged vacancy following the operations of the Project and any cumulative projects, implementation of the existing regulations will likely support abatement of conditions contributing to urban decay and deterioration.

Based upon all these findings in combination, ALH Economics concludes that the Costco Project and the identified cumulative projects will not cause or contribute to urban decay.

ASSUMPTIONS AND GENERAL LIMITING CONDITIONS

ALH Urban & Regional Economics has made extensive efforts to confirm the accuracy and timeliness of the information contained in this study. Such information was compiled from a variety of sources, including interviews with government officials, review of City and County documents, and other third parties deemed to be reliable. Although ALH Urban & Regional Economics believes all information in this study is correct, it does not warrant the accuracy of such information and assumes no responsibility for inaccuracies in the information by third parties. We have no responsibility to update this report for events and circumstances occurring after the date of this report. Further, no guarantee is made as to the possible effect on development of present or future federal, state or local legislation, including any regarding environmental or ecological matters.

The accompanying projections and analyses are based on estimates and assumptions developed in connection with the study. In turn, these assumptions, and their relation to the projections, were developed using currently available economic data and other relevant information. It is the nature of forecasting, however, that some assumptions may not materialize, and unanticipated events and circumstances may occur. Therefore, actual results achieved during the projection period will likely vary from the projections, and some of the variations may be material to the conclusions of the analysis.

Contractual obligations do not include access to or ownership transfer of any electronic data processing files, programs or models completed directly for or as by-products of this research effort, unless explicitly so agreed as part of the contract.

The fieldwork and primary research for this project was completed in August 2025. Hence ALH Urban & Regional Economics is not responsible for any market changes or data updates occurring after this timeframe. The study findings and conclusions are pertinent through August 2025.

APPENDIX A: EXHIBITS

Exhibit 1
El Dorado Hills Costco Warehouse and Fuel Station
Costco Sales by State of California Department of Tax and Fee Administration Retail Classifications (1)

		Distribution Among Department of Tax and Fee Administration Retail Sales Categories (3)								
Costco Categories (2)	**Costco Sales Percentages (2)**	**Motor Vehicles & Parts Dealers**	**Home Furnishings & Appliances**	**Building Materials & Garden Equip.**	**Food & Beverage Stores**	**Gasoline Stations**	**Clothing & Clothing Accessories Stores**	**General Merchandise Stores**	**Food Services & Drinking Places**	**Other Retail Group**
Sundries (4)	19.5%	0.0%	0.0%	0.0%	14.7%	0.0%	0.0%	4.9%	0.0%	0.0%
Hardlines (5)	15.4%	3.1%	5.4%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	5.4%
Food (6)	20.5%	0.0%	0.0%	0.0%	20.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Fresh Food (7)	14.0%	0.0%	0.0%	0.0%	14.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Softlines (8)	10.6%	0.0%	3.2%	0.0%	0.0%	0.0%	3.2%	3.2%	0.0%	1.1%
Ancillary and Other (9)	20.0%	0.0%	0.0%	0.0%	0.0%	12.0%	0.0%	0.0%	1.3%	6.7%
Totals	**100%**	**3.1%**	**8.6%**	**1.5%**	**49.1%**	**12.0%**	**3.2%**	**8.1%**	**1.3%**	**13.2%**

Sources: Costco Wholesale Annual Report, Fiscal Year Ending 8/30/15, page 4; Costco Wholesale Annual Report, Fiscal Year Ending 9/1/24, page 60; and ALH Urban & Regional Economics.

(1) This exhibit classifies Costco sales into the major retail categories used for retail sales classification purposes by the State of California Department of Tax and Fee Administration. The Costco category sales distributions are for pre-tax sales.
(2) Category descriptions and percentages are presented in the Costco Wholesale Annual Reports cited in the Sources.
(3) The sales categories reported by Costco Wholesale do not clearly match the State of California Department of Tax and Fee Administration (CDTFA) retail sales categories. ALH Urban & Regional Economics distributed the Costco Wholesale per category sales among the DTFA categories based upon information previously shared by Costco and professional judgment pursuant to select Costco store site visits to examine the mix and array of merchandise.
(4) Sundries includes candy, snack foods, tobacco, alcoholic and nonalcoholic beverages, and cleaning and institutional supplies.
(5) Hardlines includes major appliances, electronics, health and beauty aids, hardware, office supplies, cameras, garden and patio, sporting goods, toys, seasonal items, and automotive supplies.
(6) Food includes dry and institutionally packaged foods.
(7) Fresh food includes meat, bakery, deli, and produce.
(8) Softlines include apparel, domestics, jewelry, housewares, media, home furnishings, and small appliances.
(9) Ancillary and Other includes gas stations, pharmacy, food court, optical, one-hour photo, hearing aid, and travel.

Exhibit 2
El Dorado Hills Costco Warehouse and Fuel Facility
Distribution of Sales and Consumer Sales Estimates
in 2025 Dollars

Store Characteristic	Distribution of Total Sales	Sales Estimates	Composition of EDH Sales (1)		Net Sales New to EDH Costco	Estimated Sales Division (2)	
			Percent from Folsom	Percent Net New for EDH		Retail Consumers	Wholesale Consumers
	[A]	[B]	[C]	[D=100%-C]	[E=B * D]	[F = E * 84%]	[G = E * 16%]
Costco Warehouse and Fuel Facility Total Sales (3)		**$297,000,000**				--	--
Allocation of Sales by CDTFA Retail Category (4)							
Motor Vehicle & Parts Dealers	3.1%	$9,152,000	54%	46%	$4,209,920	$3,536,333	$673,587
Home Furnishings & Appliance Stores	8.6%	$25,454,000	54%	46%	$11,708,840	$9,835,426	$1,873,414
Building Materials & Garden Equipment	1.5%	$4,576,000	54%	46%	$2,104,960	$1,768,166	$336,794
Food & Beverage Stores	49.1%	$145,875,349	54%	46%	$67,102,660	$56,366,235	$10,736,426
Gasoline Stations (5)	12.0%	$35,640,000	7%	93%	$33,145,200	$33,145,200	$0
Clothing & Clothing Accessories Stores	3.2%	$9,438,000	54%	46%	$4,341,480	$3,646,843	$694,637
General Merchandise Stores	8.1%	$23,942,651	54%	46%	$11,013,620	$9,251,440	$1,762,179
Food Services & Drinking Places	1.3%	$3,861,000	54%	46%	$1,776,060	$1,491,890	$284,170
Other Retail Group	13.2%	$39,061,000	54%	46%	$17,968,060	$15,093,170	$2,874,890
Total Net Sales	**100.0%**	**$297,000,000**			**$153,370,800**	**$134,134,704**	**$19,236,096**

Sources: Costco Wholesale Annual Report, Fiscal Year Ending 9/1/24, pages 6, 20, and 60; Statista; Gurufocus.com; El Dorado Costco CEQA Analysis [DRAFT], El Dorado County, California, February 14, 2025, Kittelson & Associates, pages 12, 15, and 17; and ALH Urban & Regional Economics.

(1) Transportation impact analysis for the Project prepared by Kittelson & Associates includes assumptions regarding shifting of existing trips to the Folsom warehouse and fuel facility to El Dorado Hills. The Kittelson & Associates assumptions are based upon shopper data and information provided by Costco. Based upon analysis presented in a February 14, 2025 Kittelson & Associates report for the Project, ALH Urban & Regional Economics assumes that 54% of warehouse purchases in El Dorado Hills will be shifted from Folsom, and 7% of fuel purchases in El Dorado Hills will be shifted from Folsom. These percentages were derived from Kittelson & Associates estimates of shifted trips by type of trip, with additional weight allocated to trips of a primary nature, i.e., a trip planned with Costco as an explicit destination.
(2) A portion of Costco sales are made by businesses that later engage in resales of the products purchased from Costco. These sales are considered wholesale purchases, and are exempt from sales tax at the time of purchase. They are also not reported by the State of California Department of Tax and Fee Administration in the same manner as other, more commercial purchases. This is relevant because subsequent analysis reflected in this study's series of exhibits is highly dependent on taxable sales data reported by the State of California. For the sake of the analysis, ALH Urban & Regional Economics assumes that 16% of El Dorado Hills Costco warehouse sales will be made by members with resale licenses. Therefore, the analysis assumes that 16% of El Dorado Hills Costco store sales will be to wholesale customers, i.e., customers whose typical purchases are not reported as retail purchases, and 84% will be to household and business customers that qualify to pay sales tax on taxable items. The exception is gasoline sales, all of which are allocated to retail consumers as all of these sales are assumed to be taxed, and this is the same as a consumer-based taxable retail sales purchase. The 16% and 84% assumptions are based on analysis of Costco's Membership base, as presented in Costco's Annual Report for the fiscal year ending 9/1/24 (see page 6).
(3) Total sales, inclusive of gasoline sales, are estimated to total $1,800 per square foot, applied to the warehouse size of 165,000 square feet. The per square foot sales estimate is based on analysis of several sources, including Costco Wholesale's Annual Reports (including pages 20 and 60 in Costco's Annual Report for the fiscal year ending 9/1/24) and industry internet resources, such as Statista and Gurufocus.
(4) See Exhibit 1.
(5) As noted in footnote (1), Costco gasoline sales are assumed to only be made by retail consumers, and not wholesale consumers for resale purposes.

Exhibit 3
El Dorado County Population
For Cities and Unincorporated Areas
2020

Area	Market Area Location (1)	Miles from Project Site (2)	Population
Cities (3)			
South Lake Tahoe	Out	76	21,424
Placerville (4)	In	17	10,820
Unincorporated Areas (5)			
El Dorado Hills (4)	In	0	50,547
Cameron Park (4)	In	5	19,171
Diamond Springs (4)	In	14	11,345
Pollock Pines (4)	In	29	7,112
Shingle Springs (4)	In	7	4,660
Auburn Lake Trails	Out	20	3,388
Georgetown	Out	28	2,255
Coloma (6)	Mostly Out	18	2,025
Camino (4)	In	25	1,871
Grizzly Flats (4)	In	37	1,093
Tahoma	Out	92	1,034
Cold Springs	In	18	556
Totals			
Market Area, approx. (7)			161,059
Countywide			191,185

Sources: State of California Department of Finance, Table 2: E-5 City/County Population and Housing Estimates, 1/1/2020; Wikipedia entry for El Dorado County and for each location; and Costco.com Find a Warehouse; and ALH Urban & Regional Economics.

(1) Areas noted as being located outside the Market Area are geographically closer to other Costco locations than they are to the Project site, with faster travel times. These Costco's are generally located in Carson City, Loomis, and
(2) Distance measured from Silva Valley Pkwy & Clarksville Rd.
(3) Sourced to the State of CA DOF document listed in Sources.
(4) Included in the Project market area.
(5) Places listed are Census Designated Places (CDP).
(6) Most of this unincorporated area appears to be in the market area.
(7) The market area total is approximated as the Countywide total less the areas not included in the market area. Includes population centers not listed herein.

Exhibit 4
Amador County Population
For Cities and Unincorporated Areas
2020

Area	Market Area Location (1)	Miles from Project Site (2)	Population
Cities (3)			
Ione	In	27	8,849
Jackson	In	30	5,031
Plymouth (4)	In	21	1,067
Sutter Creek (4)	In	27	2,644
Amador City (4)	In	25	200
Unincorporated Areas (5)			
Pine Grove (4)	In	36	2,891
Buckhorn (4)	In	47	2,597
Red Corral (4)	In	42	1,687
Camanche North Shore	Out	36	1,070
Pioneer (4)	In	41	1,066
Buena Vista	Out	31	542
River Pines (4)	In	29	390
Fiddletown (4)	In	27	279
Martell (4)	In	28	207
Kirkwood	Out	71	190
Drytown (4)	In	22	186
Volcano (4)	In	40	104
Totals			
Market Area, approx. (5)			38,672
Countywide			40,474

Population and Housing Estimates, 1/1/2020; Wikipedia entry for Amador County and for each location; and Costco.com Find a Warehouse; and ALH Urban & Regional Economics.

(1) Areas noted as being located outside the Market Area are geographically closer to other Costco locations than they are to the Project site, with faster travel times. These Costco's are generally located in Lodi and Carson City.
(2) Distance measured from Silva Valley Pkwy & Clarksville Rd.
(3) Sourced to the State of CA DOF document listed in Sources.
(4) Included in the Project market area.
(5) Places listed are Census Designated Places (CDP).
(6) The market area total is approximated at the Countywide total less the areas not included in the market area.

Exhibit 5
El Dorado Hills Costco Warehouse and Fuel Facility
Distribution of Net New Costco Sales Generated by Market Area Residents and Businesses
in 2025 Dollars

Retail Sales Category	Estimated Net New Costco Sales Division (1)		Net New Costco Sales Generated from Within Market Area (2)	
	Retail Consumers	Wholesale Consumers	Retail Consumers	Wholesale Consumers
	[A]	[B]	[C = A * 85%]	[D = B * 90%]
Motor Vehicle & Parts Dealers	$3,536,333	$673,587	$3,005,883	$606,228
Home Furnishings & Appliance Stores	$9,835,426	$1,873,414	$8,360,112	$1,686,073
Building Materials & Garden Equipment	$1,768,166	$336,794	$1,502,941	$303,114
Food & Beverage Stores	$56,366,235	$10,736,426	$47,911,300	$9,662,783
Gasoline Stations	$33,145,200	$0	$28,173,420	$0
Clothing & Clothing Accessories Stores	$3,646,843	$694,637	$3,099,817	$625,173
General Merchandise Stores	$9,251,440	$1,762,179	$7,863,724	$1,585,961
Food Services & Drinking Places	$1,491,890	$284,170	$1,268,107	$255,753
Other Retail Group	$15,093,170	$2,874,890	$12,829,195	$2,587,401
Total Net Sales	**$134,134,704**	**$19,236,096**	**$114,014,498**	**$17,312,486**

Sources: "The Economic Impact of Travel, California: 2024p Calendar Year; State, Regional, & County Impacts," May 2025, Prepared for Visit California, by Dean Runyan Associates; and ALH Urban & Regional Economics.

(1) See Exhibit 2.
(2) The analysis assumes that the Costco Warehouse and Fuel Facility will draw a share of non-market area shoppers to El Dorado Hills because of tourist spending, such as tourists traveling to Lake Tahoe, a popular vacation location. Based on considerations of the market area's geography and location within the region, 85% of the store's consumer sales are estimated to be generated by market area residents and 90% of wholesale purchases are estimated to be generated by businesses located within the market area. The 85% assumption is based on analysis of the 2024 "The Economic Impact of Travel" study prepared by Dean Runyan Associates in May 2025, which includes figures indicating that in 2024, travel-generated taxable sales comprised 17.2% of El Dorado County's taxable sales and 14.5% of Amador County's taxable sales, with a weighted average between the two counties of 16.8% (see page 25 of the cited study).

Exhibit 6
Total Retail Sales Estimates (1)
El Dorado County, South Lake Tahoe, El Dorado County Excluding South Lake Tahoe (2)
in 2024 Dollars

	El Dorado County		South Lake Tahoe		El Dorado County Excluding South Lake Tahoe	
Type of Retailer	**Total Taxable Sales**	**Adjusted to Taxable & Nontaxable Total**	**Total Taxable Sales**	**Adjusted to Taxable & Nontaxable Total**	**Total Taxable Sales**	**Adjusted to Taxable & Nontaxable Total**
Motor Vehicles & Parts Dealers	$334,043,713	$334,043,713	$26,709,738	$26,709,738	$307,333,975	$307,333,975
Home Furnishings & Appliance Stores	$41,937,200	$41,937,200	$4,421,104	$4,421,104	$37,516,096	$37,516,096
Building Materials & Garden Equip .	$225,118,427	$225,118,427	$28,638,400	$28,638,400	$196,480,027	$196,480,027
Food & Beverage Stores	$199,180,846	$663,936,153 (3)	$57,418,478	$191,394,927 (3)	$141,762,368	$472,541,227
Gasoline Stations	$335,255,476	$335,255,476	$40,648,552	$40,648,552	$294,606,924	$294,606,924
Clothing & Clothing Accessories Stores	$101,228,313	$101,228,313	$38,549,560	$38,549,560	$62,678,753	$62,678,753
General Merchandise Stores	$150,633,708	$231,744,166 (4)	$16,167,746 (6)	$24,873,455 (4)	$134,465,962	$206,870,711
Food Services & Drinking Places	$407,738,497	$407,738,497	$172,952,265	$172,952,265	$234,786,232	$234,786,232
Other Retail Group	$485,246,869	$539,168,149 (5)	$52,082,286 (6)	$57,869,740 (5)	$433,164,583	$481,298,410
Total (7)	**$2,280,383,049**	**$2,880,170,095**	**$437,588,129**	**$586,057,740**	**$1,842,794,920**	**$2,294,112,355**
Percent Taxable	**79%**		**75%**		**80%**	

Sources: California Department of Tax and Fee Administration (CDTFA), "Table 3. Taxable Sales in California Counties, By Type of Business, 2024"; U.S. Economic Census, "Retail Trade: Summary Statistics for the U.S., States, and Selected Geographies: 2022"; and ALH Urban & Regional Economics.

(1) Taxable sales are pursuant to reporting by the State of California Department of Tax and Fee Administration (CDTFA).
(2) For analytical purposes, the taxable retail sales base of the El Dorado County portion of the Project's market area is assumed to comprise all of El Dorado County sales less South Lake Tahoe sales, as the City of Lake Tahoe is not geographically deemed part of the Project's Market Area.
(3) Sales for Food and Beverage Stores have been adjusted to account for non-taxable sales; only 30.0% of all food store sales are estimated to be taxable.
(4) Sales for General Merchandise Stores have been adjusted to account for non-taxable sales, since some General Merchandise Store sales include non-taxable items. ALH Urban & Regional Economics estimates that at least 35% of General Merchandise sales are for grocery, pharmacy, and other non-taxable items. This estimate is based on analysis of the 2022 U.S. Economic Census findings for General Merchandise stores in California.
(5) Sales for Other Retail Group have been adjusted to account for non-taxable drug store sales, since drug store sales are included in the Other Retail Group category. ALH Urban & Regional Economics estimates that 33.0% of drug store sales are taxable, based on discussions with representatives of the California Department of Fee and Tax Administration (when it was formerly called the Board of Equalization and examination of U.S. Census data. In California, drug store sales in 2024 represented approximately 5.5% of all Other Retail Group sales. ALH Urban & Regional Economics applied that percentage and then adjusted upward for non-taxable sales.
(6) The source data from CDTFA do not disclose taxable retail sales in General Merchandise Stores in South Lake Tahoe. Such lack of disclosure typically occurs when one major retailer dominates a retail category, in such a manner that reporting the category sales would identify the store's sales. To maintain confidentiality, the CDTFA in these instances combines the category sales in with the Other Retail Group sales. In order to estimate these sales for South Lake Tahoe, ALH Economics developed an estimate, assuming that General Merchandise Stores sales in South Lake Tahoe are the same percentage as the combined General Merchandise Stores and Other Retail Group sales countywide. In this instance that percentage is 24%, and South Lake Tahoe's combined General Merchandise Stores and Other Retail Group sales total $68,250,032.
(7) Totals may not add up due to rounding.

Exhibit 7
Total Retail Sales Estimates (1)
Amador County (2)
in 2024 Dollars

Type of Retailer	Total Taxable Sales	Adjusted to Taxable & Nontaxable Total
Motor Vehicles & Parts Dealers	$20,912,135	$20,912,135
Home Furnishings & Appliance Stores	$7,032,764	$7,032,764
Building Materials & Garden Equip .	$69,209,718	$69,209,718
Food & Beverage Stores	$50,069,097	$166,896,990 (3)
Gasoline Stations	$62,846,993	$62,846,993
Clothing & Clothing Accessories Stores	$9,071,005	$9,071,005
General Merchandise Stores	$50,759,447	$78,091,457 (4)
Food Services & Drinking Places	$57,660,314	$57,660,314
Other Retail Group	$89,552,551	$99,503,750 (5)
Total (6)	**$417,114,024**	**$571,225,126**
Percent Taxable	**73%**	

Sources: California Department of Tax and Fee Administration (CDTFA), "Table 3. Taxable Sales in California Counties, By Type of Business, 2024"; U.S. Economic Census, "Retail Trade: Summary Statistics for the U.S., States, and Selected Geographies: 2022"; and ALH Urban & Regional Economics (ALH Economics).

(1) Taxable sales are pursuant to reporting by the State of California Department of Tax and Fee Administration (CDTFA).
(2) For analytical purposes, the taxable retail sales base of the Amador County portion of the Project's market area is assumed to comprise all of Amador County sales.
(3) Sales for Food and Beverage Stores have been adjusted to account for non-taxable sales; only 30.0% of all food store sales are estimated to be taxable.
(4) Sales for General Merchandise Stores have been adjusted to account for non-taxable sales, since some General Merchandise Store sales include non-taxable items. ALH Urban & Regional Economics estimates that at least 35% of General Merchandise sales are for grocery, pharmacy, and other non-taxable items. This estimate is based on analysis of the 2022 U.S. Economic Census findings for General Merchandise stores in California.
(5) Sales for Other Retail Group have been adjusted to account for non-taxable drug store sales, since drug store sales are included in the Other Retail Group category. ALH Urban & Regional Economics estimates that 33.0% of drug store sales are taxable, based on discussions with representatives of the California Department of Fee and Tax Administration (when it was formerly called the Board of Equalization) and examination of U.S. Census data. In California, drug store sales in 2024 represented approximately 5.5% of all Other Retail Group sales. ALH Urban & Regional Economics applied that percentage and then adjusted upward for non-taxable sales.
(6) Totals may not add up due to rounding.

Exhibit 8
El Dorado County Less South Lake Tahoe
Household Retail Demand, Sales Attraction, and Spending Analysis (1)
in 2024 Dollars

	Per Household		El Dorado County Less South Lake Tahoe Household Spending				Retail Sales Attraction/(Leakage) (8)	
Type of Retailer	Spending (2)	Sales (3)	Total Demand (4)	Percent E-Commerce (5)	Remaining Brick & Mortar Demand (6)	El Dorado County Sales Less South Lake Tahoe (7)	Amount	Percent
Motor Vehicles & Parts Dealers	$6,540	$4,554	$441,331,321	5%	$419,264,755	$307,333,975	($111,930,780)	-25%
Home Furnishings & Appliance Stores	$2,271	$556	$153,258,877	25%	$114,944,158	$37,516,096	($77,428,062)	-51%
Building Materials & Garden Equip. (9)	$2,820	$2,911	$190,287,589	13%	$166,501,640	$196,480,027	$29,978,387	15%
Food & Beverage Stores	$7,217	$7,002	$487,066,408	3%	$472,454,415	$472,541,227	$86,811	0%
Gasoline Stations	$3,566	$4,365	$240,673,532	0%	$240,673,532	$294,606,924	$53,933,392	18%
Clothing & Clothing Accessories Stores	$3,023	$929	$203,996,954	20%	$163,197,563	$62,678,753	($100,518,810)	-49%
General Merchandise Stores	$4,947	$3,065	$333,871,118	20%	$267,096,894	$206,870,711	($60,226,183)	-18%
Food Services & Drinking Places	$6,192	$3,479	$417,845,798	0%	$417,845,798	$234,786,232	($183,059,566)	-44%
Other Retail Group (10)	$5,314	$7,132	$358,640,995	25%	$268,980,746	$481,298,410	$212,317,663	44%
Total (all retail types)	**$41,889**	**$33,993**	**$2,826,972,593**	**10.5% (11)**	**$2,530,959,503**	**$2,294,112,355**	**($236,847,148)**	**-8%**

Sources: Claritas, Demographic Quick Facts, Select El Dorado County and Amador County census tracts; State of California Department of Finance, Table E-5 for 2024; Retail Indicators Branch, U.S. Census Bureau, "Table 1. Supplemental Estimated Quarterly US Retail Trade Sales: Total and E-Commerce, 2022Q4"; ecommercedb (a partner of Statista, see https://ecommercedb.com/insights/ecommerce-shares-in-top-product-categories); "U.S. Retail Market Outlook," March 2021, page 7, Cushman & Wakefield; "California Retail Analytics: Expanding Retailers and Retail Stores Sales Estimate," page 4, HdL ECONSolutions, 2019; emarketer.com (retail sales per square foot); and ALH Urban & Regional Economics.

(1) All figures are expressed in 2024 dollars.
(2) The per household spending estimates for El Dorado County less South Lake Tahoe were generated by ALH Urban & Regional Economics by taking the estimated El Dorado County average 2025 area household income figure of $161,661 from Claritas and multiplying by 26%, utilizing the assumption that 26% of household income is spent on California Department of Tax and Fee Administration (CDTFA) type retail (see Exhibit B-3). El Dorado County average household income is assumed to comprise a proxy for all county households less South Lake Tahoe. This figure was then multiplied by the percentages calculated from the ratio of the CDTFA sales for the State of California. See Exhibit B-2.
(3) Presented for illustrative purposes. Comprises El Dorado County sales less South Lake Tahoe sales divided by the estimated household count of 67,487, from the State of California Department of Finance.
(4) Total Demand represents per household spending multiplied by the 2024 household count for Unincorporated El Dorado County of 67,487, per the State of California Department of Finance (with housing unit count deemed a proxy for households).
(5) Percentages estimated based on review of governmental data sources and various retail and e-commerce industry publications (see Sources).
(6) Comprises the balance of household demand anticipated to be expressed for brick and mortar stores, after deducting the percent of demand assumed to be satisfied by internet sales.
(7) See Exhibit 6.
(8) Comprises sales less demand. Categories with attraction are characterized by positive amounts or percentages, and categories with leakage are characterized by negative amounts or percentages. A positive percentage indicates the share of the sales base that comprises attraction while a negative percentage indicates the share of retail demand that is leaking outside the market area.
(9) Building Materials and Garden Equipment includes hardware stores, plumbing and electrical supplies, paint and wallpaper products, glass stores, lawn and garden equipment, and lumber.
(10) Other Retail Group includes drug stores, health and personal care, pet supplies, gifts, art goods and novelties, sporting goods, florists, musical instruments, stationary and books, office and school supplies, second-hand merchandise, and miscellaneous other retail stores.
(11) Weighted average totals.

Exhibit 9
Amador County
Household Retail Demand, Sales Attraction, and Spending Analysis (1)
in 2024 Dollars

			Household Spending on Retail					
	Per Household		Total	Percent	Remaining Brick & Mortar	Amador County	Retail Sales Attraction/(Leakage) (8)	
Type of Retailer	Spending (2)	Sales (3)	Demand (4)	E-Commerce (5)	Demand (6)	Retail Sales (7)	Amount	Percent
Motor Vehicles & Parts Dealers	$4,954	$1,308	$79,228,375	5%	$75,266,956	$20,912,135	($54,354,821)	-69%
Home Furnishings & Appliance Stores	$1,720	$440	$27,513,234	25%	$20,634,925	$7,032,764	($13,602,161)	-49%
Building Materials & Garden Equip. (9)	$2,136	$4,328	$34,160,677	13%	$29,890,592	$69,209,718	$39,319,126	57%
Food & Beverage Stores	$5,467	$10,436	$87,438,798	3%	$84,815,634	$166,896,990	$82,081,356	49%
Gasoline Stations	$2,702	$3,930	$43,206,027	0%	$43,206,027	$62,846,993	$19,640,966	31%
Clothing & Clothing Accessories Stores	$2,290	$567	$36,621,800	20%	$29,297,440	$9,071,005	($20,226,435)	-55%
General Merchandise Stores	$3,748	$4,883	$59,936,979	20%	$47,949,583	$78,091,457	$30,141,874	39%
Food Services & Drinking Places	$4,690	$3,605	$75,012,224	0%	$75,012,224	$57,660,314	($17,351,910)	-23%
Other Retail Group (10)	$4,026	$6,222	$64,383,700	25%	$48,287,775	$99,503,750	$51,215,975	51%
Total (all retail types)	**$31,733**	**$35,717**	**$507,501,813**	**10.5% (11)**	**$454,361,156**	**$571,225,126**	**$116,863,970**	**20%**

Sources: Claritas, Demographic Quick Facts, El Dorado County; State of California Department of Finance, Table E-5 for 2024; Retail Indicators Branch, U.S. Census Bureau, "Table 1. Supplemental Estimated Quarterly US Retail Trade Sales: Total and E-Commerce, 2022Q4"; ecommercedb (a partner of Statista, see https://ecommercedb.com/insights/ecommerce-shares-in-top-product-categories); "U.S. Retail Market Outlook," March 2021, page 7, Cushman & Wakefield; "California Retail Analytics: Expanding Retailers and Retail Stores Sales Estimate," page 4, HdL ECONSolutions, 2019; emarketer.com (retail sales per square foot); and ALH Urban & Regional Economics.

(1) All figures are expressed in 2024 dollars.
(2) The per household spending estimates for Amador County were generated by ALH Urban & Regional Economics by taking the estimated county average 2025 area household income figure of $107,536 from Claritas and multiplying by 30%, utilizing the assumption that 30% of household income is spent on California Department of Tax and Fee Administration (CDTFA) type retail (see Exhibit B-3). This figure was then multiplied by the percentages calculated from the ratio of the CDTFA sales for the State of California (see Exhibit B-2.)
(3) Presented for illustrative purposes. Comprises Amador County sales divided by the estimated household count of 15,993, from the State of California Department of Finance. This estimate is nearly identical to the estimate of 15,991 from Claritas, presented in Table 4.
(4) Total Demand represents per household spending multiplied by the 2024 household count for Amador County of 15,993, per the State of California Department of Finance (with housing unit count deemed a proxy for households).
(5) Percentages estimated based on review of governmental data sources and various retail and e-commerce industry publications (see Sources).
(6) Comprises the balance of household demand anticipated to be expressed for brick and mortar stores, after deducting the percent of demand assumed to be satisfied by internet sales.
(7) See Exhibit 7.
(8) Comprises sales less demand. Categories with attraction are characterized by positive amounts or percentages, and categories with leakage are characterized by negative amounts or percentages. A positive percentage indicates the share of the sales base that comprises attraction while a negative percentage indicates the share of retail demand that is leaking outside the
(9) Building Materials and Garden Equipment includes hardware stores, plumbing and electrical supplies, paint and wallpaper products, glass stores, lawn and garden equipment, and lumber.
(10) Other Retail Group includes drug stores, health and personal care, pet supplies, gifts, art goods and novelties, sporting goods, florists, musical instruments, stationary and books, office and school supplies, second-hand merchandise, and miscellaneous other retail stores.
(11) Weighted average totals.

Exhibit 10
El Dorado Hills Costco Warehouse and Fuel Facility Market Area
Household Retail Demand (1)
2025

		Market Area Household Spending		
Type of Retailer	**Per Household Spending (2)**	**Total Demand (3)**	**Percent E-Commerce (4)**	**Remaining Brick & Mortar Demand (5)**
Motor Vehicles & Parts Dealers	$6,543	$442,903,362	5%	$420,758,194
Home Furnishings & Appliance Stores	$2,272	$153,804,792	25%	$115,353,594
Building Materials & Garden Equip. (6)	$2,821	$190,965,402	13%	$167,094,726
Food & Beverage Stores	$7,221	$488,801,359	3%	$474,137,318
Gasoline Stations	$3,568	$241,530,822	0%	$241,530,822
Clothing & Clothing Accessories Stores	$3,025	$204,723,600	20%	$163,778,880
General Merchandise Stores	$4,950	$335,060,381	20%	$268,048,305
Food Services & Drinking Places	$6,195	$419,334,183	0%	$419,334,183
Other Retail Group (7)	$5,317	$359,918,490	25%	$269,938,868
Total (all retail types) (8)	**$41,914**	**$2,837,042,391**	**10.5%**	**$2,539,974,890**

Sources: Claritas, Demographic Quick Facts, Select Census Tracts, El Dorado and Amador counties; Retail Indicators Branch, U.S. Census Bureau, "Table 1. Supplemental Estimated Quarterly US Retail Trade Sales: Total and E-Commerce, 2022Q4"; ecommercedb (a partner of Statista, see https://ecommercedb.com/insights/ecommerce-shares-in-top-product-categories); "U.S. Retail Market Outlook," March 2021, page 7, Cushman & Wakefield; "California Retail Analytics: Expanding Retailers and Retail Stores Sales Estimate," page 4, HdL ECONSolutions, 2019; emarketer.com (retail sales per square foot); and ALH Urban & Regional Economics.

(1) All figures are expressed in 2025 dollars.
(2) The per household spending estimates for the market area were generated by ALH Urban & Regional Economics by taking the estimated market area average 2025 household income figure of $161,755 from Claritas and multiplying by 26%, utilizing the assumption that 26% of household income is spent on California Department of Tax and Fee Administration (CDTFA) type retail (see Exhibit B-3). This figure was then multiplied by the percentages calculated from the ratio of the CDTFA sales for the State of California. See Exhibit B-2.
(3) Total Demand represents per household spending multiplied by the 2025 household count for the El Dorado Hills Costco Market Area of 67,688, per Claritas (see Table 4).
(4) Percentages estimated based on review of governmental data sources and various retail and e-commerce industry publications (see Sources).
(5) Comprises the balance of household demand anticipated to be expressed for brick and mortar stores, after deducting the percent of demand assumed to be satisfied by internet sales.
(6) Building Materials and Garden Equipment includes hardware stores, plumbing and electrical supplies, paint and wallpaper products, glass stores, lawn and garden equipment, and lumber.
(7) Other Retail Group includes drug stores, health and personal care, pet supplies, gifts, art goods and novelties, sporting goods, florists, musical instruments, stationary and books, office and school supplies, second-hand merchandise, and miscellaneous other
(8) Percentages are weighted average totals.

Exhibit 11
El Dorado Hills Costco Warehouse and Fuel Facility Market Area
Market Area Retail Sales Attraction/(Leakage)
in 2024 Dollars

Type of Retailer	Market Area Brick & Mortar Retail Demand (1)	Retail Sales Portion of Market Area: El Dorado County (2)	Retail Sales Portion of Market Area: Amador County (3)	Total	Market Area Retail Sales Attraction/(Leakage) (4): Amount	Market Area Retail Sales Attraction/(Leakage) (4): Percent
Motor Vehicles & Parts Dealers	$420,758,194	$307,333,975	$20,912,135	$328,246,110	($92,512,084)	-22%
Home Furnishings & Appliance Stores	$115,353,594	$37,516,096	$7,032,764	$44,548,860	($70,804,734)	-61%
Building Materials & Garden Equip.	$167,094,726	$196,480,027	$69,209,718	$265,689,745	$98,595,019	37%
Food & Beverage Stores	$474,137,318	$472,541,227	$166,896,990	$639,438,217	$165,300,898	26%
Gasoline Stations	$241,530,822	$294,606,924	$62,846,993	$357,453,917	$115,923,095	32%
Clothing & Clothing Accessories Stores	$163,778,880	$62,678,753	$9,071,005	$71,749,758	($92,029,122)	-56%
General Merchandise Stores	$268,048,305	$206,870,711	$78,091,457	$284,962,168	$16,913,863	6%
Food Services & Drinking Places	$419,334,183	$234,786,232	$57,660,314	$292,446,546	($126,887,637)	-30%
Other Retail Group	$269,938,868	$481,298,410	$99,503,750	$580,802,160	$310,863,292	54%
Total	**$2,539,974,890**	**$2,294,112,355**	**$571,225,126**	**$2,865,337,481**	**$325,362,591**	**11%**

Source: ALH Urban & Regional Economics.

(1) See Exhibit 10.
(2) See Exhibit 8.
(3) See Exhibit 9.
(4) The cumulative leakage totals -$382,233,577 and the cumulative attraction totals $707,596,168, resulting in the aggregate net attraction of $325,362,591.

Exhibit 12
El Dorado Hills Costco Consumer Sales Market Area Sales Impact
2024 Dollars

Type of Retailer	Costco Net New Consumer Sales (1)	Market Area Leakage (2)	Remaining Leakage After Project Absorption	Project Sales in Excess of Retail Leakage (3)	Market Area Total Retail Sales (4)	Sales Impact as a Percent of Sales Base (5)	Sales Impact Above 5% (6)	
							Percent	Volume
Motor Vehicles & Parts Dealers	$3,005,883	($92,512,084)	($89,506,201)	$0	$328,246,110	0.0%	0.0%	$0
Home Furnishings & Appliance Stores	$8,360,112	($70,804,734)	($62,444,622)	$0	$44,548,860	0.0%	0.0%	$0
Building Materials & Garden Equip .	$1,502,941	$0	$0	$1,502,941	$265,689,745	0.6%	0.0%	$0
Food & Beverage Stores	$47,911,300	$0	$0	$47,911,300	$639,438,217	7.5%	2.5%	$15,939,389
Gasoline Stations	$28,173,420	$0	$0	$28,173,420	$357,453,917	7.9%	2.9%	$10,300,724
Clothing & Clothing Accessories Stores	$3,099,817	($92,029,122)	($88,929,306)	$0	$71,749,758	0.0%	0.0%	$0
General Merchandise Stores	$7,863,724	$0	$0	$7,863,724	$284,962,168	2.8%	0.0%	$0
Food Services & Drinking Places	$1,268,107	($126,887,637)	($125,619,530)	$0	$292,446,546	0.0%	0.0%	$0
Other Retail Group	$12,829,195	$0	$0	$12,829,195	$580,802,160	2.2%	0.0%	$0
Total (5)	**$114,014,498**	**($382,233,577)**	**($366,499,659)**	**$98,280,580**	**$2,865,337,481**	**3.4%**	**0.9%**	**$26,240,113**

Source: ALH Urban & Regional Economics.

(1) See Exhibit 5.
(2) See Exhibit 11. Retail categories with $0 leakage are identified as attraction categories in this source exhibit.
(3) For retail categories characterized by retail attraction there are no Project sales in excess of retail leakage. However, for categories with leakage, this calculation assumes the Project will absorb leakage up to the full amount of leakage or the full amount of Project sales, whichever figure is lower. In this case, for categories with leakage, the Project's consumer sales are much greater than the leakage, indicating the Project will be well-positioned to absorb the existing leakage. These are considered the Project's maximum impacts.
(4) See Exhibit 11.
(5) This column comprises "Project Sales in Excess of Retail Leakage" divided by "Market Area Total Retail Sales."
(6) A threshold of 5% sales impact is deemed reasonable, reflecting the type of economic changes retailers should anticipate and be able to withstand given swings in the local economy. These are considered the Project's minimum impacts.

Exhibit 13
Representative Grocery Stores, Other Food Stores, and General Merchandise Stores
El Dorado Hills Costco Market Area (1)
Spring and Early Summer 2025 (2)

Map # (3)	Type of Store/Store Name	Shopping Center and Type (4)	Address	Area	Miles from Costco Site (5)	Direction from Site	Adjoining Vacancies	Type of Store
	Full Service Grocery Stores							
	El Dorado County							
1	Nugget Markets	Market Place at Town Center, neighborhood	4500 Post St	El Dorado Hills	1.6	Southwest	Yes, 1 small	Upscale grocery store
2	Raley's O-N-E Market	Village Square Center, neighborhood	3935 Park Dr	El Dorado Hills	1.9	Southwest	Yes, 1 small	Upscale grocery store
3	Safeway	Sienna Ridge, neighborhood	3383 Bass Lake Rd	El Dorado Hills	3.2	Northeast	Yes, 2 small	Full service grocery store
4	Safeway	Green Valley Marketplace, neighborhood	2207 Francisco Dr	El Dorado Hills	4.1	North	Yes, 2 small	Full service grocery store
5	Bel Air	Goldorado Center, neighborhood	3510 Palmer Dr	Cameron Park	5.5	East	Yes, 7 small	Full service grocery store
6	Fork Lift	Stand-alone, small adjacent center	3333 Coach Ln	Cameron Park	5.6	East	Yes, 1 small	Warehouse-style grocery store
7	Safeway	Cameron Park Place, neighborhood	3380 Coach Ln	Cameron Park	5.5	East	Yes, 4 small	Full service grocery store
8	Grocery Outlet	Stand-alone, but next to CVS-anchored Green Valley Station (see Exhibit 11).	3040 Green Valley Rd	Cameron Park	6.0	Northeast	Not Applicable	Discount grocery store
9	Save Mart	Prospector's Plaza, community	3964 Missouri Flat Rd	Placerville	13.5	Northeast	Yes, 1 small (former bank)	Full service grocery store
10	Safeway	Missouri Flat Village, neighborhood	3955 Missouri Flat Rd	Placerville	13.5	Northeast	Yes, 5 small	Full service grocery store
11	Raley's	Stand-alone, but some adjacent retail, and across the road from a small neighborhood strip center, Discovery Plaza (see Exhibit 11)	166 Placerville Dr	Placerville	14.6	Northeast	Not Applicable, but 2 small vacancies at Discovery Plaza	Full service grocery store
12	Save Mart	Stand-alone, but next to a strip center, Hangtown Village Square (see Exhibit 11)	1270 Broadway	Placerville	17.1	Northeast	Not Applicable, but no vacancies at Hangtown Village Square	Full service grocery store
13	Grocery Outlet	Anchor tenant in strip center, neighborhood	1426 Broadway	Placerville	17.6	Northeast	Yes, 6 small vacancies	Discount grocery store
14	Holiday Market	Stand-alone, but next to a neighborhood strip center, Pleasant Valley Square	4653 Mt. Aukum Road	Placerville	24-25	East/Northeast	Not Applicable, but 1 small vacancy at Pleasant Valley Square	Full service grocery store
15	Safeway	Stand-alone, but next to a neighborhood strip center, Pleasant Valley Square	6498 Pony Express Trail	Pollock Pines	30.0	East	Not Applicable	Full service grocery store
	Amador County							
16	Pokerville Market	Stand-alone	18170 CA-49	Plymouth	22.5	Southeast	Not Applicable	Full service grocery store
17	Safeway	Amador Ridge, community	12110 Industry Blvd	Martell	28.3	Southeast	Yes, 7 small	Full service grocery store
18	Save Mart	Amador Shopping Plaza, neighborhood	11980 Highway 88	Martell	29.0	Southeast	None visible	Full service grocery store
19	Cost Less Food Company	Jackson Creek Plaza, neighborhood center	555 CA-49 Jackson, CA	Jackson	30.0	Southeast	Yes, 4 small	Full service grocery store
20	Grocery Outlet	Two-store center	9 No State Hwy 49-88	Jackson	30.5	Southeast	Vacant Joann Fabric	Full service grocery store
21	Raley's	Gold Country Center, community center	781 State Hwy 49	Jackson	31.2	Southeast	None visible	Full service grocery store
22	Ione Market	Ione Plaza, neighborhood center	313 Preston Avenue	Ione	26.5	South	None visible	Full service grocery store

continued on the next page

Exhibit 13
Representative Grocery Stores, Other Food Stores, and General Merchandise Stores
El Dorado Hills Costco Market Area (1)
Spring and Early Summer 2025 (2)

Map # (3)	Type of Store/Store Name	Shopping Center and Type (4)	Address	Area	Miles from Costco Site (5)	Direction from Site	Adjoining Vacancies	Type of Store
Other Food Stores								
	El Dorado County							
23	Placerville Food Co-op	Stand-alone	535 Placerville Dr	Placerville	15.3	Northeast	Not Applicable	Niche grocery store
	Amador County							
24	Gold Trail Natural Foods	Mother Lode Plaza, neighborhood	625 S State Highway 49	Jackson	30.9	Southeast	Numerous, number unclear	Niche grocery store
General Merchandise Stores (6)								
	El Dorado County							
25	Target	El Dorado Hills Town Center, sub-regional	4400 Town Center Blvd	El Dorado Hills	1.5	Southwest	Yes, 1 small	General Merchandise
26	Target	Prospector's Plaza, community	3968 Missouri Flat Rd	Placerville	13.5	Northeast	Yes, 1 small (former bank)	General Merchandise
27	Walmart	Stand-alone	4300 Missouri Flat Rd	Placerville	14.2	Northeast	Not Applicable	General Merchandise
	Amador County							
28	Walmart	Stand-alone, remodeled early 2025	10355 Wicklow Way	Martell	29.5	Southeast	Not Applicable	General Merchandise

Sources: Google Maps; Google Earth; and ALH Urban & Regional Economics.

(1) Includes representative stores in the El Dorado County and Amador County portions of the market area.
(2) Stores by category are listed generally by distance from the proposed El Dorado Hills Costco Development, located at the intersection of Clarksville Crossing & Silva Valley Parkway.
(3) See Figure 2 for store locations.
(4) Includes shopping center name when available and the type of center, based on size and tenant mix, as identified by ALH Urban & Regional Economics.
(5) For distance mapping purposes the intersection of Clarksville Crossing & Silva Valley Parkway is utilized as the future Costco Development address.
(6) General Merchandise stores also include food sales.

Exhibit 14
Representative Grocery Stores, Other Food Stores, and General Merchandise Stores
El Dorado Hills Costco Market Area (1)
Prospective Store Impacts

Tier and Store (2)	Area	Miles From Costco Site	Type of Store	Immediate Area Population Served: Amount	Immediate Area Population Served: Percent of Total	Category Weight Given Population and Proximity to Costco Site (3)	Weighted Population (4)	Share of Diverted Sales Less Allocation to Fourth Tier (5)	Tier Sales Impact (11): Minimum	Tier Sales Impact (11): Maximum
Total Food Stores Category Impact (6)									$15,939,389	$47,911,300
First Tier (Closest) Food-Selling Stores				74,378 (7)	51%	2.0	148,756	64%	$9,156,024	$27,521,572
Average First Tier Store Sales Impact (9 stores)									**$1,017,336**	**$3,057,952**
Target	El Dorado Hills	1.5	General Merchandise							
Nugget Markets	El Dorado Hills	1.6	Upscale grocery store							
Raley's O-N-E Market	El Dorado Hills	1.9	Upscale grocery store							
Safeway	El Dorado Hills	3.2	Full service grocery store							
Safeway	El Dorado Hills	4.1	Full service grocery store							
Bel Air	Cameron Park	5.5	Full service grocery store							
Safeway	Cameron Park	5.5	Full service grocery store							
Fork Lift	Cameron Park	5.6	Warehouse-style grocery store							
Grocery Outlet	Cameron Park	6.0	Discount grocery store							
Second Tier Food-Selling Stores				25,685 (8)	18%	1.5	38,528	17%	$2,371,392	$7,128,031
Average Second Tier Store Sales Impact (8 stores)									**$296,424**	**$891,004**
Save Mart	Placerville	13.5	Full service grocery store							
Safeway	Placerville	13.5	Full service grocery store							
Target	Placerville	13.5	General Merchandise							
Walmart	Placerville	14.2	General Merchandise							
Raley's	Placerville	14.6	Full service grocery store							
Placerville Food Co-op	Placerville	15.3	Niche grocery store							
Save Mart	Placerville	17.1	Full service grocery store							
Grocery Outlet	Placerville	17.6	Discount grocery store							
Third Tier Food-Selling Stores				45,784 (9)	31%	1.0	45,784	20%	$2,818,034	$8,470,567
Average Third Tier Store Sales Impact (11 stores)									**$256,185**	**$770,052**
Pokerville Market	Plymouth	22.5	Full service grocery store							
Holiday Market	Placerville	24-25	Full service grocery store							
Ione Market	Ione	26.5	Full service grocery store							
Safeway	Martell	28.3	Full service grocery store							
Save Mart	Martell	29.0	Full service grocery store							
Walmart	Martell	29.5	General Merchandise							
Safeway	Pollock Pines	30.0	Full service grocery store							
Cost Less Food Company	Jackson	30.0	Full service grocery store							
Grocery Outlet	Jackson	30.5	Full service grocery store							
Gold Trail Natural Foods	Jackson	30.9	Niche grocery store							
Raley's	Jackson	31.2	Full service grocery store							
Fourth Tier Food-Selling Stores (10)				NA	10%	NA	NA	NA	$1,593,939	$4,791,130
Various Other, Minor Store	All Market Area	Various	Various						**NA**	**NA**

Sources: Exhibits 3, 4, and 13; and ALH Urban & Regional Economics.

(1) See Exhibit 13 for all store information presented herein except for Immediate Area Population.
(3) Weights are assigned each tier (excepting the Fourth Tier) to also take into consideration proximity to the Costco site. These weights are applied to the population counts for each area to acknowledge the likelihood that persons living closer to the Costco site may have a greater propensity to shop at Costco than those living further away.
(4) This column comprises the area population multiplied by the assigned category weight.
(5) This is the share of the sales impact allocated to each respective tier. These shares add to 100%, but are applied to the Total Food Stores Category Impact less the 10% of sales impact assumed to impact various minor stores located throughout the market area, represented as the Fourth Tier, but not inventoried for the purpose of this study.
(6) See Exhibit 12.
(7) Comprises the population counts in Exhibit 3 for El Dorado Hills, Cameron Park, and Shingle Springs.
(8) Comprises the population counts in Exhibit 3 for Placerville, Diamond Springs, and the other El Dorado County market area locations.
(9) Comprises the market area population counts in Exhibit 4 for the Amador County population within the market area plus Pollock Pines in El Dorado County.
(10) This analysis assumes that 10% of the prospective Project sales impact is distributed among various other commercial operations in the market area that also sell food products.
(11) The impact is based on the percentage share of diverted sales multiplied by 90% of the Total Food Stores Category Impact, which excludes the Fourth Tier. These impact figures are a minimum of $14,345,450 and a maximum of $43,120,170.

Exhibit 15
Representative Market Area Gas Stations (1)
El Dorado Hills, Cameron Park, Shingle Springs
Select Gas Station Characteristics
March 27, 2025

Map # (2)	Location and Name of Station	Address Name of Shopping Center (if applicable) (3)	Distance from Planned Costco Warehouse (miles) (4)	Number of Fueling Pumps/ Handles (5)	Price of Gas per Gallon (6) Type	Cash	Credit	Name and Size of Convenience Store	Hours	Hours/Week Gas Available	Unique Station Features
	Folsom										
	Costco	1800 Cavitt Drive, Folsom	5.1	11/22	Regular Premium		**$4.299** **$4.899**		M - F: 6 am - 10:00 pm Sat: 6 am - 8:30 pm Sun: 6 am - 8 pm	108.5	
	El Dorado Hills										
1	Shell	1021 Saratoga Way	1.5	7/14	Regular Plus V-Power Nitro +		$4.899 $5.100 $5.399	Mixx Market (mid-size)	Gas 24/7 Store 4:30 am - 1:30 am	168	Car Wash
2	76	1020 Saratoga Way	1.5	4/8	Regular Plus Premium	$4.599 $4.899 $5.099	$4.899 $5.199 $5.399	Food Mart (small)	Gas 24/7 Store 6 am - 10 pm	168	Auto Care Service with Smog Check
3	Chevron	4316 Town Center Blvd El Dorado Hills Town Center	1.5	6/12	Regular Plus Supreme Diesel		$4.899 $5.199 $5.399 $5.249	7/11 (mid-size)	Gas and Store 24/7	168	None
4	Valero	4315 Town Center Blvd Market Place at Town Center	1.6	5/10	Regular Plus Supreme Diesel		$4.929 $5.229 $5.429 $5.299	Food Shop (mid-size)	Gas and Store 24/7	168	Car Wash
5	Safeway	3387 Bass Lake Road Sienna Ridge	3.2	6/12	Regular Premium Diesel	$4.359 $4.999 $4.899	$4.459 $5.099 $4.999	Safeway Express (mid-size)	Gas 24/7 Store 5 am - 11 pm	168	None
6	Safeway	2207 Francisco Drive Safeway-anchored Shopping Center	4.1	8/16	Regular Plus Premium Diesel		$4.399 $4.899 $5.059 $4.999	Safeway Express (kiosk)	Gas 24/7 Store 5 am - 11 pm	168	None
7	Arco	300 Green Valley Road	5.1	7/14	Regular Plus Premium Diesel	$4.459 $4.759 $5.059 $4.959	$4.559 $4.859 $5.159 $5.059	am pm (large)	Gas and Store 24/7	168	Car wash. Free vacuums.
8	Chevron	341 Green Valley Road	5.2	4/8	Regular Plus Supreme Diesel		$4.699 $5.099 $5.399 $5.299	Food Mart (mid-size)	Gas 24/7 Store 7 am - 10 pm	168	None

continued on the next page

Exhibit 15, continued
Representative Market Area Gas Stations (1)
El Dorado Hills, Cameron Park, Shingle Springs
Select Gas Station Characteristics
March 27, 2025

Map # (2)	Location and Name of Station	Address Name of Shopping Center (if applicable) (3)	Distance from Planned Costco Warehouse (miles) (4)	Number of Fueling Pumps/ Handles (5)	Price of Gas per Gallon (6) Type	Cash	Credit	Name and Size of Convenience Store	Hours	Hours/Week Gas Available	Unique Station Features
	Folsom										
	Costco	1800 Cavitt Drive, Folsom	5.1	11/22	Regular		**$4.299**		M - F: 6 am - 10:00 pm	108.5	
					Premium		**$4.899**		Sat: 6 am - 8:30 pm		
									Sun: 6 am - 8 pm		
	Cameron Park										
9	Arco	2580 Merrychase Drive	3.7	6/12	Regular	$4.459	$4.559	am pm	Gas and Store 24/7	168	Car Wash
					Plus	$4.759	$4.859	(mid-size)			
					Premium	$5.059	$5.159				
					Diesel	$4.959	$5.059				
10	Chevron	3940 Cambridge Road	3.8	6/12	Regular		$5.099	Extra Mile	Gas 24/7	168	Car Wash
					Plus		$5.399	(large)	Store 4 am - 11 pm		
					Premium		$5.799				
					Diesel		$5.199				
11	Kwik Serve	3969 Cameron Park Drive	5.3	4/8	Regular	$4.379	$4.479	kwik in kwik out	Gas 24/7		
		Goldorado Shopping Center			Plus	$4.579	$4.679	(small to mid)	Store 6 am - 10:30 pm	168	None
					Premium	**$4.679**	**$4.779**				
					Diesel	$4.799	$4.899				
12	Sinclair	3405 Coach Lane	5.4	6/12	Regular	$4.399	$4.499	No Name	Gas 24/7	168	Car Wash
					Plus	$4.599	$4.699	(small)	Store 6 am - 10 pm		
					Premium	**$4.799**	**$4.899**				
13	76	4051 Cameron Park Drive	5.4	6/12	Regular	$4.999	$4.999	Power Market	Gas and Store 24/7	168	Car Wash
					Plus	$5.199	$5.199	(mid-size)			
					Premium	$5.399	$5.399				
					Diesel	$4.999	$4.999				
					E85	$3.599	$3.599				
14	Chevron	3381 Coach Lane	5.4	6/12	Regular	$5.099	$5.199	Extra Mile	Gas and Store 24/7	168	Car Wash
					Plus	$5.299	$5.399	(mid-size)			
					Premium	$5.499	$5.599				
					Diesel	$5.199	$5.299				
15	Valero	2643 Cameron Park Drive	6.3	2/4	Regular		$4.899	Adjacent Store	Gas 24/7	168	None
		Winery Plaza Shopping Center			Plus		$5.099	Vineyard Liquor	Store 6 am - 10 pm		
					Premium		$5.299	Market			
16	76	2650 Cameron Park Drive	6.3	2/4	Regular	$4.779	$4.879	Rocket	Gas and Store 24/7	168	None
		Cameron Park Plaza			Plus	$4.979	$5.079	(mid-size)			
					Premium	$5.179	$5.279				
					Diesel	$4.959	$5.059				

continued on the next page

Exhibit 15, continued
Representative Market Area Gas Stations (1)
El Dorado Hills, Cameron Park, Shingle Springs
Select Gas Station Characteristics
March 27, 2025

Map # (2)	Location and Name of Station	Address Name of Shopping Center (if applicable) (3)	Distance from Planned Costco Warehouse (miles) (4)	Number of Fueling Pumps/ Handles (5)	Price of Gas per Gallon (6) Type	Cash	Credit	Name and Size of Convenience Store	Hours	Hours/Week Gas Available	Unique Station Features
	Folsom										
	Costco	1800 Cavitt Drive, Folsom	5.1	11/22	Regular		**$4.299**		M - F: 6 am - 10:00 pm	108.5	
					Premium		**$4.899**		Sat: 6 am - 8:30 pm		
									Sun: 6 am - 8 pm		
	Shingle Springs										
17	76	4047 S Shingle Road	7.1	6/12	Regular	$4.589	$4.739	Rocket	Gas and Store 24/7	168	None
					Plus	$4.789	$4.939	(mid-size)			
					Premium	$4.989	$5.139				
					Diesel	$5.049	$5.199				
18	Chevron	4021 Mother Lode Drive	7.2	4/8	Regular	$4.749	$4.899	Gold Harvest	Gas and Store 24/7	168	None
					Plus	$4.949	$5.099	Market			
					Supreme	$5.049	$5.199	(mid-size)			
					Diesel	$5.249	$5.399	(with seating)			
19	Red Hawk Travel Center	3920 Shingle Springs Drive	8.9	7/14	Regular		**$4.299**	Red Hawk	Gas 24/7	168	Long hoses. RV waste station. Car Wash.
					Plus		$4.599	Travel Center	Store 6 am - 10 pm		
					Premium		$4.999	(large)			
					Diesel		$4.699				
		Gas Stations Totals		**102/204**							

Sources: Google Maps; Costco.com; and ALH Urban and Regional Economics.

(1) This exhibit includes representative gas stations within the market area of the proposed El Dorado Hills Costco development site. It is not intended to comprise a full inventory of existing area gas stations. The gas stations closest in proximity to the site of the proposed Costco gasoline station are located within 1.5 miles of the proposed Costco site.
(2) See Figure 3 for gas station locations.
(3) Shopping center names are identified if the gas station is located on a pad in or adjacent to a shopping center.
(4) For distance mapping purposes the intersection of Clarksville Crossing & Silva Valley Parkway is utilized as the future Costco gas station address.
(5) These numbers correspond with the number of fueling pumps and handles, with two handles per gas pump.
(6) Pricing information is based on one day of fieldwork, occurring March 27, 2025. Gas station prices for equivalent grades of gasoline (regular and premium) equal to or lower than Costco's price are in bold and shaded in gray.

Exhibit 16
Representative Market Area Gas Stations (1)
Placerville and Diamond Springs
Select Gas Station Characteristics
April 15, 2025

Map # (2)	Location and Name of Station	Address Name of Shopping Center (if applicable) (3)	Distance from Planned Costco Warehouse (miles) (4)	Number of Fueling Pumps/ Handles (5)	Price of Gas per Gallon (6) Type	Cash	Credit	Name and Size of Convenience Store	Hours	Hours/Week Gas Available	Unique Station Features
	Folsom										
	Costco	1800 Cavitt Drive, Folsom	5.1	11/22	Regular Premium		**$4.659** **$5.259**		M - F: 6 am - 10:00 pm Sat: 6 am - 8:30 pm Sun: 6 am - 8 pm	108.5	
	Placerville										
20	Safeway	3983 Missouri Flat Road Missouri Flat Village	13.5	8/16	Regular Plus Premium Diesel	**$4.659** $4.959 **$5.259** $4.899	$4.759 $5.059 $5.359 $4.999	Safeway Express (kiosk)	Gas 24/7 Kiosk 5 am - 11 pm	168	None
21	Chevron	3943 Missouri Flat Road Adjacent to Missouri Flat Village	13.5	2/4	Regular Plus Supreme Renewable Bio Diesel		$4.999 $5.299 $5.599 $5.199	Food Mart (small)	Gas 24/7 Store 6 am - 9 pm	168	Hangtown Affordable Auto Repair
22	7-11	3894 Missouri Flat Road Adjacent to Prospector's Plaza	13.6	6/12	Regular Mid-grade Premium Diesel	**$4.659** $4.959 **$5.159** $4.899	$4.759 $5.059 **$5.259** $4.999	7-11 (mid-size)	Gas and Store 24/7	168	None
23	Kwik Serv	150 Placerville Drive Adjacent to Raley's	14.4	6/12	Regular Plus Premium Diesel	**$4.599** $4.799 **$4.999** $4.749	$4.699 $4.899 **$5.099** $4.849	Kwik in Kwik Out (mid-size)	Gas 24/7 Store 6 am - 10 pm	168	None
24	76	4535 Missouri Flat Road	14.7	6/12	Regular Plus Premium Diesel		$4.999 $5.199 $5.299 $4.899	Missouri Station (mid-size)	Gas 24/7 Store 5 am - 9 pm M-F Store 8 am - 8 pm Sa/Sun	168	None
25	Speedway	519 Placerville Drive	15.3	5/10	Regular Plus Premium Diesel	**$4.649** $4.949 **$5.149** $4.799	$4.749 $5.049 **$5.249** $4.899	Speedway (small)	Gas and Store 24/7	168	Car wash next door but not affiliated with gas station
26	Fuel 4 Less	88 Main Street Downtown Placerville	15.8	4/8	Regular Plus Premium Diesel	**$4.399** $4.599 **$4.699** $4.749	**$4.499** $4.699 **$4.799** $4.849	Food Mart (small)	Gas 24/7 Store 6 am - 2 am	168	None
27	Shell	151 Main Street Downtown Placerville	16.0	6/12	Regular Plus Shell V Power Nitro +		$5.399 $5.699 $5.799	Food Mart (mid-size)	Gas 24/7 Store 5 am - 8 pm	168	None
28	76	1178 Broadway	17.0	4/8	Regular Plus Premium Diesel	$4.799 $4.949 **$5.099** $4.949	$4.899 $5.049 **$5.199** $5.049	Sierra Energy Express (mid-size)	Gas 24/7 Store 6 am - 9 pm	168	None

continued on the next page

Exhibit 16, continued
Representative Market Area Gas Stations (1)
Placerville and Diamond Springs
Select Gas Station Characteristics
April 15, 2025

Map # (2)	Location and Name of Station	Address Name of Shopping Center (if applicable) (3)	Distance from Planned Costco Warehouse (miles) (4)	Number of Fueling Pumps/ Handles (5)	Price of Gas per Gallon (6) Type	Cash	Credit	Name and Size of Convenience Store	Hours	Hours/Week Gas Available	Unique Station Features
	Folsom										
	Costco	1800 Cavitt Drive, Folsom	5.1	11/22	Regular		**$4.659**		M - F: 6 am - 10:00 pm	108.5	
					Premium		**$5.259**		Sat: 6 am - 8:30 pm		
									Sun: 6 am - 8 pm		
	Placerville, continued										
29	Valero	1296 Broadway	17.3	4/8	Regular	$4.799	$4.899	Food Shop	Gas 24/7	168	None
					Plus	$4.899	$4.999	(small)	Store 5 am - 11 pm		
					Premium	**$5.099**	**$5.199**				
					Diesel	$4.899	$4.999				
30	Chevron	1312 Broadway	17.3	3/6	Regular		$5.199	Food Mart	Gas 24/7	168	None
					Plus		$5.299	(small)	Store 6 am - 9 or 10 pm		
					Supreme		$5.499				
31	Chevron	4412 Pleasant Valley Road	24.5	3/6	Regular	$5.199	$5.299	Food Mart	Gas 24/7	168	None
					Plus	$5.399	$5.499	(small)	Store 6 am - 9 pm		
					Super	$5.599	$5.699				
					Diesel	$5.499	$5.599				
	Diamond Springs										
32	Quick Stop	4185 CA-49	14.6	6/12	Regular		**$4.499**	Quik Stop	Gas and Store 24/7	168	Touchless Car Wash
					Mid-grade		$4.699	(mid-size)			
					Premium		**$4.899**				
					Diesel		$4.899				
33	Bonfare	639 Pleasant Valley Road	14.7	3/6	Regular	**$4.499**	**$4.599**	Food & Gas	Gas 24/7	168	Diamond Springs Tires
					Plus	$4.699	$4.799	Market & Liquor	Store 5 am - 11 pm		& Wheels; Touchless
					Super	**$4.899**	**$4.999**				Car Wash
					Diesel	$4.799	$4.899				
34	Sinclair	680 Pleasant Valley Road	14.8	5/10	Regular	**$4.599**	$4.699	Jiffy Mart	Gas 24/7	168	None
					Plus	$4.799	$4.899	Food & Liquor	Store 5 am - 9 or 10 pm		
					Premium	**$4.899**	**$4.999**				
					Diesel	$4.899	$4.999				
		Gas Stations Totals		**71/142**							

Sources: Google Maps; Costco.com; and ALH Urban and Regional Economics.

(1) This exhibit includes representative gas stations within the market area of the proposed El Dorado Hills Costco development site. It is not intended to comprise a full inventory of existing area gas stations. The gas stations closest in proximity to the site of the proposed Costco gasoline station are located within 1.5 miles of the proposed Costco site.
(2) Map # corresponds with mapped locations in Figure 3. El Dorado Hills Costco Project Market Area Gas Stations.
(3) Shopping center names are identified if the gas station is located on a pad in or adjacent to a shopping center.
(4) For distance mapping purposes the intersection of Clarksville Crossing & Silva Valley Parkway is utilized as the future Costco gas station address.
(5) These numbers correspond with the number of fueling pumps and handles, with two handles per pump.
(6) Pricing information is based on one day of fieldwork, occurring March 27, 2025. Gas station prices for equivalent grades of gasoline (regular and premium) equal to or lower than Costco's price are in bold and shaded in gray.

Exhibit 17
Representative Market Area Gas Stations (1)
Amador County Portion of Market Area
Select Gas Station Characteristics
July 3, 2025

Map # (2)	Location and Name of Station	Address Name of Shopping Center (if applicable) (3)	Distance from Planned Costco Warehouse (miles) (4)	Number of Fueling Pumps/ Handles (5)	Price of Gas per Gallon (6) Type	Cash	Credit	Name and Size of Convenience Store	Hours	Hours/Week Gas Available	Unique Station Features
	Folsom										
	Costco	1800 Cavitt Drive, Folsom	5.1	11/22	Regular Premium Diesel		**$3.979** **$4.539** **$4.799**		M - F: 6 am - 10:00 pm Sat: 6 am - 8:30 pm Sun: 6 am - 8 pm	108.5	
	Ione										
1	Shell	39 Preston Avenue	26.5	4/8	Regular Plus V-Power Diesel		$4.859 $5.079 $5.239 $5.099	Food Mart (mid-size)	Gas 24/7 Store 4:30 am - 11 pm	168	None
2	Chevron	349 Preston Avenue	26.5	4/8	Regular Plus Supreme Diesel		$4.899 $5.079 $5.239 $5.099	Extra Mile (mid-size)	Gas 24/7 Store 5 am - 9 or 10 pm	168	None
	Plymouth										
3	Shell	17699 Village Drive	21.6	2/4	Regular Plus V-Power Diesel	$4.359 $4.559 $4.759 $5.299	$4.459 $4.659 $4.859 $5.399	Shenandoah Station (mid-size)	Gas and Store 24/7	168	None
4	Plymouth Trading Post	18725 CA-49	20.9	2/4	Regular Mid-grade Premium Diesel		$4.699 $5.499	Plymouth Trading Post (mid-size)	Gas and Store Store 8:30 am- 11 pm	101.5	None
	Sutter Creek										
5	Sutter Creek Trading Post	121 Hanford Street	26.7	2/4	Regular Mid-grade Premium Diesel		$4.299 $4.699 $4.999	Sutter Creek Trading Post (mid-size)	Gas and Store 6:30 am - 9:00 pm	101.5	None
6	Sutter Hill 76 Gas & Market	104 & CA-49	27.6	4/8	Regular Plus Premium Diesel	$4.549 $4.949 $5.249 $4.799	$4.649 $5.049 $5.349 $4.899	No visible name (mid-size)	Gas 24/7 Store 6 am - 10 pm	168	U-Haul Rentals
7	Chevron	104 & CA-49	27.6	3/6	Regular Plus Supreme Diesel		$4.699 $5.099 $5.559	Food Mart (mid-size)	Gas and Store 24/7	168	None

continued on the next page

Exhibit 17, continued
Representative Market Area Gas Stations (1)
Amador County Portion of Market Area
Select Gas Station Characteristics
July 3, 2025

Map # (2)	Location and Name of Station	Address Name of Shopping Center (if applicable) (3)	Distance from Planned Costco Warehouse (miles) (4)	Number of Fueling Pumps/ Handles (5)	Price of Gas per Gallon (6) Type	Cash	Credit	Name and Size of Convenience Store	Hours	Hours/Week Gas Available	Unique Station Features
	Folsom										
	Costco	1800 Cavitt Drive, Folsom	5.1	11/22	Regular		**$3.979**		M - F: 6 am - 10:00 pm	108.5	
					Premium		**$4.539**		Sat: 6 am - 8:30 pm		
					Diesel		**$4.799**		Sun: 6 am - 8 pm		
	Martell										
8	Safeway	12270 Industry Boulevard Amador Ridge Shopping Center	28.3	8/16	Regular	$4.269	$4.369	Safeway Express (small)	Gas 24/7 Store 5 am - 11 pm	168	None
					Plus	$4.499	$4.599				
					Premium	$4.659	$4.759				
					Diesel	$4.899	$4.999				
9	Arco	10923 CA-49	28.4	6/12	Regular	$4.399	$4.599	am pm (mid-size)	Gas and Store 24/7	168	Car wash
					Plus	$4.899	$5.099				
					Premium	$5.399	$5.599				
					Diesel	$5.999	$6.199				
10	Jon's Pit Stop	10755 CA-49	28.8	3/6	Regular		$4.329	Deli Mart (mid-size)	Gas and Store 24/7	168	None
					Plus		$4.529				
					Premium		$4.629				
					Diesel		$4.959				
	Jackson										
11	Jackson Beacon	851 N State CA 49-88	29.6	2/4	Regular		$4.259	None	Gas 24/7	168	None
					Plus		$4.459				
					Premium		$4.659				
					Diesel		$4.889				
12	Chevron	306 Sutter Street	30.1	2/4	Regular		$4.999	Food Mart (small)	Gas 24/7 Store 5 am - 2 am	168	None
					Plus		$5.299				
					Supreme		$5.399				
					Bio Diesel		$5.699				
13	Kwik Serv	115 CA-49	30.4	3/6	Regular		$4.259	Kwik in Kwik out (small)	Gas 24/7 Store 6:30 am - 8:30 pm	168	None
					Plus		$4.559				
					Premium		$4.859				
					Diesel		$4.999				
		Gas Stations Totals		**45/90**							

Sources: Google Maps; Costco.com; and ALH Urban and Regional Economics.

(1) This exhibit includes representative gas stations within the market area of the proposed El Dorado Hills Costco development site. It is not intended to comprise a full inventory of existing area gas stations. The gas stations closest in proximity to the site of the proposed Costco gasoline station are located within 1.5 miles of the proposed Costco site.
(2) Map # corresponds with mapped locations in Figure 4. El Dorado Hills Costco Project Market Area Gas Stations - Amador County,
(3) Shopping center names are identified if the gas station is located on a pad in or adjacent to a shopping center.
(4) For distance mapping purposes the intersection of Clarksville Crossing & Silva Valley Parkway is utilized as the future Costco gas station address.
(5) These numbers correspond with the number of fueling pumps and handles, with two handles per fueling station.
(6) Pricing information is based on one day of fieldwork, occurring July 3, 2025. Gas station prices for equivalent grades of gasoline (regular and premium) equal to or lower than Costco's price are in bold and shaded in gray.

Exhibit 18
Identified Planned and Proposed Retail Projects (1)
Project Details and Timing Estimates
El Dorado Hills Costco Competitive Market Area
June 2025

Project Status, Name, and Type	Location	Miles from Costco Site	Potential Retail Sq. Ft.	Project Description
Under Construction				
Crossings at El Dorado All retail project	Placerville Southwest corner Missouri Flat Road and Crossings Lane	13.6	132,126	This new community shopping center is under construction. Of the total space, approximately 55% has been leased to tenants including 7-Eleven, America's Tire, Boot Barn, Burger King, Dutch Bros Coffee, Five Below, Michael's, Petco, and ULTA. As of June 2025, only the pad buildings with 7-Eleven, America's Tire, and Dutch Bros Coffee are open. A second phase of the project is expected to include an RV resort and campground.
Approved				
Montano de El Dorado Phase II Mixed-use development project	El Dorado Hills East side of Latrobe Road, south of White Road	1.7	75,316	The 2021-approved project represents the expansion of Montano de El Dorado, a 2007 boutique lifestyle retail center with 43,200 square feet. The project includes eight retail buildings totaling 75,316 square feet, 13,448 square feet of office, a 55,136-square-foot hotel, and an outdoor amphitheater. The total amount of new building space is 143,900 square feet. However, in 2023 the applicant revealed plans to develop the land with multifamily residential instead. The status of these revised plans is unknown.
Under Review				
Gateway El Dorado Mixed-use development project	El Dorado Hills	3.3	143,204 to 303,940	This is the re-entitlement of 98 acres in an existing business park into a mixed-use multifamily residential, commercial, retained research and development use, and open space. The Specific Plan for the site calls for a range of multifamily units, from 140 to 495 dwelling units, and commercial space from 143,204 to 303,940 square feet. Three sites totaling 14.76 acres have the flexibility to be developed with residential or commercial use. Of the total 98 acres, 30.8 acres would remain research and development, and 26 acres would be parks/open space. The pre-application was filed in July 2024.
Village of Marble Valley Master-planned community	Unincorporated El Dorado County Marble Valley Road, south of U.S. Highway 50	3.5+/-	100,000	This master-planned community encompasses 2,341 acres. Plans call for 3,236 residential units at a variety of densities, 375,000 square feet of office park, 100,000 square feet of village commercial, 1,284 acres of open space, schools, and parks. The partial recirculated draft environmental impact report was available from April 23 to June 23, 2025 for public review.
Wicklow Way Specific Plan Specific Plan area with a mix of land uses	Unincorporated Amador County Wicklow Way, south of State Highway 88	30.0	100,000	This Specific Plan area encompasses 201 acres of County-owned land wrapping the Walmart site. The plan proposes 78 acres of residential development (700 units), 12 acres of community commercial (office/retail) space totaling 100,000 square feet of building space, 12.4 acres of Civic Center space, and nearly 64 acres of open space and parks. The draft environmental impact report was issued in June 2024. The County planning representative indicated that they hope to finish the plan in 2026.
Total			**550,646** *to* **711,382**	

Sources: El Dorado County Planning Department website; City of Placerville "Pending Commercial Projects" revised March 26, 2025; CBRE; Ascent Inc.; Amador County Planning Department; planning departments for Amador County cities (Amador City, Ione, Jackson, Plymouth, and Sutter Creek); and ALH Urban & Regional Economics.

(1) Includes retail development projects 25,000 square feet or larger with development plans in progress. Projects are generally listed in descending order of size.
(2) Driving distance from the proposed El Dorado Hills Costco Development is measured from the intersection of Clarksville Crossing & Silva Valley Parkway.

Exhibit 19
Representative Retail Vacancies (1)
El Dorado Hills Costco Market Area
El Dorado County Portion of the Market Area
March and April 2025

Location and Address	Year Built	Miles from Costco Site (2)	GLA (Sq. Ft.)	Anchor Tenant(s) (3)	Retail Vacancies	Vacancy Rate	Condition of Vacancies (4)	Comments/Market Interest/Broker Input
El Dorado Hills								
El Dorado Hills Town Center 4315-4363 Town Center Blvd	2007	1.5	448,256 office & retail	**Target**	1,682 sq. ft. 1 space	<1.0%	Excellent	Prior tenant, a lingerie store, closed in February 2025; multiple parties are interested in the space. Many times, a new tenant is secured before previous tenant vacates.
Market Place at Town Center 431 Town Center Blvd	2002	1.6	134,679	**Nugget** Ace Hardware	2,467 sq. ft. 1 space - a lease for this space is reportedly out for signature	1.8%	Good	In summer 2022 ACE Hardware opened in a 23,435-square-foot space vacated by CVS in 2012. The long term vacancy was largely attributable to CVS continuing to hold the lease and tenancy restrictions.
Village Square Center 3819-3963 Park Dr	1992	1.9	116,306	**Raley's**	1,476 sq. ft. 1 space	1.3%	Excellent	The vacant space, previously occupied by a real estate office, has been vacant for nearly a year. The space has received a lot of interest.
Sienna Ridge 3375-3383 Bass Lake Rd	2020	3.2	100,698	**Safeway**	900	1.5%	Excellent	Bark Avenue (3,559 sq. ft.) closed at the end of February 2025, but there are still a few more months on the lease. There are two parties interested in the space. The existing 900-sq.-ft. vacant space is in negotiations for lease. A new pad building with 1,527 sq. ft. is under construction expected to be completed Summer 2025.
Green Valley Marketplace 2201 - 2219 Francisco Dr	2005 (4)	4.1	106,332	**Safeway**	2,400 sq. ft. 2 vacancies, with 1,200 sq. ft. each There is strong tenant interest in the spaces	2.3%	Excellent	

continued on the next page

Exhibit 19, continued
Representative Retail Vacancies (1)
El Dorado Hills Costco Market Area
El Dorado County Portion of the Market Area
March and April 2025

Location and Address	Year Built	Miles from Costco Site (2)	GLA (Sq. Ft.)	Anchor Tenant(s) (3)	Retail Vacancies	Vacancy Rate	Condition of Vacancies (4)	Comments/Market Interest/Broker Input
Cameron Park								
Cambridge Plaza 3950-3960 Cambridge Rd	1988	3.8	21,609	Cambridge Liquor & Mart	1 small vacancy	NA	Poor	Vacancy is the former Hair Cuts (#2). This vacant space is in fair condition, but some significant roof damage is evident at the center.
Goldorado Shopping Center 3440 - 3510 Palmer Drive	1990	5.5	156,592	**Bel Air** Petco CVS	10,584 sq. ft. 7 vacancies, ranging from 1,150 to 2,015 sq. ft., averaging 1,512 sq. ft.	6.8%	Excellent	The center historically has operated at a comparable vacancy rate. The center lacks visibility. Five spaces have been vacant 5 to 7 years. The former Mathnasium space (1,150 sq. ft.) has been vacant 4 years, while the former Goodwill (1,438 sq. ft.) has been vacant one month. Although there is moderate tenant interest, center has too much in-line retail space.
Cameron Park 3275-3317 Coach Lane	approx. 15 yrs ago	5.6	32,187 exc. Applebee's	**Forklift adjacent**	2,665 sq. ft. 1 vacancy (corner space)	8.3%	Excellent	Space has been vacant for about six months. There has been a little interest in the space. Representative Tenants: Companion Animal Hospital (3275), Applebee's (3281), Starbuck's (3291), Matthews Mattresses (3291), Davita (3311), Pizza Guys Pizza (3317), Great Clips (3317).
Cameron Park Place 3326-3352 Coach Lane	approx. 25 yrs ago	5.5	103,414	**Safeway** Dollar Tree O'Reilly Auto Parts	5,673 sq. ft. 4 vacancies, ranging from 960 - 2,313 sq. ft. averaging 1,418 sq. ft.	5.5%	Good	This is generally an equilibrium vacancy rate for this center. The spaces have been available between 1 and 5 years, with the 2,313 sq. ft. space available the longest. Broker reports that Cameron Park has slow retail space demand due to its small market size.
Green Valley Station 3020-3100 Green Valley Rd	2007	6.0	87,075	CVS **Adjacent to Grocery Outlet**	7,321 sq. ft. 4 vacancies, ranging from 1,460 - 2,255 sq. ft., average size 1,830 sq. ft. Plus one space with tenant coming soon	8.4%	Excellent	Spaces have been available between 1 and 6 years, with the 1,606-sq.-ft. space available the longest. Despite the recent opening of the Grocery Outlet, occupancy has not improved due to overall slow demand in small market.
Cameron Park Plaza 2650 Cameron Park Drive	1988	6.3	34,423	Mountain Mike's Pizza	7 vacancies 18 retail spaces total Smallest available space is 1,300 sq. ft.	37.8%	Good	This center is accompanied by a 76 Gas Station and Rocket convenience market. Many of the vacancies are long-term. Ownership is not local and is not investing in the property or tenant improvements. Also, Cameron Park is a small market with too much retail space for its population per commercial broker opinion.
Former Stand-alone Rite Aid 3101 Green Valley Road	2009	6.3	17,272	Vacant	17,272 sq. ft.	100.0%	Excellent	This stand-alone former Rite Aid store, closed in 2022, is located across the street from Cameron Park Plaza. Per the El Dorado County Planning Department, a Dollar Tree store will be opening in this space.
Winery Plaza 2643-2653 Cameron Park Dr	Older	6.3	11,577	Vineyard Liquor Store	4,700 sq. ft. Three spaces, approximately 1,400, 1,600, and 1,700 sq. ft. in size, are available	40.6%	Fair	These are long-term vacancies, vacant since before 2021, when ALH Economics last surveyed the area's retail market. One of the long-term vacancies was previously a bakery. Other past tenants include a pizza restaurant, and a marijuana dispensary. Located next to Valero gas station.
Point Loma 3161 - 3181 Cameron Park Drive	1990	7.0	33,446	Cameron Park Liquor & Deli (small convenience store)	2,798 sq. ft. Two spaces, 1,048 sq. ft. and 1,750 sq. ft.	8.4%	Good	Both spaces are in the 3161 Cameron Park Dr. building. The 1,048 sq. ft. space has been vacant 1-2 months, while the 1,750 sq. ft. space has been vacant over a year. There is some tenant interest.

continued on the next page

Exhibit 19, continued
Representative Retail Vacancies (1)
El Dorado Hills Costco Market Area
El Dorado County Portion of the Market Area
March and April 2025

Location and Address	Year Built/ Renovated	Miles from Costco Site (2)	GLA (Sq. Ft.)	Anchor Tenant(s) (3)	Retail Vacancies	Vacancy Rate	Condition of Vacancies (4)	Comments/Market Interest/Broker Input
Placerville								
Prospector's Plaza 3964 Missouri Flat Rd	1982/ 2021	13.5	243,000	**Save Mart, Target** CVS	No vacancies except for a 3,765 sq. ft. stand alone bank building under separate ownership	1.5%	Good	Management demolished a dated pad building and is constructing a Quick Quack car wash. Another pad building is fenced off. Broker representing bank building reports that it has been available for over two years with limited interest as bank footprints are shrinking.
Missouri Flat Village 3955 Missouri Flat Rd	2004 (5)	13.5	119,928	**Safeway**	6,075 sq. ft. Five spaces, 1,000, 1,035 (former physical therapist), 1,200, 1,240, and 1,600 (former Jamba Juice, closed 3/3/25) sq. ft.	5.1%	Excellent	This center also has a 1.03-acre undeveloped pad available for sale or lease. Tenant interest in the vacant spaces is reported as being moderate due to the more outlying area.
Discovery Plaza 2849-2889 Ray Lawyer Dr Located across Ray Lawyer Dr from Raley's	1983	14.6	40,803	Riebes Auto Parts	3,800 sq. ft. Two spaces, 2,200 sq. ft., former yoga studio, and 1,600 sq. ft., former dance studio	9.3%	Good	This small strip center has about 9 tenants, including Riebes Autoparts, Verizon, State Farm Insurance, nail salon, bakery, a pub, and a chinese restaurant. The 1,600 sq. ft. space has been vacant 5 to 6 months, while the 2,200 sq. ft. space has been vacant about 5 years. Tenant interest in the spaces has picked up recently.
Apple Farm Place 1426 - 1480 Broadway	1973/ 2022-3	17.6	67,693	**Grocery Outlet** Dollar Tree Harbor Freight	7,196 sq. ft. There are six vacant spaces ranging in size from 704 to 1,942 sq. ft.	10.6%	Good	Other tenants include a nail salon, a deli, H&R Block, and a work clothes store. The spaces have been vacant for about 3 years; there is greater interest in the smaller spaces (704 - 1,050 sq. ft.). The spaces are in shell condition.
Pleasant Valley Square 4570 Pleasant Valley Rd Located across a side street from Holiday Market	1989	24-25	19,076	Ace Hardware	740 sq. ft. 1 space, former pet grooming shop	3.9%	Fair	Other tenants include a hair salon, Pizza Factory, Chinese restaurant, Grace Community Church, a dog trainer, karate studio, and smoke shop.

Sources: Loopnet; Property Leasing Agents and Property Managers; Property Leasing Brochures; Villagelife.com; El Dorado County Assessor; and ALH Urban & Regional Economics.

(1) Includes representative commercial building vacancies in El Dorado Hills, Cameron Park, and Placerville in centers anchored by a food store or proximate to the proposed El Dorado Hills Costco Development. This list is not intended to be comprehensive but illustrative of existing vacancies. Some additional area commercial retail centers are also identified.
(2) By area, properties with retail vacancies are listed by driving distance from the proposed El Dorado Hills Costco Development, to be located at the intersection of Clarksville Crossing & Silva Valley Parkway.
(3) Grocery or General Merchandise store anchor tenants are highlighted in bold.
(4) Vacancies are evaluated based on a four-level scale, including Excellent, Good, Fair, and Poor.
(5) Year built is per El Dorado County Assessor.

Exhibit 20
Representative Retail Vacancies (1)
El Dorado Hills Costco Market Area
Amador County Portion of the Market Area
July 2025

Location and Address	Year Built	Miles from Costco Site (2)	GLA (Sq. Ft.)	Anchor Tenant(s) (3)	Retail Vacancies	Vacancy Rate	Condition of Vacancies (4)	Comments/Market Interest/Broker Input
Martell								
Amador Ridge Plaza Highway 49 @ Industry Way	2006-2007	28.3	272,948	**Safeway** Lowes, Petco, Staples	10,084 sq. ft. Seven spaces, 2,286, 1,316, 1,316, 1,332, 1,300, 1,332, and 1,202 square feet	3.7%	Good	Some of the available spaces were vacated earlier in 2025, while some have been vacant over one year. The center is generally well-occupied and typical time to re-lease a space is 6 to 12 months.
Former K-Mart 10500 Wicklow Way	1990	29.4	86,479	Not Applicable But located across the road from Walmart	K-Mart space, closed in 2017 Property is for sale or for lease	100.0%	Poor to Good	Generally the building and site are in good physical condition, except a portion of the eaves over the entrance walkway has exposed wood beams, and the doors are boarded up. In June 2025 the site was the subject of a major clean-up and revitalization effort to to enhance curb appeal and stimulate commercial interest.
Jackson								
Jackson Creek Plaza	1988	30.0	94,321	**Cost Less Food Co.** CVS	1,000 sq. ft. 1 vacancy	1.1%	Good	The broker representing the property recently took over the property. He indicated that one space at 1,000 square feet, is vacant, although field work observation suggested that other spaces were available.
Grocery Outlet 9-11 N. State Highway 49	1971 (5)	30.5	36,223 (4)	**Grocery Outlet**	Former Joann Fabric and Crafts store, closed in Spring 2025	40% - 50% estimate based on visual observation	Good	There are no signs marketing the former Joann space and City of Jackson representatives indicate that to date no interest has been expressed in renovating or retenanting the space. The building was originally a Safeway store.
Mother Lode Plaza 557-625 State Highway 49	1977 - 1979 (5)	30.9	20,000 estimate provided by broker	None, but tenants include Gold Trail Natural Foods (a very small food store)	5,000 sq. ft., approximate 4 vacancies	25.0% See comment	Fair RV for sale in parking lot	The current property management company just took over management of the center. This is a probate situation and detailed property information is not available. The sizes of the vacant spaces are approximate, as well as the estimated size of the overall center. The management company contact indicated that there was an additional building that was not included in the center size.

Sources: Loopnet; Property Leasing Agents and Property Managers; Property Leasing Brochures; Villagelife.com; El Dorado County Assessor; ledger.news; and ALH Urban & Regional Economics.

(1) Includes representative commercial building vacancies in the market area portion of Amador County, in centers anchored by a food store or general merchandise store. This list is not intended to be comprehensive but illustrative of existing vacancies.
(2) By area, properties with retail vacancies are listed by driving distance from the proposed El Dorado Hills Costco Development, to be located at the intersection of Clarksville Crossing & Silva Valley Parkway.
(3) Grocery or General Merchandise store anchor tenants are highlighted in bold.
(4) Vacancies are evaluated based on a four-level scale, including Excellent, Good, Fair, and Poor.
(5) Information based on Amador County Assessor's Records.

APPENDIX B: SUPPORT EXHIBITS

Exhibit B-1
El Dorado Hills Costco Market Area Census Tracts (1)
El Dorado County and Amador County

El Dorado County (2)	Amador County (3)
06017-030701	06005-000101
06017-030706	06005-000201
06017-030709	06005-000202
06017-030710	06005-000301
06017-030711	06005-000303
06017-030712	06005-000401
06017-030801	06005-000402
06017-030804	06005-000500
06017-030807	
06017-030808	
06017-030809	
06017-030810	
06017-030811	
06017-030812	
06017-030901	
06017-030902	
06017-031000	
06017-031100	
06017-031200	
06017-031301	
06017-031302	
06017-031404	
06017-031405	
06017-031406	
06017-031407	
06017-031408	
06017-031409	
06017-031503	
06017-031504	
06017-031505	
06017-031506	
06017-031700	
06017-031800	

Sources: Kittelson & Associates, "El Dorado Costco CEQA Analysis [Draft], February 14, 2025; https://data.sacog.org/datasets/SACOG::2020-census-tracts-el-dorado-county/explore?location=34.494027%2C-24.926835%2C3.34; https://www2.census.gov/geo/maps/DC2020/PL20/st06_ca/censustract_maps/c06005_amador/DC20CT_C06005.pdf; and ALH Urban & Regional Economics.

(1) These census tracts encompass the geographic area that corresponds with the market area for the El Dorado Hills Costco Warehouse and Fuel Facility identified by Kittelson & Associates. Census tracts are included if the majority of the census tract or its population base is geographically included in the market area.
(2) The market area includes 33 of El Dorado County's 50+ census tracts in 2020.
(3) The market area includes 8 of Amador County's 10 census tracts in 2020.

Exhibit B-2
State of California Department of Tax and Fee Administration Taxable Retail Sales Estimate by Retail Category
2024

Type of Retailer	Total Taxable Sales (1)	State of California Taxable Sales Adjusted to Total Retail	Percent of Total Taxable	Percent of Total All Sales
Motor Vehicle & Parts Dealers	$100,456,368,692	$100,456,368,692	16.2%	15.6%
Home Furnishings & Appliances	$30,996,012,214	$30,996,012,214	5.0%	5.4%
Building Materials & Garden Equipment	$48,326,163,805	$48,326,163,805	7.8%	6.7%
Food & Beverage Stores	$33,462,408,320	$111,541,361,067 (2)	5.4%	17.2%
Gasoline Stations	$59,394,225,286	$59,394,225,286	9.6%	8.5%
Clothing & Clothing Accessories	$48,793,391,406	$48,793,391,406	7.8%	7.2%
General Merchandise Stores	$67,046,736,721	$103,148,825,725 (3)	10.8%	11.8%
Food Services & Drinking Places	$109,695,677,404	$109,695,677,404	17.6%	14.8%
Other Retail Group (4)	$123,439,500,198	$137,156,262,390 (5)	19.9%	12.7%
Total (6)	$621,610,484,046	**$749,508,287,988**	**100.0%**	**100.0%**

Sources: California Department of Tax and Fee Administration (CDTFA), "Statewide Taxable Sales by Type of Business, 2024"; U.S. Economic Census, "Retail Trade: Summary Statistics for the U.S., States, and Selected Geographies: 2022"; and ALH Urban & Regional Economics.

(1) Taxable sales are pursuant to reporting by the California Department of Tax and Fee Administration (CDTFA).
(2) Sales for Food and Beverage Stores have been adjusted to account for non-taxable sales; only 30.0% of all food store sales are estimated to be taxable.
(3) Sales for General Merchandise Stores have been adjusted to account for non-taxable sales, since some General Merchandise Store sales include non-taxable items. ALH Urban & Regional Economics estimates that at least 35% of General Merchandise sales are for grocery, pharmacy, and other non-taxable items. This estimate is based on analysis of the 2022 U.S. Economic Census findings for General Merchandise stores in California.
(4) Other Retail Group includes drug stores, health and personal care, pet supplies, gifts, art goods and novelties, sporting goods, florists, musical instruments, stationary and books, office and school supplies, second-hand merchandise, and miscellaneous other retail stores.
(5) Sales for Other Retail Group have been adjusted to account for non-taxable drug store sales, since drug store sales are included in the Other Retail Group category. ALH Urban & Regional Economics estimates that 33.0% of drug store sales are taxable, based on discussions with representatives of the California Department of Fee and Tax Administration (when it was formerly called the Board of Equalization) and examination of U.S. Census data. In California, drug store sales in 2024 represented approximately 5.5% of all Other Retail Group sales. ALH Urban & Regional Economics applied that percentage and then adjusted upward for non-taxable
(6) Totals may not add up due to rounding.

Exhibit B-3
Household Income Spent on Retail (1)
United States
2022

Characteristic	All Consumer Units	Household Income Range: $15,000 to $29,999	$30,000 to $39,999	$40,000 to $49,999	$50,000 to $69,999	$70,000 to $99,999	$100,000 to $149,999	$150,000 to $199,999	$200,000 and more
Average HH Income	$94,003	$22,485	$34,988	$44,518	$59,200	$83,894	$121,806	$171,270	$322,568
Amount Spent on Retail (2)	$27,438	$14,311	$17,830	$20,040	$21,963	$28,112	$34,649	$44,379	$53,526
Percent Spent on Retail (3)	29%	64%	51%	45%	37%	34%	28%	26%	17%

Sources: Table 1203. Income before taxes: Annual expenditure means, shares, standard errors, and coefficient of variation, Consumer Expenditure Survey, 2022, U.S. Bureau of Labor Statistics; and ALH Urban & Regional Economics.

(1) Includes retail categories estimated to be equivalent to the retail sales categories compiled by the State of California, Department of Tax and Fee Administration.
(2) Includes the Consumer Expenditures categories of: food; alcoholic beverages; laundry and cleaning supplies; other household products; household furnishings and equipment; apparel and services; vehicle purchases, gasoline and motor oil; 1/2 of maintenance and repairs (as a proxy for taxable parts); drugs; medical supplies; audio and visual equipment and services; pets, toys, hobbies, and playground equipment; personal care products and services; reading; and tobacco products and smoking supplies.
(3) Percentages may be low as some expenditure categories may be conservatively undercounted by ALH Urban & Regional Economics.